



GPS/GNSS Infrastructure Services

CHRONOS TECHNOLOGY—GNSS EXPERTS

Chronos Technology is a UK based company specialising in position, navigation and timing. Along with GNSS products, components and GNSS repeaters, as experts in this field Chronos offers a variety of services including consultancy, training and installation. During the past 25 years, Chronos has installed and commissioned over 1200 GNSS systems in more than 50 countries across the world.



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GNSS system design and planning services

Full design and planning services for new installations, or extensions to existing GNSS infrastructure.

GNSS installation and commissioning services

High quality installation and commissioning to all relevant Standards delivering compliant, efficient and maintainable systems.

GNSS audit and analysis services

Extensive audits of existing systems and infrastructure for compliance to regulatory Standards, performance, functionality and advice regarding ongoing maintenance.

“Industrial GNSS Systems” Course

Customisable technical courses covering all aspects of GPS/GNSS. Chronos offers a variety of material to suit all levels of personnel.

GNSS SYSTEM DESIGN AND PLANNING SERVICES

Proper implementation of GNSS systems requires a thorough design process to ensure optimal system performance, and detailed planning for an efficient installation phase. Chronos has implemented thousands of GNSS systems across many service sectors, including:

- Military
- Telecoms
- Industry
- Scientific
- Manufacturing
- Critical infrastructure



Chronos designers architect systems that fit customers' requirements perfectly and conform to relevant national and international Standards including Ofcom's GNSS repeater licencing regime in the UK. A Chronos designed system is safe, easily maintainable and interference free, and delivers optimally conditioned GNSS RF signals to all receiving equipment.

Using best practices and detailed planning rules, our site specific recommendations are delivered in a professional report that documents all the key components and technical calculations along with supporting data, diagrams and photographs.

GNSS INSTALLATION AND COMMISSIONING SERVICES

Poor GNSS installations cause systemic performance degradation or malfunction, potentially leading to failure of nearby systems by the introduction of RF interference. Optimal, reliable and durable GNSS infrastructure requires installation by engineers with a high level of understanding of GNSS signal architectures, RF engineering and knowledge of official Standards associated with GNSS installation operations.

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Chronos' experienced engineers install and commission GNSS systems to the highest standards ensuring optimal performance without affecting the local RF environment. A full report describing the work undertaken is provided upon project completion, enabling customers to fully support their own system post-commissioning if required.



Chronos' report includes:

- Technical calculations and RF measurements
- System architecture diagrams
- Full breakdown of components
- Cable types, length and physical route
- Photographs of final installation
- Proof of regulatory compliance

If required Chronos can also provide on-site training relating to the physical installation.

GNSS AUDIT AND ANALYSIS SERVICES

GNSS electronics and installation infrastructures naturally degrade mechanically and physically over time leading to reduced performance, potentially hazardous conditions or non-compliance to Standards. The local RF environment also affects system operation.

GNSS installations and infrastructure should be regularly audited to check:

- System performance
- RF signal levels
- Integrity of infrastructure, including:
 - * Antenna(s)
 - * Cabling and connectors
 - * Lightning protection

Malfunctioning or misconfigured equipment or system components can cause local RF interference that will affect GNSS systems. Chronos equipment monitors local RF levels with specific focus on GNSS frequencies.

As GNSS equipment, especially repeater systems, employ RF frequencies, they are controlled by regulatory bodies such as Ofcom in the UK. Chronos tests for compliance to relevant local or international regulations.

A Chronos GNSS audit report will deliver clear indications of the areas assessed, identify areas of vulnerability to enable risk analysis, and makes no-obligation recommendations for improvement.



"GNSS SYSTEMS" COURSE

Chronos offers courses that cover all aspects of GNSS:

- Theory of operation, satellite constellations and ground based support systems
- Receiver technology and ancillary hardware
- Techniques and tools for GNSS system design, installation and commissioning
- Best practices, common pitfalls and errors
- Diagnosis and solutions to GNSS issues

The course can be either a one day "Fundamentals" format or a tailored "MasterClass" format where a number of additional optional modules are selected by customers and delivered in addition to the fundamental modules.