

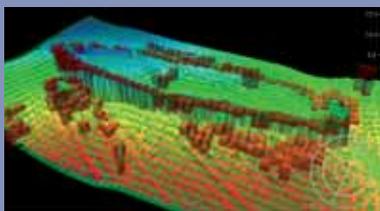


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content



CARIS and Kongsberg Maritime sign Memorandum of Understanding
 PAGE 2

A seminar on seafloor classification
 PAGE 3

Fugro orders second HUGIN 3000 AUV
 PAGE 4

HPR 410P - Portable acoustic positioning system to French 'Copetech-SM'
 PAGE 5

Successful Factory acceptance test for delivery of the 'Full Picture' to Flekkefjord Slipp & Maskinfabrikk
 PAGE 6

Kongsberg Maritime expands HiPAP family
 PAGE 7



The Royal NIOZ R.V. Pelagia

Royal NIOZ and Kongsberg sign multibeam contract

The Royal Netherlands Institute for Sea Research (NIOZ), the Netherlands national Institute for oceanographic research and Kongsberg Maritime have signed a contract for the delivery and installation of a Kongsberg EM 302 1x2° multibeam echo sounder for the 66m oceanographic research vessel 'Pelagia' of NIOZ.

With the installation of this equipment, which thanks to the use of new chirped ping technology is capable of producing a swath of 4000 m at 5 km water depth, the research facilities of this multipurpose vessel will be greatly enhanced. This makes 'Pelagia' an even more attractive research platform, not only for the Dutch marine research community,



Prof. Dr. Tjeerd Van Weering (NIOZ, right) and Mr. Eddy Lund (Kongsberg) shaking hands after signing the contract

but also for third parties. The acquisition of the multibeam system was made possible through a grant of the Netherlands national science foundation NWO.

**21st – 23rd March
 Visit us at stand 650**



CARIS and Kongsberg Maritime sign Memorandum of Understanding

CARIS, Canada and Kongsberg Maritime have signed a memorandum of understanding to collaborate and deliver CARIS HIPS/SIPS multibeam processing software to existing and potential KONGSBERG clients.

Single off-the-shelf software product

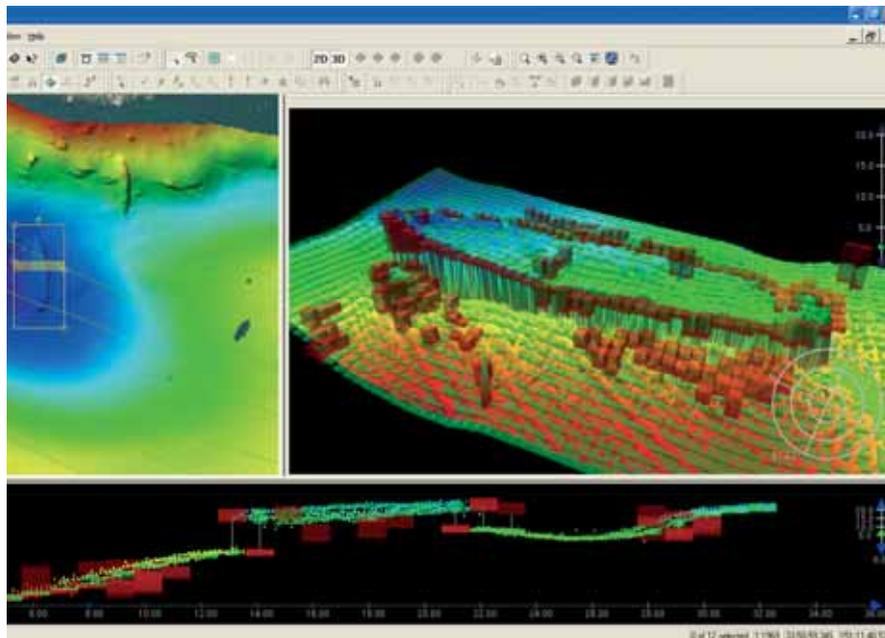
CARIS HIPS/SIPS represents a single off-the-shelf software product that embodies all of the very latest statistical-based data cleaning and processing methodologies currently reshaping the ocean mapping industry in one single package. The addition of HIPS/SIPS to KONGSBERG's existing multibeam processing products appeals to a greater diversity and variety of end-user needs, thus strengthening market position.

