



MITRON

www.mitron.com

Mobile Systems

trains - trams - metros

Mitron

Mitron is a European leading company in the field of passenger information, security and display systems for public transportation and digital signage applications. Main applications for Mitron displays are stations and stops in public transportation, public transport vehicles and digital signage. Mitron mobile systems covering display, announcement, entertainment and security systems are provided for trains, trams and metros. Mitron's offering is based on standard product solutions and open systems making flexible customization and integration with any existing systems easy. Fast and on time projects and deliveries are guaranteed by in house engineering and professional project management combined with Mitron's own production.

Experience

Mitron's customers are mainly European leading integrators, operators and vehicle manufacturers. Mitron is a flexible business partner whose main target is to provide always the best possible product based on the most suitable technology to meet the customer specific needs. Mitron has gained broad experience from stationary system projects with Finnish, Swedish, German, Lithuanian and Dutch railways as well as from city traffic in many countries worldwide. In mobile applications Mitron has been working with major European train and tram manufacturers. In the field of digital signage applications Mitron cooperates with leading integrators, network operators and content providers.



Services

Mitron is committed to taking full responsibility for supplying the latest technology solutions to its customers including project planning, research and development, engineering, production, testing and installation. Even years after completing an installation, Mitron stays with its customers by offering comprehensive after sales service and support.

Quality

Mitron's Quality System is certified to ISO 9001 and the Environmental Management System to ISO 14001. In 2009 Mitron received the IRIS Certificate according to the International Railway Industry Standard for the international railway industry. Constant quality research, product testing and internal quality audits are an essential part of company's operation. Mitron is committed to continuous improvement of the environmental protection level in its own operations, products and services.

Mobile Systems References

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|---------------------------|--------------|
| Alstom Transportation | Pesa |
| Bombardier Transportation | Skoda |
| CAF | Stadler Rail |
| Finnish Railways | Transtech |
| Helsinki City Transport | |



Mobile Systems

Mitron is a specialist in developing and supplying IP based mobile systems for trains, trams and metros with products that include announcement, display, entertainment and security systems as well as communication and control solutions. Mitron offers a complete solution that can consist of different systems depending on customer requirements. Systems can also be easily connected to other systems. The main advantage of Mitron mobile systems is that they share the same wireless WLAN or Ethernet based communication network that can be used for both communications inside the vehicle and between the vehicle and the depot. Mitron mobile systems are an excellent choice for both new and reconditioned vehicles.

Communication & Control

Mitron mobile systems use open system architecture with standard IP/Ethernet interfaces. Dynamic IP addressing means each device has its own dynamic IP address so there's no need to configure individual units. The system forms a communication backbone with high bandwidth inside the vehicle. At the same time it provides online communication between the vehicle and the ground network for actual passenger information, diagnostics and position information. Thanks to the Adaptive Network Routing and Dynamic Domain Name Service (DDNS), the train network can be quickly and automatically reconfigured when the train composition changes. Open IP based system architecture with standardized interfaces makes it easy to connect Mitron's system with other systems, such as diagnostic, passenger counting and ticketing system. For any future needs, the system can be easily expanded.



Announcement System

Mitron's IP based announcement system is a modular design flexible enough for a variety of environments. Automated announcements and/or conductor messages are clearly transmitted to the passengers. Announcements override the audio entertainment system and whole train or single car announcements can be made easily. Duplex speech between cars and the driver ensures easy and simple staff communication.

Display System

Mitron offers a full range of displays including front, side and internal displays using all technologies from LED to TFT and LCD technologies. Mitron IP based display systems offer a variety of features and benefits that include excellent visibility, service free and vandal proof design, low life-cycle costs and easy maintenance. Thanks to intelligent and easy to use user interface, the need of user actions is minimized. Changing display layouts and fonts is made easy with an open XML-based control interface. Although a variety of devices are available, Mitron specializes in custom designs to suit the specific requirements of operators.

