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50th Anniversary of **SEALAB II**

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means users do not have to review hours of wasted footage. Data is recorded onto a standard SD memory card.

The system is equipped with an internal power pack that enables recording on repeated deployments to obtain up to an hour of footage. Recharging and data transfer takes place via an external charging port. The camera is equipped with variable powered lights that can either be fixed to the side of the camera or positioned elsewhere via umbilicals to allow adjustments to be made for visibility. The standard housing is rated to 6,000 m, but systems for shallower use are also available.

For more information, visit www.osil.co.uk.

Teledyne TSS' Saturn fibre optic gyrocompass achieves Wheel Mark status

Teledyne Marine announced that after comprehensive testing, the full range of Teledyne TSS Saturn Fibre Optic Gyrocompasses has achieved Wheel Mark type approval under the MED (Marine Equipment Directive) Module B for meeting the performance standards required by gyrocompasses used for commercial shipping. The equipment is now fully approved for Gyro-Compass Equipment (Annex A.1/4.3), Gyro-Compass for High Speed Craft (Annex A.1/4.31) when operating at vessel speeds above 30 kts, as well as Rate of Turn Indicator (Annex A.1/4.9).

MED ensures a uniform implementation of international instruments for compliance with international conventions in order to ensure maximum degree of reliability and safety at sea, to prevent maritime casualties and pollution, and to ensure free movement of equipment within the European Union.

The equipment is also approved under the U.S. – EC Mutual Recognition Agreement. (US Coast Guard Module B Number 165.103/EC0168 and 165.203/EC0168 also apply.)

The Saturn fiber optic gyrocompass unit is built upon more than 100 years' experience in marine navigation. This experience and industrial innovation has enabled the TSS engineering team to integrate the latest solid state technologies to offer a user-friendly, highly accurate and cost-effective gyrocompass solution for demanding marine environments. Ideal as any type of navigation device, the Saturn products have impeccable specifications and significant qualities ensuring suitability for



many navigation applications. Having already tested the market with its full launch in 2014, the Saturn products are now fully ready to become a major player in the commercial shipping market. Designed to fulfil the primary navigation need, the device is a strap-down attitude and heading reference system (AHRS), producing a maintenance-free unit. A lightweight, compact and highly reliable gyrocompass, the Saturn provides flexibility in use and integration with a complete suite of Teledyne TSS repeaters and ancillaries ensures that Saturn is suitable for any size of vessel.

For more information, visit www.teledyne-tss.co.uk.

2G Robotics delivers two deep-rated Laser systems to Oceaneering

2G Robotics recently delivered two deep-rated ULS-500 subsea laser systems to Oceaneering International, Inc.'s business unit, Oceaneering Survey Services. Including these two ULS-500 systems, Oceaneering now utilizes six of the ULS-500 systems with its AUVs as part of its advanced survey and inspection services for assessing pipeline and flowline integrity. Oceaneering has used the 2G Robotics ULS-500 system to accurately and efficiently inspect 2,500 km of pipeline and flowline.

The ULS-500 can be used to perform high-quality stationary scans, but the system delivers even greater operational value when integrated with subsea vehicles to perform dynamic scanning. The ULS-500 is specifically designed for dynamic scanning with development focused on subsea vehicle integration, high sample rates, and timing synchronization for efficient and accurate data acquisition.

Dynamic scanning with the ULS-500 notably increases operational efficiency compared to traditional sonar and acoustic techniques as the high sample rates of the system allow for faster vehicle traversal for faster inspections. With dynamic scanning, one of the critical features is precision time synchronization since inaccuracies with time synchronization will produce inaccuracies

with model generation. The ULS-500 uses PPS (pulse per second) time synchronization as it provides better timing accuracy than a standard NTP (network time protocol) time synchronization approach, ensuring better data accuracy.

For more information, visit www.2grobotics.com.

A DVL that fits in the palm of your hand

The trend in the underwater vehicle community is for smaller size and greater flexibility. Nortek has, therefore, designed a DVL with workclass capability that fits in the palm of your hand—while offering higher precision navigation. With the introduction of the Nortek DVL, navigation capabilities of smaller underwater vehicles is no longer limited by the size and cost of the DVL. Our recently developed DVL opens the door to new possibilities.

The Nortek DVL is tailor-made for operational users of workclass and mini ROVs and AUVs alike. It contains all the functionality of a classic DVL but has now taken advantage of the possibilities offered by a modern hardware platform. The package size is small yet does not compromise performance.

A casual review of the DVL shows that Nortek has managed to reduce size and power consumption as well as incorporate modern communication channels. However, it is the powerful processing of the new platform that helps users improve on the capability of the bottom tracking.

You can expect bottom lock for greater ranges, soft bottoms, and very close to the bottom. In addition to the robust bottom track, the data stream contains information such as data quality parameters and time stamps with a 1-millisecond resolution. Precise knowledge of when the velocity estimate were made provides more accurate navigation.

For more information, visit www.nortek.no.

