RAILALERT

ATWS – Train Warning System

Verkehrstechnik
Technique du trafic
Traffic Control Engineering

fr!ke

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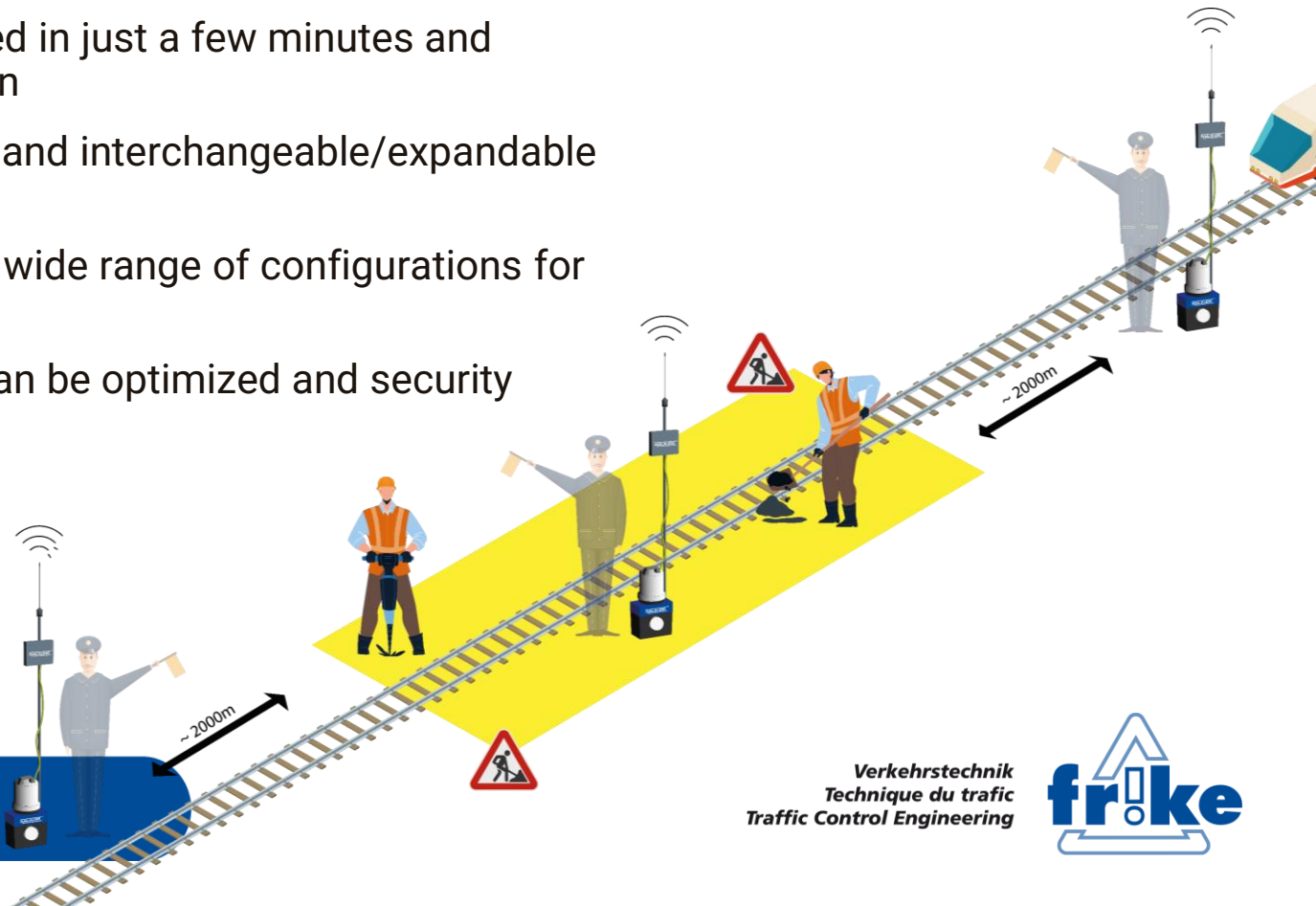
Problem analysis

- At the moment, several safety guards are needed to warn the track workers of incoming trains by sight.
- Issues:
  - Trains are quiet and getting faster and faster
  - Anyone who does not pay attention to the track is in danger
  - If a train disregards a barrier → accident
  - Safety guards are human, make mistakes and cost money
  - Construction sites are often noisy
  - Any carelessness can be fatal

Solution

- Track workers can be warned of incoming trains safely, efficiently and cost-effectively
- RAILALERT can be installed in just a few minutes and provides reliable protection
- Components are identical and interchangeable/expandable (no master/slave)
- Modular design enables a wide range of configurations for any desired scenario
- Personnel requirements can be optimized and security increased.



