

In Depth

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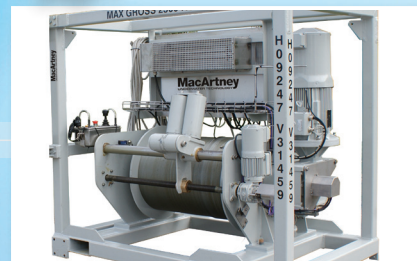
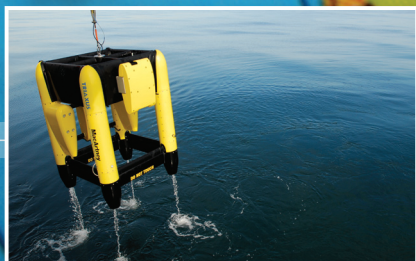
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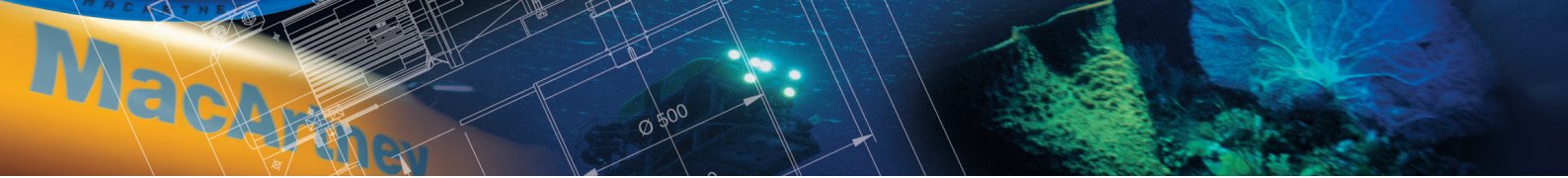
Theme: MacArtney Brazil brings real benefits

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Brazil - Local access to global support

Since starting up in a Denmark over 30 years ago, MacArtney's increasing success has gone hand-in-hand with expansion across the globe. We have always felt that being geographically close to customers was part and parcel to offering excellent service. As customers became more global, so did MacArtney.

MacArtney has opened a large number of subsidiaries since the early days – firstly in Norway and most recently in Brazil. This latest subsidiary offers local support to our many customers in the offshore oil and gas market already operating in Brazil and also positions us to provide tried and tested offshore solutions to new customers.

Each expansion has followed the same principle: Our strength lies in being where our customers are and combining knowledge of local industry with the ballast that comes from having a global network.

Stock and expertise in Brazil provides our customers with significantly reduced delivery times and improved local service. Being local has many benefits for our customers in all underwater technology areas, from oil and gas to the oceanographic industry.

Wherever your point of contact is, when you contact MacArtney you can be sure to get what we call "local access to global support" – local knowledge and understanding backed up by a global network of expertise and service. And this issue of In Depth shows what our latest addition to the MacArtney Group brings to the market.

Niels Erik Hedeager, CEO

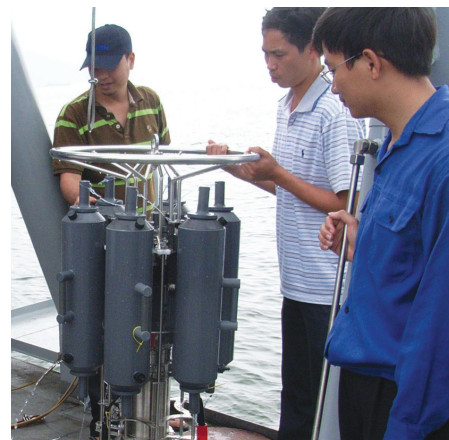
Training included



▲ Experts from MBT provided thorough training before delivery and during system setup

Training was as important as the system when MBT, part of the MacArtney Group, delivered an oceanographic measurement system to the Vietnamese Navy through Atlas Hydrographics in Bremen.

