



MDL at 18: raising the stakes, lowering the risk

New additions to Maritime Developments' portfolio are set to increase safety and reduce costs of larger-scale flex-lay projects.

With its latest delivery, the company has introduced into the market the biggest portable reel drive system yet: capable of safely handling 14-metre reels weighing 800-tonnes in dynamic conditions.

Featuring a compact footprint and allowing downscaling to handle loads of up to 500Te SWL, while simultaneously minimising manual handling and working at heights, this is also the most versatile and efficient system of its kind. The first MDL RDS-800 is set to begin operations in the Gulf of Mexico next year.

In the meantime, MDL continues to grow its Offshore Service fleet to allow more operators globally to benefit from shorter mission times and fewer vessel days. The company is currently engineering a new 4-track tensioner, due for delivery in early 2018, which will also be the biggest and longest in its portfolio to date.

"The core focus behind all our equipment design is to reduce mission time while increasing safety of operation, said MDL CEO Derek Smith.



Derek Smith

"However, rather than take the approach of "one size fits all", we work closely with our clients to understand the challenges they are facing, and to provide them with the best solution to benefit their business or project.

"The new additions to our portfolio are a result of this cooperation, which in turn allow us to drive the cost of operation down and minimise risk – that way making our industry more sustainable."



Oceaneering adds MDL 800Te RDS to global fleet

Oceaneering has taken delivery of an 800-tonne Safe Working Load Reel Drive System from Maritime Developments.

The modular system will be used to deploy and retrieve SURF (Subsea Umbilicals, Risers and Flowlines) products on board the company's new-built multi-service vessel, Ocean Evolution, and joins Oceaneering's global fleet of flex-lay equipment.

Rated for over 1 300-tonne Dynamic Working Load (DWL), the Reel Drive System (RDS) is rated for handling 14m diameter reels weighing 800-tonnes under dynamic, sea-state conditions. The RDS – which can be configured to operate smaller and lighter loads for specific projects – can handle multiple reels, as well as skid fully loaded reels up and down a dedicated track system with integrated reel cradle and support grillage.

It comes with completely self-contained electric variable frequency drive package and an A60-rated fire-proof control cabin to conform with US Coast Guard requirements, as well as a Walk-About-Box (WAB) for complete flexibility of operator position.

This latest third-generation unit is the biggest delivered by MDL to date, and takes the company's tally of fully-electrical deck systems across the 50th mark. The original third-generation 350-tonne unit,

forming part of MDL Offshore Service, was first used as part of a complete MDL flex-lay spread on North Sea's Kraken field in autumn 2015.

"Oceaneering's mission is to provide the best value and service to our customers, regardless of market conditions," said Conrad Picou, Global Supply Manager at Oceaneering.

"This is why we continue to invest in our assets, and the addition of this RDS will strengthen our offering to operators worldwide.

"It will complement our existing equipment and deliver more efficient handling and reduced mobilisation time to provide far-reaching cost-savings to our clients."

Derek Smith, MDL CEO, said: "Oceaneering were looking for a system that would make best use of the deck space on their new vessel, alongside the benefits of shorter mobilisation times and reduced manual handling.

"This asset – which has been delivered on budget and ahead of schedule, will allow Oceaneering to offer our cost-cutting technology to operators worldwide.

"After the success of our 350-tonne third-generation RDS, which demonstrated the time savings achievable with smart equipment design, we were keen to provide the same returns on our larger-scale equipment.

"This system is the result of continual discussions with our clients to understand what can save time – and therefore project cost – and to come up with the best solution for their business needs.

"This ongoing dialogue has opened our eyes to new ways of improving back-deck operations and has already driven us to investigate new products where technology could deliver further savings."

