

# INGEMAR

Ingegneria Marittima

news  
2013

Following an encouragingly positive year-end turnover for 2012, the first 6 months of 2013 saw the Group committed to completing, with extremely tight schedules, important commissions both in Italy and abroad. In the second half of this year the company resumed its activity with less frenetic production and a renewed attention to developing the technical and commercial side of the business.

In Italy there are already signs of recovery and opportunities abroad are certainly numerous for the company: their defining characteristics of design, independent production and commercial rigour set them apart, especially in foreign markets which are more

demanding and selective. Their capacity to develop specialist ad hoc projects, including those outside the nautical sector; their consistent pursuit of innovation, combined with their expertise in managing large contracts as main contractor, have been well rewarded in a sector which is continuously evolving. Notwithstanding the general market instability, particularly in the marine sector, already completed projects and commitments over the next few months will see Ingemar closing the year positively and with sales volumes still slowly growing. Marina del Gargano at Manfredonia in the south of Italy with 700 berths, all on pontoons and fingers, and abroad Ayla Marina at Aqaba in Jordan, with

over 3,000 metres of floating structures, represent Ingemar's most important achievements in the tourist port sector.

Their diligence within the field of specialist structures was rewarded with the construction of floating jetties for tugs and tourist boats at La Spezia and of floating platforms for the port of Monte Carlo and for the river Tigris in Irak. Innovation in the field resulted in the successful installation of new maxi floating breakwaters, 6m wide, at Port Gocek in Turkey.

More recent acquisitions are the new and prestigious appointments for the all-concrete pontoons of the first marina at La'ala Sea City in Kuwait and for a series of special landings for the Coast Guard of Saudi Arabia.



Ayla Marina - Aqaba, Jordan



## LA SPEZIA

### Piers for tugs and boats, breakwaters and pontoons for the yachtsmen

Following a successful public tender procedure, Ingemar was commissioned by La Spezia Port Authority to provide a design for the reorganisation of the harbour structures for all working and operational vessels as well as for tourist moorings. The assignment consisted of a series of extremely intricate and diverse technical operations which meant yet again an important challenge for the company.

Tugs with 750t displacement were originally moored on the Italia quay and these have now been moved to the Malaspina quay: three robust heavy-duty floating piers (36x5m) have been installed with a freeboard of 1.2m and a live load of 500kg/m<sup>2</sup> tailor made to ensure their maximum strength and functionality under high work loads. Access to the piers is provided by 8m long aluminium gangways equipped with portals for lifting them above the piers when not in operation. Passenger ferries going to the Cinque Terre on the Ligurian coast were originally moored on the Morin pier: these have now moved to moorings along the Italia quay where the space originally used by tugs now has two floating piers (6m x 48m each) with a freeboard of 1m. The special floating piers designed to fulfil specialized mooring and employment requirements, are now equipped with a ticket office, safety railings, special steel bollards and services for the vessels. The outer floating breakwater barrier protecting the residents' landings along Porto Mirabello, built by Ingemar 2 years ago, has been extended by roughly 170m with 14 new floating breakwater elements in reinforced concrete 12m long and 3m wide, each weighing 30t.

Continuing the renovations along the city's waterfront, a new movable footbridge was recently installed and inaugurated connecting the seafront with Porto Mirabello. At the same time Ingemar supplied 7 floating pontoons for an overall 760m, installed by Edilizia Tirrena, for the basin below the footbridge aimed at optimising and adding to the city's public moorings. At Fezzano, the delightful seaside village close to Portovenere, the new floating landing for the Gulf's passenger ferries have nearly been completed integrating those already operative since 2009 at Le Grazie, again by Ingemar.

These new projects are a sure sign of renewed attention to recreational yachting by the very dynamic La Spezia Port Authority as well as a recovery in all activities connected to sea ports: it is also recognition of the validity of Ingemar's previous work for this historical Ligurian city port.





