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## Praise from BP at Valhall – new contract at Skarv/Idun



Rune Bringedal (left) and Terje Kjelby have been central in the design and upgrade of Valhall and the jetfuel facility for BP's new FPSO, Skarv and Idun.

**It is not unusual that we receive positive response from the market. However, this exceeds most of what we have heard before. Business Unit Manager - Helicopter Refueling, Jan Endresen is thrilled about the feedback received from Senior Utility at Valhall platform in the North Sea.**

- The e-mail from BP reads: A huge thanks to those of you who have been involved in developing the new helifuel recycling unit. This represents not a tiny progress, but a quantum leap, both for the night watch who normally performs the test, but also for the environment. One of the guys said jokingly the other day, that since it had become so easy to carry out the test, he wanted to do the test 4 times every night.

- As the lifetime of the Valhall platform was to be extended by several years, we made a review of the facility that we had delivered many years previously. BP endorsed our proposal for an upgrade, so we designed and supplied a new pump unit, and a test and recovery unit. Fuel samples are now being treated inside a closed system, thereby avoiding emissions both to the sea and air. What is more, operators do not have to breathe in vapours from the fuel. In the past, operators had to carry out the test out on deck in all kinds of weather. With wind conditions being as they are it often proved impossible to get acceptable tests taken at all. Moreover, because of rains, sleet and snow, water could easily slip into the tests. This problem has been resolved through the upgrading, Endresen says.

BP has for a number of years been one of Imenco's best customers. Recently a new contract was entered for the supply of a jet fuel facility for BP's new FPSO named Skarv and Idun.

Aker Kvaerner has been main contractor for the upgrade of Valhall, and the development of Skarv-Idun. The latter, where BP is licensee and operator, was proven off the coast of Nordland in 1998. Recoverable resources are estimated at 16.8 million standard cubic meters of oil & condensate, and 48.3 bn. standard cubic meters of wet gas. The fields will be developed by means of subsea solutions tied in to the production vessel (FPSO). The gas will be transported through a new branch pipe to be tied up to the existing pipeline going from Åsgard to Kårstø.

# Imenco opens Bergen branch

**Imenco has opened a new branch. After 16 years Svein Moldskred shakes the dust of Haugesund from his feet, and returns to his native town of Bergen to build up a new Imenco branch.**

- We have for some time had regular customers in the Bergen area, whom we have served from Haugesund. In addition to wanting to provide our customers with a better level of service, the new branch also gives a better opportunity for acquiring new customers, Mr. Moldskred says. There is a larger market for the services and products offered by Imenco in Bergen than at Haugalandet. Imenco has found suitable, representative premises at Midtun, close to Nestun Center.

- We have already made one employment, who will form the basis of our new staff; Arnstein Arnesen is a young engineer with a master's degree from NTNU. He is currently in Haugesund for review and training within our new procedures and methods. We also plan to hire more engineers and technicians who will primarily work on 3D modeling and design. Our plans are to build up a strong engineering environment that will serve as a supplement to the environment in Haugesund, but which will also represent a resource that we will offer to our Bergen customers and to the rest of our global market, Mr. Moldskred concludes.

Editorial



## A world of opportunity

**Imenco's strong market position toward Norwegian and British offshore related industries was chiefly built up through our activities in the North Sea and Norwegian Sea during the last 30 years. However, like other Norwegian companies, we have gradually obtained a good foothold in markets outside Norway and northern Europe, in particular in Asia and America.**

To Imenco the Asian market is one of the areas in which our products and competence are increasingly sought after. In recent years we have seen a boost in demand from some of the large offshore yards in Asia. This applies in particular to Korea and China where industrial giants such as Samsung and others are now buying our helifuel plants.

There is no doubt that Asia, primarily China, will stand for most of the world growth in years to come. The growth in the Chinese economy and the Chinese industrial output makes it important to be more visible in this market. That is why Imenco, together with a group of other Norwegian firms, is going to Beijing in April to participate in a joint Norwegian stand at the China International Petroleum & Petrochemical Technology and Equipment Exhibition (CIPPE). It is the eighth time that this international fair is being held in China. Norway and Norwegian industry enjoy considerable respect in the Asian

market, and we anticipate many visitors to the Norwegian stand. Our participation in Beijing is therefore bound to generate considerable attention. That is why Imenco this year has chosen to prioritize participation at CIPPE 7 to 9 April instead of participating at the ONS exhibition in Stavanger this autumn.

