AFCEA 2026 | JOINT PRESENTATION | F14

Thinking in Networks
Communication, Integration, Collaboration

Solution Contributions

griffity defense

Content

Preface

The security situation has fundamentally changed over the past few years. Since Russia's attack on Ukraine, nothing has been the same. On the front lines, daily battles are taking their toll on people and equipment. Cyberattacks and attempts to destabilize Western democracies have spread throughout Europe. The number of people who have become refugees and their care has developed into a complex challenge. The latest attacks by the US and Israel on Iran and Iran's retaliatory measures are increasingly disrupting global supply chains and creating uncertainity in societies.

To be able to assert ourselves in this difficult environment, we must reduce our dependencies and strengthen Europe's and Germany's defense capabilities.

This also includes equipping our armed forces, authorities and security organizations with modern technology.

At our joint booth, we will be showcasing a selection of systems and solutions specifically designed to support special forces in carrying out their tasks and operations.

Chapter 1 of this brochure addresses how Germany is responding to evolving security challenges. It concludes with a brief description of a fictional multiple attack scenario.

Chapter 2 presents the systems and solutions of our partners.

Chapters 3 and 4 provide a brief overview of the companies and contact persons participating in the joint booth.

We hope this brochure will encourage you to explore the solutions on display in more detail and to engage in in-depth discussions between users and industry.

We are ready!

Norbert Frank
griffity defense

1. Security and Defense – How Do We Meet the Changing Challenges?

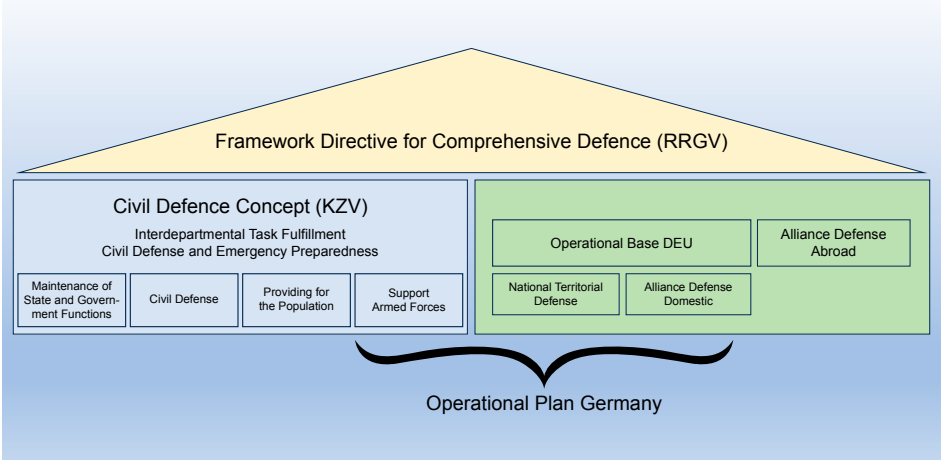
After the fall of the Iron Curtain, many thought that war in Europe was finally a thing of the past. The annexation of Crimea hinted that this was not the case, and Russia's attack on Ukraine confirmed it. Furthermore, through provocations and manipulation, Russia has extended its hybrid warfare to Europe with the aim of weakening Western democracies from within.

Germany and its allies must confront new, multifaceted threats that affect not only territorial borders but all areas of state, society and the economy. It is crucial to consider that geopolitical situations can change rapidly and that excessive dependencies in a globalized world can have negative consequences for large segments of the population.

After years of deployments in international crisis zones such as Afghanistan, national and collective defense is once again the core mission of the German Armed Forces. To counter these complex threats, it is essential to develop and strengthen military and civilian defense capabilities in conjunction with one another, so that Germany, together with its allies, can provide a credible deterrent to its adversaries and defend itself accordingly if necessary.

The following is a brief overview of some of the measures already taken. However, this should be seen as only a starting point, as both the threats and the structures they affect are complex, rapidly changing and sometimes difficult to predict. Therefore, continuous analysis, development and adaptation of countermeasures in various fields is essential.

1.1. Legal Requirements and Guidelines in the Area of Overall Defense / Integrated Security (Overview)



The **Framework Directive for Comprehensive Defence (RRGV)**, first adopted in 1989, was last revised on June 5, 2024. The revised version incorporates the **National Security Strategy** (Integrated Security for Germany) of June 2023 and the **2023 Defence Policy Guidelines**. It strengthens the civil defence, describes hybrid warfare and cyber threats as challenges, and takes into account structural changes and technological advancements.

The **Civil Defence Concept (KZV)** outlines the interdepartmental coordination of tasks in the area of civil defence and emergency preparedness. Civil defence is responsible for planning, preparing, and implementing civilian measures to establish and maintain defence capability, including the supply and protection of the population. The non-military defence can be broadly divided into the areas of maintaining state and government functions, civil defense, and supplying and supporting the armed forces.

The **Federal Civil Protection and Disaster Relief Act (ZSKG)** governs the tasks of civil protection, the responsibilities of the federal government, states, and municipalities, and the organization of disaster relief and protective measures.

The supply of food, energy, transportation, and telecommunications to the population in a state of emergency is regulated by **supply and security laws** (e.g., the Food Security and Preparedness Act (ESVG), the Energy Security Act (EnSiG)).

As core military element of overall defense, the **Operations Plan Germany (OPLAN DEU)** serves to ensure Germany's operational capability in the event of an attack or crisis and regulates civil-military cooperation. It defines responsibilities, procedures, and processes to protect territorial integrity and the population in a crisis and to organize the deployment of allied forces across and through Germany. Continuous updates are the responsibility of the Bundeswehr's Operational Command.

However, the OPLAN DEU does not cover the protection of critical infrastructure. The **Framework Act on Critical Infrastructure (KRITISDachG)** addresses this by strengthening the physical resilience of critical facilities. Nationwide and across sectors, it obligates companies essential for overall supply in Germany and serving more than 500,000 people to meet minimum standards in security and resilience, such as emergency plans, facility protection, fail-safe operation, risk analyses and assessments, and stipulates reporting requirements for incidents.

The sectors affected include energy supply, transport and traffic, finance and insurance, health, drinking water supply, wastewater, waste disposal, information technology/telecommunications, food, space and public administration.

Measures to ensure the **IT security of critical infrastructures** are laid down in the Federal Office for Information Security Act (BSIG), the Energy Industry Act (EnWG), and the Telecommunications Act (TKG).

With the NIS-2 Implementation Act, which entered into force on December 6, 2025, the **European NIS-2 Directive (Security of Network and Information Systems)** was transposed into German law. It provides a uniform, EU-wide framework for maintaining cybersecurity in 18 critical sectors. Member States are thus required to establish and regularly update national cybersecurity strategies that include a strategy for supply chain security, vulnerability management, and measures for education and awareness raising on cybersecurity.

1.2. New Approaches to Procurement in the German Armed Forces

After years of fruitless discussions and attempts to make procurement in the German Armed Forces more efficient, the **Procurement Acceleration Act (BwPBBG)** finally came into force on February 14, 2026, accelerating the procurement of equipment and infrastructure for the German Armed Forces through simplified procedures in order to increase defense capability in a timely manner.

Key elements include: simplified joint procurement by several states, permission for preliminary work, waiver of the requirement for tender readiness, elimination of lot award, no mandatory exclusion of project planners, expanded opportunities for explanations and additions, the possibility of declaring invalid contracts valid, exclusion of bidders from third countries, strengthening of innovative procurement and shortening of legal protection.

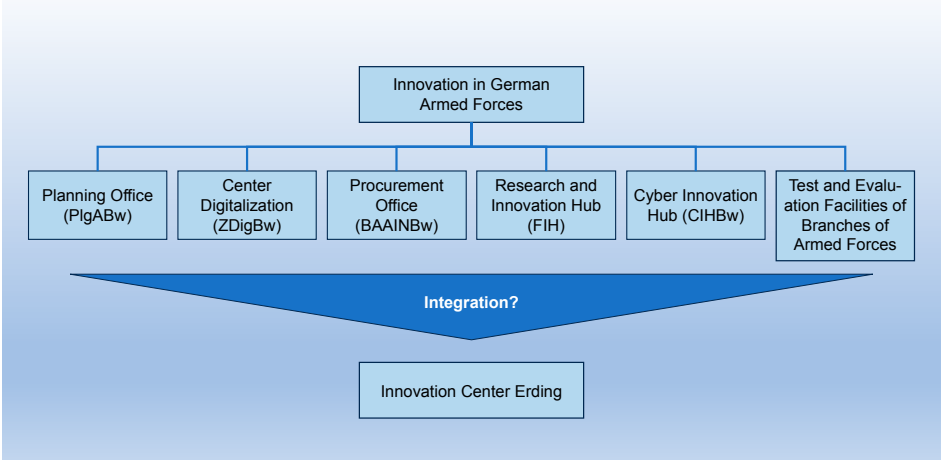
Hopefully, this now creates a framework for ensuring that operational, modern equipment reaches the troops in the required quantity and on time. It is also to be hoped that the existing flexibility will be used to procure systems that meet the actual technical and operational needs of the troops.

And it's important that users can have a say in what is procured, because ultimately they are the ones who have to handle the materials and systems, and whose lives depend on it. It's also important for manufacturers to be able to engage in structured dialogue with users as early as possible, in order to learn firsthand „where the shoe pinches" and to design products that are user-friendly in every way.

In this respect, the **Land Experimental Series** based in Munster, with its test and trial structures, is certainly a major step in the right direction. By creating a continuous cycle for adapting capabilities, conducting accompanying experimental verifications in test and trial structures, and only then deploying them across the field, it is possible to keep operational systems at a current, high technological standard.

An institutionalized expansion of experiments and testing to preferably locations where a testing environment already exists, e.g. the GefÜbZH, should therefore be considered.

The intensification of **market research and analysis**, particularly in relatively new technologies, is a positive development. Young companies are increasingly offering promising products that warrant closer examination. In this context, the Bundeswehr's Innovation Center in Erding, officially opened on February 2, 2026, serves as a bridge between the Bundeswehr, startups, and industry. Here, for example, intensive work is being done on the topic of drones and drone defense.



Currently, numerous organizations within the German Armed Forces are dedicated to innovation and will continue to operate alongside the newly established Innovation Center in Erding. It appears that there is still disagreement within the Bundeswehr regarding how to organize innovation in defense equipment. While the individual branches of the Armed Forces are interested in the rapid implementation of innovations within the troops, the Planning Office focuses on the long-term development of the Armed Forces' capability profile. Decisions at the Bundeswehr leadership level will be necessary to avoid duplication and fragmentation.

1.3. Reorientation of the German Armed Forces – Homeland Security

In response to the changed threat landscape in Europe and the resulting focus on national and alliance defense, Defense Minister Pistorius laid the foundation for the new structure of the German Armed Forces with the Osnabrück Decree of May 1, 2024.

Accordingly, in April 2025, the new **Home Defense Division**, comprising six regiments and 60 home defense companies, was established as part of the Army. It comprises approximately 6,000 men and women, with further expansion planned for the coming years.

