

# **ESSA Stockholm/Arlanda**

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version 2.0

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# Installation advice

## The content of the package

The ESSA scenery comes packed in a single .EXE file that is easy to install. Just follow the advice down here. When the files are installed in the chosen directory you will find - beside of the installed scenery files – a file called ESSAMAP.PDF residing in the SwedflightPro directory. This file contains a detailed map over ESSA with all runways, taxiways and gates with their numbers. To read it you need the free program Acrobat Reader which you can download via our web site if you don't have it already. Inside that program you can also print the map which we advice you to do.

## Unpacking and installation

The unpacking of the EXE file is executed by just running it from where you have placed it temporarily. All necessary steps are described in the installation program that is started automatically and then makes the installation.

## Activating the scenery

The following procedure is also described with pictures in the accompanying file ACTIVATE.PDF that is placed in the directory <\SwedflightPro> during the installation.

When the scenery files are unpacked and automatically copied to their proper directories you have to activate the ESSA scenery in the flight simulator itself. These Swedflight PRO sceneries do **not** need any editing of the setup file for the simulator - in stead you do it simply inside the simulator like this:

- Go to the menu *World/Scenery Library* and click on the button ADD AREA.
- The window 'Select scenery directory' will pop up. Find the main directory where the scenery was installed – if you haven't changed the default position it will be under ADDON SCENERY in the root directory of FS2002.
- Go there and click on the directory SwedflightPro, then ESSA and then SCENERY
- Click OK
- Click OK again in the Scenery library window and the scenery is now activated.

## If you have problems with low frame rate

The airports in the Swedflight PRO series are optimized very effectively with our own unique method that gives unsurpassed frame rate values. Sometimes however you can still experience low values, mostly for two reasons. Firstly you may have a slower computer than needed (basically you should have at least a PII 600MHz, 256 Mb memory and a modern graphics board to get reasonable values – GeForce I and upwards). Secondly the flight simulator itself can also affect the frame rate very badly if you have activated some of its special features and they are more easy to change then switching to a faster computer. Especially three of them are worth mentioning:

- **AUTOGEN** - This new feature, that places trees and houses randomly in the scenery, lower the frame rate considerably if you have given that parameter a high value. Set a low value there or inactivate it completely if you want higher figures for the frame rate. You will find the setup in the menu *Options/Settings/Display/Scenery*
- **ANTIALIASING** - This feature smoothes the edges of houses and aircrafts. We advice you to inactivate this if you want a high figure for the frame rate. On some computer systems you will directly double the frame rate value just by inactivating it. To use this feature you should have a modern, fast graphics board. You will find the setup in the menu *Options/Settings/Display/Hardware*
- **VISIBILITY** - If you have too long visibility in the scenery the ground textures far away must be updated constantly when you move around, and that takes extra power from the graphics system. Go to *World/Weather* and set the visibility to 5 or 10 mi (8 or 16 km), these are common real life visibility figures. You will gain some frame rate doing so and your scenery will look more realistic at the same time.

## Some notes about the scenery

This is a very big scenery and so is this airport too. To make these Swedflight PRO sceneries useful for a professional flyer – that is the main objective for this project - we have stressed the importance to have a very detailed runway and taxiway environment, with all details included – surfaces, lights, signs, taxi lines, grass islands and so on. That means that you have to make some limitations when it comes to all other objects at the airport. In this basic version we have deliberately not made some of the less important buildings - otherwise the frame rate figures may have been too low with the type of computers we have today. This first version contains all three runways, all taxiways, more than 400 signs at the runways and taxiways, most of the important taxi lines, almost all grass islands beside of the taxiways, 33 buildings, 47 gates and 9 stands on the apron. Most of the details are placed with high precision in the scenery at their true places and thereafter optimised by us with a proprietary method to give the best visibility and frame rate. The photorealistic look was built from more than 2000 pictures shot both during day and evening at a lot of different sessions to get the best and uniformed light in the pictures. With so many buildings included you must simplify them quite a lot and not include every small detail of the construction. However, by using photo textures you can compensate for that and still get a very realistic impression.

In a later free update we will however try to add some of the now missing buildings for those of you that have a faster computer or for you that will use this add-on to walk around in the scenery in this interesting and beautiful airport:

- The freight terminals
- The missing older buildings at the apron opposite the SAS hangar
- Fire stations
- SAS Flight Academy and surrounding buildings
- Deicing building at the new runway
- The new fuel facility

We can not promise that all of that will be possible to include for frame rate reasons, but as much as possible we will try to do.

What you will not find in the scenery are all extra 'frills' like dynamic scenery, moving objects on the apron, moving gates and so on. All that type of add-ons are sacrificed in exchange for more realism in the runway/taxiway area – making the scenery a useful tool for the more demanding and professional flyer. You will however find Gate Docking Systems at all gates, made as close as possible to their real counterparts. See separate document for the use of those.

