

ARCHIVED REPORT

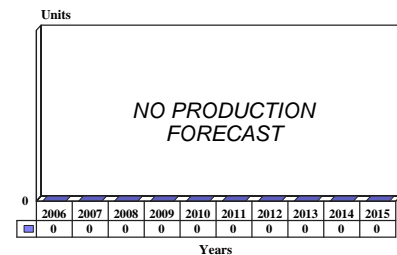
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Commandante Cigala Fulgosi – Archived 5/2007

Outlook

- All Italian construction concluded
- Italian Navy priorities preclude future acquisitions
- High unit cost limits export potential

10 Year Unit Production Forecast
 2006 - 2015



Orientation

Description. Offshore patrol vessel (OPV).

Status. In service.

Sponsor. Italian Department of Transport through the Italian Navy.

Total Produced. Six ships of this class have been completed.

Licensees. No licenses have been granted.

Pennant List

<u>Number & Name</u>	<u>Builder</u>	<u>Launch</u>	<u>Commissioning</u>
P-490 Commandante Cigala Fulgosi	Fincantieri, Riva Trigoso	10/2000	7/2001
P-491 Commandante Borsini	Fincantieri, Riva Trigoso	2/2001	12/2001
P-492 Commandante Bettici	Fincantieri, Riva Trigoso	6/2001	4/2002
P-493 Commandante Foscari	Fincantieri, Riva Trigoso	10/2001	9/2002
P-409 Sirio	Fincantieri, Riva Trigoso	7/2002	5/2003
P-410 Orione	Fincantieri, Riva Trigoso	4/2002	8/2003

Mission. The ships are tasked with routine maritime policing and economic exclusion zone (EEZ) patrol.

Price Range. The unit cost of these ships is \$104 million based on the 1999 contract value.

Contractors

Prime

Fincantieri - Cantieri Navali Italiani SpA	http://www.fincantieri.com , Via Genova, 1, Trieste, 34121 Italy, Tel: + 39 040 319 3111, Fax: + 39 040 319 2305, Prime
Fincantieri Naval Shipbuilding Division	Via Erasmo Piaggio, Riva Trigoso, I-16037 Italy, Tel: + 39 185 48 31, Lead Contractors

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Subcontractor

Galileo Avionica SpA	http://www.galileoavionica.it , Via Albert Einstein, 35, Campi Bisenzio, 50013 Italy, Tel: + 39 05589501, Fax: + 39 0558950600, Email: galileoavionica@galileoavionica.it (TURMS Fire Control System (FCS))
GMT	PO Box 497, Trieste, Italy (GMT Diesel Propulsion System)
Indal Technologies Inc	http://www.indaltech.com , 3570 Hawkestone Rd, Mississauga, L5C 2V8 Ontario, Canada, Tel: + 1 (905) 275-5300, Fax: + 1 (905) 273-7004, Email: relations@indaltech.com (Rast Ship-Board Recovery System)
Oerlikon Contraves SpA	http://www.oerlikoncontraves.it , Via Affile 102, Rome, 00131 Italy, Tel: + 39 06 43611, Fax: + 39 06 4130830 (20mm Cannon)
Oto Melara SpA	http://www.otomelara.it , Via Valdilocchi 15, La Spezia, 19136 Italy, Tel: + 39 0187 5811 11, Fax: + 39 0187 58266, Email: info@otomelara.it (76 mm L62 Super Rapid)
Whitehead Alenia Sistemi Subacquei (WASS)	http://www.whiteheadaleniasistemisubacquei.com/az_pro.html , Via di Levante, 48, Livorno, 57128 Italy, Tel: + 39 0586 8401 11, Fax: + 39 0586 8540 58, Email: marketing@wass.it (Mine Disposal UUV)

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Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 22 Commerce Road, Newtown, CT 06470, USA; rich.pettibone@forecast1.com

Technical Data

	<u>Metric</u>	<u>U.S.</u>
Dimensions		
Length	88.7 m	291 ft
Beam	10.7 m	35.1 ft
Draft	3.3 m	10.8 ft
Displacement		
Full load	1,520 tonnes	
Performance		
Speed	47 kmp/h	25 kt
Range		3,500 nm at 14 kt
Crew	72 + 8 officers	
Armament		
Guns – Main gun	Oto Melara 76mm L62 Compact	1
Secondary gun	Oerlikon 25mm	2
Helicopter	AB-212; later NH90	1
Electronics		
Radar – Surface search	Alenia SPN-703	1
Fire control	Alenia SPN-76 (RTN-30X)	1
Navigation	Alenia SPN-753	1
Weapons control	Optronic director	1
Machinery		
Diesel engines	GMT-Wartsila 28V26XN	2x 8,685 hp
Propulsion	Cycloidal pitch propellers	2

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Design Features. Superficially, these ships are downsized versions of the French La Fayette and German MEKO A-100 classes. The light frigate-sized hull is topped with a superstructure featuring reduced signature characteristics, including inclined surfaces on the hull and the superstructure, and side openings (which house small service craft) masked by a mesh that deflects enemy radar.

