

# FINNISH SOLUTIONS FOR SITUATIONAL AWARENESS

#FINLANDWORKS



# TABLE OF CONTENTS

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SITUATIONAL AWARENESS OVERVIEW  
OUR SOLUTIONS FOR SITUATIONAL AWARENESS  
APPLICATION FIELDS AND EXAMPLES  
INNOVATION FROM FINLAND  
KEY COMPETITIVE ADVANTAGES OF FINLAND



# SITUATIONAL AWARENESS OVERVIEW

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SITUATIONAL AWARENESS ENABLES RAPID DETECTION OF CHANGES AND INFORMED DECISION-MAKING ON EVENTUAL ACTIONS.

SITUATIONAL AWARENESS SYSTEMS **MAINTAIN UP-TO-DATE** INFORMATION ABOUT THE ENVIRONMENT, BASED ON DATA FEEDS FROM A MULTITUDE OF SENSORS MOUNTED ON CARRIER PLATFORMS. OBSERVATION DATA IS **PROCESSED** AND **ANALYZED AUTOMATICALLY**.



# CARRIERS AND SENSORS ARE CHOSEN ACCORDING TO THE SITUATION

## CARRIERS

Depending on the required observation area and observation frequency, different types of carrier platforms may be used for collecting source data:

- **Satellites** – global and wide area observations, moderate resolution, regular data updates, continuous operation
- **Drones** – small area observations, high resolution, live data update, mission-based operation
- **Ground based sensors** – observation from static or mobile locations, high resolution, live data update, continuous operation

A situational awareness system may consist of all these three types of platforms, supported by an information processing system. Depending on usage requirements and observed data, this enables synchronization of different platforms; e.g. launching automated drone missions when needed.





# SENSORS

A variety of sensors can be used to **observe** the environment.

- **Radars** – to create images in all lighting conditions and also through clouds and rain
- **Electro-optical imaging** – to create optical images on different wave lengths; also hyperspectral images and infrared imaging
- **LIDARs** – to create 3D image data with multiple resolutions and on different wavelengths
- **Radio frequency sensors** – to detect radio transmissions and interferences (e.g. GNSS jamming)
- **Chemical sensors** – to sense specified chemicals
- **Other types of sensors** – temperature, humidity, wind, seismic, visibility, particles etc.



# CONNECTIVITY

A highly reliable and secure wireless communication system is an **essential** element of situational awareness systems. The communication system relays sensor data to an information processing system and relays control data to the platforms.

**5G** and **6G** technologies are used, complemented with satcom technologies. Connectivity is needed between satellites, drones, ground stations and information processing systems.

In order to guarantee operation in all conditions, a **high level of security** is required to shield the system against cyber-attacks and to prevent unauthorized parties' access to the data.



# DATA-ANALYSIS AND DIGITAL TWIN

Situational awareness systems create a huge amount of data. To enable reliable decision-making, incoming data needs to be processed with automated, artificial intelligence-based systems.

The information processing systems fuses data from different sources in order to create relevant information. Data may also be retrieved from external open or commercial data sources, such as commercial satellite data, weather services etc. A comprehensive situational overview of the operational environment may also be called a functional “digital twin”.

# APPLICATIONS AND USER INTERFACES

In all applications, humans are engaged to the system at some point (e.g. in decision-making, controlling and configuring the system etc.). Therefore, the systems include highly efficient Human Machine Interface (HMI) technologies and visualization of the information. The type and form of interaction depends on specific use cases, ranging from simplified mobile use to rich 3D desktop view.



# OUR SOLUTIONS FOR SITUATIONAL AWARENESS

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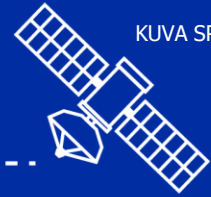
A group of Finnish and Finland-based technology companies offer and build situational awareness systems for non-military applications. These companies have deep expertise in their own technology areas and, as a cluster, they meet a wide variety of client needs. The competence areas and products of the group cover all the aspects of situational awareness systems, from satellites and sensors to artificial intelligence-based data processing systems. Depending on the application and requirements of the system, the participating companies will be selected accordingly. The following diagram shows the joint Finnish offering in situational awareness systems.



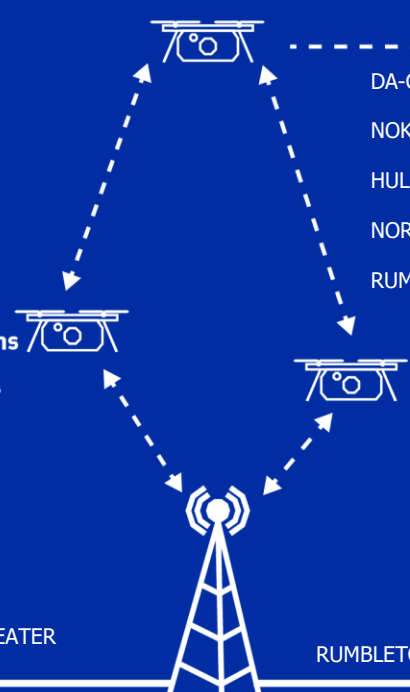
# SATELLITES

BEYOND GRAVITY  
HULD  
ARCTIC ASTRONAUTICS  
VTT

ICEYE  
KUVA SPACE



# DRONES AND GROUND BASED SENSORS



DA-GROUP  
NOKIA  
HULD  
NORDIC DRONES  
RUMBLETOOLS

**Drone communications**  
**Mesh networks**  
**Private LTE, 5G**

ANARKY LABS  
BITTIUM  
DA-GROUP  
NOKIA  
REAKTOR  
HULD  
SAAB FINLAND  
MISSING LINK  
NETRADAR  
ROGER GPS REPEATER  
SEPTENTRIO

AIRBUS DEFENCE AND SPACE

RUMBLETOOLS SENOP VAISALA VTT

**Drone management system**  
**Automatic launchers**

# FINLAND



AEROMON  
CORE HW  
DETECTION TECHNOLOGY  
HARP TECHNOLOGIES  
SENOP  
SKYFORA  
SMALL DATA GARDEN  
SPECIM  
VAISALA  
VTT

HULD NORTHBASE  
ICEYE SENOP KUVA SPACE SASKEN



**Ground stations**



**AI/ML**

ADVIAN  
AWAKE.AI  
BASE N  
COLLECTIVECRUNCH  
DA-GROUP  
FAIRSPECTRUM  
HARP TECHNOLOGIES  
HULD  
ICEYE

KUVA SPACE  
MARSHALL AI  
MELUTA  
REAKTOR  
VTT  
SILO.AI  
INSTA  
ISAWARE  
AEROMON  
NOKIA

**Data centers, cloud services**  
**MEC and local server capacity**

ICEYE  
KUVA SPACE  
SENOP  
SILO AI  
SKYFORA  
SOLITA  
SSH  
TELESTE

3D TALO  
ANARKY LABS  
ARBONAUT  
BITCOMP  
CLIMATICA  
COLLECTIVECRUNCH  
GISPO  
INDUFOR  
INSTA  
ISAWARE  
SITOWISE  
AEROMON  
MARSHALL AI  
TERRAMONITOR  
ICEYE



**Situational awareness system**  
**Analysis and decision making**  
**Digital twin based GUI (VR)**

HULD  
KUVA SPACE  
NOKIA  
NSION  
REAKTOR

RUMBLETOOLS  
SAAB FINLAND  
SPATINEO  
TERRAMONITOR  
VTT



# APPLICATION FIELDS & EXAMPLES

THE FINNISH SITUATIONAL AWARENESS TECHNOLOGIES CAN BE USED IN A VAST RANGE OF APPLICATION AREAS.

## CASE SMART CITIES: **LUXTURRIM5G**

LuxTurrim5G is a Nokia Bell Labs-driven ecosystem project developing and demonstrating a fast 5G network, based on smart light poles with integrated antennas, base stations, sensors, screens and other devices. Over 20 Finnish companies and research institutes are members of the ecosystem. This joint project opens new digital services and business opportunities for a real smart city. It **enables real-time situational awareness** in smart cities.



## SMART CITIES – URBAN SECURITY

**Nokia** and **Insta** are working to develop urban security in the city of Tampere. The system predicts large people flows and improves the secure usage of public spaces, security of visitors and security at big events. Insta utilizes their Insta Blue Aware situational awareness platform, which combines data, image and video sources, and shares the current situation on an online map. The system also includes intelligent light poles to host connectivity, sensors, video surveillance and other devices.

## INFRASTRUCTURE NETWORKS

FINLAND



## BORDER CONTROL



## SMART AIRPORTS

At Helsinki Airport in Finland, **Sitowise** together with other Finnish companies has combined BIM and GIS data to create a constantly updating Digital Twin to serve the design, construction, maintenance and operation of the airport during its entire lifecycle.

As air traffic grows, airports globally are developed and expanded to **meet growing capacity and passenger service requirements.**

An airport-wide Digital Twin, created already in the design and construction phase, enables cost-effective and user-oriented construction. Combined with real-time information (IoT), it provides a platform for comprehensive continuous development and operation of the airport.

International  
Departures  
TERMINAL 3





## NATURAL DISASTER MANAGEMENT



FINLAND



## SMART AGRICULTURE

Hyperspectral imaging is a new disruptive tool for smart agriculture. **Kuva Space** and **VTT** have built and launched a proof of concept cube satellite to test and demonstrate the technology.



## MARITIME SERVICES

**ICEYE** provides access to timely and reliable Earth observation data by a constellation of synthetic aperture radar satellites, which will be able to image any point on Earth up to every hour.

The satellite SAR images can be analysed, objects recognized and required actions initiated automatically by AI-based systems.

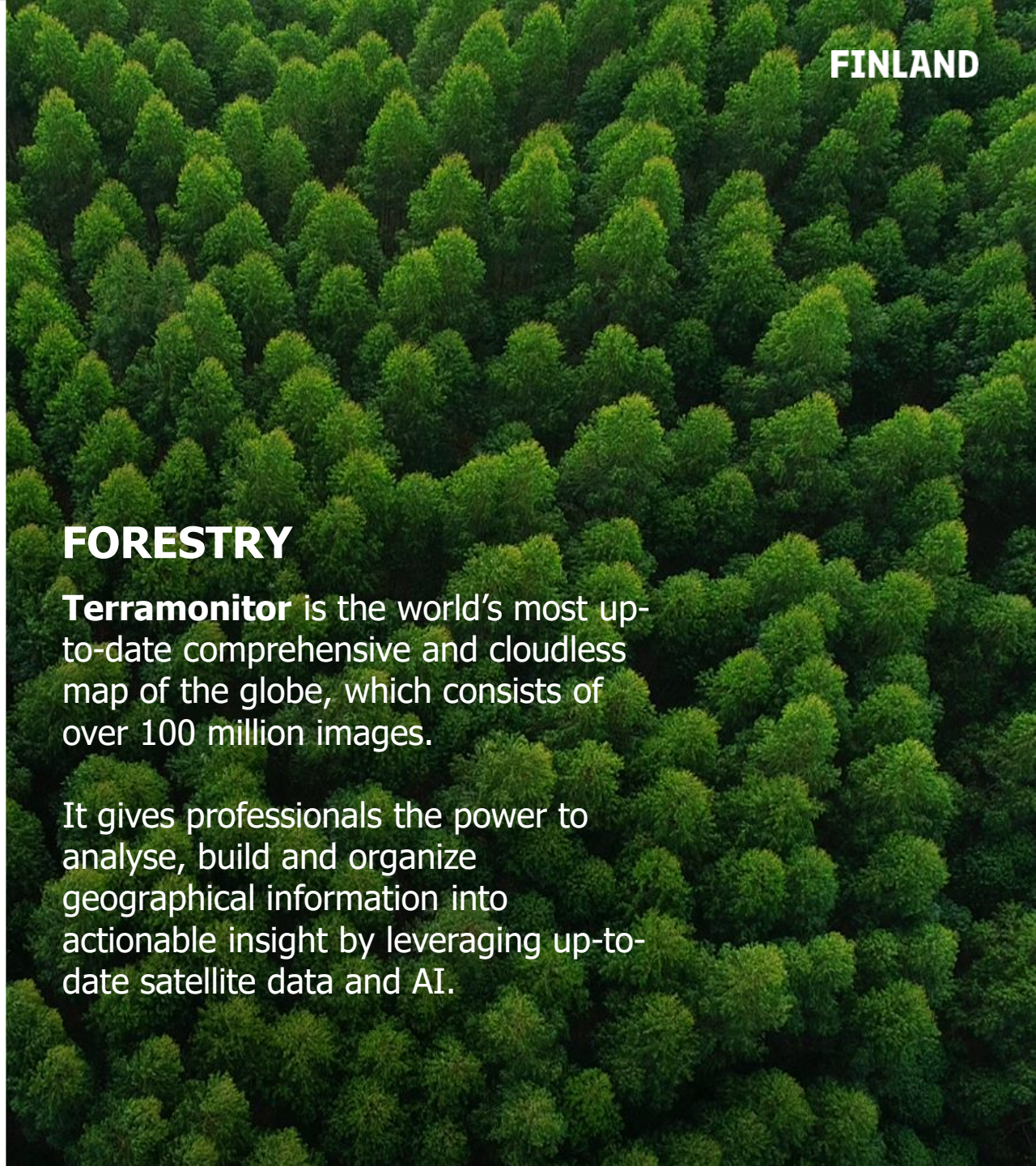


FINLAND

## FORESTRY

**Terramonitor** is the world's most up-to-date comprehensive and cloudless map of the globe, which consists of over 100 million images.

It gives professionals the power to analyse, build and organize geographical information into actionable insight by leveraging up-to-date satellite data and AI.



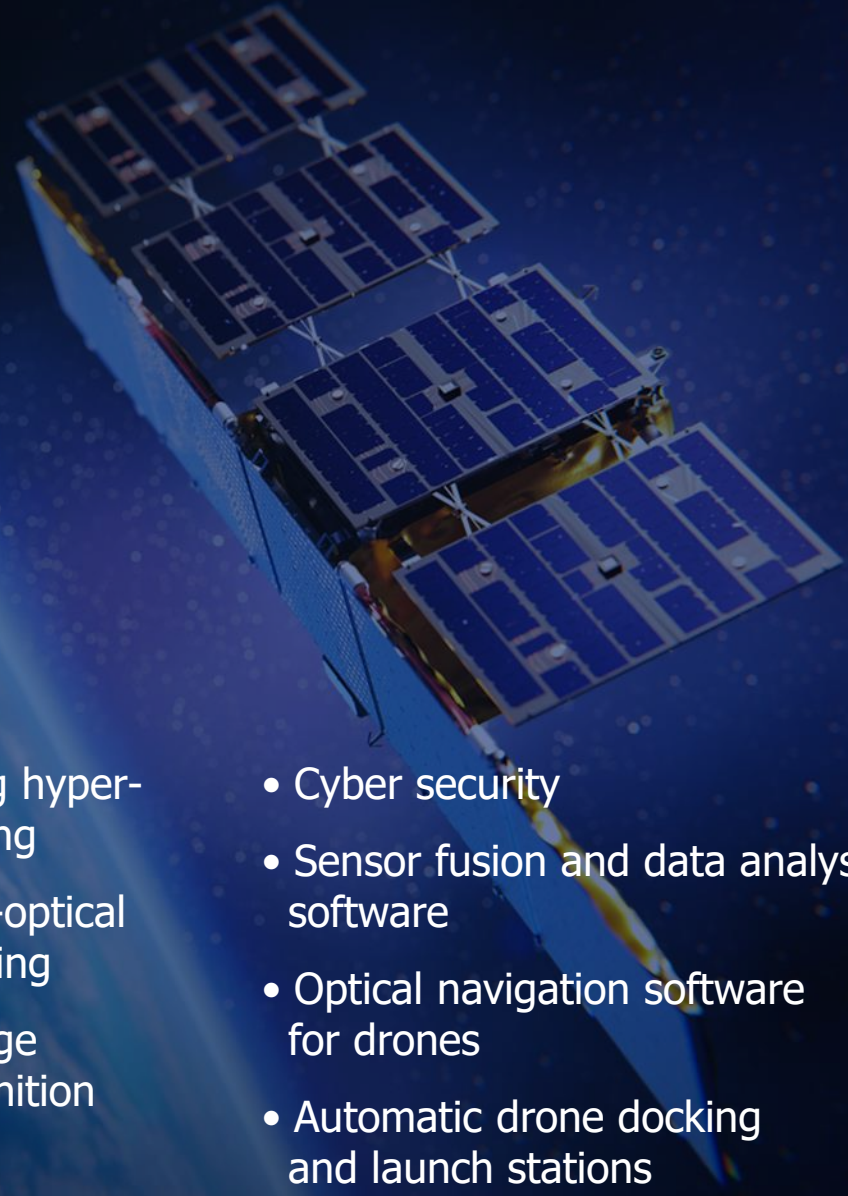


# COMPONENTS AND SUBSYSTEMS

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FINNISH COMPANIES HAVE DEVELOPED SEVERAL HIGH-QUALITY HW AND SW COMPONENTS OR SUBSYSTEMS THAT CAN BE USED AS PART OF SITUATIONAL AWARENESS SYSTEMS.

