25 August 2011
No. 911
AIT

AIRPORT INFORMATION TECHNOLOGY

Airport & ground operations

The Chennai Annadurai International Airport expansion and modernization project in Tirusulam, 7 km south of Chennai, India, **is a design-to-fabrication project carried out completely within the Tekla BIM software environment.** Engineering and model data were used at the earlier stages of the project to take full advantage of early procurement and optimized use of material. Rapidly producing shop drawings and managing the project timeline were both accomplished using Tekla Structures software.

The new modernized airport will have a departure lounge on the first floor and an arrivals lounge on the ground floor. Dramatic, hovering free-span and wing-like roof structures, which are more than 300 m long, fold downward to form garden walls. Directly connected to the terminal is a new parking garage with a sculptural folding roof that welcomes travellers to the terminal with a green gateway.

K. Mahadevan, head of business process outsourcing provider Yugasoft, said: "I would estimate that using Tekla Structures software in the Chennai Airport Expansion project reduced the material wastage by 3.5 to 4% and increased our productivity by more than 30%." Drawing details were derived from the Tekla model for fabrication, and were seamlessly integrated with Yugasoft's in-house fabrication data package to produce NC files for use in CNC machines and to manipulate bill-of-material data. #911.AIT1

Denver International Airport (DEN) now offers an enhanced, comprehensive online system for tracking the movement of flights and air traffic patterns using the WebTrak Flight Tracking and Noise Information System. Webtrak allows the public to research data about flights to and from DEN, Centennial Airport, Rocky Mountain Metropolitan Airport, Front Range Airport and Buckley Air Force Base, as well as any air traffic that transitions through the region, at www.FlyDenver.com. The system also simplifies the process of filing a noise complaint, offering a web channel for residents who wish to register concerns regarding noise levels. Denver joins the ranks of airports like Los Angeles International, Seattle-Tacoma and London's Heathrow in offering WebTrak as a tool to its surrounding community.

WebTrak utilizes nearly real-time aircraft data, which originates from the FAA's radar system at the Denver Terminal Radar and Approach Control (TRACON) facility, and retains historical data for flights up to 60 days in the past. Residents who live on major flight paths can identify precisely which aircraft was most audibly pleasant, annoying, or anything in between. The system provides information on the aircraft type, altitude, origination/destination airports and flight identification. WebTrak will also prove useful for future homeowners, realtors or property developers looking to educate themselves on the potential effects of aircraft noise, or on how the Denver airspace is handled over specific neighbourhoods. #911.AIT2

Air traffic management and flight operations

The FAA's two-week partial shutdown has jeopardized the timetable for introducing a new en-route ATC system, a further blow to a crucial programme that has already suffered major

25 August 2011
No. 911
AIT

delays. The En-Route Automation Modernization (ERAM) system is so far operational only at its two initial sites in Seattle, WA, and Salt Lake City, UT, as it has taken the FAA much longer than expected to iron out system problems. The agency's latest goal is to introduce it at five more ATC centres by the end of its fiscal year on 30 September 2011, but the FAA's recent funding crisis has put this target in doubt, an agency official has said.

ERAM is regarded as an essential precursor to the NextGen modernization effort, as it will be the backbone system at the 20 en-route centres in the continental U.S. After resetting the timetable for the programme earlier in 2011, the FAA appeared to be finally making progress on deployment. Like many other major programmes, however, ERAM was caught up in a congressional impasse over extending the FAA's authority to collect taxes and fees. Between 22 July and 5 August 2011, the agency was forced to furlough 4000 workers and issue stop-work orders on a long list of projects. Some operational ERAM testing still occurred, but work on introducing it at new sites was temporarily stopped. While the agency is still assessing what the impact will be on project timelines, it will make the fiscal 2011 ERAM goals extremely challenging. The system has been installed at the 18 sites beyond the initial two, although it is not yet operational at these locations. The FAA will work to bring the sites online progressively. Minneapolis is the next centre scheduled to achieve initial operating capability, and the other four planned for the current fiscal year are Albuquerque, Chicago, Denver and Houston.

