



ZF Rescue Connect

Digital solutions for Emergency Services







The Future of Emergency Services

New technology is changing how emergency services are delivered, making response times shorter, saving more lives, and making it safer for first responders. The way technology is being used will fundamentally change how we respond to incidents. We believe integrating technological innovation into emergency vehicles and services can have tremendous benefits.

Enhanced efficiency and speed: Connected vehicles and smart city infrastructure will significantly reduce response times. Responders can deliver services more quickly, and AI-driven systems can optimize routes for emergency vehicles.

Predictive capabilities: Emergency services can anticipate and prepare for potential incidents. This proactive approach is especially beneficial in areas prone to natural disasters.

Safety and accessibility: Technology can reduce the risk to human responders in dangerous situations. Smart vehicles and remote-operated equipment can enhance overall safety in dangerous environments.

The promise of saving and sustaining lives at a high rate, coupled with more safety for responders, is very valuable. To fully harness these benefits, let's all embrace the future together and the change that comes with it.

About ZF

ZF is a global technology company supplying advanced **mobility products and systems for passenger cars, commercial vehicles and industrial technology**. Its comprehensive product range is primarily aimed at vehicle manufacturers, mobility providers and start-up companies in the fields of transportation and mobility. ZF electrifies a wide range of vehicle types. In addition to enhancing safe mobility, the company contributes to reducing emissions and protecting the climate.



No. 3

in Industrial
Technology

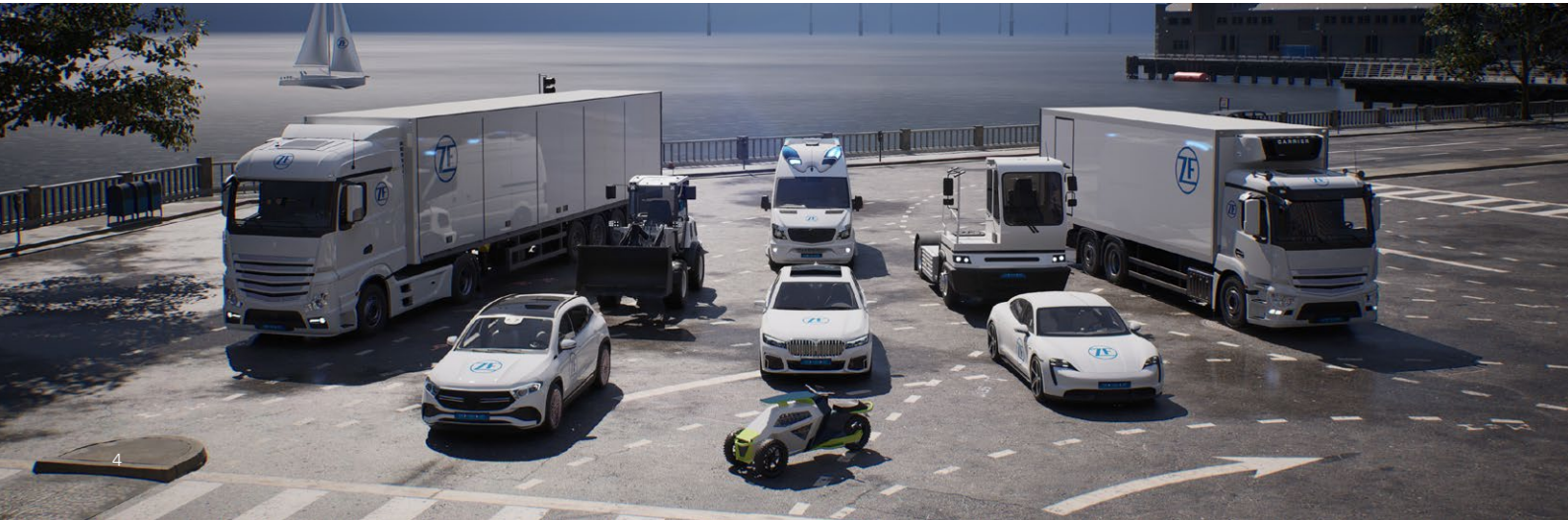


153,153

Employees
worldwide



+ ZF Rescue Connect

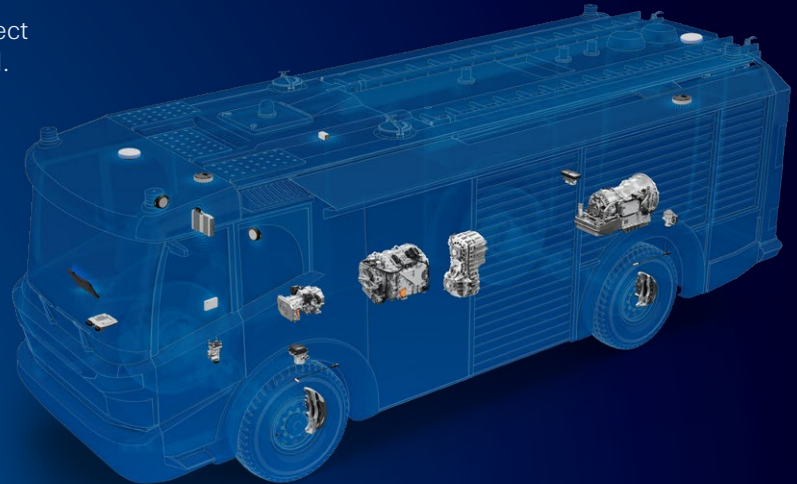


Innovating Driveline and Safety Systems: Also for Rescue Vehicles

As a technology leader, ZF offers an extensive portfolio of complete driveline, steering, and advanced safety systems for trucks, buses, passenger cars, and special vehicles.

Additionally, ZF offers highly efficient transmission systems and benchmark-level electric motors, as well as vehicle system improvements such as intelligent drivelines and suspension control.

Together with our cutting-edge ZF Rescue Connect ecosystem, we provide all the solutions you need.





Digital Solutions for Emergency Services

Start the future smartly connected with ZF Rescue Connect

ZF Rescue Connect networks and digitizes all emergency and rescue services in Europe with the latest connectivity solutions. This product connects data from rescue services like fire departments, ambulance services or other emergency organizations to support emergency management and decision-makers not only in dealing with everyday tasks, but also in the event of large-scale and mass-casualty incidents.

For the first time, vehicles, equipment, people and organizations are all centrally connected.

Our products are specially designed for manufacturers of emergency vehicles, suppliers of rescue equipment and providers of operation-specific software. In addition, we offer manufacturer-independent solutions for organizations with security tasks, as well as for regional and national authorities.