- Radio communication systems including e.g. 5G, 6G, millimeter wave systems
- Radars and sub systems
- Real-time signal processing systems for carrier platforms
- Satellites and sub systems (radios, power units, on-board computers, instruments etc.)
- Imaging devices including hyper-spectral and thermal imaging
- Sensors including electro-optical and electromagnetic sensing
- Deep learning-based image analysis and object recognition software
- Highly reliable software for satellites
- Cyber security
- Sensor fusion and data analysis software
- Optical navigation software for drones
- Automatic drone docking and launch stations
- Emergency response and alarm centers





# INNOVATION FROM FINLAND

THANKS TO ITS EXCELLENT **BUSINESS** AND **INNOVATION** CULTURE, FINLAND IS KNOWN AS A TECHNOLOGICAL SUPERPOWER. FINLAND HOSTS SOME OF THE WORLD'S MOST INTERESTING COMPANIES IN SITUATIONAL AWARENESS TECHNOLOGY.

# #1

IN AVAILABLE SCIENTISTS AND ENGINEERS

WORLD ECONOMIC FORUM GLOBAL COMPETITIVENESS REPORT 2017-2018

# #1

IN AVAILABLE NEW TECHNOLOGIES

WORLD ECONOMIC FORUM GLOBAL COMPETITIVENESS REPORT 2017-2018

# #1

MOST INNOVATIVE COUNTRIES

THE CONSUMER TECHNOLOGY ASSOCIATION (CTA)™ 2018

# #2

HIGHER EDUCATION AND TRAINING

WORLD ECONOMIC FORUM GLOBAL COMPETITIVENESS REPORT 2017-2018



PROFESSIONALS WORKING IN R&D PER 1 MILLION



# KEY COMPETITIVE ADVANTAGES OF FINLAND

**1**

WORLD-LEADING WIRELESS TECHNOLOGY

**2**

STRONG CYBER SECURITY CLUSTER

**3**

EXCELLENT EXPERTISE IN HYPERSPECTRAL IMAGING, PATTERN RECOGNITION AND IMAGE ANALYTICS

**4**

WORLD-LEADING KNOW-HOW IN SURVEYING NATURAL RESOURCES AND ENVIRONMENT

**5**

HIGH-SPEED, HIGH-CAPACITY DATA INFRASTRUCTURE AND CONNECTIONS ABROAD

**6**

EXCELLENT LOCATION FOR DATA CENTERS, LOW ELECTRICITY PRICE

**7**

STRONG IPR PROTECTION, STABLE LEGISLATION AND REGULATION

Finland's strong tech expertise, high education level and vibrant startup scene contribute to an attitude of innovation. Finland is at the forefront of digitalization, communication technologies and smart&clean technologies. Every day, billions of people around the world use electronic devices, software and services, that are designed and developed in Finland.

Situational awareness systems and services require a high level of reliability and security. Acquiring and operating such a system or services needs highly reliable business partners with a long-term commitment to serve their clients. Finnish companies stem from an Arctic environment and a culture of trust, brought about by high social, economic, legal and political stability, as well as good and trustworthy relationships with other nations and the absence of corruption.

**Finland is a leading country** in radio frequency and wireless technologies, hyperspectral imaging, pattern recognition and image analytics. These are essential elements of situational awareness systems. This know-how builds on joint research efforts of Finnish universities and research institutes and the private sector. The following pages highlight some world-class capabilities of Finnish companies for a joint offering in situational awareness systems.



# KEY COMPETENCES OF THE COMPANIES

## 3D-TALO

Virtual solutions for design and development projects that offer innovative ways to train employees

## AWAKE.AI

Holistic AI software platform and marketplace that digitalizes logistic operations allowing AI optimization and automation

## CLIMATICA

Platform that fuses and processes all the data from multiple sources to give clear insights on climate situations

## ADVIAN

With sensor fusion they combine drone data to other data sources to create new insights to automate customer's business processes

## BASE N

Provides situational awareness through a scalable, fully distributed, resilient, secure, and real-time monitoring platform

## COLLECTIVE CRUNCH

Accurate, cost-efficient and scalable forest inventories, combining multiple data sources into AI models

## AEROMON

Mobile emissions and air quality measurements and reporting

## ANARKY LABS

Extended Reality for raised situational awareness in demanding operations

## BEYOND GRAVITY

High performance in space. Precise engineering on Earth

## COREHW

Developes Integrated Circuit technologies for leading IoT, Telecommunication, Automotive, R&D, Space, Wireless companies

## AIRBUS DEFENCE & SPACE

Secure communications, situational awareness solutions

## ARBONAUT

Mobile client for cloud-based geospatial information platform **for** project management

## BITCOMP

Intelligent Forest Systems, Forest Analytics, GIS solutions

## DA GROUP

RF solutions, SAR components, embedded system solutions

## ASRO

Develops high quality electronics system for customer instrumentation projects

## BITTIUM

Secure wireless communications, cyber security

## DETECTION TECHNOLOGY

Off-the-shelf and customized X-ray detector solutions



# KEY COMPETENCES OF THE COMPANIES

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## **FAIRSPRECTRUM**

Software and simulation services for the performance analysis of the spectrum sharing between 5G/6G terrestrial & 5G/6G satellite network

## **INDUFOR**

Provides high-quality information, analysis, and services throughout the forest industry value chains

## **MELUTA**

Growth-oriented company specialized in signal processing, ML, AI

## **GISPO**

Adding value to clients' businesses by maximizing the value of geospatial data

## **INSTA**

Situational awareness solutions, cyber security, data analytics and machine learning

## **MISSING LINK**

Real-time local monitoring of wireless networks at different kinds of physical sites

## **HARP TECHNOLOGIES**

Microwave sensors and technology to detect, localize, and classify RF signals

## **ISAWARE**

Secure wireless Advanced analytics of multi-dimensional data, tailored support solutions for data-based decision-making

## **NETRADAR**

Help operators and government agencies that run mission services to identify issues & improvement areas

## **HULD**

Systems engineering and software development for safety and mission critical systems

## **KUVA SPACE**

Hyperspectral satellites constellation, AI-powered data products and services

## **NOKIA**

Critical communications solutions for a new era in digital safety

## **ICEYE**

SAR satellite constellation, SAR satellite data services

## **MARSHALL AI**

Comprehensive tool suite for replicating human sensing and building situational awareness

## **NORDIC DRONES**

Nordic Drones UAV-systems are designed and tested for special military needs



# KEY COMPETENCES OF THE COMPANIES

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## **NORTHBASE**

Finnish owned company with transparent, secure and flexible Ground Station as a Service (GSaaS) services for satellites

## **RUMBLETOOLS**

Fully autonomous drone with unique mobile docking station, fitted according to client needs

## **SILO.AI**

Advanced artificial intelligence expertise and solutions

## **NSION**

Provide a mission-proven, easily deployed and easy-to-use situational awareness platform

## **SAAB FINLAND**

World-leading miniaturized sensor and electronic warfare solutions

## **SITOWISE**

Real world digital twins, geolocation information systems

## **PATRIA**

Through life capability, Protected mobility and defence systems and Battlefield and critical systems

## **SASKEN**

A portable LTE based satellite terminal product family

## **SKYFORA**

Next-generation weather technology, ultralight weather instruments and forecasts based on artificial intelligence

## **REAKTOR**

Data analytics, machine learning systems

## **SENOP**

Hyperspectral and thermal imaging

## **SMALL DATA GARDEN**

IoT-solutions for air quality, movement, and location tracking for both indoor and outdoor harsh environments

## **ROGER GPS REPEATER**

GNSS repeaters manufacturer

## **SEPTENTRIO**

Design and manufacture of multi-frequency multi-constellation GPS/GNSS positioning technology

## **SOLITA**

Data platform and analysis solutions across road, rail, maritime and aviation domains



# KEY COMPETENCES OF THE COMPANIES

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**SPATINEO**

Standardized resilience geospatial APIs, scalable infrastructures for data sharing, and usage of satellite data, high-level data analytics and data science services

**VAISALA**

Environmental sensors, meteorological systems

**SPECIM**

Global supplier of hyperspectral imaging solutions

**TERRAMONITOR**

Cloud-free mapping and analyzing platform for satellite images

**SSH**

Software solutions for privileged access, secure file transfers, SSH key management, quantum-safe & more

**VERKOTAN**

An accredited test service company operating in the wireless industry

**TELESTE**

Comprehensive modular video security and information solutions to public transport operators, train manufacturers and the public sector

**VTT**

Advanced technologies and solutions offerings around Connectivity, Microelectronics, Manufacturing techniques, Radars, 5G, Computing and AI/ML



# VIRTUAL REALITY. REAL SUCCESS.

## OUR SOLUTION

Virtual solutions for design and development projects and new ways to train your employees. Virtual reality connects real life situations to visualizations, 3D models and gaming technology. We help your company to reduce costs of development and production.

## CUSTOMER BENEFIT

Virtual reality is a visual way of presenting difficult-to-understand plans and models. It's also effective way to train or familiarize new and old employees.

## COMPETITIVE ADVANTAGE

As a technological innovator and a leader within the field we are the top choice to be your businesses partner in industrial and factory planning, product and area development, design, development of virtual training.

We can clone your production plant into a virtual reality environment and enrich the model with IoT data, so you can lead your operations effectively, regardless of your location.

By simulating your equipment and machinery with real-world physics, you can train your employees safely.

We build prototypes, model environments and visualize your products and ideas so that reality never again catches you, your team or your customers by surprise.

## COMPANY

3D Talo offers virtual reality solutions to develop your business. As a leading technological partner, we make sure your business has the latest and most innovative solutions in use.

**Tatu Säisä**, CEO

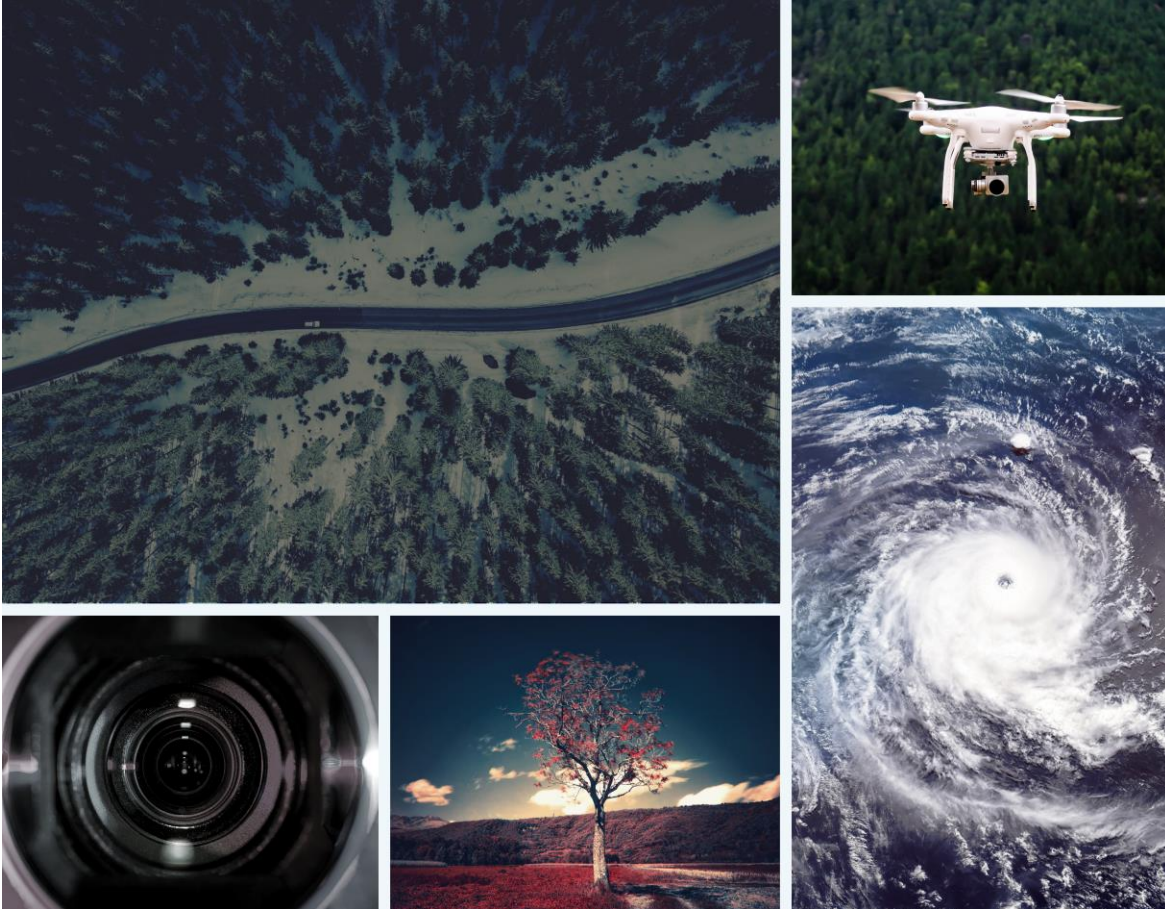
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[www.3dtalo.fi](http://www.3dtalo.fi)





# NEW HEIGHTS WITH REFINED ANALYTICS



## OUR SOLUTION

Advian offers Edge AI solutions utilizing real-time drone data from variety of sensors- video camera, thermal camera, multi-/hyperspectral, LiDAR, GNSS, inertia etc. With sensor fusion we combine drone data to other data sources to create new insights to automate customer's business processes.

Our solutions works within various business functions like asset management, condition monitoring, precision farming and forestry, safety & security. Our Edge AI solutions are widely used also in manufacturing, energy, retail and transportation industries.

## COMPETITIVE ADVANTAGE

Advian offers a unique combination of edge computing, location intelligence and artificial intelligence / machine learning to provide edge AI solutions for multiple industries and countless amount of business use cases. Our competence ranges from electronics and sensors to novel machine learning models, from spatial analysis to sensor fusion algorithms, we always focus on business value for the customer.

