



L'AÉROSPATIAL

Newsletter

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CONTENTS

I - INDUSTRY NEWS

Accessair	1
Ad Opt Technologie.....	1
Aéro (Atelier D'usinage).....	1
Aérosystème.....	1
Air Canada.....	1
Air Data.....	1
Bombardier	2
CAE Électronique	2
Héroux	2
JLM	2
L&H Consultants.....	2
Lockheed Martin	3
Marconi Canada	3
Marquez Transtech	3
Mechtronix	3
Microsphères	3
NMF	3
Opal-Rt Technologies.....	3
Pratt & Whitney Canada.....	3
Rolls-Royce	3
Royal Aviation.....	4
Spar Aérospatiale.....	4
Virtual Prototypes	4

II - INDUSTRY DEVELOPMENT

Quality.....	4
Internet directory of business financing sources	4

III - MANPOWER AND TRAINING

École Nationale d'aérotechnique	4
École des métiers de l'aérospatiale de Montréal (EMAM).....	5
École polytechnique	5
École de technologie supérieure	5
Pratt & Whitney Canada continuing training program.....	5

IV - TECHNOLOGY

In search of partners	5
Statistical process control	5
Parallel processing computers.....	5

V - SHOWS, EXHIBITIONS AND SYMPOSIA

Mission to England.....	5
NBAA	5
Club aérospatial dinner-meetings	5

CONTACTING US

6

I - INDUSTRY NEWS

ACCESSAIR

*New company

A new company, "Les Systèmes ACCESSAIR", has joined the ranks of the Québec Aerospace Industry. The company, a newly formed subsidiary of INOX-TECH, is located on the South shore of Montréal and is specialised in stainless steel equipment. ACCESSAIR is focussed on the design and manufacture of stainless steel airport equipment; such as, sanitation service trucks, vehicle-mounted access stairs, potable water trucks and runway washing trucks. The company will also manufacture the new "SKYWALKER" passenger loading bridge, designed for use with regional aircraft. ACCESSAIR anticipates that it will create 100 jobs in the next two years.

AD OPT TECHNOLOGIE

The U.S. Federal Aviation Administration (FAA) has awarded Ad Opt Technologie of Montréal a contract valued at more than \$8 M for its "Shift Logic" schedule management software. The system will be installed in the 25 major regional air traffic control centres in the United States. During the last year, the system has also been installed at NAV CANADA, which is responsible for Canadian air traffic management. Air Canada, Delta Airlines, Northwest Airlines, UPS and TWA also use the software for the management of their air operations. Ad Opt has 50 employees and specialises in schedule optimisation software.

AÉRO (ATELIER D'USINAGE)

*SME of the year

The Montréal-North company has been awarded the Banque Nationale's "prix d'argent" (cash award) as the SME of the year for the Eastern part of the Island of Montréal.

AÉROSYSTÈME

Mr. Denis Jobin was recently named director of sales for the aerospace sector. Aérosystème International specialises in the design of test equipment information systems (G.S.E.).

AIR CANADA

*Airbus orders

Air Canada has signed a letter of intent for the purchase of eight Airbus aircraft comprising five A330-300 twins and three four-engine A340-300s. They will replace six Boeing 747-100/200s and two Airbus A340s which are on operating leases. The agreement with the Airbus European consortium also includes options for 20 additional A340s to replace the current 747-400 fleet.

AIR DATA

*Humispace

Following success on the Challenger CL-604, Air Data has received



an order for the installation of a Humispace humidification system on a Gulfstream V.

***GPS system**

Air Data has developed a GPS system for the Port of New York. The system is based on differential GPS and can detect the location of a vehicle to an accuracy of 0.5 m. The system will be installed on the Port of New York's 50 container transporters.

BOMBARDIER

***New orders**

Brit Air

Brit Air of Morlaix, France has placed a \$59.6 M order with Bombardier Regional Aircraft Division for two Regional Jet series 100s. The order also includes the conversion of two options into firm orders.

Midway Airlines

Midway Airlines of North Carolina, has signed a contract for 10 CRJ series 200ERs with options for 20 more. The value of the contract, which includes spares provisioning and mechanic and pilot training, is \$288 M.

