

European Naval Suppliers in South America

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This article draws on AMI's naval market reporting and proprietary data to review South America's naval market, and the prospects for European naval suppliers in it.

Europe has maintained close relationships with South American navies from their very beginnings in the early 19th century. European companies have remained prominent suppliers to those navies in the 20th century, especially in the post WWII period.

of European suppliers are having success in the regional market, as seen by France's Naval Group (submarine programmes in Chile and Brazil). Germany's Fassmer has proved attractive in supplying OPV designs and construction assistance (Chile, Colombia).

local shipyards and systems companies. This article draws on AMI's naval market reporting and proprietary data to review South America's naval market, and the prospects for European naval suppliers in it. It first reviews region-wide trends, then provides more detail on naval construction programmes now underway that feature European suppliers. Finally, it provides a snapshot of the largest and/or nearest-term future programmes (expected to be awarded in the next five years), and which European naval suppliers are vying to win those competitions.

As a non-competitive venture, Brazil's nuclear submarine programme will not be considered in this article.

Market Overview

Latin America is a unique naval market in many respects. First, maritime rivalries and tensions remain relatively low, in contrast to other areas such as the Arabian Gulf and South China Sea. Therefore while the leading (and most expensive) programmes in the region continue to be capable and well-armed submarines and surface combatants, those programmes must justify expensive warfare systems and platforms against competing requirements lower on the naval capability spectrum.

For example, expansive maritime economic zones and economic interests (fisheries, energy resources) drive demand for larger OPVs in many South American countries. The proximity of the continent to the Antarctic and lower latitudes also spurs the need for specialty ships and equipment capable of sustained operations in the icy and stormy waters. Lastly, the riverine environment of Amazonia also generates specific and unique requirements for patrol craft and amphibious lift ships and craft.

Looking at the region's future market (20 years to 2037) by country in the chart below, Brazil continues to lead the region in spending and advanced platform acquisition. Despite a lagging economy and continuing political uncertainty, Brazil represents almost 40% of the region's projected total spending on new naval platforms, and acquisition spending over the next two decades, and almost 20% of future hulls.

Photo: DCNS



Naval Group (formerly DCNS) is successful in Brazil with its SCORPENE design; the first RIACHUELO class submarine for the Brazilian navy (RIACHUELO S 40) is already being assembled.

The long-standing preference for German diesel submarines among many navies in the region, and the historic UK-Chile relationship in surface combatants are illustrations of the long-standing Europe-South America naval connection.

Today, the competition to provide the next generation of naval platforms and systems in South America is intensifying. A wider range

of ship designs and systems from countries outside Europe are entering the South American market, notably South Korea's Dae Sun Shipbuilding (Peru LPD programme) and Israel's patrol craft in Argentina. Local shipyards and systems suppliers are also playing a larger role in the continent's naval market, with ASMAR, COTECMAR and others taking the lead on local procurements.

These trends are changing the market dynamics in the region for European suppliers, shifting them from a traditional "build and export" business model to offers for design support, construction teaming, and technical transfer and co-production with

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This future spending is concentrated in frigate and submarine programmes.

Perhaps surprisingly, Colombia currently places second in the region for planned naval spending and first in the number of hulls to be acquired. While the country's naval structure still is centred on smaller patrol and amphibious platforms, Colombia has put in place an ambitious plan to acquire submarines, frigates, and corvettes. The three platform types together repre-

As noted above, the region's requirement for OPVs remains substantial. Seven of eight countries AMI tracks in South America have OPV programmes in their naval budget. Collectively, the OPV sector represents only 6% of forecasted naval spending in South America, but those programmes amount to almost US\$1.5Bn in new ship budgets. And OPVs, being lower cost per hull programmes compared to surface combatants or submarines, have typically enjoyed

