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Giacomo Gori

The Sorrentine gozzo Development following tradition

THE GOZZO 10 project, carried out by Studio Faggioni AND Antico Cantiere del Legno Aprea, implements an interesting revision of the sorrentine gozzo that respects the traditional philosophy and forms while introducing significant construction innovations. Gozzo 12 and Gozzo 14, other projects with the same philosophy, will follow.

Collaboration between Studio Faggioni in La Spezia and Antico Cantiere del Legno Aprea in Sorrento began in 2001 with the restoration of a Sorrentine gozzo found in pitiful conditions in the Tuscan countryside. Says Stefano Faggioni: "I remember at the beginning the scepticism of Nino and his father Mastro Cataldo, who up till then had perhaps never worked with ship designers because they were still engaged in traditional construction with the "mezzo garbo". Our aim was to introduce into that magnificent boatyard in Marina Grande the concept of restoration, which for them up till then had been simple and habitual repairs. It didn't take as long to realise that that collaboration would have led us to a great result and would certainly have gone beyond the confines of the Sorrentine gozzo." That gozzo was called Pianosa and the restoration and it the title of Bene di Interesse Storico Nazionale from the Ministry of Cultural Resources. Then came La Spina, another impeccable restoration, and more collaboration on small and medium interventions. Since then, until today, a kind of partnership has developed between the La Spezia studio and the Sorrento yard, reinforced above all by the similar history of the two family owners. Though coming from places hundreds of kilometres apart, the Aprea family and the Faggioni family have an ancient history that has a very strong element in common in boatbuilding which, says Faggioni, "almost creates a fusion of families with a solid friendship that goes beyond the working relationship."

Fig. 1: Gozzo 10, profile with mast for canopy, deck and interior layout. (Studio Faggioni archive).

The Gozzo 10. Tradition, proud slowness and mass production

The concept of this project originated in the idea of offering a traditional wooden boat to a public that in the past had had to give up this dream because of the big difference in production and maintenance costs between a boat made in traditional caulked planking than one in fibreglass. "Nino had been thinking of investing in a project like this for years," says Faggioni, "and in 2010 we created what we called the 'slow coast' project. We wanted to mass-produce a kind of traditional boat that was ecological and proudly slow as it sailed along the coast, completely against the trend of how people still today sail the sea. Obviously the time was not then ripe, also because slow coast aimed to be a philosophy, a kind of movement, designed not just to build new boats." Today, Antico Cantiere del Legno of Giovanni Aprea (ACL Aprea) has expanded in the Torre Annunziata area and conditions favourable to the project have been created. The use of build technologies using numerically controlled

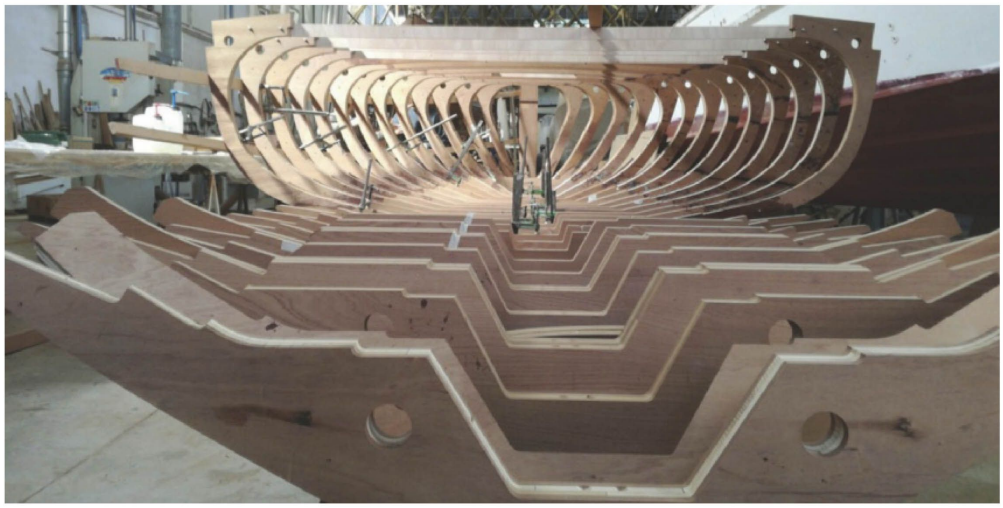

Fig. 2: Framework, in the foreground the floors in marine ply. (Studio Faggioni archive).

