

The Lido Route Manual: technological innovation in the cockpit

Lido Route Manual for conducting a flight is the latest product of the Airline Flight Support business segment of Lufthansa Systems. Lufthansa Systems breaks new ground in database-aided chart generation with this tool, which is based on a Geographic Information System (GIS). The GIS charts differ considerably from the charts previously produced by CAD tools because they are no longer drawn manually but generated electronically from the Lido navigation database. The integration makes it possible to include any and all changes made in the database in the next updated version of all relevant charts. Highlights of the charts, which are drawn to scale and are oriented magnetic north up, include a clean and uncluttered design, clear color-coding and self-explanatory symbols. The Airport Facility Chart is a completely new feature of the product. This chart provides pilots with an overview of all possible approach and takeoff procedures at a given airport and also includes additional information regarding radio frequencies, runway beaconing or miss approach procedures. The Airport Ground Chart is displayed on the chart's back side. Used in combination with the on-board flight management system, this sheet would in principle enable pilots to approach any airport in the world. Lufthansa Systems prepares these charts especially for commercial carriers including Lufthansa, which has been using the new charts since September. After just four weeks, fifty percent of all of Lufthansa's takeoffs and landings worldwide are being carried out with the new airport charts. The experts from Lufthansa Systems worked hand in hand with airline pilots to develop this product.

On the way to a paperless cockpit

eRoute Manual, the electronic display of the Lido Route Manual, turns the paperless cockpit into reality. In the cockpit, pilots can thus electronically access both static and dynamic charts. Static charts are electronic copies of paper charts. They are generated from the database using the GIS production tool. To keep the number of paper chart pages to a minimum, several approach and takeoff procedures are combined. In contrast, dynamic charts are generated directly from the database and displayed electronically by the eRoute Manual application. Pilots can select the specific procedure and data to be displayed. The FMS database is directly connected to the aircraft's flight management system, allowing for the display of positioning data on a given chart section. Supporting familiar reading conventions, the so-called read-right principle ensures that text and figures are always presented horizontally even if the charts are flipped upside down.

The pilot can work with the electronic chart in a number of ways, e.g. by using it to display additional flight support information, by zooming in or out, or by turning the chart north up or track up. The eRouteManual is currently in trials with several customers in Europe, America and the Middle East. In spring 2004, Airbus Industries and Lufthansa Systems signed a memorandum of understanding according to which Lufthansa Systems will provide the Lido eRoute Manual on all Airbus aircraft types.

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