Airport Construction
Risk Management Services

M2P PRODUCT OFFERING
AIRPORT CONSTRUCTION TO RESPOND TO AIRPORT CAPACITY BOTTLENECKS AND INCREASED INTERNATIONAL TRAFFIC

Currently around 1 trillion USD are planned globally in airport capacity expansion projects\(^1\). Still, industry and political representatives repeatedly emphasize on an upcoming infrastructure crisis due to lack of airport handling capacity, e.g. in the US or in Europe, but also in fast growing markets, such as South-East Asia. Therefore, investments in global airport expansion and construction remain strong\(^2\).

Airports around the world are facing capacity bottlenecks, especially in the Sub-Continent and South-East Asian markets like for example Bangalore and Kuala Lumpur. Also European airports are looking at major terminal overhaul projects at legacy airports and the construction of new runways and terminal buildings (e.g. Lisbon). Most greenfield construction projects are centred in the growth powerhouses of air traffic, being Asia and the Middle East and follow the trend of aircraft order volumes.

PITFALLS OF AIRPORT CONSTRUCTION AND KEY LEARNINGS

Airport construction projects have been increasing in their frequency due to the raising number and scale of greenfield projects and airport extensions throughout the past decade. Whilst the majority of airport constructions were completed and commissioned at some point, this type of major project is often associated with large-scale cost overruns, delays, operational disruptions, safety issues and subsequent reputational damage. The causes and sources of these are diverging and represent an important example of lessons learned.

The most prominent example, in Europe as well as the global market, is the case of the Berlin-Brandenburg Airport in Germany. With construction having begun in 2007, the initially scheduled opening date was 2011. However also other airport construction projects face numerous and long-standing issues. One overarching issue is the original decision towards a multi-contractor project environment instead of a single vendor contract in order to optimize costs. The construction project is lacking contractor alignment and a continuously changing project team without the required knowledge transfer. Keeping the volume of external interfaces to a minimum and implementation of a proper risk management have been key lessons learned by this on-going construction.

Similar in size, the Abu Dhabi Airport Midfield Terminal project has been under construction since 2012. The opening has been delayed multiple times from its initial time frame in 2015 and is currently estimated for 2020. Key issue are the contrary requirements established by Abu Dhabi Airports and the home carrier Etihad Airways, both being equally responsible for the delivery of the project. A strong mediator to align the diverging interests and manage the idiosyncratic stakeholders closely would have been a crucial success factor for this new terminal which should foster growth in the region to compete against its local rival Dubai.

Another recent, however, smaller scale example, is the airport of St. Helena. Upon completion of the airport, ecological factors (occurrence of fallwinds) in the approach and take-off path had been detected, putting the operational feasibility of the airport under review and delaying its operational start date. Despite being of smaller scale compared to the above mentioned examples, this project serves as yet another key lesson learned with

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\(^1\) Source: Capa Center for Aviation

\(^2\) Source: International Airport Review
regards to investigation of all relevant risks e.g. operationally, financially and ecologically, prior to commencing construction.

M2P CONSULTING – THE IDEAL PARTNER TO ADD VALUE

M2P provides substantial experience, tools and judgment to support its clients to successfully deliver an airport construction and commissioning programme or project. Through the M2P team’s vast experience in airport operations, airport construction, risk management, programme and project management as well as the commissioning of infrastructure in the Americas, Europe, Africa and Asia, our knowledge and capabilities cover, amongst others, the following aspects:

- Development of programme and project risk management governance and processes (reporting) in alignment with the PMI methodology
- Development of project risk management policies and procedures
- Alignment of project goals and risk management (risk appetite)
- Development of key risk indicators (KRI’s)
- Identification of all relevant risks (risk universe)
- Development of risk breakdown structure (RBS) and an underlying database with all identified risks
- Assessment of risk impact and likelihood of impact
- Development of risk countermeasures
- Monitoring of risks and countermeasure implementation
- Creation of the regular risk reporting documentation to e.g. the investors or the airport’s board
- Contract risk management for tendering
- Contractor risk assessment
- Stakeholder analysis and management
- Compliance with general, construction, aviation, environmental and aerodrome & work health safety regulations
- Management and alignment of regulatory stakeholders or others e.g. military
- Technical and functionality risk assessment for the commissioning phase e.g. of information and communication systems
- Overall programme or project management
- Creation of project risk management documentation like policies, procedures and templates such as risk register, risk maps and reporting templates or dashboards
APPRAOCH AND METHODOLOGY

There are several factors that can endanger a successful airport construction, ranging from aerodrome safety matters to macroeconomical conditions and non-compliance with regulatory requirements.

