



Public Transport

Complex and modular public transport solutions. Displays, transportation management, passenger information.

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



VOLVO

SIEMENS

BYD

IVECO

T Systems



→ ...and many other partners

Innovation is our true passion

HC Linear Ltd., established in 1990, has been a hub for pioneering electronic and software R&D solutions.

Our versatile team specializes in creating tailor-made software, hardware, data analytics, and services, addressing both unique and common industrial needs. From startup demands to the requirements of large and multinational companies, we cater to diverse requirements. At the heart of our mission lies the pursuit of cutting-edge digital solutions for tomorrow's challenges.

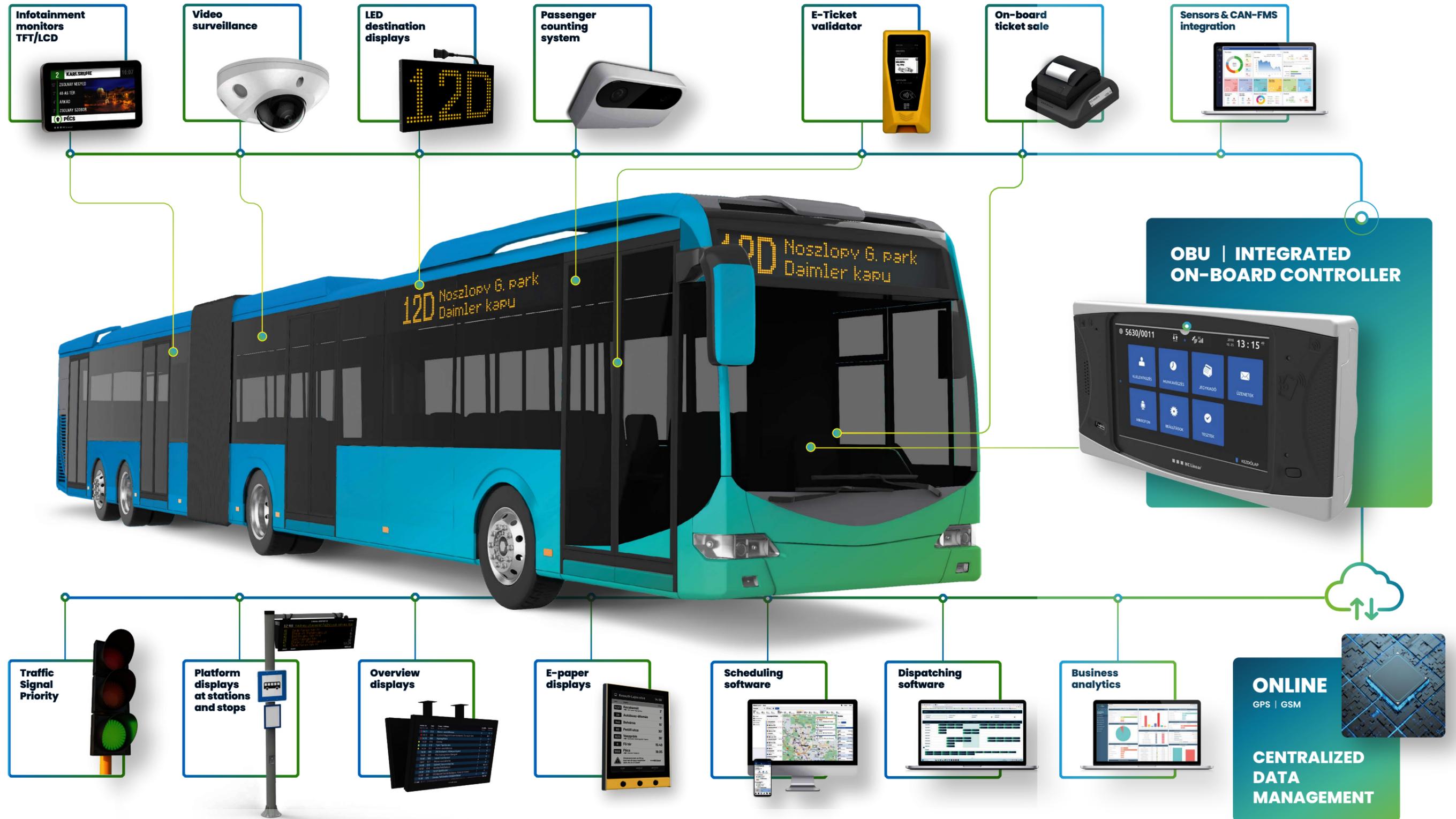


Transforming vision into reality, we stand by our partners every step of the way, using the knowledge and expertise of our specialized engineering team to turn concepts into functioning systems.

ONE Vehicle One Controller

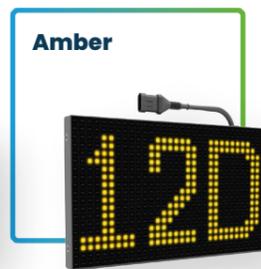
Vektor System

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 predictable, economical and attractive.



On-board LED Displays

Elevate passenger experience with our high-brightness LED displays, delivering precise and automated passenger information that remains visible in all conditions. Our versatile displays are customizable to meet the unique requirements of our partners, offering options in size, resolution, and design preferences, whether "thin frame" or "thick frame," and tailored to any technical specifications needed.



Product highlights

- Designed for continuous operation, vibration-resistant design
- Flat design, easy installation, easy wiring
- Low power consumption, latest SMD LED technology
- Various hardware, software interfaces: RS-485, IBIS, ITxPT, Ethernet
- Software updates (Remote software update)
- Customer service & support
- Adaptive brightness control
- Display of long messages
- Flashing text, inverse text, scrollable text
- Certified: UN ECE R10, UN ECE R118



