

### **Munich Airport International Group**

### A successful global airport operator

#### **Customized offerings**

- Management responsibility and development of staff, knowhow and scalable solutions for airport management services
- Diversification of the consulting service portfolio along the full airport lifecycle

- ✓ Well structured knowledge transfer and global expansion of training services
- Deployment of advanced and innovative technologies for digital transformation of airport services



#### **Background**

30 years ago, we delivered Munich Airport, Europe's first 5-star airport, and invented ORAT as a service. Since then we have shaped some of the world's best airports.



**Vision** 

#### **Mission**

By sharing our best practices world-wide and actively participating in forward-looking developments, we strive to lead the aviation industry into a more sustainable future.



Our goal is to become the most respected partner for industry leaders, operating and investing in airports globally.



years
of international
business

125+

successfully completed projects 45+

countries
account
for global
operations

### **Table of Content**



Who we are



What we offer



Where we come from





# WHO WE ARE OUR GROUP

- ► Facts & Figures
- **▶** Evolution
- ► Group Structure
- Offices

### Our Facts & Figures

### Munich Airport International Group in a nutshell



30+

years of international business



125+

successfully completed projects



45+

countries account for global operations



100+

highly skilled airport experts



Operating **5** airports & terminals worldwide



5-Star

service quality



Integrated

airport business model



**Best Practice** 

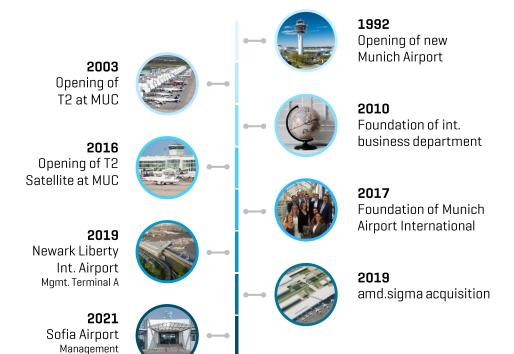
for the entire airport lifecycle





### **Our Evolution**

### From consultant to global airport operator



30 years ago, we delivered Munich Airport and invented ORAT as a service. Until today we have shaped some of the world's best airports. We have diversified our portfolio and are evolving into a global airport operator.

Our goal is to become the most respected partner for industry leaders, operating and investing in airports globally.



### **Our Group Structure**

### Growing our business to meet our clients' needs





### **Munich Airport International GmbH**

### Europe's first 5-star global operator



#### Facts & Figures

- ✓ Founded in 08/2017
- √ 60+ clients worldwide
- √ 90+ completed projects
- √ 35+ experienced countries



#### Purpose

With over 30 years of international experience, MAI is the trusted partner for smart money and ambitious airports offering management, consulting and training services worldwide.



### Value Proposition

- 5-star excellence
- Best practice airport know-how
- Fully-integrated airport business model
- Growing shareholder value by managing airport assets in an efficient and sustainable manner
- Worldwide ORAT leader



#### Contact

Munich Airport International GmbH Nordallee 25 85356 Munich Airport Germany

+49 (0)89 975 102 14 ib@munich-airport.de

www.munich-airport.com/international



### amd.sigma strategic airport development GmbH



### Specialists in strategic airport development, masterplanning & design



### Facts & Figures

- ✓ Founded in 12/1997
- √ 40+ clients worldwide
- √ 48 completed projects
- ✓ 25+ experienced countries

### **©**

#### Purpose

With over 24 years of experience in all aspects of airport planning and design, amd.sigma guides strategic airport development and designs adaptable airport infrastructure.

They advise on privatization projects, prepare relevant proposals and provide recommendations for both internal and external communication.



