

 **Nigerian Westminster
Dredging and Marine**

NIGERIA BROCHURE

AT HOME IN NIGERIA



A PROVEN NAME IN NIGERIA

'WORKING WITH NWDM IS A COMMITMENT TO NIGERIAN CONTENT DEVELOPMENT'

Nigerian Westminster Dredging and Marine Limited (NWDM) is a leading provider of creative and innovative all-round solutions to infrastructural challenges in offshore, coastal and inland locations in Nigeria. We build and maintain ports and waterways, reclaim land, defend coasts and protect riverbanks, and provide a large range of oil & gas-related services.

OUR MAIN ACTIVITIES

- Dredging and Land Reclamation
- Coastal Defense and Riverbank Protection
- Piling and Civil Construction
- Submarine pipeline/cable installation, repair and fabrication works
- Soil Improvement and Drainage
- Geotechnical Investigation
- Subsea Installation and Diving Services
- Salvage and Wreck Removal
- Heavy Marine Transport and Installation

NWDM is a company incorporated under the laws of the Federal Republic of Nigeria and has its registered office in Lagos. As a Boskalis subsidiary, we have been operating in Nigeria as NWDM since 2000, but the company's impressive track record in Nigeria goes back more than 65 years.

Our long history in Nigeria means we have a sustainable local organization and infrastructure on the ground and a vast network of local suppliers and subcontractors to fully support the projects in Nigeria. Our workforce consists of more than 95% Nigerians at all levels of the organization. So calling on NWDM is a commitment to Nigerian Content Development.





SAFETY AND THE ENVIRONMENT





'THE NWDM BOARD ACCEPTS ITS RESPONSIBILITY FOR OUR WORKFORCE AND THEIR FAMILIES AND GIVES A HIGH PRIORITY TO SAFETY'

The NWDM board accepts its responsibility for our workforce and their families and gives a high priority to Safety, Health and the Environment. This is reflected in our safety program "No Injuries No Accidents (NINA)", which embeds the desired safety culture in our organization and makes safety a fully integrated part of our conduct.

Protecting the environment is a top priority for NWDM and our projects are executed with great care to minimize the impact on the ecosystem.

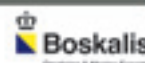
Our day-to-day operations are based on an integrated SHE-Q Management System in accordance with ISO 9001, ISO 14001 and OHSAS 18001 standards.

SAFETY STATEMENT

Our people are our most valuable assets, making safety a core value. Our goal is: No Injuries No Accidents. This is embedded in our company's culture and supported through Values and Rules. All employees, including our sub-contractors, are expected to take these values and rules to heart.

VALUES	RULES
<ul style="list-style-type: none"> I AM RESPONSIBLE FOR MY OWN SAFETY I APPROACH OTHERS ABOUT WORKING SAFELY I TAKE ACTION IN CASE OF UNSAFE OPERATIONS IF NECESSARY, I WILL STOP THE WORK I ACCEPT FEEDBACK ABOUT MY SAFETY BEHAVIOUR REGARDLESS OF RANK AND POSITION I REPORT ALL INCIDENTS, INCLUDING NEAR-MISSES, TO INFORM OTHERS AND BUILD ON LESSONS LEARNED 	<ul style="list-style-type: none"> PREPARE A RISK ASSESSMENT FOR EACH PROJECT, VESSEL OR LOCATION OBTAIN A PERMIT TO WORK FOR DEFINED HIGH-RISK ACTIVITIES MAKE A JOB HAZARD ANALYSIS FOR HAZARDOUS NON-ROUTINE ACTIVITIES BE INFORMED ABOUT RISK & CONTROL MEASURES BE FIT FOR DUTY AND WEAR THE PPE REQUIRED

WWW.BOSKALIS-NINA.COM



GBARAN UBIE
NINA talk on board the grab dredger Swampland

DREDGING AND LAND RECLAMATION

LAGOS

The trailing suction hopper dredger Waterway pumping sand behind a newly built quay wall at the Bullnose Jetty, Apapa, Lagos



'ALTHOUGH NWDM HAS A LONG HISTORY OF DREDGING AND EARTHMOVING IN NIGERIA, WE STILL CONSIDER EACH PROJECT UNIQUE'



The NWDM core business is, and always has been, dredging, land reclamation and dry earthmoving. These activities may range from the deepening, widening and maintenance of harbors and waterways, land reclamation, and the provision of sand stockpiles to the construction of pre-loads and beach replenishment.

