# Background

## Lido/Navigation: Innovative IT solutions for a connected flight deck

**Successful airlines strive for efficiency on every level. The innovative product range of Lido/Navigation solutions from Lufthansa Systems uses the latest technologies and helps reduce costs.**

Lufthansa Systems offers airlines an extensive range of integrated solutions for safe and cost-efficient flight operations. Its Lido/Navigation solutions cover all operational aspects of a flight from a navigational point of view. Pilots, licensed dispatchers and IT experts work closely together to develop and implement these solutions.

Navigation solutions are the core of this product range. More than 180 airlines around the world use Lido/FMS. This data service for the flight management systems of modern passenger aircraft provides all of the information needed for a safe and efficient flight. It is based on the Lido navigation database which contains worldwide aeronautical data, including navigation aids, as well as approach and departure procedures for individual airports. With information on more than 24,000 airports, 100,000 airway segments and 200,000 waypoints, the database meets the highest standards of currency, precision and data integrity.

In accordance with the regulations of the International Civil Aviation Organization (ICAO), Lido/FMS customers receive an update every 28 days so that their flight management systems are always up to date. For these updates, Lufthansa Systems currently generates around 400 different database extracts to meet the requirements of each customer's aircraft types, cockpit systems, route network and company-specific flight procedures.

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**From high-quality data to high-quality charts**

The aeronautical database is also the basis of Lufthansa Systems' comprehensive range of navigation charts. Lido/RouteManual is available both in paper and digital form. The paper based charts are very easy to use, and this user-friendliness is carried over to the applications for displaying the charts electronically – Lido/eRouteManual for tablets as well as traditional EFBs on Windows platforms and Lido/mPilot for the Apple iPad. The colored charts show true-to-scale navigational and topographical information, such as the height of mountains and course of rivers, and are oriented to magnetic north. The duration and distance of different approach and departure procedures are always precisely specified, altitude restrictions associated with the terrain are clearly depicted, and directions are always displayed in the same way regardless of the magnetic variation. This supports pilots thought-out the flight and insures greater safety.

With the electronic Lido/eRouteManual application, pilots can zoom in or out to change the depth of information on the charts and can highlight their selected approach, departure procedures or flight route. General text information in iOS-based Lido/mPilot is embedded in the application. Both apps include airport taxiway charts, approach and take-off charts, and a seamless worldwide enroute chart. All charts can be updated anytime and anywhere by using a wireless internet connection.

The navigation applications from Lufthansa Systems support pilots during the entire flight. Third party data, like flight plan and company information can be loaded easily. Besides, pilots have all required tactical data, like weather information and NOTAMs: this can be uploaded in-flight using a satellite connection. With all these benefits, pilots can make the right decision at the right time.

Identical standards have been applied for both the conventional and electronic charts so it is easier for airlines to migrate to a paperless cockpit and save the time and expense of manually updating all sets of charts every month. Thanks to a DDS (Data Distribution System) portal administrators can control the distribution of the charting data, create new

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users, and maintain an up-to-the-minute overview of the update status of all devices across the entire fleet. Airlines that use Lido/eRouteManual and Lido/mPilot can control both applications via the same web portal, which greatly simplifies administration.

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**Fast Figures**

- More than 35,000 pilots can already benefit from Lufthansa Systems' navigation charts on the flight deck.

- 570 million: Each year around 570 million passengers worldwide fly on planes using Lufthansa Systems' navigation charts.

- 200: More than 200 airlines worldwide use Lido/FMS data.

- 40: The market share for Lido/Navigation in Europe is about 40 percent (print and digital).

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The highly accurate Airport Moving Map Lido/AMM increases pilot's situational awareness during taxiing. Lido/AMM displays the own ship position, highlights taxi destination and provides alert messages to prevent runway incursion. It is seamlessly integrated into Lido/eRouteManual and the optimized workflow with auto-display-arming and interaction functions reduce pilots head down time. Lido/AMDB is the underlying highly accurate airport mapping database. It supports the Lido/AMM as well as built-in OANS/ANF/AMM systems (e.g. Airbus A320/30/40/A350/A380, Boeing B747-8, B787).

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**Highlights**

- Always up to date thanks to integrated and highly automated update processes

- Flexible: fleet- and hardware-independent

- High degree of user-friendliness through clear and simple displays

- Shared data pool for FMS data and navigation charts

- Significantly lower printing costs thanks to electronic applications

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Most aircraft worldwide are currently flying with little or no paper in the cockpit, thanks to the advanced Lido/Navigation solutions from Lufthansa Systems – for the benefit of efficiency, pilots and the environment.

For images and pictures, please go to https://www.lhsystems.com/gallery/flight-deck-solutions-lidonavigation

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