Ongoing cooperation

As part of this agreement, CARIS will provide ongoing marketing, sales and training support for the HIPS/SIPS software to KONGSBERG engineers and sales specialists. Further, the two parties have committed to working cooperatively on an ongoing basis, to offer migration from Neptune users to HIPS/SIPS and to ensure that the technical needs of KONGSBERG clients are being met in future planning of the HIPS/SIPS software.

Independent of data formats

"We are pleased to work with Kongsberg, enabling more multibeam processing options for their clients," said Derrick



Peyton, CARIS Marketing and Sales Manager. "As companies face issues of large bathymetric data sets, interoperability and distribution, CARIS multibeam processing and data management software supports KONGSBERG clients with their data cleaning and processing needs regardless of the data format and workflow."

Quality multibeam processing tool

"It is our objective through this collaboration with CARIS to ensure Kongsberg customer satisfaction by providing a quality multibeam processing tool that is well supported to existing and potential clients. However, our well known and well tested NEPTUNE post processing software will still be available as a choice for the users," says Freddy

Pøhner, Vice President Sales and Marketing for Kongsberg Maritime-Subsea.

About HIPS and SIPS

The HIPS and SIPS product is a comprehensive bathymetric data cleaning and validation tool integrated with powerful vector product creation. HIPS and SIPS can take the raw sounding data from ship to chart. Supporting over 40 industry standard sonar data formats, HIPS and SIPS can easily integrate into any workflow. Proven automated data cleaning filters and algorithms assist in today's high data volume environments. This, coupled with the ability to easily produce vector products such as contours and selected soundings, makes the software a powerful production tool.

Croon Bakker Combination and Kongsberg Maritime sign multibeam contracts



Croon Bakker Combination, Netherlands, has been awarded the contract for the supply and integration of a number of systems for the two new pipe laying vessels ordered at

Merwede shipyard by Subsea 7. The two vessels will be equipped with an EM 1002 multibeam echosounder – in addition to DP, HiPAPs and other sensors from Kongsberg Maritime.

A seminar on seafloor classification



December 1 and 2 2005, Kongsberg Maritime invited some of the users of Neptune (later named Neptune-B), Triton (later named Neptune-C) and Poseidon (later named Neptune-S) to Horten for a seminar on seafloor classification.

The seminar gathered participants from Kongsberg Maritime, several customers using our products, scientists and developers from research institutions.

The first thing to discuss was how to use multibeam echosounders as a tool for seafloor classification. Kjell Nilsen from Kongsberg Maritime gave an overview of the acoustic principles of multibeam echosounders and the ongoing development in Horten. Terje Pedersen (KM) presented the state of Neptune-B, -C and -S and the road ahead for the product was discussed.

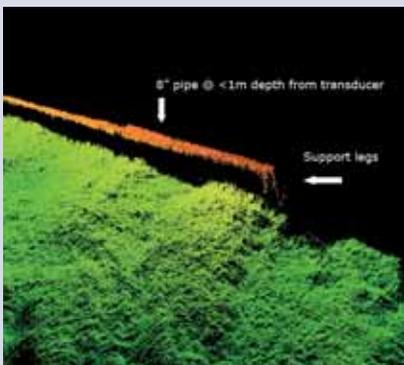
The new classification tool for Kongsberg single beam echosounders was demonstrated by T. T. Lied (KM). This tool, SeaBec, can take advantage of several frequencies to classify the seafloor. The results are available immediately in the geographical display and there are several options to control the operation of SeaBec.

The seminar also contained papers from the participants. Professor J. M. Hovem presented a paper on how to use scattering theory in seafloor classification, M. A. Larsen presented his method for seafloor classification, R. Riethmuller presented results from seafloor classification using EM 3002 and ways to improve the system. M. Roche and K. Degrendele presented results from using Neptune-C and suggested tools to help the users make better use of the output from Neptune-C. T. Thorsnes

presented a paper on how to use seafloor classification in the MAREANO project and needs for improvements in hardware and software. D. Simons and T. Driesenaar presented a seafloor classification system developed by TNO.

