PROLAN

ABOUT US

Prolan was founded by 14 development engineers in 1990 and over the course of continuous growth, the company became a group of companies employing more than 230 people. The control technology devices and systems that we develop and manufacture in our electronics production are used by numerous utility service providers and Hungarian railway companies.
Traditionally, we produce substation data collection devices (RTUs) and control center (SCADA) systems for the electricity industry (MAVIR and power distributors). These two areas now function within separate subsidiaries. We developed our overhead line remote-control system (FET) for railways based on our experience in the electrical power sector. As a result of several years of development, our remote control system (Elpult) of relay-based interlocking equipment and the centralized monitoring/controlling of railway traffic (KÖFE/KÖFI) was created along with its subsystems (switch heaters, train detection devices, etc.) was created. Additionally the onboard locomotive computer (MFB) was developed and now available on all domestic locomotives and multiple units and has since became a fundamental tool for operating the entire Hungarian railway fleet. Throughout the years we gained considerable competence in top-level safety-critical developments (SIL4), resulting various improved applications of our core Prosigma product, based on the „3 in 2" principle, representing new, state-of-the-art range of products. As part of this work, we began to develop our very own railway interlocking product family (PRORIS). Railway automation, energy management, and development form three distinct business lines. A traditional product of the energy management is the radio-based, long-wave load control receiver (RKV) and the audio-frequency load control receiver (HKV), installed at consumer sites for "nighttime electricity" systems; these equipments are also suppied to German power providers. Our continuous improvements are designed to provide a wide product range that meets the needs of smart grids, including remote-reading (AMR) and local data collection/processing (C-RTU), to enable the monitoring of low-voltage networks, as well as relay devices (Steuerbox) required by German utilities.

A company culture with decades of tradition and talent is essential to our success, an inspiring and collegial atmosphere based on talent and individual motivation.