## IDEAL CLIENT

Advian's ideal clients are pioneer companies or organizations in their respective fields who want to take advantage of data and emerging technologies. Our clients truly understand the value of data and wants to transform their businesses or disrupt existing business models.

## COMPANY

Advian enables you to gain an unfair competitive advantage with refined analytics solutions. With our help, you bring analytics into your processes and tie data to your business strategy. Our solutions consist of location data, external data and edge analytics - powered by AI and machine learning.

**Janne Honkonen**, CEO and Founder

[janne.honkonen@advian.fi](mailto:janne.honkonen@advian.fi), +358 400 494 492

<https://www.advian.fi/>





# MOBILE EMISSION MONITORING SOLUTIONS

## OUR SOLUTION

Aeromon provides real-time, easy to understand data on airborne emissions. We can detect, quantify and visualise dozens of gaseous compounds, particulate matter and noise. Accurate reporting is based on calibrated equipment and advanced algorithms in our cloud-based reporting system.

## BENEFITS

- Improve safety by pinpointing leakage sources
- Get access to clear, understandable data for faster and better decision making on process parameters or maintenance tasks
- Reduce material costs caused by leakages
- Support sustainable operations and create environmentally aware brands

## COMPETITIVE ADVANTAGE

- Highly effective in gathering emission data
- A powerful tool to monitor also previously inaccessible locations
- Easy to pinpoint emission sources
- Concentration changes visualised in real-time over a map
- Possibility to measure over a dozen compounds simultaneously

## COMPANY

Aeromon is the pioneer in mobile emission monitoring. We provide emission monitoring as a service with our proprietary platform. Today our services are used globally to verify and quantify emissions from industrial plants.

## SERVICES

- Airborne emission mapping
- Leak detection
- Real-time point of source emission reporting

**Maria Kuosa, CEO**

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<https://Aeromon.io>





# WE MAKE IT FLY

## OUR SOLUTION

Airbus is a dynamic company that continuously adapts its offering to provide better and more customized solutions through innovation and integrating of new technologies.

## ADDED VALUE TO YOUR CUSTOMERS' BUSINESS

Airbus helps secure people, nations and our environment by providing superior operational views and data from trusted sources to form better situational awareness supporting smart measures in the field.

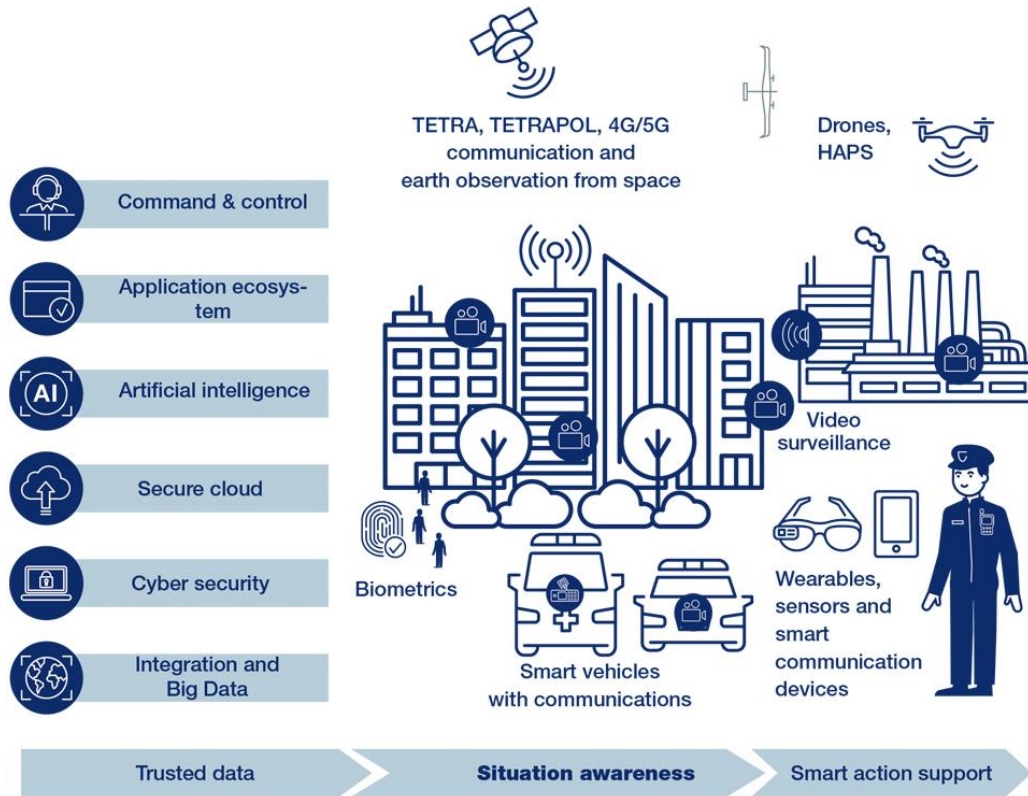
Airbus' expertise in Finland is covered by two program units; Secure Land Communication and Intelligence. In Finland, Airbus has a strong competence center for TETRA and 4G/5G communication solutions including mobile application ecosystem and integration services of sensors for secure networked airborne communications.

## COMPETITIVE ADVANTAGES

We combine and add value to our customer missions on land, in the air and at sea. We provide the whole value chain from cyber resilience and protection to secure connectivity and data and analytics from various sources.

## SERVICES

- Secure communication solutions for public safety and critical industries based on TETRA, TETRAPOL and 4G/5G technologies
- Orchestrating application ecosystems for mobile software companies
- Solutions and integration services for protecting borders, maritime areas and critical infrastructure
- Cyber security design and integration with managed services and cloud-based services
- Satellite imagery and related services, access to imagery and reference layers from the smartest constellation, combining radar and optical satellites



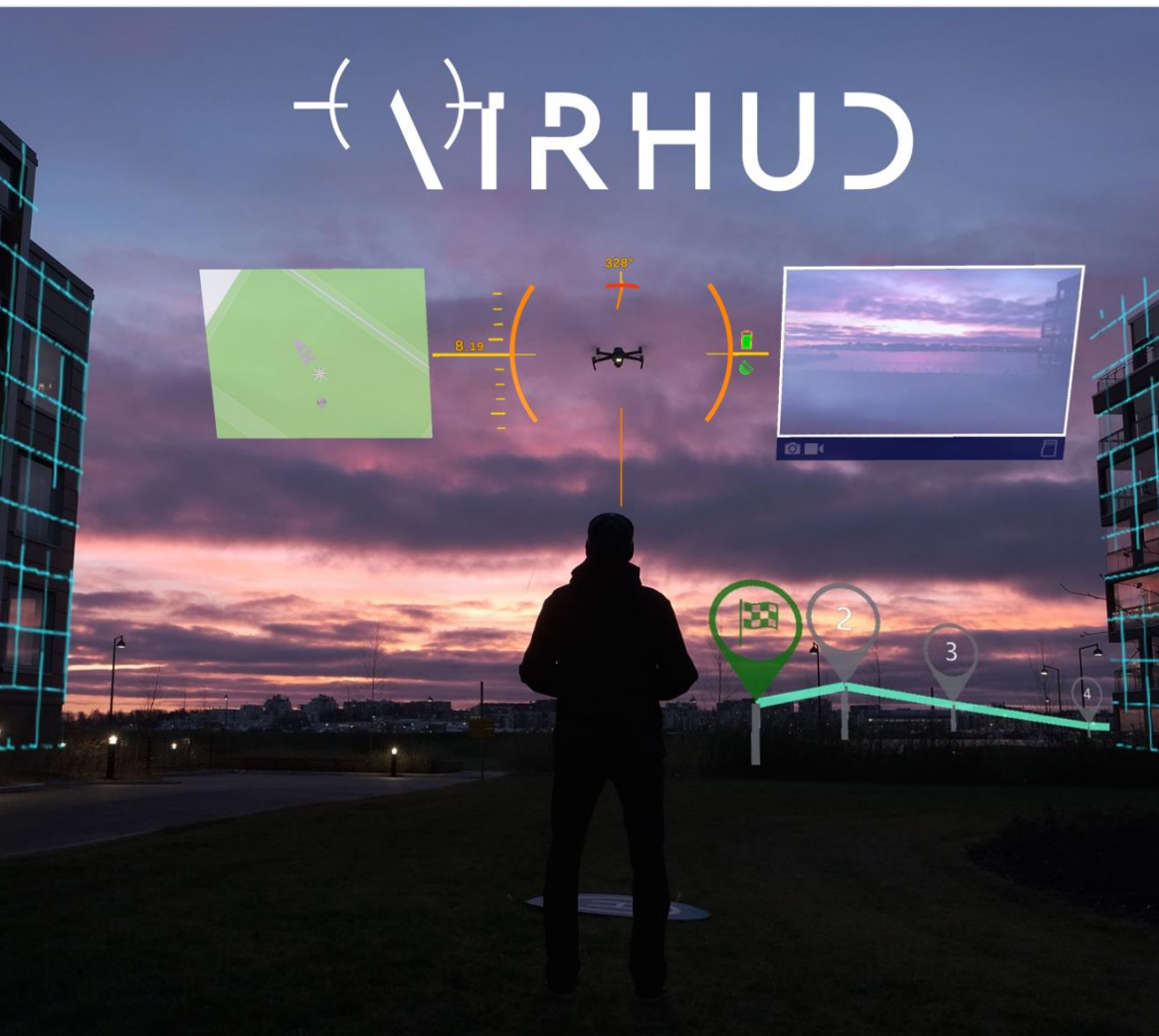
**Tapio Mäkinen**, Director

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[www.airbus.com](http://www.airbus.com)







# EXTENDED REALITY FOR NEW SITUATIONAL AWARENESS

## OUR SOLUTION

AirHUD is the first real Heads-Up Display for drone pilots, which increases safety, raises situational awareness to totally new levels and increases the efficiency of drone operations. We push data into the sky, where the drone is, and also bring other world-based information visible via different sources of data.

## CUSTOMER BENEFIT

Operations are made easier and safer, and current legislation easy to understand as airspace volumes are visualized as concrete walls and ceilings. For autonomous missions, evaluate the waypoints in their exact world locations, ensuring safety and operability in very concrete way. Extended reality greatly enhances the efficiency of any operations.

## COMPETITIVE ADVANTAGE

Our product offers a robust base for building other situational awareness related functionalities such as team command and control capabilities, Counter-UAS data visualizations, sensor data correctly placed in world locations etc. We specialize in making the abstract, unseen data fully understandable and thus enable split-second decisions where they really matter.

## COMPANY

Anarky Labs is a creative software development house who specialize in understanding the needs of the most demanding clients in law enforcement, security and inspection uses. We have started with drones but will be bringing eXtended Reality solutions to various other fields, wherever better understanding of what really is happening is needed.

**Hannu Lesonen**, CEO & Founder

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<https://anarkylabs.com>





# DIGITAL WILDFIRE RISK MAPPING AT ITS FINEST

## The solution

ArboFiRM is a web- and mobile-based platform that provides phenomenal insight into fire risk evaluations. With the intelligent use of GIS and LiDAR data, our solution assists in operational and strategic planning for fire prevention and suppression. ArboFiRM keeps your data from various sources in one place and supports decision-making that is required for efficient forest fire management, in wildland and wildland-urban interface.

## Benefit for the customer

ArboFiRM is a complete package of everything to prepare you for forest fire seasons on local and regional levels:

- Get a better insight into every critical parameter
- Design fire prevention plans
- Detect vulnerability of infrastructures
- Raise public awareness of fire risks for preventative actions

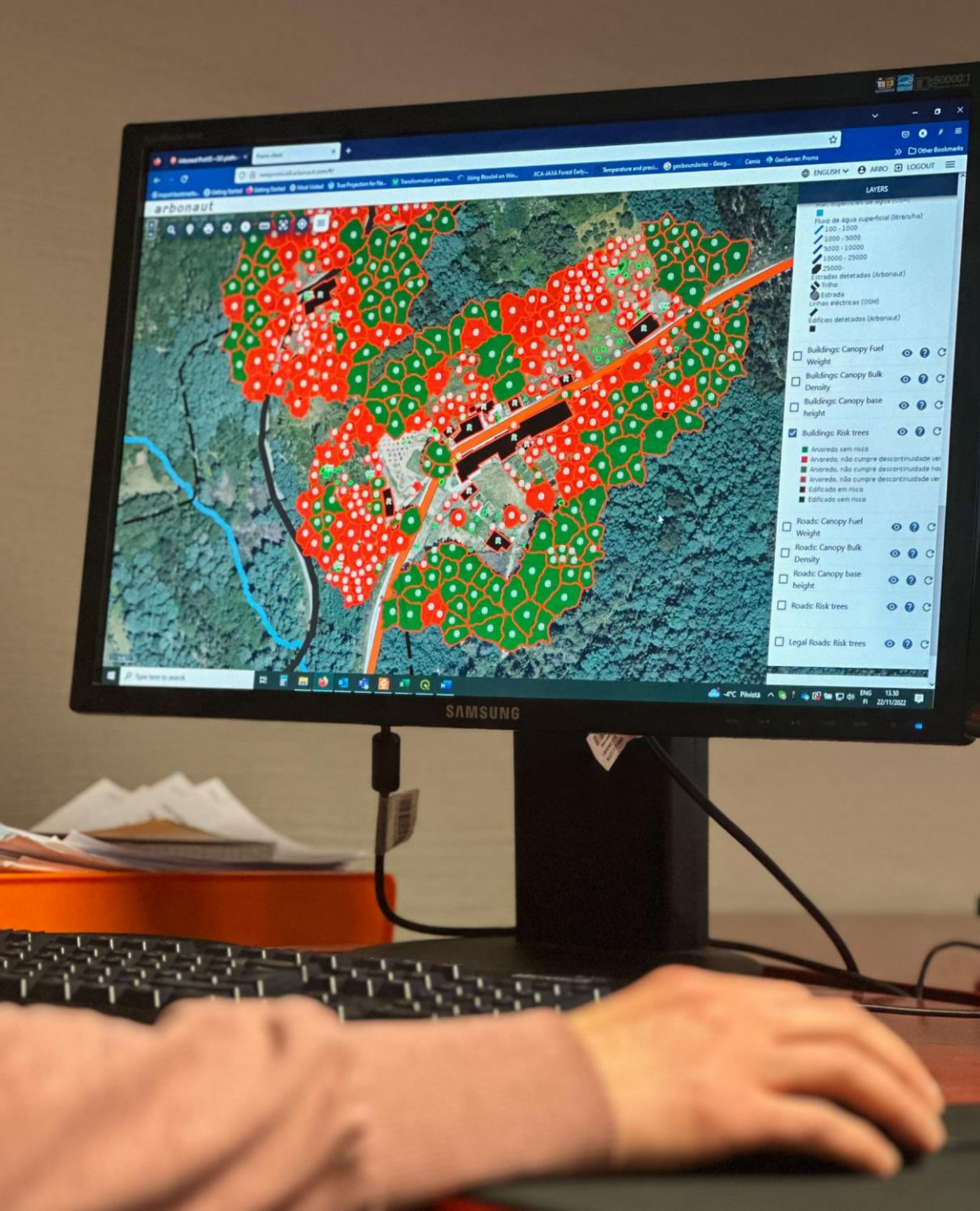
## Competitive advantage

ArboFiRM is a highly tailorable platform. It is designed to fit all your unique needs in forest fire management so that future fires can be tamed, suppressed, or fully prevented. Our experts will custom-build the platform for you, powered by suitable functionalities, tools, and the latest tech.