Land means room for growth and development. NWDM is involved in both medium- and large-scale land reclamation projects ranging from property development schemes in the Lagos and Lekki region to site preparation works for major oil & gas-related projects such as those at Escravos and Brass Island. The associated bush clearing is usually sub-contracted to local contractors from the host communities.

Although NWDM has a long history of dredging and earthmoving in Nigeria, we still consider each project unique. We analyze the project-specific requirements and then select the most appropriate equipment and techniques. Our well-trained employees can provide the optimal solution for client requirements.



from left to right:
ONNE PORT

A large scale 200-hectare land reclamation project involving the expansion of the Federal Lighter Terminal (FLT) and Federal Ocean Terminal (FOT) at Onne Port

OLERO CREEK

Maintenance dredging with the cutter suction dredger Bever

BRASS ISLAND

Bush clearing during the early works contract for Brass LNG

COASTAL DEFENSE AND RIVERBANK PROTECTION



'COASTAL DEFENSE WORKS TO STABILIZE SHORELINES AND PROTECT THEM FROM EROSION AND FLOODING HAVE BEEN AN NWDM SPECIALTY OVER THE YEARS'

FORCADOS / OGULAGHA
Coastal defense project during which a total of 2,300 meters of coastline was raised and reinforced in order to protect the fishing village of Ogulagha near Forcados



NWDM has extensive experience in coastal defense and riverbank protection works such as beach nourishment, the construction of breakwaters, groynes, river bank / slope and bottom protection works.

Coastal defense works to stabilize shorelines and protect them from erosion and flooding have been an NWDM specialty over the years.

Through our in-house engineering company Hydronamic we can deliver tailor-made, cost-effective and sustainable solutions to these erosion challenges. Our expertise in quarry management and logistics for rock supply allows us to optimize the construction process.



from left to right:
GBARAN UBIE
Loading of dump trucks at the NWDM Ogun rock supply base near Yenagoa

GBARAN UBIE
Shoreline and bottom protection works on the SPDC integrated oil & gas project at Gbaran Ubie on the River Nun, Bayelsa State

SAGBAMA
Sandfill with the CSD Martina at the Sagbama erosion control rehabilitation project

PILING AND CIVIL CONSTRUCTION

'THE YARD AT OUR MEROGUN OPERATIONAL BASE IN WARRI HAS THE APPROPRIATE FACILITIES FOR PRE-CASTING AND FABRICATION/ PREFABRICATION ACTIVITIES'

NWDM has an established record in piling and marine construction works that include the installation of concrete and steel piles, the installation of sheet pile walls and cofferdams and outfall construction. The yard at our Merogun Operational Base in Warri has the appropriate facilities for pre-casting and fabrication/prefabrication activities.



ESCRAVOS
Installation outfall extension at the
Chevron EGTL site at Escravos

ESCRAVOS
Extraction of piles at the
Chevron ECTL site
at Escravos



ESCRAVOS
Driving sheet piles for the
cofferdam at the EGP3A
landfall site at Escravos



SUBMARINE PIPELINE/CABLE INSTALLATION, REPAIR AND FABRICATION WORKS



'IN RECENT YEARS NWDM HAS COMPLETED THE STRUCTURAL MODIFICATION AND REFURBISHMENT OF COMPLETE FLOW STATIONS AND OTHER OIL & GAS FACILITIES'

WARRI / OLERO CREEK
Refurbishment of the Olero Creek North Water Station at NWDM Merogun Yard, Warri. The scope of work also included tow-out and transportation, installation, hook-up, commissioning and start-up at the Olero Creek location.



NWDM has an established record of services for the Nigerian oil & gas industry that include jetty construction, concrete barge installation and the fabrication, installation and/or repair of pipelines with large and small diameters.

NWDM also has extensive experience with trenching and backfilling, and the construction of complete pipeline shore approaches, including the associated trench dredging work, cofferdam construction at the beach crossing, and pipe-pulling.

In recent years NWDM has completed the structural modification and refurbishment of complete flow stations and other oil & gas facilities.



ESCRAVOS
Pipe pull for Chevron Nigeria's EGP3A project

SOIL IMPROVEMENT AND DRAINAGE



'THROUGH COFRA, ANOTHER BOSKALIS COMPANY, WE CAN OFFER THE ENGINEERING AND INSTALLATION OF SOIL IMPROVEMENT WITH VERTICAL DRAINAGE'

ESCRAVOS EGTL
PVD rigs on the EGTL site at Escravos



Through Cofra, another Boskalis company, we can offer the engineering and installation of soil improvement with vertical drainage (Wick Drains), usually in combination with pre-loads and surcharges, vacuum consolidation, dewatering systems and dynamic compaction.