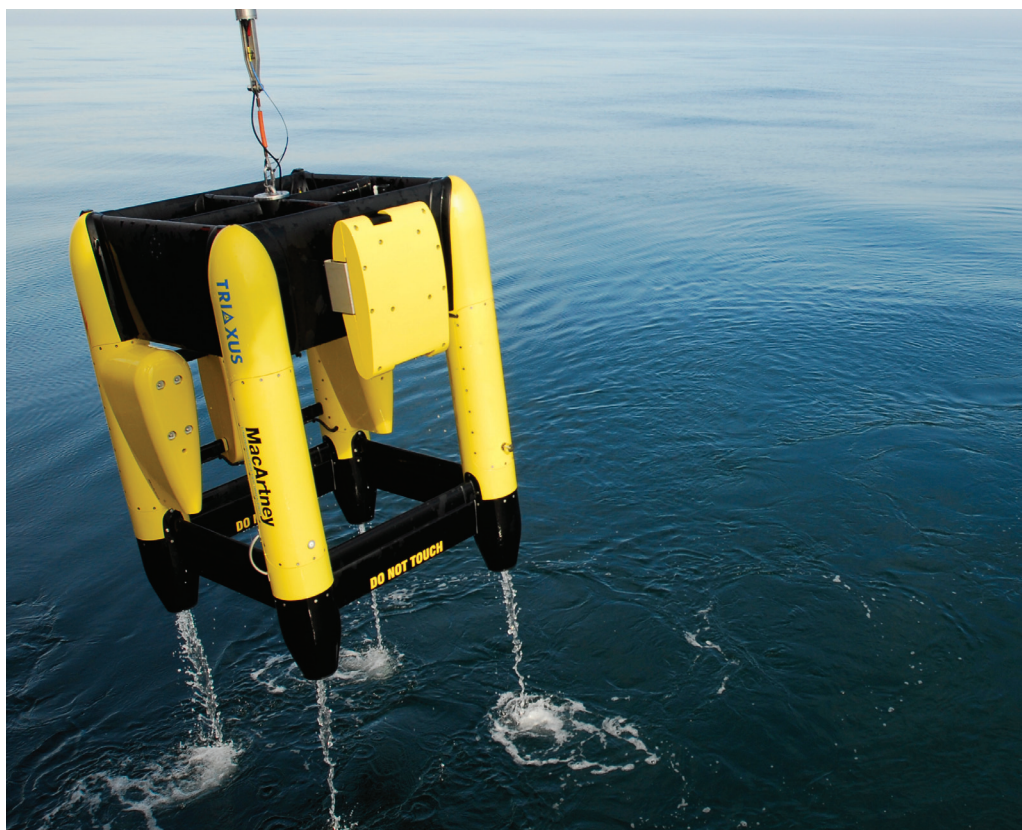
The complete package will be used for hydrographic survey and for various



types of oceanography, measuring sea floor morphology, sediment structure, magnetic anomalies, temperature and salinity profiles, sound velocity profiles, nutrient concentrations, weather data and current profiles.

Training took place at MBT's premises in Kiel and onboard training in Vietnam.

Hamburg University search



▲ Data from TRIAXUS flights will help policy makers plan the future for fishing

Making informed decisions is crucial in managing fish stocks. Forecasting the recruitment success of fish populations and knowing its spatio-temporal distribution is essential for determining sustainable future catch quotas.

Solidifying support to systems

How does the MacArtney group solidify its commitment to selling system solutions to its customers and share knowledge throughout its organisation?

We do it by regularly bringing people together, as we did when MacArtney Denmark hosted a tightly packed three day seminar earlier this year.

Representatives from all MacArtney offices converged on the city of Esbjerg and the MacArtney Group headquarters to participate in sessions covering both markets and system areas including:

- Oil & Gas / Subsea completion
- Renewable Energy
- Ocean Science
- Launch & Recovery systems
- Infrastructure solutions
- and an interesting visit from Focal

The event also made time for social events, with Doug Huntington



▲ Seminars and workshops ensure that MacArtney offers the same high standard worldwide (MacArtney UK) winning the overall price at the mini golf, bull riding, human table football competition. Everybody enjoyed the opportunity of catching up with one another during dinner.

