CGI



# Robust Navigation Solutions Netherlands

# **About CGI**

Founded in 1976, CGI is one of the largest IT and business consulting services firms in the world. Operating in hundreds of locations across the globe, CGI professionals help clients to achieve their goals. We deliver an end-to-end portfolio of capabilities, from high-end IT and business consulting to systems integration, outsourcing services and intellectual property solutions. CGI works with clients around the world through a unique client proximity model.

CGI Nederland B.V. is also actively involved in the main European space programs for navigation and communication, such as EGNOS, Galileo, EDRS Global and IRIS. With a strong background and expertise in mission critical systems and security, our team mainly contributes to the reliability and security aspects of these systems.

# Galileo PRS

Galileo is the European equivalent of the American GPS system. Galileo has been developed as a civil system with a robust and secure Public Regulated Service (PRS). This service is intended to support critical applications for dedicated governmental organisations.

Due to our deep involvement in the design and development of Galileo PRS, CGI Nederland holds key knowledge on the system security mechanisms to leverage the potential of PRS for user applications. As a spin-off of our up-stream involvement in Galileo PRS we have developed a Secure Tracking Service (S-TrackS). This solution makes use of the Galileo PRS signals without the need of deploying security modules in the field. All security critical functions have been implemented in a central processing server.

www.cginederland.nl



## About SkyDec

SkyDec has been serving Military Forces for decades by providing high-end GPS solutions and onsite support. SkyDec is a Dutch company specializing in Military GPS and navigation data distribution (DDU) solutions with its own R&D and Manufacturing departments.

We are fully accredited by the United States authorities to develop and integrate with military GPS (Crypto and Keys). The products we make are designed and built in accordance with Military Standards and are integrated successfully on a variety of (Naval) platforms. SkyDec has already supplied many Military Forces, including the United Kingdom, Denmark, Spain, Germany, Netherlands, Norway and Turkey.

#### SkyDec products

Superior and reliable military Navigation equipment is only the first step towards successful military navigation. SkyDec provides its products



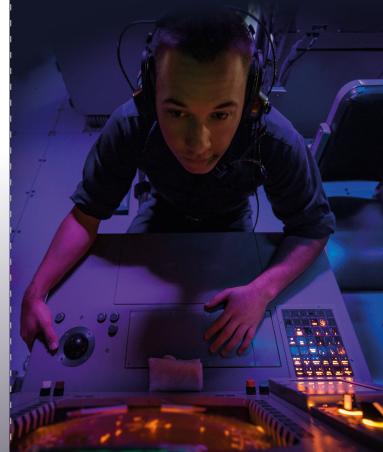
with full logistic support and is able to provide and integrate the most complex and extensive configurations on any war craft.

It's needless to point out the crucial role of Navigation equipment in any military organization, providing and distribution of positioning data but also precise timing and synchronization signals it is a mission critical need to have. SkyDec systems are provided with tailored interfaces (NMEA, 1PPS, Havequick, specials), meaning we can also interface with legacy systems in case of a midlife overhaul or upgrade. Highlights from our product portfolio:

- Several sizes of MIL-GPS host systems
- E-Loran systems
- Specials, like embedded solutions
- Data Distribution (DDU)
- Integrated systems

www.skydec.com





s&t



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# About S[&]T

S[&]T (Science and Technology) supports mission-critical decisions with verified, actionable information. Our sensor-based Decision Support Solutions (DSS) improve situational awareness on both a global and local scale. S[&]T's experience covers the whole product chain that constitute a DSS, from sensor-system development to complex data processing and advanced data analytics. Herewith also providing the essential technology for smart (semi-)autonomous systems.

#### **Robust GNSS solutions**

S[&]T has several research programs that aim at the development of advanced navigation sensors, such as assisted global navigation, inertial measurement units and MEMS accelerometers.

The Robust GNSS product suite include spoofing resistance and spoofing detection using advanced antenna concepts and receiver signal analysis, high accuracy GNSS solutions, GNSS integrity monitoring, and signal quality monitoring.

#### www.stcorp.nl/what-we-do/



## About NEDAERO

NEDAERO manufactures electronic components for Airbus A350, NH90 and Tiger and Lockheed Martin F-16. Furthermore NEDAERO is specialized in MRO and repair capabilities for civil and military aircraft and helicopters, ao for F-16, NH90, Cougar, Puma and C130. NEDAERO also delivers parts directly from distribution stock and exchange pool. Parts range from actuators to life vests and from oil & greases to a wide range of filters. We also offer broad expertise to military governmental organizations and military MRO companies. Certificates: Part-145, AS9100, AS9110, AS9120, EASA/FAA/TCCA, IS09001.

## FOG

NEDAERO is manufacturer of the FOG (Fiber Optic Gyroscope), a palm of the hand-sized angular rate sensor. In 2018 the FOG has been successfully certified for a large commercial airline program, and is now in series production.



It's an ITAR free product whereby all materials are purchased from European suppliers. The FOG is a Fiber Optic Block including sensor electronics, it provides the turn rate of one rotational axis. The modular design of the FOG allows for a variety of different customer setups in single or multiple axis configuration.

The sensor is suitable for stabilization and attitude control of aircraft, helicopters, satellites, drones and missiles. Further application comprises not only Inertial Measurement Units and Navigation Systems but also azimuth measurement of land vehicles, optics or antenna stabilization as well as high dynamical sensor platforms or other industrial purposes. Besides the baseline models, NEDAERO also offers design of customer specific FOGs.

#### www.nedaero.com/fog/

### About RNSN

RNSN is an initiative of CGI, S[&]T, SkyDec and NEDAERO, leading innovative Dutch companies that play a significant role in the development of military navigation systems. The specific competencies of the RNSN cluster are well recognized by various players across Europe. Dutch industry is specifically known for its skills and experiences in the field of system security, specifically Galileo PRS, and a variety of special navigation systems.

Upstream activities are a prerequisite to create the services market of critical military applications. Knowledge of the Dutch forces is an important asset and essential to be successful in military services development. It is important to note that involvement in design and development of demanding systems is vital in the success of critical military-based application services.

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