

# INGEMAR

Ingegneria Marittima



**BUILDING ON THE WATER 2014/2016**

# INGEMAR

*Ingegneria Marittima*

Notwithstanding the difficult general economic situation, in particular within the nautical sector, the last three years have seen Ingemar consolidate their leadership position in Italy and gain strong growth on the international market. The results have been even more positive starting with their sales volume increase in 2015. Together with completed commissions and ongoing orders a more than an 80% growth in overseas work for the year 2016 is foreseen. In Italy there are signs of recovery following the plunge in production in the nautical sector over the last few years and the flight of many yachtnowers to foreign ports. New investment programs by the ports have been aimed at improving the quality of berths and services to their clients, taking into account the strong foreign competition and the amazing growth of Mega

Yachts. The new Marina Porto Piccolo at Sistiana near Trieste, with steel pontoons, the extension of Marina degli Arechi at Salerno, with reinforced concrete elements, and breakwaters and special floating structures installed at Venice, have all emphasised and rewarded Ingemar's highly diversified production. Ingemar has also extended their presence in foreign, and extremely demanding, markets thanks to their design and operating capabilities as well as to their reputation as a reliable and competent partner: in Iraq the installation of Heavy Duty concrete elements at the new industrial port of Al Faw; in Kuwait with the construction of three new tourist harbours for the new Sea City project in the desert, and in Saudi Arabia the implementation of a number of berths for military vessels. In the Mediterranean Ingemar's floating pontoons and

breakwaters have found diverse applications, particularly for the new marinas of Croatia and Montenegro, countries which have attracted much attention, and not just accidental attention, from yachtnowers. In the last three years the company has continued their policy of investment in the R&D sector, with the development of large reinforced concrete floating elements, in their human resources sector, by strengthening the expertise of the technical office work force as well as in the commercial office with an improved sales network. Today Ingemar is even more prepared than ever to address new challenges from the market with their design and operational capabilities, independent production and commercial rigour which have always been their distinguishing characteristics in this rapidly evolving sector.



## LIVORNO

### Access to the Fortezza Vecchia via an openable bridge

Amongst the many current improvements to renovate the Fortezza Vecchia, the Municipality of Livorno has appointed Ingemar to design and execute the construction of a floating walkway to cross the old moats and provide pedestrian access from the town centre to the historic stronghold site.

The new bridge is similar to the one installed by Ingemar in 1996 which crossed the moats by the Fortezza Nuova: this time however the opening of the bridge to allow boats to pass across is motorised and activated by remote control.

This openable pedestrian bridge is 35m long and 2.6m wide and the central section will retract telescopically leaving an opening of 7.5m for the passage of boats.

Approaching boats will receive both acoustic and visual warnings at the canal entrance and along the canal close to the bridge. Ingemar also took care of the lighting system which included a series of strip leds to provide a scenographic effect at night. This is yet another example of Ingemar's versatility in maritime engineering.



## SAVONA

### New floating pontoons for the Lega Navale

The Lega Navale di Savona boasts a long tradition of sporting success and for years has been active in promoting sailing in general but also sailing for the disabled. The premises, with access for the disabled and numerous boats equipped for people with special needs as well as free sailing courses, is a feather in the cap for this dynamic partnership which pays great attention to social issues. Ingemar is particularly honoured to have contributed to the club's development by substituting all the old moorings: three new fingers for floating pontoons have been in operation since the spring of 2014 to moor the club members' boats.



## PARATICO - LAGO D'ISEO

### A small floating marina for Cantiere Bertelli

This was a made to measure project using breakwaters, pontoons, and service platforms for the historic Cantiere Bertelli at Paratico which over the years has integrated their original activities as boatbuilders with storage hangars, with a small but excellent harbour on Lago d'Iseo. A large covered showroom and a modern restaurant complete the services of this yachting marina which has become a popular destination for both the local and international sailing community.



## SISTIANA (TS)

### Residences and a tourist harbour on the site of an old quarry

Portopiccolo (the north east's "little Monte Carlo" of North East) was inaugurated on 8 August 2014. It is strategically located on the cliffs of Sistiana between the two magnificent castles of Duino and Miramare. This was an investment of € 250 million with the sole purpose of redeveloping the site of an old chalk quarry in the Bay of Sistiana close to Trieste.

In three years a surface area of 350,000m<sup>2</sup> (the previous stone "factory") has become a modern tourist harbour for the elite surrounded by a typically maritime-style village.

There are 380 lodgings, of which 80 are residences. There are also restaurants by the sea, a spa of 15,000m<sup>2</sup> with the best thalassotherapy treatments in Europe and fashionable shops along the seafront.

The whole village complex is a zero emissions zone, it is entirely pedestrianised and has also abolished the use of all types of gas (including for cooking).

Ingemar was appointed by Rizzani de Eccher, the complex's main contractor, to execute the final plan drawings, the construction and installation of all the floating structures servicing the marina.

This was quite literally a "tailor made" assignment from the minutely detailed plan drawings, to the choice of supplies and the technical decisions.

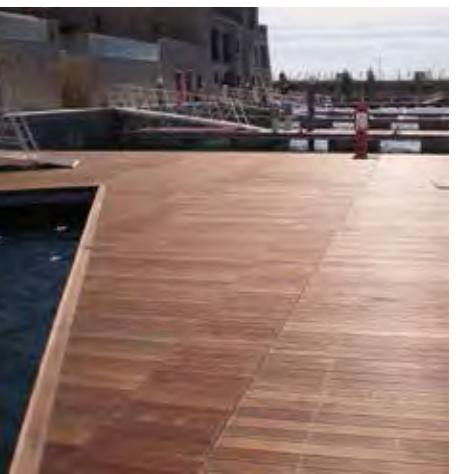
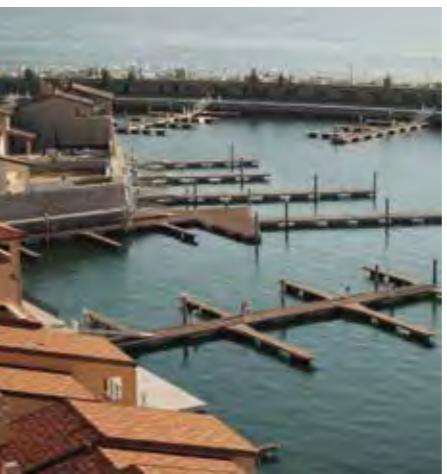
The pontoons, with an overall length of 500 m and a surface area of approximately 1800 sqm, are 2.5/3m wide and are all equipped with fingers for mooring yachts up to 32m. A large floating platform acts as a main focal point of the marina giving access to the largest berths. All the elements, with decks in staves made of exotic hardwood, have lengths, form, size and variable features according to the complex layout and the different requirements of the vessels. Floating units are in concrete for the pontoons and in rotomoulded polyethylene for the fingers and were chosen on the basis of the expected performances and of the local wind and wave climate.

The floating structures are anchored by 65 no. pile drilled into the rock bed and secured by high strength mortar so as to guarantee maximum safety and functionality of the floating systems.

Pontoons are fastened to the piles by sliding devices recessed into the structure of the pontoon so to avoid interference with the moored boats.

This was a prestigious turnkey assignment for an important international group.

This was a challenging project characterised by a very tight timeframe and a demanding client, a challenge that Ingemar was able to take on itself and win in 4 months only in a very collaborative environment made of enthusiastic people proud of being involved in such an a futuristic development.



## SEA CITY - KUWAIT

### Growth continues in the basins of the new city on the Arabic Gulf

La'ala Al-Kuwait Sabah Al-Ahmad Sea City, 85km south of Kuwait City, is an astonishing project in several stages begun in 2003 and occupying an area of over 64 square kilometers along the Arabic Gulf, with a 25 year development plan a new city for in excess of 100,000 inhabitants will arise from nothing along more than 200km of new coastline overlooking a series of canals and lagoons excavated out of the desert.

The project, by the La'ala Al-Kuwait Real Estate Company, has seen completion of the first 3 phases of infrastructures and residential plots and includes the development of three new marinas, the first two of which are already completed, and the third is currently under construction, for more than 2,000 berths. In early 2012, following a stringent international selection process, Ingemar was appointed to manage the final design and to supervise the on-site construction of pontoons, fingers and floating breakwaters, and of the additional accessories and the anchorage systems for the marinas. Due to their importance for the success of the fabrication, Ingemar was also appointed to supply all the specialist structures, the gangways and the most critical components for the standard all concrete elements. After a precise analysis of the manufacturing types, of the logistic issues and of the local resources, the construction of floating elements began in 2013. The "numbers" for the projects are truly impressive: in the first two marinas only, 17km of floating breakwaters, pontoons and fingers, for a total of 40,000 square meters, anchored by in excess of 830 no. piles will provide moorings for over 1,200 yachts up to 40m in length. At present the construction of the structures for the third marina, with more 8,500 m of floating structure and 860 berths is under way and will continue until next spring.



The types of elements of the third marina are the same as those of the previous two marinas, with the necessary modifications to adapt the structures to the specific layout and to the size of the boats: concrete floating pontoons and breakwaters, 3 and 4m wide and up 20m long with a displacement of up to 65 tons and concrete fingers up to 30x3m. The elements are of the all-concrete continuous floating type with galvanised rebar, expanded polystyrene cores that assuring flotation and with a concrete anti-slip deck finishing. A great number of elements has requested a specific design to follow the indications of lay-out of marina and the request for large floating platforms with dimension up to 16x16m both for connecting different piers and for accommodating buildings for marina related services. This is an extremely prestigious international assignment rewarding Ingemar's attention to the Middle East market and its capacity to adapt to the specific requirements of each client-investor in the role of reliable technical partner and supplier.



## NOVI VINO DOLSKI - CROAZIA

### A new marina in the Gulf of Quarnaro

In the Gulf of Quarnaro at Novi Vinodolski a new tourist port is nearing completion; it is being constructed by an important local company, GPP Mikic d.o.o., which is highly motivated to invest in the yachting sector. This is a very appealing area: on the border with Istria, in the splendid gulf of Quarnaro and in front of Krk island. The new marina has 180 berths and will certainly become a popular destination within the efficient Croatian network of harbours.

The authorities in Croatia are extremely efficient and Ingemar received approval to install their types of pontoons and moorings in very quick time. Installation of the modules, four fingers placed at right angles to the main pier for approximately 500m was completed in August 2016.

The pontoons are reinforced depending on the size of the yachts, up to 18m in length, and take into account the strong winds which are common in this area.

The pontoons are of reinforced steel with floating elements in concrete and expanded polystyrene anchored to the sea floor by chains and deadweights. Four floating walkways ensure access to the pontoons which will take 180 yachts anchored to the pontoons with a med mooring system.



## MONFALCONE (GO)

### Ad hoc layout for the Cantiere Alto Adriatico 1977

Cantiere Alto Adriatico is the last installation carried out by Ingemar in the Canale Liesert at Monfalcone near Gorizia. This is the basin for a shipyard which specialises in boat restoration and construction and boasts a patented technology for building hulls in wood. A change in management at the Cantiere meant further effort on our part and necessitated a complete review of the original project (modifying the layout) notwithstanding having already produced a large part of the contract.