#### Value Proposition

- Extensive know-how of the dynamic and complexity of airports
- Best practice solutions for all types of airport strategy models
- Flexible development planning, suitable for all future requirements
- Hands-on approach for successful long-term airport infrastructures



#### Contact

amd.sigma strategic airport development GmbH Bismarckstrasse 68 10627 Berlin Germany

+49 (0)30 634 929 00 info@airport-dm.com

www.airport-dm.com



### **Munich Airport NJ LLC**

### Operator of Terminal A at Newark Liberty International Airport



#### Facts & Figures

✓ Founded in 01/2019

#### **New Terminal A**

- √ 13.7 mppa planned capacity
- ✓ Modern, state-of-the-art facilities



#### Purpose

Munich Airport NJ is responsible for maintenance and concession mgmt. at the existing Terminal A at EWR and will be in charge of operations, maintenance and concession mgmt. at the new Terminal A scheduled to open in 2022.

In addition Munich Airport NJ supports the PANYNJ in the smooth transition of operations to the new Terminal A.



### Value Proposition

- Terminal operations and maintenance services
- Concession management services
- Planning and development support for the new Terminal A
- Manage transition to new Terminal (ORAT)



#### Contact

Munich Airport NJ LLC 1 Terminal A Newark, NJ 07114 United States of America

contact@ewr.munich-airport.com
www.munich-airport.com/nj



### **Our Offices**

### Global operator with local presence







# WHO WE ARE OUR PEOPLE & VALUES

- Management
- ▶ Team
- Experts
- ▶ Values

### **Our Management**

### Industry leaders drive our international business

« In-depth airport knowledge is our license to operate. Looking at our diverse team of highly talented and truly passionate airport professionals I see a generation of aviation leaders determined to take the industry to the next level. »

Ivonne Kuger, Executive VP Corporate Development Munich Airport International

« At MAI, we combine operational excellence and international airport project experience as basis for growth and service delivery. We are equipped with outstanding knowledge and solutions for shaping the world's best airports. »

Lorenzo Di Loreto, Senior VP Business Development & Service Delivery, Munich Airport International

> « Our unique business model in combination with our professionals and our long-standing expertise enable us to generate great added-value for our shareholders and stakeholders. »

Dominik Zach, Senior VP Finance & Controlling Munich Airport International « Looking into our future, I see Munich Airport International as Europe's first 5-star airport operator becoming the most respected partner for industry leaders, that are operating and investing in airports globally. »

> Dr. Ralf Gaffal, CEO Munich Airport International

« With our unique approach at Munich Airport we are committed to enhance airport performance by using our broad set of expertise in aeronautical as well as nonaeronautical airport businesses. »

Jean-Pierre Tabet, Managing Director Munich Airport US Holding & Munich Airport NJ

> « amd.sigma provides support for many aspects and areas of strategic airport development. That means bringing together a wide array of expertise. Our employees have extensive experience working for airports and know exactly what it takes to get the job done. »

> > Dr. Lutz Weisser, Managing Director amd.sigma strategic airport development

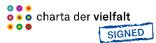
« Bringing new terminals to life while ensuring excellent service levels fascinates me every day. With the upcoming EWR Terminal A we will set a landmark in a new era of airport operation in the US market. »

> Stefan Fornasier, Managing Director Munich Airport NJ





### **Our Team**



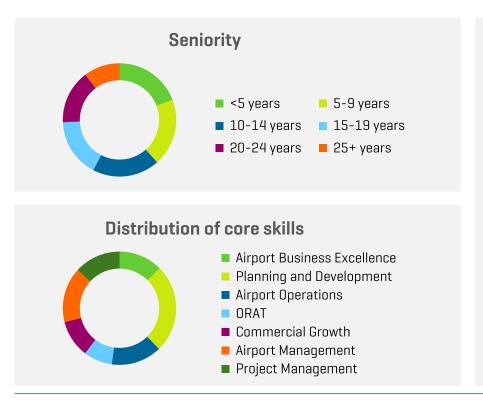
### Hands-on and highly skilled professionals with a passion for aviation





### **Our Expertise**

A total of more than 1,039 years of work experience in the aviation industry



#### Languages (21) Albanian Arabic Catalan Croatian Danish English French German Hindi Greek Italian Hungarian Korean Macedonian Polish Malayalam Portuguese Punjabi Russian Spanish Tamil





### **Our Values**

### These principles unite us in delivering 5-star services





# OUR SERVICES

- ► Service Segments
- ► Airport Management
- ► Consulting Services
- ► Munich Airport Academy
- ► Solutions