Vehicle Connectivity



Equipment Connectivity



Crew Connectivity



Patient Connectivity



ZF Rescue Connect
Digital Incident World



ZF Rescue Connect
Cloud



3rd Party
Cloud

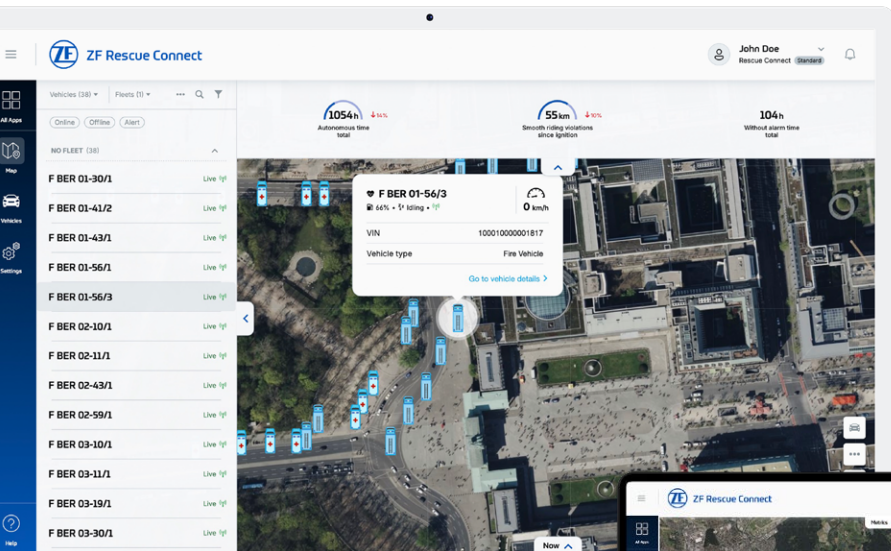
Ecosystem for Connectivity

Intelligently Networked in Rescue Operations

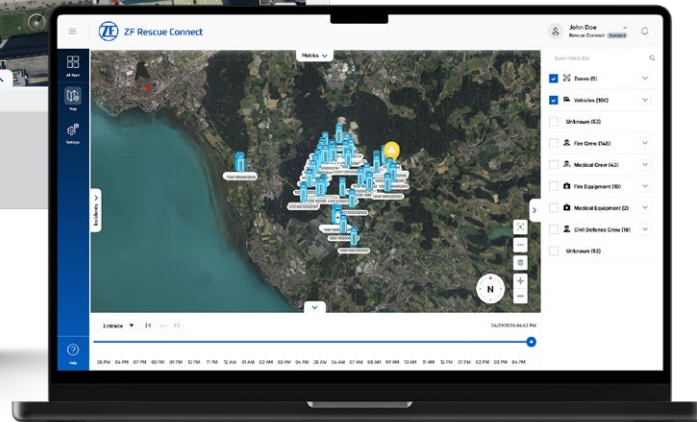
The ZF Rescue Connect System supports the idea of well-connected emergency services in Europe. The ecosystem is built around one key aspect: connectivity. Our European cloud solution offers all features that are relevant for emergency services: reliability, security and interoperability. Users can view their data directly in our applications and export it to their own solutions with our available interfaces.

One connected ecosystem for emergency services in Europe

With our growing list of partners, features and connected technologies, we are building the foundation for an ecosystem built for all different kinds of emergency services in Europe.



With our broad ecosystem of applications accessible from our ZF Rescue Connect Digital Incident World, we can meet the needs of all customer groups.



Our Customer Groups

A holistic approach to provide solutions for everyone in the emergency sector



OEMs & Manufacturers

Unique software solutions for OEMs & Manufacturers of emergency vehicles and rescue equipment. ZF Rescue Connect enables especially smaller and mid-size companies to develop their own digital footprints and maximize commercial benefits of technologies.



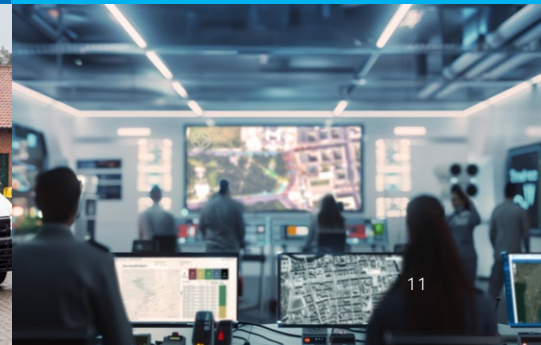
Fleet & Service Operators

Our software solutions for fleet & service operators bring benefits to providers of emergency services and end-users. Whether you are a fleet technician, or an incident commander in the field, we offer our customized solutions to perform your tasks efficiently.



Private & Governmental Institutions

We solve individual needs of our customers in the field of emergency call centers and command structures of governmental or non-governmental authorities with tailored solutions and interfaces. We can build the digital solution you need.



Customers

Success stories



Berlin fire department: from analog to digital

ZF Rescue Connect has been networking the Berlin fire department since 2023. The experts in the capital can access data from emergency ambulances and fire engines in real time. The system solution is now deployed in more than 1,100 Berlin fire department vehicles.



“The development of our analogue rescue and fire department vehicles into a networked fleet 4.0 is very important for the digitalization of the Berlin fire department – it’s about the safety of the city of Berlin,” says Maximilian Krause, Fleet Management Project Manager at the Berlin fire department.

The ZF telematics components installed in Berlin are designed for small and medium-sized vehicles and connect them to the cloud-based fleet management system ZF Rescue Connect. The result: optimum availability of all vehicles.

“We are more than satisfied with the system,” explains Maximilian Krause. On critical days, such as New Year’s Eve, the system was able to demonstrate its full capabilities. “That was enormously helpful.”

#CUSTOMER SUCCESS STORY



Developing strong products for the market together



“The potential of digital products for us is enormous. The support from ZF was very professional – and the result is impressive: our new digital products, Z-Connect and Z-Remote,” says Ingo Boden, Deputy Head of Development at Albert Ziegler.

The Ziegler portfolio has thus been supplemented by two forward-looking components: with Z-Remote, Ziegler can now offer a digital remote maintenance solution that increases the availability of vehicles and reduces the time and effort required for service calls. This saves Ziegler customer service a lot of time and money. And problems can be resolved more quickly. A win-win situation for everyone.

Secondly, with Z-Connect, Ziegler now offers a comprehensive fleet management solution for the end customer. The available data set is still limited, but Z-Connect already provides valuable insights. Currently, for example, in the hybrid technology of airfield firefighting vehicles: “With our newly acquired data, we can develop in a much more targeted manner,” says Boden.

Digital functions offer clear added value for customers. Particularly with regard to future disaster management, cloud-based solutions make important data accessible to all emergency services: from location data and fill levels to resource prioritization during major incidents. The future seems to be just beginning.

#CUSTOMER SUCCESS STORY



Endurance test at the Biathlon World Cup

More than 65,000 spectators and 700 emergency responders participated in five days of competition in one stadium: a state of emergency at the Biathlon World Cup in Ruhpolding. With temperatures as low as minus 15°C, the conditions were ideal for the Bavarian Red Cross rescue teams to conduct a tough winter test for ZF's rescue operations digital products.



“For the first time, we were able to equip our rescue backpacks and our mobile teams with ZF technology and thus track them live across the entire site. All the data came together in real time on the digital dashboard in the control center, a container in the security area. This was a significant operational benefit,” reports Head of Operations Helmut Frank from the Bavarian Red Cross.

If you want to master a difficult situation, you need a good overview first and foremost. Helmut Frank is delighted with the real-time system: “For me, it’s a decisive advantage to be able to see where my team is in the field at all times.” Not only does this reduce the burden on radio communication, but in an emergency he can decide more quickly and efficiently: “Which squad do I send to which operation?”