ERAM was originally slated to be fully operational at all sites by the end of 2010. The FAA formally accepted the system from manufacturer Lockheed Martin in October 2007, on schedule and within budget. But software issues that arose during subsequent operational trials at the two initial sites caused timetable slips. The new completion estimate is late 2014. #911.AIT3

MRO & logistics

Boeing has said that Japan Airlines will expand Airplane Health Management (AHM) coverage to its future Boeing 787 fleet. AHM is a software system that monitors, collects and analyzes aircraft data to give airlines valuable, real-time maintenance information. This information allows Japan Airlines to initiate the needed maintenance immediately upon arrival at the airport gate. Japan Airlines has 35 Boeing 787s on order, and has licensed Airplane Health Management for these aircraft in addition to its existing fleet of 46 Boeing 777s.

Japan Airlines was a developmental partner for the original Airplane Health Management development effort and has used the service continuously since 2005. The airline will use the AHM Real Time Fault Management Module on their Boeing 777s and Boeing 787s to communicate in-flight information to ground stations for diagnosis and quick operational decisions by scanning troubleshooting and historical repair data. Japan Airlines, recognized in the last two consecutive years as the most punctual major global airline, uses the system's output to organize any needed maintenance operations and put the right people, parts and equipment in the right place at the right time for faster turnaround. #911.AIT4

Mxi® Technologies has announced that BAE Systems has selected the Maintenix® software as the core enabling technology for their after-market support programmes. The first phase of the project, currently in implementation, serves as a platform for the induction of military aircraft operated by the United Kingdom's Ministry of Defence (MOD). Following successful completion of this stage, a comprehensive Maintenix footprint will be rolled-out in support of BAE Systems' portfolio of

25 August 2011
No. 911
AIT

defence after-market services for military aviation assets. The full project will culminate in a fully-integrated maintenance management environment standardized for end-to-end asset lifecycle management across multiple customer fleets. #911.AIT5

Weststar Aviation Services Sdn Bhd has selected ADSoftware's AIRPACK Suite to manage its maintenance, planning and integrated logistics. ADSoftware has started implementing AIRPACK in Malaysia at the company's AW 139 Main base at Kerteh. Weststar Aviation Services found in AIRPACK a global solution that addresses its technical needs and rapid growth. With the help of ADSoftware, processes of Weststar Aviation Services will become more harmonized, which will result in a more productive and cost effective management of the company. Furthermore, the flexibility of the software package will allow Weststar to pursue its growth strategy and incorporate additional helicopters to its fleet. AIRPACK increases transparency and optimizes the flow of information between the various departments, coordinates procedures and manages the connections with stakeholders such as suppliers, clients and civil aviation authorities. While the corporate and charter helicopter transport remains the General Aviation activity of Weststar, the company has now acquired three corporate jets to cater for faster non-scheduled and long range flights serving both domestic and international destinations. This has resulted in more demanding maintenance requirements for Weststar's team. #911.AIT6

Conklin & de Decker has announced the latest release of their innovative LIFE CYCLE COST 2011 Volume II. Claimed to be the most comprehensive aircraft budget and financial analysis tool available, LIFE CYCLE COST provides aircraft owners, operators, flight department managers, and aircraft consultants with extensive ownership and operating cost data for nearly 400 jets, turboprops, helicopters and piston aircraft. The LIFE CYCLE COST (LCC) budgeting software is part of a family of aircraft operating & acquisition products developed by Conklin & de Decker that puts all cost aspects of owning and operating an aircraft into one easy-to-use programme. Updated aircraft acquisition costs, taxes, fuel, maintenance and all other operating costs are included in this business aviation budgeting tool. This LIFE CYCLE COST update also includes new features that will enhance and make the budgeting process more complete. Subscribers to the latest LCC will be able to quickly calculate 100% Bonus Depreciation tax, edit each engine's costs, make warranty adjustments for re-engined aircraft, and benefit from the change in the residual value data entry. #911.AIT7

