

L'AÉROSPATIAL

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I - INDUSTRY NEWS

BOMBARDIER

http://www.bombardier.com

Libyan Airlines purchases two CRJ900 NextGen

Libyan Airlines has placed a firm order for two Bombardier CRJ900 NextGen regional jets. This order is the conversion of two options by Libyan Airlines when it ordered three CRJ900s, announced on 14 June 2007. These three aircraft have already been delivered. Libyan Airlines' CRJ900 and CRJ900 NextGen aircraft have a two-class cabin configuration, with seven business class seats and 69 economy class seats.

Spain orders two more amphibious aircraft

The Spanish government has placed a firm order for two Bombardier 415 amphibious aircraft. At list price, the contact value is approximately US\$60 million, including technical support, training, a flight training device and additional spare parts for the existing fleet. This order will increase the Spanish government fleet to 22 Bombardier amphibious aircraft, namely one Bombardier 415, 14 CL-215Ts and five CL-215s. Deliveries will begin in 2008 and the flight-training device will be delivered in 2009.

CAE

http://www.cae.com

Orders worth more than \$126 million

CAE has sold eight full-flight simulators (FFS) and several CAE Simfinity training systems with an estimated total value of \$126 million.

- Continental Airlines: a CAE 7000 series Boeing 787 FFS and a suite of Simfinity training devices.
- US Airways: two Airbus A320 and one Airbus A330/340 CAE 7000 Series FFS; nine cockpit procedures trainers and CAE Simfinity virtual simulators for both the A320 and A330/340.
- Etihad Airways, the national airline of Abu Dhabi: one CAE 7000 Series A320 FFS and a CAE Simfinity Maintenance/Flight Training Device (M/FTD) that is reconfigurable to represent the Airbus A320, A330 and A340.
- Air Algérie: a CAE 7000 Series Boeing 737NG FFS.
- Alteon Training, a Boeing subsidiary: a CAE 7000 Series Boeing 737NG FFS and a second simulator

whose type will be determined later. This contract is the result of Boeing's industrial benefit commitments with the Canadian government resulting from the purchase of four C-17 aircraft.

Orders for two full-flight simulators

CAE has signed contracts to design and manufacture two full-flight simulators, a suite of CAE Simfinity training devices and simulator upgrade services. These contracts have a total value of \$46 million and bring the number of FFS sales announced by CAE in the 2008 fiscal year to 31.

Qantas has ordered a CAE 5000 Series Boeing 737NG simulator and a CAE Simfinity Boeing 737NG Integrated Procedures Trainer (IPT). Hainan Airlines, the fourth largest Chinese airline, will receive a CAE 7000 Series Embraer 190 FFS and a suite of Simfinity training devices. Airbus has also ordered a CAE Tropos-6000 visual system for an Airbus A350 development and test simulator.

CAE has signed a contract with Atlas Air for the supply of upgrade services for a Boeing 747-400 FFS. The upgrade will include a CAE Tropos-6000 visual system with LcoS projectors. Also included is a CAE Simfinity Integrated Procedures Trainer (IPT) that can converted between Boeing 747-400 and 747-8 configurations. CAE will also upgrade two of its FFS for Singapore Airlines – one Airbus A340 and one Boeing 777 – by installing a CAE Tropos-6000 visual system with LcoS projectors. In addition, CAE will upgrade an A340 FFS, including the addition of the A330 configuration, facilitating convertibility between the two models. CAE has also signed a three-year contract with Virgin Blue for the provision of support and maintenance services.

\$160 million contract with the Australian Defence Forces

The Commonwealth of Australia has awarded CAE a \$160 million contract for the supply of training systems and services for the MRH90 helicopter. The MRH90 multi-role helicopter is the Australian version of the NH90 tactical transport helicopter. Australia has ordered 46 MRH90s. As prime contractor, CAE will supply two MRH90 Full-Flight and Mission Simulators (FFMS), training centres, and comprehensive technical and support services. The MRH90 FFMS will be delivered in 2012.