Current Programmes

The 2008 award of the Brazilian submarine construction program to France's Naval Group (then DCNS) is considered a major event in the South American naval market from the perspective of European suppliers. While DCNS had enjoyed earlier success in Chile with its SCORPENE submarine design, the scope, level of investment and long-term commitment represented

South America Regional Naval Procurement Forecast	Hulls to be acquired 2017-36	New Platform Spend 2017-36 (USD M)	Hulls % of Region Total	Spend % of Region Total	Subs Spend \$ USD	Sub % of Country Spend	Frigates & Corvettes Spend \$ USD	Frigate & Corvette % of Country Spend	OPV Spend \$ USD	OPV % of Country Spend
Brazil	53	9048	23%	37%	3260	36%	3700	41%	300	3%
Colombia	76	3574.6	33%	15%	700	20%	1600	45%	240	7%
Chile	11	3333.8	5%	14%	1000	30%	2000	60%	116	3%
Ecuador	22	2970	10%	12%	1600	54%	1800	61%	150	5%
Peru	23	2952	10%	12%	900	30%	1500	51%	300	10%
Venezuela	11	1055	5%	4%						
Argentina	11	899	5%	4%					200	22%
Uruguay	22	388.5	10%	2%					180	46%
Region Total	229	24220.9			7460	31%	10600	44%	1486	6%

sent some 80% of planned spending for the country. Colombia has steadily invested in developing local naval design and construction capabilities, and the country's naval plans are beginning to benefit from these investments.

Chile, Ecuador and Peru also remain major markets in South America, each representing roughly 10% of regional planned spending. Each country is forecasted to acquire a new generation of larger frigates and submarines to advance their sea service qualitatively, while maintaining the current size of the fleet.

steadier funding support. So OPVs are a market segment of continuing significant opportunity for European ship designers, builders and system providers.

A cautionary note on these plans is that they depend on each country making a sustained commitment to fund programmes - often stretching over a decade or two. In the past those sustained commitments have tended to be lacking in the region, confronted by economic booms and busts, political rivalries, and competition for defence procurement from other military branches.

by the agreement in Brazil is considered by some analysts to mark a new model of European naval industry relationships in the South American market.

Other observers are more sceptical that the programme will run on the announced schedule and scope. Political and economic uncertainties in Brazil, cloud the prospects for full realisation of both conventional and nuclear submarine construction programmes, a decade on after the initial award.

Construction continues on the first submarine hulls. In January 2018, the Brazilian

Country	Programme	Status	Expected Contract Award Date	Total Programme Hulls	Euro Hull Suppliers (Design)	Euro Weapons & Systems Suppliers
Brazil	RIACHUELO (SCORPENE) Class Diesel Electric Submarine (SSK)	In Progress	Underway	4	Naval Group	Naval Group, Thales, Safran
Chile	Coast Guard PILOTO PARDO Class Offshore Patrol Vessel (OPV)	In Progress	Underway	2	Fassmer	Bofors, Oto Melara
Colombia	20 DE JULIO Class Offshore Patrol Vessel (OPV)	In Progress	Underway	1	Fassmer	Bofors, Oto Melara
Venezuela	Damen STAN PATROL 5009 Patrol Boat	In Progress	Underway	2	Damen	Thales

Current programmes of European naval suppliers in South America



Photo: BMT

The VENATOR 110 frigate design offered by BMT for the Colombian Navy's tender in 2020 to replace its ALMIRANTE PADILLA class frigates

Navy (Marinha do Brasil - MdB) and Itaguaí Construções Navais (ICN) transferred three sections of the first RIACHUELO class submarine (Riachuelo – S 40) from the Steel Structures Manufacturing Unit (UFEM) at Itaguaí to the other side of the complex on Madeira Island.

Another watermark in the South American naval market has been Fassmer's success. Here the business model is more limited, model centred on design provision, modernisation and construction assistance. This model has proven successful in both Chile and Colombia with OPV programmes. Should Fassmer emerge a winner in the Argentina OPV programme, it would further reinforce the company's leadership in this "niche" sector.

