



CANADIAN SURFACE COMBATANTS

The Canadian Surface Combatants (CSCs) are the planned replacement for Canada’s now retired *Iroquois*-class air-defence destroyers and the current fleet of *Halifax*-class frigates. The CSCs are the most complex and expensive element of the Canada’s National Shipbuilding Strategy (NSS) and the intent is to procure 15 of these vessels, beginning in the mid-2020s. As you’ll know if you’ve read Briefing Note #6, the NSS dates back to 2010, when it was announced that billions of dollars were being allocated to renew the fleets of both the Royal Canadian Navy (RCN) and the Canadian Coast Guard (CCG). (See Briefing Note #6 for a discussion of the NSS.) The biggest part of the project is the construction of the CSCs which are to be constructed in Canada based on designs submitted by international bidders. In January 2015 the government announced that Irving Shipbuilding had been named the prime contractor for the program, with the vessels to be built in Irving’s modernized Halifax Shipyards.

In 2017, bids from several international firms were received for the construction of the CSC. The final contenders consisted of a Lockheed Martin-led consortium, which put forward a design based on the British Type 26 frigate (Global Combat Ship) by BAE Systems; Alion Science and Technology, which proposed a CSC based on the Dutch De Zeven Provinciën air-defence and command frigate; and a Navantia/Saab/CEA Technologies consortium, which offered a design based on the Spanish Navy’s F-105 frigate.

On 19 October 2018 it was announced that BAE-Lockheed Martin group was selected as the ‘preferred’ bidder in the CSC program. The BAE-Lockheed Martin (LM) team then entered the ‘due diligence process,’ which included negotiations with BAE-LM on intellectual property rights, an assessment of the proposed combat systems, an assessment of BAE-LM’s financial capability to deliver the project, and other administrative matters.

In February 2019, the government confirmed that the bid from Lockheed Martin Canada had been selected for the design and design team for the CSCs. Irving Shipbuilding Inc., the project’s prime contractor, awarded a sub-contract to Lockheed Martin Canada for work to finalize the design. As with most naval ships, the design will be modified somewhat to fit Canadian specifications.

<u>Type 26 Specifications</u>	
Displacement:	6,900 tons
Length:	149.9 metres
Beam:	20.8 metres
Speed:	30 knots
Range:	7,000 nautical miles
Complement:	115-150 (up to 210)

The Type 26 was originally ordered by the UK Ministry of Defence as a replacement for the Royal Navy’s aging Type 23 frigates. It was designed as a multi-mission warship, able to undertake anti-submarine warfare, air defence and

general-purpose operations. The first contract for construction of the ship was awarded by the British government in July 2017 and, by winter 2018 three ships had been ordered, with more to be ordered in future, although there is some uncertainty about how many will eventually get built. Construction of the ships is proceeding – steel for the second ship was cut in August 2019.

In June 2018, the Australian government announced that it had selected a modified version of the Type 26 platform as the planned replacement for its *Anzac*-class frigate. The Royal Australian Navy, referring to them as the *Hunter*-class, will procure up to nine of the frigates, which will be constructed by BAE Systems Australia at ASC's shipyard in Osborne, South Australia. Construction is planned to begin in 2020.

While the CSCs will be based on the British design, as noted, the systems and capabilities will be tailored to Canadian requirements, a process which will ultimately produce a uniquely Canadian ship. At nearly 7,000 tons, the new Canadian frigates will be nearly 50% larger than the *Halifax*-class warships and nearly as large as most modern destroyers. Designed to be flexible and versatile, the ships will be equipped with a reconfigurable mission bay for light boats, unmanned surface/aerial vehicles, a towed array sonar and/or cargo containers. This will allow the vessels to be reconfigured depending on mission and requirements.

While specific weapons systems and design characteristics continue to be finalized, the ships will be highly versatile, and possess advanced weapons technology. The CSC will possess an area-air defence capability, which was lost to the RCN with the retirement of the *Iroquois*-class destroyers. It will house missiles capable of anti-shipping and land-attack roles, an anti-submarine warfare capability built around advanced sonar and ship- and helicopter-launched torpedoes. Short-range defence will also include air-defence missiles, guns and a deck cannon.

Like the ship's weapons systems, details of the CSC's sensor suite are not available, however a mandatory requirement for the Canadian platform is a fixed phased array – an active electronically scanned array (AESA) – radar, which is a much improved version of older types of radars. What will remain unchanged is the ship's acoustically quiet hull, an essential feature for the kind of anti-submarine warfare on which the RCN has focused since the Second World War. The ship will also have an advanced sonar system with a towed array for tracking submarines. In the realm of submarine detection and warfare, surface ships have long been enabled by helicopters. As such, the Canadian CSC will possess an expanded flight deck capable of landing aircraft similar in size to the Boeing Chinook. The hangar will accommodate the Sikorsky CH-148 Cyclone helicopter, which are now being incorporated into naval deployments.

The most likely scenario is that construction of the Type 26 frigates by Irving in Halifax will commence in the early 2020s, after construction of the *Harry DeWolf*-class Arctic Offshore Patrol Ships. Construction of these ships, and their entry into the RCN, will take place throughout the 2020s. As they enter into service, they will gradually replace the *Halifax*-class frigates which are slated for retirement in the 2030s. Once brought into service, the CSC will be the backbone of the Royal Canadian Navy for a generation.

Type 26 Global Combat Ship



Surveillance radar

BAE Systems' Artisan 3D surveillance radar offers unrivalled detection capabilities and leading electronic protection against the most sophisticated jammers.



Modular mission bay

From carrying multiple boats and autonomous vehicles to transporting disaster relief stores, this reconfigurable space is central to the Type 26's multi-mission capability.



Medium calibre gun

BAE Systems' MK 45 Mod 4 is the system of choice for the new Type 26. The 5-inch, 62-caliber gun has a firing range of 20 nautical miles (36km) with potential growth path into smart munitions.



Missile systems

The UK Type 26 variant will employ MBDA's advanced Sea Ceptor weapon system. Using new technologies, Sea Ceptor is able to provide complete protection against all air targets.

The MK41 Vertical Strike Launcher provides the widest possible choice of weapons to counter threats as they emerge.



Aviation

The flight deck can accommodate a heavy lift helicopter, such as a Chinook, while the main hangar can accommodate a light or medium lift helicopter such as a Merlin.

With capacity to also house an unmanned airborne vehicle in the secondary hangar, this will deliver enhanced intelligence, surveillance and targeting capability.



Towed sonar array

The sonar system is designed for effective anti-submarine warfare capability, including active and passive detection plus torpedo warning.



Propulsion and hull

The acoustically quiet hull is fundamental to its anti-submarine warfare capability. The Type 26 Global Combat Ship will have two electric motors, four high-speed diesel generators and a gas turbine direct drive all optimised to reduce underwater noise.



Combat management system

BAE Systems is able to deliver an open architecture system, allowing for easy upgrades as technology evolves over time.



Crew quarters

With space for up to 208 including embarked forces, living quarters include gym facilities, recreation rooms, canteen and a medical facility able to support regular health needs, accidents, emergencies or care for combat casualties.

Key facts

Displacement	6,900 tonnes
Speed	26+ knots
Range	In excess of 7000 nautical miles
Length	149.9 metres
Beam	20.8 metres
Crew	157
Accommodation	Up to 208 personnel

