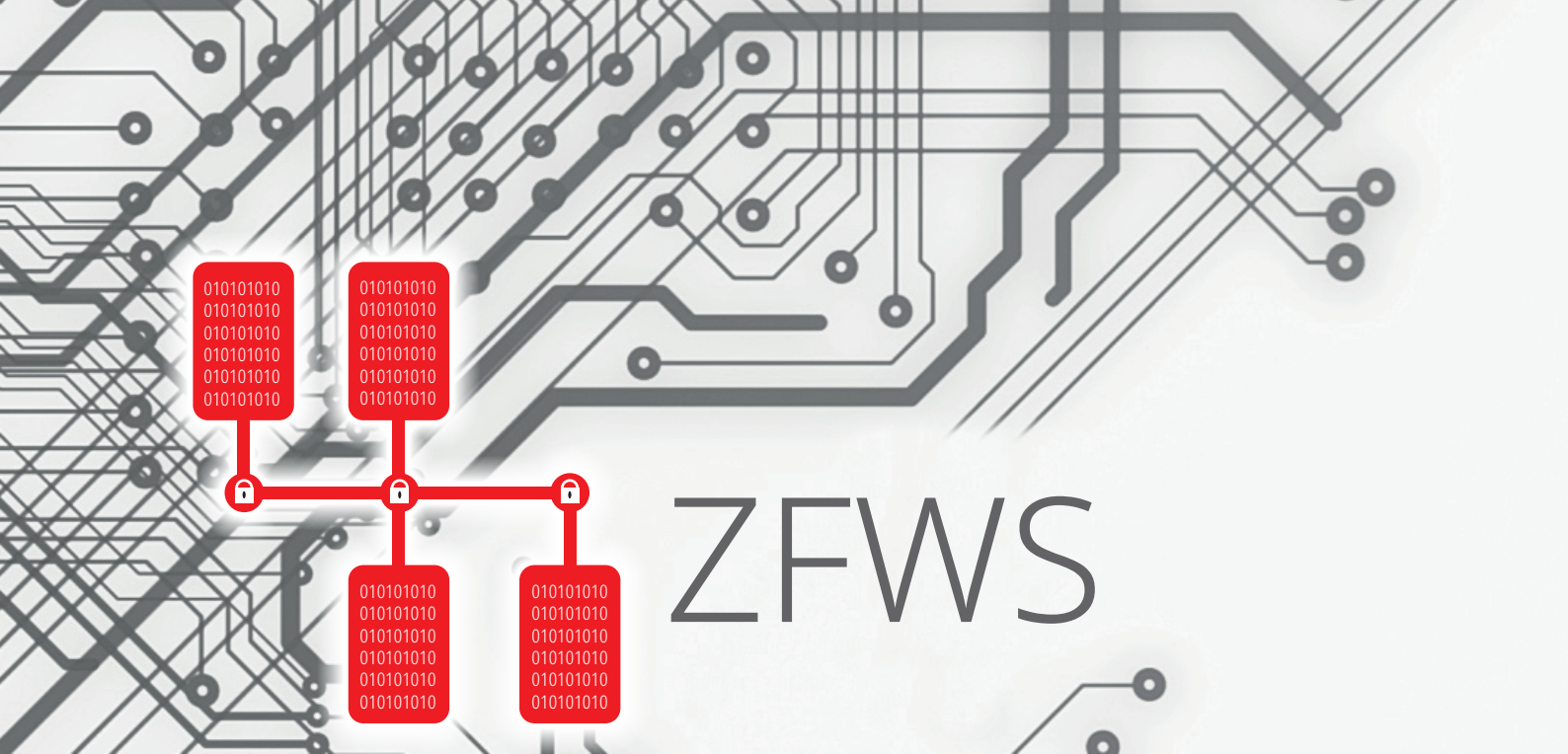




# Remote Control System

## Safe & secure data communication

Approval for railway operations

### Safety Features

- Safe data transmission according to CENELEC EN50129 - SIL4
- Any number of participants
- Transmission medium fiber optic cable or copper cable
- Approvals for several austrian railways Field-proven technology
- One common network
- Transmission of "normal state", "active state" and "valence state"

### ZFWS Central/Substation

- One control center is able to control 6 substations
- Based on safe PLC, certified according to CEN SIL4 50126/28/29
- Interface modules for all types of interlocking
- Constant monitoring of communication!