Answers for answers with TRIAXUS

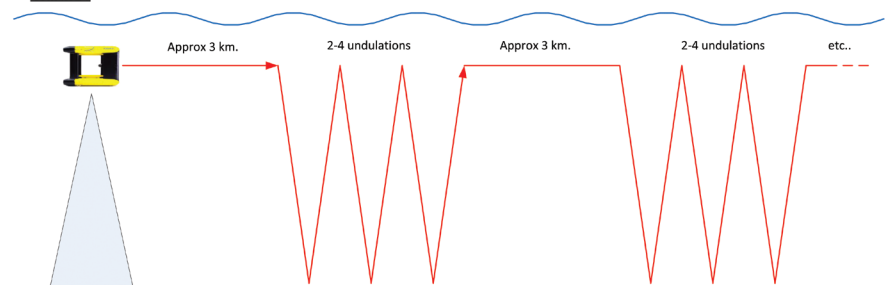
The Institute of Hydrobiology and Fisheries Science at the University of Hamburg (www.uni-hamburg.de/ihf) has purchased a TRIAXUS system that will provide detailed information on the regional abundances of pelagic fish together with their ambient plankton prey fields.

Due for operations in the North Sea and the North Atlantic Ocean, the TRIAXUS system is equipped with a SIMRAD dual frequency EK-60 Scientific Fisheries Echo Sounder, together with a SeaBird CTD and a Rolls Royce Laser Optical Plankton Counter.

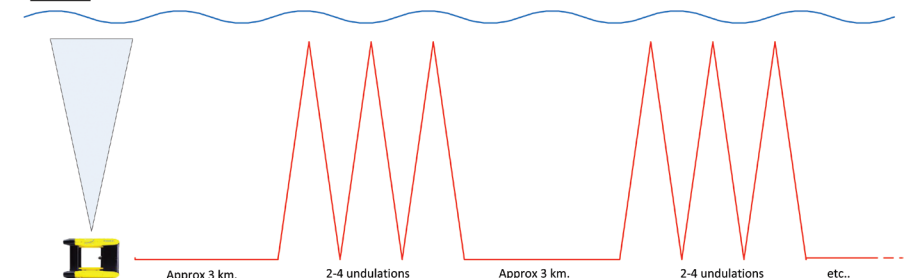
A Turner Design C6 fluorometer package will conduct water column analyses to quantify the density of primary producers, small algae at the basis of the food chain. Environmental data is collected during undulation phases, which alternate with stable linear flight phases for hydro acoustic measurements.

Fish migrate within the water column, swimming closer to surface or seabed depending on the species as well as night and day. Normally, a fisheries echo sounder is mounted below the hull of the vessel, facing downwards. When operated in that way, the upper 10m of

Scenario 1:



Scenario 2:

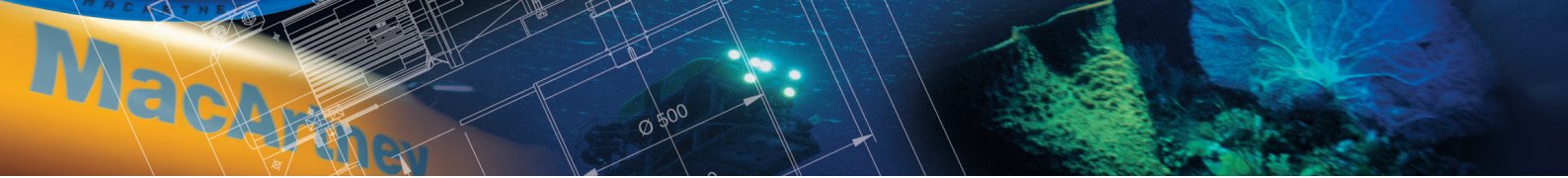


▲ The TRIAXUS system combines undulations with linear flight in preset sampling patterns

the water column is “invisible” to the sonar. But fish like mackerel are closer to the surface, so the TRIAXUS EK-60 echo sounder can be mounted to “look upwards”, resolving the water column up to the surface. In case of demersal target species like cod, the sonar can also be mounted to face downwards.

“We really appreciate the stable flight

behaviour of the TRIAXUS during fast-tow hydro acoustic measurements”, explained Jens Floeter, from the Institute for Hydrobiology and Fisheries Science at the University of Hamburg. “The flexibility in terms of operation modes and sensor setup enables us to quantify fish abundance together with ambient environmental parameters for a wide variety of research questions.”



