# GNSS QUALITY

OHB
DIGITAL

GIDAS Product Family

Global Navigation Satellite Systems (GNSS) positioning and timing services form the backbone of many applications and markets. Civilian GNSS services are free of charge and globally available but insufficiently protected against unintentional and even intentional disturbances. OHB Digital Solution researches for more than 20 years on how to provide means to monitor and augment the GNSS services with GNSS quality assurance. For many applications, it's not only precision that matters, but predominantly integrity too! OHB's knowledge and experience in GNSS quality assurance are available in many different forms in our **GIDAS** product family.

The core and heart behind the GNSS interference detection & analysis system (**GIDAS**) product family is OHB's knowledge of and experience with a multitude of different radio frequency interference detection techniques. We built up our experience in the course of more than 80 research projects, measurement campaigns and permanent on-site installations within the last two decades. Each available detection technique operates best in a very distinct working range, only with the smart combination of a wide range of different techniques a robust determination of either jamming or spoofing is possible reliably.
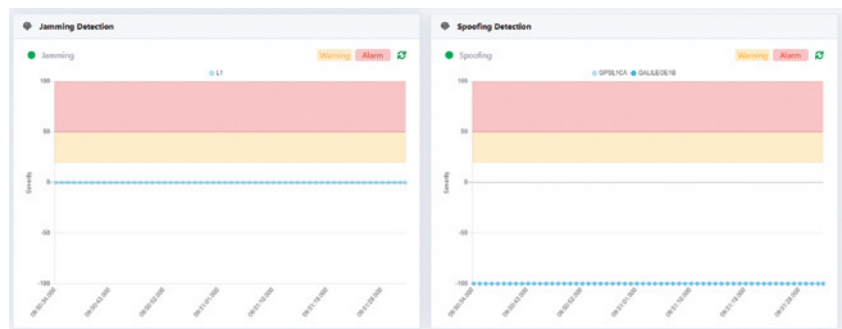
1 Multiple detection techniques (no extensive list)

CNR Detector
PVT Detector
Correlation Peak
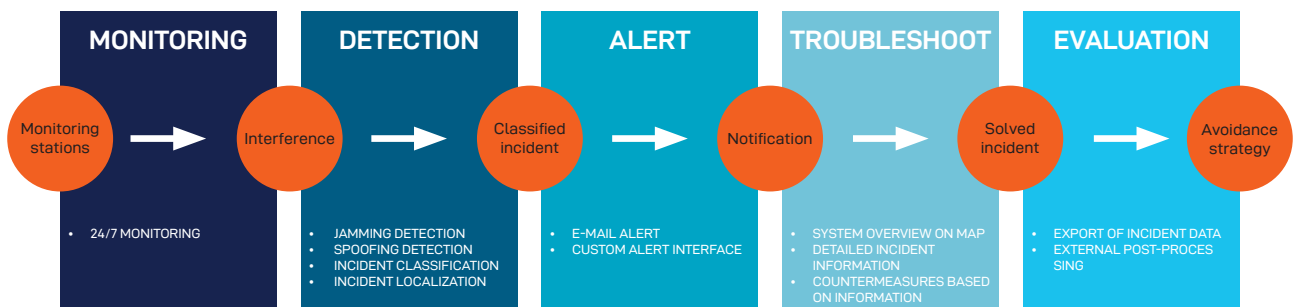PSD Detector
Power Detector
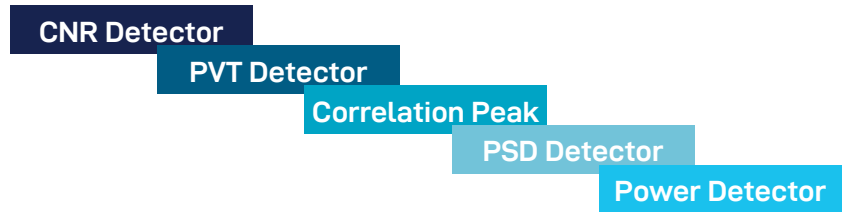
2 Weighted combination of multiple techniques to improve robustness

3 Simple to read and interpret decision metrics for jamming and spoofing

On this foundation, the GIDAS product family is built to support our customers in reliable GNSS applications and operations. OHB Digital's core concept of safe and integer GNSS navigation foresees a multiple layer approach.

MONITORING	DETECTION	ALERT	TROUBLESHOOT	EVALUATION
Monitoring stations	Interference	Classified incident	Notification	Solved incident → Avoidance strategy
• 24/7 MONITORING	• JAMMING DETECTION • SPOOFING DETECTION • INCIDENT CLASSIFICATION • INCIDENT LOCALIZATION	• E-MAIL ALERT • CUSTOM ALERT INTERFACE	• SYSTEM OVERVIEW ON MAP • DETAILED INCIDENT INFORMATION • COUNTERMEASURES BASED ON INFORMATION	• EXPORT OF INCIDENT DATA • EXTERNAL POST-PROCESSING

By constantly monitoring the GNSS signals, **GIDAS** is capable to detect, classify and localize a radio frequency interference source in near-real-time. A wide range of GNSS users takes the ubiquity and free availability for granted, without considering the vulnerability of GNSS leading to deceived navigation or undetected failure. Awareness of the presence of GNSS interference is the first step of mitigation. As every customer application comes with its very distinct requirements OHB offers **GIDAS** features in different shapes. But all **GIDAS** product derivatives have one thing in common – the rock-solid experience of OHB in dealing with GNSS interference.

GIDAS Embedded

GIDAS Embedded algorithms
The heart and core of **GIDAS**. Our knowledge regarding GNSS interference detection poured into source code, forming a C++ library to be directly integrated into customer solutions.

GIDAS Embedded micro controller
We bring our knowledge directly to customer platforms. By supporting selected microcontrollers, **GIDAS** algorithms can run side-by-side with customer applications on existing hardware platforms.

GIDAS Embedded analytics
GIDAS Analytics is a software suit for detailed post processing of digital I/Q signals. This is the best way to use our knowledge for your R&D or product development.

GIDAS Stationary

Monitoring Center local / nationwide
The monitoring center is the core entity of any permanent installation of **GIDAS**. It hosts a central database, the web-based user interface, and alarming interfaces.
Having multiple **GIDAS** installations distributed nationwide requires one central dashboard to monitor, configure and maintain the system. The generation of nationwide interference reports has never been easier.

Monitoring Sensor
The monitoring sensors form the eyes and ears for the **GIDAS** system. A stationary monitoring sensor is composed of a dual-module GNSS antenna and a receiving unit with a small form factor.

GIDAS Mobile
Applications like the enforcement of GNSS-based tolling systems require mobile units mounted on the rooftop of vehicles to detect GNSS jamming sources on the move.

GIDAS Portable
For full autonomous operation, **GIDAS** is also available in a portable, full sustaining form factor. **GIDAS Portable** includes everything to monitor GNSS signals and analyse GNSS quality anywhere and anytime.

GNSS QUALITY

GIDAS adds to the operational safety of many different GNSS reliant applications. OHB's **GIDAS** is already operational in ports and airports, to help to secure GNSS navigation. The **GIDAS** product family addresses system manufacturers equally as end customers with a requirement on reliant GNSS positioning or timing. We bring our knowledge to your platform, product, service, or operation.

A first step of safe GNSS applications is the awareness of present threats – **GIDAS** detects, classifies, localizes and alerts if GNSS is about to be interrupted. OHB makes your GNSS-dependent application more robust and reliable.

Get in touch with us to learn how we can make your GNSS-based operations safe!