

## Airport Complex<sup>1</sup>

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### Background

Airport Complex was founded in Northern Europe in the late 1940s, and at the time it primarily served as a domestic airport. During the 1970s, flights to foreign destinations became an ever more vital activity for the airport. Today, the airport functions as a hub for a large portion of Nordic air traffic. The fact that the airport is a hub means that a great deal (approximately 35-40 per cent) of the airport's passengers only touch down at the airport to catch another plane to a new destination. The airport remained state property until the mid-1990s when the airport was transformed into a private company, though the state held on to a substantial ownership share.

### EXHIBIT 1

#### Key figure development: Airport Complex

(All amounts in 1000 Euro)	(budget)				
	1995	1996	1997	1998	1999
Turnover	203 800	207 876	214 112	222 677	218 223
Pre-tax profit	61 140	61 751	61 751	62 492	60 118
Assets	680 000	748 000	782 000	802 400	816 000
Profit margin	30%	30%	29%	28%	28%
Return on investments (ROI)	9%	8%	8%	8%	7%

Naturally, this generated an increased focus on the airport's financial performance, which, however, boosted healthy profit margins. This also constituted the background for the continued extension of the airport, which today has placed itself as an airport entering the medium-size class of Nordic airports. The profit margins of the airport (see Exhibit 1) have suffered a decline over the past few years due to a combination of deteriorating income as a result of a fall in domestic traffic and costs that have not decreased correspondingly. At the same time, tax-free sales were abolished in 1999. This has contributed heavily to the decline in revenue.

Investors have consequently requested that the airport commit itself more to a focus on the overall profitability measured against the invested capital. Accordingly, the management has now decided that the efficiency of the airport should be subject to assessment. An airport is characterized by the fact that almost all costs are capacity costs. This is partly due to significant investment in buildings, runways and technology, but also to the large staff which handles the administration, operation and maintenance of the airport. The management suspects that the costs are not sufficiently adjusted to the income. In particular, the management finds it difficult to get an overview of how the various business areas utilize the airport's resources and services and thus contribute to the bottomline of the airport.

### Business areas

The revenue of Airport Complex derived from five different areas; take-off duties from air traffic, passenger fees, rental income from property, licensing income from the airport's shopping centre and

<sup>1</sup> This case is written by Peter Nordgaard, part-time lecturer, and Carsten Rohde, associate professor, Copenhagen Business School. Airport Complex is a fictitious case, and the information in the case is thus constructed on the basis of the authors' knowledge about and interest in European airports. The case has been simplified for teaching purposes, and thus it cannot serve as a basis for comparison with specific airports.

sundry income related to provision of services in the airport. Each of the five business areas is briefly outlined in the following discussion.

### **Take-off duties**

Every time an aircraft departs from the airport, the airline pays a take-off duty. The duty is calculated on the basis of the type and weight of the aircraft. The income is related to the airline's use of the airport's control of the air space, runways, technical equipment such as runway lights, meteorological equipment, facilities on the gate for cleaning the aircraft, changing the air in the aircraft, fuelling, de-icing, etc. After the aircraft has landed, it is guided to a gate. If the pilot does not know the airport, airport personnel will guide the aircraft to its gate. There are two types of gates: gates served by a building, i.e. the gate is connected to one of the airport's terminals allowing passengers to leave the aircraft and enter the terminal directly, and remote gates where the aircraft is parked somewhere else in the airport area from where passengers are subsequently transported by buses to one of the airport terminals. Airlines are in broad consent that building-served gates service passengers far better than remote gates. Still, prices for building-served and remote gates are currently not differentiated, though the management has discussed this question. In addition to the take-off duties, a stopover duty is also payable depending on how long the aircraft stays in the gate. The first hour, however, is free.

