FELA Refit - Passenger information systems

20.12.2022

01. FELA PIS-Refit

Products and services for the refit of passenger information and communication systems

We understand a refit to mean comprehensive modernization existing PIS solutions decentralized on vehicles and centrally for the control center.
This includes modern and economical products for passenger communication and integration existing or new data interfaces.

Refit

Analysis

- Analyze old stock
- Determine requirements for connection to new systems
- Coordinate the desired range of functions
- The entire old system does not always have to be replaced

We would be happy to discuss the options with you!

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Refit

Concept

- Vehicle inspection for inventory
- Consider available space
- Design and plan the scope of the refit
- Focus on old-new compatibility

Refit

Interfaces

- Check interfaces of existing systems
- Existing compatibility layers for RUF, Stadler-IM and others
- In order to keep operational disruptions short, we are developing new interface adjustments to ensure communication with the existing systems in mixed traction
- Ensure the operation of old and new generations, vehicles and systems

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Refit

Implementation

- Installation by us, you or together
- Commissioning of the refit vehicles
- Commissioning in mixed traction
- Carry out static and dynamic tests in the same way as for new vehicles
- Acceptance by our service staff on site
- Train staff on the new systems
- Onsite and remote support
- Service and maintenance contract

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Refit

Scalable modernization of passenger information

Our experience:

- Successfully implemented projects in mixed traction
- Tried and tested FELA-PIS system as a basis
- Broad knowledge of current and proven solutions from competitors on the market
- Manufacturer, integrator and service provider under one roof

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Competency overview

Expert knowledge for tailor-made services

Development and construction

- Customized solutions for individual requirements

- Expert knowledge in mechanical engineering, electrical engineering and IT

- Many years of experience with common approvals, standards and customization options

- Obsolescence management with a guaranteed lifetime

Software solutions

- Server applications, control software and firmware for networking of all components

- User-friendly frontend interface

- Flexible combination of functions using software modules

- Data preparation, data analysis and reporting as a service

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Competency overview

Expert knowledge for tailor-made services

Components

- Own hardware and firmware development at the FELA locations
- Production according to ISO 9001
- Own repair service for all components
- Turnkey configuration before delivery

Service & Support

- Commissioning and troubleshooting by our own employees
- Detailed product and system training on the customer side
- Own test systems for quality assurance and for individual system adjustments
- Personal service technicians for all questions after commissioning, by phone or on site

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Vehicle components

All from a single source

- Interior displays: TFT monitors
- Outside, front and side indicators
- Intercom stations, help and emergency calls
- Audio Output Systems
- Video surveillance
- HMI in the train driver's cab
- Telephone box

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02. Refit-Expectation

Challenges of modernization

The cornerstone for a successful implementation is a solution concept for each system function. After a joint inspection, coordination and planning begin.

Concept work and challenges

Individual consideration PIS / PAN / CCTV / VoIP / AFZ

- Design for arrangement and number of monitors

- Integrate audio and VoIP solutions

- Conception, construction and integration of modern digital CCTV solutions

- Create a network concept and integrate it into the existing network

- Flexible and customer-oriented mechanical solutions «Updating an old vehicle always brings surprises – we have the tools to do it.»

