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LUXUS Power LED

Theme: New products

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New developments

We are privileged to be in the underwater technology business - a universe where boundaries are continually pushed and new technologies developed. Providing such a dynamic market with systems and services requires combining the right teams and the right expertise and ideas. These are the vehicles behind MacArtney's latest systems and products.

This issue of In Depth looks at the many new developments in recent months from single products like the 25 pin SubConn® connector to the launching of our LUXUS range of cameras and lights.

We have also designed a new articulating A-frame for launch and recovery. In cooperation with ETI and Gisma we have developed a new 11kV wet mate connector, which has a promising future within the renewable energy industry.

The right teams also need the right facilities. Over the last 18 months, MacArtney has built and redeveloped all our operations throughout the world, providing our teams of experts and technicians with up to date sales, production and testing environments.

In our eyes, being the best at what we do is a question of supplying our customers with the systems and services they need both now and in the future. We achieve this through continual improvements and investment in new technology, advanced research and development and by employing dedicated and highly skilled team members. I am pleased to share a little about how we do this in this issue of In Depth.

25 pin SubConn[®]



MacArtney and SubConn have developed a new series of SubConn[®] connectors designed to carry more power and signal connections than previously available.

Designed for projects that require a large number of sensors or power and signal combined in one connector, this new SubConn® range has 25 pins - 3 for power and 22 for signal.

Basing new thinking on proven design The new series is based on the existing C size, giving the new 25 pin series many advantages, not least the assured

The SubConn[®] 25 pin range will be held in stock in Denmark and the USA for fast delivery

quality and reliability already proven in the SubConn[®] series. Using the same dimensions as the standard C size connector also makes it compatible with the same locking sleeves, nuts and other accessories.

All pins are standard size and the series is available as a circular connector, in bulkhead version with 3/4" thread and in an attachable version that can be moulded on. The 3 power pins have a rating of 600 volts, 10 amps per pin, are standard pin size and the 22 signal pins are standard micro pin size.

Orders already received

The first orders for the new SubConn® 25 pin series have already been received. They will form part of the infrastructure for counting fish on the spillways of dams in the USA.

Connecting renewable ene 11 kV wet mate connector



▲ The wet mate connector eliminates the need to bring cables to the surface by wet mating and de-mating cable infrastructure, wave energy converters (WECs), tidal energy converters (TECs) and floating wind turbines.

MacArtney has developed an entirely new type of medium voltage wet mate connector designed especially for the offshore renewable energy market. The new 11 kV wet mate connector makes interconnection and connecting dynamic cables from offshore renewable energy converters to export cables faster and easier.

Up to now, disconnecting or connecting cable terminations offshore has been a time-consuming and consequently expensive business and required bringing cables up on deck.

Funded by ETI, MacArtney has developed, produced and tested the new 11 kV connector solution. MacArtney's

Niels Erik Hedeager, CEO

MacArtney supplies third party certified API connectors to Nautronix



MacArtney is currently the only supplier of third party certified API connectors Blow out preventers, or BOPs, make the difference between emergency shut down and environmental disaster.

Should an emergency arise and the connection between drilling platform and drill breaks, oil flow needs to be halted to prevent a disastrous leak. There is no room for error and blow out preventers

need to work perfectly even after years of submersion.

Nautronix is one of the few companies making acoustic release systems for BOPs. Activated by transponder, powerful valves on the BOP press in the well pipe sides and cut the flow of oil. They are the last lifeline in an emergency

- the electronics that stand between emergency shut down and environmental disaster. And when failure is not an option, choosing the right component supplier is critical.

Nautronix has chosen MacArtney as main supplier of infrastructure for their acoustic release systems for BOPs. MacArtney's API certified connectors and cables will provide the information infrastructure in the seabed mounted blow out preventer and consist of MacArtney's range of DNV certified API pressure balanced oil filled harness cables and FCR connectors.

MacArtney is currently the only provider of API connectors that have been third party certified. They fulfill stringent API requirements, making the Nautronix NASeBOP the only fully compliant acoustic BOP switch with all the relevant requirements of API 16D and 17E.

rgy converters now faster with new



wet mate connector eliminates the need to bring the cable to the surface for mating and de-mating, shortens the time needed for connection and makes it possible to operate in waters with limited time windows.

This is particularly important for renewable energy devices where changing tides or wave action are often a critical factor in marine renewable deployments.

Faster and easier terminations

Cables ends are terminated to an 11 kV connector pair before deployment and mechanically connected offshore.