Always visible

With superior visibility and reliability, our displays provide clear and consistent information to passengers, boosting satisfaction and significantly enhancing the overall travel experience.

Stationary systems

By integrating advanced technology, we ensure that each stop enhances both the passenger experience and operational performance. This shift towards smart infrastructure enables better decision-making and smoother travel. Ultimately, it's about creating a more reliable, sustainable transport network that meets the demands of today and the future.



 **Overview TFT display**

 **Platform LED display**

 **E-paper display**

 **Infotainment monitor**

 **On-board LED display**

 **CCTV system**

 **Mobile and web application**

Making every stop a step forward

In modern public transport, every stop is an opportunity to improve efficiency and connectivity. Our stationary systems transform static stops into intelligent hubs, optimizing real-time information and seamless operations for smarter mobility.

On-board Infotainment Displays



Designed for on-board vehicle environments, our high-definition TFT displays offer versatile functionality. With integrated controllers, customizable appearances, and modular constructions, they meet diverse needs effectively.

These displays provide seamless playback of Full HD videos and support real-time route information, transfer connections, and multimedia content. With WIFI connectivity, they can access media updates and central management systems effortlessly.

Display sizes

- 18,5"
- 21,5"
- 29,4"

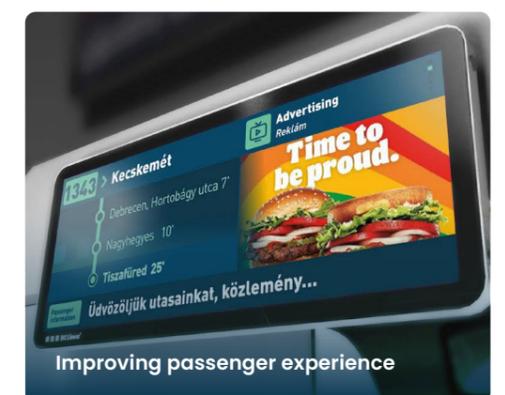


Dynamic, real-time passenger information & infotainment

- Display of current route numbers and destination stations
- Real-time display of route-based stops with arrival time indications
- Display of transfer connections
- Presentation of image, text, and video-based information
- Playback of advertisements, announcements, and messages tied to GPS positions and predefined playlists, whether in full-screen mode or split-screen mode simultaneously with passenger information

