

Living ideas – Connecting lives

# Munich Airport

Integrated Report 2016

Munich Airport is celebrating a milestone in 2017, after relocating from Riem to the Erdinger Moos area 25 years ago. It is now a hub with worldwide destinations and an important factor in the lives of local people and companies. Our success story is set to continue into the long term and we're already laying the foundations today. The 2016 report describes the specific projects, developments, and plans we are currently working on for the future. It demonstrates how we are THINKING AHEAD at Munich Airport.

06



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The online report is available to read or download as a PDF from www.report2016.munichairport.com

# Additional content in the online report:

- Report profile
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- · Independent assurance report

Follow these symbols to find out more:



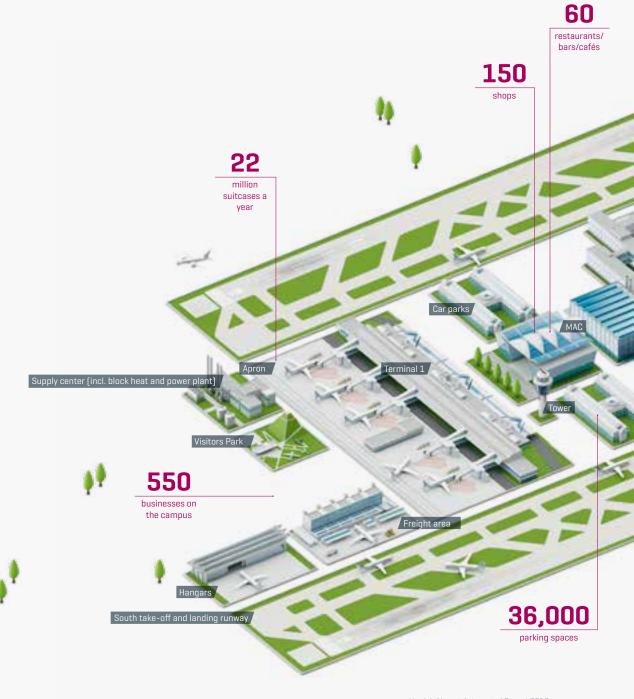




Link to a website

# /Munich Airport – an overview

Profile: Founded in 1949, Flughafen
München GmbH (FMG) operates Munich
Airport along with its 15 subsidiaries.
The Bavarian air traffic hub is Germany's
second biggest airport and the only
5-star airport in Europe. As a «fullservice operator» it provides services in
every area of airport management.



01



# Airlines, countries, and destinations in 2016

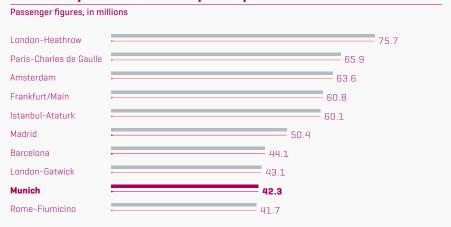


1.36
billion euros
Group revenue

289.9
million euros
operating result

394,000 take-off and landing procedures

# Munich compared with other European airports in 2016



356,000 tonnes of airfreight

million passengers

employees in the Group 1)

Data as of: December 31, 2016 / source: Airports Council International (ACI)

The map is not true to scale and does not reflect the actual layout of the site.

<sup>&</sup>lt;sup>1)</sup> Reporting date: December 31: figures include apprentices, exclude workers in minor employment, temporary workers, interns, and AeroGround Berlin GmbH

# /Key figures

# **Key economic figures**

In € million	2016	2015 1)	2014	Change in % 2016/15
Group revenue	1,364.1	1,249.3	1,200.1	9.2
Of which is Aviation in %	53	52	51	
Of which is Non-Aviation				
in %	47	48	49	
EBITDA	529.0	494.2	478.7	7.0
EBIT	289.9	280.0	266.5	3.6
Consolidated earn- ings after taxes	151.6	143.3	100.1	5.8
EBITDA margin in %	38.8	39.6	39.9	
EBITDA/Pax in €	12.5	12.1	12.1	3.3
EBIT margin in %	21.3	22.4	22.2	
ROCE <sup>2)</sup> in %	6.6	6.4	6.1	
Cash flow from operating activities	528.8	464.4	429.6	13.9
Investments	274.9	272.1	275.5	1.0
Equity	1,942.9	1,813.0	1,685.4 <sup>1)</sup>	7.2
Equity ratio in %	37.1	33.5	32.21)	
Net debt	2,393.0	2,542.7	2,614.91)	-5.9
Net debt/EBITDA	4.5	5.1	5.51)	
Net gearing (net debt/equity) in %	123.2	140.2	155.21)	

<sup>1)</sup> Adjustment in accordance with IAS 8

# Key environmental figures

# CO<sub>2</sub> emissions

Intonnes	2016	2015
Direct energy consumption (Scope 1)	85,262	84,826
Indirect energy consumption (Scope 2)	16,329	16,811
Other indirect energy consumption (Scope 3a)	49,023	51,565
Total annual CO₂ emissions open to influence	150,614	153,202

Data accounted for in accordance with the GHG Protocol (Greenhouse Gas Protocol)

# «Green spaces»<sup>1)</sup> belonging to the airport but outside the airport fence

In hectares	2016	2015
Additional «organic areas» in total	746	746
Compensatory mitigation areas, zone III	374 2)	374
Airport periphery, zone II	250	250
Ecological land reserve for future expansion measures	122	122

<sup>&</sup>lt;sup>1)</sup> Green areas in Zone II and III that Flughafen München GmbH maintains as natural conservation areas (in contrast to rented farmland or other real estate)

# **Key social figures**

# Number of employees<sup>1]</sup>

Group	2016						
	Women	Propor- tion in % <sup>2)</sup>	Men	Propor- tion in % <sup>2)</sup> Total		Propor- tion in % 2)	
Total number of employees	2,839	33.39	5,663	66.61	8,502	100.00	
Full-time and part-time employees							
Full-time	1,798	21.15	5,029	59.15	6,827	80.30	
Part-time	1,041	12.24	634	7.46	1,675	19.70	
Employment contracts							
Temporary	496	5.83	892	10.49	1,388	16.33	
Permanent	2,343	27.56	4,771	56.12	7,114	83.67	

<sup>&</sup>lt;sup>1)</sup> Reporting date: December 31: figures exclude apprentices, workers in minor employment, temporary workers, interns, and AeroGround Berlin GmbH

# Managers<sup>1]</sup>

Group	2016		2015		2014		
		Propor- tion in % <sup>2)</sup>		Propor- tion in % <sup>2)</sup>		Proportion in % 2)	
Total managers	673	7.92 <sup>2)</sup>	674	8.41 2)	637	8.39 <sup>2)</sup>	
Women	169	1.99 <sup>2)</sup>	169	2.11 2)	158	2.08 2)	
Men	504	5.93 <sup>2)</sup>	505	6.30 2)	479	6.31 2)	

<sup>&</sup>lt;sup>1]</sup> All information excludes AeroGround Berlin GmbH

<sup>&</sup>lt;sup>2)</sup>ROCE = EBIT/(equity + net debt + long-term employee benefits)

<sup>&</sup>lt;sup>2)</sup> Although additional compensation measures were taken over an area of 2,000 m² in 2016, this does not impact the stated number of hectares in terms of the total size.

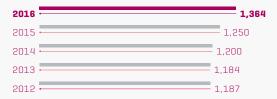
 $<sup>^{\</sup>rm 2)}\mbox{Percentage}$  relates to the total number of employees.

<sup>&</sup>lt;sup>2]</sup> Reporting date: December 31: Proportion of employees who are managers [levels 1 to 4, not including the Executive Board]

# Revenue



In € million



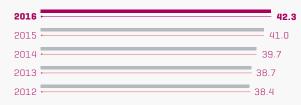
- In 2016, Munich Airport increased its revenue by 9.2 percent to around 1.36 billion euros.
- At 62.3 percent, the biggest growth in revenue was once again in the Aviation business unit (including ground traffic).

→ page 94

# **Number of passengers**



In millions



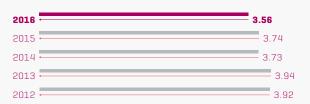
- The dynamic growth trend in the number of passengers at Munich Airport continued at a new record rate in 2016.
- The passenger figures rose by 1.3 million passengers or 3.1 percent to a new peak of 42.3 million.

→ page 35

# Specific CO<sub>2</sub> emissions



In kg of CO2 per passenger



02

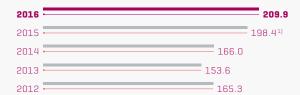
- Munich Airport wants to be the first climate-neutral airport in Germany by 2030.
- The specific CO₂ emissions per passenger fell by nine percent between 2012 and 2016.

→ page 63

# Consolidated earnings before taxes (EBT)



In € million

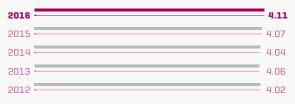


- Earnings before taxes (EBT) has been used as a management target since 2016 (previous years: EAT).
- Consolidated earnings before taxes rose by 5.8 percent in 2016.

**→** page 94



Maximum score: 5



- The ASQ Overall Index is an indicator for customer satisfaction.
- The so-called passenger experience index (PEI) will replace the ASQ Overall Index in future as a non-financial indicator.

→ page 30

# **Employee retention index**



In percent

Flughafen München GmbH

2013 73

2010 61

Munich Airport Group



- The employee retention index is an indicator for employee satisfaction.
- The next employee survey is scheduled for 2017.

→ page 86

1] Adjustment in accordance with IAS 8

Airport Service Quality (ASQ)

# /Integrated reporting

# Integrated thinking and Integrated Reporting <IR> at Munich Airport

Integrated thinking is the key to sustainable action and integrated reporting. Munich Airport pursues this approach and focuses on economic, environmental, and social concerns in equal measure. In order to illustrate this approach, the integrated report combines both financial and sustainability reporting within a single publication. This describes the business activities in the reporting period and their direction for the future.

# The <IR> framework concept as a basis

The <IR> framework concept launched by the International Integrated Reporting Council (IIRC) requires companies to communicate the essential activities with which they create financial and non-financial value in the short, medium, and long term. Munich Airport already opted for this principle-based and forward-looking form of reporting back in 2010 and is also helping to develop the standard further as a member of the <IR> Business Network. In order to pursue the requirement for greater «conciseness» more rigorously, a slightly condensed version of the report will be appearing in print. The full content is available in the new online report. The medium-term aim of the report is to further link the issues, only print a summary and fine-tune the relationship between the printed and online versions.

# Changes in capitals as a means of expressing value creation

As part of day-to-day business, every company has an impact on a wide array of stakeholders and external factors. To describe the qualitative and quantitative interactions brought about by a business model, the IIRC has defined six types of capital. Munich Airport has arranged its key resources into six types of capital, which represent its value creation and enable it to illustrate essential cause and effect correlations using changes in capital. Moreover, this report analyzes and presents the impacts of selected projects and key issues from fiscal year 2016 on the capitals. Brief tables on selected projects, for example, show readers what impacts there have been on the capitals and thus on the airport's business model.

# Reporting to the highest standards

Munich Airport feels duty-bound to adopt a policy of transparency towards the various stakeholder groups. In addition to IIRC recommendations, the company also follows other international standards. The airport's financial reporting is based on the international standard known as IFRS [International Financial Reporting Standards]. The Management report is drafted in accordance with the German Accounting Standard 20. Sustainability targets were reported in accordance with the GRI standard comprehensive option. Consideration is also given, to a greater or lesser degree, to voluntary initiatives such as the German Sustainability Code or the German Corporate Governance Code.

→ Web

www.report2016.

munich-airport.com

→ Glossary



07

02

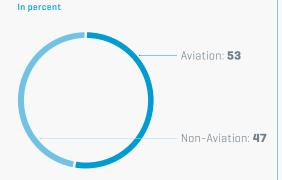
# /Business model



Strategy 2025

1) Group

# **Breakdown of revenue**



# **Cash flow from operating activities**

In € million





This dynamic traffic trend is one of the factors that led to Munich Airport achieving a very good financial result across all divisions in 2016. At 210 million euros, the financial indicator EBT was considerably above the forecast value and could be significantly increased in comparison to the previous year.



**Corporate division Finance and Procurement** 

# Finances €

# Significance

Solid funding forms the basis for a company's long-term earnings power, profitability, and financial stability.

Munich Airport obtains financial capital from operating cash flows from its business activities and from loans.

# Input

At the start of the fiscal year, Munich Airport held:

- Cash and cash equivalents: 217.3 million euros
   (of which 5.3 million euros were freely available funds
   and 212.0 million euros of which were short-term
   investments in banks)
- Loan portfolio: 2,418.4 million euros
- Equity: 1,813.0 million euros<sup>1)</sup>

# Measures

- Distribution of 30.0 million euros to shareholders from the 2015 net income in accordance with their shares; remaining amount of 113.3 million euros carried forward<sup>1</sup> → see page 92
- The net income amounting to 151.6 million euros will be credited to equity; the shareholders will decide how to use the net operating profit at the Annual General Meeting. → see pages 92, 94 et seq.

- Operating cash flow from operating activities:
   528.8 million euros; of which were total investments of
   274.9 million euros in maintaining and expanding the
   airport infrastructure → see page 93
- High repayment of debt from bank loans in 2016: 558.7 million euros in total, of which was a repayment of a syndicated loan amounting to 400.0 million euros; this required a reduction in cash and cash equivalents of 199.3 million euros to 18.0 million euros and the raising of long-term bonded loans totaling 200.0 million euros → see page 92

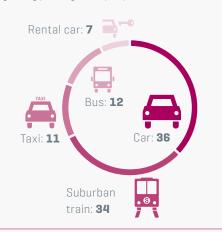
# Output

- Group revenue for 2016: 1,364.1 million euros
- By the end of the fiscal year, the amount of cash and cash equivalents had reduced by 199.3 million to a total of 18.0 million euros (6.0 million of which were freely available funds and 12.0 million of which were shortterm investments with banks)
- Loan portfolio reduced by 358.6 million euros to 2.059.8 million euros
- Equity increased by 129.9 million euros to 1,942.9 million euros

<sup>1)</sup> Adjustment in accordance with IAS 8

# Modal split to access the airport

Originating passengers only, in percent



# «Airport City Munich»: around 150,000 people on the airport campus every day



<sup>1)</sup> On the airport campus including all businesses

# Infrastructure T

# Significance

The wide range of services offered by Munich Airport are reliant on building and transport infrastructure that works and that taps into and makes the most of existing space. Servicing, maintenance, and needs-based expansions are the key parameters required to ensure that the airport campus remains attractive.

# Input

- Buildings: Terminals, commercial space, offices, technical facilities, supply buildings, car parks, halls, MAC, AirSites, the Tower, hotels, the block heat and power plant
- Transport links: Roads on the airport premises, highway links, two suburban railway lines, regional and long-distance bus links
- Open spaces: Green areas, aprons, taxiways, runways

# Measures

 Buildings: Opening/commissioning of the T2 satellite building, refurbishing of the arrivals level in Terminal 2, presentation of the expansion plans for Terminal 1, construction of a new wing for the Hilton Munich Airport, complete overhaul of the pedestrian tunnels at the visitors park, commissioning of the eastern power center → see pages 16, 22  Transport links: Neufahrner Kurve under construction since late 2014, construction of Freising's west bypass [funded by FMG] → see page 25

02

 Open spaces: Communications on the third runway, southeast ground biofiltration system at the eastern head of the south runway under construction, creation of species-specific areas → see pages 16, 22 et seq., 89

# Output

- Buildings: On-schedule commissioning of the
   T2 satellite building with more gates and retail space,
   improved passenger flow plus easier navigation within
   T2, 162 additional rooms and a new conference center
   at Hilton Munich Airport from 2017
- Transport links/vehicle pool: Links to Eastern Bavaria on regional transport with the Neufahrner Kurve in late 2018, addition of 120 vehicles to the fleet of electric cars by 2019, more car-sharing offers
- Open spaces: Decision by the German Federal
   Administrative Court: approval of the third runway is
   legally valid

Munich Airport: Integrated Report 2016

<sup>&</sup>lt;sup>2)</sup> People who bring passengers to the airport or pick them up and who actually enter the terminal itself rather than just accompanying them to the door/car park

<sup>&</sup>lt;sup>3]</sup>People who have visited the airport without flying themselves

# **Onward training**



# 3.2 million euros

of external onward training budget for Flughafen München GmbH (excluding subsidiaries) including apprentices



¹¹Excluding apprentices, workers in minor employment,

temporary workers, interns, and AeroGround Berlin GmbH

# **Consultancy business**



<u>15</u>

ongoing consultancy projects2)

<sup>2]</sup>As at May 2017

# Expertise ?

# Significance

With over 60 years in the business, an airport relocation behind it, a colorful array of career opportunities and qualification levels on site, and because it provides a large proportion of airport services itself, FMG has acquired a great deal of expertise – covering areas such as the value of a brand; the technical, process-based, and organizational knowledge called upon in consultancy projects worldwide; and copyrights for airport software and in-house developments. And Munich Airport will continue to enhance its business further in the future. Innovations are an essential part of this.

# Input

- Careers/qualifications: Careers for all levels of education, in-house professional development center, the Airport Academy
- Off-campus/consultancy business: Expertise in the area of ORAT, operational readiness and airport transfer (exemplary relocation of the airport from Riem to Erdinger Moos)
- Quality/innovation management: Strategic customer orientation, ideas pool, open innovation labs, partnerships with universities, higher education centers, startup companies and representatives of new media, and innovation mentorships

# Measures

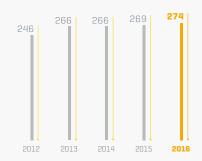
 Careers/qualifications: Jointly developing a Bachelor's degree in Air Traffic Management: around 50 graduates at Munich Airport since 2006, broader program of

- onward training, new partnership with the Taoyuan International Airport Corporation Ltd. (TIAC) on two major projects to expand Taiwan Taoyuan International Airport, «Erasmus» European mobility program with partner airports in Athens, Istanbul, Malta, and Vienna → see pages 54 et seq.
- Off-campus/consultancy business: Continuation of the International Consulting trainee program, applications for calls for tenders, participation in trade fairs, acquisition appointments → see pages 44 et seq.
- Quality/innovation management: Opening of the InnovationPilot for airport staff and external partners, customers, and passengers, quality campaigns, new dialog management concept, continuous trend and market monitoring → see pages 30 et seg.

# Output

- Careers/qualifications: Seal from the TÜV (German Technical Inspection Authority) for the Airport Academy as a «certified training provider», over 30,000 training days at the Airport Academy
- Off-campus/consultancy business: More than 50 major international projects in over 30 countries to date, ten major international projects in 2016, including a management agreement for the commissioning and operation of the new Terminal 2 in Cairo, as well as a consultancy agreement for the development and operation of the new airport in the Honduran capital city of Tequciqalpa
- Consultancy services on site for the punctual opening of the T2 satellite building
- Quality/innovation management: InnovationPilot with 833 ideas submitted, crowned 5-star airport, new digital offers for passengers

# **Number of apprentices in the Group**





I'm fascinated by the insights you get into the whole world here because so many nationalities converge at the airport. My work with the Airport Rescue and Firefighting Service is incredibly varied too.



#### Lena Hirschberger,

firefighter, at the airport since 2013

Most represented groups of foreign nationals in the Group

460

178

**118** 

# Employees #

# Significance

Employees are responsible for the success of a company. With this in mind, the airport is well aware of its special responsibility as an employer. In order to live up to its obligations in this respect, Munich Airport also places a lot of emphasis on having a modern and effective human resources policy devised with people and business needs in mind. The airport offers its employees an array of opportunities and a diverse range of tasks in an exciting environment.

# Input

- Employee satisfaction: Flexible working models, balance between family and career, bonus to reward the income generated in the previous year
- Training/HR development: 20 different apprenticeship and dual study programs, 274 apprentices in the Munich Airport Group, in-house Airport Academy, external FMG onward training budget of 3.2 million euros
- Employer: Total personnel expenses of 452.5 million euros in the Group, 8,776 employees<sup>1)</sup> in the Group, 35,000 employees at over 550 companies on the airport campus

#### Measures

 Employee satisfaction: Regular employee survey, motivation for active codetermination (e.g. through the ideas pool), reduction in the percentage of temporary workers, performance reviews, onboarding concept
 → see page 5, 53, 86  Training/HR development: Focusing the apprenticeship portfolio, training monitoring, numerous events, e.g., «Girls' Day/Boys' Day», national/international exchange programs, training night, leadership excellence program with new training modules

02

 $\rightarrow$  see pages 46, 52, 54 et seq.

 $\rightarrow$  see pages 15, 52, 54 et seq.

• Employer: Social services, e.g. in-house child care service, occupational safety management system, optimized company health and social management (for example, Group health day), support for women in management positions, first female CEO at Flughafen München GmbH since October 2016 and thus a 33 percent share of women on the Executive Board

# Output

- Employee satisfaction: Next employee survey in fall 2017; low turnover rate of 3.42 percent at FMG
- Training/HR development: 88 new apprentices in 2016, average of more than 15 professional development hours per employee
- Employer: Increased proportion of women in management roles within the Group, 1,856 of the total of 8,776 Group employees come from more than 50 different countries, proportion of disabled staff in the Group is 7.11 percent (statutory rate is five percent), best «Transport and Logistics» employer in the 2015 and 2016 rankings by Focus magazine, one of the biggest employers in Bavaria

Munich Airport: Integrated Report 2016
Airport at a glance

<sup>&</sup>lt;sup>1)</sup>Reporting date: December 31: including apprentices and excluding workers in minor employment, temporary workers, interns, and AeroGround Berlin GmbH

# Climate-neutral

Munich Airport is going to be climate-neutral by 2030.





Noise and air quality measuring points at 18 fixed points



**60 percent green areas** on the airport premises



Part of a bird sanctuary with 40 endangered bird species

# Efficient use of drinking water

In liters per 1.000 traffic units





23.6 liters



2016 23.0 liters

Specific drinking water consumption fell slightly by 2.3 percent per 1,000 traffic units.

# Greenhouse gas emissions intensity

In kg/passenger



Around five percent fewer CO<sub>2</sub> emissions per passenger compared with the previous year, 37 percent fewer since

# Environment •



# Significance

As the operator of a major piece of infrastructure, Munich Airport is aware of its responsibility for the environment. The aim is to keep the impact on the environment and nature to a minimum, including for the sake of future generations. Key issues include aircraft noise, air pollutants, climate protection, water and waste management, and the protection of nature and species.

# Input

- Climate protection: Long-term climate protection strategy: CO<sub>2</sub>-neutral airport by 2030 (investment of 150 million euros), stationary and mobile measurements of air quality, electricity and heat from a block heat and power plant.
- Resources: Well-thought out waste management concept, water and flood protection, efficient use of drinking water, de-icer treatment
- Noise protection: Strict night-flight curfew, aircraft noise monitoring at 16 fixed stations, additional voluntary mobile measurements, noise-based take-off and landing charges
- Biodiversity: Species and land protection, biotope management for preventing bird strikes and supporting the protection of birds, ecological compensation areas outside the airport fence

# Measures

- Climate protection: Increased use of renewable energies, environmental management systems at FMG, Allresto, aerogate, Carqogate, AeroGround, switch to efficient LED technology for runway lighting  $\rightarrow$  see pages 16, 62 et segg.
- · Resources: Process water wells to protect drinking water, avoiding waste, construction of ground biofiltration systems to protect groundwater  $\rightarrow$  see pages 69 et segg.
- Noise protection: Transparent communication of measured values, improvements to take-off and landing procedures, eight mobile measurements on 289 days in 2016  $\rightarrow$  see pages 74 et segg.
- Biodiversity: Proper maintenance of green areas, annual reviews of the flora and fauna, protection measures for meadow breeders and moor-based butterflies
- → see pages 78 et seq.

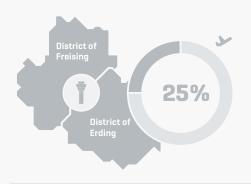
# Output

- Climate protection: Reduction of CO<sub>2</sub> emissions to 150,000 tonnes despite the growth of the airport, in contrast to 162,000 tonnes in base year 2005, legal thresholds for contaminant measurements maintained
- Resources: High recycling rate for waste, around 51 percent recycling rate for de-icer
- Noise protection: Only 64 percent of the permitted noise level at night is used, online aircraft noise monitoring
- Biodiversity: Ensuring the survival of endangered bird and butterfly species, increase in environmental value of the vegetation in the ecological compensation area

07

# A quarter of jobs in the region are provided by the airport

The airport provides 25 percent of all employment relationships liable for social security contributions in the districts of Freising and Erding.



# Donations and sponsorship<sup>1)</sup>



<sup>1)</sup>The annual sponsoring budget is linked to FMG's external sales.

# Society 4

# Significance

Good cooperation with the region is essential if Munich Airport is to succeed, with open and honest dialog with the surrounding communities playing a key role. As well as being a major employer, an engine for the economy, and a gateway to the world, FMG's daily challenge is to be a responsible neighbor – in an open dialog and with commitment to the region. The Group cultivates long-term, mutual relationships with key stakeholders in its bid to generate a feeling of trust and acceptance in the society around the airport.

# Input

- Stakeholder dialog: Transparent corporate communication and dialog through a wide range of channels
- Dialog with politicians: Presence, information, and active participation on a European, national, and regional level, membership in relevant associations
- Value creation/region: Positive value-added effects for the region and the airport as a business partner and neighbor
- Community engagement: Willingness to support countless charitable projects in the region, aid campaigns by the Flughafenverein München e.V.

#### Measures

- Stakeholder dialog: Publications, public relations, visitors' program, regional trade fairs and receptions, social media → see pages 6, 26 et seq.
- Dialog with politicians: Interests represented by the «Political Affairs» support office, regional work by the «Regional Liaison Office», regular publication of the «Policy Newsletter» → see page 28

 Value creation/region: Optimization of the location (needs-based expansion, opening of the new T2 satellite building, improved transport links, infrastructure), regional funding, boosting tourism

02

 Community engagement: Wide array of sponsorship and corporate citizenship activities, social commitment of the airport association → see pages 58 et seq.

# Output

→ see pages 49 et seg.

- Stakeholder dialog: Positive public reputation of the airport overall, Facebook page for the company with over 123,000 followers, airport recognized as a company committed to sustainability (result of a stakeholder survey), airport press work crowned «Best business communications» by Dr. Doeblin Gesellschaft für Wirtschaftsforschung mbH for an impressive fifth time in a row
- Dialog with politicians: Representation of interests, dialog, and contact
- Value creation/region: Large income tax, local trade tax, and social insurance payments, property, plant, and personnel expenditure, around 222 million euros of Group procurements from the surrounding districts, just under 20 million euros of food for Allresto – almost all from Bavaria and a good half from the area directly around the airport
- Community engagement: Increased acceptance in the region, sustainable and permanent partnerships

Munich Airport: Integrated Report 2016
Airport at a glance

# **/Thinking ahead**Letter from the Executive Board

From left to right

#### Andrea Gebbeken

Chief Commercial and Security Officer

# Dr. Michael Kerkloh

President and Chief Executive Officer, Personnel Industrial Relations Director

#### **Thomas Weyer**

Chief Financial Officer, Chief Infrastructure Officer



02





# Our airport is in an excellent position for a successful start to the next 25 years.



Dr. Michael Kerkloh

Dear Ready,

2016 was another extremely successful fiscal year for Munich Airport. At just under 1.4 billion euros, Group revenue increased by nine percent year on year. Earnings after taxes [EAT] rose to 152 million euros.

This is an outstanding financial result that exceeded our expectations. Among other things, this reflects the further sharp rise in traffic at our airport: with 42.3 million passengers, we were able to record three percent growth and set a new passenger record. The number of aircraft movements also continued to rise to over 394,000 take-off and landing procedures – almost four percent more than the previous year – and we expect this trend to continue in the coming year too. Passengers voted Munich Airport the best in Europe and one of the best in the world for an impressive tenth time in twelve years. They value the high-quality facilities and services as well as the excellent connections from Munich.

The success of our airport is the result of a superb team effort. I would like to take this opportunity to extend my sincere thanks to all who have contributed to the successes of the past year: to our customers, the airlines, the passengers, and the companies on the airport campus. To our employees, our business partners, our suppliers, our shareholders, and our neighbors in the surrounding districts.

We hope that in the years and decades to come, our airport will remain at least as successful as it has been so far. This requires us to meet the hopes and expectations of our various stakeholders, to find good solutions to their needs, and convincing answers to their questions. What will people expect of us in future? What can we do now to meet the expectations of the generations to come? That is the very definition of sustainability and is precisely what the «Thinking ahead» mission statement for this integrated report is getting at.

# Thinking ahead to the future

This is Munich Airport's way of saying that it is actively tackling the challenges of the future and has already laid important foundations over the past fiscal year 2016:

- Thinking ahead means ambitious climate protection. In 2016, we significantly increased our climate protection goals even further: Munich Airport will be the first German airport to boast fully climate-neutral operations by 2030 in terms of the emissions it generates.
- For us, thinking ahead means expanding our services and adapting to our customers' future needs. That is why we and our partner Deutsche Lufthansa have invested almost one billion euros in the new satellite terminal, which opens up capacity for eleven million passengers a year. I am very proud that we were able to open the terminal on schedule and within budget in 2016 and that it is being so well received. The next step in our investment campaign is now to refurbish and expand Terminal 1.
- Thinking ahead also applies to our new digital strategy. In future, we will be providing
  passengers, business partners, and visitors with innovative digital services along
  the entire travel chain, for example for parking or tracking luggage. In a connected
  world, flying begins and ends in our living rooms at home.
- Thinking ahead as an employer means that we must start looking for tomorrow's
  young talent today. We know that we will not retain a specialist workforce unless we
  offer attractive jobs and convincing solutions for issues such as balancing family
  and career, flexible working, onward training, and diversity. We have done a really
  great job on this front so far: in January, Munich Airport was once again crowned the
  best employer in the transport and logistics sector in Germany.

- Thinking ahead means that we take our responsibility toward the people in our neighborhood seriously. We are fully aware that a major passenger airport is a burden to its immediate surroundings. This makes it all the more important to keep the negative impacts to a minimum.
- Thinking ahead also means laying the foundations for further growth now. Munich Airport is working at full capacity and can only meet the demand of the next decades with a third runway. No other expansion plan in Germany has the backing of such a big alliance of over 200 companies and associations. These companies know that the enormous significance of Munich Airport in terms of the economy, the lives of local people, and its role as an employer depends on its function as a hub and its fantastic connections to destinations all over the world.
- However, we also understand the concerns that quite a few people in the region have raised about the planned expansion. We therefore consider it essential to develop solutions that everyone involved is ultimately happy with. We are actively promoting dialog in the region because we know that we can only move forward with the help of our neighbors.

<<

A strong financial position creates entrepreneurial freedom.

>>

**Thomas Weyer** 

Anyone who has been here once is happy to return. This is all thanks to our employees, who are really on board with the service concept.



#### Andrea Gebbeken

Thinking ahead means recognizing today what is needed tomorrow and to establish the necessary conditions. This requires openness, expertise, innovation, persistence – and a little courage too. These are all characteristics that set Munich Airport and its staff apart and have facilitated the fantastic development that we began 25 years ago with our move to Erdinger Moos. We will celebrate this anniversary with great pride in 2017. This is just the motivation we need to continue the Munich Airport success story in future.



Dr. Michael Kerkloh



More statements from the Executive Board are available in a video at: www.report2016.munich-airport.com

# THINKING AHEAD

# Digital services at the airport

Digitization at the airport means developing and providing services that are tailor-made to suit the individual needs of passengers, business partners, and visitors. By introducing innovative services throughout the travel chain, Munich Airport is increasing the quality of its offering, and therefore tackling the challenges of digital transformation.



- → Capital: expertise see page 10
- Web: virtual tour of the airport at www.navigation.munich-airport.de

# Current digital services at the airport

- Virtual tour: Using innovative 360-degree photographic technology, visitors
  can explore the airport even before they have arrived. Munich is the first airport in the world to provide this type of 3D images. High-tech camera trolleys
  recorded almost 300,000 square meters of space in the MAC, the two
  terminals, and the satellite building, before converting this data into digital
  images.
- Bundle for transfer passengers: Depending on the length of time they spend
  at the airport and their personal interests, passengers can enjoy custommade packages containing catering, shopping, relaxation, and wellness
  offers. The time needed to go through passport and security checks is
  factored into how the offers are selected.
- Lounge shopping service: Lufthansa lounge guests can save money on selected products at Terminal 2 shops thanks to a range of coupons available online.
- InnovationPilot: To enable customer needs to be met even more fully in future, the airport launched InnovationPilot a new crowdsourcing platform in 2016. This platform enables the company to collaborate with end customers and business partners to identify innovative areas of action and develop specific ideas, thereby improving the overall customer experience.

space in the outdoor parking areas.

220,000
people using the digital maps

Over
1,200
points of interest

14,000
people using the multi-airport
«Passngr» app

# Beacons as hubs of information

Working with selected airlines, Munich Airport tested the use of «Beacons» in a special pilot project. These beacons are miniature radio transmitters that send carefully selected, relevant information to passengers' smartphones via Bluetooth – for instance, they can find out when their luggage arrives on the conveyor for pick-up, or which products are on special offer at a shop nearby.

# **Travellers Insight**

Selected bloggers write articles about new destinations and lesser-known travel hotspots on behalf of the airport – including inside information gained first-hand.

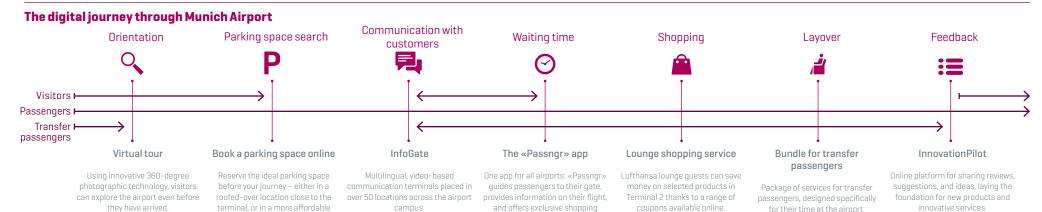
→ Web: www.travellers-insight.com

# Digital strategy

#### Capitals Impact on capitals

- New business model and potential sources of revenue
  - Costs of development and implementation plus running costs
- + Added value thanks to connectivity and digitization
  - + Gaining and developing the relevant expertise
  - + Increased level of automation
  - + More effective IT support for business processes
- + Added appeal as an advanced company
- + Streamlined workflows and processes
  - Cutting-edge experience for customers and visitors
    - + Higher standard of travel and time at the airport

→ see page 8-13



vouchers and information about the range of catering options at the airport.





# Strategy

# Thinking sustainably, acting responsibly

Munich Airport's Strategy 2025 lays the foundations for the company's development as Germany's second-largest commercial airport. The strategy also incorporates economic, environmental and social aspects. With this strategy, the airport aims to generate positive effects and long-term added value for everyone involved. However, it is also aware of the negative effects that its business may have and is making targeted efforts to keep these to a minimum and compensate for them.

The airport's business activities have a major impact on various areas and stakeholders: Munich, Bavaria, and Germany as business locations, the region and its inhabitants, the airport staff, and passengers, as well as other

03

05

07

# Strategy 2025: planning for the future today

The corporate strategy up to 2025 is made up of five main fields of action, which address the main challenges in operating Munich Airport, an international hub airport:

- Air traffic development
- · Landside access and traffic development
- Seamless travel (contribution to improving the quality of the travel chain)
- Expansion of non-aviation business
- Off-campus growth

These fields of action were identified as a result of several scenario analyses regarding the future of the aviation industry. The evaluation also considered relevant factors such as the development of global mobility and economic trends. Initiatives and steps that set out the airport's future development are established in order to implement the strategy within the fields of action. Specific key performance indicators measure success within the fields of action.

Strategic business decisions are implemented on the basis of the four Group-wide brand values: expertise, responsibility, innovation, and partnership.

# **Overview of Strategy 2025**

# Strategic fields of action Air traffic Landside access Seamless travel **Expansion of** Off-campus development and traffic non-aviation development business Maintain development as a transport hub Safequard the quality of hub operations Expand infrastructure depending on needs **Brand values** Responsibility / Partnership / Innovation / Expertise Strategic sustainability program Strategic initiatives

**Measures** 

✓ Sustainability program

www.munich-airport.com/
sustainability-program

Munich Airport: Integrated Report 2016 Strategy and management 2

# First Lufthansa A320 takes off from satellite building to Rome Fiumicino Airport





- → Glossary
- → A new standard in travel see page 32
- → Web www.munichairport.com/ satellite

# Expansion plans

# Needs-based expansion and infrastructure planning

Strategy 2025 highlights key issues concerning the refinement of the business model, and sets the course for Munich Airport's future growth. Flughafen München GmbH (FMG) expands airport infrastructure based on need, networks various transportation operators, and extends the range of landside transport services - all while keeping quality and customer requirements at the heart of its work. Negative effects on the environment and the area around the airport are minimized as far as possible, for example by applying extensive compensating and noise protection measures.

# Pioneering expansion of Terminal 1

Extensive building work is underway in T1, the older of the two passenger handling buildings. Renovations, such as the expansion to the T1 building in what is currently arrivals hall B, are aimed at making the area significantly more appealing to passengers and airlines in the non-Schengen segment. These renovations will also increase the capacity of Terminal 1 by around six million passengers per year, as well as creating new retail and catering outlets and improving the passenger handling processes through the use of centralized security zones. The use of innovative construction and technical systems is expected to reduce energy requirements, and therefore CO<sub>2</sub> emissions, in the new areas in the building by at least 40 percent compared to the existing terminal.

A new gate area is due to be built over an area of around 140,000 square meters on the main apron, providing docking points for up to twelve aircraft - including two Airbus A380s. This area is forecast to open in 2022 at the earliest.

# Terminal 2: Five-star quality in arrivals

The number of passengers and visitors using the waiting areas in Terminal 2 continues to rise, as is demand for retail, catering and services. As a high standard of facilities is essential for passenger comfort, the area known as the central midpoint is also being renovated alongside the arrivals zone. As a result, the areas will be larger and lighter, and it will be easier for travelers and visitors to find their way around. The renovation work is scheduled for completion at the end of 2017.

# T2 satellite building: a smooth start

On April 26, 2016, the Terminal 2 satellite building opened for standard passenger traffic, four years after the foundation stone was laid. Departure processes in the new building ran seamlessly from the outset. During the start-up phase, the terminal satellite was launched step-by-step through to the beginning of July, so that a few subsequent changes - for instance to signage and passenger route quidance - could be made during this period. The satellite's full capacity has been in use since the start of July. The central market square that surrounds the apron tower, which is integrated into the building, has proved particularly popular with passengers. As is the case for Terminal 2, the satellite building is run by Flughafen München GmbH as a joint venture with Deutsche Lufthansa AG.

# A third runway: a decision for the future

Travel trend is on the up

The construction of a third runway at Munich Airport is a major decision whose impact will be felt in Munich, Bavaria, and far beyond the German border, both now and into the future. The airport will only be able to maintain and expand its position in the international aviation industry and its importance as an economic and

# Changes to T1

- Additional security checkpoint
- EasyPASS system for independent check-in and arrival
- Automated luggage system
- Lounge

# Changes to T2

- Conversion of open-air spaces: space for new travel store, additional office spaces in a central location plus three new retail units and two airline offices
- New bar, the «Sportalm», in a central location
- Large open-air space in arrivals area with catering

# Construction of a third runway

Capitals	Impact on capitals
€	Expected growth in revenue     Increased value-added effects [IHK study]     Costs of construction
Ŧ	Increased capacity     Improved competitive position     Higher-capacity hub function
•	+ Improved expertise in airport expansion
#	+ Job security + Creation of new jobs
•	Less of a backlog during take-off and landing     Improved conditions in conservation areas     Impact on the environment due to construction
PJ.	Response to demand for greater mobility with the maximum possible efficiency Improving Bavaria's status as a business location, and safeguarding that status in the long term Increased value of Munich Airport, a publicly-owned asset Noise pollution due to increase in air traffic
	→ see page 8-13



locational factor for the State of Bavaria in the medium and long term if it can grow in line with its customers' requirements. After all, demand for aviation services is still rising fast, both internationally and in Munich. The airport set a new record in 2016 at 42.3 million passengers. The number of aircraft movements also increased once again, reaching 394,430 take-offs and landings four percent higher than the previous year. This trend is also expected to continue over the next year. According to the available filings from the airlines, the airport is expecting a further rise in aircraft movements for 2017 of around four percent.

# A third runway meets demand for the next few decades

Now in its 25th year in use, the old two-runway system is currently pushed to the limit: it is very difficult for airlines to offer new connections during the peak times of high demand. The third runway would increase current capacity of a maximum of 90 scheduled aircraft movements per hour to 120, therefore covering requirements for the next few decades. However, without this additional runway, the current range of attractive connections to and from Munich would be put at risk in the long term. It would be impossible to sustain such a strong network

of 257 direct flight destinations in 2016 and a high frequency of connections with demand from the local area in Munich and South Bavaria alone - despite the enormous economic importance and appeal for tourists. It is Munich Airport's role as a hub that makes it a gateway to the rest of the world. However, if airlines cannot continue to expand in Munich, they will move their flights to other airports with available capacity. In the worst-case scenario, Munich could lose its status as a high-performance hub airport in the international aviation industry - causing a great deal of negative consequences for both the population and economy of Bavaria.

Strategy and management Strategy Munich Airport: Integrated Report 2016

# FMG promotes the expansion of regional infrastructure

FMG's shareholders have set up a regional fund with a volume of 100 million euros to promote municipal transport projects. Payouts are tied specifically to the start of construction of the third runway and are designed to support the expansion of regional infrastructure to balance out any additional burden. Funds will go towards:

- The Erding north bypass and Freising west bypass
- A road link between Berglern and Eitting in the Erding district, and the Moosburg west bypass

Regardless of when construction of the third runway begins, five million euros from the budget has already been made available for the Erding north bypass and Freising west bypass. The majority of these funds have already been accessed. All of the funding for the Freising project has already been paid out.

# **Regional fund**

In € million/Total fund: € 100 million





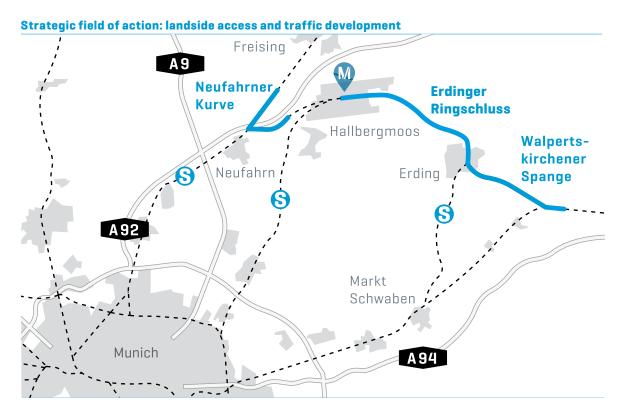
# Applicable construction law

The airport has therefore done everything in its power to implement the construction of the third runway. Following a ruling by the German Federal Administrative Court in July 2015, the planning approval notice now has legal standing. By issuing this approval, the judges also confirmed a few of the main arguments for the third runway that play a major role in public debate: the need for expansion, the compensation scheme for local residents affected by the expansion, and the project's environmental compatibility. The decision regarding construction work now lies with the airport's three shareholders – the State of Bavaria, the Federal Republic of Germany and the City of Munich.

# Working hard to protect local residents

Whilst airports – a major form of transport infrastructure – offer many advantages for the local area, they also negatively impact the environment and people nearby. This also applies for the third runway. However, Munich has the lowest level of noise pollution of any major airport in Germany with respect to impact on local residents. While over 197,000 people are affected by aircraft noise of over 55 dB(A) in Frankfurt, this figure is around 11,300 for Munich Airport in its current form. The planning authorities have also expanded the area for transfer claims for the third runway beyond the statutory requirements. The airport is working hard to

→ Noise impact see page 75



look after everyone directly affected by the construction project, and is seeking individual solutions in each case.

# Compensation areas for conservation, and environmental protection

Thanks to a carefully developed scheme, the compensation areas for conversation around Munich Airport will continue to grow once construction begins. The airport will create around one hectare of compensation area for every hectare required to build the new runway. These new areas are more valuable in terms of conservation than the corn cultivation that currently dominates the airport region. The low-nutrient airport meadows are already the

best natural habitat for meadow breeders in Bavaria. They form the heart of the «Nördliches Erdinger Moos» European bird sanctuary set up in 2008. Whether biodiversity, noise protection, resource management or climate protection, ever since it first opened, the airport has pursued a program that is as ambitious as it is innovative in an effort to keep its operations' impact on local people and the environment as low as possible.

# The largest infrastructure network in Germany

Support for the project is growing: over 200 businesses and associations have already publicly pledged their support for construction to begin as soon as possible. This group is made up of a diverse range of companies, from

major corporations such as Audi, Allianz, BMW, Deutsche Bahn, Infineon, Linde and Munich Re, to large SMEs, to regional and local, long-established enterprises. Furthermore, the plans are also supported by associations such as the Bavarian Industry Association, various chambers of industry, commerce and trade, the German Tourism Association and the Bayarian branch of the German Hotel and Restaurant Association, Munich Airport has become a key locational factor for a number of global players in Bavaria, both large and small. It provides them with access to the global markets, thereby improving prosperity and future opportunities for the entire region.

# Focus on landside access and traffic development

Improvements to landside access - and rail access in particular - will continue to play an important role for Munich Airport. The decision to launch the second trunk route through Munich approved at the end of 2016 has now laid the foundation for increasing the appeal of transport connections to the state capital in the medium term. The plans for the airport tunnel as part of the «Erdinger Ringschluss» project have now progressed to the point for final approval to be issued by the airport's shareholders during the course of 2017. In 2016, Flughafen München GmbH received approval from the European Commission to receive funding of 900,000 euros, which it will use to fine-tune plans for a rail link to Erding.

The Federal Transport Infrastructure Plan 2030, passed by the German cabinet in the summer of 2016, contains a series of road projects, which will further enhance landside access to the airport. For instance, the national A92 highway, the airport's most important road link, will be expanded to a total of eight lanes. In addition, a section of the 301 federal road will be expanded to four lanes in the area around the airport, and Freising's northern bypass, which is an important link road for passengers and staff, will be connected to it. Construction began in October 2016.

million passengers used the suburban train to travel to the airport in 2016

→ Biodiversity see page 78

Strategy and management

# Management

# Strategic management and corporate governance

Flughafen München GmbH (FMG) has defined targets within its five strategic fields of action, geared toward sustainable corporate development. These targets take the form of specific initiatives and projects within the sustainability program. While the Executive Board and divisions are responsible for achieving these targets, all first- and second-tier managers are responsible for implementing them. Manager remuneration then contains a variable element calculated according to the success of the initiatives and measures. FMG monitors target achievement in an internal management report prepared on a quarterly basis. This approach aims to ensure that the strategic targets are incorporated into day-to-day work.

# Sustainability management

# Identifying and integrating key issues

As a corporate citizen, i.e. a company that consciously acts in a responsible manner toward society, Munich Airport is always looking to pick up on issues of importance to its stakeholder groups and takes dialog as an opportunity to continue developing its corporate policy, focused on sustainability. Sustainability Management, an important component of the corporate strategy, anchored within the Corporate Development division, fulfills this task. This team is based on the main elements in the business model and incorporates stakeholder issues into strategic planning and operational implementation. Using a materiality process, FMG identifies and prioritizes key



→ Capitals see page 8 et seqq.

FMG has made an effort to link these key issues even more closely than in the previous year to the targets and priorities defined by management. For this reason, a few of the topic names have changed.

issues for the Group's stakeholders. Existing in-house processes and methods are linked to the internal strategy process for this purpose. Munich Airport has set itself the goal of continuously improving processes, particularly with respect to the assessment and measurability of internal and external impact.

# **Materiality process**

- 1. Identification: FMG conducts an annual survey of its main stakeholder groups and FMG management when it publishes its integrated report. It also uses the results of internal scenario analyses to understand the business model in the broader context of a sustainable approach to development.
- 2. Prioritization: The results of the annual stakeholder survey are presented in a materiality matrix with two equivalent axes, which represent the importance of the individual issues for internal and external stakeholders. These issues are then discussed with experts within the company, and content is allocated to the strategic fields of action. The experts look at the impact within the four business units. The issues are also incorporated into the objectives process.
- **3. Validation:** Members of the management team discuss relevant issues as part of the annual strategic target agreement process. The stakeholder survey also provides external feedback on the content of the integrated report. Fields of actions and targets are adapted, expanded, or incorporated for the first time.

The Group-wide materiality analysis is based on the principles defined by the Global Reporting Initiative [GRI]. It is an important tool for strategic sustainability management and provides the basis for the Executive Board to make decisions on central parameters for sustainable Group development. In 2016, internal and external stakeholders' top priorities were customer focus, air traffic development, landside access and traffic development, infrastructure development, sustainable building and security and safety in aviation.

# The importance of the Sustainable Development Goals for the airport

At the end of 2015, the General Assembly of the United Nations defined 17 Sustainable Development Goals [SDGs]. These SDGs represent a global system of targets for the challenges of the 21st century, and are used to safeguard sustainable development on an economic, social and ecological level. Businesses around the world have been called upon to transfer these SDGs into their fields of action and make a key contribution to achieving them through innovation, pioneering technology and responsible supply chains.

Munich Airport took up the SDGs at the beginning of 2016 and asked Group employees to fill out a survey regarding the goals' relevance to the airport. Almost 400 employees completed the online survey to provide an initial weighting. The SDGs then became the focus of a series of workshops, where participants discussed the content of the survey and worked on proposals for refining

and implementing the goals in the company. The results of these workshops will be incorporated into the strategic planning process for 2018.

→ Glossary

7 Weh

www.

un.org

sustainabledevelopment.

# The Sustainable Development Goals relevant for Munich Airport



#### Goal 3

Good health and well-being



## Goal 4

Quality education



# Goal 5

Gender equality



## Goal 6

Clean water and sanitation



#### Gnal 7

Affordable and clean energy



#### Goal 8

Decent work and economic growth



## Goal 9

Industry, innovation and infrastructure



# Goal 12

Responsible consumption and production



#### Goal 13

Climate action



# Goal 15

Life on land



#### Goal 17

Partnerships for the goals

Munich Airport: Integrated Report 2016
Strategy and management 2

## **Communication channels**

## → Web

www.facebook.com/ flughafenmuenchen

www.twitter.com/ muc\_airport\_EN

www.instagram.com/ munich airport



Airport app

**Online** 

- · Social media
- · Homepage: munich-airport.com
- Website about the extension
- Intranet
- Live chat with the Executive Board
- Aircraft noise monitoring platform
- Newsletter
- Online report

### **Public relations work**

- Publications (for example the integrated report)
- Press events and press releases
- Marketing partnerships
- Airport tours
- Visitors Park

## Dialog

- Conferences, meetings
- Trade fairs
- Works meetings
- Employee survey
- Employee meetings
- Passenger survey
- Terminal services, InfoGate counters.
- Dialog management
- · Personal conversations
- Regional Liaison Office

#### **Committees**

- · Expert talks and specialist discussions
- Working groups and committees
- Parliamentary evenings
- Communities Council
- · Aircraft noise commission
- Airport forum

# Transparency through dialog

Munich Airport's brand message is «Living ideas -Connecting lives». Working with its stakeholders is the only way for the company to tackle upcoming challenges and successfully shape its future. FMG therefore applies a three-stage approach to stakeholder dialog, encouraging transparency and, as a result, social acceptance.

# Stakeholder environment

#### Central stakeholders

Airlines, business partners, the media, employees, passengers and visitors, politicians and public authorities, the region, associations, and organizations

# Examples of central stakeholders

Local residents, potential business partners, end customers, shareholders, society/the public, the real estate sector, interested parties, suppliers, the air traffic industry, lessees, ministries, leaseholders, the regional economy, and scientific and research organizations

# Stage 1: customized information on targetgroup-specific channels

The first phase is to provide information to the various groups of stakeholders. This involved defining communication content tailored to the respective interests and developing suitable communication formats. The integrated report represents one of the most important measures; FMG is now publishing this for the seventh time for fiscal year 2016. This brings together financial and sustainability reporting within a central publication and addresses all target groups in equal measure. Munich Airport will also be publishing an online report for the first time. This will enable readers to search for specific content and issues, consolidate information based on their interests, and compare data.

# Stage 2: exchange and collection of stakeholder feedback

During the second phase, the airport works to engage stakeholders in discussions regarding issues of importance to them, and involve them in decision-making. This direct exchange is becoming increasingly important, as social media enables anyone to immediately

publish information and opinions. Through asking stakeholders questions in a targeted way and taking their opinion into account if there are any unresolved issues, the airport inspires confidence and paves the way for acceptance in the long term. Munich Airport follows this approach, for example, with the annual survey of readers of the integrated report. This is a good way of checking how far the content of the report has been accepted and of determining how important specific issues are for stakeholders.

# Stage 3: the results of dialog flow into business operations

During the third phase, Munich Airport takes into account stakeholder suggestions and feedback in relation to its business activities. Its stakeholders often present FMG with new and relevant issues, acting as a mirror that gives the company an idea of what is going on in wider society. This in turn makes it possible to identify issues and trends at an early stage, benefit from outside knowledge, communicate the company's stance, and defuse conflicts.

7 Weh www.report2016. munich-airport.com

→ Web www.munichairport.com/ stakeholder



# **Examples for stakeholder dialog**



# Passengers

For the past 20 years, passengers have been providing Munich Airport with information on the purpose of their trip, their origin and how they traveled to the airport. Around 840,000 passengers have taken part in the passenger survey to date.



# Public relations

Corporate Communications shares the latest information on the social media channels of Facebook, Twitter, Instagram and YouTube, in the style appropriate for each online platform. In July 2016, Munich Airport became one of the world's first airports to launch a travel blog on its website «Travellers Insight – Mein Fernwehblog» [«My Wanderlust Blog»].



# Media

FMG's press office regularly updates the media on the latest developments. The on-schedule launch of operations in the T2 satellite building generated particular interest from the media in 2016. Much attention was also paid to the annual press conference in March 2016, where the company discussed the dynamic growth in traffic and Munich Airport's strong economic development.



# Region

Good cooperation with the region is essential if Munich Airport is to be successful, and the Regional Liaison Office has been responsible for ensuring this for the past fourteen years. As a support office, it reports directly to the Executive Board and sees itself as a kind of bridge-builder between the airport and the region.

Munich Airport: Integrated Report 2016 Strategy and management 2

# Making an impression with quality

Munich Airport is particularly well-known for the quality of its services. These high standards apply equally to the core business of aviation and all other areas, such as consumer business and internal processes.

→ Group management report see page 98

# Passenger Experience Index (PEI)

Passenger satisfaction is of central importance to Munich Airport. A survey recently developed by FMG will soon provide in-depth satisfaction indices. These will indicate how its quality of service is perceived, passenger comfort, and the longer-term effects of these perceptions. From 2017 onwards, the PEI will be included in the airport's targets system as a non-financial key performance indicator.



