HC Linear® | **R&D SOLUTIONS**
SINCE 1990

Departure board:
10 | 14:00 +15' | H5
Batthyány tér – Szentendre

Rail Solutions

Complex, Onboard, Station and Stop Passenger Information

▪ **HARDWARE**   ▪ **SOFTWARE**   ▪ **SYSTEM**

Rail Solutions

Experience our cost-effective, comprehensive system for rolling stock. We develop, design and manufacture our solutions in-house to provide extensive customization options for the various project needs of our customers and provide a broad range of devices including on-board controllers, LED destination signs, TFT/LCD screens, integrated passenger couting system and video surveillance system, all compliant with international standards.

Seat reservation display

Passenger area LCD displays

Video surveillance

Front section LCD displays

LED destination sign

Passenger counting system

INTEGRATED ON-BOARD CONTROLLER
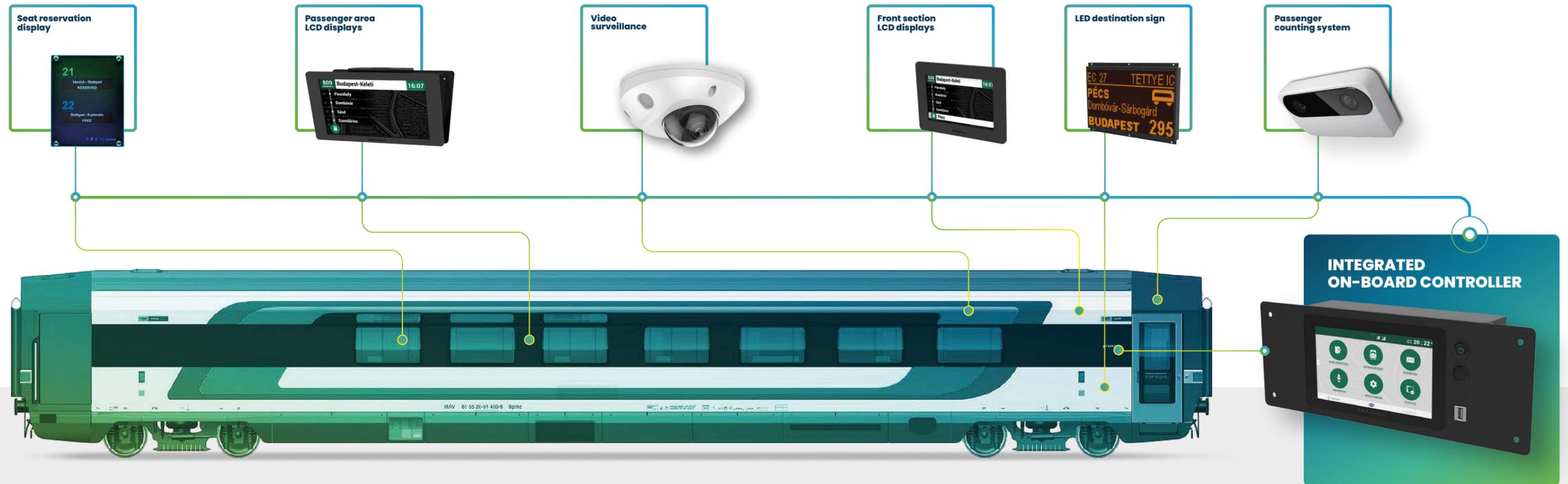
On-board Controller with Touchscreen:
A central management and communication unit featuring a capacitive touchscreen for seamless control and interface with various peripherals.

Environmental Quality Sensor:
Specially designed to withstand railway conditions, this sensor accurately measures temperature, humidity, noise, and acceleration, ensuring passenger comfort.
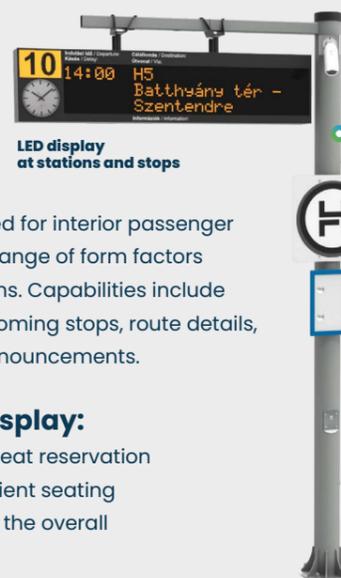
LED Display:
High-brightness LED technology delivers clear directional guidance in any environment.

