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Canadian Future Defence Budget and Procurements; An Overall Analysis



National Defence and the Canadian Armed Forces

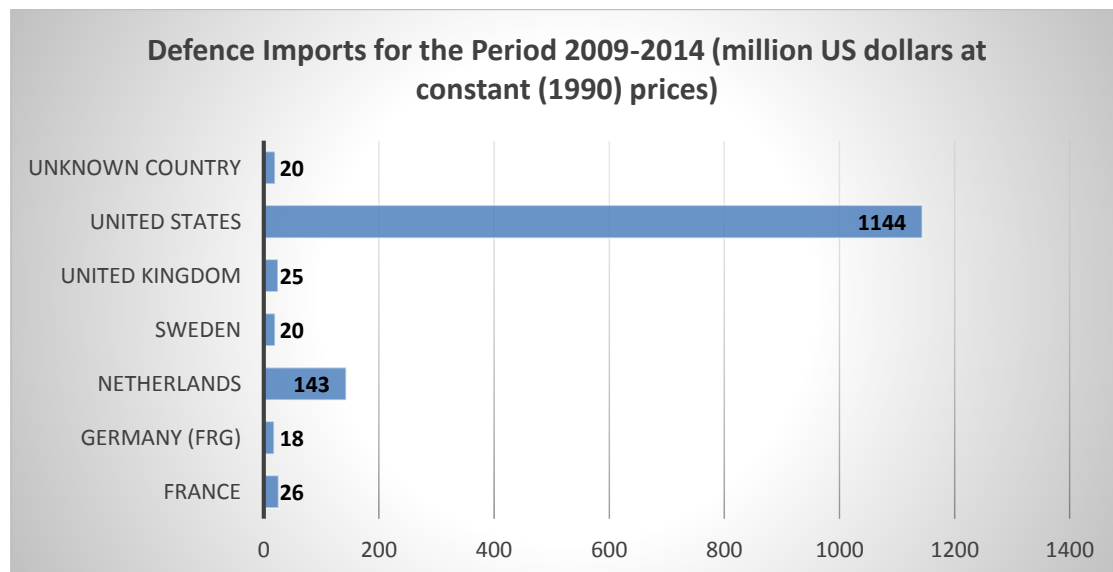


The Canadian authorities spend a fair amount of funds on defence. It is projected that the National Defence's annual budget will expand from

approximately 18 billion Canadian dollars (approximately 12.3 billion US Dollars) in 2008-09, to over 30 billion Canadian dollars (approximately 20.4 billion US Dollars) in 2027-28. In total, the Government plans to invest close to 490 billion Canadian dollars (approximately 334.8 billion US Dollars) in defence over the period 2008-2028. For the same period, Canadian authorities are planning to allocate 12% of total defence expenditure to the acquisition or modernization of major weapon systems. Personnel expenditure will represent 51% of the total defence budget, investment in infrastructure 8%, and finally operation and maintenance expenditure 29%.

According to the Stockholm International Peace Research Institute (SIPRI), Canada imports defence equipment from seven different countries, a fact that highlights a variety of countries with which Canada is cooperating in the aforementioned subject. However, if we take a closer look in the Canadian defence imports we will see that USA plays an extremely important role that “shades” the participation of other countries in the Canadian defence procurements.

It is indicative that for the period 2009-2014, Canada spent \$1397 million US dollars at constant (1990) prices, in procuring defence equipment from foreign countries. From this amount, \$1144 million were spent in US made equipment (81.9% of the total amount). Netherlands and France are the next two countries based on the amount of funds allocated with \$143 and \$26 million US dollars at constant (1990) prices respectively.



Source: SIPRI

Canadian armed forces are going to procure the following equipment in the years to come:

Canadian Army:

- [Tank Replacement Project](#)

In April 2007, the Government of Canada announced the Tank Replacement Project that will provide the Canadian Forces with both an urgent short-term and a long-term, sustainable replacement for its aging Leopard 1 C2 Main Battle Tank fleet. The Canadian Forces Leopard 2 fleet of 100 tanks, once repaired, overhauled and upgraded, will provide the Canadian Forces with a sustainable heavy, direct-fire capability until 2035. The total budget of the program is 650 million Canadian Dollars (approximately 442.7 million US Dollars).