# Airport Service Quality (ASQ) Overall Index

The airport regularly takes part in ASQ surveys run by the International Airport Association. As part of this, Munich Airport improved on its 2015 rating in 2016, increasing its score from 4.07 to 4.11 out of a maximum of 5 possible points. In a direct comparison of European hub airports with over 40 million passengers, Munich took second place behind London-Heathrow.

# 5-star airport

In 2015, an expert committee from the London-based aviation research institute Skytrax named Munich Airport as Europe's first 5-star airport, making Munich Airport part of an exclusive group of just six airports in the world who carry this premium mark of approval. The institute announced that it would be conducting a new assessment of the following seven fields of action in 2017: ambiance and comfort, services, processes, cleanliness, information, signage, and service and hospitality.

# Skytrax passenger surveys

Over 13 million passengers from 106 countries rated 550 international airports and countless airlines for the Skytrax «World Airport Awards 2016». They considered

criteria such as the friendliness and expertise of airport staff, the range of shopping and leisure outlets, and transfer options. Munich Airport was once again named as the best airport in Europe. The airport took third place in the global ranking, defending its strong position from the previous year. In a regional competition between European airports, Munich Airport came out on top to be named the «Best Airport – Central Europe».

# Dialog management

Customer feedback is an important tool for managing the company. Munich Airport has managed its own feedback system for airport users for more than 20 years. This system was standardized, systematized, and optimized using a new software solution in 2016. Munich Airport's central dialog management team quickly responds to, categorizes and analyzes all suggestions and complaints on a case-by-case basis. Collaborating with the relevant departments, the team develops improvement measures and optimizes services.



Munich Airport is Europe's first-ever 5-star airport.

First-class ambiance and ultimate comfort



A diverse range of services

 $\star\star\star\star\star$ 



Efficient workflows



 $\star\star\star\star$ 

# Easy orientation



Exceptional hospitality



 $\star$   $\star$   $\star$   $\star$ 

# Certified quality management

The quality management system launched at Munich Airport on the basis of the international standard DIN EN ISO 9001:2008 establishes structures that support the evaluation and improvement of processes. By optimizing its processes on an ongoing basis, Munich Airport has successfully established itself and its high quality standards on the market.

# «M» - an emotional and trustworthy brand

Strong brands are shaped by direct staff contact with customers and partners. This inspired the Munich Airport Group to focus on anchoring the shared brand values and attributes at all levels in 2016. According to an in-house brand survey<sup>1]</sup>, the brand's presence rose from an average of 3.5 to 3.8 points (on a scale of 5). This positive trend has also reached the airport's customers.<sup>2]</sup> 66 percent (plus three percent) perceived Munich Airport to be particularly customer-focused, 52 percent (plus four percent) stated that the customer experience at Munich Airport is significantly better than at other airports. Its identity as a premium airport with a Bavarian core also cultivated a strong emotional connection for passengers - 63 percent named Munich Airport as their favorite airport, while 69 percent perceive «M» as a trustworthy brand. «InnovationPilot», a new crowd-sourcing platform, was launched in 2016, to engage customers and partners even further and deliver specific ideas for ways to improve the customer experience. As many as 66 percent of customers confirmed that Munich Airport was working hard to make sure it stands out from other airports. Furthermore, the climate protection strategy that was launched in December 2016 emphasized the airport's commitment to the brand value of «responsibility».



We put the spotlight on the customer, regularly benchmark our progress against our own high standards of quality, and improve our processes on an ongoing basis. The great honor of being named as the <Best Airport in Europe> shows that we are on the right path.



Andrea Gebbeken. Chief Commercial and Security Officer

# Top five measures in the sustainability program > Detailed program online: www.munich-airport.com/sustainability-program

Material topics	Initiatives	Measures	Status 2016	Measure ends
Customer focus	Ensuring the necessary quality and efficiency at the Munich Airport site	Refining, operating, monitoring and coordinating Group-wide improvement processes (passenger satisfaction data, ASQ, dialog management, etc.)		Ongoing
	•	Continuing and refining the quality and service offensive (5-star program)		Ongoing
Landside access and traffic development	Incomparing well access in the modition town	Supporting the Neufahrner Kurve project		2018
	Improving rail access in the medium term	Supporting the planning approval process for the Erdinger Ringschluss [airport-Erding]		2018
	Improving rail access in the long term	Ensuring the additional route 38 Munich-Mühldorf-Freilassing is part of the new Federal Transport Infrastructure Plan		2020

<sup>1]</sup> In-house brand survey in 2016, Mannheimer W.O.-Institut Wirtschaftsund Organisationspsychologie OHG

<sup>&</sup>lt;sup>2)</sup>External brand study 2016, IMPACT IRC

# THINKING AHEAD

# The new quality of travel

The T2 satellite building launched in 2016 offers full passenger comfort and functional efficiency. Striking architecture and a wide array of catering and retail options guarantee the highest standards of quality for travelers to Germany's first mid-field terminal.



- → Capital: infrastructure see page 9
- → Web: images of the satellite building available at www.munich-airport.de/impressionen-satellit

# Construction of the T2 Satellite

# Capitals Impact on capitals

- + Income from operations
  - Investments in construction
  - Ongoing operating costs
- + Capacity expansion

  - + Updating the infrastructure
  - + Additional services
- + Growth during project development, construction and launch



- Increased emissions resulting from construction
- + Lower emissions than in older buildings during
- + Reduction in emissions due to the aircraft stands being close to the building
- - + Increased airport value
  - Increased appeal, new services

→ see page 8-13



A high-performance airport with good connections worldwide is invaluable to the State of Bavaria. its residents and its economy.



Dr. Markus Söder, Bavarian State Minister for Finance, Regional Development and Regional Identity and Chairman of the Flughafen München GmbH Supervisory Board



# **Architecture & innovation**

State-of-the-art construction materials, innovative technology and unique architecture in the T2 satellite set new standards with respect to the environment and energy efficiency.

- Average CO₂ emissions per square meter of gross floor area are 40 percent lower than in the terminal
- Climate facade: insulation based on the thermos bottle principle
- Advanced air source technology
- Daylight-style LED lighting
- Pre-conditioned air systems at all departure points that are close to the building



# The next chapter in a success story

The building is known as a «satellite» because it does not have its own landside access. This means that local passengers still have to go to Terminal 2 to access all standard services, such as check-in, baggage drop and baggage collection.

# Relax & refresh

- Five Lufthansa lounges with a total floor area of over 4,000 square meters
- The world's first Lufthansa lounge roof terrace with views over the apron
- Around 375,000 quests in 2016



Passengers can browse the web for free and with no time limit.



Before or after a long flight: passengers can freshen up by taking a shower.



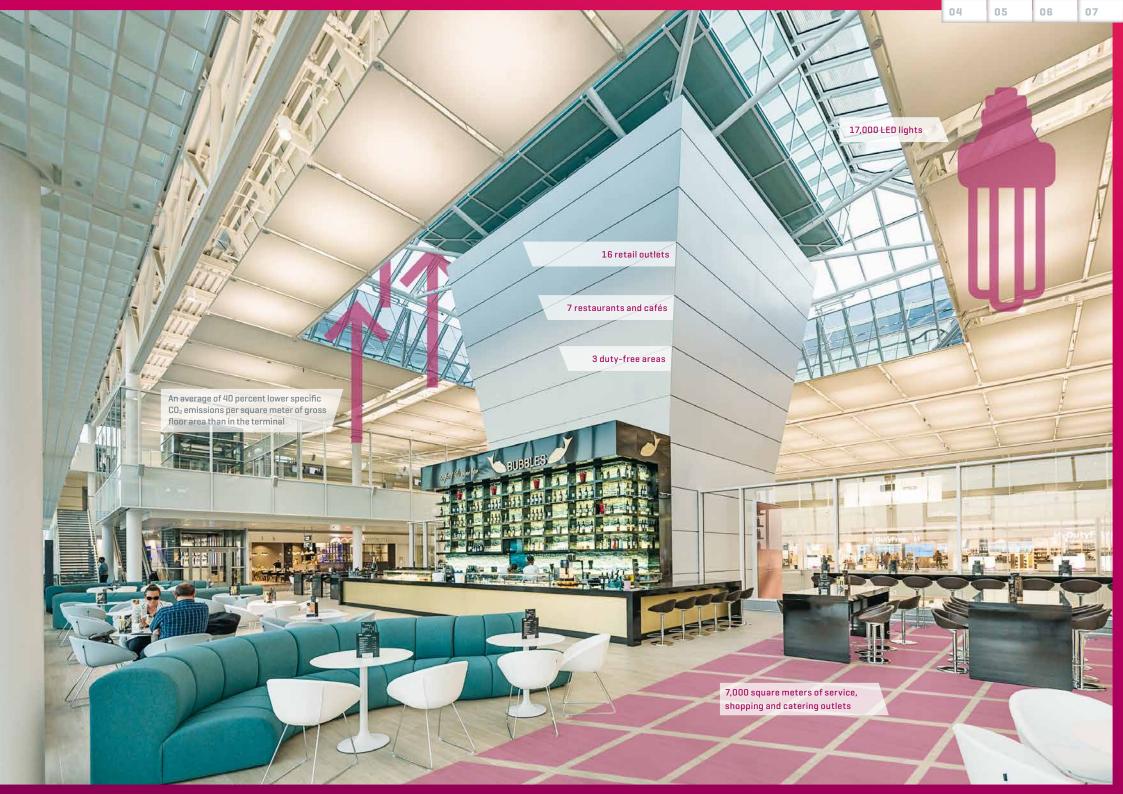
The terminal is equipped with sockets and USB ports.



TV areas in relaxation rooms make waiting times go by faster.

# Passenger transport system

- · Travel time of 60 seconds
- A tunnel of 400 meters
- Almost 11,000 passengers per hour in each direction





# **Aviation**

# A successful hub airport with outstanding connections

The Aviation business division is responsible for FMG's core business. It provides and markets aviation infrastructure and services for airlines and passengers, working with the authorities and other stakeholders. Munich Airport is a hub airport. It has the densest network of intra-continental flights in Europe, meaning that it is able to offer travelers an array of European destinations and - in conjunction with its intercontinental services - transfer connections to long-haul destinations. Munich Airport's distinguishing features are its short minimal connecting times, a high standard of service, and efficient processes.



#### New records in the third quarter

In the months of July, August, and September, Munich Airport recorded a total of 12.3 million passengers – which is more than in any other quarter in its history.





Its outstanding connection options are also reflected in its good rating in the Airport Industry Connectivity Report 2016 published by the ACI. This report assesses the quality of connections at individual air traffic hubs.

Munich Airport achieved sixth place within Europe, and ninth place worldwide.

However, Munich Airport is not just a hub for transfer passengers – its wide range of direct connections is also appealing to travelers. One of the factors that shaped trends in this traffic segment last year was the further expansion of Lufthansa's partner bmi regional.

# Record figures for passengers and cargo; turnaround in the number of movements affirmed

A new passenger record was set in 2016: 42.3 million travelers used Munich Airport last year, representing a 3.1 percent increase year-on-year. Nevertheless, Munich Airport still fell two places in the ranking of European airports, finishing in ninth place for passenger numbers. One reason for this is the airport's capacity bottlenecks, a problem that other airports are less affected by.

Fiscal year 2016 was very positive for the field of air-freight: The airport handled 355,950 tonnes, equivalent to an increase of 5.4 percent. In Munich, the total figure for airfreight and post [carqo] was 375,121 tonnes,

representing growth of 5.3 percent. A comparison conducted by the German Airports Association (ADV) showed that German passenger airports recorded growth of just 3.1 percent.

Developments in aircraft movements in 2016 confirmed the turnaround from the previous year. The number of aircraft movements increased by more than 14,000 flights – or by 3.8 percent – to 394,430, despite negative factors such as strikes, meaning that existing capacity bottlenecks became even more of an issue. Munich therefore achieved far better growth than other German passenger airports, which recorded an increase of 1.7 percent.

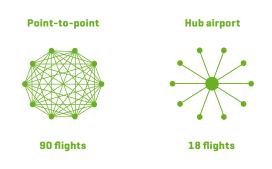
- → Group management report see page 90
- → Glossary
- → Glossary

Munich Airport: Integrated Report 2016

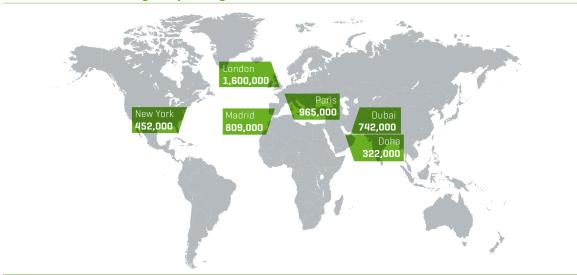
#### The hub airport: a successful model

Hubs bundle flights in an efficient and resource-friendly manner. This creates lots of different connections using a minimum number of aircraft.

#### **Example:** Connections between ten airports



#### Destinations with the highest passenger volume



## Munich Airport: a transport hub in the heart of Europe

In 2016, the number of direct destinations served by Munich grew by ten, to 257. Lufthansa enhanced its European network in collaboration with the British company bmi. Intercontinental traffic achieved particularly dynamic growth. Lufthansa also expanded its offering in this area, adding Denver and Tehran as new destinations and additional flights to Los Angeles and Miami. Condor further increased its range of long-haul routes with flights to Halifax, Havana, Windhoek, Zanzibar, and Mombasa. Delta Airlines launched a new route to Detroit while Emirates extended its offering by adding a third

daily flight to Dubai. Saudia has been offering flights between Munich and Riyadh via Jeddah since summer 2016. Kuwait Airways continued its flights to Kuwait in its winter timetable.

#### Urgent need for capacity adjustments

The new satellite building has been increasing terminal capacity since April 2016. In light of this growth, Lufthansa will be positioning three additional intracontinental aircraft in Munich. Another particularly positive development for Munich Airport is the future stationing of 15 new A350 aircraft on site. The renovations to Terminal 1 are continuing to make good progress, with the objective of also eliminating bottlenecks that occasionally occur here.

The runway system remains a severe hindrance to the airport's growth. Various airlines, including Air France, Emirates, Finnair, Oman Air and Egypt Air, are only able to offer a limited number of connections to their hubs' traffic junctions due to bottlenecks in Munich, and report time-critical connections in Munich. The sometimes severe problems with slot coordination for summer 2017 once again reveal that the runway system in Munich is broadly overloaded and that the constant demand for slots can no longer be sufficiently met.

06

#### Passenger structure in 2016

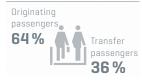
#### Passenger group

Flows of transfer

passengers

**16%** 

67%



#### Age groups

0-29 years	25%
30-39 years	26%
40-49 years	23%
50-59 years	15%
60+ years	11%

### Safety and security of the highest caliber

Safety and security are tremendously important for airports. Top priority is given to both aviation security (airport security) and the safe operation of aircraft and their handling on the ground (airport safety). The airport is focusing on preventing accidents and dangerous situations by applying suitable processes and systems, particularly in light of the rising traffic figures.

# Permanent place of residence



In 2014, the EU passed new regulations for the certification of airports with the aim of harmonizing security standards, and achieving a consistently high level of security at all European airports. As part of this process, Munich Airport is required to gain certification based on the requirements set out by the EASA (European Aviation Safety Agency) by December 31, 2017. This process will look closely at issues such as infrastructure-based, operating, and organizational requirements relevant to air travel.

#### Reason for travel



#### Gender

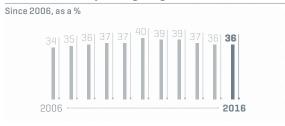


A multi-disciplinary project team has been preparing for the certification process since March 2015. In November 2016, Munich Airport submitted its application for certification to the South Bavarian Aviation Office at the District Government of Upper Bavaria. The application, including all inspections and audits, is due to be finally reviewed by the fourth quarter of 2017.

#### Trend in transfer passenger figures

16%

1%



## Well-equipped Airport Rescue and Firefighting service

With its two stations, the Airport Rescue and Firefighting service can reach any point on the runways within a maximum of 180 seconds of an alarm being triggered. This quick response meets the strictest requirements [category 10] set out by the ICAO (International Civil Aviation Organization), and is therefore in keeping with the high safety standards in place at Munich Airport.

The Airport Rescue and Firefighting service is responsible not only for fire safety on the campus, but also rescue services.

In 2016, Munich Airport Rescue and Firefighting service organized a management simulation with various institutes and authorities in order to improve cooperation should a serious event occur. In order to make sure it is well equipped for major operations in future, the Airport Rescue and Firefighting service received a new command vehicle in 2016, which serves as a mobile communications center.

→ Glossary

→ Glossary

Munich Airport: Integrated Report 2016

## Protection against bird strike thanks to targeted biotope management

Collisions between aircraft and heavy birds or flocks of birds can pose a danger to the safety of flight operation. In order to avoid situations such as these, Munich Airport has been running a special biotope management scheme for decades. Because birds are attracted to recently mowed grass, the airport for example keeps maintenance of the green areas around the runways to the absolute minimum required. Furthermore, specially trained employees perform bird control duties on airport premises throughout the operating hours, monitoring birds' movements, and actively dealing with any potential bird-related risks. Another important factor in preventing bird strike is avoiding larger bodies of water close to the flight operation areas, as these could attract heavy ducks and geese, for instance.

Statistics from the DAVVL (Deutscher Ausschuss zur Verhütung von Vogelschlägen im Luftverkehr e.V., the German Bird Strike Committee) show that Munich Airport has had comparatively low bird strike rates for many years. The average bird strike rates in Germany for 2016 were 130 and 176 percent higher respectively than the rates recorded for Munich Airport in areas 1 and 2.

#### Bird strike rate<sup>1)</sup>

2016	Area 1	Area 2
Munich	1.47	0.25
Average for German airports	3.38	0.69

<sup>1)</sup> Number of bird strike reports for aircraft with a German registration per 10,000 registered aircraft movements (source: DAVVL; as of March 2017) Area 1: Take-off 0-500 feet above ground; landing 200-0 feet above ground Area 2: Take-off 501-1,500 feet above ground; landing 1,000-201 feet above ground

→ Group management report see page 91

For its work in bird strike prevention, FMG liaises closely with the relevant partners and institutes, in particular the airlines, German air traffic control, regional and higher-level authorities, and the DAVVL. Despite the safety issues involved, the protection of birds remains an important priority.



#### **Commercial Activities**

## Increased revenue from non-aviation thanks to attractive offers

The Commercial Activities business division at FMG develops, markets, and manages retail and catering in the terminals and in the München Airport Center [MAC]. This includes services related to parking, as well as advertising and events on airport premises. This portfolio is geared particularly towards end customers, in particular passengers, but also employees and visitors. This busi-

ness division therefore makes a significant contribution to FMG's revenue from the non-aviation segment.

## Bavaria and the world – strong brands on an international platform

Customers value Munich Airport as an innovative location with a distinctive Bavarian charm and top-quality services. Business partners, advertisers, and retail unit lessees use the airport to position their products, services, and brands. Munich Airport therefore strives to offer visitors an appealing balance between transport options and





retail space along with a suitable mix of sectors and brands. The airport's approach is centered around strong and international brands and a unique Bavarian identity with impressive brand recognition. This concept has also been carefully reflected in the T2 satellite building: its central market square, which features a select range of catering and retail units, embodies traditional Bavarian life and Munich's joie de vivre.

Allresto Flughafen München Hotel und Gaststätten GmbH provides a diverse range of culinary options at Munich Airport. It operates around 75 percent of all catering facilities at the airport. With the opening of the new satellite building in 2016, Allresto added five new restaurants to its offering. The high standard of the international, German, and Bayarian dishes on offer is reflected in the airport's strong results in the Skytrax World Airport Awards and its popularity among quests. In 2016, Allresto also achieved success at the Hamburg Food Service Prize, where it received the «Domestic Market» sector award.

FMG's wholly owned subsidiary eurotrade Flughafen München Handels-GmbH offers visitors a unique and diverse array of shops. It runs 62 retail units, covering the sectors of duty-free/travel value, press and travel essentials, fashion, watches, jewelry, and accessories. eurotrade opened seven new shops in the new satellite building in 2016. The opening of «Chef's Tools», a specialist in household items, in Terminal 2 saw the addition of a store aimed specifically at Chinese customers. With the launch of the new in-house brand «MyDutyFree», which is based on the umbrella brand «M», the duty-free shops at Munich Airport are gradually being redesigned since the first quarter of 2016.

#### Full-service parking: new options available at the airport

Over the course of 2016, there was a more than three percent increase in vehicles counted in the almost 36.000 parking spaces in the 14 multi-story parking lots and other parking areas at Munich Airport. Frequent flyers, corporate customers, and business travelers were particularly eager to use the premium parking spaces for added comfort and security in P20, which is directly next to the Terminal. In 2016, there has also been a reorganization under the motto «Full-service parking». There, Munich Airport expanded its range of products and services: one

new feature was the simple online booking process. The platform brings together all services and an online payment option on a single website.

#### In-demand location for events and advertising

The roofed-over MAC forum between the two terminals regularly hosts special events for passengers and visitors. Some of the highlights of this fiscal year included:

- Taste & Style: a new three-day festival featuring the latest and food trucks
- Surf & Style: the MAC Forum took its sixth beach vacation
- Now a tradition: the popular Christmas and winter market with an open-air ice rink at the end of the year

Munich Airport is also an appealing location for advertisers: They can reach target groups with strong purchasing power and achieve high contact numbers in the heart of the airport's unique atmosphere. The large advertising area on the western facade of Terminal 2 is a particular highlight. This area featured advertisements for both Lufthansa and Audi in 2016, as well as a BMW advert to celebrate the company's 100-year anniversary. Advertising clients also have the opportunity to use entire spaces and showrooms in the terminals to showcase their products. A new digital advertising concept was developed for the new satellite building, which has already been utilized by respected companies such as Sixt, HypoVereinsbank, Deloitte, Siemens, Fiat/Alfa Romeo, and Deutsche Lufthansa.

items were counted on the longest receipt in 2016.

One customer from Thailand spent

(gross) on March 27, n the «Rolex/Omega/ CarreraYCarrera/ Bulgari» boutique the record purchase for all eurotrade units in 2016.

→ Weh www.munichairport.com/shops

#### The airport as a real estate location - central axes

✓ Web

www.munichairport.com/realestate

Web

www.munichairport.com/realestate

www.munichairpo





Through targeted real estate development, the airport is expected to evolve into an international hub for multi-sector collaboration and innovation over the coming years and decades.



Thomas Weyer, Chief Financial Officer, Chief Infrastructure Officer

#### **Real Estate**

## Successful development and marketing of the airport as a location for real estate

The Real Estate business division develops, markets, and runs all of FMG's property and real estate, some of which is located outside of the airport campus. Sustainable new-build concepts and city-style infrastructure form the basis for successful positioning on the market. One of the central component's of the airport's real estate strategy is its building management concept based around a property's life cycle. When it comes to developing real estate, Munich Airport places particular importance on working closely with the region and offering products and services suitable for specific target groups.

#### New living space for employees

FMG is working closely with its neighboring communities to plan socially viable living concepts for employees

working on the campus, using the airport's own land. The objective behind this commitment is to ease pressure on the local real estate market. Furthermore, Munich Airport is constantly on the lookout for partnerships with various stakeholders in the residential property market. It is currently involved in project talks in Munich and the area around the airport in an effort to assess options for additional living space.

#### Developments at AirSite West

The concept for the AirSite West area to the west of the Visitors Park features several ideas, including the construction of several new office buildings and the relocation of the Airport Academy into a modern new building. The plans for the area will be included in a Europe-wide call for tender in 2017. Overall site development, including traffic planning, is also due to start in 2017 in order to ensure requirements for the use of the AirSite West land and buildings are fulfilled.

06

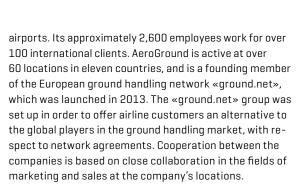
## AirSites: attractive real estate locations with specific development sites

- The AirSite Center forms the commercial heart of Munich Airport and is home to Terminal 1, München Airport Center (MAC), and the Hilton Munich Airport hotel.
- Along with the Terminal 2 gates, AirSite East is also home to the satellite building for Terminal 2, with a floor area of more than 125,000 square meters.
- The AirSite South and AirSite North projects are located directly between Terminals 1 and 2, providing airlines with all-important direct access to the gates.
   With a gross floor area of around 55,000 square meters, they could be used for cutting-edge offices and conference facilities.
- Plans for the around 50-hectare AirSite West site feature a new urban center with huge potential for development. The urban-inspired design will form the basis for premium amenities and successful business. Offices, commercial property, logistics centers, restaurants, and hotels – a diverse mix of units in a lively and spacious neighborhood.

## Participations, Services & External Business

## AeroGround: ground handling in Munich and Berlin

AeroGround Flughafen München GmbH is a wholly owned subsidiary of FMG and a provider of ground handling services. Together with its newly founded subsidiary, AeroGround Berlin GmbH, it offers all landside and airside services related to aircraft, luggage and passenger handling at Munich, Berlin-Tegel, and Berlin-Schönefeld



In 2016, AeroGround staff handled up to 350 flights a day in Munich and up to 130 aircraft a day in Berlin. The Transport Service division transported around 13,000 passengers at Munich Airport – with up to 780 bus journeys a day. In 2016, a further ten partners were added to the client base in Munich and Berlin. In addition, the company extended 18 of its handling agreements with existing customers. In the field of aircraft handing, AeroGround once again proved to be exceptionally reliable in 2016, with 97 percent of the flights it handled in Munich and 96 percent of the flights it handled in Berlin departing on time.

7 Web www.ground.net



#### **AeroGround Munich and Berlin: 2016 in figures**

	Munich	Berlin (SXF and TXL)
Pieces of luggage handled in millions	211)	1.7 2)
Average MTOM <sup>3)</sup> in tonnes	108	66.8
MTOM <sup>3)</sup> handled in million tonnes	23	1.4
Total passengers handled in millions	28.6	2.3
Punctuality in %	97	96
Quantity of cargo handled in tonnes (freight & post)	320,560	8,110

<sup>1)</sup> Inbound and outbound

#### Punctuality statistics for 2016 at Munich Airport

Total number of landings: 186,938



Total number of take-offs: 187,119



<sup>1)</sup> Deviation of up to 15 minutes

#### High safety and security standards

In summer 2016, AeroGround celebrated its five-year anniversary in Munich, as well as one full year of AeroGround Berlin at Schönefeld Airport. Its celebrations also coincided with very positive business development: at its home airport in Munich, the premium provider AeroGround successfully staked its claim as the market leader in the field of apron-side aircraft and baggage handling. Furthermore, AeroGround in Munich was registered under the «Safety Audit for Ground Operations» [ISAGO] by the International Air Transport Association (IATA) in 2016. This association sets uniform international safety and security standards for ground handling. The airport's voluntary registration demonstrates the high safety and security standards in place in Munich.

#### aerogate: passenger service and much more

As a wholly owned subsidiary of FMG, aerogate München Gesellschaft für Luftverkehrsabfertigungen mbH is responsible for passenger service at check-in, baggage delivery, the operation of lounges and reception services, arrival service, ramp supervision, and an IATA ticket agency at Munich Airport. In Terminal 1, aerogate held a 60 percent market share in passenger handling services, and even managed to slightly increase this share despite tough competition. In 2016, up to 520 employees handled over 32,500 flights and more than three and a half million passengers. With over 60 aviation service apprentices, aerogate is also the largest trainer for this particular career at the site.

#### Cargogate: cargo tonnage on the rise

Cargogate Flughafen München Gesellschaft für Luftverkehrsabfertigungen mbH is responsible for the handling and storage of airfreight, as well as documentation and customs formalities. Around 220 employees dealt with over 60 percent of airfreight customers, representing just under a third of all incoming and outgoing airfreight. Emirates and the freight company AirBridgeCargo increased their number of flights in 2016, thereby making a key contribution to the twelve percent rise to 100,168 tonnes of freight. Furthermore, Cargogate improved its productivity by 8.5 percent thanks to more efficient processes. In order to improve freight movement tracking at the airport, the company developed and implemented a new scanning system for freight transport in 2016.

#### EFM: pushbacks and de-icing

EFM – Gesellschaft für Enteisen und Flugzeugschleppen am Flughafen München mbH – has approximately 150 employees and is responsible for providing pushbacks, de-icing, and conditioned air for aircraft. It has been certified under ISO 9001 since 1997, and ISO 14001 since 2003. It underwent its most recent certification audit in 2015, with a further monitoring audit due to take place in 2017. The certification is planned for renewal in 2018. In the 2015/2016 winter season, EFM performed around 193,000 pushbacks. This 4.3 percent increase on the previous year is primarily due to a higher number of departures. Owing to the mild weather, EFM performed just 6,935 de-icing operations in the 2015/2016 winter season (previous year: 8,426).

## An increasing number of locations for InfoGate

InfoGate Information Systems GmbH offers customers multilingual, video-based client communication plus a number of digital information, booking, and navigation services. InfoGate terminals are placed in over 70 locations across the entire airport campus. In 2016, the

✓ Web

www.munichairport.com/
infogate

✓ Web

www.munichairport.com/
infogate

<sup>&</sup>lt;sup>2)</sup> Outbound

<sup>3]</sup> Maximum Take-Off Mass (average)



product received a technical upgrade and was also launched in the satellite building. The FMG subsidiary also markets its information system outside of Munich Airport. Its customers include leading international

companies from the fields of energy, trade, and project development, as well as hotels and other airports in Germany and beyond. A very successful business relationship developed from a partnership between Munich Airport and airports in South Africa in 2016. InfoGate is set to launch over 50 systems in Johannesburg and Durban. In addition, the terminals are now also in use at Hanover Airport.



#### **International business**

Capitals	Impact on capitals
€	Increased revenue and proceeds     Diversification of revenue     Improved forecasting for long-term projects
Ť	Smooth opening of T2 satellite building     Protecting against local site development risks
•	Level of knowledge increases with every project     Knowledge is fed back into the Group     Expanded portfolio of consultancy services     Stronger brand value for «M»
#	Diverse working environment     International environment     Interesting opportunities for career development     Project work
•	Introduction of higher environmental standards, for exampl in developing and emerging markets
Ŋ	Customers benefit from our expertise     Chance to benefit from growth opportunities in the worldwide aviation industry     Contribution to improving global aviation standards through networking

→ see pages 8-13

## MediCare: a wider array of treatments set to launch in future

MediCare Flughafen München Medizinisches Zentrum GmbH provides 24-hour medical care for passengers, visitors, and staff in its emergency care facility at the airport. The company also offers occupational and air travel-related medical services to all members of the Munich Airport Group, as well as any other companies based on the campus. In an effort to cover growing de-

mand, MediCare increased its capacities in Terminal 1, Arrivals E. Construction work on an extension to Airport-Clinic M began in October 2016, with the area scheduled to open one year later. This specialist medical center will also house an additional private clinic with nine beds. The extension will enable the company to expand its range of treatments beyond its current services for orthopedics, urology, and plastic surgery.

#### **Expansion of international business**

The «International Business» support office coordinates all of Flughafen München GmbH's activities relating to consultancy, management, and training. Around 70 experts globally support airport operators, governments, and investors in planning, expanding, running, and managing airports. In order to increase the company's market share, its international business will be re-organized in 2017 and outsourced to the wholly owned subsidiary Munich Airport International GmbH. This company is scheduled to launch in the second quarter of 2017.

#### International business activities

During 2016 FMG experts provided consultancy services to the following airports:



The most important projects around the world:

- o Muscat, Oman
- Singapore
- O Rio de Janeiro, Brazil
- o Palmerola, Honduras
- o Doha, Qatar
- o Ashgabat, Turkmenistan
- o Cairo, Egypt

Consultancy services were also provided at company's own site in Munich. Thanks to FMG's experts, the new satellite building was opened on schedule and successfully launched in April 2016.

50 major projects in over 30 countries

> 25 years

of international experience

 $\frac{10}{\frac{\text{million euros}}{\text{of revenue}}}$ 

#### Overview of the current product portfolio

- Strategic and operational airport management
- Airport/terminal planning (master planning and function planning)
- Operation of an airport
- Commercial airport development, including the concept of the airport as a city (development of non-aviation)
- Operational readiness and airport transfer (ORAT)
- Training and staff development

#### Top five measures in the sustainability program $\supset$ Detailed program online: www.munich-airport.com/sustainability-program

Material topics	Initiatives	Measures	Status 2016	Measure ends
Digitization	Providing systems and technology to safeguard operations and future traffic trends	Expanding and optimizing digital assets in the terminals to support processes (e.g. EasyPASS and InfoGate)	30 %	2017
Infrastructure development and sustainable building	Implementing energy-efficient and sustainable building	Certifying selected buildings according to the standards of the German Sustainable Building Council (DGNB)	Ongoing	Ongoing
Customer focus	Improving products for end customers in the field of landside mobility	Integrating strategic landside transportation concepts and products [rail, inter-city buses, car sharing] into long-term parking needs concepts	50 %	2017
Security and safety in aviation	Implementing issues related to corporate security	Putting together and running an air safety and security conference at Munich Airport	15 %	2017
Linking transportation operators (seamless travel)	Smart campus mobility	Running a pilot project on autonomous driving at Munich Airport	10%	2020

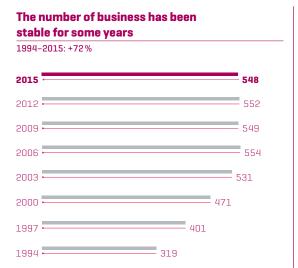
#### THINKING AHEAD

# The airport as a job machine

Munich Airport is one of Bavaria's largest places of work. Almost 600 businesses are represented on the campus, providing a diverse mix of products and services. As a result, the campus is always in need of skilled workers. The array of jobs and professional qualifications covered is equally varied, as was reflected in the results of the latest employment survey covering the period ending December 31, 2015. The study once again highlighted the appeal of working at the airport. However, it also clearly emphasized the challenge of adequately covering future staff requirements.



- → Capital: employees see page 11
- ✓ Web: employment survey 2015 www.munich-airport.com/ employment-survey

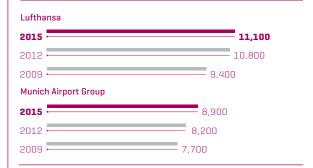




#### Type of survey

The employment survey is a study conducted every three years in all companies and official authorities active at the Munich Airport site. It focuses on staff structures, gross salaries, and places of residence. In 2015, 77 percent of staff returned the questionnaire.

#### Together, Lufthansa and the Munich Airport Group employ around 20,000 members of staff.





Over the past three years, the number of people in gainful employment at the airport has grown by a further 7.6 percent, to a total of 34,720. That works out at 2.25 new jobs created every day. A total of 17,500 jobs have been created since 1994, meaning that the number of jobs has more than doubled over this period.

<<

In light of the forecast growth in traffic over the next few years, the airport's staff requirements will also continue to increase over the medium- and long-term.



Dr. Michael Kerkloh, President and Chief Executive Officer, Personnel Industrial Relations Director

## Considerable income tax total

In 2015, the companies based at Munich Airport paid out gross wages and salaries in the amount of 1.6 billion euros, resulting in a total income tax bill of 263 million euros.







#### Major employer

#### Strong neighbors – a strong location

With its 8,776 employees<sup>1</sup>, Munich Airport Group is the second-largest employer at the site after Deutsche Lufthansa AG. For many years, the neighboring Freising job center region, which also covers the Dachau, Ebersberg, and Erding districts, has reported one of the lowest levels of unemployment in Germany. The average rate is 2.2 percent in Freising, practically corresponding to full employment and reflecting the significant importance of Munich Airport in the regional labor market in 2016.

#### An airport that makes an impact across the reaion

The various municipalities and administrative districts in Bavaria benefit from the ongoing employment boom at the airport. This was one of the outcomes revealed by the most recent employment survey, in 2015, which

1) Including apprentices, but excluding workers in marginal employment, temporary workers, interns, and AeroGround Berlin GmbH



summarizes key information on staff development at the airport. The importance of the airport to the labor market in its direct surroundings is particularly striking: for instance, one quarter of all employment relationships subject to social security contributions in the districts of Freising and Erding are based at the airport. In total, almost 90 percent of all people in gainful employment at the airport are subject to social security contributions – significantly higher than the German average of 72 percent that the Federal Statistical Office states is the current rate.

#### Value creation

#### **Economic benefits**

Munich Airport has regional economic impact at a number of different levels. A basic distinction is made between the effects resulting directly from airport operations on the one hand and the effects of its use on the other.

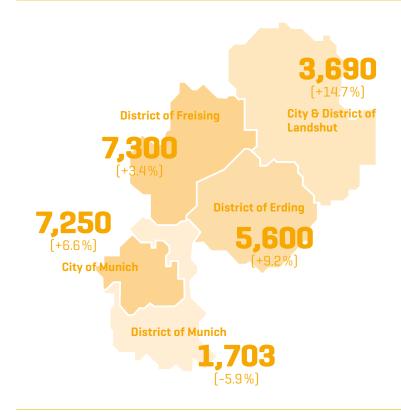
## Value-added effects resulting from airport operation

The value-added effects generated by airport operation can be categorized into direct, indirect, and induced effects. In 2012, all of the companies that were based on the airport campus generated direct added value of 2.48 billion euros. Every hundredth euro generated in Bavaria is generated by Munich Airport.

#### Effects resulting from use of air traffic

Effects resulting from the use of Munich Airport are known as location effects. These include positive economic effects, such as an increase in productivity and investments, plus a high level of employment and innovation. Proximity to the airport is seen as an important criterion for companies deciding to settle in the area, particularly those operating on an international scale. The airport also offers impressive advantages for the tourism industry.

#### Where airport staff live



Source: Employment survey 2015, percentages: change in comparison to 2012

→ The airport as a job machine see page 46

#### How much wealth the airport creates

Effects	Brief description
Direct effects	All value created by Munich Airport's economic activities. The direct value created is used to pay salaries and wages.
Indirect effects  The sum of all effects within the area under review which are generated by preliminary services supplied from this are Munich Airport.	
Induced effects	Economic activities with a value-added effect in the area under review which are generated by purchases made using income at Munich Airport.

#### **Airport campus**



#### Region around the airport



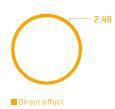
#### **Bavaria**



#### Germany



#### In billion euros



#### In billion euros of overall effect



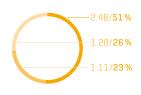


#### In billion euros of overall effect





#### In billion euros of overall effect



■ Direct effect ■ Indirect effect ■ Induced effect

#### Increased value-added effects with a third runway 1)



€6.3 billion

Effects on Bavaria are not covered in the study

€7.8 billion

#### Central procurement of services<sup>2</sup>

#### Group-wide product group management

Munich Airport does not have a conventional supply chain, and instead procures the wide range of products and services needed to operate an international hub airport. The range of essential products is comparable to the requirements of a small town: The 139 product groups range from office supplies and road construction to vehicles and buildings. In 2016, the total volume of orders placed by the Munich Airport Group amounted to around 740 million euros. All procurement by specialist areas and subsidiaries is handled by the central Group-wide product group management system at the Procurement department. The only exceptions are the merchandise, food & beverage, and medical equipment product groups, where purchases are made directly by the eurotrade, Allresto, and MediCare subsidiaries.

#### Legal provisions in respect of procurement

The Munich Airport Group, a sectoral contracting entity, operates in the field of «Ports and Airports». As a result of this, the Procurement department's work is based primarily around antitrust law in the field of procurement, particularly with respect to exceeding certain thresholds. Where public contracts are involved – including construction and supplier contracts or services offered by commercial entities or professional freelancers – the calls for tenders are issued on an Europe-wide basis in keeping with the binding regulations under procurement law. Orders that are not subject to public procurement legislation are normally put out to tender based on a formal, Group-wide process.

#### Supplier structure

Around 4,600 suppliers work for the Munich Airport Group. The supplier structure during 2016 was relatively consistent with the previous year. Of the companies supplying Munich Airport, 92 percent are headquartered in Germany. Of these, 52 percent are from Bavaria and 32 percent are from Munich and the area surrounding the airport.

<sup>1)</sup> IHK study 2015

<sup>&</sup>lt;sup>2]</sup>The figures relate to the total volume of orders placed by the Munich Airport Group in 2016.

#### Supplier management

In 2016, Flughafen München GmbH assessed around 150 of its framework agreement partners according to the following criteria: the quality of the product or service, reliability of delivery, and service and price trends, as well as the company's certification according to quality and environmental standards. In the event of poor outcomes, the suppliers had the opportunity to eliminate existing deficiencies in supplier audits.

#### Sustainability aspects

A party submitting a tender must confirm it complies with statutory provisions in order to rule out anything that would prevent it taking part in public procurement or tendering procedures. Those submitting tenders must also provide evidence that they comply with the standards relating to quality assurance and environmental management. For example, energy consumption and environmental impact must be taken into account when purchasing road vehicles. The top priority when commissioning products or services is to draw up agreements that satisfy environmental, social, and economic requirements.

## The product group structure at Flughafen München GmbH

- Office and other overheads
- Raw materials
- IT
- Marketing
- General services
- Maintenance/repairs
- Vehicles, machinery, and equipment
- Semi-finished products, tools
- · Electrical, automation, and process control technology
- Energy
- Construction and planning

The Munich Airport Group awards contracts on the basis of cost-effectiveness and places particular emphasis on the utilization of materials and products that are both durable and use low levels of natural resources. Where necessary, any subsequent costs for servicing and maintenance (life cycle costs) are also taken into account. The centralized nature of procurement helps to avoid any duplicate orders and results in savings due to economies of scale.

The Group is mainly supplied by business partners in the region, which helps reduce transportation distances and  $\text{CO}_2$  emissions. For example, Allresto purchases food worth almost 20 million euros each year – nearly all of which originates from Bavaria, and a good 50 percent of which comes from the area directly around the airport.

→ Legal basis
Section 21, of the
SektV0 (Sector
Ordinance) Section 7
of the SektV0 (Sector
Ordinance)





#### Specific objectives in terms of HR management

General goal	Initial situation/challenge	Measures and outcome
Covering HR requirements	Staff requirements for the Munich Airport Group between 2012 and 2017: around 2,500 new employees (50 percent new jobs, 50 percent replacement staff), primarily in IT, engineering, building management, safety, retail, catering, and security     Updated training options	<ul> <li>Over 1,500 new jobs by the end of 2016</li> <li>Ten years of the Bachelor's program in air traffic management [50 graduates at FMG since 2006]</li> </ul>
Increasing efficiency	Level of absence caused by sickness remains an important factor for increasing efficiency     Cultivation of efficient employment conditions	Improvements to occupational medical services and in-house health management     Annual review of pay-scale provisions and company agreements to identify potential for improvement     Closer integration of subsidiaries into HR management processes and key performance indicator reports at FMG
Increasing employer attractiveness	Fiercely contested labor market     Demographic change     Very low unemployment rates in the districts of Erding and Freising     Attractive working conditions     Enabling and safeguarding equal opportunities	Record bonus for income generated by FMG in 2015     Reduction to the proportion of temporary workers at AeroGround subsidiary to a maximum of five percent     Increase to the proportion of women in management
Establishing excellent leadership	Leadership as a crucial indicator for employee retention and for reaching corporate goals     Increasingly complex requirements for managers	Employee meetings     Leadership Excellence program:     New training modules, for example «Putting the new premium service culture into practice» and «Future airport»     High participant rates

#### The employer's promise

#### • The excitement of the airport

The diversity of the airport is similar to the diversity of a small town – by working together, all of the employees in our «airport city» help the campus to light up, day in, day out.

#### • Exhilarating challenges

The working environment at Munich Airport is diverse, covers a wide range of disciplines, and changes all the time – no matter what your field of work, the airport has opportunities for almost anyone.

#### • One big airport family

Employees from a number of different countries work in the Munich Airport Group – the reason the company is doing so well is that every member of the airport family works as a team player.

#### Reliable connections

The airport bears a special type of responsibility for its employees – as well as financial success, employees' interests are also at the heart of the entire Group.

#### **Human resources strategy**

#### Employer value proposition: a mutual commitment

What factors make Munich Airport one of the most appealing employers in the region? The answer can be found in the airport's employer promise, which is based around its position as a brand. It demonstrates how the Munich Airport Group positions itself among its competitors to attract talented applicants on the labor market.

#### Farsighted HR policy

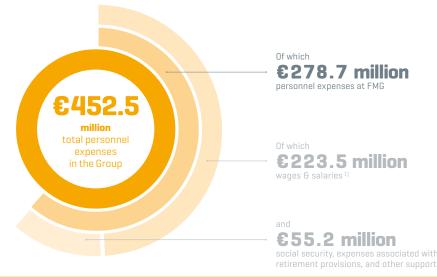
Munich Airport believes in the importance of an HR policy that not only focuses on people but also the company's future. The HR concept, which is focused on long-term development, is therefore geared towards current business conditions and the corporate strategy, as well as social megatrends such as demographic change, diversity, individualization, mobility, health, and education. The HR strategy sets out important objectives for human resources management, which are reviewed annually and adjusted as required.

#### **Employee satisfaction** and codetermination

#### Employee survey confirms employee retention

A regular employee survey forms a fixed part of the corporate culture. It reflects a company where employees are happy with their working conditions, the company as an employer, and the management culture. The survey also acts as an indicator of employee retention. The next survey is scheduled to take place in fall 2017. This is one year later than planned in order to avoid high number of simultaneous major surveys.

#### **Personnel expenses**



Average salary at FMG

www.munich-airport. com/benefits

1) Including expenses for travel cost reimbursements and meal subsidies

Employees have numerous opportunities to get involved in committees that are required by law or other working groups, i.e. the Supervisory Board, Youth and Trainees Council, Council for Employees with Disabilities, Company health management working group, and company sports club. The works council is currently made up of 31 members. Over recent years, employee representatives have worked with the employer to draw up important company agreements related to health management, occupational safety, temporary workers, remote working, and models for working hours.

#### Personnel expenses and payments above the general pay scale

Flughafen München GmbH is a member of the regional public employers' association and, as such, is bound by the TVöD collective pay scale agreement for public sector employees. At the end of April 2016, the municipal em-

ployer associations worked with the labor unions ver.di and dbb to pass a new collective pay agreement with a 24-month term. The outcome was that remuneration for staff at FMG and AeroGround increased by 2.4 percent with retroactive effect from March 1, 2016, followed by a further 2.35 percent increase as of February 1, 2017, Furthermore, agreements regarding annual bonuses, a new schedule of remuneration, the supplementary pension fund, and semi-retirement were also passed by the works council. Apprentices saw their wages rise by a flat rate of 35 euros on March 1, 2016, followed by an additional 30 euro increase on February 1, 2017. The annual vacation allowance also rose from 28 to 29 days. The collective payment agreement resulted in approximately an additional 4.4 million euros in expenses for the company. FMG employees participate in a company retirement scheme, which is governed under the pay scale agreement and covered by the Bavarian supplementary pension fund for municipal employers.

→ Group management report see page 95



FMG encourages codetermination

#### **Training and HR development**

#### Training in demand at the airport

The Munich Airport Group is one of the largest training organizations in the region. School leavers interested in the airport can choose from 20 different apprenticeship and dual study options. 88 apprentices embarked upon their professional career at Munich Airport on September 1, 2016. This meant there were 274 young people taking part in apprenticeships Group-wide as of the reporting date of December 31. Flughafen München GmbH received a total of 1,671 applications to begin apprenticeships in 2017. At the same time, 38 young people completed their apprenticeships with FMG, 34 of whom went on to become fully fledged employees. A further 103 school-age and 128 university interns received their first insight into

the world of airports, producing 25 project-related

Bachelor's and Master's dissertations in the process.

The company's twelve-month trainee program provides graduates with an insight into the structures and processes at the airport. FMG transforms up-and-coming talent into experts in a specific field, or trains them up for multi-disciplinary projects and in-house consultancy work. A mentoring program helps trainees to establish their own company-wide network.

## Ten years of the Bachelor of arts in air traffic management

Germany's dual Bachelor program in air traffic management has been running for ten years, and Munich Airport played an important role in its development. Students complete placements at the Munich Airport Group and study theoretical aspects at Frankfurt University of Applied Sciences. The program aims to enable students to gain a comprehensive insight into economic and operational aspects of the aviation market. Since the launch



Our outstanding status on a nationwide scale highlights our reputation as an exceptionally attractive employer, even beyond Bavaria's state boundaries.



Dr. Michael Kerkloh, President and Chief Executive Officer,
Personnel Industrial Relations Director

#### Committed to the next generation

As a reliable employer, Munich Airport not only bears responsibility for its employees, but is also committed to working with schools, colleges, and universities in the region.

→ Web

www.munich-

airport.com/careers



## «SchuleWirtschaft» working group for schools and businesses

In the «SchuleWirtschaft» working group, Flughafen München GmbH works alongside principals from local schools, other regional businesses, specialist tradespeople, and representatives from the employment agency. The aim of this voluntary network is to make the transition from school to working life easier for young people.



## «Jugend forscht» (youth research) at the airport

As a mentor and one of the organizers of the regional research competition for young people «Jugend forscht – Schüler experimentieren», Munich Airport uses its role as one of the area's largest employers of apprentices to support up-and-coming talent in the fields of mathematics, IT, science, and technology. In 2016, the event took place in March under the motto «Neues kommt von Neugieriq» [«Curiosity breeds innovation»].



#### «Girls' Day/Boys' Day»

As part of the nationwide «Girls' Day/Boy's Day» initiative, over 130 school children visited Munich Airport in April 2016 to find out about the range of training opportunities available there. The girls were able to explore their prospects in the fields of manual skills, technology, IT, and science, while the boys gained an insight into careers in the areas of childcare, education, health, and social services.



#### Training night

In fall 2016, the airport's MAC Forum hosted its «Training night» event, under the motto «Discover your future». Members of the Group and other apprenticeship organizations at the airport gave a group of young people an introduction to over 50 different apprenticeships and study programs.



#### P seminars

Work experience for schools: Munich Airport provides regular support to high schools in the area, helping them to design and run P seminars [a practical project about working life that is mandatory for certain types of schools in Germany]. The aim of these projects is to help young people to advance their social skills and specialist expertise.



#### Vocational training events and trade fairs

By way of vocational training events for schools, visiting universities, and taking part in trade fairs such as «Stuzubi» or «Vocatium», Munich Airport Group's HR team provide school children from Munich and the area around the airport with information on the wide range of apprenticeships, internships, and dual study programs available at the airport.



of the program, around 50 young people have received a degree in air traffic management at Munich Airport. 386 high school graduates applied for the five places available on the course at FMG in 2016.

#### The company's training partner: Airport Academy

Skilled and motivated staff are essential for a company to meet its quality goals. Munich Airport therefore operates its own certified training center with just under 50 employees at the Airport Academy. The center offers a wide range of professional development options, mainly in the areas of human resources, management, aviation, and security. Over 30,000 participant training days document employees' willingness to make the most of the newly designed professional development program as the basis for their career progression. The Airport Academy is also open to external customers, who are able to complete courses for example in aviation security, hazardous goods handling, and management skills, or receive their apron driver's license.

#### Exchanging knowledge with other airports

The international exchange program once again proved to be very popular in 2016. Some 18 apprentices visited partner airports in Athens, Malta, and Vienna as part of the European mobility program «Erasmus+». A selected group of specialists and managers advanced their knowledge during trips to the company's sister airports in Johannesburg and Bangkok. The international experience acquired helps employees develop as people, and Munich Airport progress as a business.

#### Further extension of the Leadership Excellence program

The Leadership Excellence program aims to improve management skills at Munich Airport. In 2016, around 230 members of management took part in 23 Leadership Excellence training modules.

#### Sister airports

ACSA Airports Company South Africa BCIA Beijing Capital International Airport

AOT Airports of Thailand

CAG Changi Airport Group (Singapore) DEN Denver International Airport

Centrair Central Japan International Airport (Nagoya)



#### Flughafen München GmbH is the travel industry's number one provider of apprenticeships

FMG finished way ahead of the pack in an independent employer study by the magazine Focus: FMG finished in first place from the 400 or so companies in the category for operations with 4,001 to 10,000 employees. In the overall ranking covering all industries, Munich Airport finished in 13th place. FMG was also awarded the title «Best provider of vocational training in Germany» for the «Logistics and transport» industry.

#### **Professional development**

#### Capitals Impact on capitals

- Costs for vocational and professional development measures: external professional development budget at FMG of 3.2 million euros

+ Airport Academy as an in-house training center

+ Ongoing advancement of knowledge among employees

+ Higher standard of leadership + Increased brand value

+ Personal and technical development

+ Improved employee satisfaction + Increased appeal as an employer

Not affected

+ Wide range of apprenticeships

+ High standard of service and quality at the airport

→ see pages 8-13

Working environment and society





45
s the average age o
an FMG employee











women on

#### Responsible employer

#### A job with added social value

Social aspects are playing an increasingly important role when it comes to choosing a place to work. Managers at the Munich Airport Group are of the firm belief that a working environment where people feel valued and good performance go hand in hand. Employees should be recognized for their work, so that they are motivated to make the most of their potential for the company's success. Flughafen München GmbH is one of the top 20 most family-friendly companies in Bavaria. The competition «Successful. Family-friendly» was launched by the Bavarian State Ministry of Economic Affairs and Media, Energy and Technology and the Bavarian State Ministry of Labor and Social Affairs, Family and Integration in 2016.

#### Diversity: both personal and cultural

As a company with an international outlook, Munich Airport benefits from the diversity of its employees. It respects the cultural heritage of all of its employees, taking into account their diverse interests and needs. A total of 21 percent of Group employees come from more than 50 different countries. This fosters cultural exchange and increases the richness of expertise within the Group. As an employer, FMG actively accepts responsibility toward all its employees and ensures equal opportunities and prospects at all levels.

The promotion of women to management positions is an integral part of HR work. Andrea Gebbeken has been a valued member of the FMG Executive Board since fall 2016, where she is in charge of Commercial and Security. The Group has now increased the percentage of women at management levels 1 and 2 to 20 percent. In management level 2 in particular, eleven vacancies have been

#### **Highlighting good working conditions**

Munich Airport received a certificate for its successful completion of the INQA audit «Future-proof corporate culture». With this audit, the New Quality of Work Initiative [INQA] hopes to show companies how future-oriented their organization and human resources policies are. The INQA audit is promoted by the German Ministry of Labor and Social Affairs and was developed in close cooperation with the Bertelsmann Foundation, Demographie Netzwerk e.V. [ddn], and the «Great Place to Work» institute.

filled by women over the last three and a half years. In its efforts to gradually increase the proportion of female managers, the Munich Airport Group formulated individual targets for each management level in 2016, rather than setting a fixed quota. Flughafen München GmbH is aiming to increase the rate of female managers from the current six percent to 13 percent at management level 1, and from 24 to 29 percent at level 2. Targets have also been defined for three Group subsidiaries, some of which already have a comparatively high proportion of women at management level.

