



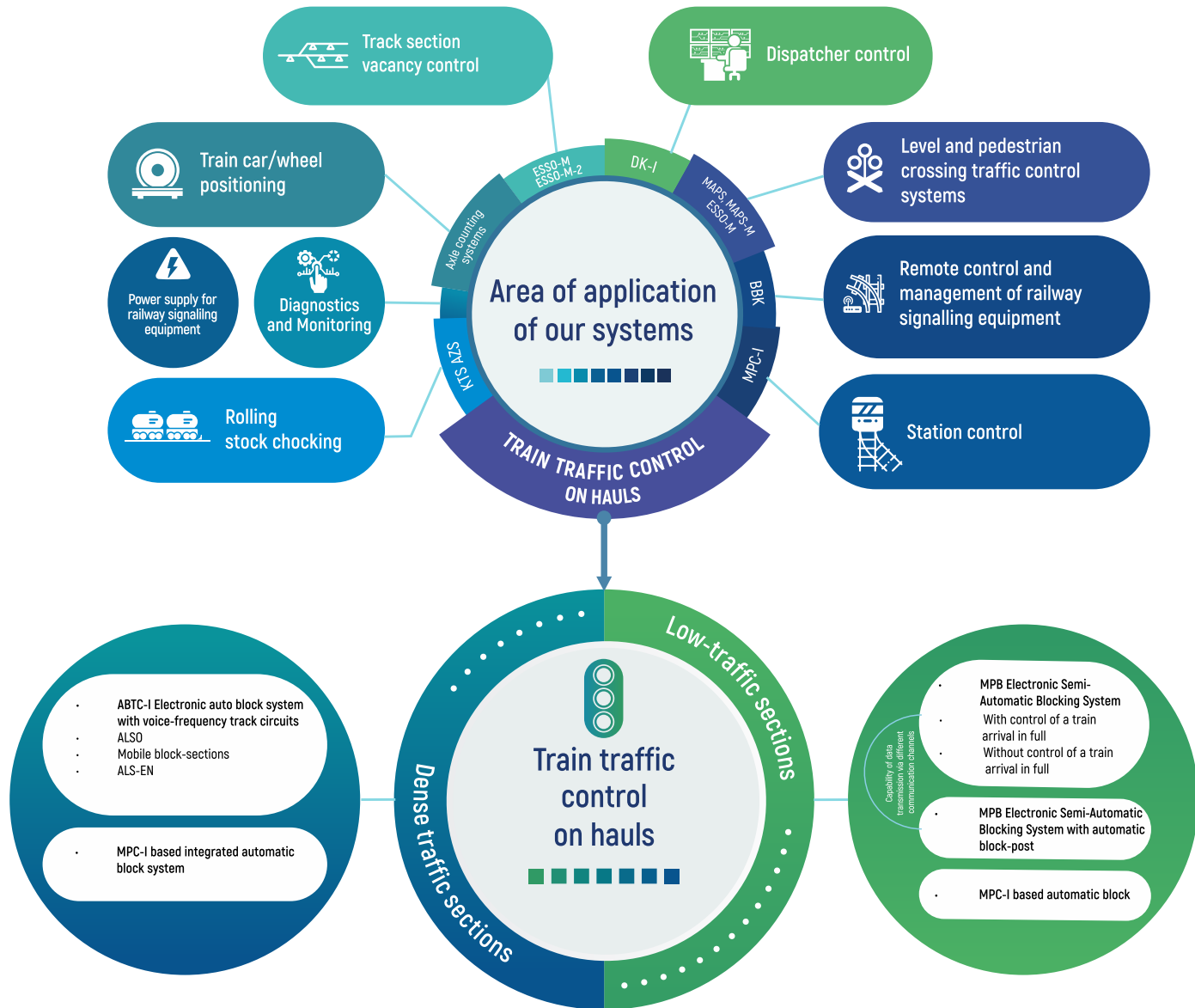
Research & Development Company  
**PROMELECTRONICA**



Train traffic  
control on hauls

**ABTC-I** Electronic auto block  
system with voice-frequency  
track circuits

**MPB** Electronic Semi-automatic  
Block System



# ABTC-I ELECTRONIC AUTO BLOCK SYSTEM WITH VOICE-FREQUENCY TRACK CIRCUITS

- ABTC-I is designed for train spacing and ensuring train traffic safety at any type of sections, including high-speed ones, with any type of traction on single, double and multitrack railways.
- The system is based on voice-frequency track circuits without insulating joints. Each of adjacent stations is fitted with ABTC-I subset that manages its part of the line.
- Indoor equipment can be housed both in a stationary building or MKM Transportable Module.