stant collaboration and search for an alternative way to work on boats, a new application of Arts and Crafts à la William Morris".

Designing the hull

In drawing up the design of the shapes of the keel and hull there was a continual exchange of ideas and considerations between Studio Faggioni and ACL Aprea. The yard, which in fact commissioned the work, asked right from the start to follow as closely as possible the shapes of the Sorrentine gozzo. The inspiration for the layout of the hull, including the characteristic "schiocche", the end parts of the gunwale at bow and stern which are particular features of this kind of boat. The design studio often suggested solutions that were innovative although respecting Sorrentine customs: the stanchions for example are not in wood but in satin steel and fit coherently. The deck, says Stefano Faggioni, is intentionally made with strips of iroko parallel to the diametric plane and not to the gunwale. This system is so traditional that today it has been partially forgotten and seems and innovation, almost an anomaly.
As regards propulsion, in the early phases of the project there was a logical idea of installing a lateen sail rig with an auxiliary engine. Then instead there was the solution of using only an engine for propulsion; the mast remains but is reduced in height and is useful for holding up the canopy. But in any case if a customer wishes it is possible to have the sailing version. And so, as tradition also

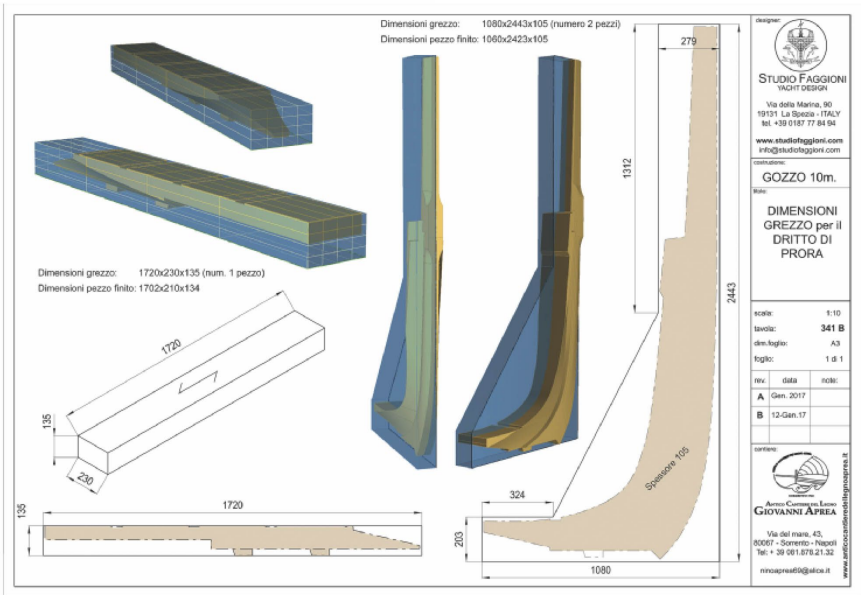

Fig. 3 e 4: stempost in laminated wood, working design and construction. (Studio Faggioni archive).

Fig. 5: view from the bow with the traditional crucifix on the stempost. (Studio Faggioni archive).