## Company

Arbonaut is an innovation-driven technology fully-fledged software services company based in the European Forest Capital, Joensuu. We provide and precise digital information on forests with 100+ completed projects worldwide.

**Alain Minguet**, Business Development Manager  
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[www.arbonaut.com](http://www.arbonaut.com)





# YOUR PARTNER IN TECHNOLOGY SOLUTIONS

## OUR SOLUTION

ASRO is your partner in demanding space instrument development projects. We offer tailored solutions according to the customer's needs.

Our core expertise lies in developing high quality electronics systems for our customer instrumentation projects. ASRO has recognised expertise in analogue and digital electronics design, space weather instrumentation and radiation modelling, and has contributed to missions like BepiColombo, Artemis-1 and the International Space Station.

Over the years, we have accumulated proven concepts and know-how adaptable to new instruments.

## CUSTOMER BENEFIT

ASRO has over 20 years of experience with demanding international space projects. The company has comprehensive electronics competence related to design, manufacturing and testing together with our partner network.

Our turnkey solutions have helped New Space start-up companies to focus on their expertise, and R&D projects have been tailored to solve customers' technological challenges.

## COMPANY

ASRO provides services for space technology customers (radiation monitoring, space debris observation) and industrial customers (electronics design, embedded systems).

The company was founded in 1999 and is located in Turku, Finland.

## Jussi Lehti

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<https://asro.fi/en-index.php>



# SUSTAINABLE & INTELLIGENT MARITIME LOGISTICS



## OUR SOLUTION

Holistic AI software platform that digitalizes all logistic operations while enabling intelligent optimization and automation giving real-time sea, port, and land situational awareness, communication and collaboration. The company delivers the AI-driven software platform, APIs, prediction and optimization models, Smart Port as a Service application, Berth planning solution and Smart Port marketplace.

## CUSTOMER BENEFIT

Value propositions are: over 20% reduced cost of transport & cost of port calls, up to 30% increased productivity, 5-20% additional revenue from shared data, 10-40% reduction in emissions.

## COMPETITIVE ADVANTAGE

Customers don't need to invest years and millions in AI/ML-driven logistics SaaS, instead they can get it from us deployed in a few weeks as a service. Industry leading optimisation platform for sea-port-land interactions. Smart logistics ecosystem with over 100 partners bringing network and learning effects. Marketplace for automating the buying and selling of logistics services and products.

## COMPANY

Winner of the Frost & Sullivan Entrepreneurial Company Award for maritime logistics, Selected as National Growth Engine by Business Finland, European Space Agency (ESA) awarded funding to develop and pilot Awake Marketplace.

**Karno Tenovuo**, CEO  
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[www.awake.ai](http://www.awake.ai)





# BASEN PLATFORM - FULL SITUATIONAL AWARENESS

## OUR SOLUTION

BaseN is a mature Software as a Service (SaaS) and Platform as a Service (PaaS) provider, launched and in continuous development since 2001, providing situational awareness through an extremely scalable, fully distributed, resilient, secure, and real-time monitoring and control platform for ICT, Digital Twins, and IoT combined.

## CUSTOMER BENEFIT

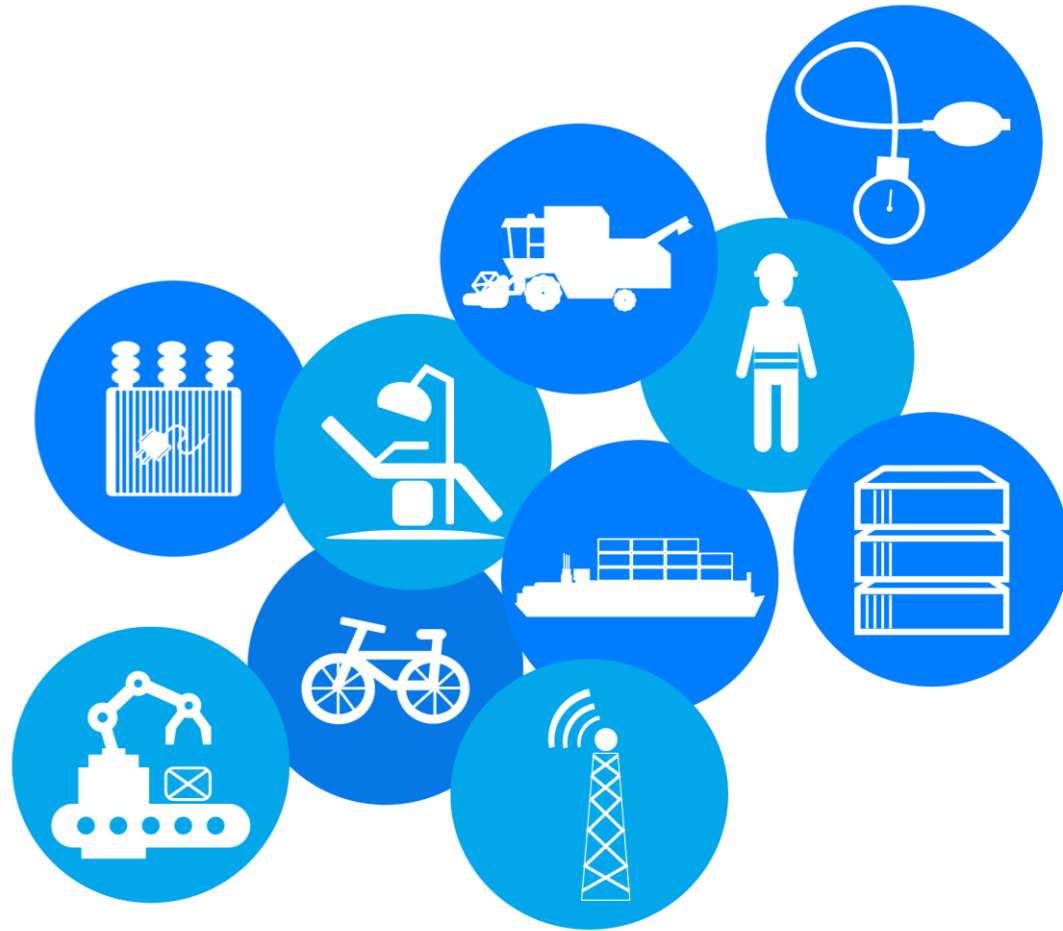
BaseN provides new ways to capture, store, process, analyze, visualize, and control extreme volumes of things and data real-time, which enables full situational awareness including root cause analysis.

## COMPETITIVE ADVANTAGE

Robust, secure, real-time, international platform providing full stack IoT saving customer resources for true work. Capacity of 12 datacenter globally is sufficient for any scale of use in advanced enrichment to gain best result to planetary sustainability.

## COMPANY

BaseN was established in 2001 to provide extremely scalable and fault-tolerant network and service management systems for telecom operators and large multinational enterprises.



## Jukka Paananen

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<https://www.basen.net>

# Base<sup>n</sup>

# SPACE ELECTRONICS SERVICES IN FINLAND

## OUR SOLUTIONS

Beyond Gravity portfolio consists of high-quality spacecraft flight electronics equipment and subsystems based on either traditional hi-rel, or cost-efficient automotive COTS components.

Key applications include:

- Interface electronics e.g. Remote Terminal Units
- Control electronics e.g. Control and Data Processing Units
- Power electronics e.g. Power Supply/Distribution Units

## SERVICES

Beyond Gravity offers space & defense ecosystem in Finland and abroad project management, procurement, design, manufacturing, assembly, integration and testing services. Radiation and environmental testing is part of portfolio.

## BENEFITS

Our experience, outstanding capability to innovate, customer focus and a comprehensive, clearly structured product portfolio all make Beyond Gravity the preferred supplier of structures for all types of launch vehicles as well as a leader in selected satellite products and constellations in the New Space sector.

## COMPETITIVE ADVANTAGES

- Local presence, global scale.
- Space engineering and project management.
- ESA qualified production personnel.
- 100% success rate in our missions since 1985.

## COMPANY

Beyond Gravity is the first space company to combine a startup mindset, agility, speed and innovation with decades of experience and proven quality. Approximately 1600 employees at 12 locations in six countries (Finland, Switzerland, Sweden, Austria, Germany and USA) develop and manufacture products for satellites and launch vehicles with the goal of advancing humankind and enabling the exploration of the world and beyond.

**Sami Kallio**, Marketing and Sales

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[beyondgravity.com](http://beyondgravity.com)





# SMARTEST FOREST SOLUTIONS ON THE PLANET

## OUR SOLUTION

Intelligent Forest Systems - Forest Analytics - GIS solutions. We offer forestry professionals intelligent forest information systems and up-to-date forest analytics based on satellite data. We put modern data and digital solutions to work for more sustainable forests. With our help, we make forest professionals everyday work easier. Our systems are a gateway to the best GIS datasets available.

## CUSTOMER BENEFIT

Save money and time by focusing field work to the correct areas. By processing satellite data with the help of artificial intelligence, automated monitoring of environment becomes faster than ever before. For example, storm and insect damages can then be quickly estimated.

## COMPETITIVE ADVANTAGE

We have a unique combination of expertise – ICT, GIS, project management and bio-economy. With our ready and tested solutions and services, we can make implementations quickly and with reasonable costs. Our scalable cloud-based applications can easily be integrated to third-party platforms.

## COMPANY

We have been making challenging geographic information systems in Finland for more than 20 years. Today our main business field is to focus on the forestry sector. Since the acquisition of Summer 2022, Bitcomp Oy is part of Sitowise Oyj.

**Tapani Stjernvall, CEO**  
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<https://bitcomp.com>

 BITCOMP





# CONNECTIVITY TO BE TRUSTED

## OUR SOLUTION

Bittium has worked in the IoT arena even before the term IoT was defined. We specialize in the development of reliable, secure communications and connectivity solutions. We have the capability to deliver all the necessary components of a solution, including devices with wireless communication, built-in security, and cloud connection capabilities.

## BENEFIT FOR THE CUSTOMER

As a world-class R&D services provider, Bittium can help your business thrive and you can focus on your core business. We can help at every stage, from technology consulting and concept strategy to turnkey product and service development.

## COMPETITIVE ADVANTAGE

We leverage our over 35-year legacy of expertise in advanced radio communications. In addition to successful customer projects, we have vast experience from our own connected products and solutions. Our expertise includes system, architecture, wireless, electronics, mechanics, and software design.

## COMPANY

Bittium has approximately 650 employees and offices in Finland, Germany, USA, Mexico, and Singapore. Bittium is listed in the Nasdaq Helsinki Exchange.

**Markku Pikkarainen**, Director

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[www.bittium.com](http://www.bittium.com)

**Bittium**



# OPERATING SYSTEM FOR CLIMATE DECISIONS

## OUR SOLUTION

We provide technology to take necessary actions that are needed in the here and now. Ground sensors and satellites collect all available climate data and feed them into the Climatica platform. The platform fuses and processes all the data from multiple sources to give clear insights on climate situations and their impact on a localised level.

## BENEFIT FOR THE CUSTOMER

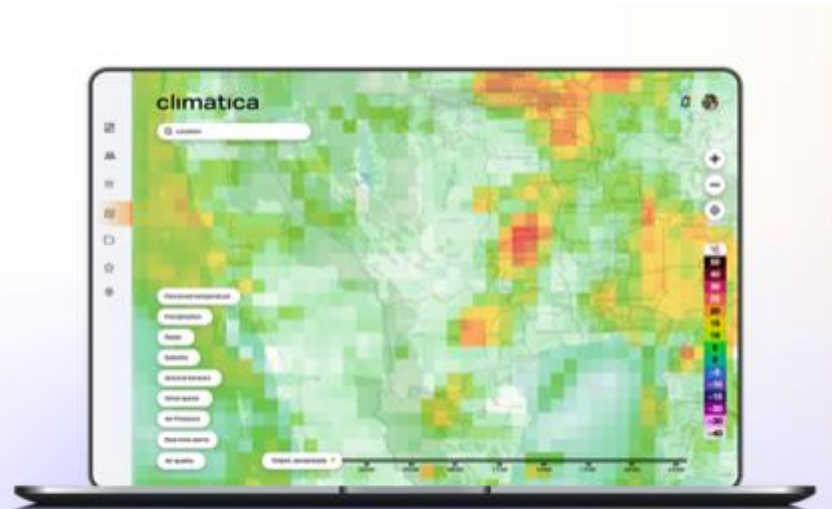
We provide private and public organisations with unique strategic and actionable insights, analytics, recommendations, and digital tools they need to understand, predict and mitigate the impact of negative weather events including those caused by the climate change.

## COMPETITIVE ADVANTAGE

Every customer need is addressed directly with specific selection of datasets from Climatica. These are then processed through our AI climate engine to provide our customers the final outcomes they need to mitigate for climate threats and challenges.

## COMPANY

Climatica is a Helsinki based ESA incubated space tech which is on a mission of making climate an everyday consideration for citizens, municipalities, businesses and government.



Climatica Situation

**Henrik Maunula**, Finance and Commercial Manager  
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<https://climatica.io>

**climatica.**



# A SUSTAINABLE FUTURE WITH FORESTS, POWERED BY AI

## OUR SOLUTION

Our solution enables accurate, cost-efficient and scalable forest inventories, monitoring of carbon projects and tracking of biodiversity by combining multiple data sources into AI models.

## CUSTOMER BENEFIT

- Sustainable practices and better utilization of renewable natural resources
- Transparency in carbon trading markets
- Support in tracking biodiversity at scale
- More accurate AI-based forest inventories
- Cost-efficiency in forest inventories

## COMPETITIVE ADVANTAGE

CollectiveCrunch utilizes a unique approach to forest inventories and forest resource monitoring by applying new sophisticated methods and tools to change the conventional way the industry is working. We are driving sustainable forestry by providing better insights of the forests in all major regions.

## COMPANY

We provide accurate data on forests using multiple input datasets by utilizing AI. We change the way the forestry industry works by providing accurate predictions and inventories based on our machine learning models.

## SERVICES

CollectiveCrunch provides a self-updating SaaS solutions for sustainable forestry.

**Rolf Schmidt**, Co-CEO

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[www.collectivecrunch.com](http://www.collectivecrunch.com)





# WE ENABLE THINGS BEYOND POSSIBLE

## OUR SOLUTION

CoreHW IC design team is experienced with Space and Satellite Communication Radiation hard design. Our expertise areas are RF, mm-wave, Analog and Mixed Signal ICs, and Antennas including RF FE, Radar, NIR Imaging, Photon Counting, X-ray Imaging, Sensor Interface, Interfaces, and Power Management. We also offer Indoor Location Reference Design including high-quality locators and position SW.

## CUSTOMER BENEFIT

We are your one-stop IC solution provider partner. We offer RF IC, mm-Wave, Analog, Mixed Signal, Digital, Antenna, Application, and System design.

## COMPETITIVE ADVANTAGE

We design and deliver components to leading semiconductor companies worldwide by leveraging our extensive experience in semiconductor design services, our broad IP portfolio (over 250 IP cores), and a global partner network.

## COMPANY

CoreHW is a fabless semiconductor company established in 2013 in Tampere, Finland. For decades, we have been developing Integrated Circuit technologies for leading IoT, Telecommunication, Automotive, Space, and Wireless companies, and research hubs.

