

MONACO PIER EXTENSION

By : Capt Piet Sinke (SMIT)

For years the Principality of Monaco was looking at the possibilities to extend the Port Hercule with new docking facilities to make it one of the largest yachting harbours on the Mediterranean.

This port of the 3rd Millennium is about to become reality thanks to the extension works :

- 1) Platform Area , one hectare of building land just below Fort Antoine , named the Culee
- 2) A Semi Floating breakwater with a length of 352 mtr anchored to the platform area with an articulated connection.
- 3) A jetty of 145 mtr long supported at both ends.
- 4) Improvement of the two existing breakwaters
- 5) Reorganisation of the whole harbour
- 6) Construction of Quai Louis II at the end of Quai des Etats Unis.

In this complete operation which will take years to complete SMIT was contracted to do the transport and installation of the SEMI FLOATING BREAKWATER.



This breakwater is build in a drydock near La Linea in Spain, the dock had the following dimensions 400 mtr long and 60 mtr wide and a depth of 15 mtrs, and when the construction was completed the breakwater was floated up and the basin was opened to the sea.



Tecnitas which was checking all the

The Breakwater was prepared for the towout by a team of specialists of **SMIT** which connected 6 winch wires to the breakwater ready to pull the large breakwater out of the drydock in combination with 4 harbour tugs.

After a few months of preparations with a lot of travelling between the SMIT office in Rotterdam and Paris where Doris Engineering was involved and also



calculations etc for the classification by BUREAU VERITAS and to the building side at La Linea we finally reached the point that real action was required , the tow out, for the tow out 4 harbour tugs of Boluda were contracted and for the seatrip from la Linea 2 tugs of SMITWIJS were contracted, The **SMITWIJS LONDON** to do the tow and the **SMTWIJS TYPHOON** for escorting duties during the tow and the installation works in Monaco.



The new breakwater was towed finally out of the dock on August 6th , and was safely moored at the ENDESSA jetty, a large jetty near Algeciras which is normally used by large ore carriers.

At this location the breakwater had to be ballasted with about 16.000 ton fresh water to reach the required draft for he tow to Monaco, for this purpose our client Dragados hired a tanker which made 3 trips to reach the quantity required.



After the ballasting was completed the **SMITWIJS LONDON** which arrived in the meantime in Algeciras bay connected to the main bridle and with assistance of the **SMITWIJS TYPHOON** and 2 Boluda harbour tugs the 160.000 tons breakwater was pulled of the ENDESA quay August 14th , turned in the bay of Gibraltar and the trip to Monaco could commence, an average speed of 3 knots was anticipated, with this speed the trip should take about 12 to 13 days to reach the destination pending on the weather.



After departure of the transport the project team of **SMIT** started with clearing the worksite in La Linea and loaded some materials on trucks to go back to Holland and materials for transportation to Monaco where the equipment was needed for further use, and the team travelled direct from Malaga to Monaco, due to some problems with the plane the team stranded In Geneva where we stayed overnight to carry on the following morning to NICE in southern France.

There in the Port of Nice all preparations where done to receive the **TAKLIIFT 4** into the Port, in the meantime in total 16 trucks arrived with materials from Holland and Spain which had to be loaded onboard the **Taklift 4** for transport and installation at the new building side , the Port of Nice was to be used because the port of Monaco was not large enough to handle all this equipment, through our agent Cambiaso & Risso in Monaco the contacts were made with the harbour master of Nice , because this port is very busy with ferries the whole day and a tight schedule was available





to load the equipment during the night when no ferries were berthing in the port, but we had to leave the port before 7 AM when the first ferries should arrive again, The **TAKLIFT 4** arrived August 16th, in the small harbour of Nice and the show



could commence, all the trucks which were parked on the other side of the Port were shifted one by one through the city of Nice around



the yacht harbour to the other side of the Port, it was a good tourist attraction, a lot of people were watching us the whole night and after working the whole night we offloaded 7 trucks and all the materials

were loaded and correctly stored for use on deck of the **TAKLIFT 4** and we departed the port of Nice again whilst the first ferry was waiting to enter the port, after departure the **TAKLIFT 4** deployed the anchor and the whole crew and project team went to bed for a few hours sleep because the most of the people were working for more than 24 hours, in the afternoon when the people got awake again we sailed to Monaco (3 hours sailing) and we commenced deploying the materials at the several destinations around the work side.

In total the **TAKLIFT 4** went 3 times to Nice to collect the materials and the last trip was made with the 2 large MD 97