- [Medium Range Radar](#)

Canadian authorities will procure 10 systems that will provide the Canadian Armed Forces with a means to detect hostile projectiles and track airborne targets. Deliveries are expected to conclude in 2017 and the total budget of the program will be approximately 270 billion Canadian dollars (approximately 183.9 million US Dollars).

- [Integrated Soldier System Project \(ISSP\)](#)

The integrated soldier system will increase soldiers' battlespace awareness using modernised and secure communication and navigation innovation. The total budget of the program is \$243.3 million (approximately 165.7 million US Dollars) and deliveries are expected within 2016.

- [Medium Support Vehicle System – SMP Trucks](#)

Under the project Defence Minister Mr. Jason Kenney announced the acquisition of approximately 1537 trucks on July 16, 2015. The first delivery of the trucks and equipment is planned for summer 2017, and deliveries are expected to be completed by fall 2018. The total value of the procurement is expected to reach 725 million Canadian dollars (approximately 493.7 million US Dollars).

Canadian Navy:

- [Halifax-Class Frigates](#)

The project will include the modernisation and upgrade of 12 Halifax-class frigates. The total budget will be 4.3 billion Canadian dollars (approximately 2.9 billion US Dollars) and will among others include the following upgrades/modernisations:

- A new command and control system;
- Multi-Link;
- New radar suite;
- Interrogator Friend or Foe Mode S/5;
- Internal communications system upgrade;
- Harpoon missile system upgrade (surface to surface); and
- Electronic warfare system upgrade;
- Long-range infrared search and track system (SIRIUS); and
- Evolved Sea Sparrow Missile (surface to air).

- [Canadian Surface Combatants \(CSC\)](#)

The CSC project will renew the Royal Canadian Navy surface combat fleet by replacing the capabilities provided by the destroyers (Iroquois-class) and the multi-role patrol frigates (Halifax-class). The CSC project can be fairly characterised as the largest and most complex shipbuilding initiative in Canada since World War II. Total budget will be 26.2 billion Canadian dollars (approximately 17.8 billion US Dollars) and the first delivery is anticipated in 2025.

- [Queenston-Class Joint Support Ships](#)

Acquiring two ships for a total budget of 2.6 billion Canadian dollars (approximately 1.8 billion US Dollars).

Royal Canadian Air Force:

- [CP-140 Aurora](#)

As of 2014, the Aurora fleet is in the midst of an extensive upgrade that will extend its life expectancy to the 2030 timeframe. This upgrade includes structural upgrades and replacement of the outer wings and horizontal stabilizers through the Aurora structural life extension project (ASLEP). Parallel with this, the Aurora incremental modernization project (AIMP) Block III is upgrading mission systems and sensors that are giving the modernized Aurora a world-class capability. Total budget will be 2 billion Canadian dollars (approximately 1.4 billion US Dollars).

- [CH-148 Cyclone](#)

The Maritime Helicopter Project is a program that involves the delivery of 28 state-of-the-art, combat-capable CH-148 Cyclone helicopters, associated logistical and in-service support, spare parts, as well as modifications to the Halifax-class ships and construction of a new training facility equipped with a full training suite of flight, mission and maintenance simulators. The first six such helicopters were accepted by the Government of Canada on June 19, 2015.

- [CF-188 Hornet](#)

Modernisation of the CF-188 Hornet fighter fleet.

