Boskalis
Dredging & Marine Experts

PROJECT SHEET

GIJÓN, SPAIN
EXPANSION OF THE PORT OF GIJÓN

INTRODUCTION

The Spanish port of Gijón on the Bay of Biscay processes more than 12 million tonnes of bulk goods annually. With the expansion of global trade and increasing ship sizes, the terminal was lacking capacity to handle the traffic. The maximum draft for the ships of 18 meters is another obstacle to the development of the port. So the Port Authority of Gijón developed a plan for additional modern facilities in an area measuring 145 hectares to the north of the existing port. This includes a bulk terminal with a transfer capacity of more than 25 million tons and a storage area measuring 60 hectares for a maximum of 2 million tons of coal and iron ore a year.

Because of the notorious weather in the Bay of Biscay, the entire project was protected by a heavy curved breakwater nearly 4 km long that links up to the natural protection provided by Cape Torres. 1250 meters of new quay walls and a maneuvering area 23-27 meters deep and more than 400 meters wide will allow three modern bulk carriers with a DWT of 230,000 tonnes and a draft of 20 meters to moor at the same time.

In financial terms, this is the largest maritime project in the history of Spain. After the completion of the project the port of Gijón will be fully equipped to face the future. On 10 November 2009 the 'European seaports organization' (Espo) presented its first Societal Integration of Ports Award to the port of Gijón in Spain for a project entitled 'Gijón Port and City Together'. Gijon was selected because of the port authority's long-standing strategy in managing the societal integration of its port.

PROJECT SPECIFICATIONS

The dredging projects amounted to approximately € 70M. Boskalis/Sedra – as partner in UTE Dragado Gijón – took on approximately 50% of that total. Because of the storms in the Bay of Biscay, it is only possible to work efficiently in the summer months. The first phase of the project began in the summer of 2005 and it comprised approximately 1M m³ of trench dredging using a medium-sized TSHD for the foundations of the caisson quay walls. After the construction of the quay walls, work started on the new harbor area. The 2009-2010 operations will result in approximately 17M m³ for land reclamation. Two medium-sized TSHDs delivered the first 10M m³ of sand to shore in 2009.

FEATURES

Client	Autoridad Portuaria de Gijón
Location	Port of Gijón, Spain
Period	2005, 2009-2010
Main contractor	UTE Dique Torres
Dredging contractor	UTE Dragado Gijón (Boskalis and other partners)

A Location map
B Seaway pumping ashore, July 2009
C Boskalis' TSHD Prins der Nederlanden approaching discharge location

Because the dredged sand was coarser than expected (D50 200µm), a lot of wear parts had to be replaced regularly. That didn't affect the efficiency of the operations. The work for 2009, which was planned to take six months, was completed in 5 months to the satisfaction of the client, who works to tight deadlines.

The initial borrow areas designated by the port authorities did not contain enough sand, and so approximately 25% had to be obtained further out to sea and at greater depths than previously estimated. This sand was located/detected and confirmed with supplementary seismic surveys and vibrocoring tests which were performed during the 2009 campaign. The joint venture of which Boskalis is a part, can deploy the right equipment for dredging at great depths.

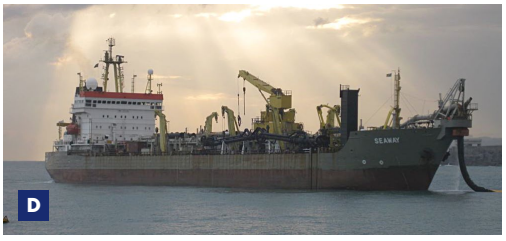
HIGHLIGHTS

Boskalis has a large fleet of hopper dredgers of different sizes. Together with the joint-venture partner, the available range of equipment is even wider. This played an essential role in Gijón because tight deadlines had to be met due to the limited duration of the working season, the planned fast completion of this large investment and the unexpected need to dredge deeper further offshore. As a result of the flexible deployment of the right equipment, Royal Boskalis Westminster was able to confirm its sound reputation in Spain by, once again, delivering on time, completely to specifications and within budget.

The efficiency, diversity and flexibility of the company also emerged in a large package of products, services and specializations. For example, the` Boskalis engineering consultancy Hydronamic was involved in production calculations during the tender phase. Boskalis' subsidiary Dolman, which specializes in soil remediation, has extensive expertise in soil surveys and drew on the results of the seismic surveys and the vibrocoring tests to determine the location of the suitable supplementary sand borrow areas. Although this work was covered by another contract, Rock Fall, another Boskalis' subsidiary, contributed its drilling, blasting and explosives engineering expertise to the future of the port of Gijón. They cleared rocks harder than 10 Mpa in the centre of the new harbor area (which partly has been removed with Boskalis TSHD Prins der Nederlanden).

PORT OF GIJÓN EXPANSION SUMMARY

DREDGING WORKS:	
2005 trench dredging	approx. 1,000,000 m^3
2009 fill volume	approx. 10,000,000 m^3
2010 fill volume	approx. 7,000,000 m^3
DEPLOYED EQUIPMENT:	
2005 campaign	1 medium size TSHD
2009 campaign	2 medium size TSHDs, including the Boskalis vessel Seaway, with a capacity of 13,255 m^3
2010 campaign	2 jumbo size TSHDs



D TSHD Seaway in the spotlight
E TSHD Prins der Nederlanden pumping ashore
F Overview of works from Cabo Torres, September 2010
G TSHD Seaway navigating from reclamation area after dumping fill material

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