Product highlights

- Crystal-clear passenger information
- Various enclosure sizes and colors available
- Single-sided and double-sided versions
- Split-screen content capability
- Vandal-proof, durable design
- Compatible with on-board computers
- Low maintenance requirements
- Various interfaces: Ethernet, DVI/HDMI, WIFI
- Certified: UN ECE R10, UN ECE R118



Stations & Stops Platform LED Displays

Our vandalism-proof LED displays are designed for stops, terminals, stations, indoor and outdoor environments, providing reliable passenger information in all conditions. Featuring high brightness and wide viewing angles, they ensure optimal visibility even in bright sunlight and automatically adjust brightness based on ambient light. The optional integrated audio systems offer voice-based passenger information and Text-to-Speech (TTS) technology. Our displays can be installed on existing structures or with optional metal columns. They can be expanded with optional features like audio passenger information, surveillance cameras, and Wi-Fi access points. Analog clocks are also available for terminal use.



Product highlights

- Latest SMD technology
- Various interfaces: RS-485, Ethernet, GSM, Wi-Fi
- Remote software updates
- Automatic self-diagnosis
- Flashing, inverse, floatable, scrollable text, etc.
- Community information, advertisement, animation option
- In-house development, design, manufacturing & continuous quality control



Stations & Stops Platform TFT Displays

With vibrant colors and high resolution, our LCD displays offer excellent readability and easy adjustment of parameters. Available in single-sided and double-sided configurations, they are suitable for ceiling, wall or column installation.



Product highlights

- Integrated light sensor, adaptive brightness control, based on ambient light
- Various interfaces: Ethernet / optical fiber / LTE
- Weather resistant enclosure
- Anti-reflective toughened safety glass
- Custom, tilted bracket for ceiling or wall mounting
- In-house development, design, manufacture & continuous quality control



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.

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.

Sustainable Operation

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

Easy Installation

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

Built to Last

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

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

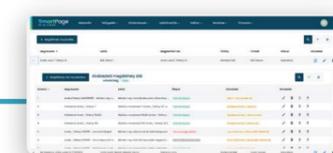


Easy Installation on Poles of Varying Diameters



Manufactured in your chosen size and color.

SmartPage Display and CMS - One system. Full control.