The hull itself is slender and rather attractive, with a strongly raked bow with pronounced sheer lines. The underwater section of the bow features an underwater bulb for reduced drag and greater fuel efficiency. The aft part of the superstructure incorporates a helicopter hangar, with the associated deck forming part of the main hull. The hangar accommodates an AB-212 helicopter, which will later be replaced by an NH90. The aft section of the helicopter hangar is telescopic, provided by Canada's Indal Technologies (ITI). It consists of three sections, with Fincantieri providing the fixed section, and ITI the two movable sections, the track, and the specialized doors. The hangars are also designed with maximum radar cross-section (RCS) suppression in mind, including a feature that allows the sliding door to be stored flat inside the hangar instead of requiring a large box, as is typical for roller-curtain doors.

The ship is powered by two GMT-Wartsila 28V26XN diesels of 8,685 shaft horsepower (shp) fitted with an

exhaust cooling system to suppress infrared signature. These diesels drive two controllable-pitch propellers. The twin-engine configuration is expected to yield a top speed of about 25 knots.

Operational Characteristics. The operational experiences in the Balkan crises (Bosnia, Kosovo) and Italy's need to monitor refugees arriving in increasing numbers from neighboring Albania and North have changed the operational concept somewhat.

Key changes to the design finalized in 1998 were made to improve the ship's seakeeping capabilities farther out in the Mediterranean, in the Sicilian and Sardinian channels.

The larger size was adopted to boost the ships' endurance and provide substantially more margin for growth of onboard systems. Also, the new ships provide more space to accommodate inspection teams, as well as refugees and/or survivors of disasters.

These ships are minimally armed, with the weapons suite being oriented exclusively toward the patrol function. They have no significant air defense capability (the hand-swung, unstabilized 25mm Oerlikon cannon technically have an anti-aircraft role, but this is theoretical at best). They are totally devoid of any anti-submarine or realistic anti-surface warfare capability.



Commandante Cigala Fulgosi

Source: Italian Navy

Variants/Upgrades

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Commandante Foscari. The *Commandante Foscari* was completed with a slightly different superstructure from the first three. The superstructure is constructed entirely of composite materials developed jointly with Italy's Intermarine, which built the Navy's Gaeta class minehunters from fiberglass composites. She is being used for broader experimentation in stealth capabilities. Whether the same design will be applied to any additional ships has yet to be determined, and will be based on the test results from this design and any other applicable advances in technology.

NUMC. During its gestation period, the Commandante Cigala Fulgosi patrol vessel class had frequently been referred to as NUMC (presumably for Nuova Unità Minore Combattanti, or New Minor Combatant Unit), until the class name was publicized in 1999.

To further confuse the issue, though, the same acronym has also been erroneously used on occasion to refer to the New *Major* Combatant Unit, which is a substantially larger frigate-sized vessel now known as the FREMM and built in collaboration with France.

NUPA. The Nuova Unità Pattugliamento d'Altura, or New High Seas Patrol Ship, is a further simplified

version of the Commandante Cigala Fulgosi design, intended for fisheries and anti-smuggling patrol. Two NUPA ships were ordered on August 30, 2000, for \$70 million each. Plans for a third were canceled. The ships were built with funds from the Transport and Navigation Ministry. They are manned by the Italian Navy but will have a simplified equipment fit. The changes include replacing the 25mm cannon with 7.62mm machine guns, deleting the helicopter hangar, and installing a less complex command system. They also have less powerful engines, reducing the speed to 22 knots.

Aliscarfi. This name was incorrectly attributed to these ships by some sources.

Program Review

Background. The NUMC (Nuova Unità Minore Combattanti, or New Minor Combatant Unit) class program was initiated in 1995. Originally, construction of a third group of four Minerva class corvettes was planned to produce a total class of 12 ships. This program would have provided a single class of patrol ships to replace the mixed fleet of corvettes. However, the purchase of the Artiglieri class (Lupo class frigates originally built for Iraq but blocked by a delivery embargo) absorbed the funding allocated for these ships. The Artiglieri class was, however, too large a ship for some of the intended functions, and a smaller patrol combatant was required. Added to this situation was the necessity of finding a replacement for the Sparviero class missile hydrofoils. These had been built as fast attack craft but, on being found virtually useless in their primary roles, had been used as patrol craft. They were excessively expensive to operate, and their replacement was a matter of priority.

The Italian Navy had completed the construction of a class of four offshore patrol vessels, the Cassiopeia class, which proved successful. Although a proposed fifth ship of this type had been canceled in 1991, the possibility of building a second group of four was attractive enough to gain support.

