

A NAME WITH A GREAT HERITAGE AND SECURE FUTURE

Thales GeoSolutions

Thales GeoSolutions Group employs more than 2,000 people throughout its global network of operating companies providing a complete range of offshore survey services. With a distinguished pedigree of expertise and innovation in the industry going back to the 1940s, the company incorporates some of the most famous names in navigation and survey including Decca and Racal. The company boasts a number of industry landmarks, most notably the first commercial navigation system in Europe for aircraft and vessels as well as the world's first commercial global satellite positioning system (GPS) for the offshore industry.

In its present guise Thales GeoSolutions is a core business area of Thales, a global electronics company serving aerospace, defence and information technology and services markets worldwide. With operations in more than 50 countries and 65,000 employees, Thales had revenues of some €10.3 billion in 2001 - returning 21 per cent of this turnover back to the business areas, underlining its strategy of maintaining a high level of investment in research and development for the future.

A significant presence in all of the world's major offshore exploration areas with 40 business locations around the world, Thales GeoSolutions is principally engaged in providing services and products for the offshore oil and gas, telecommunications, power and marine civil engineering industries. Through its global network of local operating companies, Thales is able to support its customer base with specialist field personnel, equipment and services direct to specific projects. Organised strategically to address the needs of its global customer base and the wide variety of markets served, the company specialises in both onshore and offshore surveys and services covering precise positioning, tracking and telemetry, Remotely Operated Vehicles (ROV) and construction service support, marine cable services, integrated geosciences, environment and metocean services, as well as services to meet the UN Convention on the Law Of the Seas (UNCLOS) and Economic Exclusion Zones (EEZ) requirements.

Precise Positioning

Since pioneering commercial GPS, Thales GeoSolutions has put its high level of investment in R&D in precise positioning systems to good use by advancing the technology further with the result that the company now operates the largest Differential GPS (DGPS) network in the world. Thales's DGPS network provides multiple reference station solutions to ensure quality data monitoring and support every hour of the day, year round and covering every corner of the globe. Thales has earned an enviable reputation for its network's proven sub-metre accuracy and reliability, calculated at 99.997 per cent. In addition, the most recent advances, now available to the offshore positioning market, have seen the introduction of the next generation system offering Long-range Real-Time Kinematic (LRTK) services for 10 to 20cm accuracy. Using carrier-phase ambiguity resolution techniques to achieve higher precision and accuracy than standard DGPS systems that are based on pseudo-range corrections, the system overcomes problems such as periods of satellite constellation changes, poor satellite geometry and other localised short-term availability issues at individual reference stations.

Thales GeoSolutions sees advances in accuracy and flexibility of service delivery. They are currently developing positioning technology that can deliver a series of performance levels at varying price points. These performance levels include not only accuracy but also initialisation time and integrity monitoring. One of the advantages of being part of a large integrated GPS products and services company is that Thales GeoSolutions can use the data from their network in a range of different ways to meet the requirements of a variety of users. This range includes both calculations and delivery systems. They will also incorporate L5 and L2 code into the network calculations as they become available in the future.

Tracking and Telemetry

With the integration of digital GSM cellular, satellite DGPS and a variety of other communications and positioning technologies, Thales GeoSolutions is able to provide a range of Telematic services and solutions that are designed to solve each customer's individual problem. Combining hardware and software with system integration expertise, Thales provides real-time, robust solutions that can be relied on to work in harsh environments - offering protection to aircraft, vessels, vehicles and people, amongst many others, wherever they are in the world. Customers for Thales's tracking and telemetry services come from almost every part of the business world including local operations like airports and harbours, national operations such as exclusive economic zones, fishing grounds, rail and pipeline networks, and global activities encompassing international freight, transportation and shipping. Recognising that they can optimise their operations and meet legal responsibilities with better information about the location and status of vital assets such as personnel, ships, aircraft or vehicles is the only common bond between these customers from an extraordinary wide variety of industries, disciplines and countries.

ROV and Construction Service Support

The recent acquisition of the Marsat Group of companies in Brazil has appreciably strengthened and enhanced Thales GeoSolutions's position as a supplier of quality integrated offshore services to the growing oil and gas markets globally but now in particular of central and southern America. Marsat was founded in Brazil in 1981 to supply saturation and air diving services, primarily for inspection and maintenance on offshore oil and gas platforms. In addition, the company has a significant ROV business capability. As well as expanding the fleet of ROVs, this now brings the total of saturation and air divers around the world in Thales to over three hundred.

Having been involved in the design, manufacture and operation of ROVs since 1994, the company's worldwide fleet currently reflects the full range of modern and technologically advanced ROVs and now numbers more than 50 vehicles. The fleet extends from 20hp single lift packages, with a depth rating of 600m, through to 200hp vectored work class vehicles, with a depth rating of some 3,000m. It has a well-proven pedigree, having undertaken a wide range of tasks from observation to heavy work, under a variety of operating conditions, including engineering studies, pipeline and platform surveys, underwater installations and trenching services. ROVs will be the work-horse of the offshore industry for the foreseeable future. Thales GeoSolutions are heavily involved in AUV development but feel that ROVs represent a good commercial opportunity and will advance through a series of evolutionary steps that increase their reliability and capability.

Integrated Geosciences

With typically over 20 vessels in operation around the world at any one time, the company provides an array of capabilities from remote sensing to in-situ geoscience services for the offshore industry, supporting pre-drilling, sampling, pipe and cable laying, civil engineering, dredging, alluvial mining, harbour and military survey projects. Offering comprehensive geophysical and geotechnical surveys and site investigations, the company supplies high resolution 2D and short offset 3D seismic services as well as full offshore and onshore seismic data processing.

Environment and Metocean Services

In the past two years, the company has successfully conducted met-ocean studies in over sixteen countries across the globe and has gained valuable experience in the environmental and metocean field since the formation of the division in 1996, in particular in the safe deployment and recovery of deep moorings. In a recent metocean project in Norway for Norsk Hydro Produksjon AS, oceanographic measurements were undertaken by Thales in critical areas along possible pipeline routes from Ormen Lange, Norway's second largest gas field, to a location on the Norwegian coast, as part of the planning process.

Thales GeoSolutions is based at Cape Town in South Africa; this contract underlines that environmental and metocean services can successfully and competitively operate anywhere in the world. By utilising the local knowledge and experience of the Thales office at Bergen in Norway and the expertise of the met-ocean team, they supplied a comprehensive and fully supported metocean solution for this project.

UNCLOS and EEZ

Playing a central role from the cold of the arctic to the heat of Africa, Thales is helping establish rights and assets that have yet to be assigned as well as helping nations protect assets which have already been recognised. The UN Convention on the Law Of the Sea (UNCLOS) has set a time limit for claims to be made by nations that want the limits of their continental shelf to be legally recognised. With its acknowledged expertise in precision positioning systems, Thales GeoSolutions offers a range of hardware and software solutions to ensure effective charting, surveillance and control of Economic Exclusion Zones (EEZ), protecting offshore assets and establishing legal rights in coastal waters.