CORPORATE MANAGEMENT, MEMBERS OF THE BOARD

Ferenc Sörös
Chairman of the Board

Ervin Szabó
Development Director, Energy Management Division

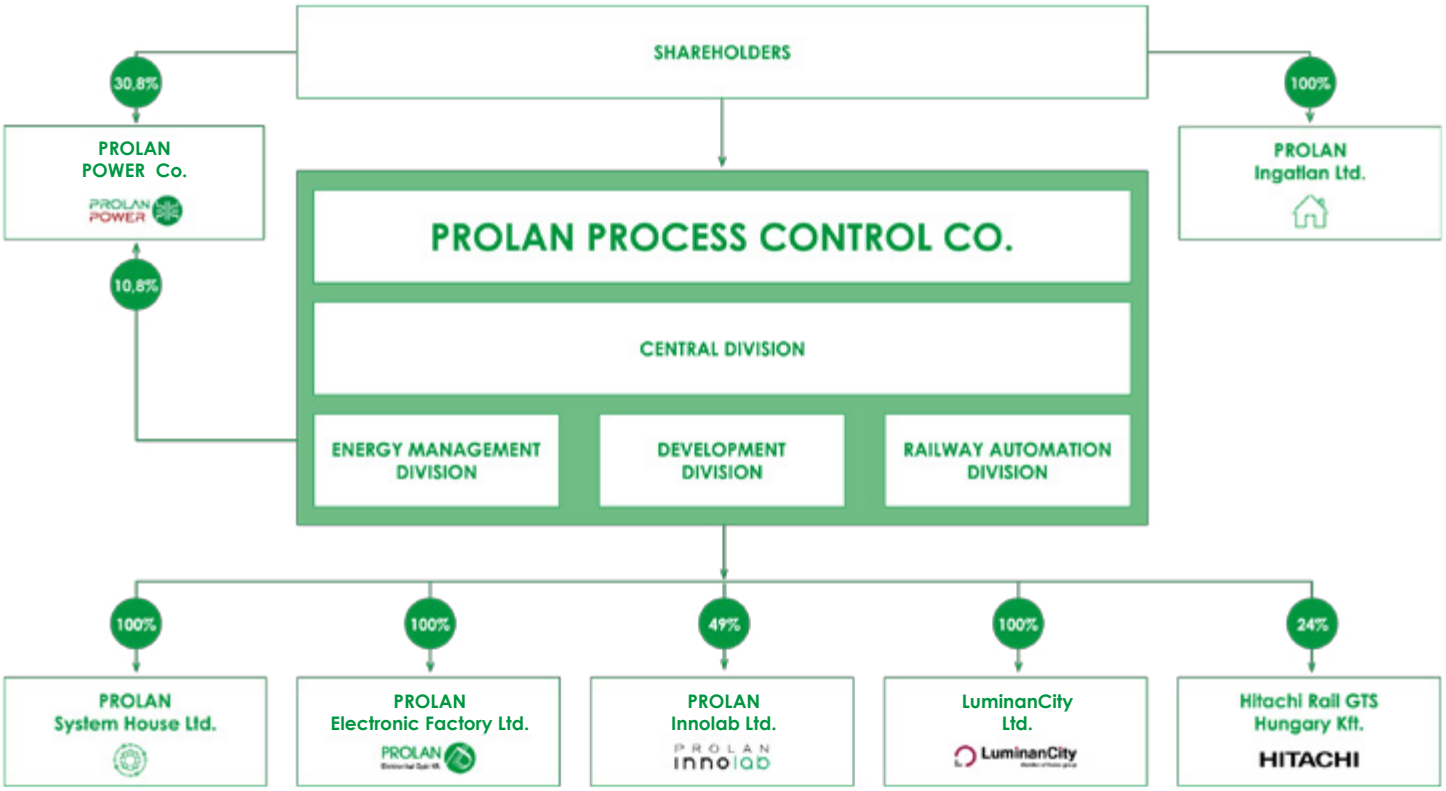
Dániel Mráz
CEO

Márton Feldmann
Deputy CEO, Head of Railway Automation Division

Péter Varga
Head of Production

Péter Csikós
Technical Director, Railway Automation Division

ORGANIZATIONAL CHART



RAILWAY AUTOMATION

Prolan's railway automation business division specializes in developing, manufacturing, and integrating safety-critical systems. Our solutions—including systems supporting centralized traffic monitoring and control (KÖFE/KÖFI), our overhead line remote-control (FET) devices, and our onboard locomotive computers (MFB)—are present throughout the entire railway infrastructure. Our "2 out of 3" safety technology (ProSigma) meets the highest requirements (SIL4), and within this framework, through the development of the PRORIS product family, the next generation of railway interlocking system is now available.

ENERGY MANAGEMENT

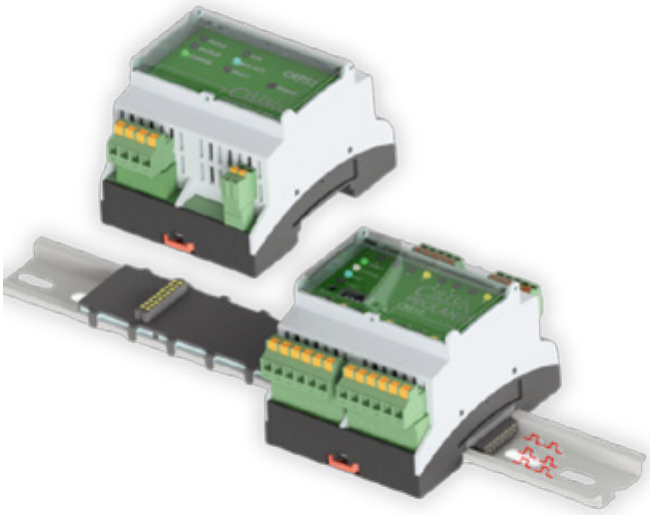
Our Energy Management business division provides innovative control technology solutions to electricity providers and vairious utility companies. From our traditional load control receivers (RKV, HKV) to substation data collection (RTU) and supervisory (SCADA) systems, including modern smart-grid services (AMR, C-RTU), we cover the entire energy distribution process. Apart from domestic power distributors, our products are also applied by numerous foreign – primarily German – partners, as well as in the water, gas, and oil industries, where we hold key references.