Through Boskalis Environmental (BKE), we can also provide, install and subsequently monitor the necessary settlement monitoring systems to check vertical and horizontal movement in the subsurface resulting from the soil improvement works.

We specialize additionally in the installation of HDPE geomembrane, cut-off walls and vinyl sheet piling.

from top to bottom:
BRASS ISLAND
Pre-drilling and PVD installation on Brass early works

ESCRAVOS EGTL
Installation of a watertight vertical Geolock® barrier on the EGTL site at Escravos



GEOTECHNICAL INVESTIGATION

BRASS ISLAND
Geotechnical site investigation at the
early works contract for Brass LNG



‘THROUGH BOSKALIS ENVIRONMENTAL,
NWDM CAN EXECUTE GEOTECHNICAL
SITE INVESTIGATIONS, BOTH ON LAND
AND OVER WATER.’



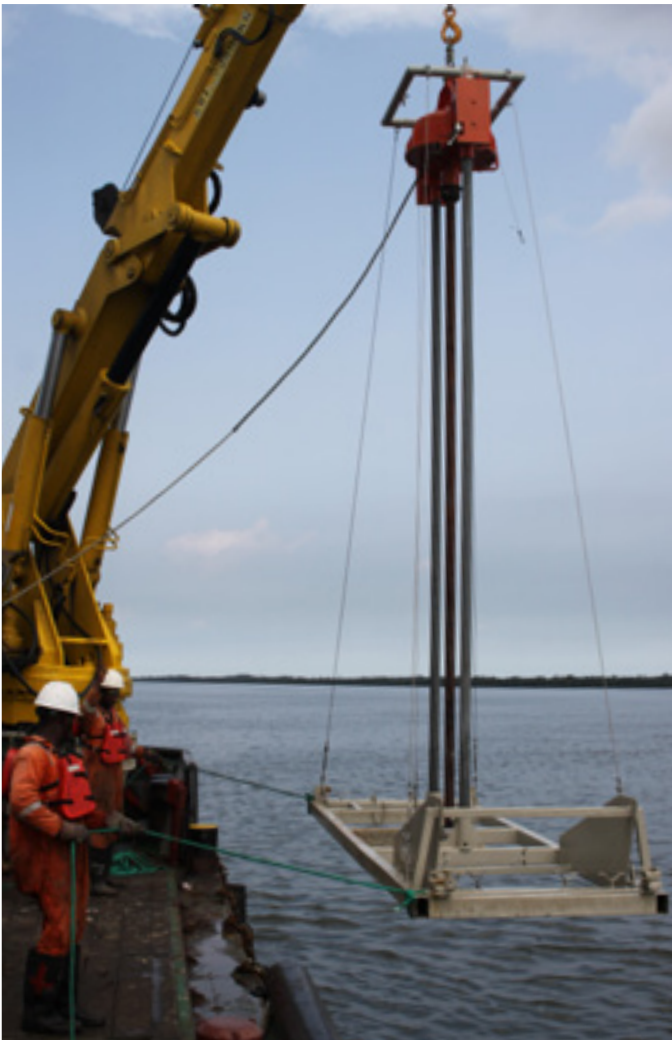
Through Boskalis Environmental, NWDM can execute geotechnical site investigations, both on land and over water.

NWDM has the following equipment available in Nigeria for this work:

- CPT (Cone Penetration Test) Rig
- Vibrocorer
- Drilling Rig (Pilcon)

For geotechnical site investigations over water, NWDM has converted an existing pontoon into a dedicated drilling barge.