Future Programmes

Looking at programmes expected to be awarded over the next five years, future frigates will continue to be the highest pri-

ority for most European naval suppliers. Argentina's OPV programme, with contract award expected in the next 12 months, is another contested field for Europe's ship and systems offerors. And Chile's submarine programme is expected to see keen competition among French, German, Swedish companies.

Argentina: MALVINAS OPVs

Current Argentine Navy (ARA) planning calls for a total of four Offshore Patrol Vessels (OPVs) to be built under this programme to replace the ARA's three CHEROKEE, two KING and one OLIVERI class OPVs that were commissioned from the 1940s through 1981.

The ARA requirements call for an OPV displacing around 1,800 tonnes with a flight deck and hangar to support one medium helicopter. It will be powered by two diesel engines for a top speed of at least 25 knots. The OPVs will be armed with one 57mm or

76mm gun and two 12.7mm machine guns. European competitors assessed as vying for the programme include:

- Lürssen Werft (PV 80 design)
- Navantia (AVANTE design)
- Fassmer (1,800-tonne OPV-80)
- Naval Group (GOWIND series)
- BAE Systems (RIVER class)
- Fincantieri (COMMANDANTE or SIRIOS designs)
- Damen (SIGMA series).

Brazil: TAMANDARÉ Corvette Programme

The TAMANDARÉ corvette programme will procure four hulls to be built in Brazil. In December 2017, Brazil issued a Request for Proposals (RfPs) to 21 potential suppliers for the estimated US\$1.6B programme. Nine teams reported submitted proposals in May 2018, among them five European-led groups:

Country	Programme	Status	Expected Contract Award Date	Total Programme Hulls	Competing Euro Hull Suppliers (Design)	Competing Euro Weapons & Systems Suppliers
Argentina	MALVINAS Class Offshore Patrol Vessel (OPV)	Planned	2018	4	Lürssen, Navantia, Fassmer, Naval Group, BAE Systems, Fincantieri, Damen	MBDA, Thales, Leonardo
Brazil	TAMANDARÉ Class Corvette	Planned	2019	4	BAE Systems, ThyssenKrupp Marine Systems, Damen/SAAB, Fincantieri, Naval Group	Thales, Leonardo, Naval Group, ATLAS ELEKTRONIK
Chile	Diesel Electric Submarine (SS)	Planned	2020	2	TKMS, Naval Group, SAAB	Naval Group, ATLAS ELEKTRONIK, SAAB, MBDA, Leonardo
Colombia	Future Frigate	Planned	2022	4	Navantia, Naval Group, BAE Systems, Fincantieri, Damen	Thales, Leonardo, Naval Group, MBDA, ATLAS ELEKTRONIK
Peru	Future Frigate	Planned	2020	4	Navantia, Naval Group, BAE Systems, Fincantieri, Damen	Thales, Leonardo, Naval Group, MBDA, ATLAS ELEKTRONIK

South America's top 5 current and future naval programmes

- BAE Systems/CONSUB Defesa e Tecnologia (Type 31e)
- ThyssenKrupp Marine Systems (TKMS)/Embraer and Ares Aeroespacial e Defesa S.A. (MEKO design)
- Damen/Saab/CONSUB Defesa e Tecnologia (SIGMA 10514 design)
- Fincantieri/Leonardo/Ezute (probably Fincantieri 105-meter corvette design)
- Naval Group/Enseada Industria Naval S.A./Mectron S.A. (Gowind design)

On 15 October 2018 the Brazilian Navy's Programme Management Directorate announced a shortlist of four contenders:

- ÁGUAS AZUIS comprising Embraer, Ares Aeroespacial e Defesa and TKMS;
- DAMEN-SAAB TAMANDARÉ partnered with Brazil's CONSUB Defesa e Tecnologia;
- FLV: Fincantieri/Leonardo and Vard partnered with Brazil's Ezute;
- VILLEGAGNON consisting of Naval Group, Enseada Industria Naval and Mectron.