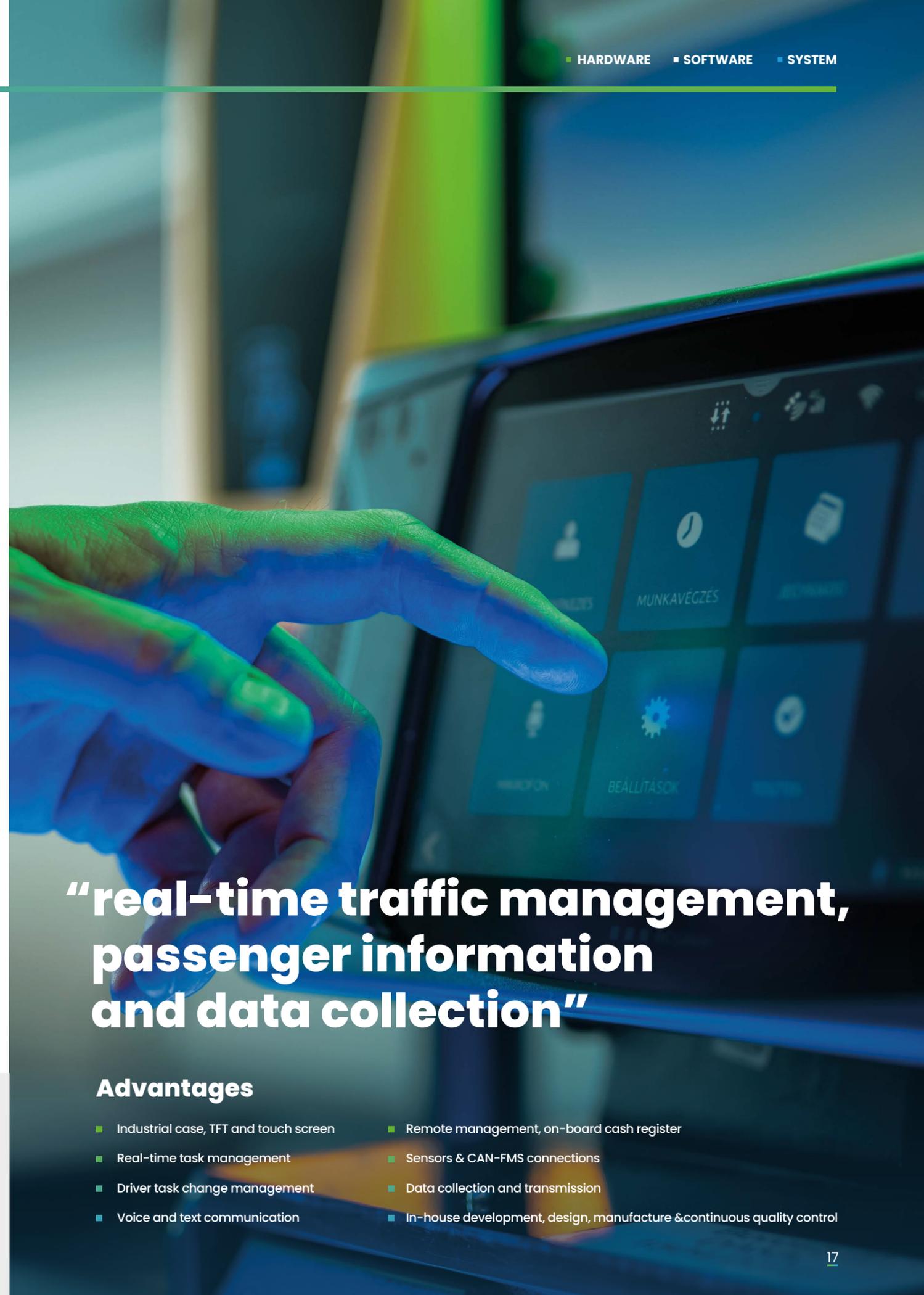
OBU | One Vehicle, One Controller



At the heart of the Vektor System lies our modular, and robust on-board controller. Built on decades of experience, this innovative, award-winning device is designed specifically for buses, trams, and trolleybuses. It comes with all the necessary hardware and software modules for public transport, eliminating the need for additional installation.

The OBU offers transportation companies a comprehensive solution for real-time traffic management, passenger information, and data collection while empowering drivers with vital information necessary for efficient operations.

“One controller rules them all”



“real-time traffic management, passenger information and data collection”

- 

Daily tasks for drivers
- 

On-time schedule management
- 

On-line dispatcher connection
- 

Ticket sale
- 

Passenger info display controller
- 

Voice and text communication
- 

Passenger counting controller
- 

Many more features

Advantages

- Industrial case, TFT and touch screen
- Remote management, on-board cash register
- Real-time task management
- Sensors & CAN-FMS connections
- Driver task change management
- Data collection and transmission
- Voice and text communication
- In-house development, design, manufacture & continuous quality control

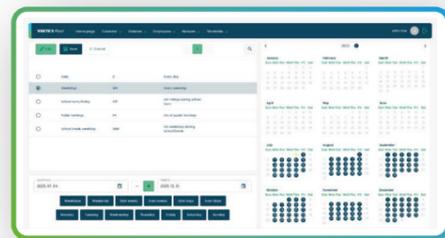
Let's Design Tomorrow's Transportation!

