

C5I®

Digital Innovation Partner



C5I® S.r.l.
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CHORA[®]

OUR PRODUCTS

CUTTING-EDGE TACTICAL SATCOM
MONITORING AND LOCALISATION

DEPENDABLE INNOVATION



Picture 1 : One single lightweight equipment for all solutions

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Our company

Chora delivers unique Signal Intelligence (SIGINT), location and tracking solutions designed for public safety and security forces. As recognised experts in the field of Satellite Surveillance, we focus on innovation, performance, and confidentiality to meet expectations of users within national and regional police forces.

The field-proven success of Chora, which was founded in 1994, is based on close relationships with customers, whose feedback and ideas are our primary source of inspiration to develop precise, robust, and user-centric products.

For us, being innovative means understanding our customers and our market, and recognising the importance of delivering specialised solutions that embody the best technology available in our industry.

We are well established in the business to government sector, delivering mission critical sensor systems for situational awareness.

Our tactical solutions are developed and manufactured in Denmark and are marketed worldwide through our subsidiary in Germany, a network of local distributors and a limited number of close partners.



Our concept

We provide law enforcement and domestic security forces with perfectly adapted solutions: all-in-one lightweight systems for high mobility, passive technology supporting on-site and remote operations, and features enabling legal compliance regarding communications monitoring.

Chora's products consist of monitoring and localisation solutions of satellite terminals and GPS jammer for tactical use. Our tactical solutions can be used on various platforms such as a vehicle, a ship, an aircraft, or as a hand carried system in a backpack. Furthermore, Chora develops products, which support operations in urban areas for further reach and coverage.

All Chora products can operate individually or as a part to be integrated with a Law Enforcement Monitoring Facility (LEMF).



Picture 2 : Our standard equipment, the Chora Flexcore sensor, the Smart antenna and a tough-book or tablet of your choice.



Our solutions are designed to ensure legal compliance with data protection laws during investigations:

Filtering features allow intelligence officers to single out the communications under investigation based on target oriented identifiers (telephone number, IMSI, IMEI etc.) and exclude all others.

A mediation device can also be integrated in our system set-up which would automatically delete communications not subject to investigation for reports exported in the framework of a Court Management System.

Target identifiers and timeframe covered by monitoring operations can also be programmed.

Our Tactical Solutions



Centurion

The Chora Centurion product range is the world's smallest commercially available tactical system, allowing the user to passively intercept Thuraya, Inmarsat IsatPhone Pro, Iridium incl. Short Burst Data (SBD), Inmarsat BGAN and Globalstar SPOT X satellite communications. Centurion even allows simultaneous monitoring of the 4 SatCom phone services (Thuraya, Inmarsat GSPS, Iridium and Globalstar SPOT X).

With a range of modular capabilities Centurion delivers exactly what our customers need in a way that is second to none. Tremendously reliable solutions

that have the smallest form factor for ultimate mobility, simultaneously providing the power to decipher and deliver real-time listening.

Centurion equipment can easily be carried by personnel on foot or installed and operated in most air, sea and land vehicles. Aerostat devices can be effectively employed to gain considerable range with an extended Line of Sight.

Generally, the system supports the following deployment scenarios with these overall characteristics:

Man-borne:

- Chora Land Smart Antenna
- Ultra-light configuration
- Battery-powered
- Ruggedized computer platform

Land vehicle mount:

- Chora Land Smart Antenna
- Flexible in-vehicle mounted solutions
- Can be delivered in any rack format required
- Effective EMC-shielding

Marine installation:

- Chora Marine Smart Antenna
- LSA rack-mount in water-proof-casing or 19" rack
- Proper EMC-shielding

Airborne installation:

- Chora Aero Smart Antenna
- Patrol Airplane like Twin Otter/ATR
- Can be integrated with a VTOL or fixed wing drone



Picture 3 : Chora Flexcore sensor



Picture 4 : Chora Flexcore Rack

Lokator

Chora Lokator locates and identifies Thuraya, Inmarsat (IsatPhone Pro, IsatPhone 2, BGAN), Iridium and Globalstar SPOT X terminals and devices (Iridium SBD-trackers), within line-of-sight with an accuracy of 50 metres.

Lokator can be fully integrated with the Chora Centurion product family, to provide simultaneous tactical SatCom monitoring and location tracking on the same hardware platform.

The deployment is a simple task with minimal configuration of three nodes distributed in the area of operation. They use advanced communication monitoring capabilities and Time-Difference-of-Arrival (TDOA) principles to deliver the most optimal results in operations.

Chora Lokator can also be installed on strategic positions for remote operations to locate and track target movements within a specific geographical area.



Picture 5 : Lokator Master Node



Lokator Single Node

The Chora Lokator Single Node is a simple, robust and highly sophisticated solution for airborne platforms aimed at locating satellite terminals.

It is solely composed of two main devices: the sensor Chora Flexcore and the Chora Smart Antenna. These devices are specifically designed to be as small and lightweight as possible while providing the high reliability and performance needed during Electromagnetic Operations.