#### Focusing on family and health

The Munich Airport Group offers a range of supplementary company benefits to enable a healthy work-life balance. For example, it launched the pioneering company agreement «flexible working environment» at the beginning of 2017. All staff at Flughafen München GmbH and AeroGround are able to complete up to 30 percent of their individual working hours at home or remotely, provided that their area of work is suited to the arrangement. As a result, they are able to reduce the time needed to commute, and also take their individual needs better into account in time management. In order to secure the

07

best possible conditions for employees working on the campus, FMG is also involved in residential construction. It is currently participating in project talks in Munich and the area around the airport in order to identify options for additional living space.

#### Other supplementary benefits:

- Health promotion initiatives, company sports club, ergonomics advice
- · «Airport-Hopser» children's day care center
- Care of employees' children during vacations and public holidays
- «OASE» social counseling facility
- Employee insurance service
- Social fund
- Employee residences close to the airport
- Reduced-rate monthly tickets for Munich's public transportation system and Deutsche Bahn season tickets for train travel
- «TwoGo» ride-share portal, also open to Lufthansa staff
- Free parking on the airport campus
- Vouchers in return for working over Christmas and New Year
- In-house travel agency with discounted offers

Much of the airport's work in this area aims to maintain or improve staff ability to work. The Corporate health and social management division [BGM] offers a wide array of services, ranging from occupational medicine and employee catering to advice for people living in difficult circumstances.

#### Corporate health and social management

#### Standard To develop, cultivate, and maintain an outstanding, healthy working environment for employees Responsibility **Partnership Expertise**

with all employees

#### Goals

## working environment

for employees

## Motivated, high-performing

 $\mathbf{L}$ 

 $\Psi$ 

## responsibility

through experience

Innovation

for performance

#### Fields of action

Prevention and rehabilitation	Exercise and nutrition	Inclusion
Stages of life	Healthy working environment/ worlds of work	Personal resources and mental health

Working environment and society

## Occupational safety further refined: new plan of action launched in 2016

Using occupational health and safety policy as its basis, FMG has set itself the task of constantly improving working conditions, as well as accident and illness rates. To help it achieve this objective, a new plan of action covering the key aspects listed below was set up in 2016 as part of the occupational safety management system:

- All measures identified in hazard assessments and safety inspections will in future be systematically recorded, tracked to make sure they are implemented, and checked to ensure they are effective. This also covers the occupational training courses, qualifications, and safety instructions that form the basis for these measures, as well as preventive occupational medical care.
- For accident reporting and analysis purposes, all relevant data is now logged in a central IT system, EcoWebDesk, where it can be accessed for further evaluation. Safety engineers work with managers to consistently analyze each individual accident, enabling measures to be derived, and their implementation and effectiveness to be checked. In 2016, individual accident figure targets were developed in collaboration with the areas with the highest accident rates.
- A significant set of accident statistics and a new reporting system were also designed for use in subsequent years.

## Prospects for employees with impaired health

FMG possesses a great deal of expertise in the deployment and development of employees with impaired health. Possible placements, workload reductions, and preventive options are improved and expanded on an ongoing basis. As at December 31, 2016, the Group employed 645 staff members with disabilities or equivalent limitations, corresponding to around seven percent of the total workforce.

## Binding standards for ground handling services

Working in cooperation with the South Bavarian Aviation Office, Munich Airport made a breakthrough in its labor policy in 2016: when new licenses are awarded, ground handling service providers are required to meet a high number of provisions relating to occupational health and safety, and qualifications. For example, they are required to have their staff undergo medical exams to check their suitability for the job and must also conduct specific hazard assessments for individual tasks. Minimum standards are in place for the qualification of trainers and staff, which ultimately helps to improve safety and security for passengers. The use of sanctions helps Munich Airport to guarantee that these binding standards are observed across the campus.

#### **Community engagement**

## The airport supports an array of regional projects

As a responsible neighbor, FMG has spent more than 20 years supporting various institutions and initiatives in its local region that reach large groups of people and have a sustainable impact. Over 700 projects in the fields of education, social welfare, sports, and culture benefit from financial support and material donations. Munich Airport is actively involved in integrating young refugees into the labor market. In fall 2016, young people were given the chance to learn more about working in the catering and hotel business at a «Gastronomy workshop». During the event, they also gained initial practical experience, and performed preparation specifically for interviews and internships. This campaign was set up in a collective effort with the «Turning tables» integration initiative and the «Euro Trainings Center (ETC)» and Kolping educational institutes. Several of the young people who took part in the event went on to enter an internship or apprenticeship.





## Back health – lifting aids in the baggage transportation system

FMG installed lifting aids in all work stations on the baggage transportation system in Terminal 1 in 2016. Working with the relevant divisions, it tested and assessed various loading tools before installing the final aids. The aim of the lifting aids is to prevent chronic musculoskeletal disorders. Furthermore, they help employees with impaired health return to work.

## The airport's charitable association – recognized for its reliability and responsibility

In 2016, the airport's charitable association Flughafenverein München e. V. celebrated its 20th anniversary, an event which coincided with it receiving the most important seal of approval available to German charities. The association has now joined around 230 other organizations who bear the «DZI seal of approval», evidence that an association handles all of its donations carefully and responsibly. As well as making a number of anonymous donations and helping sick children's dreams come true, the airport association also supports local young people, senior citizens, and refugees, as well as regularly taking part in projects outside Germany. For instance, it transported 15 tonnes of charitable donations to Latvia and also provided hospitals and hospices in Ukraine and Romania with some much-needed medical equipment and donations in kind.

700 projects

benefit from the airport's support as a sponsoring partner

#### Top five measures in the sustainability program 7 Detailed program online: www.munich-airport.com/sustainability-program

Material topics	Initiatives	Measures	Status 2016	Measure ends
Occupational health and safety and health management	Improving ergonomics at the workplace by using innovative technology	Using innovative lifting aids in the baggage transportation system in Terminal ${\bf 1}$	40 %	2020
Employee training and recruitment	Covering the employee requirements qualitatively and quantitatively	Meeting personnel requirements for the T2 satellite building and ensuring they continue to be met [FMG and subsidiaries]	100 %	2016 (completed)
Equal opportunities and cultural diversity	Increasing employer attractiveness internally and externally	Enabling and safeguarding equal opportunities: increasing the percentage of women at management levels 1 and 2	75 %	2017
[	Increasing efficiency and ability to work	Cultivating efficient employment conditions, checking pay-scale provisions	100 %	2016 (completed)
Employee satisfaction	Increasing employer attractiveness internally and externally	Conducting an INQA audit (New Quality of Work Initiative) to cultivate a future-ready corporate culture	100 %	2016 (completed)

#### THINKING AHEAD

# The airport goes climate-neutral

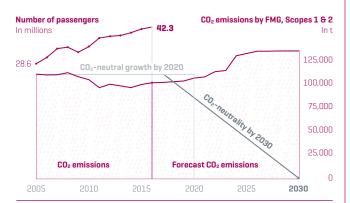
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Munich Airport will be the first German airport to have carbon-neutral operations, and will do so by 2030. This ambitious climate protection goal involves the airport using a wide array of technical steps to reduce the  $\rm CO_2$  emissions that can be attributed directly to its operations by 60 percent by 2030. It will then balance out the remaining 40 percent with suitable projects that in as far as possible will take place within the region. The Munich Airport Group will invest a total of 150 million euros by 2030 for this climate protection program.



- → Capital: environment see page 12
- Web: climate protection program www.munich-airport.com/ climate-protection

#### **Carbon targets**



#### Thinking about the future today

Munich Airport's new climate protection strategy relates to Scopes 1 and 2, meaning that it is geared towards all emissions that FMG is able to impact directly.

#### **Exemplary measures**

Division	Measure	potential savings per year
Energy supply	Increased use of renewable energy	50,000 t of CO <sub>2</sub>
Building technology	Improved use of energy in new construction projects	30,000 t of CO <sub>2</sub>
Vehicle pool/mobility	Expansion of electromobility	11,000 t of CO <sub>2</sub>
Airport-specific equipment	Switch to LED technology for navigation lighting on the runways	4,000 t of CO <sub>2</sub>

#### **Climate protection strategy**

Capitals Impact on capitals

€	Savings due to the early implementation of measures for increasing efficiency     Expenses (that cannot be directly refinanced)		
Ť	Added appeal on the real estate market     Added comfort for the user		
Pioneering role Expansion of the pool of knowledge throu the development of suitable measures Impulse for new ideas			
₩	+ Increased employer attractiveness		
•	Lower CO₂ emissions     Increased environmental awareness among customers and other companies thanks to the airport's pioneering role		
P.	Better acceptance     Positive effect on image as a «corporate citizen» thanks to regional measures     Long-term commitment     Attainment of goals set out in policies		

→ see pages 8-13

#### Fields of action for reducing carbon, Scopes 182

By increasing its efficiency and applying technical innovations, FMG is set to reduce  $CO_2$  emissions by 60 percent.



#### «Guide and influence»

Munich Airport is working towards cutting third-party emissions on the airport campus over the long term [Scope 3]. To help it achieve this, FMG has developed a series of «Guide and influence» measures: collaborations, climate alliances, or financial incentives (such as emissions-based landing charges) aim to help companies based at the airport and their customers to reduce CO<sub>2</sub> emissions.



Our aim of enabling the operation of our 5-star airport to become carbon-neutral means we are setting the course for sustainable and resource-efficient aviation.



Dr. Michael Kerkloh. President and Chief Executive Officer. Personnel Industrial Relations Director



# /Environmental and climate protection

The very nature of major transport infrastructure means it also negatively impacts the environment. Munich Airport therefore pursues an environmental program that is as ambitious as it is innovative, going far beyond legal requirements and industry standards. It is continuing to even further advance its role as a pioneer: Munich will become Germany's first airport with climate-neutral operations, and will do so by 2030.

#### **Climate protection strategy**

#### Responsibility for people and nature

Whether noise control, conservation, climate protection, or waste or water management, Munich Airport understands its responsibility and pursues a wide range of projects to keep its operations' impact on local people and the environment as low as possible. In doing so, it focuses on two main aspects: the airport's Environment Management team ensures that legal and official requirements are met. In addition, Munich Airport has created its own programs to help it reach very specific environmental protection goals.

## An ambitious goal: Germany's first airport with climate-neutral operations

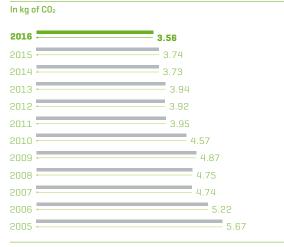
The airport has once again significantly developed its climate-related goals to enable it to keep pace with its own targets, taking into account the fast-paced development of objectives in climate protection policy. With respect to the emissions that it is able to impact directly, the airport is to make its operations completely climateneutral by 2030 – and will be the first airport in Germany

#### **Carbon emissions at Munich Airport**

Scopes 1, 2, and 3 without the LTO cycle, APU, and public transport In tonnes per year



#### Specific carbon emissions per passenger



to do so. To achieve this, the Munich Airport Group is aiming to reduce the greenhouse gas emissions that can be attributed directly to it by 60 percent using a wide array of technical measures. It is no longer possible for technology to have a major impact on the other 40 percent of these emissions. Instead, they will be balanced out by compensation measures until 2030, preferably within the region. This climate protection goal was passed by the Supervisory Board in December 2016 and is significantly more ambitious than the former aim to achieve CO<sub>2</sub>-neutral growth by 2020.

#### 37 percent lower CO<sub>2</sub> emissions per passenger since 2005

FMG has been undertaking ambitious measures since 2008, which have resulted in the approximately 162,000 tonnes of CO<sub>2</sub> emitted in 2005 falling to around 150,000 tonnes in 2016. Had the over 200 individual measures not been effected, CO<sub>2</sub> emissions from Munich Airport would have been around 30,000 tonnes a year more than they actually are. In 2016, Flughafen München GmbH alone invested around 460,000 euros in projects to help increase energy efficiency as well as reducing greenhouse gas emissions by 1,491 tonnes over the long term, although some of the impact will not be felt until 2017.

One important factor in the climate protection strategy are the new pre-conditioned air systems (PCA systems), which cost almost 30 million euros. This technology supplies aircraft with pre-conditioned air while parked. As a result, the aircraft no longer need to run their auxiliary power units (APUs), which are responsible for high levels of noise, CO<sub>2</sub> emissions, and other air pollutants. In future, PCA systems will help to prevent up to 20,000 tonnes of  $CO_2$  emissions per year.

In terms of the climate protection strategy, the commissioning of the new satellite building initially results in an increase in CO<sub>2</sub> emissions due to energy requirements. When combined with further, minor increases caused by higher passenger figures, this totals around

10,000 tonnes of CO<sub>2</sub>. Nevertheless, the overall footprint in scopes 1 and 2 still fell by 46 tonnes in absolute terms. This notable success was made possible solely thanks to the new block heat and power plant, which was put into operation at the end of 2015. By improving on the efficiency and power of the old system, it has offset over 80 percent of the increase. The remaining 20 percent have been balanced out by savings in existing buildinas.

#### The footprint covers all emissions

Delivering effective climate protection for an airport is a complex task. After all, any calculation of greenhouse gas emissions not only includes emissions resulting from the operation of infrastructure and aircraft emissions during take-off, landing, taxiing, or handling, but also other sources - these include the arrival and departure of passengers, visitors, and employees and the operation of businesses active at the airport such as hotels, shops, restaurants, gas stations, and workshops.

#### The following individual sources of emissions are counted:

- Power center
- De-icer recycling system
- Airside/in-house vehicle traffic (such as buses on the apron, luggage transporters and aircraft tug vehicles), ground power units, and other service equipment
- Procured power, district heat, and natural gas
- Power, district heat, cooling power, fuel, and natural gas supplies to external companies
- Air traffic in the LTO cycle
- Auxiliary power units
- Engine test runs
- Feeder traffic: landside/public vehicle traffic [employees, passengers, visitors and freight]



→ The airport goes climate-neutral see page 60



→ Group management report see page 95

## **Airport Carbon Accreditation**

The European airport organization ACI EUROPE awarded FMG «Level 3 -Optimization» for the sixth consecutive time for its 2016 Airport Carbon Accreditation following the successful reduction of carbon greenhouse gas emissions.

- → Glossarv
- → Glossarv
- → Scope 3 see page 66

Almost 3/4

of CO<sub>2</sub> emissions from the aircrafts' main engines are generated during the LTO cycle.

→ Glossarv

→ Web

www.munich-airport. com/climateprotection

www.munich-airport. com/environmentalmanagement

#### Greenhouse gas emissions at Munich Airport

CO<sub>2</sub> SF<sub>6</sub> CH<sub>4</sub> N<sub>2</sub>O HFCs PFCs (CO<sub>2</sub>-equivalent)

w

scope 1

Direct emissions from energy production and transportation

2%

Diesel and gasoline for company vehicles

11%

Energy self-generation

Proportion: 13 %

Scope 2

Indirect emissions associated with buying in energy

3%

Energy purchased externally

Proportion: 3 %

Scope 3

Indirect emissions associated with the business conducted at the airport

1%

Diesel and gasoline for outside companies

6%

Public transport

6 %

APUs (auxiliary power units) and engine test runs

6 %

Energy purchases of outside companies

65% LTO cycle

Proportion: 84%

Total: 100 %

According to the ICAO calculation method applied internationally, only the portion of  $\rm CO_2$  that taking off and landing aircraft emit up to an altitude of 3,000 feet [914 meters] is attributed to the airport. All of an aircraft's movements below the 914-meter mark are counted under the LTO cycle [landing and take-off cycle].

A carbon footprint provides the basis for reliably recording all forms of emissions in a way that enables international comparison. It breaks down all greenhouse gas emissions that can be attributed to an airport into three different scopes according to the «Greenhouse Gas Protocol» international standard.

#### Scope 1

Block heat and power plant: the heart of energy supply

With its block heat and power plant, the airport generates over half of its on-site energy requirements using environmentally-friendly natural gas. The waste heat generated from this alone covers almost all of its heating and cooling requirements without requiring the use of additional energy. The airport then covers its remaining heating requirements by procuring district heat from Fernwärmeversorgung Freising. In turn, 50 percent of the purchased district heat - i.e. approximately 18 gigawatt hours (GWh) - is generated by a biomass thermal power plant in Zolling. This district heat obtained from biomass is renewable and climate-neutral, and cuts CO2 emissions by around 3,800 tonnes per year. The block heat and power plant's six large engines have a total output of 24 megawatts of electrical power, and generate 145 million kilowatt hours of electricity and 155 million kilowatt hours of heat. This heat is used to keep the airport buildings warm in winter, while absorption refrigeration units are used to keep them cool in summer. If the heat and power were generated separately in the mix applied in the Federal Republic of Germany, the amount of carbon produced each year would be almost 50,000 tonnes higher, i.e. the same amount emitted by a small city with more than 40.000 residents.

#### LED technology reduces CO2 emissions

In 2016, further equipment was converted to LED technology, such as in parking lots P25 and P26, the vehicle garage, and freight forwarding building. Overall, the savings resulting from this style of lighting amounted to 986 tonnes of  $\mathrm{CO}_2$  per year. A further 505 tonnes of  $\mathrm{CO}_2$  were saved in other areas.

Sustainable building generates potential for savings

Flughafen München GmbH places great emphasis on sustainable building, a commitment that is underlined by its membership of the German Sustainable Building Council (DGNB). An in-house center of core expertise plans and manages all carbon-relevant issues related to sustainable building.

#### Example measures from 2016:

· Climate facade on the satellite building

Thanks to advanced materials and innovative technology, the specific CO<sub>2</sub> emissions per square meter of gross floor area caused by the satellite building is 40 percent lower than in the terminal. One of the factors that helps the building to set new standards when it comes to energy efficiency is the climate facade: the glass facades that run along the long sides of the building are equipped with a 4.5-meter-wide accessible «climate buffer», which separates the air-conditioned building interior from the outer facade. In this intermediate space escalators are situated that transport passengers between the three levels. Inspired by the idea behind thermos bottles, this layer of air helps to improve the building's insulation. The facade itself is made from a newly developed form of glass: while letting in daylight, a special coating enables it to prevent the excessive build-up of heat caused by the sun's rays.

#### · Building technology

By making improvements to its existing portfolio, FMG reduced its  $\mathrm{CO}_2$  emissions by almost 19 percent between 2005 and 2016. However, there is still room for even further improvement, especially when it comes to the energy efficiency of office buildings and terminals. Energy requirements in existing buildings can be reduced using intelligent, user-dependent control technology. New buildings can be designed as «light-tech buildings» to meet the Passivhaus standard, while intelligent facade systems and climate-based concepts can help to increase user comfort. As a result, a further 20 to 25 percent increase in energy efficiency could be achieved for existing buildings, which is equivalent to carbon reductions of around 30.000 tonnes.

#### · New buildings

The additional new buildings planned for construction by 2020, in particular at AirSite West [such as the office building, Airport Academy and budget hotel] and on the rest of the campus [for instance, the north fire station, and the canteen on the apron] will also be included in the goal of reducing  $\mathrm{CO}_2$  emissions by 40 percent when compared to existing buildings. Based on forecast carbon figures, target figures with 40 percent lower  $\mathrm{CO}_2$  emissions have been defined for this purpose.

#### Alternative energy on the rise

As part of its climate protection program, Munich Airport uses alternative fuels from renewable energy sources within its vehicle pool:

- 22 vehicles run on bioethanol
- A further 31 cars use biogas
- 32 apron buses more than half of the total have been awarded the «Blue Angel» eco-label
- There are 14 electric cars/mini transporters



✓ Web

www.dgnb.de/
dgnb-ev/en/

The proportion of electric vehicles is set to rise significantly: within three years, Munich Airport will replace 121 of its older vehicles run on gasoline or diesel with new electric vehicles. This is equivalent to more than 20 percent of the current vehicle pool. This sixfigure, environmentally-friendly investment is supported by subsidies from the German Ministry of Transport.

After weighing up various options, biogas has proven to be the best technology to bridge the next eight to ten years: around 150 vehicles could run on biogas, provided that there is a biogas refueling station in the non-public area. A total of around 11,000 tonnes of CO<sub>2</sub> per year can be offset in fuel consumption by vehicles.

#### **Advanced hybrid vehicles**

The airport has owned five new BMW 740Le iPerformance limousines since the end of 2016. Thanks to their cutting-edge hybrid drive technology, VipWing passengers not only get to travel directly across the taxiway to their airplane in comfort, but also without generating any emissions.

Munich Airport: Integrated Report 2016 Environmental and climate protection



#### Scope 2

Less than 40 percent of the power used on the airport campus comes from external energy providers. To this end, energy mix emissions within the German power grid are attributed to the airport. Although the proportion of renewable energies has been rising significantly for some years in Germany, the contribution made by lignite and hard coal to electricity generation has also been increasing. As a result, the specific emissions from the power bought in by Munich Airport have in fact increased between 2011 and 2015. Emissions values from power generation only started to drop again in 2016. Overall, emissions produced by the external procurement of power and district heat have in fact decreased by 22 percent since 2005. Looking at the Munich Airport Group alone, this figure has fallen by almost 50 percent. This is down to the new, even more efficient engines for the cogeneration of heat and power on the one hand, and reductions in power consumption on the other.

#### Scope 3

With respect to energy consumed by airport users, Flughafen München GmbH has developed further climate protection measures during 2016 in conjunction with the airlines and the companies based at the airport. The airport invested heavily in pre-conditioned air systems (PCA systems). Following a construction period of around two

#### Successful reduction in CO2 emissions

The international climate protection organization CDP has honored Flughafen München GmbH (FMG) for its hard work in the area of effective climate protection. Munich Airport was awarded a «B» rating in the 2016 climate change report, meaning it also received the status of «Sector leader in transportation». This makes FMG one of the best companies in the industry in Germany, Austria, and Switzerland.

#### Completed projects from the carbon reduction program and energy generation strategy

Issue	Measure	CO <sub>2</sub> reductions per year
Energy generation	Permanent operation of the four new block heat and power heat modules and associated peripheral equipment	8,185 t
Lighting	Conversion of apron navigation lighting to LED technology on ramp 3, M4, and mobile bridges	59 t
Eighting	Retrofitting LED lighting in ramp equipment station 2	72 t
	Streamlining of operating hours for air conditioning units in the central building	44 t
Air conditioning	Streamlining of air conditioning system in the DLH warehouse	14 t
Airport technology	Introduction of PCA systems at Terminals 1 and 2, and the satellite building; operations started in September/October 2016	3,831 t

years, these systems went into operation in Terminal 1, Terminal 2, and the satellite building in 2016. In 2016, this technology had already contributed to savings of over 3,800 tonnes of  $CO_2$  after just a short time in operation.

#### Air quality

stations

#### Air pollutant emissions

The assessment of air quality in the area around the airport looks at a number of important factors, including nitrogen oxide  $NO_x$ , sulfur dioxide  $SO_x$ , and particulate matter  $PM_{10}$ . These substances are emitted directly from both road and air traffic. The emissions from feeder traffic and the air-

Measuring points for air quality and biomonitoring

craft LTO cycle are calculated in the same way as CO<sub>2</sub> emissions. Air traffic is also responsible for the majority of these emissions.

#### Landing charges based on emissions

Flughafen München GmbH collects emissions-based landing charges for nitrogen oxide emissions. It therefore makes an active contribution to improving the quality of the environment around the airport. This gives engine and aircraft manufacturers a long-term incentive to invest in the development of aircraft that produce less in the way of harmful emissions. The principles of engine-

Haimhausen, Ismaning; 2015: Pulling, Fraunberg;

2014: Eittinal

specific contaminant assessment  $(NO_x)$  are in turn incorporated into the calculations for the carbon footprint, thereby improving the way carbon is recorded.

#### Keeping a constant eye on air quality

The impact of emissions on air quality at Munich Airport is continuously monitored at two measuring points - one in the western area and one in the eastern area of the airport. Air quality measurements record the effect of all sources of harmful emissions from road traffic, air traffic, and other airport operations - overlaid with the background levels from the Munich metropolitan area and the natural background concentration in the atmosphere.

→ Sustainability figures see page 175

→ Glossary

→ Web www.munichairport.com/impacts

#### Concentration of contaminants at the measuring point on the east side of the airport premises

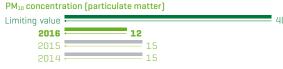
Annual averages in µg/m<sup>3</sup>

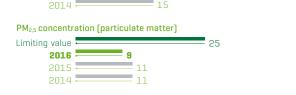


in 2016









→ Web

www.munich-airport.

com/impacts

Measurements for the contaminants ozone, nitrogen monoxide, nitrogen dioxide, sulfur dioxide, carbon monoxide, benzene, toluene, xylene, dustfall, particulate matter  $PM_{10}$ , and particulate matter  $PM_{2.5}$  gave the following result for 2016: all statutory limits for the protection of human health were met. In 2016, as in previous years, the key parameters of nitrogen dioxide  $[NO_2]$  and particulate matter were mainly found to be at low to medium levels.

At the start of 2014, Munich Airport became the first airport in Germany to additionally determine the quality of air using a mobile air quality measurement station. It measures the same substances as the stationary measuring point LHY7 and is used for specialist investigations in the surrounding municipalities. The mobile station has been used five times to date: measurements were recorded in Haimhausen in the first half of 2016, followed by Ismaning in the second half of the year. The figures confirmed the results from the stationary measurements and also fell below the statutory limits.

#### Keeping track of contaminants

Long-lasting contaminants can accumulate in the environment and therefore seep into the food chain. This is why Munich Airport has spent many years using various methods to find out to what extent contaminants could be transferred into foodstuffs, animal feed, or the ground. In 2016, plant pots containing Italian ryegrass and kale, and pots for collecting dustfall were set up at twelve measuring points around the airport site. Work also continued on the honey monitoring project launched in 2008.

#### **Process for measuring harmful emissions**

#### Biomonitoring

- Plant pots containing Italian ryegrass and kale at 12 measuring points
- Accumulations of heavy metals and polycyclic aromatic hydrocarbons [PAHs] from the air



#### Result

Limiting values and guidelines for agricultural animal feed and plant-based food are met<sup>1)</sup>

#### **Honey monitoring**

- Samples of honey, pollen, and wax at three locations
- Accumulations of heavy metals and polycyclic aromatic hydrocarbons [PAHs]



#### Result

No concerns regarding the consumption of honey and pollen

#### Dustfall

- Standardized dust collection («Bergerhoff» process) at 12 measuring points
- Dust and matter containing dust deposited in the ground and on surfaces



#### Result

Limiting values and guidelines for soil protection are met<sup>1]</sup>

1) 2015, results for 2016 not yet available at time of publication.





#### Resource management

#### Gentle, sustainable and economical

Munich Airport's strategy for using natural resources is based on taking care of and being economical with these, and also showing a sense of responsibility toward future generations. The issues of waste and water management and the preparation of de-icers are particularly important.

#### Waste: high recycling rates

Flughafen München GmbH meets every single requirement in the German Waste Management and Product Recycling Act. The airport's approach in this area begins with preventing waste products in the first place. Furthermore, any waste and scrap products from the operation of the airport - across the board - are collected where they are generated within various separating systems, handed over to certified specialist businesses close to the airport, prepared in sorting plants, and then recycled. The small proportion of residual waste that cannot be recycled is fed into the Munich North power plant for an energy recovery process for producing district heat and power. Flughafen München GmbH makes continuous improvements to the entire process chain as well as to the process for separating and sorting all waste and scrap material. Responsible and sustainable waste management is an enormous source of potential for generating secondary materials, while also helping to save on costs.

In the context of resource conservation, employees are able, for example, to dispose of light bulbs at special points in the workplace. A collection program for old cell phones was launched at the end of 2016, the objective of which is recycling valuable metals. Flughafen München GmbH has used exclusively recycled paper in line with the Blue Angel environmental label since 2016. New digital workflows, for example for business trip applications, also help to save paper.

The majority of waste and scrap material is generated by affiliated companies, the companies based at the airport as well as airlines. A custom-designed disposal concept tailored specifically to the party generating the waste is therefore essential for sustainable resource conservation: from the actual generation of the waste (potential ways to prevent waste) through to recycling and disposal (value created through sorting accuracy). FMG therefore provides regular information on current waste management concepts, gives tips on environmentally friendly conduct, and is on hand to help with advice. It therefore helps to protect the environment beyond the boundaries of the Group and to start reducing disposal costs at the point of creation.

#### Paper consumption

In thousand sheets of paper
Recycled paper Fresh fiber paper



Munich Airport: Integrated Report 2016 Environmental and climate protection

→ Glossary

#### **Recycling instead of disposal**

In 2016, FMG worked with AfB gemeinnützige GmbH, a charity that promotes work for people with disabilities. This integration company sold restored IT hardware to airport workers. The most unique thing about the project is that all of AfB's workflows are accessible for people with disabilities, and performed by people both with and without disabilities. Reusing used PCs, laptops, printers, and cell phones therefore protects valuable jobs and helps to protect the environment, resources, and climate.

#### **Disposal method**

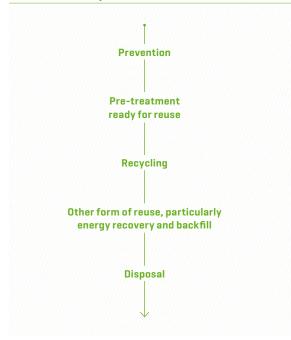


In contrast to the previous year, the quantity of waste generated increased due to the launch of the satellite building, and other refurbishment, renovation, and destruction work. The recycling rate remained at a consistently high level.

#### A responsible approach to water

The aim of water management at Munich Airport is to affect the natural water balance as little as possible and arrange the various effects caused by water resource management, drainage, and the provision of drinking and extinguishing water so that they have as little an impact as possible. Overall, FMG aims to achieve the following:

#### **Waste hierarchy**



- · Minimizing the volume of wastewater
- Separating waste water at the source, and treating and disposing of it separately
- Only using drinking water where drinking water quality is really needed
- Keeping wastewater away from sealed surfaces so as to prevent peak run-off
- Making sure the condition of the groundwater and bodies of water above ground is not impaired

When compared to 2015 [1,042,166 cubic meters], drinking water consumption at Munich Airport remained at almost the same level in 2016 [1,050,791 cubic meters]. This is because the airport takes an economical

approach when handling drinking water. For every 1,000 traffic units (1,000 passengers or 100,000 kilograms of airfreight), specific drinking water consumption decreased slightly by 2.3 percent to 23.0 compared with 23.6 liters in 2015.

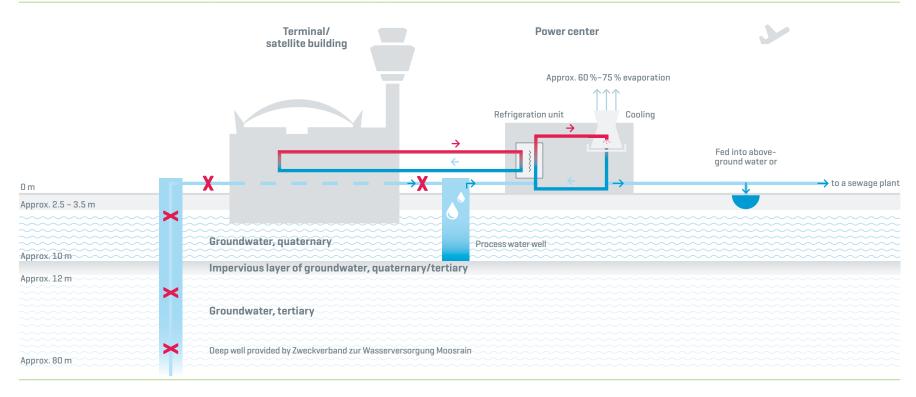
When it comes to resource conservation, FMG believes in the importance of handling drinking water as carefully and economically as possible. For example, quaternary groundwater close to the surface (process water) has been used for cooling power centers instead of precious tertiary groundwater (drinking water) since 2010. The process water comes from wells created by the airport. It has been used at the western power center since 2010, saving around 1,185,000 cubic meters of drinking water by the end of 2016. The new eastern power center has been using the same principle to supply Terminal 2 and its satellite building with cool air since 2015. In the satellite building, savings totaled around 36,000 cubic meters between the launch of operations and the end of 2016. Over the next few years, savings are expected to reach similar levels to the western power center.

Three further process water wells are due to open by early summer 2017 in a bid to save up to a further 50,000 cubic meters of drinking water per year over the next few years. Quaternary groundwater close to the surface is particularly well-suited to the following applications:

- Construction water for concrete work and building site supplies
- Runway cleaning processes using high-pressure equipment
- Use in wet sweeping machines
- Sewer rinsing measures
- Watering of green areas, trees, and bushes

2.3
percent
less drinking water
consumed per 1,000
traffic units

### Process water instead of drinking water for air conditioning purposes



### Sophisticated wastewater disposal concept

Several sewage systems stretching over a total length of 300 kilometers collect wastewater that takes a number of forms:

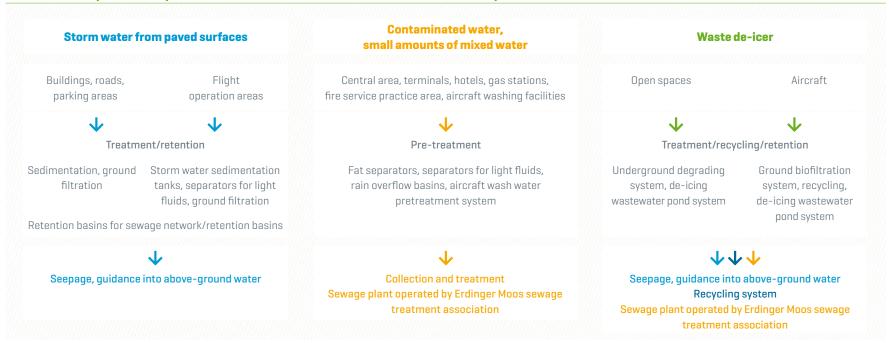
- Domestic sewage, such as that from handling areas, offices, or staff facilities
- Commercial wastewater from kitchens, canteens, and catering units

- Wastewater generated when washing aircraft [may contain oil, kerosene, or heavy metals]
- Mixed water from central area [dirty water and storm water]
- · Storm water from the aprons, roofs, roads, and parking areas
- · De-icing waste water during winter operation of runways and aprons, and a proportion from aircraft de-icing operations

Depending on the level of contamination, the water is pretreated in the airport's own plants, retained, added to bodies of water, or sent to the sewage plant in Eitting. Regular quality controls ensure compliance with the requirements established by public authorities. Ground biofilters in the areas around the heads of the runways prevent de-icer, that can make its way into the surrounding green areas if the wind is blowing the right way, from making its way into the groundwater and

Environmental and climate protection Munich Airport: Integrated Report 2016

#### Wastewater disposal concept: various wastewater sources, their treatment, and disposal



#### **Ground filtration system meets expectations**

Regular inspections of the groundwater at the northwestern and northeastern heads of the runways prove that de-icing operations do not pollute the groundwater with organic substances thanks to use of the ground biofiltration system. A further ground filter to the east of the southern runway is currently under construction, while a fourth is in planning for the western part of the southern runway.

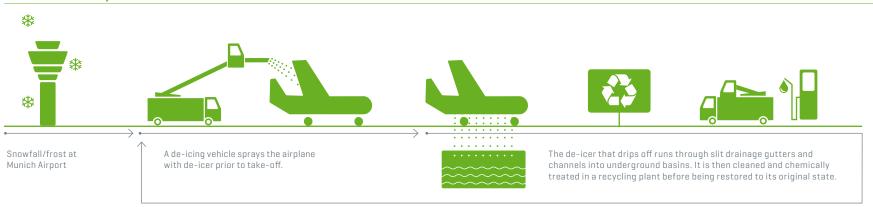
contaminating it. At the same time, they are used to retain and clean the collected waste de-icer. The quality of the water is monitored and the total organic carbon is constantly measured using a TOC measurement system. Depending on the level of contamination, it may in future be routed to a body of water or – during harsh winters where lots of de-icer is used – sent straight to the sewage plant.

## Aircraft de-icer cycle

In the areas near the heads of the runway, de-icing vehicles keep aircraft free from ice and snow before take-off. The de-icer dripping off the aircraft during this process finds its way via slit drainage gutters and channels into underground basins specifically designed to capture it. It is then mechanically and chemically treated in the airport's own recycling plant, before being distilled and converted back to its original state through the addition of additives. Munich Airport's process for recycling de-icer is the only example of its kind in the world. The recycling rate for the active glycol component in de-icer was around 51 percent for the 2015/2016 season. The average for the last few years has ranged between 41 and a maximum of 59 percent – depending on the weather and taking into account a level of energy consumption suited to the environmental footprint.



## Aircraft de-icer cycle



Munich Airport: Integrated Report 2016 Environmental and climate protection Resource management

# **Noise protection**

# Regulations regarding noise protection

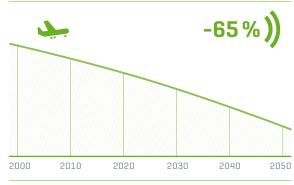
# Aircraft are required to adhere to strict noise limits

The main regulations for the aviation industry are defined on an international level. Under the United Nations umbrella organization, the International Civil Aviation Organization (ICAO) deals with the issue of reducing aircraft noise. For example, it requires new aircraft to obtain a certificate for both prototype and operational approval. However, airport operators themselves can also ban particularly loud aircraft types. Munich Airport does not allow loud aircraft without certificates according to ICAO Annex 16 to take off from or land on its premises. For the planned third runway, the same will also apply to aircraft assigned to Chapter 2 and also to marginal Chapter 3 aircraft. Other organizations and projects have set similar goals: Under its vision for 2020, the EU's ACARE (Advisory Council for Aviation Research in Europe) is aiming to halve perceptible noise, while the EU's «Flightpath 2050» project hopes to reduce noise emissions by 65 percent by 2050 taking the year 2000 as its base figure.

Download the Flightpath 2050 report: www.ec.europa.eu/ transport/modes/ air/doc/ flightpath2050.pdf

→ Glossarv

# Flightpath 2050: Targets for less aircraft noise

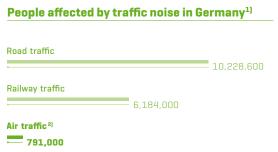


Source: Advisory Council for Aviation Research and Innovation in Europe (ACARE)



#### The impact of aircraft noise

According to the latest analyses by the German Federal Environment Agency, road noise inflicted mean continuous sound levels of above 55 dB(A) on 10.2 million people across Germany; railway noise of the same level affected 6.2 million people, while aircraft noise affected 791,000 people. In contrast to other major airports, Munich Airport has performed very well thanks to the excellent conditions at the site: at Munich Airport, the proportion of people who live in the area around the airport and are affected by aircraft noise is only around five percent of the comparable group at Frankfurt Airport and as little as one percent of those near London-Heathrow Airport.



1) Traffic noise between 55 and 70 dB(A)

### People affected by aircraft noise<sup>3)</sup>

Data as of: 2016 Berlin-Tegel Airport Frankfurt Airport **Munich Airport 11.300** 

3) Number of people who are affected by noise levels of above 55 dB (A) per day (24 hours)

#### → Web www.acare4europe. com/

www.munich-airport. com/night-flight

www. munichairport.com/noiseprotection

#### Night flight regulations at Munich Airport

The night-flight curfew in force includes a noise quota, which takes into account aircraft types and sizes, and the number of aircraft movements. During 2016, only 64 percent of the permissible noise volume was used at Munich Airport, In 2016, the mean night-time continuous sound level at the borders to the control zone did not exceed the permitted value of 50 dB (A). The current night-flight curfew, introduced in 2001, will also apply for the planned third runway. The third runway may only be used at night in exceptional circumstances, such as an emergency or the closure of one of the other two runways. This means that the current noise quota will remain the same.

#### Noise reduction measures provide relief for residents

Noise control plays a major role with respect to environmental issues at airports. Airport operators aim to keep the impact on residents and employees caused by aircraft noise as low as possible. They apply a range of steps to achieve this, including operational, technical, and financial measures.

#### Engines running idle during final approach

Munich Airport currently gives a few airlines the chance to land according to an optimized descent profile. With these continuous descent operations (CDO), the aircraft's engines are set to minimal power [they should be idling, ideally) during the descent and any horizontal flight phases are avoided. This reduces fuel consumption and CO<sub>2</sub> emissions, while also reducing noise levels by up to 6 dB (A) due to the higher crossing height in

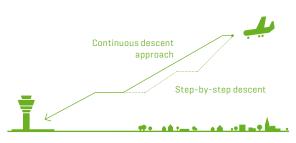
contrast to the standard procedure. From February 2017, all airlines will be able to apply the CDO procedure when landing on the northern runway. This offers positive effects for both the airlines and the environment; it will help to save kerosene on the one hand, while reducing noise and CO<sub>2</sub> emissions on the other.

of the permitted noise volume in use

→ Glossarv

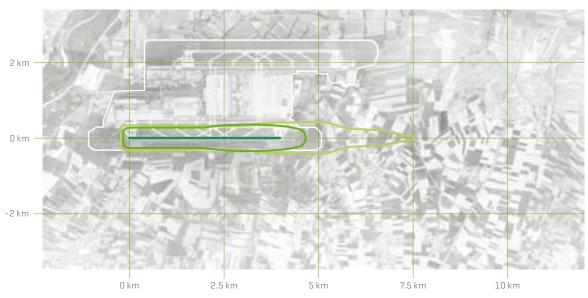
→ Group management report see page 84

# Continuous descent approach



<sup>2]</sup> All airports, not only major airports Source: German Federal Environment Agency (UBA) 2016

#### Comparison of noise contours for the Airbus A340-600 and A350-900



Take-off footprint for the 85 dB(A) contour using the standard Lufthansa take-off procedure with a maximum take-off weight

A340-600
A350-900
Runway

# New engine architecture halves noise levels The development of very quiet aircraft types is set to ac Munich Airport. According to its certification, its

celerate further the use of new geared turbofan engines. The geared fan is based on a completely new and highly effective engine architecture. This reduces fuel consumption by 15 percent, and therefore also lowers CO<sub>2</sub> emissions and halves noise levels. The A32Oneo aircraft model is equipped with these engines and received its official launch in a service to Munich Airport on January 25, 2016. The «neo» part of its name stands for «new engine option». With its improved engine technology and better aerodynamics, the Airbus A32Oneo is currently the most efficient and quietest

cumulative noise emissions are approximately 30 dB(A) below the applicable ICAO thresholds and on average around 15 dB(A) below the values for its predecessor, the A320-200.

Lufthansa received its first A350-900 in December

Lufthansa received its first A350-900 in December 2016 and will start using it on its regular flights between Munich and Delhi in February 2017. Lufthansa's first ten A350-900s will be stationed in Munich. The airline has already ordered a further 15 aircraft of this type to gradually replace its A340-600 models.

New, advanced aircraft such as the A350-900 or the Boeing B787-800 and B787-900 generate a much lower noise level at the aircraft noise measuring points when compared to an A340: initial measurements show a reduction of up to 7 dB(A) during take-off and of up to 3 dB(A) during landing. In contrast to an A340, the A350-900's noise contour is around 40 to 50 percent lower and its noise level does not exceed 85 dB(A) outside the airport premises. Increased use of these types of aircraft and, in particular, the stationing of the A350s will help to significantly reduce aircraft noise emissions, especially the peak levels in the area around the airport. This results in lower aircraft noise pollution in the airport region.





#### Locations of fixed noise measurement points at Flughafen München GmbH



#### Landing charges: quiet equals cheap

Munich Airport can influence the type of aircraft used by ensuring its landing charges depend on noise levels. Airlines using quiet aircraft benefit from a charges system based on a broad sliding scale. Noise-based take-off and landing fees may be as much as eight times higher for a loud aircraft type than a quiet one.

# Dense measurement network for aircraft noise monitoring

Using 16 fixed measurement points, FMG continuously monitors aircraft noise within a radius of about 20 kilometers around Munich Airport. It also performs mobile measurements on request, which is a voluntary service available to municipalities that are not covered in the stationary measurement network. In 2016, eight mobile aircraft noise measuring systems recorded values on a total of 289 days, including – for the first time – in Zorneding, Markt Schwaben and Oberndorf. Mobile measurements were again taken in Ziegelberg, Rudelzhofen, Forstinning, Ismaning, and Fischerhäuser.

# Added transparency in online aircraft noise monitoring

Local residents can use the «Fluglärmüberwachung online» platform [«Online aircraft noise monitoring»] to find out more about the current noise levels in the airport region: «FLUMO Plus» contains both the latest measurements from the 16 stationary aircraft noise measuring points in the airport region as well as data from the three mobile measuring vehicles when they are in use.

→ Web: www.travis-web01.munich-airport.de/data/travis.php

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# **Biodiversity**

#### Conservation concept and landscape design

Even before construction of the airport began, the Erdinger Moos area was already a cultivated landscape used intensively for agriculture, and was in no way an untouched natural area. The Erdinger Moos area and Isar floodplains had lost much of their original appearance decades before initial plans for the airport had been drawn up. Extensive parts of the area had been drained as early as the 19th century before being dried out even due to the construction of canals. Integrating Munich Airport into its environment in the best possible way has been one of the goals of the planning concept right from the start. This is why FMG has created structures to upgrade the environment in the wider area and link the areas together. The concept divides the areas in Erdinger and Freisinger Moos into three zones:

#### Zone I: airport premises with runway system, buildings, and roads

Green areas make up almost two thirds of the airport premises and zone I. All areas within the airport that have not been developed or sealed have been designed as high-quality green areas. Furthermore, over 6,000 trees have been planted in areas of the airport accessible to the public. Specialist care and maintenance has led to varied species of vegetation growing on large areas of the airport. This has helped to cultivate high-quality low-nutrient meadows in some areas, which are ecologically much more valuable than the intensively farmed green spaces or arable land beyond the airport fence.

## Zone II: wooded green belt with structural diversity around the airport premises

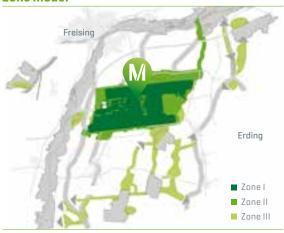
With its woods, ditches, and meadows, this area around the edge of the airport acts as a buffer for settlements and agriculture, and integrates the airport's

#### Airport area

Total: 1,577 hectares



#### Zone model



buildings into the surrounding landscape. For instance, more than half of the area around the northern receiving ditch is now home to vegetation that is worthy of protection, such as the Hungarian iris, marsh gladiolus, or fen pondweed.

Zone III: ecological compensation measures
 FMG has now planned and constructed around 374 hectares of compensation areas. The responsible

certification bodies (Southern Aviation Office, government of Upper Bavaria, as well as the local («lower») and the regional («higher») nature conservation authorities) have confirmed that sufficient areas have been cultivated and that these are looked after properly. The individual measures serve as a balance for conservation and the appearance of the landscape by creating new structures or improving existing flora and fauna that are worthy of protection. For instance, biotope corridors have been created to link conservation areas, flowing bodies of water, or just natural habitats to one another. The various habitats encourage a high degree of diversity as well as rare species and types of biotope. Special care is given to birds species at risk of extinction, such as the corn bunting, whinchat, and Eurasian curlew, as well as the ornate bluet species of dragonfly.

#### The airport inside a bird sanctuary

Munich Airport is part of the 4,525-hectare «Nördliches Erdinger Moos» European bird sanctuary, which is home to 40 highly endangered species of bird. The conservation area directly borders the eastern and western ends of the airport premises and also includes the 658 hectares of airport meadow around the runways. It is an important habitat for a number of creatures, particularly rare species of meadow breeders. FMG's compensation and replacement zones with the two bird sanctuaries «Nördliches Erdinger Moos» and «Freisinger Moos» are not only home to valuable species of birds, but also contain rare species of plant, reptile, dragonfly, and butterfly, such as creeping marshwort, sand lizards, ornate bluets, and the dusky large blue.

## Munich Airport protects meadow breeders

The populations of many species of meadow breeder in Bavaria are endangered. Seven of the nine Bavarian species are already at risk of extinction. To nurture and improve the habitats of endangered birds, FMG set up the

«Meadow breeder protection in the area around Munich Airport» project in July 2016, receiving specialist support from the Bavarian Ministry of the Environment. The aim of this project is to continue to improve the habitat for meadow breeders in and around the airport. To achieve this goal, up to 50 hectares of land currently used for agriculture will be used to develop and test preventive concepts and measures over the next five years. These will include steps such as nest protection, more extensive cultivation, mowing concepts designed to suit meadow breeders, fencing to protect against predators, and the development of ecological lease agreements with corresponding requirements regarding cultivation.

## Hunting as practical nature protection

Conservation, species protection, and bird strike prevention are the focus of hunting activities in the airport area. For instance, fox and marten populations are regulated on the airport meadows in an effort to protect at-risk meadow breeders. FMG is also involved in species preservation for red deer. It owns land in the Isar floodplains, one of Bavaria's eleven designated areas for red deer. In the past, it has

succeeded in safeguarding population areas, ensuring deer continue to be able to move safely, and achieving a compromise between nature protection and hunting interests. In 2016, the airport's hunting team equipped 400 road markers in the area around the airport's hunting reserve with wild animal warning reflectors to prevent accidents involving animals. FMG also donated 5,000 euros to the Freising branch of the Bavarian Hunting Organization so that they could purchase further reflectors for animal accident hotspots.

#### A protected space for butterflies

One of the pioneering projects within the Bavarian Environmental Pact is the airport's voluntary commitment to protect rare species of moor-based butterflies on Freisinger Moos. Scarce heath butterflies, bog fritillaries, dusky large blues and scarce large blues are the four rare and at-risk species that will enjoy a new, protected habitat in six appropriate areas in the region, covering a total space of five hectares.

#### Top five measures in the sustainability program a Detailed program online: www.munich-airport.com/sustainability-program

Material topics	Initiatives	Measures	Status 2016	Measure ends
Biodiversity	Establishing and enhancing environmental management	A voluntary butterfly project as part of the Bavarian Environmental Pact (developing and implementing species support measures for selected species of butterfly on FMG premises)	20 %	2020
Noise emissions and noise protection	Accepting responsibility for pollution resulting from air traffic	Designing and enhancing a noise protection strategy (active noise protection, flying procedures e.g. CDO, flight paths, landing fees, passive noise protection, noise protection programs)	50 %	2020
		Developing a concept to increase the use of regenerative energy from photovoltaic systems	5 %	2019
Greenhouse gas (CO <sub>2</sub> ) and air pollutant emissions	Becoming climate-neutral by 2030	Converting exterior lighting and navigation lighting on the apron to LED technology	25 %	2022
		E-mobility: expanding charging infrastructure and procuring additional electric vehicles	10 %	2019

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# FINANCIAL REPORT

Munich Airport continued its success story in fiscal year 2016: Group revenue increased by nine percent to € 1.36 billion. At around € 530 million, operating earnings before interest, taxes, depreciation and amortization (EBITDA) achieved the best result in the company's history. Dynamic traffic growth made a material contribution to this.

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# Group management report

# **Situation of the Group**

# **Business model of the Group**

#### Situation

Flughafen München GmbH (FMG) is headquartered in Munich. As the parent company of the Munich Airport Group (Munich Airport) it is the operator of Munich's commercial airport.

Munich Airport operates in the aviation, commercial activities, and real estate business units. The service portfolio offered by the Group covers virtually all the services available at the airport campus – from air travel including passenger and cargo handling through to retailing, hotels and catering services. This integrated business model and depth of added value sets Munich Airport apart from its European competitors.

Munich Airport is committed to a corporate policy of sustainability. The orientation on economic, environmental and social goals ensures public acceptance of the airport and consequently the viability of its business model.

#### Main features of management and control FIG: 1

The owners of FMG are the State of Bavaria with 51.0 percent, the Federal Republic of Germany with 26.0 percent, and the City of Munich with 23.0 percent.

The shareholders' general meeting is the highest monitoring and decision-making body. It decides unanimously on the Group's business fundamentals such as airport expansion, long-term borrowing and the use of financial instruments for hedging purposes. All other decisions require a simple majority.



#### Supervisory Board

FMG has a Supervisory Board, as specified in Article 1 [1], [6] of the German Co-Determination Act [Mitbestimmungs-gesetz - MitbestG]. The Supervisory Board exercises monitoring and co-determination rights. It appoints members of the Executive Board and determines their remuneration. Transactions exceeding certain thresholds and terms

require Supervisory Board approval. The employees' representatives in the Supervisory Board are elected for a five-year term by the Group employees. The shareholders' representatives are elected by the shareholders' general meeting. Their term in office ends with the shareholders' general meeting that resolves on the formal discharge of the members for the fourth fiscal year after the start of their term in office.

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The Supervisory Board has appointed a proposals committee, a working committee, and an HR committee. The proposals committee, working committee and the HR committee were entrusted with the following tasks: FIG: 2

#### **Executive Board**

The Executive Board of FMG's term in office is normally five years; reappointment or extension of the term in office is permissible. It is responsible for the Group's corporate policy and strategic focus. It determines the budget and monitors business developments.

The Executive Board receives a fixed (salary) and a performance-related remuneration including short- and medium-term incentives (bonus). The bonus is primarily linked to the consolidated profit before taxes.

#### Female quota

Women account for 25.0 percent of the Supervisory Board. This quota is set to be maintained up to June 30, 2017. In the event of a replacement, the Supervisory Board will work to ensure women are adequately represented.

By June 30, 2017 the proportion of women on the Executive Board should be increased to one third due to the planned appointment of another member of the Executive Board. This has been achieved through the appointment of Andrea Gebbeken as of October 1, 2016.

By June 30, 2017 the proportion of female managers in the highest management tier of the Group parent company FMG should be raised to 13.0 percent and to 29.0 percent in the second-highest management tier.

#### **Committees in the Supervisory Board**

Proposals committee	<ul> <li>Right of proposal for the appointment of a member of the Executive Board in the event that voting in the Supervisory Board does not achieve the requisite two thirds majority for the member of the Executive Board to be appointed in the first ballot</li> </ul>
Working committee	<ul> <li>Statement on the resolutions proposed by the Executive Board</li> <li>Approval of certain legal transactions that exceed set maximum monetary values and terms</li> </ul>
HR committee	<ul> <li>Designing the contracts of employment for the Executive Board (with the exception of remuneration)</li> <li>Setting and amending the rules governing remuneration in the area of the Group not governed by collective wage agreements</li> <li>Setting or amending the salary level of certain employees above a set salary level or level of remuneration</li> <li>Commitment to an occupational old-age pension in individual cases</li> </ul>

#### Operating activities

The Group's organizational structure is divided into the business divisions, service divisions and corporate divisions of FMG. Commercial management and the internal reporting system are based on the business units. The business units comprise the business divisions and service divisions of FMG and the Group companies integrated in the business units. FIG: 3

In fiscal year 2016, Corporate Investment Management and Group Controlling were combined in one corporate division.

In total, the Group comprises eleven fully consolidated companies, one associate, and five companies that are not consolidated. These are directed by Group Controlling and Corporate Investment Management in line with the business division strategy assigned in each case.