**Tomi Moilanen**, VP Sales and Marketing  
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[www.corehw.com](http://www.corehw.com)

CoreHW



TRANSFORMING  
TECHNICAL  
CHALLENGES  
INTO INTELLIGENT  
SOLUTIONS.

# PERFORMANCE FOR YOUR PRODUCTS

## OUR SOLUTION

Advanced embedded technology solutions to produce excellent end-user experience and performance for your products.

## BENEFITS

With a 25-year proven track record DA-Group offers comprehensive high-tech services, all under one roof.

Solid experience in delivery projects with international companies and organizations. We deliver systems, subsystems and equipment, including all phases of development design, manufacturing and testing, for both spaceflight and ground-based applications, in-house. This work is supported by continuous research and technology development.

Our services meet the strictest industrial, defence, and space technology quality and safety standards.

## COMPETITIVE ADVANTAGES

Our design and implementation services transform complex technical problems into intelligent and functional product solutions.

## COMPANY

DA-Group provides advanced electronics and high technology solutions and products. We serve industrial, defence and space industry customers globally.

## SERVICES

We provide product development and design, testing, manufacturing and product lifecycle management services for high-tech solutions.

We are experts in embedded software solutions, FPGA designs, electronics, mechanics, naval technology simulations, as well as RF, microwave and millimeter wave engineering.

**Timo Lättilä**, Head of Business Unit, Space  
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[www.da-group.com](http://www.da-group.com)



# THE MOST TRUSTED PARTNER IMAGING THE UNKNOWN

## OUR SOLUTION

Detection Technology offers off-the-shelf and customized X-ray detector solutions. Our solutions range from sensor components to optimized detector subsystems with ASICs, electronics, mechanics, software, and algorithms.

## CUSTOMER BENEFIT

We are known as a trusted one-stop shop for all detector needs. Our solutions meet the performance and reliability requirements of the most stringent X-ray imaging applications. Furthermore, our products are built on modular, scalable, and easily customizable platforms.

## COMPETITIVE ADVANTAGE

We have comprehensive design capabilities of photodiodes, ASICs, electronics, mechanics, firmware, software and algorithms, and knowhow on system integration, and manufacturing and material technologies. In addition, we have critical production processes and testing capabilities in-house.

## COMPANY

Detection Technology is a global provider of X-ray detector solutions for industrial, medical and security applications. It has sites in Finland, China, France, and the US. The company's shares are listed on Nasdaq First North Growth Market Finland.

**Arve Lukander**, Vice President, Security Business Unit  
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[www.deetee.com](http://www.deetee.com)



# NAVIGATE THROUGH RADIO SPECTRUM

## OUR SOLUTION

Fairspectrum provides software and simulation services for the performance analysis of the spectrum sharing between 5G/6G terrestrial and 5G/6G satellite network. Fairspectrum has simulated two approaches for spectrum sharing between 5G mobile networks and 5G satellite networks. 3GPP frame-based spectrum sharing allows the coverage areas of mobile and satellite networks to overlap.

## CUSTOMER BENEFIT

The MNOs can extend their service coverage with 5G/6G satellite networks. They can decrease the impact from interference and close the gaps between the mobile and satellite coverage areas. The satellite operators get a faster access to spectrum supported by massmarket devices of the 3GPP ecosystem.

## COMPETITIVE ADVANTAGE

Fairspectrum has developed simulation tools to analyse the performance of these spectrum sharing technologies, including interference, bitrate, coverage and spectrum utilization efficiency analysis.

## COMPANY

Fairspectrum is the leading Dynamic spectrum access provider in Europe. In addition to standard Dynamic spectrum solutions, we can adapt the Dynamic spectrum access systems according to local regulations and customers' device categories.

**Heikki Kokkinen, CEO**

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# ENTERPRISE GEOSPATIAL SOLUTIONS

## OUR SOLUTION

Gispo adds value to its clients' businesses by maximizing the value of geospatial data. We guarantee that our clients get the most out of geographic data by providing Geographic Information System (GIS) consulting, GIS training, and GIS support for open-source geospatial technologies.

## CUSTOMER BENEFIT

Organizations can not leverage location data if it is not easily accessible, and users are not exposed to the data. Open-source geospatial software have proven their long-standing popularity as part of the modern GIS enterprise architecture.

## COMPETITIVE ADVANTAGE

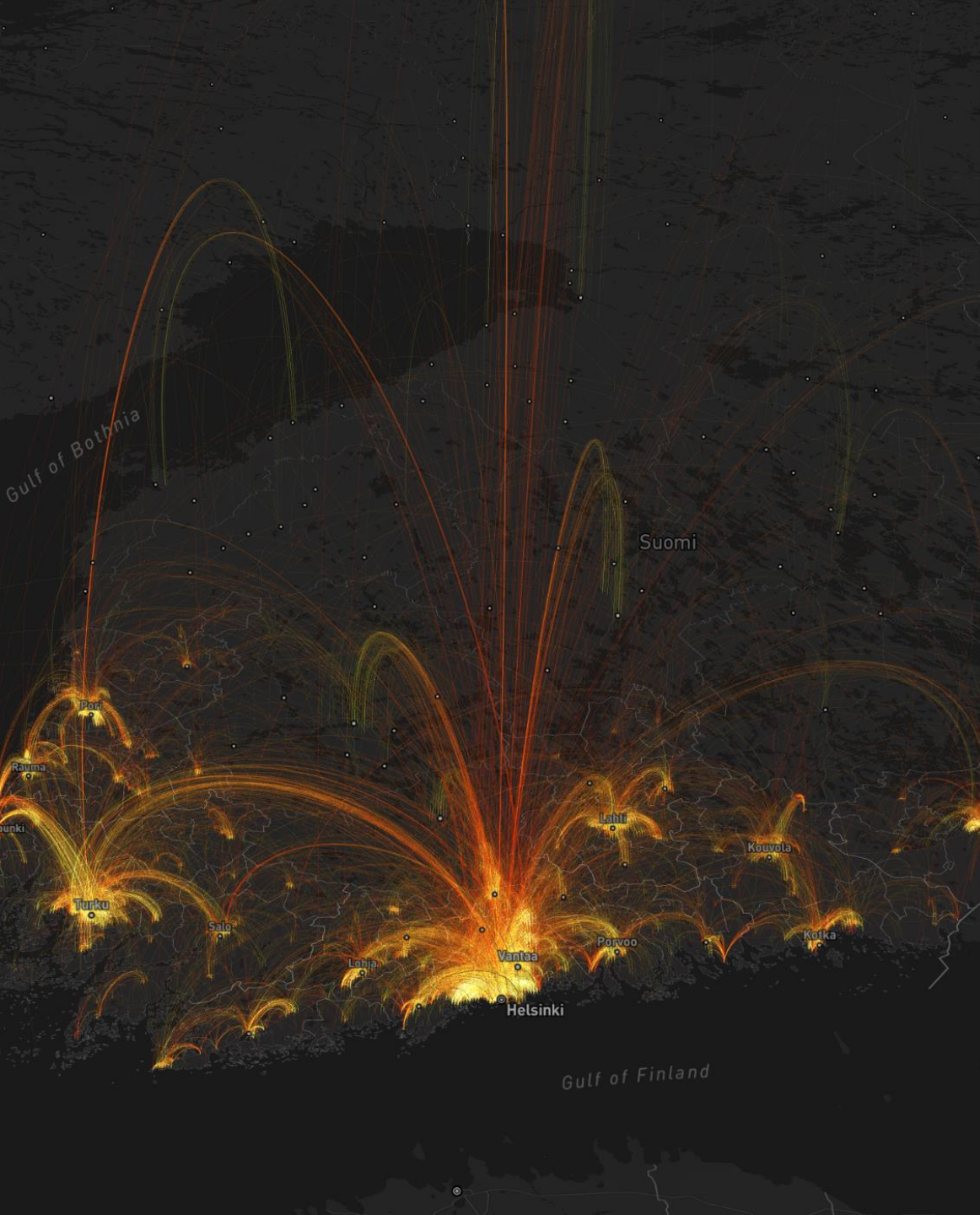
The "where" questions are becoming more and more central to all data analyses, and modern open-source location-based technologies are the forces behind these developments. We are confident that we can address pressing societal issues by cooperating with open-source software for the greater good.

## COMPANY

Gispo Ltd is one of the world's enterprise leaders in open-source GIS systems and geospatial technologies.



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[www.gispo.fi/en](http://www.gispo.fi/en)



# HARP TECHNOLOGIES BEYOND LIMITS

## OUR SOLUTION

Harp Technologies Ltd is an expert on RF, microwave, and millimeter wave technology that provides high-quality design and development services. We focus on the design and development of microwave instruments (active and passive), microwave components (e.g., ferrite components), signal processing equipment (e.g. for the detection, localization, and classification of RF signals), and antennas.

## BENEFIT

We support our customers and provide them with solutions in the area of radio frequency engineering (RF, microwave, and millimeter-wave technology). We - help our customers to develop innovative and competitive products - develop methods and technology to acquire critical measurement data.

## COMPETITIVE ADVANTAGE

We provide superior added value and short development cycles to our customers. This is accomplished by our long experience, strong competence and know-how, state-of-the art design and development tools, and a wide range of testing equipment.

## COMPANY

Harp Technologies was founded in 2007 and is privately owned. Our company is located in Espoo, Finland. We employ 15 professionals and have 1-2 M€ turnover. Our customers include companies, research institutes and governmental organisations.

## Janne Lahtinen

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[www.harptechnologies.com/](http://www.harptechnologies.com/)





# MORE THAN 30 YEARS IN SPACE DOMAIN

## OUR SOLUTION

Huld has experienced and talented space engineer team, who can support many types of space projects in various domains. We have experience in both institutional and New Space projects. We can quickly deploy a team to support our customers. We support both SW and systems engineering in any phase of projects, of any size, from small work packages to large projects, remotely or collocated.

## BENEFIT

We provide planning, developing and testing to our clients in space domain. Our customers have greatly benefitted of our services, including system assessment, testing and documentation support. We have revealed critical matters in our customers' systems and software, thus improving their business.

## COMPETITIVE ADVANTAGE

Huld has worked within the European space industry since 1989. We have delivered more than 150 space projects, and several satellites carry our software. Huld has been supporting NewSpace missions with the experience gathered in the European Space Agency programmes, and in the non-space industry.

## COMPANY

Huld is a European technology design house with over 450 employees. We bring more intelligence to our customers' business – and to the entire world. Huld has 13 offices in Finland & Czech Republic.

## Matti Anttila

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<https://huld.io/>



# IT'S A NEW ERA IN CHANGE DETECTION

## OUR SOLUTION

ICEYE delivers unmatched persistent monitoring capabilities for any location on Earth. Owing the world's largest synthetic-aperture radar constellation, the company enables objective, data-driven decisions in sectors such as insurance, natural catastrophe response and recovery, security, maritime monitoring and finance. ICEYE's data can be collected day or night, and through cloud cover.

## BENEFIT

- Access accurate SAR images of any location on Earth – every few hours, day and night and in any weather.
- Benefit from rapid delivery of SAR satellites or get satellites as a service.
- Stay on top of increasing economic and insured losses with ICEYE's near real-time natural catastrophe monitoring.

## COMPETITIVE ADVANTAGE

Truly effective change detection requires persistent monitoring. ICEYE's large constellation of new space satellites unlocks new access to valuable data on any location on Earth. From tracking fast-moving objects to addressing national security issues to potentially predicting natural disasters.

## COMPANY

ICEYE is the first organization in the world to successfully launch SAR satellites with a mass of less than 100 kg. With the world's largest SAR constellation, ICEYE delivers unlimited global access and the highest frequency revisits on the market.

**Tero Vauraste**, Senior BD Advisor

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<http://iceye.com/>

# ICEYE





# CONTINUOUS FOREST AND LANDSCAPE MONITORING

## OUR SOLUTION

We use satellite data to monitor landscapes to support managers and decision-makers active in the forest industry, conservation, impact investment and international development sectors.

## CUSTOMER BENEFIT

Our routines continuously track change across forests and landscapes. Governments, regional authorities, industry and investors use our alerts and monitoring layers to confirm afforestation success and environmental compliance and demonstrate supply chain security.

## COMPETITIVE ADVANTAGE

We leverage the power of satellite data to monitor forests and landscapes continuously. Indufor's process provides customers with the information and insights they need to manage resources efficiently.

## COMPANY

Indufor Group is among the world's leading forest sector consulting groups with more than 42 years of experience providing high-quality information, analysis, and services for our clients throughout the forest industry value chains.

**Rabins Gaudel**, Consultant

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<https://induforgroup.com/>



**Indufor** ...forest intelligence



# INSTA - WORTH YOUR TRUST

## OUR SOLUTION

Insta is a longtime provider and system integrator of C4ISR systems in defense area. Our expertise and solutions span from Cyber, network security and military protocols to full blown C2 systems and simulators. We also have experience on integration of sensors and effectors to command networks, data fusion and utilizing machine learning solutions on C4ISR systems.

## CUSTOMER BENEFIT

We enable our customers to safeguard and leverage their data and networks and gain situation awareness over their operations. We do digitalization for you - with safety and security.

## COMPETITIVE ADVANTAGE

Insta has long track record in delivering solutions in high security and quality requirement environments. Insta also has EMAR-21, EMAR-145 and EASA PART -145 and AQAP certifications which enable us to design, develop and maintain software and hardware solutions for military and civilian aviation.

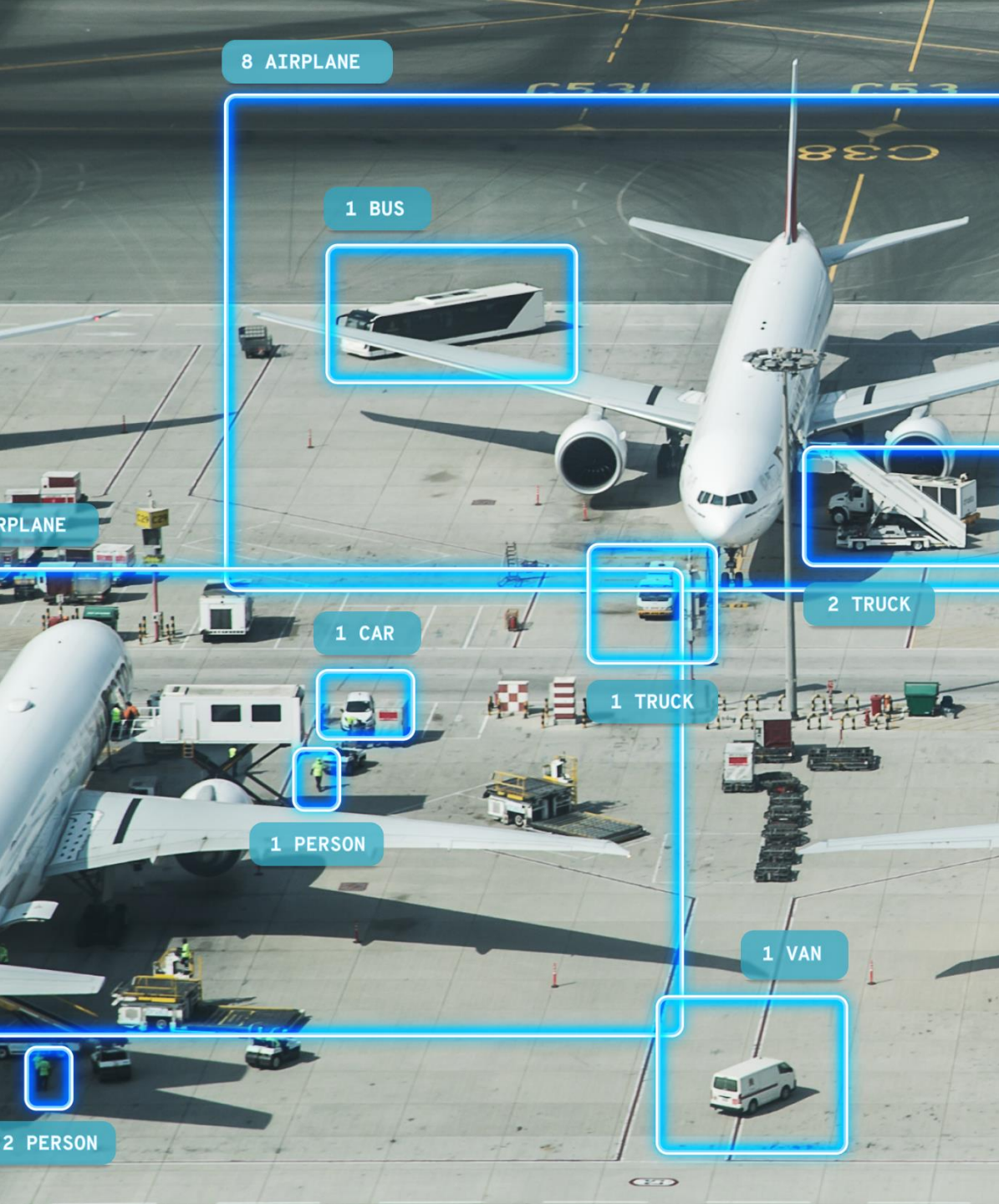
## COMPANY

Insta is a trusted partner for its customers in industry, defence and cyber security. We improve our customers' performance and profitability in a digitalizing world that is changing at an increasing pace.