China United Airlines

The Chinese government has ordered five corporate RJs which will be operated by China United Airlines. The first aircraft was delivered in September. The contract value is \$155 M and includes interior completion, painting, pilot and maintenance training and spare parts provisioning. Bombardier has captured a 60% share of the Chinese business aircraft market, and has sold more than 30 aircraft to Chinese operators.

Maersk

Maersk Air, the Birmingham based British Airways franchisee, has signed a \$89.5 M agreement for the purchase of three CRJ series 200LR aircraft, with options on 12 more.

Delivery of 200th CRJ:

Bombardier has delivered the 200th CRJ to Lufthansa CityLine of Germany. This airline has ordered 32 CRJs to date making it the largest European operator of them.

To date, 539 CRJ aircraft of all series have been ordered, optioned, or are in service with 24 airlines and private companies in 12 countries. Of this total, more than 200 series 100 and 200 aircraft have been delivered. Delivery of CRJ 700s is scheduled to begin during the fourth quarter of the year 2000.

***Training for Global Express pilots**

Bombardier Business Aircraft Division has signed a partnership agreement with Air Routing International of Houston, Texas and Air Security International for supplementary training for Global Express and Challenger pilots. The training will be provided at Bombardier's aviation training centre in Montréal.

***Completion Centre**

The Bombardier Completion Centre will open in December. The paint shop, which is currently under construction, will accommodate four aircraft. When Bombardier bought the completion activities of Innotech, 270 people were employed. Current employment is 420, and will increase to almost 700 in 1998.

***Global Express**

The four Global Express aircraft involved in the flight test and certification programs will be delivered to the Bombardier Completion Centre in Montréal next December.

***Certification**

Bombardier has received US Federal Aviation Administration (FAA) certification for its new Learjet 45 business aircraft. Current orders for the type stand at 130 from customers in 17 countries.

CAE ÉLECTRONIQUE

***New orders**

German Military

The German Federal Office has awarded CAE Électronique a \$21 M contract for the manufacture and development of eight Tornado multi-mission simulators. Delivery of the first simulator will be at the beginning of the year 2000.

Italian Army

CAE has been awarded a major contract for the upgrade and modernisation of simulators for a range of Agusta aircraft used by the Italian military. The first project is for simulators for the Agusta-Bell 205 helicopter, over 100 of which are operated by the Italian military.

American Airlines

American Airlines has ordered four flight simulators; two for the Boeing 737-800, one for the 767-300 and one for the 777-200. They will be delivered in 1998. CAE will also supply an EMB-145 full flight simulator for the training of pilots from its American Eagle subsidiary.

Delta Air Lines

Delta Air Lines has ordered eight Flight Training Devices (FTD) from CAE for the B-737, B-767 and B-757. Delta has also ordered four full flight simulators: one for the Boeing 737-200, one for the 737-600/700/800 and two for the 767-300/300ER/400. The contract includes options for additional simulators.

Air China

The national airline of the People's Republic of China, Air China, has signed a \$35 M contract with CAE for full flight simulators to train pilots of Boeing aircraft.

Natco

CAE Électronique has signed a contract with Northwest Aerospace Training Corporation of Minneapolis for a Saab 340B full flight simulator.

This brings CAE's orders for commercial flight simulators for the 1998 fiscal year, which began on April 1, to 23.

HÉROUX

***Investment project**

Héroux will invest \$20.8 M at its Longueuil division for the development of new landing gear systems and plant modernisation. This initiative, which should create 200 jobs over four years, includes a reimbursable contribution of \$4.9 M from the Québec government.

***US Air Force contract**

The Longueuil based company has obtained contracts totalling \$5.7 M from the US Air Force for landing gear components. This specialised equipment is destined for installation on KC-135 in-flight refuelling tankers and Boeing B-52 bombers. Deliveries will begin in 1999.

JLM

JLM Usinage de précision, a manufacturer of precision metal components, has purchased a machining system which can control eight work table at the same time, and allows the programming of a carousel of 120 different tools. The company has 30 employees, and their major customers are NASA and the "Centre de recherches pour la défense de Valcartier".