RAILWAY AUTOMATION

DATA COLLECTION SYSTEMS

C-RTU

COMPACT DATA ACQUISITION DEVICE



Our device allows the supervision of numerous utility services and low-voltage applications. These applications include (but are not limited to):

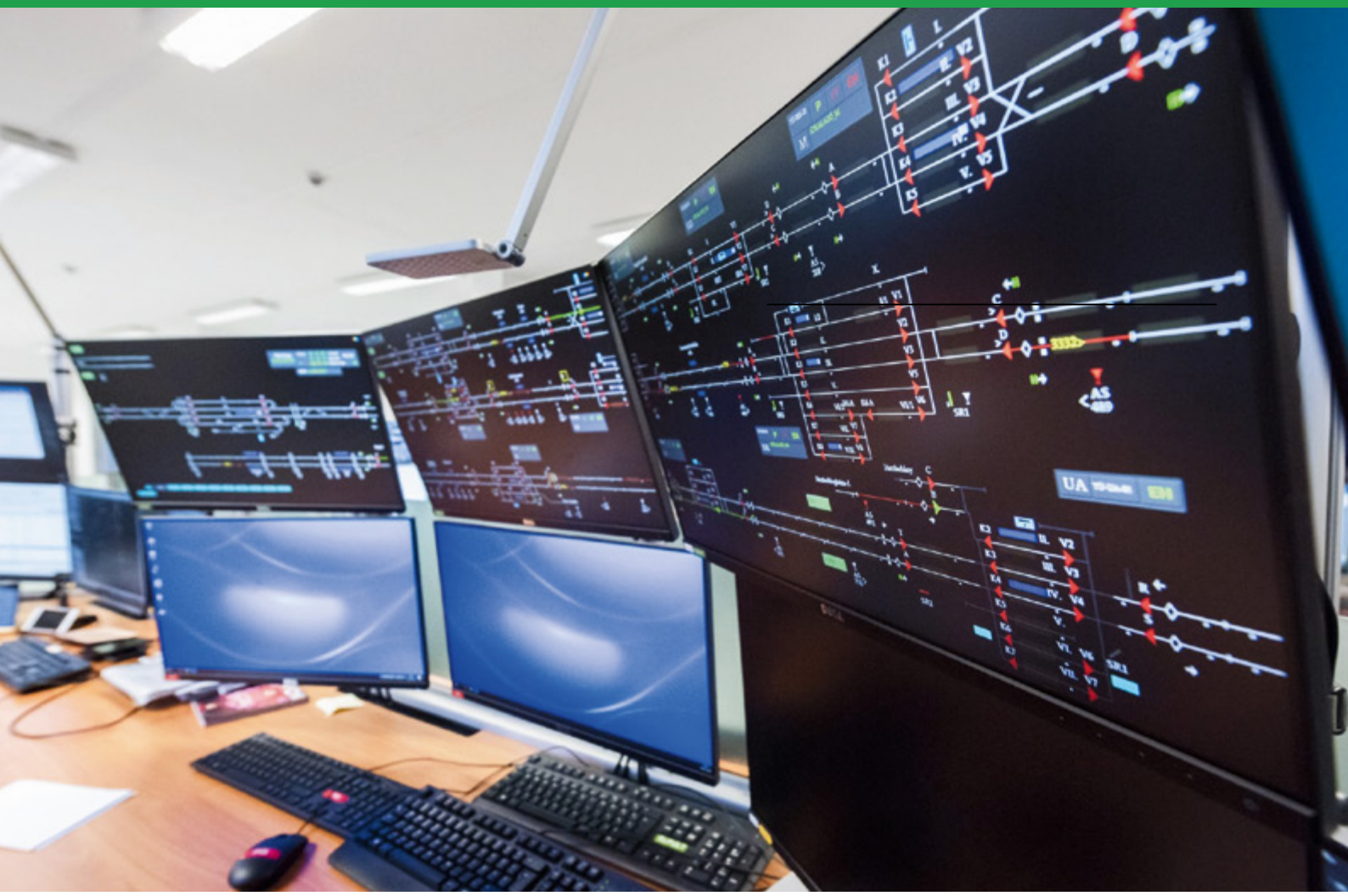
- Compact measurement data collection
- Control system

RTU (PROFIELD)

The ProField product family was developed to monitor transformer substations and networks; whilst upgraded versions to railway safety standards are in use within our ELPULT tool. Moreover, these devices are suitable for monitoring other utilities, such as gas, olil and water utilities' field data collection.