With effect from January 18, 2016 AeroGround Berlin GmbH (AeroGround Berlin) acquired Acciona Airport Services, Berlin GmbH (Acciona) and HSD Flughafen GmbH (HSD). Acciona has a handling license for Berlin-Tegel Airport. This company was merged with AeroGround Berlin retroactively to January 1, 2016.

With the acquisition of the München Airport Center building [MAC building] by FMG, the lease agreement between MAC Grundstücksgesellschaft mbH & Co. KG i.L. [MAC KG] and München Airport Center Betriebsgesellschaft MAC mbH i.L. [MAC GmbH] was terminated as of October 31, 2016. The agency agreement for the management and lease of the office and commercial space of the MAC building concluded between FMG and MAC GmbH was also terminated. The agreements reached in the lease and agency agreements about the way MAC GmbH shall carry out its business were the basis for MAC GmbH being consolidated. As a consequence of the termination of these agreements, the company was deconsolidated.

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■ Business unit
■ Company

☐ Division
■ Support Office

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Financial report

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<sup>1)</sup> MediCare Flughafen München Medizinisches Zentrum GmbH has a 18.2 percent equity interest in Radiologisches Diagnostikzentrum München Airport GmbH.

<sup>&</sup>lt;sup>2)</sup> AeroGround Flughafen München GmbH has a 100 percent equity interest in AeroGround Berlin GmbH. In turn, AeroGround Berlin GmbH has a 100 percent equity interest in HSD Flughafen GmbH. [as of December 31, 2016]

## **Business units**



- Infrastructure operations at the limit of capacity
- Wide variety of services and offerings along passenger routes
- Highly attractive real estate location
- Participations full service provider for the airlines
- Services energy and telecommunications for all airport tenants
- International business Munich Airport in demand as a consultant

#### **Aviation**

The Aviation business unit covers the operation of Munich Airport's air traffic infrastructure.

In its current stage of development, Munich Airport has two runways with a maximum capacity of 90 aircraft movements per hour during daytime operations. As a rule, this capacity is fully utilized over large parts of the day. Between 10:00 p.m. and 6:00 a.m., flights are very limited and confined solely to exceptionally quiet aircraft. Scheduled and charter traffic is restricted to 28 planned aircraft movements per night. The restrictions may also be relaxed for homebase airlines and delayed flights. In the period between midnight and 5:00 a.m., night mail and survey flights by German air traffic control are permitted. Other exceptions to the curfew include, for example, emergency and medical aid flights, landings required for reasons of air safety as well as flights approved by the Bavarian Ministry of the Interior, for Building and Transport as the responsible authority in justified exception cases.

Although the runway system is still the real bottleneck, the airport terminals must also be continuously adjusted to increasing demand. The Terminal 2 satellite building providing additional capacity for around eleven million passengers was commissioned in 2016. The security check-

points in departures/arrivals C were also expanded and planning for the conversion of Terminal 1 to create capacity for an additional six million passengers was expedited.

Through its central location in Europe, at the heart of one of the most economically successful regions, Munich Airport is ideally positioned in strategic terms. The region around the airport is distinguished not only by above average economic development but also by constant growth in the population and people in employment. This is also why Munich Airport is the German airport with the highest proportion of business travellers – and is consequently predestined for especially valuable scheduled connections. At the same time, population growth and rising prosperity are also leading to increased demand for private flights from Munich Airport. In 2015 and 2016, Munich registered more originating passengers (passengers who have not transferred) than Frankfurt and all other airports in the German-speaking area.

Collaborative work with Deutsche Lufthansa AG (DLH) has helped Munich Airport become a major international air traffic hub. Joint extension projects, such as Terminal 2 and the satellite building, form the basis for a sustainable partnership that ensures long-term growth, secures global connections for Munich and Bavaria and satisfies the continuous growth in demand for air travel with a high quality offering.

The following airport charges are levied for the provision and operation of the air traffic facilities: FIG: 4

In fiscal year 2014, Munich Airport concluded a master agreement on charges with uniform terms and conditions for all airlines, which sets the future trend of air traffic charges until 2020 and consequently ensures funding for infrastructure. On average charges rise by around two percent per year.

	Assessment basis
Take-off and landing charge	Maximum take-off mass of the aircraft [MTOM] on take-off and landing
Noise charge	Fixed amount per landing depending on the noise category
Emissions charge	Nitrogen oxide equivalent emitted per landing
Passenger charge	Number of passengers on take-off
Freight charge	Number of workload units on take-off/landing
Parking charge	Maximum take-off mass (for each 24 hours, from the forth hour)
Security charge	Number of passengers and/or workload units on take-off
Charge for passengers with reduced mobility [PRM charge]	Number of passengers on take-off
De-icing charge	Number of passengers and/or workload units on take-off
Waste disposal charge	Number of passengers on take-off

#### **Commercial Activities**

The Commercial Activities business unit is responsible for marketing space throughout Munich Airport that may be used for commercial purposes. This includes both strategic planning of the sector mix with regard to the retailing, service and catering space as well as the issue of leases and concessions to third parties and Group companies.

Munich Airport has over 19,625 square meters of catering space and 24,595 square meters of space dedicated to retailers and service providers. FMG's subsidiaries operate their own retail or catering businesses on around 65 percent of the total area.

Commercial Activities is also responsible for the five-star hotel in the airport's central area. It currently has 389 rooms and ten conference rooms. Following completion of an extension, the hotel will have 551 rooms and 30 conference rooms from spring 2017.

This business unit is also responsible for marketing parking at Munich Airport. At present, there are around 36,000 parking spaces, of which 23,000 are in multi-story car parks and garages and around 13,000 are on paved and unpaved car parks.

Commercial Activities markets the advertising media and spaces at the airport as well. As a niche area of out-of-home advertising, Munich Airport features high-profile advertising spaces with little wastage tailored to clients' individual requirements.

The business unit's service portfolio also includes the events business.

#### Real Estate

The Real Estate business unit develops, operates and markets all real estate and property owned by Munich Airport. The real estate location is divided into location-specific areas, which are marketed under the AirSite concept.

Munich Airport has a lot to offer as a real estate location: an attractive environment, good road connections, very good parking, and a comprehensive range of goods and services for daily needs. The existing rail traffic access will be significantly improved by the addition of the Neufahrner Kurve.

In accordance with the high expectations of the entire site, a vibrant, distinctive urban development concept, which will provide the basis for excellent leisure amenities and successful business, is currently being developed.

# Participations, Services & External Business Participations

The other companies of the Group complete the airport's business. The significant companies are: FIG: 5

#### Services

Besides the business units and subsidiaries, Munich Airport's service divisions are also involved in external sales. The largest contribution comes from the following service divisions: FIG: 6

#### **External business**

Munich Airport is also active in business in Germany and abroad outside the campus. Teams of experts provide consultation services worldwide in respect of commissioning and operating airports. International business is currently being developed.

Individual business units and subsidiaries also take part in the tenders of other airport operators in Germany and abroad. With the expansion of Acciona and HSD, Munich Airport took an important step in fiscal year 2016 to expanding outside its headquarters in Munich.

In total less than five percent of the Group's external sales are accounted for by activities of Participations, Services & External Business. Therefore, the economic development of this business unit is not explained in detail.

#### Significant subsidiaries

Cargogate

AeroGround

The companies provide landside and airside handling services for airline passengers, including ground handling services, cargo handling and passenger care, at the Munich and Berlin locations.

aerogate Aerogate's main services are passenger handling, operations services with ramp supervision, ticketing and lost 6 found and arrival services. The range is completed by the baggage delivery service and general aviation services.

As a regulated agent, the company carries out services in relation to the throughput of airfreight and dealing with the associated customs formalities. The company packs and stores the airfreight in a hall area of circa 20,000 square meters as well as handling the documents involved. Cargogate also offers handling services for all common special goods, such as hazardous substances, refrigerated and valuable goods.

#### Significant service divisions

FIG: 6

FIG: 5

Technology	The service division is responsible for the secure and cost-effective operation of airport infrastructure. Among other things, this includes the supply of energy and heating/refrigeration, maintenance of buildings and airport specific equipment as well as vehicle management for series vehicles and handling equipment. This division also plays a significant role in implementing Munich Airport's CO <sub>2</sub> strategy as part of its energy management.
IT	Munich Airport's IT provides all airport tenants with telecommunication and network services.

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# Control system and values management Indicator system ensures sustainable business







Munich Airport measures the performance of its managers using financial and non-financial indicators. The focus is on indicators measuring corporate sustainability and quality. Accordingly, earnings before taxes [EBT] give the economic,  $CO_2$  reductions the ecological, and the employee retention index the social perspective of traditional sustainability management. The Airport Service Quality [ASQ] Overall Index identifies if the quality objectives have been achieved. FMG surveys internal and external interest groups to determine and regularly affirm the relevance of the performance indicators for stakeholders.

#### Earnings before taxes (EBT)

Since fiscal year 2016, the earnings targets of management have been formulated on the basis of earnings before taxes [EBT].

EBT is the input factor for determining profitability. It relates to the consolidated profit before taxes, calculated by applying the International Accounting Standards in the version adopted into European law by the European Commission.

#### CO<sub>2</sub> reductions

CO<sub>2</sub> reduction measures include cutting greenhouse gas emissions, conserving resources, the use of energy, and energy efficiency. One of Munich Airport's goals is to achieve CO<sub>2</sub>-neutral growth with 2015 as the base year. In addition to the emissions caused by energy generation and consumption at Munich Airport itself [Scope 1] and the emissions from energy procurement [Scope 2], the emissions

from the energy consumption of buildings, systems and vehicles of independent third party companies using the airport [Scope 3a] are observed.

#### Airport Service Quality (ASQ) Overall Index

The ASQ Overall Index is the globally recognized benchmark ratio for determining the quality of the range of services and products at airports. The ratio is not calculated by airports themselves, but by Airports Council International [ACI], the leading international umbrella organization of airport operators. This organization conducts passenger satisfaction surveys at more than 280 airports in over 50 countries over the entire year. At the end of the year, an overall benchmark, the so-called ASQ Overall Index, is determined for every participating airport.

#### Employee retention index

Munich Airport surveys all Group staff every three years to determine the level of employee satisfaction. The employee retention index represents the percentage of employees indicating their loyalty to the company in the employee survey. The last survey took place in 2013.

The whole process of the employee survey is designed over three years. In the first year, the employee survey is prepared and carried out and the results are announced. The results are evaluated in the second year and improvement measures developed. The third year gives the company time to implement and establish the measures that have been developed.

### Innovation and ideas management

As a service provider, Munich Airport does not conduct any research and development in the traditional sense. However, the quality of the airport's products and services is to be developed through the management of innovation and ideas.

The airport increasingly uses the potential of its employees for this purpose. Since the start of the new open innovation and ideas management system «InnovationPilot» in April 2016, 862 ideas have been submitted to the corporate idea management team and of these, 40 have already been implemented. At the end of the year, 37 ideas were still being implemented. Increasingly, the focus is concentrated on ideas with economic benefits. In addition, 43 ideas were submitted, discussed and developed in internal open innovation campaigns, i.e. campaigns on behalf of a division.

With the introduction of an external crowdsourcing platform in 2016, Munich Airport is also picking up ideas from end customers and passengers. In the last fiscal year, 156 ideas were generated, discussed and assessed via this platform. The best ideas are to be implemented in 2017.

Munich Airport's innovation management aims primarily to introduce new products and processes to increase customer satisfaction, improve the customer experience and boost revenue. The feasibility and cost-effectiveness of innovations is reviewed in pilot projects and subsequently a decision is made on whether they should be continued and implemented. Here, Munich Airport counts not only on expertise within the Group but also increasingly on startups and established companies in the region.

→ Glossary

# **Economic Report**

# Macroeconomic and sector-specific environment

- · Strong domestic consumption stabilizes growth
- German air traffic registers growth but falls short compared with other countries
- Retail trade is undergoing structural change and is exposed to geopolitical tensions
- Catering at the previous year's level
- Hotel further strong recovery posted
- Advertising sector sentiment remains cautiously optimistic
- Parking areas shifts in the modal split
- Real estate registers high demand with a further fall in supply

#### Macroeconomic environment

Both national and international economic growth are crucial for an international air traffic hub such as Munich Airport.

Growth in the global economy in 2016 failed to meet expectations once again. Current projections suggest global gross domestic product (GDP) of between 2.3 percent (World Bank, Global Economic Prospects, January 2017) and 3.1 percent (International Monetary Fund, World Economic Outlook, January 2017). These figures are up to 0.6 percentage points lower than those in forecasts published at the beginning of the year. However, the generally poor growth in the global economy picked up slightly in the second half of 2016.

The reason for the subdued growth compared with earlier years is to be found in the fact that the burgeoning emerging markets are advancing more slowly than they were a few years ago. For example, current projections for China for 2016 stand at 6.7 percent, which implies a marked fall compared with the double-digit growth rates of previous years. Crisis-stricken countries, such as Russia and Brazil,

where GDP has fallen by 0.6 percent and 3.5 percent respectively, are currently depressing global economic growth. However, there were signs of the recessionary trends easing in both countries in the second half of 2016 thanks to moderate increases in commodity and crude oil prices.

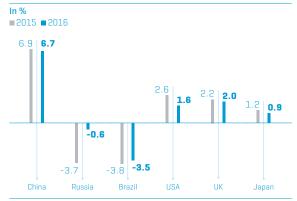
Essentially, the positive development of the previous year continued in industrialized countries. Accordingly, economic output in the USA expanded strongly in the third quarter (+0.8 percent) following relatively moderate development in the first half. This was largely driven by higher inventory investment, growth in exports and continuing strong private consumption. Despite the Brexit vote, the UK continued to grow in 2016 (+2.0 percent). The feared negative consequences have not materialized so far. In Japan, the government supported economic development through a stimulus package launched at the beginning of the year, among other things, meaning that gross domestic product increased by 0.9 percent overall. FIG: 7

The recovery in the eurozone continued in the fiscal year. The current projection by the International Monetary Fund assumes growth of 1.7 percent for 2016 [IMF, World Economic Outlook, January 2017]. Growth is essentially supported by private and public consumption, while growth in investment was only negligible recently. Foreign trade only provided a little growth stimulus. The extraordinarily expansionary monetary policy of the European Central Bank is still making a major contribution to the upturn in the eurozone. The economic situation in southern European countries has consolidated. FIG-8

At 1.7 percent, growth in gross domestic product in the Federal Republic of Germany was just as strong as in the previous year. Here, growth was driven by private consumption and public expenses as well as higher than average construction investment. The positive trend in consumer and public expenses can be attributed to the favourable situation on the labor market (unemployment rate of 6.1 percent), low inflation (0.5 percent) and substantial immigration

# Macroeconomic and sector-specific environment

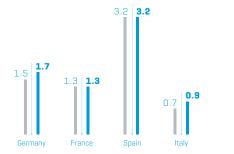
# Economic growth in selected destinations worldwide



GDP Growth in 2015 and 2016 Source: IMF, World Economic Outlook, January 2017

# Economic growth in selected destinations throughout Europe

In %
= 2015 = 2016



GDP growth in 2015 and 2016 Source: IMF, World Economic Outlook, January 2017

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FIG: 8

in recent years. Extraordinarily low interest rates are also driving private consumption and, in particular, construction investment. In 2016, private consumption posted a similar rate of increase (around 2 percent) to that of the previous year. Construction investment and public expenses increased by just under 3 percent and around 4 percent respectively. In contrast to this, exports only made a negligible contribution to economic growth in Germany, at only 2.5 percent.

Following the sharp fall in recent years, the oil price bottomed out at below USD 30 per barrel [Brent Crude] in January 2016 and was stable at around USD 45 from spring onwards. Following the announcement by OPEC that it wanted to curb oil production, the crude oil price rose in the fourth quarter of 2016, meaning that it reached USD 57 per barrel in mid-December 2016.

#### Sector-specific environment for Aviation

According to analyses by the International Air Transport Association (IATA: Air Passenger Market Analysis – December 2016; Air Freight Market Analysis – December 2016), global air travel according to passenger-kilometers grew by 6.3 percent. The key economic indicator airfreight increased by 3.8 percent (freight tonne-kilometers). The increase is driven by the emerging regions in Asia and the Gulf, but also Europe, which ranked third in terms of passenger growth and even first in growth in freight.

The airports that are members of the German Airports Association (ADV) also achieved positive growth rates on average in 2016: passenger volume increased by 3.3 percent, aircraft movements rose by 1.7 percent and cargo throughput (total of airmail and freight) was 3.5 percent up.

Munich Airport registered better growth in movements and cargo throughput than the other German passenger airports in 2016. The percentage change in passenger volume was only slightly down on the German average. Among Europe's ten largest airports, passenger volume in Munich grew by less than the average rate in 2016. While Amsterdam, Barcelona, Madrid and London-Gatwick achieved very positive rates of change because of new routes operated by the low-cost carriers Ryanair, easyJet, Vueling and Norwegian, the trend was downward at the heavyweights Frankfurt and Istanbul-Atatürk and only modestly positive at the largest European airports London-Heathrow and Paris-Charles de Gaulle. Munich lost two places in the ranking in 2016, lying behind Barcelona and London-Gatwick in ninth place in Europe.

Capacity bottlenecks, strikes and a lack of or insufficient traffic rights between countries are impeding the development of Munich Airport. With the opening of the satellite building for Terminal 2 in April 2016, a key precondition for further growth to meet market demand was met. However, Terminal 1 is clearly being pushed to its limits. The capacity of the security checkpoints in departures/arrivals C was increased in an initial step last year. Planning for further expansion has been expedited but completion is not expected before 2022.

The bottleneck in the runway system still limits expansion at the Munich site significantly. The airport coordinator responsible for awarding slots for take-off and landing regularly confirms that demand for flights at Munich Airport can no longer be met.

In addition, the uncertainty regarding the German Federal Government's still unpublished air traffic concept and the competition-distorting German aviation tax had a negative impact on the development of Germany as a location. The fact that Lufthansa lets parts of its subsidiary Eurowings operate in Austria shows, for example, how Germany is lagging behind as an aviation location.

# Sector-specific environment for Commercial Activities

Thanks to positive economic activity, German retailers also brought in significant revenue growth in 2016. They were expected to achieve between 2.4 and 2.6 percent more revenue through their tills than a year ago, according to Federal Statistical Office estimates based on data for the first eleven months. If price increases are excluded, the increase was between 1.8 and 2.1 percent following growth of around 2.6 percent in the previous year.

Sales of cosmetics posted particularly strong growth again, rising 5.9 percent. Sales in the fashion business stagnated [-0.9 percent]. However, sales of watches and jewellery posted sharp falls year on year [-4.7 percent].

According to the German Retail Association (HDE), the retail trade is doing well, as the positive situation on the labor market and rising wages are currently making people more willing to spend.

The German catering sector closed fiscal year 2016 with low real growth of around 0.9 percent year on year. Price-adjusted revenue from sales in food outlets stagnated at the previous year's level, while sales in drinks outlets posted a slight fall of 1 percent.

The German hotel sector also continued to see a marked recovery in business in fiscal year 2016. After revenue growth of 2.1 percent in the previous year, it reported real growth of 1.8 percent in 2016. The number of overnight stays rose by 2.8 percent [2015: 3.4 percent] and average occupancy increased by 1.6 percentage points to 61.8 percent.

Advertisers increased their total investment year on year. Market share in the Out-of-home segment, to which the advertising at the airport is attributable, also continued to grow in 2016. Players such as the Digital Media Institute

 $\rightarrow$  Glossary

[DMI], of which Munich Airport is also a member, are pursuing the dual tasks of making this type of advertising simpler for agencies to book and making proof of its effectiveness more robust for advertisers.

Shifts in the modal split, which reflects the manner in which passengers travel to the airport, as well as changes in the number of visitors had different impacts on the Parking business unit. The car rental business benefited from increased passenger and visitor volume, whereas displacement effects to other methods of traveling to the airport, particularly to the suburban train, led to disproportionately low growth.

#### Sector-specific environment for Real Estate

The Munich area remains an attractive market for office property. According to the market report of Colliers International Deutschland Holding GmbH, demand for office space in Munich remains strong. Consequently, space increased by 3.0 percent year on year to a total of 780,300 square meters.

The vacancy rate developed just as positively, falling by one percentage point to 3.0 percent. At the end of the fiscal year, at 688,200 square meters, there was some 185,000 square meters less available to rent short-term than a year ago.

The average rent in the Munich urban area has increased by around 2.0 percent to EUR 17.70/m<sup>2</sup>. The prime rent even rose by 5.0 percent to EUR 35.00/m<sup>2</sup>.

While tenants have ever more difficulty in finding suitable space and therefore have to compromise in terms of the location or amenities, landlords are imposing higher rents or fewer incentives in many cases. The sector report surmises that the economic situation will remain stable and that Munich-based companies will continue to expand. Accordingly, an above-average figure is expected for 2017, with predicted take-up at 700,000 square meters.

#### Course of business

- Opening of the satellite building
- Acquisition of Acciona
- Sale of real estate
- New passenger record and increase in aircraft movements
- Retail trade facing major challenges
- Catering on path to success
- Hotel high occupancy rates once again
- Parking areas demand increases with passenger volume
- Advertising sector increase resulting from the opening of the satellite building
- Real estate stagnation at high level

#### Key events in the past fiscal year

The satellite building was commissioned as an extension of the existing Terminal 2 without separate landside access on April 26, 2016. The satellite building will expand the handling capacity in Terminal 2 by 27 passenger boarding bridges and eleven million passengers per year and will consequently guarantee long-term growth opportunities. It is connected to Terminal 2 via an automatic public transport system.

With regard to the expansion of business outside the airport campus, the acquisition of Acciona and HSD was a major event in fiscal year 2016. Acciona has a handling licence for Berlin-Tegel Airport. HSD is a handling service provider for Acciona. Acciona was merged with AeroGround Berlin retroactively to January 1, 2016. AeroGround Berlin therefore has handling licences for Berlin-Schönefeld Airport and Berlin-Tegel Airport and provides ground handling services at both locations with the selective involvement of its subsidiary HSD.

As of December 31, 2016, Munich Airport has real estate outside the campus, which is shown with a book value of  $T\mathfrak{t}$  13,343 as «investment property» or «asset held for sale» because of its «uncertain use». The real estate was largely acquired in relation to a third runway or as real estate to be exchanged for future real estate purchases. In fiscal year 2016, Munich Airport sold real estate from this with a book value of  $T\mathfrak{t}$  1,692. A profit of  $T\mathfrak{t}$  27,264 was achieved as a result, which was shown under other operating income.

There were no other events that had a material impact or will have a material impact on the business development of Munich Airport in the fiscal year.

#### Aviation FIG: 9

In fiscal year 2016, Munich Airport achieved a new passenger record, with 42.3 million passengers (+3.1 percent), which is impressive confirmation of the unabated growth in demand in Munich.

## **Munich Airport traffic figures**

FIG: 9

			Change	
	2016	2015	Absolute	Relative
Aircraft movements	394,430	379,911	14,519	3.8 %
Passengers in millions	42.3	41.0	1.3	3.1 %
Cargo handling in tonnes	375,121	336,162	18,755	5.3 %

The number of aircraft movements grew disproportionately sharply by 3.8 percent to 394,430. Key drivers of this growth included Transavia Airlines, but also the Lufthansa partners bmi regional and Swiss. However, both aircraft movements and passenger figures were seriously affected by strikes in 2016. In total, 3,000 flights were cancelled and around 330,000 passengers were affected by the strike. FIG 10

Course of business

Munich Airport: Integrated Report 2016

# **Aircraft movements at Munich Airport**

In thousands



## **Passenger numbers at Munich Airport**

In millions



2016	9.6	25.8	6.8
2015	9.6	24.8	6.5
2014	9.4	24.1	6.2

However, long-haul traffic grew most sharply in relative terms. 6.8 million passengers took intercontinental flights, 320,000 more than in the previous year (+5.0 percent).

Long-haul movements also rose by 5.5 percent (1,600 more flights). In total, there were over 31,000 long-haul flights at Munich Airport in 2016. FIG: 11

Measured in growth rates, airfreight was also the most successful traffic segment in 2016. A new record result was achieved with an increase of 18,386 tonnes to 355,950 tonnes or 5.4 percent.

With a share of over 80 percent, the quantity of freight loaded on passenger aircraft, known as belly-hold cargo, was the most important traffic segment. The additional load capacity offered on the basis of more frequent flights and new connections met with corresponding demand, meaning that an increase of 4.1 percent or 10,722 tonnes to 272,441 tonnes was achieved year on year. Additional freight capacity offered through new entries or increases in frequency and higher load values for existing connections resulted in the highest freight-only result ever recorded for Munich Airport. The volume in this segment increased by 11.5 percent or 6,388 tonnes to 62,056 tonnes.

# Airfreight and airmail (including transit items) at Munich Airport<sup>1)</sup>

In tonnes



1) by ADV definition

At 19,171 tonnes, the amount of airmail transported by air exceeded the previous year's level by 2.0 percent. In total, the cargo throughput (total of airfreight and airmail including transit items) increased by 5.3 percent to 375,121 tonnes.

Compared with the traffic results of the airports represented in the German Airports Association (ADV), aircraft movements and cargo volume posted above-average growth at Munich. Despite the passenger record, passenger growth was slightly below the ADV average. FIG: 13

Despite pleasing growth, Munich slipped two places in the ranking of the busiest European airports according to passenger numbers, ranking ninth in 2016. It ranked seventh in aircraft movements [Airports Council International, as of January 2017].

# Traffic figures for 2016 as a comparison

FIG: 1

ADV	Munich
1.7	3.8
3.3	3.1
3.5	5.3
	1.7

The number of seats offered increased to 153 seats per flight. Average occupancy fell slightly by 1.5 percent to 75.1 percent; this equates to 115 passengers per flight on average. Supply increased sharply as a result of new low-cost connections. However, the additional supply of seats could not be sold completely in the market.

Both originating and transfer traffic were key factors in traffic growth. At 27.1 million passengers, Munich now has more originating passengers (passengers who are not transferring) than Frankfurt Airport or all other airports in the German-speaking area. The proportion of transfer passengers remains unchanged, at 36 percent, on the previous year.

Demand for German domestic flights remained stable at 9.6 million passengers. This implied a slight increase of around 43,000 passengers (+0.5 percent). German domestic movements increased by 2.2 percent or around 2,000 to 89,000 take-offs and landings. Continental traffic posted significant growth: aircraft movements increased to around 254,000, which equates to a rise of 10,000 flights or 4.3 percent. Just under a million more passengers [25.8 million passengers] were transported than in the previous year. This equates to an increase of 3.8 percent.

#### **Commercial Activities**

The course of business in the last fiscal year in the Commercial Activities business unit was shaped by the satellite building, which was opened in April 2016. This provided an additional 7,000 square meters of commercial space that can be used for retail trade, services and catering. Munich Airport's Group companies operate their own retail or catering businesses on around 70 percent of the total area.

As in the previous year, Munich Airport's retail trade could not match the buoyant figures of previous fiscal periods in 2016 either. Overall, the fiscal year ended with stagnating revenues. Despite the increase in passenger volume, revenue per passenger grew at a slower rate. There were significant falls in business with high-spending Russian and Chinese passengers. Although the number of passengers registered under Russian traffic at Munich Airport was up on the previous year in 2016, the trade sanctions and new import restrictions as well as significant foreign exchange losses had an adverse impact on consumer behavior. With a slight fall in Chinese passenger volume, the new import restrictions also depressed consumer spending. Accordingly, the average revenues generated with the Russian and Chinese customer group did not match the level of the previous year.

As a result of the Brexit vote, the pound sterling depreciated sharply, which had a direct impact on British passengers' propensity to buy.

Business with people traveling to Turkey on holiday was also difficult, as passenger numbers fell sharply because of the ongoing risk of terrorist attacks.

A comparison of the Terminals shows that growth in retail revenue at Munich Airport was not uniform. At Terminal 2, revenue was stable year on year despite the satellite building being opened during the year and the associated challenges. The situation at Terminal 1, where revenue was down on the previous year, was different.

Against a backdrop of rising passenger numbers, Munich Airport's restaurants and bars enjoyed a successful fiscal year. Despite the challenge of commissioning six additional catering units in the newly opened satellite building, catering revenues increased at a faster rate than in the previous year, both in absolute terms and per passenger. Although Terminal 1 and Terminal 2 including the satellite posted growth in revenue, revenue per passenger at Terminal 1 fell somewhat. This is due, among other factors, to the fact that the bars in the security area of Terminal 1 are at the limits of their capacity when wide-bodied aircraft are being handled at high peak frequencies.

The five-star hotel also increased its revenues significantly year on year in the second year following the change of operator. The hotel was also named «Best Airport Hotel Europe» in 2016. The extension containing a larger conference area is due to be commissioned in spring 2017.

The growth in passenger figures in originating traffic had a disproportionately small impact on the parking business. Despite a slight increase in parking transactions, revenue again increased overall with changes in parking behavior and enhanced product categories.

Munich Airport has not yet felt the impact of the increasing pace of the recovery in the advertising sector. The growth in revenue is mainly attributable to the expansion of the offering in the satellite building.

#### Real Estate

Munich Airport's real estate business is stagnating at a high level. In fiscal year 2016, there were no new properties generating significant revenue. The difficult competitive situation facing airlines, in particular, meant that the Group was unable to increase rental income on existing properties over and above indexing.

The increase in flight movements also had a positive impact in the Real Estate business unit. Among other items, fueling throughput fees for the use of aviation fuel supply facilities and rental income from hangar space for aircraft rose.

The expansion of the fire station to the north of the site was commissioned in connection with the opening of the satellite building in 2016.

The complete restoration of the pedestrian glass tunnels from the administration building over the motorway and the suburban train railway in the direction of the freight area, which was completed at the end of the year, must be mentioned as one of the major special maintenance measures at the airport. The closures needed had to be arranged in close consultation with the rail and motorway directorate and rail replacement transport organized at times.

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# Net assets, financial position, and results of operations



- Airport reduces liquidity reserves
- Reserves built up despite repayment of loans
- Operating cash flow is basis of outstanding liquidity
- Opening of the satellite building
- Earnings after taxes rise again

#### Net assets and financial position FIG: 14

The increase in non-current assets is due to the construction of the satellite building and the eastern power center.

Liquidity reserves at Munich Airport decreased from  $T \in 212,000$  to  $T \in 12,000$  in fiscal year 2016 because of the repayment of the syndicated loan. The cash is held at a number of banks as time deposits and money market transactions with a time of less than one year. They are held under current assets.

The company paid out  $T \in 30,000$  from the previous year's consolidated profit of  $T \in 143,333$  to shareholders. The remaining amount was retained in fiscal year 2016.

The changes in other liabilities were mainly due to funding. The fall in other current liabilities is mainly due to the repayment of the syndicated loan in the amount of T  $\!\!\!$  400,000. Other non-current liabilities rose because the company raised bullet promissory note loans totalling T  $\!\!\!\!$  200,000, which were used to refinance the maturing syndicated loan.

#### Net assets and financial position

			Change	
T€	Dec. 31, 2016	Dec. 31, 2015	Absolute	Relative in %
Non-current assets	5,100,966	5,068,932	32,034	0.6
Current assets <sup>1]</sup>	142,895	335,476	-192,581	-57.4
thereof cash and cash equivalents	6,034	5,323	711	13.4
Assets	5,243,861	5,404,408	-160,547	-3.0
Equity	1,942,907	1,813,009	129,898	7.2
Other non-current liabilities <sup>2</sup>	2,444,537	2,309,976	134,561	5.8
Other current liabilities	856,417	1,281,423	-425,006	-33.2
Liabilities	5,243,861	5,404,408	-160,547	-3.0

<sup>1]</sup> Including assets classified as held for sale

#### Capital structure FIG: 15

The equity ratio has improved primarily because of the retention of the previous year's income and the reduction in loans as well as drawn credit lines.

## Capital structure

			Chan	ge
T€	Dec. 31, 2016	Dec. 31, 2015	Absolute	Relative in %
Issued capital	306,776	306,776	0	0.0
Reserves	150,993	127,546	23,447	18.4
Other equity	1,485,125	1,383,556	101,569	7.3
of which net profit	146,736	145,690	1,046	0.7
Non-controlling interests	13	-4,869	4,882	>-100.0
of which net profit	4,895	-2,357	7,252	>-100.0
Equity	1,942,907	1,813,009	129,898	7.2
Financial liabilities resulting from interests in partnerships	293,561	277,088	16,473	5.9
Shareholder loans	491,913	491,913	0	0.0
Fixed-rate loans	704,843	604,822	100,021	16.5
Floating-rate loans	847,300	1,290,879	-443,579	-34.4
Loans	1,552,143	1,895,701	-343,558	-18.1
Derivatives	70,293	84,194	-13,901	-16.5
Other liabilities	893,044	842,503	50,541	6.0
Financial liabilities	3,300,954	3,591,399	-290,445	-8.1
Equity ratio	37 %	34 %		

<sup>&</sup>lt;sup>2]</sup> Including financial liabilities resulting from partnerships

The main terms of Munich Airport's current and non-current financial liabilities can be found in the table below:

FIG: 16

**Non-current loans conditions** 

FIG: 16

				Interest rat	e in %
Method of funding	Currency	Interest rate	Residual debt T€	from	to
Financial liabilities resulting from interests in partnerships	EUR	Earnings-based	293,561	-	_
Shareholder loans	EUR	Variable/earnings-based	491,913	Base rat	e plus margin
Loans	EUR	Floating-rate	847,300	3-month EURIBOR	R plus margin
Loans	EUR	Fixed-rate	720,621	0.48	4.05

(As of December 31, 2016)

The shareholder loans are available indefinitely and interest is charged on the basis of the base rate plus a margin, if the results and anticipated economic development allow this.

The loans bear customary non-financial covenants, including negative pledges and pari passu clauses. In addition, there are other general conventional agreements concerning

interest rate adjustment and repayment in the event of changes in shareholder structure. There are no financial covenants.

Munich Airport uses payer interest rate swaps and currency forwards to hedge against risks arising from interest rate and exchange rate fluctuations. Interest rate hedges are accounted for as a valuation unit. FIG: 17

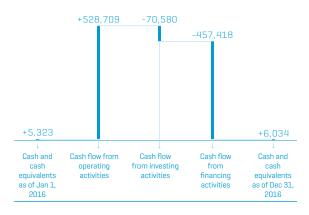
## **Hedging transaction conditions**

Forward rate Currency Fixed rate in % in EUR/USD **Underlying transactions** Notional Hedge transactions amount from to from to Interest payer swaps 754.000 T€ 0.28 2.92 Syndicated loans T€ Foreign currency forwards<sup>1)</sup> 8.147 1.10 1.12 Expected transactions

<sup>1]</sup>These hedges are not recognized. (As of December 31, 2016)

#### **Cash flow statement**

In T€



#### Liquidity FIG: 18

Sufficient funds were available from the net cash flow from operating activities in 2016 to ensure the liquidity of the Group in operations. Cash outflows from investing activities mainly arose from the acquisition and production of property, plant and equipment. A negative cash flow arose from financing activities due to distributions to shareholders, loan repayments, and interest payments.

#### Investments

2016 was dominated above all by the opening of the satellite building. The investments were financed through medium- and long-term bank loans, which were valued at T€ 640,000 as of December 31, 2016. In fiscal year 2016, T€ 146,377 was invested in invoiced services, payments on account and outstanding invoices and supplements.

→ Glossary

FIG: 18

→ Glossary

lunich Airport: Integrated Report 2016

The eastern power center was commissioned on May 1, 2016. It was added to property, plant and equipment in the amount of T  $\in$  31,491.

Additional significant investments relate to the extension to the five-star hotel in the airport's central area, which was started in the previous year. A conference center and 162 rooms are being added to the hotel. The new east wing has seven floors and a total area of over 8,800 square meters. The new building is connected to the existing hotel with passageways. Munich Airport will invest a total of around  $T \in 43,200$  in the new construction. In fiscal year 2016,  $T \in 14,946$  was capitalized for this purpose on property under construction. Munich Airport will cover the expenditure from its own funds. It is due to open in 2017.

In addition, a large number of investment projects underway in fiscal year 2016 were implemented and continued. This includes investment in converting and upgrading Terminal 1, planning construction measures in the multi-story car parks, and a large amount of replacement work relating to IT and technology.

# Res

## Results of operations

In fiscal year 2016, Munich Airport's EAT rose by T  $\!\!\!$  8,298 to T  $\!\!\!$  151,631. The causes of this increase are explained in detail below. FIG: 19

In 2016, Munich Airport increased revenues by 9.2 percent to  $T \in 1,364,122$ . The largest pro rata growth in revenue, at 62.3 percent or  $T \in 71,507$ , was attributable to the Aviation business unit (including ground handling). The Commercial Activities business unit contributed  $T \in 34,592$  (+30.1 percent) and the Real Estate business unit  $T \in 8,230$  (+7.2 percent) to growth in revenue.

			Chan	ge
T€	2016	2015	Absolute	Relative in %
Revenue Aviation	719,742	648,235	71,507	11.0
Revenue Non-Aviation	644,380	601,071	43,309	7.2
Total revenue	1,364,122	1,249,306	114,816	9.2
Other income	66,573	60,261	6,312	10.5
Total income	1,430,695	1,309,567	121,128	9.2
Cost of materials	-352,085	-326,599	-25,486	7.8
Personnel expenses	-452,515	-400,342	-52,173	13.0
Other expenses	-97,092	-88,393	-8,699	9.8
EBITDA	529,003	494,233	34,770	7.0
Depreciation and amortization	-239,071	-214,278	-24,793	11.6
EBIT	289,932	279,955	9,977	3.6
Financial result <sup>1]</sup>	-80,059	-81,533	1,474	-1.8
EBT	209,873	198,422	11,451	5.8
Income taxes	-58,242	-55,089	-3,153	5.7
EAT	151,631	143,333	8,298	5.8
11T1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	31 11 1			

 $<sup>^{1]}\</sup>mbox{This}$  also includes income from companies valued using the equity method.

The increase in Aviation revenues is the result of positive growth in traffic in fiscal year 2016 and higher charges in accordance with the master agreement on charges as of January 1, 2016. In comparison with growth in MTOM and passenger figures, revenue from landing and passenger charges increased at a faster rate. FIG: 20

Because of more traffic, new customers and higher orders from existing customers, revenues from ground handling as well as passenger and freight handling rose sharply. Revenues in ground handling are dominated by the acquisition of Acciona. In fiscal year 2016, they contained proceeds from ground handling at Berlin-Tegel Airport of T€ 16,226 for the first time.

Revenues from the Commercial Activities business unit rose across all fields of activity. Key growth drivers for revenue in the non-aviation segment were catering (+37.8 percent), advertising and media (+29.2 percent) as well as parking changes and concession income from hire car providers (+10.5 percent). FIG: 21

Rental income in fiscal year 2016 rose slightly thanks to the opening of the new satellite building. Income from feed-in charges for aviation craft fuelling was also slightly higher than the previous year due to traffic growth. In total, revenue in the Real Estate business unit rose by T€ 8,230 or 7 percent to T€ 126,528.

→ Glossary

06----

After 24 years of being in operation, there is an ever pressing need to upgrade the buildings from the first stage of expansion at Munich Airport. Cost of materials rose to T€ 352,085 in total. The start-up operation of the satellite building also drove costs in the fiscal year.

Revenue and volume growth Passenger and landing charges ■ Revenue growth ■ Volume growth Landing charges 3.8 Passenger charges 3.1

In fiscal year 2016, Munich Airport created 739 full-time equivalents. They were created primarily at FMG and its subsidiaries in connection with the commissioning of the satellite building. The payment under the TVöD collective pay scale agreement for public sector employees was increased by 2.4 percent with effect from March 2016. Personnel expenses rose to T€ 452,515.

On acquisition of the MAC building by FMG, the lease agreement between MAC KG and MAC GmbH was terminated as of October 31, 2016. The agency agreement for the management and lease of the office and commercial space of the MAC building concluded between FMG and MAC GmbH was also terminated. As a consequence of the termination of these agreements, the company was deconsolidated. This resulted in a deconsolidation loss of T€ 2,373. Higher expenses for audit, consulting and project services [+T€ 3,386] also accrued in the fiscal year. In total, other expenses rose by T€ 8,699 to T€ 97,092.

Depreciation increased by T€ 24,793 to T€ 239,071 largely due to the commissioning of the satellite building.

The financial result decreased by T€ 1,474 to T€ -80,059. The improvement in the financial result is mainly attributable to effects from the revaluation of financial instruments not affecting cash flow as well as from the discharge of the syndicated loan in the amount of T€ 400,000.

Income taxes have increased because of higher earnings before taxes. This figure includes current income taxes of T€ 77,163 (previous year: T€ 75,233) and deferred tax income T€ 18,921 (previous year: T€ 20,144). The tax ratio was unchanged in fiscal year 2016 at 27.8 percent.

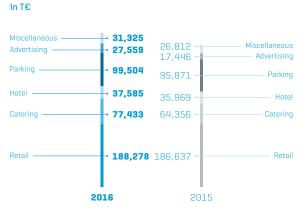
## Target achievement and overall assessment

Year on year and in comparison with the forecast development, these performance indicators have trended as follows: FIG: 22

2016

# Forecast/actual comparison

vellue	[Commercial Activities]	FIG:



<u> </u>		
	2015	
	Actual	

	2010		L010		2010	
	Actual Forecast			Actual		
			from	to		
			%	%		
EBT in T€	198,422	Decrease	-6.0	-4.0	209,873	Exceeded
CO <sub>2</sub> reductions in tonnes	1,226	Increase	380.0	390.0	5,324	Exceeded
ASQ Overall Index	4.07	Increase	0.8	1.5	4.11	Achieved
Employee retention index <sup>1]</sup>	73	Unchanged			73	
1) The employee retention index relates t	o EMC as this ansuras th	at the recults can b	a apply compared core	ee all the curveye	parried out. The figur	o quotad raculta

2016







Financial report

from the last survey in 2013. The figure will be compiled again in 2017.



#### Earnings before taxes

At T€ 11,451, Munich Airport's EBT was 5.8 percent higher, far better than expected. This was due to extraordinarily large profits from the sale of real estate outside the airport campus.



#### CO<sub>2</sub> reductions

In 2016, Munich Airport implemented comprehensive measures to cut energy consumption and commissioned the PCA systems at Terminal 1 and 2 as well as at the satellite building. The target set was the implementation of measures to save a total of 4,660 tonnes of  $\rm CO_2$  per year. This target was exceeded by implementing measures for  $\rm CO_2$  reductions totalling 5,324 tonnes were implemented.



#### Airport Service Quality (ASQ) Overall Index

In fiscal year 2016, Munich Airport exceeded the ASQ figure achieved in the previous year by 0.99 percent thanks to a number of measures to improve quality, most notably through the improvements in quality resulting from the opening of the satellite building for Terminal 2. The forecast increase for 2016 was therefore achieved.



#### Employee retention

The employee retention index is compiled every three years as part of an employee survey. The last full assessment of this indicator took place in 2013. To avoid overlapping with other issues and overstimulating the employees with larger surveys, Munich Airport decided to postpone the employee survey due in 2016 by a year until 2017.

In 2016, the Group again looked at the Quick Check carried out at the end of 2014 as a follow-up to the 2013 employee survey. The Quick Check revealed a mixed picture. Many measures to improve employee satisfaction were already or in the process of being implemented. In some fields of action, the Group was, however, still unable to achieve

satisfactory results. In these cases, the managers responsible were instructed to take part in the follow-up process and tighten already defined measures or agree to a new plan for action.

## **Events after the balance sheet date**

No events of particular significance occurred after the end of the reporting period.

# Outlook, risks and opportunities report

#### Outlook report

#### Economic and industry-specific conditions

In 2017, the pace of global economic growth is set to pick up slightly. Current forecasts range from 2.7 percent (World Bank, Global Economic Prospects, January 2017) to 3.4 percent (International Monetary Fund, World Economic Outlook, January 2017), marginally above the projections for 2016.

In the leading industrialized countries, the economy will post similar growth to that of 2016. In developing and emerging markets, economic output is likely to pick up speed overall mainly thanks to rising commodity prices. Positive growth is again expected for next year in the crisis-stricken countries of recent years, Brazil and Russia.

After the OPEC countries agreed to limit oil production in the second half of 2016, there was a moderate rise in the oil price. However, since oil exporting countries have not always complied with their quotas in the past, the crude oil price is expected to stagnate at around USD 55 per barrel [Brent Crude] this year. FIG: 23

For the eurozone, total growth of 1.6 percent is expected in 2017. The increase in economic output will be mainly supported by private consumption. However, a moderate increase in inflation means that the trend in consumer expenditure should not accelerate further. At the same time, the forecast for 2017 for the eurozone is subject to relatively substantial uncertainties. This is due to a continuing lack of clarity as far as the impact of Brexit is concerned as well as uncertainties regarding the future direction of economic policy because of imminent parliamentary elections in the four key member countries Germany, France, Italy and the Netherlands. FIG: 24

In 2017, the increase in economic output in the Federal Republic of Germany will be somewhat lower, at 1.5 percent, than in the previous year. This is mainly due to the lower number of working days in 2017. The fundamental growth dynamic is unchanged. The early indicators for economic growth in the Federal Republic remain at a high level. The Ifo Business Expectations Index stands at 111.0 and the ZEW Economic Sentiment Index at 13.8 points.

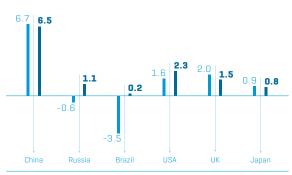
The upturn is still supported by private consumption and construction investment. Exports are also expected to pick up speed over the coming year because the prospects for the global economy are more positive than in 2016. Consumer sentiment also offers hope that the positive trend in consumer expenditure will continue. GfK forecasted the Consumer Climate Index will reach 10.0 points in March 2017.

The general conditions in Bavaria and the region around the airport mean that further strong growth in transportation demand can be expected at Munich Airport. According to the results of the regionalized population projection by the Bavarian State Office for Statistics, the number of people living in Bavaria, especially around Munich, will grow in the period up to 2035. The population of Upper Bavaria will rise by 11.5 percent. The Prognos Future Atlas also shows optimum future opportunities for the regions mentioned. Driven by growing prosperity and increasing population, the

# Forecast economic growth in selected destinations worldwide

FIG: 23





GDP Growth in 2016 and 2017

Source: IMF, World Economic Outlook, January 2017

# Forecast economic growth in selected destinations throughout Europe

FIG:

In % ■ 2016 ■ 2017



GDP Growth in 2016 and 2017

Source: IMF, World Economic Outlook, January 2017

trend in the volume from Munich Airport's core catchment area was positive in the last two years in particular. This trend is expected to continue in future.

The global aviation market will continue to grow. The IATA is forecasting growth in global air traffic volume of 5.1 percent for 2017. A slight fall in the growth rate compared with 2016 [5.9 percent] is therefore expected, as the moderate rise in the oil price will depress growth in demand somewhat. The indications for freight are also positive with an increase of 3.3 percent. The German Airports Association (ADV) is also optimistic about the future. With expected passenger growth of 3.1 percent, an increase in flight movements of 1.9 percent, and an increase in transported freight of 2.8 percent, it looks like another successful fiscal year for German commercial airports. According to ADV, growth will be mainly driven by the low-cost segment.

#### Forecast course of business

The Executive Board of Munich Airport also has positive expectations of traffic volume in 2017. The number of passengers should increase again by circa 3 percent and therefore reach 43.9 million. Due to numerous new connections in Terminal 1 and 2, the Executive Board also expects an increase in aircraft movements of circa 3 percent to 409,000. Growth in passengers and movements is to be significantly supported by the stationing of a total of seven new aircraft by the Lufthansa Group (Lufthansa three and Eurowings four aircraft). Further growth is also expected for existing network and low-cost airlines.

In addition to the forecast positive trend in traffic, the planned increase in charges of 3 percent envisaged by the master agreement on charges will lead to a sharp rise in Aviation proceeds in 2017.

Proceeds from Ground Handling will increase sharply in 2017 thanks to the acquisition of a new customer at the Berlin location.

The forecast growth in passengers has a positive impact on non-aviation proceeds as a rule. Accordingly, revenues from retail and catering, as well as the Services and Parking core business, will rise compared with 2016. In retail, apart from traffic-related growth in revenues, positive effects are also expected because of refurbishment measures and the expansion in the sales space in Terminal 2.

The commissioning of the new satellite building at the end of April 2016 significantly improved handling capacity in Terminal 2 and created the preconditions for long-term growth. Above all, this should have a positive impact on the trend in revenue from catering, since the catering services are largely, at circa 70 percent, operated by the Group in the satellite building. Use of the additional advertising space created in the satellite building and commercial space let to third parties for the entire year should also lead to an increase in revenues in 2017.

The Executive Board expects further growth from the commissioning of the hotel extension in the first half of 2017 as well as the conversion and construction of the new conference center.

Other operating income will fall sharply in 2017 because of the extraordinarily high earnings generated from the sale of real estate in the past fiscal year. The Real Estate business unit expects far lower earnings from the sale of real estate in 2017.

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In 2017, Munich Airport will press ahead with its projects to develop real estate.

The Executive Board also expects an increase in personnel expenses as a consequence of increases in the collective pay rates in the TVöD collective pay scale agreement for public sector employees. New jobs will be created due to growth in traffic and the expansion in ground handling services as well as to improve the quality of passenger handling services.

Other operating expenses will increase in 2017 due, among other things, to the expansion in the budget for unforeseen measures and planned communication projects.

In contrast to this, planned amortisation and depreciation will decline sharply in 2017. This is due to the fact that in the upcoming fiscal year, individual components of buildings – including Terminal 1 – will no longer be depreciated. However, this effect will be slightly mitigated by a full year's depreciation being applied to the satellite building for the first time.

The current low interest rate policy pursued by the European Central Bank will also have a positive impact on Munich Airport's financial result in 2017. The Executive Board also expects a considerable reduction in interest rate costs from the follow-up financing for the syndicated loan concluded at the end of 2016.

Overall, Munich Airport expects EBT to increase slightly by between 1.0 percent and 5.0 percent. Fig: 25  $\,$ 

#### Forecast financial and non-financial key performance indicators

	2016		2017	
	Actual		Forecast	
			from	to
			%	%
EBT in T€	209,873	Increase	1.0	5.0
CO <sub>2</sub> reductions in tonnes	5,324	Increase	228.1	233.1
Passenger experience index departure <sup>1]</sup>	82.02	Increase	0.5	1.0
Passenger experience index arrival <sup>1]</sup>	79.85	Increase	0.5	1.0
Employee retention index <sup>2)</sup> in %	73	Unchanged		

<sup>&</sup>lt;sup>1]</sup>The passenger experience index replaces the ASQ Overall Index. It has been compiled since March 9, 2016.

The PCA systems installed at Munich Airport will gradually be phased into normal operation. This will lead to significant reductions in  $\mathrm{CO}_2$ . Additional efficiency measures to reduce energy consumption, especially for lighting, air conditioning, in IT and in buildings and facilities are also to be implemented.

In future, Munich Airport will maintain the ASQ Overall Index at the benchmark set by other European hub airports. However, it is to be replaced by the passenger experience index [PEI] as a non-financial target. The PEI will allow Munich Airport to derive location-specific targets adjusted to the needs of target groups and assign the fields of action to improve service to existing customer contact points. The continuous measures to improve customer satisfaction will include, among others, improvements in accessing free wi-fi, boosting the airport's role as a host through more service-focused training as well as improvements along the passenger process in 2017. In total an improvement of between 0.5 percent and 1.0 percent is expected for satisfaction among both outgoing and incoming passengers.

All employees throughout the Group will be asked to complete a questionnaire to determine employee satisfaction in 2017. It is currently difficult because of various influencing factors to obtain a reliable assessment of the trend in this indicator. However, Munich Airport expects the trend to be unchanged for the 2017 survey. Current plans are that the employee retention index will be replaced by a new Groupwide key performance indicator following this survey.

With regard to net assets and financial position, the Executive Board expects a positive free cash flow for 2017 despite the planned substantial investment in the expansion and modernization of Terminal 1, the construction of the new parking facility P51 as well as the start of LabCampus. On the assets side, the planned investments will exceed ongoing depreciation and lead to an increase in non-current assets. On the liabilities side, other financial liabilities remain virtually constant compared with 2016. Current liabilities, which were built up for the construction of the satellite building, will fall sharply in 2017 and have an adverse impact on operating cash flow.

FIG: 25

<sup>&</sup>lt;sup>2]</sup>The employee retention index is compiled every three years. The figure quoted results from the last survey in 2013.

## Risks and opportunities report

#### Risk management system

The Executive Board of FMG and all subsidiaries and affiliated companies is responsible for the early detection and prevention of risks that jeopardize the continuity of Munich Airport and the investments. Group Management has overall responsibility for an effective risk management system and lays the essential foundation for it by communicating and defining corporate strategy and targets. It formulates specifications for the risk management process and the organizational structure of the risk management system.

The aim of the risk management system is to identify events and developments that may have a negative impact on the achievement of strategic and operational targets in good time and develop suitable countermeasures. It takes account of all aspects of entrepreneurial activity – economic as well as environmental and social.

The Risk Management Committee was established in 2016 as an additional supporting management, control and supervisory body within the risk management system. As the highest ranking risk management body, it is directly subordinate to the Executive Board and consists of the Chief Financial Officer and Chief Infrastructure Officer, the heads of the Aviation, Commercial Activities and Real Estate business divisions, the heads of the Legal Affairs, Committees, Compliance and Environment, Corporate Development, Group Controlling and Corporate Investment Management, Corporate Communications corporate divisions and the risk manager. The head of Compliance is involved in the Risk Management Committee as a quest. The task of the Risk Management Committee is to analyse the risks from a Group perspective and to monitor the effectiveness of countermeasures. It provides support with the development of the risk management system as well as risk identification, assessment and control. The Risk Management Committee meets quarterly and resolves upon the risk report, which is subsequently presented to the Executive Board.

The risk management guideline was revised in 2016 on the basis of the development of risk management and focusing risk management on the internationally recognized framework model «COSO ERM» (Committee of Sponsoring Organizations of the Treadway Commission – Enterprise Risk Management). The new risk management guideline for the Munich Airport Group came into effect as of April 1, 2016. The guideline specifies the general principles of risk management in the Group as well as the tasks and responsibilities of the function holders involved in risk management.

The risk management process comprises the following steps. A coordination and communication platform has been established to support the risk management process.

#### Identification and communication of risks

All divisional managers and Chief Executive Officers of subsidiaries and affiliated companies are responsible for the identification and assessment of risks. The risk officer defines risk managers in the respective divisions, who will ensure that all risk-relevant information in the respective division is coordinated, managed, documented and passed on. The central coordination of risk management activities in the Group is the task of the risk manager. He checks the divisions' risk reports for plausibility and compliance with the Group-wide standards for risk assessment. The risk manager combines the divisions' individual reports in a risk report, taking account of materiality for the Group, and reports quarterly to the Executive Board and shareholders. Risks that jeopardize the Group's existence that have been identified for the first time must also be reported to the Executive Board on an ad hoc basis.