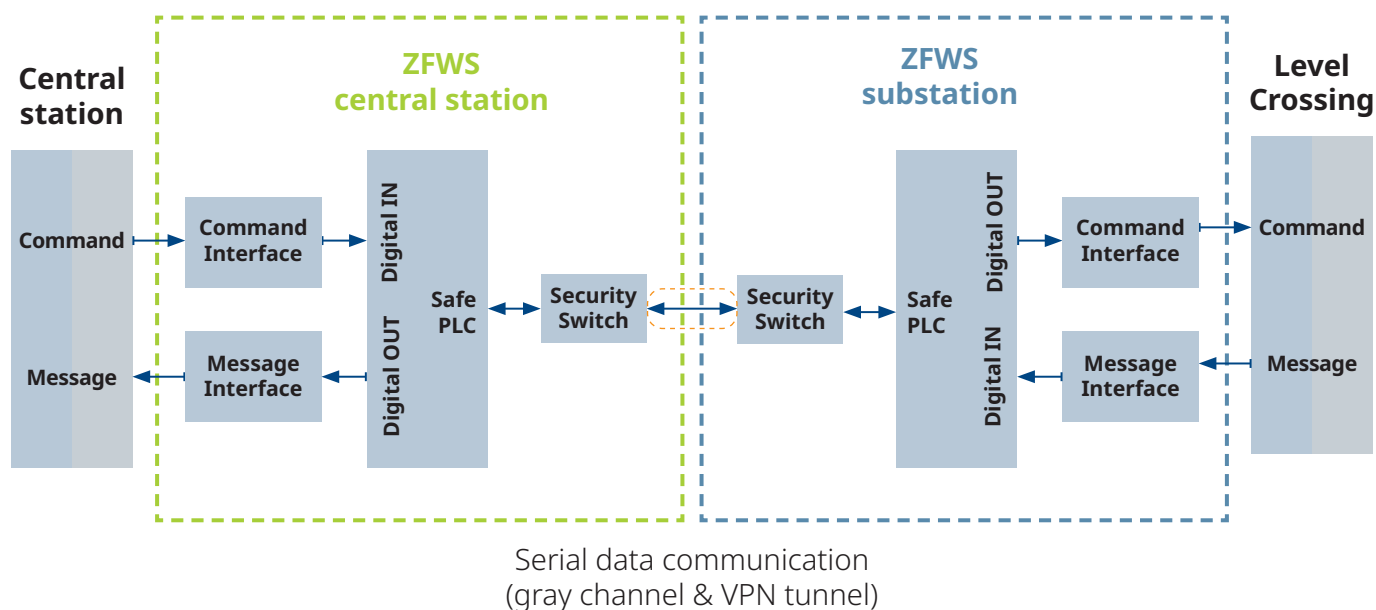
### Security Features

- Designed to support Cyber Resilience Act (CRA) requirements
- End-to-End encryption across the entire communication path
- PKI-based certificate authentication for secure device and user identity verification to enhance protection
- Protection against unauthorized access, data theft and malicious manipulation
- Centralized user management & User group-based access control
- Role and clearance-based permissions



**ZELISKO**

## Zelisko safe data communication SIL4 – authorization for railway operation

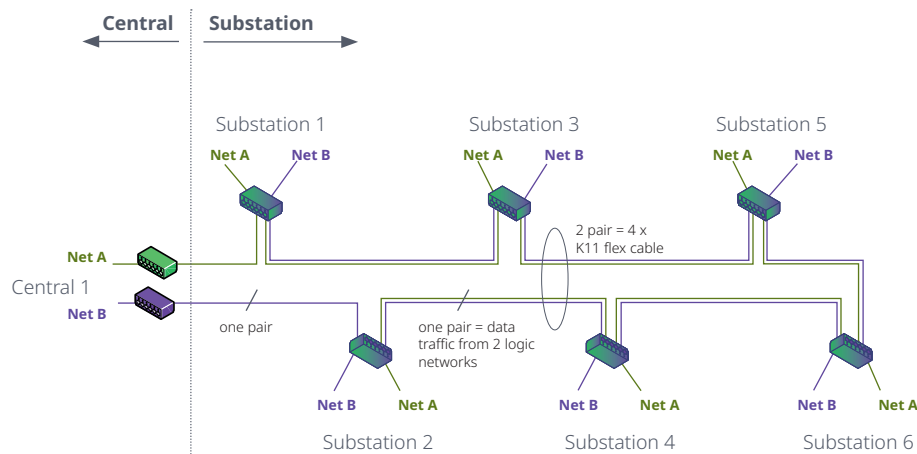


### ZFWS Variants

Currently two configuration variants are used – depending on the QoS (Quality of Service) of the connection:

- Fiber optic cable – safety time 0.2 s
- DSL – safety time 1.6 s

### ZFWS Network structure



- Safe ethernet is based on UDP, no special network structure or network requirements (gray channel).
- Possible redundancy by two logically separated connections, control panel with 2 repeaters (redundancy) – 4 wires are needed

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