



# NEWS RELEASE

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## **Factsheet - Republic of Singapore Navy's (RSN) Frigate Programme**

In March 2000, MINDEF signed a contract with Direction des Constructions Navales (DCN) of France for the construction of six frigates for the Republic of Singapore Navy (RSN). DCN is a reputable shipyard that designed and built the French Navy's low signature La Fayette-class frigates. Under the technology transfer arrangement, DCN will design and build the first ship while the remaining five will be built locally by Singapore Technologies Marine. The six new frigates will replace the RSN's Missile Gunboats which have been in service for more than 30 years.

### **SHIP'S CAPABILITIES**

The new frigates are highly capable warships designed to be stealthy and are equipped with advanced combat systems. They also have longer endurance and are able to stay at sea for longer periods of time. With a length of 114m, the frigates possess better sea keeping qualities. Each frigate is powered by four *MTU(1)* diesel engines that can provide speed in excess of 25 knots. Stealth technology has been incorporated in many features of the ship's design. This ensures that the frigates have low radar cross section signatures and increased survivability. Each frigate is designed to carry a medium-class helicopter capable of complementing the ship in Anti-surface and Anti-submarine warfare.

Each frigate will be manned by a crew of 70. To support the lean manning, a high level of automation is necessary. The Integrated Bridge System (IBS) and the Ship Management System (SMS) incorporate many advanced features to enable safe and effective monitoring and control of the various machinery and systems onboard. This is an example of how the RSN leverages on technology to improve our work processes onboard.

The frigates will be equipped with advanced state-of-the-art combat capabilities allowing them to perform a wide spectrum of missions and to deal with various threats in all dimensions of naval warfare – surface, air and underwater. Surveillance is provided by the

Thales Herakles Multi-function Radar (MFR). As a three-dimensional search and fire control radar, the MFR is able to perform all round, long range air and surface surveillance, while simultaneously controlling weapons and missiles against hostile targets. The MFR is integrated with the Aster Anti-Missile Missile (AMM) system. Supplied by *MBDA(2)*, the Aster AMM System is designed to meet the air defence needs of the frigate against aircraft and sea skimming anti-ship missiles. The Aster is a two-stage missile with a powerful thrust and aerodynamic control to enable high agility and manoeuvrability.

The Anti-Submarine Warfare (ASW) capability of the frigate is provided by the *EDO(3)* Active Low Frequency Towed Sonar (ALOFTS) system and the Eurotorp A244S torpedo. The Active Low Frequency Towed Sonar system provides the ship with long range underwater detection and classification capabilities, while the A244 lightweight torpedo is designed to counter submarine threats operating in the littorals.

The frigates will also be equipped with the Harpoon anti-ship surface missile system and the OTO Melara 76mm naval gun. Both systems are currently in service onboard other RSN ships. The Integrated Communications System (ICS) is provided by CET of Singapore Technologies Electronics.

Command and control of the various sensor and weapon systems onboard each frigate is achieved via an indigenously designed Combat Management System (CMS). Developed by DSTA and in close co-operation with RSN and DSO-NL, the CMS is the first system designed with embedded intelligence for track management, identification and weapon assignment functions. All combat systems will be operated using Standard Operating Common Consoles supplied by SES of Singapore Technologies Electronics. These operating consoles are located in the Combat Information Centre of the ship, where the command team will direct and orchestrate all warfare activities.

The platform characteristics, the combat systems configuration and a computer-aided design picture of RSN's new frigates are detailed in the appendix to this fact sheet.

## **PROGRAMME STATUS**

The frigate programme is progressing smoothly. All six frigates are in various stages of construction today. The first frigate, RSS FORMIDABLE, will be launched on 7 January 2004 at DCN Lorient, France. The launch of RSS FORMIDABLE will mark a significant milestone for the frigate programme. The frigate will then be fitted with combat systems and platform equipment before undergoing sea trials in December 2004 in Lorient. The first frigate is due to sail back to Singapore in early 2005. Local construction of the remaining five frigates in Singapore at Singapore Technologies Marine is also progressing well. The plate cutting for the sixth frigate took place in September 2003, while the keel for the third frigate was recently laid in November 2003.

The frigate programme represents the continuous effort of the RSN to improve its capabilities

in order to complement and enhance the operational effectiveness of the SAF.

*(1)MTU Friedrichshafen is a business unit of DaimlerChrysler. It is a worldwide leading manufacturer of large diesel engines and complete drive systems.*

*(2)MBDA is a missile company that was formed after the merger of Matra Bae Dynamics, European Aeronautic Defence and Space Aerospatiale Matra Missiles and Alenia Marconi Systems.*

*(3)EDO is an American military defence company that was formed in 1925.*

## **PLATFORM DESIGN AND SYSTEMS CONFIGURATION**

### **Dimension**

Length: 114.8 metres

Beam: 16.3 metres

Draught: 6.0 metres

**Displacement:** 3,200 tonnes

### **Speed**

Maximum: 27 knots

Cruising: 18 knots

**Range/Endurance:** 4,000 nautical miles

### **Platform Systems**

Propulsion System: 4 x MTU 20V 8000 M90, 8200 kW (CODAD Configuration)

Electrical System: 4 x IFM V1708 with AvK alternator, 800kW

### **Helicopter/**

**Ship-Heli Interface:** Support 1 Medium-class helicopter / Heli-Visual Approach System

**Complement:** 70 crew

+ Air detachment of about 15 personnel

## **FRIGATE'S COMBAT SYSTEMS CONFIGURATION**

**Search Radar:** Thales Herakles Multi-function Radar (MFR)

**Navigation Radar:** Terma Electronic Navigation Radar

**Surface Missile:** Harpoon Surface Missile System

**Anti-Missile Missile:** MDBA Aster Anti-Missile Missile System

**Naval Gun:** OTO Melara 76mm Gun

**Sonar:** EDO ALOFTS Active-Passive Sonar

**Torpedo:** Whitehead A244S System

**Communications:** ST (Elect) CET Integrated Communications System

**Gun Fire Control System:** *EADS*(4) Superscript Four Gunfire Control System

**Command and Control:** DSTA in-house developed Combat Management System (CMS)

**Standard Operating Common Consoles:** ST (Elect) SES

*(4)The European Aeronautic Defence and Space company was formed on 10 July 2000, after the merger of the German DaimlerChrysler Aerospace AG, the French Aerospatiale Matra and CASA of Spain.*

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