



Corporate Profile

Thales Canada, Systems Division, is one of Canada's leading **Command, Control, and Communications (C3) systems integration** companies. Its main business areas are **mission systems and sensors, communications, and C4ISR systems**, and areas of expertise include **integration of radar, electro-optic, navigation and C3 systems**, design and development of **real-time software** (Ada, C, C++, Windows); and **full-service Integrated Logistics Support (ILS)**. Thales Canada, Systems Division is ISO 9001: 2000 certified, and has **achieved SEI CMM Level 2**. Annual revenue is approximately \$30 million.

Mission Systems and Sensors

Maritime Coastal Defence Vessel



MCDV – HMCS Kingston

The 12 Maritime Coastal Defence Vessels (MCDVs) are operated by the Canadian Navy for coastal surveillance.

Thales Canada, Systems Division was responsible for design and integration of the MCDV **interior and exterior communications** (including integration of cryptographic equipment), **above-water sensors** (e.g., radar), **navigation systems, mine-sweeping, and armament**.

Active Phased Array Radar

Canada, the Netherlands, and Germany jointly developed an active, phased array, 3-D surveillance and tracking radar for shipboard use. In this program, Thales Canada, Systems Division developed the **tracking and management unit** which provides operator control of the radar, and

performs track formation using sophisticated algorithms, radar beam scheduling, dwell time allocation, and radar management functions.

SIRIUS Infrared Search & Track System

SIRIUS is a joint Netherlands/Canada program to develop a modern, light-weight, dual band infrared naval search and tracking system. Within this program, Thales Canada, Systems Division helped develop the **data processing system** in which all of the tracking algorithms are implemented.

Multi Sensor Data Fusion (MSDF)

Thales Canada, Systems Division has developed the next generation MSDF engine for Naval Combat Management Systems. The MSDF product is designed to be scalable to the sensor suite of the particular vessel. This Module will be part of all Thales future Naval CMS's.

INCOMMANDS TDP

Thales Canada, Systems Division, is the Prime Contractor for the Innovative Naval Combat Management Decision Support. The aim is to develop and demonstrate advanced AWW TEWA Command Decision Support concepts for the Command Team of the Halifax Class Frigate to improve the overall decision making effectiveness.

Griffon Mother Ship (GMS) Project

Thales Canada, Systems Division, is the Prime Contractor for the GMS Project. The GMS project is pushing the envelop in distributed training and concept development. Through the Thales architecture, distributed simulation can be controlled through a single workstation.

COMMANDER C3 Network

Commander provides the means to **exchange situation information** amongst shore stations, ships, and fixed/rotary wing

aircraft, thus allowing compilation, dissemination, and display of a common operating picture throughout a mission operations network. Commander uses Commercial-Off-The-Shelf (COTS) hardware and software to provide advanced C3 and situational awareness features and capabilities at a small fraction of the cost of similar military systems.

Contact data is exchanged by all Commander outfitted participants to build up a **common operating picture** which can then be viewed on each participants operator station. The network supports multiple modes of communication, including **HF and U/VHF radio** and **SATCOM**.

GMDSS

Thales Canada, Systems Division has provided automated Global Maritime Distress and Safety Systems (GMDSS) to **Canada, Trinidad and Tobago, Argentina, Sudan, and Egypt**. The systems provide MF/HF or VHF GMDSS coverage over coastal waters. Their main functions are to **process maritime distress calls** and to interface to the Coast Guard's Rescue Coordination Centres. They are also used to acknowledge distress alerts; to relay distress calls; and for distress, urgency, safety, and routine traffic.

Submarine Sonar Support

Thales Canada, Systems Division is directly supporting engineering activities related to Canada's Victoria Class submarine sonar systems.

Communications

Maritime Patrol Aircraft Communications

Thales Canada, Systems Division is under contract to modernize the communication system onboard the Canadian Air Force's

fleet of eighteen CP140 long-range patrol aircraft. The project will span nearly five years and involves installations in one prototype aircraft, one proof-of-fit aircraft, and sixteen production aircraft, as well as ground facilities including an integrated avionics trainer and systems integration laboratory at CFB Greenwood, Nova Scotia.