**Petri Reiman,**  
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[www.insta.com](http://www.insta.com)







# ACTIONABLE INSIGHTS FROM COMPLEX DATA

## OUR SOLUTION

Isaware Vision is a tailorable artificial intelligence platform that processes and interprets combined data streams from available cameras and other sensors in the physical world and also cyberspace using modern data fusion and machine learning technologies. It serves the user by providing actionable insights from complex data, and comprehensive information to support decision making.

## BENEFITS

- Multiple sensor fusion & realtime AI
- Self-standing Edge solutions available for isolated mobile sensor systems
- Tailored training of AI, and incremental re-learning
- Modular and scalable platform for small and large systems.
- Plug-n-Play implementation to available existing sensors.

## COMPETITIVE ADVANTAGE

- Training of dedicated solution for each use case guarantees optimized performance
- Improvement by re-training and incremental updates
- All existing sensors that provide digital data can be used
- Platform scalable to suit small and large sensor systems

## COMPANY

ISAWARE provides situational awareness solutions based on advanced AI, and innovative space instruments for Space Weather and astrophysics research. Our team possesses significant experience in science, space technology, and information technology.

**David Leal Martínez, CEO**  
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[www.isaware.fi](http://www.isaware.fi)

isaware

# REVEALING EARTH INSIGHTS USING HYPERSPECTRAL NANOSATELLITES SOLUTIONS

## OUR SOLUTION

Near real-time, high fidelity hyperspectral data services and analytics with our proprietary satellite constellation.

## BENEFITS

- Hyperspectral reveals details that other cameras cannot, e.g. crop health and type
- Multiple daily observations anywhere in the world
- Full end-user services from raw satellite data using AI and deep learning
- Fast delivery: From observation to operational insights in two hours

## COMPETITIVE ADVANTAGE

100 hyperspectral satellites constellation for superior coverage and data quality

- Our Green Data® platform revolutionizes the Earth Observation data services resulting in 100x cost savings
- Highly experienced team - 100% mission success, including ESA's most ambitious small satellite missions

## COMPANY

Kuva Space is a global new-space data products and services provider working to solve some of the world's pressing issues - climate change, food security and safety.

## SERVICES

We deliver actionable and timely spaceborne data products and services using machine learning capabilities for the environmental, finance, insurance, and defence sectors.

**Jarkko Antila, CEO**

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<https://kuvaspace.com/>

**KUVA SPACE**





# REPLICATING HUMAN SENSES FOR AUTOMATION

## OUR SOLUTION

MarshallAI offers a comprehensive tool suite for replicating human sensing and building situational awareness. The platform enables organizations to deploy military-grade machine vision solutions for automation without writing a single line of code. Challenging custom solutions can be deployed in mere hours in addition to dozens of pre-existing applications ready off-the-shelf.

## CUSTOMER BENEFIT

Customers can utilize vision and audio-based automation for their needs without costly and time-consuming R&D projects using existing hardware. Solutions for eg. automatically detecting and classifying drones or other intruders are readily available.

## COMPETITIVE ADVANTAGE

MarshallAI enables all phases of AI powered machine vision development from data acquisition, initial model training, application configuration and deployment to semi-automatic model fine-tuning. Working automation can be deployed quickly even for novel applications and with limited datasets.

## COMPANY

MarshallAI is a machine vision company based in Turku building machine vision based automation solutions for Smart Security and Smart City environments.

**Marcus Nordström**, CEO  
[marcus@marshallai.com](mailto:marcus@marshallai.com), +358 50 506 7329  
<https://marshallai.com/>





# HEAR, DON'T GUESS

## OUR SOLUTION

Using machine-learning algorithms, we measure, record, and analyze sound and vibration signal. We design, plan, and implement signal processing software, and algorithms for commercially available systems. Situational awareness for autonomous and remotely controlled machines Monitoring of industrial processes, public areas and transportation (airport, highway, railway, waterway).

## CUSTOMER BENEFIT

We have the only system in the market that brings intelligent sound sensing and detection for remote-operated or fully autonomous work machines and vehicles.

## COMPETITIVE ADVANTAGE

How sound analysis and detection can create value Know-how of the science behind the technologies The state-of-the-art solutions for sound analysis systems Risk free investment for knowledge in your product development We would like to help you to achieve your goals.

## COMPANY

Meluta is a growth-oriented company specializing in signal processing, ML, AI. Our deep knowledge is on sound and vibration, also on sensor fusion related to the situational awareness, remote operation and communication audio dsp.

**Markku Salmela**, Founder, Business Lead  
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[www.meluta.fi](http://www.meluta.fi)

M E L U T A



# GAIN WIRELESS SYSTEMS SITUATIONAL AWARENESS

## OUR SOLUTION

Our company specializes in real-time local monitoring of wireless networks at different kinds of physical sites. With our Wise product family, you can get real-time information about what kind of transmissions and devices are moving in your infrastructure. We have designed our sensor portfolio to meet different customer needs with optimal detection performance for each application.

## CUSTOMER BENEFIT

Our customers receive real-time data and its visualization from their time-critical wireless systems. This helps them optimize their processes, pinpoint the bottlenecks, and security risks, and reduces downtime when problems occur. Our system future-proofs our customer's processes.

## COMPETITIVE ADVANTAGE

Our systems information is based on our own hardware and software development. This allows us to develop new applications and data analytics for the system constantly. Since our business model is based on SaaS-Hybrid we can ensure steady turnkey service to our clients.

## COMPANY

Missing-Link Oy was established in 2015 to answer today's modern cyber trends due to the growing usage of wireless connections at critical infrastructure. Today Missing-Link has a wide sensor product portfolio to fit different needs in the market.



**Vihtori Lehtonen**, Chairman of the Board  
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[www.missing-link.fi](http://www.missing-link.fi)



# BUILD YOUR NETWORK ON CUSTOMER'S TRUE NEEDS

## OUR SOLUTION

Netradar helps telecom operators and government agencies running mission critical services to identify poor mobile experience and assist them to focus their investments in places where it matters the most to their customers. Netradar software based end-to-end solution helps our customers to collect network performance data directly from mobile handsets.

## CUSTOMER BENEFIT

Netradar promise to our customers is simple, the data collected with Netradar is fully owned and controlled by our customers. With the insights derived from the Netradar solution, a true competitive advantage can be built by serving customers better.

## COMPETITIVE ADVANTAGE

Netradar solution generates 1000x more data than any legacy solution – this in turn enables fast decision making. Netradar patent pending technology delivers data which is actionable and has features not available from anybody else such as network capacity, anomaly- and indoor detection.

## COMPANY

Netradar is a technology company. We do not crowdsource data from 3rd party apps, and we do not sell data. Our solution is in use by tier-1 telecom operator groups and government agencies running mission critical services.

**Jukka Hieta**, Sales Director  
[jukka.hieta@netradar.com](mailto:jukka.hieta@netradar.com), +358 40 664 3183  
[www.netradar.com](http://www.netradar.com)





# SOLUTIONS FOR A NEW AGE OF DIGITAL AWARENESS

## OUR SOLUTIONS

Nokia helps government agencies and cities use broadband networks and digital technologies to improve efficiency of first responders and to make faster, more informed decisions. Our solution comprises hi-performance mission-critical wireless broadband networks, IoT and cognitive analytics platforms turning data into insights, video group communications, drones and an integrated operations center to provide 360-degree situational awareness, automate intelligence and enhance multi-agency cooperation.

## CUSTOMER BENEFIT

- Detects incidents faster
- Helps get a better understanding of the situation, leveraging multimedia and IoT insights
- Enables quicker, more informed decision-making to act faster and more efficiently

## COMPETITIVE ADVANTAGE

Nokia is unique in its ability to bring an end-to-end, high-performance mission-critical networking infrastructure as a turn-key solution to governments and cities that want to deploy private communications services that greatly enhance the situational awareness and safety of their first responders and citizens.

## COMPANY

Our services range from networks to software and services to devices. Our clients are communications service providers, industries, the public sector and consumers.

## SERVICES

Nokia's expertise encompasses mission-critical broadband networking, platforms, systems and applications to ensure reliable, high-performance rich-media communications for public safety environments.

**Omar Almutar**, Account Manager  
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[www.nokia.com/networks/industries/public-safety/](http://www.nokia.com/networks/industries/public-safety/)

# NOKIA





# UAV SYSTEMS FOR SECURITY USE

## OUR SOLUTION

Nordic Drones UAV-system SkyDrone7 is designed for authorities for demanding high level security use. Flying time up to 74 min. SkyDrone7 is winter and range tested in Finnish Lapland. SkyDrone7 is long range UAV for multipurpose use with custom made gimbals for specific needs and payloads up to 2,5kg.

## CUSTOMER BENEFIT

SkyDrone7 is secure and does not require registration or any updates to external network. The UAV is only connected to a ground control station from which data can be routed out. Nordic Drones manufacturing and maintenance process has Security Clearance Certificate. Training and support.

## COMPETITIVE ADVANTAGE

Nordic Drones UAV-systems are designed and tested for special military needs and manufactured in Finland. SkyDrone7 has removable parts and it's packable even to a tactical backpack. It has a carbon fibre frame with 3d printed titanium core.

## COMPANY

Nordic Drones Oy is Finland's leading UAV-manufacturer. We have manufactured more than 250 UAV-systems for inspection, land survey and mapping, mining, forest industry and for military and security needs. Export to Nordic countries, Europe and Asia.

**Pietari Sorri, CEO**

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[www.nordicdrones.fi](http://www.nordicdrones.fi)

**NORDIC DRONES**  
BETTER FLY WELL





# SATELLITE GROUND STATION SERVICES

## OUR SOLUTION

NorthBase owns and operates satellite ground stations on X, S, UHF and VHF bands in Finland. The northern location provides excellent visibility especially to LEO satellites on polar orbit. Our own ground stations are located in Tampere and Muonio, first being our HQ city and the latter residing in Finnish Lapland, well north of the arctic circle. Global coverage is assured by our partner network.

## CUSTOMER BENEFIT

When using our ground stations the satellite operator does not need to invest in own ground station network. Alternatively, we can complement the client's network with our antenna which is at 68-degree north latitude. We can offer both shared capacity or dedicated antennas.

## COMPETITIVE ADVANTAGE

NorthBase operates from Finland which is known for its high technology and data security together with transparency and political stability. Our location is technically optimal as our visibility to polar orbit satellites is excellent. We are an agile startup with existing resources and more coming.

## COMPANY

We are 100% Finnish owned company with transparent, secure and flexible Ground Station as a Service (GSaaS) services. We operate from Finland which is known for its high technology and data security together with transparency and political stability.

**Tommi Rasila**, Founder

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# VISUAL SITUATIONAL AWARENESS WHEN A SECOND IS A LIFETIME

## OUR SOLUTION

NSC3™ enables real time video and data streaming from various devices like dashcams, drones, bodycams, smart glasses, surveillance cameras, mobile phones and satellites to enhance situational awareness. Stream and store secured live video and data to operators in the Field and in Control rooms

Any data source in NSC3™ can be run through the analytics engine and all detections are returned to user in real time. NSC Valor™ provides the engine to run existing or custom developed data models in user friendly manner.

## COMPETITIVE ADVANTAGE

We provide a mission-proven, easily deployed and easy-to-use situational awareness platform for public safety operators and industry. Stream data from commercial off-the-shelf devices easily and securely.

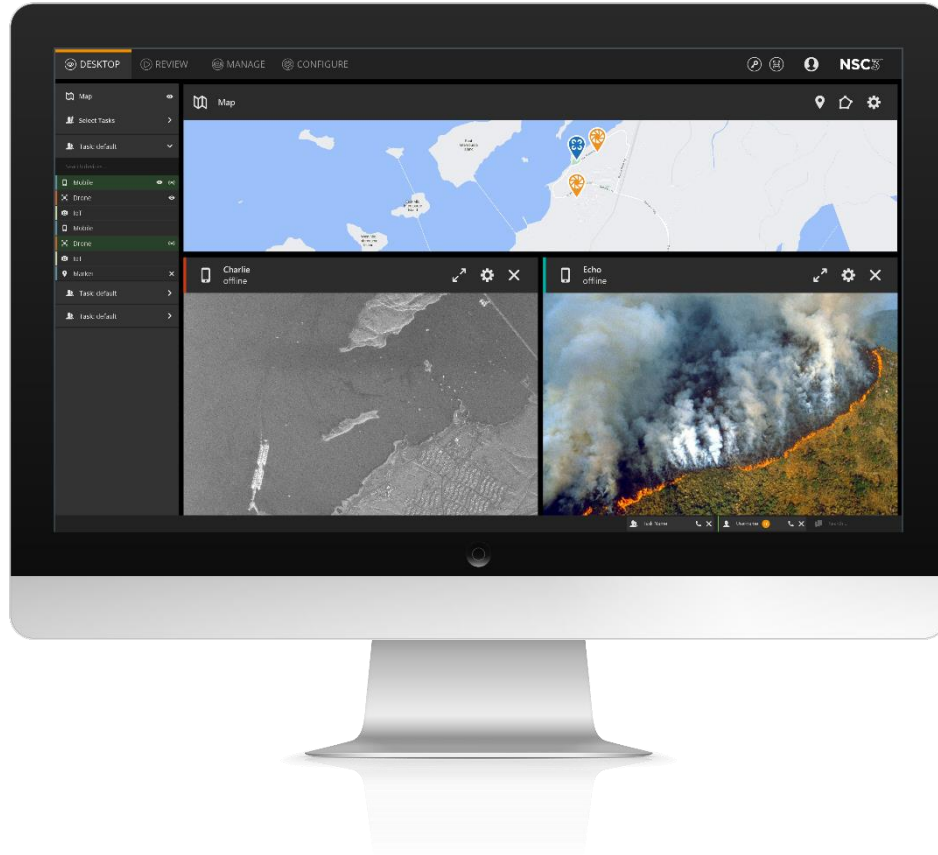
Always have real-time images on view, even in poor network conditions with our patented low latency video transfer technology.