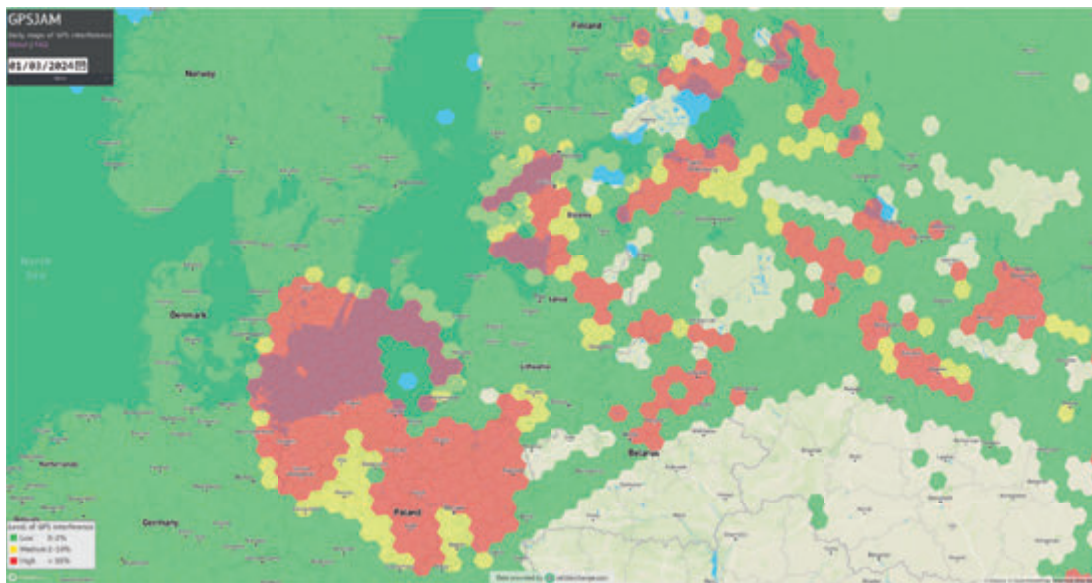
Picture 6: Airborne operation

Lokator Outrider

Lokator Outrider detects, locates (and identifies) multiple L1 GPS jammers simultaneously.

Comprising a set of three nodes with antennas or as an upgrade to an existing Lokator system. In combination with a Lokator system, it can be used to detect and locate either mobile satellite communication emitters or L1-band GPS jammers.

Lokator Outrider is part of the Chora Lokator solutions family that is obtained via a software update.



Screenshot 1 : GPS interference on March 1st, 2024
Source: <https://gpsjam.org/>



Reflektor

The Chora Reflektor is a small, ultra-lightweight uplink antenna, converter and transmitter of uplink L-Band signal to improve coverage during operations.

It expands the area in which Centurion or Lokator systems detects, analyses, locates, and identifies Mobile SatCom targets. It is a tactical add-on device for Centurion and Lokator, easy to deploy stationary or tactically in mission specific operations.

Chora Reflektor is to be used in specific tactical satellite monitoring operations, where the line-of-sight to the target is difficult to achieve. A perfect solution for deployment in physically challenging environments such as forests, mountains or cities with high buildings.

With the lightweight and easily hand carried Chora Reflektor, the L-Band uplink signal from the target is mirrored and transmitted to the Chora Centurion and/or Chora Lokator system for further and more in-depth analysis of intercepted communication. It can operate on vehicles, vessels, UAS, masts or tall buildings.



Picture 7: Reflektor antenna

Skyrider

Chora Skyrider is an airborne monitoring system, which intercepts calls and data sessions made through satellite communications services.

Deployable on any airborne platform, the product passively and covertly intercepts Thuraya, Inmarsat GPS, and Iridium satcom in L-band downlink and uplink frequencies.

The system receives, demodulates, decodes and deciphers the communication, storing it in a database making data available in near real-time for subsequent analysis.

The **DO-160 certified sensor** unit is self-contained and operates as a stand-alone system with no need for external peripherals like control PC, external RF switching and complex cabling or as an integrated sensor with a strategic system on the ground.

Skyrider can be operated remotely via a low bandwidth connection (1<Mbps).

One of the unique features of Skyrider is that multiple sensors can be networked simultaneously country-wide and managed from a main control centre; enabling large area coverage for monitoring of Thuraya, Inmarsat and Iridium satellite communication networks.

The Chora Skyrider supports both surveillance and SAR operations.



Picture 8 : Skyrider sensor

Our Training System

**Achieve
Optimal
Field-Readiness**

Apeks Training System

In order to facilitate realistic operational training Chora have developed a sophisticated training software suite. Different operational scenarios can be orchestrated and replayed in real-time mitigating the risks involved with using advanced monitoring systems at home base.

The training software is a copy of the real software Apeks, so officers can practice realistically and get to grips with it fully before they start an operation. It can also help refresh one's knowledge after a long break, for example.



Screenshot 2 : GIS in the Centurion Training-System

Our Supporting Technologies

**One Single
Equipment For
All Solutions**



Picture 9: Chora Smart Antenna and Flexcore sensor set-up supporting Chora solutions

Smart Antenna

The Chora Smart Antenna is an active L-Band antenna (1.5 GHz - 1.7 GHz). It is an extremely small (diameter: 200 mm, height: 40 mm) and light-weighted (0.535 kg) antenna available for land, air and marine applications.

The Chora Smart Antenna supports all Chora solutions from the Centurion and Lokator families.

Intelligent beamforming detects, classifies, focuses and extracts multiple individual signals simultaneously. Signal streams from individual, internet-worked antennas can be merged to get additional virtual antenna gain.



Picture 10: Chora Smart Antenna



Picture 11: Chora Smart Antenna with mount

Chora Flexcore

The Chora Flexcore sensor is heat and dust resistant and only weighs 3.3 kg allowing optimal mobility for users. The Chora Flexcore supports all our tactical solutions, which means that you never need to change the hardware itself, but only need to upgrade the software.



Picture 12: Chora Flexcore

Chora Flexcore Rack

Chora Flexcore Rack is a fully ruggedized compact housed 19" 2U intelligence platform. Equipped with a powerful AMD CPU, GPU and FPGA to provide superior SDR and data processing capabilities.



Picture 13: Chora Flexcore Rack

CONTATTI



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GRAZIE PER L'ATTENZIONE