VEKTOR Plusz

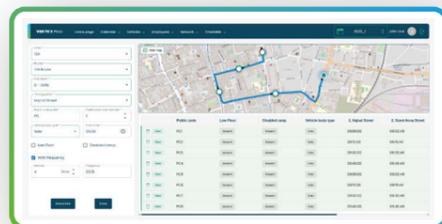
Vektor Plus is a unified, modular software platform designed for comprehensive public transport scheduling and operational planning. It manages all scheduling and operational data in a centralized, browser-based environment. The result: streamlined timetable planning, resource allocation, and transparent operational control.

Vektor Plus integrates seamlessly with corporate HR systems, ensuring that workforce availability is always reflected in planning. This makes the platform suitable not only for long-term schedule generation but also for real-time dispatching and daily operational control.

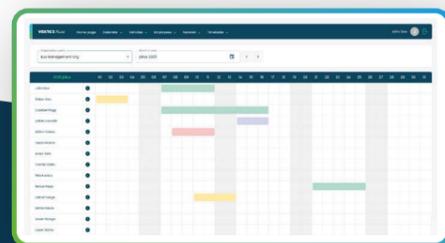
✓ Intelligent timetable and resource planning – all in one place, with AI support



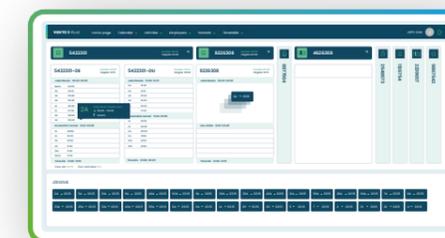
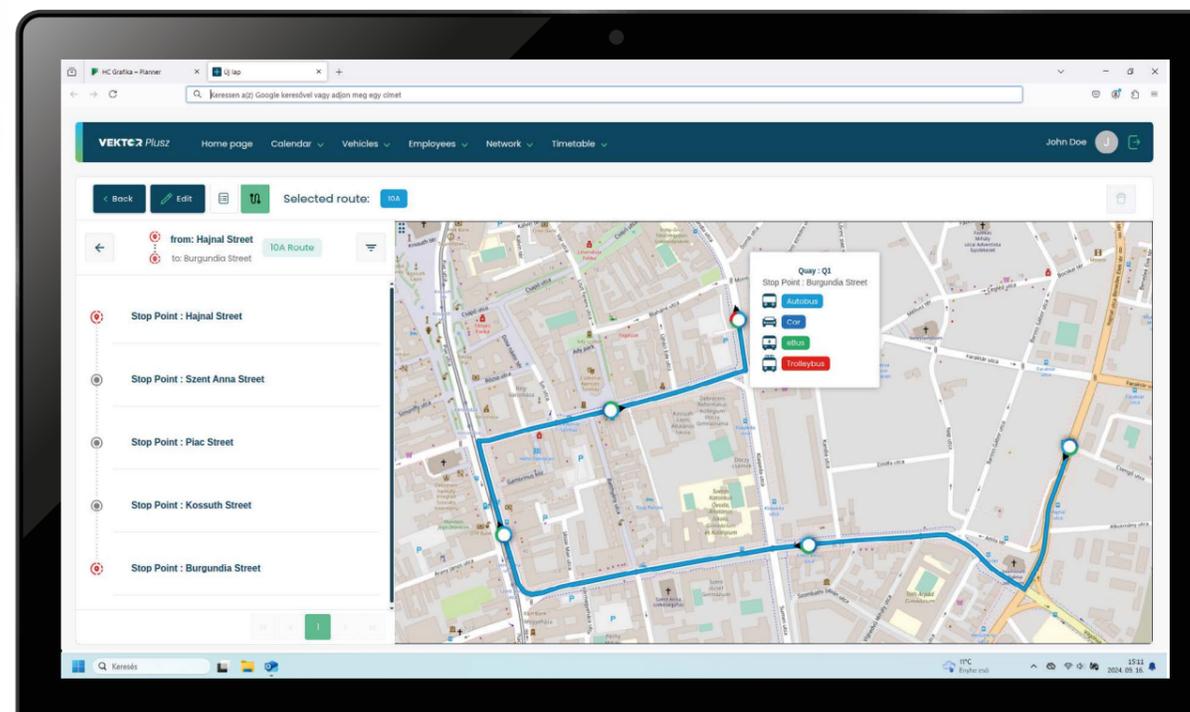
TRANSPORT CALENDAR