L&H CONSULTANTS

In December, L&H will move to a new building which is six times larger than its current facilities (45,000 sq ft) where it will offer engineering services, as well as the training and procedures services currently offered. L&H has also established a high speed connection line between its offices in Seattle, Wichita and Montréal, which is used for the exchange of CATIA files.



LOCKHEED MARTIN

***Multi-point communications**

Lockheed Martin has signed a \$1.5 M contract with Western International Communications for the design and integration of a Local Multi-point Communications System (LMCS), for use in wireless communications. LMCS is a new, high-speed digital system offering leading-edge communications services such as High Definition TV (HDTV), Internet access, video tele-conferencing and other bi-directional multimedia applications.

MARCONI CANADA

***CMA-900 flight management system**

After last spring's approvals by the US Federal Aviation Administration (FAA) and Transport Canada, Marconi's CMA-900 FMS has recently been approved by the French civil aviation organisation for installation on AOM's MD-83 fleet. The multi-sensor CMA-900, which includes an integrated GPS and liquid crystal multifunction displays, is intended to replace Omega systems. More than 30 airlines have ordered the system.

***Satellite navigation**

A result of 18 years of Marconi Canada experience in airborne GPS equipment, the CMA-3012 Global Navigation Satellite Sensor Unit (GNSSU) has been approved by the British civil aviation authorities. This system is used primarily as a primary source of navigation for oceanic and remote area operations. The British company Racal Avionics has ordered 15 units, to establish the interfaces with its RNav2 system.

***CMA-2102 SATCOM antenna**

Marconi Canada has received approval from Boeing engineers and the FAA for use of the CMA-2102 Satcom antenna on the B777. This antenna has also been selected by Air France as standard equipment on its 20 new long haul A340 and B777 aircraft, and for the modernisation of six B747 aircraft.

MARQUEZ TRANSTECH

***Component measurement for inspection and reverse engineering**

Following experimentation with a 3D laser digitiser (Laser Scanner), Marquez Transtech has developed know-how which allows it to establish the digital geometric definition of a component in IGES format. The data can be used for direct component manufacture or for inspection. The laser is mounted on a 5-axis CNC machine and includes software which can relate all movements to a fixed reference point. The system can reconstitute objects up to 120"x60"x30" .

MECHTRONIX

***Sales of ASCENT simulators**

Mechtronix Systèmes, of Dorval, has sold three ASCENT procedures trainers. The first has been delivered to a European company, Flightware BV, and has been operational since the beginning of October. The other two systems have been sold to Atlantic Flight Training (United Kingdom) and Indiana State University (United States) and will be delivered in early 1998. The ASCENT system is based on the King Air B200 twin-turboprop and includes an INSIGHT visual system, another Mechtronix product.

MICROSPHÈRES

***Optical correlator**

Microsphères is preparing to market an optical correlator (equivalent to an optical processor) which can compare two complex images at the speed of light. It will be capable of handling up to 60 images per second at a cost ten times less than is currently

available. Applications range from correlation of airborne imagery to quality control of high output machines (electrical connectors, printed circuits, caps, bottles, etc).

NMF

***Contract with IAI**

Mirabel-based NMF is expanding its factory for a contract which it has signed with Israeli Aircraft Industries. The contract is for the forming of 100 aircraft wings for the ASTRA and the GALAXY, which is currently in development.

OPAL-RT TECHNOLOGIES

Opal-Rt Technologies has concluded a contract with the Canadian Space Agency (CSA) for delivery of a *real-time parallel computer*, which will be used in the development and control of a multi-degree of freedom robot. Amongst other things, it is capable of precise real-time control of the robot, thanks to variable rate sampling of between 100 microseconds and 100 milliseconds.

PRATT & WHITNEY CANADA

***Cooperation agreement**

P&WC and FIATAVIO Spa of Italy have signed a cooperative agreement by which FIATAVIO will participate in the design, development, and construction of a new family of turbofans, including the PW308 for the Hawker Horizon.