Valuable contacts were made during the following discussions. The users of Neptune have over the years gathered vast experience in the use of seafloor classification, and the joint cooperation between the users, and between the users and scientists, will help the development of seafloor classification tools in the future.

As a result of this seminar, new versions of Neptune-B, -C and -S are made available that we hope will help the users to make better use of the classification done in Neptune-C.



Pipe-surveys in the North Sea

Over the past year, the EM 3002 has been run on several pipe-surveys in the North Sea, by Stolt Offshore, now Acergy.

The performance of the system has been documented and the EM 3002 has been verified to be an important

tool for inspecting gas and oil-pipes. The system has also been tested by Geoconsult on a new coated 8" pipe with good results. The system was tracking and displaying the pipe without any problems when the pipe was on support legs, and on the seabed without support legs.

Fugro orders second HUGIN 3000 AUV



Following the successful deployment of Fugro's Echo Surveyor HUGIN 3000 Autonomous Underwater Vehicle (AUV) in 2005, Fugro NV, in the Netherlands, has placed an order with Kongsberg Maritime for the purchase of a second deep water HUGIN 3000 AUV.

The new build HUGIN 3000 will be equipped to the same standard as Echo Surveyor. It will also incorporate the modifications that were already

made to the Echo Surveyor to enhance operational efficiency, improve safety and environmental performance to meet Fugro's requirements.

The new build HUGIN 3000 will be delivered and tested during winter 2006 and will be ready for operation before the end of the year. Fugro's dedicated specialist AUV team will again work with Kongsberg Maritime over the next few months during the build and

commissioning of the system. This team draws from key staff involved in previous AUV, ROV and geophysical survey operations and has proven to be an exceptional combination. The integrated, multi-disciplinary approach ensures maximum efficiency and effectiveness based on the broadest range of skills, knowledge and experience.

HUGIN AUVs have, since their market introduction in 1997, successfully been used for civilian and military applications. More than 60.000 km of accumulated survey world wide for the Offshore Oil & Gas industry is achieved with the HUGIN 3000 class AUVs, in the range from shallow and down to 3000 meter water depth.

Due to its unique semi fuel cell battery technology the vehicles are repeatedly running survey missions with up to 60 hours endurance with all payload sensors in operation simultaneously. Such sensors comprise Side Scan Sonar, Sub Bottom Penetration Sonar, Multi Beam Echosounder, and sensors for measuring conductivity, temperature and depth. The superior vehicle control and navigation systems allow the vehicle to be safely operated in rough terrain and with high position accuracy in very deep water.

EA 400SP Splash proof



Early in 2005 we introduced an improved EA 400 portable and splash proof echo sounder. Recently we have also released new software for the EA 400/SP/600, providing new features and possibilities.

The EA 400SP is a dual frequency echo sounder operated with a rugged notebook PC (Tablet PC Edition). 38/200kHz frequency is the standard configuration - vertical or side looking transducer(s), powered with 12VDC. It is easy to commission and therefore perfect for surveying in shallow water depth in small and open boats. The new EA 400 and EA 600 software, has been improved with several new features, such as side enhanced looking imaging, replay function and new data formats. The EA has for a long time featured the possibility for side looking imaging, a feature already popular with users. The new side looking software has been im-

proved by scrolling the image vertically and exporting of georef data on the network (position and across distance to an object). For correct across distance, a vertical transducer must be installed. Other enhancements includes:

- New functionality in the replay dialog box (slider and storing of existing raw file)
- XYZ values in ascii format (interpolated depth) stored to HD
- Remote control of start and stop logging/ pinging and history file
- Extended function to detect second hard bottom with the lowest frequency in the system. Needed frequencies e.g. 38/200kHz.

The Hydrographic Institute - Split and Kongsberg Maritime sign multibeam contract in January



The Hydrographic Institute of the Republic of Croatia (www.hhi.hr) and Kongsberg Maritime have signed a contract for the delivery and installation of an EM 3002D multibeam echosounder for the 22m long survey vessel RV 'HIDRA'.