CAE will also supply comprehensive MRH90 FFMS support services for a two-year period under its existing Management and Support of Australian Defence Forces (ADF) Aerospace Simulators (MSAAS) contract with the ADF. CAE will be responsible for overall project management and systems engineering.

Contracts with the Netherlands Ministry of Defence

CAE has signed two contracts with the Netherlands Ministry of Defence worth a total of \$60 million for the design of two Full-Mission Simulators (FMS) for the Royal Netherlands Air Force (RNLAF), together with comprehensive support and maintenance services for a 15-year period. CAE will design and build C-130H and KDC-10 FMSs that the RNLAF will use for pilot and mission training. The two simulators with be certified to Level D by the Netherlands Militaire Luchtvaart Autoriteit (Military Aviation Authority) and will be delivered and enter service in early 2009.

DELASTEK

http://www.delastek.com

Major investments

During the next three years, Delastek will invest \$3 million to develop several new products that use innovative manufacturing techniques. They include composite primary structural components using Resin Transfer Moulding (RTM). To implement this project, Delastek has received \$510,000 of support from the government of Québec under the PSPE program, as well as \$565,000 from Développement Économique Canada.

DREAM AIRCRAFT

http://www.dreamaircraft.com

Expansion in the United States

Dream Aircraft, a Québec manufacturer of amateur construction kits, will soon open a sales office in the United States for its four-seat Tundra aircraft. Dream Aircraft is currently producing kits for seven aircraft per year. Mr. Yvan Desmarais, president of Dream Aircraft, intends to increase the rate to 20 aircraft per year. All the Tundra's components are manufactured in Granby using CNC machines.

ESTERLINE CMC ÉLECTRONIQUE

http://www.cmcelectronics.ca

<u>CMC Flight Management System for five Beluga</u> <u>A300-600ST aircraft</u>

CMC Électronique has been selected by Airbus Transport International (ATI) to supply its CMA-9000 Flight Management System (FMS) for an upgrade of its fleet of five A300-600ST Beluga transport aircraft. The installation will include two CMC-9000 FMS that will deliver enhanced operational capability.

The Turkish Air Force selects the CMC Électronique cockpit for its KT-IC training aircraft

CMC Électronique has received a contract from Korea Aerospace Industries (KAI) for the supply of Cockpit 4000 integrated avionics for 40 KT-1C training aircraft to be delivered to the Turkish Air Force. In January 2003, CMC announced its selection by KAI as the cockpit avionics integrator for the prototype KT-1C. This was the launch program for Cockpit 4000. The Turkish program

is the first production order for KT-1C aircraft fitted with CMC's avionics suite.

CMC's baseline configuration for the KT-1C will include two open architecture mission computers, a wide angle SparrowHawk HUD, an "Up Front Control Panel" (UFCP) and a stand-alone UFCP for the rear seat. CMC will also supply the HUD camera, an air data computer and a data transfer unit. Operational flight programs in the avionics suite will integrate aircraft sensors, radios and weapons systems in order to respond to a wide range of navigation and mission requirements.

FMS for Singapore's PC-21 fleet

CMC Electronique is supplying its CMA-9000 Flight Management System (FMS) as standard equipment for the fleet of Pilatus PC-21 turboprop aircraft selected by the Republic of Singapore Air Force. CMC will also supply its compact SparrowHawk Heads-Up-Display (HUD) integrated with a HUD symbol generator, and a video display unit for the PC-21's rear cockpit.

EXELTECH AÉROSPATIALE

http://www.exeltech-aerospace.com

Agreement with Air Creebec

ExelTech Aérospatiale has announced that it has renewed an agreement with Air Creebec, based in Val-d'Or, Québec, to provide line maintenance and heavy maintenance services. Air Creebec operates four Bombardier Dash-8 aircraft based in Montréal and three others based in Timmins (Ontario). Under this exclusive agreement, worth \$15 million, ExelTech will provide line maintenance, including overnight maintenance, field repairs and logistics for the Montréal-based Dash 8 fleet, and major maintenance including structural inspections, repairs and modifications for all of Air Creebec's Dash 8s

HÉROUX-DEVTEK

http://www.herouxdevtek.com

Renewal of a multi-year agreement

Bombardier Aéronautique has awarded Héroux-Devtek's aerostructures division a five-year contract for the manufacture, assembly and delivery of 200 detailed structural components including spars, ribs, frames and engine mounts for Bombardier's family of regional and business aircraft. At current production rates, the value of the contract is more than \$110 million. It is effective immediately and will continue until December 2012.

