

PROJECT SHEET

SOYO, ANGOLA
 MAINTENANCE DREDGING AND
 MAINTENANCE TO AIDS TO NAVIGATION SERVICES

BOSKALIS

Boskalis is a leading global marine contractor and services provider. With safety as our core value, we offer a wide variety of specialist activities to the oil & gas and renewables sectors. These activities include marine installation and decommissioning, seabed intervention, marine transport and services, subsea services and marine survey. In addition, Boskalis is a global dredging contractor, provides towage and terminal services across the globe and delivers marine salvage solutions. By understanding what drives our clients we are able to provide the solutions that enable them to meet their specific business goals. For this reason we are constantly looking for new ways to broaden and optimize our offering and are committed to expanding our proposition, supported by our financial strength. With our committed professionals in engineering, project management and operations, 500 specialized vessels and an unprecedented breadth of activities in 90 countries across six continents we help our clients push boundaries and create new horizons.

INTRODUCTION

Angola LNG has built in 2008 one of the world's most modern LNG processing facilities, located 350 km north of Luanda in Soyo, at the mouth of the Congo River.

Angola LNG is the result of a partnership between Sonangol, Chevron, Total Energies, Azule Energy Angola Production B.V. and Azule Energy Exploration (Angola) Ltd (formerly Eni Production Angola B.V. and BP Exploration Angola Ltd), to gather and process gas and deliver up to 5.2 million tons of Liquefied Natural Gas (LNG) per year to the global market via up to 80 cargoes per year using its dedicated fleet of 7 vessels. One of the main drivers that led to the creation of Angola LNG was the opportunity to eliminate the flaring of associated gas, allowing for the development of offshore oil reserves in a more environmentally sustainable manner.

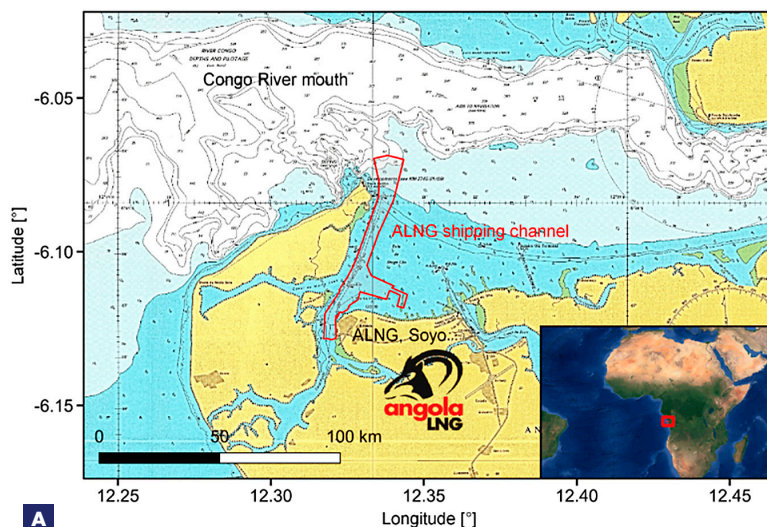
At \$12bn, the Angola LNG project, built to create value from offshore gas resources, is one of the largest ever single investments in the Angolan oil and gas industry.

CONGO RIVER ESTUARY

The port is located in a former, poorly accessible swamp area that connects to the Congo River, one of the fastest-flowing rivers in the world. Currents generally flow from the Southeast to Northwest at rates up to 6 knots in the upper 8 meters of the

FEATURES

Client	Angola LNG Limited
Location	Soyo, Angola
Period	2017 - 2028
Contractor	Boskalis International BV & Dredging International Services Ltd Angola maintenance JV (BDM JV)