We have a laboratory at our Merogun Operational Base in Warri for geotechnical analyses of the soil samples, as well as mobile laboratories for use on specific project sites.



from top to bottom:
ONNE PORT
Tests in site laboratory

BONNY RIVER
Sand search

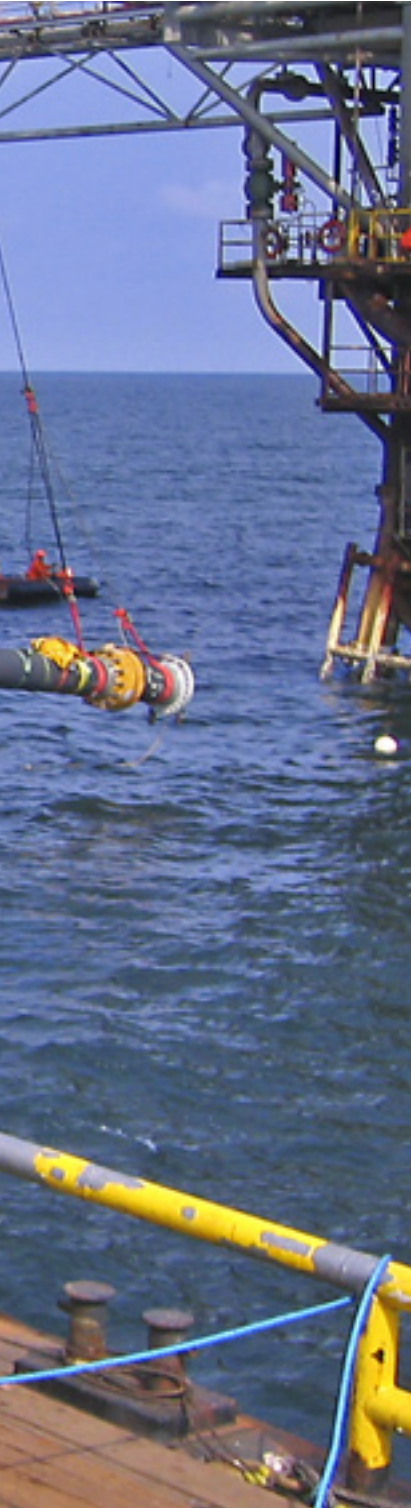
SUBSEA INSTALLATION AND DIVING SERVICES

OFFSHORE NIGERIA
Diving works for the Usari Idoho project



'THROUGH BOSKALIS OFFSHORE, NWDM PROVIDES INSPECTION, REPAIR AND MAINTENANCE (IRM)'

Through Boskalis Offshore, NWDM provides Inspection, Repair and Maintenance (IRM) services, as well as construction and decommissioning services for subsea projects in the oil & gas, civil and renewable-energy markets, with the core competences including surface-demand diving services (air/nitrox/mixed-gas), saturation diving services, ROV services and associated services, including project management and subsea engineering.



from top to bottom:
Diving works

DSV Constructor

SALVAGE AND WRECK REMOVAL

Through SMIT Salvage, we can offer salvage and wreck removal solutions. SMIT Salvage is one of world's largest salvage companies offering worldwide marine emergency response coverage, rescuing hundreds of valuable ships and cargoes, preventing the spillage of millions of tonnes of oils, chemicals and bunkers. A full overview of the services supplied by SMIT Salvage can be found on www.smit.com.

| SALVAGE AND WRECK REMOVAL

Wreck removal of grounded chemical product tanker, Capo Santo Panagio, Sicily, Italy



| NIGERIA BROCHURE

'SMIT SALVAGE IS ONE OF WORLD'S
LARGEST SALVAGE COMPANIES
OFFERING WORLDWIDE MARINE
EMERGENCY RESPONSE COVERAGE'

Wreck removal by Smit Salvage with
the floating sheerleg Smit Cyclone



HEAVY MARINE TRANSPORT AND INSTALLATION

HEAVY MARINE TRANSPORT AND INSTALLATION



NIGERIA BROCHURE

'BOSKALIS OFFSHORE HAS A COMPREHENSIVE FLEET THAT CAN DELIVER EVERY CONCEIVABLE SOLUTION'

The Dockwise Vanguard with its bowless design



Through Boskalis Offshore, Dockwise and Fairmount we can offer a wide range of heavy marine transport, ocean towage, heavy lift and offshore installation solutions.

Boskalis Offshore has a comprehensive fleet that can deliver every conceivable solution. Dockwise is a leading marine contractor offering Heavy Marine Transport, Offshore Installation and Industrial Logistics services, mainly to the oil & gas, renewables, mining, and port & marine industries. The Dockwise fleet includes the "Dockwise Vanguard", the largest and most innovative semi-submersible transport vessel ever built.

The Fairmount fleet includes five long-distance ocean-going Anchor Handling Tugs that can handle the heaviest and most difficult assignments in total safety.

For further information about the numerous services on offer, see www.boskalis.com/offshore.