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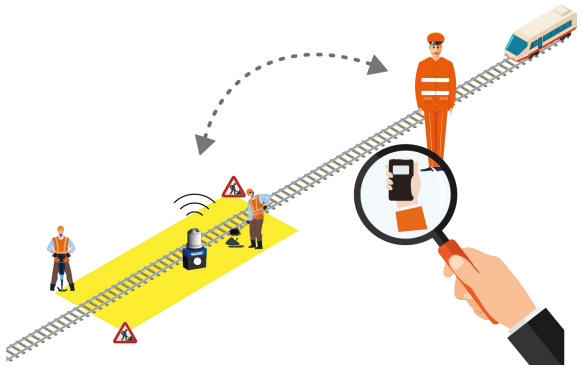
Characteristics

- Cost-effective system for mobile & temporary use
- Alarm triggered automatically by the sensor or manually with the pager
- Fail-safe principle through permanent radio monitoring.
- Modular design
- Multi-sens alarm via sound, light and vibration
- Thanks to the radio repeater, it is possible to bridge distances of several kilometers between the detection of the train and the construction site.
- The individual base stations are interchangeable and automatically detect which function they need to perform within the system.
- Personal pager for additional warning as an option
- Complete system can be operated self-sufficient with the solar panel.

MORE SAFETY - LOWER COSTS

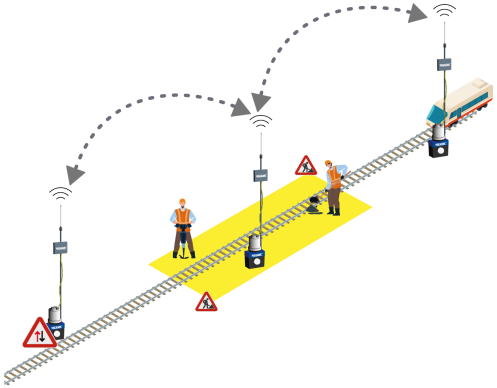
Standard applications

Micro construction site



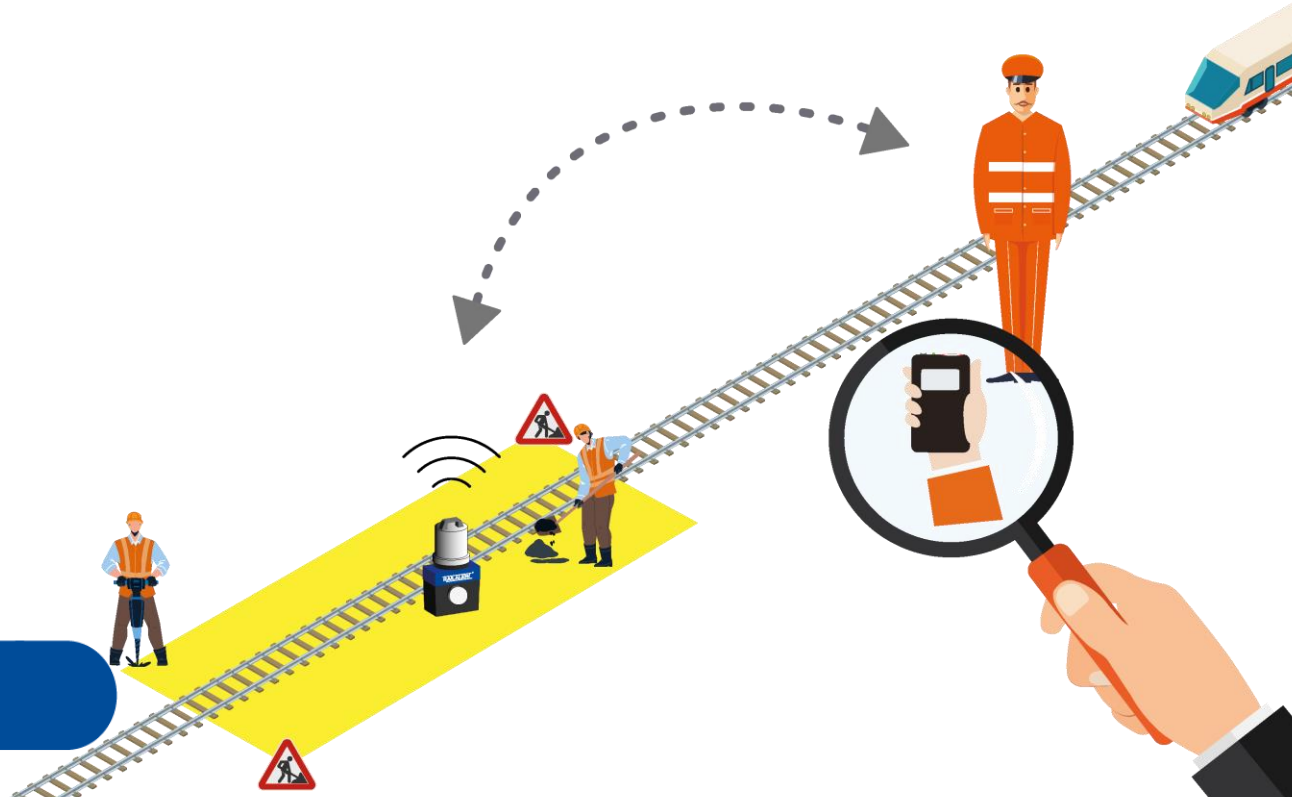
Unidirectional traffic

Bidirectional traffic



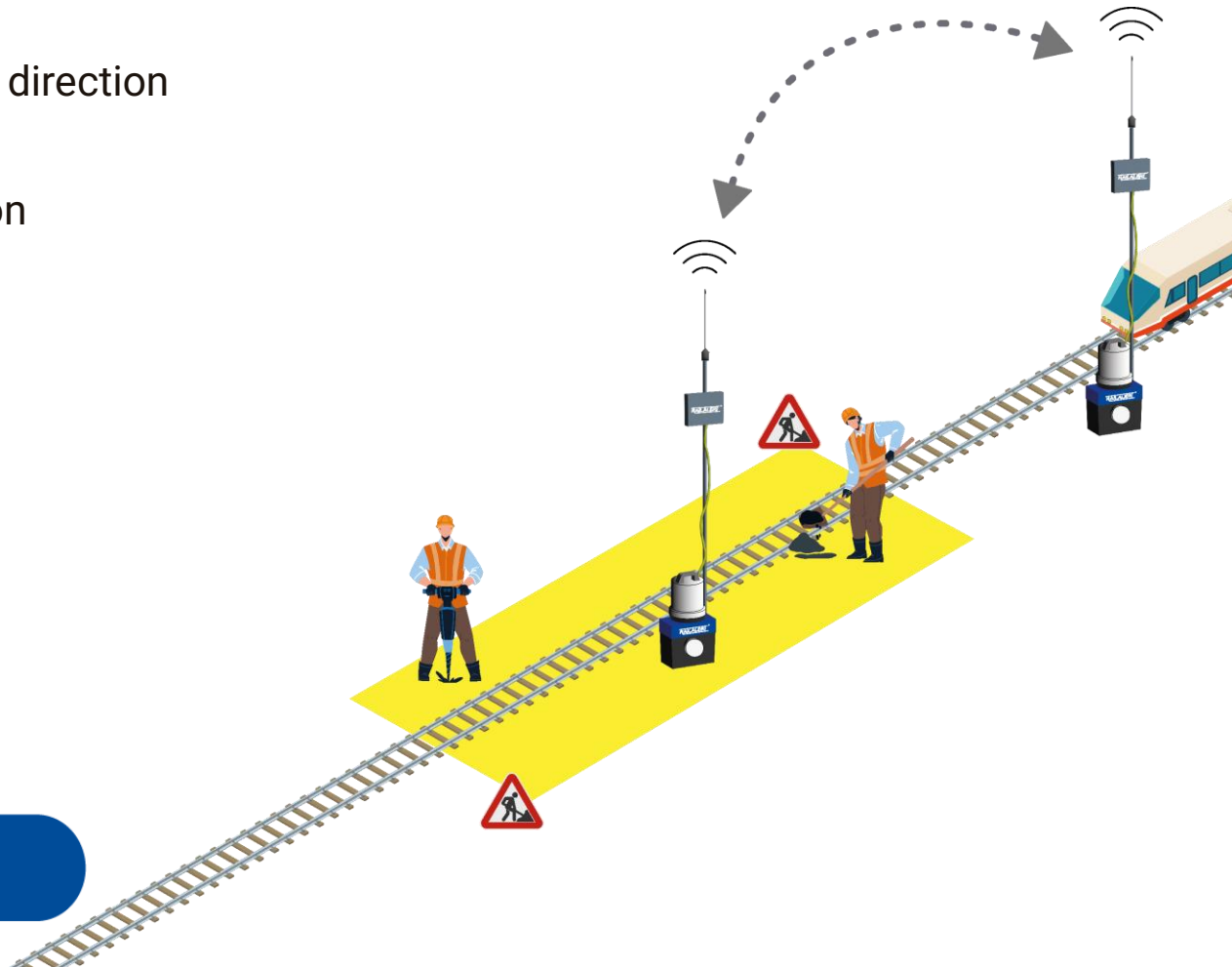
Micro construction site

- Alarm is triggered by the security guard by manually pressing the pager
- Consisting of:
  - 1x RAILALERT-Set Micro construction site



