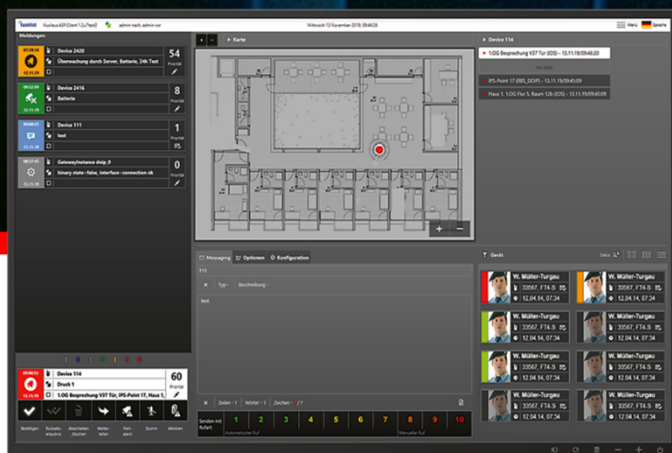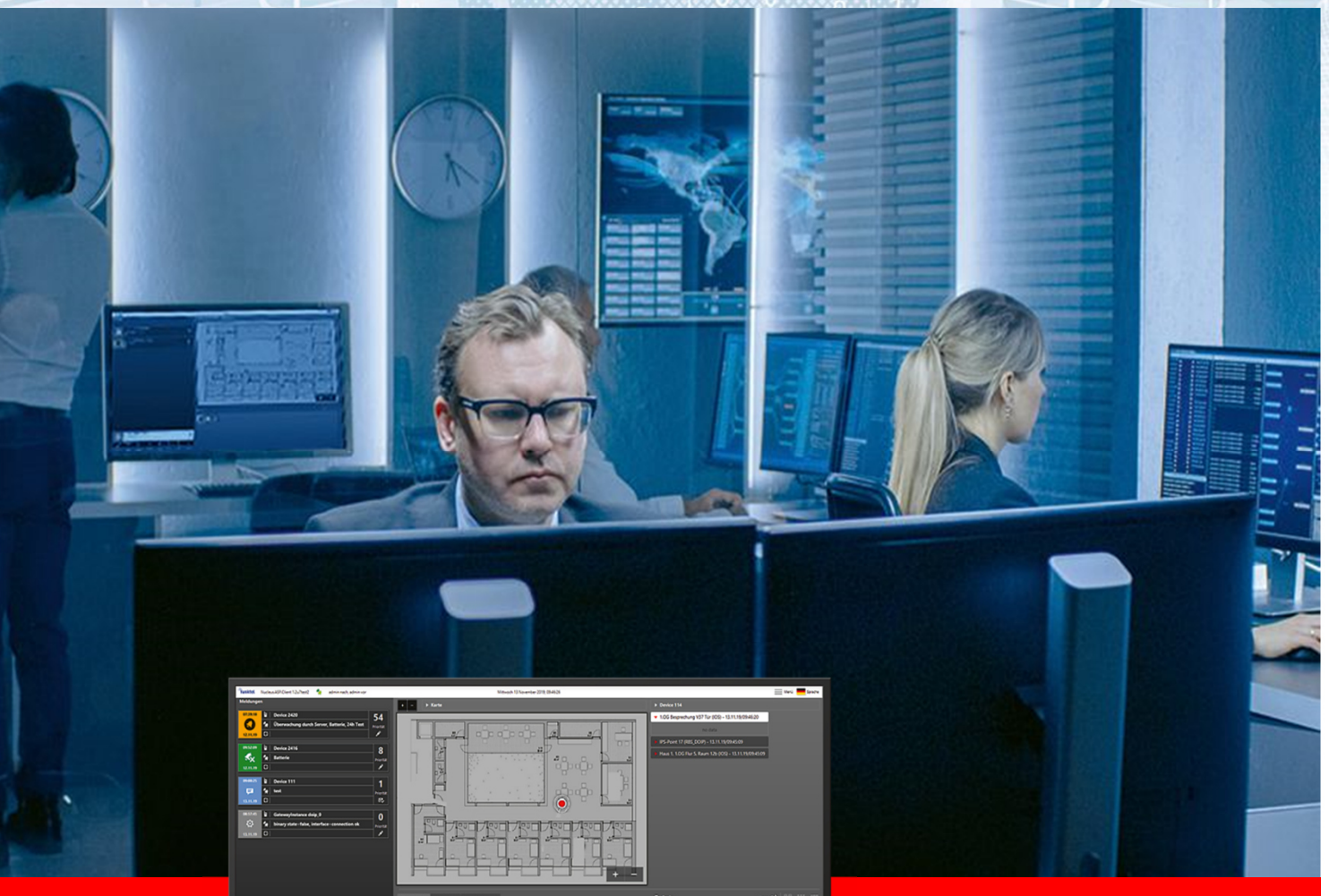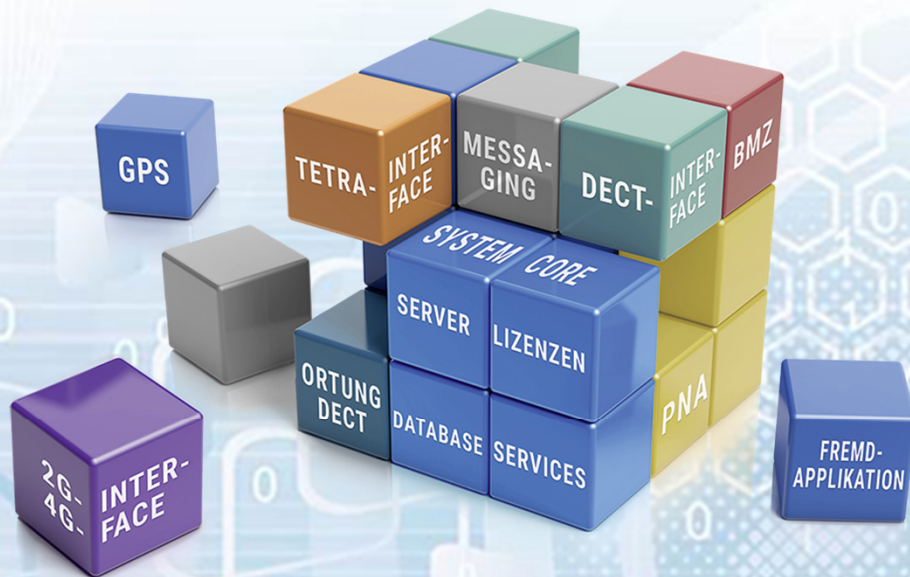# funktel Nucleus.ASP