Create and implement network concept
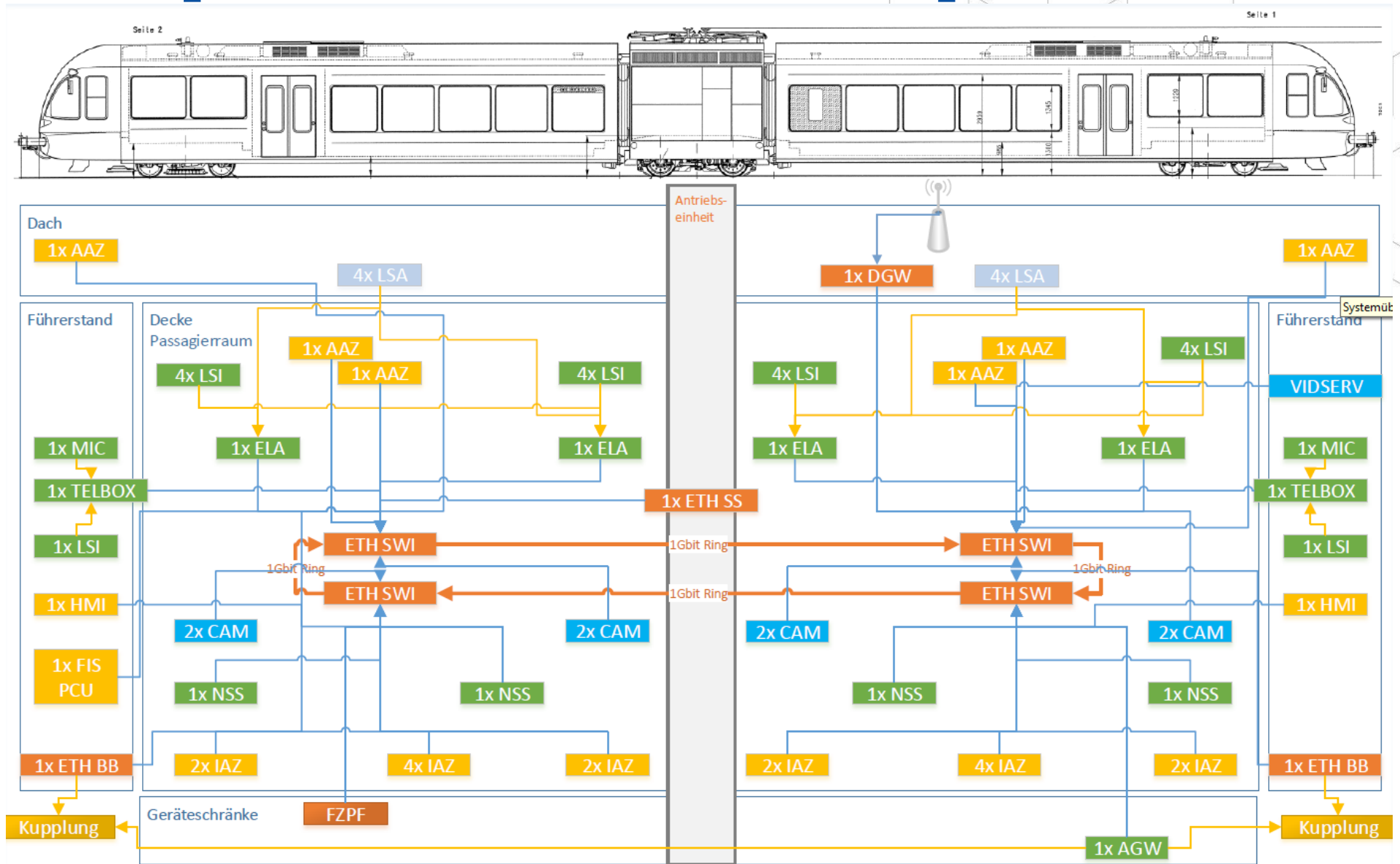
Installation of network switch

