

Innovation in the military naval construction in the Country marks Keel Laying of Fragata Tamandaré



Marking another important phase in the construction of Fragata Tamandaré, the Brazilian Navy (MB) and Águas Azuis (Special Purpose Company (SPE), composed by the companies thyssenkrupp Marine Systems, Embraer Defesa & Segurança and Atech), carried out on March 24, 2022 the ship keel laying. The ceremony, that was held in the facilities of the company thyssenkrupp Estaleiro Brasil Sul, in Itajaí-SC, counted with the presence of the Navy Commander, Fleet Admiral Marcos Sampaio Olsen and other civil and military authorities from the Ministry of Defense, of the Brazilian Navy and naval industry.

Traditionally present in the naval construction, the keel laying happens when a keel, the “spine” of the vessel is concluded, allowing the structure of the other parts. However, the evolution of engineering and modern processes of production adopted in the Programa Fragatas Classe Tamandaré (PFCT) allow the ships to be built in blocks. Thus, in the case of Fragata Tamandaré, the keel laying was characterized by the positioning, in its building location, of an important structural block, which weighs approximately 52 tons and corresponds to one of the machine squares of the ship, where it will be installed two engines, reduction gear and many auxiliary equipment.

The General Manager of Navy Material, Admiral of Bettega Squadron, highlights the importance of this advance in PFCT, which is so strategical for the Naval Force and for the country sovereignty: “We witnessed the encounter tradition with the technological pressing modernity, resulting in production optimization and increment of the information and employees security”. The CEO of thyssenkrupp Marine Systems, Oliver Burkhard, added: “We provided the Brazilian Navy with cutting-edge frigates, which gather what is most advanced in naval technology, innovation and combat robust capability”, he concluded.

Advantages

This modern constructive model, which predicts the production in blocks to be built later, offers many advantages regarding the old model. Thus, it is possible to install accessories and foundations in an anticipated way, not only facilitating the equipment placement on board but also allowing works in various stages in a segregated way in each unit. The process also increases the securities of the employees, as it keeps open spaces for longer during the construction.

The innovations involved in the PFCT extends to all productive chain. Historically, projects of this size are developed from a great amount of printed documents, such as drawings, procedures and manuals, which demand many copies and recurring updates. In that sense, the shipyard has implemented a methodology for projects of engineering named “Paperless”, which consists in eliminating the use of drawings in paper in the production line of the Fragatas, transforming them into digital files, which brings benefits to the information security contained in the documents, due to the confidentiality demanded in a military project, and to the environment.

Next phases

The PFCT schedule advances according to the planning, and currently presents an evolution in 34% of its total. For the next stages, it is predicted the building of the block that forms the other machines square of the Fragata, with the equipment and engines positioning in the place. In the sequence, the blocks built will complete the central structures of the ship. It worth highlighting, from the more than fifty structural units that compose the constructive sequence of the first Fragata Classe Tamandaré, around one

forth is in process of structural assembly in thyssenkrupp Estaleiro Brasil Sul, and other are already cut and conformed, with panels and sub-assemblies finished.

Regarding the qualification that will be responsible for the maintenance of the ship systems, are already concluded around 50% of the activities about System Engineering and Integrated Logistics Support.

The launch of Fragata Tamandaré is estimated for mid-2024 and its delivery for the Brazilian Navy in the end of 2025. The plate cut of the hull of the second Fragata Classe Tamandaré is predicted to happen still in the current year.

Increment in the protection of the Brazilian Jurisdiction Waters (AJB)

Conducted since 2017 by the Brazilian Navy, executed by Águas Azuis and managed by Empresa Gerencial de Projetos Navais (EMGEPRON), the Programa Fragatas Classe Tamandaré is the most modern and innovative naval project developed in the country, predicting the construction, in national territory, of four warships of high technological complexity.

The vessels must achieve the operational capacity to protect the AJB generating transfer of technology and perpetual license, and promoting the local industry and the Naval Construction in the country. The Brazilian Navy predicts the Program, as a whole, may generate around 2 thousand direct jobs and 6 thousand indirect ones.

History

As highlight of the stages already carried out, on June 21, 2022, it was concluded a prototype of the section of the Machines Square compartment, employed for the qualification of many processes referring to the vessel's manufacturing.

On September 5, 2022, it was carried out the hull plate cutting of the first Fragata Classe Tamandaré, considered the main milestone of the beginning of the construction phase.

March 23, 2023.