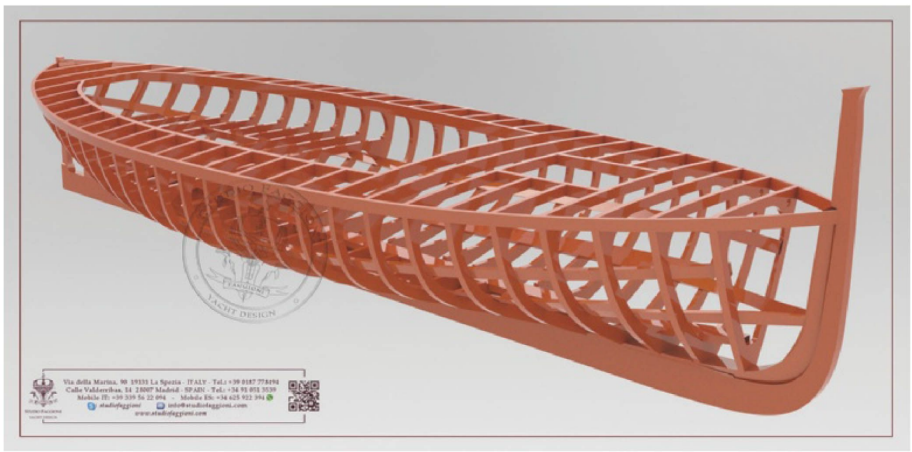

Fig. 6: 3-D model of the boat's structure. (Studio Faggioni archive).

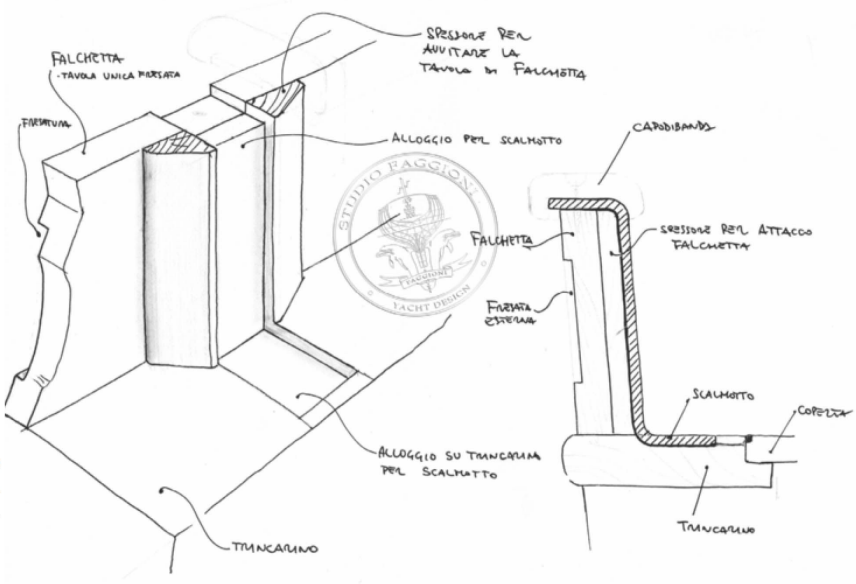

Fig. 7: Sketch for the design of the stanchions. (Studio Faggioni archive).

machines, laminated wood and layered wood has made it possible to imagine the mass production of traditional wooden Sorrentine gozzos with accelerated production times (a big reduction of production times above all in building frames that arrive with components already cut and ready to assemble) and reduced costs. If this concept will win the challenge – this is what designer and yard are betting on especially for the Campania market "which still has a lot of seagoing culture" – and if the time really is ripe, only the market will decide. It is not possible fully to evaluate on paper the impact on possible owners of boats of this kind, but the launch of this first prototype, scheduled for August 2018, is now close…

Build methods

The gozzo was completely designed on the computer: frame after frame every detail of the boat was designed in 3-D. All the components were then physically created, milling with the help of numerically controlled five axis machines panels of layered wood or raw blocks of laminated wood. In the vectorial design phase there was careful evaluation of all bill details, the various joints between the components with the related tolerances through to the "quartaboni" of the frames (the angles that the external surface of the frames must have at various points along the side to adhere perfectly to the planking). In this sense the design work and the work of the yard reached a remarkable level of continuity. This modus operandi made it possible to maintain the traditional method of the master carpenters who in a single continuous action designed and physically produced the boats.