The results however are exemplary: 72m of floating pontoons parallel to the quai and anchored with vertical beams (partly constructed with slim size pontoons), with two 40m perpendicular floating pontoons of our reinforced tall series and anchored by poles up to 20m.

Access is by double pivoting gangways which allow for extreme tidal excursion levels and bridge the difference in height to the pier. Service columns, designed ad hoc for Mega Yachts and shipyard operations, were installed to complete the assignment. Overall moorings for yachts up to 22m in length, but also 40m if moored parallel to the pier, were installed in this ad hoc and flexible (in more ways than one) commission.



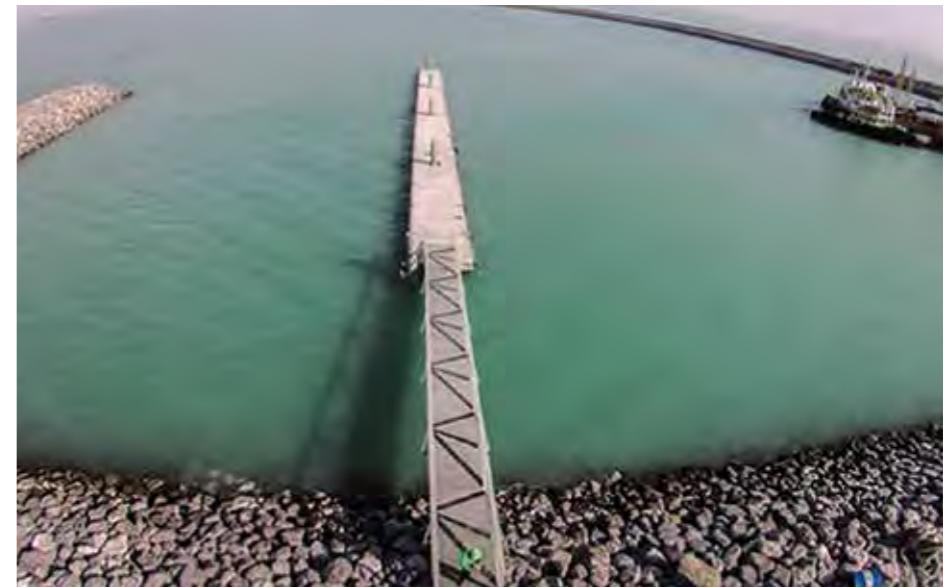
## AL FAW - IRAQ

### A new maritime hub in the Arabic Gulf is under construction

On the estuaries of the Tigris and Euphrates a gigantic port complex is being constructed which will serve as a junction for maritime traffic in the entire Arabic Gulf.

Ingemar was appointed to supply a series of floating pontoons in reinforced concrete of very high displacement to moor service and working vessels.

The modules were designed by and produced in Kuwait under the supervision of Ingemar to be subsequently towed to Iraq. The sections, with dimensions of 20x4x2m, weigh 65t, have an a very high freeboard of 80cm to meet the specific requirements of the vessels which will be accommodated at the moorings.

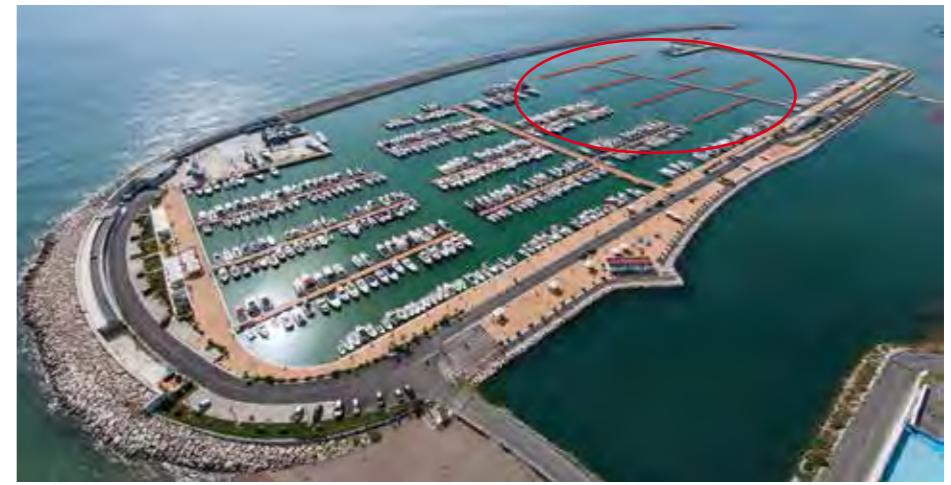


## SALERNO

### Marina d'Arechi selects Ingemar to complete the port

Work at sea is almost completed at the tourist Marina D'Arechi - Salerno Sport Village. Begun in July 2010 and inaugurated in June 2012 with the first 480 berths, the marina today has nearly 1,000 berths of between 10 to 100m over a surface area of approximately 340,000m<sup>2</sup>. This is a futuristic project by the architect, Santiago Calatrava, and the engineer, Guglielmo Migliorino: a harbour off the coast connected to land by an elegant suspension bridge and a marina club in the shape of a yacht. Today the Marina is one of the most important assets in the Mediterranean sea and was awarded the FEE's Blue Flag as well as 5 Helms by the Registro Italiano Navale. Ingemar is especially proud of having contributed to the success of the Marina by installing five floating piers which complete the port's layout. The pontoons forming the piers, 35 elements altogether with dimensions of 12x3m, are of the all-concrete type in reinforced concrete with a displacement of 16t and a freeboard of 60cm, and are anchored by piles. The deck is composed by staves made in WPC (Wood Plastic Composite) in line with the previous installations. Yachts up to 36m now moor along the new piers. By the end of 2016, Ingemar will supply and install a further pier which will complete the marina layout. This pier will be 100 m long, it will include pontoons of the same all concrete type and it will be dedicated to superyachts.

Marina D'Arechi's president, cav. Agostino Gallozzi, honoured Ingemar with an appreciative testimony of its contribution to the success of the new marina: "We are truly pleased to vouch for the added value which Ingemar's pontoons have conferred on the Marina's moorings with their quality, stability and comfort." A great working experience in a very cooperative environment enriched by the dedication and the enthusiasm of the people involved.



## A showcase for unique creations

Venice and the Lagoon are the ideal setting for installing special floating structures which can cope with these extreme tidal fluctuations and, because of their modest dimensions and a constant low level surface aspect, they also have a low environmental impact.

The anchorage system of poles, minimising interference with the delicate hydromechanical equilibrium of the Lagoon, has contributed to the continued success of floating structures in many situations. There are many installations by Ingemar in the Venetian lagoon, both in the tourist harbour sector as well as that of the floating structures for the Venetian water taxis and both tourist as well as working craft.

The efficiency of floating breakwaters in a lagoon characterised by short length and contained wave motion, means that economic barriers can be employed which are both functional and have a low impact. The practicality of floating crossings and mooring pontoons for motor vessels has convinced the city's administration, as well as both the operators and the consumer, of their validity and encouraged technicians to adopt floating solutions for further innovative structures.

It took time to convince the Venetians and overcome their diffidence when confronted by changes so different from their traditions. Structures fixed to poles have centuries of history; it took 5 years of activity by Ingemar before the first structure was installed in a shipyard in Mestre in 1984!

In the years that followed these new features have gradually become more common in the services sector; for moorings and special structures. The following is a list of the more important installations: pontoons and floating breakwaters for recreational yachts at Sacca della Misericordia, at Consorzio Cantieristica Minore and at Diporto Velico Veneziano; landings for the Venetian vaporetto at Sant'Elena, Certosa, Tronchetto and Punta Sabbioni; floating pedestrian walkways on the Giudecca canal and the Canal Grande; piers at the Venice passenger terminal for tourists, floating pavilions for the Venice Architecture Biennale and pontoons for the Americas Cup and the Italian Coast Guard at Arsenale; bespoke pontoons for the Hospital entrance, for depot of the vessels which collect the city's rubbish, for access to hotels and residences and for the refuge port of MOSE (the Venice flood barrier project); at the floating port of Tronchetto with approximately 900m of pontoons, piers and a floating bridge for an ad hoc project for 250 working vessels. New tourist harbours in the Venetian lagoon have also installed Ingemar's elements: Marina di Portegrandi, the harbour at the Parco Archeologico e Naturalistico in the north lagoon, with 300 berths from 8-18m,



the marina of Vento di Venezia, created to salvage an abandoned area on the island of La Certosa with 320 berths up to 35m, Marina St. Elena, which can be reached on foot from Piazza S. Marco, with 150 berths up to 40m and an entire floating harbour at Marina Fiorita at Treporti with 130 berths up to 22m.

So as can be seen the Venetian Lagoon is splendid testimony to Ingemar's ability to construct over water and not only for the yachting sector.

Over the last three years the difficult economic situation, especially within the yachting sector, has prompted greater prudence in the private investment sector. However, the energetic marina of Vento di Venezia has countered this trend.

Created in 2003, this marina was responsible for the reevaluation of the island of La Certosa which is one of the Lagoon's most evocative sites and close to the vaporetto stop at Piazza San Marco.

The number of berths has increased over time with new mooring structures which have grown in parallel with its receptive capacity, services, dockyard and hangars. In 2014 new important projects were implemented: a barrier using high displacement breakwater elements, 4m widths and 20m lengths weighing 70t, ensure protection for the new pontoons and fingers from wave motion making this a true floating harbour facing Venice.

The new harbour, fully supplied with all services and destined predominantly for Mega Yachts, has 11 new berths up to 35m adding to the existing 300 berths from 10 to 35m.

In the public works' sector there have been numerous important ventures.

At the new headquarters of the ACTV Venezia (Venetian public waterbuses) a floating harbour on Isola del Tronchetto, protected by 600m of floating breakwaters, is nearing completion.

The new modules, 20x3m and 2.05m in height, have a displacement of 55t per element and a freeboard of 75cm: the surface finish is in exposed concrete. Within the area protected by the breakwaters a series of pontoons and floating piers ensure moorings for the water taxis and the public transport vessels. All floating elements are anchored to the seabed by steel piles. Two projects to modernise the Venetian public transport moorings at the airport harbour have been completed. Firstly a series of floating fingers were installed to be used by passengers of the water taxis, and secondly a number of ad hoc platforms and pontoons for the use of the vaporetti. The platforms follow a complicated layout according to their functions and the canopy systems.

All the structures have extremely high performance characteristics and finishings according to their specific use and surrounding environment.

Ingemar has also constructed many new special landings for tourist vessels and tourists visiting the Lagoon.



## BARI

### Barion Sporting Club upgrades its moorings

The "Circolo Canottieri Barion Sporting Club" has concluded a series of alterations to its celebrated headquarters on the cities' waterfront.

In cooperation with Ingemar, the Club has installed new finger pontoons of the King Size series which have been layed at right angles to the pier.

At the far end a large floating pier, 4m wide and delineating the mooring space, is placed at right angles and its moorings on the sheltered side of the pier can take yachts up 25m long.