The main tasks of the Home Defense Division are:

- Security of critical infrastructure
- Drone defense
- Host nation support
- Training of soldiers
- Disaster relief

The tasks of the **Civil-Military Cooperation Command (KdoZMZBw)**, which is located within the Bundeswehr Joint Support Command structure, include:

- Creation of a civilian situational awareness picture
- Advising military leadership
- Coordination of mutual support between military forces and non-military actors
- Establishment and maintenance of the liaison network with stakeholders
- Training in the field of civil-military cooperation

Das Kommando ist der deutsche Beitrag zur NATO CIMIC (Civil-Military Cooperation) und Partner im CIMIC COE (Civil-Military Cooperation Centre of Excellence).

1.4. Increased cooperation in crisis and conflict management

It is essential that measures for managing crises and emergencies are not only described but also repeatedly practiced and adapted to changing circumstances. Only then can it be determined whether the measures are adapted to the prevailing conditions and threats and whether they are effective, whether the cooperation between the actors is successful, and where there are potential gaps requiring adjustment. Here are just two examples from the increasing number of collaborative exercises:

Quadriga Exercise Series

Quadriga exercises, which simulate a defense scenario against Russia, have been conducted since 2020.

While the focus of the 2025 exercise was on protecting the Baltic Sea region, Quadriga 2026 concentrates on Germany's role as a hub for operations in the East. Soldiers from Germany and other NATO countries train in the deployment of combat-ready forces to Lithuania and, with the cooperation of civilian emergency services (German Red Cross, ADAC air rescue, fire departments, state police forces, etc.), the transport of wounded personnel from the operational area in the East and their onward transfer to German hospitals.

GETEX Exercises

GETEX stands for Joint Terrorism Defense Exercise and has been conducted since 2017.

In GETEX 2026, a scenario is practiced in which a terror alarm is triggered simultaneously at multiple locations, pushing local security forces to their limits and prompting a call for support from the German Armed Forces.

The aim is, among others, to strengthen cooperation between the police and the armed forces in crisis situations, harmonize their command structures, and test their responsiveness based on a fictional but realistic scenario.

GETEX 2026 envisions simultaneous attacks on facilities along the Baltic Sea coast, the destruction of a dam and several bridges in Baden-Württemberg and widespread looting. Furthermore, there are indications of terrorist attacks in Hamburg. The police are stretched to their limits and, in accordance with Article 35 of the Basic Law, request support from the German Armed Forces. The Armed Forces provide assistance with reconnaissance and transport capabilities, for example, to bring riot police officers to the scene using military helicopters or assault boats, and deploy special forces to prevent further attacks.

Under the leadership of the Schleswig-Holstein State Police, the following agencies are involved: the state police forces of Baden-Württemberg, Bavaria, Bremen, Hamburg, Mecklenburg-Western Pomerania, Lower Saxony, and Rhineland-Palatinate; the Federal Police; the Federal Criminal Police Office (BKA); the Federal Ministries of the Interior and Defense; the Federal Agency for Technical Relief (THW); and the German Armed Forces. The Operational Command of the German Armed Forces is responsible for the deployment of military forces.

1.5. Demo-Scenario

Multiple attacks, such as those outlined below in sub-scenarios, require the cooperation of emergency responders from various governmental and civilian organizations. The ability to communicate across departmental boundaries and to combine information into a shared situational awareness as a basis for rapid decision-making is crucial for successfully managing such situations.

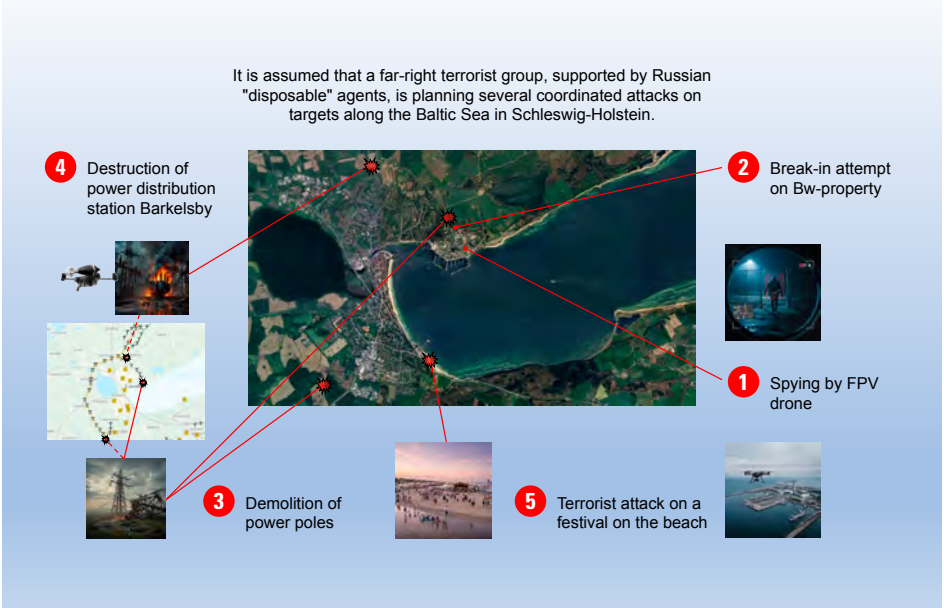
Such scenarios are increasingly being practiced in joint exercises such as GETEX 2026, PANDORA 2017, Marshal Power 2025, and ALPENTEX.

Initial situation fictional scenario

Eckernförde is the target of several attacks in quick succession: military grounds are spied on with an FPV drone, followed by an attempted intrusion, then parts of the power supply are disabled, and almost simultaneously a terrorist attack takes place on the visitors of a festival on the nearby beach.

Sub-scenarios

Starting with the reconnaissance of military installations by unmanned aerial vehicles 1, intrusion attempts 2 subsequently occur at the Eckernförde naval base.



Overview of the entire scene with sub-scenes and actions of the opponent

The power supply to the base and the town itself is cut off at two locations by blowing up the power poles 3, almost simultaneously, the Barkelsby substation is taken out of service by a drone 4.

While emergency services are still assessing the damage and searching for suspects, an attack on visitors to a beach festival takes place in the south of the city 5. Several terrorists open fire on the guests, causing chaos and injuries, and the terrorists take hostages. The responding units assess the situation as best they can, call for reinforcements, and launch intervention measures over the following hours.

The state government has now set up a joint operations center to coordinate the actors 6, and the German Armed Forces have been asked for mutual assistance.

In order to cope with the high number of injured festival visitors 7, the mobile medical team (BAT) of the Sea Battalion provides support for the medical forces.

Reactions of the emergency services

As information is received indicating a possible imminent drone attack involving explosives and/or CBRN agents, the Homeland Security drone defense unit is being involved.

The situation center initiates a ring search and the establishment of roadblocks 8, which are manned by police and military police forces.

In a coordinated operation between SEK/GSG9 and the Bundeswehr's combat navies, the hostage-takers are overpowered and the hostages freed 9. At the same time, the surrounding area is searched for further threats.

Signals intelligence indicates that reconnaissance and coordination of the attacks are being conducted from a ship belonging to the Russian shadow fleet. The naval battalion is ordered to board the ship 10 and detain the crew.

Featured Solutions

Through our system demonstration, we aim to showcase how systems work together to effectively support collaboration among various stakeholders on situational awareness and communication, for example:

- Situation visualization/display of up to twelve different sources to support situational assessment and decision-making and collaboration on a shared, distributed situational picture
- Use of radio reconnaissance of enemy communications and passive surveillance for drone detection

- Mobile command post in a 15-foot container/command and communications vehicle based on the G-Class
- Communication between civilian and military actors via a dedicated 5G cellular network and alternative/ supplementary communication means (meshed, HF, Satcom)
- Demonstration of a sensor-to-shooter chain from the UAV to the soldier and to the mobile command post
- Support for remote forces through enhanced networking capabilities
- Power solutions for mobile operations

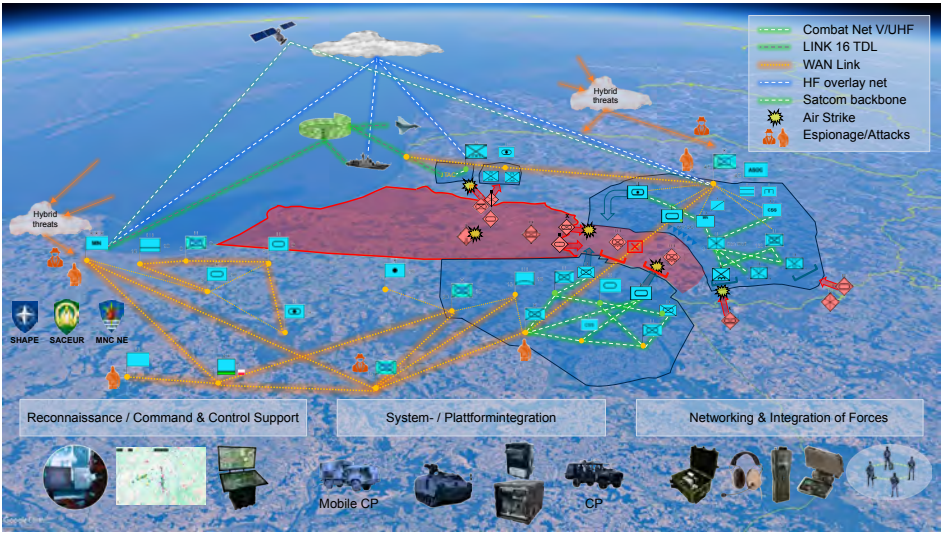
2. Solutions and Products

The joint presentation of griffity defense and its partners at the AFCEA 2026 is under the motto:

“Thinking in Networks - Communication, Integration, Collaboration”

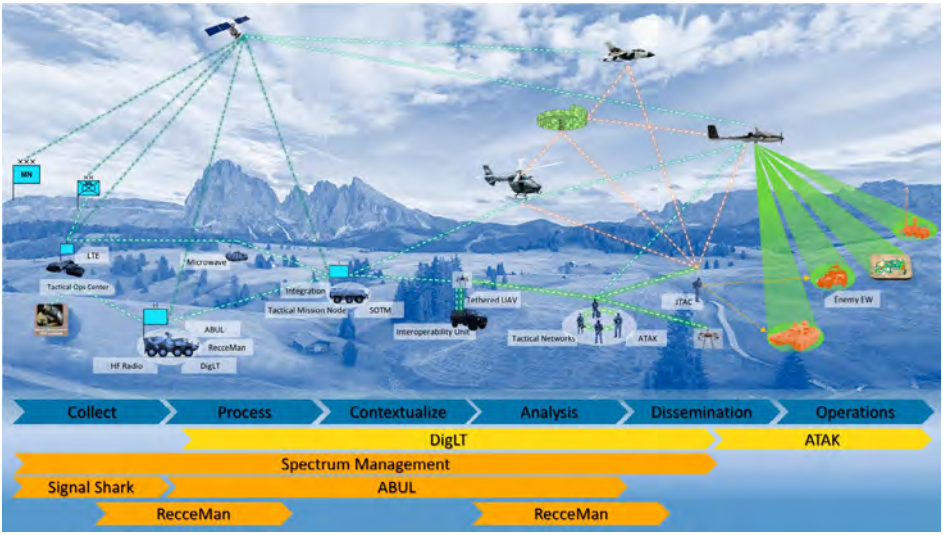
and shows contributions to the following topics:

- Reconnaissance and Command Support
- Platform Integration/Equipment Kits/Mission Modules
- Power Supply
- Intercom Solutions and Communication
- Systems and Solutions for Dismounted Soldiers
- Transport and Packaging Solutions



Overview of solutions and products in context

2.1. Reconnaissance Support



Interaction between sensors, analysis, processing and distribution of information

Recognize – Evaluate – Visualize

Modern operations within the country and at the borders are characterized by hybrid threats: drone reconnaissance, attacks on critical infrastructure, coordinated attack planning, and disinformation all intertwine. Police, special forces, and the armed forces must act in concert under intense time pressure – based on a reliable and up-to-date situational picture.

