

PHINS REACHES ULTIMATE DEPTH



PHINS INS

IXSEA's PHINS INS made history onboard *Nereus*, Woods Hole Oceanographic Institution's deep sea robotic vehicle, which reached depths of 10,902 m in the Marianas Trench in the Western Pacific Ocean on 31 May. This makes *Nereus* the world's deepest diving vehicle.

PHINS Inertial Navigation System outputs position, heading, roll, pitch, depth, velocity, and heave. Its high accuracy inertial measurement unit is based on IXSEA's Fiber Optic Gyroscope (FOG) technology coupled with an embedded digital signal processor that runs an advanced Kalman filter. PHINS is used as a primary navigation system on *Nereus* and other WHOI vehicles such as *Sentry* AUV and *Alvin* DSV. PHINS is well suited to *Nereus*' long endurance missions to the bottom of the earth's oceans due to its low power draw which saves critical battery energy. Moreover PHINS accepts multiple aiding sensors which are part of the complete suite of tools used in the navigation of AUVs, these include: DVLs, Pressure Sensors, USBL and LBL acoustic positioning, and CTDs.

The Marianas Trench is the deepest known part of the world's oceans and reaches more than a mile further into the depths of the ocean than Everest reaches the sky. This is only the third vehicle to have reached the trench, and the first since 1998. With the successful completion of the *Nereus* dive to the deepest part of the ocean and unprecedented maneuverability, scientists now have the means to efficiently collect detailed data, images and samples from these unknown depths which will lead to a greater understanding of our oceans and planet.

About IXSEA

The IXSEA Group is the world leader in fiber-optic gyroscope technology. Combining excellence in innovative design and technology, our teams design, execute and maintain a complete range of gyroscopes, navigation units, acoustic positioning systems, magnetometers, sediment sounders, acoustic releases and sonars.

With a presence on all five continents, the Group has over 400 customers of reference in the scientific, offshore oil, construction and defense sectors on land, at sea, in the air and in space. The IXSEA Group has nearly 230 employees and generated annual sales of €38 million in 2008.

Further information:

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