Specification

800Te Reel Drive System
(1340Te dynamic working load)

Maximum reel weight: 800Te (nominal as each tower can carry 480Te, overall max weight dependent on offset)

Maximum reel diameter: 14m

Minimum reel diameter: Unlimited (with packers below reel)

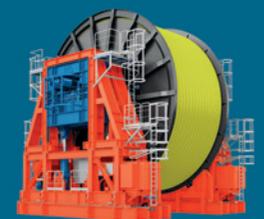
Maximum torque: 171Te/m

Max hub rotation speed: 1.2rev/min at 85.5Te/m (high speed/low torque), 0.6 rev/min at 171Te/m (low speed/high torque)

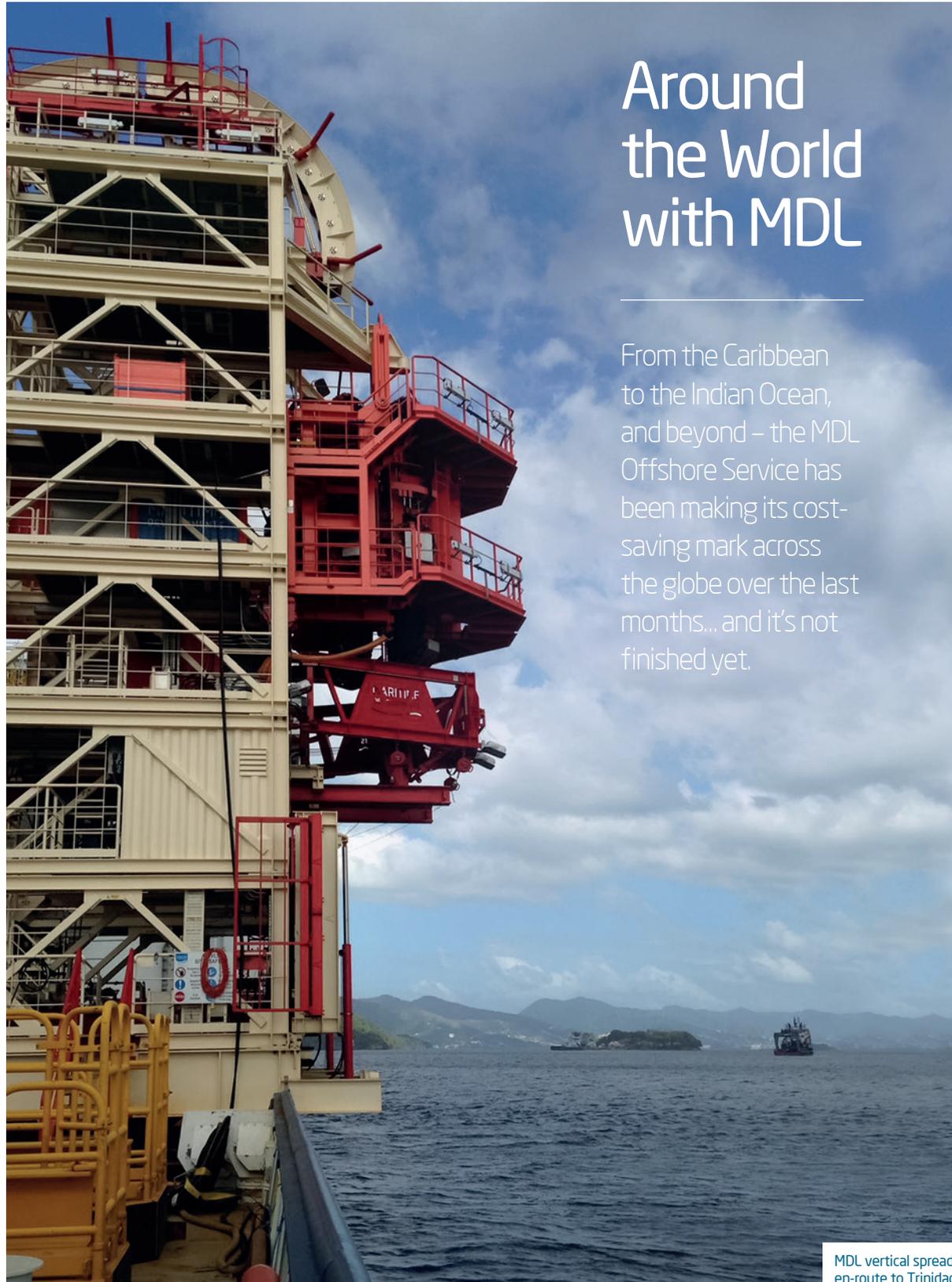
Maximum line pull on 14m reel: 24Te at outer flange

Safety and time-saving features:

- Complete remote operation, reducing manual handling and eliminating working at heights
- Automated walking system to reduce downtime when moving between reels
- Hubs driven by electric drive assemblies with failsafe closed brakes
- Integration of the electro-hydraulic power unit within the base of the tower, reducing the footprint occupied by equipment on deck, allowing for more product or ancillary equipment to be carried on board – potentially reducing sea fastening time and also mission time



- Integration of reel cradle grillage into the RDS track system cuts reel mobilisation time without compromising on safety, and possibly eliminating under-deck stiffening on many vessels
- Road transportable or can be shipped by standard methods



Around the World with MDL

From the Caribbean to the Indian Ocean, and beyond – the MDL Offshore Service has been making its cost-saving mark across the globe over the last months... and it's not finished yet.

MDL vertical spread en-route to Trinidad



The TTS-4/310 Series Tensioner during MDL's maiden project in India



Following a busy summer across the Northern Hemisphere in 2016, the MDL Spread – consisting of a 4-track tensioner deployed on the MDL PVLS (Portable Vertical Lay System) and one of the company's 400-tonne Reel Drive Systems (RDS) – returned to work in 2017: this time in the Caribbean.

The complete MDL vertical spread was used for a flexible installation in BP's Juniper field offshore Trinidad and Tobago, before returning to base in Peterhead; but not for long.

Soon after, the tensioner was deployed as part of a horizontal spread in Norway, alongside the company's market-leading third-generation RDS (more on page 10).

While the vertical spread was crossing the Atlantic, the latest in MDL's portfolio of 4-track tensioners, the TTS-4/310 was in transit east, for a beach-pull project offshore India.

The installation, which connected an onshore processing terminal with a subsea distribution unit, demonstrated the benefit of using a single tensioner with an extended track length for handling of a delicate product – as opposed to the cumbersome dual-tensioner solution.

"It's great to see our equipment move around the world – it's what it's been designed for, after all," said MDL commercial director Mike Gaskin.

"There are multiple benefits of the modular and compact design of our kit – not least the fact that it can be easily transferred between ports, reducing mobilisation and vessel times.

"That's the first of many stages when the operator notices the cost of their project coming down; and the more days we carve out of the length of the mission, the bigger the saving they are left with – a multiplier of their vessel day rate.



Mike Gaskin

"All it comes down to is understanding where the biggest delays tend to occur on offshore projects – and mitigating

or eliminating that risk has been ingrained into every MDL piece of kit."

All equipment in the MDL Offshore Service fleet features road-transportable and compact design, which reduces or eliminates sea transit and allows for smaller vessels to be used for a project.

Additionally, integration of systems, clever sea-fastening and Plug & Play functionality mean the equipment is fully operational after the installation on board – reducing mobilisation time and speeding up the entire mission, to deliver major savings on the job.

MDL. Instinct, Matured.

Many things get better with age – including engineering excellence. In 18 years we've grown a lot.

Forward thinking back-deck systems

Products

Tensioners

Reel Drive Systems

Compensators

Overboarding Chutes

Winches

Reel Under Rollers

Small Turntables

Spoolers & Level Winders

Radius Controllers

Portable Horizontal/Vertical Lay Systems

Product Deployment Systems

Systems & HPU/EPUs

Manifold Systems & HPUs

Control Systems & EPUs

Services

Full Life of Product Support/Service

Maintenance and Repair

System Adaptation/Upgrades

Disposing of Hidden Costs

In the pursuit of reaching the fabled “30% cost reduction”, it’s easy to lose track of smaller expenses that add up – but MDL steps in to help.

With a suite of equipment known for its versatility on-and offshore, the MDL portfolio helps clients reduce or eliminate their monthly costs which they might not even realise they have.

That’s what MDL is currently doing on two separate transpooling projects for a UK client, looking to release product reels from costly third-party hire, and to free up quayside space.

The first work scope included disposal of a 10-inch flexible riser, on location at a port in southern Scotland.

As part of the project MDL has taken care of complete project management, including risk assessment and documentation control.



Next, MDL is undertaking transpooling and storage of three flexible risers, using its reel drive system, reel and ancillary equipment.

It will also take care of the transport of risers to MDL’s North Base storage facility in Peterhead, and the return of the reels to the manufacturer.