However, the fact that we this time choose to forgo ONS and spend our resources in China, does not mean that the markets in Norway and Great Britain have become less important to Imenco. They are still our home markets, and where our main activities are located. It is from these markets that our skilled staff of engineers is finding "smart solutions" to the challenges that our customers give us. And it is because we have such a solid foundation at home, that we may stretch toward new challenges further away.

Imenco and other leading Norwegian engineering companies seeking out have a lot in common with the "Ashlad", the hero of the Norwegian folktales. He took the best of what he stood for at home, and used it to win the "princess and half the kingdom" outside. For he had discovered the same thing that we have at Imenco, i.e. that we are living in a world of opportunity.

**Geir Egil Østebøvik**  
CEO IMENCO AS



Head of Imenco's new Bergen Office, Svein Moldskred (left) demonstrates one of Imenco's tailor made products for Arnstein Arnesen.

## Guidepost extensions

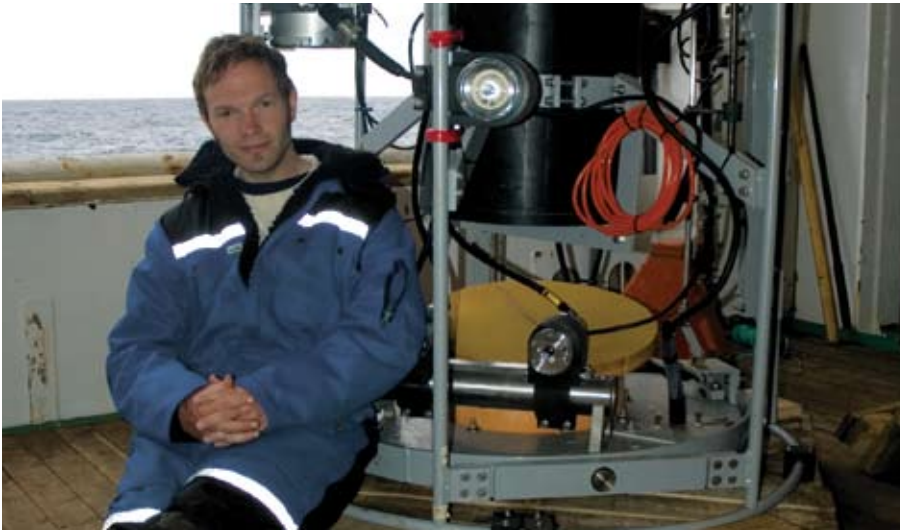
**Imenco continues to increase the market share for guide line products, such as guide-line anchors, guide posts and guidepost extensions.**

Export market is increasing with deliveries to Singapore, Australia, UK and US, in addition to major deliveries to Norwegian customers. Imenco deliver standard equipment from stock and special designed as required by customer.



6 Guidepost Extensions delivered to AkerKværner.

# Imenco technology helps oceanographers in Antarctica



Georg Skaret employs Imenco technology to photograph krill in the Southern Ocean in Antarctica. Photo: Kjartan Mæstad, Havforskningsinstituttet

**Three dimensional camera technology from Imenco is a new tool employed by oceanographers to map the populations of krill in the ocean areas of Antarctica. The Institute of Marine Research, Bergen, is with its research vessel "G.O. Sars" cruising in ocean areas around the South Pole. The objective is to get better estimates on the volumes of krill in the sea. Estimates have varied enormously, from 37 million tons to 150 million.**

The estimates on population are based on acoustic measurements. This involves sending out sound waves from echo sounders and sonars, and measuring the echo that is sent back. The problem is that these echoes vary significantly, depending on how the krill is orientated when the sound waves hit it, says Georg Skaret at the Institute of Marine Research to Antarktis. - When the krill is horizontally orientated, it will emit a much larger echo than

when vertically positioned. This means estimates will vary enormously, depending on the assumed angle of the krill when it is hit by the sound waves. We therefore need to learn more about the natural behaviour of the krill, Mr. Skaret says.

The method for getting more reliable figures is lowering a platform into the sea to which has been attached an echo sounder looking downwards. Parallel to this, Imenco's stereo camera takes horizontal pictures. The stereo camera consists of two parallel cameras placed 30 centimetres apart that take the pictures simultaneously. The pictures may be put together and provide information on the size of the photographed krill and at what angle it is orientated in the sea.

One then assumes that the krill photographed by the stereo camera behaves in the same way as the krill that the echo sounder sees under the platform.