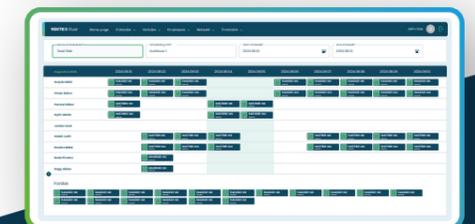
SERVICE JOURNEY



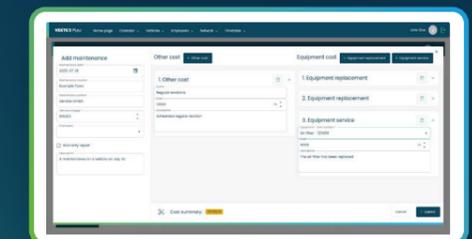
STAFF CALENDAR



VEHICLE ROTATION PLANNING



DRIVER ASSIGNMENT PLANNING



VEHICLE MANAGEMENT

The Advantages of Vektor Plus

Scheduling Optimization

Data-driven scheduling enables seamless transfer coordination, improving service quality and minimizing passenger wait times. The system supports cost-effective operations and efficient traffic management.

Efficient Planning and Execution

Updates to timetable and vehicle rotation data take just a few clicks, significantly reducing manual rework and minimizing the risk of errors.

Cost-Effective Vehicle Maintenance

The system tracks vehicle and component usage, predicts maintenance needs in advance, and reduces unexpected failures. Maintenance records are stored in the platform, supporting warranty management and workshop coordination.

Flexible Integration

Vektor Plus is built with a modular architecture, allowing it to integrate into your existing IT environment. Each module can be used independently or as part of a complete solution – tailored to your operational needs.

Optimize Daily Operations

Real-Time Dispatching and Rapid Intervention

DPX is the core module for daily traffic control. It receives the pre-planned vehicle rotations — from the Vektor Plus system or other sources — and supports timely execution of all routes using real-time data, ensuring each service departs on time with the right vehicle and driver.

Key Features:



Departure Log

Lists the matched rotations and departure times for the day's scheduled transport services.



Delay Management

Predicts delays in advance and provides alerts to enable rapid response and corrective action.



Real-Time View

Displays current vehicle positions through linear or map-based visualization for live tracking.



Two-Way Communication

Supports sending messages to displays at stops and enables direct driver communication.



Automatic Rotation Correction

Supports dynamic planning by updating vehicle and driver assignments based on real-time changes.



Performance Monitoring

Automatically fills trip logs and provides the basis for evaluating driver performance.



Traffic Signal Priority Module

- Minimize idle time and improve travel times with our traffic light priority system.
- Enhance the efficiency of bus routes by prioritizing traffic signals for smoother transit operations.



Data Mining, Analysis and Statistics System

- Gain valuable insights into operational efficiency and passenger satisfaction with our comprehensive analytics platform.
- Utilize data-driven decision-making to optimize routes, schedules and resource allocation for improved service quality.

Intelligent Integration Possibilities

Unlock the full potential of intelligent connectivity with HC Linear's Vektor System.



Passenger Counting System

Ensure efficient traffic management with precise passenger counts for optimal schedule and capacity planning. Our OBU transmits data for enhanced dispatching.