### **Passenger fees**

Take-off and stopover duties are complemented by a passenger fee per passenger on the aircraft. These three sources of income are collectively referred to as traffic income. Passenger fees depend solely on the number of passengers. The passengers' points of departure and final destination are thus not relevant to the calculation of the fee. In principle, passenger fees relate to the passengers' use of the airport area and services. This covers for instance buildings, transport to the terminal, service information, luggage handling and passenger areas in the airport. A differentiation on the prices for domestic passengers and those travelling to destinations abroad was previously in force, but EU competition rules have now put an end to this differentiation. It has been discussed whether there should be different passenger fees for passengers who merely touch down at the airport, but never leave the aircraft (transit passengers) as opposed to passengers who only land at the airport in order to get on a new plane (transfer passengers), as these passengers do not use the airport's landside areas. Every year, the relation between take-off duties and passenger duties is also discussed, as there are occasional imbalances in the case of small aircraft with many passengers and large aircraft with few passengers.

### **Rental income**

Parts of the airport buildings are let out to airlines, travel agencies and shops. This revenue is collectively referred to as rental income. Prices are fixed as per square metre and vary with the use of the rented premises and its location within the airport area. Besides yielding a reasonable profit margin, rental income must in principle cover wear and tear, maintenance, use of common facilities such as toilets, lifts, etc.

### **Services**

In connection with renting of buildings, supplementary services such as cleaning, security guard surveillance of rooms and shops, access to canteens and to the airport's computer network are also offered. This income is collectively referred to as income from provision of services and is of course related to the airport's costs in connection with these services. In recent years, this income has seen a rapid increase as a result of the airport seizing ever more opportunities for expanding the range of its services offered to the airport's customers.

### Licensing income

Finally, the airport generates income from licensing agreements entered into with shops and agencies that rent premises in the airport. In addition to rent for the premises, a duty is payable for running a shop within the airport's area. The licensing agreements are based on the payment of a certain share of the turnover of shops and agencies to the airport. This income is collectively referred to as licensing income. In return, the airport takes on costs for decoration and marketing of the shopping centre such as signs, brochures, campaigns and information staff. Campaigns are budgeted separately, though there is no connection between the budgeting of campaigns and that of licensing agreements. The revenue of Airport Complex is shown in Exhibit 2.

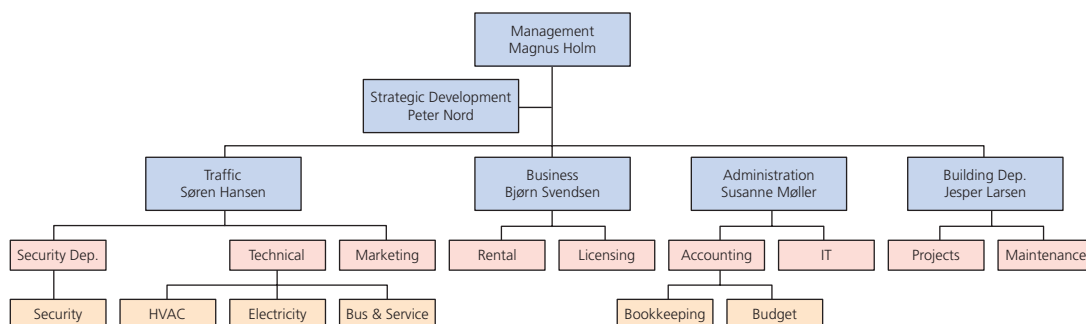
### EXHIBIT 2

#### Revenue of Airport Complex

All amount in 1000 Euro	(budget)				
	1995	1996	1997	1998	1999
Aeronautical revenue	73 368	78 993	83 504	89 071	93 836
Non-aeronautical revenue	38 722	41 575	44 964	46 762	52 374
Revenue from provision of services	4 076	8 315	8 564	11 134	17 458
Licensing revenue	87 634	78 993	77 080	75 710	54 556
Total revenue	203 800	207 876	214 112	222 677	218 223

Figure 1

#### Organization of Airport Complex A/S



### Organization

The organization of Airport Complex is a result of a continuous development of the company. Originally, everything was collected under the traffic department, as there were no other business activities. As other commercial activities and letting out of premises were developed, the business area was isolated. Immediately after this separation, the need for a distinct building department was recognized, and the new department was established. In connection with the transfer from a state enterprise to a private undertaking, the administrative activities were collected under their own organizational area. Figure 1 shows the organization plan of Airport Complex.