LCD Monitors:
Full HD TFT displays designed for interior passenger information, available in a range of form factors and mounting configurations. Capabilities include displaying current and upcoming stops, route details, connections, maps, and announcements.

Seat Reservation Display:
Our OLED displays provide seat reservation information to support efficient seating management and improve the overall passenger experience.

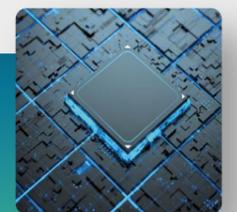**LED display at stations and stops**

LCD display at stations and stops
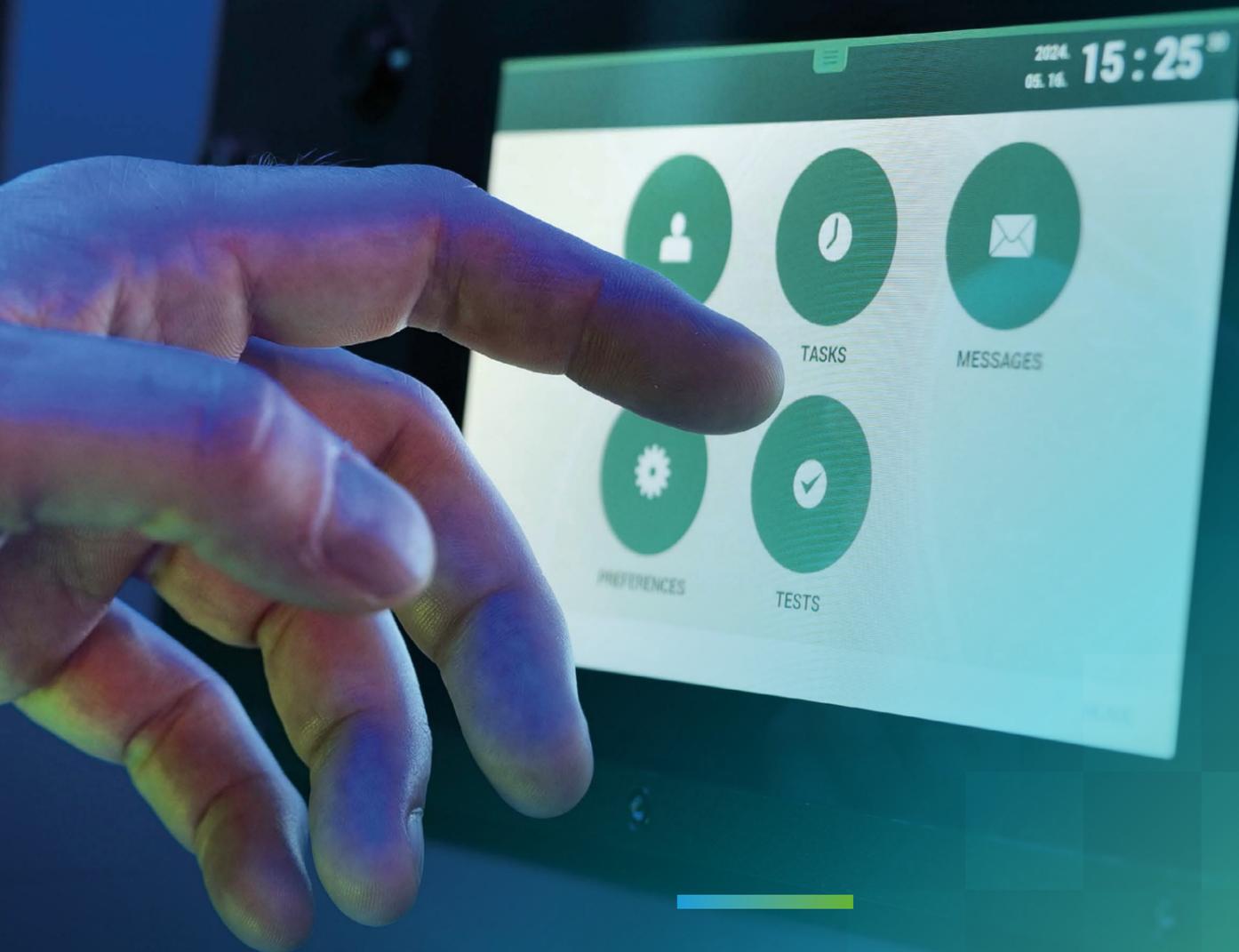
Station summary LCD display

ONLINE
GPS | GSM

CENTRAL DATA MANAGEMENT

VEKTOR Train System

Passenger Information, Onboard, Central Control Unit

TFT Capacitive Touchscreen

The touchscreen main unit is specifically designed for railway environments, controlling the components of the passenger information system. **The central unit**, equipped with a GPS receiver, can control onboard passenger information devices on various national railways based on static and dynamic data from a GPS-based database. It is advisable to install it **in a central location**, such as the control cabinet of the vehicle.