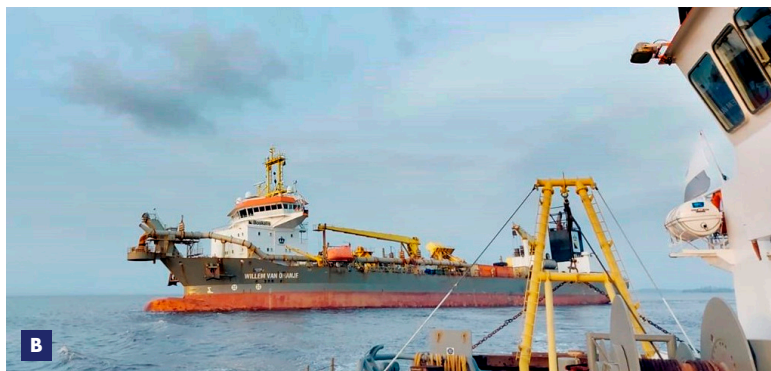
A

- A** Project location
- B** TSHD Willem van Oranje

water column. These currents are stronger in the wet season (November to May) and vary according to the state of the tide. The current patterns in the project area are complex and variable. Especially during the wet season, the flow of the river ensures a large supply of sediment.

SCOPE OF WORK

To allow for smooth in and out bound traffic of the LNG tankers, Angola LNG has contracted BDM JV to provide annual maintenance dredging services and maintenance to the navigation aids in the navigable port areas. The two contracts for maintenance dredging and maintenance to Aids to Navigation Services are linked and spanning from 2017 to 2028.



B

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MAINTENANCE DREDGING AND
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- C** Multicat Tessa
- D** Multicat Tessa performing buoy maintenance
- E** Multicat Tessa performing buoy maintenance

MAINTENANCE DREDGING

The annual maintenance dredging takes usually place outside the wet season when the supply of sediment from the Congo River is at the lowest. The dredging campaign is normally executed in period between May and August, ahead of the turtle nesting season which starts in October.

The maintained depths range from -18 m at the channel entrance to -14 m at the LNG berths and at -7,5 m at the Kwanda port basin. A volume varying between 2.2 million and 3.5 million m³ is dredged, with the client choosing between

option A (TSHD-medium) and option B (TSHD-large) campaign. In option A, the shallower port areas are part of the campaign, whereas in option B, they are not.

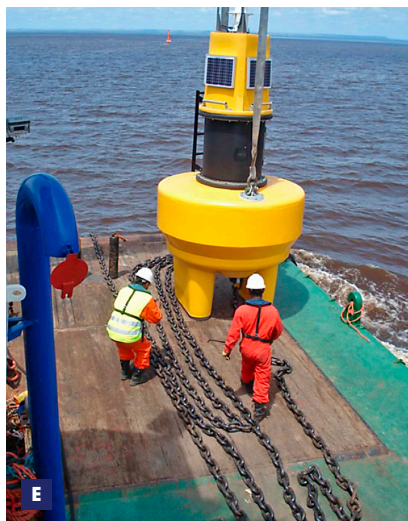
MAINTENANCE TO AIDS TO NAVIGATION SERVICES

BDM JV is responsible for maintaining 26 operational floating buoys within the Port of Soyo. Temporary removal and re-deployment of floating aids is part of the works while considering the local strong currents. For this scope Boskalis' Multicat Tessa is present on location throughout the year. Tessa also provides logistical support and ploughing services.

LONG TERM PARTNER WITH EXCELLENT SAFETY RECORD

Boskalis has proven to be a reliable long-term partner for Angola LNG. From involvement with the LNG plant site preparation and capital dredging of the navigable areas in the period 2006 - 2009, to maintaining the navigable areas under the BDM JV since 2010 till present.

With a strong emphasis on adhering to highest industry Safety standards, resulting in a flawless track record with zero Lost Time Injuries (LTI) since the start of this contract in 2017. The joint venture's thorough training, organizational efficiency, and positive community engagement have contributed to achieving high CHESM audit scores. This dedication has contributed to the contract extension till 2028. ALNG's comprehensive approach to safety further emphasizes its commitment to safeguarding the health and well-being of its workforce and the local community in Soyo.



Boskalis

PO Box 43
3350 AA Papendrecht
The Netherlands
T +31 78 69 69 000
royal@boskalis.com
www.boskalis.com