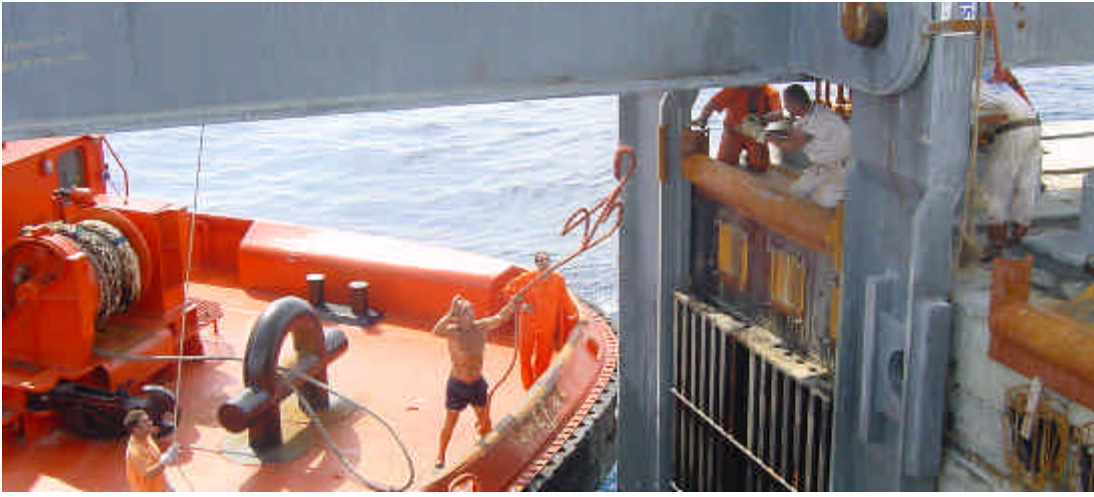
winches which had to pull the new breakwater into the connection point

were transported by the **TAKLIFT 4** to the Culee in Monaco.

In the meantime the **SMITWIJS LONDON** and the **SMITWIJS TYPHOON** were enroute with the breakwater and encountered a lot of press attention helicopters the whole day around the transport and specially when they came closer to Monaco boats with spectators came sometimes very close to take good pictures, even Prince Rainier sailed with his yacht towards the transport to have a look.

Onboard the **TAKLIFT 4** the diving team in combination with the ROV carried out several inspections on the anchoring system and prepared everything for easy pick up from the bottom (water depth 55 mtr) upon arrival of the Breakwater, the evening before the arrival the weather was





worsening and on the morning of August 26th, the 4 harbour tugs named **PERU**, **BRASILE**, **FRANCIA** and **AMERICA** which were contracted from Genoa arrived in Monaco alongside the **TAKLFT 4**, and sailed towards the transport location about 5 miles offshore, due to some swell it was not

possible to connect the 4 harbour tugs and to release the **SMITWIJS LONDON**, the weather forecast was good so it was decided to pull the breakwater more inshore and to wait for weather improvement which came a few hours later, the 4 harbour tugs connected up and the **SMITWIJS LONDON** was released from the towing gear and departed.



The 4 tugs started towing the pier and it was very difficult to make some speed, after battling a few hours and repositioning the tugs a speed was reached of about 1 knots towards Monaco where the transport arrived in the afternoon, the **SMITWIJS TYPHOON** and also the **TAKLIFT 4** was stand by to assist the transport,

the approach towards the port stated and went OK until we reached a point of about 100 mtr in front of the culee when we encountered a strong current which pushed the pier towards the shore, the **SMITWIJS TYPHOON** was connected up and the **TAKLIT 4** deployed her 2 stern anchors and connected to the pier



also to pull the pier back to the seaside, the **SMITWIJS TYPHOON** started with picking up the first anchor chain (no 3) which was connected a few hours later followed by no 7 chain, slowly all the chains were connected and the **TAKLIFT 4** connected to her pre installed anchor system and connected up to the breakwater, to hold the breakwater free of the culee in case of worsening weather.

The ballast tanker arrived on the spot again and was brought alongside with help of 2 harbour tugs and the final ballasting could commence, in total the tanker made 2 trips to complete the job.





In the meantime the pull in wires were connected and the 7000 kg protective cap of the hinge was removed by divers under water and lifted on the



culee, and the next morning the rotulage operation could commence, the breakwater was pulled into the

final position in the culee and the people could start with connecting all the bolts which will keep the breakwater connected to the culee , upon completion of this bolts he **SMITWIJS TYPHOON** started with the final tensioning of the 10 chains, which was completed after some delays due to some twists in the chains on Thursday September 19th , the same evening a meeting was held between all parties involved and Friday September 20th all parties involved agreed that the pier was delivered and installed as per agreement and the acceptance letter was signed by all parties, which completed the works for **SMIT**, all the people involved for months can look back at a good project.



The whole operation was successfully executed due to a good cooperation between all parties involved and good team work between :

SMIT Engineering which did a lot of engineering before the works really started.

DRAGADOS our client

TECNITAS as classification company

DORIS Engineering in Paris

Master and crew of the SMITWIJS LONDON



Master and crew of the SMITWIJS TYPHOON



Master and crew of the TAKLIFT 4

Masters and crew of the BOLUDA harbour tugs in Algeiras.

Masters and crew of the harbour tugs of RIMORCHIATORI RIUNITI from Genoa which did a very good job in Monaco

Lionel Avias the harbour master of Monaco who fully cooperated in this project

The harbour master of Nice for his cooperation

Cambiasso & Risso (Maryline Zeravica) as agents in Monaco and Nice who handled this for them exceptional operation very well.

Cambiasso & Risso in Genua for their help and assistance during the project



The riggers of the SMC team, very multi purpose people, this guys can work everywhere !!!!



The whole diving team , especially Kwik, Kwek and Kwak our Belgian divers.

Martijn Juin with his ROV which did a very good job.

METEO CONSULT in Wageningen which supplied the weather forecast during the works

VLIERODAM in Rhoon for the spooling machine

Bezemer for the MD 97 winches

And all the other people which I forget to mention in this letter !!!!!!!!!!!!!

THANKS !!!!!!!!!



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