Once the device is connected to the power supply and turned on, it starts immediately. Within the specified operating temperature range, no additional tempering is required.

"All-in-one controller for efficient information delivery"

Passenger Information System for Trains

Key Parameters

- Minimum 7" TFT Capacitive Touchscreen
- Ethernet and CAN 2.0 Interface
- Integrated GPS Receiver and Antenna Connector
- Integrated SSD Storage
- Integrated Power Supply
- EN 50155 Standard
- CPU: min. Quad-core 1.5GHz
- RAM: 2-8 GB LPDDR4
- Resolution: min. 800 x 480 pixels

Recessed Front Section Passenger Information Displays

Specially designed for railway environments, these indoor recessed LCD displays are suitable for dynamically displaying passenger information such as current and next stop, route, and transfer options.

Product Features

- Minimum 12" active area
- 1920x1080 pixels (FHD) resolution
- Ethernet communication interface with galvanic isolation
- 24 VDC nominal power supply with galvanic isolation
- Meets UIC 176 requirements
- EN 50155 standard compliance

Passenger Area Infotainment LCD Displays

The LCD product line includes passenger information displays specifically designed for railway environments. These displays are suitable for dynamically displaying passenger information such as current and next stop, route, and transfer options.

Product Features

- 1 or 2 x 21.5" and 29.4" active area
- 1920x1080 pixels (FHD) resolution
- Ethernet communication interface with galvanic isolation
- 24 VDC nominal power supply with galvanic isolation
- Meets UIC 176 requirements
- EN 50155 standard compliance

Available in any resolution, size, and color

Seat Reservation Displays

General Information

The seat reservation display is specifically designed for railway environments, resistant to climatic and mechanical conditions. Utilizing OLED technology, it is installed above the seats or next to the entrances of travel cabins. The display casing is suitable for hidden/recessed installation. The display can show the character sets of the official languages of UIC member countries.

Product Features

- OLED technology
- 24 VDC nominal power supply, with galvanic isolation
- RS-485 communication interface, with galvanic isolation
- EN 50155 standard compliance
- UIC 176 compatible

Available in any resolution, size, and color ↖

External Passenger Information LED Displays

General Information

The device is specifically designed for railway environments, resistant to climatic and mechanical conditions. It is a high brightness LED matrix direction and train number display, which is mounted on the sidewall of the vehicle. The display casing is suitable for recessed installation. The display can show the character sets of the official languages of UIC member countries

Product Features

- LED matrix
- 24 VDC nominal power supply, with galvanic isolation
- RS-485 communication interface, with galvanic isolation
- EN 50155 standard compliance
- UIC 176 compatible

Available in any resolution, size, and color ↖

VEKTOR
Train System

Passenger Information System
for platforms and stations

Overview Passenger Information LCD Displays

Outdoor LCD Displays available in single- and double-sided versions

Developed and manufactured by HC Linear Ltd., the LCD summary displays are specifically designed to operate at stations and display station overview passenger information. They are available in various sizes and casing designs. The displays have an integrated control unit that connects to the central passenger information system.

This integrated controller allows the device's various operational parameters to be set, status information to be queried, the device to be restarted, display on/off timings to be set, and the displayed content to be retrieved.

Thanks to the high-resolution, color LCD technology with excellent readability, the displays can show pre-programmed content controlled by a specific protocol or any HTML page received from an external source.

An integrated audio system is also available upon request, enabling voice-based passenger information and the reading aloud of displayed information using Text-to-Speech (TTS) technology.

Available in single- and double-sided versions, the displays are mounted with a frame sized to fit the installation location, either suspended from the ceiling, mounted on a wall, or on a support pole.

Its simple design makes it easy to install and set up.

