



# TrainSwing REA-11

Radio Block Centre for ERTMS/ETCS (system version 1.1)

- Failsafe and reliable system meeting SIL4 requirements according to CENELEC
- Interoperability constituent according to TSI CCS
- ETCS L2 function meeting ERTMS/ETCS specifications
- High reliability and availability
- Control core architecture 2oo3, HMI computer architecture 2x2oo2
- Architecture 1oo2 for communication, diagnostics and supportive functions
- Modular structure of communication units (ETHERNET – IPX, TCP/IP, UDP/IP; ISDN, ...)
- Effective and tailor made solution for specific requirements of Infrastructure Managers
- Local and remote diagnostics centralised to DiagSwing LDS-3



## GENERAL DESCRIPTION

TrainSwing REA-11 (further REA-11) is the radio block centre designed for fail safe supervision of trains equipped with ETCS within ERTMS/ETCS L2 projects and on lines where station interlocking and/or line signalling system with data interface is installed.

REA-11 implements relevant ETCS functions in compliance with 3rd set of specifications (baseline 3, release 2) according to Regulation of (EU) Commission 2016/919 on technical specification for interoperability of „Control command and Signalling“ subsystems in the European Union (TSI CCS).

## BASIC TECHNICAL DESCRIPTION

REA-11 consists of 2 main parts:

- RBC core (RBCC) – HW and SW components having implemented ETCS functionalities and communication with adjacent systems (IXL, OBU, adjacent RBC)
- RBC commanding workplace (HMI RBC) – enables commanding and indication of ETCS trackside and OBU

RBCC works in 2oo3 architecture and provides all safety-critical functions. RBCC processes safety-relevant layers of Euroradio protocol for OBU, SAI/ESL/ALE for adjacent RBC and protected ETMNET+ for IXL and HMI.

HMI REA-11 contains 3 types of operator's workplaces for:

- Maintenance dispatcher - provides complete set of ETCS commands and indications
- ETCS dispatcher – provides set of ETCS commands and indications for operation of one or more RBCs
- Line dispatcher – united workplace for centralised traffic control via TrafficSwing DOZ-1 and operation of one or more RBCs





## BASIC TECHNICAL PARAMETERS

Supply voltage (Panel RBCC & ISDN /GNA)	AC 230V ± 10 %, 50 Hz; DC 24V ± 20 %
Temperature range	climatic category T1 according to EN 50 125-3
Humidity	5 % to 95 %
EMC compliance	EN 50121-4, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-6-4
Service life	minimum 25 years