This is how the krill looks like. The little creature constitutes a major part of the marine food resources of mankind. Photo: Kjartan Mæstad, Havforskningsinstituttet

- Through these means we can find out what kind of echo the krill emits in its natural surrounding. The goal is to end up with better quantity measurements for the krill, he says.

The stereo camera is used both on platforms that are submerged below the "G.O. Sars", and on different platforms with an echo sounder that is kept stable in the water by means of a line and weight placed on the seabed.

The analysis and comparison of the information provided by the camera and echo sounder will be performed after the cruise has been completed in May. However, already at this point the oceanographers report that the population of krill is probably much larger than what has been assumed until now.



The Imenco 3D technology provides oceanographers with better estimates on the volumes of krill in the Southern Ocean. Photo: Kjartan Mæstad, Havforskningsinstituttet

## Imenco launches new HD video camera

**Imenco's new HD video camera will be ready for launch end February 2008. The camera design is already successfully completed, and the camera body will follow in a matter of weeks.**

The new video camera can be used on water depths down to 3000m.

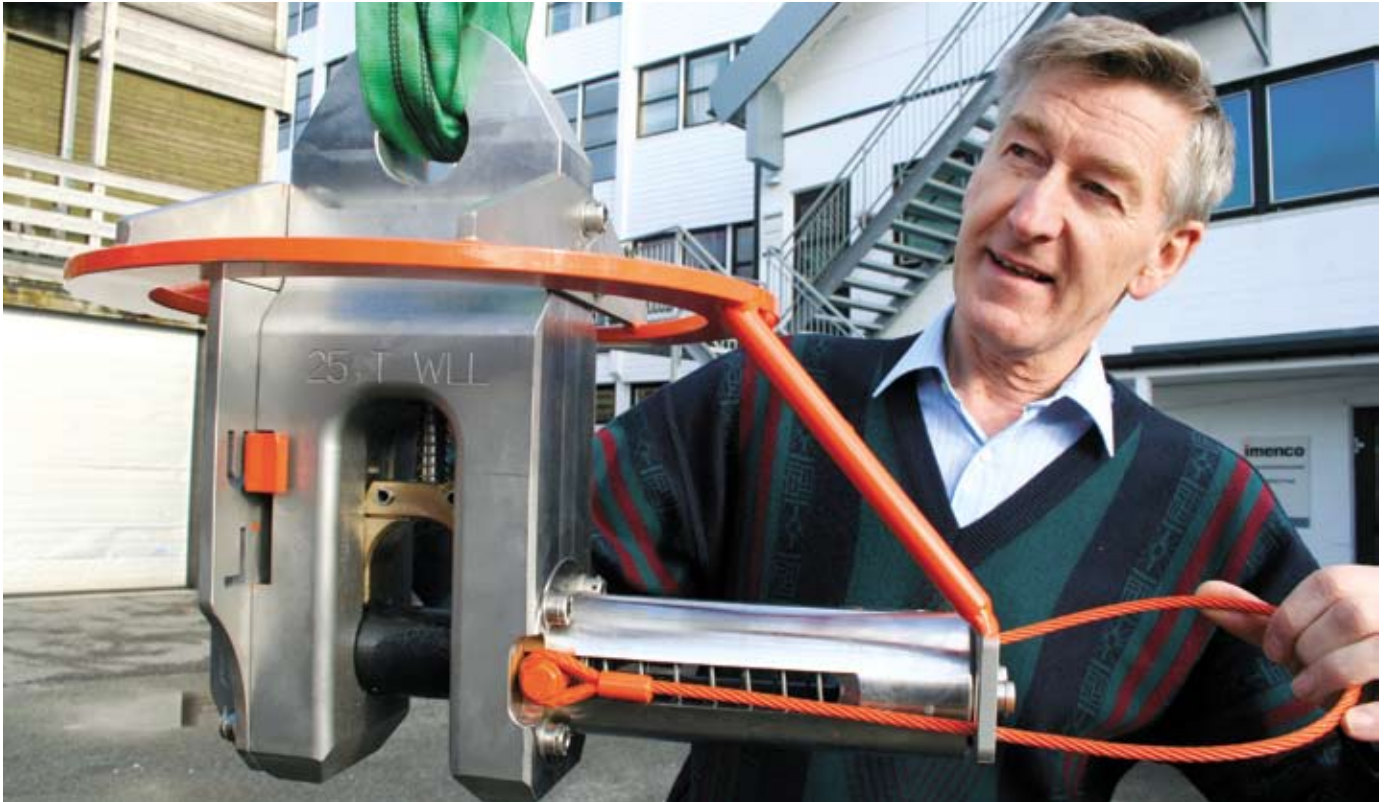
- Based on the numerous enquiries we

have received from various users, we are excited as to how the new camera will be received in the market, Business Unit Manager Subsea, Thor Nordahl, says to Imenco Today.