Platform Passenger Information LCD Displays

Outdoor LCD Displays available in single- and double-sided versions

The platform passenger information LCD displays are ideal for showing dynamic, real-time departure data based on actual train information, including any arrival/departure delays.

The displays feature an integrated control unit that connects to the central passenger information system. This controller allows the setting of various operational parameters, querying of status information, restarting the device, scheduling on/off times, and retrieving displayed content.

Due to the high-resolution, color LCD technology with excellent readability, the displays can show pre-programmed content controlled by a specific protocol or any HTML page received from an external source.

An integrated audio system is also available upon request, enabling voice-based passenger information and the reading aloud of displayed information using Text-to-Speech (TTS) technology.

Upon request, the display interface can also include an analog-style clock showing the accurate time.

Available in single- and double-sided versions, the displays are mounted with a bracket sized to fit the installation location, either suspended from the ceiling, mounted on a wall, or on a support pole. Their simple design makes them easy to install and set up.

Custom Sizes, Custom Requirements

Passenger Information System for Stations & Stops

Platform Passenger Information LED Displays

## Outdoor, monochrome, and color LED displays in single- and double-sided designs

The platform passenger information LED displays are ideal for showing dynamic, real-time arrival information based on actual train data, such as the number of arriving trains, their routes, and expected arrival times.

Due to the integrated communication module, the displays are directly connected to the central server, allowing for the display and reading of urgent dispatcher messages.

An integrated audio system is also available upon request, enabling voice-based passenger information and the reading aloud of displayed information using Text-to-Speech (TTS) technology.

The LED technology provides excellent visibility and readability, even in strong sunlight and at night. The integrated light sensor automatically adjusts the brightness to optimal levels based on ambient light conditions.

The integrated controller allows for the setting of IP parameters, querying of status information, restarting the device, scheduling display on/off times, and retrieving displayed content.
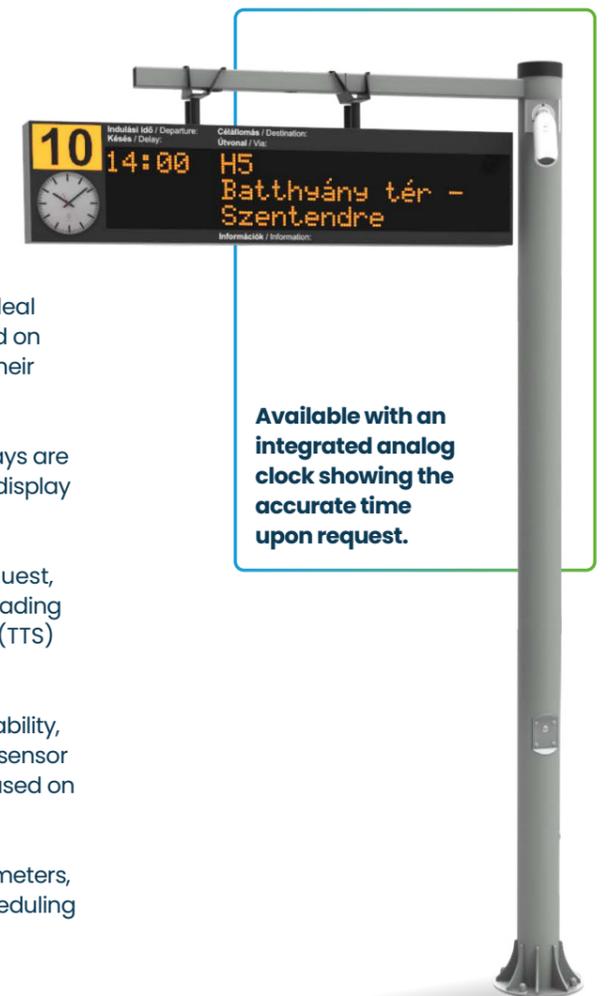
Available with an integrated analog clock showing the accurate time upon request.

Excellent Visibility and Readability

Passenger Information System for Stations & Stops

Would you like to provide accurate information?

Public transport is a key component of every community, so providing reliable information to residents is essential. With e-paper-based SmartPage system, you can support travelers with accurate and real-time timetable data for efficient journey planning.

Dynamic Passenger Information

Passengers can view real-time arrival information. A single device can manage routes from multiple transport operators.

Accessible Experience

Remote operation, multi-language interface and adjustable text-to-speech ensure an accessible and user-friendly experience.