#CUSTOMER SUCCESS STORY



Software

Product portfolio

Our New Digital Incident World

Incident Management



Situation Room



Zone Manager



Incident Manager



Patient Manager



Media Manager

Routing Manager

Communication Manager

Fleet Management



Fleet Monitor



Remote Manager



Fleet Configurator



Device Manager



Vehicle Calendar



Vehicle Diagnostics

Vehicle Files

Remote Operator

Asset Management



Asset Monitor



Asset Configurator



Depot Manager

Pump Control Manager

Platform Management



Applications Hub



User Manager



Analytics Manager



Legacy Manager

Software portfolio

Modular, tailor-made digital solutions for rescue operations

Our hardware and software portfolios are perfectly coordinated. ZF Rescue Connect ensures that all relevant customer data is available exactly where it is needed. Data is the driver of processes – both today and tomorrow. It is our mission to make it easily available to our customers. With our applications, we enable organizations to optimize and digitalize their operations, thus preparing them for the future.

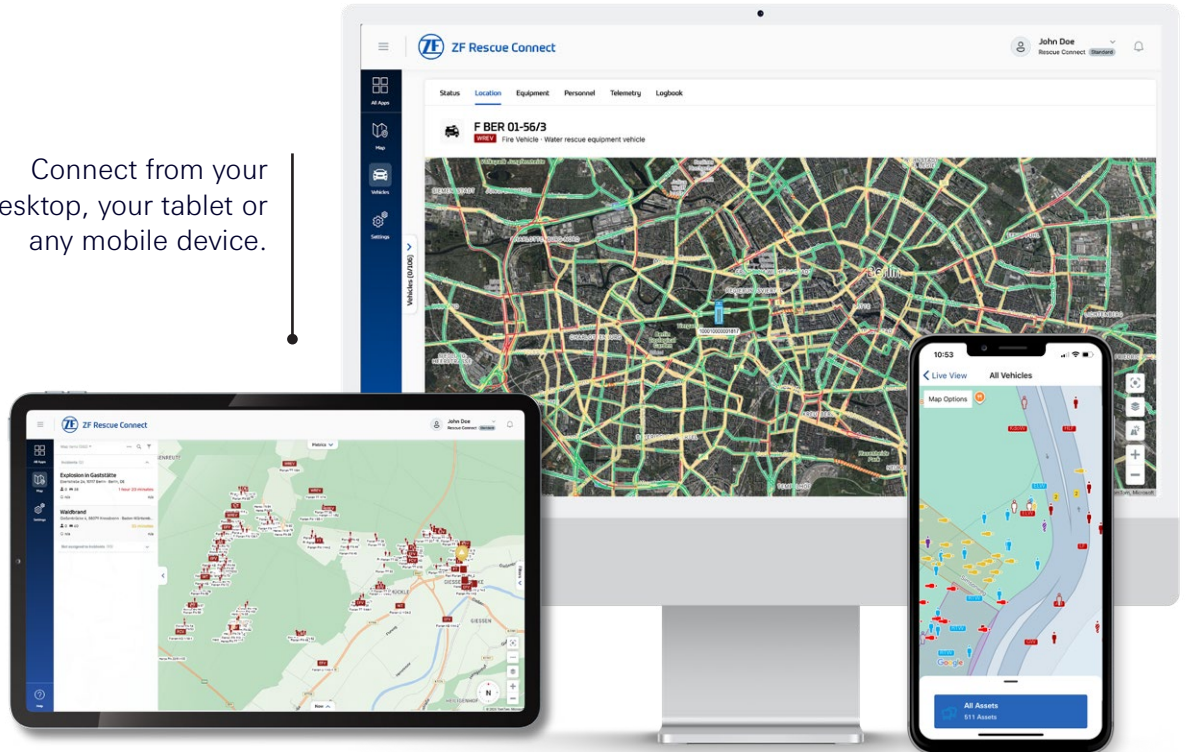
Helping you make the right decisions

Our solutions cover the full spectrum of digitalization needs that emergency organizations face every day. Whether the local incident commander needs to get a live view of the situation to make tactical decisions, or the fleet management wants to access vehicle service schedules in their workshop, our solutions are designed to meet these needs.

Accessibility and Compatibility

Ensuring our customers can access their data right where they need it

Connect from your
desktop, your tablet or
any mobile device.

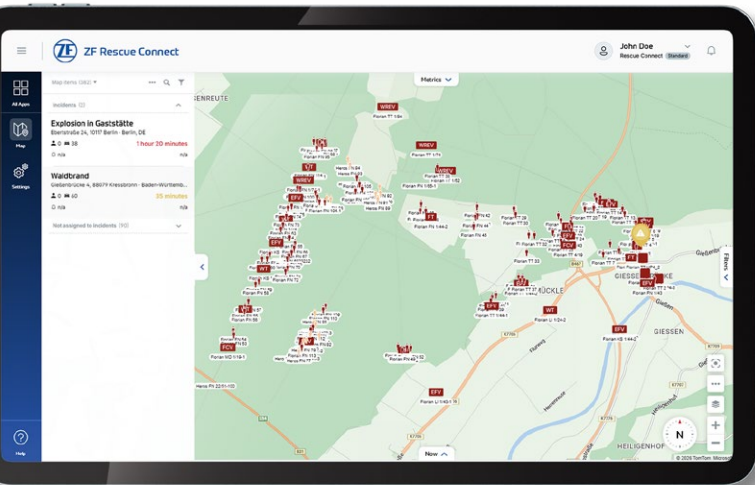


Situation Room



Real-time digital situation map for command teams, control and situation centres

- All operations in a region at a glance
- Overview of vehicles, equipment, emergency personnel and patients
- Frequent position and status updates
- Replay function showing the full incident development for up to 24 hours
- Ideal for large-scale incidents that unfold dynamically

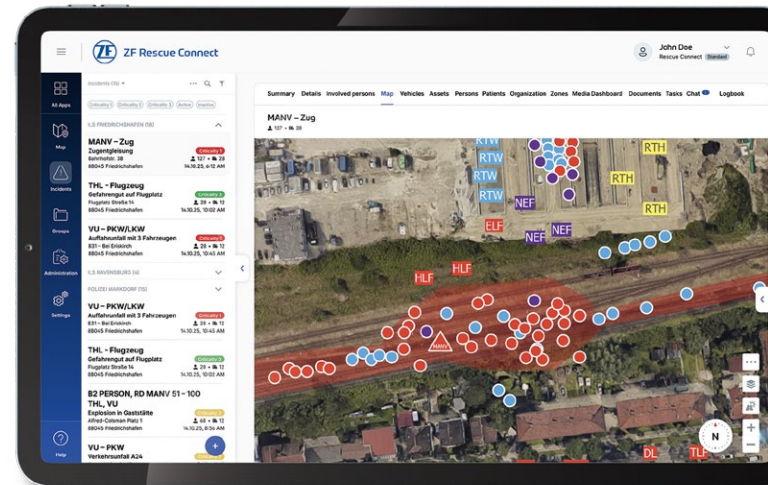


Incident Manager



Tactical operations management for operations command and command vehicles

- Innovative command software for command vehicles and operations commanders
- Receive real-time incident updates from the control center system
- Driving routes and arrival times (ETA) for vehicles
- Handle multiple incidents simultaneously, cluster major events
- Numerous modules available including incident organization, zones, resources, chats and video dashboard
- Full incident log and task management
- UCRI interface compliant with current standards for all control centers