## GIORDANIA

### Aqaba: work finalised at Ayla Marina on the Red Sea

7,000 square metres of floating structures, pontoons and fingers, for an overall extent of 3,000 m represent the contribution by Ingemar to the colossal tourist project that Ayla Oasis Development Co. (part of the Saudi Astra group) is developing at Aqaba in southern Jordan. This was a complex and prestigious project and another successful assignment for Ingemar in the Middle East market.

This new development, with a total surface area of approximately 460ha, will have lagoons and artificial islands as well as 5 luxury hotels with 90 to 600 beds, 3,000 apartments, an 18 hole golf course as well as a port completed at the beginning of this year with numerous private moorings.

The extremely exacting design and construction of the pontoons and fingers, their carrying capacity, combinations and quality finishings, comply with the very strict technical specifications by ATM. Applied Technology & Management and commissioned to Ingemar by Società Italiana per Condotte d'Acqua. The floating structures, of the Heavy Duty series, are in aluminium alloy with floating elements in concrete and expanded polystyrene, with finishings in exotic hardwood. They are anchored to the sea bed by 290 steel piles. Pontoons have widths of 2.5m and 3.0m, and fingers were up to 20m long. Access was provided by 23 no. 10m long gangways and 1 no. 24m long gangway supported by a trapezoidal platform. This was a made to measure project using many different elements so that the structure harmoniously follows the quays. Apart from the structures that it fabricated and supplied, Ingemar was also responsible for the design of the anchoring piles (which were sourced and installed by Condotte) and of all the floating structures of the second phase. Ingemar's participation in this project was decisive for the 31ha of lagoon at sea level which opens directly onto the Gulf of Aqaba. The lagoon is fed by waterfalls and cascades from two upper lagoons, with an overall surface area of 53ha, which in turn are supplied with seawater by a system of pumps and lifting apparatus taking up water directly from the Gulf itself.

This project, whose overall cost is estimated at approximately US\$1.2 billion, is being promoted by the Ayla Oasis Development Co. (Ayla) and Aqaba Special Economic Zone Authority (ASEZA). The Società Italiana per Condotte d'Acqua SpA, winner of the 1st phase of works for an overall value of US\$ 230 million, has now finished the earthworks, the waterproofing of the lagoons, the hydraulic, mechanical and electrical installations for raising and supplying seawater to the upper lagoons, laying the foundations for buildings in the centre of the lagoons, roads and basic infrastructures. For Ingemar this is a valuable and important reference from a competent and prestigious client, as well as being a great work experience in an atmosphere of enthusiasm and collaboration.



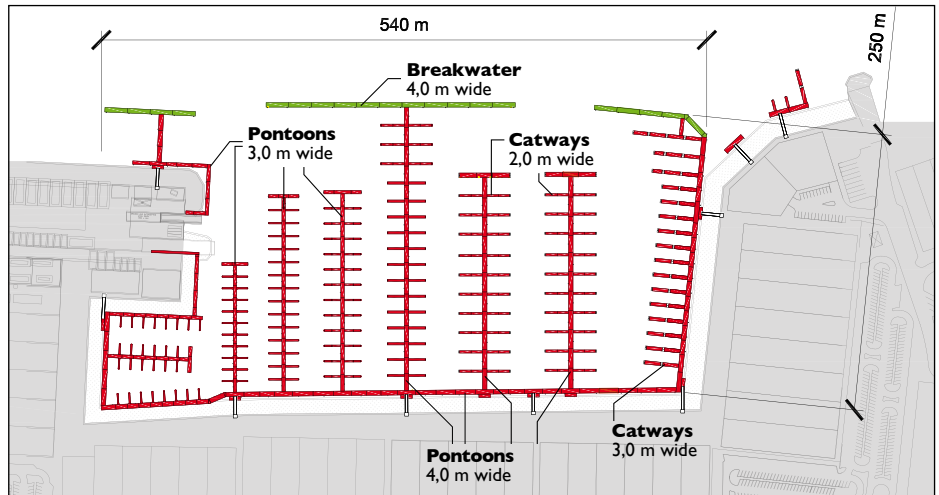


## KUWAIT

### A new city with marinas facing onto the Arabian Gulf

La'ala Al-Kuwait Sabah Al-Ahmad Sea City, 85km south of Kuwait City, is a stunning project to be completed in 10 phases spanning 25 years. Made up of a series of canals and lagoons excavated from the Kuwaiti desert and creating in excess of 200 km of new coastline, Sea City will cover an area of 64km<sup>2</sup> and will house over 100,000 people.