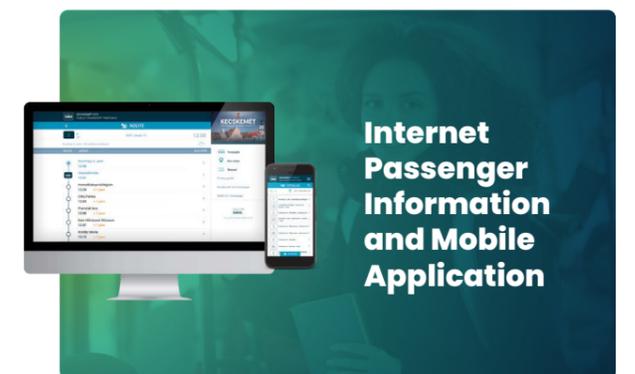
Security Camera System

Prioritize passenger and driver safety with our comprehensive security camera system. Integrated with the onboard system or operated autonomously via LTE connectivity, it provides thorough surveillance.



CAN-FMS Integration

Optimize fleet operations with seamless connectivity and data exchange through our CAN-FMS integration. Monitor vehicle performance metrics, energy consumption, and maintenance schedules in real-time, ensuring regulatory compliance and operational efficiency.



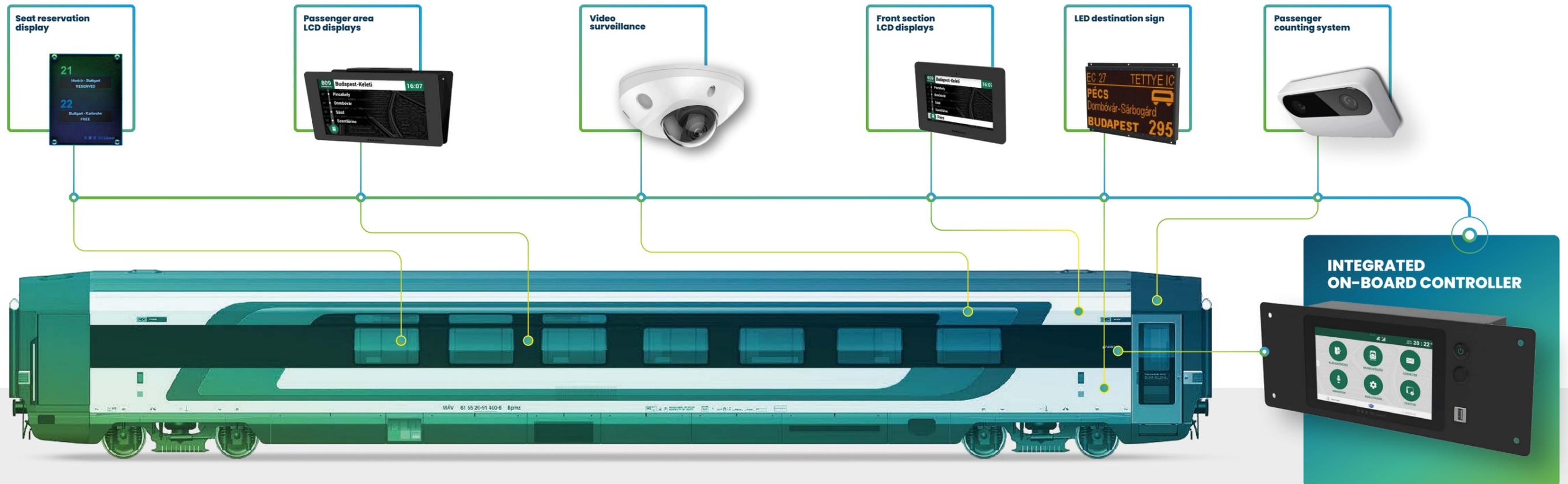
Internet Passenger Information and Mobile Application

Empower passengers with real-time schedule updates and travel planning through our intuitive browser or smartphone app. Stay informed about route positions, arrival times, and schedule deviations.

→ and many more possibilities according to your needs

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 counting system and video surveillance system, all compliant with international standards.