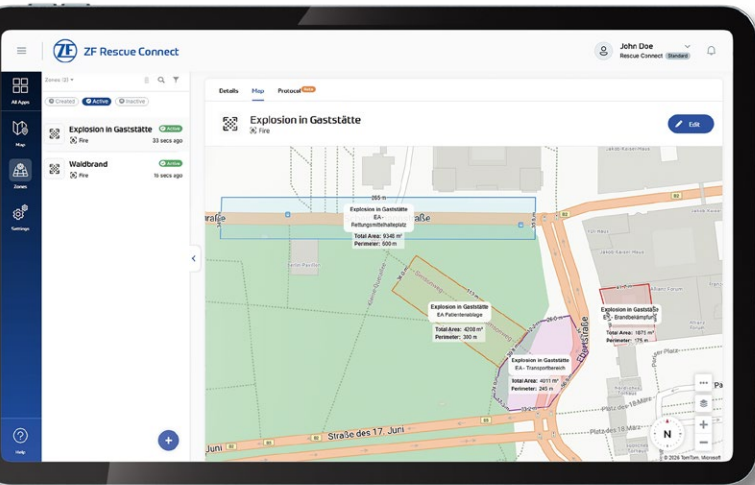


Zone Manager



Create and modify zones dynamically and share them with all emergency services

- Display tactical information directly in the web app
- Measure distances and areas in a matter of seconds
- Improve coordination and communication between rescue teams and operations centres
- Integrated geofencing function
- Real-time allocation of personnel and resources to tactical zones

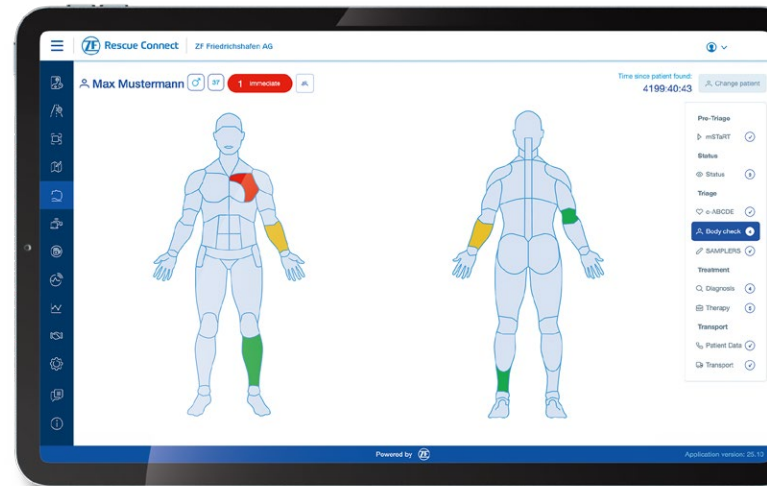


Patient Manager



Digital triage of injured persons

- Digital recording of each patient's location and triage category
- Speeding up the treatment process for patients and rescue teams due to digital recording and automatic documentation
- Graphical body scheme allows detailed documentation of injuries and makes subsequent treatments much easier
- Detailed documentation of treatments, e.g. medication
- Real-time situational overview with immediate overview of location and condition of patients with our ZF Life TAG

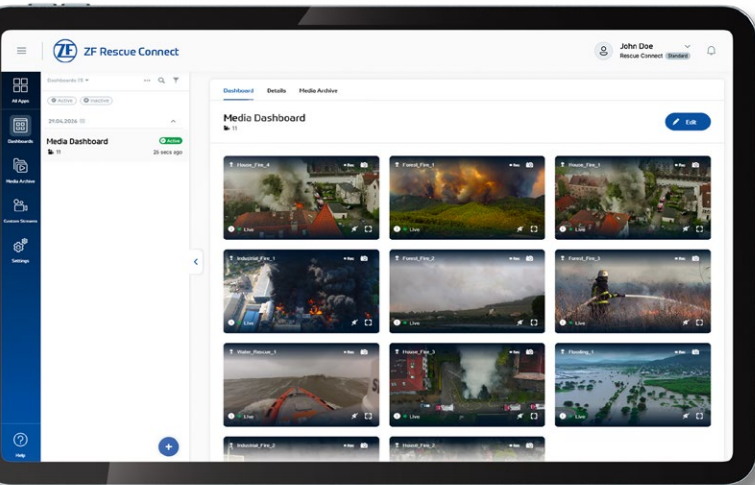


Media Manager



Real-time video dashboards

- Live streaming of video streams directly from the scene to any location
- Ad-hoc streaming from personal smartphones and mobile devices
- Video and audio transmission, video conferences
- Simple and user-friendly drone integration
- Transmissions possible from inside the vehicle and up to 100 m around it
- Latency of less than 1 second



Fleet Monitor Fleet Configurator

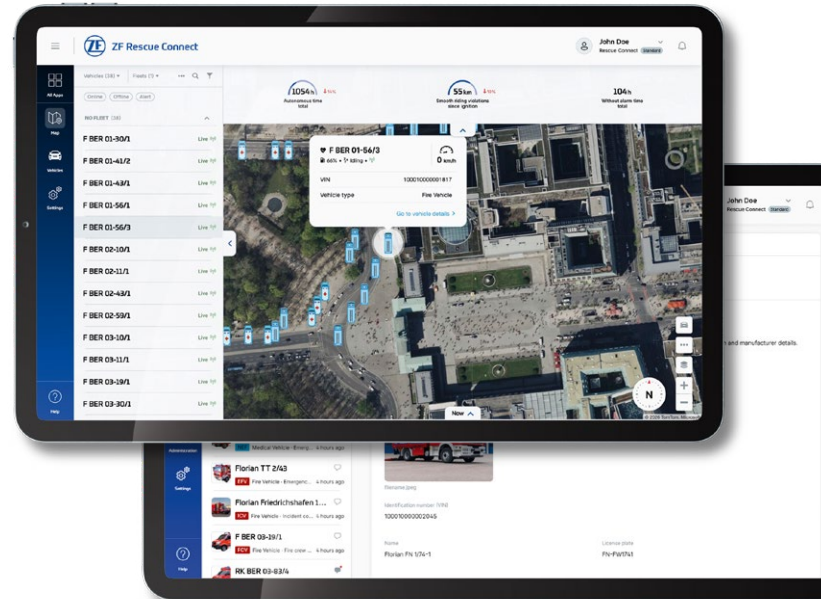


Fleet management for organisations

- Real-time view of all vehicles and digital logbook
- Dynamic grouping into fleets and formations
- Operational state and telemetry data visualization
- Configurable metrics for key information
- Detailed view of each vehicle

Vehicle configurator for fleet managers

- Create and manage vehicles and fleets
- Configure vehicle-specific features and maintain master data