### **Our Service Segments**

### Customized, best practice solutions for high performance airports

#### Management

Management responsibility and development of staff, knowhow and scalable solutions for airport management services



#### Consulting

Diversification of the consulting service portfolio along the full airport lifecycle

#### **Solutions**

Deployment of advanced and innovative technologies for digital transformation of airport services

#### **Training**

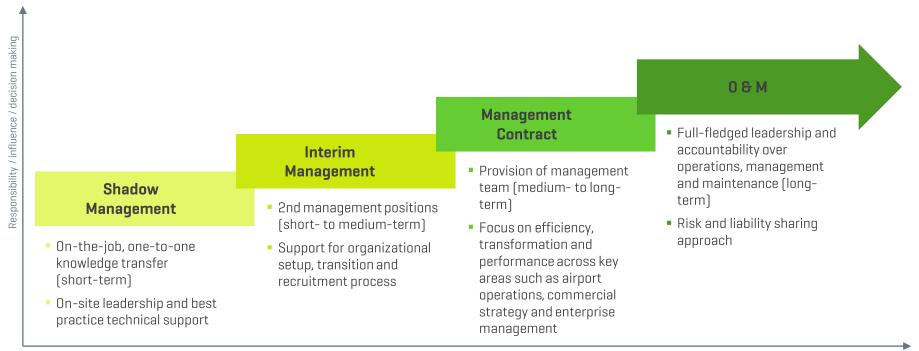
Well structured knowledge transfer and global expansion of training services



### **Airport Management**



### Growing shareholder value by enhancing airport performance



Investment / duration / long-term commitment / risk

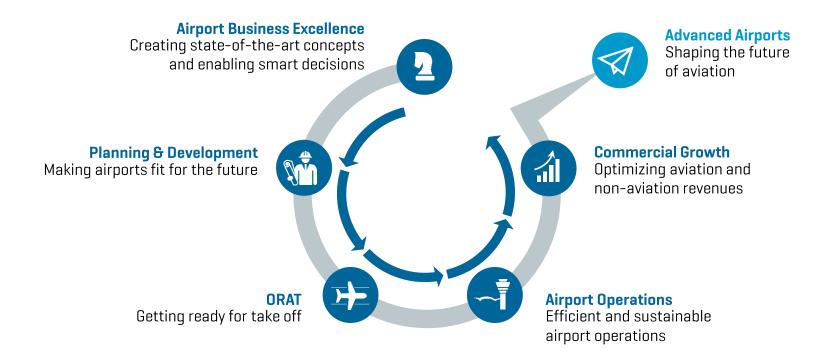




### **Consulting Services**



### Best practice solutions for the entire airport lifecycle





### **Consulting Services**

### Best practice solutions for the entire airport lifecycle

### Airport Business Excellence



- Bid Advisory
- Organizational Development
- Make-or-buy Analysis
- Business Model Development
- Sustainability
- Feasibility & Viability Study

### Planning & Development



- Airport Masterplan
- Airport ICT Masterplan
- Traffic Forecast
- Capacity AnalysisSimulation
- RE Development
- Airport Design
- CAPEX & Investment Planning
- Pandemic Proof

#### **ORAT**



- ORAT for Airports,
  Terminals & Cargo
- Familiarization& Training
- Airport Transfer
- Trial Operations
- Opening Support
- Post Opening Support
- Event ORAT
- Digital ORAT

### Airport Operations



- Business Continuity
   Management
- Airport Operational Documents
- ProcessReengineering
- Ops Control Center
- Passenger
   Experience
- Facility Mgmt.
- Aerodrome Safety
- Airport Security

#### **Commercial Growth**



- Non-Aero Concession
- Airline Acquisition and Route Development
- Market Research and Customer Profiling

#### **Advanced Airports**



- Urban Air Mobility
- Centralized Airport Operations
- CO2-neutral Airport



### **Airport Business Excellence**



### Creating state-of-the-art concepts and enabling smart decisions



#### **Bid Advisory**

Obtain integrated bid advisory services to enlarge your airport, terminal and cargo concession portfolio. Increase your chances of success!