NSC Valor™ enables analytics for the real time video feeds and images.

## COMPANY

The products and services of NSION Technologies form one of the most competitive and compelling mobile solution portfolios for situational awareness.

NSION Technologies delivers an automated highly secured true real-time video and data sharing platform NSC3™ and an analytics platform NSC Valor™.



**Tomi Virtanen**, Chief Executive Officer

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[www.nSIONtec.com/](http://www.nSIONtec.com/)



# EXTREME SURVIVABILITY AND TOTAL CONTROL

## OUR SOLUTION

Patria's wide offering is divided into three main branches: Through life capability, Protected mobility and defense systems and Battlefield and critical systems. Patria is a turnkey solutions provider related to the situational awareness product and service sector with experience in systems, software and scientific research.

## CUSTOMER BENEFIT

Our customers can be confident that the system integrations we deliver will meet expectations under all circumstances and these integrations will operate in a critical operating environment.

## COMPETITIVE ADVANTAGE

Patria is a pioneer in passive sensor systems and aviation data links. We are used to making compliant systems for government use, and we have the ability to design and deliver systems of systems.

## COMPANY

Patria is an international provider of defense, security and aviation lifecycle support services and technology solutions. Patria acts as a leading integrator in joint offering projects with its partners.

**Hannu Tanhuamäki**, SVP C5ISTAR  
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+358 40 869 2298

# Patria

# SOFTWARE DESIGN & SERVICES FOR IMPACT

## OUR SOLUTION

We are a global technology consultancy that designs, builds and scales transformative digital products for today's most forward-thinking companies. Whether it's using AI to reduce flight emissions, taking shipping supply chains from the sea into the cloud, or fueling the finale of Game of Thrones, we make essential services work, better and better.

## CUSTOMER BENEFIT

Our user centric and agile approach helps us to understand user needs and to optimize time to successful and measurable impact.

## COMPETITIVE ADVANTAGE

We combine user-centric design with deep technology know-how, including ML/AI, and domain expertise from telecommunications, aviation, space systems and services, defence & security and more.

## COMPANY

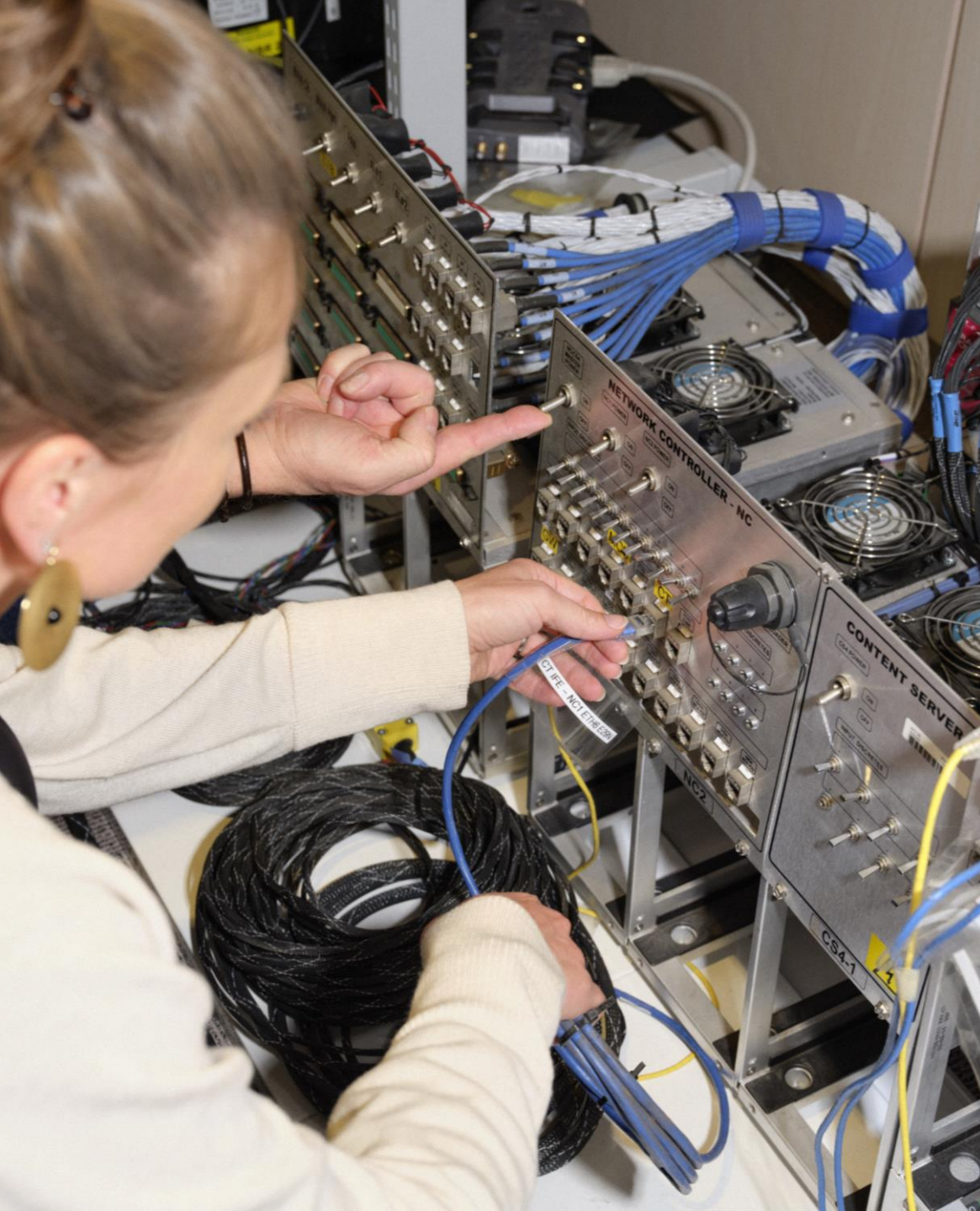
Reaktor is a strategy, design, and technology partner for forward-thinking companies and societies. We have offices in Finland, Sweden, Netherlands, Portugal, USA and Japan and provide our services globally.

**Juha-Matti Liukkonen**

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# Reaktor





# EU MANUFACTURER OF GNSS REPEATERS

## OUR SOLUTION

Our customers include a wide range of users who need GNSS signal reception or time synchronization. Users like telecom, public safety, defense, transport, airlines, logistics and companies manufacturing, selling and servicing GNSS systems, receivers, terminals and services.

## CUSTOMER BENEFIT

We keep the fix alive with our GNSS repeater products and provide with the RF Over Fiber solutions stable, secure easy to connect signal connections for any satellite signal transmission as well as for Network Time Protocol use cases.

## COMPETITIVE ADVANTAGE

European manufacturer specialized through its products to support any use case that needs reliable solutions. being a Finnish company the R&D and support functions is always close to serve your needs.

## COMPANY

Finland based marketing, sales, R&D and manufacturing company. Our presence is world wide through our distribution network enabling local presence everywhere.



## Simo Ruoko

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<https://www.gps-repeating.com>



Our goal is to free human resources to more productive work.

# DRONE SOLUTIONS FOR THE FUTURE: RT-ASTAR SYSTEM

## OUR SOLUTION

Our core competence is process automation through robotics and software development.

## CUSTOMER BENEFIT

- We aim to serve our customers with the easiest-to-use-solution on the market: autonomously flying robot drones consisting of drone, docking station and software
- The docking station is the key to full automation; the robot is ready to go 24/7
- No need for human assistance.

## SERVICES

- Border surveillance and military
- Industry or factory site control
- Airborn construction site monitoring and measurement
- All measurements in air with different sensors in agriculture and forestry

## COMPANY

We are a high-tech company from Imatra, Finland, founded in 2016.

## Contact

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[www.rumbletools.fi](http://www.rumbletools.fi)



**Rumble Tools**

UNMANNED SYSTEMS



# OUTSMARTING THREATS FOR A SAFER WORLD

## OUR SOLUTIONS

We are an innovation powerhouse especially in the fields of miniaturized electronic warfare and sensor technology, development of combat management systems and virtual and mixed reality simulation environments. We maintain a start-up minded working environment while having a strong backbone of a large international company.

## PRODUCTS AND SYSTEMS

- Miniaturized Electronic Warfare systems
- Combat Management Systems
- Data-link and microwave solutions
- VR/XR environment for training and simulation

## COMPETITIVE ADVANTAGE

- World-leading company in miniaturized sensor and electronic warfare technology
- Unrivalled research capability from basic research to advanced doctoral level research and broad R&D network
- Faster lead times from concept to product thanks to multidisciplinary teams and continuous research
- Possibilities to utilize the full state-of-the-art solutions portfolio and knowhow from Saab AB
- Capability to scale and integrate the solutions from SoS to unit level

## COMPANY

Saab Finland Oy is a Finnish defence and security company belonging to Saab AB. Since its establishment in Finland in 1946, our mission has been to enhance safety and security of societies by developing cutting-edge solutions and capabilities for military and civil authorities. Saab Finland has approximately 100 employees and is constantly growing.

**Petteri Alinikula**, CTO

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[www.saab.fi](http://www.saab.fi)



# SAAB

# SATELLITE EXPERTISE

## OUR SOLUTION

Sasken has developed a portable LTE based satellite terminal product family to its Global customer. Product family consist of mobile satellite terminal, handset, vehicular terminal, and active array antenna. To support mass production, Sasken developed production testers for both board level and final assembled product testing. Tester SW platform has been developed in-house over period of 20 years.

## CUSTOMER BENEFIT

Sasken had a complete ownership of both Software and Hardware design and delivery. Sasken offering enabled customer to create full product family, production testers, test automation system in one-stop-shop.

## COMPETITIVE ADVANTAGE

Sasken created world's first LTE over satellite communication product family. Turnkey R&D development of full product family and production test automation systems prepared customer to mass production in manufacturing.

## COMPANY

Sasken is a specialist in Product Engineering and Digital Transformation R&D services. For over 30 years, Sasken has transformed the businesses of 100+ Fortune 500 companies, powering more than a billion devices through its services and IP.

**Juha Istolahti**, Sales Director

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[www.sasken.com](http://www.sasken.com)



SASKEN



# SITUATIONAL AWARENESS FOR EXTREME CONDITIONS

## OUR SOLUTIONS

- High-performance dismounted soldier systems
- Multifunctional observation and surveillance systems
- Advanced sights and fire control systems
- Vehicle thermal imaging systems
- Tested and verified multipurpose mobile shelter systems and platforms
- Turn-key system integration services for safety critical systems
- Midlife upgrade services for various systems and platforms
- Versatile life-cycle services
- High-precision optical products and optical services
- Custom-made multichannel optodetectors and light sources
- Turn-key solutions for secure and reliable communications

## COMPETITIVE ADVANTAGE

- Extensive expertise in demanding project management, execution and system integration of high reliability applications.
- Bespoke products and services to meet customer-specific needs and requirements
- In-house manufacturing and design chain of high-precision glass optics and optical components.

## COMPANY

Senop is a trusted Finnish provider of high-performance night vision devices and demanding system integration services as well as critical communications solutions for the defence and security sector. Senop's mission is to enable its customers reliable situational awareness as well as increased firepower and mobility even in the most extreme conditions.

Senop provides its defence and security customers high-performance night vision devices designed for harsh operation environments, intelligent sensor technology-based solutions and demanding turn-key system integration services, as well as secure communications solutions and services.

Employing nearly 70 professionals in four locations, Senop is a subsidiary of Millog and part of Patria Group.

## Janne Kuosmanen

Director, Sales & Marketing

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[www.senop.fi](http://www.senop.fi)





# POSITIONING SOLUTIONS FOR TODAY AND TOMORROW

## OUR SOLUTION

Septentrio designs and manufactures multi-frequency multi-constellation GPS/GNSS positioning technology for demanding applications. At the core of our receivers is the latest GNSS technology delivering reliable cm-level positioning. Our receivers are known for their outstanding performance, high level of security and resilience in challenging environments.

## CUSTOMER BENEFIT

Our goal is to find the ideal high-accuracy positioning solution for your technology or application. Our Open technology, various interfaces, drivers, APIs and intuitive software help you to easily and efficiently integrate GNSS solutions, reducing implementation and deployment times.

## COMPETITIVE ADVANTAGE

Featuring unmatched anti-jamming and anti-spoofing technology, Septentrio receivers operate reliably even under intense radio interference, which grounds other commercial receivers or sets them on the wrong track.

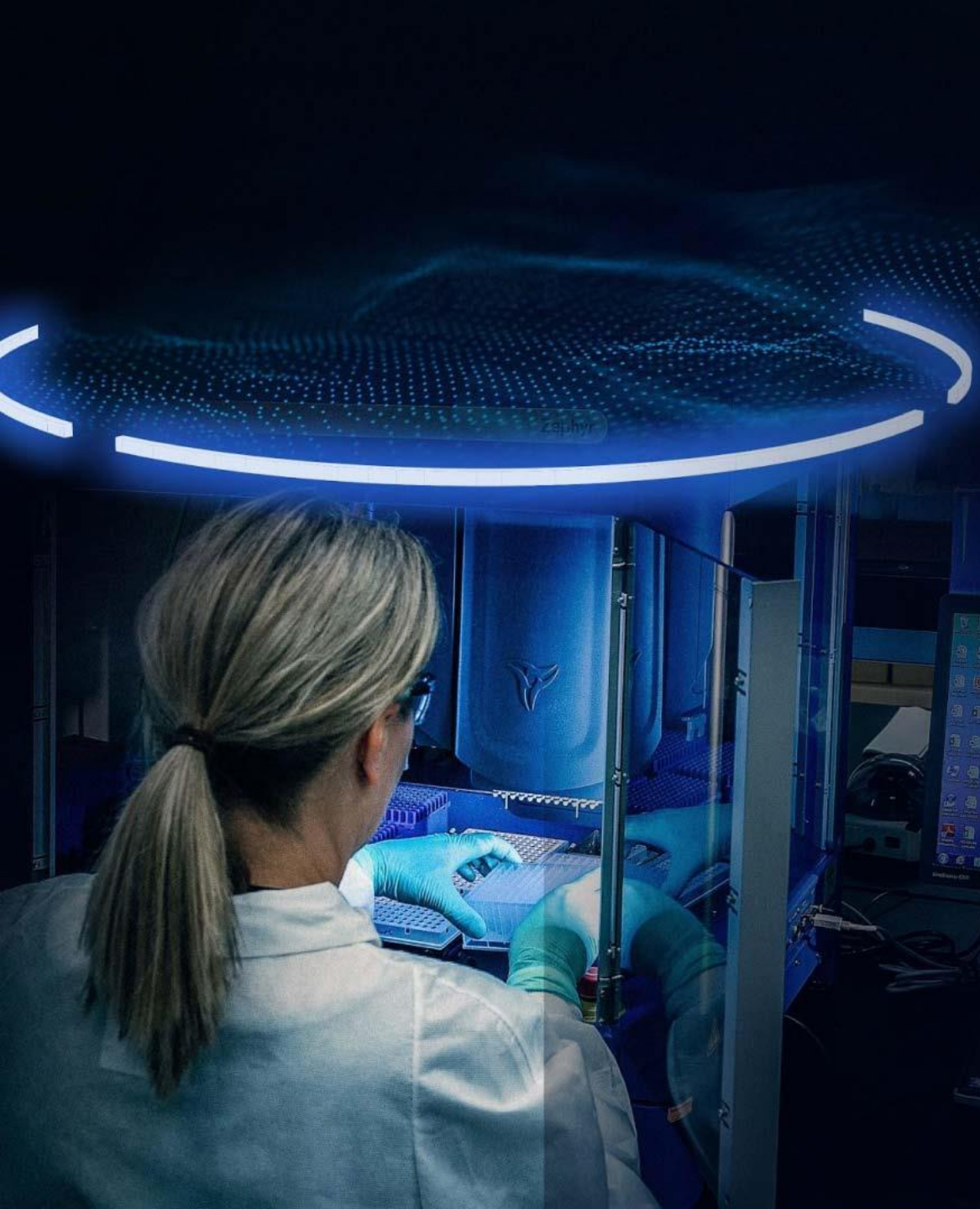
## COMPANY

Septentrio provides positioning solutions for industrial applications such as robotics, construction, survey and mapping, scientific, reference networks, maritime, logistics and UAVs among others. Headquarters in Belgium and an R&D center in Finland.