Kyriazis Vasileios,
Epicos Newsletter Head Editor

Canadian Aerospace and Defence Industry: Output Orientation and Main Products

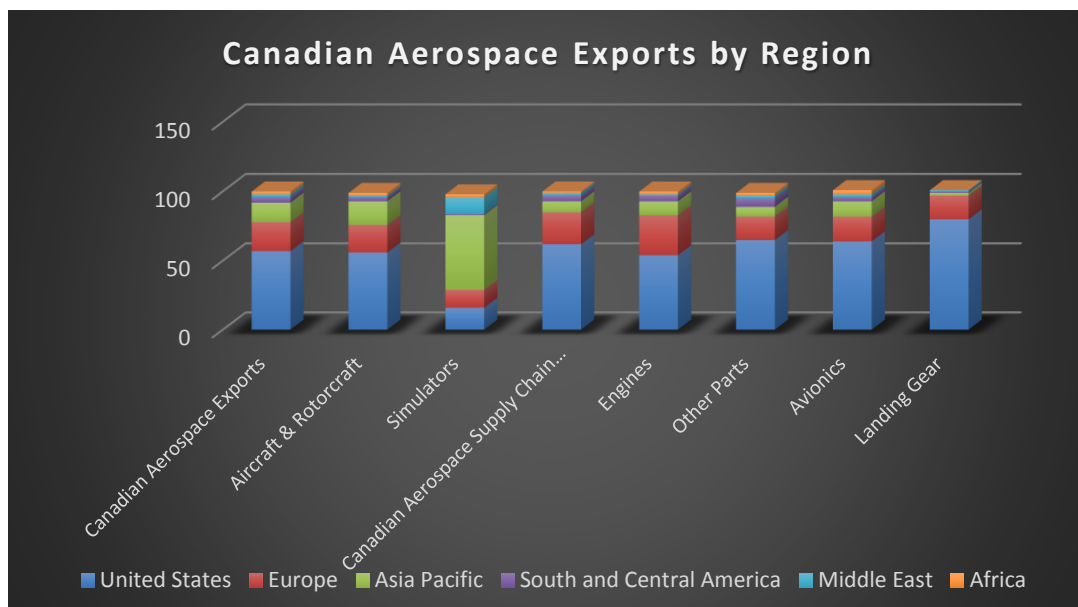


Canada's aerospace and defence industry has a long history of innovation and success throughout the world. Canada is a global market leader in producing regional aircraft, avionics, business jets, commercial helicopters, aircraft engines, flight simulation, landing gear, space systems and in providing Maintenance Repair and Overhaul Expertise. Additionally, it is worth mentioning that

leading aerospace companies from around the world choose to perform their manufacturing and research and development activities in Canada. Regarding the defence sector, Canada's mainly develops and manufactures "dual use" products. Canada's defence products include among others: shipbuilding and marine, armoured vehicles, electronics, simulation and training, information, cyber and communications technologies, shelters, advanced textiles, in-service support and munitions.

According to a statistic analysis provided by Industry Canada and the Aerospace Industries Association of Canada (AIAC), the national aerospace industry directly generated 27.7 billion Canadian Dollars (approximately 18.9 billion US Dollars) in revenues, 76,000 in direct employment and 13.1 billion Canadian Dollars (approximately 8.9 billion US Dollars) in Gross Domestic Product (GDP) in 2014.

Central Canada accounts for the majority of the manufacturing industry, while Western Canada plays a dominant role in terms of MRO and Atlantic Canada was the fastest growing region in MRO over the past five years. Regarding exports, United States is the key aerospace supply chain export market for Canada, while supply chain exports to Asia Pacific are growing at a fast pace (up 190%) and account for close to 20% of the overall growth in value of exports for the period 2003-2013.



	United States	Europe	Asia Pacific	South and Central America	Middle East	Africa
Canadian Aerospace Exports	57%	21%	14%	4%	2%	2%
Aircraft & Rotorcraft	56%	20%	17%	3%	1%	2%
Simulators	16%	13%	54%	1%	12%	2%
Canadian Aerospace Supply Chain Exports	62%	23%	8%	4%	2%	1%
Engines	54%	29%	10%	4%	1%	2%
Other Parts	65%	17%	7%	6%	2%	2%
Avionics	64%	18%	11%	3%	2%	3%
Landing Gear	80%	17%	2%	1%	1%	0

Source: https://www.ic.gc.ca/eic/site/ad-ad.nsf/eng/h_ad03964.html

According to the Canadian Association of Defence and Security Industries (CADSI), in 2012 the country's defence and security sector directly or indirectly employed 109,000 employees and created 12.6 billion Canadian dollars (approximately 8.9 billion US Dollars) in revenues of which revenue exports was 6.4 billion Canadian dollars (approximately 8.6 billion US Dollars).

While the continued success of the Canadian aerospace and defence industry cannot be guaranteed, the strong base upon which it is built and the help provided by the Canadian authorities will definitely help its future development. The country's authorities help the companies through attractive investment fundamentals; leading-edge knowledge infrastructure; risk-sharing investments in technology development; commitment to investing in skills and research; and new business opportunities.