Easy Installation

Can be quickly and easily mounted on a pole or wall, delivering immediate, visible results for your community.

Local Information

Efficiently inform residents about local news and events. Multiple types of content can be scheduled and displayed in sequence on a single screen.

Built to Last

Designed for outdoor use, the device features a robust, easy-to-clean enclosure that withstands extreme weather conditions.

Sustainable Operation

Off-grid operation and a built-in battery ensure long service life. Solar-powered operation is also available.

Modern Appearance

Manufactured in your chosen size and color. Its streamlined, modern look enhances the appeal and overall image of your community.

Design, development, production and support in one hand

SmartPage
BY HC LINEAR

- Operates on solar, hybrid solar-and-mains, or mains power.
- Flexible installation options for poles or wall mounting
- 16-level greyscale display with auto brightness control
- Durable enclosure, available in any RAL color upon request
- SmartPage CMS enables remote updates and monitoring

High-efficiency solar panel

Easy Installation on Poles of Varying Diameters

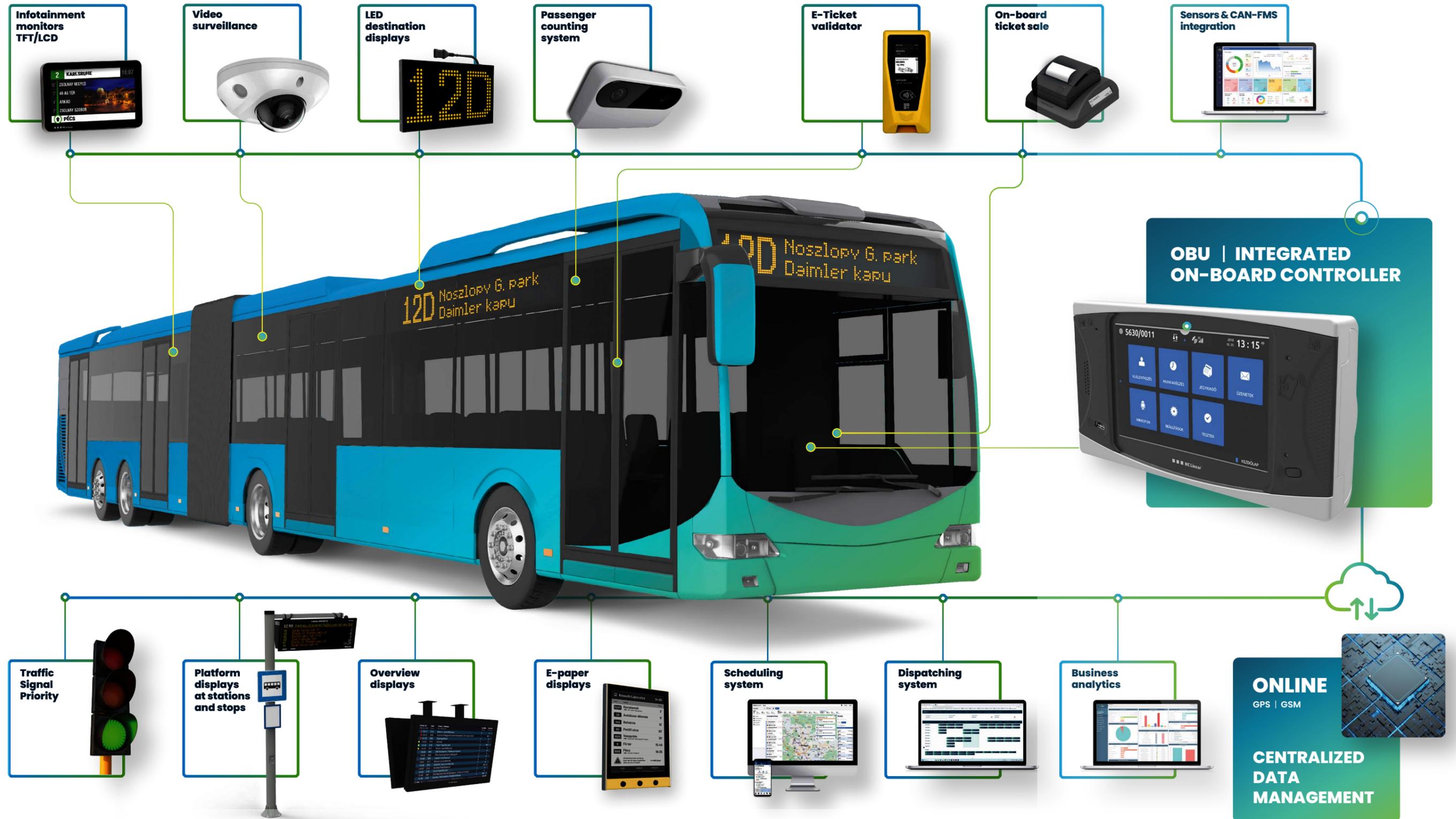Manufactured in your chosen size and color.