The excellent location of MDL facilities in Peterhead enables the company to offer easily-accessible storage services to its clients: products can be stored safely under continuous surveillance, and can be quickly deployed if and when required.

With a range of in-house specialist services, MDL’s yard facility also provides asset support, maintenance and repairs that can be tied-in with the scrappage and storage services – turning unnecessary costs into an opportunity.

Hitting the 150Te mark

Less than a year since the delivery of its largest tensioner yet, MDL is working to grow its 4-track offering further – even bigger than before.

Currently under construction by the company’s in-house project department, the TTS-4/375 Series Tensioner will be the first system in MDL portfolio to cater for flexible and rigid lay requiring up to 150-tonne line pull.

Featuring a 5.5m track length and cylindrical design, the system will offer a more compact solution than a dual-tensioner system currently available on

the market. It will be suitable for a variety of projects, including delicate product handling and beach-pull operations.

Lighter than its existing counterparts, the tensioner will also be the first system of its kind to be fully road-transportable in modules, eliminating the need for a dedicated vessel transit to the mobilisation port – delivering huge project savings from the get-go.

It will retain the key features that make the MDL range the safest in their field, including the MDL failsafe grip system, which eliminates single-point failure such as burst hoses or blackouts, and dual-grip monitoring through load cells and transducers, ensuring the product is always handled in the most optimum conditions.

The TTS-4/375 will be suitable for both horizontal and vertical lay projects, and will be available for global operations as part of the MDL Offshore Service fleet.



Releasing hire reel and storage space on the first transpooling project



MDL 110Te system, the TTS-4/310 Series Tensioner



A helping hand across the Sea

With a wealth of experience built over the years, MDL has a raft of long-term cost savings to offer to operators on both sides of the North Sea – as demonstrated on its recent flexible and rigid lay project in Norway.

The MDL 350Te Reel Drive System (RDS) and 50Te tensioner were used to lay a combination of flexible and steel pipe in the Norwegian Continental Shelf (NCS) off a client-supplied horizontal ramp.

The unique single-track opening in horizontal orientation of the company's patented 4-track unit allowed an optimised loading configuration in this mode.

The MDL fleet is known world-wide for reducing vessel days thanks to well thought-out equipment, consequently leading to reduced project costs; and thanks to the company's location, the NCS is perfectly placed to reap the benefits instantly and over a longer term.

With operations based in Peterhead, MDL has access to the forefront of the North Sea energy industry. The Peterhead port has been serving

the sector since 1960s – over which time it has developed a robust infrastructure as well as safe and effective material handling and logistics skills to support the energy market 24/7.

The port continues to develop in order to meet the needs of the evolving oil and gas and renewables sectors with the help of the Peterhead Energy Hub.

The membership organisation consists of various parties, including MDL, working together to achieve top efficiency of North Sea operations – from product commissioning to project delivery.

But it's not just Peterhead's recognition of excellence that makes it a great choice for Norwegian operators; the on-hand resources and skillset allow MDL to continue on its mission of solving

challenges faced by its customers: from delivering bespoke solutions, to providing support offshore and on-land with equipment operation, repair and maintenance.

Dave Gardiner, MDL BD & Commercial Manager, said: "Any vessel owner knows all too well that in the OSV market every minute counts.