New Offshore Patrol Ship

In 1996-97, the Italian Navy Information and Documentation Center (MARISTAT) issued a baseline for an offshore patrol vessel that would have a secondary role as a surface combatant – in effect, a downsized Minerva. This design was 63 meters long and displaced 900 tonnes. Size was saved relative to the Cassiopeia class by eliminating the helicopter facilities; it would instead have provisions for launching and recovering UAVs (unmanned aerial vehicles). Furthermore, the ship was fitted to handle anti-ship missiles on a “for-but-not-with” basis.

A revised design based on the first proposal was presented in 1998. This featured a larger hull but less sophisticated equipment, reflecting reduced operational demands and the final elimination of the anti-ship missile armament provisions. The primary intentions were to improve the ship's seaworthiness and extend its operating endurance. Part of the reason for enlarging the design was to provide added growth margin for possible future expansion, along with more space to accommodate inspection teams, refugees, or survivors.

Besides being built on a larger hull, which gave added seaworthiness, the new design eliminated the UAV launch/recovery capability. It relied on small- to medium-caliber guns for its self-defense and policing functions. These changes reflected the need to monitor

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a growing stream of refugees from both the Balkans and the North African coast. This aspect is a strong driver in the projected future mission of these ships. It means that the ships need to be capable of performing sustained and extended surveillance and patrol missions at longer distances.

First Orders Placed

The order for the first four ships of the series was placed in February 1999. At that time, it was believed that the first-of-class would begin its sea trials in 2001, followed by the rest of the class at 6- to 12-month intervals. Although a number of sources initially referred to this class as the Aliscarfi class, the lead ship was named *Cigala Fulgosi* in honor of the commander of the World War II torpedo boat *Sagittario*, which on May 21, 1941, was escorting a convoy to Crete. On being attacked by a strong British force consisting of the cruisers *Naid*,

Perth, and *Carlisle*, as well as several destroyers, the lone Italian vessel counterattacked and forced the British group to withdraw.

Plans calling for all four ships in this first group to be completed in 2002 proved to be overly ambitious, and two were delayed into 2003. Italian Navy plans still reflected an intent to order an additional four ships in 2003, but the financial pressures on the Italian defense budget and the demands of other, higher priority programs caused these plans to be delayed, and there was speculation that the projected order would be abandoned completely. Two additional ships were ordered by the Italian Department of Transport. These are armed and equipped to a reduced standard, but are still manned by Navy crews. They entered service in 2003. During 2002, plans to build a third ship for the Department of Transport were canceled.

Significant News

Last Fulgosi Class OPV Delivered – The last ship in the Commandante Fulgosi class has been delivered. The superstructure of the *Commandante Foscarini* is constructed of glass-reinforced plastic, including most of the mast and the entire telescoping helicopter hangar. This composite superstructure is 40 percent lighter, lowering the ship's center of gravity and reducing fuel consumption, and at the same time offering less maintenance and longer service life. (FI, 2/06)

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Funding

The program is funded by the Italian government for the Italian Navy.

Contracts / Orders & Options

<u>Contractor</u>	<u>Award (\$ millions)</u>	<u>Date/Description</u>
Fincantieri	415	Feb 1999 – First batch of four units ordered.
Indal Technologies	N/A	Fall 1999 – Subcontract for telescoping helicopter hangars.

Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
	1996	MARISTAT's initial concept for possible Nibbio class replacement
	1998	Final design firmed up
Feb	1999	Order for the first boat
Sep	2000	On-site construction of first helicopter hangar begins; first hangar delivered to shipbuilder
Apr	2001	First ship launched
Feb	2002	Sea trials started on first-of-class
End	2002	Two of first group of four delivered

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<u>Month</u>	<u>Year</u>	<u>Major Development</u>
	2003	Two Department of Transport ships delivered

Worldwide Distribution / Inventories

Italy. Six ships in service.

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Forecast Rationale

No additional construction of the Commandante Cigala Fulgosi class in either its Navy or Italian Department of Transport configurations is currently planned. Current efforts in Italian naval construction are centered on the two large destroyers of the Horizon class, the large group of FREMM class frigates, and the aircraft carrier *Conte di Cavour*. This large volume of naval construction essentially precludes the construction of additional patrol ships.

Exports Improbable

There also appears to be little chance of exporting the Fulgosi class. In theory, the class should appeal to a number of countries that lack the financial resources for a major naval construction program, yet have an urgent need to police their maritime waters. For these

countries, the Fulgosi class (or, more likely, the class's simplified half-sisters) may well be an attractive option. It has the potential to be armed to the point of becoming a convincing second-line combatant, and thus offers something more than the average offshore patrol craft. However, the Fulgosi class is an expensive ship for such operational requirements; it is notable that the Australian Armidale class offers much the same capabilities as the Fulgosis but can be procured at half the cost.

At the moment, in the absence of additional Italian construction orders and the lack of any apparent export orders, we are projecting no further construction at this time. Unless this situation changes, this report will be archived next year.

Ten-Year Outlook

No additional construction is forecast.

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