The mechanical connection of the two halves takes less than an hour - a significant improvement on the time it normally takes to cut and splice cables offshore. This mechanical connection also makes it possible to connect and disconnect cables time and time again.

The 11 kV termination can also be pre mounted onto cable ends for installation in two stages. Half of the system can be installed on the sea floor with a pressure cap mounted to the connector and the second half of the cable mated at a later stage.

We know what challenges renewable energy converters face

Being involved with many large marine renewable energy projects over recent years has given MacArtney a deep understanding of the challenges and issues faced when connecting moving, dynamic devices to stationary export cables that transfer captured energy to the onshore grid.

Grid compliant

The MacArtney 11 kV wet mate connector system is a fully tested and EN/CEI/IEC 60502-4 compliant connector solution specifically designed to meet the needs of the marine renewables industry and requirements from grid owners and utilities. Tests were witnessed by DnV (Det Norske Veritas) and real-sea tests performed off Falmouth, UK, in October 2011.

The introduction of the wet mate 11 kV connector is an important part of the overall effort to bring down the cost of harnessing marine renewable energy to compete with other energy sources.

ETI (Energy Technologies Institute) is a partnership between global industries (BP, Caterpillar, EDF, E.ON, Rolls-Royce and Shell) and the UK Government bringing together projects and partnerships accelerating the development of affordable, clean and secure technologies to help the UK meet its legally binding 2050 climate change targets.

For more information, see www.macartney.com/11kVwetmate

MacArtney launches new LUXUS range



The MacArtney Group is launching a new video unit, camera and light range, the LUXUS series with 3 types of lights, 4 cameras, 2 video units and accessories.

Complete range with flexibility in mind Different ROV tasks can require different equipment and even the same job can require changes to camera setups and lighting.

Mace

Changes in operational depth, light levels and turbidity have enormous effects on imaging and light conditions can also vary greatly in the water column. Being able to make adjustments and changes easily when working offshore saves operator time and effort.

MacArtney's LUXUS range is based on standard housings, which makes swapping lights and cameras in the field fast and convenient. A camera or light type can easily be removed from the bracket and exchanged with another for a change in application – from low light to colour zoom or HD or high power LED.

Standard sizing makes camera or light changes more convenient and all the cameras and lights in the LUXUS range use the same brackets.

Lights can also be dimmed from 0 to 100%, making it easy to perfect the light level while working. The diver or operator needn't worry about choosing the right depth rating for cameras or LED lights. The complete range is tested to 4000 metres as standard.

Protruding objects on underwater systems can often be subjected to damage and can be a weak link in the system. On some camera and light systems, breaking the connector can cause major damage to the camera or light itself.

MacArtney has designed the connector on the rear of the cameras and lights to be replaceable without causing damage to the whole assembly.

The units are fitted with SubConn® connectors or other connector types depending on the customer's needs.



of titanium cameras and lights

◀ The entire range has been designed to combine operational and service flexibility, excellent performance and ensured reliability. Their compact size and robust design make them ideal for ROV and diving applications – from shallow dives to deep water ROV operations.

Robust, reliable yet compact construction

The compact design is based on 3 standard sized titanium housings that give the entire range a working depth of 4000 metres.

Housings are light, strong and nonoxidising for long lifetime and minimal servicing. Their cylindrical shape combines strength and compact design, making them ideal for divers or on ROVs.

Ensuring reliability in new products is critical and MacArtney has based the

series on standard parts, which not only makes them tried and tested technology in combination with innovation, it also reduces prices as costly research and development costs are not passed on to the customer.

Everything in the range is pressure tested before leaving the production site and each item is fully traceable.



Available globally

Each MacArtney workshop can offer on the spot service and as the range is produced by MacArtney, the lead time is very short and can be supplied as complete systems and integrated solutions.

Lightweight, self-contained video units for simplified diving control

The range also includes 2 self-contained video units that offer complete control of a range of information inputs and provide safe data storage and straightforward, practical control; the LUXUS Compact Media Controller and the top of the range LUXUS Multi Media Controller.

The LUXUS Compact Media Controller model is an easy to use video unit for straightforward diving applications. Weighing just 8kg, the compact kit includes controllers, LED light and a camera.

The touch screen is easy to use and the keyboard and controls are all built in. Recorded data is stored on an external hard drive that is unpluggable and can be passed onto the customer at the end of a

job without needing the whole system for a lengthy download process.

The LUXUS Multi Media Controller system is also a portable video unit with controllers, LED lights and cameras.

Video data is automatically transferred to USB storage at set intervals for data security and split power ensures that the safety light is always on.