The vessel carries out multidisciplinary ocean surveys mostly to ensure safe navigation.

“With the new Multibeam system the Institute is well prepared to serve different environments looking for detailed information about the seafloor,” says Dr.sc. Zvonko Grzetic, director of the Institute.

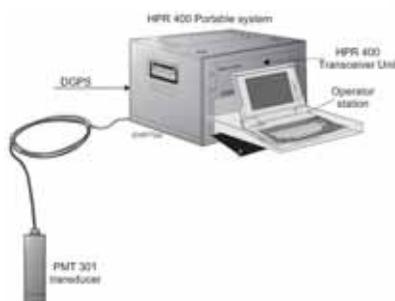
HPR 410P - Portable acoustic positioning system to French 'Copetech-SM'

'Copetech-SM' is a French company specializing in survey missions and submarine inspection by ROV to 1000m depth. Their brand new Kongsberg HPR 410P is now onboard their new Deep-Sea Survey Unit 1000. This autonomous unit was especially

designed for deep-sea ROV diving. Its principal missions are assistance to oil & gas submarine works. The unit is easily movable on any floating support vessel which can accept a 20 feet long container. 'Copetech-SM' is present in France, French territories and

especially in the French Antillas with a dedicated office for South America.

For more information:
www.copetechsm.fr



HUGIN record-breaking mission



Tuesday evening, 27 December 2005, HUGIN was recovered after a record-breaking mission.

Mission 91 lasted for more than 66 hours, with Hugin covering a distance of 430 km. This was performed with water depths in the range of 400 to 1050 meters, in very challenging terrain and partially on flat seabed.

The mission plan included nearly 500 waypoints, where approx. 50 waypoints were changed via acoustic link during the execution of the mission.

Payload logged was Simrad EM 2000 150° multi-beam echo-sounder, Edgetech FS AU SSS/SBP, dig quartz 2000m depth sensor and FSI 2”MCTD sensor.

Successful Factory acceptance test for delivery of the 'Full Picture' to Flekkefjord Slipp & Maskinfabrikk

Britain's leading environmental research organization has commissioned Flekkefjord Slipp & Maskinfabrikk to build a state-of-the-art scientific research ship to replace the RRS Charles Darwin. The RRS Charles Darwin has been supporting researchers since 1985 and is now coming to the end of its working life.

The 5,000 tonne ship, the James Cook, will operate worldwide - from the tropics to the edge of the ice sheets - enabling cutting edge scientific research. The ship's design will enable it to work in higher sea-states than the Research Council's other dedicated research vessels. It will be more manoeuvrable, have more scientific berths, and better technical facilities.

Chief Executive of the Natural Environment Research Council, Professor John Lawton explains why this new ship is essential. "We need year-round access to dedicated research ships for the foreseeable future. The James Cook will help answer the biggest environmental questions facing us in the next century: in climate change, evolution, ocean circulation and biodiversity. The research it undertakes will have an impact on all of us." The ship will be operated by NERC's Research Ship Unit based at Southampton Oceanography Centre. Chairman of the procurement board for the new ship, and director of the centre is Professor Howard Roe.

The ship will be completed summer 2006 and the following equipment



FROM LEFT: Edward Cooper, Project Liaison Officer NERC, Rune Olsen, Over all project manager, Tore Nilsson, test engineer, Raymond Halvorsen, technician test, Sigbjørn Sirnes, Project Manager Flekkefjord Slipp & Maskinfabrikk

was tested during FAT in Horten 2-3 March:

Multibeam echosounders:

- EM 120 1X1 degree system
- EM 710 2X2 degree system

Sub bottom profiler:

- SBP 3X3 degree system, using EM 120 RX transducer and electronics for receive of signals.

Single beam Hydrography echosounder:

- EA 600 12Khz

Split beam Fishery Research echo sounder:

- EK60 18,38,70,120 and 200 KHz

Synchronization unit:

- SSU for synchronization of EM 120,

SBP, EM 710, EA 600, EK60, ADCP75 and ADCP150

Marine Data Management system:

- MDM 400

The following equipment was tested during FAT in Kongsberg 8-9 March:

Alarm and monitoring system:

- SVC400 with approx. 1000 I/O's

DP and joystick system:

- SDP 11
- cJoy

In addition, Kongsberg Maritime has delivered a complete navigation package with bridge consoles.