SmartPage Display and CMS - One system. Full control.

ONE

Vehicle
One Controller

Vektor System

Explore our diverse range of bus solutions designed to revolutionize public transportation management. From real-time traffic control to dynamic passenger information systems, safety monitoring and beyond our products offer a holistic approach to optimizing bus fleet operations. The system contributes to increasing passenger experience and satisfaction to make public transport more calculable, economical and attractive.

Infotainment monitors TFT/LCD

Video surveillance

LED destination displays

Passenger counting system

E-Ticket validator

On-board ticket sale

Sensors & CAN-FMS integration

OBU │ INTEGRATED ON-BOARD CONTROLLER

Traffic Signal Priority

Platform displays at stations and stops

Overview displays

E-paper displays

Scheduling system

Dispatching system

Business analytics

ONLINE
GPS │ GSM

CENTRALIZED DATA MANAGEMENT

Transforming vision into reality

From idea to implementation, from production to operation! We are with our partners throughout the entire process, using the knowledge and expertise of our specialist engineering team to turn concepts into working systems. We turn ideas into working solutions!

Our services are tailored to individual needs, whether it is a single sub-task or the creation of a complex, functioning finished product or system.

Our process ↘

Feasibility Assessment & Requirement Management

We evaluate project feasibility and provide assistance in blueprinting, documenting, analyzing, and prioritizing requirements to ensure smooth development processes.

Electronic Development

Our expert engineering team utilizes cutting-edge design tools to develop a broad range of services from system designs to custom printed circuit boards (PCB), ensuring the highest quality standards.

Support Services

Our commitment doesn't end with the sale. Apart from round-the-clock operations to ongoing maintenance and future enhancements, you can count on us for comprehensive customer care and support services.

Manufacturing

With our in-house production capabilities, we strictly maintain control over the entire development and manufacturing process, to ensure high quality parts and comprehensive supervision.

01
02
03
04
05
06
07

Project Management

Certification Management

Sustainability Management

Mechanical Development

Our engineers leverage the latest 3D CAD/CAM design software to develop every aspect of your product, from enclosures to mounting elements, guaranteeing professional engineering throughout.

System Integration

Our comprehensive approach accelerates the integration of diverse system components and subsystems into an optimal solution.

Software Development

We specialize in delivering comprehensive end-to-end (E2E) software solutions developed specifically for industrial environments, ensuring robustness, efficiency, and future readiness.

In-house Manufacturing

Manufacturing process ↘

Procurement

We leverage dependable materials and established supplier relationships to furnish products renowned for their durability and performance.

Traceability

Components, assemblies and systems are managed with serial numbers, and production is ERP documented. The structured data are available for production analyses.

SMT

Fully automated in-line SMT production line, multifunctional pick & place machine, even for large panels and special parts, enabling fast and flexible product changeover.

THT

We provide machine and hand soldering of THT components. Through-hole technology, or THT, refers to a mounting technique for wired electronic components.

Testing

With automated optical inspection (AOI), errors in production can be identified using image processing and also using an in-circuit tester (ICT).

Assembly

After the assembly of the devices, we conduct functional, safety and environmental tests on the finished products before packaging and delivery.