Both models have an overlay that can display and record a customer logo. Cameras can be dimmed a full 0-100% without steps and extras like coloured locking sleeves for easy cable identification and extra inline underwater connectors have been included into a design that takes diver needs to hand.



The LUXUS series includes:

Lights:

- LUXUS Compact LED
- LUXUS Power LED
- LUXUS High Power LED Cameras:
- Cameras:
- LUXUS Compact Camera
- LUXUS Low Light Camera
- LUXUS Colour Zoom Camera
 LUXUS High Definition Camera

Video units:

- LUXUS Compact Media Controller
- LUXUS Multi Media Controller

Other:

- LUXUS Pistol Grip
- Compact Diver Bundle (Compact Media Controller, Compact Camera, Compact LED, SubConn[®] connectors and 100m cables)

New articulating A-frame by MacArtney



To make A-frame adjusting and equipment change faster, easier and safer, MacArtney has designed and developed a new A-frame system.

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Reducing equipment changeover and adjustment time

A-frames installed along the side or at the rear of vessels are used for launching a wide range of equipment and often for several tasks during a voyage. Dismounting equipment, adjusting the The articulating A-frame lowers equipment to working height, making adjustments and mounting of equipment faster, safer and easier

A-frame for a new task and mounting new equipment can be a time consuming and often complex task.

Equipment can be large and heavy and the A-frame often needs adjusting for different equipment, requiring a technician being raised up to the top bar of the A-frame. Operators often have to be hoisted up in a chair or a harness up to 3 to 4 metres to reach the top, making adjustments time-consuming - and because of the potential hazards in working at height on a moving vessel, such work involves a number of safety precaution procedures.

MacArtney has designed and built a new A-frame that makes accessing equipment on the A-frame more convenient and safer for personnel.

This new system makes it possible to access the top of the A-frame from the deck of the ship.

This clever hydraulic design, using just 2 rams, articulates the A-frame a full 149° from the 20° angle for launching equipment over the side or the rear of the vessel to 11° over the deck of the vessel. It has a high total safe working load of 89 kN throughout the entire process.

149 degree range of movement

Equipment, for example a full ROV launch system, can be installed on the A-frame

Network news



EurOceanique



David Mazzochi, Managing Director Rousset France Tel: +33 (0) 442 394 985



EurOceanique is looking forward to offering even more service to customers. We are currently preparing the installation of a brand new 600 bars pressure vessel.

We also welcome a new Business Development Engineer, Arnaud Vinel. He comes from the underwater cable industry and brings with him a strong background and extensive experience.

We have also taken ownership of a 20% share in the French company, ABYSSEA and currently installing a unique Deep Water Test Centre in the Mediterranean Sea.

MacArtney Norway



Mats Ekström, Managing Director Stavanger Norway Tel: +47 5195 1800



Anders Andersen, Managing Director of MacArtney Norway since its opening, has moved back to Denmark to start his new position in the Danish office.

Previously Sales Manager for the Norwegian office, Mats Ekström, has taken the helm and a new Sales Manager has been appointed.

The Norwegian market is booming and our new facilities, now officially opened, are ready to meet increased demand by increasing services and staff. With our changes and our increased capacity, we have great expectations for the future.

MacArtney Benelux



Ron Voerman, Managing Director Rotterdam Netherlands Tel: +31 10 2041166



After more than a year of hard work, I am pleased with the new range of LUXUS products, which we are now able to launch thanks to excellent team work both within MacArtney Benelux and with other departments in the organisation. The input from Rick van Wee as industrial designer is reflected both in the visual design of the range and in the effective way of producing the products.

With technical support from Piet Stad and input from the marketing department in Denmark, we are pleased to be ready to launch the first products in the LUXUS range at Oceanology International in London.



MacArtney

MacArtney A/S

Kim Schultz

EurOceanique

Arnaud Vinel MacArtney UK Ltd.

McIntosh

Oosterhout

MacArtney Inc.

Ellen Marchetti

Koczur

MacArtney Norway AS

MacArtney Benelux BV

welcomes...

Lene Kjersgaard • Lene Mariabo Juulsen • Rune Værndal • Christian Carøe Thygesen • Annette Berntsen • Eva V. Wollesen • Sólvik Kramer • Ole Marius Olsen • Anders Andersen • Anette Krarup

Cecilie R. Jensen• Sabrina Li • Jerzy

Oleszczuk • Peter Erkers • Jaroslaw

Bryan Johnston• David Siudej • David

Maurice de Gier Engineer • Jan van

Lars F. Hansen • Jefferey C. Goldbury •

Rasmus F. Bonde • Michael J. Stewart•

Jennifer Stewart • Jeffrey Stewart •



See the A-frame in action at http://www.youtube.com/watch?v=RcgMOJuVtrs

on deck by operators working at deck level and readied for launch.