## S. GIORGIO DI NOGARO (UD)

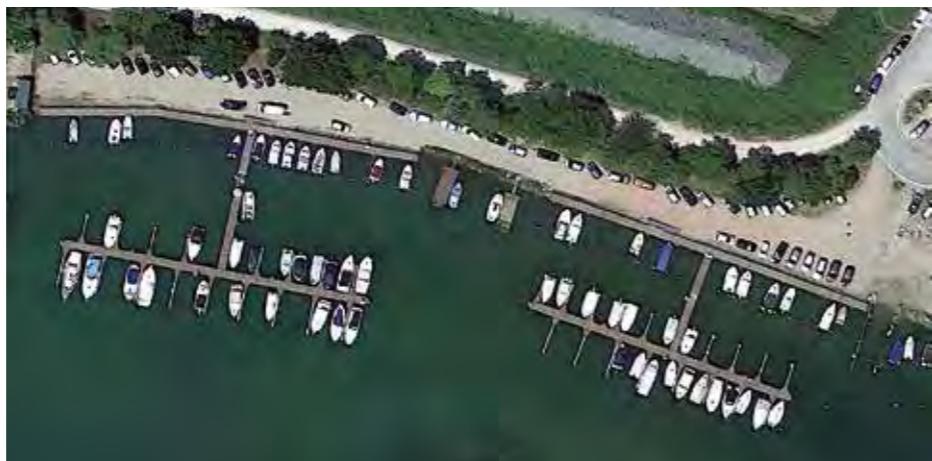
### Reorganisation of the mooring at the Circo Nautico Laguna San Giorgio

It is infrequent for amateur sailing clubs, which for years have existed using dysfunctional homemade moorings, to decide to rearrange their moorings in a more rational manor, and turn to the experience of Ingemar. Nor is it often that suppliers with whom we frequently work, such as Opemar, will take the helm of a commission and Ingemar instead becomes their supplier!

At the end of 2014, to create moorings for 120 yachts from 6-10m in the lagoon between Marano and Grado, two landings were installed which from above seem like 2 large letter Hs, both characterised by a narrow pontoon (160cm) so as to minimise any obstruction.

The layout of each landing is created by a fixed pontoon parallel to the quai supported by steel piles, 70m long (following the shape of the shoreline), a central floating arm (30m long) and perpendicular to the pier to which the floating pontoon (60m long) is fixed forming a T and the whole completed with mooring poles of 6-8m.

Anchorage is by poles and access is on wide floating walkways.



## LUKA VOLME - CROAZIA

### A floating marina in the bay of Banjole

Istria, with its natural beauty combined with a rich history and splendid architecture, has become a popular destination for yachtnowers in the upper Adriatic.

Amongst the many destinations for yachting tourists the small marina of Mr. Branimir Mezulich, Luka Volme d.o.o., is especially favoured for its beautiful surroundings, peace and tranquility of the moorings and the welcoming assistance of the marina's personnel.

Ingemar is particularly pleased to have contributed to the success of this initiative.



## TIVAT - MONTENEGRO

### The "Monte Carlo of the Adriatic" expands - a popular destination for the elite

Porto Montenegro, inaugurated in 2009, has seen gradual growth each year in its mooring availabilities. At the beginning of 2014 the second part of works, Phase 2, was begun including new structures on land and a radical enlargement of the marina overlooking the spectacular Bay of Kotor; a Unesco World Heritage site. The opening of the Regent Porto Montenegro Hotel at the beginning of August coincided with the completion of the installation of new floating pontoons. To the existing 250 berths, from 12 - 150m, a further 185 have been added, 50 of which for yachts of over 50m in length. Ingemar continues to be a reliable partner for client-investors and for this new extension has completed, on behalf of the Montenegro firm Yu Briv (the main contractor for all works of Phase 2), approximately 600m of new pontoons of 2.5, 3 and 4m widths. Four long fingers at right angles to the external fixed pier will allow the mooring of 97 mega yachts up to 25m long, while the other pontoons parallel to the wharves will be for smaller yachts, fuel stations and the marina's service vessels. With this final delivery Ingemar completes the supply of its extensive range of products and technical solutions in the breath taking setting of this amazing residential port development in Montenegro. The marina is largely protected by floating breakwaters, the yachts are moored to pontoons and jetties of different sizes and functions, the piers are surrounded by floating and fixed made-to-measure structures and the berths have service stations, firefighting terminals and pump-out systems. Anchorage of the structures to the sea floor are also differentiated: chains and deadweights, fixed pilings to the seabed and sliding devices, vertical beams fixed to the quays. These are an exhaustive testimony to Ingemar's design versatility, flexibility and diversification for their construction projects.



## MARZAMEMI (RG)

### The Club Nautico Marzamemi completes its floating harbour

Marzamemi, an ancient seaport on Sicily's southern coast, it is an architectural jewel with a warm and welcoming atmosphere. The yacht club is the creation of a young lover of sailing, Salvatore Avarino, who with enormous dedication has been able to create an extremely respectable business in the yachting world of Ragusa.

The landings, close to the animated city centre, were completed in 2015 with the installation of the last segment of pier. The installation includes steel pontoons with floating units in concrete and wood surface finishing, anchored by chains and deadweights to moor yachts with length from 6 to 12 m.



## ARABIA SAUDITA

### A new series of landings on the coastline of the Red Sea and the Arabic Gulf are being installed

Ingemar's cooperation continues with the Kingdom of Saudi Arabia to renovate their coastal bases and to create new mooring locations along the country's coastline, both on the Red Sea and on the Arabic Gulf. Following the positive feedbacks from previous supply contracts for floating platforms for boats up to 12m length, the first half of 2016 saw Ingemar involved in the fabrication and installation of floating platforms for boat up to 16 m.

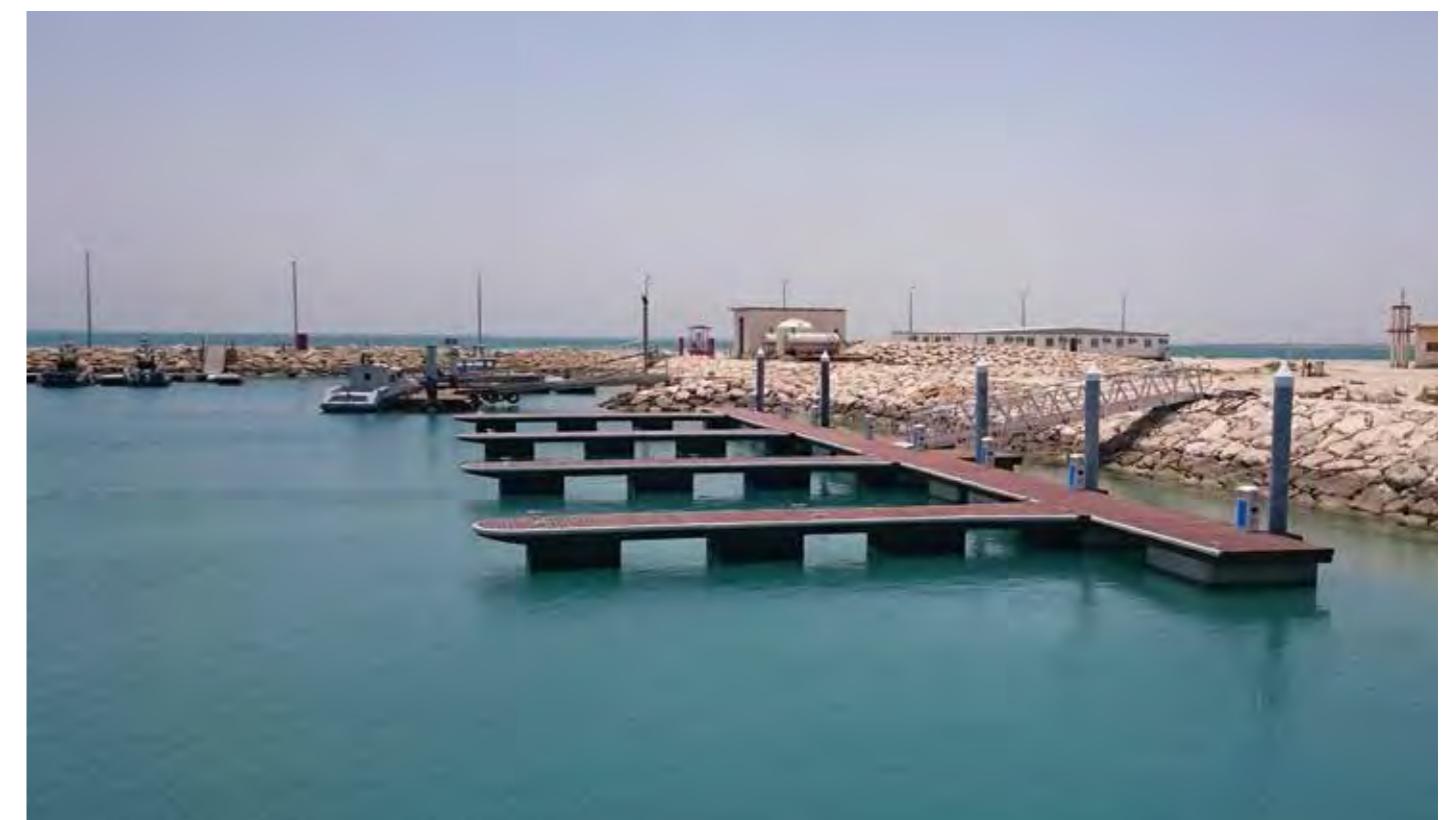
The various site situations (i.e. rocky quays, sandy beaches, R.C. quays and islands not accessible by standard lifting equipment) required the adoption of different installation solutions, each time specifically designed with respect to the peculiar site situation.

Piles driven in the sea bed and anchored to the platforms with pile guide devices, beams fixed to the vertical R.C. quays or horizontal rods anchored to the land by means of R.C. plinths placed on the rock of the quays or the sand of the beaches represent the alternative solutions developed ad hoc for each location to adapt each floating platform to its peculiar site characteristics and weather conditions.

The Heavy Duty structures are built of marine grade aluminium alloy or of hot dip galvanised and painted steel, based on the boats dimensions and weather conditions of the sites. Even the floating units types, made by concrete or rotomoulded polyethylene cover and filled with closed-cell expanded polystyrene core, vary according to the



specific conditions of each site. The common and most important assets of these landings are again sitting in their high structural capacity, suitable for heavy duty use even in not perfectly sheltered locations, in combination with a modular layout which facilitate the expansion, adjustment and relocation to a different installation site of the floating platforms. This aspect in particular allowed to promptly respond to the needs of the client, even in an advanced stage of the project. The structures, designed for easy transport in containers, were fabricated in Italy (in Ingemar's factory in Casale sul Sile) as per the express instructions of the client: this is yet another indication of the appreciation of Ingemar's 'Made in Italy' quality and its capacity as designer and general contractor within the difficult Saudi Arabian market. Year 2016 saw Ingemar also involved (for the first time in Saudi Arabia) in the design and supply of floating breakwaters to protect the floating platforms to be installed in sites subject to a significantly rough wave climate. These are made by 20 x 4 x 2m monolithic reinforced concrete elements with a closed-cell expanded polystyrene core, built in Italy, delivered to Saudi Arabia by ship and then transported to the installation sites by truck. The anchoring of the elements is assured by chains and dead weights placed on the seabed. The overall floating breakwater length installed sums up to 240 m, covering an area of 480 square meters. After the positive feedbacks received on the previous supplies, Ingemar has recently won a further tender for the design, supply and installation of new floating platforms on the East and West Coasts of the country, to be completed within 2017.