MECHTRONIX SYSTÈMES

http://www.mechtronix.ca

Full Flight Trainer certification

Alteon Training, a subsidiary of Boeing, has obtained FAA Level 5 certification for its B737-800 Full Flight Trainer (FFT) from the Australian Civil Aviation Safety Authority. Mechtronix and partner Aerosim Technologies were selected to supply this device for Alteon's Multi Crew Pilot Licensing (MPL) program. The FFT fixed-base simulator integrates aerodynamic models, flight controls, a 180 by 40 degree Rockwell Collins EP 10 visual system and a complete flight debrief system. The device, which accurately reproduces a B737-800 cockpit, has all the full-flight simulator functions with the sole exception of motion.

CAAC certifies Cessna Citation simulators

The Civil Aviation Flight University of China (CAFUC) has successfully completed its On-Site Acceptance (OSA) and certification of two CJ1 FFS X Zero Flight Time (ZFT) devices at its facility in Gunaghan, Sichuan. These two Cessna Citation CJ1 simulators are now certified to Level C by the CAAC, in accordance with FAA AC 120-40C. This is the first Mechtronix "Business Aviation FFS" full motion platform. CAFUC is the largest civil aviation advanced training university in China and Asia. It trains more than 90% of China's civil aviation pilots.

Adria Airways orders an Ascent flight simulator

Adria Airways, the Slovenian national airline, has selected the Ascent Flight Trainer (AFT) for its Instrument Rating (IR) and Multi-Crew Cockpit (MCC) line pilot training needs. It reproduces twin-turboprop aircraft fitted with a Garmin 430 GPS, and can be configured to represent four aircraft types: the B200, the Piper Seneca V, the Piper Arrow and a generic jet aircraft. This simulator is also fitted with a Rediffun RASTERflite image generator and real-time visual software, whose high resolution and light point luminosity brightness afford flight procedures trainers the same visual system quality as FFS devices. The school will pursue JAA JAR-STD 3A FNPT II and MCC certifications.

<u>Malév obtains Level C certification for its FFS X</u> simulator

Hungarian airline Malév has received JAA Level C certification for its FFS X Non Zero Flight Time (NZFT) simulator. The only requirement for this upgrade was a software installation, with no hardware changes, and additional pilot training credits have been obtained. As a result, this simulator can be used for initial, recurrent and transition training, and for testing and checking.

Malév decided to upgrade its FFS X less than a year after its initial qualification in order to deliver more inhouse training and make its training facilities more accessible for both its own pilots and third-party

customers. The existing NZFT platform (Level B qualification) allowed Malév to meet all recurrent, testing and checking training needs in-house. With this upgrade, the company will now also be able to provide initial training.

TACA Airlines orders a FFS X

TACA Airlines, a leading Latin American airline with headquarters in El Salvador, has ordered a Mechtronix Systems FFS X Zero Flight Time (ZFT) simulator in A320 configuration. The FFS X ZFT will be certified to Level D, in accordance with FAA regulations.

This is the first simulator that TACA will install in its El Salvador operations centre. The airline currently sends its pilots to various training centres in Toronto, Miami and other North American cities. With the FFS X, it will have state of the art technology allowing it to deliver all initial and recurrent pilot training in-house. TACA will also use the device to train other airlines' pilots. The Mechtronix "train at home" functional model will allow airlines like TACA to train pilots in their own operations centres.

MJET

http://www.mjet.aero

Additional fuel capacity for CRJ200 conversions

Mjet's new supplementary fuel system has been developed specifically for CRJ200 conversions, and results in more cabin space than competing offerings. The supplemental tank provides an additional 4,500 lb of fuel with an attendant increase in range.

