



Press release

Langen, Germany, 9 November 2016

SESAR research project:

Optimised descent profiles generate fuel savings across Europe

A consortium of European air navigation service providers (ANSPs) and airlines has optimised numerous arrival flows to nine airports in Europe. A total of 11,467 demonstration flights were conducted. Half of the 33 analysed flows have already been permanently implemented; seven are published in the Aeronautical Information Publication. Real savings achieved with the project's demonstration flights amounted to 86 tonnes of fuel savings and a reduction of 270 tonnes of CO2 emissions. On an annual basis, the 33 optimised flows have the potential to generate fuel savings of 3,400 tonnes, which equals more than 10,700 tonnes of CO2 emissions according to calculations by EUROCONTROL.

“The aim was to develop more efficient descent profiles and reduce the environmental impact in busy and complex airspaces and across borders without compromising safety and capacity aspects”, says project manager Ilhan Akin, DFS Deutsche Flugsicherung.

The optimised decent profiles (ODP) project, which was co-funded by the SESAR Joint Undertaking, began its work at the end of 2014 and has just published its final results. It was conducted under the leadership of the German ANSP DFS together with the ANSPs of Austria (Austro Control), France (DSNA) and Switzerland (skyguide), as well as EUROCONTROL's Maastricht Upper Area Control Centre (MUAC).



Air France (plus HOP!), Deutsche Lufthansa (together with the affiliated Austrian Airlines and Germanwings) and Swiss International Airlines conducted the demonstration flights to the airports of Basel, Berlin Tegel, Frankfurt, Geneva, Munich, Strasbourg, Stuttgart, Vienna and Zurich.

The optimum arrival is a continuous descent, which does not require considerable engine power and thus a reduced amount of fuel. In highly-frequented airspaces, which are shaped by national borders and handover points, this optimum is not always possible. Existing arrival flows can, however, often be improved. For example, instead of fixed handover points, level windows can be defined, which are then programmed in the flight management system of the aircraft. Another way of improving vertical flight efficiency is to remain at cruising altitude for a longer period of time before descending, since fuel consumption is lower at higher levels. The project also used, for example, flexible seasonal or runway dependent handover procedures.

“The project has shown that each and every improvement counts. The optimisations generate fuel savings and thus contribute to a more sustainable air transport in Europe. For the implementation of optimised profiles on a broad basis, a framework and standards need be further developed in close partnership with the airline operators,” explains Akin.

Florian Guillermet, Executive Director of the SESAR Joint Undertaking remarked: "The ODP project represented an excellent opportunity to demonstrate more widely the considerable savings in terms of fuel and emissions that are possible with optimised arrival flows. It is clear that procedures like these will be key to achieving a high performing aviation across Europe in the coming years."

More about the optimised descent profiles project including a flow example are explained in this [video](#).



Note to the editors

SESAR: The ODP project has been one of several demonstration activities co-funded by the SESAR Joint Undertaking, the public-private partnership that pools the knowledge and resources of the entire European air traffic management community to deliver solutions for a modernised ATM, enabling highly efficient aviation in Europe. The ODP project is one among several demonstration activities, which provide concrete and tangible evidence of the benefits offered by SESAR solutions in day-to-day operations. www.sesarju.eu

Video / visual material: You are welcome to link to the video via your channels. For graphics of flow optimisations please contact us.

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DFS Deutsche Flugsicherung GmbH, the German air navigation service provider, is a State-owned company under private law with 5,650 employees. DFS ensures the safe and punctual flow of air traffic over Germany. Around 2,000 air traffic controllers guide up to 10,000 flights in German airspace every day, and about three million movements every year. This makes Germany the country with the highest traffic volume in Europe. The company operates control centres in Langen, Bremen, Karlsruhe and Munich as well as 16 control towers at international airports in Germany. In addition, DFS is represented at the EUROCONTROL Control Centre in Maastricht, the Netherlands. Additional areas of activity include consulting, provided by the Aeronautical Solutions division, and aeronautical data, grouped in the Aeronautical Information Management division.