## APPLICATIONS

- Increasing of line throughput.
- Reduction of capital and running costs.
- Improvement of control efficiency and personnel work environment.



ALSN/ALS-EN  
**CODING**

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SCALABLE DEPARTURE  
**SECTIONS**

**MOBILE BLOCK  
SECTIONS**

TRACK CIRCUIT LENGTH  
**UP TO 800 M**

**RAILWAY HAUL LENGTH  
WITHOUT CONCENTRATION POINTS**

**UP TO 30 KM**

# RELIABILITY AND SAFETY

Increased resistance to impulse, commutation and thunderstorm overvoltages

Confirmed cybersecurity

FSTEK Certificate for protection against undeclared capabilities and unauthorized access

## USER ADVANTAGES



Fully non-relay system.



Low maintenance.



In-built diagnostic and monitoring system, continuous event logging.



Power efficient equipment.



Integration with MPC-I Interlocking via digital interface.

ABTC-I Diagnostic and monitoring subsystem

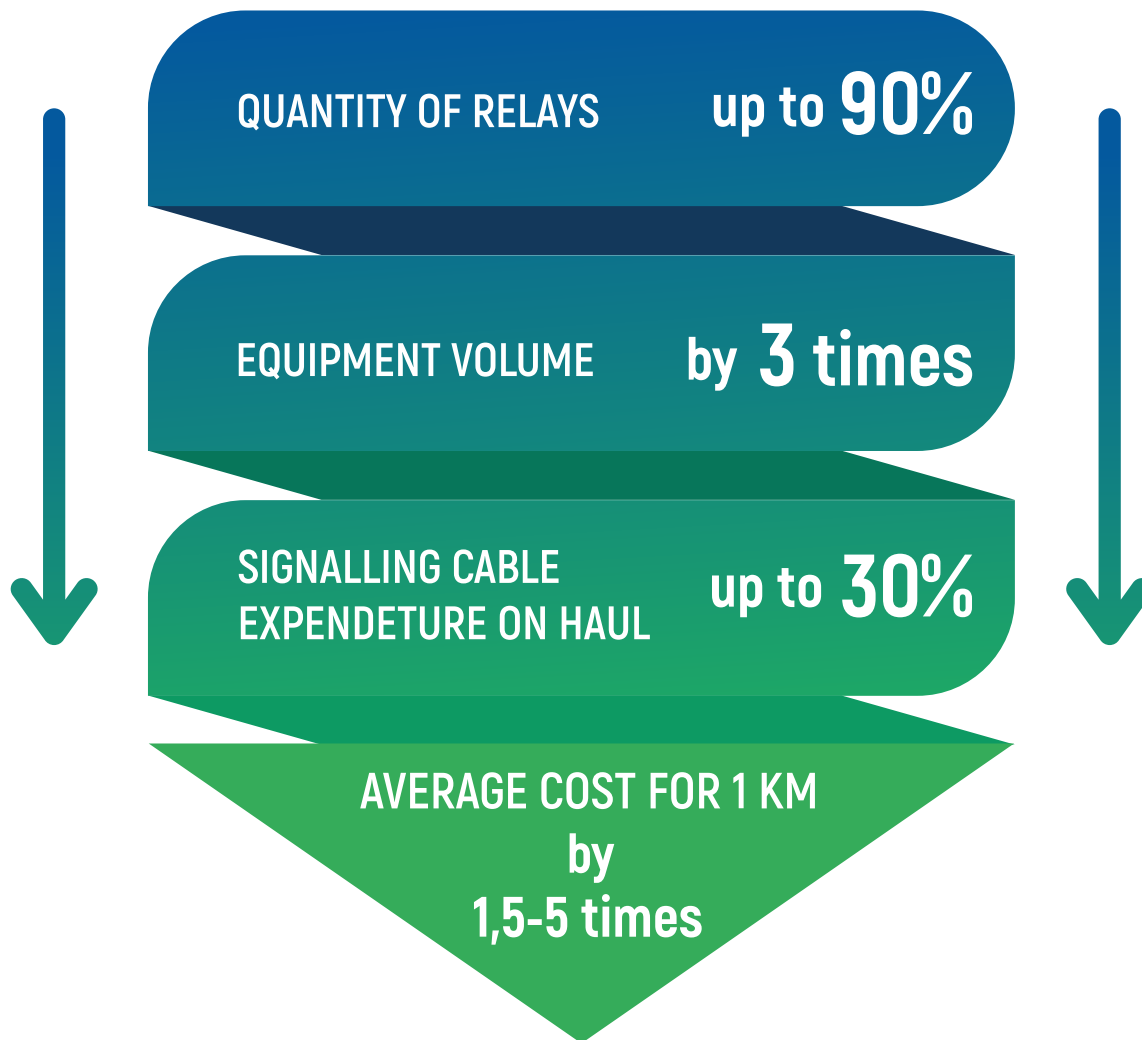
Система Интерфейс Доступ Режим работы Версия: 1.0.6

