

Airⁿeth Report 10

date of publication: 27 February 2009

Airⁿeth seminar ‘Competitiveness air cargo at Amsterdam Airport: the interdependence of air freight operations’

In cooperation with the Dutch Ministry of Transport, Public Works and Water Management, KiM and Districon

29 January 2009

Sheraton Hotel Schiphol Plaza – The Netherlands





Introduction

On 29 January 2009, Airneth organized a seminar on the competitive position and interdependencies between air freight operations at Amsterdam Airport Schiphol.

The seminar took place against the background of the so-called “Aldersadvies”, the report of the Commission Alders on the future traffic growth of Amsterdam Airport Schiphol. One of the recommendations of the Commission is to re-allocate 70.000 of the projected 580.000 commercial aircraft movements in the Netherlands at the regional airports, instead of Schiphol airport. The Commission has also made recommendations on the market segments that have most and least priority to operate at Schiphol. According to the Commission, intercontinental freight operations, which are part of the hub operation, should continue to operate to and from Schiphol. Other types of cargo operations may be of lower priority.

With respect to cargo at Schiphol, the question rises to what extent freight operations can be easily separated from passenger operations. What are the economic risks of not allowing (part of the) full freighters to operate at the airport? In other words, what are the interdependencies between air freight operations?

Hence, the objective of this Airneth seminar was to survey the economic interdependencies of air freight operations against the background of global air cargo developments as well as to identify gaps in the current knowledge that should be addressed in future research.

During this seminar, several experts in the field of air cargo and logistics gave their view on this topic. In this report, we have summarized some of the results of this seminar. The full presentations of this seminar are available at the [Airneth website](#)

The views expressed in this document are not necessarily those of Airneth.

Air cargo flow study Schiphol - Trientsje Glastra- Van Loon (Districon)

Districon and Cargonaut have built up a database on air cargo flows via Schiphol, the so-called “Ketenproduct”. The database gives insight in the air cargo flows via Schiphol Airport at the origin-destination level over various years. The “Ketenproduct” covers about 96% of the cargo flows reported at Amsterdam Airport.

According to Glastra Van Loon, air-air transfer of cargo at Schiphol airport is very limited. Most of the cargo is air-ground or ground-air transfer. Most of the cargo flows have Europe as their initial origin (42%). About 58% of the flows originates in regions outside Europe. The European incoming (import) and outgoing flows (export) are both heavily orientated towards Western-Europe, although for the incoming flow (import) somewhat more than for the outgoing flow (export). The share of the Netherlands is larger as an origin in the outgoing flow than as a destination in the incoming flow.

Economic value of air cargo and the competitive position of air cargo from a European perspective – Kees Verweij (TNO)

Air cargo important economic engine

The value added for air cargo activities at Schiphol is about 1,5 billion euro or 0,3% of the



GDP, according to Kees Verweij. About 26.000 jobs rely directly on the Dutch air cargo industry. The relative economic importance of the air cargo industry in the Netherlands is generally underestimated: in the Netherlands and Belgium, the relative contribution to the economy is larger than in other Western-European countries.

EDC's increasingly locate outside the airport region

Schiphol plays a role as a hub logistic networks. Not surprisingly, an important part of the European Distribution Centres are located in the Schiphol-region. However, a mismatch between the demand for EDC locations and the supply in the Schiphol-region can be observed: new EDC's locate increasingly outside the airport region. Possible causes are the high rents in the airport region and the flexibility for EDC's located in the Southern part of the Netherlands: closer to various ports and airports.

Hence, the importance of the presence of an airport with a large network should not be overestimated. Pim Warffemius has demonstrated in his PhD-thesis that the presence of an airport is not the most important factor for an airport to locate in the airport region. The presence of a busily engaged logistical activity is the most important location factor.

Catchment area air cargo under pressure, but unclear to what extent

According to Verweij, the cargo flows via Schiphol airport are increasingly contested by other airports in Western-Europe. Other airports become more significant competitors to Schiphol.

However, it is not clear how the catchment area of Schiphol is developing over time. The necessary publicly available data for a catchment area analysis are lacking. Although the database of Districon/Cargonaut gives insight into the cargo flows via Schiphol, it does not contain the cargo flows from and to the Netherlands via foreign airports. Hence, it is not possible to thoroughly analyse the competitive position of Schiphol in terms of air cargo flows and its determining factors. This is an important issue for future research.

Supply of air cargo capacity in perspective – Niall van der Wouw, Seabury Group

How has the supply of air cargo capacity developed at the various European airports?

Belly and full-freighter capacity are different products; switching possibilities are limited

According to Van der Wouw, the various European cargo airports have different profiles. Some of them offer mostly belly capacity (such as Heathrow and Munich), while other offer mostly full-freighter capacity (such as Brussels and Luxemburg). At Schiphol airport, the supply profile is about 60% full-freighter capacity and 40% belly capacity.

One should realize that full-freighter and belly capacity are different products. Full-freighter capacity is attractive for forwarders to transport for instance oversized goods, such as large equipment for the oil industry. Hence, the possibilities for switching between the two products are limited at least for specific types of goods.

Belly cargo crucial for profitability of passenger services

Belly capacity, on the other hand, is crucial for airlines to reach break-even on intercontinental passenger flights. For example, KLM would lose 200 mln euro of revenues without carrying belly freight.