The development and design of the new video camera met with a number of challenges. The high picture resolution

means that the data to be processed are considerable. It has also been important for us to cut down on the scale of the new camera, both in terms of size and price, compared to models available on the market today. In my view we have succeeded in meeting these goals, Mr. Nordahl says.

# Users praise the new Imenco shackle



Engineering Manager, Arne Kinn demonstrates the newly developed ROV shackle for representatives from Deep Ocean

**A newly developed ROV shackle from Imenco gets lavish praise in a report issued by Deep Ocean. It is StatoilHydro who ordered the shackle, and tested it onboard the "Normand Flower", a vessel owned by Solstad Rederi which is IMR vessel for Deep Ocean.**

The report states that the new Imenco shackle proved to be very useful, and more practical and easier to operate than the shackles of other manufacturers. Both the deck crew and the ROV pilots are very pleased with the shackle. The new shackle came about as a result of StatoilHydro's requirement that the shackle be equipped with a double locking of pin. Engineering Manager, Arne M. Kinn has been in charge of development and design of the new shackle.

- The model delivered, and which Deep Ocean has tested out, is designed to lift up to 25 tons. However, we have also designed shackles that can lift cargoes weighing 12.5 and 50 tons. We received a very positive feedback after the shackle was tested out, Business Unit Manager Subsea, Thor H. Nordahl says to Imenco Today.

In the test report personnel on deck point out that it is simple to both open and lock the shackle by means of hand power.

- For people on deck the best feature of the shackle is that it can be opened and closed by using a boathook. Thereby one does not have to climb onto the equipment to disconnect it from the lifting wire. This enhances efficiency, and makes the operation safer for personnel on deck.

ROV operators emphasize that the locking device may be operated from three different sides. The locking arm also has a long deflection from unlocked

to locked position. Both positions are clearly marked by L and U respectively. The ROV pilots therefore do not have to zoom in on the shackle to see if it is secured or unsecured.

Moreover, ROV operators pointed out that it was simple to operate the shackle locking arm when it was attached to a fixed structure, while it was more difficult when the shackle was hanging in a slack wire.

Further information on the new shackle and the test results are available from Imenco.



Deep Ocean has carried out testing of the ROV shackle onboard the "Normand Flower" (picture), and the feed-back report is very positive.



The ROV operates the new shackle at 385m water depth from the "Normand Flower".

# Four-wheel crawler under water

SeaBotix has launched a new subsea vehicle that may revolutionize the inspection of ship's hulls and subsea constructions. The company is now on the market with an LBC (Little Benthic Crawler), which is based on the American manufacturer's LBV (Little Benthic Vehicle).

The new model, which similar to the LBV is part of Imenco's range of products, has a four-wheel skid that enables it to operate on ship broadsides/bottoms and other hard surfaces.

- In addition to possessing all the functions and properties that have made the LBV into a success product, the crawler has the ability to maintain a stable position on any base even during current flow conditions where using an LBV would be difficult or even impossible, says Business Unit Manager Subsea, Thor Nordahl to Imenco Today.

Thanks to the manoeuvrability of these subsea vehicles they strongly adhere to any fixed base. An extra propeller sucks the crawler to the base with a force of 25 kg, so that the four wheels get a good grip.

The powerful grip pattern of the four tyres gives the crawler a stability that is out of reach for conventional ROVs.



*This is how the newly developed subsea vehicle looks like. The skid with a four-wheel drive enables the crawler to perform inspections with a stability that a conventional ROV cannot achieve.*

It can cover approx. 30 m. a minute. In addition to a camera for carrying out inspections, the vehicle may also be equipped with special equipment for measuring the thickness of steel plates etc.

When the skid is not attached the vehicle works like a free-flying LBV. At Sea Botix factory in San Diego,

California, Imenco staff have undergone training in order to be able to provide service both for conventional LBVs and the new crawler.

The intention is that Imenco will also be in charge of service and maintenance for Sea Botix products in all of northern Europe.

## "Banana blocks" for Dolphin

Imenco has recently designed, manufactured and delivered 3 large multi-sheave blocks for Dolphin Services. The blocks, which are often called "banana blocks" owing to their banana shape, are tailor made to customer specifications.