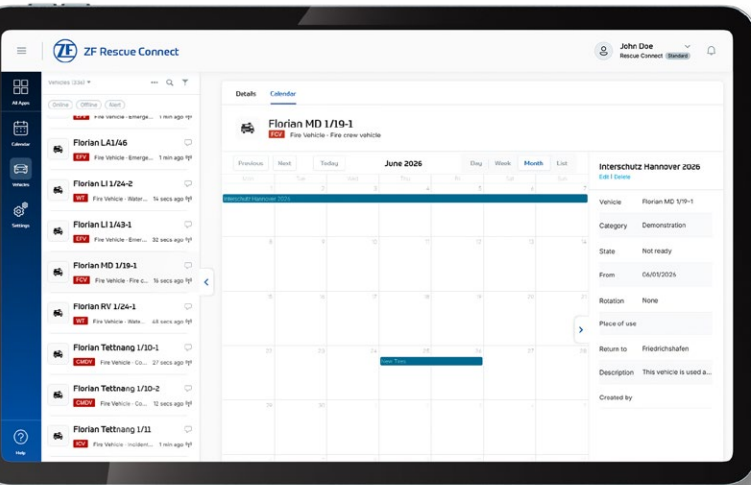


Vehicle Calendar



Vehicle calendar for fleet managers

- Manage all appointments, reservations and bookings for a vehicle
- Organize service and maintenance, general inspection
- Supports all types of one-off or recurring appointments
- Overview of all appointments across the entire fleet
- Filter and sort functions
- Comment and note functions

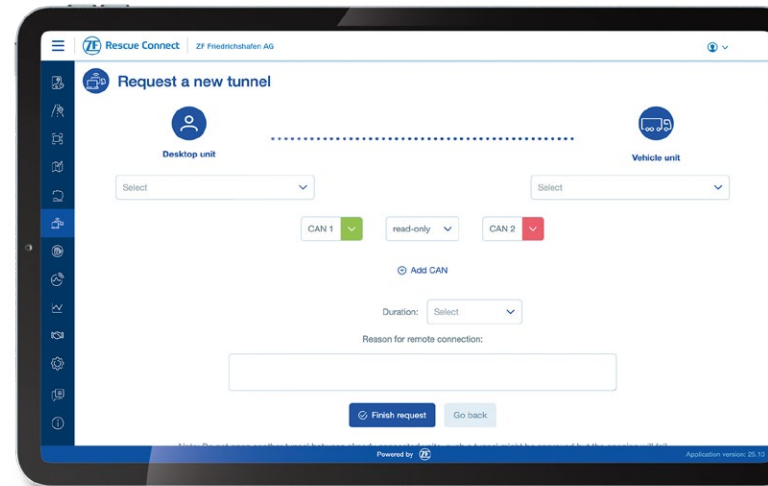


Remote Manager



Over-the-air access for manufacturers and workshops

- Powerful remote access to vehicles and devices for maintenance and diagnostics
- Real-time access to the vehicle's CAN communication
- Simultaneous reading and writing of up to 4 × CAN
- Use of existing customer software without additional customization
- Secure and encrypted connection
- Also available as a mobile solution without vehicle installation

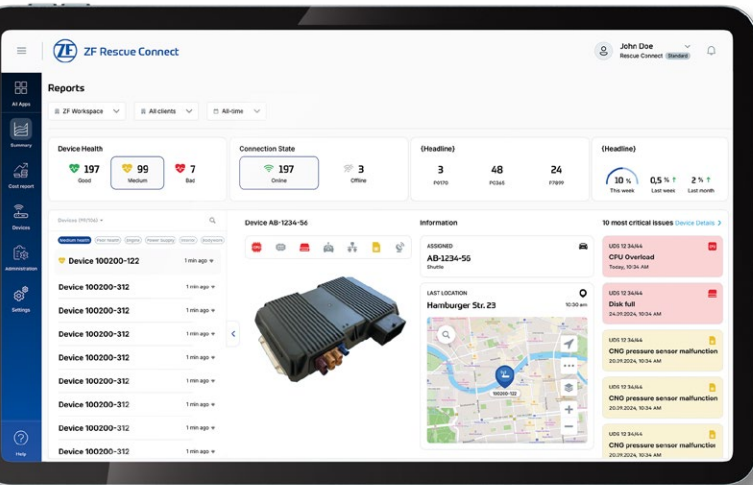


Device Manager



Management of connectivity gateways for fleet managers

- Registering and managing connectivity gateways in the system
- Deploying configurations and updates across all gateways
- Managing over-the-air security updates
- Performance and diagnostic monitoring
- Device replacement and archiving
- History of all devices throughout their entire lifecycle

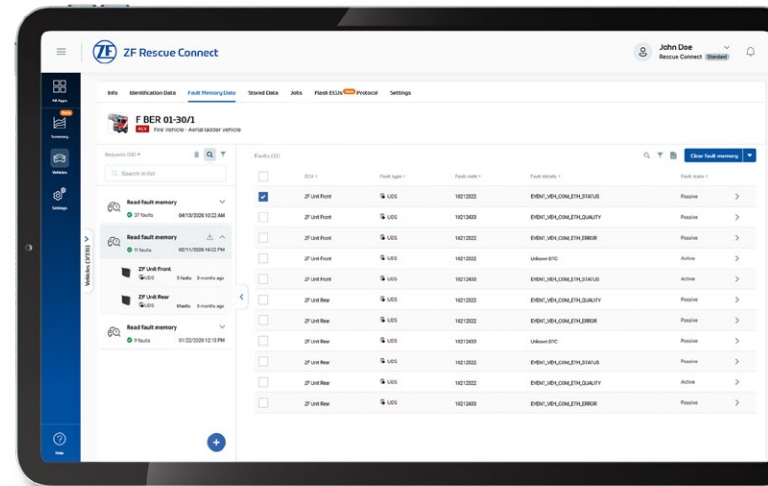


Vehicle Diagnostics

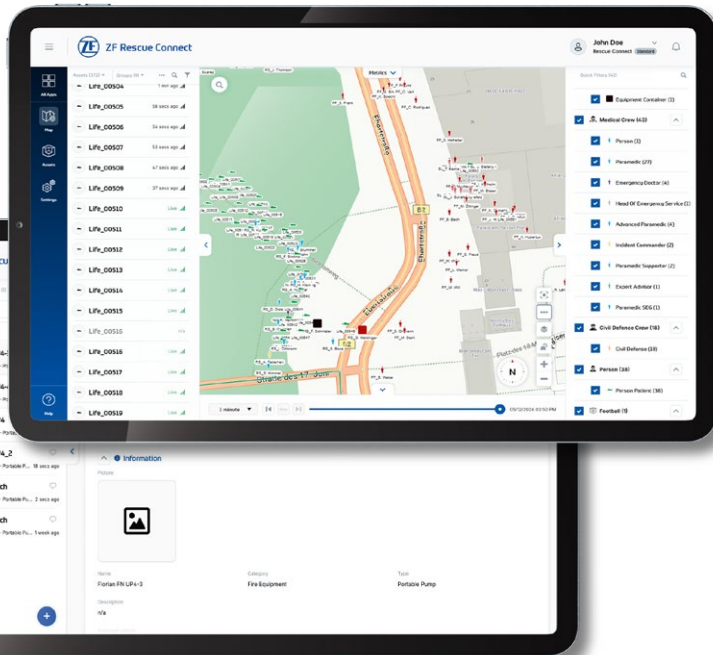


Vehicle diagnostics for fleet managers

- Technical details about the vehicle
- Display and visual presentation of all fault codes
- Historical recording of diagnostic data
- Retrieval of diagnostic data via UDS or J1939 standards
- Control of diagnostic routines
- Over-the-air updates of ECUs
- Diagnostic reports and job automation