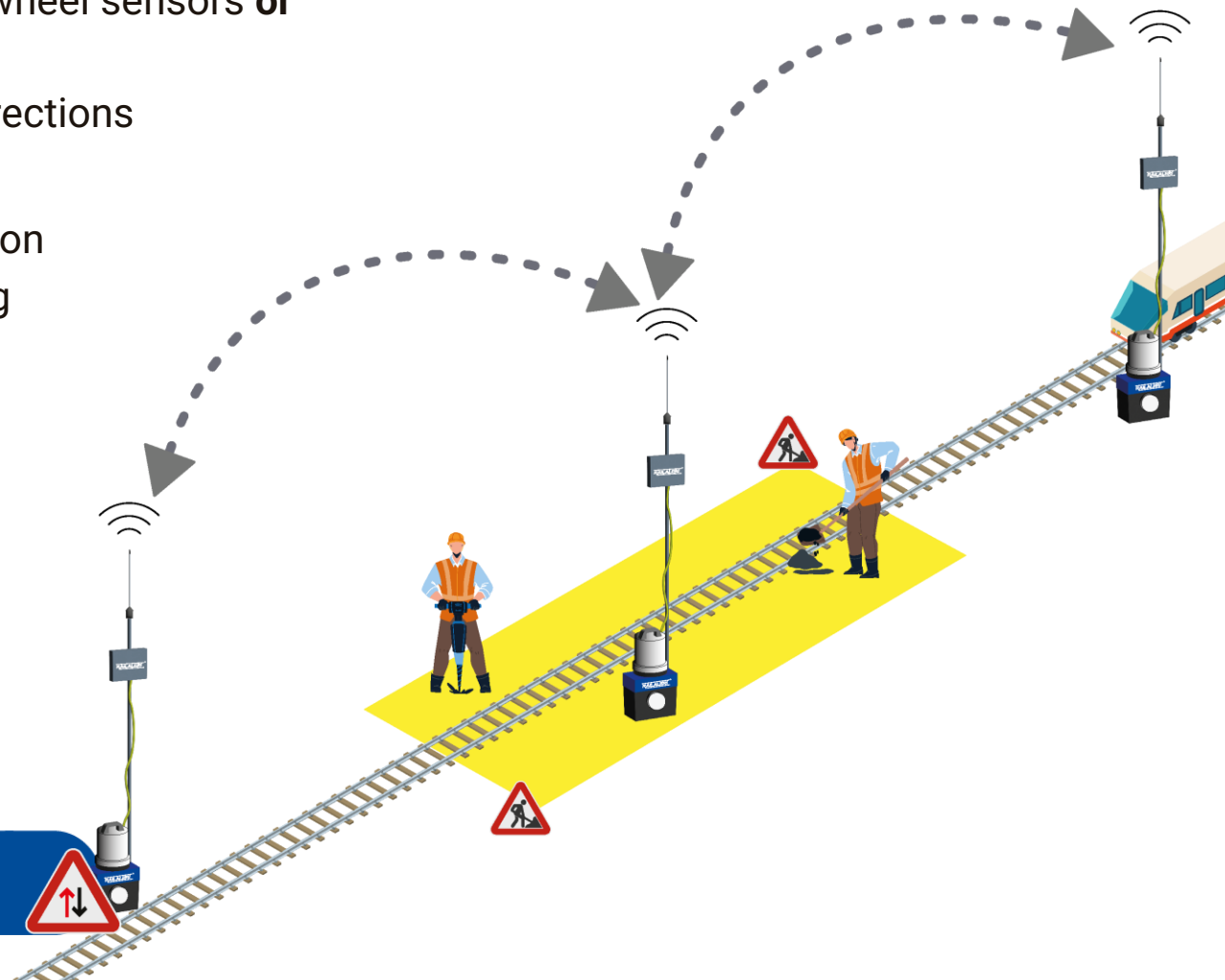
Unidirectional traffic

- Alarm is triggered by the wheel sensor **or** the pager
- Train only approaches from one direction
- Consisting of:
  - 1x RAILALERT-Set Detection
  - 1x RAILALERT-Set Alerting



Bidirectional traffic

- Alarm is triggered by the **both** wheel sensors **or** the pager
- Train approaches from both directions
- Consisting of:
  - 2x RAILALERT-Set Detection
  - 1x RAILALERT-Set Alerting



RAILALERT-SET

Micro construction site

- Base Station
- Personal Pager (3 pcs.)
- Disk Horn
- Charger
- Transport Box

RAILALERT-SET

Detection

- Base Station
- Wheel Sensor
- Assembly Jig for Wheel Sensor
- Wheel Flange Simulator
- Long Range Radio Module
- Antenna Mast
- Disk Horn
- Charger
- Transport Box

RAILALERT-SET

Alerting

- Base Station
- Long Range Radio Module
- Antenna Mast
- Personal Pager (3 pcs.)
- Disk Horn
- Charger
- Transport Box

Assembly Wheel Sensor

- Fastest installation due to magnetic sensor fixation
- Ideal guide for installing the wheel sensor magnetically.
- Can be used universally on all rail types worldwide
- Quick-release clamps bring the assembly jig into the correct position on the rail.
- Visual aids to ensure correct adjustment
- Adjustable stops allow the assembly jig to be set up to any type of rail.

1. Adjusting the crown of the rail head
2. Guide lugs of the wheel sensor
3. Quick-release clamp of the assembly jig to the rail
4. Assembly jig
5. Adjusting the rail head width
6. Wheel Sensor
7. Fixing magnets
8. Positioning scale for the horizontal distance to the rail head
9. Hinged sliding guide for the guide lugs

Personal Pager

- Multi-sens-alarms visual, haptic and audible
- Manual alarm triggering via push button
- Pager logs in when entering the secured area (NFR)
- Pager logs out when leaving the secured area (NFR)