## RICERCA E SVILUPPO

### Laboratory testing and sophisticated calculation programmes for second generation breakwaters

The growing interest for floating breakwaters, which create additional mooring space, and the necessity to overcome their current functional and end use limitations, have always represented a challenge which Ingemar has confronted with since its early days to the point that the company is now at the forefront of this sector.

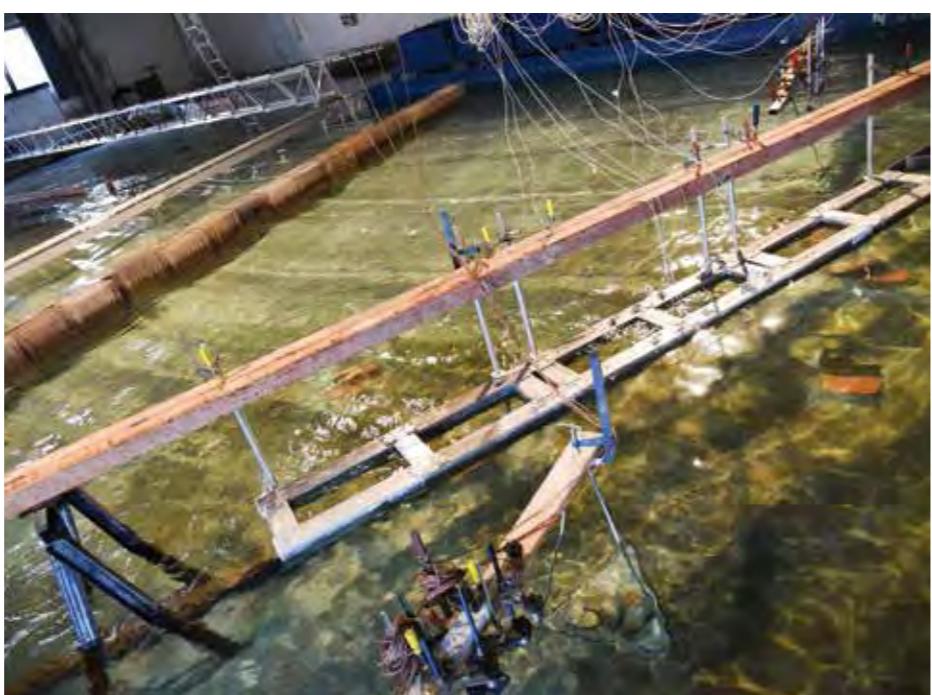
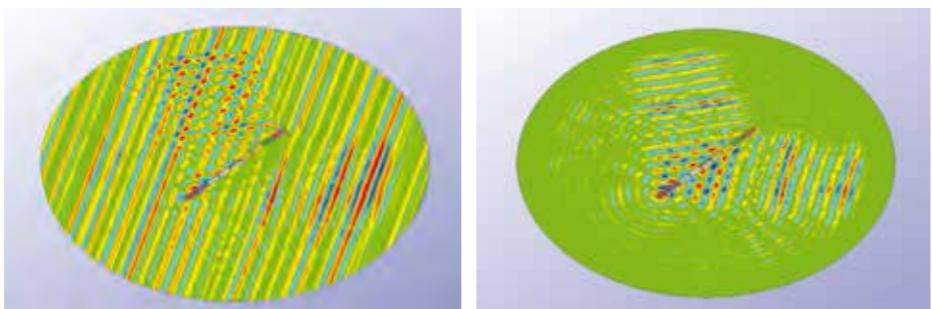
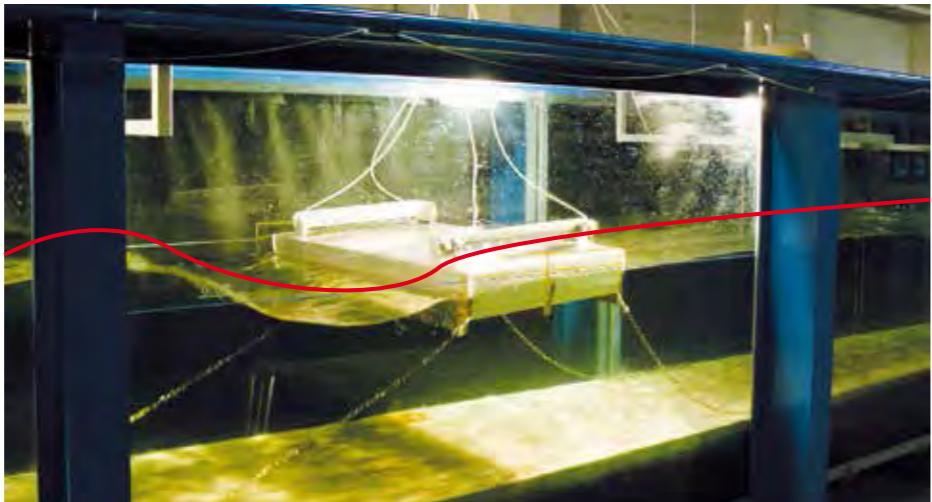
The installation at Gocek in Turkey in 2013, with 280m of breakwaters using elements of 20x6x2.4m with a freeboard of 80cm and 130t of displacement, is probably the deployment of off the shelf elements with the greatest performance in the market to date.

The final design of the elements was conducted by the company's own team whereas the wave flume testing essential to define the capability to attenuate wave motion and the forces on anchorages, was carried out by the laboratory of Maritime Constructions of the Università degli Studi of Padua whom Ingemar has worked with for many years.

Foreseeing a growth in commercial interest for these systems, which diminish wave motion, and to widen their applicability range Ingemar has recently completed a 13 month research programme which focused on the analysis and design of new elements with even greater width (8m-12m) and displacement (150t), and using a new longitudinal coupling system.

In order to better understand the dynamic performances of the elements, Ingemar has acquired new hydrodynamic software which numerically analyses the effects of waves, wind and currents on floating structures. The numerical modelling is developed by Ingemar's team of engineers from its technical department with support from the specialists who designed this software. The results of the numerical modelling were compared with those from physical model tests on the same elements, conducted in the wave flume at the University of Padua, both in terms of their capacity to diminish wave motion as well as of the forces applied by the waves on the anchoring systems. In future, the calibration of the numerical model and the physical model will allow studying specific applications with adequate reliability and evaluating the correct solutions for each project.

This will allow Ingemar to further enlarge its range of services for clients and to supply each one with 'personalised' information concerning the site of installation and the effects of floating breakwaters from their production range. The R&D activities of Ingemar will continue in the next months when the idea of modular floating breakwater elements will be pushed further ahead.



## STABILIMENTO INGEMAR

### Ingemar's plant at Casale sul Sile expands production facilities for large reinforced concrete elements

For the past 10 years the Ingemar group's production has been concentrated at its factory at Casale sul Sile, halfway between Treviso and Venice, whereas the offices in Milan continue as the administrative and financial centre. The production site, owned by Ingemar T&S, comprises a surface area of 2,000 sqm of offices and plant and a further 5,000 sqm for the loading, moving and storage of materials as well as the construction of prefabricated elements within dedicated retractable warehouses. Growing demand for pontoons and floating breakwaters in reinforced concrete, combined with tight schedules for completing projects, has led to increasing the range of production facilities and equipment dedicated to these huge elements.

Parallel to production equipment for the fabrication of the pontoons up to 12x3x1,20m, a new prefabricated depot has been installed housing a large modular mould for the production of breakwaters 20x4x2,40m and wider. Furthermore, two additional formworks for pontoons up to 12x3x1,6 m will be installed shortly inside the factory.

A new construction crane covers almost the entire casting yard area so as to move materials on stock and to facilitate the preparation of Castings. This was an important investment for the company, driven not only by the consideration that there is a growth in demand for these huge structures, but also by the conviction that only within a specially equipped area using a specialist workforce supervised by technical personnel it is possible to assure quality and the highest standards that are essential for the production of these large and complex structures.



## EVENTI SULL'ACQUA

### Ingemar's pontoons boost nautical shows, sport events and yacht races

Notwithstanding the crisis in the yachting sector, a strong desire for recovery and some signs of improvement can be seen. The main yachting exhibitions combined with a renewed interest in sailing and watersports are a positive sign and Ingemar, as a technical sponsor, continues to support organisers and participants of these events. The Group's continued presence over the years at the main sailing events is confirmation of their leadership at a national level. Many shows at both national and international level saw the permanent installation of Ingemar pontoons destined for future sailing events. Because of their adaptability and strength, the floating elements by Ingemar allowed optimising the layout of the water exhibition areas of Genoa and Venice boat shows, and they were the perfect partner of sailing races such as the Naval Academy in Livorno and The Gargano Regatta.

Additionally this year saw temporary installations for Blu Roma at the port of Ostia, those for the historic sailing ships gatherings at the Riva shipyard at Sarnico and at Venice, the world canoeing and paracanoeing championships at the Idroscalo in Milan and Coppa Primavera and Campionati Nazionali Giovanili Classi in Singolo at Trieste.



# **INGEMAR**

Ingegneria Marittima

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# MARINA D'ITALIA

Eppur si muove. Il sistema portuale italiano finalmente dà concreti segni di ripresa. In collaborazione con Panama Editore e *Il Giornale della Vela* abbiamo analizzato i nuovi marina in costruzione lungo le coste dello Stivale e aggiornato le caratteristiche dei più importanti approdi turistici italiani. Ci auguriamo che questo opuscolo possa esservi d'aiuto per pianificare rotte piacevoli e ancoraggi sicuri lungo le coste del Paese più bello del mondo. Buon vento!

**2016**

Estratto in collaborazione con *Il Giornale della Vela*

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**INGEMAR**  
Pontili e costruzioni sull'acqua

# Il momento è adesso

Dopo anni di immobilismo, si sta lavorando per aumentare notevolmente l'offerta di posti barca.  
Facciamo il punto e capiamo come migliorerà il turismo nautico

Ce lo siamo ripetuto per anni: in Italia non ci sono posti a sufficienza nei porti e di conseguenza gli italiani non comprano la barca. In parte, ma solo in parte, il discorso era corretto. La situazione però adesso appare in una fase di vero cambiamento. Dopo tanti proclami sono partiti i lavori per la realizzazione di tanti nuovi marina lungo le coste dello Stivale, soprattutto nel centro e sud Italia. Perché? Perché si è finalmente capito che il diporto porta un grande beneficio all'economia del luogo e chilometri di costa non valorizzati in Sicilia (per fare un esempio), possono diventare un vero e proprio toccasana.