M-RTU

Part of Prolan's M-RTU product family, is the MR-PQM3 three-phase power quality measuring module. This module can directly measure three voltages and, with sensors, four currents, then calculates network characteristics in accordance with MSZ EN 61000-4-30 Class S. It was primarily designed for on-site testing of low-voltage networks (KIF), but with proper interfacing, it can be deployed elsewhere as well.



REMOTE-CONTROL SYSTEMS

CENTRAL TRAFFIC MONITORING AND CONTROL (KÖFE/KÖFI)

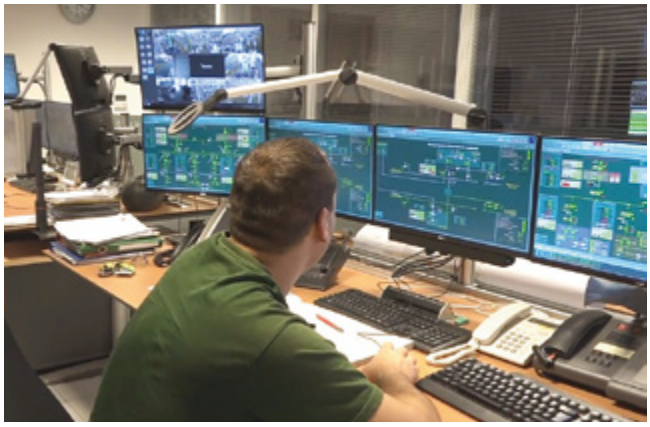
The ELPULT system allows remote railway station operation, as well as remote control of entire railway lines or regions.

ELPULT's main functions:

- Display signals from interlocking systems on an electronic interface
- Issue normal and special commands with safety measures
- Prepare operational and interlocking logs
- Handle permission requests
- Archiving and archive playback
- Transmit property-protection information

OVERHEAD LINE ENERGY REMOTE-CONTROL SYSTEM

Our system enables the supervision of the power supply for entire railway lines, along with rapid fault detection and intervention in emergency situations. Prolan's FET system manages all key objects in "overhead line" railway operations under one supervisory system.

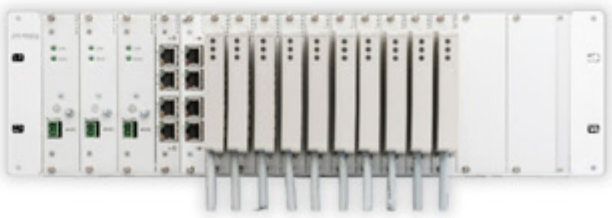


SAFETY-CRITICAL SYSTEMS

PROSIGMA

Interlocking interface for ETCS and KÖFI systems (ProSigma)

ProSigma uses modern optical or GSM-based signal transmission to provide SIL4-level (the highest) signal and information transmission primarily in the railway interlocking sector



PRORIS INTERLOCKING PRODUCT FAMILY

Key features of the system:

- A rack-mounted, relay-based core with a full diagnostic system handling the most important interlocking dependencies.
- Flexible interfacing with various trackside equipment (barriers, block signaling, point machines, etc.).
- Own developed, SIL4-level industrial computer system – ProSigma-B – complements the relay core with interlocking functions, gathers signals, issues controls, and provides flexible interfacing options for local operator interfaces, central traffic control centers, or ETCS systems.
- A user interface compatible with and built on our ELPULT system.
- Comprehensive logging and KÖFE functionality.

PRORIS PRODUCT FAMILY

The PRORIS-H interlocking system meets all demands that arise on the Hungarian railway network. The shunting route functionality will be implemented in the PRORIS-E product, the purely electronic version within the PRORIS family.