Dockwise MV Transshelf engaged in a 'float-over' for the OFON 2 project, offshore Nigeria, for Technip/Total

Topside installation using floating sheerlegs

FLEET AND EQUIPMENT

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NIGERIA BROCHURE

'ALL OUR EQUIPMENT IS MANNED AND OPERATED BY WELL-TRAINED AND EXPERIENCED NIGERIAN CREW AND OPERATORS'

Backhoe dredger Ilajeland



NWDM has its own local marine and land-based fleet in Nigeria. We can also call on the specialised plant and equipment, and the technical expertise and experience of the Boskalis group.

All our equipment is manned and operated by well-trained and experienced Nigerian crew and operators, who all undergo continuous in-house and external training, both in Nigeria and abroad.

The NWDM fleet and equipment includes:

- Grab and Backhoe Dredgers
- Cutter Suction Dredgers
- Tugs and Multicats
- pontoons and Barges

In addition to the marine equipment, NWDM operates a fleet of dry earthmoving machines such as excavators, bulldozers, payloaders, compactors, articulated dump trucks, etc.

from left to right:
Cutter suction dredger Martina

Pusher tug Hurricane with rock barge 609

Multicat Nun River

Tug Imo River

Dry earthmoving equipment (*top right*)



NWDM MEROGUN OPERATIONAL BASE IN WARRI

NWDM MEROGUN OPERATIONAL BASE IN WARRI



NIGERIA BROCHURE

'THIS OPERATIONAL BASE MANAGES THE MAINTENANCE, REPAIR AND FABRICATION OF EQUIPMENT AND MATERIALS'



All our operations in Nigeria are backed up by an integrated central workshop at our Merogun Operational Base in Warri, Delta State. This operational base manages the maintenance, repair and fabrication of equipment and materials. It covers 100,000 m² and has a 220-meter-long waterfront jetty that can accommodate vessels with draughts of up to 5 meters.

There is a large warehouse and storage facility, a concrete construction yard and a large pipeline storage yard, as well as a full range of separate workshops for the various disciplines



SOCIAL RESPONSIBILITY & COMMUNITY RELATIONS

FORCADOS / OGULAGHA COMMUNITY PROJECT
In 2011 NWDM completed a project near the SPDC
Forcados export terminal, protecting the nearby fishing
village of Ogulagha against flooding and coastal erosion
and creating two landing and mooring locations



'NWDM WORKED WITH THE FAMILY CARE ASSOCIATION (FCA) ON TWO CAMPAIGNS FOR THE NIGERIA MALARIA CONTROL AND PREVENTION PROGRAMME'



NWDM has been successful over the past 65 years in building and developing the future of Nigeria, reducing poverty and unemployment and improving capacity development in our field. We plan to continue contributing to the Nigerian economy by:

- Maximizing the deployment of Nigerians at all levels of the NWDM organization;
- Transferring knowledge and technology to Nigerians in order to develop local capabilities;
- Maximizing indigenous contractor participation in procurement and sub-contracting activities, while maintaining our SHE-Q standards and business principles;
- Developing communities through community projects, training and education as well as the employment of a local workforce.



FAMILY CARE ASSOCIATION COLLABORATION - MALARIA CONTROL AND PREVENTION

In recent years, NWDM worked with the Family Care Association (FCA) on two campaigns for the Nigeria Malaria Control and Prevention Programme that reached out to a wide range of communities in the country.

The focus was on reducing malaria in the target communities through Intermittent Preventive Treatment, free Rapid Diagnostic Tests for malaria, and free ACT malaria medication for those who tested positive for malaria, with the emphasis on pregnant women and children under five years.



Top 2:
SAGBAMA COMMUNITY PROJECT
During the Sagbama erosion control rehabilitation project in 2014, NWDM sponsored the construction of the staff kitchen and bathroom for the Sagbama General Hospital

Bottom 3:
FAMILY CARE ASSOCIATION COLLABORATION
Free ACT malaria medication and distribution of thousands of long-lasting insecticidal nets in the target communities

LET'S TALK



| LET'S TALK

'TELL US
ABOUT YOUR
CHALLENGES'

| NIGERIA BROCHURE

For over 65 years, NWDM has helped clients meet some of the toughest challenges.

How can we help you? Give us a call and tell us about your challenges. Or look at our portfolio on www.boskalis.com/nigeria, where more information, project sheets, plant specification sheets, etc. can be found and downloaded.



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