The ambition: to give mass production a soul

Components are obviously assembled and finished by hand: mass production thus becomes part of high craftsmanship.

Already in carrying out the restoration of La Spina, Faggioni, who knew that many wooden parts of the boat would be machine made, used manual finishing with the characteristic tiny imperfections it involves. Knowingly, these tiny imperfections, normal signs of craftsmanship, "warmed" the effect of the finished product giving an added value that went beyond the perfection of cold machines. In the case of Gozzo 10 everything was done as in perfectly normal mass production with the sole difference that the final presence of craftsmen is more evident than in other production runs. It is a spontaneous variable, not designed but foreseen, that makes every boat unique. "Our ambition was to give a soul to mass production which here loses its impersonal aspect," says Faggioni. This mass/craft approach is certainly not radical with respect to tradition. However it is possible that this build method makes it possible for tradition to survive and find new energy, preserving it from the risks of extinction.

Says Faggioni: "I honestly believe that this kind of build, that fully uses the tradition of master carpenters but with a nod to new technology, could be carried out only by Giovanni "Nino" Aprea whose yard has never given up using wood. In these years Nino has amply demonstrated he knows how to bear an important name in the world of wooden boats, combining tradition and innovation.

Then I like to believe that there has been the influence of our con-

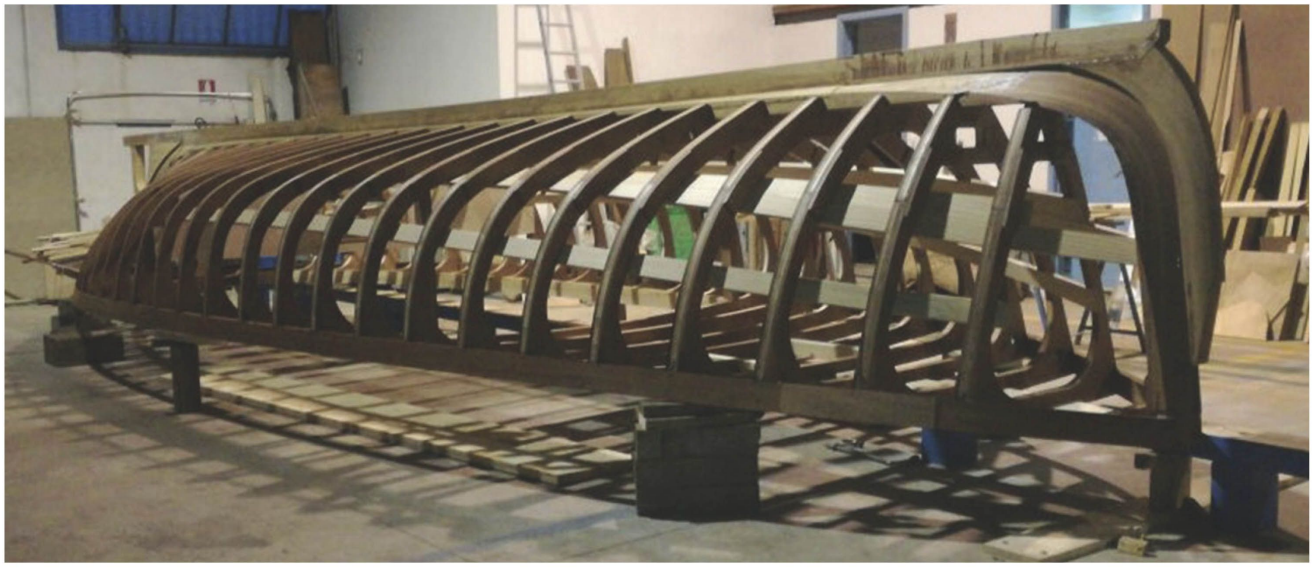

Fig. 8: The hull was overturned to lay on the planking. (Studio Faggioni archive).

