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strategic airport development

PROJECT DEVELOPMENT FOR AIRPORT BUILDINGS: CREATING MORE SPACE WHILE MINIMIZING RISKS

TWO NEW BUILDINGS FOR AUTHORITIES AND GROUND HANDLING SERVICES AT HAMBURG AIRPORT

Hamburg Airport has one thing in common with many airports located close to major European cities: a scarcity of room for expansion. As passenger numbers increase, these airports quickly reach the limits of their capacities. At Hamburg Airport, amd.sigma has demonstrated how user-oriented project development can create more space and minimize traditional project risks.



Fig. 2: Status quo before construction of the two new buildings on the south site of Hamburg Airport (Source: Google Earth)



Fig. 3: Concept of project development of the administrative office building (back left) and the ground handling service building (front right) (Source: amd.sigma)

In an iterative process, all user groups were interviewed several times and were able to contribute their suggestions to the planning process. One of the results of this was the idea of including a fitness studio to promote the physical fitness and well-being of ground handling service staff.

Based on the user requirements, amd.sigma then created a detailed room plan that identified all rooms, including their functions, connections, and any special features. This information was transferred to a corresponding BIM building model. On this basis, the team was able to provide a reliable cost estimate.

This user-oriented approach has several advantages: the various requirements can be identified at an early stage and then be assessed to determine whether or not they can be accommodated within the existing properties and in compliance with important general regulations, such as fire protection. As all users are involved in the planning process, the result is a much more comprehensive plan which minimizes the risk of additional changes and alterations, and their associated costs.

CONTRACTING: OPTIMIZING THE AWARD PROCESS

amd.sigma's scope also included developing a strategy for awarding contracts. Together with the purchasing, legal, and real estate departments, the airport management decided to award the construction contract to a general contractor, who would be responsible for preparing all the documents for the

building permit and all subsequent planning phases. The functional tender prepared by amd.sigma was formulated in such a way that potential bidders could submit binding tenders that already contained preliminary project planning and drafts for the design of the building facades.

THE RESULT: MAXIMUM ADHERENCE TO SCHEDULE AND BUDGET



Fig. 5 : Opening of the administrative office building spring 2018

The results are impressive: since early 2018, both buildings at Hamburg Airport have been in operation. Goldbeck, the general contractor who was awarded the contract, planned the entire project in just over six months. An important basis for this were the building layouts and requirement assessments that amd.sigma had consulted upon with all users. In close cooperation with the dedicated project manager at Hamburg Airport, who had been a part of the project development and contracting process, the two buildings were erected on schedule, beginning in mid-March 2016, and finishing within a construction period of only fifteen months. The costs remained within the 35-million-euro budget that had been calculated.



Fig. 6: The new ground handling building

THE KEY TO SUCCESS: ONE-STOP PROJECT DEVELOPMENT AND CONSTRUCTION

The expansion at Hamburg Airport exemplifies how comprehensive project development leads to maximum planning security. Even under difficult conditions, such as lack of space, a high demand for multi-functionality, or a complicated building structure, this approach helps to avoid cost increases and virtually eliminates scheduling risks. In Hamburg, the combination of up-front project development with subsequent planning and construction by a general contractor was the key to success, and management was happy with the result.

KEY FACTS:

ADMINISTRATIVE OFFICE BUILDING	
Footprint:	87x22m (286x72 ft.)
Gross floor area:	9.800 m ² (32,152 sq. ft.)
Number of floors:	5
Users:	federal police, state police, customs, airport management
Room plan:	offices, changing rooms, washrooms, break rooms, special-function rooms
Number of employees:	approximately 400 positions
Cost:	20 million euros

GROUND HANDLING SERVICES BUILDING	
Location:	approx. 450m (ca. 0.5 miles) removed from the administrative offices building
Footprint:	76x22m (249x72 ft.) (LxW)
Gross floor area:	8.500 m ² , (27,887 sq. ft.)
Number of floors:	5
Room plan:	changing rooms, washrooms, control rooms, offices for ground handling services, cafeteria, fitness center, and other user offices
Number of employees:	up to 1,000 positions, with more than 180 office workplaces
Cost:	15 million euros

TOTAL PROJECT COSTS / DURATION	
Total building costs:	approx. 35 million euros
Project development:	24 months
Contract awarding:	8,5 months
Planning time for general contractor:	7,5 months
Construction time:	15 months
Commissioning:	1. Quartal 2018



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amd.sigma is a German consulting firm based in Berlin that specialises in strategic airport development. amd.sigma has worked on projects for all major German airports as well as for major international airports in Europe, Russia, the Middle East, North- Middle- and South America.

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