The impact of the crisis can be clearly observed in the scheduled capacity. Although Schiphol still shows a small decline of cargo capacity in January 2009 compared to January 2008, most other major airports experienced a very substantial decline in air cargo capacity compared to previous years. In addition, load factors have declined dramatically. The decline in cargo capacity can be attributed to a large extent to a decline in full-freighter capacity. In times of crisis, airlines quickly take full-freighter capacity out of the market. Most of the belly



capacity has, until now, been maintained as passenger services continue to operate.

Gardiner has studied the choice factors of full-freighter operators to serve a certain airport. The most important factors are: (1) possibility of night flights, (2) airport charges and costs (3) cargo reputation, (4) local demand and (5) a concentration of freight forwarders at the airport. For none of the top 5 Asian full-freighter operators, Schiphol is the major gateway in Europe. Given the choice factors of Gardiner, the question is why this is not the case.

Noisy 747-200F phased out

According to Van der Wouw, the role of the Boeing 747-200 Freighter is becoming less and less important at European airports. Since 2008, its share in capacity has declined by 26%. The remaining 200F operations are largely based on wet-lease deals. Because of the fact that El Al removed its 200F operations from Schiphol, the share of this aircraft type is already very small at the airport.

The decline in 747-200F capacity mainly has to do with the high fuel consumption. Because of this fuel consumption, the break-even load factor is currently around 99%. In addition, the reliability of this aircraft type is low.

In conclusion, the issue of noisy full-freighter aircraft at main airports will become less severe in the future as the most noise type is currently being phased out.

‘Scheiden doet lijden’ – Hans Messelink, Air Cargo Netherlands

In his presentation, Hans Messelink addresses the question if re-allocation full-freighter operations from Amsterdam to the Dutch regional airports is a feasible policy option. Messelink lists a number of arguments why this would not be a feasible option to consider.

Characteristics of the air freight market

Air cargo flows are highly footloose. At least 5 Western-European airports compete for the same cargo. This means that the captive cargo market of Schiphol is very limited. One of the reasons is that air cargo exhibits a high price elasticity. In addition, 20 decision-makers determine about 80% of the air cargo flow routings.

Competitive advantages and disadvantages of Amsterdam Airport Schiphol

Amsterdam Airport has a number of competitive strengths in comparison to surrounding cargo hubs: (1) a flexible and responsive market place with a high degree of internal competition (and hence, lower prices), (2) a large and frequent network, (3) innovation oriented and (4) a market oriented government.

On the other hand, Amsterdam Airport has weaker position in relation to airport costs (charges), its geographical location (eccentric with respect to the economic core area in Europe) and landside congestion.

Scale of air cargo operations important

According to Messelink, a certain scale in air cargo operations is important for a number of reasons. Firstly, network quality is volume-dependent. The larger the air cargo volumes, the larger the network scope (number of destinations) and density (frequencies). Scope and density are important for the airport's competitive position. Secondly, security requirements demand large investments in the airport. Airport costs can be kept low, when such investments can be spread over more movements and volume. Finally, although Amsterdam Airport is a relatively expensive airport for airlines to operate from, the scale advantages in handling compensate to a large extent for these higher costs.

In other words, consolidation of freight operations at the Schiphol location delivers the various stakeholders substantial advantages. In this respect, re-allocation of full-freighter services to regional airports may affect these advantages again.



Migration of full-freighter services to regional airports not a feasible option

- According to Messelink, also for other reasons re-allocation of full-freighter services to regional airports is not a feasible option:
- The economic crisis makes such a policy obsolete for the time being. Given the dramatic decline in aircraft movements and volumes, there will be enough capacity at Amsterdam Schiphol to accommodate future growth.
- The noise impact may be less than in the past. The new limit for growth will be a maximum number of aircraft movements at Schiphol airport of 510.000 movements. Full-freighter operations will deliver a lower contribution to the noise production at the airport.
- The market has shown that the development of full-freighter services at regional airports is difficult (see for example Maastricht airport).
- Due to the small scale, regional airports will be expensive for airlines to operate from.
- Except for Eindhoven, the regional airports do not have enough runway length for fully-loaded intercontinental operations.

Further research questions and recommendations

- The large network forwarders determine the routing of air cargo flows. Forwarders are the decision-makers and determine to a large extent the role of Amsterdam Schiphol as a gateway in the air cargo flows. With respect to the national air cargo policy, the role of cargo forwarders and their decision-making behaviour deserve more attention.
- In particular the issue of the strategic behaviour of large forwarders might be an important topic for future research. What are the decisive factors for the behaviour of the forwarders? Which inefficiencies would be created for them if not all freighter services are concentrated at Schiphol airport? How can government policy make Schiphol airport more attractive as a location for freight forwarders?
- During the seminar, various participants and speakers concluded that the catchment area of Schiphol for freight is under pressure. However, the extent to which other airports compete with Schiphol for cargo flows to and from the Netherlands is unknown. The current databases only cover the flows via Schiphol, not the flows to and from the Netherlands via other airports. This means that a sound information basis for strategy making with respect to the catchment area is lacking. Moreover, modelling of air freight flows is complex without having the possibility to validate such a model.

The programme, presentations and photos concerning this seminar can be found on our website www.airneth.com