At the same time, various sources of information and command structures collide: sensors, drones, reports from control centers, on-site incident reports, and open sources generate a flood of data that is virtually impossible to manage without the right tools.

This is where our solutions come in:

They link disparate data sources, process information in a context-appropriate manner, and facilitate a shared assessment of the situation across organizational boundaries. As a result, hybrid scenarios – ranging from attempted break-ins at a property to drone attacks and complex terrorist situations – can be identified more quickly, understood more clearly, and managed in a more coordinated manner.

ABUL Automated Image Exploitation for Unmanned Aircrafts (Fraunhofer IOSB)

ABUL is a full motion video exploitation system for reconnaissance and surveillance, developed in co-operation with aerial image evaluators.

The advantages of video-equipped unmanned aerial vehicles (UAVs) for reconnaissance, search, and rescue missions are obvious. Due to the image and video data recorded by the UAVs being radio transmitted to the ground station, the evaluator can analyze data in real time. In this context, Fraunhofer IOSB has developed the ABUL system, which was designed as a supporting tool in the evaluation process, and to relieve the operator during critical missions.

ABUL provides optimized real-time functions for online reconnaissance and tactical exploration as well as valuable functionalities for offline exploration missions.

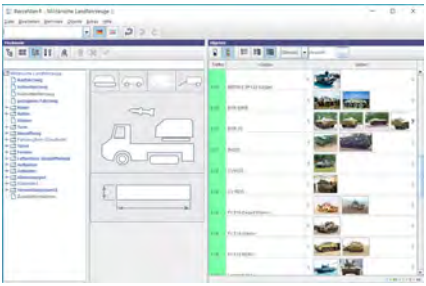
ABUL Multiresolution

ReccеMan® (Fraunhofer IOSB)

It is not only in the field of military intelligence that necessary information about objects and infrastructures must be derived from imagery data. This also includes imaging reconnaissance, which is obtained by recording and analyzing aerial and satellite images.

Key issues in this regard are the detection and identification as well as analysis of land vehicles, troop movements and accumulations, ships and infrastructures of all kinds. To ensure and improve evaluation and analysis results, Fraunhofer IOSB developed the ReccеMan® recognition assistant on behalf of the BAAINBw (German Procurement Office) which has, for several years, been deployed as an operational system in the German Bundeswehr. The object recognition and identification assistant supports the image analyst in describing objects on the basis of characteristic features.

The software provides comprehensive assistance, for example by providing an overview of existing objects in the form of a list.



ReccеMan® Reconnaissance Component for Land Vehicles

SignalShark© Radio Surveillance and Reconnaissance (Narda)

Tactical radio surveillance and reconnaissance including passive drone detection or own troops emission control on the battlefield, in border control scenarios and for intelligence applications require reliable, easy-to-use radio direction finders. This also enables covert operations, if required. The SignalShark© provides efficient support in monitoring, analyzing and protecting the corresponding frequency spectra as a COTS (commercial of the shelf) system. Due to the open platform architecture SignalShark is very flexible to adapt to the change of use scenarios. SignalShark is therefore multi-mission ready and approved. Whether on land, at sea, or in the air through our new partner Velos Rotors, SignalShark contributes to achieving spectral dominance.

From the extensive portfolio of NARDA Safety Test Solutions we are presenting the following at AFCEA 2026:

SignalShark© Real-Time Remote Analyzer for detecting, analyzing, classifying and localizing RF signals between 8 kHz and 8 GHz. Supports automatic bearing AoA (Angle of Arrival), TDoA (Time Difference of Arrival) and hybrid bearing, with a Windows 10-based open platform for third-party applications, available in various designs (desktop, 19" rack mount), op-timal for remote control applications.

SignalShark© Handheld for mobile and stationary use, touch screen, real-time spectrum analysis on the move, integrated Python for creating your own individual applications. Battery life of 3 hours (nominal), battery pack can be changed during operation (hot swap).

Weight: 4,4 kg, dimensions: 231 x 333 x 85 mm.

SignalShark© ADFA 2 – Automatic antenna in the frequency range 10 Hz to 8 GHz, fully automatic DF system, translates signals from multiple antenna elements into a DF signal with a single channel, can be attached to a tripod, to an antenna mast or to the vehicle roof using a magnetic adapter.

2.2. Command & Control Support

Modern operations are conducted in a multi-domain environment: land, air, sea, cyberspace, and the information domain are intertwined, creating highly dynamic, hybrid situations.

Today, command and control support must consolidate and evaluate information across all domains and present it in a format that is understandable to law enforcement, the armed forces, and other stakeholders. Only then can coordinated decisions and effective action be taken at the right time and in the right place. Our solutions support precisely this cross-domain situational assessment and decision-making.

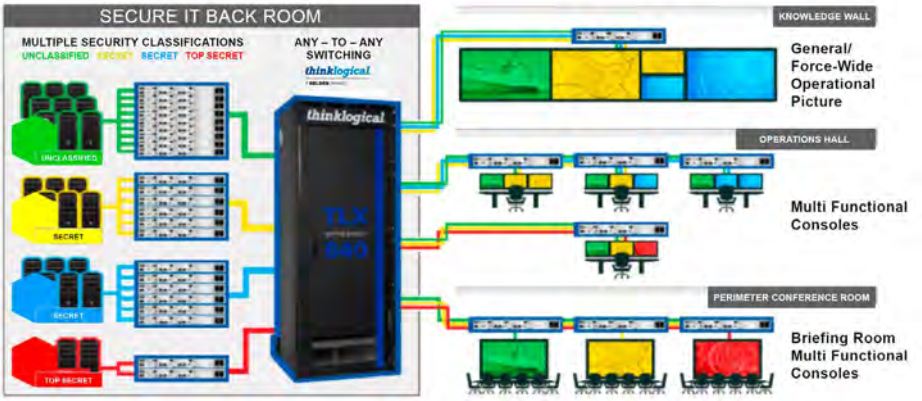
Special forces in Germany rely, particularly in cross-border and interagency operations, on the SE-Netz/ EKUS command and control system, which has been continuously developed jointly by security authorities and Fraunhofer IVI since 2013. The currently ongoing SE-COM project aims to ensure that the SE-Netz/EKUS technology functions securely and reliably in the broadband digital radio network for public safety organizations (3GPP LTE/5G compliant) and to enhance it with additional capabilities such as push-to-talk (PTT) and alternative transmission methods like SatCom.

Use of SE-Netz/EKUS in operation (Source: Fraunhofer IVI)

(See also 2.6, TASSTA)

Information Superiority in Multi-Domain-Operations (MDO) (Thinklogical)

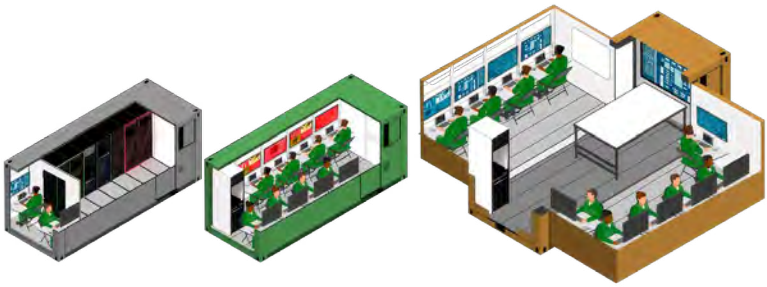
Thinklogical has developed a highly secure end-to-end signal management infrastructure that enhances data accessibility and delivers information without latency to where it is needed. Our Commercial-Off-The-Shelf (COTS) video distribution system (VDS) and matrix solutions enable the creation of an efficient and flexible command-and-control architecture, allowing all security domains to be displayed simultaneously at a single work-station. With Thinklogical, any information source can be instantly distributed and displayed at any endpoint for real-time collaboration and analysis. At the same time, system administrators can restrict access and display capabilities based on roles and permissions to meet operational or security requirements.



Schematics of the Thinklogical Enterprise Level Architecture

Multiple Domains. Multiple Classifications. One Solution.

Thinklogical offers a comprehensive product line of highly scalable fiber-optic video and KVM matrix switches that are IA-certified to manage and distribute multiple networks across various classification levels using a single matrix switch. This significantly reduces infrastructure costs and complexity, enhances cybersecurity, and minimizes the need for air-gapped networks at the desktop level. Standardized IT infrastructure further reduces administrative costs. Thinklogical's unique Multi-Level Security model enables new collaboration workflows and enhanced data analysis across all domains, resulting in immediate situational awareness.



Already implemented in several NATO nations for headquarters and weapons systems, the deployable "Client Hotel" option, housed in a NATO-standardized TEMPEST container, includes:

- Server container,
- Operations container,
- Extendable operations container

Situation Visualization – DigLT (Digital Map Table) (Fraunhofer IOSB)

The Digital Map Table (DigLT) is a software system for shared situation visualization and analysis. Any number of users can work independently of each other on the same situation, using personal computers and tablets alongside shared digital tables or large screens.

The underlying software is modular and can easily be custom-tailored towards specific needs and extended depending on the requirements. Its uses range from educational use to mission preparation, mission execution, and review. A diverse range of data sources and geodata can be integrated to provide the right information for each use case. This provides the basis to correctly judge the situation and make the relevant decisions.

Stationary, deployable, and mobile systems (existing and new technologies to be introduced) can be merged in such a way that national and international

interoperability is realized, and the information required for command & control is available on time and as required.

The core of the Digital Map Table is the server, the DigLTCore, which, in addition to geodata, also provides all layers, configurations, and functions. The server can be accessed by the web-based DigLTWeb client and the DigLTVR virtual reality client. Due to the flexibility of a web application, this client can be used on almost all end devices, especially the high-resolution DigLT4k

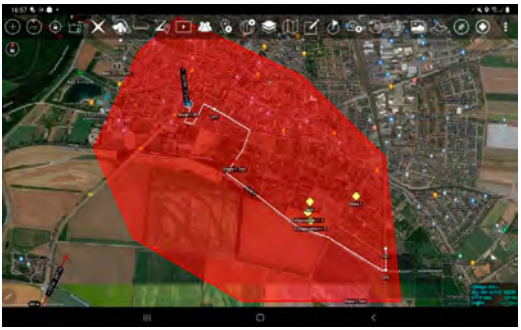
DigLT is shown as a deployable table version and in a case version, each with virtual reality clients.