This is close to what we call "The Full Picture"

KOG - wins MNOK 15 contract with the US Navy

Kongsberg Maritime's US subsidiary, Kongsberg Underwater Technology Inc., has signed a MNOK 15 contract to provide several integrated sonar and echo sounder systems to the US Navy.

The contract also includes four years of

options with a potential total value of appr. MNOK 190.

These systems are designed for permanent installation aboard the six T-AGS 60 class survey vessels operated by the US Naval Oceanographic Office (NAVOCEANO).

The contract covers a five-year period, meaning that if all options are exercised, it will continue until February 2011. The contract encompasses design, manufacture, testing, integration, installation and overall support for the new systems.

Kongsberg Maritime expands HiPAP Family

Kongsberg Maritime will unveil two new members of its highly regarded HiPAP® underwater positioning system family at Oi06.

HiPAP Goes Portable

HiPAP 350P is the only automatic beam steering portable transducer on the market and is an ideal tool for the 'Vessel of Opportunity' due to its ease of transport and set-up. With its new, unique and compact transducer accompanied by a built-in accurate Motion Reference Unit, HiPAP 350P can be used on almost any vessel at short notice.

The transducer is designed to be mounted on a shaft to be installed over-the-side or through a moon-pool of a vessel. With its 345 mm diameter transducer head, it can also penetrate all existing 12 inch / 350 mm gate valves.

The system uses unique narrow pointing beam technology, to minimise the effect of noise from noise sources such as propellers and thrusters. The 46-element transducer creates a narrow beam of +/- 7,5 degrees, which can be pointed towards the transponder(s) in any direction within a 120-degree cone below the vessel.

The operational area can easily be extended or changed by simply mounting the transducer on a tilted bracket, facing the sector to the wanted area. There is no need for extra calibration, or mechanical fine adjustments, as the internal Motion Reference Unit will automatically compensate for the tilt.

New Low Frequency HiPAP

HiPAP 100 is the new and Low Frequency member of the HiPAP® system family. With high accuracy, good



repeatability and high reliability, the HiPAP 100 system is the multi-purpose acoustic positioning system for ultra deep water operations.

The HiPAP 100 system is supplied as an 'ultra deep water' version using transponders for high water pressure. Transponders with depth rating down to 6500 m are available. The HiPAP 100 is well proven, and it provides the simplest way to position ROVs and other objects in very deep water.

The beam forming, signal detection and digital signal processing are based on the same principles as the other well proven HiPAP family members. The elements are all computer-controlled and the system will dynamically control a narrow listening beam towards the transponder(s), minimising the noise influence from the vessel's thrusters and propellers.

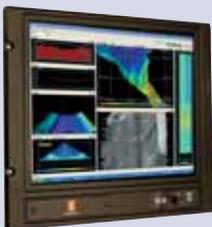
About HiPAP

HiPAP was first developed with the focus of using the Super Short Base Line

(SSBL) principle, as the market requirement was to try to avoid the Long Base Line (LBL) principle in deep water accurate seabed survey applications.

The main advantage of the SSBL principle is that it only requires installation of one vessel-mounted transducer and one subsea transponder. The unique transducer technology along with advanced digital signal processing of HiPAP has been proven to obtain optimal position accuracy. The HiPAP series of transducers features many more elements than any of its competitors. This provides increased acoustical redundancy, mathematical redundancy and improvement of the Signal to Noise level.

All HiPAP systems can now also install a Long Base Line functionality providing the operator flexibility when this is required. All HiPAP systems use the same Acoustic Positioning Operating System (APOS) and Man Machine interface. The APOS consists of a Color Display, an Acoustic Positioning Computer (APC), Keyboard and tracker-ball.



Delivery of EM 3002

Bakker Sliedrecht Electro Industrie B.V. and Kongsberg Maritime signed a contract for the delivery of EM 3002 to two new vessels to be built for the Swedish

coastguard. The two multibeam echosounders are a small part of a total package to be supplied by Kongsberg Maritime.