### COME SONO CAMBIATI I MARINA

Anche perché sempre di più i porti sono diventati veri centri di aggregazione. È finita l'epoca dei marina isolati, dedicati solo ed esclusivamente a marinai duri e puri. Oggi si sono arricchiti con negozi, ristoranti e centri di assistenza che ne fanno dei veri e propri "paesi". Oggi la situazione è radicalmente cambiata, anche in termini di costi: infatti i prezzi non sono aumentati dal 2008 a oggi, anzi in alcuni casi sono addirittura scesi. Il Sud Italia è cresciuto molto, sia in termini di posti che in termini di servizi. Se prima i marina meridionali erano "abitati" soprattutto nella stagione estiva, oggi il discorso è cambiato. Sono sempre di più gli armatori che spostano, per esempio in Sicilia, la propria barca, anche se abitano nel nord Italia. Questo grazie all'esplosione delle compagnie aeree low cost. Facciamo un esempio: un volo da Milano a Trapani, Palermo o Catania si trova a partire da circa 40 euro. In questo modo un

armatore può cambiare ogni due o tre anni la propria area di navigazione. Questo è un aspetto molto importante del turismo nautico, che si sta trasformando di conseguenza. Se un tempo andando in crociera difficilmente ci si "preoccupava" di scoprire anche le bellezze dell'entroterra, oggi la situazione si è modificata. E i porti si stanno adattando. Tra i servizi che molti offrono ai propri clienti (stanziali o di passaggio) ci sono anche quelli turistici (con i tour enogastronomici in testa). Alcuni marina, poi, stanno realizzando vere e proprie "App" che permettano ai diportisti di tenersi sempre aggiornati e di poter persino richiedere e prenotare eventuali interventi sulla propria barca: dalla pulizia alle riparazioni di ogni tipo.

### LA SITUAZIONE: OGGI E... DOMANI

Siamo partiti a parlare della situazione portuale italiana dal Sud Italia, vediamo perché, seguendo i dati forniti da Assomarinis (l'Associazione Italiana Porti Turistici, [www.marinas.it](http://www.marinas.it)), presentato anche alla Camera dei Deputati. Oggi nel Tirreno Meridionale e in Sicilia ci sono circa 29.000 posti barca divisi in trentasette marina (783 posti barca di media). Con quelli oggi in costruzione, arriveremo ad avere altri 7340 posti, per un totale di cinquantatré porti. Una crescita notevole. Rimanendo in Tirreno, ma partendo da nord, Liguria e Toscana insieme oggi contano ben 38.500 ormeggi (suddivisi in trentotto marina); una cifra destinata ad aumentare ulteriormente di 2770 posti, per un totale di oltre 41 mila posti barca dislocati in 44 marina per una media di oltre 900 posti ciascuno. Ma a farla da padrone è il Tirreno

centrale, che già oggi dispone di 41.000 posti barca, che diventeranno 45.869 (4.869 in più).

In Lazio e Sardegna i marina diventeranno ben cinquantotto, rispetto ai quarantotto odierni.

è il Tirreno centrale, che già oggi dispone di 41.000 posti barca, che diventeranno 45.869 (4.869 in più).

In Lazio e Sardegna i marina diventeranno ben cinquantotto, rispetto ai quarantotto odierni. Se ci spostiamo in Adriatico, il discorso si fa differente: qui infatti pur essendoci, come vedremo tra poco, un discreto fermento in termini di posti barca, lo sforzo degli addetti ai lavori si concentra di più sull'ottimizzazione dei marina esistenti, essendo questo tratto della costa italiana il meglio presidiato in assoluto. Comunque, ai trentamila posti barca esistenti nell'Adriatico settentrionale, se ne aggiungeranno nei prossimi anni altri 1.760 (con sei nuovi marina previsti). L'Adriatico centrale, che già da alcune stagioni sta realizzando un'intensa politica di ammodernamento, passerà da 22.500 a 25.120 ormeggi (+ 2.620) con nove nuove strutture. In totale, quindi, passeremo dall'avere 194 marina a un totale di 241. Un numero interessante, tenendo conto anche dei molti ampliamenti già in corso e che andranno ad arricchire ancora di più l' offerta su scala nazionale.

## E I PREZZI?

Lo abbiamo accennato prima: il prezzo del posto barca negli ultimi anni si è livellato in tutta la penisola. A risultare più conveniente, oggi, prendendo come esempio uno scafo di dodici metri, è l'Adriatico settentrionale, con una spesa media annua di 4.750 euro. Esattamente dalla parte opposta dello Stivale, tra Liguria e Toscana, troviamo le tariffe più alte, che si aggirano, sempre per lo stesso tipo di barca, sui 7.000 euro all'anno. Si conferma, e non è più una sorpresa, tra le regioni più convenienti, la Sardegna. Perché? Perché se facciamo la media tra i prezzi (alti e altissimi) della stagione estiva e quelli fuori stagione scopriamo che tenere la barca nell'isola sarda può essere davvero conveniente.

GdV

## L'UNIONE FA LA FORZA

C'è poi un altro aspetto che spesso viene lasciato in secondo piano, ovvero la crescita di veri e propri network di marina e porti turistici, capaci insieme di fornire servizi che una singola realtà non sarebbe in grado di dare. Una soluzione che sta prendendo sempre più piede e che offre alcuni interessanti spunti. Come il fatto che un unico armatore, appoggiandosi a queste reti di porti, può organizzare le proprie navigazioni potendo prenotare (magari con condizioni vantaggiose) il proprio posto al transito in un altro dei marina del network.

## CAOS MARINA RESORT: TUTTO RISOLTO?

Sembrava la soluzione ideale per abbattere i costi dei porti italiani: stiamo parlando dei Marina Resort. Per capirci meglio, io posso stipulare un contratto di ormeggio stagionale con il Marina Resort in questione: sarà a sua discrezione il regime da applicare (se al 10 o al 22%), proprio come avviene nel settore, ad esempio, dei camper. E ricordiamo tra l'altro che il porto dovrà adeguare (proprio come per gli alberghi e i camping) le sue strutture alla ricezione, e in base a quelle sarà classificato. Già, perché per diventare un marina resort, un porto deve raggiungere determinati requisiti in termini di servizi e accoglienza, che al momento variano da regione a regione, poiché in materia di turismo le normative regionali prevalgono su quelle nazionali. Tutto chiaro e apparentemente inattaccabile. Se non fosse che la Regione Campania, nella primavera di quest'anno, si era rivolta alla Corte Costituzionale per annullare la norma: assurda richiesta prontamente accettata. Sembrava quindi che fossimo tornati indietro di tre anni e, mentre alcune regioni, come la Sardegna, sono prontamente corse ai ripari emanando leggi ad hoc, è subito partito il conto alla rovescia in ambito politico per sistemare il problema. È così che a metà giugno la Conferenza Stato-Regioni ha approvato il nuovo decreto attuativo dei Marina resort, che rende nuovamente operativa l'applicazione dell'IVA turistica al 10% agli ormeggi a breve.

PORTI E LOCALITÀ	TELEFONO - FAX	E-MAIL - SITO	CANALE VHF	N. POSTI TOTALE	N. POSTI TRANSITO	LUNG. METRI	PROF. METRI	ALAGGIO MAX IN TONNELLATE	AFFITTO ANNO			AFFITTO GIORNI. (ALTA STAG.)		
									9 METRI	12 METRI	18 METRI	9 METRI	12 METRI	18 METRI
<b>MAR LIGURE</b>														
1 <b>Marina di Sant'Ameglio</b> Bordighera (IM)	0184 266688 0184 265656	ufficioporto@bordighera.it www.bordighera.it	9-16	250	35	max 20	3-5	25	1.4/1.700	2/2.200	3.2/3.500	15/20	20/30	35/45
2 <b>Portosole C.N.I.S.</b> Sanremo (IM)	0184 537411	info@portosolesanremo.it www.portosolesanremo.it	9	804	40	7-90	2,5-7	750	-	7.100	12.900	25/45	30/50	60/100
3 <b>Marina degli Aregai</b> S. Stefano al Mare (IM)	0184 489200	info@marinadegliaregai.it www.marinadegliaregai.it	9	898	-	6-40	3-7	100	4.900	6.600	12.500	25/35	35/55	60/100
4 ● <b>Marina di San Lorenzo</b> San Lorenzo al mare (IM)	0183 9352 0183 931418	info@marinadisanlorenzo.it www.marinadisanlorenzo.it	9	365	37	6-20	3-5	-	5.150	7.200	11.400	38	55	90
5 ▲ <b>Porto di Imperia</b> ◆ Imperia Porto Maurizio (IM)	0183 62679 0183 62112	info@portodimperia.it www.portodimperia.it	9	1293	130	5-90	5/6	130	6.000	7.200	12.800	45	55	100
6 Gestioni Municipali Diano Marina (IM)	0183 426860 0183 495131	porto@gestionimunicipali.com www.gestionimunicipali.com	16	250	10	5-15	1,5-2,5	15	2.800	4.800	6.800	20	35	50
7 ▲ <b>Cala del Forte</b> Ventimiglia (IM)	340 1859397	g.mascolo@ruppocozziparodi.it www.caladelforte-ventimiglia.it	24	300	-	6,5-45	-	-	-	-	-	-	-	-
8 <b>Marina di Andora</b> Andora (SV)	0182 88313 0182 681707	info@portodiandora.it www.portodiandora.it	9	852	79	max 20	2-4	30	3.400	5.000	9.500	25	70	80
9 ◆ <b>Marina di Alassio</b> Alassio (SV)	0182 645012 0182 648655	info@marinadiallassio.net www.marinadiallassio.net	9	400	500	5-35	1-3	30	3.200	5.000	8.700	35	60	100
10 ● <b>Porto di Loano</b> Loano (SV)	019 675445 019 669264	info@marinadiloano.it www.marinadiloano.it	9	827	100	40	3,5-5	8	5.950	7.650	17.000	58	75	166
11 <b>Porto Poseidon</b> Borghetto Santo Spirito (SV)	0182 990038 0182 991211	info@portodiborghetto.it www.portodiborghetto.it	9	200	-	0/840	2,5	40	-	-	-	-	-	-
12 Capo San Donato Finale Ligure (SV)	019 603290 019 6049756	porto@finaleambiente.it www.comuneinfinaligure.it	16-69	565	15	4-17	1,5-3,50	3,5	560/2.600	3.1/4.700	5.8/200	10/20	25/35	40/60
13 <b>Marina di Varazze</b> Varazze (SV)	019 935321 019 9353250	giorgio.casareto@marinadivarazze.it www.marinadivarazze.it	9	800	71	10-35	3-6	100	-	-	-	-	-	-
14 ● <b>Marina Molo Vecchio</b> Genova	010 270111 010 2701200	mmv@mmv.it www.mmv.it	71	160	-	90	s. limiti	300	5.5/6000	8/8.500	12/12.500	40	55	90
15 <b>Marina Porto Antico</b> Genova	010 2470039 010 2516910	porto@marinaportoantico.it www.marinaportoantico.it	74	280	27	10-55	2-6	75	-	8.500	15.000	40	50	100
16 ◆ <b>Marina Genova Aeroporto</b> Genova	010 6143420 010 6531558	info@marinagenova.it www.marinagenova.it	71	500	50	8,5-125	15	25	4.700	6.250	11.300	42	58	104
17 Porto Carlo Riva Rapallo (GE)	0185 6891 0185 63619	info@portocarloriva.it www.portocarloriva.it	9	400	-	max 75	2,5-9	25	8/9.000	13/14.000	22/23.000	55/65	110/120	170/180
18 <b>Marina Chiavari</b> Chiavari (GE)	0185 364081 0185 1871260	info@marina-chiavari.it www.marina-chiavari.it	10-16	459	35	6-25	2,5	40	6.799	9.104	15.148	40	55	90
19 <b>Porto di Lavagna</b> Lavagna (GE)	0185 312626 0185 300211	reception@portodilavagna.com www.portodilavagna.com	9-16	1400	140	8-50	2,3-5,9	350	5.200	7.700	17.600	40	45	95
20 ● <b>Marina del Fezzano</b> Fezzano di Portovenere (SP)	0187 790513	info@marinadelfezzano.it www.marinadelfezzano.it	9	250	24	25	6	60	5/6.000	7/7.500	9/10.000	40/50	50/60	110/130
21 ◆ <b>Portovenere</b> Portovenere (SP)	0187 793042 0187 793042	portodipotovenere@portodipotovenere.it www.portodipotovenere.it	9	32	6	10-50	1-4	5	-	-	-	50/60	60/80	90/120
22 <b>Porto Lotti</b> La Spezia	0187 532201 0187 532244	ufficioporto@portolotti.it www.portolotti.com	9	530	50	12-60	3-9	160	-	9.960	16.440	-	108	216
23 ● <b>Porto Mirabello</b> La Spezia	0187 778108 0187 731202	dir@portomirabello.it www.portomirabello.it	73	470	39	25-100	3,50-9	160	-	10.000	17.000	-	90.00	180
24 <b>Marina 3 B</b> Sarzana (SP)	0187 676370 0187 676380	info@marina3b.it www.marina3b.com	16	150	-	8-24	-	40	SU RICHIESTA	-	-	-	-	-
25 <b>Darsena Arma di Taggia</b> Arma di Taggia (IM)	0184 41 021	info@cnarma.it www.cnarma.it	16	122	3	9	2-3	9	2.000	-	-	26	-	-
26 <b>Marina di Portofino</b> Portofino (GE)	0185 269388	info@marinadiportoфино.com www.marinadiportoфино.com	12	12	16	-	4,5	8	-	-	-	67	96	135
27 ● <b>Porto Alberto de Benedetti</b> La Spezia	0187 728263 0187 738368	assonauticaspi@libero.it www.assonauticaspi.it	71	650	65	5-13	2-6	0	-	-	-	29	37	39
28 ◆ <b>Porto di Arenzano</b> Arenzano (GE)	010 9125172	posta@portodilarenzano.it www.portodilarenzano.it	9	185	21	20	3	40	6.900	10.000	18.600	40	50	95
29 <b>Porto di Bocca di Magra</b>	0187 608037	info@amegiliaserizi.it www.portoboccamagra.it	8	210	20	30	3-4	0	4.900	8.700	14.500	36	48	72
30 <b>Porto Tur. San Bartolomeo al Mare</b> San Bartolomeo Al Mare (IM)	0183 409225 0													