- Scalable, highly mobile solution
- Interactive teaming over long distances.
- Can be used flexibly in stationary and mobile command posts as well as command vehicles down to soldier level without media disruption.
- Simple operation by using a user interface known from the civil world (smartphone/tablet/PC).

Virtual reality makes it possible to experience geodata in three dimensions through stereoscopic representation. In addition to viewing the data on the virtual table, the pedestrian mode allows complete immersion in the virtual world and makes it possible to stand in the middle of a street intersection or fly to the roof of a high-rise building.

No matter where the users actually are in the world, in virtual reality they can stand together at the same situation table and plan and analyze together using all the functions that are also available in the web interface.

Android Team Awareness Kit ATAK



Example of a situation map in ATAK (Source: Griffity Defense)

Originally developed by the U.S. Air Force Research Laboratory (AFRL) as a simple situational awareness tool for small teams, it is now widely used for mission coordination around the world, primarily due to its open architecture, which allows useful applications and new technologies to be integrated quickly and easily via plug-ins. Teams can use it to communicate via cellular networks, meshed networks, or satellite connections, even in challenging environment.

Citadel – Real-time Translation Without the Cloud

Secure, low-latency, and data-sovereign multilingual communication – without interpreters, without the cloud, without security risks. The Citadel solution allows for 20 low-latency language pairs on standard hard-ware. Currently, 5 languages are integrated: German, English, French, Ukrainian, and Romanian.

The system is designed for easy use in a push-to-talk (PTT) conversation mode. No data leaves the premises unless the customer authorizes it. The system supports education, training, simulation, and maintenance of military systems. Furthermore, it provides a suitable portable platform for multilingual management meetings.

Position, Navigation & Timing (PNT) (iMAR Navigation)

The availability of global navigation satellite systems (GPS, GALILEO, etc.) can no longer be taken for granted on the modern battlefield. iMAR Navigation GmbH has been addressing this challenge for many years. Our robust sensor and system solutions enable highly accurate positioning, orientation, and time synchronization (timing) even when GNSS is unavailable, ensuring that our users can carry out their missions reliably.

Land-based Platforms

iPRENA, is a family of highly accurate, ring-laser–based strategic navigation systems optimized for military land vehicles and weapon systems. iPRENA systems are successfully deployed worldwide in military applications and provide fully autonomous localization, orientation, and time synchronization reliably over long periods. iPRE-NA is not subject to ITAR regulations (iPRENA-IIIA, -III, and -IV are subject only to dual-use or defence export controls, depending on configuration).

UAVs „Return-to-Home"

The **return of UAVs** over long distances is a challenge when the GNSS signal is unavailable, disrupted, or unreliable, for example due to spoofing or jamming. The resulting loss of equipment can be mission critical.

We have adapted technologies that have been used in the large aircraft industry for decades to suit UAV applications. Like a **plug-and-play kit**, components verified by iMAR to work seamlessly together can be used. These include MEMS- or RLG-based navigation systems, air data computers (ADC), 3D magnetometers, a Pitot tube for speed measurement with optional heating, and a barometer.

With 30 years of experience in navigation, iMAR enables simplified integration, reduced effort, and protection of valuable equipment. iMAR is an **EASA Part 21G certified aviation manufacturing organization (DE.21G.0254).**

Indoor Navigation

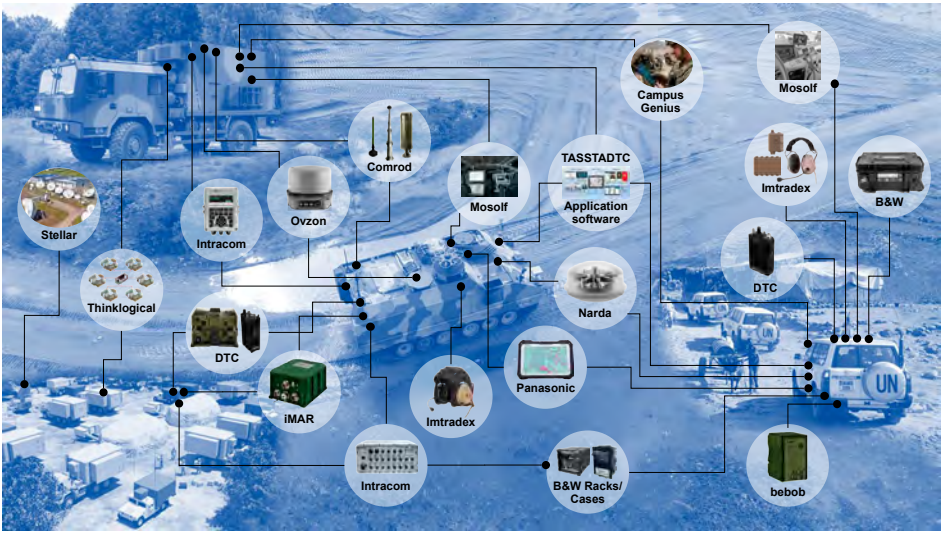
See **iTHESEUS** Indoor Navigation and Localisation for soldiers under 2.7.

2.3. Platform Integration / Integration Kits / Mission Modules

No matter how good a system is, it is of no use if it is not properly integrated into the overall system and therefore cannot function to its full potential. When integrating into mobile platforms, it is essential that systems consume little energy and can be housed in a space-saving manner. Given the multitude of new systems and sensors, it is becoming increasingly important that they have appropriate standardized interfaces and are easily interchangeable.

Standardization initiatives such as NGVA (NATO Generic Vehicle Architecture) or the U.S.-led SOSA (Sensor Open Systems Architecture) and MOSA (Modular Open Systems Approach) initiatives are therefore likely to play a greater role in Europe in the future as well. Their implementation promotes interoperability, rapid upgrades throughout the lifecycle, and innovation, while also helping to reduce costs.

It is equally important to have integrators who are both experienced and innovative, who understand their business, know how everything fits together, and are aware of the key considerations.



Examples for the integration of various components in a vehicle

Mobile command posts are the order of the day. To accommodate rapid technological changes and high adaptation speeds, working with digital twins is a viable option. System adaptations in hardware and software can be simulated and optimized in advance, and the appropriate software version is generated using automated configuration servers. Faster deployment of adapted hardware is achieved through modularization and standardization, as well as the use of additive production methods.

Integration Examples for Command Posts and Vehicles

At AFCEA 2026, we will be exhibiting a command container and a command vehicle as mock-ups.

Both mock-ups each contain three networked workstations for commanding units. V/UHF devices are integrated for communication with dismounted forces and other units, and satellite-on-the-move terminals and HF radio are integrated for long-range connections.

During the integration of the individual systems, particular attention was paid to modularity and standardized interfaces. This makes it possible to respond quickly and easily to changing conditions, for example, when different means of communication are required for interoperability in multinational missions.

Mock-ups at AFCEA 2026

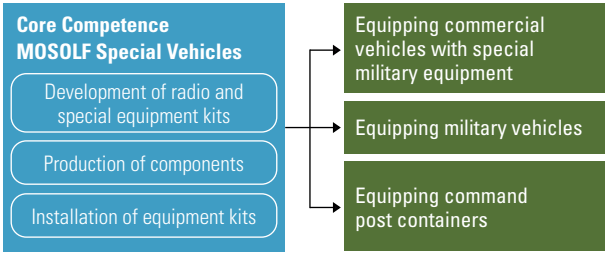
Vehicle Integration Solutions for Protected and Unprotected Vehicles/Command Posts (B&T Solutions, MOSOLF Group)

Network capability is becoming a decisive factor in the dynamic combat of combined arms. As an equipment integrator, MOSOLF's Special Vehicles Business Unit bridges the gap between vehicle platforms and the functionalities required by military customers. We operate both as a partner to vehicle manufacturers (OEMs) and as a contracted military end customer.

With decades of experience in public safety digital radio and the integration of special equipment packages – such as the vehicle integration of UxS or command and control systems – we are a proven, solution-oriented partner for armed forces modernization projects. Equipment package integration requires comprehensive expertise: from system understanding and customer requirements to OEM processes, component manufacturing, and energy, communications, and telecommunications requirements.

Our range of services includes original equipment, conversion, and retrofit projects. Integration is possible as early as the vehicle production phase. This is complemented by our expertise in the in-house manufacturing of electrical, electronic, and mechanical components. We provide support with mobile teams for production ramp-up as well as series production.

We advise, design, and produce – and support our customers throughout the entire product lifecycle. Our employees, processes, and infrastructure meet the requirements for projects in the VS-NfD (classified information - for official use only) sector.



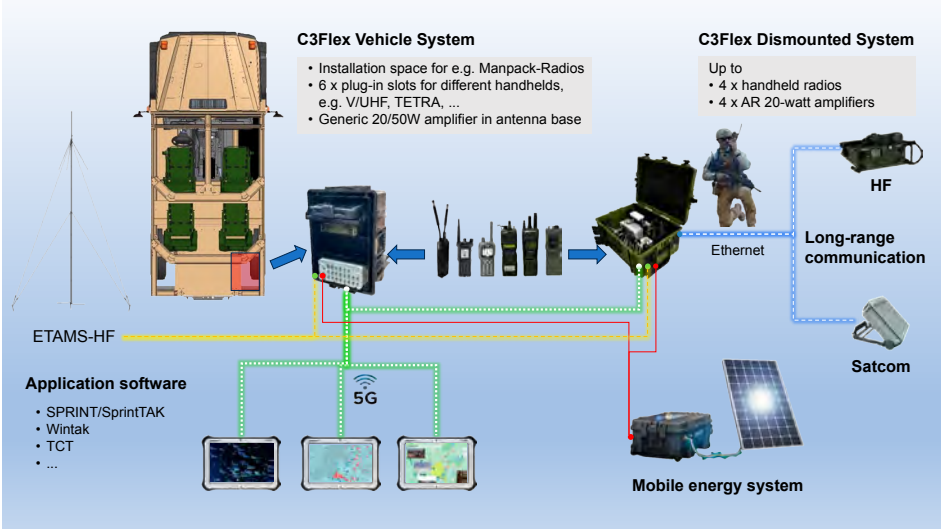
Modular Equipment Solutions Using C3Flex as an Example

While the service life of vehicles is several decades, the service life of communications and IT components, including those installed in mission sets, is much shorter due to the speed of technological development. Thus, the challenge is to provide secure, resilient, and flexible tactical communications that meet operational requirements over time.

The C3Flex system is a highly mobile, highly flexible basic system for integrating/operating existing and/or new C3 elements (Command, Control, Communication).

The C3Flex system was developed specifically for operations in which smaller teams are left to their own and need to communicate quickly and easily with each other and with the outside world. The C3Flex is therefore ideal for command post units, command and liaison units, foreign advance command units, joint logistic reconnaissance teams, etc.

C3Flex is available in a version for vehicles and one for dismounted troops.