## The integrated safety and communication platform: High-End Critical Communication

# funktel Nucleus.ASP: The high-end platform for professional communication and safety



■ From in-house messaging to a security concept for law enforcement: the Nucleus.ASP by funktel is a highly flexible and reliable communication platform for every conceivable industrial and administrative safety concept - for all sectors and for any size of system. Our internationally-recognised expertise in safety systems (critical communication) and 50 years of practical experience formed the foundation for the development of this new, universally-applicable platform.

Funktel Nucleus.ASP is a scalable real-time solution that supports all relevant industrial radio networks (DECT, TETRA, mobile radio) as well as all the safety functions of personal emergency signal (PES) systems and integrates them in a single flexible system.

Professional performance and safety features are supported and can be adapted to the situation on site with total freedom: e.g. silent alarm, automatic position and dead-man alarm, automated text messaging, guard monitoring, self-testing of terminals in terms of functionality and radio communication, among many other requirements.

Thanks to the economical basic package, the modular design is also suitable for small-scale applications (e.g. logistics points or new branch offices) and can be upgraded quickly and easily with function packages (apps) and subscriber licences.

With complete integration of third-party systems and subsystems and a broad range of personal emergency signal devices ("emergency mobiles"), the funktel Nucleus.ASP meets all communication and safetyn requirements:

- Telephony with call control for any industrial and safety-related environment
- In-house automated messaging, as desired
- Comprehensive safety functions (alarm when unconscious, silent eavesdropping and many others) with VDE (German Association for Electrical, Electronic & Information Technologies) and BGR (German Employers' Liability Insurance Association) certification
- Precise and redundant indoor device localisation (Bluetooth and inductive radio beacons, DECT base and radio cell localisation, multi-system satellite localisation) Localisation with OpenStreetMap linking, scalable from factory premises to transregional coverage
- Integration of existing industrial radio networks (DECT, TETRA, mobile communications) with network-neutral messaging
- Interfaces for all types of technical systems (door openers, intercom and fire alarms and many others by means of actuators, sensors and IP interfaces)
- Graphic, intuitive configurator with quick setup of persons, groups, signal chains and processes as well as actions and/or macros for demanding tasks
- Up-to-date, graphic alarm control point with intuitive and ergonomic interfaces
- Unambiguous logging of all events in a central log management system