# Organizational Development

Get best practice advice on tailoring the organization according to your business needs and future industry trends. Grow with local and global development!



#### Make-or-buy Analysis

Define the right level of insourcing and outsourcing by assessment of risks, obligations and profitability. Specify your successful business model!



### **Airport Business Excellence**



### Creating state-of-the-art concepts and enabling smart decisions



#### Business Model Development

Transparent planning of your revenue business units and operational expenditures with a detailed business model.

Turn your airport performance into profitability and efficiency!



Sustainability

Set environmental and social standards for your business. Care for the future and contribute positively to society!



# Feasibility & Viability Study

Develop objective and realistic studies for the realization of your airport projects. Set the foundation for smart decision making!



### Planning & Development





#### Airport Masterplan

Develop a balanced concept of your infrastructure suitable to traffic demand, industry trends and commercial needs. Plan your airport with foresight!



#### Airport ICT Masterplan

Derive the optimal ICT masterplan for your airport while considering the trends of digitalization and operational needs. Digital evolution is driving operational excellence!



#### **Traffic Forecast**

Comprehensive analysis of your traffic data in demand forecast and capacity scenarios. Evaluate existing markets and growth potential!



#### Capacity Analysis & Simulation

Conduct operational assessments and simulations, understand your available capacity and find optimal operational models for your airport. Identify the current and hidden potential of your assets!



### Planning & Development

### Making airports fit for the future



#### Real Estate Development

Identify additional potential of your airport surrounding area and develop a real estate development plan. Enhance your business model by smart asset development!



#### **Airport Design**

Develop your new airport infrastructure design and validate design concepts based on your operational requirements. Create an efficient airport design!



## CAPEX & Investment Planning

Review your investment decisions and ensure a balance of capacity in all areas of your airport.

Investment management meets capacity planning!



#### Pandemic Proof Planning

Adjust your processes and masterplan to meet all necessary requirements for safe and smooth operations during a pandemic. Be one step ahead of future health crises!



### **ORAT**

### Getting ready for take off



#### **Airports**

Interface with construction, systems, suppliers and operational stakeholders to prepare operational readiness. Ensure the smooth, on time and in budget opening of an new terminal or airport with our proven expertise!



#### **Airlines**

Use our proven 360° approach to prepare your employees, processes and systems within your airline for operating in a new environment. With our help you are prepared for day one!



#### Cargo & Logistics

Schedule and design the ORAT program to your business and circumstances. Be prepared to guarantee a seamless operation while moving to new facilities. We design the ORAT process according to your needs!



# Intermodal Transportation

We transfer our ORAT experience into other sectors. Whether it's the commissioning of a new station or the set up of a transportation hub: Our services are as flexible as your preferences!



### **Airport Operations**

### Efficient and sustainable airport operations



# Business Continuity Management

Guarantee the highest level of stable operations in any downturn event. Be prepared for the worst case scenario!



## Airport Operational Documents

Develop and update your operational documents while making sure they are compliant with the latest international standards, regulations and best practices. Have all necessary docs in place!



#### Process Reengineering

Define and reengineer your processes for more operational efficiency, productivity and profitability. Make the most out of your resources!



### Operational Control Center

Centralize operations decision making and review your center layout, operational structure and definition of responsibilities. Integrate operational processes for advanced command and control!



### **Airport Operations**

### Efficient and sustainable airport operations



#### **Passenger Experience**

Achieve a user-centered, seamless and sustainable customer experience thanks to our 5-star best practices. Make sure your passenger's enjoy their stay!



#### **Facility Management**

Maintain and manage your airport infrastructure, incl. buildings, airfield and airport systems, at its best. Increase lifecycles and optimize REPEX!



#### **Aerodrome Safety**

Follow a holistic approach in the development and implementation of your ISMS (Integrated Safety Management System). Be able to address safety issues before they lead to an incident!



#### **Airport Security**

Develop and maintain a security plan specific to your organization and operations. Protect your people, infrastructure and business from possible threats!



### **Commercial Growth**

### Optimizing aviation and non-aviation revenues



#### Non-Aero Concessions

Concept design, layout & category planning, tenant acquisition, marketing activities & KPI monitoring.