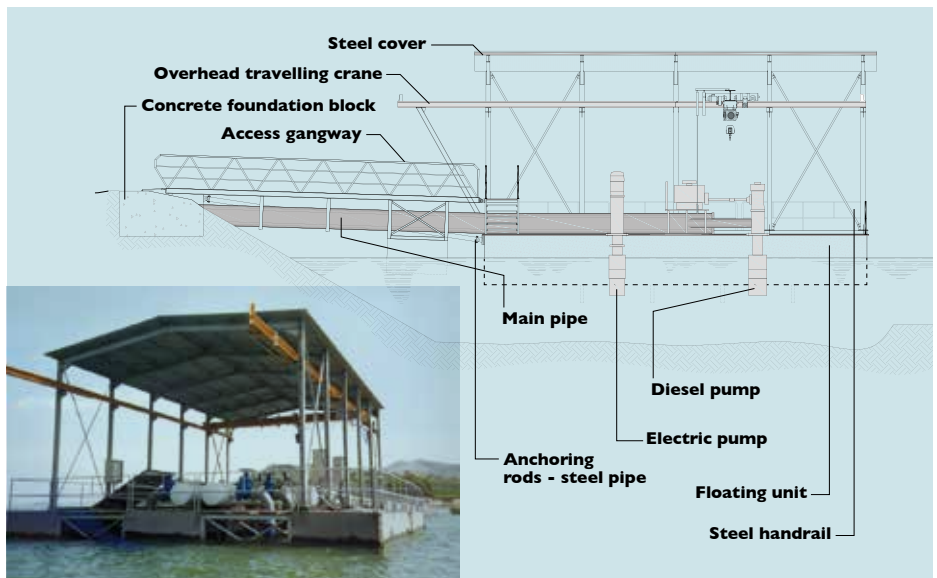
Development of this huge project is being carried out by La'ala Al-Kuwait Real Estate for an estimated cost of over US\$5 billion. Construction works began in 2003: at present infrastructures for the first three phases have been completed and the relevant lots fully sold out because of the strong market interest. The project includes 2 marinas, for more than 1,200 berths. Design activities are currently ongoing for both marinas. The statistics for first marina, already under construction, are truly astounding: 6km of floating pontoons and fingers, anchored by more than 300 pilings, will provide easy moorings for over 400 craft of up to 40m lengths. Following an international selection process, Ingemar was chosen to carry out the final detailed design and the supervision on site of the fabrication all the floating structures in reinforced concrete and steel because of its flexibility and proven ability to develop tailor made designs to suit the requirements of the client. The floating structures include monolithic pontoons and floating breakwaters in reinforced concrete of 3m and 4m widths and lengths up to 20m, and fingers of up to 30x3m. Ingemar was also commissioned to supply all the specialist structures and the most critical components of the serial elements. This is a hugely prestigious appointment internationally and also an extremely stimulating experience for Ingemar, a reward for their more than 10 years of operations in Kuwait.



## IRAK

### A floating platform serving the oil industry

Ingemar's experience with aspirator pumping units on Italian lakes was a determining factor in acquiring this prestigious commission for the Daura Refinery of the Iraqi Petroleum Ministry. The installation, on a tributary of the River Tigris, includes a large floating platform carrying the water aspiration pumps supplying the fire extinguishing systems of the industrial complex. The dimensions of the structure are 11x11,50m and it is constructed of robust metal carpentry and supported by floating units in hot-dip galvanised steel sheet filled with expanded polystyrene.





## MANFREDONIA (FG)

### 700 moorings now operational in the Marina del Gargano

The new port was inaugurated on 18 July 2013 and most of the land-based structures were opened to the public as well as 350 moorings: the remainder of the marina, with all the structures and the 700 moorings, will be finished in a few months. The Marina del Gargano, close to the historic centre of Manfredonia, will be the new hub for yachting in the Mediterranean. Ingemar has completed their turnkey installation of pontoons for 2,250 Lm and 316 fingers which will accommodate boats up to 21m long.