Asset Monitor Asset Configurator



Asset management for organisations

- Live view of equipment, tools and medical products in the field
- Dynamic grouping with configurable categories, types and symbols
- Operational state and telemetry data visualization
- Configurable metrics for key information

Asset configurator for the medical device or equipment manager

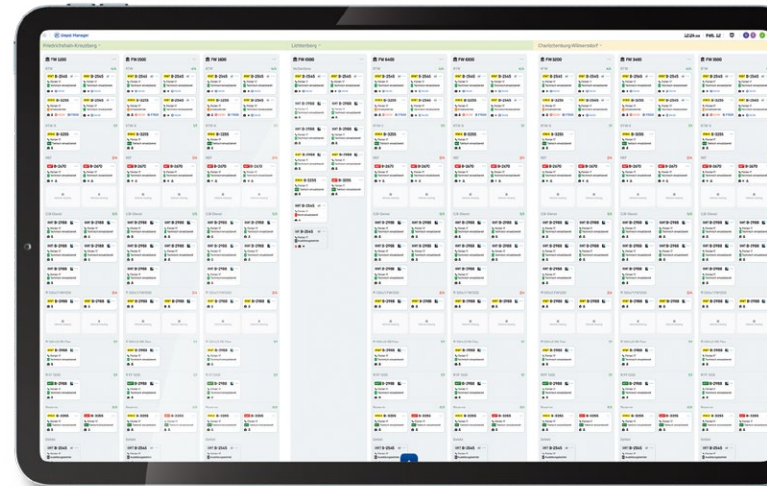
- Create and manage assets and equipment groups
- Simple registration of new assets via smartphone
- Document management for each asset

Depot Manager



Fleet management and vehicle organization for fleet managers and dispatchers

- Live presentation of all vehicles with locations and organizational/operational status in an interactive whiteboard
- Definition of default assignments and highlighting of vehicle shortages and availabilities
- Organisation of vehicle depots with sections, zones and areas of responsibility, garage space and parking lots
- Full customizability for individual usage scenarios and operational processes



Analytics Manager



Analytical reports and statistics for organisations

- Visualisation of analyses, functions and reports
- Easily solve customised problems and meet specific requirements digitally
- Customised graphics and visualisations
- Simplify complex issues with analytics
- Statistics at the touch of a button



User Manager Legacy Manager Applications Hub



User management for organisations

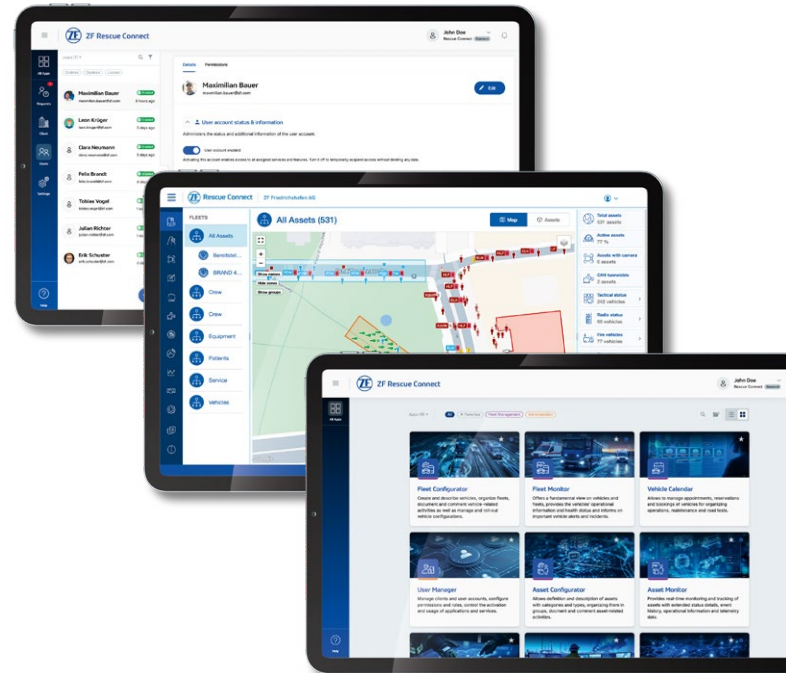
- This feature helps to set up individual users, managing roles and permissions, customizing settings, and controlling access.

Access to former ZF Rescue Connect Portal

- Our connection to all “legacy” apps of ZF Rescue Connect that are in place since 2020.

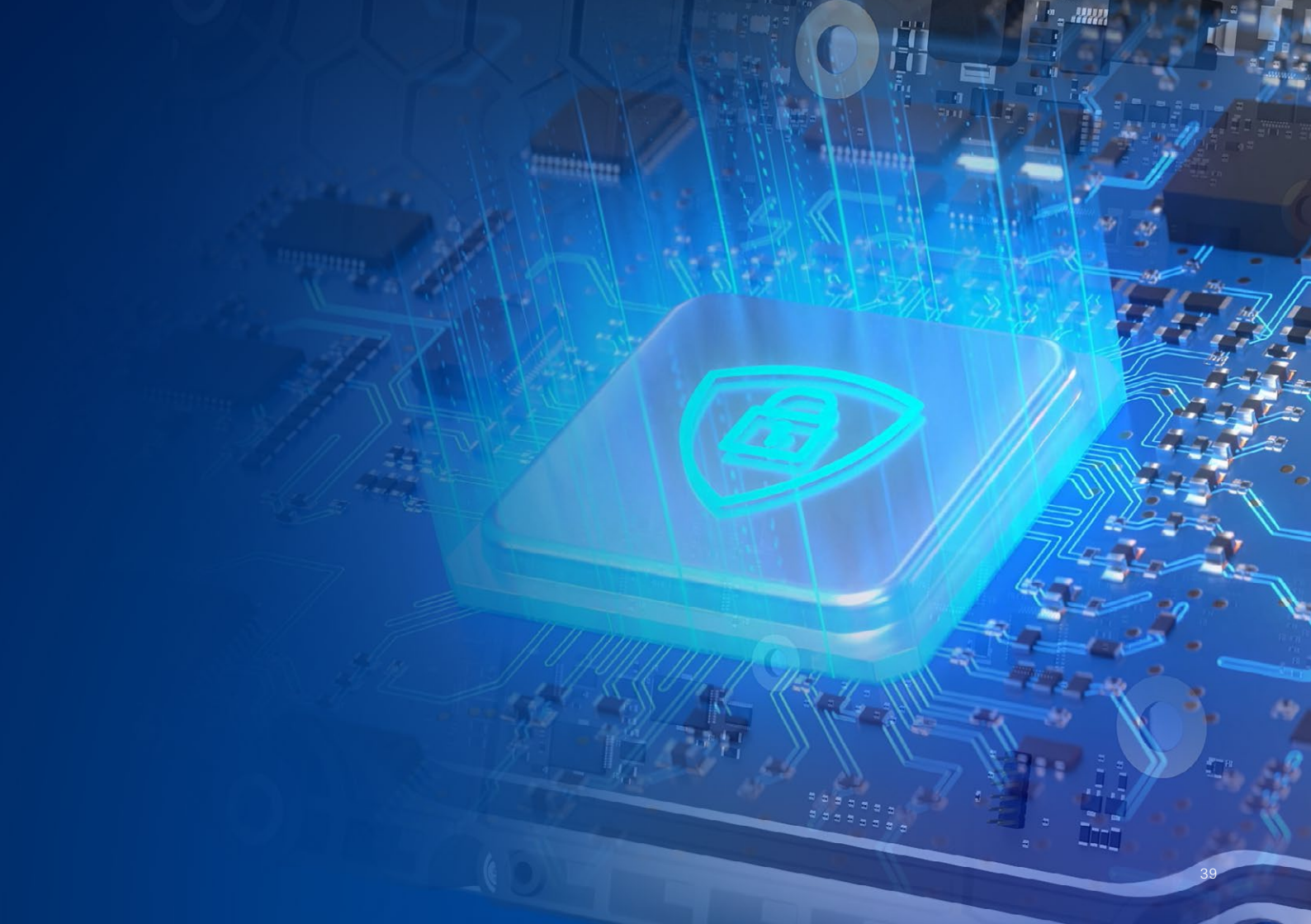
Hub for deploying internal and external apps