- It's not the first time we are designing and delivering this type of blocks, but it's true that these were rather big, says Imenco's Business Unit Manager, Lifting and Handling, Stein Roger Eliassen to Imenco Today.

The machining and assembly were carried out at Brødrene Haukaas, Tysvær.



*One of the "banana blocks" ready for delivery to Dolphin Services. Block dimensions are hefty.*

# Smart solutions in an international market

**- An Incredible exciting industrial company to come back to. This is how Director, Market & Sales Bjørn Å. Brunborg (50) describes his new workplace, where he is in charge of sale and marketing of four ranges of products.**

He has a background as an electro-technician, and has also specialized in management and marketing at the Norwegian School of Economics and Business Administration in Bergen. Brunborg also has international experience, both as a head of international companies in Norway, and one Norwegian company abroad.

In November 2007 the Bergen born Brunborg returned to the western parts, after a three-year stay in Belgium. His wife, who heads South Norway European Office in Brussels, is now commuting between Haugesund and Brussels. The Belgian capital is the hub of the EU, where a large number of Norwegian companies, organizations, regions, news media, and governmental bodies are present. There are around two thousand Norwegian nationals in Belgium, and they have their own association. This gave Bjørn Brunborg plenty to do, since he on top of his job also attended to his commission as leader of the Norwegian association in Belgium.

- Three years in Brussels - centrally located in Europe, has given me a very good network. Moreover, from a marketing point of view, it's stimulating to see how sales and marketing is done abroad. Experience from international companies and living a few years in an international environment do something to you, he says.



Director, Market & Sales Bjørn Å. Brunborg is excited to sell smart solutions to the customers.

Staying away from rainy western Norway for a few years has not only changed his international perspective, but has done wonders to his golf handicap, too. Back on Norwegian golf links he can boast a decent 19.1, but his focus from now on will nevertheless be on sale and marketing of Imenco at home and abroad.

With around 30 years of experience within sale and marketing he sees great future possibilities for Imenco. A lot of our efforts will revolve on building up Imenco as a brand.

- Imenco has already done a lot of good work to work up the market. We now aim to attract more attention to what we are doing, becoming more visible, both regionally, nationally and internationally. Through branding and active marketing we shall strengthen the company's position as a significant player within our business segments, Brunborg emphasizes.

Imenco will to a larger extent appear with a market-oriented profile, where the customer is put first.

- For the present year our target is a turnover of NOK 148 millions.  
- Half of this will derive from business area Lifting and Handling, while Subsea, Helicopter Refuelling, Surveillance and Engineering will stand for the other half of the sales budget. We are operating in a global market, where competence, quality and experience are important concepts. With almost 30 years of experience Imenco possesses maritime/offshore know-how that is highly respected abroad. As the oil and gas activities are moving into deeper waters, amongst other in arctic areas, and off Africa, America, and China, "smart solutions" from Imenco will be more in demand. This is what we are known for, and the explanation is that our organization has some of the best engineers in the business, Brunborg concludes.

## New colleague

John Arne Birkeland joined Imenco as a technician in February. He will be working in the electronic department.



## Make a career at Imenco

Imenco is seeing a rapid growth, which means there are good career opportunities for engineers and other personnel. We are at all times looking for new collaborators to strengthen our organization further.

One of our key areas is the development of advanced systems for IP cameras for offshore installations and land-based industries. Within this

department we have a vacancy for a network and systems engineer. Imenco is also looking for a salesperson with relevant background from the offshore and maritime sectors. The successful applicant is not only to market our subsea and ROV equipment, but will also offer knowledge and smart solutions to the challenges given to us by our customers.

# Busy spring for Sales & Marketing

The beginning of 2008 is busy for sales and marketing Department at Imenco. February 12th - 14th Bjørn Brunborg and Thor Nordahl attended SubSea 08 in Aberdeen. March 11th - 13th they attend IO 08 in London, and April 7th - 9th Bjørn Brunborg and Jan Endresen exhibit at China International Petroleum & Petrochemical Technology and equipment Exhibition in Beijing.

This years exhibition in Aberdeen was named "A view to the future", and the latest achievements in sub sea technology was displayed.

