



# Arlanda Airport



Aerial photo of the Stockholm-Arlanda Airport



Photo of the new Pier F

LufthavnsKonsulenterne ApS - Airports Consultants (L-K) acted as consultants for the owner in connection with the extension of Stockholm-Arlanda Airport, Project Arlanda 2002.

The consulting services provided included master planning, and the design of gates, taxiways, aprons, blast fencing and access roads.

## The Airport

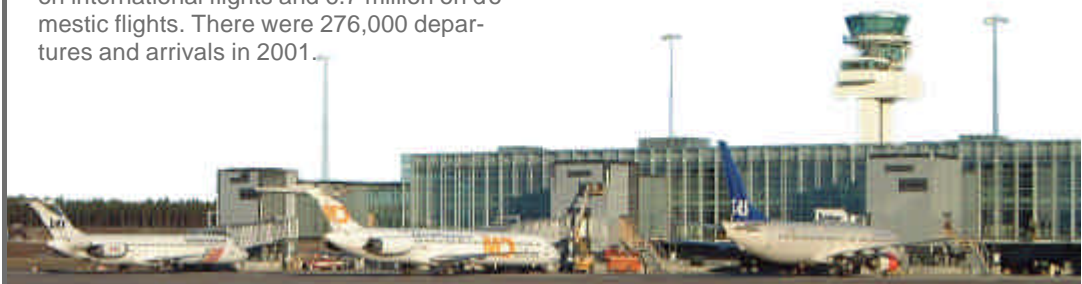
Stockholm -Arlanda is one of the largest airports in Northern Europe. Its three runways are 3,300 m, 2,500 m and 2,500 m in length respectively. There are four passenger terminals, five cargo terminals, 50 terminal gates and 54 remote gates.

In 2001, the airport serviced 18.1 million passengers, of which 11.4 million were travelling on international flights and 6.7 million on domestic flights. There were 276,000 departures and arrivals in 2001.

In order to accommodate the increasing amount of traffic, the Swedish Civil Aviation Administration decided to extend the airport with a new Pier F (with 14 gates), a new North Terminal, a new South Terminal and new remote gates. At the same time, many of the existing gates were to be altered.

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# Master planning

In connection with this modernisation of Stockholm -Arlanda, L-K continuously prepared master plans to meet the ideas that emerged.

Among other things, master planning included cargo requirement analysis,

technical and passenger aspects of remote gates, airline grouping, area use, the moving of existing functions and access/fire roads, the design of new taxiways and taxiway junctions in relation to traffic load.

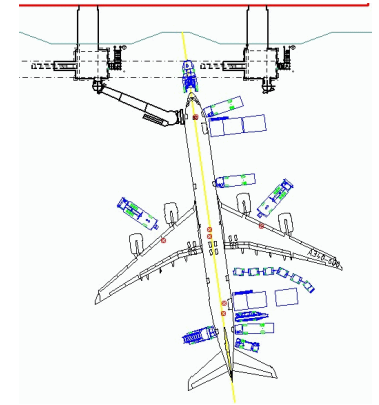


Map of Stockholm-Arlanda Airport

# Gate design

L-K was responsible for the planning and design of all gates at Stockholm -Arlanda Airport. The objective was to optimise individual gates with respect to the logistics surrounding the aircraft, the connection to the building with movable aero-bridges and the logistics of adjoining taxiways, etc.

Gate design also included area use, handling vehicle positioning and the simulation of vehicles at the gate. Analyses were also performed to establish push-back functions and accompanying push-back procedures. The final result was used direct for detailed planning.



Handling of B747-400

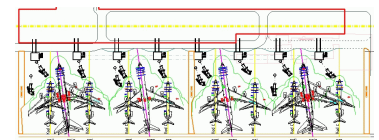
# New Pier F

A new pier was built in connection with the extension of Stockholm -Arlanda. The project was offered in competition within the EU and was won by the firm of architects KHRAS Arkitekter. The new pier, Pier F, contains 14 gates with aero-bridges. Six type C aircraft, four type D or three type D/one type E can dock on the western side of the pier, while eight type C aircraft, four type D/type E or two type F can dock on the eastern side.

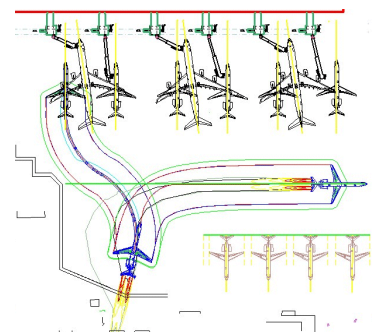
Planning involved positioning the building in relation to the existing Pier E (Terminal 5) and redesigning the apron between the two piers, including access from the taxiway system.

All gates were designed with centre lines, stop positions, handling facilities for cargo/catering/baggage/fuel/cleaning/toilets, supply points for ground systems (400 Hz power supplies, PCA, water, fuel), rotundas with inclined gangways for connecting aero-bridges to aircraft of varying sizes, lighting systems, push-back procedures, etc.

The complex design of the eastern side included nose-in and push-back procedures in relation to the existing buildings and roads in the area. The design also included a remote area for four type C aircraft opposite Pier F east.



Gate layout, Pier F east



Push-back, Pier F east

LufthavnsKonsulenterne ApS - Airport Consultants is a consulting engineering company specialising in airport planning.

LufthavnsKonsulenterne is at the forefront of airport design and has participated in various projects concerning the extension and renovation of several large civil airports.

The company's wide experience and specialist knowledge of cross-disciplinary design allow us to efficiently perform all aspects of planning, renovation and extension.

The company is based at Copenhagen Airport, Kastrup, Denmark.