Ceiling mounting in isolation cut-out
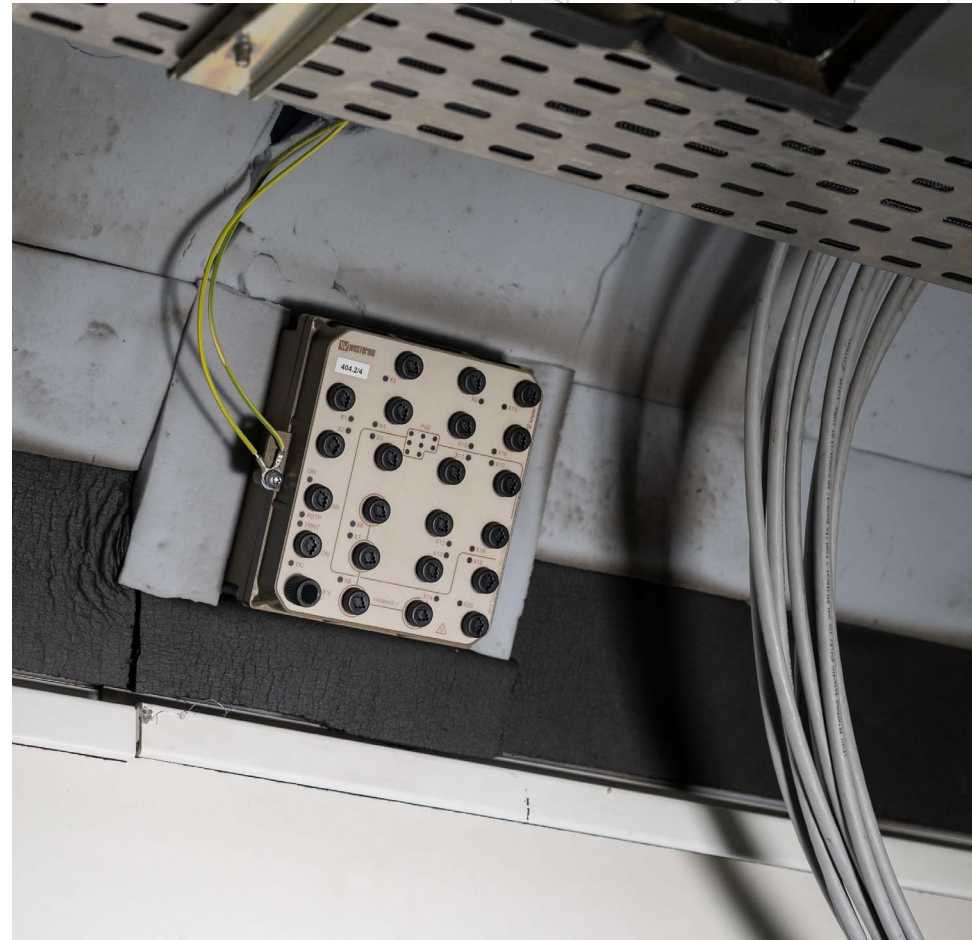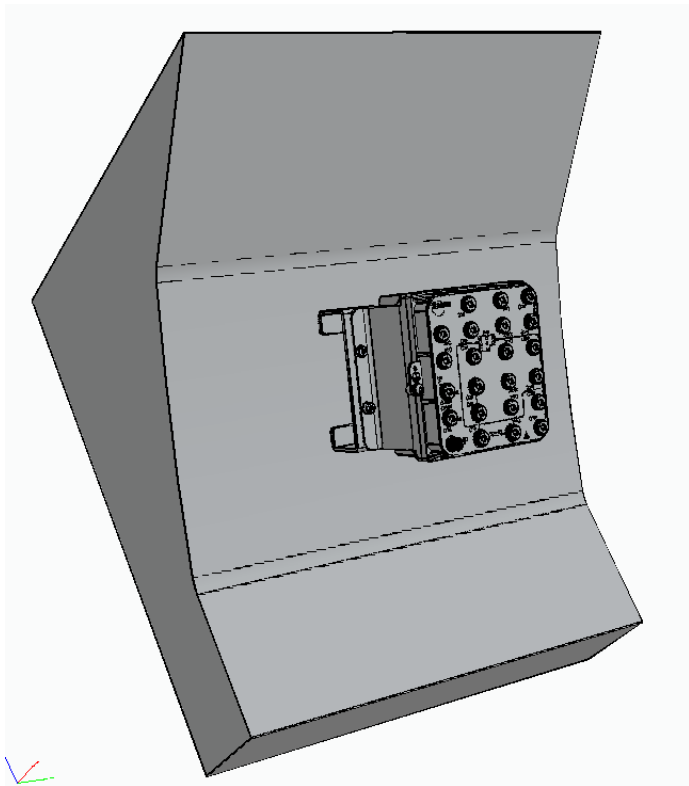
Interior displays
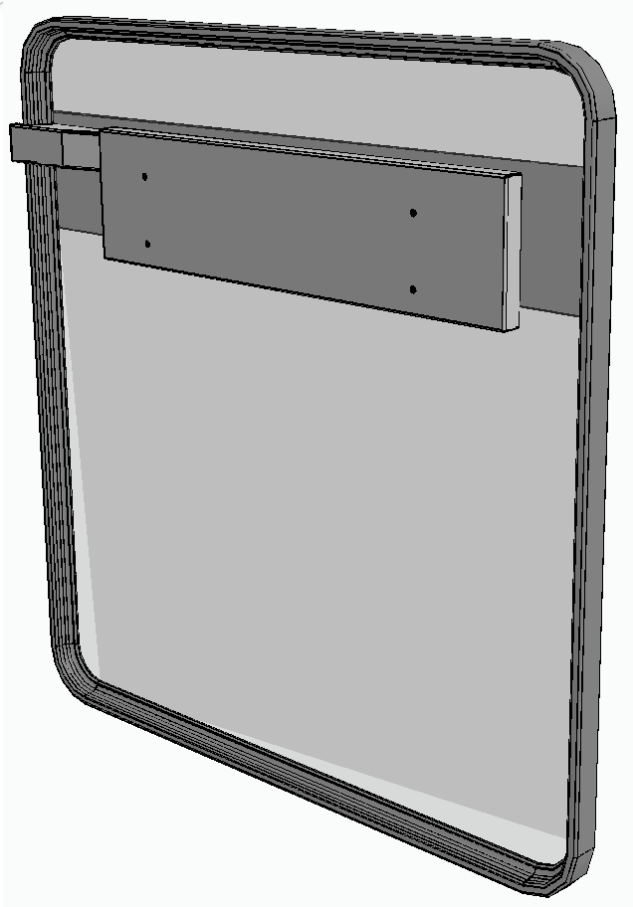