1. Схема перегона 2. Настройки ГКС2 и МПП 3. График МПП 4. Данные от КИД-И 5. Журнал событий

### Журнал событий системы

Дата	Время	Модуль	Номер	Канал	Событие	
197	2019-12-10	08:42:14.878	МЭЦ#2	1	A	Исправен контроль показания входного светофора станции: Зелёная полоса (Вх#15)
198	2019-12-10	08:42:14.878	МЭЦ#2	1	A	Исправен контроль показания пригласительного сигнала светофора (Вх#16)
199	2019-12-10	08:42:14.878	МЭЦ#2	1	A	Запустился. Версия ПО 1.0.5
200	2019-12-10	08:42:16.877	МЭЦ#2	1	Б	Исправен контроль реле состояния 1 блок-участка приближения к станции (Вх#01)
201	2019-12-10	08:42:16.877	МЭЦ#2	1	Б	Исправен контроль реле состояния 2 блок-участка приближения к станции (Вх#02)
202	2019-12-10	08:42:16.877	МЭЦ#2	1	Б	Исправен контроль реле состояния 1 блок-участка удаления от станции (Вх#05)
203	2019-12-10	08:42:16.877	МЭЦ#2	1	Б	Исправен контроль реле состояния 2 блок-участка удаления от станции (Вх#06)
204	2019-12-10	08:42:16.877	МЭЦ#2	1	Б	Исправен контроль показания входного светофора станции: Красный (Вх#09)
205	2019-12-10	08:42:16.877	МЭЦ#2	1	Б	Исправен контроль входного светофора станции: Верхний жёлтый (Вх#10)
206	2019-12-10	08:42:16.877	МЭЦ#2	1	Б	Исправен контроль показания входного светофора станции: Нижний жёлтый (Вх#11)
207	2019-12-10	08:42:16.877	МЭЦ#2	1	Б	Исправен контроль показания входного светофора станции: признак мигания (Вх#12)
208	2019-12-10	08:42:16.877	МЭЦ#2	1	Б	Исправен контроль показания входного светофора станции: Зелёный (Вх#13)
209	2019-12-10	08:42:16.878	МЭЦ#2	1	Б	Исправен контроль показания входного светофора станции: Зелёная полоса (Вх#15)
210	2019-12-10	08:42:16.878	МЭЦ#2	1	Б	Исправен контроль показания пригласительного сигнала светофора (Вх#16)
211	2019-12-10	08:42:16.878	МЭЦ#2	1	Б	Запустился. Версия ПО 1.0.5
212	2019-12-10	08:42:20.942	МСС	1	A	Запустился. Версия ПО 1.0.6
213	2019-12-10	08:42:34.077	МСС	1	Б	Запустился. Версия ПО 1.0.6
214	2019-12-10	08:53:48.167	МСС	1	A	Не валиден.
215	2019-12-10	08:53:48.169	МСС	1	Б	Не валиден.
216	2019-12-10	08:53:50.400	МСС	1	Б	Обнаружена попытка несанкционированного доступа к линии связи
217	2019-12-10	08:54:05.182	МСС	1	A	Обнаружена попытка несанкционированного доступа к линии связи
218	2019-12-10	08:55:46.679	МСС	1	A	Запустился. Версия ПО 1.0.6
219	2019-12-10	08:55:49.478	МСС	1	Б	Запустился. Версия ПО 1.0.6
220	2019-12-10	08:55:50.663	МСС	1	Б	Получено уведомление, от оператора, о снятии оповещения о несанкционированном доступе