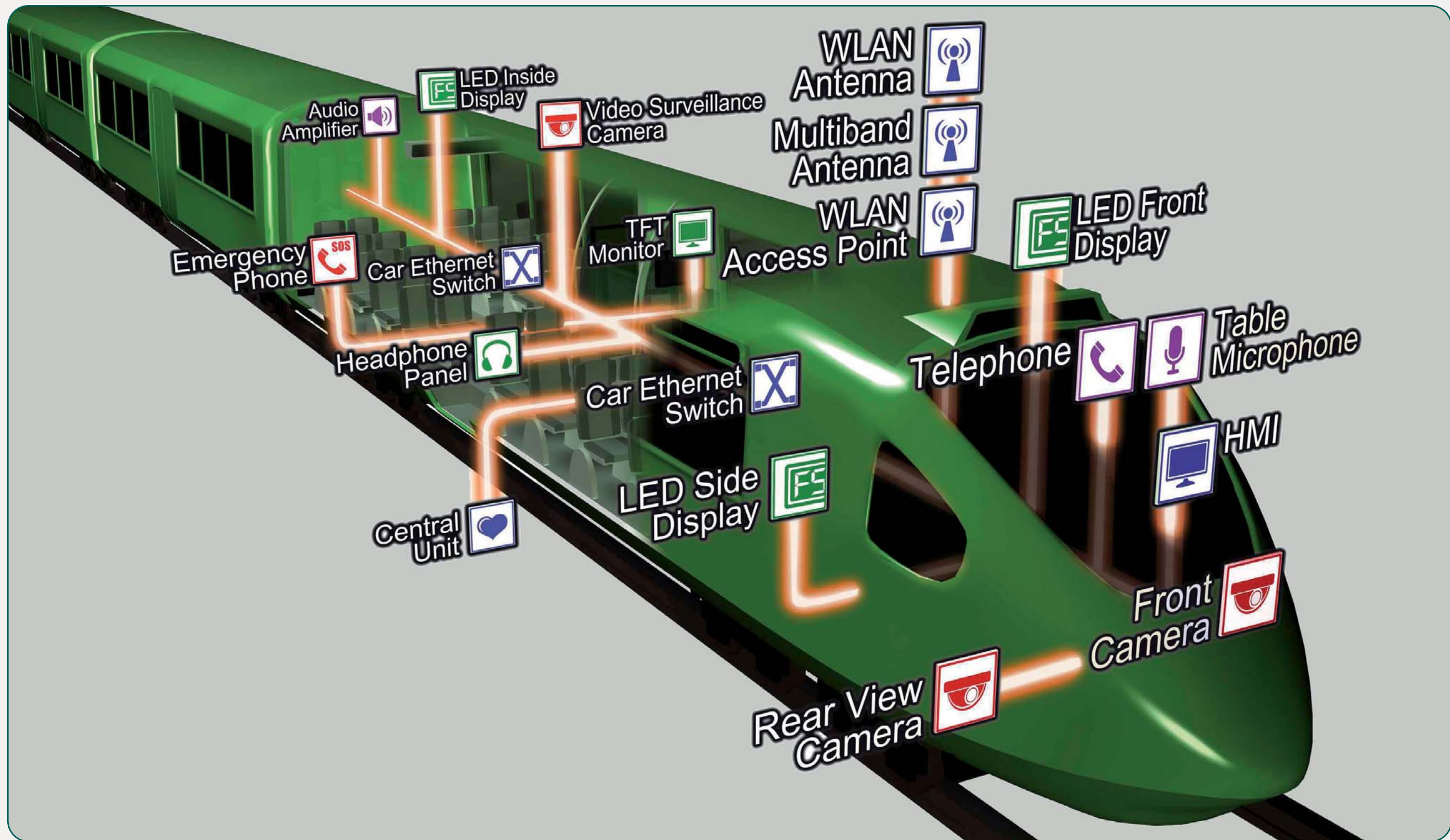
Entertainment System

Mitron's modular IP based entertainment system uses standard digital compressed video formats as well as digital video and audio transmission network solutions that fully meet the requirements of the system integrator or operator. TFT-LCD displays provide customers with superb quality video. The digital headphone panels allow the easy selection of MP3, CD or video audio channels. The system can easily be controlled via the touch-screen user interface.

Security System

Mitron's IP based security system is a fully digital system using IP/ Ethernet and WLAN interfaces. Ethernet connection allows for the easy configuration and management, software updates and diagnostics. The security system can easily be controlled via the touch-screen user interface. Visual records of the surveillance cameras in the vehicle can be saved on the hard disk of the video surveillance recorder. There is also an option to connect the video surveillance system to the emergency phones.





Communication & Control

Central Unit
Car Ethernet Switches
Multiband Antennas
WLAN Antennas
WLAN Access Points
HMI (Human Machine Interface)

Announcement System

Telephones
Table Microphones
Audio Amplifiers

Display System

LED Front Display
LED Side Displays
LED Inside Displays
TFT Monitors

Entertainment System

TFT Monitors
Headphone Panels

Security System

Emergency Phones
Video Surveillance Cameras
Rear View Cameras
Front Cameras

Integrated Systems

Passenger Counting System
Commercial Information System