***PW127**

- P&WC's PW127G turboprop has been selected by Construcciones Aeronauticas S.A. (CASA) for its new CASA C295 aircraft. The PW127G has a take-off rating of 2,920 shaft horsepower. Certification is scheduled for November 1999.
- Ilyushin has selected a derivative of the PW127, the PW127F to power the Il-114.

***PT6 derivatives**

- Helicopter manufacturer Agusta has selected the PT6B-37 as the powerplant for its 119 Koala.
- Canadian Aerospace Group has selected the PT6A-25 for its aircraft.
- New Piper Aircraft has chosen the PT6A-42 for its new Malibu Meridian business aircraft.

***First delivery of the PW545A**

P&WC has delivered the first 3,786 lb take-off thrust PW545A turbofan to Cessna Aircraft for its new Citation Excel. This engine includes new technology components, including a single piece, 27 in diameter integrally bladed fan and an exhaust gas mixer which helps to reduce fuel consumption.

***Russian subsidiary**

P&WC has formed a wholly owned Russian subsidiary called "Pratt & Whitney - Rus" which has a staff of 80, and is located at St. Petersburg. The mandate of the company is to design, develop and support a complete range of turboprops, turbofans and turboshafts for use on Russian general aviation aircraft. The first engines will be equivalent to the PT6, the PW206 and the PW127F.

***JPATS**

P&WC has delivered the first two PT6A-68 engines for the Raytheon T-6 Texan II training aircraft. The engines are part of an order for 700 for the "Joint Primary Aircraft Training System". Unusually, this engine is assembled in the United States, and employs about 100 people at the Longueuil factory.

ROLLS-ROYCE

***Appointments**

Mr. Greg Miller, formerly with Bell Helicopter of Mirabel, has joined Rolls-Royce Canada as vice-president, finance and administration. He replaces Mr. Paul Bourgon who has been named



vice-president of the newly-formed "New Production and Industrial Group", which is responsible for the manufacture and repair of large industrial gas turbines.

***Long-term agreement**

Rolls-Royce Canada has signed a multi-year contract with Continental Airlines of Houston (Texas) for the repair and overhaul of RB211-535E4 engines which power the airline's Boeing 757 fleet. The agreement, which extends to the beginning of the year 2000, has an estimated value of \$ 75 M.

***New contracts**

Rolls-Royce has concluded service contracts valued at several million dollars for the maintenance and overhaul of TAY and SPEY engines. The customers are Pfizer Corporation, Petersen Aviation and Mobil Business Resources Corporation. In other news, Gulfstream has selected Rolls-Royce for the repair and overhaul of Spey and Tay engines on the Gulfstream II and IV business jets respectively, and for the maintenance of BR710 engines on the new Gulfstream V business jet.

***AE 3007**

Allison Engine Company has appointed Rolls-Royce's Lachine factory as an Authorized Maintenance Centre (AMC) for the AE 3007 turbofan. Allison engines power the Embraer EMB-145 regional aircraft and the Cessna Citation X business aircraft.

ROYAL AVIATION

The airline Royal Aviation has purchased *Can Aircraft Cargo* whose annual revenues are in the order of \$50 M. Six B737-200s will be added to Royal's existing 16 aircraft fleet. The B737-200s will be modified to carry passengers during the day and cargo at night.

SPAR AÉROSPATIALE

***Contract from Aérospatiale**

Spar Aérospatiale has obtained a \$3.2 M contract from Aérospatiale for the design and construction of two C-band and three Ku-band antennas for installation on the Thaicom 4 satellite.

***First map of the Antarctic**

The 18-day Antarctic cartographic mission used Spar's RADARSAT 1 imaging satellite. The result is the first complete map of this frozen 5.5 million square mile continent. Preliminary assessment of the data has already revealed huge glacial currents and the effects of human activity on Antarctica, such as vehicle tracks and inhabited stations.

VIRTUAL PROTOTYPES

***Appointment**

Mr. Philippe Collard has been promoted to the position of president and executive director. He was formerly director of operations.