# Designed from scratch:
## robust, scalable and allowing flexible integration

■ With Java-based architecture designed from scratch, the funktel Nucleus.ASP uses a platform that has been proven worldwide.   The disadvantages associated with other proprietary or significantly hardware-dependent approaches are thus avoided. Virtualisation enables the Nucleus.ASP to be integrated with existing IT infrastructures with corresponding efficiency as an alternative to the use of a dedicated standard appliance (rack or tower). As all services are performed as active server processes, stability is ensured.

The open architecture of the Nucleus.ASP enables integration with many subsystems and installations:

- Localisation systems
- Fire alarm systems
- Linking with telecommunication systems (PBX)
- Doors, cabinets, access control
- Indoor and outdoor illumination
- Sensors and actuators for production machinery and many other applications

## A modular licencing system

The configurator makes it simple and quick to activate additional functions and subscribers – such as when networks expand, new types of displays are required or third-party systems are to be integrated.  This makes the funktel Nucleus.ASP a calculable and transparent investment with an attractive entry point, even for smaller applications.

- Software modules and Nucleus apps
- Subscriber messaging (10/50/unlimited users)
- Personal emergency signal functions (10/50/unlimited)
- Localisation package for Security handsets (10/50/unlimited)
- Localisation package for GPS
- ESPA 4.4.4 interfaces
- API for linking to third-party systems
- Licences for additional alarm operator stations
- I/O connector kit with LAN connection
- TETRA interface
- DECT broadcasting
- Guard monitoring and control system

# Routing and rules –
# for complex safety concepts
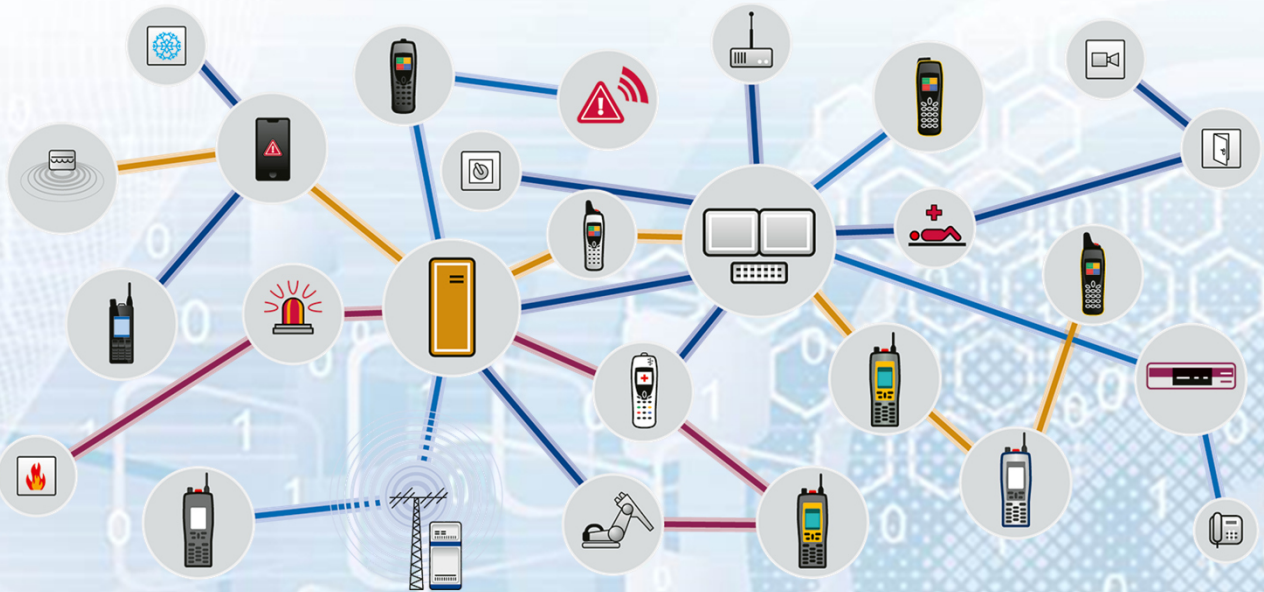
■ No matter whether the requirement calls for manual triggering by means of a button on the radio, automatic triggering of an alarm in the event of the loss of a device, continuous monitoring of an entire network, professional messaging or simple telephony: Every signal and event is captured, unambiguously logged at a central point and, if required, displayed at the alarm control point for processing – as well as simultaneously initiating any desired actions in accordance with the defined rules.