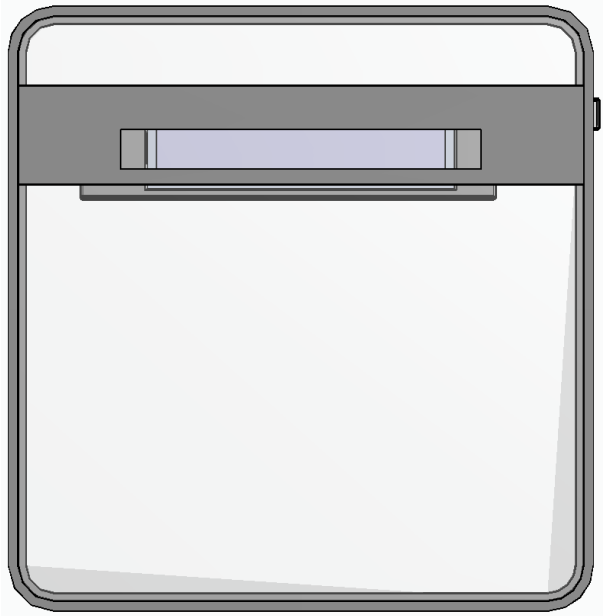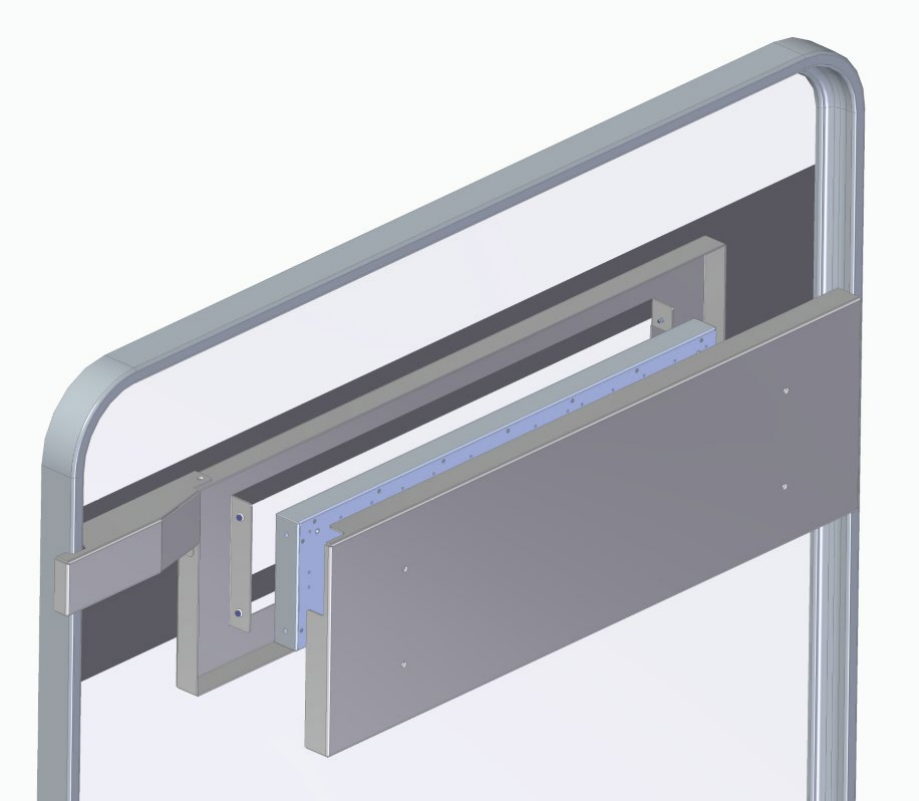
Arrangement and orientation
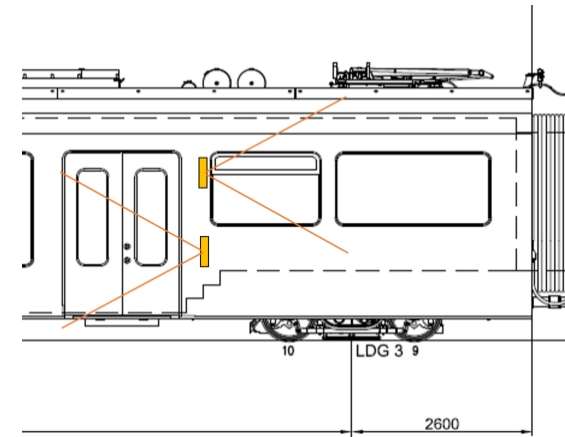