

## **New from Lufthansa Systems: Fully digital mobile infotainment system for cruise ships**

Lufthansa Systems is developing a new and very promising market: fully digitized communications and entertainment systems onboard cruise ships. Preparations for installation on the latest AIDA club ship, which will be commissioned in the spring of 2007, are already in full swing. Lufthansa Systems will equip all four new ships of the largest German cruise provider with its infotainment system, which is currently the largest fully digital mobile system of its kind in the world.

There are more than 250 cruise ships worldwide that are suitable for the installation of modern communications and entertainment systems. On a global scale and especially in the United States, the cruise industry is a market that enjoys high growth rates. At the same time, the passengers' demands with regard to convenience and entertainment are growing. Lufthansa Systems is offering the leading technological solution to meet these demands. It combines a maximum of service offerings and convenience for passengers with easy handling and maintenance as well as optimal support of business processes on board. "We have united all required technologies in a single system that is reliable, convenient and economical," said Dr. Gunter K uchler, member of the Executive Board of Lufthansa Systems AG. "This underlines our innovative power once again and will secure a top position for us in this interesting market."

The system is not only interesting for new cruise ships but can also be retrofitted. Hapag Lloyd's flagship MS EUPOPA is an example of this option. The system was installed by the IT specialists from Lufthansa Systems last year during a cruise with passengers on board.

Lufthansa Systems developed the new platform together with its partner, TOMORROW FOCUS Technologies (responsible for the content management system and the design of the user interface), especially for the use in mobile environments such as ships, airplanes or buses. This platform has proven successful in a different form in FlyNet, the broadband Internet access solution that is part of the communications and entertainment system for passengers onboard Lufthansa's long-haul aircraft. It is dependable and offers great flexibility with regard to expansion and the integration of new technologies.

The communications and entertainment platform from Lufthansa Systems will be presented to the cruise ship passengers in three different areas of application:

**Information** – Access to the Internet and the on-board intranet (e.g. with current travel information or billing data),

**Entertainment** – Reception of a variety of radio and TV channels via satellite and a selection of on-demand motion pictures and music, as well as

**Communication** - E-mail and cutting-edge IP telephony both among passengers and via satellite with all countries in the world.

To ensure an efficient and cost-optimized operation, the system is largely automated and Web-based. It consists of the following components:

- A cluster of servers that run the various applications as well as a storage area network (SAN), which stores and makes available large quantities of data (e.g. movies, music and travel information);
- The voice communications system that provides telephony and radio communications;
- The multimedia-enabled local network that distributes data, voice, video and audio information;
- Terminals and peripheral devices, including flat-screen TVs, set-top boxes (control devices) with remote controls and keyboards, IP telephones and radio transmission equipment (for crew use);
- An application for system control, whose graphic user interface is meant to prompt passengers to use the intuitive and easy-to-learn platform, and a content management system based on which the various contents can be easily managed.

The system architecture is highly fail safe. This is very important in everyday operation, because surveys have shown that cruise and flight passengers consider defective entertainment and communications systems a considerable encroachment on their travel comfort. As a result, great emphasis was put on dependability and easy maintainability during the development process. If one component fails, it can be exchanged quickly and easily by a pre-configured replacement device. Another product benefit of Lufthansa Systems' solution is

that it can be operated remotely. All this combined significantly reduces operating costs in comparison with traditional systems. The use of standardized, non-proprietary technologies also fulfills the objective of being cost-efficient and future-proof, because product enhancements can be integrated at any time.

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