As a basis for dealing with risks responsibly, each individual employee is involved in managing risks throughout the company. Each employee is responsible for eliminating risks in his area and reporting indications of existing risks to his manager without delay.

#### Assessment of risks

Systematic risk assessment allows the company to determine the extent to which individual risks jeopardize the fulfillment of Munich Airport's corporate goals and strategies and which risks may possibly threaten its existence. The factors «expected loss» and «likelihood of occurrence» are presented in a two-dimensional risk matrix for this purpose. The expected loss describes the impact on profits that can be expected if the loss event occurs. Here, Munich Airport distinguishes between the four categories of loss «low», «medium», «high» and «very high». The likelihood of occurrence is divided into four categories «low [5-10 percent]», «moderate (10-25 percent)», «significant (25-50 percent)» and «acute (>50 percent)». In the case of events that recur over time, the company works with the frequency with which they occur. A significant frequency of occurrence means that a loss must be expected to occur within two fiscal years. The assessment first takes place without measures to limit risk being considered (gross risks). Subsequently, the risks are assessed after risk-minimizing measures are initiated or implemented (net risks).

#### Dealing with risk

Starting from the risk analysis, appropriate countermeasures for dealing with risks are specified in line with corporate strategy and economic aspects. The strategies for managing risks include: controlling, insuring, minimizing, eliminating and passing on. The risk officers have the task of specifying and implementing countermeasures to manage risks in the respective division affected.

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#### Risk monitoring

The risk manager monitors the effectiveness of risk management continuously. Risks are also monitored separately by Internal Audit.

#### Compliance management system

Compliance covers compliance with all airport-related laws, specifications and regulations, national and international rules and standards as well as in-house rules and guidelines. Munich Airport has established a Group-wide compliance management system, which encompasses all organizational provisions ensuring compliance with the aforementioned rules.

The Compliance department submits reports on the current status of the compliance management system to the Executive Board on a regular basis and to the Supervisory Board on an annual basis.

Compliance risks are also communicated as part of the risk reporting to the Executive Board and shareholders if internal thresholds are exceeded. A regular dialog takes place between Risk Management and Compliance.

#### Identifying and minimizing compliance risks

The Compliance department prepares the compliance risk analysis with input from the divisions and combines it with the subsidiaries' compliance risk analyses every year.

Compliance risks are assessed in the same way as in the risk management process. Once the compliance risk analysis has been carried out, the Executive Board is notified of the results in a report.

The annual Compliance report to the Supervisory Board of FMG also includes the results of the compliance risk report. If there is an elevated loss potential and concomitant high probability of occurrence despite all the countermeasures taken, a detailed description is provided in the report.

In respect of 2016, there were no elevated compliance risks after the countermeasures taken were considered.

#### Preventing corruption

The compliance quidelines and the quidelines covering gifts and invitations support managers and employees in ensuring legally compliant and ethical behavior at the workplace. They are published on the intranet and are therefore available to all employees. The quidelines also reference other guidelines with which employees must comply, ensuring for example, compliance with public procurement law with regard to procurement and contracting processes, data protection, and information security. These ensure that processes and procedures are transparent and traceable, both internally and externally. In contracting and tendering procedures, Munich Airport requires bidders to submit a declaration of commitment stating that they will undertake everything necessary to preclude corruption. Compliance failures are liable to sanctions, such as exclusion from the contracting process.

The position of anti-corruption officer is exercised by the head of the Compliance department. There were no confirmed cases of corruption in 2016.

#### Communication and training

A key task of the Compliance department is to train and advise employees and managers in compliance matters as a preventative measure to stop compliance breaches from occurring.

Group compliance regularly provides training and publishes information to ensure that all employees and managers are familiar with the guidelines and any updates or amendments to them. Every year they must provide their signature to confirm that they have read the compliance documentation.

In 2016, some 71 managers of the Munich Airport Group took part in the three-hour training module on compliance as part of the Leadership Excellence program. In addition to the legal fundamentals and the responsibilities of managers, this also covers Munich Airport Group's specific guidelines on compliance and the prevention of corruption. A total of 467 people have received training since the module started at the end of 2013.

Besides the training for managers, employees are offered a one-hour web-based training session on compliance matters. It includes compliance issues, such as gifts and invitations, secondary employment, conflicts of interest or data protection and their implementation in daily working life, presented in actual examples. 3,555 employees participated successfully in this from February 2015 until the end of 2016. Employees with no access to a company PC were given compliance training in face-to-face events. Just under 4,000 employees also took part in this in the period mentioned.

Participation in the compliance training sessions is recorded and also entered in the employee's own qualification profile.

The Executive Board and Supervisory Board deal with compliance issues at regular intervals.

#### Electronic whistle-blower system

Through an electronic whistle-blower system, the Business Keeper Monitoring System [BKMS®], Group employees,

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business partners, and customers can report behavior potentially damaging to the organization. People inside the Group and outside can also contact the Compliance department by other means of communication (telephone, e-mail, face-to-face discussions) if they wish to draw attention to compliance infringements and need advice. Tender documents inform potential bidders of the possibility of using the BKMS® should compliance infringements be suspected.

#### Data protection

Munich Airport's data protection officer is also assigned organizationally to the Compliance department but conducts his job independently and reports directly to the Executive Board. Initial training courses provided to new employees and apprentices, along with periodic onward training for employees in data privacy law, have helped raise awareness of statutory data protection requirements. Specialized, individual advice is also available in instances where people are unsure how to comply properly with data protection regulations.

There were no known instances of complaints regarding breaches of customer privacy and losses of customer data.

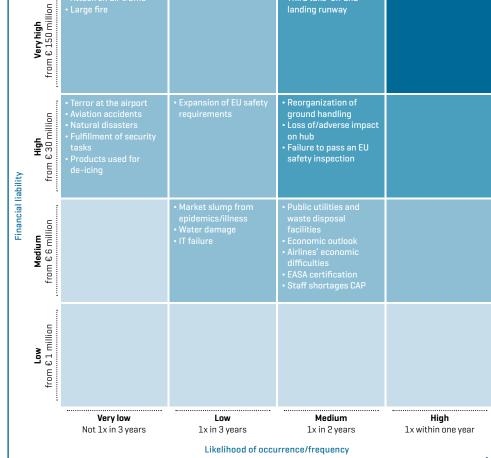
#### Risks

Risks that could have a material influence on the business activity or on the net assets, financial position and results as well as the reputation of Munich Airport are explained below. In each case, the risks are shown before and after consideration of appropriate countermeasures.

The risk assessment relates to the economic impact in the assessment period quoted. As of December 31, 2016, the following material gross risks were identified for Munich Airport: FIG: 26

#### **Overview of gross risks**

FIG: 26 Third take-off and landing runway



Financial report

# Risks resulting from force majeure

Risk	Description and analysis	Countermeasure(s)
Natural disasters	A breach of the Isar dams near Freising caused by heavy rain could lead to the terminals being flooded.	Gradual upgrading of the Isar dams by the water authority. They have already been partially renovated. Insurance to cover earthquakes, storms, hail and flooding has been arranged.
Attack on air traffic	The risk of terrorist attacks on air traffic remains high. Even following the attacks in Brussels and Amsterdam, there is currently no expectation of a specific threat in Germany. In addition to bodily injury and property damage, this would result, at least temporarily, in a decrease in the number of aircraft movements and passengers.	Maintain high standards of security through the provision of adequate and well-trained personnel resources as well as construction measures to guarantee modern and approved security technology and infrastructure. Monitoring the quality of service through sustainable quality measures and constant dialog with the responsible security authorities. Bodily injury and property damage as well as interruptions of operations are insured.
Terror at the airport	Acts of terror on the airport campus can result in bodily injury and property damage. A further consequence of such events would be, at least temporarily, a decrease in the number of aircraft movements and passengers.	Maintain high standards of security through the provision of adequate and well-trained personnel resources as well as construction measures to guarantee modern and approved security technology and infrastructure. Monitoring the quality of service through sustainable quality measures and constant dialog with the responsible security authorities. Bodily injury and property damage as well as interruptions of operations are insured.
Fulfillment of security tasks	The airline companies are responsible for security tasks in transferred areas. In these areas, airline companies fulfil the same task as airport operators but are not subject to the same supervisory authority. For Munich Airport, there is a risk that inspections will reveal defects in transferred areas and the airport as a whole will lose its security status as a result. Defective controls could lead to property damage and bodily injury as well as reputational damage.	At present, a Group company owned by Munich Airport is tasked with performing operational security tasks in the transferred areas.
Market slump from epidemics/ illness	Epidemic/sickness outbreaks can result in market downturns with reduced aircraft movements and passenger numbers.	Due to a relatively high fixed cost ratio, Munich Airport's ability to react to market downturns is limited.
Large fire	In the event of damage to or destruction of terminals or infrastructure systems caused by a large fire, property damage and bodily injury, as well as long-term interruptions of operations are to be expected.	To minimize the large fire risk, Munich Airport maintains adequate technical warning equipment and an Airport Rescue and Firefighting service. Bodily injury and property damage as well as interruptions of operations are insured.
Aviation accidents	Aviation accidents or damage to aircraft can result in bodily injury and property damage as well as interruptions of operations and consequential damage.	To minimize the risk, Munich Airport maintains an Airport Rescue and Firefighting service, a medical service, and a counseling team. The risk of aviation accidents is minimized through liability insurance and fully comprehensive insurance.

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## **Market risks**

Risk	Description and analysis	Countermeasure(s)
Loss of/adverse	If DLH amends its strategy of developing the Airport as a hub, this would result in	Munich Airport's collaboration with DLH is based on joint investments and long-term
impact on hub	dramatic falls in the number of passengers and aircraft movements.	cooperation agreements.
Airlines' economic	The European air traffic industry is in a difficult competitive situation. The airlines	Steady acquisitions of new customers should be able to compensate for any
difficulties	operating from Munich Airport are also affected by this.	decreases in existing customers.
Economic outlook	As a consequence of a weak economy, the growth parameters assumed in the planning process cannot be achieved, which has an adverse impact on profits. During more significant economic crises, a collapse in loan finance markets may	Reducing expenses through cost monitoring, if necessary reducing staff numbers in a socially responsible manner plus a short-term cut in the investment budget in non-critical divisions aim to mitigate the consequences of economic slowdowns.
	occur.	There are revolving credit lines to ensure the company is solvent.

# **Operating risks**

Risk	Description and analysis	Countermeasure(s)	
EASA certification	If the European Aviation Safety Agency (EASA) Certificate is not renewed, then Munich Airport could lose its operating licence. The certificate must be renewed before January 1, 2018. Based on the progress made in preparing for the EASA certification in 2016, the risk of the airport being closed for a longer period is no longer paramount as of December 31, 2016. However, costs for changes to flight operation-relevant infrastructure and equipment may accrue from demands from the authorities that are still outstanding.	A good starting situation for the certification process is to be created by prioritizing EASA activities, supporting the safety and risk assessment by external consultants and ongoing coordination with the certification authority.	→ Glos
IT failure	Damage to the IT system can result from fire, water ingress, or sabotage. Failure of IT for traffic operations with the corresponding interruptions of operations would be the consequence.	Critical corporate IT systems are fully redundant with systems located in physically separate locations. Property damage and interruptions of operations are insured.	
Water damage	Water damage caused by a break in the main drinking water or fire extinguishing water pipelines could lead to the failure of infrastructure systems important for air traffic.	Remotely controlled emergency shut-off equipment and additional protective devices in the pipeline connections limit the possible damage. Property damage and interruptions of operations are insured.	
Expansion of EU safety requirements	The European regulations on aviation security require the rules governing checks on persons and luggage at airports to be extended in phases. The resultant conversion measures cause costs. Depending on the design, the conversion work causes the loss of leasable space.	Munich Airport is introducing optimization measures to minimize the loss of space.	-

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# **Operating risks**

Risk	Description and analysis	Countermeasure(s)	
Failure to pass an EU safety inspection	The EU's aviation authorities are conducting safety inspections at airports. If an inspection results in a high number of complaints, Munich Airport will lose its security status. The consequences would be a heightening of the safety regulations, considerable obstruction with operational processes, competitive disadvantages and a loss of image.	es of all safety aspects at the airport.	
Utilities and waste disposal	The inadequate availability of substances necessary for operating activities, such as electricity, heat, cooling energy, drinking and extinguishing water, waste water, and waste, may result in property damage and interruptions of operations.	The service and maintenance programs, network redundancies, and storage reduce the risk of gaps in supply. Property damage and interruptions of operations are insured.	
Reorganization of ground handling	The successful reorganization of the former Ground Handling business division could be put in jeopardy by the following uncertain events and circumstances: handling contracts are not extended, order volumes from existing customers decrease, aggressive pricing results in loss of orders.	The profitability and competitiveness of AeroGround are being improved continuously. At the end of 2016, AeroGround agreed on the key conditions of the handling agreement for the next seven years with its main customers. As a result, associated collective restructuring agreements could be extended. Progress with restructuring is monitored on an ongoing basis.	
Staff shortages	Staff shortages at one of Munich Airport's Group companies could impair the quality of checks on persons and luggage as well as following up alarms; delays in operations would be possible.	CAP tasks third party companies with providing security services to cover staff shortages temporarily. Staff are employed on an ongoing basis and trained as aviation security staff.	

# **Legal risks**

Risk	Description and analysis	Countermeasure(s)
Third take-off	In the event of the third runway project being finally shelved or postponed for a	The legal ruling in favour of Munich Airport dated February 19, 2014 was an
and landing	significant period of time, all existing planning and land acquisition costs must be	important milestone in limiting the legal risks for project implementation. Munich
runway	checked in respect of their recoverability and depreciated if necessary. There could be a significant loss of corporate value unless capacity is expanded through the construction of the third take-off and landing runway. A decision on the expansion project or, if applicable, a new referendum is to be reached again in spring 2017 on the basis of current aircraft movement figures.	Airport is also making a case to politicians for the expansion. The well-founded work to convince people of the merits of the third take-off and landing runway is continuing.

# Legal risks

Risk	Description and analysis	Countermeasure(s)
Products used for de-icing	There is a suspicion that the products currently used for de-icing paved areas and runways accelerate the oxidation of aircraft brakes. There are discussions about banning these products at the SAE (Society of Automobile Engineers) international standardization committee. If they are banned, Munich Airport would have to invest substantial sums in waste water systems to comply with the requirements of water management legislation.	Together with other German airports, Munich Airport is arguing against these de-icers being banned.

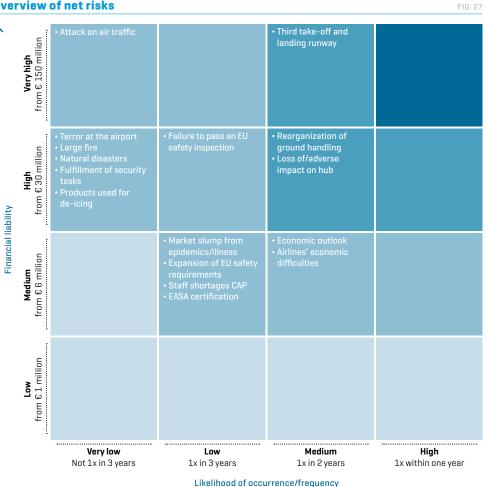
For the gross financial risks listed below, the expected financial liability fell short of the reporting limit as of December 31, 2016. Therefore they were not included in the risk reporting.

## Financial risks

Risk	Description and analysis	Countermeasure(s)
Currency risks	Currency risks arise insofar as planned sales in foreign currencies are not balanced by any corresponding expenses or outgoings in the same currency.	Munich Airport hedges currency risks using currency forwards.
Credit and reliability risks	Credit and reliability risks primarily arise from short-term deposits as well as trade receivables.	In general, deposits are only made with German banks with deposit protection. The management of risks of default includes the constant monitoring of debtors' creditworthiness, overdue invoices, and a stringent collections management. Dependent on the credit rating, certain services are only performed against prepayment or provision of collateral in the form of bank guarantees.
Interest rate risks	Interest rate risks essentially arise from floating-rate financial liabilities.	Munich Airport counters interest rate risks using interest payer swaps.

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#### **Overview of net risks**



#### Opportunities

The divisions and investments identify, assess, and manage opportunities on a decentralized basis with support from Corporate Development and Group Controlling and Corporate Investment Management.

The report shows the developments and events that could lead to a positive deviation from planning. The presenta-

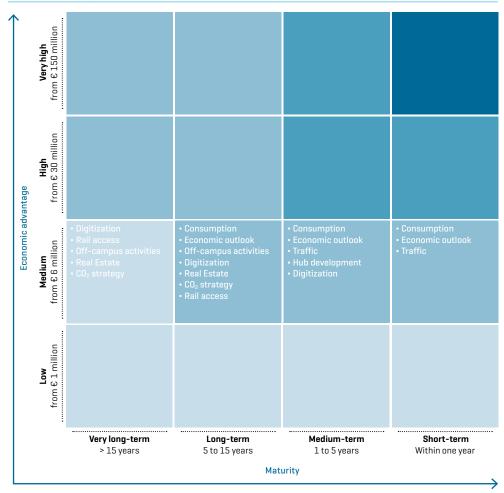
tion is based on the risk report with the difference that the horizontal axis shows maturities - that is the time until opportunities are expected to occur and how long it will be until they have an impact - and not the frequency with which they occur. Where opportunities are mentioned more than once, this indicates that they will have an impact over several periods. FIG: 28

## **Opportunities**

Opportunities	Description and analysis
Consumption	Overcoming the current geopolitical and economic crises could lead to an increase in the propensity to consume of passengers from regions outside Europe above the planned level.
Economic outlook	Global economic growth above planned levels could boost revenues further.
Traffic	An increase in air traffic growth above the expected level could increase revenues in all corporate divisions.
Hub development	The key partner airline DHL might improve its market position through internal optimization measures, leading to greater expansion of the Munich Airport hub and consequently to growth in passenger numbers above the planned target.
Digitization	Munich Airport is working on the strategy to adjust the Airport's business model more closely to the structural change resulting from digitization. The potential medium and long-term effects on growth resulting from this strategy have not yet been taken into consideration.
Off-campus activities	The off-campus business of Munich Airport (services and retail) might develop better than expected, with corresponding growth in the consolidated profit.
Real Estate	In the long-term, activities in the Real Estate business division could be strengthened more than is currently planned, which would lead to revenue in this business unit being increased.
CO₂ strategy	The continuing increase in efficiency among energy-saving technologies and an associated improvement in the price-performance ratio of low emissions energy generation could lead to the costs of Munich Airport's new $\rm CO_2$ strategy being lower than expected.
Rail access	Better than expected improvements to rail access could lead to an expansion in the passenger catchment area and consequently to increased revenue in all business units.







## Overall assessment of the opportunities and risk situation

For Munich Airport as the second largest passenger airport in Germany and one of the largest airports in Europe, it is important to actively exploit any opportunities that arise and to improve its position on the market still further through constant growth. However, it is also a key objective of Munich Airport to recognize risks in good time and to counter them systematically.

Accordingly, the currently anticipated impact of possible events and developments is taken into consideration in business planning every year. The reported opportunities and risks are defined as potential deviations going beyond the forecast corporate result. Munich Airport consolidates and aggregates the risks reported by the corporate divisions and Group companies and reports quarterly to the Executive Board and shareholders. Opportunities are identified and managed with the involvement of the corporate divisions, Corporate Development as well as Group Controlling and Corporate Investment Management.

Taking account of the current business plan, the opportunities and risk situation has scarcely changed year on year. No new risks were identified that might potentially have a critical impact on income.

No risks were foreseeable from the Group-wide risk management system or in the assessment of the Executive Board during the current forecast period, which individually or in their entirety could jeopardize the continued existence of Munich Airport.

Munich Airport points out that various known or unknown risks, uncertainties and other factors may lead to actual events, the financial position, the business development or the performance of the company deviating significantly from the estimates provided here.

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# Consolidated financial statements

## **Consolidated income statement**

T€	Disclosure	2016	2015 1)
Revenue	VI.1	1,364,122	1,249,306
Changes in inventories and working progress		0	-225
Own work capitalized	VI.2	19,930	21,722
Other income	VI.3	46,643	38,764
Total income		1,430,695	1,309,567
Cost of materials	VI.4	-352,085	-326,599
Personnel expenses	VI.5	-452,515	-400,342
Other expenses	VI.6	-97,092	-88,393
Earnings before interest, taxes, depreciation and amortization (EBITDA)		529,003	494,233
Depreciation and amortization	VI.7	-239,071	-214,278
Operating result (EBIT)		289,932	279,955
Interest result	VI.8	-81,763	-71,626
Other financial result	VI.8	668	-11,043
Financial result		-81,095	-82,669
Result from companies accounted for using the equity method	VII.4	1,036	1,136
Profit before tax (EBT)		209,873	198,422
Income taxes	VI.9	-58,242	-55,089
Consolidated profit (EAT)		151,631	143,333
of which attributable to controlling shareholders		146,736	145,690
of which attributable to non-controlling interests		4,895	-2,357

 $<sup>^{1]}</sup>$ Adjustment in accordance with IAS 8. See page 116 for further details.

## Consolidated statement of comprehensive income

T€	Disclosure	2016	2015 1)
Consolidated profit		151,631	143,333
Cash flow hedging	VII.16	13,239	19,650
Deferred taxes not recognized in profit and loss	VII.6	-3,389	-4,738
Items that may be reclassified subsequently to profit and loss		9,850	14,912
Actuarial gains and losses	VII.17	-2,181	-851
Deferred taxes not recognized in profit and loss	VII.6	611	231
Items that will not be reclassified to profit and loss		-1,570	-620
Other comprehensive income net of tax		8,280	14,292
Total comprehensive income		159,911	157,625
of which attributable to controlling shareholders		155,016	159,982
of which attributable to non-controlling interests		4,895	-2,357

<sup>&</sup>lt;sup>1)</sup> Adjustment in accordance with IAS 8. See page 116 for further details.

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## **Consolidated balance sheet**

#### **Assets**

T€	Disclosure	Dec. 31, 2016	Dec. 31, 2015 1)	Dec. 31, 2014 1)
Intangible assets	VII.1	13,748	12,316	11,912
Property, plant, and equipment	VII.2	4,906,024	4,858,657	4,778,221
Investment property	VII.3	167,573	177,562	190,352
Investments in companies accounted for using the equity method	VII.4	3,415	3,157	2,339
Trade and other receivables	VII.5	84	119	156
Other financial assets	VII.5	304	1,244	204
Deferred tax assets	VII.6	6,890	12,103	37,663
Other assets	VII.9	2,928	3,774	5,895
Non-current assets		5,100,966	5,068,932	5,026,742
Inventories	VII.7	42,765	39,821	38,342
Trade and other receivables	VII.8	65,813	59,435	56,640
Other financial assets	VII.8	0	5	0
Current income tax assets		4,901	3,682	1,227
Other assets	VII.9	10,162	11,812	7,167
Short-term deposits	VII.10	12,000	212,000	93,000
Cash and cash equivalents	VII.10	6,034	5,323	8,530
Current assets		141,675	332,078	204,906
Assets held for sale	VII.11	1,220	3,398	5,214
Assets		5,243,861	5,404,408	5,236,862

 $<sup>^{\</sup>rm 1]}\mbox{Adjustment}$  in accordance with IAS 8. See page 116 for further details.

## Liabilities

T€	Disclosure	Dec. 31, 2016	Dec. 31, 2015 1)	Dec. 31, 2014 <sup>1)</sup>
Share capital	VII.12	306,776	306,776	306,776
Reserves	VII.12	150,993	127,546	96,625
Other equity	VII.12	1,485,125	1,383,556	1,284,495
Shares of non-controlling interests		13	-4,869	-2,512
Equity		1,942,907	1,813,009	1,685,384
Financial liabilities resulting from interests in partnerships	VII.14	293,561	277,088	292,507
Trade payables	VII.15	27,671	22,753	16,229
Other financial liabilities	VII.15	1,523,333	1,390,497	1,629,727
Employee benefits	VII.17	47,588	42,356	40,857
Other provisions	VII.18	92,709	96,257	99,444
Deferred tax liabilities	VII.6	441,125	462,454	503,652
Other liabilities	VII.20	18,550	18,571	19,035
Non-current liabilities		2,150,976	2,032,888	2,308,944
Trade payables	VII.19	167,833	102,052	93,735
Other financial liabilities	VII.19	594,112	1,092,429	794,202
Employee benefits	VII.17	35,294	23,229	20,801
Other provisions	VII.18	15,716	15,914	13,037
Current income tax liabilities		32,292	15,885	10,419
Other liabilities	VII.20	11,170	31,914	17,833
Current liabilities		856,417	1,281,423	950,027
Liabilities associated with assets classified as held for sale		0	0	0
Liabilities		5,243,861	5,404,408	5,236,862

<sup>&</sup>lt;sup>1)</sup> Adjustment in accordance with IAS 8. See page 116 for further details.

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## Consolidated statement of changes in equity

	Disclosure	Issued capital	Reserv	es	Other equity	Non-controlling interests	Equity
T€			Capital reserve	Revenue reserve		-	
As of Dec. 31, 2014	VII.12	306,776	102,258	-5,633	1,506,083	-2,512	1,906,972
Changes as a result of IAS 8		0	0	0	-221,588	0	-221,588
Consolidated profit			0	0	145,690	-2,357	143,333
Other comprehensive income			0	-620	14,912	0	14,292
Total comprehensive income		0	0	-620	160,602	-2,357	157,625
Distributions		0	0	0	-30,000	0	-30,000
Transactions with shareholders		0	0	0	-30,000	0	-30,000
Allocation to reserves		0	0	31,541	-31,541	0	0
Change of reserves		0	0	31,541	-31,541	0	0
As of Dec. 31, 2015 <sup>1)</sup>	VII.12	306,776	102,258	25,288	1,383,556	-4,869	1,813,009
Consolidated profit		0	0	0	146,736	4,895	151,631
Other comprehensive income		0	0	-1,570	9,850	0	8,280
Total comprehensive income		0	0	-1,570	156,586	4,895	159,911
Distributions		0	0	0	-30,000	0	-30,000
Deconsolidation		0	0	0	0	-13	-13
Transactions with shareholders		0	0	0	-30,000	-13	-30,013
Allocation to reserves		0	0	25,017	-25,017	0	0
Change of reserves		0	0	25,017	-25,017	0	0
As of Dec. 31, 2016	VII.12	306,776	102,258	48,735	1,485,125	13	1,942,907

 $<sup>^{1]}\</sup>mbox{Adjustment}$  in accordance with IAS 8. See page 116 for further details.

## **Consolidated cash flow statement**

T€	2016	2015 1)
Total comprehensive income	159,911	157,625
Deferred taxes not recognized in profit or loss	2,778	4,507
Actuarial gains and losses	2,181	851
Cash flow hedging	-13,239	-19,650
Consolidated profit (EAT)	151,631	143,333
Result from companies accounted for using the equity method	-1,036	-1,136
Income taxes	58,242	55,089
Financial result	81,095	82,669
Operating result (EBIT)	289,932	279,955
Depreciation and amortization	239,071	214,278
Gains/losses from disposal of fixed assets	3,195	4,670
Increase/decrease in inventories	-2,944	-1,479
Increase/decrease in current receivables	-4,051	-2,795
Increase/decrease in liabilities	69,135	14,841
Increase/decrease in employee benefits	13,483	2,252
Increase/decrease in other provisions	-5,916	-800
Increase/decrease from acquisition of subsidiaries	450	0
Increase/decrease in other working capital	-11,573	25,698
Remaining change in working capital		
Gross cash flow from operating activities	590,782	536,620
Net income taxes paid/received	-61,950	-72,221
Cash flow from operating activities	528,832	464,399
Proceeds from the disposition of self-used property, plant, and equipment	1,732	2,579
Proceeds from the disposition of intangible assets	464	439

T€	2016	2015 1)
Proceeds from the disposition of investment property	4	7
Proceeds from distributions collected from associates	778	318
Payments for the acquisition of subsidiaries	-1,500	0
Payments for investments in self-used property, plant, and equipment	-263,432	-265,595
Payments for investments in intangible assets	-4,404	-3,813
Payments for investments in investment property	-5,521	-2,721
Interest received	1,176	1,032
Changes of short-term deposits	200,000	-119,000
Cash flow from investing activities	-70,703	-386,754
Payments for distributions to shareholders	-30,000	-30,000
Proceeds from borrowings	200,000	96,211
Repayments of borrowings	-558,683	-31,065
Cash flows from Group-wide cash management with associates and investments	-1,203	778
Interests paid (excluding construction period interest)	-58,891	-98,882
Payments from construction period interest	-8,641	-17,894
Cash flow from financing activities	-457,418	-80,852
Exchange gains or losses on cash and cash equivalents	0	0
Change in cash and cash equivalents	711	-3,207
Cash and cash equivalents at the beginning of the year	5,323	8,530
Cash and cash equivalents at the end of the year	6,034	5,323

<sup>&</sup>lt;sup>1)</sup> Adjustment in accordance with IAS 8. See page 116 for further details.

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## Notes to the consolidated financial statements

→ GRI 102-48

## I. Company

This report comprises the consolidated financial statements of Flughafen München GmbH, Munich (FMG). The companies included in the consolidated financial statements of FMG are referred to below as «Munich Airport» or the Group.

FMG and its subsidiaries operate the airport in Munich and the associated ancillary lines of business.

The registered office of the company is located at Nordallee 25, 85326 Munich, Federal Republic of Germany. It is recorded in the trade register of the District Court of Munich under number HRB 5448. The shares of FMG are held by the State of Bavaria, the Federal Republic of Germany, and the City of Munich.

FMG is the ultimate parent of all companies included in the consolidated financial statements.

As of December 31, 2016, the company has not issued any securities in accordance with Article 2 [1][1] of the German Securities Trading Act [Wertpapierhandelsgesetz – WpHG], which are traded on organized markets in accordance with Article 2 [5] WpHG.

On April 24, 2017, the Executive Board of FMG authorized the accompanying consolidated financial statements to be submitted to the Supervisory Board. The Supervisory Board is responsible for examination and approval of the consolidated financial statements.

## II. Accounting policies

The principal accounting policies applied in these consolidated financial statements are set out below. The policies have been consistently applied to all periods presented.

The presentation currency is the euro. Unless otherwise stated, all amounts are in thousands of euros  $\{T\mathfrak{E}\}$ . Rounding errors may occur for computational reasons.

The presentation currency corresponds to the functional currency. All companies included share the same functional currency.

## 1. Basis of preparation of the financial statements

Pursuant to Article 315a [3] of the German Commercial Code [Handelsgesetzbuch – HGB], FMG voluntarily prepares the consolidated financial statements in accordance with international accounting standards. The company applies the International Financial Reporting Standards [IAS/IFRS] and interpretations [SIC/IFRIC] published by the International Accounting Standards Board [IASB] and by the International Financial Reporting Standards Interpretations Committee [IFRS IC] as adopted by the European Union. It also observes the regulations of Article 315a [3] sentence 2 in conjunction with [1] HGB.

The consolidated financial statements have been prepared under the historical cost convention as modified by the revaluation of financial assets available for sale and by the revaluation of financial assets and financial liabilities measured at fair value through profit or loss.

The consolidated income statement is prepared using the nature of expense method.

The fiscal year is the calendar year.

The preparation of IFRS financial statements involves the use of judgments and estimates by management. It also requires management to exercise judgment in the process of applying the Group's accounting policies. The areas involving a higher degree of judgment, or areas where assumptions and estimates are significant, are disclosed separately in Section V.

## 2. New or revised accounting regulations

## a) New regulations applied for the first time

In fiscal year 2016 Munich Airport did not apply any new accounting regulations for the first time.

## b) New regulations not yet applied

A number of new IFRS and IFRIC and changes and amendments to existing IAS/IFRS standards and SIC/IFRIC interpretations were published up to the date of the preparation of these financial statements whose first time application is not required or permitted until after the reporting date. None of these is expected to have a significant impact on the consolidated financial statements of subsequent periods, except the following:

#### IFRS 15 Revenue from Contracts with Customers

The IASB published the IFRS 15 standard, Revenue from Contracts with Customers, in May 2014. IFRS 15 sets out comprehensive parameters for determining whether, to what extent, and when revenue is recognized. It replaces existing guidelines on the recognition of revenue, including IAS 18 Revenue, IAS 11 Construction Contracts, and IFRIC Customer Loyalty Programs. In future, new qualitative and quantitative information will be required that should allow users of financial statements to understand the type, level, time, and insecurity of revenue and cash flows from contract with customers.

According to IFRS 15, revenue is always recognized if the customer has authority to dispose of the goods or service. Based on a five-step model, it is a case of determining the point in time [or over time] and in what amount the revenue needs to be recognized.

IFRS 15 also contains rules on how to represent existing performance obligations or cases when performance is exceeded, in relation to the relevant contract, with contractual assets and/or liabilities showing up in the balance sheet accordingly.

IFRS 15 is to be applied to the first reporting period in any fiscal year starting on or after January 1, 2018, with early application also allowed. The Group has no plans to apply this standard early.

The impact of the new rules associated with the IFRS 15 standard on the consolidated financial statements of Flughafen München GmbH are currently being examined as part of an impact assessment. It will only be possible to comment on the quantitative and qualitative impact once this analysis phase is complete.

#### IFRS 9 Financial Instruments

In July 2014, the International Accounting Standards Board published the final version of IFRS 9 Financial Instruments. IFRS 9 is to be applied to the first reporting period in any fiscal year starting on or after January 1, 2018, with early application also allowed. The Group intends to apply IFRS 9 for the first time to the fiscal year starting on January 1, 2018.

Munich Airport is currently reviewing what the overall impact of applying the IFRS 9 standard to the consolidated financial statements will be.

IFRS 9 contains the following rules, among other things: Classification – Financial assets: IFRS 9 contains a new approach to the classification and measurement of financial assets that reflects the business model under which the assets are held and the properties of their cash flows.

The three classification categories for financial assets are [i] valued at amortized cost, [ii] valued at fair value through profit or loss [FVTPL], and [iii] valued at fair value though other comprehensive income [FVOCI].

Impairment – Financial assets and contractual assets: IFRS 9 replaces the «incurred loss» model of IAS 39 with a forward-looking «expected credit loss» model. This requires considerable judgment regarding the extent to which expected credit losses are influenced by changes in economic factors. This kind of assessment is based on weighted probabilities.

According to IFRS 9, impairment is determined on one of the following bases: (i) 12-month expected credit losses: these are credit losses expected as a result of potential loss events within twelve months of the reporting date. And (ii) lifetime expected credit losses: these are credit losses expected as a result of any potential loss events during the expected lifetime of a financial instrument.

Classification – Financial liabilities: IFRS 9 retains the existing requirements under IAS 39 for the classification of financial liabilities to a large extent.

Hedge accounting: According to IFRS 9, the Group must ensure that hedge accounting is consistent with the objectives and strategy of the Group's risk management and that a more qualitative and forward-looking approach is adopted when assessing the effectiveness of hedging.

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#### IFRS 16 Leases

Published by the IASB in January 2016, IFRS 16 [Leases] introduces a uniform accounting model whereby leases must be recognized in the lessee's balance sheet. A lessee recognizes a right-of-use asset that represents its right to use the underlying asset, and also a liability from the lease that represents its obligation to make payments under the lease.

From the lessor's perspective, accounting is comparable with the present standard, i.e. the lessor will continue to classify leases as finance or operating leases.

The IFRS 16 standard replaces the existing guidelines on leases, including IAS 17 Leases, IFRIC 4 Determining Whether an Arrangement Contains a Lease, SIC-15 Operating Leases – Incentives, and SIC-27 Evaluating the Substance of Transactions Involving the Legal Form of a Lease.

The standard is to be applied to the first reporting period in any fiscal year starting on or after January 1, 2019. Early application is allowed for companies who are applying IFRS 15 Revenue from Contracts with Customers at the time IFRS 16 is first applied or beforehand. As things currently stand, the Group intends to apply IFRS 16 for the first time to the fiscal year commencing on January 01, 2019.

Flughafen München GmbH is currently reviewing the impact of applying the IFRS 16 standard to the consolidated financial statements.

## 3. Corrections as per IAS 8

In 2016, the Group corrected provisions for deferred maintenance expenses (remedial measures) which had been built up since 2013. As a result, provisions, deferred tax, other expenses, and interest expenses were overvalued. The Group has also, in 2016, revised financial liabilities resulting from interests in partnerships that were carried as liabilities following the IFRS conversion. The following items are affected by the corrections: financial liabilities resulting from interests in partnerships, other equity, interest result, and other financial result.

The error was corrected by adjusting the items concerned from the previous year's reports accordingly.

The tables below summarize the impact on the consolidated financial statements:

### Consolidated balance sheet January 1, 2015

	impact of corrections					
T€	Reported previously	Adjustments	Corrected			
Other equity	1,506,083	-221,588	1,284,495			
Equity	1,906,972	-221,588	1,685,384			
Financial liabilities resulting from interests in partnerships	67,875	224,632	292,507			
Other provisions	103,320	-3,876	99,444			
Deferred tax liabilities	502,480	1,172	503,652			
Non-current liabilities	2,311,648	-2,704	2,308,944			
Other provisions	13,377	-340	13,037			
Current liabilities	950,367	-340	950,027			

#### Consolidated balance sheet December 31, 2015

	Impact of corrections				
T€	Reported previously	Adjustments	Corrected		
Other equity	1,597,223	-213,667	1,383,556		
Equity	2,026,676	-213,667	1,813,009		
Financial liabilities resulting from interests in partnerships	56,680	220,408	277,088		
Other provisions	103,810	-7,553	96,257		
Deferred tax liabilities	459,862	2,592	462,454		
Non-current liabilities	2,037,849	-4,961	2,032,888		
Other provisions	17,694	-1,780	15,914		
Current liabilities	1,283,203	-1,780	1,281,423		

## Consolidated income statement January 1 to December 31, 2015

	Impact of corrections					
T€	Reported previously	Adjustments	Corrected			
Other expenses	-93,509	5,116	-88,393			
Operating result (EBIT)	274,839	5,116	279,955			
Interest result	-83,624	11,998	-71,626			
Other financial result	-3,270	-7,773	-11,043			
Financial result	-86,894	4,225	-82,669			
Profit before tax (EBT)	189,081	9,341	198,422			
Income taxes	-53,669	-1,420	-55,089			
Consolidated profit (EAT)	135,412	7,921	143,333			

## **III. Consolidation**

#### 1. Subsidiaries

Subsidiaries are all companies that are controlled by FMG.

An entity that draws variable returns from an investment has control if it has decision-making powers that enable it to affect the returns from its investment in the investee.

The financial statements of FMG and its subsidiaries are prepared for the same reporting date.

The accounting and valuation principles presented in Section IV are used by all companies included in the consolidated financial statements.

In the preparation of the consolidated financial statements, the financial statements of the parent company and of the subsidiaries are combined through addition of like items.

Within the scope of capital consolidation, carrying values of the interests of the parent company are offset against the pro-rata shareholders' equity attributable to the parent company.

Non-controlling interests in the net assets of consolidated subsidiaries as well as the share of such shareholders in comprehensive income are measured separately and disclosed.

Intra-Group transactions, balances, expenses, and revenues as well as profits and losses resulting from transactions between the consolidated companies are eliminated.

Transactions with non-controlling interests are reported as transactions among shareholders to the extent they do not result in a change of control.

## a) Changes in the Group's stake in subsidiaries

Changes in the Group's stake in subsidiaries that do no result in a loss of control over the subsidiary in question are recognized as an equity transaction. The carrying amounts of the interests held by the Group and the non-controlling interests are adjusted to reflect changes in existing stakes in subsidiaries. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received is recognized directly in equity and attributed to the shareholders of the parent company.

If the Group loses control of a subsidiary, the profit or loss associated with deconsolidation is recognized through profit or loss.

All other amounts shown in relation to this subsidiary are recognized in other comprehensive income in the same way as if the assets were to be sold.

If the Group retains interests in the previous subsidiary, these are recognized at the fair value at the time of the loss of control. This value represents the acquisition costs of the interests, which are valued according to the subsequent

degree of control as per IAS 39 Financial Instruments: Recognition and Measurement or in accordance with the provisions for associated companies or joint ventures.

### → GRI 102-45

#### b) Acquisition of subsidiaries

The acquisition of subsidiaries is recognized on the basis of the acquisition method. The consideration transferred in the event of a merger is valued at fair value. This is determined from the balance of the fair values of the assets transferred at the time of acquisition, the liabilities taken on, and the equity instruments issued by the Group in exchange for control of the company acquired. The transaction costs associated with the merger are recognized through profit or loss when they occur.

The assets and liabilities acquired are valued at fair value. The following exceptions apply:

- Deferred tax assets or deferred tax liabilities and assets or liabilities associated with agreements for employee benefits are recognized and valued as per IAS 12 Income Taxes or IAS 19 Employee Benefits; and
- Assets (or disposal groups) which are classed as being held for disposal as per IFRS 5 Non-current Assets Held for Sale and Discontinued Operations are valued as per this IFRS.

Goodwill constitutes the amount by which the total for the consideration transferred, the amount for all non-controlling interests in the company acquired, and the fair value of the equity, previously held by the acquirer, in the company

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acquired (assuming there is any) exceeds the balance of the fair values, as determined at the time of acquisition, of the identifiable assets acquired and the liabilities taken on. If the difference is found to be negative – even following another assessment – this will be recognized as revenue directly through profit or loss.

If the consideration transferred contains an element of contingent consideration, this will be valued at the fair value at the time of acquisition. Changes in the fair value of contingent consideration within the valuation period of twelve months are corrected retrospectively and recorded against goodwill accordingly. Accounting for changes in the fair value of contingent consideration that do not constitute corrections during the valuation period will depend on how the contingent consideration needs to be classed. If contingent consideration relates to equity, there will be no subsequent valuation on subsequent reporting dates; its fulfillment will be accounted for as part of equity. Contingent consideration which constitutes an asset or liability will be valued on subsequent reporting dates as per IAS 39 or IAS 37 Provisions, Contingent Liabilities and Contingent Assets, and a resulting profit or loss will be recognized through profit or loss.

#### 2. Associates

Associates are companies where FMG has the power to participate in the financial and operating decision processes but does not control or jointly control these decisions.

The basis of inclusion is the most recent financial statements of the associate. When reporting dates differ, the associate or jointly managed company must prepare interim financial statements. Should this not be possible, financial statements with different reporting days may be used in applying the equity method, unless the time lag exceeds three months. In such cases, the associate's financial statements are adjusted for transactions and events with material effects that occurred between the reporting dates.

On initial recognition, investments in associates are valued at cost. After initial recognition, the carrying amount of the investment is increased or decreased to recognize the pro rata changes in the equity of the associate on each reporting date. In the process, changes in the associate's equity are recognized in other comprehensive income. Otherwise changes are recognized in income.

At each reporting date following the time of acquisition, an assessment is carried out to determine if the carrying amount has fallen below the recoverable amount and an impairment or reversal of an impairment is necessary.

Gains and losses resulting from transactions between a fully-consolidated company and a company reported at equity are eliminated in accordance with the percentage of ownership provided the assets transferred have not already been impaired in the financial statements of the associate.

The accounting policies and valuation principles presented in Section IV are applied by associates included in the consolidated financial statements.

3. Consolidated group → GRI 102-45

## a) Subsidiaries

Apart from the parent company itself, the group of companies consolidated in FMG comprises the following subsidiaries:

#### **Subsidiaries**

Seat	Activities	Basis of consolidation	Share of capital	in %
			Dec. 31, 2016	Dec. 31, 2015
Oberding	Passenger handling	Voting majority	100	100
Munich	Ground handling	Voting majority	100	100
Schönefeld	Ground handling	Voting majority	100	100
Munich	Catering and hotel	Voting majority	100	100
Freising	Security	Voting majority	100	100
Hallbergmoos	Cargo handling	Voting majority	100	100
Munich	Retail trade	Voting majority	100	100
Freising	Information	Voting majority	100	100
Oberding	Client representation	Contract <sup>2</sup>	60	60
Oberding	Terminal operations	Contract <sup>2</sup>	60	60
Grünwald	Real estate financing	Voting majority	94.9	94.9
	Oberding Munich Schönefeld Munich Freising Hallbergmoos Munich Freising Oberding	Oberding Passenger handling Munich Ground handling Schönefeld Ground handling Munich Catering and hotel Freising Security Hallbergmoos Cargo handling Munich Retail trade Freising Information Oberding Client representation Oberding Terminal operations	Oberding Passenger handling Voting majority  Munich Ground handling Voting majority  Schönefeld Ground handling Voting majority  Munich Catering and hotel Voting majority  Freising Security Voting majority  Hallbergmoos Cargo handling Voting majority  Munich Retail trade Voting majority  Freising Information Voting majority  Oberding Client representation Contract <sup>2)</sup> Oberding Terminal operations Contract <sup>2)</sup>	Dec. 31, 2016       Oberding     Passenger handling     Voting majority     100       Munich     Ground handling     Voting majority     100       Schönefeld     Ground handling     Voting majority     100       Munich     Catering and hotel     Voting majority     100       Freising     Security     Voting majority     100       Hallbergmoos     Cargo handling     Voting majority     100       Munich     Retail trade     Voting majority     100       Freising     Information     Voting majority     100       Oberding     Client representation     Contract <sup>2</sup> 60       Oberding     Terminal operations     Contract <sup>2</sup> 60

<sup>1)</sup> With respect to the publication of the financial statements, the exemption option under Section 264, Paragraph 3 or Section 264b of the German Commercial Code (HGB) is used.

The lease agreement between MAC Grundstücksgesellschaft mbH & Co.KG [MAC KG] and München Airport Center Betriebsgesellschaft MAC mbH [MAC GmbH] came to an end on October 31, 2016, with the acquisition of the MAC building by FMG. The agency agreement concluded between FMG and MAC GmbH regarding the management and leasing of office and commercial space at the MAC building also came to an end. The agreements reached in the lease and agency agreement about the way MAC GmbH carries out its business provided the basis for the consolidation of MAC GmbH. As a consequence of the termination of these agreements, the company was deconsolidated at the same time. The resulting deconsolidation loss of T€ 2,373 is shown under other operating expenses.

## b) Associates

The following companies are associates. They are recognized using the equity method:

#### **Associates**

Name	Seat	Activities	Share of c	apital in %
			Dec. 31, 2016	Dec. 31, 2015
EFM – Gesellschaft für Enteisen und Flugzeugschleppen am Flughafen München mbH	Freising	De-icing and aircraft pushback	49	49

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<sup>&</sup>lt;sup>2]</sup>The basis of consolidation will be explained in greater detail in Section V.1.

<sup>&</sup>lt;sup>3]</sup>The company has been in liquidation since November 1, 2016.

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The following subsidiaries and joint ventures are not included in the consolidated financial statements:

## Subsidiaries and joint ventures which are not included in the group of consolidated companies

T€

Name	Seat	Activities	Туре	Share of capital	in %
				Dec. 31, 2016	Dec. 31, 2015
FMV – Flughafen München Versicherungsvermittlungsgesellschaft mbH	Freising	Insurance agents	SU <sup>1)</sup>	100	100
Munich Airport International GmbH (previously: Munich Airport International Beteiligungs-GmbH)	Munich	Investment	SU <sup>1)</sup>	100	100
HSD Flughafen GmbH	Berlin	Ground handling services	SU <sup>1)</sup>	100	0
MediCare Flughafen München Medizinisches Zentrum GmbH	Oberding	Medical services	JV <sup>2]</sup>	51	51
Radiologisches Diagnostikzentrum München Airport GmbH	Oberding	Medical services	JV <sup>2)</sup>	18.2	18.2

<sup>1]</sup> SU = subsidiary

As a result of non-inclusion, consolidated revenue is reported 0.37 percent lower [2015: 0.42 percent]. The carrying amount of Munich Airport's investment in MediCare Flughafen München Medizinisches Zentrum GmbH (MediCare) amounts to  $T \in 153$  [2015:  $T \in 153$ ] The airport participates as follows in the assets and liabilities and net profit of MediCare:

### Investment in MediCare Flughafen München Medizinisches Zentrum GmbH

Dec. 31, 2016

Dec. 31, 2015

Investments in joint ventures		153		153	
FMG share in %		51		51	
	Total	Pro-rata	Total	Pro-rata	
Current assets	854	436	1,283	654	
Non-current assets	1,135	579	898	458	
Current liabilities	1,170	597	1,407	718	
Non-current liabilities	20	10	19	10	
Revenue	7,392	3,770	7,568	3,860	
Profit before taxes	63	32	276	141	
Consolidated profit (EAT)	45	23	237	121	
Other comprehensive income	0	0	0	0	
Total comprehensive income	45	23	237	121	
Distributions				0	

## c) Corporate acquisitions

Global air traffic is forecast to grow significantly over the next 20 years. Expanding exposure outside the airport campus should give Munich Airport more options to participate in international growth and become more independent from local market trends. As from January 18, 2016, AeroGround Berlin GmbH acquired 100 percent of the voting shares in Acciona Airport Services, Berlin GmbH (Acciona) and 100 percent of the voting shares in HSD Flughafen GmbH (HSD). The companies provide ground handling services at Berlin-Tegel and Berlin-Schönefeld airports.

<sup>2]</sup> JV = joint venture

## **Corporate acquisitions**

Name	Seat	Activities	Date of acquisition	Proportion	Costs
				In %	T€
Acciona Airport Services, Berlin GmbH	Charlottenburg	Ground handling services	Jan. 18, 2016	100	1,400
HSD Flughafen GmbH	Berlin	Ground handling services	Jan. 18, 2016	100	100

The purchase price was paid in cash.

#### Non-current assets

T€	Acciona	HSD
Non-current assets		
Fixed assets	1,277	115
Current assets		
Cash and cash equivalents	350	309
Trade and other receivables	2,327	427
Prepayments	22	2
Deferred tax assets	37	0
Non-current liabilities		
Provisions	-125	0
Employee benefits	-52	0
Current liabilities		
Provisions	-77	-127
Employee benefits	-734	0
Liabilities	-1,564	-541
Deferred tax liabilities	-61	0
Equity	1,400	185

Receivables mainly relate to trade receivables. Trade receivables cover contractual receivables in gross amounts of T  $\in$  1,438, of which T  $\in$  50 were deemed to be probably irrecoverable at the time of acquisition. The recognized carrying amount is equivalent to the fair value.

Acciona merged with AeroGround Berlin during fiscal year 2016 (with retrospective effect from January 1, 2016). HSD is not included in the consolidated financial statements for 2016.

No goodwill was generated from the acquisition of Acciona because the consideration transferred was equivalent to the fair value of the net acquired assets identified.

Group net profit includes a loss of T€ 584 from the additional business generated by Acciona. Revenue for the current fiscal year includes T€ 16,226 relating to the former Acciona.

# IV. Recognition, measurement, and presentation

## 1. Property, plant, and equipment

Expenditures for the acquisition or production of non-current tangible assets are capitalized as property, plant and equipment to the extent that it is probable that future economic benefits will flow to the Group and the cost of assets can be measured reliably.

Initial recognition of property, plant, and equipment is at cost, comprising all costs directly attributable to the acquisition. The costs of self-constructed assets include direct costs and an allocation of fixed and variable overheads.

Repair and maintenance activities are expensed as incurred. Subsequent costs are capitalized to the extent that they comply with the requirements for recognition as an asset.

Subsequent valuation of property, plant, and equipment is at cost less accumulated depreciation and amortization.

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Land and property are not depreciated. All other assets are depreciated using the straight-line method over their expected useful lives.

The Group uses the component approach to calculate depreciation for buildings. Under this approach, the accumulated cost of the building is disaggregated into components of different useful lives and depreciated separately. The components determined for the Group's buildings are shell and facade, roofs, interior fittings, and mechanicals.

The following useful lives are applicable in the consolidated financial statements:

#### **Useful lives**

Buildings	
Shell and facade	50 years
Roofs	20 years
Interior fittings and mechanicals	25 years
Traffic areas	35 years
Operating areas	15-25 years
Machinery and equipment	
Flight operation areas	40 years
Aviation equipment	10-20 years
Utilities and waste disposal systems	15-35 years
Other machinery and equipment	15-20 years
Operating fixtures and equipment	
Mobile equipment, operations, and ground handling	4-10 years
Furnishings and fixtures	4-14 years
Vehicle pool	10 years
Other fixtures and fittings	3-10 years

At the end of each reporting period, the Group analyses whether the useful lives and expected residual values of property, plant, and equipment are still adequate.

The carrying amounts are reviewed on each reporting date to see whether there is anything to indicate if there has been any impairment. If this is the case, the recoverable amount of the asset is estimated. If the recoverable amount of an asset or a cash-generating unit is less than its carrying amount, the asset is written down to the recoverable amount through profit or loss.

Gains and losses from the disposal of non-current assets are determined through comparing sale proceeds to the carrying amounts. They are presented in the consolidated income statement under other income or expenses.

## 2. Intangible assets

## a) Acquired intangible assets

Expenditures for the acquisition of non-current intangible assets are capitalized to the extent that it is probable that future economic benefits will flow to the Group and the cost of the assets can be measured reliably.

Acquisition costs comprise all expenditures necessary in order bring the asset to the condition for it to be capable of being operated in the manner intended by management.

Subsequent valuation of intangible assets is at cost less accumulated depreciation and amortization. With the exception of emission rights, the useful lives of acquired intangible assets are definite and are between three and ten years. These intangible assets are amortized using the straight-line method over their useful lives.

#### b) Internally generated intangible assets

Costs for internally generated intangible assets are capitalized as soon as they have reached the development phase and the following criteria are fulfilled:

- · Technical feasibility
- · Intention to bring to completion
- Suitability for utilization
- Documentation concerning the probability of future economic benefits in the form of revenues or cost savings
- Availability of resources
- Reliable measurement of project expenditures

The recognition of internally generated intangible assets related to special software for airport operation is at cost, which includes all directly attributable costs.

Expenditures that do not meet all requirements for recognition are expensed as incurred. Development costs that have been expensed are not capitalized in subsequent periods.

The useful life of internally generated intangible assets is determinable and amounts to five years. Amortization uses the straight-line method.

## c) Emission rights

Emission rights are initially recognized at cost.

The useful life of emission rights is indefinite. Therefore, the carrying amount of these rights is annually examined for impairment and amortized if appropriate.

## 3. Borrowing costs

Provided a substantial period of time passes prior to an asset's readiness for its intended use or sale [qualified assets], the borrowing costs directly attributable to the acquisition or production of the asset are capitalized.

Borrowing costs that can be capitalized comprise interest costs of direct and indirect financing. They are derived from interest expense determined according to the effective interest method.

Capitalization of borrowing costs begins with the commencement of acquisition or production and ends with operational readiness.

## 4. Impairment test

At each reporting date, Munich Airport examines whether there are indications that an asset may be impaired. If so, the Group estimates the recoverable amount for the assets and compares it with the carrying amount. The recoverable amount is the higher of the fair value less cost to sell and the value in use. Value in use is the present value of the cash flows that can be expected to be recovered from the continued use of the assets in question. If the recoverable amount is less than the carrying amount of the asset, the difference is amortized through profit or loss.