The pontoons, of 3m and 4m widths, have a liveload of 300kg/m<sup>2</sup> and variable freeboard of 60-80cm depending on boat size at the moorings: larger boats (up to 60m) will be moored to the jetty using mooring bollards, chains and mooring blocks. The Marina's floating pontoons are of the discontinuous type with galvanised steel framework and floating concrete elements with expanded polystyrene core: these will be anchored by fixed pilings to the sea floor and finished with eco-friendly exotic hardwood surfaces. All berths on the pontoons are supplied with 262 fingers measuring between 9m and 18m in length and 70cm to 1.4m in width.

In order to facilitate access for smaller craft, the wharf on the shoreline has low level pontoons and mini fingers around the perimeter, anchored by beams and sliding devices. The outer harbour has a Heavy Duty continuous floating pontoon, secured to the pier by connecting rods for use by passenger ferries and large transit vessels. Once operational, the new Marina del Gargano will accept boats and super yachts up to 60m in length, with 700 berths for an overall surface area of 270,000m<sup>2</sup>. A commitment to protecting and integrating the marina within the surrounding environment was the basis of the entire project which was developed close to the historic town centre and which features very high quality standards justifying the title of *Green Marina*. The new Marina del Gargano, with its incomparable surroundings, safe moorings, deep waters and excellent facilities, constitutes an exclusive focal point and meeting place for yachts sailing between the Gargano promontory, Croatia, Greece and the Adriatic coast.

The new marina was completed by *Gespo srl*, a company formed by a group of important businesses and local entrepreneurs, all united by their belief in this enterprise and in developing the town and its surrounding territory. The marina will be managed by the British firm *MDL Marinas*, part of the *Yattendon Group PLC*, a company which has played a key role in the development of modern tourist ports and is now the largest European group running such ports.





## POLIGNANO A MARE (BA)

### Cala Ponte Marina, a marina tailored for yachtsmen

The new Marina Resort of Polignano a Mare, "Perla dell'Adriatico" ("Pearl of the Adriatic") and 30km to the south of Bari, lies below the cliff-top city of Polignano and was once a small fishing port. The harbour has a large floating central wharf with three mooring fingers on each side and two fingers at right angles to the shoreline; the marina has approximately 320 moorings for boats up to 25m. The hardwood finishings along most of the quay, with pre-fabricated elements by Ingemar, ensures aesthetic uniformity with the floating structures and integrates perfectly with the environment.

The pontoons are anchored by fixed pilings to the seabed of tufo (a volcanic rock) and all the boat's mooring systems are by chains and ropes anchored to the seabed with relative mooring blocks. Respect for the environment and energy saving were prominent considerations when planning for sewage, water and oil pump out systems, waste disposal centres and photovoltaic panels, so that Cala Ponte will be a yachting marina for tourism designed to the highest standards of quality and comfort but with minimum environmental impact.

Cala Ponte Marina is the result of professional collaboration of the highest standards between *Cala Ponte S.p.A.*, holder of the land concession and architects of the initiative, and *Camper & Nicholsons Marinas Ltd*, specialists in marine investments and international leaders in the design and management of tourist ports.



## ARABIA SAUDITA

### Special landings on the Red Sea and Arabian Gulf

Following the positive endorsements of previous supplies for Golden Eiwán for two installations at Al-Demegha on the Red Sea and at AL-Quatif on the Arabian Gulf, at the beginning of 2013 Ingemar won an important international public tender to supply and install further 6 landings for the peripheral bases of the Saudi Coast Guard. The landings, three on the Red Sea and another three on the Arabian Gulf, will be characterized by a modular design, so they may be enlarged and repeated in the future at other sites, and by maximum resistance for use in locations which may not be perfectly protected. The floating heavy duty modules will be anchored to the seabed by piles and sliding devices and their frames will be in aluminium with floaters in concrete for the pontoons and in polyethylene for the fingers; each basic module will have moorings for 8 speed boats. All the structures, designed to be transported in containers, will be built in Italy on the express request of the client. This is further testimony to the quality of Made in Italy design and construction.