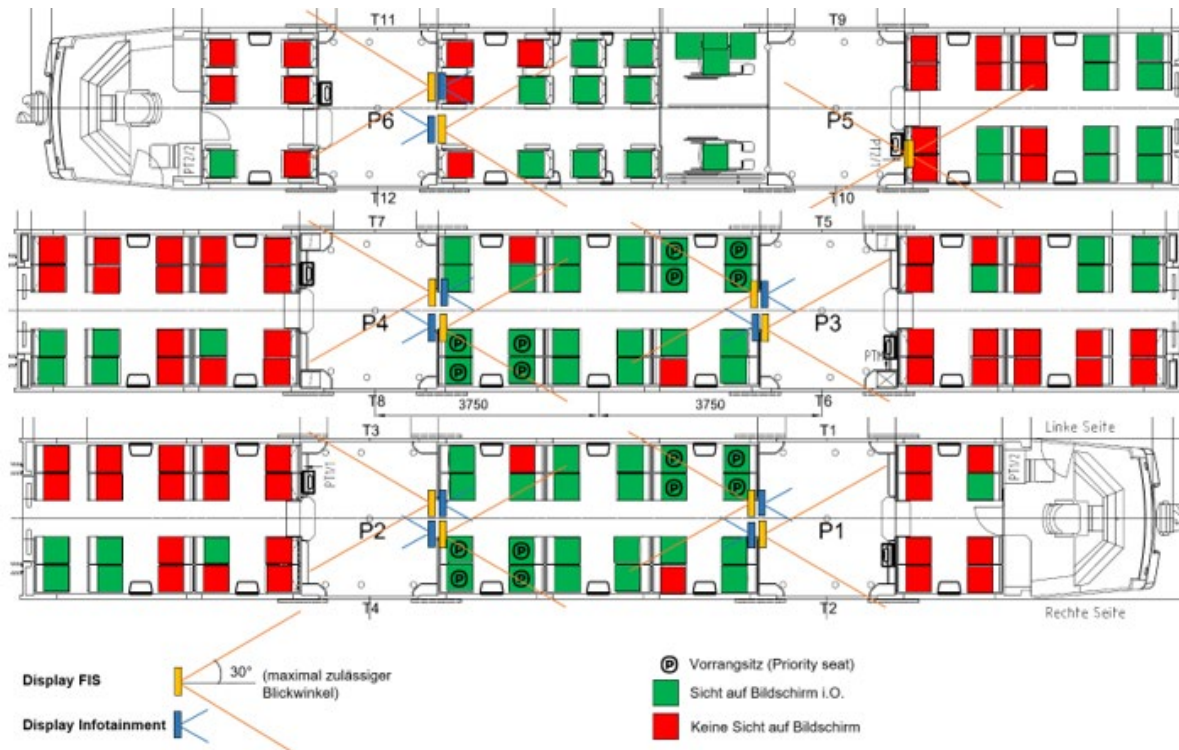
- Visibility given for at least 51% of the available seats
- According to «BAV approval procedure for non-interoperable rail vehicles - guidelines for BehiG experts»
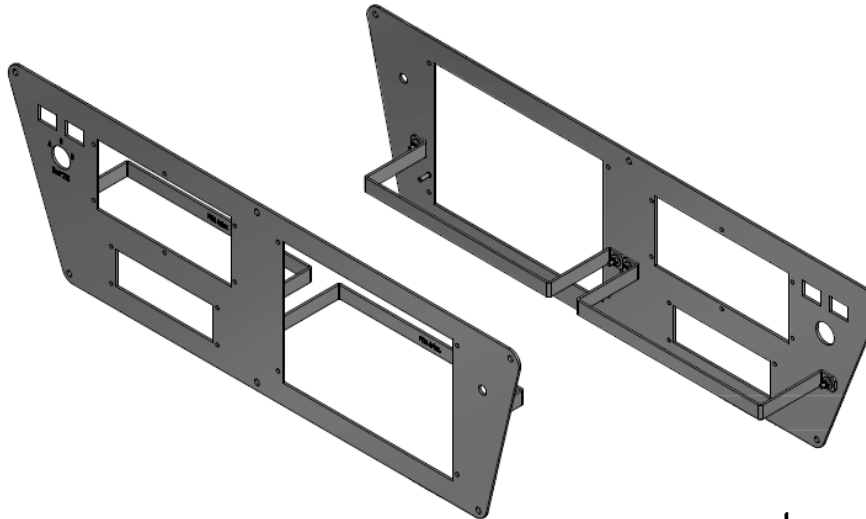
Pole mount monitor holder
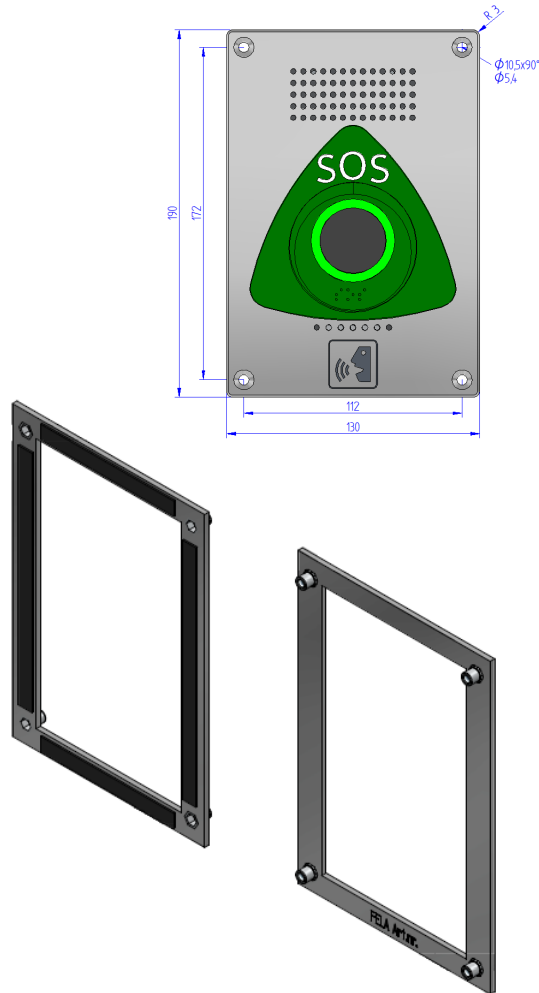
Replacement side display