MacArtney Brazil: Bringing real benefits



Since the very beginning, being where our customers are has been part of the MacArtney ethos. Why? Because it means that we can give our customers the best that MacArtney can offer. And that is exactly what we now can offer from our newest subsidiary in Brazil.

Based to be geographically convenient for the industry, our presence is offering real benefits to the expanding offshore oil and gas industry in Brazil.

Since its establishment in Brazil last year, MacArtney's newest subsidiary in Macae has been working to give customers in the South American country the services and systems they need.

Having a subsidiary in Brazil may be fairly new for us, but establishing offices and workshops and supporting offshore oil and gas are not.

Of course, every country and industry is different and by having a local presence staffed by local people who know the country and know the local business is a real advantage when offering customers the services and support they need, quickly and effectively.

Fast, convenient delivery

Lead time can be a real issue in Brazil. Customs clearance can sometimes be a lengthy process and having the right stock available to deliver straight away can make a real economic difference. MacArtney carries stock specifically

suited to the offshore oil and gas industry at the warehouse at our facilities in Macae.

Products and systems need to be available – and reliable, which is why we offer products and systems that have been tried and tested in the challenging deep water oil and gas environment.

Increasingly, the industry is turning to complete, turnkey solutions from their suppliers. From our sales office and workshop in Macae, MacArtney Brazil offers complete solution packages for the

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offshore oil and gas support industry.
Local knowledge, global support
 Having the right systems is just half the story.

Establishing a local presence in a new location is also a question of supplying local access to global support and combining the strengths of experts in Brazil with a solid network of expertise worldwide.

Our Brazilian hub is headed by experienced underwater expert, Gavin Hunting, who has built up a wealth of know-how through many years in the underwater technology industry.

From Brazil, he can access engineering and technological advice from experienced engineers and technicians from 6 other countries.

The right service is crucial

Getting the right service can be just as important as the product package. Our workshop, headed by Lauro Augusto Oliveira Lima, is fully equipped to support the oil and gas industry and can offer



▲ *Qualified technicians provide local servicing and repairs in Macae*

◀ *MacArtney has strengthened its support of the Brazilian offshore oil and gas industry by establishing a local subsidiary, offering products and services already tried and tested in drilling operations in deep waters worldwide. Picture shows a floating platform off the coast of Brazil*

repairs, service and moulding on site. Workshop technicians are fully trained to service and repair our portfolio of systems and our slip ring service technicians are Focal trained.

Strengthening our existing presence on the continent

Of course, MacArtney is not new on the Brazilian market. Our winches, electronic control systems and multiplexers have been in service in the offshore industry here for many years.

Our launch and recovery systems and our complete survey systems are in service in deep waters across the globe and have been serving the industry for decades.

Our Brazilian presence will make our service in South America even better – helping our customers where we are needed and offering even faster service locally.

MacArtney do Brasil offers:

- Subsea completion
- Complete underwater systems
- Winches
- Slip rings
- Multiplexers
- Connectors
- Terminations
- Wet mate connectors
- Focal slip ring servicing
- Workshop
- Extensive stocks

Contact Gavin Hunting, Managing Director Brazil, at ggh@macartney.com or on tel: +55 22 3312 3160

Testing the water - and currents - in Brazil



Knowing about water currents in the water column around a drilling rig is essential information for production safety and for ROV operations around the rig.

Petroserv in Brazil has taken delivery of a current meter and handling system that will provide water column and current information for one of their rigs.

The complete system package includes an Ex zone air driven Cormac winch, 3000 metre wire rope, cable sheave and an EM current meter with sensors for pressure, temperature and depth.

The current meter is battery driven, and will log sensor data offline.

◀ *An air driven Cormac stainless steel winch controls the current meter*



Improved ammonia tank testing

Across the country, and indeed the world, a wide range of potentially dangerous chemicals are stored in chemical tanks.

Cracks or failures could have fatal consequences and regular testing ensures their continued safe use.