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:

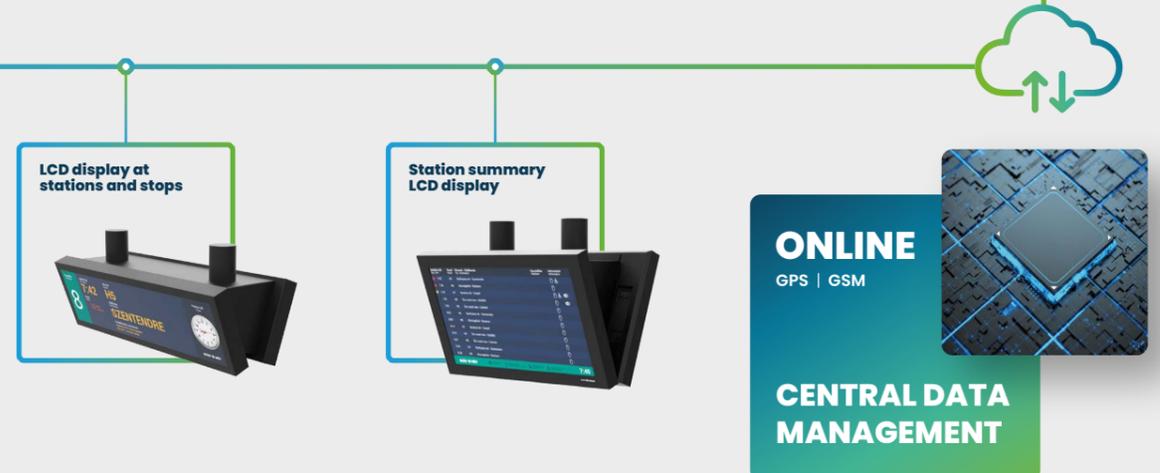
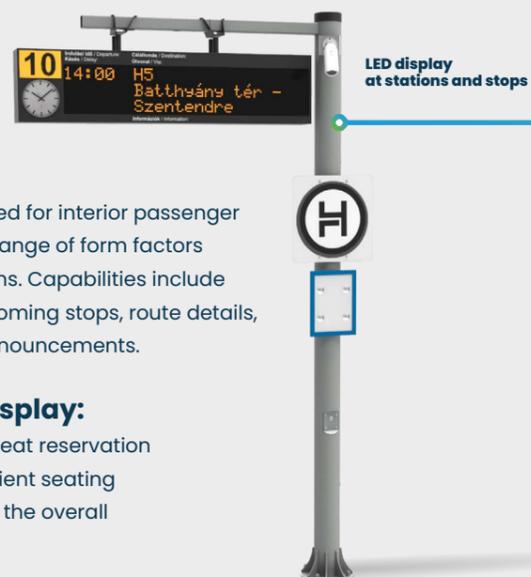
High-brightness LED technology delivers clear directional guidance in any environment.

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.



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 subtask 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.

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.

Software Development

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

System Integration

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

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.

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.



In-house Manufacturing

Manufacturing process ↘



Procurement

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



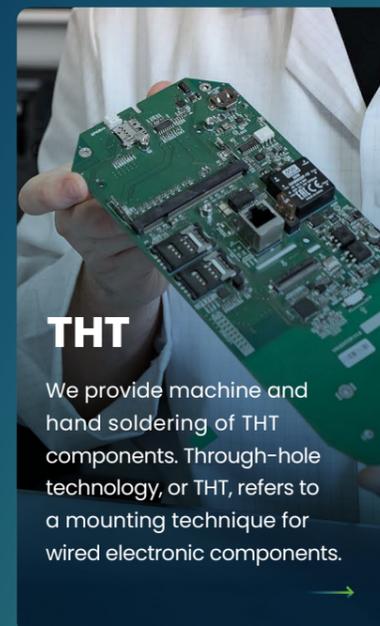
Traceability

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.

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