Assets that do not generate cash flows that are largely independent from those of other assets or Groups of assets are combined into cash-generating units. The combination process ends as soon as units are reached that generate cash flows which are largely independent from those of other assets or units.

### 5. Non-current assets held for sale

Non-current assets are classified as held for sale if the associated carrying amount is to be realized through a sale transaction rather than through continued utilization. The requirements for classification as available for sale are as follows:

- Possibility to sell in the present condition and at terms that are usual and customary for sales of such assets
- Highly probable sale within a year's time

Non-current assets held for sale are not depreciated. Subsequent recognition is at cost less accumulated impairment losses. The recoverable amount is fair value less cost to sell.

## 6. Assistance received from the government

Assistance received from the government is not recognized until it is reasonably certain the Group will satisfy the conditions associated with the assistance and the assistance is actually granted.

Assistance received from the government is to be recognized in the consolidated income statement and in those periods when the Group recognizes the corresponding expenses which the assistance from the government is supposed to compensate. Specifically, assistance from the government for which the main condition is the purchase, construction, or some other procurement of non-current assets is recognized when the carrying amount of the asset is established. The assistance is recognized on the basis of a reduced depreciable amount over the service life of the depreciable asset in the consolidated income statement.

Assistance from the government paid to make good expenses or losses already incurred or for the purpose of immediate financial support associated with no future expenditure is recognized in the consolidated income statement in the period in which the relevant entitlement arises.

## 7. Investment property

In contrast to owner-occupied real estate, investment property is not held for use in the supply of products or services or for administrative purposes, but rather is used exclusively to earn rental income or for capital appreciation purposes.

Investment property includes all land and buildings whose future use has not yet been determined. In addition, the Group classifies all land and buildings which generate cash flows that are independent of other airport operations as investment property. For this reason, leased hangars, for example, are classified as owner-occupied real estate, while leased administrative buildings are classified as investment property.

Initial recognition of investment property is at cost, which includes all costs directly attributable to the acquisition. Subsequent valuation is at cost less accumulated depreciation and impairment losses. The useful lives and methods of depreciation correspond to the useful lives and methods of depreciation for owner-occupied real estate.

As soon as investment property comes into operational utilization, it is reclassified as property, plant, and equipment for own use. Investment property is assigned to non-current assets held for sale as soon as the requirements are fulfilled [see IV.5].

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#### 8. Leasing

All agreements that convey a right to use an asset in exchange for a series of payments are leases.

If the lessor retains all substantial risks and rewards associated with ownership of the leased object, the underlying agreement is an operating lease. In this case, the leasing remuneration is recognized as expense or revenue on a straight-line basis over the term of the lease.

If all substantial risks and rewards of ownership of the leased object are transferred to the lessee, the underlying agreement is a finance lease. In this case, the lessee recognizes the leased object and the associated lease liability. The leased object is depreciated over the shorter of useful life or the term of the lease. The lease payments are apportioned between the finance charge and the reduction of the outstanding liability. The charge is allocated to each period so as to produce a constant rate of interest during the lease term.

## 9. Financial instruments

#### a) Classification

Upon initial recognition, Munich Airport assigns financial instruments to one of the valuation categories described below according to their terms and conditions and the intentions of management.

Derivative financial instruments that are not part of a hedge relationship and non-derivative financial instruments acquired with an intention for trading are measured at fair value through profit or loss. They are presented as current assets or liabilities unless settlement is expected in more than twelve months after the reporting date. Derivatives that are not designated into a hedge relationship are presented as current assets or liabilities.

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are recognized under current assets unless they mature in more than twelve months after the reporting date.

All financial liabilities that are not measured at fair value are to be measured at amortized cost using the effective interest method. They are presented as current liabilities unless repayment is expected in more than twelve months after the reporting date.

The financial assets available for sale are investments in subsidiaries and joint ventures, which are not included in the group of consolidated companies for reasons of immateriality.

## b) Recognition and measurement

Regular purchases and sales of financial instruments are recognized on the trade date.

Financial assets are derecognized if the rights to receive payments from the financial instrument have expired or have been transferred to a third party with transfer of all material risks and rewards of ownership. Financial liabilities are derecognized only upon fulfillment, termination or expiry.

The initial measurement of financial instruments carried at fair value through profit and loss is at fair value. Transaction costs are expensed as incurred. All other financial instruments are initially measured at fair value plus transaction costs.

Subsequent measurement of available for sale financial assets and financial instruments at fair value through profit and loss is at fair value. Loans and receivables as well as non-derivative financial liabilities are carried at amortized cost using the effective interest method. Subsequent measurement of investments in subsidiaries and joint ventures, which are not included in the consolidated financial statements for reasons of immateriality, is at cost to simplify matters.

Gains and losses from subsequent measurement at fair value are recognized in other financial result under other income [net] or other losses [net]. Effects from the accrual of interest are not reflected in other income or loss.

The effective interest rate is the interest rate that exactly discounts all expected cash payments and proceeds [including fees] through the expected life of a financial instrument to its current net carrying amount. In cases of a change in the expected cash flows, the effective interest is retained. The effective interest rate of floating rate financial instruments is altered periodically for changes in expected cash flows. When the terms of a financial instrument carried at amortized cost are modified, the modification may lead to the derecognition of the initial and the recognition of a new financial instrument.

The treatment of fees depends on their nature. Fees that are charged for ongoing services or for the execution of significant acts are immediately recognized in profit or loss. All other fees are treated as transaction costs (recognized at the entry carrying amount and distributed using the effective interest method to fixed-rate financial instruments or distributed over the term in the case of floating-rate financial instruments), whereas commitment fees are deferred as prepaid expenses until the loan is paid out. If the loan is no longer expected to be paid out, the accumulated amount is immediately reversed through profit or loss.

#### c) Offsetting

Financial assets and liabilities are offset in the consolidated financial statements if the requirements pursuant to Section 387 et seq of the German Civil Code [Bürgerliches Gesetzbuch – BGB] are met and the management intends to settle on a net basis or to release a financial asset and settle a financial liability simultaneously and can actually do so.

## d) Impairment and reversal

At each reporting date, all financial assets are examined individually to determine whether there is objective evidence of impairment. Objective evidence for the impairment of a financial asset exists if a loss event has occurred that has negative effects on the future cash flows from the asset.

Examples of loss events are significant refinancing difficulties, payment defaults, reductions in creditworthiness, and bankruptcy.

The difference between the residual carrying amount and the present value of the cash flows taking into consideration the loss event and the retention of the original effective interest rate is recognized as an impairment loss in the consolidated income statement.

If events occur in subsequent periods which indicate that future cash flows from the financial asset will approximate the original level (for example, through an increase in creditworthiness), a reversal of the impairment loss is recognized in the consolidated income statement.

## e) Derivatives in hedging relationships

The following accounting and valuation principles can only be applied to derivatives that have been designated into highly effective and adequately documented hedging relationships. All other derivatives are measured at fair value through profit or loss. Derivatives in hedging relationships are recognized on the trade date. The initial and subsequent measurement of these financial instruments is at fair value, whereas the recognition of changes in fair value depends on the nature of the hedged item and the hedging relationship. Munich Airport distinguishes between the following types of hedging relationships:

Fair value hedge: Changes in the fair value of the hedging instrument and changes in the fair value of the hedged item with respect to the hedged risk are recognized in profit or loss. The effective portion of the change is presented among financial expenses or income and the ineffective portion among other gains [net] or other losses [net].

If the hedge no longer meets the requirements of hedge accounting, the adjustment to the carrying amount of a hedged item for which the effective interest rate method is used is amortized to profit or loss over the period to maturity.

Cash flow hedge: The effective portion of the changes in fair value of the hedging instrument is reported in the hedging reserve under equity in other comprehensive income while the ineffective portion is recognized through profit or loss in the other financial result under other income (net) or other losses (net). The amounts accumulated in equity are reclassified to profit or loss in the periods when the hedged item affects profit or loss.

When a hedging instrument expires or is sold, or when a hedge no longer meets the criteria for hedge accounting, any accumulated gain or loss recognized remains in equity until the hedged item affects profit or loss. The amounts accumulated are reclassified to profit or loss in the periods where the hedged item affects profit or loss. The fair value of the hedging instrument is subsequently recognized in the other financial result under other income (net) or other losses (net).

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Each hedge relationship is documented at designation. The documentation contains a description of the underlying transaction, the hedging transaction, the hedge relation, risk management objectives and methods of measuring effectiveness. Munich Airport monitors the effectiveness of the hedge from the inception to the expiry of the hedge.

Disclosures concerning the fair value of the derivatives in hedging relationships can be found in Section VII.16, while disclosures concerning changes in the hedging reserve are disclosed in Section VII.12. The full carrying amount of a derivative is classified as current or non-current in accordance with the term of the associated hedged item.

#### 10. Inventories

Inventories are carried at the lower of cost or net realizable value, where cost is determined using the FIFO method.

The net realizable value is the sales proceeds less expected costs up to disposal.

### 11. Trade receivables

Trade receivables are recognized as soon as Munich Airport has acquired a right to compensation for goods supplied or services rendered. They are presented among non-current assets provided they are due in more than twelve months after the reporting date. Otherwise they are presented among current assets.

Upon initial recognition, receivables are measured at fair value. Subsequent measurement is at amortized cost using the effective interest method less accumulated impairment losses.

#### 12. Cash and cash equivalents

Cash and cash equivalents comprise short-term deposits and cash in hand and at banks with an original term of up to three months. Deposits with terms in excess of three months are assigned to cash and cash equivalents only if they are not subject to significant fluctuation in value and can be liquidated at any time without risk discount. Otherwise they are presented among short-term deposits.

## 13. Other assets and prepaid expenses

Other assets are recognized, provided they are likely to result in an inflow of economic benefit and can be reliably measured.

Prepaid expenses are recognized when payments are made that will result in expenses only in future periods.

## 14. Equity

#### a) Classification of equity and financial liabilities

Financial instruments issued by Munich Airport are classified as equity or financial liabilities in accordance with the substance of the agreements, whereby all financial instruments on the liability side that are not debt are classified as equity.

## b) Partnerships

The group of consolidated companies contains partnerships with non-controlling interests. Interests in German commercial partnerships are puttable financial instruments with inalienable repayment and redemption clauses. The partner who is withdrawing from the partnership may make a claim for compensation from the other partners. This is why interests in partnerships are classified as financial liabilities unless they are attributable to controlling shareholders. Non-controlling interests in commercial partnerships are therefore classified as financial liabilities and presented as «financial liabilities resulting from interests in partnerships».

The principles applied in distinguishing financial liabilities from equity applied in these consolidated financial statements as per IFRS deviate from those under German law. Under the German Commercial Code, non-controlling interests in commercial partnerships would have to be classified as equity.

On initial recognition, «financial liabilities resulting from interests in partnerships» are measured at fair value, that is, at the present value of the expected redemption amount based on an interest rate which adequately reflects the risk.

Subsequent measurement is based on the effective interest method. Interest is compounded to the financial liability through profit or loss. Adjustments when estimating the future potential for distributions and therefore claims for compensation must be made through profit or loss in the carrying amount of the financial liability. Where profit shares from previous periods are not taken, these will show as a non-current financial liability in accordance with the company's liquidity plans.

## 15. Current and deferred income tax assets and liabilities

The tax expense for the period includes current and deferred income taxes. Income taxes are recognized in the income statement unless they relate to transactions recognized in other comprehensive income or directly in equity. In this case, taxes are recognized in other comprehensive income or directly in equity, respectively.

Current tax assets and liabilities are measured on the basis of tax laws applicable for Munich Airport as of the reporting date.

Deferred tax assets and liabilities are recognized for deductible and taxable temporary differences between the carrying amounts of the assets and liabilities under applicable IFRS and the tax valuations on the basis of a two-stage comparison of the balance sheet Deferred tax assets are also recognized for unused tax losses.

A deferred tax asset is recognized for as yet unused tax losses, as yet unused tax credits, and deductible temporary differences to the extent it is probable that future income to be taxed will be available for which they can be used. Profit to be taxed in future is determined on the basis of individual business plans at the subsidiaries. The planning horizon for checking whether tax relief from tax loss carryforwards can be realized amounts to a maximum of five years. Deferred tax assets are reviewed at each report-

ing date and reduced by the extent to which it is no longer probable that the associated tax benefit will be realized. Write-ups are performed if the probability there will be taxable income in future improves.

Off-balance-sheet deferred tax assets are reassessed at each reporting date and recognized to the extent to which it is probable that future income to be taxed will allow them to be realized.

Deferred taxes are not recognized when they result from the initial recognition of goodwill or from transactions that neither affected accounting nor taxable profit or loss.

Deferred tax assets and liabilities are measured at the tax rates that apply at the time when temporary differences reverse or tax loss carryforwards are used. Tax rate changes or changes in tax law are taken into account as soon as they are substantively enacted. In Germany, this is the case when the Bundesrat approves tax legislation that has been passed.

Deferred taxes are also recognized on temporary differences from the elimination of interim results. Deferred taxes on temporary differences between a subsidiary's net assets and the fiscal value of the investment are not recognized if Munich Airport itself can determine the date on which these temporary differences are reversed and reversal is not expected within a foreseeable period.

Deferred tax assets and liabilities are to be netted off if Munich Airport has acquired a legal claim to offset current income tax assets and liabilities and the deferred tax assets and liabilities relate to the same tax authority. Deferred taxes from current items and deferred taxes from non-current items are offset separately in the present consolidated financial statements. Offsetting only takes place at Group level in as much as offsetting is possible because income tax groups have been created.

## 16. Employee benefits

#### a) Post-employment benefits

The consolidated financial statements contain defined benefit and defined contribution plans. A defined contribution plan is a post-employment benefit plan under which a Group entity pays fixed contributions into a separate fund and will have no legal or constructive obligation to pay further contributions if the fund fails to pay benefits. All other plans are defined benefit plans. Typically, a defined benefit plan provides for post-employment benefits depending on age, length of employment, and remuneration at the time of retirement.

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Payments for **defined contribution** plans are carried as expenses in the period in which services are rendered by employees eligible for the post-employment benefits. Munich Airport pays contributions to Deutsche Rentenversicherung (a state plan) and to the supplementary welfare fund of the Bayerische Versorgungskammer. There are no obligations beyond the payment of contributions.

The Group recognizes provisions for liabilities from defined benefit plans. Measurement is calculated by making use of the projected unit credit method. This method reflects the actuarial present value of all benefits vested. The estimation of benefits considers expected salary and pension increases [for pension benefits] and actuarial assumptions on future health care costs [for medical benefits], as well as the life expectancy of the persons entitled to the plan. Discount rates are derived from the reporting date yield curves for high-quality corporate bonds. Pension payments and health care costs are made from operating cash flows. There are no plan assets.

Actuarial gains and losses are recognized in other comprehensive income.

#### b) Termination benefits

Termination benefits are payable when employment is terminated before the normal retirement date, or whenever an employee accepts voluntary redundancy in exchange for these benefits. Termination benefits are recognized when there is a detailed formal plan which entitles employees to these benefits.

Top-up payments made in the course of a phased retirement agreement are accounted for in accordance with the principles for other long-term employee benefits (see Section IV.16.c).

## c) Other long-term employee benefits

Other long-term employee benefits comprise provisions for jubilee benefits and all kinds of benefits paid in the course of phased retirement agreements.

The principles and methods for measurement of the liabilities are the same as presented in Section IV.16.a. Benefits paid in the course of phased retirement agreements are covered by plan assets. The present value of the liability is offset against the fair value of these assets. Any asset surplus is shown under other assets.

## 17. Other provisions

Other provisions are recognized if Munich Airport has an unavoidable obligation from a past event to commit resources embodying economic benefits to third parties, the obligation can be reliably measured and utilization by the third parties is an overwhelming probability. Recognition of provisions for expenses is generally not permitted. The obligation may be both legal and constructive in nature.

Where a single obligation is being measured, the individual most likely outcome may be the best estimate. If provisions are made for a large population of items, the best estimate may be the expected value.

If the present value of an obligation deviates significantly from the nominal amount, provisions are recognized at the present value of the expected obligation. The risks inherent in the obligation are taken into account in determining the expected outflow of resources, and are discounted at a risk-free pre-tax rate.

Current obligations arising from onerous contracts are recognized as provisions. An onerous contract is a contract in which the unavoidable costs of meeting the obligations exceed the economic benefits expected to be received under it.

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### 18. Revenue

Revenue is measured at the fair value of the consideration received or receivable after revenue reductions. Revenue and other operating income are deemed to be realized when the service is rendered or at the time risk is transferred and are recognized on condition that an economic benefit is likely to accrue and this can be reliably quantified.

#### a) Revenue from the rendering of services

Munich Airport recognizes revenue from the rendering of services as such services are rendered. Some fees need to be approved by the aviation authorities. These traffic fees relate to use of airport infrastructure and cover take-off and landing fees, passenger fees, and fees relating to noise and emissions. Fees which do not require approval are those for ground handling services, such as work involving the apron and cargo handling, and for infrastructure.

Services rendered in the course of consulting projects regularly extend over a relatively long period of time. In these cases, revenue is recognized on a straight line basis or by reference to the stage of completion, provided the successful completion of the entire project, or of a separable milestone, can be expected to be highly probable. The cost-to-cost method is used to establish the stage of completion.

Revenue from leases in the Real Estate and Commercial Activities business division relates to income from leases involving terminal areas, office space, buildings, and land. Purchase options were not agreed. Depending on whether contractually defined conditions apply, leases for retail space may involve either minimum rates or variable rates based on revenue. Incentives granted for people to take out leases are recognized as part of the overall revenue for the lease over the period of the lease arrangement.

## b) Revenue from concession agreements

Revenue is recognized provided an inflow of economic benefits is probable and the amount of revenue can be measured reliably. Concession fees are recognized on an accrual basis over the concession period in accordance with the substance of the relevant agreement.

## c) Revenue from the sale of goods

Revenue from the sale of goods is recognized when the relevant risks and rewards of ownership have been transferred to the acquirer. This typically takes place when the products are transferred and payment is made.

## d) Revenue reductions

Revenue is measured at the fair value of the consideration received or receivable. It is reduced pro rata by the anticipated reduction from volume discounts. Another liability is recognized for the difference to the prices charged.

## 19. Earnings from investments and interest income

Earnings from investments are recognized when there is a legal entitlement to payment. The precondition is that it is probable that the inflow of economic benefits to the Group and the amount of earnings can be measured reliably.

Interest income is recognized if it is likely that the economic benefits will flow to the Group and the amount of revenues can be measured reliably.

#### 20. Calculation of fair value

## a) Measurement at fair value

Munich Airport measures derivative financial instruments that are hedged in fair value hedges at fair value on an ongoing basis.

Measurement of investments in subsidiaries and joint ventures, which were not included in the group of consolidated companies for reasons of immateriality, is at cost to simplify matters.

All non-financial assets are measured at amortized cost.

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The following methods and parameters were applied in the calculation of fair value:

## Calculation of fair value for measurement purposes

Fair value		/alue	Measurement	Parameter		
T€	Dec. 31, 2016	Dec. 31, 2015		Туре	Hierarchy <sup>4</sup>	
Interest rate swaps	0	1,040	Discounted cash flows, add-on procedure	Expected cash flows <sup>1</sup> ), discount rate <sup>1</sup> ), volatility rate <sup>2</sup> ), CDS spreads <sup>3</sup> ), default loss <sup>1</sup> )	II	
Currency futures	0	5	Discounted cash flows, add-on procedure	Expected cash flows <sup>1)</sup> , discount rate <sup>1)</sup> , volatility rate <sup>2)</sup> , CDS spreads <sup>3)</sup> , default loss <sup>2)</sup>	II	
Assets	0	1,045				
Interest rate swaps	69,648	84,194	Discounted cash flows, add-on procedure	Expected cash flows <sup>1)</sup> , discount rate <sup>1)</sup> , volatility rate <sup>2)</sup> , CDS spreads <sup>3)</sup> , default loss <sup>3)</sup>	II	
Currency futures	645	0	Discounted cash flows, add-on procedure	Expected cash flows <sup>1</sup> , discount rate <sup>1</sup> , volatility rate <sup>2</sup> , CDS spreads <sup>3</sup> , default loss <sup>3</sup>	II	
Liabilities	70,293	84,194				

<sup>1)</sup> Derived from market data

The methods are the same as those applied in the prior year.

## b) Disclosure of fair value

The consolidated financial statements contain disclosures on the fair value of investment property and on the fair value of financial instruments measured at amortized cost.

The following methods and parameters were applied in the calculation of fair value:

## Calculation of fair value for disclosure purposes

Measurement method Parameter			Disclosure	
T€		Туре	Hierarchy <sup>2]</sup>	
Property within the airport campus	Income approach	Net income <sup>1]</sup> , economic useful life <sup>1]</sup> , net property return	III II	VII.3
Property outside the airport campus	Asset value method, income approach	Ground value, adjusted normal production costs, net income 1), economic useful life 1), net property return	II III	VII.3 VII.3
Receivables	Discounted cash flows	Expected cash flows <sup>3</sup> , discount rate <sup>3</sup> , CDS spreads <sup>4</sup> )	II	VII.5 VII.15
Non-derivative financial liabilities	Discounted cash flows	Expected cash flows <sup>3)</sup> , discount rate <sup>3)</sup> , CDS spreads <sup>4)</sup>	II	VII.5 VII.15

<sup>1)</sup> Based on in-house data (e.g. leasing agreements, medium and long-term corporate planning)

The methods are the same as those applied in the prior year.

<sup>2)</sup> Taken from the solvency regulation

<sup>&</sup>lt;sup>3]</sup> Counterparts: derived from market data, Munich Airport: derived from current credit conditions

<sup>&</sup>lt;sup>4)</sup>Within the meaning of IFRS 13.72 et seqq; in the fiscal year there was no reclassification between the levels of hierarchy.

<sup>&</sup>lt;sup>2)</sup>Within the meaning of IFRS 13.72 et seq; in the fiscal year there was no reclassification between the levels of hierarchy.

<sup>3]</sup> Derived from market data

<sup>&</sup>lt;sup>4]</sup> Counterparts: derived from market data, Munich Airport: derived from current credit conditions

The fair value of investments in subsidiaries and joint ventures, which were not included in the group of consolidated companies for reasons of immateriality, is not disclosed to simplify matters. They are equity instruments of unlisted companies. Prices of comparable listed equity securities are not available. FMG views the investments as strategic investments.

# V. Critical accounting estimates and judgments

## 1. Control without a majority of the voting rights

FMG holds 60 percent of the voting rights in Flughafen München Baugesellschaft mbH. A significant number of decisions on important business activities are made in the shareholder's general meeting only with a 2/3 majority. The company operates exclusively for Terminal 2 Gesellschaft mbH & Co oHG. Control is exercised through an agency agreement.

FMG holds 60 percent of the voting rights of Terminal 2 Gesellschaft mbH & Co oHG. However, a significant number of decisions on important business activities are made in the shareholder's general meeting only with a 2/3 majority. Control is therefore not constituted through voting rights but largely through long-term agreements among shareholders about the way the company shall carry out its business.

## 2. Carrying amount of certain assets and liabilities

The carrying amounts of assets and liabilities included in the present consolidated financial statements are based on estimates and assumptions concerning the future. In the opinion of Munich Airport, there is no significant risk that these estimates and assumptions will change to such an extent by the next reporting date that a material adjustment of the carrying amount would be expected.

Munich Airport assumes that the third runway will be commissioned by 2023 at the latest. The investment in expanding the airport totaling T€ 180,157 [2015: T€ 178,733] is not expected to be impaired. The obligations from agreements with neighboring municipalities on the funding of infrastructure projects concluded with a view to the construction of the third runway also remain in place. A total of T€ 93,602 [2015: T€ 91,663] was provided for this purpose.

# VI. Notes to the consolidated income statement

#### 1. Revenue

Revenues result from the following activities and transactions:

#### Revenue

T€	2016	2015
Leases, royalties, and licenses	796,666	732,760
Services	310,128	262,432
Sale of goods	188,278	186,637
Miscellaneous	69,050	67,477
Total	1,364,122	1,249,306

Lease revenue primarily result from the lease of traffic, operations and logistics property as well as the lease of commercial areas, office space, and conference rooms.

The terms of the majority of leases of traffic, operations, and logistics property are indefinite. Lessees may cancel upon up to 17 years' prior written notice, however. Only few agreements include a definite lease term. The remaining life of those leases amounts to up to six years. Lease extensions, provided they have been included in lease agreements, are possible for up to five years. Purchase options are not granted as a rule.

The terms of the majority of leases of commercial areas, office space, and conference rooms are indefinite. Lessees may cancel upon up to five years' prior written notice, however. Only few agreements include a definite lease term. The remaining life of those leases amounts to up to 13 years. Lease extensions, provided they have been included in lease agreements, are possible for up to 16 years. Purchase options are not granted as a rule. In addition to a fixed rent, lessees of commercial areas have to pay contingent rents depending on sales revenues.

Lease revenue contains contingent rent at an amount of T $\in$  16,582 [2015: T $\in$  17,017].

In future fiscal years the Group expects the following lease payments from non-cancellable operating leases:

## Expected revenue from non-cancellable operating leases

6	Dec. 31, 2015
3	70,132
3	187,816
2	97,407
8	355,355
2	2

Disclosures on the changes in the carrying amounts of assets leased are given in Section VII.2.

## 2. Own work capitalized

The balance of work performed and capitalized relates in particular to planning and construction activities for the satellite building by Terminal 2 Gesellschaft mbH & Co oHG as well as various structural improvement projects.

## 3. Other income

The components of other income are as follows:

#### Other income

T€	2016	2015
Income from disposals of fixed assets and assets classified as held for sale	27,578	5,401
Income from the reversal of other liabilities	7,027	4,673
Income from the reversal and consumption of other provisions	5,685	3,126
Income in connection with damage and compensation	2,311	2,343
Income from marketing of advertising space	0	9,118
Income from the derecognition of liabilities	0	6,493
Miscellaneous	4,042	7,610
Total	46,643	38,764

Income from marketing of advertising space, income from the derecognition of liabilities, and  $T \in 5,143$  of other income were assigned to revenue in fiscal year 2016. Exchange rate gains amount to  $T \in 566$  [2015:  $T \in 1,079$ ].

## 4. Cost of materials

Cost of materials includes the following amounts:

#### **Cost of materials**

T€	2016	2015
Expenditures for raw materials and supplies	-164,620	-164,748
Expenditures for purchased services	-187,465	-161,851
Total	-352,085	-326,599

## 5. Personnel expenses

The personnel expenses include the following amounts:

## **Personnel expenses**

T€	2016	2015
Wages and salaries	-370,267	-326,813
Social security and support benefits	-65,385	-58,043
Expenses for defined benefit plans	-577	-533
Expenses for defined contribution plans	-16,286	-14,953
Expenses for post-employment benefits	-16,863	-15,486
Total	-452,515	-400,342

The average number of employees in the fiscal year is shown below:

## **Number of employees**

Average	2016	2015
Employees (permanent/temporary, trainees)	8,891	8,091
Apprentices	250	256
Total	9,141	8,347

## 6. Other expenses

Other expenses include the following amounts:

## Other expenses

T€	2016	2015 (adjusted)
Expenses for audit, consulting, and project services	-16,885	-13,499
Expenses for advertising and PR	-12,425	-11,334
Other personnel expenses	-11,806	-9,812
Lease expenses	-10,836	-8,334
Contributions and fees for public utilities and other fees	-8,485	-9,508
Insurance	-7,438	-7,028
Additional leasing costs and office communication	-5,165	-4,196
Losses from the disposal of non-current assets	-3,157	-4,376
Other expenses in connection with damages	-2,880	-2,505
Expenses from deconsolidation	-2,373	C
Other taxes	-2,400	-5,172
Bank charges	-554	-392
Miscellaneous	-12,688	-12,237
Total	-97,092	-88,393

Exchange rate losses amount to T€ 172 (2015: T€ 351).

Miscellaneous other expenses also contain expenses from impairment of financial assets. These items are attributable to the valuation categories [at amortized cost] described in Section IV.9.a] as follows:

## Composition of expenses from impairment of financial assets

T€	2016	2015
Loans and receivables	-567	-413
Total	-567	-413

Charges paid to the auditor are presented among miscellaneous other expenses, as well. They include audit fees at an amount of T $\in$  177 (2015: T $\in$  159), other attestation services at an amount of T $\in$  50 (2015: T $\in$  0), tax advisory services at an amount of T $\in$  265 (2015: T $\in$  0), and fees for other services amounting to T $\in$  93 (2015: T $\in$  25).

Lease expenses primarily result from the short-term lease of vehicles and buildings.

Vehicles are leased for terms up to three years. The agreements do not include any term extension or purchase options.

The terms of leases of buildings usually are definite with a possibility to cancel upon two to three months' prior written notice. The remaining life of those leases amounts to up to five years. Only in rare cases are lease terms indefinite with a possibility to cancel upon three months prior written notice. Lease extensions, provided they have been included in lease agreements, are possible for up to five years. The Group has not been granted any purchase options.

The future minimum lease payments payable under noncancellable operating leases are as follows:

## Expected expenses from non-cancellable operating leases

T€	Dec. 31, 2016	Dec. 31, 2015
In one year	5,900	5,935
In 2 to 5 years	10,044	12,027
After 5 years	0	0
Total	15,944	17,962

## 7. Depreciation and amortization

Depreciation includes the following amounts:

## **Depreciation and amortization**

T€	2016	2015
Depreciation	-238,839	-214,278
Impairment	-232	0
Total	-239,071	-214,278

### 8. Financial result

The interest result is as follows:

#### **Financial result**

2016	2015 (adjusted)
1,001	1,187
-50,997	-42,509
-28,952	-28,106
-78,948	-69,428
0	606
-2,815	-2,804
-2,815	-2,198
-81,763	-71,626
	1,001 -50,997 -28,952 -78,948 0 -2,815 -2,815

Other interest income and expenses result from the measurement of other non-current provisions and obligations from employee benefits at present value.

The components of other financial result are as follows:

#### Other financial result

T€	2016	2015 (adjusted)
Income from the transfer of profit from non-consolidated entities	476	458
Net gains from financial instruments	2,524	2,753
Other financial income	3,000	3,211
Expense from profit/loss transfer	0	0
Net losses from financial instruments	-2,332	-14,254
Other financial expense	-2,332	-14,254
Total	668	-11,043

Net gains (interest income) from the remeasurement of financial instruments are attributable to the categories described in Section IV.9.a) as follows:

## Composition of net gains from financial instruments

T€	2016	2015 (adjusted)
At fair value through profit or loss	0	5
Financial assets	0	5
At fair value, designated	462	13
At fair value through profit or loss	60	196
Derivative financial liabilities	522	209
At amortized cost	2,002	2,539
Non-derivative financial liabilities	2,002	2,539
Financial liabilities	2,524	2,748
Total	2,524	2,753

Net losses (interest expenses) from the remeasurement of financial instruments are attributable to the valuation categories described in Section IV.9.a) as follows:

## Composition of net losses from financial instruments

T€	2016	2015 (adjusted)
At fair value, designated	0	-3
Financial assets	0	-3
At fair value, designated	-476	-12
At fair value, through profit or loss	-647	-183
Derivative financial liabilities	-1,123	-195
At amortized cost	-1,209	-14,056
Non-derivative financial liabilities	-1,209	-14,056
Financial liabilities	-2,332	-14,251
Total	-2,332	-14,254

#### 9. Income taxes

The components of income tax expenses and income are as follows:

## Composition of income tax expenses

T€	2016	2015 (adjusted)
Trade income tax	-34,751	-34,919
Corporate income tax	-42,412	-40,314
Actual taxes	-77,163	-75,233
Deferred taxes	18,921	20,144
Tax expenses	-58,242	-55,089

The measurement of deferred tax assets and liabilities is based on tax rates expected at the time of realization (see Section IV.15). Deferred taxes in these consolidated financial statements are based on the following tax rates:

## Composition of group tax rate

	2016	
%	from	to
Trade income tax	8.40	12.37
Corporate income tax and reunification tax	15.83	15.83
Total tax rate	24.23	28.20
	2015	
%	from	to
Trade income tax	8.40	11.92
Corporate income tax and reunification tax	15.83	15.83
Total tax rate	24.23	27.75

If the earnings before taxes presented in these financial statements were the tax base, an income tax expense of T£ 58,313 would be expected [2015: T£ 55,062]. Differences between the expected and the actual income tax expense are to some extent offset by the deferred tax expense or income resulting from the change in deferred tax assets and liabilities.

The remainder is attributable to the following items:

#### Tax reconciliation

TE	Dec. 31, 2016	Dec. 31, 2015 (adjusted)
Profit before taxes (EBT)	209,873	198,422
Tax rate in %	27.8	27.8
Expected income tax expense/income	-58,313	-55,062
Non-deductible losses and expenses (trade income tax)	-1,538	-1,653
Non-taxable income and revenues (trade income tax)	3,440	4,576
Deviations from group tax rate	11,692	9,301
Change in deferred taxes due to changes in tax rates	-534	745
Effects from the utilization of tax losses without recognition of deferred tax assets in prior periods	657	-537
Effect from deconsolidation	-574	0
Non-deductible losses and expenses (corporate income tax)	1,147	-392
Non-taxable income and revenues (corporate income tax)	216	88
Current taxes relating to other periods	2,728	63
Deferred taxes relating to other periods	-3,806	1,270
Tax effect from German partnerships	-14,661	-13,696
Miscellaneous other effects	1,304	208
Reported tax expenses	-58,242	-55,089

## VII. Notes to the balance sheet

## 1. Intangible assets

The carrying amounts of intangible assets developed as follows:

## Changes in the carrying amount of intangible assets

T€	Purchas	sed	Self-prod	luced	Total
	Miscellaneous	Advance payments	of which completed	of which incomplete	
Cost					
As of Jan. 1, 2016	32,952	1,327	1,826	67	36,172
Additions	2,479	1,843	81	0	4,403
Disposals	-843	0	0	0	-843
Additions from initial consolidation	119	0	0	0	119
Reclassifications	1,571	-804	193	-67	893
As of Dec. 31, 2016	36,278	2,366	2,100	0	40,744
Accumulated depreciation and amortization					
As of Jan. 1, 2016	23,182	0	674	0	23,856
Scheduled	3,156	0	360	0	3,516
Disposals	-378	0	0	0	-378
Reclassifications	-50	0	52	0	2
As of Dec. 31, 2016	25,910	0	1,086	0	26,996
Carrying amount as of Jan. 1, 2016	9,770	1,327	1,152	67	12,316
Carrying amount as of Dec. 31, 2016	10,368	2,366	1,014	0	13,748

T€	Purchas	sed	Self-prod	duced	Total
	Miscellaneous	Advance payments	of which completed	of which incomplete	
Cost					
As of Jan. 1, 2015	39,420	2,447	976	0	42,843
Additions	2,153	1,206	387	67	3,813
Disposals	-10,449	-82	0	0	-10,531
Reclassifications	1,828	-2,244	463	0	47
As of Dec. 31, 2015	32,952	1,327	1,826	67	36,172
Accumulated depreciation and amortization					
As of Jan. 1, 2015	30,492	0	439	0	30,931
Scheduled	2,783	0	235	0	3,018
Disposals	-10,093	0	0	0	-10,093
As of Dec. 31, 2015	23,182	0	674	0	23,856
Carrying amount as of Jan. 1, 2015	8,928	2,447	537	0	11,912
Carrying amount as of Dec. 31, 2015	9,770	1,327	1,152	67	12,316

Impairment losses are presented in the consolidated income statement among depreciation and amortization. Income from the reversal of impairments is presented among other income.

Emission rights with a carrying amount of T€ 1,990 (Dec. 31, 2015: T€ 2,229) are presented among acquired intangible assets. Emission rights are intangible assets with indefinite useful lives.

There are obligations for the acquisition of intangible assets amounting to T  $\in$  164 (Dec. 31, 2015: T  $\in$  0).

If the requirements for the capitalization of internally generated intangible assets as explained in Section IV.2.b) were not fulfilled, development expenditures were not capitalized. In the reporting year, there was no development expenditure not capitalized. Research expenditures were not incurred.

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## 2. Property, plant, and equipment

The carrying amounts of self-used property, plant, and equipment developed as follows:

## Changes in the carrying amount of property, plant, and equipment for own use

T€	Land and property	Buildinas	Machinery and equipment	Fixtures and fittings	Property, plant, and equipment under construction	Total
Cost					· <del></del>	
As of Jan. 1, 2016	1,860,035	3,502,938	1,658,873	291,171	787,194	8,100,211
Additions	1,087	72,881	99,568	25,547	72,991	272,074
Disposals	-51	-5,262	-13,490	-11,400	-1,358	-31,561
Additions from initial consolidation	0	0	0	1,158	0	1,158
Reclassifications	-66	496,933	133,229	16,509	-647,615	-1,010
As of Dec. 31, 2016	1,861,005	4,067,490	1,878,180	322,985	211,212	8,340,872
Accumulated depreciation and amortization						
As of Jan. 1, 2016	15,035	1,939,434	1,054,001	233,084	0	3,241,554
Scheduled	0	143,160	58,409	18,483	0	220,052
Impairments	0	0	0	232	0	232
Disposals	0	-3,861	-13,128	-9,998	0	-26,987
Reclassifications	0	-41	16	22	0	-3
As of Dec. 31, 2016	15,035	2,078,692	1,099,298	241,823	0	3,434,848
Carrying amount as of Jan. 1, 2016	1,845,000	1,563,504	604,872	58,087	787,194	4,858,657
Carrying amount as of Dec. 31, 2016	1,845,970	1,988,798	778,882	81,162	211,212	4,906,024

					Property, plant, and equipment	
T€	Land and property	Buildings	Machinery and equipment	Fixtures and fittings	under construction	Total
Cost						
As of Jan. 1, 2015	1,858,205	3,484,586	1,577,355	300,425	640,876	7,861,447
Additions	1,543	8,037	16,061	14,233	243,615	283,489
Disposals	-2	-10,465	-6,954	-25,091	-1,877	-44,389
Reclassifications	289	20,780	72,411	1,604	-95,420	-336
As of Dec. 31, 2015	1,860,035	3,502,938	1,658,873	291,171	787,194	8,100,211
Accumulated depreciation and amortization		_				
As of Jan. 1, 2015	15,035	1,815,749	1,008,554	243,888	0	3,083,226
Scheduled	0	133,130	48,662	14,149	0	195,941
Disposals		-9,459	-3,183	-24,971		-37,613
Reclassifications	0	14	-32	18		0
As of Dec. 31, 2015	15,035	1,939,434	1,054,001	233,084	0	3,241,554
Carrying amount as of Jan. 1, 2015	1,843,170	1,668,837	568,801	56,537	640,876	4,778,221
Carrying amount as of Dec. 31, 2015	1,845,000	1,563,504	604,872	58,087	787,194	4,858,657

Reclassifications contain transfers into assets classified as held for sale in the amount off  $T \in 111$  (2015:  $T \in 55$ ).

Impairment losses are presented in the consolidated income statement among depreciation and amortization. Income from the reversal of impairments is presented among other income.

Land is partially burdened with leasehold rights, usufructs, and similar rights. The carrying amount of this land is  $T \in 5,669$  [Dec. 31, 2015:  $T \in 5,669$ ].

Bank borrowings are secured on buildings of subsidiaries of FMG at an amount of T $\in$  1,080,098 [Dec. 31, 2015: T $\in$  602,462] and on both machinery and equipment and fixtures and fittings of subsidiaries at an amount of T $\in$  415,890 [Dec. 31, 2015: T $\in$  254,717]. FMG itself does not pledge any trade receivables as collateral for borrowings.

There are obligations for the acquisition of property, plant, and equipment amounting to  $T \in 83,800$  [Dec. 31, 2015:  $T \in 136,878$ ].

Munich Airport has received compensation for the damage to, or loss of, property, plant, and equipment in the amount of T€ 700 (Dec. 31, 2015: T€ 950), T€ 700 (Dec. 31, 2015: T€ 200) of which was recognized through profit or loss.

The effects of changes of estimates on the measurement of property, plant, and equipment are not significant.

Additions to the costs of property under construction comprise general borrowing costs at an amount of T $\in$  4,290 [Dec. 31, 2015: T $\in$  4,960] and borrowing costs resulting from

direct project financing at an amount of T€ 4,351 (Dec. 31, 2015: T€ 12,934). Capitalization of general borrowing costs in the reporting year is based on a capitalization rate of 2.50 percent (2015: 2.80 percent).

The Group was granted two lots of assistance from the government in fiscal year 2016 amounting to a total of  $T \in 739$ , which were directly deducted from the carrying amount of the asset.

Fixtures and fittings contain assets from finance leases. The carrying amounts of fixtures and fittings developed as follows:

## Changes in the carrying amount of fixtures and fittings from finance leases

Cost As of Jan. 1, 2016 Additions Disposals As of Dec. 31, 2016	
Additions Disposals	
Disposals	1,109
<u>'</u>	0
As of Dec. 31, 2016	-111
	998
Accumulated depreciation and amortization	
As of Jan. 1, 2016	643
Scheduled	200
Disposals	-111
As of Dec. 31, 2016	732
Carrying amount as of Jan. 1, 2016	466
Carrying amount as of Dec. 31, 2016	266

Further disclosures on finance leases can be found in Section VII.15.d).

Owner-occupied land and buildings is partially leased out. The leases are all operating leases. The carrying amounts of land and building leased out changed as follows:

T€	Fixtures and fittings
Cost	
As of Jan. 1, 2015	2,429
Additions	0
Disposals	-1,320
As of Dec. 31, 2015	1,109
Accumulated depreciation and amortization	
As of Jan. 1, 2015	1,761
Scheduled	202
Disposals	-1,320
As of Dec. 31, 2015	643
Carrying amount as of Jan. 1, 2015	668
Carrying amount as of Dec. 31, 2015	466

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## Change in the carrying amount of land and buildings leased out

T€	Land and property	Buildings	T€	Land and property
Cost			Cost	
As of Jan. 1, 2016	106,649	570,595	As of Jan. 1, 2015	106,649
Additions	0	8,821	Additions	0
Disposals	0	-2,622	Disposals	0
Reclassifications	0	90,256	Reclassifications	0
As of Dec. 31, 2016	106,649	667,050	As of Dec. 31, 2015	106,649
Accumulated depreciation and amortization			Accumulated depreciation and amortization	
As of Jan. 1, 2016	0	281,193	As of Jan. 1, 2015	0
Scheduled	0	34,480	Scheduled	0
Disposals	0	-1,510	Disposals	0
Reclassifications	0	3,195	Reclassifications	0
As of Dec. 31, 2016	0	317,358	As of Dec. 31, 2015	0
Carrying amount as of Jan. 1, 2016	106,649	289,402	Carrying amount as of Jan. 1, 2015	106,649
Carrying amount as of Dec. 31, 2016	106,649	349,692	Carrying amount as of Dec. 31, 2015	106,649

## 3. Investment properties

The carrying amounts of investment property developed as follows:

## Change in the fair value of investment property

Land and property	Buildings	Total	
78,484	184,302	262,786	
5,163	358	5,521	
-4	-419	-423	
-235	0	-235	
83,408	184,241	267,649	
690	84,534	85,224	
0	15,271	15,271	
0	0	0	
0	-419	-419	
690	99,386	100,076	
77,794	99,768	177,562	
82,718	84,855	167,573	
	78,484 5,163 -4 -235 83,408  690 0 0 0 77,794	78,484 184,302 5,163 358 -4 -419 -235 0 83,408 184,241  690 84,534 0 15,271 0 0 0 -419 690 99,386 77,794 99,768	

T€	Land and property	Buildings	Total
Cost			
As of Jan. 1, 2015	76,411	185,082	261,493
Additions	2,268	453	2,721
Disposals	-5	-1,238	-1,243
Reclassifications	-190	5	-185
As of Dec. 31, 2015	78,484	184,302	262,786
Accumulated depreciation and amortization			
As of Jan. 1, 2015	690	70,451	71,141
Scheduled	0	15,319	15,319
Impairments	0	0	0
Disposals	0	-1,236	-1,236
As of Dec. 31, 2015	690	84,534	85,224
Carrying amount as of Jan. 1, 2015	75,721	114,631	190,352
Carrying amount as of Dec. 31, 2015	77,794	99,768	177,562

Buildings

572,304 868 -3,245 668 570,595

250,062 33,231 -2,100 0 281,193 322,242 289,402 Reclassifications contain transfers into assets classified as held for sale in the amount off  $T \in 241 \ [2015: T \in 419]$ .

Impairment losses are presented in the consolidated income statement among depreciation and amortization. Income from the reversal of impairments is presented among other income.

Munich Airport realized revenues from the lease of investment property at an amount of  $T \in 14,136$  [2015:  $T \in 14,174$ ]. Operating expenses [including repairs and maintenance] were  $T \in 2,135$  [2015:  $T \in 2,284$ ].

There are obligations for the purchase and construction of investment property amounting to  $T \in 67,669$  [Dec. 31, 2015:  $T \in 70,464$ ].

Investment property is partially burdened with leasehold rights, usufructs, and similar rights. The carrying amount of this property is T€ 8,876 [Dec. 31, 2015: T€ 7,641].

The methods of depreciation and useful lives of investment property are disclosed in Section IV.7.

The fair value of all investment property is T€ 229,330 [Dec. 31, 2015: T€ 251,539]. All investment properties are put to their highest and best use. The company calculates fair value itself. Information on the measurement methods and parameters can be found in Section IV.20.b].

All investment property is subject to operating leases. The portion of investment property not leased is not significant.

## 4. Investments in companies accounted for using the equity method

The carrying amount of investments in companies accounted for using the equity method is as follows:

## Investment in EFM – Gesellschaft für Enteisen und Flugzeugschleppen am Flughafen München mbH

T€	Dec. 31, 20	016	Dec. 31, 2015 3,157		
Investments in companies accounted for using the equity method		3,415			
FMG share in %		49		49	
	Total	Pro-rata	Total	Pro-rata	
Current assets	2,202	1,079	1,485	728	
Non-current assets	10,392	5,092	11,339	5,556	
Current liabilities	3,785	1,855	4,264	2,089	
Non-current liabilities	1,840	901	2,118	1,038	
Revenue	25,449	12,470	26,686	13,076	
Earnings before taxes	2,986	1,463	3,243	1,589	
Consolidated profit (EAT)	2,114	1,036	2,318	1,136	
Other comprehensive income	0	0	0	0	
Total comprehensive income	2,114	1,036	2,318	1,136	
		1,588		319	

The fiscal year of EFM begins on October 1 and ends on September 30 of the following year. Preparation of interim financial statements was waived for reasons of materiality. The financial statements are adjusted for transactions and events with material effects that occurred between October 1 and December 31.

There is no unrecognized share of losses and no share in contingent liabilities to be disclosed.

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## 5. Non-current financial assets

Carrying amount and fair value of non-current financial assets are attributable to the valuation categories described in Section IV.9.a) as follows:

## Carrying amount and fair value of non-current financial assets

	Held for trading purposes  Dec. 31, 2016		Available for sale  Dec. 31, 2016		Loans and receivables  Dec. 31, 2016		Total	
T€							Dec. 31, 20	Dec. 31, 2016
	CA <sup>1]</sup>	FV <sup>2)</sup>	CA 1)	FV <sup>2)</sup>	CA 1)	FV <sup>2)</sup>	CA 1)	FV <sup>2)</sup>
Other receivables	0	0	0	0	84	84	84	84
Trade and other receivables	0	0	0	0	84	84	84	84
Primary financial assets	0	0	304	304	0	0	304	304
Derivatives	0	0	0	0	0	0	0	0
Other financial assets	0	0	304	304	0	0	304	304
Non-current financial assets	0	0	304	304	84	84	388	388

<sup>1]</sup> CA = carrying amount

	Held for tradi	Held for trading purposes  Dec. 31, 2015		Available for sale  Dec. 31, 2015		Loans and receivables  Dec. 31, 2015		Total	
T€	Dec. 31							2015	
	CA 1)	FV <sup>2)</sup>	CA 1)	FV <sup>2)</sup>	CA 1)	FV <sup>2)</sup>	CA 1)	FV <sup>2)</sup>	
Other receivables	0	0	0	0	119	119	119	119	
Trade and other receivables		0	0		119	119	119	119	
Primary financial assets		0	204	204	0	0	204	204	
Derivatives	1,040	1,040	0		0	0	1,040	1,040	
Other financial assets	1,040	1,040	204	204	0	0	1,244	1,244	
Non-current financial assets	1,040	1,040	204	204	119	119	1,363	1,363	

<sup>1]</sup> CA = carrying amount

All counterparties for non-current financial assets enjoy high levels of creditworthiness. The Group did not notice any specific credit risks. Hence, non-current financial assets do not carry any impairment losses. All of the assets are not due as of the reporting date.

Information on derivatives can be found in Section VII.16.

<sup>2)</sup> FV = fair value

<sup>2)</sup> FV = fair value

### 6. Deferred taxes

Deferred tax assets and liabilities result from the following temporary differences and loss carried forward:

#### **Allocation of deferred taxes**

	Deferred tax assets		Deferred tax liabilities	
T€	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015 (adjusted)
Intangible assets	94	122	-1,161	-1,348
Property, plant, and equipment	9	5,347	-444,768	-462,404
Investment property	4,820	5,341	-11,788	-17,634
Financial assets	0	0	0	-208
thereof derivatives in cash flow hedges	0		0	-208
Inventories	56	184	-423	-435
Miscellaneous other assets	1,202	1,530	-1,861	-1,154
Assets	6,181	12,524	-460,001	-483,183
Financial liabilities	16,371	20,486	-9,006	-10,939
thereof derivatives in cash flow hedges	13,508	17,047	0	0
Provisions	7,208	9,827	-1,462	-2,926
Employee benefits	8,895	6,797	-36	0
thereof post-employment benefits and other long-term employee benefits	7,464	6,405	0	0
Other liabilities	50	53	-202	-189
Liabilities	32,524	37,163	-10,706	-14,054
Consolidation	1,664	1,204	-4,771	-4,822
Loss carried forward	2,543	3,135	0	0
Impairment on loss carried forward	-1,669	-2,318	0	0
Loss carried forward	874	817	0	0
Total	41,243	51,708	-475,478	-502,059
Offsetting	-34,353	-39,605	34,353	39,605
Amount recognized	6,890	12,103	-441,125	-462,454

The effects of the change in deferred tax assets and liabilities on consolidated income and other comprehensive income are as follows:

# Effects of the change in deferred tax assets and liabilities on consolidated income and other comprehensive income

T€	2016	2015 (adjusted)
As of Jan. 1	-450,351	-465,988
Initial consolidation	-27	0
Derivatives in cash flow hedges	58	-486
Post-employment benefits and other long-term employee benefits	448	94
Miscellaneous other temporary differences	18,358	20,314
Loss carried forward	57	222
Deferred taxes recognized through profit and loss	18,894	20,144
Derivatives in cash flow hedges	-3,389	-4,738
Post-employment benefits and other long-term employee benefits	611	231
Deferred taxes recognized through comprehensive income	-2,778	-4,507
As of Dec. 31	-434,235	-450,351

Trade income tax loss carried forward amounting to T& 5.584 (Dec. 31, 2015: T& 6,510) and corporate income tax loss carried forward amounting to T& 6,327 (Dec. 31, 2015: T& 9,982) were not recognized. Loss carried forward does not expire.

The carrying amount of deferred tax assets includes loss carried forward of companies with tax loss in the financial or the prior year at an amount of T€ 874 [Dec. 31, 2015: T€ 817]. Deferred tax assets for the carried forward of tax loss are recognized above the amount of the offsettable deferred tax liabilities only to the extent that there is sufficient future taxable profit against which the tax loss carried forward can be utilized.

T€ 2,378 [Dec. 31, 2015: T€ 5,901] of deferred tax assets and T€ 441,125 [Dec. 31, 2015: T€ 461,811] of deferred tax liabilities will probably be realized more than twelve months after the reporting date.

The companies included in the consolidated financial statements are corporations and partnerships. Pursuant to Article 8b [1] in conjunction with Article 8b [5] of the Corporate Tax Act [Körperschaftsteuergesetz – KStG] and/or Article 8b [2] in conjunction with Article 8b [5] of the KStG, 95 percent of the differences between the carrying amount for tax purposes of an investment in a corporation included in the consolidated financial statements and its net assets calculated in accordance with IFRS are exempt from taxation.

No additional differences emerge between the net assets of partnerships for tax purposes depicted in accordance with the mirror image method and the net assets calculated in accordance with IFRS beyond the temporary differences taken into account at individual company level.

#### 7. Inventories

The carrying amount of inventories is as follows:

## Composition of the carrying amount of inventories

T€	Dec. 31, 2016	Dec. 31, 2015
Raw materials	7,756	7,819
Finished goods and work in progress	20	24
Merchandise	34,989	31,978
Carrying amount of inventories	42,765	39,821

The carrying amount of merchandise that is recognized at fair value less cost to sell is  $T \in 2.383$  [Dec. 31, 2015:  $T \in 602$ ].

Cost of materials includes expenses resulting from impairment on inventories at an amount of T€ 199 [2015: T€ 70].

In the reporting year, no reversal of impairment [2015:  $T \in 0$ ] was netted off against cost of materials. The amount of goods and material employed is  $T \in 131,015$  [2015:  $T \in 121,561$ ].

Inventories are not pledged as securities for liabilities.

### 8. Current financial assets

The carrying amount of current financial assets are attributable to the valuation categories described in Section IV.9.a) as follows. The carrying amount is a reasonable approximation of fair value:

## Composition of the carrying amount of current financial assets

	Held for trading purposes		Loans and receivables		Total	
T€	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Trade receivables	0		54,739	47,376	54,739	47,376
Other receivables	0		11,074	12,059	11,074	12,059
Trade and other receivables	0		65,813	59,435	65,813	59,435
Derivatives	0	5	0		0	5
Other financial assets	0	5	0		0	5
Current financial assets	0	5	65,813	59,435	65,813	59,440

### a) Current trade receivables

Trade receivables are impaired to take account of significant risks of default when there is objective evidence that a loss event has taken place [see Section IV.9.d]. Impairments on trade receivables are recorded in a separate allowance account. The amounts recorded in that account developed as follows:

## Change in the impairment account

T€	Jan. 1, 2016	Addition	Consumption	Reversal	Dec. 31, 2016
	1,567	567	-129	-554	1,451
T€	Jan. 1, 2015	Addition	Consumption	Reversal	Dec. 31, 2015
	1,382	413	-91	-137	1,567

The credit risk arising from trade receivables is demonstrated in the following:

#### Maturity analysis of trade receivables

		C	f which due				
Dec. 31, 2016	Carrying amount	of which not due	and impaired				d 
T€				under 30	30 to 180	180 to 360	over 360
Trade receivables	54,739	50,177	121	2,243	1,687	471	40

			of which due				
Dec. 31, 2015	Carrying amount	of which not due	and impaired				ed
T€				under 30	30 to 180	180 to 360	over 360
Trade receivables	47,376	42,214	213	3,242	1,115	161	431

Receivables not due for payment relate to debtors of varying creditworthiness. The Group did not notice any specific credit risks. The analysis of impairment risks of financial assets is primarily focused on solvency, legal disputes, and payment defaults.