However, ceasing production, draining and ventilating the tank and lowering a diver into the tank for inspection is an expensive and time consuming procedure that is not without danger for the diver.

A new system developed by Force Technology and MacArtney is estimated to bring a 15 times cost saving compared to this traditional ammonia tank testing method.



▲ Force Technology provides certified testing and advice on industrial solutions

This completely new method of investigation performs inspections without emptying the tank or taking it out of function.

It also eliminates the need for human intervention in the tank zone.

An important element to the design is the winch and cable system that is integrated into the tank door.

Designed and built by MacArtney, the winch and cable system has been tested to withstand

the -35°C temperature and extremely corrosive nature of ammonia stored in tanks. Back pressure ensures that no ammonia leaks out of the system and fluids ensure cable flexibility as the sensor system is remotely driven around inside the tank area by operators in an adjacent room.



▲ All winch parts have been thoroughly tested to ensure that they can withstand the harsh ammonia environment

Global network news



▲ From left to right; David Mazzochi, France, Anders Andersen, Norway, Gavin Gracie Hunting, Brazil, Torsten Turla, Germany, Niels Erik Hedeager, Denmark, Ron Voerman, Benelux, David Buchand, UK and Christ Howerter, USA



MacArtney Norway

Anders Andersen, Managing Director

Stavanger • Norway •
Tel: +47 5195 1800

Our new premises near completion and we expect to move into our 2500m² building with workshop, stores and administration in August 2011, making our site almost 3 times bigger. The FPSO vessel market is buoyant and we have received our first large order this year. The seismic market is also on the rise, with several new projects involving cable systems, slip rings, multiplexers and connectors, etc.



MacArtney Benelux

Ron Voerman, Managing Director

Rotterdam • NL •
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We have started installation preparation for our new pressure tank, which will be operational at the end of August 2011. The tank 1300 x 800 mm ID tank will be capable of testing up to 100 bar.

Two new machines using a new, unique moulding technique are also being installed. Holding tanks will store up to 300 litres of materials, significantly increasing our moulding capacity.

WHOI East Coast winch pool



The Woods Hole Oceanographic Institution in Massachusetts, USA, has recently purchased 4 winches for the East Coast winch pool.

Researchers working with oceanographic equipment often require a winch for launching equipment into the water, operating it under the surface and for retrieval. A wide range of monitors and sensors can be operated with the same winch system - and for research institutions, having a pool of flexible winch solutions for use in a wide variety of projects can be a convenient and economical solution.

Two light duty winches (MASH 2000 models) and two medium duty winches (MASH 4000 models) all with changeable cable drums and with a range of options, including remote controls and Ethernet connection, will provide various research groups with winch systems for a wide scope of studies.

◀ *MacArtney MASH winch systems will handle a range of oceanographic instruments to support research projects within the UNOLS fleet*

MacArtney welcomes...

MacArtney Denmark

Brian L. Petersen, QC Supervisor
Simon L. Madsen, Workshop Mechanic
Søren D. Andersen, Project Manager
Uffe Y. Vejrup, Electronics Engineer
Jane Nielsen, Accounts Assistant

MacArtney Norway

Hanne C. Sørensen, Sales Co-ordinator

Thomas Lund, System Sales
Vivian Murvold, Accounts Assistant
Jon Vidar Ueland, Logistics/Warehouse

MacArtney UK

John MacCabe, Storeman/Driver
Michael Noble, Machine Shop Supervisor
Keith Robertson, Sales
Christine Neish, Moulding Technician

Brian Leel, Moulding Technician
Paul Mackie, Mechanical Technician
Kevin Whyte, Workshop Manager

MacArtney Benelux

Willem Teesink, Software Engineer

MBT, Germany

Thomas Morgenstern, Sales Manager



MacArtney UK

David Buchan, Managing Director
Aberdeen • UK •
Tel: +44 (0) 1224 358 500

Spring has been a very active period for MacArtney UK. Our operational activities are ahead of budget and we are pleased to welcome the new members of the MacArtney UK team as we expand to accommodate the increasing activity.

Focus is firmly on increasing business levels in all areas but especially in the Renewable Energy sector.