Kyriazis Vasileios,
Epicos Newsletter Head Editor

Epicos "Industrial Cooperation and Offset Projects"



Epicos "Industrial Cooperation and Offset Projects" provides a unique set of online tools enabling the structure, identification and implementation of comprehensive Offsets programs, through a searchable database. By introducing different offset projects and ideas proposed by local A&D industry it ensures the optimum cost for Prime Contractors and reassures that the priorities of local industry are fully met...

[For Further Information Press Here](#)

Development of a new generation ballistic protection vest, integrated with a lightweight Microclimate cooling and heating system, in order to meet Future Soldier requirements and applications



A company with extensive experience in the development and production of ballistic protection equipment is proposing the development of a new technology ballistic vest, integrated with an advanced lightweight microclimate cooling and heating system, in order to mitigate Future Soldiers' heat stress, allowing them to operate safely and more effectively in all terrains and under extreme weather conditions.

[For Further Information Contact our ICO Department](#)

Mail at: g-menexis@epicos.com

Development of a fully networked autonomous, unattended trailer, equipped with surveillance sensors for homeland security applications and military camps protection



An experienced company is willing to cooperate with a Prime Contractor and/or a third party, for the development of a lightweight autonomous trailer, which when equipped with appropriate surveillance and detection sensors, will be able to support several homeland security and peace keeping operations, all over the world. The trailer will be equipped with an IP based communication radio link, in order to transmit high quality video to the command centre, located in a different area. The trailer will be unattended, fully remote-controlled and will act as a smart communication/surveillance/detection and reconnaissance node, used for several defence related applications.

[For Further Information Contact our ICO Department](#)

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News from our A&D Business Network**DISA Awards Harris Corporation Global Network Services Multi-Award IDIQ Contract with \$4.3 Billion Ceiling**

Harris Corporation was one of eight awardees of a multi-award Global Network Services (GNS) IDIQ follow-on contract by the Defense Information Systems Agency (DISA). The IDIQ contract has a ceiling of \$4.3 billion and consists of a five-year base and an additional five one-year options. The contract provides leased telecommunications services to more than one million U.S. Defense Department users worldwide via the Defense Information Systems Network (DISN) and the Department of Defense Information Network (DoDIN).

"As DISA continues to transform the way it offers network services, incorporating fast-changing and evolving IT capabilities into a single global network is critically important," said Carl D'Alessandro, president, Harris Critical Networks. "Harris' proven dynamic bandwidth management architecture ensures DISA will have an architecture agile enough to support current and future customer needs. DISA already counts on Harris to provide bandwidth services at hundreds of locations along the East Coast of the United States."

The contract will help DISA acquire and deliver telecommunications network services at the enterprise level and will provide end-to-end classified and non-classified information transmission services and capabilities. GNS will enable customizable turn-key global transport solutions. DISA will leverage GNS capabilities to shift from point-to-point circuits to newer technical approaches, including metropolitan area networks, network solutions, short-term circuit leases, fiber, and new services that become commercially available.

About Harris Corporation

Harris Corporation is a leading technology innovator, solving our customers' toughest mission-critical challenges by providing solutions that connect, inform and protect. Harris supports customers in more than 125 countries, has approximately \$8 billion in annual revenue and 22,000 employees worldwide. The company is organized into four business segments: Communication Systems, Space and Intelligence Systems, Electronic Systems, and Critical Networks. Learn more at harris.com.

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ST Engineering's Aerospace Arm Secures \$415m Worth of New Contracts in 4Q2015



Singapore Technologies Engineering Ltd (ST Engineering) today announced that its aerospace arm has secured new contracts worth \$415m in the fourth quarter (4Q) of

2015, for projects ranging from airframe maintenance and cabin interiors reconfiguration, to engine wash and landing gear overhaul.

The total contract value includes the recently announced cabin reconfiguration contract awarded by Air Canada, the landing gear maintenance contract from Scandinavian Airlines and the heavy maintenance contract for Virgin Galactic's 747-400.

New contracts

Included in the 4Q2015 contracts are line and heavy airframe maintenance agreements for various customers, supporting aircraft types such as Airbus 300, A320, Boeing 747-400, 757, 767, 777 and MD-10, as well as cabin interior modifications of an international airline's fleet of E175. Separately, its Hondo-based facility was awarded a 737-300 aircraft part-out contract.