## 239 MARINA D'ITALIA/TIRRENO SETTENTRIONALE, CENTRALE E MERIDIONALE

PORTI E LOCALITÀ	TELEFONO - FAX	E-MAIL - SITO	CANALE VHF	N. POSTI TOTALE	N. POSTI TRANSITO	LUNG. METRI	PROF. METRI	ALLOGGIO MAXIN TONNELLATE	AFFITTO ANNO			AFFITTO GIORNI. (ALTA STAG.)			
									9 METRI	12 METRI	18 METRI	9 METRI	12 METRI	18 METRI	
38 Marina di Salvoli Piombino (LI)	0565 42809 0565 42824	info@marinadisalvoli.it www.marinadisalvoli.it	19-9	490	48	6-18	2,5-4	80	3/4.000	11.000	16.000	40	65	140	
39 ● Ormeggi Terre Rosse Colmata (LI)	0565 276640 0565 276640	info@ormeggioterrerosse.it www.ormeggioterrerosse.it	-	575	-	6-10	1,8-3	64	1,5/2.000	-	-	-	-	-	
40 Porto di Cecina Cecina (LI)	0586 620602 0586 622795	info@portodicecina.it www.portodicecina.it	9	536	15	max 40	-	-	-	-	-	-	-	-	
41 La Marina di Scarlino Scarlino (GR)	0566 867001 0566 866252	info@marinadiscarlino.it www.lamarinadiscarlino.it	72	950	59	2-40	4	100	6.6/8.00	9.050/10.3	19.650	50/60	80/90	170	
42 Marina di Punta Ala Punta Ala (GR)	0564 922217 0564 921086	info@marinadipuntala.com www.marinadipuntala.com	9	893	90	6-28	4,5	100	-	-	-	-	-	-	
43 Marina di San Rocco Marina di Grosseto (GR)	0564 330075 0564 33093	info@portodellamaremma.it www.portodellamaremma.it	9	557	54	max 14	max 2,5	20	4,5/5.500	7,5/8.000	-	35/45	55/65	-	
44 Marina Cala Galera Cala Galera (GR)	0564 833010 0564 831186	info@marinacalagaleria.com www.marinacalagaleria.com	9	670	60	6-50	3,5-6	320	-	-	-	50	65	135	
45 ● Club Nautico Marina di Carrara Marina di Carrara (MS)	0585 785150 0585 785364	club.nautico@tin.it www.clubnauticomarinadicarrara.it	74	190	10	27	2,5-5,5	7	2.100	3.300	6.900	18	24	36	
46 Porto di Rio Marina Rio Marina (LI)	0565 925050	www.rioservice.it	16	100	15	15	4	45	-	-	-	34	56	-	
<b>TIRRENO CENTRALE</b>															
47 Riva di Traiano Civitavecchia (RM)	0766 30201 0766 500696	direzione@rivaditraiano.com www.rivaditraiano.com	9	1180	113	9-42	2,5-6	120	4.000	7.000	15.000	35	60	120	
48 ▲ Porto del Tirreno Civitavecchia (RM)	0184 489209 -	ufficiopresidenza@gruppocozziparodi.it www.gruppocozziparodi.it	-	400	-	8-90	8	-	-	-	-	-	-	-	
49 Porto Odescalchi S. Marinella (RM)	0766 513005 0766 513005	info@marinadisantamarinella.com www.marinadisantamarinella.com	9-16	285	31	max 15	max 5	40	3,7/4.900	6.600	12.100	35/80	75/100	120/170	
50 ▲ Porto della Concordia Fiumicino (RM)	06 68216756	info@iniziativportuali.it www.iniziativeportuali.it	-	1445	-	16-60	4,5	-	-	-	-	-	-	-	
51 Porto Romano Fiumicino (RM)	6522724 06 56188236	marina@portoromano.com www.portoromano.com	73	200	30	10-30	max 3,5	70	6/6.200	6,5/7.000	14/15.000	40/54	44/62	95/130	
52 Porto turistico di Roma Ostia Lido (RM)	06 56188243 06 9848034	direzione.porto@portodiroma.com www.portoturisticaidiroma.net	74	794	83	8-53	3,5-4,5	400	3.400	5.500	11.500	35	55	95	
53 ▲ Porto Capo d'Anzio Anzio (RM)	06 98499311 06 98499345	info@capodanzio.com www.capodanzio.com	-	1080	-	-	-	-	-	-	-	-	-	-	
54 ● Marina di Nettuno Nettuno (RM)	06 9805404 0773 547336	segreteria@marinadinnetuno.it www.marinadinnetuno.it	9	970	93	6-40	min 3	600	-	-	-	35	70	105	
55 San Felice Circeo San Felice Circeo (LT)	0773 546184 0771 311013	info@circeoprimo.it www.circeoprimo.it	9	380	-	max 20	2,5-2,7	70	4.700	8.000	16.200	60	90	200	
56 Base Nautica Flavio Gioia Gaeta (LT)	0771 464580	info@basenautica.com www.basenautica.com	9	250	25	4,5-60	7	100	6/7.000	9/10.000	16/17.000	50/60	70/80	130/140	
<b>TIRRENO MERIDIONALE</b>															
57 ▲ Pinetamare Castel Volturno (CE)	-	www.portamarinadipinetamare.it	-	1200	120	80	7,5	400	-	-	-	-	-	-	
58 Nautica Sud Cantieri M. di Maglietta (NA)	081 5261140 081 5261140	info@sudcantieri.it www.sudcantieri.it	72	150	-	50	2-8	80	-	-	-	-	-	-	
59 ● Mergellina Napoli	081 7611633 081 5523450	www.incampania.com ormeggiatori@virgilio.it	-	9	50	-	10-30	1,5-10	50	-	-	-	-	-	
60 ● Borgo marinaro Napoli	081 7645517	-	60	15	max 22	6	-	-	-	-	-	-	-	-	
61 ▲ Marina di Vigliena Napoli	081 2457531	info@marinadivigliena.it	-	853	-	12-80	4-10	-	-	-	-	-	-	-	
62 Marina Porto Salvo Ischia (NA)	081 3334070 081 3331252	info@marinaischia.it www.marinaischia.it	74	100	20	5-40	2,5	-	8.800	13.500	26.900	150	190	280	
63 ● Cala degli Aragonesi Casamicciola, Ischia (NA)	081 980686 081 995666	www.caladegliaragonesi.it	-	9	150	16	7-20	max 4	-	5/6.000	8/9.000	16/17.000	60/80	90/110	170/190
64 ● Marina di Procida Procida	081 8969668 081 8969668	info@marinadi-procida.com www.marinadi-procida.com	6	491	49	7-30	1,5-3,5	-	3.110	6.040	11.280	40	82	152	
65 Marina di Capri Capri (NA)	081 8377602 081 8375318	info@portouristicaidcapri.com www.portouristicaidcapri.com	71	300	15	8-65	2-9	70	8/25.000	11/13.000	20/36.000	110/150	130/220	270/450	
66 ● Castellammare di Stabia Marina di Stabia (NA)	081 8716871 081 8727963	info@marinadistabia.it www.marinadistabia.it	69	900	100	9-80	3,5-6,5	220	5,4/5.600	8,4/9.500	15,7/18.900	80/90	85/100	160/190	
67 Marina d'Acrechi Salerno (SA)	089 2788801 089 2788809	www.marinadacrechi.com	74	1000	100	10-50	3,5-7	-	-	-	-	-	-	-	
68 ● Porto di Agropoli Agropoli (SA)	0974 824545 0974 824710	www.online.it/rca/luoghi/porto.html	16	900	150	3-40	max 4	-	-	-	-	-	-	-	
69 ● Porto di Camerota Marina di Camerota (SA)	0974 939813 0974 939184	info@portodicamerota.it www.portodicamerota.it	9	400	40	5-36	max 4,20	200	3.000	3.850	8.350	50	70	150	
70 ● Marina di Maratea Maratea (PZ)	0973 877307 0973 877115	info@portouristicomaratea.com www.marateaporto.it	6	600	20	45	max 7,5	40	4/4.500	5/5.500	7/7.500	35/80	40/110	80/150	
71 Porto Riva di Scidro Belvedere Marittimo (CS)	0985 849411	belvedere@guardiacostiera.it	12	300	30	6,50-20	max 2,5	18-20	5/6.000	7/7.500	12/13.000	45/55	70/80	110/120	
72 Marina Carmelo Vibo Valentia Marina (VV)	0963 572630 0963 575539	info@marinacarmelo.it www.marinacarmelo.it	12-16	260	30	4,5-72	max 7,5	360	1,5/2.000	2/3.000	3/4.000	25/35	35/45	60/80	
73 ● Marina Stella del Sud Vibo Valentia Marina (VV)	0963 573202 0963 573202	info@marinastelladel sud.it www.marinastelladel sud.it	16-10	250	40	6-60	10	500	2/3.500	3/4.000	5/5.500	35/50	45/65	90/120	
74 Porto turistico di Tropea Tropea (VV)	0963 61548 0963 609112	info@portoditropea.it www.tropea.biz	9	620	100	5-50	2,7-4	150	2.200	3.200	5.600	40	50	90	
75 ● Marina di Diamante Diamante (CS)	0985 876075	diamante@guardiacostiera.it	14	310	-	7,5-22	-	80	-	-	-	-	-	-	
76 Darsena Turistica Cetraro Cetraro (CS)	0982 978274 0982 91300	info@portocetraro.it www.portocetraro.it	10	500	30	40	40	50	2.000	3.000	5.500	34	46	86	
77 Porto di Amalfi Pontile M. Coppola Amalfi (SA)	089 857538	info@portodiamalfi.com www.portodiamalfi.com	13	300	40	35	11	12	-	-	-	72	80	120	