MBT GmbH

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

In close cooperation with MacArtney UK, MBT has delivered a comprehensive cable system, cameras and pan/tilt units to Bauer Maschinen GmbH for a project in British North Sea sector.

MBT has also supported a team of divers searching for the SMS Wiesbaden, sunk during the Battle of Jutland. Its precise location was pinpointed in just hours using a side-scan-sonar.



MacArtney Offshore

Chris Howerter, Managing Director
Houston • USA •
Tel: +1 713 266 7575

MacArtney Offshore Inc. welcomes the return of activity in the Gulf of Mexico and our opportunities have increased significantly both with existing customers as well as some newcomers. Our ROV/ROTV, launch and recovery systems and our new line of API certified electrical and fibre optic connectors grow in popularity in the local market, backed by our workshop in Houston.



EurOceanique

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

The last 6 months have been intensive and exciting. We have received our biggest ever contract - a large contract for special High Voltage SubConn systems for French and Italian military frigates.

The Renewable Energy sector is picking up in France and thanks to a strong local presence and the expertise within the group, we are a strong actor for connectivity solutions.



MacArtney Brazil

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

The Brazilian market shows signs of very healthy growth and we look forward to helping our customers meet their goals.

Our visit to Brazil Offshore show in Macaé in mid June yielded interesting discussions and helped reassure our expectations for this market.



Latest news in brief

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

EurOceanique upgrades mapping systems for SHOM



▲ The modern EM710 system will be installed on Laperouse in July 2011

Multibeam echo sounders have been providing SHOM, the French Hydrographic Office, with high resolution, high accuracy acoustic readings to construct navigational safety maps for more than 20 years. After 10 years of reliable service, their current multibeam echo sounder systems

are being upgraded by Euroceanique with modern acoustic mapping systems. EurOceanique, exclusive Kongsberg representative in France for hydrographic products, will also supply system updates to her sister ships in 2013 and 2014.

MacArtney makes a splash simulating a search, locate and retrieve action



▲ MacArtnes test victim is successfully located and retrieved

Retrieving bodies and related items from the sea floor is important for those left behind after human tragedies at sea and essential for investigations. Locating and retrieving valuable evidence can be critical for inquest or trial, yet finding objects underwater is not always an easy task.

At the Ocean Business exhibition, sonar experts from Kongsberg and MacArtney demonstrated how synchronized viewing of one area with two sonar types - a Kongsberg sonar and a DIDSON - optimised sonar aided search and recovery.

Meet us in person on our stands at these exhibitions

- DVS Congress 2011, Congress Centre Hamburg, 26th - 29th September 2011
- OTC - Offshore Technology Conference 2011, Rio de Janeiro, Brazil. 4th - 6th October 2011
- OTD - Offshore Technology Days 2011, Stavanger Forum, Norway, 18th - 20th October 2011
- Europort 2011, Ahoy, Rotterdam - The Netherlands, 8th - 11th November 2011
- Oceanology International 2012, London Excel, 13th - 15th March 2012

AN UNDERWATER TECHNOLOGY STORY:

September 1998 North Sea, Norwegian sector

"Taking the mud out of offshore drilling..."

If you could have seen the sea floor back in the 1990's after an oil well had finished drilling, it would be covered in mud and slurry – leftovers from the drilling process dumped on the seabed.

Leaving the seafloor as you found it after drilling an oil well may sound like a difficult task but doing just that is now a requirement – especially in environmentally sensitive areas. Mud and debris displaced by drilling is highly ecologically disruptive. If discharged directly onto the sea floor, it can have drastic effects on the surrounding sea life and ecology. Yet drilling waste must go somewhere.

An inspired solution now protects the seafloor. A high-tech vacuum cleaner lowered by winch to the sea bed sucks mud and other debris up onto the platform.

Riserless mud recovery, or RMR, has helped protect the sea floor life and environment around drilling areas in the North Sea for the last 13 years and has opened up areas for drilling otherwise off limits due to environmental restrictions."

MacArtney – dedicated to the underwater industry

Read more at

▶ WWW.MACARTNEY.COM/MUD

MacArtney
UNDERWATER TECHNOLOGY