Receivables arising from lease agreements are secured through deposits and guarantees. Ground handling services are rendered only against deposit of cash collateral or bank guarantees. T£ 1,270 [Dec. 31, 2015: T£ 975] of receivables arising from lease agreements are covered by deposits of T£ 1,599 [Dec. 31, 2015: T£ 1,502] and by guarantees of T£ 10,012 [Dec. 31, 2015: T£ 8,619]. T£ 5,324 [Dec. 31, 2015: T£ 4,308] of receivables arising from ground handling services are covered by cash collateral, bank guarantees, and other collateral at an amount of T£ 11,139 [Dec. 31, 2015: T£ 9,007].

T€ 2,390 [Dec. 31, 2015: T€ 651] of the trade receivables of subsidiaries of FMG were pledged as collateral for loans. The pledge was by means of undisclosed assignment pursuant to Article 398 of the German Civil Code [BGB]. FMG itself does not pledge any assets as collateral for borrowings.

#### b) Current other receivables

The following analysis shows the main components of current other receivables:

# Composition of the carrying amount of current other receivables

T€	Dec. 31, 2016	Dec. 31, 2015
Supplier rebates	3,106	3,106
Receivables from associates and investments	1,935	1,968
Receivables relating to damage	1,423	1,378
Debit balances in accounts payable	1,420	1,555
Receivables from the authorities	1,402	0
Receivables from banks	9	531
Receivables from consulting	7	1,733
Miscellaneous	1,772	1,788
Total	11,074	12,059

Significant risks of default in relation to current other receivables are recognized using impairment provided a loss event has occurred (see Section IV.9.d). Impairment of current other receivables are directly charged to the carrying amount. In

the fiscal and previous year, no impairment or impairment of minor significance were recognized.

The current other receivables are generally not to be considered as due. The receivables relate to debtors of varying creditworthiness. The Group did not notice any specific credit risks.

#### c) Current other financial assets

Current other financial assets mainly relate to derivative financial instruments.

Information on derivatives can be found in Section VII.16.

#### 9. Other assets

The following analysis shows the main components of other assets:

# Composition of the carrying amount of other financial assets

T€	Dec. 31, 2016	Dec. 31, 2015
Receivables from taxes and other levies	7,749	9,127
Other non-financial receivables	0	0
Non-financial receivables	7,749	9,127
Advance payments in connection with aviation	3,357	4,571
Prepaid transaction costs	491	161
Prepayments for maintenance services	861	925
Prepaid insurance premiums	0	24
Miscellaneous other prepaid expenses	632	778
Prepaid expenses	5,341	6,459
Other assets	13,090	15,586
of which current	10,162	11,812
of which non-current	2,928	3,774

#### 10. Cash and cash equivalents

The following analysis shows the main components of cash and cash equivalents:

# Composition of the carrying amount of cash and cash equivalents

T€	Dec. 31, 2016	Dec. 31, 2015
Short-term deposits	12,000	212,000
Deposits at banks	4,867	4,052
Cash on hand	1,167	1,271
Cash and cash equivalents	6,034	5,323
Total	18,034	217,323

The composition and carrying amount of cash and cash equivalents is identical with the composition and carrying amount in the statement of cash flows.

Cash and cash equivalents are measured as loans and receivables. Carrying amount and fair value do not differ.

#### 11. Assets held for sale

The carrying amount of assets held for sale consists largely of land that is held as an object of exchange in connection with the acquisition of areas for the airport's expansion. Other developed and undeveloped land is intended for sale. Disposals at market rates are expected for both exchange transactions and sale transactions in the following fiscal year.

#### 12. Equity

The issued capital of FMG is divided into three shares. All shares are fully paid.

The notional value per share is:

#### Composition of share capital

T€	Dec. 31, 2016	Dec. 31, 2015
State of Bavaria	156,456	156,456
Federal Republic of Germany	79,762	79,762
City of Munich	70,558	70,558
Total	306,776	306,776

Each shareholder is entitled to one voting right per each & 10 portion of a share. The sale of shares or portions of shares requires the approval of all shareholders.

The main components of the carrying amount of reserves are:

# Composition of the carrying amount of the reserves

T€	Dec. 31, 2016	Dec. 31, 2015	
Capital reserve	102,258	102,258	
Actuarial gains and losses	-13,582	-11,401	
Deferred taxes	3,773	3,164	
Miscellaneous other revenue reserves	58,544	33,525	
Revenue reserves	48,735	25,288	
Reserves	150,993	127,546	

The capital reserve results from a capital increase in connection with the construction of the airport facilities at the current location in Erdinger Moos. Capital reserves can only be recalled upon unanimous consent of all shareholders.

The other revenue reserves are used to fund investment projects at subsidiaries (AeroGround Flughafen München GmbH, CAP Flughafen München Sicherheits-GmbH) and meet the requirements of loan agreements (Terminal 2 Gesellschaft mbH & Co oHG). The respective shareholders' general meetings decide upon the formation and withdrawal of these reserves.

The main components of the carrying amount of other equity are:

## Composition of the carrying amount of other equity

T€	Dec. 31, 2016	Dec. 31, 2015 (adjusted)
Hedge reserve	-66,725	-79,964
Deferred taxes	13,341	16,730
Measurement through other comprehensive income	-53,384	-63,234
Initial adoption of IFRSs	975,313	975,313
Miscellaneous other retained earnings	563,196	471,477
Retained earnings	1,538,509	1,446,790
Other equity	1,485,125	1,383,556

#### 13. Capital management

The objectives of the Group's capital management strategy are to ensure that all entities of the Group continue as a going concern, to maximize the return to shareholders and to maintain an appropriate capital structure.

#### a) Capital structure

Capital structure is controlled with a view to maintaining a credit rating in the investment grade.

The prime key performance indicator [KPI] for the determination of the credit rating is net debt to adjusted EBITDA. The use of adjusted EBITDA is meant to create a sustainable KPI. Adjustments made relate to non-recurring effects.

The capital structure is managed with regard to the ratio between net debt and adjusted EBITDA derived from the target credit rating. This ratio is compared with benchmark KPIs of publicly traded companies of the European peer group at regular intervals.

Due to the shareholder structure of FMG, the Group primarily concentrates its efforts to manage the capital structure on the scope of financing through borrowings.

The ratio has developed as follows:

#### Capital structure

		2015
T€	2016	(adjusted)
Financial liabilities resulting from interests in partnerships	293,561	277,088
Other financial liabilities	2,117,445	2,482,926
Cash and cash equivalents	-18,034	-217,323
Net debt	2,392,972	2,542,691
EBITDA for the fiscal year	529,003	494,233
Extraordinary and non-recurring effects	0	0
Adjusted EBITDA	529,003	494,233
	4.5	5.1

The objectives, methods, and processes for managing and monitoring the capital structure have not changed in comparison with the prior year.

#### b) Profitability

The Group uses EBT to manage profitability. EBT is one input factor for the determination of return on capital employed [ROCE] before taxes. The Group's strategy is to generate a ROCE that at least corresponds to the weighted average cost of capital [WACC]. At regular intervals, ROCE is also compared with benchmark KPIs of publicly traded companies in the European peer group.

The target EBT is disaggregated into sub-targets for the divisions and subsidiaries of the Group. These objectives are taken into account as part of the calculation of the variable components of management compensation.

Adjusted EBT and ROCE developed as follows:

#### **Profitability**

T€	2016	2015 (adjusted)
Equity	1,942,907	1,813,009
Net debt	2,392,972	2,542,691
Long-term employee benefits	47,588	42,356
Capital employed	4,383,467	4,398,056
EBT	209,873	198,422
Extraordinary and non-recurring effects	0	0
Adjusted EBT	209,873	198,422
ROCE: Adjusted EBT/capital employed in %	4.8	4.5

# 14. Financial liabilities resulting from interests in partnerships

In the consolidated financial statements according to HGB, financial liabilities from interests in partnerships are presented as minority interest among shareholder's equity. The economic content and the measurement of financial liabilities resulting from interests in partnerships are described in Section IV.14.b]. Initial measurement is at fair value, subsequent measurement at amortized costs using the effective interest method. The carrying amount is a reasonable approximation of fair value.

→ Glossary

The selected risk-adequate discount rate of 9.5 percent represents an after tax figure derived from the capital cost structure. In addition to the final pro rata fixed capital, the financial liability also takes into account the discounted capital contributions and discounted potential for distributions during the term of the contract though to 2056.

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Under the accounting principles of these financial statements, the carrying amount is broken down by maturity in accordance with Articles 122, 132 et. seq HGB. It does therefore not correspond to the actually expected maturities.

# Composition of the carrying amount of the financial liabilities from interests in partnerships

T€	Dec. 31, 2016	Dec. 31, 2015 (adjusted)	
Carrying amount	293,561	277,088	
of which non-current	272,308	277,059	
of which current	21,253	29	

The resulting financial liability and liquidity requirement for the Group can be approximately derived from the expected distributions and retained profit shares in subsequent years, as well as from the underlying discount factors. A reduction in the interest rate will lead to an increase in the financial liability. The expected potential for distributions was predicted on the basis of previous experience and estimated trends in revenue and costs, including expected price trends, and on the basis of investments in the maintenance and expansion of infrastructure.

The following sensitivity analysis provides a quantitative estimate of the scope of the above-mentioned risks:

Interest rate in %	8.5	9.5	10.5
Value of financial liability in € million	321	294	268

The calculation methods and assumptions used in the preparation of the sensitivity analysis did not change compared to the previous period.

#### 15. Non-current financial liabilities

Carrying amount and fair value of non-current financial liabilities are attributable to the valuation categories described in Section IV.9.a) as follows:

#### Carrying amount and fair value of non-current financial liabilities

	Held for trading	g purposes	At amorti	zed cost	Tot	tal
T€	Dec. 31, 2016		Dec. 31, 2016		Dec. 31, 2016	
	CA <sup>1)</sup>	FV <sup>2)</sup>	CA 1)	FV <sup>2)</sup>	CA 1)	FV <sup>2</sup>
Trade payables	0	0	19,162	19,457	19,162	19,457
Other payables	0	0	8,509	8,509	8,509	8,509
Liabilities	0	0	27,671	27,966	27,671	27,966
Borrowings	0	0	1,453,736	1,433,713	1,453,736	1,433,713
Financial liabilities from finance leases <sup>3]</sup>	0	0	51	52	51	52
Primary financial liabilities	0	0	1,453,787	1,433,765	1,453,787	1,433,765
Derivatives	69,546	69,546	0	0	69,546	69,546
Other financial liabilities	69,546	69,546	1,453,787	1,433,765	1,523,333	1,503,311
Non-current financial liabilities	69,546	69,546	1,481,458	1,461,731	1,551,004	1,531,277

	Held for tradin	g purposes	At amorti	zed cost	Tot	tal
T€	Dec. 31, 2015		Dec. 31, 2015		Dec. 31, 2015	
	CA 1)	FV <sup>2)</sup>	CA 1)	FV <sup>2)</sup>	CA 1)	FV <sup>2)</sup>
Trade payables		0	15,990	16,170	15,990	16,170
Other payables		0	6,763	6,763	6,763	6,763
Liabilities		0	22,753	22,933	22,753	22,933
Borrowings		0	1,316,494	1,373,091	1,316,494	1,373,091
Financial liabilities from finance leases <sup>3)</sup>	0	0	253	260	253	260
Primary financial liabilities	0	0	1,316,747	1,373,351	1,316,747	1,373,351
Derivatives	73,750	73,750	0	0	73,750	73,750
Other financial liabilities	73,750	73,750	1,316,747	1,373,351	1,390,497	1,447,101
Non-current financial liabilities	73,750	73,750	1,339,500	1,396,284	1,413,250	1,470,034

 $<sup>^{1]}</sup>$ CA = carrying amount

FV = fair valu

<sup>&</sup>lt;sup>3)</sup>Only the derecognition principles described in Section IV.9. a) must be applied to financial liabilities from finance leases. Otherwise, the general accounting principles for financial liabilities from finance leases described in Section IV.8 are applied.

#### a) Non-current trade payables

Non-current trade payables mainly relate to warranty retentions.

#### b) Non-current other payables

Non-current other payables mainly relate to deposits.

Deposits bear interest at market rates. There are no significant differences between carrying amount and fair value.

#### c) Non-current borrowings

Borrowings mainly relate to syndicated loans. The loans bear usual non-financial covenants, including negative pledge and pari passu clauses. In addition, there are other general conventional agreements concerning interest rate adjustment and repayment in the event of changes in the FMG shareholder structure. There are no financial covenants.

The critical terms of short- and long-term fixed-rate loans are as follows:

#### Key conditions of fixed-rate loans

ec. 31, 016	Carrying amount 1)	Residual debt	Interes	:	
	T€	T€	from in %	to in %	
ırrency					
JR	704,843	720,621	0.48	4.05	
JR	704,843	720,621	0.48		

Dec. 31, 2015	Carrying amount 1)	Residual debt	Interes	st
	T€	T€	from in %	to in %
Currency				
EUR	604,822	626,863	0.88	4.05
1] Excluding tran	saction costs			

The critical terms of short- and long-term floating-rate loans are as follows:

#### **Key conditions of variable-rate loans**

Dec. 31, 2016	Carrying amount 1)	Residual debt	Base interest
	T€	T€	
Currency			
EUR	847,300	847,300	3M-EURIBOR
Dec. 31, 2015	Carrying amount <sup>1)</sup>	Residual debt	Base interest
	T€	T€	
Currency			
EUR	1,290,879	1,299,600	3M and 6M EURIBOR
1] Excluding tra	ansaction costs		

The current portion of the borrowings' carrying amount (including transaction costs) is recognized under current financial liabilities.

#### d) Non-current financial liabilities from finance leases

The carrying amount of financial liabilities from finance leases equals the present value of outstanding minimum lease payments. The total payments to be made in future fiscal years and their present values are compared in the following overview:

The current portion of the financial liabilities' carrying amount is presented among current financial liabilities.

The finance leases include agreements on the transfer of office equipment and data processing systems in particular. The minimum term of the agreements in question equals the economic useful life of the items transferred. The leases are embedded in a service and maintenance agreement as a rule.

#### e) Non-current derivative financial liabilities

Information on derivatives can be found in Section VII.16 helnw.

#### 16. Derivatives and hedging activities

Munich Airport uses derivatives to hedge financial risks arising from floating rate borrowings and from transactions in foreign currency. All hedge relations are highly effective. The Group does not hold any derivatives for trading or speculation purposes.

#### Total and present value of payments on finance leases to be made in the future fiscal periods

		Dec. 31, 2016		I	Dec. 31, 2015	
T€	Expected payment	Discounting	Carrying amount	Expected payment	Discounting	Carrying amount
≤ 1 year	208	-2	206	208	-2	206
Current	208	-2	206	208	-2	206
1 to 5 years	52	-1	51	260	-7	253
≥ 5 years	0	0	0		0	0
Non-current	52	-1	51	260	-7	253
Total	260	-3	257	468	-9	459

The carrying amounts of the derivatives are as follows:

#### Composition of the carrying amount of derivative financial instruments

	Assets		Liabilities	
T€	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Recognized hedges				
Cash flow hedging				
Interest rate swaps	0	1,040	69,648	84,194
Off-balance sheet hedges				
Foreign currency forwards	0	5	645	0
Total	0	1,045	70,293	84,194

The carrying amount of the derivatives corresponds with their fair value.

The carrying amount of derivatives with a term to maturity of less than one year is recognized under current financial assets/liabilities.

#### a) Cash flow hedging

The Group uses interest rate swaps to limit its exposure to fluctuations in interest rates payable under floating-rate borrowings. The floating-rate payments are exchanged for fixed-rate payments [pay-fixed/receive-floating]. As a result, the risk of future changes in interest rates is fully eliminated. The portfolio includes current and forward starting swaps.

The portfolio of hedges is composed as follows:

#### **Key conditions of interest hedges**

Nominal	FMG pa	iys	FMG receives
T€	from in %	to in %	
744,000	0.28	2.92	3M and 6M EURIBOR
10,000	0.60	0.60	3M EURIBOR
	T€ 744,000	T€ from in % 744,000 0.28	TE         from in %         to in %           744,000         0.28         2.92

Dec. 31, 2015	Nominal	FMG p	ays	FMG receives
Туре	T€	from in %	to in %	
Swaps	1,062,000	0.28	4.24	3M and 6M EURIBOR
Forward starting swaps	10,000	0.60	0.60	3M and 6M EURIBOR

The carrying amount of derivatives that are designated into cash flow hedges changed as follows:

# Change in the carrying amount of derivatives designated into cash flow hedges

T€	Interes	st hedge
Effective portion		
As of Jan. 1, 2016		79,964
Reclassification		-5,610
Revaluation		-7,629
As of Dec. 31, 2016		66,725
Ineffective portion		
As of Jan. 1, 2016		65
Revaluation		-65
As of Dec. 31, 2016		0
Non-designated portion		
As of Jan. 1, 2016		3,125
Net change		-202
As of Dec. 31, 2016		2,923
Carrying amount		
As of Jan. 1, 2016		83,154
As of Dec. 31, 2016		69,648
	Asset	Liability
	0	69,648

# Change in the carrying amount of derivatives designated into cash flow hedges

T€	Intere	st hedge	
Effective portion			
As of Jan. 1, 2015		99,614	
Reclassification		-27,721	
Revaluation		8,071	
As of Dec. 31, 2015		79,964	
Ineffective portion			
As of Jan. 1, 2015		50	
Revaluation		15	
As of Dec. 31, 2015		65	
Non-designated portion			
As of Jan. 1, 2015		2,597	
Net change		528	
As of Dec. 31, 2015		3,125	
Carrying amount			
As of Jan. 1, 2015		102,261	
As of Dec. 31, 2015		83,154	
	Asset	Liability	
	1,040	84,194	

The effective portion of the interest rate hedges is reclassified to financial expenses upon occurrence of the hedged interest payment, offsetting the expenses from interest payments for the hedged underlying transaction. Reclassification is expected to take place in the following fiscal periods:

## Expected reclassification from the hedging reserve to the consolidated income statement

Dec. 31, 2016	2017	2018 to 2021	After 2021
T€			
Expected reclassification to interest expenses	370	65,755	600
	2012	2017 to	

Dec. 31, 2015	2016	2017 to 2020	After 2020
T€			
Expected reclassification to interest expenses	9,869	21,397	48,698

#### b) Off-balance sheet hedges

The carrying amount of off-balance sheet hedges results from foreign currency forwards, which are used to limit liquidity risks arising from long-term sales agreements in foreign currency. The aim of these transactions is to ensure that expected fees are exchanged at a specific exchange rate.

Because of the small number of transactions and the minor consequences for consolidated profit, Munich Airport decided to suspend accounting for these types of hedges on January 1, 2014 until further notice.

The main terms of these foreign currency forwards are:

#### Key conditions of foreign currency forwards

Dec. 31, 2016	Nominal	FMG pays		Exchange rate from	Exchange rate to
Туре	T€			EUR/USD	EUR/USD
Foreign currency forwards	8,147	USD	EUR	1.10	1.12

Dec. 31, 2015	Nominal	FMG pays		Exchange rate from	Exchange rate to
Туре	T€			EUR/USD	EUR/USD
Foreign currency forwards	3,137	USD	EUR	1.08	1.12

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#### 17. Employee benefits

Provisions for employee benefits contain:

# Composition of the carrying amount of provisions for employee benefits

T€	Dec. 31, 2016	Dec. 31, 2015
Post-employment pension benefits	30,051	28,809
Post-employment medical benefits	3,960	3,157
Post-employment benefits	34,011	31,966
Jubilee benefits	2,907	1,450
Phased retirement arrangements	7,698	6,276
Other long-term employee benefits	10,605	7,726
Termination benefits	3,704	3,516
Bonus payments	4,605	3,750
Overtime accounts	23,020	13,782
Unpaid wages and salaries	4,715	3,031
Miscellaneous other benefits	2,222	1,814
Other short-term employee benefits	34,562	22,377
Employee benefits	82,882	65,585
of which non-current	47,588	42,356
of which current	35,294	23,229
•		

#### a) Pension obligations

Certain managers with procuration, directors, and their surviving dependents are entitled to receive post-employment pension benefits. Currently 29 persons [December 31, 2015: 30] are entitled to the plan, of whom 4 [December 31, 2015: 4] are active employees and 25 [December 31, 2015: 26] are retired persons, surviving dependents, and other entitled persons. The amount of the benefits depends on the length of service, the salary at the time of retirement, and the general pension level. The pension payments are made from current operating cash flows.

The Group did not set up any plan assets for the financing of pension benefit payments. The carrying amount of the defined benefit liability is identical with the carrying amount of the defined benefit obliqation.

The carrying amount of the defined pension benefit liability developed as follows:

# Change in the carrying amount of the provisions for post-employment pension benefits

T€	2016	2015
Obligation as of January 1	28,809	28,413
Current service cost	577	533
Interest expenses	562	554
Pension payments	-1,369	-1,353
Actuarial gains and losses	1,472	662
Obligation as of December 31	30,051	28,809
Expected pension expenses	1,075	1,138
Expected pension payments	-1,381	-1,369
Expected obligation as of December 31 of the following year	29,745	28,578

The change of actuarial losses is attributable to the following:

# Reasons for the change in actuarial gains and losses from provisions for post-employment pension benefits

T€	2016	2015
As of January 1	10,291	9,629
Change in financial assumptions	1,549	0
Experience-based changes	-77	662
As of December 31	11,763	10,291

The measurement of the defined pension benefit obligations is based on the following assumptions:

## Assumptions for the measurement of provisions for post-employment pension benefits

%	Dec. 31, 2016	Dec. 31, 2015
Discount rate	1.6	2.0
Salary trend	3.0	3.0
Pension trend	2.0	2.0
Fluctuation	0.0	0.0

Life expectancy is derived from the 2005 G guideline tables by Klaus Heubeck based on monthly payments made in advance.

The average duration of the entitlements is eleven years [December 31, 2015: eleven years].

The liquidity risk resulting from post-employment pension benefits is moderate. The risk can be approximated from the expected pension payments of the following year and the average duration of the entitlements.

Additional risks arise from fluctuations of interest rates, the salary, and the pension trend. A reduction of interest rates will result in an increase in the amount of the defined benefit liability. Likewise, the carrying amount will increase with an increase in the expected salary at the time of retirement. The same applies for an increase in the pension level following retirement. There is only a moderate risk, on the other hand, from a change in life expectancy.

The following sensitivity analysis provides a quantitative estimate of the scope of the above-mentioned risks:

#### Sensitivity analysis on the carrying amount of the provisions for post-employment pension benefits

December 31, 2016	Change in assumption	Change in o	bligation
%		+	-
Discount rate	1.0	-12.1	15.1
Salary trend	1.0	1.6	-1.5
Pension trend	1.0	12.8	-10.7

December 31, 2015	Change in assumption	Change in	obligation
%		+	-
Discount rate	1.0	-12.0	14.9
Salary trend	1.0	1.7	-1.6
Pension trend	1.0	12.1	-10.2

The sensitivity analysis is based on the change of one assumption while holding all other assumptions constant. The method applied in the calculation of sensitivities is that used to subsequently measure pension liabilities [the projected unit credit method].

The calculation methods and assumptions used in the preparation of the sensitivity analysis did not change compared to the previous period.

#### b) Post-employment medical benefits

Civil servants and pensioners are entitled to receive postemployment medical benefits. Currently 47 persons (December 31, 2015: 44) are entitled to the plan, of whom 21 (December 31, 2015: 19) are active employees and 26 (December 31, 2015: 25) are retired persons and surviving dependents. The amount of the medical benefits depends on the length of service. Benefit payments will be paid lifelong from the date of retirement. The medical benefits are paid from current operating cash flows.

The Group has not set up any plan assets for the financing of medical benefit payments. The carrying amount of the defined benefit liability is identical with the carrying amount of the defined benefit obligation.

The carrying amount of the defined medical benefit liability developed as follows:

## Change in the carrying amount of the provisions for post-employment medical benefits

T€	2016	2015
Obligation as of January 1	3,157	2,863
Current service cost	177	187
Interest expenses	61	56
Aid payments	-144	-138
Actuarial gains and losses	709	189
Obligation as of December 31	3,960	3,157
Expected addition	282	238
Expected benefit payments	-177	-144
Expected obligation as of December 31 of the following year	4,065	3,251

The change of actuarial gains and losses is attributable to the following:

# Reasons for the change in the actuarial gains or losses from provisions for post-employment medical benefits

2016	2015
1,110	921
224	C
485	189
1,819	1,110
	1,110 224 485

The measurement of the defined medical benefit obligations is based on the following assumptions:

## Assumptions for the measurement of provisions for post-employment medical benefits

%	Dec. 31, 2016	Dec. 31, 2015
Discount rate	1.6	2.0
Fluctuation	0.0	0.0
Cost trend	3.0	3.0
Average insurance premiums in T€	7.9	7.9

Life expectancy is derived from the 2005 G guideline tables by Klaus Heubeck based on monthly payments in advance.

The average duration is 15 years (Dec. 31, 2015: 14).

The benefit commitments result in a moderate liquidity risk for the Group. This risk can be approximated from the expected benefit payment for the following year and the average duration of benefit commitments.

Additional risks arise from fluctuations in the level of market interest rates and future medical costs. A reduction in the market interest rate level will lead to an increase in the amount of provisions for benefit commitments. The provision amount will likewise increase with an increase in the expected medical costs. There is only a moderate risk, on the other hand, from a change in life expectancy.

The following sensitivity analysis provides a quantitative estimate of the scope of the above-mentioned risks:

#### Sensitivity analysis on the carrying amount of the provisions for post-employment medical benefits

Dec. 31, 2016	Change in assumption	Change in	obligation
%		+	-
Discount rate	1.0	-13.1	16.9
Cost trend	1.0	15.7	-12.6

Dec. 31, 2015	assumption	Change in	obligation
%		+	-
Discount rate	1.0	-12.7	16.1
Cost trend	1.0	14.8	-12.0

The sensitivity analysis is based on the change of one assumption while holding all other assumptions constant. The method applied in the calculation of sensitivities is that used to subsequently measure medical benefit liabilities (the projected unit credit method).

The calculation methods and assumptions used in the preparation of the sensitivity analysis did not change compared to the previous period.

# c) Post-employment benefits via the Bavarian municipalities' supplementary welfare fund

All employees of Munich Airport employed in accordance with the provisions of the TVöD collective pay scale agreement for public sector employees receive an occupational pension. They are insured via their respective employers in the Bavarian municipalities' supplementary welfare fund. The supplementary welfare fund provides all employees of its members with insurance covering post-employment benefits, benefits to compensate for reductions in earning capacity, and benefits for surviving dependents.

The fund is financed via the levies and supplementary contributions of its members from investment and provisions. The levy is determined on the basis of an actuarial calculation, which is updated annually, of the fund's financing requirement over the planning horizon applicable at the time [maximum ten years]. The levy rate currently amounts to 3.75 percent. The fund also levies an additional contribution to build up a capital stock, which currently stands at 4.0 percent. If membership is canceled, the company withdrawing from the fund must make a compensatory contribution equal to the present value of all obligations from post-employment benefits to the company's insured employees.

The occupational post-employment benefits provided via the welfare fund are a joint pension commitment by several companies. The members of the welfare fund bear the financial and biometric risk of post-employment benefits jointly. The - theoretically possible - asset allocation for each member is not constituted from the total contributions paid in each case but purely arithmetically from the total actuarial risks contributed in each case. Munich Airport is also exposed to the actuarial risks of the current and former employees of other external members with regard to the components of the obligation covered by the levy. It is impossible to reconcile the assets and a clear allocation of the obligation reliably. Post-employment benefits are therefore accounted for as a defined-contribution commitment. Contribution payments are recognized as an expense immediately.

Munich Airport is not aware of any deficits or surplus at the welfare fund nor of the scope of other companies' participation.

Munich Airport is expecting contribution payments of T& 16,516 for fiscal year 2017. In fiscal year 2016 contribution payments of T& 16,286 were made.

#### 18. Other provisions

The carrying amount of other provisions developed as follows:

#### Composition of the carrying amount of other provisions

T€	Onerous contracts	Regional fund	Restoration (adjusted)	Miscellaneous	Total
As of Jan. 1, 2016	4,470	91,663	4,360	11,678	112,171
Additions	27	0	0	3,471	3,498
Initial consolidation	0	0	0	201	201
Utilization	-2,100	0	-2,211	-1,517	-5,828
Reversals	-1,841	0	0	-1,744	-3,585
Unwinding of discount	0	232	0	6	238
Changes in interest rates	0	1,707	0	23	1,730
As of Dec. 31, 2016	556	93,602	2,149	12,118	108,425
of which current	347	3,800	2,149	9,420	15,716
of which non-current	209	89,802	0	2,698	92,709

Provisions for onerous contracts result from ground handling contracts with negative margins. The amount of the negative margin depends on the actual earnings situation in the respective fiscal year. The timing and the amount of the negative margins are uncertain.

Provisions for the regional fund have been recognized for obligations arising from agreements with neighboring municipalities on the funding of infrastructure projects where it is not certain when and to what extent funds will be drawn. The Airport agreed to support certain road construction projects in Freising and Erding with a total amount of  $T \in 10,000$  up to 2010.  $T \in 6,205$  of the fund have already been drawn up to

fiscal year 2016. The remainder is expected to be paid by 2017. In addition, a further T€ 40,000 for traffic infrastructure projects and T€ 50,000 for other infrastructure projects and to mitigate individual hardship has been made available to the surrounding municipalities. The funds may be drawn in maximum annual installments of T€ 10,000 upon the commencement of construction of the third runway.

Provisions for restoration are recognized as far as the Group has an inevitable obligation towards third parties. It is not certain when and to what extent restoration expenses will be incurred.

Payments for other provisions are expected in the following intervals:

#### **Expected payments due to other provisions**

Dec. 31, 2016	In one year	In 2 to 5 years	After 5 years
T€			
Onerous contracts	347	209	0
Regional fund	3,800	40,000	49,995
Restoration	2,149	0	0
Miscellaneous	9,420	1,642	1,066
Total	15,716	41,851	51,061

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#### 19. Current financial liabilities

The carrying amount of current financial liabilities are attributable to the valuation categories described in Section IV.9.a) as follows. Due to their short-term nature, their carrying amount is a reasonable approximation of fair value:

#### Composition of the carrying amount of current financial liabilities

	Held for trading purposes		At amortized cost		Total	
T€	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Trade payables	0	0	65,218	54,838	65,218	54,838
Other payables	0	0	102,615	47,214	102,615	47,214
Liabilities	0	0	167,833	102,052	167,833	102,052
Borrowings from shareholders	0	0	502,450	502,573	502,450	502,573
Borrowings	0	0	90,709	579,207	90,709	579,207
Financial liabilities from finance leases <sup>1]</sup>	0	0	206	206	206	206
Non-derivative other financial liabilities	0	0	593,365	1,081,986	593,365	1,081,986
Derivative other financial liabilities	747	10,443	0	0	747	10,443
Other financial liabilities	747	10,443	593,365	1,081,986	594,112	1,092,429
Current financial liabilities	747	10,443	761,198	1,184,038	761,945	1,194,481

<sup>&</sup>lt;sup>1)</sup>Only the derecognition principles described in Section IV.8 a) must be applied to financial liabilities from finance leases.

Otherwise, the general accounting principles for financial liabilities from finance leases described in Section IV.7 are applied

#### a) Other current payables

The carrying amount of other current payables is comprised as follows:

## Composition of the carrying amounts of current other liabilities

T€	Dec. 31, 2016	Dec. 31, 2015
Outstanding invoices	83,310	28,209
Payables from marketing activities	9,084	10,834
Payables to associates and investments	1,133	1,370
Miscellaneous other payables	9,088	6,801
Total	102,615	47,214

#### b) Borrowings from shareholders

T€ 130,450 [Dec. 31, 2015: T€ 130,482] of the borrowings from shareholders are owed to the Federal Republic of Germany, T€ 255,884 [Dec. 31, 2015: T€ 255,947] to the State of Bavaria, and T€ 116,116 [Dec. 31, 2015: T€ 116,144] to the City of Munich. The loans bear earnings-based interest and are for indefinite terms. Repayment requires a separate agreement. They are classified as current since Munich Airport does not have the unrestricted right to deny repayment within the following fiscal year. In the year under review, interest expense on shareholder loans amounted to T€ 10,537 [2015: T€ 10,660].

#### c) Current financial liabilities from finance leases

Notes on financial liabilities resulting from finance leases can be found in Section VII.15.d).

#### 20. Other liabilities

The carrying amount of other liabilities is comprised as follows:

## Composition of the carrying amount of other liabilities

T€	Dec. 31, 2016	Dec. 31, 2015
Liabilities from taxes and other levies	2,664	8,153
Other miscellaneous financial liabilities	2,649	1,231
Other non-financial liabilities	5,313	9,384
Liabilities in connection with aviation	0	16,000
Advance payments on leases	12,655	12,875
Advance payments on heritable building rights	3,860	3,977
Advance payments from aviation	2,184	2,243
Other deferred income	5,708	6,006
Deferred income	24,407	41,101
Total	29,720	50,485
of which current	11,170	31,914
of which non-current	18,550	18,571

#### 21. Contingent liabilities

As in the prior year, there were no contingent liabilities as of December 31, 2016.

#### 22. Operating permit

On May 9, 1974, the Bavarian Ministry of Economic Affairs and Media, Energy, and Technology approved operations at Munich Airport in accordance with aviation law under section 6 of the German Air Traffic Act (Luftverkehrsgesetz – LuftVG). The operation permit contains all essential regulations for airport operation. The amendment according to Section 6(4) LuftVG for the operation of the third runway has not yet been obtained. It does not expire at a specific point of time.

In addition to the provisions of the aviation permit, the airport operator must observe the regulations resulting directly from the law (in particular the German Air Traffic Act and ordinances issued from it). FMG is required, among other things, to keep the airport in good operating condition at all times, to provide and maintain the equipment and signs needed to monitor and control air traffic at the airport, and to ensure the availability of fire protection systems and emergency services that take account of the special operating conditions.

The pricing of take-off and landing charges is subject to approval by the Bavarian Ministry of the Interior, for Building and Transport. Airlines are incorporated into the approval process by means of consulting procedures. In fiscal year 2014, Munich Airport concluded a master agreement on charges with uniform terms and conditions for all airlines, which secures the future development of air traffic charges until 2020.

#### VIII. Financial risk management

The risk management system of Munich Airport, along with the main risks, is explained in detail in the Group management report of December 31, 2016.

Munich Airport is subject to many different financial risks, including credit, liquidity, and market risks arising from interest rate and exchange rate fluctuations.

Munich Airport was also exposed to these risks in the prior year in comparable composition.

Financial risk management is embedded into the Group's risk management and reporting system. It is carried out by the central treasury department [Group Treasury]. All material financial risks are reported to the Executive Board on a quarterly basis. Liquidity, borrowings, and the composition of the portfolio of derivatives are reported monthly.

Derivatives are used exclusively for hedging. Only Group Treasury may acquire or sell derivatives. Treasury software is used for the documentation, processing, and the management of financial risks from derivatives. The software guarantees strict segregation of the functions between acquisition, settlement, and accounting for derivatives and monitoring the risks arising from these transactions.

The methods of financial risk management have not changed in comparison with the prior year.

#### 1. Market risk

Munich Airport is exposed to market risks arising from fluctuations of interest and exchange rates. These risks affect the payment obligations from floating-rate loans. To a lesser extent, exchange rate risks influence cash flows from international consulting business.

Munich Airport addresses market risks through the use of derivative financial instruments. Hedging transactions are acquired solely for hedging purposes and mainly used to hedge fluctuations in cash flows.

The Group uses interest rate swaps to hedge cash flows against fluctuations in interest rates. Fluctuations in exchange rates are eliminated through currency futures. Disclosures on derivatives and hedging activities can be found in Section VII.16.

The remaining exposure to risks of fluctuations in interest and exchange rates is disclosed in the following sensitivity analysis.

The analysis of sensitivity to fluctuations in interest rates presents the effects of an increase or a decrease in total comprehensive income, profit and loss and other comprehensive income in the event of a parallel shift of the yield curve by plus +100 basis points or minus -25 basis points.

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It is based on the following assumptions:

- The interest expense from fixed-rate borrowings measured at amortized cost with rates fixed for more than a year does not change. This applies independent of the time of the next interest rate fixing.
- Changes in the yield curve may affect the expected cash flows applicable for the determination of the carrying amount of fixed-rate borrowings measured at amortized cost with rates fixed for more than a year. These effects are not taken into consideration.
- The interest expense from financial instruments measured at amortized cost where rates are fixed for periods of less than one year, for example when fixed at 3M EURIBOR or 6M EURIBOR, changes. This applies independent of whether such borrowings have been designated into cash flow hedges. The carrying amount of these borrowings does not change.
- The interest expense from interest-bearing derivatives, for example when fixed at 3M EURIBOR or 6M EURIBOR, changes. This applies independent of whether such instruments have been designated into cash flow hedges.
- The carrying amount of derivatives changes. Secondary
  effects from the parallel yield curve shift, such as on forward exchange rates, are not taken into account in determining the sensitivity to changes in interest rates.
- Provided derivatives have been designated into cash flow hedges, the ineffective portion of the changes in fair value affects net profit. The effective portion of the changes in fair value affects other comprehensive income.

Under the aforementioned assumptions, a parallel shift of the yield curve by plus 100 or minus 25 BP will decrease or increase total comprehensive income, profit and loss, and other comprehensive income as follows:

#### Interest sensitivity analysis

	Dec. 31,	2016	Dec. 31, 2015		
T€	+100 BP	-25 BP	+100 BP	-25 BP	
Total comprehensive income	22,744	-5,549	27,710	-38,403	
thereof other comprehensive income	30,284	-7,434	38,429	-41,083	
thereof net profit	-7,540	1,885	-10,719	2,680	

The sensitivity analysis uses the same assumptions and methods as in the previous year.

Most exchange rate risks arise from fluctuations of the euro against the Omani rial (OMR) and the US dollar (USD). Preparation of a currency sensitivity analysis was waived for reasons of materiality.

#### 2. Credit risk

Munich Airport's credit risk primarily results from short-term deposits. In order to limit these risks the Group does not accept counterparties without deposit protection and/or seat outside the European Union.

Default risks are addressed through a severe and effective receivables management. This includes the comprehensive and constant monitoring of debtors' creditworthiness, overdue invoices, and a stringent collections management. Lease payments are secured through deposits and guarantees. Ground handling services are rendered only against deposit of cash collateral and bank guarantees.

Sales of retail stores and restaurants are predominantly made against cash or by credit card.

Defaults of individual financial assets are addressed in the impairment test.

Without taking account of any collateral held, the maximum exposure to credit risk corresponds with the total carrying amount of all financial assets amounting to  $T \in 84,235$  [Dec. 31, 2015:  $T \in 276,143$ ].

A concentration of credit risks arising from business relations with individual debtors or groups of debtors is not apparent.

For further disclosures concerning bad debt risk, in particular concerning impairments and the aging structure of receivables and other financial assets, see Sections VII.5 and VII.8.

#### 3. Liquidity risk

The management of liquidity risks is carried out by Group Treasury. The liquidity risk is monitored in the course of long-, medium-, and short-term financial planning. In order to ensure liquidity at all times, long-term credit lines and liquid funds are made available based on a rolling liquidity plan.

The liquid funds of all subsidiaries are concentrated through the Group's cash pooling. Alongside the securitization of a positive cash flow from operating activities, Munich Airport maintains adequate liquidity in the form of short-term investment and credit lines. In the reporting year, cash flow from operating activities amounted to  $T \in 528,832$  [2015:  $T \in 464,399$ ]. Munich Airport had access to credit lines of  $T \in 266,405$  [Dec. 31, 2015:  $T \in 213,786$ ].

The following table shows an analysis of the remaining contractual maturities for all financial liabilities:

#### Liquidity analysis

	201	L <b>7</b>	2018 to	2021	After 2021		
Dec. 31, 2016	Interest	Principal repayment	Interest	Principal repayment	Interest	Principal repayment	Total
T€							
Financial liabilities from interests in partnerships	0	0	0	123,946	0	929,411	1,053,357
Shareholders	10,537	491,913	0		0	0	502,450
Loans	21,131	71,815	76,050	584,893	53,707	911,214	1,718,810
Finance leases	0	206	0	52	0	0	258
Trade payables	0	65,222	0	22,667	0	0	87,889
Other financial liabilities	0	102,615	0	8,509	0	0	111,124
Non-derivative financial liabilities	31,668	731,771	76,050	740,067	53,707	1,840,625	3,473,888
Derivatives	18,921	645	53,155	0	618	0	73,339
Derivative financial liabilities	18,921	645	53,155	0	618	0	73,339
Total	50,589	732,416	129,205	740,067	54,325	1,840,625	3,547,227

	201	2016 2017 to		2020	After	2020	
Dec. 31, 2015 (adjusted)	Interest	Principal repayment	Interest	Principal repayment	Interest	Principal repayment	Total
T€							
Financial liabilities from interests in partnerships	0	29	0	85,785	0	967,571	1,053,385
Shareholders	10,660	491,913	0	0	0	0	502,573
Loans	24,847	562,083	112,042	485,170	82,399	876,654	2,143,195
Finance leases		208	0	260	0	0	468
Trade payables	0	54,838	0	18,014	0	0	72,852
Other financial liabilities	0	47,614	0	6,762	0	0	54,376
Non-derivative financial liabilities	35,507	1,156,685	112,042	595,991	82,399	1,844,225	3,826,849
Derivatives	27,639	0	51,820	0	6,595	0	86,054
Derivative financial liabilities	27,639	0	51,820		6,595	0	86,054
Total	63,146	1,156,685	163,862	595,991	88,994	1,844,225	3,912,903

Borrowings from shareholders are only repaid on the basis of separate repayment agreements. As long as not otherwise agreed, repayments of borrowings from shareholders are disclosed as current.

Repayments of financial liabilities from interests in partnerships are disclosed at the expected redemption amount. The maturity of these liabilities reflects the earliest possible time of termination.

#### IX. Notes to the cash flow statement

The acquisition of Acciona saw liquid funds increase by  $T \in 350$ . The acquisition also changed receivables by  $T \in -2,327$ , other provisions by  $T \in 202$ , employee benefits by  $T \in 786$ , and liabilities by  $T \in 1,564$ . Payments for property, plant, and equipment for own use include  $T \in 1,158$  attributable to the acquisition of Acciona, while those for intangible assets include  $T \in 119$  attributable to the acquisition.

München Airport Center Betriebsgesellschaft MAC mbH i.L. was deconsolidated during the fiscal year (compare III.3.a). Due to the deconsolidation, cash and cash equivalents decreased by T€ 4,135. From a Group perspective, other assets decreased by T€ 686 and other liabilities by T€ 2,191.

Munich Airport: Integrated Report 2016

Financial report

# X. Notes to transactions with related parties

FMG is the ultimate parent of the Group. The shares of FMG are held by the State of Bavaria [51 percent], the Federal Republic of Germany [26 percent], and the City of Munich [23 percent] [see Section VII.12]. Decisions that affect the business as a whole and decisions about certain transactions are made by the shareholders unanimously. All other decisions are made with a simple majority.

#### 1. Transactions with public agencies

The shares of FMG are held by the state. Hence, all agencies of the state are related parties.

Transactions with agencies result primarily result from the lease of offices and other operational areas to police and customs with indefinite lease terms. The prices charged to public agencies may not exceed refundable expenses. They are subject to audits on a regular basis. The revenues and expenses resulting from business relationships with authorities are not material for the consolidated financial statements. Debit accounts are not significant.

#### 2. Transactions with public companies

Entities whose decisions about the relevant business activities are controlled, jointly controlled or materially influenced by the Federal Republic of Germany, the State of Bavaria or the City of Munich are also related parties.

Among these are credit institutions with direct shareholding of governmental bodies (inter alia, Bayerische Landesbank Anstalt des öffentlichen Rechts, Kreditanstalt für Wiederaufbau, and LfA Förderbank Bayern) and credit institutes with indirect shareholding through public assets such as the financial market stabilization funds SoFFin (including Commerzbank AG). Transactions with these credit institutions result from financial liabilities (loans) and derivatives (interest swaps).

# Transactions with credit institutions classified as related parties

T€	2016	2015
Non-derivative financial liabilities		
Interest payments	-25,105	-32,789
Repayments	-521,216	-31,064
Proceeds	200,000	84,100
Derivative financial liabilities		
Interest payments	-21,923	-20,341

Related parties also include public companies and institutions which have been engaged by the federal government and the State of Bavaria to perform sovereign functions at Munich Airport, for example the monitoring of aviation (including DFS Deutsche Flugsicherung GmbH, SGM Sicherheitsgesellschaft am Flughafen München GmbH, Deutscher Wetterdienst Anstalt des öffentlichen Rechts). Transactions with these entities primarily result from the lease of office and operational areas with indefinite lease terms.

Munich Airport is doing business with entities whose financial and business policies are at least materially influenced by the state. These include all companies included into the consolidated group of Deutsche Post AG, Telekom Deutschland GmbH, and Deutsche Bahn AG. There are mutual supply and service agreements between Munich Airport and these groups. Revenues and expenses from these transactions, however, are not substantial.

# 3. Transactions with associates and companies that have not been included in the consolidated group for materiality reasons

The Group includes one associate (EFM – Gesellschaft für Enteisen und Flugzeugschleppen am Flughafen München mbH). The joint venture MediCare Flughafen München Medizinisches Zentrum GmbH and the subsidiaries FMV – Flughafen München Versicherungsvermittlungsgesellschaft mbH, Munich Airport International GmbH, and HSD Flughafen GmbH have not been included in the consolidated group for materiality reasons.

There are mutual supply and service agreements between Munich Airport and these companies with the following effects on Group revenues, assets, and liabilities:

# Transactions with associates and companies that have not been included in the consolidated group for materiality reasons

T€	Dec. 31, 2016	Dec. 31, 2015
Receivables	1,935	1,968
Liabilities	1,133	1,370
Lease revenues	6,001	5,847
Miscellaneous other revenues	2,177	3,762
Other income	6	24
Total income	8,184	9,633
Cost of materials	12,246	8,945
Other expenses	386	394
Expenses	12,632	9,339

The other revenues relate primarily to IT services and maintenance. The cost of materials primarily results from aircraft handling and from medical services.

#### 4. Transactions with related persons

The members of the Executive Board and of the Supervisory Board of FMG are related persons.

The remuneration of the members of the Executive Board comprises a fixed salary and variable, performance-based bonus:

## Remuneration of the members of the Executive Board

Salary	Bonus	Total
313	170	483
53	0	53
287	151	438
653	321	974
	313 53 287	313 170 53 0 287 151

The earnings of Thomas Weyer include back payments worth  $T \in \mathcal{T}$  relating to basic salary for 2015 and worth  $T \in \mathcal{T}$  relating to the bonus for 2015.

In addition, members of the Executive Board received one-off payments worth  $T \in S$  plus benefits in kind and other contractual benefits worth a total of  $T \in 22$ .

The provisions for post-employment pension benefits to executive officers amount to T $\in$  5,422 [2015: T $\in$  4,719].

Former members of the Executive Board and their surviving dependents received total payments worth T£ 762 in fiscal year 2016 [2015: T£ 753]. Pension provisions worth T£ 10,741 [2015: T£ 10,741] are available for future pension benefits and for entitlements to benefits for surviving dependents.

Payments to the Supervisory Board amounted to T 32 [2015: T 24].

There are no loans to or contingent liabilities in favor of board members.

Munich, April 24, 2017

Dr. Michael Kerkloh Andrea Gebbeken Thomas Weyer

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# Boards of the Company

#### **Executive Board**

	Period
Dr. Michael Kerkloh	
President and Chief Executive Officer,	
Personnel Industrial Relations Director	Since September 2002
Andrea Gebbeken	
Chief Commercial and Security Officer	Since October 2016
Thomas Weyer	
Chief Financial Officer,	
Chief Infrastructure Officer	Since September 2008
General representatives	
Dr. Robert Scharpf	
Authorized representative and head of HR	Since July 2016
Dr. Josef Schwendner	
Authorized representative and head of Legal Affairs,	
Committees, Compliance and Environment	Since July 2016

#### **Supervisory Board**

	Additional mandates
State of Bavaria	
Dr. Markus Söder (Chairman) Bavarian State Ministry of Finance, Regional Development and Regional Identity	<ul> <li>NürnbergMesse GmbH (Deputy Chairman of the Supervisory Board)</li> <li>Flughafen Nürnberg GmbH (Member of the Supervisory Board)</li> <li>KfW Banking Group public agency (Member of the Board of Directors)</li> <li>Bayerische Landesstiftung (Deputy Chairman of the Foundation Council)</li> <li>Bayerische Forschungsstiftung (Member of the Foundation Council)</li> <li>Staatstheater Nürnberg (Member of the Foundation Council)</li> </ul>
Wolfgang Lazik Bavarian State Ministry of Finance, Regional Development and Regional Identity	<ul> <li>Bayerische Landesbank (Member of the Supervisory Board)</li> <li>BayernLB Holding AG (Deputy Chairman of the Supervisory Board)</li> </ul>
Josef Poxleitner [until June 23, 2016] Director-General (retired), Board of Building and Public Works in the Bavarian State Ministry of the Interior, for Building and Transport	None
Helmut Schütz [from June 23, 2016] Board of Building and Public Works in the Bavarian State Ministry of the Interior, for Building and Transport Dr. Bernhard Schwab Bavarian State Ministry of Economic Affairs and Media, Energy and Technology	<ul> <li>Bayerische Eisenbahngesellschaft mbH (BEG)         (Deputy Chairman of the Supervisory Board)     </li> <li>Rhein-Main-Donau Wasserstraßen GmbH (RMD         Wasserstraßen GmbH) (Member of the Supervisory Board)     </li> <li>Deutsches Museum (participation in the Board of Trustees)</li> <li>Bayerische Landesstiftung (Deputy member of the Foundation Council)</li> <li>Bayern Kapital GmbH (Member of the Supervisory Board)</li> <li>Bayern Innovativ GmbH (Member of the Supervisory Board)</li> <li>Bayerische Gesellschaft für internationale Wirtschaftsbeziehungen mbH Bayern International (Member of the Supervisory Board)</li> <li>Zentrum Digitalisierung.Bayern (ZD.B) state-owned enterprise (Chairman of the Board of Directors)</li> </ul>

#### **Supervisory Board**

	Additional mandates
Federal Republic of Germany	
Dr. Martina Hinricher Federal Ministry of Transport and Digital Infrastructure	<ul> <li>DFS Deutsche Flugsicherung GmbH     (Chairman of the Supervisory Board)</li> <li>Flughafen Köln/Bonn GmbH     (3rd Deputy Chairman of the Supervisory Board)</li> </ul>
Christiane Wietgrefe-Peckmann Federal Ministry of Finance	None
City of Munich	
Dieter Reiter Lord Mayor	<ul> <li>Stadtsparkasse München [Chairman of the Board of Directors]</li> <li>Stadtwerke München GmbH [Chairman of the Supervisory Board]</li> <li>SWM Services GmbH [Chairman of the Supervisory Board]</li> <li>Münchner Verkehrsgesellschaft mbH [Chairman of the Supervisory Board]</li> <li>Münchner Verkehrs- und Tarifverbund GmbH [Chairman of the Supervisory Board]</li> <li>GWG Städtische Wohnungsgesellschaft mbH [Chairman of the Supervisory Board]</li> <li>GEWOFAG Holding GmbH [Chairman of the Supervisory Board]</li> <li>Städtisches Klinikum München GmbH [Chairman of the Supervisory Board]</li> <li>Messe München GmbH [Chairman of the Supervisory Board]</li> <li>Sparkassenverband Bayern, public corporation [representative in the association meeting]</li> <li>Sparkassen-Bezirksverband Oberbayern, public corporation [representative in the association meeting]</li> <li>Bayerischer Städtetag, public corporation [Member of the plenary assembly]</li> <li>Mathias-Pschorr-Stiftung, Hackerbräu [Chairman of the Foundation Advisory Board]</li> <li>Planungsverband Äußerer Wirtschaftsraum München, public corporation [representative in the association meeting and the association committee]</li> <li>Master schools at the Ostbahnhof [east station]. Zweckverband der LHM und der Handwerkskammer für München und Oberbayern [Chairman of the Association]</li> <li>Regionaler Planungsverband, public corporation [Chairman of the planning committee, representative in the association meeting]</li> <li>Zweckverband Freiham, Zweckverband [representative in the association meeting]</li> </ul>

#### **Supervisory Board**

	Additional mandates				
Josef Schmid Second Mayor	• Gasteig München GmbH (Chairman of the Supervisory Board				
Trade union representatives Thomas Bihler Clerical employee	Stiftung Ambulantes Kinderh [Member of the Board of Trus]				
Heinrich Birner (Deputy Chairman) Director of the ver.di labor union Munich region	Stadtwerke München GmbH (Member of the Supervisory Board)     SWM Services GmbH (Member of the Supervisory Board)				
Employee representatives (no additional mandates)					
Hans-Joachim Bues Head of Corporate Communications, representative of the senior managers	Michael Börries Certified aircraft handler, full-time workers' councillor	Orhan Kurtulan Certified aircraft handler, full-time workers' councillor			
Anna Müller Clerical employee, full-time workers' councillor	Bernhard Plath Economist, full-time workers' councillor	Renate Siedentopf Insurance broker, full-time worker's councillor			

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# Supervisory Board report

The Supervisory Board was informed regularly and in detail by the Executive Board in written reports and at meetings about the Company's situation, its development, and important business events. In its meetings and the meetings of its committees, the Supervisory Board discussed all major Company matters and made such decisions as it was called upon to make in accordance with its statutory responsibilities.

The financial statements as of December 31, 2016, and the Management Report of Flughafen München GmbH and of the Group presented by the Executive Board have been audited and issued with an unqualified opinion by KPMG AG Wirtschaftsprüfungsgesellschaft, Munich, the appointed auditor.

Having conducted its own review, the Supervisory Board acknowledges the auditor's findings and raises no objections.

In accordance with Section 52(1) of Germany's Limited Liability Companies Act [GmbHG] and Section 171(2) of Germany's Stock Corporations Act [AktG], the Board approves the financial statements of FMG and the consolidated financial statements. It proposes that the shareholders endorse the financial statements of FMG and approve the consolidated financial statements.

The Supervisory Board wishes to express its gratitude and respect for the work carried out and the successes achieved by the company's Executive Board and employees in fiscal year 2016.