Aviall, a Boeing company offering aftermarket supply chain management services for the aerospace and defence industries, **has entered into an agreement to supply forecasting services, technology, training and aviation material for distribution in the Russian aviation market.**
The agreement with Moscow-based Aviation Service Company Aviation Equipment (ASC Aviation Equipment) - a subsidiary of Concern of Aviation Equipment (CAE), a State Corporation Russian Technologies (Russian Technologies) company - becomes effective in the fourth quarter of 2011.
The new agreement will give customers access to information technology infrastructure, allowing them to link with Russian Technologies in a single IT system. "Cooperation with one of the global aerospace leaders, in the creation of a distribution system and maintenance, repair and overhaul infrastructure will allow us to apply modern technologies and know-how in material management, production and component repair for various aircraft types. We will leverage best management practices, including Lean

production methodology, which are successfully applied by Boeing," said Andrey Rybin, General Director of CAE. -- Boeing and Russian Technologies helped facilitate this new agreement. The two companies have worked together on a variety of aviation-related projects since 2007, when Russian Technologies was formed to assist Russian manufacturers in developing, producing and exporting high-technology industrial products in domestic and international markets. #911.AIT8

Communications & connectivity

ARINC Engineering Services has launched RapydConnex(SM), a global communications network for Mobile Edge users who are unable to obtain the bandwidth, connectivity, or capabilities they need for mission success from their standard sources. RapydConnex brings a unique combination of capabilities to the mobile communications market, including the significant advantage of bandwidth-on-demand. The RapydConnex solution is supported by ARINC's experienced workforce of government and commercial engineers, who can meet all types of customer requirements including aviation integration for airborne components as needed. The open architecture of RapydConnex allows affordable integration of 'best of class' products, to provide the highest performance at the lowest possible life-cycle cost.

The comprehensive RapydConnex product and service offering includes: engineering services to assist customers in planning and meeting their acquisition, sustainment, and modernization requirements; integration engineering to meet mobile connectivity and bandwidth requirements; communications service through the ARINC Global Network; and optional value-added applications and middleware to enhance mobility, interoperability, and overall information value to users in the field. #911.AIT9

EMS Aviation's Aspire family of satellite-based, in-flight connectivity systems made its Latin American debut at the recent Latin American Business Aviation Convention & Exhibition (LABACE) in Sao Paulo, Brazil. The Aspire 200 LG system began shipping in North America in May 2011. It was introduced in Europe earlier this year and was also chosen for a Cessna Sovereign for Anderson Air, a Canadian business jet operator. Installations on other platforms, including the Hawker 4000, Hawker 800/850/900 Series, Citation X, Citation XLS/XLS+ and the Challenger 300, are expected in the coming months.

Designed to deliver feature-rich voice and data connectivity to owners and operators of small- and medium-sized business aircraft, Aspire products use standard wiring configuration and interfaces to support either Iridium or Inmarsat components. Users can easily change or upgrade systems without rewiring the aircraft or changing out the avionics racks. Options include the Aspire CSU Iridium (voice and low-speed data) transceiver, the Inmarsat HDU (voice and high-speed data) transceiver, and a higher gain Inmarsat antenna. Aspire's Inmarsat system data rates range from up to 200 kbps with a low-gain antenna, to as much as 330 kbps with an intermediate-gain antenna and to as high as 432 kbps with a high-gain antenna. Additional Supplemental Type Certifications (STCs) for several other aircraft types, including the Bombardier Challenger 300, Gulfstream GII and GIII, and Dassault Falcon 2000 are also being pursued. #911.AIT10

25 August 2011
No. 911
AIT

Security & surveillance

Passengers at several airports throughout the U.S. are now moving through security checkpoints more efficiently with fewer concerns about intrusive whole-body screening. Technicians with the Transportation Security Administration (TSA) have installed new passenger screening software that addresses personal privacy concerns while increasing the speed of the screening process. Known as automated target recognition software, the new technology is used with current millimetre-wave whole-body imaging machines. The new software produces a generic, computer-generated outline of a person that is identical for all passengers, while highlighting potential threat items that may require further screening by TSA security officers. The new software is being installed at 40 U.S. airports

TSA began testing the software a year ago, and began installing it at airports on 20 July 2011. The software should be installed at airports nationwide by September, agency officials have said. TSA spent about USD 2.7 million for contractor L-3 Communications to develop the new software as part of an existing contract. -- The technology is part of several new initiatives developed by TSA Administrator John Pistole, who has said the agency should move toward a more risk-based approach to security instead of treating all passengers as equal threats. #911.AIT11