The only known armament selection to date is the Matra BAE Dynamics Alenia (MBDA) Sea Ceptor surface-to-air missiles. AMI estimates that some of the combat and sensor systems will be produced locally as part of teaming and partnership agreements. Companies such as Mectron, Embraer's subsidiary Atech, IqM/Elebra and IqM/Esca have been involved in development of Combat Management Systems (CMS), anti-ship missiles (ASMs), electronic warfare (EW) systems and machinery control systems (IMCS).

The programme's planned award has been delayed several months, and the winner is expected to be announced in early 2019.

Colombia: Frigate Programme

The Colombian Navy (Armada Republica de Colombia (ARC)) is expected to issue an international tender in 2020 for up to eight frigates to replace its four ALMIRANTE PADILLA class frigates that were built in the early 1980s. The tender will be for the design and construction assistance of the frigates at Colombia's Science and Technology Corporation for the Development of Naval, Maritime and Riverine Industries (COTECMAR). Navantia of Spain has positioned for the programme with its November 2014 cooperation agreement with COTECMAR to participate in naval ship construction opportunities throughout South America. AMI assesses that Navantia will propose a



Photo: Damen

Damen proposes its modular 2nd gen OPV for Argentina's MALVINAS class Offshore Patrol Vessel (OPV) programme.

frigate based on the AVANTE series, possibly the F 538 frigate design that is also being offered to the Peruvian Navy. Even though Navantia signed a cooperation agreement with COTECMAR, the frigate competition is still considered open as Naval Group is offering its new 4,000-tonne BELHARRA frigate design (export version of the French Navy's FTI medium sized frigate) and the United Kingdom's BMT Defence Services with Sweden's Saab is offering the VENATOR 110 frigate design. Naval Group opened its own representative's office in Bogotá in March 2017. In 2013, DCNS completed the modernisation effort of the ARC's four PADILLA class corvettes.



Photo: tkms

The MEKO design offered by thyssenkrupp Marine Systems (tkms) for Brazil's TAMANDARÉ programme

This programme represents Colombia's largest and most complex naval procurement since acquiring two Type 209 submarines in the 1970s and the four ALMIRANTE class corvettes in the 1980s. Procurement funding for the ARC is very low and it will take a significant effort at the Ministry of Defence (MoD) level to attain the funding. As with Argentina's programme, external funding is likely to be required to move the frigate procurement forward. Alternatively, the OPV programme may be extended and expanded as a lower cost alternative to a new complex and costly frigate.

Chile: Submarine Programme

Chile received two SCORPENE (O'HIGGINS class) submarines from France's DCNS in 2005 and 2006. The country's navy has a requirement to replace the other two subs in the fleet: Type 209/1300 THOMSON class submarines. Both will be forty years old in 2024 and are expected to be out of service by then, despite having been refitted and modernised in 2014.

An RFP for the new subs is expected soon and may be released at the upcoming Exponaval event in Valparaiso in December, 2018, marking the 200th Anniversary of the Chilean Navy.

France is assessed as being in the best competitive position to supply the next two submarines to Chile, as an all-SCORPENE fleet would reduce training, maintenance and supply chain costs.

That said, European submarine builders ThyssenKrupp Marine Systems (TKMS), Fincantieri, Navantia and Saab Kockums are expected to offer alternatives.

Pricing will be a key issue in this procurement. When the Chilean

Navy acquired the first two SCORPENE hulls from the DCNS/Navantia team in 1998, they received a significant price discount. Sources indicated that the European suppliers offered the discounts in an effort to maintain employment at their domestic shipyards. In the 20 years since that procurement, ASMAR has significantly matured as a builder and Chile may seek tech transfer and infrastructure investment terms similar to those seen in Brazil's submarine programme. This requirement could open the competition to other providers willing to match or better Naval Group's terms in these areas. ■