



MITRON

www.mitron.com

Display Systems
public transport stations and stops
public transport vehicles
digital signage

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.



Applications

Mitron display systems are used in various applications including public transportation stations and stops in railways and city traffic, public transport vehicles and digital signage applications. Mitron high quality displays are designed for 24/7 use in all weather conditions providing clear information with highly appealing visual appearance and product design.

Systems

Displays, public announcements, train detection, video surveillance and services for visually impaired are offered as a complete system or a sub-system depending on customer requirements. The system is an excellent choice irrespective of whether only one station or several stations need to be connected to the same station information management system.

Displays

Mitron offers display series designed for both outdoor and indoor applications. The IP protection of displays varies from IP20, IP52 to IP65 depending on installation environment. All Mitron displays can be equipped with several optional features depending on customer requirements and application.



TFT Display Technology

TFT technology is the most versatile full color display technology. Mitron specializes in outdoor TFT display applications where several display models, from monitor displays to platform TFT displays, are provided. However TFT technology is also an excellent choice for indoor applications. High resolution enables flexible layouts so that different kinds of information, including text, images and moving pictures, can be presented. Environmental friendly LED backlight solution is available to all Mitron TFT displays.

LED Display Technology

High brightness, service free design and low costs are combined in LED display technology. This display technology offers good visibility in all lighting conditions. Due to the simple construction and energy efficient LED technology, life cycle costs of LED displays are very low. A wide range of LED colors is available.

LCD Display Technology

Mitron LCD displays offer excellent visibility in direct sunlight. Thanks to LCD technology, an elegant appearance and excellent legibility are guaranteed. Mitron offers both yellow/ black and white/blue colored LCD displays. Environmental friendly LED backlight solution is available to all Mitron LCD displays.

Excellent Visibility

High display brightness and high contrast guarantee excellent visibility making Mitron displays a brilliant choice especially for demanding outdoor applications where there is a need for long distance visibility in difficult lighting conditions. Automated brightness control guarantees excellent visibility and maximum contrast to the display in all lighting conditions. With anti-reflective protective front glass high contrast can be maintained even in bright sunshine.

24/ 7 Operation

All Mitron displays are designed and tested for 24/ 7 use and the information can be presented non-stop. Even in continuous use the life cycle costs of the display are very low thanks to low energy consumption of the display.

Long Term Availability

In house engineering combined with own production in Finland ensure the long term availability of similar mechanical solutions in different display models and sizes. Thanks to use of standard industrial components long term availability is guaranteed for all displays.

Low Life Cycle Costs

Mitron Displays, based on low energy consumption, are designed and tested for continuous 24/ 7 operation in demanding environments offering long lifetime and reducing the overall cost of ownership. A Life Cycle Costs (LCC) calculation of display can be offered to the customer already at the quotation stage.



Weatherproof and Service Free

Mitron displays are an excellent choice for use in the most demanding environments from cold winter to the heat of direct sun light. Display series with IP65, IP52 and IP20 protection are suitable for both indoor and outdoor applications. IP65 protection with closed air circulation guarantees service free operation of the display.

Sunshine Tolerance

All Mitron outdoor displays are designed and guaranteed to withstand the stress of direct sunshine. Efficient thermal management guarantees an even low and homogenous temperature inside the display. Ultraviolet radiation of the sun is filtered at the front glass of Mitron display to ensure maximal life time of the display. Sunshine tolerance of the display can be maximized by following Mitron display installation guidelines.

Vandal Tolerance

Strong mechanical housing together with shock proof laminated or hardened front glass protect Mitron displays against vandalism. Mitron displays utilize different vandal detection solutions including vibration sensors, door opening sensors and front glass brake sensors, integrated surveillance cameras and microphones, anti-graffiti coating and bird wire. Remote and local alarms together with photo and video records are also provided.

Integrated Diagnostics

All Mitron displays can be equipped with a diagnostics unit which automatically controls display functions and reports errors to a central control system. Remote display temperature control is made possible through the use of a diagnostic unit which controls heaters and ventilation according to weather conditions.

Certified for High Quality

Mitron displays are designed and manufactured based on the ISO 9001 quality standard and ISO 14001 environmental standard. International Railway Industry standard IRIS ensures Mitron's high-quality, certified displays for the rail traffic.



Mitron Station Information Management System

The Mitron Station Information Management System controls displays, public announcements, train detection, video surveillance and services for the visually impaired. The system can consist of different systems depending on customer requirements. All systems can be easily controlled from the same user interface.