## 239 MARINA D'ITALIA/ADRIATICO SETTENTRIONALE

PORTI E LOCALITÀ	TELEFONO - FAX	E-MAIL - SITO	CANALE VHF	N. POSTI TOTALE	N. POSTI TRANSITO	LUNG. METRI	PROF. METRI	ALLOGGIO MAX IN TONNELLATE	AFFITTO ANNO			AFFITTO GIORN. (ALTA STAG.)		
									9 METRI	12 METRI	18 METRI	9 METRI	12 METRI	18 METRI
<b>ADRIATICO SETTENTRIONALE</b>														
117 Portoverde Misano Adriatico (RN)	0541 615023 0541 611445	info@portoverde.net www.portoverde.net	-	350	20	max 20	2,5-3,5	20	4/4.500	6/6.500	10/11.000	40/50	50/60	90/100
118 Marina di Rimini Rimini	0541 29488 0541 439043	www.marinadirimini.com	69	622	63	max 35	5	100	3.000	5.500	12.000	25	40	90
119● Marina di Cattolica Cattolica (RN)	0541 830789 0541 488021	info@marinacattolica.it www.marinacattolica.it	12	140	-	10-32	-	100	4340	6210	18.480	-	-	-
120 Onda Marina Cesenatico (FO)	0547 81677 0547 75747	ondamarina@tiscali.it web.comune.cesenatico.fc.it/turismo	11	300	25	max 23	3,5	50	-	-	-	-	-	-
121 Marina di Cervia p. village Cervia (RA)	0544 71709 0544 973845	info@mdresort.it www.mdresort.it	10	280	20	5-21	-	60	-	-	-	-	-	-
122 Marina di Ravenna (RA)	0544 531644 0544 531709	info@marinara.it www.marinara.it	10	1152	73	4-30	max 4,5	16	3.400	4.800	7.450	40	55	90
123● Marina degli Estensi Lido degli Estensi (FE)	0533 328428 0533 328428	info@portomarinaestensi.it www.lipromarinadegliestensi.it	16-9	300	-	7-25	4	50	3.300	4.400	8.400	35	60	100
124 Porto Barricata Porto Tolle (RO)	0426 89125 0426 89125	info@portobarricata.it www.portobarricata.it	9-16	300	10	5-13	max 1,90	250	2.600	3.700	-	30	50	-
125 Marina di Portoleante P.tto Viro (RO)	0426 666047 0426 666047	info@marinadiportoleante.it www.marinadiportoleante.it	9	525	50	6-25	2,5	30	2.750	3.900	6.200	30	40	75
126 Marina di Albarella Rosolina (RO)	0426 332600 0426 332270	porto@alarella.it www.marcegagliotourism.com	9	455	45	6-25	3,5	50	3/3.500	4.5/5.000	8.750	35	50/60	110
127 Marina di Brondolo Chioggia (VE)	041 490950 041 554297	info@marinabrondolo.it www.marinabrondolo.it	9	200	10	17	2,5/4	20	2/3.000	4/4.500	7/8.000	30/40	40/50	90/110
128● Darsena Le Saline Chioggia (VE)	041 400530 041 5500655	info@darsenalesaline.com www.darsenalesaline.com	9	450	30	5-35	3/5	35	3.100	4.800	9.700	35	55	115
129● Darsena Mosella Sottomarina di Chioggia (VE)	041 404993 041 405392	info@darsenamosella.it www.darsenamosella.it	-	220	20	max 16	max 3	40	2.900	4.500	-	30	50	-
130 Marina di Chioggia Valli di Chioggia (VE)	041 499722 041 5585009	info@marinachioggia.com www.marinachioggia.com	-	190	-	15	1,5/2,5	160	2.600	4.050	-	30	45	-
131● Vento di Venezia Isola della Certosa (VE)	041 5208588 041 5222497	info@ventodivenetia.it www.ventodivenetia.it	72	100	35	20	max 2,5	20	2/3.000	4/5.000	7/8.000	35/50	50/60	90/110
132 Darsena Dec Mestre (VE)	041 5310161 041 5312219	decarsena@decarsena.it www.decarsena.it	-	250	10	5-17	1,5	12	3.500	5.600	-	30	45	-
133 Marina di Lio Grandi Cavallino-Treporti (VE)	041 966044 041 5300872	marinadiograndi@libero.it www.marinadiograndi.com	3	200	10	4-60	1,5/6	12	2.800	4.400	8.900	30	50	110
134 Marina del Cavallino Cavallino-Treporti (VE)	041 968045 041 5370365	info@marinadelcavallino.com www.marinadelcavallino.com	69	400	40	6-25	2,5	50	3.500	5.300	11.100	40	60	135
135● Sant'Elena Marina Venezia	041 5301478 041 5309077	info@marinasantelenamare.com www.marinasantelenamare.com	-	300	-	10-30	-	-	-	-	-	-	-	-
136● Marina Fiorita Cavallino-Treporti (VE)	041 5301478 041 5309077	info@marinafiorita.com www.marinafiorita.com	77	160	30	6-50	4/6,5	-	2.700	4.100	7.900	30	50	100
137● Marina di Portegrandi Quarto d'Altino (VE)	0422 789046 0422 789046	info@portegrandi-yachting.it www.marinas.it	9	311	31	8-20	3,40	6,5-60	2.650	4.000	7.500	30	50	90
138 Marina del Faro Faro-Piave, Cavallino (VE)	041 968076 041 5370404	info@marinadefarlo.it www.marinadefarlo.it	-	110	10	7-16	2,3	15	2/3.500	4/5.000	-	30/45	45/60	-
139 Nautica Dal Vi Lido di Jesolo (VE)	0421 91616 0421 971486	ndalvi@dalvi.it www.dalvi.it	-	450	28	4-17	3,5/4,5	25	3/4.000	4/5.000	-	30/45	45/60	-
140● Porto Turistico di Jesolo Lido di Jesolo (VE)	0421 971488 0421 972568	info@portoturisticodijesolo.it www.portoturisticodijesolo.it	77	650	50	5-30	2-4,5	100	3/3.500	4/4.500	8/8.500	50/60	70/80	120/130
141 Mariclea Club Eracle Mare (VE)	0421 66261 0421 66438	info@mariclea.com www.mariclea.it	9-16	187	18	5-13	-	10	3.000	4.500	-	35	55	-
142● Marina 4 Porto S. Margherita (VE)	0421 260469 0421 261254	info@marina4.com www.marina4.com	16	450	40	4-25	max 3,30	40	3/4.000	4/5.000	9/10.000	30/50	50/70	100/120
143 Darsena dell'Orologio Caorle (VE)	0421 84207 0421 217113	info@darsenaeoroologio.com www.darsenaeoroologio.com	-	480	20	25	3	20	3.000	4.500	9.400	55	70	120
144 Darsena San Giorgio Venezia	041 5210723 339 4787488	segreteria@compvela.com www.compagniadelavelva.org	16	70	20	6-15	2,2-2,4	-	-	-	-	-	-	-
145 Marina Uno Lignano Sabbiadoro (UD)	0431 428677 0431 428677	info@marina-uno.com www.marina-uno.com	10	420	40	7-18	2,5/3	20	3/3.550	4.6/5.400	6.800	35/40	45/55	70
146 Marina Punta Verde Lignano Sabbiadoro (UD)	0431 42/131 0431 42/2790	info@marinapuntaverde.it www.marinapuntaverde.it	9	270	13	6-20	2,5	20	2.620	4.070	6.250	30	50	70
147● Marina Punta Faro Lignano Sabbiadoro (UD)	0431 70315 0431 70573	info@marinapuntafaroit.it www.marinapuntafaroit.it	9	1200	60	5-35	2,5-4	80	3.700	4.8/6.300	9.6/12.000	50	75	135
148 Darsena porto vecchio Lignano Sabbiadoro (UD)	0431 721383 0431 724763	www.lignanossabbiadoro.com	-	400	40	4,5-16	2,3-4	20	3.000	4.450	6.700	35	50	35/65
149 Marina Punta Gabbiani Aprilia Marittima (UD)	0431 528000 0431 528300	info@marinapuntagabbiani.it www.marinauttagabbiani.it	9	300	25	7-25	max 3	80	2.700	5/5.600	6/7.900	-	50/55	70/80
150 Marina Capo Nord Aprilia Marittima (UD)	0431 53503 0431 53524	info@marinacaponord.it www.marinacaponord.it	9	650	65	8-20	max 2,5	60	2.700	3.350	6.100	35	45	65
151 Aprilia Marittima Aprilia Mar-Latisana (UD)	0431 53123 0431 53458	circolo.velico@apriliamarittima.it www.cvam.it	9	680	70	7-25	2,5	60	2/2.500	3/3.500	5/5.000	30/40	40/50	50/60
152 Portomanar Marano Lagunare (UD)	0431 67409 0431 640642	portomanar@portomanar.com www.portomanar.com	9	500	30	5,5-17	max 30	20	1/2.000	2.5/3.000	3.5/4.200	25/30	35/40	45/50
153 Cantieri Marina San Giorgio S. Giorgio di Nogaro (UD)	0431 65852 0431 65854	info@cantierimarina.it www.cantierimarina.it	-	300	30	4-26	4,5	80	2.1/2.600	3/3.500	5.7/6.200	25/30	35/45	50/60
154 Shipyard & Marina Sant'Andrea San Giorgio di Nogaro (UD)	0431 62162 0431 621504	info@marinasantandrea.it www.marinasantandrea.it	9	150	20	max 30	4,5	100	2.500	3/3.800	6.6/7.200	20	30	40
155 Marina di Aquileia Aquileia (UD)	0431 91041 0431 91241	info@marinadiaquileia.com www.marinadiaquileia.it	-	294	6	8-18								