Group calls to entire sections, silent eavesdropping of the handset (e.g. in kidnapping scenarios) alarm relaying by text message or the triggering of technical systems - the highly flexible control set employed in the Nucleus.ASP enables the implementation of highly sophisticated safety concepts down to the smallest detail.   A user-friendly configuration interface with self-learning algorithms makes adaptation and upgrading convenient as well as facilitating the activation of additional features and subscriber licences.

The precise differentiation of alarm types (manual alarm, automatic position/loss/dead-man alarm, etc.) and a 10-level, visual priority display ensure that the operator of the alarm control point maintains an optimal overview even in the most complex situation.   Nucleus.ASP relays detailed systems information, alarms and messages to multiple alarm control points.

IP interfaces enable the integration of telephony and radio infrastructures. This flexibility and ease of installation facilitates the integration of subsystems with existing LAN systems as well as helping to control costs. QoS mechanisms ensure the safety-related priority of the associated communication.

Interfaces with I/O and V.24 modules enable the connection of machinery, signal generators, actuators and sensors of all types.

The logfiles can be searched for events in the Toolbox, with a search defined by means of filter functions. This facilitates behaviour recognition and the detection of technical bottlenecks.

# "State of the Art" localisation – because knowledge is not only power but also safety.



Various localisation technologies - enabling flexible integration with the system

■ As a communication platform, funktel Nucleus.ASP enables the integration of the greatest possible range of localisation information for all spatial dimensions in a single system.

## Room-specific localisation, e.g. in clinics or for law enforcement applications

By using a combination – optimised for the actual requirement – of DECT base stations (radio cell localisation) and supplementary, extremely precisely calibrated inductive radio beacons (ILBs), in the event of an emergency the position of a handset can be determined and relayed with accuracy to within a metre. This enables the position to be displayed in real time at the alarm control point in the form of building or floor plans.  It is also possible to trace paths visually over various time frames.

## Localisation via Bluetooth

Easy installation and startup as well as economic operation and maintenance are distinguishing characteristics of the new Bluetooth localisation beacons. The beacon transmitter is battery operated, making it extremely easy to install and allowing flexible placement.  All new generation funktel handsets support Bluetooth localisation functions.

## Localisation in any situation

With over 50 years of experience in the field of in-house radio communication and certified personal security, we can provide a safe solution for almost any situation, no matter how complex or unattainable it may appear in terms of radio technology. Contact us - we will be happy to advise you.

## Worldwide localisation by means of satellite on TETRA and mobile telephony handsets

A multi-satellite localisation system in the current TETRA and GSM handsets enables worldwide, precise localisation, which can be linked to an OpenStreetMap in the Nucleus.ASP system. The costly installation of localisation beacons in outdoor areas and vehicles is thus avoided. Paths can thus be traced visually after the event.

# The alarm control station: optimal information and intuitive operation – because often every second counts
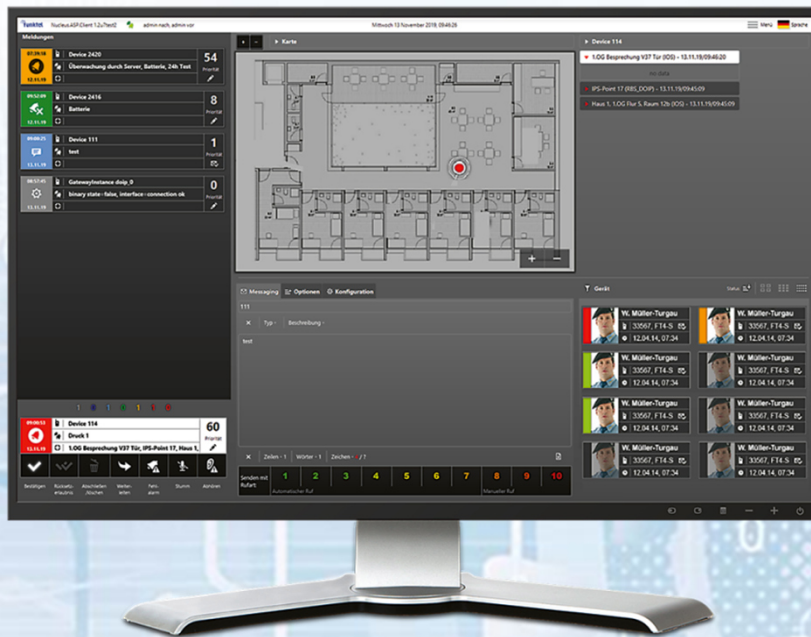


