Research&Development Company
PROMELECTRONICA

Track clearance control

ESSO-M and ESSO-M-2
Axle Counting Systems

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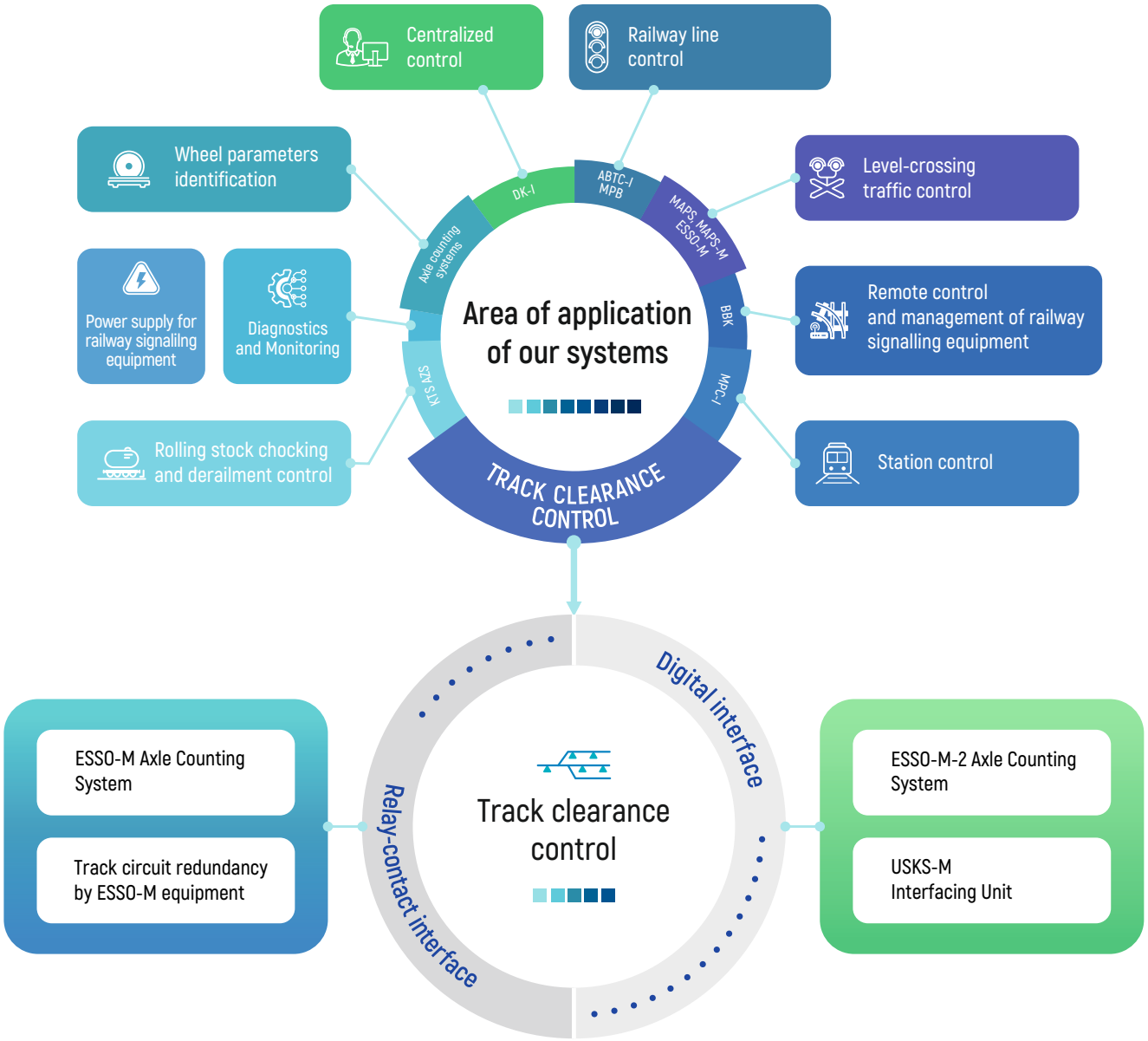

Centralized control
Railway line control
Wheel parameters identification
Level-crossing traffic control
Power supply for railway signalilng equipment
Diagnostics and Monitoring
Remote control and management of railway signalling equipment
Rolling stock chocking and derailment control
Station control
Area of application of our systems
DK-I
ABTC-I MPB
MAPS, MAPS-M ESSO-M
BBK
MPC-I
KTS KZS
Axle counting systems
TRACK CLEARANCE CONTROL
Track clearance control
Digital interface
Relay-contact interface
ESSO-M Axle Counting System
Track circuit redundancy by ESSO-M equipment
ESSO-M-2 Axle Counting System
USKS-M Interfacing Unit

AREAS OF APPLICATION

- Improvement of safety and operational readiness of train traffic control systems due to high RAMS values.
- Transmission of technological data on train movement to upper-level systems.
- Reduction of running costs due to absence of external relays.