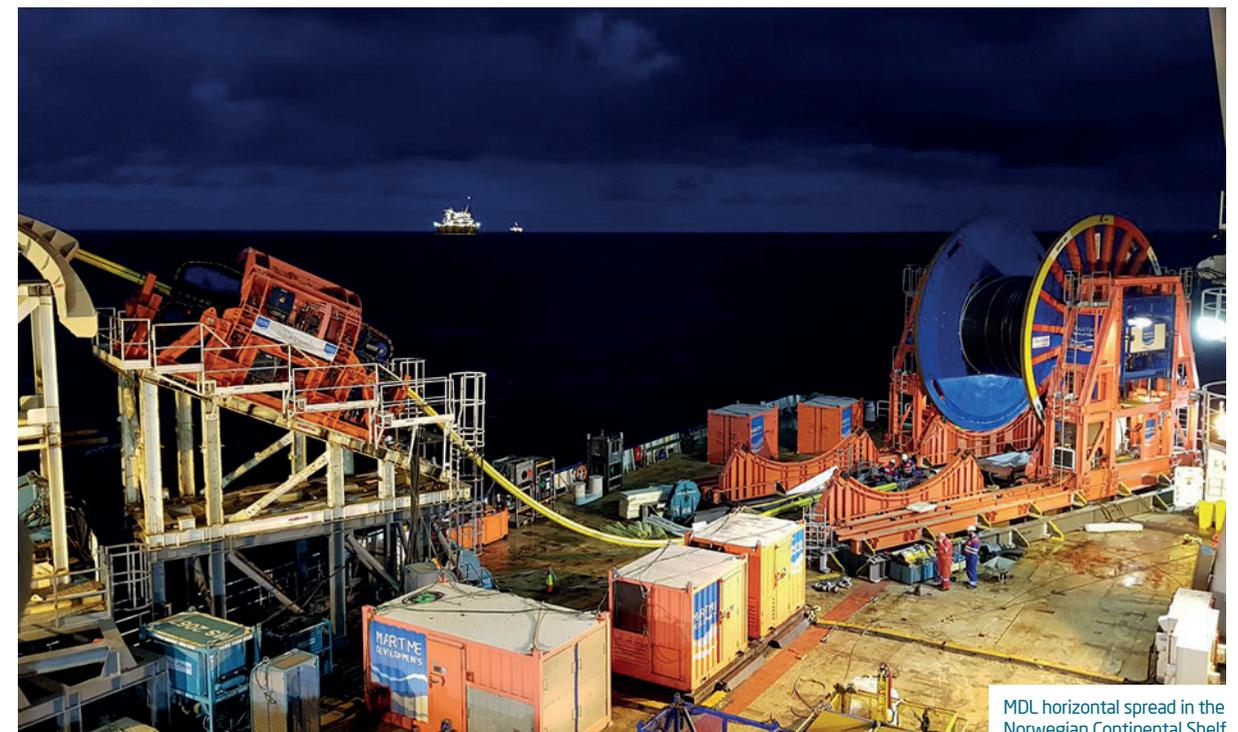
"MDL distinctive blue-and-orange rental fleet can be deployed quickly and safely on virtually any back deck with a crane.

"The modular design of the equipment makes it easier to move from one location to another – or from one vessel to another; while the compact footprint allows for a wider range of vessels to be used for the project, avoiding the risk of clashing schedules for specialist vessels.

"Furthermore, with direct access to the quayside in Peterhead, the sailing time and costs of delivery from MDL to Norway are cut to minimum."

To complement the equipment, the MDL support includes an experienced offshore team, seasoned in North Sea operations since 2012; while the company's in-house experts enable software development as well as design and manufacture of specialist hydraulic and electric modules to handle complex offshore challenges.

The expert staff guarantee smooth operations both on-land and at sea and the strategic location means that the MDL support is at a proximity when needed – whether it is for building new equipment or maintenance and repairs of an existing fleet.



MDL horizontal spread in the Norwegian Continental Shelf



Taking it to the next level

After more than 9 years of providing Capex equipment for Subsea 7's North Sea and global operations, MDL has landed its first rental project with the EPIC contractor.

i-Tech services, the ROV division of Subsea 7, commissioned MDL to supply a suite of equipment for an umbilical installation west of Shetland.

MDL's newest 2-track tensioner, the TTS-2/140, was used as part of the complete MDL horizontal spread, alongside the company's

overboarding chute, deck deflectors and a 400-tonne reel drive system, all ran by MDL's offshore team.

The operation benefited from the tensioner's swivelling top track, offering unlimited opening for the product while maintaining a compact footprint on deck.

While the Reel Drive System ensured safe and controlled operation, managed completely remotely using MDL wireless controls with no manual handling or working at heights required.

Greig May, MDL Rentals Manager, said: "We are extremely pleased to have worked on this project with the i-Tech and Subsea 7 teams, and for the first time together offshore.

MDL horizontal spread on the Subsea 7 project



"Throughout the years Subsea 7 has been an important client, with whom we've grown in the energy industry since our entry into this market in mid-2000s.

"I hope that with this project we have demonstrated that our Offshore Service offers the same cost benefits on as-required basis as the pioneering equipment we deliver bespoke for our clients."



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