## 239 MARINA D'ITALIA/SARDEGNA E SICILIA

PORTI E LOCALITÀ	TELEFONO - FAX	E-MAIL - SITO	CANALE VHF	N. POSTI TOTALE	N. POSTI TRANSITO	LUNG. METRI	PROF. METRI	ALLOGGIO MAX IN TONNELLATE	AFFITTO ANNO			AFFITTO GIORN. (ALTA STAG.)		
									9 METRI	12 METRI	18 METRI	9 METRI	12 METRI	18 METRI
200 Marina dell'Orso Poltu Quatu (OT)	0789 99477 0789 99468	polquatu@tin.it www.poltuquatu.com	9	311	-	8-35	2-3	30	6.600	9.600	20.300	130	200	430
201 Porto Cervo Marina Portocervo (OT)	0789 905111 0789 91153	direzione@marinadiportocervo.com www.marinadiportocervo.com	9	700	100	120	1-6	200	-	-	-	90/100	115/130	350/400
202 Marina di Portisco Portisco (OT)	0789 33003 0789 33560	info@mariadiportisco.it www.mariadiportisco.it	69	589	83	4-90	max 11	70	6.200	7.8/9.600	16/17.800	100	130/140	270/290
203 Marina di Portorotondo Portorotondo (OT)	0789 34203 0789 34368	amministrazione@mariadiportorotondo.it www.mariadiportorotondo.it	9	655	66	120	1-7	60	4.687	6.138	16.031	80	109	273
204 Porto Marana Punta Marana (OT)	0789 32008 0789 32089	portomarana@tiscali.it	9	320	-	6-14	max 2	25	-	-	-	60/80	110/130	-
205 Baia Caddinas Baia Caddinas (OT)	0789 46813 0789 46813	info@mariabaiacaddinas.it www.mariabaiacaddinas.it	9	115	5	15	1,5-4	-	-	-	-	-	-	-
206 Marina di Olbia Olbia (OT)	0789 67121 0789 645842	info@mariadiolbia.it www.mariadiolbia.it	9	270	27	7,50-60	3-5	-	4.100	7.450	14.600	53/75	92/130	180/250
207 Marina Porto Ottiolu Ottiolu (OT)	0784 846211 0784 846209	info@mariaportottiolu.com www.mariaportottiolu.com	9-16	405	40	max 36	max 3	60	2/3.000	5,5/6.000	8/9.000	60/80	120/140	200/220
208 Marina di Puntaldia Puntaldia (NU)	0784 864590 0784 864594	info@mariadipuntaldia.it www.mariadipuntaldia.it	9	400	39	5-24	max 4	65	5.400	6.500	13.800	80/95	130/160	280/345
209 La Caletta La Caleta (NU)	0784 810631 0784 810631	cnclaletta@tiscali.it www.circolauticolaletta.it	9	192	-	16	6	-	-	-	-	-	-	-
210 Marina di Baunei S. Maria Navarrese (OG)	0782 614020 0782 614198	info@portasantamariebaunei.it www.portasantamariebaunei.it	16-74	370	90	3-30	max 7,5	40	1.700	2.600	4.900	35	50	110
211 Marina di Arbatax Arbatax (OG)	0782 667405 0782 664359	www.marinadiarbatax.it	9	500	250	max 85	8	200	1.800	2.700	5.100	40	50	115
212 Marina di Carloforte Carloforte	0781 854110 0781 854110	info@marinadicarloforte.it www.marinadicarloforte.com	11	100	0	25	5,5	0	2.000	2.400	3.450	40	55	115
213 Marina di Costa Corallina Olbia	0789 36176 0789 386020	info@spurlatta.it www.spurlatta.it	9	137	0	11	1,6	75	1.360	2.000	4.230	30	50	95
214 Marina Mamma Mahon Carloforte		info@marinatour.it www.marinadicarloforte.com	15	250	100	60	4	70	2.100	3.300	4.700	40	75	140
215 Marina Nido d'Aquila Isola La Maddalena	334 7109642	info@marinnidodaulia.it www.marinnidodaulia.it	9	120	120	18	2,4	0	2.500	4.000	5.800	54	72	108
216 Marina S'Elmo Alghero	3332214342 079980829	info@mariadiselmo.it www.mariadiselmo.it	9	100	40	60	5	400	-	-	-	-	-	-
217 Pontile Destriero Cannigione	0789 88485 0789 88546	www.pontiledestriero.com pontiledestriero@tiscali.it	9	100	5	35	3,2	0	-	-	-	-	-	-
218 Portus Karalis Cagliari	070 653535 070 6404898	www.portuskralis.blogspot.com portuskralis@gmail.com	9	140	20	90	2,5-10	0	2.780	6.200	11.200	36	80	155
<b>SICILIA</b>														
219 Marina di Riposto - P. dell'Etna Riposto (CT)	095 7795755 095 7781112	info@portodelletna.com www.portodelletna.com	74	366	40	8-40	max 12	160	3.300	4.300	7.300	55	80	165
220 Marina del Nettuno Messina	090 344139 090 3710522	info.messina@marinadelnettuno.it www.marinadelnettuno.it	9	160	10	8-20	30	-	3/4.000	4/5.000	8/8.500	60/70	80/100	140/160
221 Marina del Nettuno Milazzo (ME)	090 9281180 389 5867236	info.milazzo@marinadelnettuno.it www.marinadelnettunomilazzo.com	9	160	10	8-20	8-10	-	3,5/4.000	4/5.000	8/8.500	60/70	80/100	140/160
222 Marina di Portorosa Furnari (ME)	0941 874560 0941 874655	info@marinadipotorosa.com www.marinadipotorosa.com	9	700	70	6-35	3	70	3.700	5.000	10.800	60	80	200
223 Darsena Turistica Santa Maria Salina (ME)	090 9843473 346 0220362	info@portodelleolie.com www.portodelleolie.com	11	120	20	0-30	3	-	-	-	-	60/70	80/100	140/160
224 Cala dei Normanni - Marina Arenella (PA)	091 540264 091 364360	info@caladeinormanni.it www.marinaarenella.it	16	90	-	6-21	4-7	50	3.800	5.000	7.500	45	80	150
225 San Nicola l'Arena San Nicola l'Arena (PA)	091 8125946 091 7744481	posta@maresud.it www.maresud.it	16-14	800	80	max 25	0,5-4	60	2,5/3.000	4/4.500	7/7.500	30/40	60/70	120/140
226 Marina di Cefalù Cefalù (PA)	338 7849155 091 934403	www.marina-service.net	9	150	120	6-40	1-5	20	-	-	-	30	60	110
227 Motomar Capo Gallo (PA)	091 453145 091 454024	motomar@gimnet.com www.motomarcdm.it	16	250	15	4-30	2-6	65	3.500	5.000	9.000	50	90	150
228 Marina Villa Igiae Porto Acquasanta (PA)	091 364123 091 364225	www.marinavillaigiae.com	74	379	40	6-65	10	100	3.462	4.926	8.400	42	88	155/205
229 Porto Turistico San Vito lo Capo (TR)	0923 974371	sanvitolocapo@guardiacostiera.it www.sanvitoweb.com	16	400	-	40	2-8	-	-	-	-	-	-	-
230 Boat Service Trapani Trapani	0923 29240 0923 873334	info@boatserVICetrapani.it www.boatserVICetrapani.it	-	130	20	4-35	1,5/5	200	2,5/3.000	3/3.500	4,5/5.000	20/30	30/40	40/60
231 Marina Arturo Stabile Trapani	0923 28191 0923 557170	info@marinastabile.com www.marinastabile.com	69	150	10	max 30	4,5	25	4.500	5.500	12.500	35	65	100
232 Marina Vento di Maestrale Trapani	0923 26874	info@ventodimaestrale.it www.marinaventodimaestrale.it	74	30	-	25	max 8	-	-	-	-	-	-	-
233 Porto nuovo Pantelleria	0923 911817 0923 913517	contatti@portodipantelleria.com www.portodipantelleria.com	16	80	10	30	max 4	150	-	-	-	-	-	-
234 Marina di Cala del Sole Licata (AG)	0922 1837137 0922 1837138	info@marinadicaledelsole.it www.marinadicaledelsole.it	74	1502	200	8-70	4,5-6,0	160	1.500	3.200	5.300	22/29	45/60	75/100
235 Porto turistico Marina di Ragusa Marina di Ragusa (RG)	0932 230301	info@ptmr.it www.portoturisticomarinadiragusa.it	74	723	80	max 50	5	160	2.500	4.800	8.000	40	70	135
236 Marina Yachting Siracusa Siracusa	0931 419002 0931 1845104	info@marinayachtings.it www.marinayachtings.it	69	160	60	5-40	max 8	-	3.400	4.200	7.200	45	70	130
237 Marina di Archimede Siracusa	0931 200470 0931 200471	portodisiracusa@acquamarcia.it www.acquamarcia.it	-	600	-	10-70	-	-	-	-	-	-	-	-
238 Porto delle Eolie Santa Maria Salina (ME)	090984373	info@portodelleolie.com www.portodelleolie.com	11	160	100	45	5,5	7	-	-	-	110	140	220
239 Porto Turistico Marzamemi Pachino (SR)	0931 841776	info@yachtmarzamemi.it www.yachtmarzamemi.it	9	150	0	20	2-7	0	2.650	3.700	5.400	50	80	150

Palau Carrara Trieste Khiran Stora Fiskardo Tremezzo  
Castellammare di Stabia Kuwait Imperia Lefkas Tripoli  
Venezia Marsaxlokk Bosa Brissago Piskera La Maddalena  
Maratona Aqaba Maratea Viareggio Karvavice Alassio  
Grado Tivat Trani Lixouri Procida Al Fintas Kerkyra Salerno  
Genova Podos Hamamet Sistiana Locarno Cagliari Volme  
Lacco Ameno Palermo Manfredonia Chiiffa Montecarlo  
Piskera Cagliari Isola d'Elba Isola d'Elba Locarno  
Chioggia Isola d'Elba Isola d'Elba Karavasta Igoumenitsa  
Villasimius Taranto Bari Cala di Volpe Bari Jesolo  
Savona Isboa Porto Città Novigrad Rab Bisceglie Aiaccio  
La Spezia Portoferraio Dammam Loano Montecarlo Hraklio  
Port Gocek Castiglioncello Casamicciola Kastela Mina  
Abdulla S. Margherita Ligure Kerkyra Methoni Livorno  
Jeddah Split Napoli Caorle Aci Trezza Taranto Salamina  
S. Teresa di Gallura Peiraias Rovinj Chioggia Vibo Valentia  
Mitilene Manfredonia Como Agios Kosmas Monfalcone

*Pontili e costuzioni sull'acqua*

**INGEMAR**  
*Ingegneria Marittima*