Munich, June 6, 2017 For the Supervisory Board

Dr. Markus Söder

Chairman of the Supervisory Board of Flughafen München GmbH

# Independent auditor's report

We have audited the consolidated financial statements prepared by Flughafen München GmbH. Munich, consisting of the consolidated income statement, the consolidated statement of comprehensive income, the consolidated balance sheet, the consolidated statement of changes in equity, the consolidated cash flow statement, and the notes to the consolidated financial statements, as well as the Group management report for the fiscal year from January 1 to December 31, 2016. The preparation of the consolidated financial statements and the Group management report in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union (EU) and the supplementary requirements of German commercial law pursuant to Article 315a [1] of the German Commercial Code [Handelsgesetzbuch - HGB] is the responsibility of the company's Executive Board. Our responsibility is to express an opinion on the consolidated financial statements and on the Group management report based on our audit.

We conducted our audit of the consolidated financial statements in accordance with Article 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the German Institute of Public Auditors (Institut der Wirtschaftsprüfer – IDW). Those standards require that we plan and perform the audit in such manner that material misstatements affecting the presentation of the net assets, financial position, and operating results in the consolidated financial statements in accor-

dance with the applicable financial reporting rules and in the Group management report are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Group as well as evaluations of possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the system of internal controls relating to the accounting system and the evidence supporting the disclosures in the consolidated financial statements and the Group management report are examined primarily on a test basis within the framework of the audit. The audit includes assessing the annual financial statements of the companies included in the consolidated financial statements, the determination of the scope of consolidation, the accounting and consolidation principles used and significant estimates made by the Executive Board, as well as evaluating the overall presentation of the consolidated financial statements and the Group management report. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

In our opinion, which is based on our audit findings, the consolidated financial statements comply with the IFRS as adopted by the EU as well as the supplementary requirements of German commercial law pursuant to Article 315a [1] HGB and give a true and fair view of the net assets, financial position and operating results of the Group in accordance

with these requirements. The Group management report is consistent with the consolidated financial statements, complies with statutory provisions, and, as a whole, provides a suitable view of the position of the Group and suitably presents the opportunities and risks of future development.

Munich, April 24, 2017

KPMG AG Wirtschaftsprüfungsgesellschaft

Schubert

German Public Auditor

**Junghänel** German Public Auditor

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# SUSTAINABLE DEVELOPMENT

Thinking for the long term, behaving with responsibility, creating transparency in communications: Munich Airport prepares a report on its efforts in the field of sustainability in accordance with the highest standards.

#### Download sustainability program

www.munich-airport.com/sustainability-program

#### GRI content index at

www.report2016.munich-airport.com



# Sustainability indicators

Download sustainability program www.munich-airport. com/ sustainability-program

#### Value generated / GRI standard 201-1

2016	2015 1)	2014
1,364.1	1,249.3	1,200.1
66.6	60.3	53.9
1,430.7	1,309.6	1,254.0
1.5	1.6	1.1
-449.2	-415.0	-401.0
-239.1	-214.3	-212.2
743.9	681.9	641.9
	1,364.1 66.6 1,430.7 1.5 -449.2	1,364.1 1,249.3 66.6 60.3 1,430.7 1,309.6 1.5 1.6 -449.2 -415.0 -239.1 -214.3

<sup>1)</sup> In accordance with IFRS, 2015 value adjusted in accordance with IAS 8

#### Value distributed / GRI standard 201-1

Group in € million	2016	2015 1)	2014
Employees	452.5	400.3	374.3
Lenders (netted)	81.6	83.2	101.6
Public sector	58.2	55.1	66.0
Munich Airport Group	151.6	143.3	100.0

= Value distributed	743.9	681.9	641.9

<sup>&</sup>lt;sup>1]</sup> In accordance with IFRS, 2015 value adjusted in accordance with IAS 8

# The value generated calculation represents the difference between the service provided by the company and the value of the advance services required.

The distribution statement shows the proportions distributed to those involved in the value creation process – employees, the public sector, and lenders. Payments provided by FMG to the public sector include taxes. The interest on the loans to shareholders is included under the «Lenders» recipient group. «Other income» includes income from companies valued using the equity method. The «nonpersonnel expenses» include the cost of materials and other expenses.

#### Air traffic indicators / GRI A01, A02, A03

	2016	2015	2014
Total passenger volume	42,277,692	40,998,553	39,716,877
Total commercial traffic <sup>1]</sup>	42,261,309	40,981,522	39,700,515
Scheduled and charter traffic	42,241,902	40,961,424	39,679,338
Other commercial traffic 1)	19,407	20,098	21,177
Non-commercial traffic <sup>1]</sup>	16,383	17,031	16,362
Total aircraft movements	394,430 379,911		376,678
Total commercial traffic <sup>1]</sup>	385,081	370,348	367,599
Scheduled and charter traffic	374,057	360,009	357,295
Other commercial traffic 1)	11,024	10,339	10,304
General air traffic (non-commercial traffic) 1)	9,349	9,563	9,079
Seating capacity utilization in %	75.1	76.6	75.9
Cargo throughput			
Cargo and airmail carried in t	353,650	336,162	309,361
Traffic units (TU) of commercial traffic	45,709,334	44,234,684	42,686,633

 $<sup>^{1]}\</sup>mbox{For terminology}$  see the Annual Statistics Report 2016, p. 42/43.

→ Glossary

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<sup>✓</sup> Web

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#### Passenger indicators (commercial traffic only) / GRI A01

		2016		2015			2014		
	Total	Domestic	International	Total	Domestic	International	Total	Domestic	International
Total commercial traffic	42,261,309	9,632,163	32,629,146	40,981,522	9,585,642	31,395,880	39,700,515	9,356,210	30,344,305
Arrivals	21,142,346	4,816,340	16,326,006	20,474,755	4,771,295	15,703,460	19,832,302	4,660,409	15,171,893
Departures	21,030,482	4,803,413	16,227,069	20,398,313	4,805,150	15,593,163	19,760,723	4,684,878	15,075,845
Transit passengers <sup>1)</sup>	88,481	12,410	76,071	108,454	9,197	99,257	107,490	10,923	96,567
Number of O&D passengers <sup>2</sup> in millions	27.0	_	-	26.2			25.0		_
Number of transfer passengers in millions	15.2	-	-	14.8	-		14.7	-	
Proportion of transfer passengers in % <sup>3</sup>	36	_		36		=	37	=	-

<sup>&</sup>lt;sup>1]</sup> Transit passengers are passengers who fly into the airport and continue their trip on the same aircraft. Transit passengers are only counted when landing.

#### Aircraft movements<sup>1]</sup> / GRI AO2

	2016			2016 2015			2014			
	Total	Arrivals	Departures	Total	Arrivals	Departures	Total	Arrivals	Departures	
Passenger flights, scheduled/charter	369,561	184,699	184,862	355,565	177,689	177,876	353,326	176,548	176,778	
Domestic	87,000	43,521	43,479	85,115	42,571	42,544	85,934	42,957	42,977	
International	282,561	141,178	141,383	270,450	135,118	135,332	267,392	133,591	133,801	
Cargo flights, scheduled/charter	4,047	2,014	2,033	4,001	1,990	2,011	3,507	1,734	1,773	
Domestic	1,515	810	705	1,475	772	703	1,426	761	665	
International	2,532	1,204	1,328	2,526	1,218	1,308	2,081	973	1,108	
Airmail flights, scheduled/charter	449	225	224	443	222	221	462	230	232	
Domestic	449	225	224	443	222	221	462	230	232	
International	-	-	-					-	=	
General air traffic	20,373	10,272	10,101	19,902	10,062	9,840	19,383	9,826	9,557	
Domestic	8,413	4,338	4,075	8,669	4,395	4,274	8,381	4,219	4,162	
International	11,960	5,934	6,026	11,233	5,667	5,566	11,002	5,607	5,395	
Total	394,430	197,210	197,220	379,911	189,963	189,948	376,678	188,338	188,340	

<sup>1)</sup> Military flights are not included.

✓ Web

Detailed information
on night-time aircraft movements
can be found in the
monthly impact
reports:
www.munichairport.com/impacts

Detailed information on night flight regulations is available at: www.munichairport.com/ night-flight

<sup>&</sup>lt;sup>2]</sup>Origin & Destination passengers are passengers who start or end their trip at the airport.

<sup>&</sup>lt;sup>3]</sup>The proportion of transfer passengers is based on departure passenger surveys.

#### Cargo tonnage (commercial handling) / GRI AO3

Int	2016			2015			2014		
	Cargo handled	Incoming cargo	Outgoing cargo	Cargo handled	Incoming cargo	Outgoing cargo	Cargo handled	Incoming cargo	Outgoing cargo
Cargo-only flights	62,056	17,956	44,099	55,668	16,922	38,746	42,264	15,179	27,085
Bellyhold cargo on passenger flights	272,441	113,912	158,529	261,719	108,863	152,856	249,211	103,763	145,447
Total on all flights	334,497	131,868	202,628	317,387	125,785	191,602	291,475	118,942	172,533

In contrast to 2015, the number of reasons for complaint rose from 1,807 to 2,291, which is largely due to the group-wide standardization of complaint management. The aim of central dialog management was also to achieve an overall increase in customer feedback, with the reason for complaining serving as a key element in dialog management for long-term customer loyalty. The feedback form on the website was updated to make it easier to access for the purposes of filing a complaint. We therefore received 54.16 complaints for each one million passengers in 2016.

The switchover to the new system means it is no longer possible to directly compare key issues with the figures from 2015 and 2014. The categories were redefined based on the passenger chain. Key issues in fiscal year 2016 included the categories airline-related issues, airport facilities, parking, and security checks.

#### Dialog management /

GRI standard 102-43, 102-44

Number of entries	2016	2015	2014
Total complaints	2,291	1,807	1,802
Number of complaints on key issues			
Airline-related issues	218		
Airport facilities	492		
Parking	197		
Security checks	318		

## Firefighting service deployments / GRI standard 417-1

	2016	2015	2014
Total alarms	3,487	3,891	3,587
False alarms	649	658	648
Number of deployments	2,838	3,233	2,939
Technical support jobs	1,978	1,970	1,839
Safety monitoring jobs 1]	740	1,149	977
Firefighting jobs	120	114	123
First-responder deployments <sup>2</sup>	155	123	859

<sup>&</sup>lt;sup>1)</sup> On-call service where the Airport Rescue and Firefighting service attends certain situations with particularly high risk levels in order to provide immediate support should a risk occur.

## **Donations and sponsorship**<sup>1</sup>/ GRI standard 413-1

Proportion of total budget in %	2016	2015	2014
Sport	35	36	36
Social welfare	31	30	31
Education	15	17	13
Culture	18	17	20
Environment (new from 2016)	1		-

<sup>1)</sup> The annual sponsoring budget is linked to FMG's external sales.

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<sup>&</sup>lt;sup>2]</sup> Initial assistance until the arrival of the public rescue service.

#### Total workforce / GRI standard 102-8, 405-1

Group			201	L <b>6</b>			201	.5	7,595  7,595  8,6,138  9,1,457  1,070  8,1 6,525  9,96  - 266  - 41  - 293  - 396  8,591  32,250  201  1,070  4,065  9,3 3,499  0,7 566  1,43 82  1,57 3,983  215  - 144  - 33  - 37	.4
	Women	Proportion in % 3)	Men	Proportion in % 3)	Total	Proportion in % 3]	Total	Proportion in % 3)	Total	Proportion in % 3)
Total employees <sup>1)</sup>	2,839	33.39	5,663	66.61	8,502	100	8,016	100	7,595	100
Full- and part-time employees <sup>1)</sup>										
Full-time	1,798	21.15	5,029	59.15	6,827	80.30	6,419	80.08	6,138	80.82
Part-time	1,041	12.24	634	7.46	1,675	19.70	1,597	19.92	1,457	19.18
Employment contracts <sup>1)</sup>			,		•					
Temporary	496	5.83	892	10.49	1,388	16.33	1,218	15.19	1,070	14.09
Permanent	2,343	27.56	4,771	56.12	7,114	83.67	6,798	84.81	6,525	85.91
Other employees	282		522		804		889		996	
Apprentices	152	-	122	-	274	-	269	-	266	-
Interns	25	-	17	-	42	-	43	-	41	-
Workers in minor employment	98	-	193	-	291	-	275	-	293	-
Temporary workers	7	-	190	-	197	-	302	-	396	-
Total employees including other employees of the Group	3,121		6,185	-	9,306		8,905		8,591	
Employees on the airport campus <sup>2)</sup>					34,720		34,720		32,250	
5140				-						
FMG	<u> </u>		201				201		501	
	Women	Proportion in % 3)	Men	Proportion in % 3)	Total	Proportion in % 3)	Total	Proportion in % <sup>3)</sup>	Total	Proportion in % 3)
Total employees <sup>1)</sup>	930	22.02	3,293	77.98	4,223	100.00	4,115	100.00	4,065	100.00
Full- and part-time employees <sup>1)</sup>						_				
Full-time	611	14.47	3,002	71.09	3,613	85.56	3,536	85.93	3,499	86.08
Part-time	319	7.55	291	6.89	610	14.44	579	14.07	566	13.92
Employment contracts <sup>1)</sup>										
Temporary	23	0.54	74	1.75	97	2.30	100	2.43	82	2.02
Permanent	907	21.48	3,219	76.23	4,126	97.70	4,015	97.57	3,983	97.98
Other employees	91		119		210		214		215	
Apprentices	62	-	82	-	144	-	146	_	144	-
Interns	23	-	8	-	31	-	32	_	33	-
Workers in minor employment	6		29		35	-	36	-	37	-
Temporary workers	0	-	0		0	-	0	-	1	-
Total employees including other employees of FMG	1,021		3,412		4,433		4,329		4,280	

<sup>1)</sup> Reporting date: December 31: Figures exclude apprentices, workers in minor employment, temporary workers, interns, and AeroGround Berlin GmbH

<sup>&</sup>lt;sup>2)</sup> Includes all companies based at Munich Airport. Data based on 2015 employment survey. The employment survey at Munich Airport is carried out every three years.

For more information on the survey, please visit www.munich-airport.com/munich-airport-generates-more-than-two-jobs-per-day-342836

 $<sup>^{\</sup>rm 3]}\,{\rm All}$  percentages are based on the total number of employees as per  $^{\rm 1]}.$ 

#### Employees covered by collective bargaining agreements /

GRI standard 102-41

	201	L <b>6</b>	201	L5	201	L4
	Group	FMG	Group	FMG	Group	FMG
Total number of employees covered by collective bargaining agreements	8,769	4,147	8,139	4,191	7,673	4,147
Proportion of total employees in %1)	94.23	93.55	91.40	96.81	89.31	96.89

<sup>&</sup>lt;sup>1)</sup> All percentages are based on the total number of employees including apprentices, workers in minor employment, temporary workers, and interns but excluding AeroGround Berlin GmbH.

#### Age structure of employees / GRI standard 405-1

Group			20	16			20	15	20	14
	Women	Proportion in %2)	Men	Proportion in %2)	Total	Proportion in %2)	Total	Propor- tion in % <sup>2)</sup>	Total	Proportion in %2)
Age structure of employees <sup>1)</sup>										
Under 30 years	612	7.20	789	9.28	1,401	16.48	1,259	15.71	1,126	14.83
30 to 50 years	1,593	18.74	2,917	34.31	4,510	53.05	4,422	55.16	4,168	54.88
Over 50 years	634	7.46	1,957	23.02	2,591	30.48	2,335	29.13	2,301	30.30
Total	2,839	33.39	5,663	66.61	8,502	100.00	8,016	100.00	7,595	100.00
FMG			20	16			20	15	20	14
	Women	Proportion in %2)	Men	Proportion in %2)	Total	Proportion in %2)	Total	Propor- tion in %2)	Total	Propor- tion in % <sup>2)</sup>

FMG			20	16			20	15	20	14
	Women	Propor- tion in %2)	Men	Proportion in %2)	Total	Proportion in %2)	Total	Proportion in %2)	Total	Proportion in %2)
Age structure of employees <sup>1)</sup>										
Under 30 years	204	4.83	199	4.71	403	9.54	383	9.31	357	8.78
30 to 50 years	534	12.65	1,642	38.88	2,176	51.53	2,231	54.22	2,308	56.78
Over 50 years	192	4.55	1,452	34.38	1,644	38.93	1,501	36.48	1,400	34.44
Total	930	22.02	3,293	77.98	4,223	100.00	4,115	100.00	4,065	100.00

 $<sup>^{1)}</sup>$ Reporting date: December 31: Figures exclude apprentices, workers in minor employment, temporary workers, interns, and AeroGround Berlin GmbH

# Managers<sup>1)</sup> / GRI standard 405-1

Group	201	.6	201	.5	203	L4	
	Proportion in %		F	Proportion in %		Proportion in %	
Total managers	673	7.92 2)	674	8.41 2)	637	8.39 2)	
Women	169	1.992)	169	2.11 2)	158	2.08 2)	
Men	504	5.93 <sup>2)</sup>	505	6.30 <sup>2)</sup>	479	6.31 2)	
Age structure of managers							
Under 30 years	19	2.823)	26	3.86 3)	28	4.40 3)	
30 to 50 years	370	54.98 <sup>3)</sup>	376	55.79 <sup>3)</sup>	351	55.10 <sup>3</sup>	
Over 50 years	284	42.203)	272	40.36 3)	258	40.50 <sup>3)</sup>	
FMG	201	.6	201	.5	20:	014	

FMG	201	L <b>6</b>	201	.5	20	14
		Proportion in %	ı	Proportion in %		Proportion in %
Total managers	394	9.33 2)	395	9.60 2)	391	9.62 2)
Women	58	1.37 2)	55	1.342	54	1.33 2)
Men	336	7.96 2)	340	8.26 2)	337	8.29 2)
Age structure of managers						
Under 30 years	5	1.27 3)	6	1.52 3)	5	1.28 3]
30 to 50 years	191	48.48 3)	195	49.37 <sup>3)</sup>	201	51.41 3)
Over 50 years	198	50.25 3)	194	49.11 3)	185	47.31 <sup>3)</sup>

<sup>&</sup>lt;sup>1]</sup> All information excludes AeroGround Berlin GmbH

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<sup>2]</sup> All percentages are based on the total number of employees as per 1].

<sup>&</sup>lt;sup>2)</sup> Reporting date: December 31: Proportion of employees who are managers (levels 1 to 4, not including the Executive Board)

<sup>&</sup>lt;sup>3]</sup> Proportion of managers relative to the total number of employees

#### Parental leave taken<sup>1)</sup> / GRI standard 401-3

Group		2016		2015	2014	FMG		2016		2015	2014
	Women	Men	Total	Total	Total		Women	Men	Total	Total	Total
Parental leave taken	76	100	176	179	140	Parental leave taken	39	76	115	88	69
Part-time parental leave taken	31	14	45	35	10	Part-time parental leave taken	27	9	36	32	6

<sup>1)</sup> Number of employees who have taken parental leave in the year under review. Figures exclude apprentices, workers in minor employment, temporary workers, interns, and AeroGround Berlin GmbH.

Due to the significant expense of evaluating the various parental leave models manually (duration of parental leave, split of parental leave), the number of individuals returning from parental leave, along with the number of resignations following parental leave, have not been recorded.

#### Employee turnover: starters and leavers<sup>1</sup>] / GRI standard 401-1

Group		20:	16		20:	15	20	14	FMG		20:	16		20:	15	20:	14
	Starters	Pro- portion in % <sup>2)</sup>	Leavers	Pro- portion in % <sup>2)</sup>	Starters	Leavers	Starters	Leavers		Starters	Pro- portion in % <sup>2)</sup>	Leavers	Pro- portion in % <sup>2)</sup>	Starters	Leavers	Starters	Leavers
Starters and leavers by age group									Starters and leavers by age group								
Under 30 years	727	51.41	502	50.10	650	414	478	303	Under 30 years	103	42.56	33	22.45	117	50	85	43
30 to 50 years	574	40.59	346	34.53	491	302	370	284	30 to 50 years	125	51.65	48	32.65	82	46	92	45
Over 50 years	113	7.99	154	15.37	100	162	81	189	Over 50 years	14	5.79	66	44.90	8	78	9	104
Total	1,414	100.00	1,002	100.00	1,241	878	929	776	Total	242	100.00	147	100.00	207	174	186	192
Starters and leavers by gender									Starters and leavers by gender								
Male	863	61.03	565	56.39	790	490	499	433	Male	157	64.88	112	76.19	152	126	118	155
Female	551	38.97	437	43.61	451	388	430	343	Female	85	35.12	35	23.81	55	48	68	37

<sup>1)</sup> Includes apprentices and excludes workers in minor employment, temporary workers, interns, and AeroGround Berlin GmbH

#### Turnover rate<sup>1)</sup> / GRI standard 401-1

n %	2016			2014				
In %	Group	FMG	Group	FMG	Group	FMG		
Turnover rate	11.41	3.42	10.70	4.14	9.86	4.61		

<sup>&</sup>lt;sup>1)</sup>The turnover rate reflects the ratio of leavers to the number of employees (as an annual average including apprentices and excluding workers in minor employment, temporary workers, interns, and AeroGround Berlin GmbH).

#### Average hours of training 1) / GRI standard 404-1

	201	6	2015	[ 2]	2014		
	Group	FMG	Group	FMG	Group	FMG	
Average hours of training per employee	15.76	12.65	12.91	11.21	13.97	10.20	
Per male employee	16.91	13.96	14.26	12.62	15.01	11.00	
Per female employee	12.55	7.95	9.07	5.99	12.15	7.26	
Per manager <sup>3)</sup>	23.92	12.67	17.34	7.58	10.59	8.03	
Per employee (without managerial responsibilities)	15.16	12.54	12.80	11.59	18.09	10.47	

<sup>&</sup>lt;sup>1)</sup> Average number of hours spent on professional development, training, and seminars (excluding aviation security courses) per employee (excluding apprentices, employees in minor employment, temporary workers, interns, and AeroGround Berlin GmbH) as at the reporting date of December 31, excluding Terminal 2 oHG

 $<sup>^{2]}</sup>$  All percentages are based on the total number of starters/leavers among the employees as per  $^{1]}$ .

<sup>&</sup>lt;sup>2)</sup> Errors identified whilst our data was being audited have been corrected.

<sup>&</sup>lt;sup>3]</sup> First- to fourth-tier managers excluding the Executive Board

#### Occupational health and safety / GRI standard 403-2, 403-3

Group <sup>1)</sup>	2016	2015 <sup>2)</sup>	2014
Accident statistics <sup>3)</sup>			
Reportable occupational accidents	195	243	177
Resulting days of absence 4)	4,331	4,873	4,443
Fatal occupational accidents	0	0	0
Rate per 1,000 workers <sup>5)</sup>	24.50	32.51	24.82
Workers in ground handling <sup>6)</sup>	2016	2015	2014
Accident statistics <sup>3)</sup>			
Reportable occupational accidents	89	106	89
Resulting days of absence 4)	2,304	2,688	2,791
Fatal occupational accidents	0	0	0
Rate per 1,000 workers <sup>5)</sup>	46.32	52.49	49.88

MG <sup>1)</sup>	2016	2015	2014
ccident statistics <sup>3)</sup>			
Reportable occupational accidents	71	84	78
Resulting days of absence 43	2,106	2,492	2,533
Fatal occupational accidents	0	0	0
Rate per 1,000 workers <sup>5)</sup>	18.17	21.98	20.73

Aircraft handling on the ground is a critical area for occupational health and safety measures at Munich Airport. This is why FMG publishes additional accident statistics for employees who work in aircraft handling.

#### Sick leave<sup>1)</sup> / GRI standard 403-2

Group <sup>2)</sup>		2016	2015	2014	
In %	Women	Men	Total	Total	Total
Illness rate <sup>3]</sup>	7.37	8.01	7.9	7.71	6.74

FMG		2016		2015	2014	
In %	Women	Men	Total	Total	Total	
Illness rate <sup>3]</sup>	5.74	8.71	8.14	8.22	7.03	

<sup>1)</sup> Includes apprentices and excludes workers in minor employment, temporary workers, interns, and AeroGround Berlin GmbH

#### Occupational illnesses<sup>1)</sup> / GRI standard 403-2, 403-3

	2016		2015		2014		
In %	Group	FMG	Group	FMG	Group <sup>2)</sup>	FMG	
Reported occupational illnesses	6	4	5	5	7	6	

<sup>&</sup>lt;sup>1]</sup>Includes apprentices, excludes workers in minor employment, temporary workers, interns, and AeroGround Berlin GmbH

#### Employees with disabilities / GRI standard 405-1

Group	2016	2015	2014	FMG	2016	2015	2014
Number of employees with limiting disabilities <sup>1]</sup>	645	644	634	Number of employees with limiting disabilities <sup>1]</sup>	487	483	481
Employees with severe disabilities in % <sup>2)</sup>	7.11	7.06	8.35	Employees with severe disabilities in % <sup>2)</sup>	12.28	11.39	11.83

<sup>1)</sup> Degree of disability of at least 30 within the meaning of equality under Book IX of the Social Security Code.

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<sup>&</sup>lt;sup>1)</sup> Includes apprentices, workers in minor employment, temporary workers, interns, excludes AeroGround Berlin GmbH

<sup>&</sup>lt;sup>2]</sup> Errors identified whilst our data was being audited have been corrected.

<sup>&</sup>lt;sup>3)</sup> Injuries requiring first aid are recorded when employees attend Munich Airport's medical center.

<sup>&</sup>lt;sup>4]</sup>These are working days and are counted from the first day of absence.

<sup>&</sup>lt;sup>5)</sup> Reportable occupational accidents x 1,000 / annual average actual employee capacity (EC).

<sup>&</sup>lt;sup>6)</sup>Ground handling employees working for FMG and employees and temporary workers at AeroGround.

<sup>&</sup>lt;sup>2)</sup> Data to 2014 excluding CAP Flughafen München Sicherheits-GmbH.

<sup>&</sup>lt;sup>3)</sup> Hours off sick in relation to planned working hours, including rehabilitation, therapy programs, treatment, and so on. Relates to the total number of employees as per <sup>1)</sup>.

<sup>&</sup>lt;sup>2]</sup> Data to 2014 excluding CAP Flughafen München Sicherheits-GmbH.

<sup>&</sup>lt;sup>2)</sup> Proportion of employees with disabilities as per <sup>1)</sup> based on the average total employees, including apprentices and workers in minor employment and excluding temporary workers, interns, and AeroGround Berlin GmbH

#### Nationalities<sup>1)</sup> / GRI standard 405-1

Group		203	16		203	15	20:	14	FMG		201	L6		201	L <b>5</b>	20	14
	Women	Men	Total	Proportion in %2)	Total	Proportion in %2)	Total	Propor- tion in % <sup>2)</sup>		Women	Men	Total	Proportion in %2)	Total	Proportion in %2)	Total	Propor- tion in %2)
Employee nationalities, overall picture	2,988	5,788	8,776		8,285		7,861		Employee nationalities, overall picture	992	3,375	4,367		4,261		4,209	
German nationals	2,440	4,480	6,920	78.85	6,775	81.77	6,539	83.18	German nationals	940	2,958	3,898	89.26	3,806	89.32	3,755	89.21
Foreign nationals	548	1,308	1,856	21.15	1,510	18.23	1,322	16.82	Foreign nationals	52	417	469	10.74	455	10.68	454	10.79
Most represented groups of foreign nationals									Most represented groups of foreign nationals								
Turkey	45	415	460	5.24	432	5.21	412	5.24	Turkey	1	267	268	6.14	270	6.34	272	6.46
Hungary	19	159	 178	2.03	0	0	0	0	Austria	8	25	33	0.76	31	0.73	28	0.67
Italy	30	88	118	1.34	108	1.30	91	1.16	Italy	7	21	28	0.64	29	0.68	29	0.69
Greece	29	54	83	0.95	66	0.80	49	0.62	Greece	3	16	19	0.44	17	0.40	16	0.38
Romania	50	73	123	1.40	77	0.93	53	0.67	Africa	0	14	14	0.32	13	0.31	12	0.29

<sup>1)</sup> Reporting date: December 31: Total number of employees including apprentices and excluding workers in minor employment, temporary workers, interns, and AeroGround Berlin GmbH

#### Employees' areas of residence<sup>1)</sup> / GRI standard 102-8, 401-1

		2016			2015		2014		
Administrative districts	Group	Proportion in %2)	FMG	Proportion in % <sup>2)</sup>	Group	FMG	Group	FMG	
Freising	2,295	26.15	876	20.06	2,077	845	1,892	809	
Erding	1,862	21.22	1,066	24.41	1,809	1,052	1,716	1,035	
Munich	1,820	20.74	753	17.24	1,702	716	1,605	717	
Landshut	1,221	13.91	670	15.34	1,168	649	1,120	656	
Pfaffenhofen	155	1.77	92	2.11	141	87	175	87	
Other districts	1,423	16.21	910	20.84	1,388	912	1,353	905	
Total	8,776	100.00	4,367	100.00	8,285	4,261	7,861	4,209	

<sup>1)</sup>Total number of employees including apprentices and excluding workers in minor employment, temporary workers, interns, and AeroGround Berlin GmbH who lived in each administrative district as at the reporting date of December 31.

#### De-icers used<sup>1]</sup> / GRI standard 301-1, 301-2; GRI A06

	2015/2016	2014/2015	2013/2014
Apron de-icer in t <sup>2</sup>	2,041	3,067	1,097
Aircraft de-icer (Safewing Type I) in m <sup>3</sup>	3,233	4,107	1,959
Aircraft de-icer (Safewing Type IV) in m <sup>3</sup>	783	919	391
Recycling rate of Type I de-icer used in %	63.9	68	59
Number of days of winter operations	47	57	38

am Flughafen München mbH [EFM], uses glycol-based deicer that is sprayed onto aircraft by de-icing vehicles. The low-viscosity Type I de-icer is mixed with water in the ratio 55:45, heated, and applied to the aircraft at a temperature of 85 degrees Celsius. Type IV de-icer contains thickeners, making it viscous. It is sprayed on cold and undiluted.

The company responsible for de-icing operations at Munich Airport, Gesellschaft für Enteisen und Flugzeugschleppen

 $<sup>^{2]}</sup>$  All percentages are based on the total number of employees as per  $^{1]}$ .

<sup>2]</sup> All percentages are based on the total number of employees as per 1].

<sup>1)</sup> Seasonal database/fluctuations in year-on-year comparisons are linked to winter weather conditions.

<sup>&</sup>lt;sup>2]</sup> Liquid potassium formate and sodium formate granules

#### Energy consumption and emissions<sup>1</sup>/ GRI standard 301-1, 302-1, 302-2, 302-4, 305-1, 305-2, 305-3

	2016			2015			2014		
	GJ	MWh	CO <sub>2</sub> (t)	GJ	MWh	CO <sub>2</sub> (t)	GJ	MWh	CO <sub>2</sub> (t)
Scope 1: direct energy consumption/emissions									
Natural gas gas/diesel generating sets CHPP	8,193	2,276	455	601,146	166,985	33,352	706,119	196,144	39,168
Natural gas gas/gasoline generating sets CHPP	1,273,319	353,700	70,644	608,234	168,954	33,745	466,906	129,696	25,899
Natural gas boiler plant	10,564	2,934	586	11,956	3,321	663	11,059	3,072	613
Fuel oil gas/diesel gensets	16,943	4,707	1,256	62,086	17,246	4,601	75,841	21,067	5,620
Fuel oil boiler plant	950	264	70	140	39	11	113	31	8
LPG	4,046	1,124	262	3,956	1,099	256	4,041	1,123	262
Fuel oil emergency gensets	1,526	424	113	1,958	544	145	1,582	439	117
Natural gas consumption EFM <sup>2</sup>	7,855	2,182	436	9,943	2,762	552	3,702	1,028	205
Diesel and gasoline	154,001	42,778	11,441	154,764	42,990	11,503	141,296	39,249	10,446
Total scope 1	1,477,396	410,388	85,262	1,454,184	403,940	84,826	1,410,660	391,850	82,339
Scope 2: indirect energy consumption/emissions <sup>3</sup>									
Purchased power 4)	278,606	77,391	45,428	292,421	81,228	49,468	299,600	83,222	49,517
Purchased district heat 5)	126,972	35,270	3,756	128,527	35,702	3,802	86,458	24,016	2,558
Purchased natural gas <sup>6]</sup>	65,449	18,180	3,631	34,160	9,489	1,895	6,070	1,686	337
Power supplied to outside companies 7)	-191,987	-53,330	-31,305	-207,407	-57,613	-35,086	-209,260	-58,128	-34,586
Heat supplied to outside companies	-131,419	-36,505	-6,799	-139,057	-38,627	-7,054	-138,630	-38,508	-7,311
Cooling supplied to outside companies	-18,742	-5,206	-609	-21,380	-5,939	-725	-17,821	-4,950	-589
Natural gas supplied to outside companies	-65,449	-18,180	-3,631	-34,160	-9,489	-1,895	-6,070	-1,686	-337
Purchased power transmitted <sup>8)</sup>	35,923	9,979	5,857	37,865	10,518	6,406	38,415	10,671	6,349
Total scope 2 13)	9)	9)	16,329	9)	9)	16,811	9)	9)	15,938
Scope 3: other indirect energy consumption/emissions (by third parties)	10)	10)		10)	10)		10)	10)	
Electrical energy purchases of outside companies	-	-	31,305	-	-	35,086	-	-	34,586
Heat purchases of outside companies	-	-	6,799	-	-	7,054	-	-	7,311
Cooling purchases of outside companies	-	-	609	-	-	725	-	-	589
Natural gas purchases of outside companies	-	-	3,631	-	-	1,895	-	-	337
Fuel for outside companies	-	-	6,680	-	-	6,806	-	-	7,135
Subtotal	9)	9)	49,023	9)	9)	51,565	9)	9)	49,958
Total annual CO <sub>2</sub> emissions open to influence <sup>11)</sup>			150,614			153,202			148,234
Air traffic (LTO cycle ) 12)		-		-			_	-	
Take-off	- <u> </u>		55,337			52,614			51,052
Climb out			93,711		_	89,241		-	87,605
Idle (traveling on the apron)			162,115			152,431	_	-	145,124
Approach			113,731	-	-	108,362	-	-	105,430
APU with PCA 14)			39,803			42,256		-	41,592
Engine test runs			715		-	640	-	-	997
Feeder traffic <sup>15]</sup>			39,439	_	_	40,176	_	-	39,247
Total scope 3			553,874			537,285			521,005

- <sup>1)</sup> Data collected and reported according to the GHG protocol WRI/ WBCSD Greenhouse Gas Protocol Corporate Accounting and Reporting Standard. Principle of operational control applied. To the extent that they are subject to emissions trading, conversion parameters, such as heat values and emission factors in particular, are determined according to the provisions of the German Emissions Trading Authority (DEHSt). Other conversion parameters are based on the latest publication from the German Federal Environment Agency (UBA).
- <sup>2)</sup> EFM: Gesellschaft für Enteisen und Flugzeugschleppen am Flughafen München (company responsible for de-icing at Munich Airport); associated company
- <sup>3)</sup> Scope 2 emissions reported using the GHG Protocol Scope 2 Guidance (2015) in accordance with the «location-based» method based on emission factors for domestic consumption in Germany, electricity mix, and district heating mix. Net scope 2 emissions with specific emission factors are 0.587 kg/kWh for electricity and 0.213 kg/kWh for district heat from fossil fuels (50 percent biomass). The total purchased district heat consists of 50 percent district heat from fossil fuels and 50 percent district heat from biomass with a specific emission factor of 0 kg/kWh.
- <sup>4)</sup> 38.3 percent electricity from renewable energy sources (as of 2015 according to section 42 of the German Energy Act [EnWG]).
- 5) 50 percent of district heat is purchased from biomass directly from the biomass thermal power plant in Zolling.
- <sup>6)</sup> Solely natural gas purchased (baseline year 2016); no renewable energy sources.
- <sup>7]</sup> Including the quantity transmitted to outside companies
- <sup>8)</sup>Total power transmitted to outside companies and subsidiaries. The specific emission factor used for purchased power was also used here.
- <sup>9)</sup>For physical reasons it is not practical to add heat, cooling energy, and electricity in energy units. The sum can only be used to draw very limited conclusions.
- <sup>10]</sup> No information as values cannot be specified for all items.
- $^{131}$  Sum of scope 1, scope 2, and the subtotal of scope 3a; this is the comparative value for the reference value taken from the baseline year of 2005 at 162,046 tonnes. The CO $_2$  reference value must not be exceeded in spite of expansion plans and the expected growth.
- 12) Emissions calculated using the LASPORT model for classifying flight operations in accordance with the LTO cycle
- <sup>13)</sup> Scope 2 emissions calculated using the GHG Protocol Scope 2 Guidance (2015) in accordance with the «market-based» method results in a figure of 11,181 t of CO<sub>2</sub>. This is based on an emission factor of 0.431 kg/kWh for the Munich Airport network. The other emission factors stated in footnote 3 remain unchanged.
- 14) Calculated from aircraft movements using the LASPORT model, subsequently taking into account the APU emissions avoided by using PCA systems
- 15) Feeder traffic includes the road traffic caused by passengers, visitors, and employees around the airport.

## Generated and purchased power / GRI standard 302-5, 305-1, 305-2, 305-5

Munich Airport produces around 80 percent of its annual heat energy requirements in the Group's own block heat and power plant. Aside from a tiny amount that is generated in peak load boilers, the airport meets the remainder of its heating needs by purchasing district heat from a public utility company in Freising. Since early 2011, 50 percent of this purchased district heat – roughly 18 gigawatt hours [GWh] – has been generated by a biomass thermal power plant in Zolling. This procurement is secured by a long-term supply option for the coming years. This district heat obtained from biomass is renewable and climate neutral, and cuts CO<sub>2</sub> emissions by around 3,800 t per year.

#### Energy intensity coefficient<sup>1)</sup> / GRI standard 302-3

In kWh/passenger	2016	2015	2014
Power consumption	5.51	5.42	5.59

<sup>&</sup>lt;sup>1)</sup> Power consumption is responsible for more than 2/3 of the total CO₂ emissions produced by energy-induced processes at the airport (excluding emissions generated by airlines). Furthermore, it is only very slightly linked to weather conditions. For this reason, the power consumption per passenger is the most useful indicator for energy consumption at Munich Airport. The power consumption is made up of total power consumption of all buildings and installations on the campus, including hosted electricity. It includes power consumption by FMG and its subsidiaries, consumption by external companies, and all losses at the low-voltage level.

#### Greenhouse gas emissions intensity<sup>2)</sup> / GRI standard 305-4

In kg/passenger	2016	2015	2014
CO <sub>2</sub> emissions	3.56	3.74	3.73

<sup>&</sup>lt;sup>2)</sup>The calculation of CO₂ emissions per passenger enables the physically meaningful addition of the various forms of primary and secondary energy used at the airport in relation to passenger figures. The CO₂ emissions from scope 1 and 2 are added, as well as power, heat, cooling energy, natural gas, and fuel consumption by external companies. The figure therefore includes all emissions that must not exceed the targets for carbon-neutral growth.

#### Other greenhouse gas emissions / GRI standard 305-3, 305-6

$\text{CH}_{\text{\tiny 4}},\text{N}_{\text{\tiny 2}}\text{O}$ and greenhouse gases containing fluorine in $\text{CO}_{\text{\tiny 2}}$ equivalent $^{1)}\![t]$	2016	2015	2014
LTO cycle	4,285	4,061	3,849
Feeder traffic <sup>2</sup>	348	389	383
APU <sup>3</sup>	402	426	412
Engine test runs <sup>4)</sup>	7	6	10
Small appliances in buildings	476	409	189
Mobile systems (vehicles)	184	149	42

<sup>1)</sup> Conversion of emissions into CO2 equivalents in accordance with the IPCC Fourth Assessment Report

<sup>&</sup>lt;sup>2]</sup> Feeder traffic includes the traffic caused by passengers, visitors, and commuters in the area around the airport.

<sup>&</sup>lt;sup>3</sup>) Calculated from flight movements using the LASPORT model, subsequently taking into account the APU emissions avoided by using PCA systems

<sup>4)</sup> Estimated figures

#### Measured pollutant concentrations / GRI standard 305-7; GRI A05

In μg/m³	Current legal annual limiting value	2016	2015	2014
NO <sub>2</sub> concentration (nitrogen dioxide)	40	20	20	22
SO <sub>2</sub> concentration (sulfur dioxide) <sup>1)</sup>	20	2	2	2
PM <sub>10</sub> concentration (particulate matter)	40	12	15	15
PM <sub>2.5</sub> concentration	25	9	11	11

<sup>&</sup>lt;sup>1)</sup> Statutory threshold to protect vegetation, only strictly applicable away from urban centers and transport facilities, but complied with here as well as the immission value specified by the administrative regulation TA Luft for protecting human health (50 μg/m³).

#### Air pollutant emissions / GRI standard 305-7; GRI A05

Int	2016	2015	2014
$NO_x$ – air traffic (LTO cycle)	1,509.2	1,450.3	1,401.0
$NO_x$ - feeder traffic <sup>1)</sup>	81.1	91.3	92.0
SO <sub>x</sub> – air traffic (LTO cycle)	107.8	102.1	99.0
SO <sub>x</sub> - feeder traffic <sup>1)</sup>	0.2	0.2	0.2
PM <sub>10</sub> – air traffic (LTO cycle)	12.3	11.8	11.5
PM <sub>2.5</sub> – feeder traffic <sup>1]</sup>	1.5	1.5	1.5

<sup>1)</sup> Feeder traffic includes the traffic caused by passengers, visitors, and commuters in the area around the airport.

#### Total freshwater consumption 13,23 / GRI standard 303-1

	2016	2015	2014
Water purchased from utility in m <sup>3</sup>	1,050,791	1,042,166	991,575
Water consumption per 1,000 traffic units in m <sup>3</sup>	23.0	23.6	23.2

<sup>1]</sup> Includes all companies on the campus.

#### Total wastewater discharge 1),2) / GRI standard 306-1

	2016	2015	2014
Total wastewater discharged from Munich Airport into sewage plant in m³	2,278,601	2,344,085	1,963,719
Volume of wastewater per 1,000 traffic units in m <sup>3</sup>	49.8	53.0	46.0

<sup>1]</sup> Includes all companies on the campus.

#### Water sources / GRI standard 303-1, 303-2

Munich Airport sources its drinking water from the Moosrain water utility company, which extracts it from the tertiary strata via seven water wells at depths of between 94 and 160 meters. The water wells are located in water protection areas at «Obere Point» (surface area 33 ha) and «Oberdingermoos» (surface area 36 ha) in the Oberding municipality.

# Water samples / GRI standard 306-5, 303-1; GRI A04

Under the provisions of the planning approval notice Munich Airport is required to test the water surrounding the airport. Securing evidence regarding the quantity [water level] and quality [water quality] of groundwater is particularly important. FMG measures the water levels of more than 300 groundwater and 17 surface water measurement points on an ongoing basis. Water quality is determined at 18 groundwater and eleven surface water measurement points. All implemented measures are summarized in a report, evaluated, and presented to the water authorities.

<sup>&</sup>lt;sup>2</sup>) Values are derived as follows: water metering in m<sup>3</sup> measured at the drinking water feed points (transfer points) from the water utility company to Munich Airport

<sup>&</sup>lt;sup>2)</sup>The wastewater discharged to the sewage plant consists of domestic wastewater, industrial wastewater, mixed water, and de-icing waste.

#### Waste<sup>1)</sup> / GRI standard 301-3, 306-2

Int	2016	2015	2014	Point of disposal and reuse
Recycling				
Paper, cardboard, and cartons from aircraft <sup>2]</sup>	-		-	Sorting facilities, paper factory in Munich/Schroben-
Paper, cardboard, and cartons from buildings	1,654	1,653	1,673	hausen (wastepaper recycling)
Mixed reclaimed materials/waste for recycling from buildings	3,038	2,993	3,003	
Mixed glass	178	165	168	
Wood	355	294	241	Sorting facilities, recycling firms in Eitting, Schwaig,
Bulk waste	634	407		Moosburg, and Munich (recycling)
Scrap metal containing electronic waste	378	279	282	
Other recyclables <sup>3</sup>	180	189	180	
Total recycling	6,417	5,980	6,036	
Other form of reuse (reuse of materials/energy)				
Food waste <sup>4]</sup>	1,024	843	872	Biogas plant (energy recovery)
Waste from cleaning of aircraft cabin <sup>5</sup>	_	-	-	
Waste for disposal/prohibited liquids (terminal areas)	196	167	171	Munich North power plant (energy recovery)
Waste for disposal from buildings	596	513	553	
Building waste/rubble	2,247	703	810	Recycling/disposal firms (material recycling/pit filling)
Hazardous waste (FMG fraction only, excluding mineral wool)	219	276	278	Recycling/disposal firms [material recycling] or haz-
Of which are subject to ADR (hazardous goods) rules <sup>6)</sup>	180	186		ardous waste specialists in Munich and Ebenhausen
Other waste <sup>7]</sup>	313	429	275	[energy recovery, secondary fuels]
Total material/energy recycling	4,595	2,931	2,959	
Landfill waste				
Insulators (mineral wool) <sup>8)</sup>	309	186	23	
Total landfill	309	186	23	Spitzlberg, Landshut landfill
Total amount	11,321	9,097	9,018	

<sup>1)</sup> All quantities refer exclusively to the disposal processes organized by FMG waste management. This refers to the total figure reported (2016: 11,321 t).

# Hazardous goods: checks and training courses / GRI standard 306-4

Operations at Munich Airport involve a number of substances that are harmful to the environment and water; these must be declared as hazardous goods and transported off site. The vehicles used for transporting hazardous goods were inspected to verify that they are in proper condition and are roadworthy and safe to operate. Employee training on the handling of hazardous goods is held at regular intervals in accordance with legal regulations. In the year under review, 2016, a total of 180 tonnes of waste (previous year: 186 tonnes) declared as hazardous goods were transported away for disposal.

<sup>&</sup>lt;sup>2)</sup> Disposal is no longer conducted by FMG waste management. Disposal and transport services were outsourced to a disposal company in April 2011.

<sup>3)</sup> For example, foil, lightweight packaging

 $<sup>^{\</sup>rm 4]}$  Allresto only Terminal 2 and Satellite from April 2016

<sup>&</sup>lt;sup>5)</sup>Waste from the cleaning of aircraft cabins and catering waste is processed by a disposal firm at the Munich North waste incineration plant/at the power plant in accordance with EC Regulation 1069/2009. Disposal is no longer FMG's responsibility and has been conducted by a specialist contractor working on behalf of the Erding animal carcass disposal association since January 2011.

<sup>6)</sup> ADR (Accord européen relatif au transport international des marchandises dangereuses par route): European Agreement concerning the International Carriage of Dangerous Goods by Road

<sup>7]</sup> For example runway wear, refuse, old tires.

<sup>[8]</sup> Insulators that are collected at a disposal specialist contracted on behalf of the district of Freising and sent away for proper disposal (landfill). Figure has increased due to renovation/roof repair work [mineral wool].

#### Measured noise<sup>1)</sup> / GRI A07

2016		2015		2015		2014	
Night <sup>2]</sup>	Day	Night <sup>2)</sup>	Day	Night <sup>2)</sup>	Day		
52	59	49	58	49	58		
46	56	44	55	44	55		
48	55	48	56	49	56		
44	54	45	55	46	55		
	Night <sup>2</sup> ] 52 46 48	Night <sup>2</sup> Day           52         59           46         56           48         55	Night²         Day         Night²           52         59         49           46         56         44           48         55         48	Night²         Day         Night²         Day           52         59         49         58           46         56         44         55           48         55         48         56	Night <sup>2</sup> Day         Night <sup>2</sup> Day         Night <sup>2</sup> 52         59         49         58         49           46         56         44         55         44           48         55         48         56         49		

<sup>&</sup>lt;sup>1)</sup>Leq3 continuous sound level in dB(A) for the six busiest months at four aircraft noise measuring stations situated on each of the main flight paths.

#### Noise complaints / GRI standard 103-2

	2016	2015	2014
Noise complaints received via telephone	277	174	338
Complainants	189	94	110

#### Population growth in neighboring communities<sup>1]</sup> / GRI A07

Number of residents	2015	2014	2013
Freising (District of Freising)	46,963	45,857	45,806
Marzling (District of Freising)	3,179	3,142	3,094
Oberding (District of Erding)	6,151	5,975	5,838
Hallbergmoos (District of Freising)	10,524	10,364	10,084

<sup>1]</sup> At December 31.

Source: Bayerisches Landesamt für Statistik und Datenverarbeitung (Bavarian State Office for Statistics and Data Processing) - Statistikatlas Bayern (statistical atlas of Bavaria). Figures for 2016 were not available at the time of printing.

# «Green spaces» $^{1)}$ belonging to the airport but outside the airport fence / GRI standard 102-7, 304-1, 304-3

In ha	2016	2015	2014
Additional «organic areas» in total	746	746	745
Compensatory mitigation areas, zone III	374 <sup>2)</sup>	374	370
Airport periphery, zone II	250	250	250
Ecological land reserve for future expansion measures	122	122	125

<sup>&</sup>lt;sup>1)</sup> Green areas in Zone II and III that Flughafen München GmbH maintains as natural conservation areas (in contrast to rented farmland or other real estate).

→ Noise measurement points page 77

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<sup>2)</sup> Hours from 10 p.m. to 6 a.m.

<sup>&</sup>lt;sup>2)</sup>Although additional compensation measures were taken over an area of 2,000 m<sup>2</sup> in 2016, this does not impact the stated number of hectares in terms of the total size.

# Glossary

#### Airports Council International (ACI)

An international organization, headquartered in Geneva, which represents airport operators. More than 1,600 airports in almost all of the countries in the world are ACI members, including 500 airports in 45 European countries.

#### **Auxiliary Power Units (APU)**

In addition to their two or four main engines, today's commercial aircraft have a smaller auxiliary power unit. The APU is used to start the main engines and to generate electrical power when the plane is on the ground.

#### Cash flow from operating activities

A business parameter describing the net cash assets obtained from the business activities during an accounting period.

#### Chapter 2/3 aircraft

These aircraft get their name from the ICAO Noise Standards, Annex 16, Volume 1. They have been banned from use within the EU since April 1, 2002, on account of their noise levels. The German Federal Ministry of Transport records particularly quiet Chapter 3 aircraft in its «bonus list». Aircraft approved after January 1, 2006, now have to comply with the limit values according to ICAO, Annex 16, Chapter 4.

#### Continuous sound level Leq3

Underlying evaluation measurement for the new German Air Traffic Noise Act. It is a measure of the sound energy at the point of observation and is also referred to as the energy-equivalent continuous sound level. Leq3 is measured over 16 hours during the day, from 6 a.m. to 10 p.m. (daytime Leq3), and 8 hours during the night, from 10 p.m. to 6 a.m. (night-time Leq3). The six busiest months of the year are taken as the reference baseline.

#### Covenants

Specific clauses or (additional) agreements in credit contracts or bond conditions. These are contractually binding guarantees made by the borrower or the bond debtor for the duration of the credit agreement.

#### Earnings Before Interest and Taxes (EBIT)

Earnings before interest and taxes (and extraordinary profit/loss, where applicable) is commonly also referred to as operating result or pre-tax profit.

#### Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA)

Earnings before interest, taxes, depreciation, and amortization

#### European Aviation Safety Agency (EASA)

The European Aviation Safety Agency is the European Union's flight safety body for civil aviation and is based in Cologne.

#### German Accounting Standards (GAS)

The GAS are drawn up by the German Standards Committee (DSR) of the Accounting Standards Committee of Germany (ASCG). GAS 20, which has been published since December 2012 in the German Federal Gazette, represents the rules for corporate financial reporting in Germany. Essential requirement changes can be specified both for past and future financial reporting.

#### German Airports Association (ADV)

The umbrella organization of all passenger airports in Germany, Switzerland, and Austria. The organization works to promote Germany as a strong and competitive center of aviation.

#### German Corporate Governance Code (GCGC)

Regulations for listed companies; the Code promotes good and responsible corporate governance and contains nationally and internationally recognized standards in the form of recommendations and suggestions

#### German Sustainability Code (GSC)

The GSC's aim is to make the sustainability performance of German companies transparent and comparable through use of a public database. The German Council for Sustainable Development, which was appointed by and also advises the Federal Government, prepares the German Sustainability Code.

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#### Global Reporting Initiative (GRI)

An independent institution that publishes globally recognized guidelines on sustainability reporting. Its aim is to establish a common baseline for communication and to ensure the comparability of sustainability reports. The new GRI Sustainability Reporting Standards [SRS] replace the G4 Sustainability Reporting Guidelines and will be compulsory for all reports published from July 1, 2018 onward.

#### Greenhouse Gas Protocol (GHG Protocol)

Globally recognized instrument used to quantify and manage greenhouse gas emissions. The GHG Protocol defines requirements governing the calculation of greenhouse gas emissions on an organization-wide scale and the implementation of projects to reduce emissions.

#### International Civil Aviation Organization (ICAO)

Headquartered in Montreal, the International Civil Aviation Organization is an agency of the United Nations. It has a total of 191 contracting states. The goal of the ICAO and its members is to ensure the safe and sustainable development of civil aviation.

# International Financial Reporting Standards (IFRS)

These are accounting regulations for companies that allow financial statements to be compared independently of national standards. They comprise standards and official interpretations of their application.

#### Landing and take-off cycle (LTO cycle)

The landing and take-off cycle refers to an aircraft's  $CO_2$  emissions on the ground and during take-off and landing below an altitude of 3,000 feet [914 meters]. Up to this internationally defined height, any greenhouse gases associated with aircraft turbines are attributed to the airport concerned and distances from the airport of about 8 kilometers in the case of departing aircraft, depending on the climbout, and 17 kilometers in the case of arriving aircraft.

The LTO cycle is made up of four phases:

- Airport approach (up to landing)
- Taxi-in from the runway to the aircraft stand and taxi-in from the aircraft stand to the runway
- Take-off
- Climbout

#### Particulate matter

The variable PM $_{10}$  (particulate matter < 10  $\mu$ m) describes the proportion of particulate matter with a particle diameter of up to 10  $\mu$ m. As a subset of PM $_{10}$ , PM $_{2.5}$  contains even smaller particles.

#### Return on Capital Employed (ROCE)

Business management indicator for showing the profitability of the capital used. It is calculated by dividing the operating profit before or after tax by the total capital minus current liabilities and liquid assets.

#### Schengen/non-Schengen

Departures and arrivals areas for passengers from member states that have signed up to the Schengen Agreement; these passengers have either arrived directly from one of these states or want to travel to one. No border or passport controls are needed. Non-Schengen refers to areas for passengers who have arrived from countries that are not party to the Schengen Agreement. Passports and customs checks are required in this case.

#### Traffic unit (TU)

A measurement unit used to track all commercial passenger and cargo traffic. One TU is equivalent to one passenger arriving at or departing from an airport with hand luggage (a total of 100 kilograms) or 100 kilograms of airfreight or airmail turned over or a combination of passenger volumes (arrivals and departures) and the local airfreight and airmail volumes (unloaded and loaded).

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