For component support, in addition to the landing gear maintenance contract from the Scandinavian Airlines fleet of Boeing 737-600/700/800 and Bombardier CRJ900 aircraft, ST Aerospace secured several ATR landing gear overhaul contracts from customers in the Asia Pacific region. The aerospace arm also won additional contracts for landing gear services with ASEAN airline operators, and expanded its engine component support for East Asian customers.

Multiple contracts have also been sealed with customers in Asia Pacific, Europe and the US for EcoPower® engine wash services. In particular, following a long-term Do-It-Yourself/Franchise agreement recently signed with Japan Airlines Engineering Company, a second unit of the EcoPower® wash equipment is now deployed at Haneda Airport, in addition to one earlier deployed at Narita Airport, to carry out engine washes for aircraft operators in Tokyo, Japan.

Redeliveries for airframe, component and engine MRO

The aerospace sector redelivered a total of 308 aircraft for airframe maintenance and modification work in 4Q2015. This included the redelivery of two converted freighters to SF Airlines:

- The region's first 15-pallet 757-200SF converted freighter developed by ST Aerospace, with a supplemental type certificate from the US Federal Aviation Administration.
- The first 767-300BCF converted freighter redelivered through Boeing, to an airline in China.

In addition to airframe redeliveries, a total of 11,292 components, 41 landing gears and 33

engines were processed, while 1,487 engine washes were conducted for both commercial and military customers.

Capabilities development

On aircraft capability, the aerospace sector's airframe facility in Guangzhou received maintenance organisational approval from the Korean Office of Civil Aviation for Boeing 737NG aircraft, extending the geographical range of its maintenance capabilities.

Spotlighting on pilot training in Singapore, the first batch of Qatar Airways' MPL cadet pilots has graduated to become First Officers to fly Airbus A320 aircraft for the airline's revenue flights. Meanwhile, its US flight training academy is upgrading its Hondo facility to double training capacity, to accommodate the expected cadet increase by end of 2016.

On component MRO, the aerospace sector added new capabilities for the Boeing 787 electrical systems, and continued induction of high value repair capabilities for both wide-body and narrow-body aircraft platforms.

The above developments are not expected to have any material impact on the consolidated net tangible assets per share and earnings per share of ST Engineering for the current financial year.

ST Aerospace (Singapore Technologies Aerospace Ltd) is the aerospace arm of ST Engineering with a revenue of \$2.07b in FY2014. Operating a global MRO network with facilities and affiliates in the Americas, Asia Pacific and Europe, it is the world's largest commercial airframe MRO provider with a global customer base that includes leading airlines, airfreight and military operators. ST Aerospace is an integrated service provider that offers a spectrum of maintenance and engineering services that include airframe, engine and component maintenance, repair and overhaul; engineering design and technical services; and aviation materials and asset management services, including Total Aviation Support. ST Aerospace has a global staff strength of around 8,000 employees worldwide. Please visit www.staero.aero

ST Engineering (Singapore Technologies Engineering Ltd) is an integrated engineering group providing solutions and services in the aerospace, electronics, land systems and marine sectors. Headquartered in Singapore, the Group reported revenue of \$6.54b in FY2014 and ranks among the largest companies listed on the Singapore Exchange. It is a component stock of the FTSE Straits Times Index and MSCI Singapore. ST Engineering has about 23,000 employees worldwide, and over 100 subsidiaries and associated companies in 46 cities across 24 countries. Please visit www.stengg.com for more information

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Epicos NewsRoom**Environmental satellite Jason-3 has RUAG technology on board**

On Sunday, January 17th at 19:42, the Jason-3 environmental satellite was blast off on board a Falcon 9 launcher. The launch took place from Vandenberg Air Force Base in California. Jason-3 includes RUAG Space products.

Fourth satellite of the series since Topex-Poseidon, the Jason-3 satellite, with its new generation of instruments, will give us more detailed information about weather and the state of the world's oceans. Built by Thales Alenia Space as prime contractor, the Jason-3 operational oceanographic mission involves a quadripartite collaboration between the two meteorological organizations Eumetsat and NOAA, and French Space Agency CNES and its American counterpart NASA.