## TURCHIA

### Port Gocek: the new 6m breakwaters are successfully operative

Research in the sector of floating breakwaters has always been directed towards extending the limits of their application and to improving their performance in terms of safety, durability and performance. It is exactly because of their background in the application of these innovative structures that work on the restoration and modernisation at the prestigious tourist port D-Marin Port Gocek, in the bay of Fethiye, has been undertaken by the proprietor D-Marin of the Dogus Group, where Ingemar has built a turnkey floating breakwater barrier of over 280 Lm, 6m in width, and operational since the end of 2012. Protecting the marina, with 380 berths for yachts up to 70m, the new FCA-20x6 modules have been employed, which are the prefabricated floating units with the greatest weight, height and freeboard currently in production at international level: 130t, 6m wide and 20m long, 2.4m total height and a good 75cm freeboard over water. The project took into consideration significant wave heights of 1.5m and periods of 4 seconds. To contain transport and moving costs the modules are achieved by the coupling, after launching, of two 3m wide elements with rigid steel bars. The breakwaters and their anchorage systems, with mooring ropes of Dyneema®, have been designed for the continuous mooring of 43 craft up to 20m on the protected side and for seasonal mooring of Maxi Yachts up to 70m on the outer side. The elements are made of special reinforced concrete with a scored surface finish in cement and resin and have a core of expanded polystyrene blocks guaranteeing their floatation. The joints between each module are guaranteed by robust steel cables with rubber shock absorbers. The new breakwater modules, which replaced the previous in the marina, were studied using models in the wave flume of the Civil Construction and Environmental Engineering Department (ICEA) of the University of Padua and are characterised by their capacity to attenuate the effects of wave motion - unique in the sector - validated during strong winter storms. The success of the installation of the breakwaters was due to the highly professional contribution of PF Marine, a Turkish company specialised in marine and underwater works. Ingemar is especially gratified with this extremely complex assignment using highly innovative features, and proud to have worked with such a prestigious and professional client. D-Marin is an international leader in the tourist port sector and D-Marin Port Gocek is a feather in the cap in the Mediterranean network of tourist ports. D-Marin owns the largest international network of tourist ports in the eastern Mediterranean and Adriatic and is expanding rapidly in foreign markets with acquisitions and strategic partnerships.





## PRINCIPATO DI MONACO

### New installations at Montecarlo

In the wake of previous operations to substitute the old floating structures at Port Hercule, this year Ingemar has added a new mooring pontoon for SEPM and a new floating platform for the reception for the clientele of Monaco Marine. The pontoons are again of the all-concrete type: a solution with significant performance levels in terms of stability and live load. The platform, complete with mooring fingers, is built with galvanized steel frames and discontinuous floating units so as to respect the geometric layout and the project's live loads.



## CROAZIA

### Ingemar is back to Split

After 8 years since the completion of Marina Kasteal boasting 350 berths, Ingemar and its local partner Marmontis are back to Split for a new installation for the prestigious Split Yacht Club. Located close the historical harbour, the new F shaped pier includes 230 m of FE/IG type floating pontoons with steel frames and concrete floating units. The new pier has been in operation since the beginning of the year and it welcomed boats of local residents as well as of the visitors of the wonderful Dalmatian coast.



## GENOVA

### Restyling of the Boat Show

Since 2005 Ingemar has collaborated with the Fiera di Genova as their technical sponsor and a trusted partner. This year as always, Ingemar's modular floating pontoons means they can be adapted to suit the various new configurations and requirements. The wharf pontoon will be extended to ensure ease of access to the large central basin which and new floating platforms will be dedicated to communal spaces and host the stands of the most prestigious ship builders at the exhibition.



### GIARDINI NAXOS (CT)

Additional berths at Pontile Walter for visiting Taormina



### SAN SIRO (CO)

New floating breakwater protecting the public berths of the lakeside town



### VENICE

Tailor made floating pontoons for Coastguard in the historic Arsenal