C3Flex variants with mobile Power Supply and SatCom/HF (Source: griffity defense)

The heart of the **C3Flex V vehicle variant** consists of a case with:

- Communications node that establishes the connection between the various handheld devices used by the emergency services (e.g., V/UHF, TETRA, TACSAT), as well as Wi-Fi and, if necessary, connection to wide area systems (HF, SatCom)
- Slots for handheld radios of various technologies and manufacturers
- Space for an additional manpack-sized device, e.g., an HF radio for implementing wide area connections
- A powerful tablet PC (e.g. Panasonic Toughbook) with a docking station for configuring system components and serving as a server for, for example, command systems, feeds from unmanned systems, or sensors/detectors.
- Generic amplifiers (20 or 50W), which are installed in the vehicle's antenna bases to save space, increase the range around the vehicle.

In the **C3Flex Mobile Command version**, which accommodates up to four handheld radios, the generic amplifiers and antenna connectors are included directly in the case.

TOUGHBOOK – as Workstation in Vehicles (Panasonic)

The 10.1" TOUGHBOOK G2 tablet with Windows 11 is designed for the toughest environments (IP65, MIL-STD 810H).

With a battery life of up to 15 hours and optional hot-swap, a sunlight-readable outdoor display that can be operated with gloves and in the rain, optional 4G/5G capability and many customer-specific customization options, it is a reliable COTS device for every application. Thanks to an optional clip-on keyboard and a wide range of vehicle docking options, including military connectors, it can be adapted for a wide range of applications in both industrial and military areas.

2.4. Power Supply

A logistical challenge, especially for mobile operations and in remote areas, is power supply.

In addition to specialized, rugged batteries – whether permanently installed in vehicles or provided as portable cases – small, lightweight battery systems are increasingly being used to power mobile units and emergency response teams.

GENAIRCON - Energy Solution for Vehicles (Intracom)

In the modern battlefield, electric power sustainment is a critical mission success factor. Legacy vehicle power systems fall short in providing unrestricted mission capability, while not being able to support survivability through controlled signature management, combat range through fuel efficiency, and upgradability.

To support mission systems, platforms keep their engines idling, exposing themselves to thermal and acoustic detection, while fuel requirements drain logistical support and increase its vulnerability.

The Silent Auxiliary Power System (SAPS), part of Intracom's Hybrid GENAIRCON architecture, is an advanced military capability upgrade system for combat vehicles, providing hybrid auxiliary power and intelligent power management. This enables comprehensive Silent Watch capability, controlled signature management, reduced fuel consumption, and support for new systems with high performance requirements.

 **Control Terminal**	 **Energy Storage Module**
Key Characteristics • True Silent Watch Capability • Autonomous Power Management • Scalable Energy Storage • On-Board Dynamic Diagnostics & Prognostics • Power Export • Quick Installation & Setup • Maintenance-free	**Benefits** • Mission Kit for any Platform • Enhanced Survivability • Extended Vehicle Autonomy • Reduced Logistical Support • Immunity to Altitude Derating • Power Resilience • Minimized Lifecycle Cost

B&W energy.cases

B&W's energy.cases are mobile power supplies designed for the toughest requirements, whether 230 V mains power or 24 V DC is needed. These compact and emission-free power sources can be charged with a power adapter, a truck or car charging cable, or via solar panels, and are equally suitable for continuous stationary operation and changing mobile applications.

Variants see:

Small Portable Battery Systems (bebob defense)

The German battery manufactory bebob develops and manufactures high-performance, versatile, modular, and robust mobile energy storage solutions for the security sector, especially for:

- Special forces
- Drone and robot systems (UxV – UGV, UFV)
- Communication systems

The small intelligent batteries feature protection electronics, integrated battery management systems, and communication capabilities – ensuring safe, reliable, and high-performance operation with maximized service life even in the most demanding applications.

Thus, bebob batteries provide reliable power supply, among other uses, for long-range reconnaissance forces and their wide range of observation, communications, and reconnaissance systems – particularly across different climate zones – to meet the requirements of the Army's special forces.

From our extensive portfolio, we present:

B-Mount battery family – B-Mount is a multi-voltage interface developed by bebob, which has established itself as an open, manufacturer-independent industry standard.

- Rechargeable high-performance lithium-ion batteries
- Voltage: 14.4 V / 28.8 V
- Capacities from 86 Wh (B90d) to 475 Wh (B480d)
- 5-stage capacity indicator
- 94 x 144 x 39-115 mm; 0,65-2,36 kg (B90d/B480d)
- Open data transmission protocol (accessible to other manufacturers)
- Optional hot-swap buffers allow for extended runtime without interruption

Vmicro battery family – high performance in an ultra-compact and lightweight design

- Capacities from 43 Wh (V45microd) to 238 Wh (V240microd)
- Micro-V-Mount
- 75 x 101 x 32-97 mm; 0,33 – 1,18 kg
- Interfaces: USB-C, Twist D-Tap
- Hotswap battery with multiple outputs available (MLmicrod), for uninterrupted power supply

Vmicro Powerbanks – for Universal Power Supply

The bebob Powerbanks are conceptually based on the Vmicro family and are available with the same capacities (V45microPd to V240microPd). They can be used as universal energy storage solutions for simultaneously charging or powering multiple device types via the USB-C output – such as radios, GPS units, drones, tablets, and more. They also serve as a reliable backup when primary batteries are depleted or defective.

Transport Cases for Batteries (B&W)

B&W battery.cases are the ideal solution for the safe storage and transport of intact and defective lithium batteries. They are robust and easy to handle thanks to their inner metal protective compartment. The innovative design of the B&W battery.cases is registered with the German Patent and Trademark Office. The cases are tested and approved as packaging according to packaging regulation P 908 and are therefore suitable for transporting intact and defective lithium batteries on public roads.

2.5. Intercom-Solutions

WiSPREvo – Information & Communication System for Combat Vehicles (Intracom)

Example of networking possibilities

The WiSPRevo is an advanced information and communication system for military applications and the digitalization of battlefield operations. WiSPRevo is designed based on the latest open architecture and technology standards, providing a wide range of hardware and software interfaces to fulfill any interoperability and integration requirements of end users and integrators.

WiSPRevo complies with all related military standards and is a highly modular and expandable solution for use in various platforms such as wheeled and tracked vehicles, rapidly deployable military structures, and rigid inflatable boats.

WiSPREvo CCU user terminals are modern IP-based communication devices with PoE capabilities, providing a wide range of tactical voice and data services including intercom and tactical VoIP communication channels, RoIP, messaging, radio remote control. Moreover, CCU terminals support advanced Dynamic Noise Reduction (DNR) features, providing unmatched performance in very noisy environments, remarkable speech intelligibility, improved crew hearing safety, and increased situational awareness.

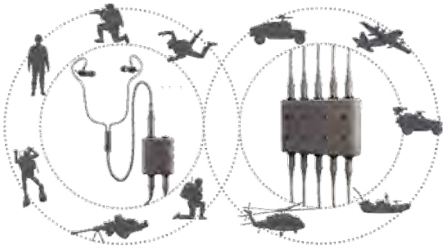
The Tactical Mission Node (TMN) is a state-of-the- art WiSPRevo component for building complete C4I solutions. TMN provides advanced IP networking and routing capabilities, multimedia services, Local Area Network, data processing and storage, voice and data recording as well as interfaces for connecting sensors, subsystems and effectors to the platform.

In addition the TMN can embed optional modules for last-mile wireless communications, a generic MOTS processing unit to support applications coming from third-parties, real-time video streaming and distribution, extended data storage, etc.

Intercom INVISIO for Light Vehicles, Helicopters and Boats (Imtradex)

The INVISIO intercom system allows for a seamless transition between dismounted and mounted soldiers. It integrates seamlessly into the tactical control units of the soldier system. Its small dimensions make it flexible to deploy; it can be permanently installed, carried in a backpack, and reconnected to the existing intercom system in the next vehicle.

It has 4 multifunctional COM ports with automatic cable detection and 5 user ports for internal voice communication. It is possible to connect multiple devices to connect more than 20 users.



The volume control “VCS” (7 levels) allows users to independently control the incoming audio volume for all participants connected.

Intercom: 150 x 95 x 27 mm / 563 g

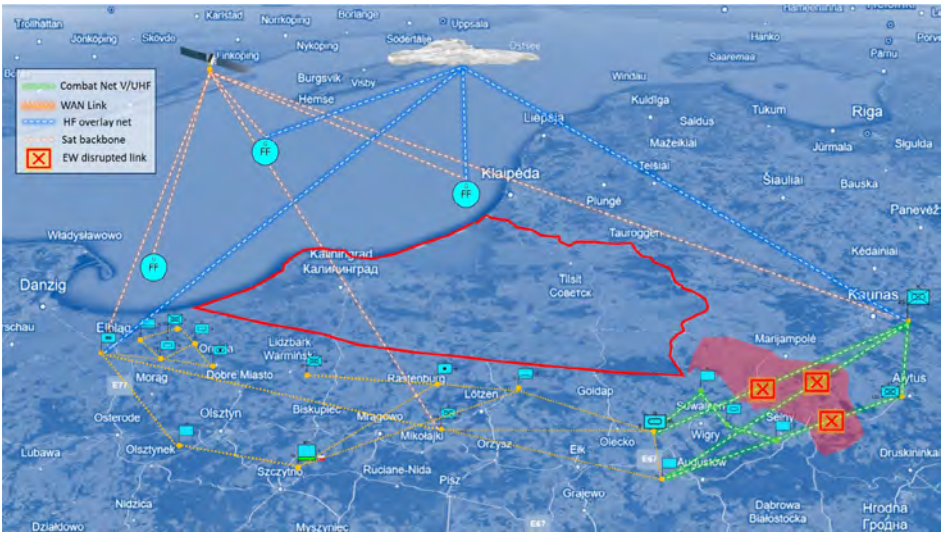
Volume Control: 65 x 75 x 44 mm / 121 g

As a wireless extension, INVISIO recently introduced its INVISIO Link system. This allows soldiers to maintain a full connection to the ICS even when dismounted.

See also 2.7 INVISIO Link

2.6. Communication in Mission

Establishing reliable communication poses a significant challenge, particularly on the battlefield, due to topo-graphical conditions or enemy interference. Therefore, it is necessary to combine various communication technologies within a network to ensure that alternative channels can be used in case of failure or disruption.



Communication in Mission

Some such communication technologies or products and a planning tool for communication networks are outlined as follows:

2.6.1. Mission Critical Communication / 5G-Networks

TASSTA MCx via LTE , 5G and Other Networks

Modern military operations require secure, reliable, and scalable communication across all levels – from the command post to dismounted troops, from manned vehicles to UAVs and UGVs operating beyond line of sight. TASSTA's Mission-Critical Communications Platform (MCX) is designed precisely for this operational environment.

Fully compliant with ETSI-3GPP standards – the basis for interoperable 5G defense networks in the NATO environment – TASSTA offers secure push-to-talk, video and data services over LTE and 5G networks, even under low bandwidth conditions or in impaired network environments.