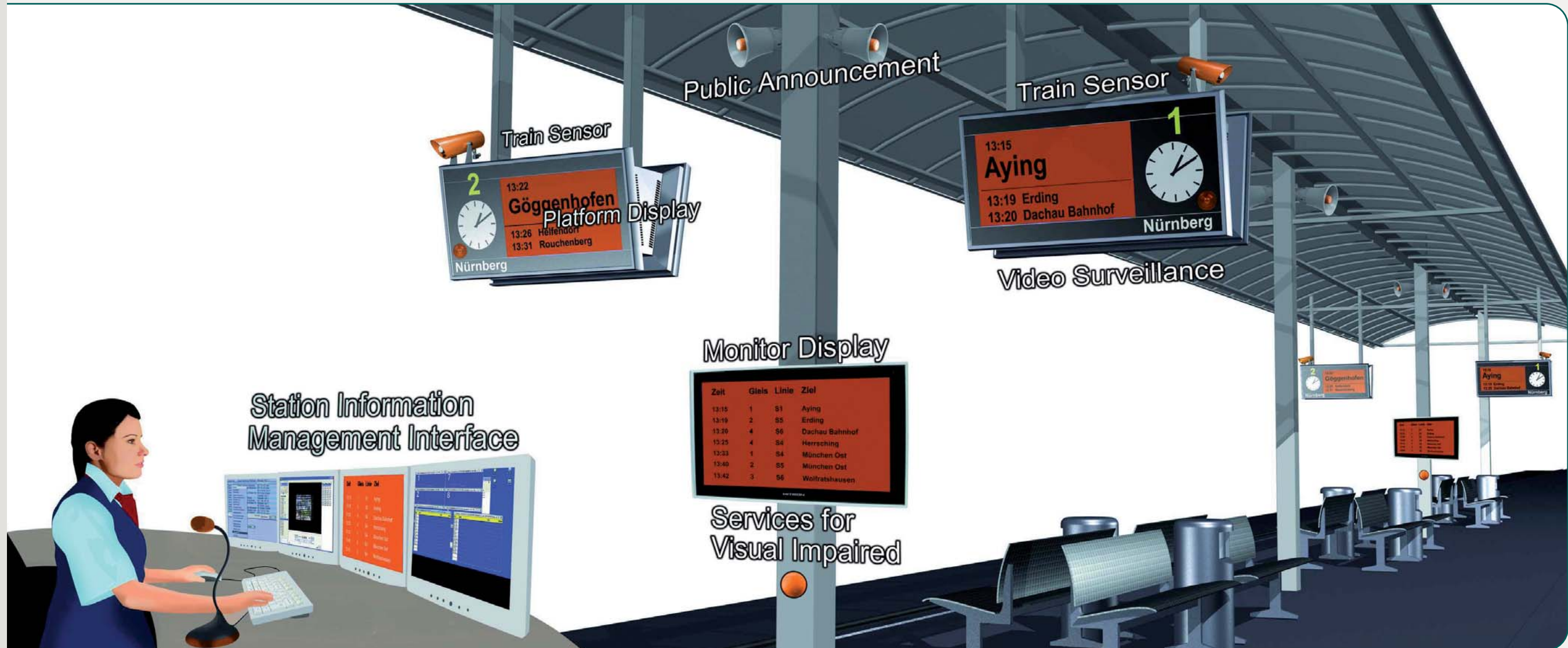
The system is an excellent choice irrespective of whether only one station or several stations need to be connected to the same information management system. The station information management interface can be located anywhere in the network and one or more interfaces can be included in the system. The system is based on standard interfaces and can be easily connected to the station's existing systems.

Train Sensors

Mitron train sensors are used as one part of a passenger information system of a station. Sensors are used for controlling the public announcements and for changing the information shown on the displays when a train is arriving, stopped and leaving or passing by the platform. Mitron train sensors are certified by German Railways.

Services for Visually Impaired

Services for visual impaired are optional features that Mitron provides for Mitron Station Information Management System. One of the main services offered for visually impaired is the text to speech feature. The text to speech feature gives the display a human voice. Simply by pushing a button a human voice announces the information presented by the display. Instead of just reading the same information presented on the display, such as departure time and destination "Aying 13:15", the text to speech feature can be programmed to give additional information like "Next train to Aying departs at 13:15 from platform 1". Whether the announcement is automated or written, the voice of the announcement is always the same, regardless of who makes it. Text to speech makes traveling for the visually impaired much easier and independent, when they have easy access to passenger information. The text to speech feature can also be used for public announcements.



Main References

Railways

Finland
Sweden
Denmark
Lithuania
Netherlands
Germany
Switzerland

Metros

Finland
India
Spain
UK
Canada
Thailand

Airports

Finland

City Traffic

Finland
Sweden
Norway
Denmark
Netherlands
France
Israel
Venezuela

Digital Signage

Finland
Sweden
Norway
Denmark
Netherlands

Public Transport Vehicles

Finland
Norway
Denmark
Netherlands
Germany
France