Design, development, production and support in one hand

35 years +
more than 35 years of expertise

1000 +
more than 1000 products developed

2000 m² +
r&d on over 2000 square metres

10000 +
on-board systems in 3 countries

3 million +
used by more than 3 million people per day

MAN   VOLVO   SIEMENS   BYD

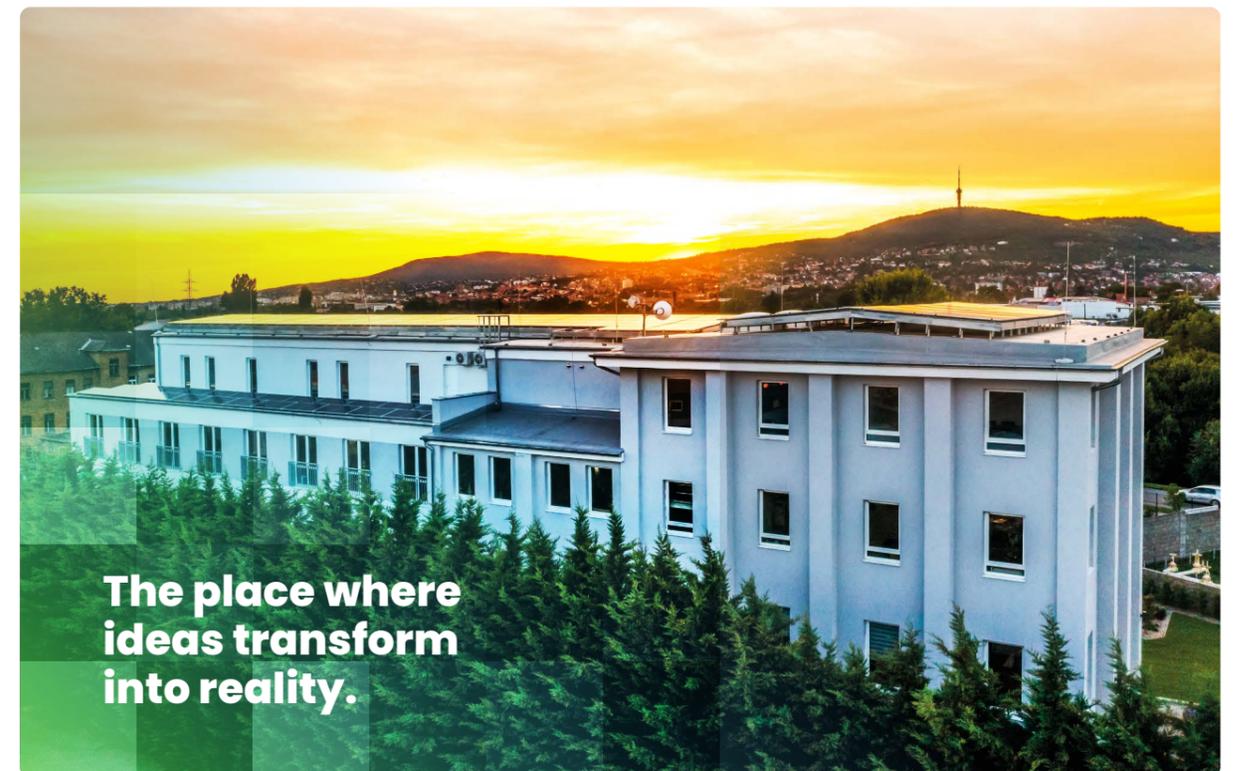IVECO   T·Systems   FENIKSBUS   VOLÁNBUSZ

...and many other partners

What we are proud of

We are proud of our commitment to innovation and excellence, constantly pushing boundaries to deliver cutting-edge solutions while ensuring quality to exceed expectations and set new standards.

HUNGARIAN INNOVATION GRAND PRIX | Special Recognition

MAGYAR BRANDS 7x '17 '19 '21 '22 '23 '24 '25 HUNGARIAN INNOVATIVE BRAND AWARD

BÉT50 2023 BUDAPEST STOCK EXCHANGE TOP50 INTERESTING AND SUCCESSFUL COMPANIES

ISO 9001 ISO 14001 ISO/IEC 27001 cert

AAA Highest Creditworthiness ©Dun & Bradstreet 2025 Gold

ITXPT PRINCIPAL MEMBER

The place where ideas transform into reality.

Why us?

Complexity

From concept to working products, we offer seamless R&D solutions with in-house production.

Experience

Benefit from over 30 years of expertise and skilled teams delivering professional engineering.

Efficiency

Our specialization in end-to-end solutions ensures durability and value across various industries.

Sustainability

We care deeply about our planet and the future. We place a strong emphasis on sustainable electronic solutions.

Commitment

Our dedication extends beyond sales, focusing on client satisfaction and collaborative growth.

Support

Enjoy round-the-clock operations, maintenance, and enhancements for optimal performance.

HC Linear®
R&D SOLUTIONS | SINCE 1990

For more information visit: **www.hclinear.com**