## REDUCTION OF RUNNING COSTS



\*in comparison with other automatic block systems

# MPB SEMI-AUTOMATIC BLOCK SYSTEM

- MPB is designed for train spacing on lines with low traffic intensity.
- MPB can transmit data both through physical communication lines and digital systems, such as voice-frequency channel multiplexing equipment, fiber-optic lines and radio channels.
- The system is compact and can be housed in a stationary building on a relay rack or MKM Transportable Module.

## APPLICATIONS

- Improvement of train traffic safety on low-traffic lines.
- Increasing of line throughput.
- Reduction of running costs due to decreased amount of relay equipment.
- Improvement of equipment reliability due to automatic switching to redundant communication channel.
- Switching to modern communication means on sections equipped with semiautomatic block systems (transition from aerial communication lines).



IMPLEMENTED ON  
**>110 HAULS**

CAPABILITY TO  
ARRANGE AUTOMATIC  
**BLOCK POST**

IMPLEMENTED IN  
**7 COUNTRIES**

OPERATING TEMPERATURE  
**RANGE FROM**  
**-60 UP TO +85°C**

## RELIABILITY AND SAFETY

Recommended for application on  
the **Russian Railways** network

**Automated communication** channel  
redundancy

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



## USER ADVANTAGES



In-built diagnostics, event logging.



Improvement of work environment due to logging of all personnel actions and command automation.



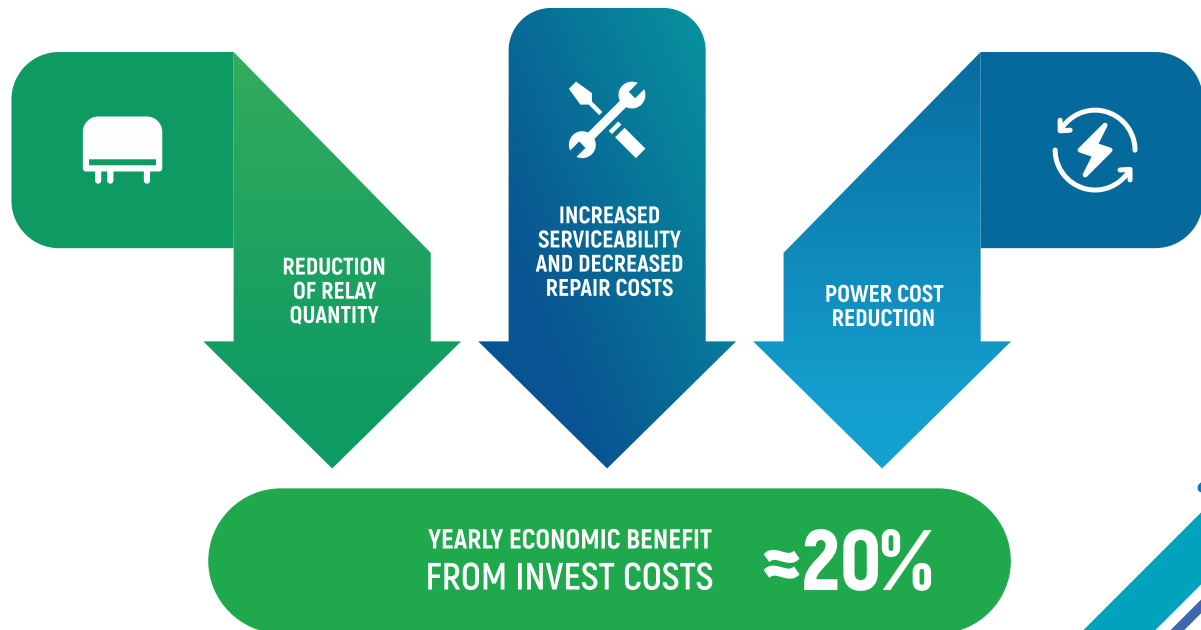
Operation without adjustments.





ULIS MPB Lab Set is available for personnel training.



## MPB COST EFFICIENCY



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