RUAG Space in Gothenburg developed and manufactured the satellite's Data Management Unit. With a mass of more than 30 kg, this is the largest single electronic unit yet produced by RUAG Space. Its main jobs are to control all on-board satellite functions, store all scientific data and communicate with the Earth. RUAG Space also manufactured the antennae used for all communications with the Earth and all of the space-to-ground linkage for the scientific data. RUAG Space in Linköping supplied the separation system that releases the satellite from the launcher at exactly the right moment for it to achieve precisely the correct orbit.

"Jason-3 is the most recent addition to a unique constellation of environmental satellites. The Jason measurement series is very important in the field of climate research, as well as in planning for and adapting to climate change," says Thomas Klein, manager of climate and the Copernicus project at "Havs- och Vattenmyndigheten", the Swedish Agency for Marine and Water Management.

"At present half of the world's population lives close to the sea. The sea is also host to half of global biodiversity, and humans are dependent on the sea in many ways," Thomas goes on to explain. "At the same time, the sea is affected both directly and indirectly by human activities. The global increase in sea levels is a clear manifestation of ongoing climate change. Jason-3 will provide regular and comprehensive information concerning changes in sea levels in different parts of the world. The satellite's measurements will also provide many users with data, for example on winds, oceanic currents and waves, and will consequently help to lessen the environmental impact of marine transportation and improve the safety of operations at sea."

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Source: Epicos, RUAG Space AB

Bell Helicopter and Air Methods Celebrate Historic Bell 407GXP Delivery

Bell Helicopter, a Textron Inc. company, announced today the delivery of the Bell 407GXP configured for Helicopter Emergency Medical Services to Air Methods (Nasdaq: AIRM). As revealed in March 2015, this is the first of many Bell 407GXPs expected over the next ten years. Bell Helicopter and Air Methods commemorated the delivery at a special ceremony at Air Methods headquarters in Englewood, Colorado.

"Air Methods is celebrating this historic milestone that supports our mission of giving more tomorrows," said Aaron Todd, chief executive officer, Air Methods. "A lot of hard work went into getting us to this point, and we put a lot of criteria in place when making this very important decision. We look forward to welcoming the new Bell 407GXPs to our fleet."

Air Methods began with a single Bell 206 helicopter and has since grown into the world's largest air medical provider with more than 400 aircraft, 300-plus bases, and eight maintenance centers. The air medical company services 48 states and transports more than 100,000 patients every year.

"We are extremely proud to share in the excitement with Air Methods on the first delivery of the Bell 407GXP into their fleet," said Bell Helicopter's President and CEO Mitch Snyder. "As our launch customer for this aircraft, we take great pride in their ongoing trust in Bell Helicopter and providing them with our reliable aircraft."

All of the Bell 407GXPs will be equipped with United Rotorcraft emergency medical services interior, designed with air critical care operators in mind. The adaptable interior can accommodate a single patient or specialty transport, and includes the articulating loading system for easy patient loading. The United Rotorcraft interior also provides integrated medical systems such as medical oxygen, suction, air, storage, electrical power, and approved provisions for securing medical support equipment during all aspects of flight.

"We have enjoyed a long-standing relationship with Air Methods, and have been proud to support the Bell aircraft in their current fleet," said Anthony Moreland, vice president of North American sales. "The Bell 407GXP will support their life-saving efforts, but also provide the team with the expanded capabilities, safety and flexibility to serve their patients."

Derived from the Bell 407GX platform, the Bell 407GXP has an additional 50 lbs (22.5 kg) of payload capability, coupled with the new M250 Rolls-Royce engine that improves performance and fuel efficiency delivering class leading hot and high performance. The aircraft is also equipped with new avionics features such as a hover performance calculator improvement, as well as a transmission TBO extension of +500 hours that will lower maintenance costs.

About Bell Helicopter

Bell Helicopter, a wholly owned subsidiary of Textron Inc., is an industry-leading producer of commercial and military, manned and unmanned vertical-lift aircraft and the pioneer of the revolutionary tiltrotor aircraft. Globally recognized for world-class customer service, innovation and superior quality, Bell's global workforce serves customers flying Bell aircraft in more than 120 countries.

About Textron Inc.