- A central app store that provides access to features, apps, and services, with personalized views, notifications, and also supports the integration of third-party content.



Hardware

Product portfolio



Vehicle Connectivity



ZF VCU Pro



ZF Battery TAG



ZF OBD Unit



ZF Vehicle TAG

People & Equipment Connectivity



ZF Equipment Unit



ZF Crew TAG



ZF Equipment TAG



ZF Life TAG



ZF Dog TAG

Passive Connectivity



ZF Heavy Duty TAG



ZF Power TAG



ZF Sensor TAG



ZF Micro TAG



ZF Asset TAG

Hardware portfolio

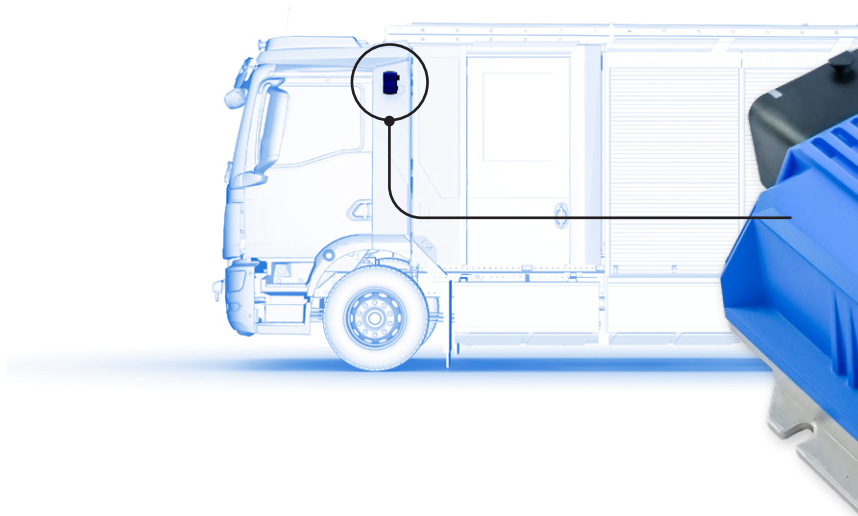
The right connectivity solution for individual applications

ZF hardware is the key enabler for our software solutions. The unique hardware portfolio offers the optimal solution for every use case. With our wide range of individual gateways, we create the opportunity to elevate organizations to the next level of digitalization. We understand that the requirements for devices in the emergency sector are as diverse as our customers themselves, which is why we provide tailored solutions for every challenge.

The ZF ecosystem is unparalleled

Technologies span from small devices like our Micro TAG, which can connect bags or equipment such as mobile ECG devices, up to extremely powerful gateways for the complete networking of emergency vehicles with our VCU Pro or the V2X-capable ProConnect. With Plug-and-Play solutions like the Vehicle TAG, we create the possibility for an extremely fast integration of hundreds of vehicles into your digital cockpit. Our portfolio removes any obstacles to connecting all relevant forces, whether it's people, vehicles, equipment, boats, or even airplanes.

Vehicle Connectivity



ZF Vehicle TAG



ZF OBD Unit



ZF VCU Pro



ZF Battery TAG



Sets up a WiFi and Bluetooth hotspot

Able to analyze large amounts of vehicle data

Able to monitor different signals, e.g. tank levels

ZF VCU Pro

VCU Pro is the advanced on-board unit from the Vehicle Connectivity Unit series. With 4 CAN interfaces (2 standard CAN and 2 CAN FD), 4 analog inputs and 4 digital outputs, VCU Pro is a professional and robust gateway.

IP Protection Class: IP55 (IP69K optional)

Power Supply: 9–36 V DC

Hardware portfolio



ZF Vehicle TAG

Plug and Play tracker with GNSS, GSM, Bluetooth connectivity and cigarette lighter power connector for easy installation. It is ideal for light vehicle tracking and the ad-hoc integration of fleets in unexpected situations such as disasters, where simple and fast integration is a must.

IP Protection Class: IP41

Temperature range: -40°C to +85°C

ZF OBD Unit

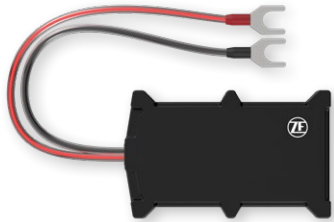
ZF OBD Unit is a connectivity gateway for all kinds of emergency vehicles. It provides location, speed, fuel level and further data about the vehicle. It is a cost-efficient gateway to connect small and mid-sized emergency vehicles and can also be used as a retrofit solution for existing fleets.

Weight: 63 g

IP Protection Class: IP41

Operating temperature: -40°C to +85°C





ZF Battery TAG

ZF Battery TAG is easy to use and fast to install. It brings everything together in one place and stands out with its simplicity of basic tracking.

Weight: 63 g

IP Protection Class: IP65

Power Supply: 10–30 V DC



People & Equipment Connectivity



ZF Crew TAG



ZF Life TAG



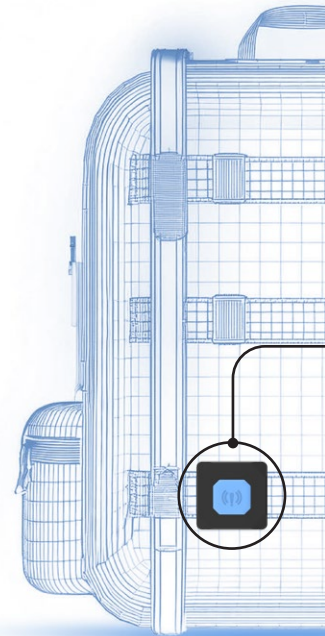
ZF Equipment Unit



ZF Equipment TAG



ZF Dog TAG





ZF Equipment TAG

ZF Equipment TAG is a gateway to connect equipment and tools. Once activated, the device will provide the location, identification and further tactical information about the asset to the ZF Rescue Connect cloud.