1. Manual triggering
2. LED status transmission
3. ON / OFF switch
4. Speaker

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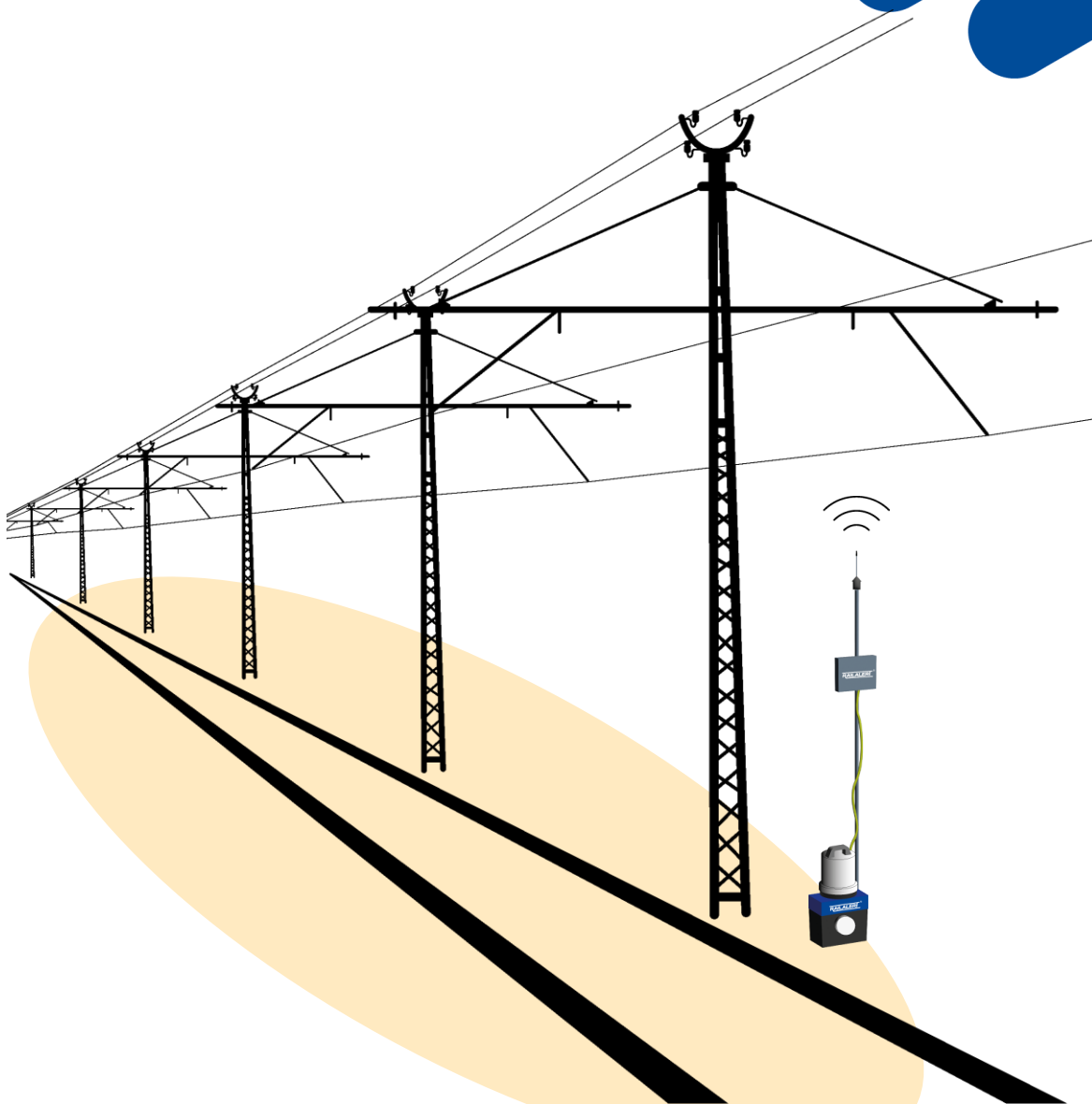
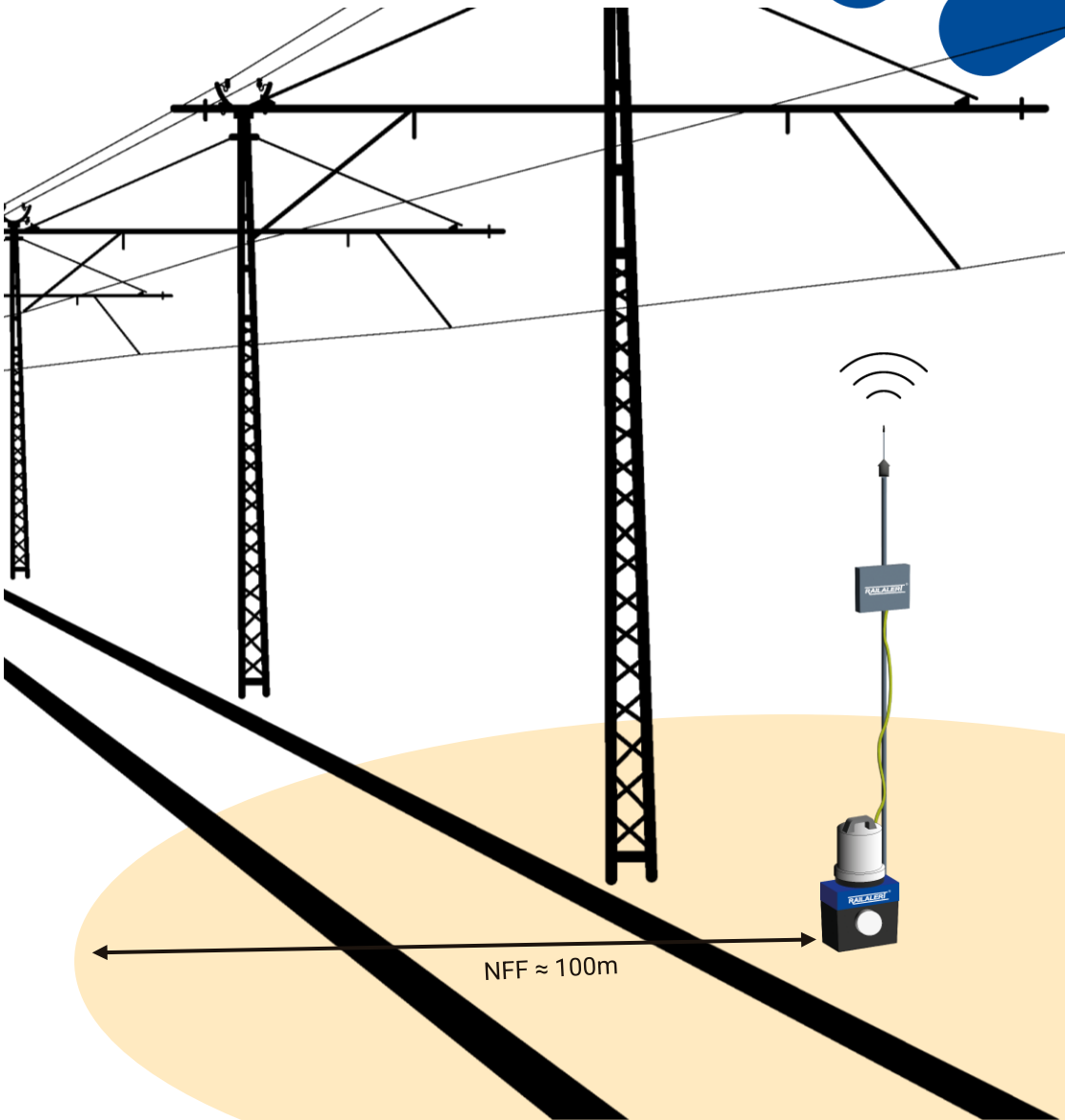
Long Range Radio

- Ensures the communication between the RAILALERT-Sets
- Transmission of the signal up to 3km even in urban areas
- Expandable with peripherals via plug connection



Near Field Radio

- Near-field radio covers a radius of 100m around the base station
- Transmits the pager signal



ACCESSORIES

Accessories

Solar Panel

- 100% self-sufficient operation of a whole RAILALERT-Set
- Flexible installation, e.g. mounting on the antenna mast

Signal Horn on Tripod

- Optional dual warning - visual and audible
- 126dB sound volume through powerful horn
- Stable stand on telescopic tripod
- Manual triggering possible via push button

Accessories

Mobile Carrying Unit

- Local intensive warning with accompanying base station
- For mobile workzones
- Optimum carrying comfort in cooperation with Tatonka
- Same carrying comfort as a trekking backpack
- Backpack is self-standing

Creating safety together!

Further information

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