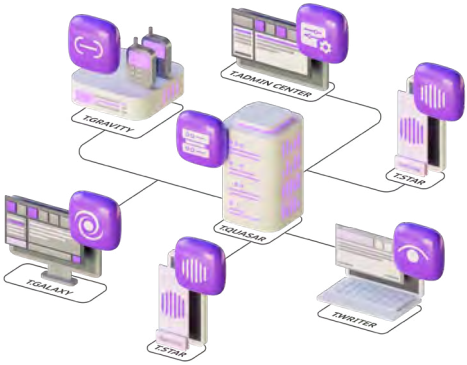
TASSTA T.Quasar – MCX Server Plattform

At the heart of the solution is the T.Quasar MCX Server, which provides the full range of 3GPP mission-critical services:

Mission Critical Push-to-Talk (MCPTT)
Secure group and emergency calls with priority control and interoperability with existing radio systems.

Mission Critical Video (MCVideo)
Real-time video transmission for integrating UAV and sensor data into the tactical situational awareness picture.

Mission Critical Data (MCData)
Secure messaging and data transmission over narrowband as well as broadband networks.



All services support 5G with optional end-to-end encryption. The TASSTA T.Star Client runs on Android, iOS, and Windows devices, including rugged PTT devices as well as standard smartphones and tablets.

Additional features include real-time location tracking and a certified emergency call and alert systems.

Innovation in the Framework of SE-COM (KOPA45)

TASSTA actively participates in European innovation initiatives within the framework of SE-COM (KOPA45) and supports the development of sovereign and interoperable broadband communication infrastructures for security and defence organisations.

- AR Remote Leitstelle
  Augmented reality-supported remote leadership functions for real-time collaboration between field personnel and control centers.
- Bridge API 3GPP TETRA
  Interoperability between existing TETRA systems and modern LTE/5G networks for structured migration to broadband mission-critical services.

Interoperable. Scalable. Ready to use.

Based on open 3GPP standards, TASSTA integrates seamlessly into existing LTE infrastructures and scales into private tactical 5G networks – without proprietary dependencies. The platform connects command centers, vehicles, operational units, and unmanned systems in a unified communications layer.

TASSTA is already operational with public safety authorities and organizations across Europe.

5G Campus Networks (CampusGenius)

CampusGenius offers 5G solutions that give organizations complete control over their connectivity. At its core is the GeniusCore, a 3GPP-compliant 5G SA core that powers private networks for mission-critical public safety operations.

GeniusCore is:

- A secure, efficient, and easy-to-use broadband communications platform
- Scalable to meet the communication needs of a dozen users to several thousand
- Deployable as a backpack, in a vehicle, or for networking in field camps
- With data rates exceeding 300 Mbps per user

When public networks fail or become overloaded during emergencies, GeniusCore ensures dedicated, always-on connectivity for first responders.

Because the system operates independently of commercial network operators, your communications remain secure and functional even in challenging environments.

With the **GeniusKit,** we showcase a deployable, robust broadband communications solution in a case:

- Self-sufficient, backhaul-capable network for field camps or deployed units
- Range up to 400m
- For up to 30 users
- Dimension: 390 x 478 x 194 mm

2.6.2. Satellite Communication

When looking for reliable communication for civilian and military applications - satellite communications offer one of the most secure and resilient solutions. Establishing fast, straightforward broadband connections even in remote areas is no longer a challenge thanks to highly mobile and technologically advanced products.

Technology and service offerings continue to evolve in this area as well; terminals are becoming smaller and more powerful, and through proven partnerships, collaboration is evolving into a one-stop shop for reliable communication.

SatCom-on-the-Pause/SatCom-on-the-Move (Stellar/Ovzon)

For nearly 30 years, Stellar PCS GmbH has provided reliable and secure 24/7 communication worldwide. Its own teleports in Germany, Cyprus, and Fiji make satellites accessible around the clock and enable seamless data transmission without delay. The connection between units, with command centers, and back home is maintained. Stellar uses its own bidirectional and redundant fiber-optic lines for maximum security during data transmission, making it equipped for missions of any security level.

Device-to-Device with Stellar and Ovzon

Together with the Swedish manufacturing company Ovzon, Stellar offers optimized solutions for both civil and defence applications. Since early 2024, this has even included Ovzon's own geostationary satellite, Ovzon 3.

This creates advantages, especially for military operations:

- Dynamically shift capacity to where it is needed
- Operation below background noise (therefore signal identification is not possible)
- Interception or jamming is made much more difficult by frequency hopping
- Less susceptibility to rain and changing weather conditions
- Direct connection between the small terminals, even if the ground control station is impaired, de-stroyed or unavailable for other reasons
- NSA-approved TT&C encryption (telemetry, tracking and control)
- On-Board processor reprogrammable in orbit (e. g. addition of new functions)

				
	Ovzon T7	**Ovzon T6**	**Ovzon P20**	**Ovzon P30**
	On-The-Pause	On-The-Pause	On-The-Move	On-The-Move
T x / R x up to (dependent from loca-tion)	10/60 Mbps	70/120 Mbps	50/140 Mbps	75/175 Mbps
Power consumption typical	65 W, 24 VDC	140 W, 24 VDC	24 VDC/ 100-240 VAC 50/60 Hz	24 VDC/ 100-240 VAC 50/60 Hz
Dimensions	202x179x78 mm	337x343x57 mm	220x295 mm	330x430 mm
Weight	2.8 kg	6.0 kg	8.0 kg	17.0 kg
Operating temperature	-20° C bis +55° C	-20° C bis +55° C	-20° C bis +55° C	-40° C bis +50° C
Environment	IP65, MIL-STD-810G	IP65	IP66	IP66

Ovzon P30– successfully tested on a USV

Starlink Mini (B&W)

The B&W starlink.case mini combines compact power supply with secure transport and protection for SpaceX's Starlink Mini system – robust, waterproof (IP54 when closed), and ready for any mission.

With up to 24 hours of self-sufficient operation, the starlink.case mini reliably powers SpaceX's Starlink system – wherever conventional infrastructure is lacking. Thanks to its custom-designed accessories, the starlink.case mini can also be worn as a backpack or powered continuously off-grid with a solar panel.

- Complete independence from the power grid thanks to an optional solar panel for self-sufficient continuous operation
- Reliable power supply through an integrated battery system – even under extreme conditions
- The B&W starlink.case securely protects your Starlink Mini system: The housing is made of flame-retardant material according to UL 94 V0
- Ready for use in just a few steps – ideal for spontaneous deployments
- Plug-and-play: All components are securely integrated, including charging and connection options
- Designed for field applications, disaster relief, security forces, or military use

2.6.3. HF-Communication (DTC/Codan)

HF radio stands for a very high range and robustness. Due to further developments, especially with regard to increasing the bandwidth and simplifying the use of the system, HF radio is today once again appreciated as a means of communication in difficult environments.

SENTRY-H-6120 BM Mobile

Robust Software-Defined Radio (SDR) vehicle mounted and basestation solution for military organizations that require uncompromised, secure voice and data communications over long

distances. With an RF power of 150 W, it is specifically designed for the smallest and lightest form factor to enable easy integration into base and mobile platforms. Working closely with military customers, the 6120-BM has been optimized for ease of use and features an ergonomic, intelligent handset with a full-color, high- resolution, multi-language user interface and a host of other features.

SENTRY-H-6110-MP Manpack

Rugged, portable Software-Defined Radio (SDR) manpack solution for military organizations that require uncompromised, secure voice and data communications on the move. The 6110-MP is an integral part of the Sentry-H product family, meeting the needs of the modern battlefield while providing full backward compat-ibility with legacy products. The 6110-MP is one of the smallest and lightest HF crew radios available.

It offers powerful 30 W RF power and up to 79 hours of battery life at a weight of less than 4.7 kg, without compromising on features.

HF Application Software

RC-50C: STANAG 5066 Email via HF radio. In conjunction with the RM50 series RF transceivers and data modems, the software runs on a standard Windows™ PC via a USB, ethernet or serial and requires no special PC hardware. Once installed, the software runs in the background and requires no user interaction.

SPRINT: The STANAG 5066 compliant SprintNet application take advantage of the 3G ALE waveform to provide connections quickly and securely.

RF data communications, Peer-to-peer email, file transfer and chat are supported, as well as SMS and Internet email over the Sprint-Net gateway. The flexibility and interoperability benefits of the Sprint solution provide a powerful extension to your RF networking capabilities.

HF Antenna System

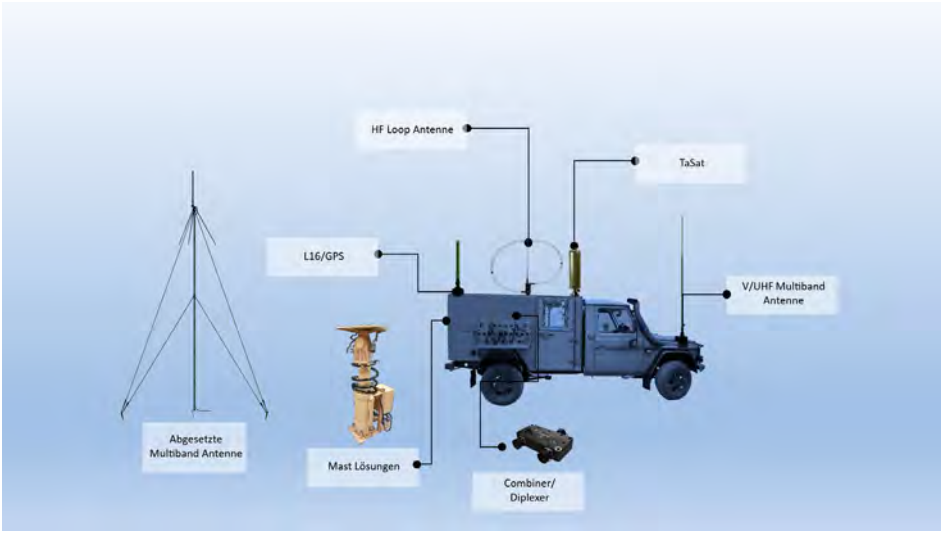
Antenna Tuner 3046 with Whip Antenna: With an RF power capability of up to 150 W, the 3046 can be used for voice (including frequency hopping) and data operation over the entire frequency band from 2 to 30 MHz. The tuner has unlimited memory capacity, and with a state-of-the-art tuning algorithm, new frequencies are typically tuned in less than one second.

The 3046's circuit design ensures that the power output to the antenna is maximized and the receive per-formance is optimized by the internal receive amplifier. These features combine to provide a user- friendly, interference-free, high performance mobile antenna solution.

The 3046 is offered with a 3 m carbon fiber whip antenna and other accessories and options, and is compatible with almost every whip or wire antenna in the HF industry.

2.6.4. Antennas and Masts (COMROD)

Every radio transmitter and receiver requires an antenna. With the increasing number of radios and the growing use of multi-channel radios, the number of antennas on vehicles and shelters has steadily risen.