**Stefan Söderholm**, General Manager  
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[www.septentrio.com](http://www.septentrio.com)







FINLAND

# LARGEST PRIVATE AI LAB IN THE NORDICS

## OUR SERVICES

We connect leading AI scientists with real-world problems and help companies succeed in building cutting-edge AI.

## CUSTOMER BENEFIT

As a trusted AI partner, we assure that companies stay competitive at a time when AI is globally being widely adopted.

## COMPETITIVE ADVANTAGE

State-of-the-art AI expertise

- Deep and specialized AI expertise, a unique ability to attract and keep world-class AI talent

Trusted AI partner

- Trusted advisor with a service mindset and flexible working model for a unique customer experience

End-to-end capability

- With expertise spanning the tech stack and operations, realize the best outcome and maximum value

## COMPANY

Silo AI is the largest private AI lab in the Nordics – a trusted AI partner that brings competitive advantage to product R&D. We build AI-driven solutions and products to enable smart devices, autonomous vehicles, industry 4.0, and smart cities. Silo AI provides its customers a unique access to world-class AI expertise, as well as the Silo OS infrastructure to speed up AI development and deployment. Established in 2017, Silo AI is on a mission to build a European flagship AI company with offices currently in Finland, Sweden, Denmark, and Switzerland.

**Pertti Hannelin**, VP Business Development

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[www.siloi.ai](http://www.siloi.ai)

**SILO**<sub>AI</sub>



# DIGITAL TWINS FOR SITUATIONAL AWARENESS

## OUR SOLUTION

We compile Digital Twins for terrain, infrastructure and buildings for use in multi-domain situational awareness systems.

## CUSTOMER BENEFIT

To achieve multi-domain and mutual situational awareness, a joint model and representation of the real world is needed in decision-making by all domains and stakeholders.

## COMPETITIVE ADVANTAGE

- World's leading competence in making use of existing detailed geospatial data created in public processes of planning and construction (BIM + GIS)
- Open and standard interfaces enable use of Digital Twin in any situational awareness system
- Based on global standards; deployable anywhere

## COMPANY

With 2 000+ experts in four countries, Sitowise is a leading expert in building and infrastructure planning, consultancy, project management and smart city solutions.

## Jarkko Männistö

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[www.sitowise.com](http://www.sitowise.com)

# SITOWISE



# HIGH-PERFORMANCE WEATHER FORECASTING

## OUR SOLUTION

Skyfora offers next-generation weather technology, ultralight weather instruments and forecasts based on artificial intelligence.

## BENEFIT

With climate change making weather more extreme and less predictable than before, accurate high-resolution data are central for the safety and smooth operations of businesses and society.

## COMPETITIVE ADVANTAGE

Skyfora's cutting-edge technology offers disruptive ways to hugely increase the accuracy and resolution of weather data. Skyfora has 5 patents granted or pending.

## COMPANY

Skyfora consists of experienced heavyweight professionals in atmospheric science, artificial intelligence, weather instrument engineering and business development.



StreamSonde

SKYFORA

**Svante Henriksson**

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<https://skyfora.com/>

SKYFORA

# PROVEN IOT-SOLUTION FOR HARSH CONDITIONS

## OUR SOLUTION

We provide market proven IoT-solutions for air quality, movement, and location tracking for both indoor and outdoor harsh environments. We provide our IOTSU® products and IoT-node deployers to an overall on-demand warning system. The IoT-connected solution enables near real-time data gathering, and provides critical information when attached to Nokia's drone platform.

## CUSTOMER BENEFIT

The benefits of IOTSU® Platform are high-quality data for an overall situational view easy and fast to set up. The accurate information allows better planning of actions and ensuring safety.

## COMPETITIVE ADVANTAGE

Competitive advantages:

- Comprehensive situational overview for overall solution with partners
- Easy and fast to deploy IOTSU® nodes even off-road optionally by drone
- Versatile measurement opportunities
- Long-term maintenance free

## COMPANY

Small Data Garden provides high quality IoT devices and solutions for real estate and for tracking in harsh conditions. The number of IOTSU® device solutions delivered is over 19 000 and we are growing and scaling up business.

### Timo Liukko

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[www.smalldatagarden.fi](http://www.smalldatagarden.fi)





# VALUE FROM DATA IN A CONNECTED WORLD

## OUR SOLUTION

Accurate and up-to-date data is required to sustain situational awareness and enable fact-based decision and proper actions. Solita delivers real-time data-intensive solutions where data collected by drones and other assets is digested to create common operational picture for various user groups and operative functions. The solutions are being used across road, rail, maritime and aviation domains.

## CUSTOMER BENEFIT

15+ years experience in different industries and their solutions for multiple user-groups and functions. We bring data-driven excellence by modern tools, data, analytics and insight, and extend your reach and timing through connectivity, analytics solutions and data-driven transformation.

## COMPETITIVE ADVANTAGE

Product-based tailored solutions, data-driven excellence with modern tools, data, analytics and insight will expand your reach and timing through connectivity, analytics solutions and data-driven transformation. Solita turns the change into a competitive advantage to our customers.

## COMPANY

Solita is a community of highly skilled experts geared for impact and customer value. We build the future with our clients by delivering high-quality solutions to real problems. We create impact that lasts by combining tech, data and human insight.

### Mikko Varjos

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<https://www.solita.fi/en/>



# ENABLING LOCATION INTELLIGENCE

## OUR SOLUTION

Spatineo has extensive understanding in providing standardized resilient geospatial APIs, scalable infrastructures for data sharing, and expertise in usage of satellite data. We also offer high-level data analytics and data science services.

## CUSTOMER BENEFIT

Our customers get the full benefits of interoperable, efficient and robust geospatial web services when working with Spatineo. We deliver fast and robust MVPs and build long-lasting solutions with expertise and international experience.

## COMPETITIVE ADVANTAGE

Spatineo is a pioneer in location-based data modelling, and we've built some of the most robust services in the geospatial industry. We are a long-standing AWS technology partner, and we've also been developing some of the standards of the geospatial industry (OGC, INSPIRE, ISO).

## COMPANY

Spatineo has helped businesses and public organizations over 10 years to utilize spatial data better. We have become one of the leading Finnish experts in geospatial information processing.



**Oskari Häkkinen**, CEO

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[www.spatineo.com](http://www.spatineo.com)



# SPECIM – SPECTRAL IMAGING MADE EASY

## OUR SOLUTION

Specim is the leading global supplier of hyperspectral imaging solutions. We offer the broadest range of hyperspectral cameras, imaging spectrographs, software systems, and accessories for industrial and research applications and airborne.

## CUSTOMER BENEFIT

Specim is a trusted partner with superb quality and cost-efficient products and support. With our strategy, "Spectral imaging made easy," our customers can rely on our technology and products' scalability, fast and accurate information, and a high return on investment.

## COMPETITIVE ADVANTAGE

Specim has developed the first hyperspectral cameras that meet the requirements of industrial machine vision in terms of speed and accuracy while remaining the perfect solution for scientific research & development and governmental projects.

## COMPANY

We are an international team of +80 experts. With the headquarter in Finland, sales offices in the US, China, and Germany, and a worldwide partner network, we operate all around the world. Specim has been a part of Konica Minolta's Group since 2020.

**Katja Lefevre**, Application Engineering Manager  
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[www.specim.com](http://www.specim.com)

**SPECIM**  
A Konica Minolta Company



# DEFENSIVE CYBERSECURITY SOLUTIONS

## OUR SOLUTION

- Zero Trust (ZT) solutions for managing privileged access and credentials with a passwordless and keyless approach
- Secure Access for Operational Technology (OT) and critical infrastructure
- Defend your long-term critical secrets with quantum-safe cryptography (QSC) against the quantum threat

## CUSTOMER BENEFIT

1. Mitigate risks of permanent credentials, stay compliant, & automate tasks
2. Secure your mainframes, servers, sites, and data centers
3. Protect and encrypt your confidential and classified data
4. Build your security together: you, us, and our vast global partner network

## COMPETITIVE ADVANTAGE

We have 5,000+ customers worldwide, including 40 percent of Fortune 500 companies and major organizations in the Finance, Government, Retail, and Industrial segments. Our products have been proven in use for over +25 years and are built to stand in the future.

## COMPANY

SSH Communications Security is a defensive cybersecurity company with a mission to secure critical data and communications between systems, automated applications, and people. The company's shares (SSH1V) are listed on Nasdaq Helsinki.

**Lauri Koponen**, Communications Manager  
[Lauri.Koponen@ssh.fi](mailto:Lauri.Koponen@ssh.fi), +358 40 12 17 300  
<https://ssh.com>





# S-AWARE – SHARPER DECISION MAKING

## OUR SOLUTION

Teleste S-AWARE® is designed to be the central point of operating personnel's decision-making process. Increasing holistic awareness of your surroundings, the platform creates a powerful tool to significantly improve effectivity and responsiveness well beyond traditional video security systems.

## CUSTOMER BENEFIT

- Add awareness and intelligence to control large amounts of data and manage your operations
- Utilise several features and functions for empowering your personnel and operations - Achieve better control of safety and security situations and incidents
- Store and review data to improve responsiveness

## COMPETITIVE ADVANTAGE

S-AWARE® improves efficiency and reliability of operations by creating an accurate big picture for situational management and decision-making. S-AWARE® platform offers a large base of compatible integrations and can also fully integrated with other existing video management systems.

## COMPANY

We provide professional situational awareness and video security solutions and services for public safety authorities and operators. Our portfolio meets the highest international standards and requirements.

**Jani Väre**, Head of Innovations and IPR  
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[www.teleste.com](http://www.teleste.com)

**TELESTE**





# SPACE DATA FOR BUSINESSES

## OUR SOLUTION

At Terramonitor, we develop the world's most dynamic and comprehensive satellite data-based mapping and analyzing platform. Our AI-based solution automizes satellite data production and processing to deliver user-ready data for our customers. Our mission is to enable easy access to Space Data for all businesses.

## CUSTOMER BENEFIT

Using Space Data doesn't have to be complicated. Terramonitor gives organizations the power to analyze, build and organize new geographical data into actionable insights by leveraging up-to-date satellite data and multi-source data.

## COMPETITIVE ADVANTAGE

We help our customers enrich their existing systems and data to make better business decisions with Space Data.

Our products can be easily integrated through an application programming interface (API) or as other data formats for any existing system.

## COMPANY

Terramonitor is a Space Data company. We are developing an Aibased platform consisting of 100 million satellite and other remote sensing images of the Earth. We enable a new way to create and use Space Data. Terramonitor gives organizations the power to analyze, build and organize geographical information into actionable insights by leveraging up-to-date satellite data, multi-source data and automated processes.

**Joni Norppa, CEO**  
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or [contact@terramonitor.com](mailto:contact@terramonitor.com)  
[www.terramonitor.com](http://www.terramonitor.com)



**Terramonitor**





# TRUSTED WEATHER OBSERVATIONS FOR A SUSTAINABLE FUTURE

## OUR SOLUTION

Vaisala's is a partner to customers whose primary interest is the safety of people, protection of property, and efficiency of operations through reliable measurements and decision-making support under any environmental conditions. Accurate, real-time, uninterrupted, and reliable weather data is the cornerstone for efficient operations. Vaisala products and systems include weather radars, wind lidar, present weather and visibility sensors, remote sensing instruments, lightning data are examples of technological capabilities.

## CUSTOMER BENEFIT

Our customers care for the safety and wellbeing of people and effectiveness of operations under all weather conditions. They include meteorological institutes, airports and airlines, road and railroad authorities, renewable energy customers, maritime, as well as defense forces. We bring operational benefits to our customers through a wide offering of products, projects, weather information and services.

## COMPETITIVE ADVANTAGE

We help our customers to prepare for increasing extreme weather events, ensure the functionality of critical transportation infrastructure, enhance the production of growing renewable energy, optimize weather-dependent commercial operations and make well-informed decisions

## COMPANY

Vaisala is a global leader in weather, environmental, and industrial measurements. Building on over 85 years of experience, Vaisala provides observations for a better world, with space-proof technology even exploring Mars and beyond. We are a reliable partner for customers around the world, offering a comprehensive range of innovative observation and measurement products and services.

### **Fernando Slamic Trolia**

Director, Strategy and Business Development

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# VAISALA



# VERKOTAN

## OUR SOLUTION

We offer services for wireless performance testing. These include passive and active antenna performance testing, including accredited 5G active beamforming antenna performance testing, accredited and pre-compliance over-the-air (OTA) device testing, accredited specific absorption rate (SAR) testing and RF exposure evaluations. We also provide tailored new test systems and solutions & consulting.

## CUSTOMER BENEFIT

Verkotan's strategy is to provide value beyond standard test results. We utilise our multi-decade expertise to help our customers to concentrate on the right set of tests, improve the entire solution performance, or even develop an entirely new test method.

## COMPETITIVE ADVANTAGE

Verkotan's competitive advantage is based on the deep expertise of its personnel in the radio frequency testing. Verkotan's fully owned, in-house developed and highly flexible testing software enables to develop new tests and modify existing tests according to customer needs.

## COMPANY

Verkotan has been established 2014 and is located in Oulu. We have over 200 customers from over 25 different countries and four continents. Verkotan serves companies from start-ups up to Tier 1 mobile device and telecom manufacturers & operators.

**Kari Komonen, CEO**  
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# R&D SERVICES FOR SPACE TECHNOLOGIES

## OUR SOLUTION

VTT develops imaging sensors, small satellite platforms, communication HW and services for satellite imagery analytics. We promote technology integration by developing solutions for integrating communication technologies in space and terrestrial networks. Airborne systems, e.g. drones and high-altitude platforms (HAPS) will be parts of the integrated system.

## CUSTOMER BENEFIT

We help you throughout the development and deployment of satellite systems, including integrated non-terrestrial and terrestrial networks. We can support your satellite R&D investment road map and help manage risks by providing better understanding of what is possible.

## COMPETITIVE ADVANTAGE

VTT has decades of experience in developing space based science instruments, earth observation solutions and communication technologies. We offer you the entire development cycle from innovation to payload qualification.

## COMPANY

VTT is a visionary research, development and innovation partner. We drive sustainable growth, tackle the biggest global challenges, and turn them into growth opportunities. We are at the sweet spot where innovation and business come together.

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The VTT logo consists of the letters 'VTT' in a bold, white, sans-serif font, centered within a solid orange square.



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