

Kraken Receives Canadian Development Grant



Kraken Sonar Systems Inc. will receive a non-refundable financial contribution of up to CAD1,470,000 from the National Research Council of Canada Industrial Research Assistance Program (NRC-IRAP). In addition to technical and business advisory services provided by NRC-IRAP, the funding is being used to support the development of Kraken's underwater robotics programme, which involves development of a technology demonstration platform. The first phase of the programme will utilise the Fraunhofer Institute's DEDAVE autonomous underwater vehicle (AUV) as the base platform. The AUV will be enhanced with hydrodynamic control system and payload upgrades.

Karl Kenny, Kraken's president and CEO, said to appreciate the continued support and assistance from the National Research Council of Canada Industrial Research Assistance Program (NRC-IRAP) to help them further penetrate the CAD600 million AUV market. Over the past few years, AUVs have evolved from an emerging, niche technology to a viable solution and an established part of operations in both military and commercial applications. Given the recent shift in industry focus from AUVs being platform/hardware-centric to becoming sensor/software-centric, we believe there is significant potential for further growth. By combining advanced sensor technologies with cutting edge artificial intelligence algorithms, it's the objective of Kraken to deliver a cost-effective AUV solution that is truly autonomous as opposed to being simply automated.

Kraken's Underwater Robotics Technology Programme

The DEDAVE's current primary payload is Kraken's 6,000m depth rated AquaPix MINSAS-60 Synthetic Aperture Sonar. The MINSAS-60 will be upgraded to an AquaPix MINSAS-120 with Real-Time embedded SAS processor (RTSAS), increasing the area coverage rate to 2 km² per hour at 3cm x 3cm resolution. The addition of Kraken's RTSAS and SoundView onboard geo-referencing software will enable onboard, real-time sonar data processing, image mosaicking and on-the-fly 3D seabed mapping. A new underwater laser scanner will also be integrated to provide sub-millimeter resolution and full color, georeferenced 3D point clouds.

The AUV's mechanical structure and hydrodynamic design will be optimised for the new payloads, increasing hydrodynamic efficiency and supporting unique new features. The addition of multiple tunnel thrusters will enable a hovering capability and upgrades to the vehicle's control system architecture will provide station-keeping, path-following and precision manoeuvring for stationary target inspection. The AUV will also be used to test and evaluate newly developed artificial intelligence algorithms for vehicle autonomy, machine learning, non-linear missions and automated target detection.

The Global AUV Market

The global AUV market is experiencing an advanced rate of growth due to increasing demand in military, commercial and scientific research applications. Significant growth is expected in the commercial sector, predominately from oil and gas operators, despite the volatility of oil prices. There has also been substantial interest in the technology from the offshore renewable energy sector, as operators have begun to understand the cost saving potential of AUVs for inspection of underwater assets. Research from industry analysts Technavio forecasts that the global AUV market is expected to grow from USD600 million in 2015 to over USD2 billion by 2020.

The World AUV Market Forecast from Douglas-Westwood covers all key commercial themes relevant to companies across the value chain in all AUV sectors. The report considers the prospective demand for AUVs in the commercial, military and research sectors over the next several years. Unit demand is expected to increase over the forecast at a CAGR of 10%, with all sectors seeing growth due to increased utilisation of AUV technology. The military is expected to remain the greatest user of AUVs with demand in 2020 for over 700 units, representing 73% of total demand.