Example of an optimized antenna configuration for a command and communications vehicle (Source: griffity defense)

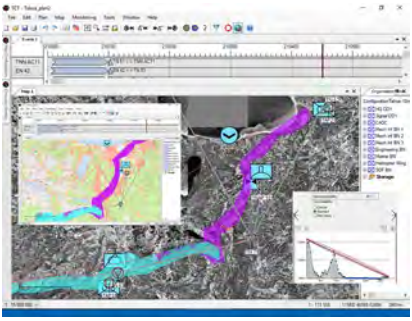
Integrating antennas onto a limited platform area while maintaining antenna separation to preserve performance is one of the biggest challenges in modern communications. Comrod offers multi-band antenna solutions along with passive or active antenna combiners for connecting multiple transceivers to a reduced number of antennas. This antenna sharing reduces co-site antenna interference and distortion.

While maintaining their previous performance, the advanced dual-band, tri-band, and broadband antenna solutions meet new waveform requirements. Most products are available with integrated L1/L2 GPS antennas.

In addition, Comrod also offers a wide range of sectional and tele-scopic masts, from portable five-meter masts to heavy 34-meter-high masts.

2.6.5. Planning tools für Communication Networks, Example TCT of COMROD

Establishing reliable communications can pose a great challenge, whether on the battlefield or on the site of a natural disaster. TCT (Tactical Communication Tool) allows military and public safety organizations to leverage their communication assets, while dramatically reducing the planning time. TCT's dynamic planning can quickly adapt to changes in operational circumstances, while its sophisticated radio propagation analysis ensures accurate simulation of every communication link. A powerful map engine supports a wide range of geo-spatial formats, including DTED elevation data, vector-based road maps as well as several formats for grid-based maps and satellite imagery.



Types of communication equipment supported:

- Analogue VHF and UHF radio
- HF radio
- TETRA
- Fixed frequency digital radio link
- Frequency hopping radio link
- Digital VHF radio

2.7 Systems and Solutions for (Dismounted) Forces

Vehicle Integration, Mission Modules and Network Integration

The availability of personal sensors and detectors is increasing. This makes networking and communication capabilities on the battlefield ever more important for individual soldiers. The better the components work together, the greater the impact on the safety and combat effectiveness of each individual soldier.

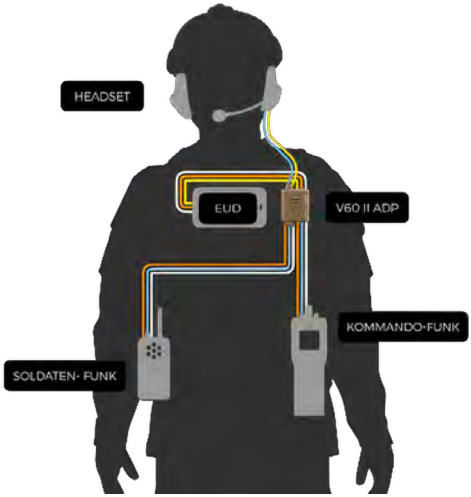
Imtradex – Integrator of Systems Related to Soldiers

Imtradex increasingly positions itself as an integrator of Command and Control solutions and a supplier of components for military and police forces. Its portfolio is constantly expanding and now includes integrated communication solutions with the capability to incorporate new applications such as command and control systems, sensors, drones, etc.

Personal Communication – INVISIO Generation II (Imtradex)

With Generation II of its Vxx series, INVISIO has ushered in the next generation of modern communication. AI-powered, it enhances both listening and speaking. Featuring patented IntelliCable™ Auto-Sensing technology, it offers plug-and-play functionality. All COM ports support dual-net audio, making it ideal for use with radios or multi-channel intercom systems.

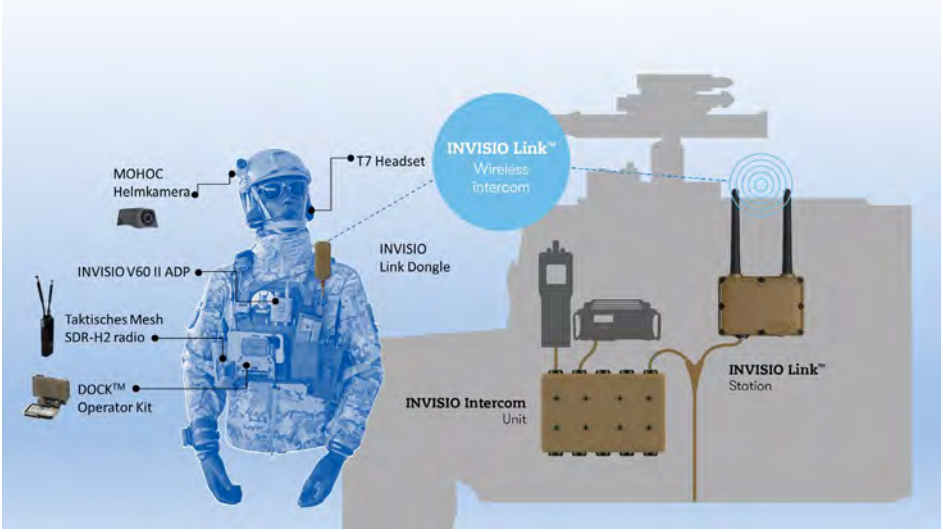
The **V60 II ADP**, the latest product in the series, is based on the well-known V60 Generation II, but also offers the ability to combine audio, data, and power, thus relieving the soldier of the burden of additional equipment. New applications in conjunction with sensors, drones, or cameras become simple and efficient.



- A Audio is transmitted directly between communication devices and the headset.
- An integrated USB 2.0 hub handles data distribution between connected devices.
- Notifications from the BMS system and voice prompts from the EUD can be received/listened to via the integrated digital audio.
- The EUD is powered via USB PD (Power Delivery).

INVISIO LINK™ System (Imtradex)

With INVISIO Link, soldiers can connect wirelessly to the intercom at any time, whether dismounted or mounted, on land, in the air, or at sea, using the Link dongle. The connection is established automatically when the soldier is near a Link™ base station. Because it is based on DECT technology, the connection works even around corners and within complex structures. The transmission power can be adjusted, from low detection and short range to greater range (up to 500m line of sight) with increased detection.



Headsets (Imtradex)

Imtradex offers a wide range of headsets, from the lightweight INVISIO X7 in-ear headphones, to the submersible INVISIO T7, to the robust RACAL headsets with active noise cancellation for use in the loudest envi-ronments, such as:

			
X7	**T7**	**RACAL4000**	**RACAL5100**

MOHOC Helmet Cameras (Imtradex)

- Low profile – unlimited mounting options
- Full HD video – dual exceptions
- One-touch operation with gloves
- iOS & Android app for live streaming
- Recording time up to 2:45h with battery / 5h with CR2123A battery

DOCK™ Operator Kit (DTC/Codan)

Dismounted Operator's Kit (DOCK™)

Integrates communication, command and control equipment from various manufacturers into a compact, scalable and body-worn solution.

TOUGHBOOK – Tablet for Use in Harsh Environments (Panasonic)

The 10.1" TOUGHBOOK G2 tablet with Windows 11 is designed for the toughest environments (IP65, MIL-STD 810H).

With a battery life of up to 15 hours and optional hot-swap, a sunlight-readable outdoor display that can be operated with gloves and in the rain, optional 4G/5G capability and many customer-specific customization options, it is a reliable COTS device for every application. Thanks to an optional clip-on keyboard and a wide range of vehicle docking options, including military connectors, it can be adapted for a wide range of applications in both industrial and military areas.

Special Role Radio Sentry 6162 (DTC/Codan)

Personal/squad radio for demanding military applications, based on the latest DTC MA-NET IP radio technology, it uses tactical MeshUltra™ waveforms and multi-waveform options including TSM integration functions.

- Spatial Diversity (MIMO 2x2)
- Frequency Range: 1.2-1.7GHz (L band variant) (additional bands under development)
- Bandwidth: 1.25-10MHz
- Power Output: 2W RF
- MIL-STD-461G and MIL-STD-810H certified
- 114 x 75 x 29 mm, excluding connector protrusions

The Sentry Mesh 6161 is compatible with a range of military accessories, such as headsets, PPT, antennas, batteries, power and data management systems, and cameras, allowing you to meet specific mission requirements and combat ensemble configuration.

See also DTC/Codan HF Manpack Radio SENTRY-H-6110-MP under 2.6.3.

iTHESEUS Indoor Navigation and Localization for Soldiers (iMAR Navigation)

The localization and guidance of walking or running individuals – or groups of individuals – inside buildings or in environments without GNSS reception, where the operational team cannot rely on GNSS or other infrastructural aids (e.g., Wi-Fi or persistent visually recognizable structures), has remained a nearly insurmount-able challenge despite intensive global research.

Our System **iTHESEUS** is currently undergoing further development following numerous successful trials. Customer-specific adaptations are therefore possible at any time.

A small foot-mounted unit is attached to the shoe. The design and architecture of iTHESEUS are based on iMAR's many years of experience with inertial sensors and high-precision inertial algorithms across all domains – on land, at sea, in the deep ocean, underground, in the air, and in orbit.
iTHESEUS enables fully autonomous person tracking with sub-meter accuracy for missions in which no infrastructure may exist anymore. The operational range and duration are unlimited, and accuracy is typically better than 1% of the distance travelled.

Signal Shark© Handheld (Narda)

Real-time spectrum analysis on-the-move, with touchscreen and integrated Python for creating custom applications, 3-hour nominal battery life, hot-swappable battery pack.

Weight: 4,4 kg

Dimensions: 231 x 333 x 85 mm.

2.8. Transport & Packing Solutions (B&W)

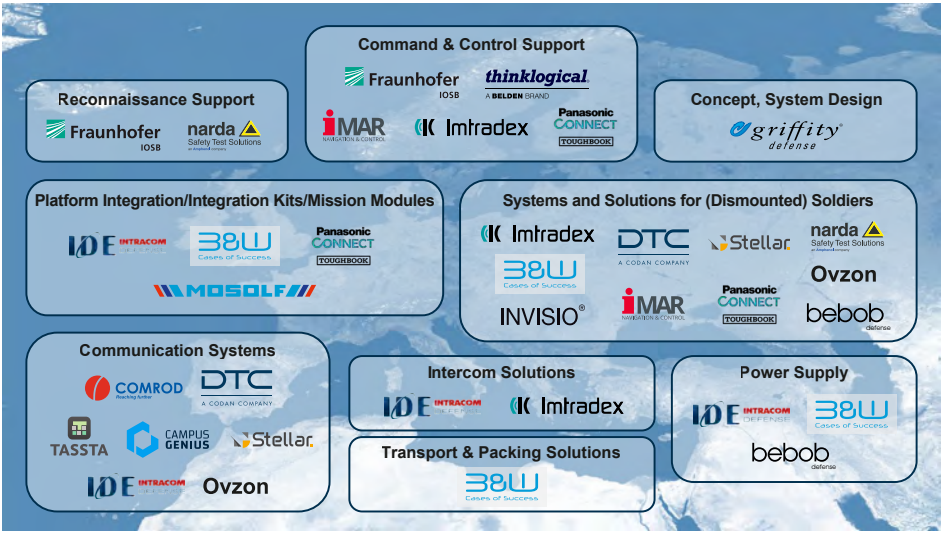
When it comes to protecting your equipment, B&W Cases are the right choice. These durable cases offer ultimate protection and top performance, even under the toughest conditions.