■ The new, intuitive and clearly structured interface ensures that the funktel Nucleus.ASP meets the stringent requirements of central control points. The design and operating concept incorporate not only our many years of experience but also a wide range of requests that we have received from our clients during this time:

- Drag & drop for the selection of subscribers and initiation of actions
- A "Dark Mode" is gentle on the eyes in low-light environments
- Intuitive colour coding of messages and measures
- Freely movable and scalable fields (frames)
- Multi-user operation with freely routable messaging – including from alarm control station to station

The location of localised persons can – in addition to the improved integration of site plans and graphics – also be traced beyond the business premises via OpenStreetMap. Ideal for sales representatives in remote branch offices; for instance, employees of utility companies.

Complex, filtered tracking functions indicate changes of location and paths, which easily can be traced for up to 7 days.

By linking the Nucleus.ASP to a warden guiding system (WGS), it becomes easy to control and automate all instructions and feedback to a known extent.

## The configurator: because change is the only constant

The new, user-friendly configuration and setup interfaces of the funktel Nucleus.ASP now provide a web interface that is platform and terminal neutral. This means that hand written code and cryptic configuration files are a thing of the past. The configurator can easily be adapted to in-house visual and/or work practices by means of colour schemes.

The intelligent self-learning functions of the systems facilitate significantly the setting up and modification of, for example, additional personal emergency signal handsets or localisation points:

- Setting up and management of terminals (types and groups)
- User management of clients and administrators
- Setting up of predefined calls (predefined rules and content for calls and messaging)
- Setting up the basic rules (initiators, measures, macros)
- Setting up of all interfaces for radio systems and/or subsystems

# Universal application in
# all sectors and on all properties

■ Technological development, changes in the personnel structure and safety aspects related to factory and occupational safety pose fresh challenges for building and technical managers. Constant availability and localisation are therefore indispensable, especially in the case of maze-like industrial premises and utility facilities covering an extensive area.

These applications and environments may range from safety-critical areas under development and factory security for vast industrial premises to psychiatric wards and hospitals - or from law enforcement facilities and courts to utility companies with remote branch offices  - as well as sensitive, explosion-proof plants in the energy sector: funktel Nucleus.ASP can cover demanding safety concepts - worldwide and with any radio network.

With professional planning and implementation of interfaces and systems in every conceivable environment – whether cross-country or in a laboratory, crawl space or chemical factory – and a comprehensive, high-quality range of radio devices and signal transmitters representing the state of the art and with the strictest certification, funktel offers a complete product portfolio for every work situation, every sector and all structural conditions on site.

■ As a multi-cell short-range radio with optimal localisation and low levels of energy and radiation, DECT makes it possible to offer lightweight, easy to handle handsets.
■ As a digital trunked radio system, TETRA complements industrial communication across all locations
■ Professional mobile radio systems enable messaging, communication and localisation with third parties and between enterprises - without the need for installation or a separate infrastructure

With over 50 years of experience, funktel has unique technological and practical competencies in the design and ongoing support of professional radio and personal security system. The funktel systems provide maximum safety, optimal communication and durable, robust hardware to your employees.

# Safety &
# Communication

## More than 50 years' experience

Personal Security   Guard Round Control

Localization   Explosion Protection

People Tracking   Messaging

Based in Salzgitter, funktel GmbH is a leading manufacturer of professional security and communication solutions based on DECT, GSM and TETRA technology for industry, utilities and public authorities.

We are specialists in the field of personal emergency signal devices and have built up over 50 years of know-how in the development and production of terminals that comply with the directives of the (Federal German) Employers' Liability Insurance Association and with requirements for intrinsic safety.

At our headquarters in Salzgitter we develop and manufacture mobile terminals and certified personal emergency signal devices based on DECT and TETRA technology - as one of the largest producers of handsets for professional and industrial applications.

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Full details regarding the Nucleus.ASP are to be found at funktel.com

Arrange an appointment for a personal consultation!