NOORDUYN

http://www.norduyn.com

Noorduyn Norseman takes a new direction

75 years ago, a young Dutch immigrant to Canada named Robert Noorduyn created the Norseman in Montréal, a rugged aircraft that operated in the remotest parts of the Canadian North. The Norseman's reliability and ruggedness also attracted the U.S. military's attention, and it took delivery of more than 755 of the 903 aircraft produced. Noorduyn Norseman is now a member of a diversiifed industrial group, and has announced that it will adopt the name Norduyn for the group companies.

Norduyn is active in the commercial and military aviation and road transportation markets, and also distributes advanced composite materials. The company specializes in the manufacture of aircraft in-flight service equipment such as: general-purpose aluminium carriers, drink and meal carts, baby bassinets, as well as stretchers. The company also performs repair and overhaul of aircraft components. The group's headquarters are in Montréal, Canada, with factories in Montréal and Shanghai, China. Norduyn will reveal its

new livery at the Aircraft Interior's Show that will be held in Hamburg, Germany, from April 1st to 3rd.

PRATT & WHITNEY CANADA

http://www.pwc.ca

Launch of a new engine family

Pratt & Whitney Canada has launched its next generation 10,000 lb thrust class PW800 engine family. The first engine in the family, the PW810, has been selected by Cessna to power its new Citation Columbus business jet. This new generation engine redefines performance and economics standards by incorporating the most recent P&W Group materials, aerodynamic and design technologies. The advanced technologies used in the fan, compressor and turbine, and in the TALON low emissions combustor, give this extremely green engine very low fuel consumption and the potential for thrust growth.

TURBOMECA

http://www.turbomeca.com

Appointment

Mrs. Hélène Séguinotte has been appointed "National Executive Safran Canada" effective July 1st, in addition to her existing position as general manager of Turbomeca Canada.

II - TECHNOLOGY

European Union Vivace project

The €75 million "Value Improvement through a Virtual Aeronautical Collaborative Enterprise" (Vivace) project strengthens the role of simulation and communications in new aircraft development. The objectives included a 5% reduction in aircraft development costs, a 30% reduction in new engine time to market and a 50% reduction in new engine development cost. During the project six engine manufacturers collaborated to make a joint customized proposal to a customer in seven days rather than the typical three months. Research resulted in the development of innovative tools called "the seven marvels": a collaboration hub, an engineering management system that presents information customized to user requirements. multi-level optimization, change cost decision-making, intelligent reuse of existing models and virtual testing.

Engine efficiency improvements

General Electric, Pratt & Whitney and Rolls-Royce are all studying Pulse Detonation Engines (PDE) with the goal of achieving a 10% reduction in specific fuel consumption. A hybrid configuration, between a turbofan and a pulsed engine, has achieved a thrust level of 100 lb in the laboratory. The pulsed section allows the replacement of moving parts with long tubes within

which a supersonic post-detonation shock wave propagates.

<u>A research centre will develop aerospace</u> "supermaterials"

On February 15th,McGill University and the Industrial Materials Institute of the National Research Council of Canada located in Boucherville, Québec, inaugurated the Aerospace Materials and Alloy Development Centre in the presence of Minister Raymond Bachand in which the Québec government is injecting \$3.15 million. The mission of the centre is to create a new generation of materials, surface treatments and advanced manufacturing processes suitable for the highly demanding requirements of the aerospace industry.

The new Centre comprises four laboratories:

- the cold spray laboratory at the NRC Industrial Materials Institute;
- the electron beam physical vapour deposition laboratory at McGill;
- the electronic speckle pattern interferometry laboratory, also at McGill;
- the laboratory for the manufacture of specialized titanium parts using an isothermal press at the NRC's Advanced Manufacturing Technology Centre on the Université de Montréal Campus.

