Satellite Navigation: where do you want to go next?

Experience the commitment®

Navigation systems have come a long way since the days of the compass, the Omega and DECCA systems, and even since the first satellite navigation technology of the 1970s.

THE CHALLENGE

Nowadays, there are satellite navigation (satnav) systems in many people's cars and mobile devices. And yet it still counts as an emerging technology category because the applications for it just keep on growing. Navigation, surveying, mapping, emergency services; all rely on satnav.

The main challenge is to make satnav systems work well with other information so that the applications deliver real value for the user. The integration should ensure reliability and accuracy. It requires modern software engineering and risk management techniques. These systems require certification, an expensive and complicated process but critical for the long term growth of the satnav market. At the time of system development, certification requirements are often unknown. They may also vary across different applications. Ideally, the solution is to apply a core certification that will cover the majority of the likely requirements. A residual certification can then be undertaken for each application as and when required.

We understand the challenges you face in the satnav market. Our solutions are trusted and tested. We pull through best practice and expertise from our commercial lines of business to deliver solutions that make a difference on the ground.

OUR ANSWER

Through rigorous project management we deliver even the most complex system or application on time and to budget. We use a formal management process for safety-related work so our systems meet regulatory as well as functional requirements of your business.

Here are a few examples of what we have helped achieve:

EGNOS

To make GPS and Glonass usable for safety-of-life applications, the European Space Agency (ESA) has deployed the European Geostationary Navigation Overlay Service (EGNOS). Under contract to prime contractor Thales Alenia Space, we developed the unit that verifies the EGNOS message before and after transmission. With the CGI Integrity Check Set (LICS) the information being broadcast is always reliable. It is the most critical element of EGNOS.

KEY BENEFITS

- System integration, safety and security issues addressed upfront and throughout the life of the application
- Clear interfaces defined for all elements of a complex system or application
- Modular approach to development to successfully deploy engineering skills and application knowledge
- Staged low-risk deployment
- Application in mission critical projects
- Leader in European Navigation ground control and mission software systems

Galileo

When operational, the Galileo satellites will take satnav to a whole new level. Users will be able to rely on the two systems combined for the most critical applications. It will be especially useful in urban areas, mountains and high latitudes where the GNSS service is intermittent. We've been helping European governments to define and deploy Galileo and also advise the GNSS Supervisory Authority (GSA) on the definition of guidelines and rules for the management of Galileo services in the countries eligible to participate in the programme, with particular emphasis on the PRS market.

Galileo ground infrastructure

ESA chose us to design the core of the ground infrastructure that controls and secures the satellites and calculates the information broadcast by the satellites to Galileo users. We are supporting the European Commission, ESA and the Segment prime contractors (Thales Alenia Space and Astrium) with many areas of activity. Through our solution, we manage the commercial and public sector encryption keys, enable satellite controlling and provide complex algorithmic software to calculate the system integrity and satellite orbits.

Satnav applications

We have delivered operational systems that incorporate satnav elements to clients in many sectors. For instance, taxi and bus fleet management, UK air traffic control (in conjunction with the UK's first Microwave Landing System) and wide area digital networks for many applications.

We support ESA in the Active Road Management Assisted by Satellite (ARMAS) programme, where we are working with partners to demonstrate virtual tolling using GNSS and EGNOS. A similar demonstration system is being developed to use precise GNSS to monitor and provide alerts to transport users when there is a significant land movement event on the transport network. Also via a project funded by the UK Technology Strategy Board (TSB), we're working with the Greater Manchester Passenger Transport Executive to develop and demonstrate an "Empowered Personal Travel" service platform. This will monitor performance of interconnecting journey legs and give passengers real time advice so they can plan their journeys.

We have also developed the location based service technology for Galileo's primary target market, of Location Based Services (LBS). Under a €5.8 million contract with the GSA, we led a consortium of European companies to develop pre-commercial EGNOS-based applications.

WHY CGI?

We're one of Europe's leading companies specialising in satellite positioning. We are successfully developing the next generation of satnav systems. We are in the unique position of being able to bring together experts from a range of disciplines to help both the public and private sector in meeting business and technical challenges. No matter how complex the system or services, you can rely on us to deliver. But what really makes a difference is our desire to work with you, every day, to really understand your needs and come up with great ideas to help you meet your objectives.

ABOUT CGI

With over 68,000 professionals in 40 countries, CGI fosters local accountability for client success while bringing global delivery capabilities to clients' front doors.

Founded in 1976, CGI applies a disciplined delivery approach that has achieved an industry-leading track record of on-time, on-budget projects.

For over 35 years we have worked in the Space industry delivering complex, mission-critical space systems. Our solutions are secure, often in complex technical environments, proven to work first time, every time, ultra-reliable and delivered on time to avoid costly delays.

We work on the major European navigation, communication and earth observation programmes and are specialists in space security and ground control systems. We share innovative uses of space and satellite technology with commercial organisations to help them solve their business problems effectively. Our software has supported the missions of more than 200 satellites.

Our high-quality business consulting, systems integration and outsourcing services help clients leverage current investments while adopting new technology and business strategies that achieve top and bottom line results.

As a demonstration of our commitment, our average client satisfaction score for the past 10 years has measured consistently higher than 9 out of 10.

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The projects referenced in this document were delivered by Logica, which CGI acquired in August 2012

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