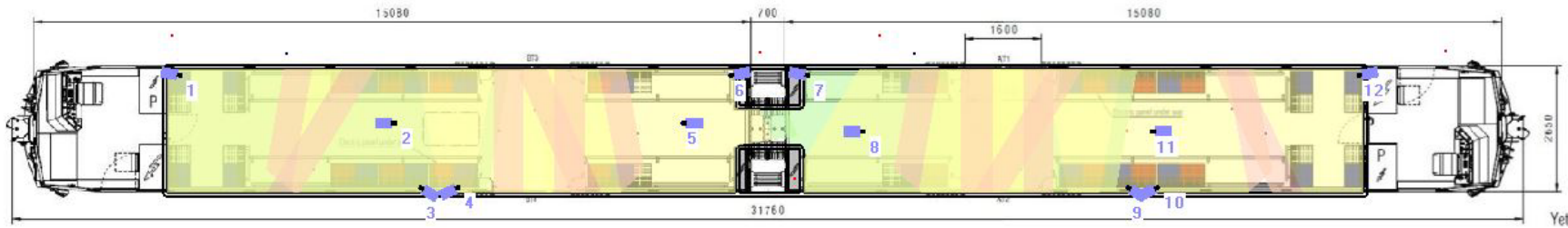# Customization dashboard train driver

Installation of emergency intercom

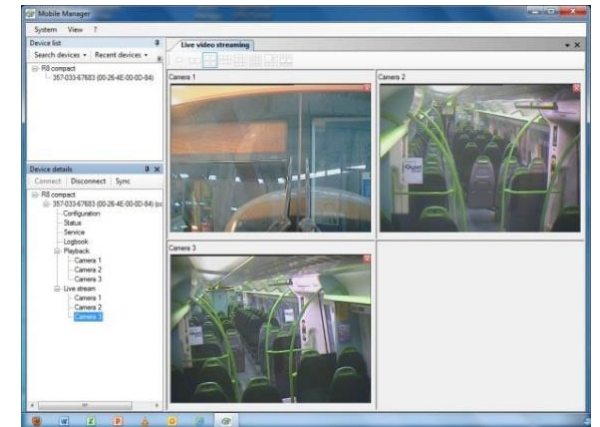## Integration into existing section, TSI-PRM compliant

Video surveillance / CCTV

Illumination study according to EN 62676, layout proposal, encrypted recording

Strong Identification	1000 px/m
Identification	250 px/m
Recognition	125 px/m
Observation	62 px/m
Detection	25 px/m
Monitoring	12 px/m

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Refit competence

Project partner with handshake quality

- Successfully implemented Refit projects at RBS, Forchbahn and LEB. We would be happy to organize a joint appointment on site.

- Our aim is to offer you the combination of components and system architecture that meets your requirements.

- This is what we stand for with our expert knowledge in Passenger Information System, Ticketing, IoT Tracking and Refit.

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Refit? FELA!

Many Thanks!

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