NOTE: You will also find that the so called AI aircraft that were introduced in FS2002 will **not** follow the taxiways exactly at the position of the real ones that our scenery uses. It seems that most default taxiways in FS2002 are for some reason displaced compared with the real world (in contrary to the runways). Instead of adjusting to the wrong positions we have done the opposite and released a free add-on with adjusted positions and behaviour of those aircraft – you will find that addition on our Web site.

## How to contact us

We hope you will visit our web site now and then, looking for updates or other additions for our sceneries. The address is: <http://www.swedflight.com>

You can reach us easily on this email address: [support@swedflight.com](mailto:support@swedflight.com) We will try to contact you back as fast as we can.

## Thanks

We want to thank everyone that have helped us make this project come true and that have given us a lot of help when needed – for all maps and original drawings and for making it possible to take all those pictures on the apron inside the fence, which is a necessity when making true photorealistic scenery like this. Thanks also to those that have beta tested the scenery and given us useful advice.

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# Airport data

Arlanda is the biggest airport in Sweden and it has from year 2000 also the biggest numbers of passengers travelling to and from it in the whole Scandinavia.

Here follows some basic data about the airport – all are from year 2001.

- **Passengers totally:** 18,1 millions - *International:* 11,4 millions *Domestic:* - 6,7 millions
- **Start and landings:** 276431 (2001)
- **Freight:** 145000 tons
- 63 companies flies from Arlanda to 164 destinations, 56 of them only abroad.
- The top 10 destinations (in number of passengers) are: Copenhagen, London, Luleå/Kallax, Gothenburg/Landvetter, Oslo, Malmö/Sturup, Umeå, Helsingfors, Amsterdam, Paris
- The top 10 airplane types (based on movements) are: Boeing 737, MD-80, Fokker 50, DC-9, Saab 340, Saab 2000, Airbus 320, MD-90, Boeing 757, Embraer 145
- **Facilities:** 5 terminals, 55 gates, 5 freight terminals, 5 hangars
- 3 runways (two of them open now and the third new one will be opened during or after the summer 2002)
- **Parking places:** 22000
- Arlanda airport is a big employer too, 16000 people have their daily job there.

## Physical data

RUNWAY	01L	19R	01R	19L	08	26
Ref point ARP	59°39'07"N 017°55'07"E					
Height (meter)	37.9					
Bearing GEO	010°	190°	010°	190°	076°	256°
Bearing MAG	007°	187°	007°	187°	073°	253°
Length (feet)	10830	10830	8200	8200	8200	8200
ILS signal	SSA	NSA	TSA	USA	WSA	ESA
ILS fq (MHz)	109.90	110.70	109.35	111.35	109.55	110.10

NOTE:

1. runway data for 01R/19L are calculated – no official data available until runway is opened later in 2002.
2. ILS for runway 08 is LLZ only

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## Airport history

Arlanda airport is one of the younger in Sweden where a lot of airports have a very long and old history. Stockholm/Bromma was before our biggest international airport and that one grew too small after the World War II when the traffic in the air increased more and more. The surroundings in the Stockholm area are not very suitable for airport locations and it took many years before the new airport called Arlanda was opened. 15 different locations had to be evaluated, but the final one was an area 40 km north of Stockholm at a lake called Halmsjön - that was also the first name of the 'test' airport with only one runway that was built 1954 to start with. When the final decision was taken and a second runway was added, the name changed to Arlanda, a better name for international use. The official opening of the new airport was the 1<sup>st</sup> of April 1962, before that only school flying and international flights were using the airport - now it became the centre also for the domestic routes.

The airport has grown continuously since the opening and has been rebuilt several times and more terminals added. One important year there is 1976 when the new international terminal was opened (terminal 5 today that soon will be named Pier D and E in Terminal North). In year 2000 Arlanda was the 5<sup>th</sup> biggest in Europe (in airplane movements) and the need for a third runway was imminent. With two runways the limit is 70 movements/hour and with a third one this will raise to 90. This was planned before September 11<sup>th</sup> 2001, but when the traffic comes back to old levels again this third runway, that will open officially sometime this year, will be needed. Then the capacity will grow from today's 16 million passengers/year to 25.

The new runway (01R-19L) is already finished and is also included in our scenery with all facilities and details. It is 8200 feet and placed to the east of the existing main runway (01L-19R). This constellation means that independent parallel runway operations are used for the first time in Sweden. The old layout with one runway at a different angle was used at that time when the airplanes were more sensitive to side wind and that is not needed that much today. So both of the parallel runways will be possible to use at the same time mostly. The runway was officially opened on May 29, 2002.

Together with this new runway and a totally new passenger terminal for the use in the so called Schengen agreement, a new tower building is raised. This is already opened and the old one will be demolished later - therefore we have only the new one in this scenery. The new tower with its very modern design is 83 meter high (twice as the old one) and is already a beautiful landmark, also in our scenery. The architect that got the job had already won an international competition with this construction.

There will for sure be even more changes at this very vivid airport and we will try to reflect this in coming updates in the future.

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**SWEDFLIGHT DESIGN GROUP**