### Financial management

The accounting department handles the company's financial control. The bookkeeping department takes care of the day-to-day invoicing and bookkeeping of the company's transactions and of the company's financial accounting and tax accounting. The budget department is in charge of the co-ordination of budgets, whereas part budgets are prepared in the individual departments, which subsequently report their budget to the budget department. The budgets are entered into the airport's

financial control system, which at the same time ensures that the individual department is only able to view its own budgets. Subsequently, the total budget is subject to approval first by the management and then by the board. The exact budgeting is of course very different from one department to the other, depending on the functions of each department and the people responsible for the budget of the department. Nevertheless, some general comments can be made on the airport's budget procedure. Staff budgets are normally prepared on the basis of a combination of price and amount per staff category. The remaining costs are predominantly provided for in the budget as a fixed amount. Depreciation is not allocated to the individual departments, but is estimated as a total amount by the budget department. The budget for traffic income is based on a forecast of the number of different types of aircraft. For each type of plane, the average weight and the average number of passengers are calculated and subsequently multiplied by the current take-off and passenger fees and the number of planes of that type. Rental income is estimated on the basis of the number of square metres relative to the average rent per square metre. Different prices per square metre are used depending on the type of building, use and location. The buildings may typically be divided into terminal buildings, office buildings, workshops, hangars, and warehouses. The income from provision of services is estimated on the basis of expected sales measured as an amount, and finally, the licensing income is estimated as expected turnover per shop type multiplied by the licence percentage.

## **Outline of departments**

### **Strategic development**

The department is situated in the administrative office building. It was established three years ago with the task of supporting the management and the board in their work with strategic development of the airport. The department employs 4-5 people who make analyses of the operation of the airport and perform benchmarking analysis of the company compared to other airports. The department typically works on 3-4 projects at a time. Examples of projects are:

- the profitability of future extension projects;
- analyses of traffic statistics and forecasts of future traffic development;
- strategies for the information structure in the airport, including the future extension of the network and the number of services implemented in the network.

### **Traffic department**

The traffic department has the overall responsibility for the development of the airport's traffic activities. The department handles traffic-related security and co-ordination with the aviation authorities, which are in charge of the actual control of the airspace, i.e. permission to take off and land. The traffic department is also the most wage consuming department since a major part of the airport staff is employed here.

### **Technical departments**

The complicated technical structure of the airport such as traffic and passenger co-ordination systems, bridges from airport buildings to the aircraft, runway lights, etc. is handled by the technical department. The department has three sub-departments: electricity, HVAC, and buses and service. The department takes care of these same functions for the rest of the airport.

### **Electricity department**

The electricity department employs 125 employees on an annual basis. The department is divided between five area managers, each responsible for specific parts of the airport. However, the department seeks to maintain a certain degree of job rotation to ensure that the employees acquire a high level of knowledge within all job functions in the department. Apart from vehicles, the department is

responsible for a great deal of technical equipment, cranes, lifts, etc. The tasks in the department vary from mounting and repairing of control and marking equipment in connection with the runways, to maintenance of the airport's technical equipment and more ordinary electricity work in connection with the airport buildings. Work in connection with the airport buildings is co-ordinated by the building department, apart from work in connection with the airport's rented property, which is co-ordinated by the rental department. The electricity department is naturally also involved in the implementation of the airport's network, which is performed on the basis of requirements from the IT department.

### ***HVAC department***

The HVAC department employs approximately 150 people annually, and the department is divided on the basis of geographical areas in the airport. The division is as follows: airside undeveloped areas, airside developed areas, terminals, and finally, other landside buildings. Each area has its own head of department. Like the electricity department, the HVAC department has at its disposal a large amount of technical equipment used in its daily work. The major part of the tasks of the department is co-ordinated with the building department.

### ***Bus and service department***

The bus and service department is responsible for transporting the passengers to the terminals and for servicing the runways and other outdoor areas. The service primarily consists of maintenance of the green areas of the airport and of snow removal, and the service department employs 25 people. The bus department employs approximately 50 chauffeurs who are responsible mainly for transporting the passengers to and from the aircraft, but who sometimes also function as guides for aircraft whose pilots do not know the airport.