Maximize non-aero revenues for higher profitability!



## Airline Acquisition and Route Development

Create an airline marketing strategy, that positively influences the route development and airline decision-making process. Drive your air traffic growth with aeronautical charges and strategic tariffs!



#### Market Research and Customer Profiling

Deep dive analysis of your passenger and customer segments. Put the customer needs first in your value proposition!



### **Advanced Airports**

### Shaping the future of aviation





#### **Urban Air Mobility**

Besides planning to operate a Vertiport at Munich Airport, we strive to consolidate our best practices into an offering of competitive and easily scalable Vertiport-asa-Service solutions worldwide. Don't miss out on the future of aviation.



#### Centralized **Airport Operations**

A centralized, remote unit consolidates the operation control of several airports at a single location. Generate synergies to lower costs, increase productivity and improve shareholder engagement!



#### **CO2-neutral Airport**

Assume responsibility for climate protection in all airport areas by reducing your direct and indirect CO2 emissions. Lets work together towards a greener aviation!





### **Munich Airport Academy**



### Developing talent for managing the airport of the future

### **Training Execution**

- ✓ Experienced trainers
- ✓ Review training progress
- ✓ Classroom sessions
- ✓ On-the-job training
- ✓ Training evaluation

#### **Tailor-made Training**

- ✓ Organizational development
- ✓ Training-need-analysis
- ✓ HR-strategy
- ✓ Service transformation



#### **Training Assessment**

- ✓ Review existing training
- ✓ Learning needs analysis
- ✓ Training concept design

#### **Training Coordination**

- ✓ Set-up training coordination
- ✓ Support services & logistics
- ✓ Training scheduling
- ✓ Training matrix



### **Solutions**



### Advanced technologies and smart applications made @ Munich Airport

#### Passngr App

Make it your flight! Have all travel information at your fingertips with our mobile solution.

- Flight details and importance guidance for all airports
- Convenient travel planning to and from the airport
- ✓ Relevant service suggestions & automatic WiFi access



- ✓ Cost-savings through less manpower
- ✓ Avoidance of 24/7 ops staff at each airport





#### **Total Operations Manager**

Centralized unit to organize, manage and streamline the operation of an airport.

#### InfoGate

Multilingual and video-based communication system providing extensive information.

- ✓ Face-to-face communication via interactive counter
- Touch and buzzer/button interaction
- Card dispenser and animated map feature



- Synergies through centralization
- ✓ All expertise in one place
- ✓ All stakeholders integrated





# OUR EXPERIENCE

- **▶** Current Projects
- ► Track Record
- Clients
- ► Client Testimonials

### **Our Current Projects**

### Work in progress





#### USA

- Newark Liberty Int. Airport / ORAT, O&M & Concession Mqmt. T-A
- John F. Kennedy Int. Airport / Terminal One Development
- Houston Airport / ORAT Program Review



#### **Central America**

- Palmerola Int. Airport / Airport Planning
- Toncontin Int. Airport / Airport Take-Over & Operations Support
- El Salvador Int. Airport / Cargo Terminal Transition Services



#### Worldwide

ACI / Passenger Experience Management Training



### **Our Current Projects**

### Work in progress



#### **Europe**

- Amsterdam Schiphol Airport / ORAT
- Sofia Airport / Management & Support Services
- Berlin Brandenburg Airport / Bid Advisory Support
- Salzburg Airport / Site Development Study
- Vlore Int. Airport / Masterplan & Terminal Concept Design



#### Saudi Arabia

■ Riyadh & Jeddah Int. Airports / ORAT



#### Nigeria

Federal Airport Authority / Best Practice Exchange



#### **Central Asia**

Samarkand Int. Airport / ORAT & Commercial Consulting



#### India

- Navi Mumbai Int. Airports / Masterplanning & Land-Use Planning Support
- 6 Regional Airports / Airport Take-Over Support & Improvement Plan