ONBOARD SYSTEMS

LOCOMOTIVE ON-BOARD COMPUTER (MFB)

Real-time traction monitoring is providedwith our Locomotive Onboard Device (MFB), enabling constant tracking of locomotives or multiple units by location, as well as operating and technical data. Our system is modular, with modules placed in a 19" half-rack communicating via CAN bus – commonly used in the railway sector. All modules (including the device's power supply) have their own processors.

PROLAN ENERGY METER GATEWAY (PEMG)

Prolan's PEMG device, connected to a certified measuring device installed on railway traction vehicles, can both receive and read data as well as forward digitally signed, encrypted data records in line with the relevant standards via 4G (or, if needed, 3G/GPRS/GSM) mobile networks to a receiving unit (DCS).

PASSENGER INFORMATION SYSTEM

Our system supports real-time timetable updates for passengers in both urban and domestic transportation, as well as providing further information or advertising space. The design and size of the enclosure and display surface can be flexibly adapted to an operator's technical or business requirements, as well as color and styling preferences.

ENERGY MANAGEMENT

DATA COLLECTION

SMARTMETERING (AMR)

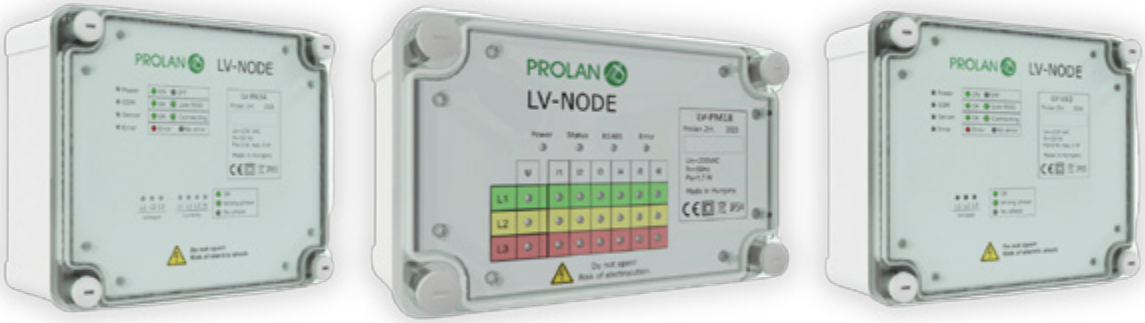
Our AMR product can perform remote reading of industrial and household electricity, water, gas, and heat meters. It gathers and fowards data to the billing data collection center immediately.

FAULT INDICATOR

Pole-mounted fault detector for overhead power lines. Fault locations become more accurately and rapidly pinpointed, reducing service outages and lowering field labor demands.

LV-NODE PRODUCT FAMILY

The LV-NODE family of devices carry out measurements on the secondary side of a medium-voltage/low-voltage (KÖF/KIF) transformer feeding point, and with additional modules, they perform branch-by-branch measurements. For a deeper understanding of network voltage conditions, we offer a variant suitable for endpoint measurements as well. Using a communication modem, these devices transmit data to one or even multiple data centers.



CONTROL

STEUERBOX

Prolan's own device offers a solution for German power suppliers for tariff and performance control, as well as for regulating the feedback of renewable energy sources.

- Role in electricity distribution: maintains grid balance by influencing decentralized power generators and consumers.
- Main feature: uses modern info-communication technologies (two-way, encrypted data transmission).

Bundesamt
für Sicherheit in der
Informationstechnik

HKV AND RKV DEVICE FAMILY

Prolan's own line of radio- and audio-frequency load control device offers a solution for power suppliers for tariff and load control. The devices accommodate 2A, 25A, and 40A relays; the product family supports boiler, storage heater, public lighting, tariff, and solar control programs.

RELAY CONTROL DEVICE (RXD 140)

The RXD140 (Relay Extension Device) is intended to be used by power distributors and system operators. Its four relays can carry out demand-side management (DSM) actions on the consumer side. The relay unit connects to the P1 port of a smart meter that can forward relay control commands from the energy management center via its P1 port to the RXD140 unit.

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