II – INDUSTRY DEVELOPMENT

QUALITY

***58 ISO certificated companies**

Abipa - Aérotech - Airborne - Air/Terre Équipement - AlliedSignal Aérospatiale - Arell - Atelier d'usinage Aéro - Aviation Lemex - CAE Aviation - CAE Électronique - Canadair - CRIQ Essais - Deburex - EG&G Optoélectronique - Finecast - Flexibulb -Fonderies Shellcast - Générale Électrique du Canada - GFI - Godfrey Aérospatiale - Harbour - Harington - Hemmingford Aérospatiale - Héroux - Hochelaga Aérospatiale - Howmet Cercast - James Dawson - Kvaerner QTC - JLM Précision - Les industries Profab - Les outillages K&K - Les trempeurs d'acier du Québec - Les trempeurs Themetco - Lockheed Martin Canada - Lucas Industries Canada - Marconi Canada

- Marquez Transtech - Meloche - Mésotec - Messier-Dowty - Mitec Électronique - Oerlikon Aérospatiale - Optimus - Outils Diacarb Tools - Pratt & Whitney Canada - Primetech Électroniques - Pôle Air Aviation - Robert Mitchell - Rolls Royce Canada - Rolls Royce (GTE) - RPM Tech - Sider-Tech - Sido - Soudure Aérospatiale - TEAM - Tribospec - Technologies industrielles SNC - Terminal & Câble TC.

Over 90% of Québec's aerospace output is produced by ISO 9000 registered companies. If your company is registered, but not on our list, please let us know.

***New ISO 9000 companies**

ABIPA CANADA, of Laval, a specialist in the machining, manufacture and assembly of components for the aeronautical industry, has recently received its ISO 9002 registration from registrar Bureau des Normes du Québec (BNQ). The head of the implementation team was Mr. Gilles Carré, director of quality at ABIPA.

AIR TERRE ÉQUIPEMENT, a Granby-based precision machining company, has registered its quality system to ISO 9002 standards. The chief executive, Mr. Camil Poulin was responsible for the implementation program.

AVIATION LEMEX, which manufactures aircraft parts, is certificated to ISO 9002.

CPS INDUSTRIES of Ville St-Laurent, a specialist in the manufacture of aircraft engine parts, has received its ISO 9002 registration certificate for its quality system. Mr. Robert Wiedemann, director of quality, was responsible for the implementation at CPS.

DEBUREX' quality system has been registered by QMI to ISO 9002 standards. Mr. Rénald Brulotte led the implementation team at Deburex.

FLEXIBULB, which manufactures MEDEVAC ambulance interiors, has obtained ISO 9002 certification.

LES OUTILS DIACARB of Ville St-Laurent, a specialist in the manufacture of carbide tools, has just obtained ISO 9002 registration for its quality system from registrar Bureau des Normes du Québec (BNQ). The leader of the implementation was Mr. Steve Bissonnette.

TRIBOSPEC, of Ville LaSalle, a manufacturer of lubricants for the aeronautical sector, has registered its quality system to ISO 9002. The project director at Tribospec was Mr. Pierre Perron.

INTERNET DIRECTORY OF BUSINESS FINANCING SOURCES

Paramount Mutimédia, a new Montréal-based SME, offers a free Web service: a directory of financing programs for small, medium and large companies (WWW.passeportaffaire.com). The site's search engine allows users to access financing program descriptions based upon the category and sector of activity of their company. Passeport Affaires includes all the Québec and Federal public and private programs.

III – MANPOWER AND TRAINING

ÉCOLE NATIONALE D'AÉROTECHNIQUE

***Availability of graduates**

About one hundred graduates will become available in December 1997 in the following three disciplines: avionics, aircraft construction and aircraft maintenance. For more information, please contact Mrs. Lynda Richer on (514) 678-3560, local 389.

***Access to Catia stations and CAD services:**

The school has 12 CATIA stations and offers basic training on the



system. Design services using CATIA are also offered. For more information please contact Mr. André Marcil on (514) 678-7462.