AXLE COUNTER SYSTEMS
OF R&D COMPANY PROMELECTRONICA IMPLEMENTED

ON ALL RAILWAYS
OF JSC RUSSIAN RAILWAYS

≈40 000
COUNTING POSTS

IMPLEMENTED
IN 9 COUNTRIES FROM NORILSK TO JAKARTA

MORE THAN 20 YEARS
OF EXPERIENCE

ESSO-M AXLE COUNTING SYSTEM

The main purpose of the system to control vacancy/occupancy of a track section of any length and configuration, and it also can be used as an alternative to track circuits.

Integration of ESSO-M with upper-level systems is carried out via integrated secure potential-free interface.

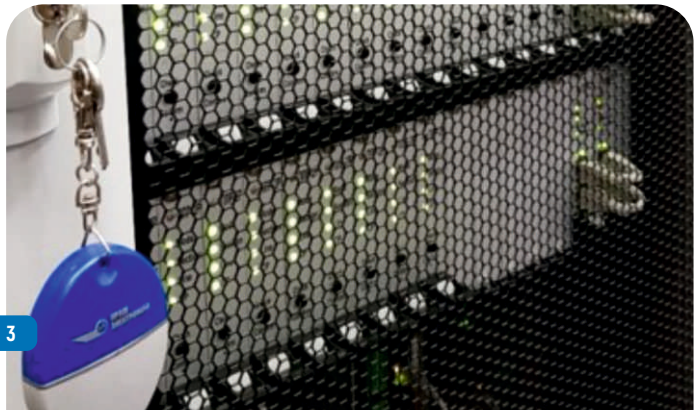
ESSO-M is also used to back up track circuits. In case of track circuit failure, ESSO-M can be enabled for the duration of troubleshooting efforts.

ESSO-M has been certified to CENELEC SIL4 safety integrity level.

ESSO-M-2 AXLE COUNTING SYSTEM

The system controls vacancy/occupancy of track sections of any length and configuration and offers non-relay integration with signalling systems.

ESSO-M-2 provides improved integration with upper-level systems via secure redundant digital Ethernet-based interface.



Systems are recommended for application on the **Russian Railways network**

CENELEC SIL4 safety integrity level

Operational temperature range for wheel sensors from **-60 up to +70°C**

RELIABILITY AND SAFETY

Award from the Russian Railways for the best quality of complex technical equipment

HIGH resistance to mechanical, electric and climatic effects

USER ADVANTAGES

- User-friendly interface.
- Integrated troubleshooting guide.
- In-built diagnostic, monitoring and event logging systems (local and remote).
- Does not require electronic adjustments, specialized design and configuration tools.
- Can be operated with any type of ballast.
- Sensor connected to indoor equipment by a single pair of wires.

DIAGNOSTICS AND MONITORING

ESSO-M/ESSO-M-2 Diagnostic System is a hardware and software complex that gathers, logs and displays diagnostic data in real time. The system transmits diagnostic data through external signalling monitoring and control systems.

ESSO-M/ESSO-M-2 Terminal is designed for real-time monitoring of the system on a station, saving and viewing system log, assistance in troubleshooting to operating personnel.

Screen of ESSO-M/ESSO-M-2 Terminal displays stations available for monitoring as well as their miniaturized layouts. Scale of the selected station is adjustable.

Clicking on any track section displays full information on its current status.

USKS-M INTERFACING UNIT

USKS-M Interfacing Unit is intended to connect axle counters directly to MPC-I Interlocking using vital serial data channels. It excludes auxiliary indoor axle counting units.

- data is sent by Ethernet;
- status control of track sections of any configuration and size.

ESSO-M AND ESSO-M-2 EFFICIENCY IN COMPARISON WITH TRACK CIRCUITS

*according to calculated rate a particular mainline project

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Watch the video
about ESSO-M/ESSO-M-2

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