The portfolio is comprehensive, ranging from customizable tool cases to battery and mobile connectivity products – your equipment is protected.

Example: Weapon Chest

- Case and gun cabinet in one
- Configurable interior (flexibly adapts to different weapon sizes and instruments)
- Meets legal requirements for firearm storage (removable lid allows all weapons to be seen)
- Secure and protected transport, stackable „like Lego bricks“

3. Overview of Participating Companies



B&T Solutions GmbH (MOSOLF Group)

B&T Solutions GmbH is part of the MOSOLF Group, a specialist in special vehicle construction in the areas of BOS, defense, public sector, industry and offers complete solutions from a single source - for more than 30 years.

We equip vehicles in our production network or supply technical equipment according to customer requirements. With our mobile service team, we also carry out special solutions or retrofitting on site throughout Europe.

In addition to vehicle conversions, we offer holistic solutions in radio and component construction, from mechanical components to cable harnesses and complete radio cabling to complex information and communication systems.

Portfolio:

- Technical design of special vehicles with integration of complex systems
- Development, production of cable harnesses and electrical components
- Design, mechanical / additive manufacturing
- Special vehicle construction
- Conversion and retrofitting

B&W International

Rapid deployment, secure command communication, efficient logistics: Law enforcement and emergency response teams worldwide rely on B&W International's mobile defence protective case solutions. Whether it's self-sufficient power supply within the case, straightforward air transport of lithiumion batteries, readily accessible, highly sensitive instruments, or ad-hoc drone reconnaissance: these modern protective cases offer optimized logistics, cost reduction, speed, and efficiency, but above all, security and operational readiness.

B&W International develops and manufactures case solutions for the mobile protection of high-value, sensitive, and security-relevant instruments, weapons, and ammunition. Furthermore, the company boasts extensive certifications and approvals, as well as comprehensive full-service support. This strategically positions B&W for rapid customization to meet specific challenges.

bebob defense - a division of bebob factory GmbH

We operate in industries where system failures or interruptions are simply not an option. That's why we take "Made in Germany" as a genuine commitment to quality.

Since 1995, our Munich-based battery manufactory has built a reputation as a premium provider of high-performance energy solutions. Today, our products are deployed wherever maximum reliability and performance are essential. We design batteries that combine reliable power, ease of use, and long service life – complemented by sustainable cell replacement, rapid service, and certified safety.

From the initial idea through prototypes, testing, and evaluation to final production, our solutions are developed for operations where reliability and safety are the highest priority. All bebob batteries, chargers, and adapters are:

- Robust and extremely durable
- Manufactured under the strictest quality controls
- Tested according to the highest standards

Our customers include both global companies and public authorities and organizations with security-related responsibilities. All of them rely on the certified safety and quality of our products, which exceed common industry standards.

CampusGenius

CampusGenius GmbH was founded in 2020 with the conviction that modern forces require secure and reliable communications at all times. Our mission is to provide local mobile networks that are rapidly deployable, easy to operate, and capable of performing under the most demanding operational conditions.

Based on the proprietary GeniusCore, CampusGenius enables its partners to establish robust broadband networks quickly and precisely where they are required in the field. Independent, secure, and fully controllable.

With over 50 implemented networks across Europe, our technology is tried, tested and proven. From industrial plants to critical infrastructure, we are delivering performance in real-world applications every day.

Comrod Communications

Comrod Communication AS is headquartered in Stavanger, Norway, and has facilities in Norway, France, Hungary, and the United States. The group develops and manufactures antennas, antenna combination and control systems, telescopic and sectional masts, power supplies and battery chargers for the tactical communications market. Comrod also designs and manufactures marine antennas for the commercial marine market.

Comrod antenna products cover all frequency bands in the HF, VHF, UHF, and SHF spectrum, and include broadband, multiband and multiport products. These products can solve problems with co-site interference or availability of platform space. In addition to the extensive range of vehicle and manpack antennas, Comrod has a wide range of remote antennas for use with wide area networks, and to expand the range of tactical networks.

DTC, a Codan Company

DTC is a global company that provides advanced communication solutions worldwide for Military, Broadcast, Law Enforcement, Unmanned (UxV) Systems, Commercial, and NGO markets. Operating in 150+ countries, we deliver regionally tailored solutions and essential support for mission-critical success. These solutions are designed to thrive in the most austere environments and provide the actionable insights needed to make decisions at the speed of relevance.

With over 65 years in the business, we have garnered a reputation for quality, reliability and trust, producing innovative and industry-leading technology solutions.

DTC is a member of the Codan group of companies.

For more information, visit DTCcodan.com.

Fraunhofer Institut für Optronik, Systemtechnik und Bildauswertung (IOSB)

The Defense business unit of Fraunhofer IOSB is guided by the theme of “Consulting and Technology for Defense.” It evaluates trends and technologies, tests and develops demonstrators, supports industry, and manufactures innovative equipment.

Core competencies include the acquisition of images and related sensor signals, the associated signal processing, and the use of image data in systems.

At AFCEA 2026, the IOSB will show RecceMan®, an interactive recognition assistance for imaging reconnaissance, ABUL, an automated image analysis for unmanned aircraft, and the digital situation table (DigLT) for joint situation work from remote locations and in VR as well as position selection assistants to support operation planning and battle management through terrain evaluation.

griffity defense GmbH

griffity defense offers, among other things, comprehensive services related to the development of complex technical and application-related scenarios, from concept creation to support in implementation, e.g. by finding the right partners. One focus is system design and the development of cross-platform architectures and concepts, including tactical scenarios.

iMAR Navigation GmbH

iMAR Navigation GmbH, a German company, has been a recognized specialist and innovator of leading inertial systems and solutions for over 30 years. Thanks to our many years of experience in the production, development, maintenance, and support of inertial systems for positioning, navigation, surveying, guidance, stabilization, control, and communication (PNT/PNTC), we offer leading systems and solutions for a wide range of applications – for unmanned and manned platforms in industry, automotive, aerospace, geodesy, and defence – both off-the-shelf and as customized solutions.

iMAR was founded in 1992 and is headquartered in St. Ingbert near Frankfurt am Main, where its main administration, development department, and production facility (approx. 4,000 m²) are also located.

In early 2025, the company premises were expanded by an additional 2,500 m², including an additional production building.

Imtradex Hör- und Sprechsysteme GmbH

Imtradex Hör- und Sprechsysteme GmbH supports its customers in safety-critical applications under the motto "command & control". IMTRADEX is the exclusive distributor of the world's leading INVISIO hearing/voice system in the German market. Users in over 50 nations rely on, and accept, this system. Over 250,000 systems have been delivered and are used by military and special forces worldwide in a wide variety of operational areas and climates.

Whether connecting different types of headsets or radios, mobile phones, intercom systems in vehicles, airplanes, helicopters or even boats, the flexibility and easy handling are leading the way. The system is also already in use in various federal states and areas of application in Germany.

Since 2021, the English specialist for high-noise and CVC headsets Racal Acoustics has been part of the IN-VISIO group of companies and offers an even wider range of applications with its portfolio.

The latest development allows a innovative approach in control center and mobile areas, the Mobile Desk Unit (MDU) moves your smartphone to a flexible communication device.

As your partner for professional communication, we offer expertise when it comes to communication under difficult conditions, both dismounted and mounted. We protect hearing and offer individual solutions with suitable means of communication – at sea, in the air, or on land. Simplicity that convinces!

Intracom Defense (IDE)

Intracom Defense (IDE) is a recognized defense industry company with a high reputation in Greece and a high export rate to international customers such as Finland, France, Germany, Israel, UK and the USA.

IDE uses high-end technologies for the design and development of advanced systems in the fields of tactical IP communications, integrated C4I systems, missile electronics, surveillance, hybrid electric power systems, and unmanned systems. The company is internationally recognized for its long-term participation in European and NATO programs for the development of new technologies.

Leveraging advanced production methods and extensive project management know- how, IDE is a major player in the high-technology sector of the Greek defense industry.

Narda Safety Test Solutions GmbH

Lightweight and portable radio direction finders are required for tactical radio surveillance and reconnaissance or own emission control on the battlefield, in border control scenarios and for intelligence applications. This also enables covert operations, if required. The SignalShark© provides efficient support in monitoring, analyzing and protecting the corresponding frequency spectra as a COTS (commercial of the shelf) system.

Narda is a market leader in the field of electromagnetic spectrum analysis. Narda develops handheld, portable and vehicle-integrated direction finders. Our AoA / TDoA hybrid technologies use "Made in Germany" High Dynamic Range (HDR) SignalShark receivers and Narda's unique Automatic Direction Finding Antenna (ADFA). Narda devices are freed from time-consuming export control procedures and can also be used highly effectively in autonomous outdoor remote monitoring stations.

Panasonic TOUGHBOOK

As an industry leader in rugged mobile computing, Panasonic TOUGHBOOK offers ready-to-use „fully ruggedized" laptops and tablets that have been tested for reliability and durability according to military standards (MIL-STD 810G) and IP65 and some IP66.

Our COTS-based devices are ideally designed for every mission in the defense sector thanks to modular customization options such as integrated tailor-made military connectors and interfaces, encrypted or quick removable SSDs and a wide range of accessories, vehicle docking and carrying solutions. Thanks to bright outdoor displays with glove mode, extremely long battery life and hot-swap functions, they guarantee uninterrupted 24-hour use. TOUGHBOOK devices are available with Windows, but are also certified for operation with Red Hat Enterprise Linux.

Stellar

When it comes to satellite communications, we know what we're talking about. For nearly 30 years, we've been bringing space to the screen – in military operations, scientific missions, and commercial applications. In turnkey satellite- and fiber-optic-based communication solutions, we combine highly secure, proven technology with the latest innovations to provide our customers with reliable, seamless connections.

As an owner-managed German company, we operate without the influence of foreign investors.

Our Space-to-Screen Solution encompasses not only the communication infrastructure; our high-precision, production-ready antenna series "Made in Germany" also meets the hardware requirements of current political developments. In collaboration with the Swedish manufacturer Ovzon, we are the provider behind the terminals, ensuring the connection from satellite to ground and the reception of transmitted data at the correct location.

GMC TASSTA

TASSTA is the perfect mission-critical solution, developed according to ETSI 3GPP standard, for military operations featuring secure communication, real-time location tracking, a customizable contact list, encrypted text messaging, and an ability to work in low connectivity environments. TASSTA has a user-friendly interface for Android, iOS, and Windows, and runs on mission-critical rugged devices for use in extreme conditions. TASSTA include es a certified emergency alert system that can be triggered quickly to notify other team members of an urgent situation. The device is equipped with GPS, as well as an accelerometer and altimeter, to ensure accurate location and altitude data.

Thinklogical

Thinklogical helps defence and intelligence organizations turn all-domain, video-rich data into actionable information, leading by using as well system-immanent collaboration features to faster and better-informed decision-making and improved mission outcomes. Thinklogical's unique highly secure command and control signal management infrastructure is powered by its IA-certified product line of scalable, modular fibre-optic KVM matrix switch systems.

4. Contact Information

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