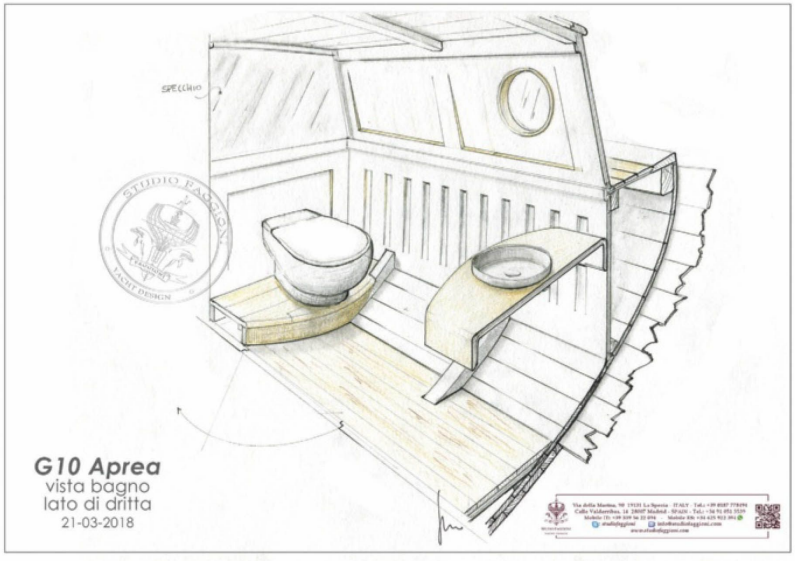

Fig. 9: Draft designed for the interior bathroom. (Studio Faggioni archive).

demands, "no Sorrentine gozzo is like any other". Owners can ask for customisation from the designer and the yard and adaptations for different usages, either pleasure sailing, fishing or transport.

Layout

Gozzo 10 has a strong vocation for pleasure boating. The prototype being completed will be a day cruiser that will let the owner and his guests enjoy the sea according to the idea of a slow "and for that reason pleasurable" voyage that permits a close relationship with the sea. The cockpit at the stern will allow a large group of friends to dine comfortably in the open air on a central table. This convivial aspect (the "slow coast" of the concept recalls with assonance and above all philosophy "slow food") is fundamental. And exactly for this reason, as you enter to port there is a small but efficient galley that will allow you to prepare the classic spaghetto a vongole. In front of the galley to starboard is a closed bathroom with wash basin and WC; the shower is on deck. Forward of these elements and still inside the deckhouse are two seats that allow guests to sit down under cover. Astern below decks is a single large mattress covering the entire beam useful for a siesta or for spending the night. The interiors are painted white with inserts in Italian elm.

Build technologies

The boat has a transverse structure. The keel was assembled with pieces of solid iroko and preparing it demanded a lot of care from the craftsman, who are experts, because every later piece of the frame would have to be placed with precision in the points indicated by the 3-D design to avoid distorting the planking. The stern post and stem post were sculptured using a milling machine from raw blocks of laminated wood. The 26 ribs that make up the side frames are placed at constant intervals and rest on the keel. They are tied together by the centre keelson in Iroko, three battens and an external stringer in Iroko. Each rib is a closed structural ring and is made up (to limit the waste in cutting the panels) of four elements: a floor, two frames and a beam. This closed ring, unlike in the traditional methods, makes it possible to have elements that no longer sit side-by-side but lie on the same plane. A structure made in this way has a very favourable strength/weight ratio and is

Fig. 10: Final phases of laying the double layer of mahogany planking. (Studio Faggioni archive).