Textron Inc. is a multi-industry company that leverages its global network of aircraft, defense, industrial and finance businesses to provide customers with innovative solutions and services. Textron is known around the world for its powerful brands such as Bell Helicopter, Cessna, Beechcraft, Hawker, Jacobsen, Kautex, Lycoming, E-Z-GO, Greenlee, Textron Systems, and TRU Simulation + Training. For more information visit: www.textron.com.

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Source: Epicos, Textron Inc.

Innovation: Thales Launches an Innovation Hub in Portugal and Signs a Cooperation Agreement with Instituto Superior Técnico (IST)

The agreement was signed at IST by Arlindo Oliveira, IST President, Marko Erman, Thales's Chief Technical Officer and João Araújo, Thales Country Director in Portugal.

The cooperation agreement between Thales and IST is to develop cooperative research projects in shared fields of interest, including transportation and security, leading to opportunities of mutual benefit and knowledge transfer. The closer collaboration between the Institute and industry will enable the development of new technologies, solutions and services. Students will have the opportunity to work with real-case scenarios and Thales will benefit from new resources, skills and visions in order to solve major technical challenges and follow trends and market demands more adeptly.

The Innovation Hub aims to boost fresh directions and minimise risk by addressing customer requirements through a problem-solving approach. The Innovation Hub in Portugal will allow the local Thales R&T team to collaborate closely with both IST students/researchers and local partners in order to design and develop products and solutions that will meet market trends and, operator expectations as well as providing users satisfaction.

Cooperating since 2008, IST and Thales in Portugal have an excellent partnership record within different research and innovation projects co-funded by national and European Commission framework programmes.

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For Further Information [Click Here](#)

Source: Epicos, Thales

Finmeccanica to Enhance ATC Radars at Major Canadian Airports

Finmeccanica Security & Information Systems Division, (in the process of the reorganisation of the Group's companies, the division has absorbed, from January 1st 2016, part of the activities of Selex ES) has signed a major contract to replace the old Air Traffic Control (ATC) radars at 12 major Canadian airports including Toronto, Montreal, Ottawa, Vancouver and Calgary. Work has commenced and is due to be completed by 2027. It is the largest ATC contract award for Finmeccanica in the last 10 years. The agreement with NAV CANADA includes options for follow-on phases and replacement of additional radars.

Finmeccanica was awarded the contract by NAV CANADA after a Request for Proposal process which involved stiff competition among several companies. Finmeccanica world-class radar technology and its track record in terms of quality, performance, reliability and life cycle support provided assurance that the company will be able to successfully undertake and deliver on this project, which involves technological complexity and stringent requirements for operation in challenging Canadian airports environments. Finmeccanica is a major international player in the provision of large-scale, complex solutions for Air Traffic Management (ATM) systems. Over the past half century, the company has delivered more than a thousand primary and secondary radar channels in more than 150 countries, providing users with innovative, proprietary technology solutions based on efficiency, safety, performance, and environmental sustainability. NAV CANADA is the company that owns and operates Canada's civil Air Navigation Service (ANS) and is recognized worldwide to be one of the most efficient and demanding ANSPs in terms of performance and safety requirements.

Finmeccanica is proud to have been awarded this contract in competition against a pool of international providers, attesting to its outstanding capabilities in ATC technology and serving to elevate its brand globally as the leader in the ATC radar market.

Finmeccanica is among the top ten global players in Aerospace, Defense and Security and Italy's main industrial company. As a single entity from January 2016, organized into business Divisions (Helicopters; Aircraft; Aero-structures; Airborne & Space Systems; Land & Naval Defence Electronics; Defence Systems; Security & Information Systems), Finmeccanica operates in the most competitive international markets by leveraging its areas of technology and product leadership. Listed on the Milan Stock Exchange (FNC IM; SIFI.MI), at 31 December 2014, Finmeccanica recorded restated consolidated revenues of 12.8 billion Euros and has a significant industrial presence in Italy, the UK and the U.S

For Further Information [Click Here](#)

Source: Epicos, Finmeccanica

Bombardier's All-new C Series Aircraft Program Starts Ramp-up to Full Production and SWISS Pilots Kick Off C Series Aircraft Flight Training

Bombardier Commercial Aircraft announced today that its all-new C Series aircraft program has begun the ramp-up to full production. The final assembly facility is fully equipped and production is progressing according to plan with aircraft in various stages of the build sequence. Additionally, Bombardier also confirmed that the CS100 aircraft that is scheduled to be delivered to first operator SWISS International Air Lines (SWISS) and enter service in Q2 2016 is structurally complete.