### **Our Track Record**

### Successfully completed projects

BRU (Brussels)
SOF (Sofia)
HAM (Hamburg)
ZAG (Zagreb)
NCE (Nice)
SCN (Saarbrücken)
BER (Berlin)
BWE (Braunschweig)
HAJ (Hanover)
HAM (Hamburg)

KLU (Klagenfurt)

LNZ (Linz)

VIE (Vienna)

#### North and Latin America

DFW (Dallas F.-W.) EWR (Newark) JFK (New York) LAX (Los Angeles) BDA (Bermuda) BPS (Porto Seguro) BSB (Brasilia) CNF (Belo Horizonte)

FOR (Fortaleza)
GIG (Rio de Janeiro)
POA (Porto Alegre)
VCP (Viracopos)
HAV (Havana)
UIO (Quito)
SAL (San Salvador)
XPL (Palmerola)

#### Middle-East / Africa

DLA (Douala)

CAI (Cairo)

YAO (Yaoundé)

LBV (Libreville)

TML (Tamale)

DUR (Durban)

KRT (Khartoum) BAH (Bahrain) KWI (Kuwait) MCT (Muscat) SLL (Salalah) DOH (Doha) JED (Jeddah) RUH (Riyadh) TIF (Taif) AUH (Abu Dhabi) Etihad Airways

#### Asia Pacific

Airports of Iceland

SKD (Samarkand)

CRZ (Turkmenabad)

ASB (Ashqabat)

KBP (Kiev)

PKX (Beijing)
SHE (Shenyang)
TAO (Qingdao)
WUH (Ezhou)
BOM (Mumbai)
DEL (Delhi)
HYD (Hyderabad)
HIJ (Hiroshima)

**Europe / CIS** 

RIX (Riga)

MAL (Malta)

AGP (Malaga)

MAD (Madrid)

ZRH (Zürich)

IST (Istanbul)

BUD (Budapest)

SAW (Istanbul)

LHR (London)

BCN (Barcelona)

CGN (Cologne Bonn)

EDBW (Werneuchen)

DUS (Düsseldorf)

SDJ (Sendai)
Airports of Hokkaido
KUL (Kuala Lumpur)
MLE (Maldives)
SIN (Singapore)
BKK (Bangkok)
SWZ (Sydney)
Airports of Nepal



### Clients Choose Us...

### ...because we are a trusted partner for smart money and ambitious airports



**Doha Hamad Int. Airport**Skytrax 5-star



**Quito Int. Airport**Skytrax 5-star



**Salalah Int. Airport**Skytrax 5-star



**Changi Int. Airport**Skytrax 5-star



Muscat Int. Airport
Skytrax 4-star



Biggest move in aviation history



### Clients Choose Us...

### ...because of our 100% success rate on bid advisory projects



**Airports of Hokkaido** Hokkaido Airport Terminal Co. Ltd.



John F. Kennedy Int. Airport
Carlyle Global Infrastructure
Opportunity Fund L.P.



Sendai Airport
Tokyu Corporation, Maeda Corporation,
Masquaire Capital Japan



Belo Horizonte Int. Airport
CCR, Zurich Airport AG,
Flughafen München GmbH



Palmerola Int. Airport
EMCO Corporación



**Sofia Int. Airport** Meridiam SAS, STRABAG SE





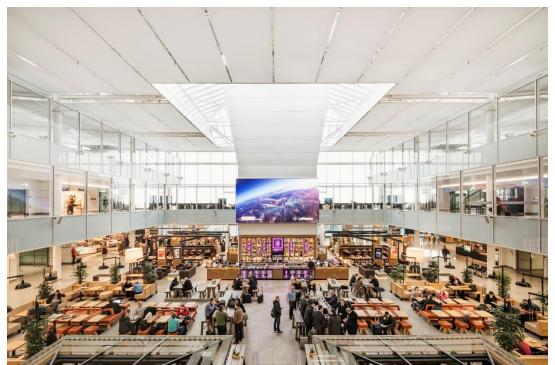
# WHERE WE COME FROM OUR HOMEBASE

- ► Facts & Figures
- ► Historic Milestones
- ► Development Projects
- ► Infrastructure
- ► Airport City