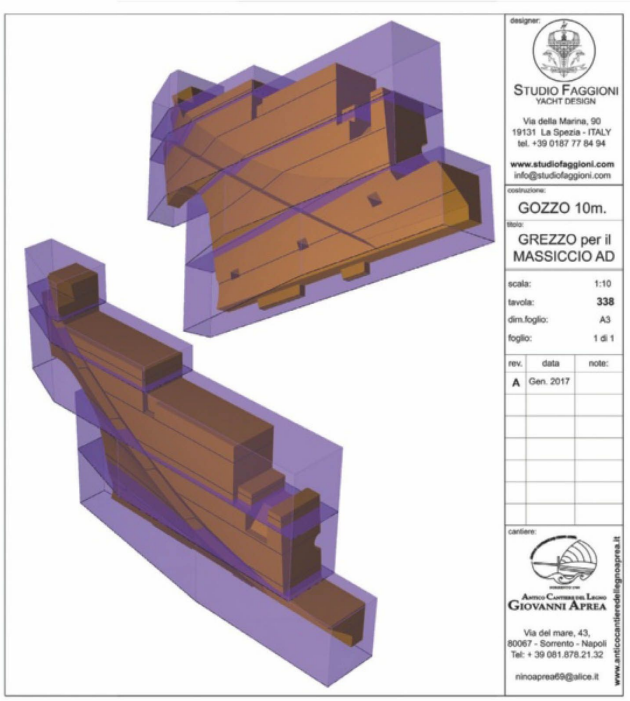

Fig. 11 and 12: sternpost in laminated wood, working design and construction. (Studio Faggioni archive).

also aesthetically clean looking. Every part, as mentioned, was cut with a five axis numerically controlled milling machine that guarantees precision to one 10th of a millimetre. The high precision of the cuts made it possible to design each surface of the edges of the various components with correct "quartabono" angles and joints of absolute precision. Dovetail joints were designed to reduce to a minimum the risk of imprecision or human error during assembly: all components are joined together using epoxy glue, pins and screws in stainless steel. As a result, in the yard the assembly of the components – every single piece is unambiguously marked with a number during milling – can be done quickly, without uncertainty, corrections or chocking and guarantees that the result will be as laid down in the design. The now finished hull, the number one, has a double layer of mahogany planking laid out longitudinally and overlapping, glued with epoxy resin. This provides a very strong shell that will be leakproof. For the planks of the garboard and the sheer there are bulges in the thickness only for "linguistic" reasons and to respect tradition.

However, later hulls will be modified and will be made by the yard with planking overlapping at an angle of 45°. Obviously, this kind of planking needs no caulking with obvious advantages for maintenance costs.

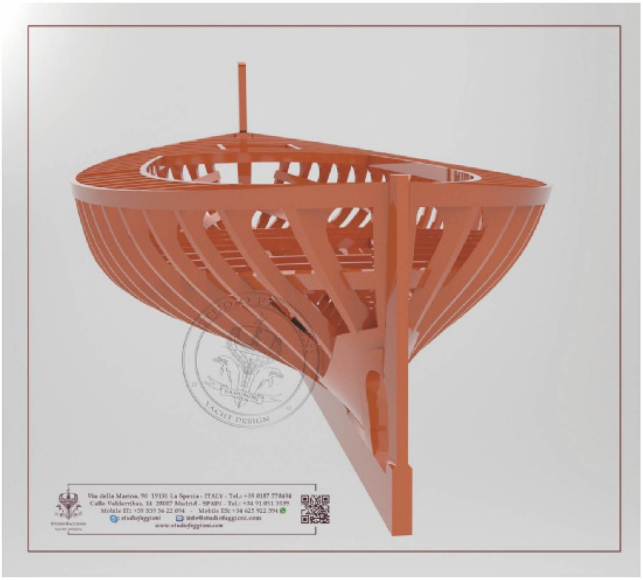

Fig. 13: 3-D model of the structure seen from astern. (Studio Faggioni archive).