In order to conduct a large scale and complex construction project such as an airport, M2P integrates the project risk management cycle in the five construction phases: planning, design, tendering, construction and ORAT. A risk management milestone is placed before every phase to assess and discuss major factors that might endanger the achievement of project objectives. Integrated and holistic risk management helps the client to identify, assess and categorize all relevant risks and to respond to these:

Please find below a sample deliverable that M2P can develop for you as part of the risk identification of an airport construction project. Below a risk breakdown structure is displayed that provides you with an overview over all relevant risk categories. Every risk should be able to be allocated unambiguously to one risk category. The RBS is interconnected with a database that contains all identified risks in an organized manner. The example RBS shown below is structured in phases facilitating the identification of risk concentrations and interconnectivities. These risks may be specific to the construction phases, cut through the phases or be external:

**Project Risks:** Project risks are split in accordance with the five construction phases Planning, Design, Tender, Construction and ORAT. These type of risks are controllable by the airport.

**Organisational Risks:** Organisational risks are common risks that materialize across multiple project phases and are controllable by the airport.

**External Risks:** External risks are all risks that might affect the construction project but cannot be controlled by the airport.
Risks may occur due to interfaces of the construction work with the ongoing airport operations or with other ongoing or planned airport construction projects.

Once materialized, these risks affect the project objectives such as schedule, scope, cost, quality, safety and security, business continuity and reputation.

Effective risk management reduces the variability of these project objectives, increases the understanding of the factors that may affect the project outcome and improves decision making in order to enforce the delivery of project value.

M2P can help you by developing an effective risk management system to allow you to identify relevant risks timely, assessing and prioritizing risks accurately and deploying sufficient and effective countermeasures.

Part of M2P’s core business is the operational side in the aviation business, with a long list of clients in airports, airlines and the stakeholder environment, including public, private and federal authorities. We understand to assess the target’s existing infrastructure and potential to expand or increase efficiency, supporting the client end-to-end throughout all of the three phases. Constant stakeholder transparency in data transfer and communication, as well as a mediation and alignment function, is a key strength of M2P and will reduce the residual risk for the client to a minimum.
LET’S PARTNER TO ASSESS YOUR AIRPORT INVESTMENT OPPORTUNITY

Contact us for an immediate, no obligation discussion of the situation and needs of your organization, your requirements and schedule, and how M2P will assure your total satisfaction as a valued client.

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More than 12 years of experience in top management consulting especially turnaround, restructuring and raising efficiency projects. Former VP at Deutsche Telekom Capital Partners and CEO of T-Venture, Europe’s biggest strategic venture capital firm.

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More than 5 years of experience in consulting boards of international companies across various industrial sectors in Asia and Europe. Focus on major projects, strategy, risk management and supply chain management.

WHY M2P

Our team of leading airport and airline industry experts in business planning, strategy, and management plus stakeholder communications and relations have been delivering award winning services to clients for more than 19 years. We are independent and objective.

OUR STRENGTHS

M2P has real world functional and operational experience in airports and airlines, combining the knowledge and experience of strategy consultants and functional specialists. Thus, we provide expertise across all airport subjects: business strategy, operating standards, airport operations, physical asset, human resource management, security planning, and business restructuring.

We possess a deep understanding of airline strategy, regulation, financing, operations, route development, and setting of airport charges to airlines in the U.S., Europe and elsewhere. And M2P’s digitalization expertise adds value in assessing future ways of doing business.

OUR PROFILE

M2P has a global presence, with more than 100 dedicated employees serving all markets and several industrial sectors worldwide from offices in New York, Silicon Valley, London, Frankfurt, Dubai and Hong Kong. We have provided value to satisfied clients via 500+ projects within the past 19 years.