With all operators clear of the frame, the A-frame can be lifted up, past 90° and then onwards over the side or the rear of the vessel and lowered down to 20° for launch into the water.

For retrieval, the process is reversed and the A-frame raised past the 90° point and lowered to 11° over the vessel deck.

From here, operators can conveniently remove and replace equipment and make any necessary adjustments to the

MacArtney UK





The MacArtney Groups UK operation remains very busy and are pleased to have been able to deliver two Electric Active Heave Compensation (EAHC) ROV handling winches since the last issue of the magazine. This has helped the UK operation remain well ahead of financial targets for the year.

We are pleased to welcome new technicians to the UK team taking our headcount in Aberdeen up to 47.

MBT GmbH



Torsten Turla, Managing Director Germany Tel: +49 431 7207 200



An MBT service crew is completing setup of a comprehensive hydrographic survey system onboard a new build research vessel for the Estonian Maritime Administration due for commissioning in April 2012.

An order for the deployment and management of wave buoys in the offshore wind energy sector for deployment in the North Sea has be won thanks to our expertise in operational oceanography.

We are also pleased to report a contract from Draeger Safety for two complex umbilical systems for diving bells. One system has already been commissioned and the second system is due in spring 2012.

A-frame without having to be hoisted up the frame.

Lowering the A-frame to 11° from the deck also makes any service and maintenance work easier and faster to perform.

System facts

MacArtney's Articulating A-frame is designed with a safe working load of 89 kN and safety factor (Psi) of 2.5. Luffing is at 48.5 kN with docking head and 89 kN without docking head. It has a luffing range of 11 degrees inboard to 20 degrees outboard.

MacArtney Inc





MacArtney Inc has made major changes in 2012 to strengthen our ability to offer the best possible service to our customers. Lars Hansen has returned to the US to be President of the new MacArtney Inc, which will expand North American operations and take over SubConn[®] sales nationwide primarily from the Boston office.

We have ambitious goals for growth in the US market within existing markets and through developing our work in the offshore renewable energy sector. Increased operations in the US based out of our Boston and Houston offices will strengthen local access to global support.

MacArtney Brazil



Gavin Hunting. Managing Director Tel: +55 21 8394 1852



MacArtney do Brasil is pleased to have hired a new admin manager, Ms Claudia Ochogobias. She brings a wealth of experience and has been a great addition to our team, which is geared to offering local sales and technical services backed by the MacArtney global network.

Our facilities are up and running and we are maintaining healthy levels of cables, connectors and Focal slip ring spares in our stock.

Connector sales and repair services are increasing and we have optimised the products we hold in local stock.



Latest news in brief

As more offshore

renewable projects

move from single

renewable energy

converters to arrays,

hubs are increasingly

being sought to gather

and distribute power

unique, modular hubs

the sea floor easier and

make installation on

input from several devices. MacArtney's

MacArtney offshore hubs – building bricks for power transfer



▲ Offshore hubs are modular and can be built to house many cables

faster and offer a practical flexibility not previously possible. Keeping operational time for terminations to a minimum is essential. This innovative hub design is connector based and make on-vessel preparations faster, easier and more efficient. MacArtney wins business award



▲ Niels Erik Hedeager, CEO for MacArtney, proudly accepts the award

The Business Development prize was made up of a Georg Jensen design vase, a large bouquet of flowers and a cheque for 10,000 Danish kroner, which has been donated to the Danish cancer research charity, Kraftens Bekæmpelse.

Read the full story on www.macartney.com/news

MacArtney Underwater Technology was proud to win the award for Business Development in the Esbjerg region, the Esbjerg Erhvervsudviklings Erhvervspris.

MacArtney was chosen by the judges for its energy, creativity and international focus.

Meet us in person on our stands at these exhibitions

- Sea Japan 2012, Tokyo, Japan, 18th 20th April 2012 Stand R-05
- All Energy 2012, Aberdeen, UK, 23rd 24th May 2012 Stand B70
- Energy Ocean 2012, Boston, UK, 19th 21st June 2012 Stand 606
- ONS, Offshore Northern Sea 2012, Stavanger, Norway, 28th 31st August 2012 Stand C355
- Rio Oil & Gas 2012, Rio de Janeiro, Brazil, 17th 20th September 2012