III - INDUSTRY DEVELOPMENT

QUALITY

58 AS 9100 certified companies

Abipa - Air Data - Alta Précision - Amphenol Air LB North America - Automatech Industrielle - Bell Helicopter - Bombardier Aéronautique - CanRep - Composites Atlantic - DCM Aéronautique - Deburex - DMG -Esterline CMC Électronique - Flight Dynamics - GE Elano - Générale électrique du Canada - Goodrich -Harrington - Hemmingford Aérospatiale - Héroux-Devtek - Honeywell - JSR2 - Lavod - Leesta - Lisi Canada Aerospace - L-3 MAS - Marquez Transtech - MDA Space - Mecachrome Canada - Mecaer - Mesotec -Messier-Dowty - Metcor - Meyer Canada - Moncar Précision - Moulages aéronautiques Alcoa - MRT Robotic - Nétur - Patenaude Industries - Pega Précision - Placeteco - Pratt & Whitney Canada - Produits intégrés Avior - Quéloz - RTI-Claro - Sargent Aérospatiale Canada - Sermatech Canada - Sido - Sinters Canada -Sonaca NMF Canada - Soudure Aérospatiale -Techniméca - Techniprodec - Teco Précision - Thales Canada - TNM Anodisation et Peinture - Vac-Aéro -Verdun Anodisation

1 AS 9110 certified company

Pôle Air Aviation

94 ISO 9001:2000 (2000 version) certified companies

ABB Bomem - Abipa - Air Data - Air Terre Équipement - Almaho - Alphacasting - Alta Précision - Amphenol Air

LB North America - AP&C Advanced Powders & Coating - Apollo Micro-Ondes - ATD Design Services - Atelier d'usinage F.J. - Automatech Industrielle - Averna Technologies - Avitec - Bombardier Aéronautique - CAE (génie logiciel) - CanRep - CEL - Circuits CMR -C.P.S. Industries Atlantic Composites CS Communication & Systèmes Canada - Deburex -Delastek - Diacarb - DMG - Élimétal - Esterline CMC Électronique - Finecast - Fiso - Flexibulb - Gentner - GFI - GGI International - Goodrich - Groupe Meloche - Gurit - Harbour Industries - Hemmingford Aérospatiale -Héroux-Devtek - ICT - JSR2 - Lavod - Leesta - Liebherr Aerospace Canada - Lisi Canada Aerospace - Lockheed Martin - LSI Luminescent - L-3 MAS - Marquez Transtech - MDS Aero Support - Mecachrome Canada -Mecaer - Mesotec - Metcor - Minicut - Mitec - Moulages aéronautiques Alcoa - MRT Robotics - Optimus -Patenaude Industries - Pega Précision - Placeteco -Plasmatec - Précision JLM - Produits intégrés Avior -Quéloz - Rasakti - Rheinmetall Canada - Rolls-Royce -Sargent Aérospatiale Canada - Sermatech Canada -Sermati Canada - Shellcast - Sico - Sido - Sinters Canada - Soudure Aérospatiale - SPG Data 3D -Techniprodec - Techspace Aero Canada - Teco Précision - Terminal & Câble TC - Thermetco - TMH Canada - TNM Anodisation et Peinture - TQF Technologies - Tribospec - Trident Industries - Ultraspec - Verdun Anodisation - Vestshell - Werner Metals

16 NADCAP certified companies

Abipa - Bodycote - CP Tech - Héroux-Devtek - Genitest - Moulages aéronautiques Alcoa - Lego - Metcor - Optimus - Sonaca NMF Canada - Soudure Aérospatiale - Tecnickrome - TNM Anodisation et Peinture - Ultraspec - Vac-Aéro - Verdun Anodisation

If your company has received ISO, AS or NADCAP certification, but does not appear on this list, please let us know.

IV - SHOWS, EXHIBITIONS, MISSIONS AND SYMPOSIA

QUÉBEC AEROSPACE ASSOCIATION (AQA) http://www.aqa.ca

AQA dinner-meeting

The Québec Aerospace Association (AQA) held its most recent dinner-meeting on December 12th, 2007, as part of the Innovation Forum, organized by Aéro Montréal in collaboration with CRIAQ. More than 400 people listened to Mr. Jacques Saada, president and CEO of the AQA, Mr. André Bazergui, president and CEO of CRIAQ and Mr. Jean-Pierre Mortreux, president and CEO of Esterline CMC Électronique. The event was held at the Centre Mont-Royal, and also celebrated the AQA's 10th Anniversary.

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