ÉCOLE DES MÉTIERS DE L'ÉROSPATIALE DE MONTRÉAL (EMAM)

*Fall-winter end of course dates

To help companies with their recruiting, ÉMAM has given us the following end of course dates:

Mechanical assembly	13 Jan., 13 Feb.
Assembly – cabling	15 Oct, 8 Dec, 13 March
Structure	28 Nov., 16 Dec., 6 and 20 Feb.
Machining	18 Dec., 9 April (4 groups)
Operation and calibration of numerically controlled machines	17 December
Tooling	24 April

For additional information, contact Mrs. Marjolaine Dionne on (514) 596-2382.

ÉCOLE POLYTECHNIQUE

The École Polytechnique invites aerospace companies to meet students for selection for 4 to 16 month “stages” beginning in May 1998. Companies will be eligible for a tax credit of up to \$200 per week per student. For information, contact the placement service at École Polytechnique on (514) 340-4730.

ÉCOLE DE TECHNOLOGIE SUPÉRIEURE

About one hundred ÉTS engineering students, who already have a college degree in construction, aircraft maintenance or avionics, will be available in January and May 1998 for “stages” of four to eight months. Companies will be able to claim a tax credit of up to \$200 per week per student. For more information, contact Mr. Pierre Rivet on (514) 396-8813

PRATT & WHITNEY CANADA CONTINUING TRAINING PROGRAM

*Results of the first group registered in March '97

A training program oriented towards the needs of P&WC has been created for engineers who are out of work or are working outside of their specialisation. With financial support from the ALFEPAC program, 15 engineers received 642 hours of advanced training in aeronautics. At the end of this accelerated training, P&WC hired all fifteen engineers.

IV - TECHNOLOGY

IN SEARCH OF PARTNERS

AMRA is in search of partners to commercialise equipment which detects micro-cracks using alternate current potential drop technology. The technique will allow the detection of cracks in metal well before repairs are required (2000 flight hours before an aircraft must be withdrawn from service).

For details, please contact Mr. Michel Dupuis on (514) 878-1200 #102

STATISTICAL PROCESS CONTROL

GE Canada of Bromont has developed a user-friendly system for statistical process control. A compressor blade has several hundred dimensional characteristics which must be controlled. As a result, several tens of millions of measurements must be made annually. To better manage the process, two GE engineers have developed a real-time measurement acquisition system, a data analysis and classification sub-system and an application to produce reports. Since implementation of the system, employees have used it to produce over 15,000 reports.

PARALLEL PROCESSING COMPUTERS

NASA and the United Technology Research Center have discovered a method of reducing the costs of design and optimisation of hypersonic flow in engine inlets by a factor of ten. The method depends on the use of parallel processing computers (hyper-computing) as well as proprietary algorithms using artificial intelligence.

V – SHOWS, EXHIBITIONS AND SYMPOSIA

MISSION TO ENGLAND

The aerospace directorate of MICST organised a mission of Québec SMEs to England to meet supply department management at Rolls-Royce plc and Messier-Dowty. The goal of the mission, which took place from 21 to 28 September, was to meet with the English primes who are established in Québec and make contacts with their British sub-contractors. Participating Québec companies were: Abipa, Aérotech, Alphacasting, Avcorp, GFI, Placage Lego, Robert Mitchell, Sido and Soudure Aérospatiale.

NBAA

Several large Québec companies were very prominent at the recent National Business Aviation Association (NBAA) convention held in Dallas from 23rd to 25th September: Bombardier, Bell Helicopter, Pratt & Whitney Canada and Rolls-Royce Canada. Several SME also had booths: Air Data, Mechtronix, Innotech and Giasson Design. During the convention eight Québec SMEs participated in a “new exporters” mission, organised by the Federal Government. Three SMEs also participated in a visit to the Bell Helicopter and Premier Aviation facilities in the Dallas-Fort Worth region. The visit was organised by the aerospace directorate of MICST and Bell Helicopter of Mirabel.

CLUB AÉROSPATIAL DINNER-MEETINGS

The most recent dinner-meeting was held on September 10, 1997. The guest speakers were Mr. David Cook of NMF and Mr. André Farkas of “l'Association québécoise de l'aérospatiale”. More than 100 people attended the meeting.

*Dates of the next dinner-meetings:

- 11 February 1998
- 13 May 1998

CONTACTING US

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