CP140 Aurora

The new communications suite will include an **intercom system (ICS)**, **V/UHF radios**, upgraded **HF and VHF-AM communications**, **DAMA SATCOM**, **cryptographic equipment**, **remote control of radios and ICS equipment**, as well as a **direction finder**, **DICASS transmitter**, **alert generator**, **remote data entry**, other miscellaneous equipment and new antennas.

As prime contractor, Thales Canada, Systems Division has turnkey responsibility for the project, including project management, system design, hot bench construction, factory, laboratory, ground and flight testing, and airworthiness certification.

NORAD Radio Stations

Thales Canada, Systems Division has developed, delivered, and installed fixed site NORAD radio stations at Edmonton (Alberta), Debert (Nova Scotia), and at Inuvik, Iqaluit, and Resolute Bay in the Arctic. Control equipment has been installed at the NORAD Sector Air Operations Centre (SAOC) in North Bay (Ontario). The radio stations facilitate **secure HF data communications** between the operations control staff at North Bay and military aircraft flying in the north and also with naval ships operating in the Atlantic and Pacific oceans. The stations are controlled from the SAOC by Thales Canada, Systems Division's Remote Control and Monitoring Software (RC&MS).

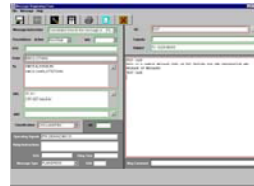
Light Communication Terminal

Thales Canada, Systems Division delivered 24 Light Communication Terminals (LCTs) installed in S250 vehicular shelters to the Canadian Army. Each LCT consisted of an HF/ALE

transceiver, antennas, TEMPEST-qualified PC with message handling software, a TEMPEST printer, cryptographic equipment, and other related items. The LCTs provide **mobile HF tactical secure voice and data communication** and are interoperable with other Canadian Forces' units, the US military, and NATO allies.

Radio Communication Products

Thales Canada, Systems Division is the Centre of Excellence within the Thales Group for **Message Handling Systems (MHS)**, **STANAG 5066**



MHS Message Originating Form

Automatic Repeat Query/Request (ARQ) software, and **HF e-mail**.

The MHS is a client/server-based ACP 127 messaging system with advance features such as distribution by subject and classification, releasing officer functionality, automatic routing and relay, high priority message handling, and rich search capabilities.

The **ARQ** software enables higher throughput and interoperable, reliable information transfer over HF links, providing a gateway for PC-type applications over a low-cost wireless link.

Thales Canada, Systems Division's **HF e-mail** product allows a COTS e-mail system to send mail, files, and attachments over an HF link. Advance compression techniques are used to improve performance of the system.

Thales Canada, Systems Division's **ACP 123 ARQ** product allows transmission of tactical ACP 123 (PMUL) messages over an HF link. This software will work with any ACP 123 product.

C4ISR



ATS Software

Army C2

Based on SIC-F software from Thales Communications France created for the French Army, Thales Canada, Systems Division has augmented the

original capability with enhanced NATO standards, particularly in the critical area of interoperability. The core product, the **Athene Tactical Software (ATS)**, is modular, data centric, and Windows based. These qualities have made ATS a critical part of the Army architecture. It includes manoeuvre, combat support, and geographic information system functions. Thales Canada, Systems Division now provides in-country life-cycle support for ATS.

Thales Canada, Systems Division is developing **Battlefield Management System** technology through strong collaboration with key domestic partners, combined with a very close rapport with the Canadian Army. This approach overrides the traditional method of breaks between users, requirements capture, project management, and industry and replaces it with an integrated, responsive process team.

ISTAR

Thales Canada, Systems Division is providing its expertise and technology as part of the Canadian Army's emerging **Intelligence Surveillance Target Acquisition and Reconnaissance (ISTAR)** capability, particularly with the ISTAR C2 domain. The initial technology demonstration (TD) is already providing confirmation that the Army architecture is readily adaptable to new functionality because of the modular approach using ATS.

COP21 TD

The Common Operating Picture (COP) 21 TD represents Thales Canada, Systems Division's capabilities to leverage Army experience for the benefit of **Operational and Strategic C4ISR systems**. Partnered with XWave, Thales Canada, Systems Division is applying new web portal technologies along with NATO interoperability experience to show how disparate command and management information systems can be exploited to provide a single view.

SUMMARY

Thales Canada, Systems Division, a division of Thales Canada Inc., is a **mission systems integration** company which designs, develops, and delivers **C3 systems** for land, sea, and air applications.

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