### ***Marketing department***

The marketing department is in charge of conducting negotiations with both airlines that already use the airport and airlines that wish to use the airport in the future. This applies to passenger traffic as well as freight traffic. The department employs six people on average.

### ***Security department***

Traditionally, airports are always associated with large security risks. Therefore, security is an important work area. The security department is thus responsible for monitoring the security in the airport. The main tasks of the security department are outdoor area surveillance, indoor security check of passengers and screening of luggage, and security service in connection with the airport's own premises and rented premises. This includes security checking of all passengers and screening of luggage. If the airport uses external artisans in connection with the activities of the building department or the technical department, these will be constantly monitored by a security guard. Furthermore, the security personnel are responsible for security surveillance of rented premises.

On an annual basis, the area surveillance function employs 30 people who always work together in teams of two. Each team has at its disposal a cross-country vehicle, which enables them to turn out quickly to any place in the airport. They communicate with the central security function on a current basis via the internal communication system, which also includes GPS surveillance of all vehicles. The system has just recently been fully implemented and is controlled by the IT department. Apart from a meeting room in the terminal building, the department has at its disposal three smaller buildings located in opposite parts of the airport. There are always three teams working at the same time and their activities are co-ordinated by the central security service, which is manned by the security manager in charge and an assistant. The indoor security check function is manned in relation to the expected number of passengers during the day and employs approximately 70 people on an annual basis. The airport is divided into a landside and an airside area. The airside area can only be accessed through the

security lock with a valid ticket and after screening of hand luggage and scanning of the passenger. The landside area, on the other hand, is accessible to everybody. There are three security locks in the airport that are manned according to the expected passenger flow during the day. Each lock is manned by three security employees who are in constant radio contact with the security manager in charge. Apart from this, two to three security employees are constantly patrolling the airside of the airport as well as the landside terminal areas. Moreover, both the indoor and the outdoor security personnel also function as security service in connection with the rented premises in the airport. The most cost-intensive item in the security department is therefore staff costs and staff-related costs such as uniforms and security courses. Furthermore, the department has at its disposal considerable assets such as cars, and security equipment such as scanners, X-ray equipment, etc.

### ***Business department***

The main activities in the business department are renting of areas as well as buildings and licensing agreements with retailers, restaurants, car hire firms, etc. The eight employees in the rental department administer the rental agreements and are responsible for finding suitable premises for this purpose. Extensions, renovation and maintenance of the rented premises are co-ordinated with the technical department and the building department.

The 12 employees in the licensing department draw up agreements on how to carry on business in the airport areas, including agreements on the turnover-related fees to be paid for this. The promotion of the shopping centre is planned and carried out by the business department. The extension of the shopping centre is co-ordinated with the project department.

### ***Administrative department***

This department handles the overall day-to-day administration in connection with invoicing, book-keeping and cash. Furthermore, the IT department, which is part of the administrative department, is responsible for the airport's network which is used by the airport's own departments as well as other uses of the airport. This applies to both networks for administrative use, for traffic monitoring and for signboards in the airport. Moreover, access to the airport's network and support in this connection are let out. The administrative department employs 120 people on an annual basis of which approximately half are employed in the IT department.

### ***Building department***

The project department is responsible for the continuous extension of the airport, i.e. the strategic planning in collaboration with the management as well as the actual project management.

Approximately 20 people are employed on an annual basis to perform these tasks. The operative part is placed with the maintenance department, which is responsible for the continuous maintenance of both the airport area and the buildings, and which employs approximately 80 people. Exemptions are HVAC and technical appliances, which are the responsibility of the technical department under the traffic unit.

**Requirements.**

1. Comment on the financial management of Airport Complex.
2. Discuss the problems and opportunities connected with assessing the profitability of the different services offered by the airport to the airlines and their customers. You are, among other things, asked to consider whether you would recommend the use of Full Cost, Activity Based Costing or Contribution Margin Concept to the company and state the reasons for your recommendation.
3. Draw up a reasoned suggestion for how an assessment of the productivity of selected departments can be organized, including an indication of the financial and non-financial measures that can be used.
4. Discuss the methods used by Airport Complex for budgeting revenue and costs and give reasoned suggestions for improvements.