Yesterday, SWISS' flight crews kicked off their CS100 aircraft flight training in Mirabel, Québec where they will undergo intensive training to prepare for the route-proving flights they will operate alongside Bombardier's flight crew when the CS100 route-proving aircraft flies to Europe in the coming weeks.

This follows the completion of the North American route-proving program that included more than 35 cities. During the program, the CS100 aircraft conducted flights using typical airline flight routings and operational procedures.

"It's truly a spectacular sight to see the C Series final assembly line fully stacked with production aircraft in various stages of assembly. The line itself has been designed for maximum production efficiency and our skilled production teams reached a milestone this month when they rolled out the first structurally complete aircraft that will enter service with SWISS in the next few months," said Fred Cromer, President, Bombardier Commercial Aircraft. "I also had the pleasure of welcoming the first set of SWISS crews to Mirabel as they start their pilot training in anticipation of the European CS100 aircraft route-proving program. The program will be operated from SWISS' own base in Zurich, Switzerland – yet another way we are ensuring a flawless entry-into-service (EIS) alongside our first operator."

"In addition to the C Series aircraft production ramp-up and European route proving, our C Series Program and Engineering teams are working diligently alongside our Customer Services team --transferring employees to various areas for cross-functional training and aircraft familiarization," said Rob Dewar, Vice President, C Series Aircraft Program, Bombardier Commercial Aircraft. "The timing is perfect as we now ready the European leg of the C Series route-proving program. We are also doing something unique to ensure that SWISS' crews will be ready at delivery and EIS – SWISS' flight crews, once trained, will operate the CS100 route-proving aircraft alongside Bombardier's own flight crews from SWISS' main base of operations. They will use SWISS' schedule, crews, maintenance crews and aircraft destinations -- all in the coming weeks."

In December 2015, Bombardier announced that the CS100 aircraft had received its Type Certificate from Transport Canada. Bombardier's CS300 aircraft, the larger model, is on track to obtain its Type Certificate within the next six months as planned. Bombardier will continue to work with Transport Canada to validate the CS100 aircraft's training syllabus.

About C Series Aircraft

The C Series family of aircraft, representing the fusion of performance and technology, is a 100 per cent all-new design that offers operators potential savings of between US\$ 7.5 to 12 million per aircraft.

By focusing on the 100- to 150-seat market segment, Bombardier has designed the C Series aircraft to deliver unparalleled economic advantage to operators and to open up new opportunities for single-aisle aircraft operations.

All noise performance testing on the CS100 aircraft has been completed and data confirms it is the quietest in-production commercial jet in its class. The aircraft's noise performance and its outstanding short-field capability make it ideal for varied types of operations. The C Series aircraft's maximum range has also been confirmed to be up to 3,300 NM (6,112 km), some 350 NM (648 km) more than originally targeted.

The aircraft is delivering more than a 20 per cent fuel burn advantage compared to in-production aircraft, and a greater than 10 per cent advantage compared to re-engined aircraft. The C Series aircraft will also emit 50 per cent fewer NOX emissions than the CAEP 6* NOX emission standards.

In addition to delivering best-in-class economics with the C Series aircraft, Bombardier has placed considerable emphasis on cabin design to ensure an excellent passenger experience. The C Series aircraft's larger seats, overhead bins and windows create a widebody feel that offers passengers unparalleled comfort.

The CS100 and CS300 aircraft have over 95 per cent parts commonality, as well as the same type rating. The groundbreaking Pratt & Whitney PurePower® PW1500G engine, combined with advanced aerodynamics, delivers reduced fuel burn, noise and emissions, increasing the aircraft's environmental and social compatibility.

Bombardier has booked orders and commitments for 603 C Series aircraft, which include firm orders for 243.

About Bombardier

Bombardier is the world's leading manufacturer of both planes and trains. Looking far ahead while delivering today, Bombardier is evolving mobility worldwide by answering the call for more efficient, sustainable and enjoyable transportation everywhere. The company's vehicles, services and, most of all, employees are what make it a global leader in transportation.

For Further Information [Click Here](#)

Source: Epicos, Bombardier