- Skytrax Awards
- Sustainability
- ▶ Corporate Structure
- ► Corporate Strategy

# **Munich Airport**

# Europe's first 5-star airport









# Facts & Figures

### The Bavarian hub in a nutshell



47.9 million

passengers



38,090

employees on campus



101

airlines



417,138

aircraft movements



356,970 tons

air freight



Asi J

**72** 

countries



**518** 

businesses on campus



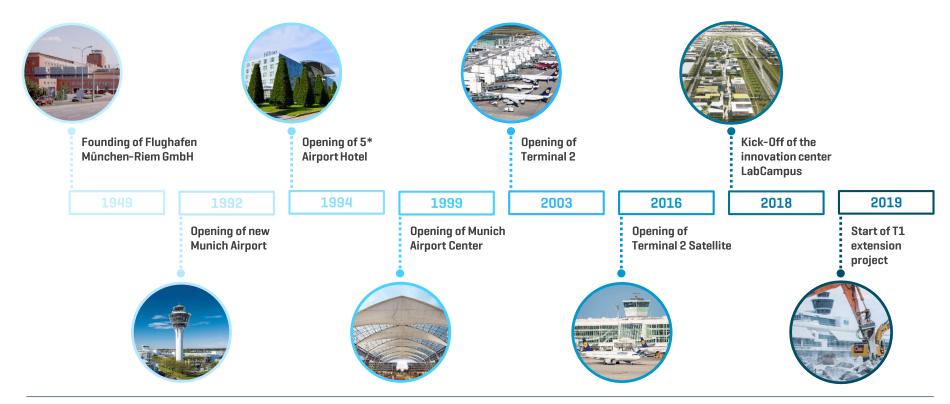
**254** 

destinations



### **Historic Milestones**

# From city airport to Europe's first 5-star hub



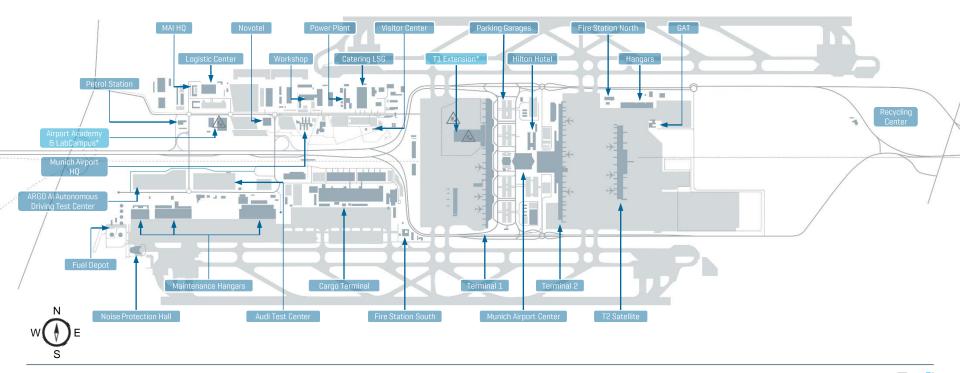


# **Munich Airport**



### Infrastructure

A smart and well-thought-out layout comprising a large variety of facilities





# **Airport City**

It is more than just an airport

**Around 35,000 parking spaces** 

Around 60 restaurants, 11 medical bars and cafés

practices 11 bee colonies

15 car parks

5 explosives detection dogs

45 fire fighting vehicles

13 tour operators

1 power plant

1 church

2 filling station

# **>150** shops

34 modern conference rooms at municon

1 Airport Hospital

808 hotel rooms

2 prayer rooms

1 cyber security lab

9 playgrounds and play corners

. brewery

acetracks

# **Skytrax Awards 2020 / 2021**

# Repeatedly ranked among the best worldwide

### **Europe's Best Airport**

1st place for the 14<sup>th</sup> time\*\*
[2005 - 2008, 2010, 2011, 2014 - 2021]