The Marine Science and Ocean Technology event that attracts most attention is Oceanology International 2008 in London 11th - 13th March. Oceanology International (OI) claims itself to be the world's largest and most respected meeting place for the marine science and ocean technology community. OI hosts an agenda setting conference, visiting vessels and live demonstrations as well as the latest technology & solutions from an unparalleled selection of suppliers. OI is attended by a global community of



Bjørn Å. Brunborg (left) and Jan Endresen has look forward to CIPPE in Beijing in April. Filling stations for Helifuel is one of Imenco's success products in Asia.

engineers, scientists, legislators, policy makers and management professionals with responsibility across all of the ocean science and marine technology spectrum. Bjørn Å Brunborg and Thor Nordahl will be representing Imenco also in London. Mr. Brunborg and Mr. Nordahl will be representing Imenco also in London.

The main event for Imenco this spring is the participation at China International Petroleum & Petrochemical Technology

and Equipment Exhibition (CIPPE) in Beijing 7th - 9th April 2008.

Imenco cooperates with several other Norwegian Companies at a common stand. At CIPPE Imenco will be represented by Sales Manager Brunborg, Sales Manager for Helifuel Department, Jan Endresen, and Imenco's agent in Korea, Mr. J.H. Tak.

**(Se also Imenco Today Editorial at page 2)**

## Imenco launching two new cameras

**Surveillance CCTV is an increasing market for Imenco, who launch two new cameras this spring. IP 68 camera and the Exd camera for hazardous areas are developed, using the latest technology, and with focus on size/weight at a very competitive price. The cameras are available in both analogue and IP version.**



Exd camera for hazardous areas uses the latest technology, with focus on size/weight at a very competitive price.

The housings are robust, and tolerates placement in rough industrial environment and in locations where it is exposed to humidity, Business Unit Manager Surveillance, Jan Wulfsberg says to Imenco Today.

- Other camera models of similar type have been much larger. We have developed a camera with a more compact size, but which has a better functionality, and pictures with higher resolution. The IP 68 goes in as one of the elements that may be connected to our IP-based network for camera surveillance. The great advantage with networks like this is that it uses the companies' existing computer network. Users may also be linked up to the system via Internet. As a result of this, the various points being monitored may be located anywhere.

The camera is connected to the net via

a PC, which means one can be located anywhere in the world and still have an overview of processes going on onshore or at sea, above or under sea level, Mr. Wulfsberg explains.



Jan Wulfsberg proudly presenting the prototype of Imencos new IP 68 camera.

# Imenco takes over rental transponders

Imenco has purchased a large numbers of transponders previously owned by StatoilHydro. The transponders can be deployed at water depths down to 1000 meters.

- The transponders are made available for customers world-wide, and can be rented at short or long term, says Business Unit Manager Subsea, Thor Nordahl.

- For years we have maintained the sub sea transponders for Statoil, and they will now operate in an Imenco Transponderpool.

The MPT319DTR series is a Multifunction Positioning Transponder operating at medium frequency. They are manufactured by Kongsberg Maritime, and are used with Kongsberg underwater navigation systems for positioning and navigational purposes.

## Features:

- Dynamic position reference for surface vessels.
- Navigation of underwater vehicles and towed bodies.
- Positioning aid for pipeline and underwater structure maintenance and construction.
- Positioning and re-entry of BOP's.
- Riser angle and BOP angle monitoring.
- Telemetry of acoustic release or external sensors.
- Sensor-reading telemetry transponder (depth and temperature).
- Position-transponder in an LBL array.
- Master-slave transponder in an LBL array.



Project Manager Thor Nordahl with one of the transponders. To secure safe transportation the transponders are protected in strong special designed boxes during shipping. Floating elements (right) can be applied to bring the transponders to the surface when its released from the anchor.

- Transponder Range-Positioning mode, where it positions itself.
- Range measuring transponder.

**For more information: Business Unit Manager Subsea, Thor Nordahl.**  
Mail to: [thor.nordahl@imenco.no](mailto:thor.nordahl@imenco.no)

## Imenco blocks on American research vessels

Imenco is in the process of performing deliveries of specially designed blocks for the deck equipment of a series of advanced American ocean research vessels. Rapp Hydema placed the order with Imenco. The blocks are part of Rapp Hydema's order for a hydrographic and oceanographic traction winch, CTD and trawl winches.

The vessels are being built for the National Oceanic and Atmospheric Administration (NOAA), which is part of the U.S. Department of Commerce.

- The equipment to be supplied is for four ships, and we are talking about seven different types of blocks. They have been tested out on NOAA I, NOAA

II and NOAA III, and they are now being further adapted at the same time as we are manufacturing the blocks for NOAA IV, Business Unit Manager Lifting and Handling, Stein Roger Eliassen says to Imenco Today. NOAA, the oldest federal research institute in the US, celebrated its 200-year anniversary last year.