Interface: Micro-SIM Slot, 128 MB internal flash memory

IP Protection Class: IP67

Hardware portfolio

ZF Equipment Unit

ZF Equipment Unit is designed for smart equipment management. With its CAN interface, Bluetooth, GNSS and GSM technology, it can help locate and remotely control equipment and reduce or even eliminate the costs caused by accidents, downtime and theft while increasing general efficiency.

IP Protection Class: IP67

Power voltage: 10–97 V DC



ZF Dog TAG

ZF Dog TAG networks rescue dogs. Once activated, the device will provide the location, identification and further tactical information about the asset to the ZF Rescue Connect cloud.

Interface: Micro-SIM Slot, 128 MB internal flash memory

IP Protection Class: IP67

ZF Crew TAG

ZF Crew TAG provides connectivity for rescue workers and emergency responders. Once activated, the device will provide the location, identification and further tactical information about the crew member to the ZF Rescue Connect cloud. The personal tracker is equipped with GNSS, GSM and Bluetooth connectivity, and has many configurable features.

Weight: 80 g

IP Protection Class: IP41



World Innovation



ZF Life TAG

ZF Life TAG connects patients or victims of an incident with the ZF cloud network. Once activated, the device will provide the exact GPS location, personal identification and further medical information. The triage status is indicated by an ultra-bright LED light, helping to provide a clear overview in a complex situation.

This globally unique digital solution is a powerful tool for any mass casualty incident.

Weight: 125 g

IP Protection Class: IP41



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Digital triage in case of mass casualties



ZF e-Triage App

Digital record of each patient including injury pictures, medical values and treatment information during the pre-hospital phase.



ZF Life TAG

Unique connectivity solution for locating victims and patients of an incident.

ZF Life TAG

Trust in our solution – a globally unique concept for a triage process that is fast and transparent

In the event of a mass casualty incident, it is crucial that the triage of all patients is carried out quickly and transparently. The medical staff must quickly assess which patients require immediate assistance and which are stable enough to wait. Clear and precise communication with the entire rescue chain is key. Therefore, a fully digital triage solution has many advantages.

- **New technology concept:** patients are located and tracked in real time via GPS right from the start
- **ZF Life TAG with ultra-bright LED light for the triage category:** clear visual support in complex situations
- **Easy-to-use one-button solution:** set the appropriate classification at the touch of a button

NFC and Bluetooth functions





Visual triage category indication by extra-bright LED lights



Locking of the device against misuse by others



Long-life battery and waterproof housing



Instant real-time GPS tracking

Passive Connectivity



ZF Asset TAG



ZF Sensor TAG



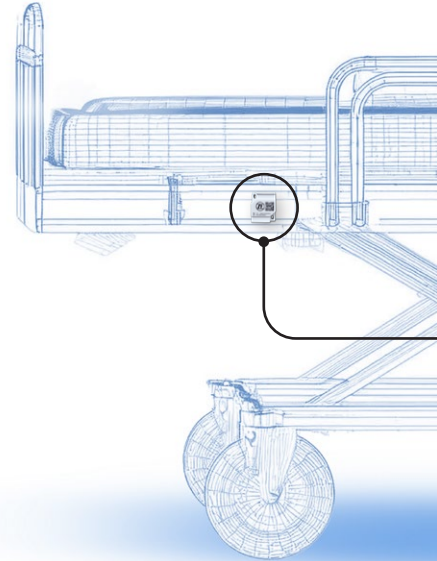
ZF Micro TAG

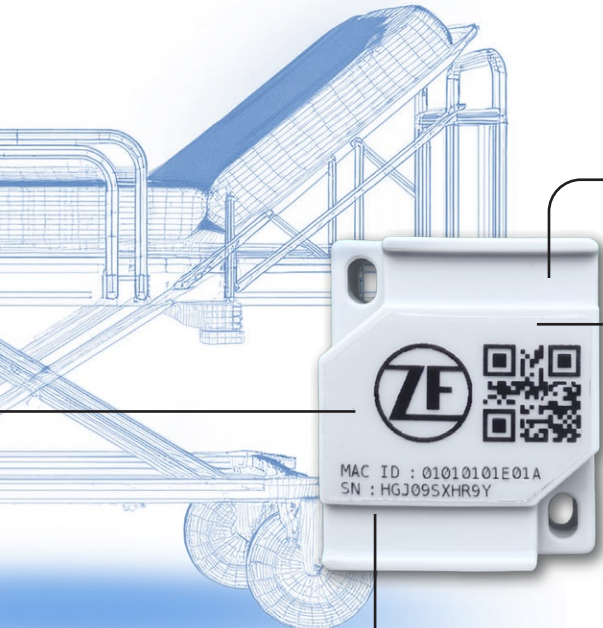


ZF Power TAG



ZF Heavy Duty TAG





Provides GPS location via its next gateway

Monitors the ambient temperature via its embedded sensor

Identifies other items within the area via its next gateway

ZF Power TAG

Bluetooth Low Energy Asset tracker with robust housing and very durable battery. The robust housing enables multiple use cases for traceability, delivery tracking, monitoring of various moving objects like tools, inventory, or trailers and containers.

Weight: 27 g

IP Protection Class: IP69K

Battery life: ●●●●●

ZF Sensor TAG

Discover our new Bluetooth Low Energy ID Sensor TAG models with robust casing and long-life battery. They are designed for a low-cost, fast, and easy configuration and integration to save precious time, resources, and improve profitability. Includes temperature sensor, humidity sensor and accelerometer. Also available with ATEX certification.

Weight: 18 g

IP Protection Class: IP67

Battery life: ●●●●●



ZF Heavy Duty TAG

ZF Heavy Duty TAG is a robust Bluetooth Low Energy Asset tracker for extremely rugged environments. Developed by ZF for daily usage on rails and trains, these devices offer precise detection of acceleration and are perfect for the monitoring of heavy objects like trailers or containers.

Weight: 370 g

IP Protection Class: IP65

Battery life: ●●●●●

ZF Micro TAG

ZF Micro TAG is slim and sleek, perfect for the tracking of items or module bags. This Bluetooth Low Energy Asset Tracker with robust housing and durable battery enables multiple use cases in traceability, delivery tracking, monitoring of various moving objects like tools, inventory, or trailers and containers.

Weight: 7 g

IP Protection Class: IP55

Battery life: ●●●●●



ZF Asset TAG

The ZF Asset TAG is our Bluetooth Low Energy Asset Tracker that can be used in many different scenarios. It enables the tracking of equipment such as shovel stretchers, spineboards or vacuum mattresses. Its small form factor, robust housing and simple configuration make it suitable for a wide range of applications. Also available with ATEX certification.

Weight: 18 g

IP Protection Class: IP67

Battery life: ●●●●●



FOREST FIRE



DISASTER MANAGEMENT



MASS CASUALTY



RESPONSE TIME



FLOOD AND WATER RESCUE



INDUSTRIAL FIRE

**Saving lives
supported by
digital solutions**





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We are a member
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