# World's Best Airport 40-50 million passengers

1st place\*

### **Europe's Cleanest Airport**

2nd place\*\*

### **Europe's Best Airport Hotel**

2nd place\*



### **Europe's Best Airport Staff**

4th place\*\*

### **World's Best Airport**

6th place\*\*

### World's Best Airport for Leisure Amenities

5th place\*

### **World's Best Airport Terminal**

6th place\*



# Sustainability

## Living up to our responsibility



# 60% reduction 40% compensation

for a carbon-neutral airport by 2030



### **Block heat and power plant**

achieves a 40,000 ton reduction in CO2 per year



# Noise and air quality measurement stations

at 18 locations



### Green space makes up 60%

of the airport campus



### Part of a bird sanctuary

with 40 endangered bird species



### A recycling rate of 56%

for de-icing fluid



# Sustainability

### Successfully implemented key projects



# Apron Lighting Optimization (2012-2018)

- Automated operation based on flight schedule and LED upgrades
- CO2 emissions saved: 3,500 t p.a.
- Investment: 8 MM €
- Annual savings: 1 MM €

#### Block Heat and Power Plant (2014)

- Local electricity production and heat generation through residual heat
- CO2 emissions saved: 40,000 t p.a.
- Investment: 30 MM €
- Annual savings: 11 MM €





#### Upgraded Air Curtain Systems (2018-2019)

- Reduced HVAC operation, applied to almost all building entry points
- CO2 emissions saved: 1,000 t p.a.
- Investment: 420,000 €
- Annual savings: 200,000 €

### Bio-Methane Bus

(ongoing)

- Retrofitting existing fossil fuel buses with engines using bio-methane
- CO2 emissions saved: 60 t/bus p.a.
- Investment: 200,000 €/bus
- Annual savings: 20,000 €/bus





# Our Parent Company - Flughafen München GmbH

A solid and profitable full service operator



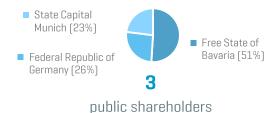
€ 1.6 billion

group revenue



9,806

employees





€ 177.8 million

consolidated EAT





16

direct subsidiaries



€ 554.3 million

EBITDA



55% | 45%

aviation vs. non-aviation



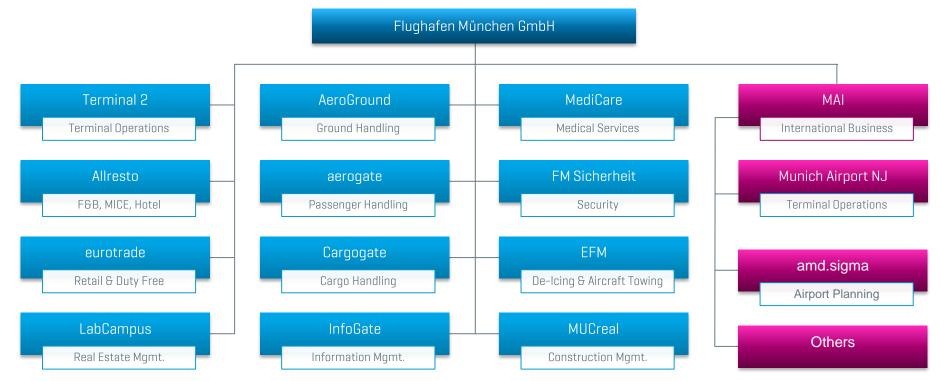
€ 150 million

investment in climate protection



# **Corporate Structure**

### Diversified across all airport related services



Additional FMG subsidiaries: FM Bau (client representation), Parken (parking space rental) and FMV (insurance brokering)



# **Corporate Strategy**

# Shaping the airport of the future



#### Airside Traffic Development

Maintain development as a transport hub

Safeguard the quality of hub operations

Expand infrastructure depending on needs



# Landside access & traffic development

Extend range of landside mobility options

Continue to improve rail access

Improve road links



#### Drive seamless travel

Contribute to digital standardization within the travel chain

Make greater use of digital communication channels for service, sales, and information

Expand digital partnerships



#### Expansion of nonaviation business

Increase customer focus

Enhance the spheres of shopping and experience

Continue to develop Airport City and the real estate location



# MAI claims responsibility!

Further development of international advisory, management and training activities

Evolve new business areas and services

Continue to expand international exchange and partner network



# Thank you



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