



Multifocal sensor technology and modular management software in the Azure cloud

VIDEO SECURITY AT ALMOST 180 RAILWAY STATIONS OF THE DANISH STATE RAILWAYS



Requirement

- Compatible with Microsoft Azure Cloud
- All over recordings usable in court
- Complex user and rights management
- Flexibility and compatibility



20 years
Of cooperation



2,500
Single-sensor cameras



22
HEMISPHERE® SeMSy® Variodecoder

Solution

- HEMISPHERE® SeMSy® video management solution
- Panomera®-Technologie
- Integration of HEMISPHERE® into DSB user administration
- Dallmeier "Factory Acceptance Test" (FAT)

Result

- Processes can be managed centrally and flexibly
- Compliance with DIN standard DIN EN 62676-4
- Simultaneous access for over 1,000 DSB employees and authorities
- Incremental updates of the systems

By combining Dallmeier camera technology, cloud deployment and the HEMISPHERE® management components, we are now in possession of an extremely powerful system.



Søren H. Nielsen, Technical Director at Danish State Railways (DSB)



In addition to many management tasks, the modular Dallmeier HEMISPHERE® software platform also enables for example creation and forwarding of a digital incident file for events requiring such treatment.

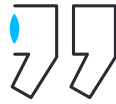
Danish State Railways (“Danske Statsbaner”, DSB) operates the local passenger transport on nearly all the railway lines in Denmark. The scope of its responsibilities also includes the international intercity line between Sweden and Germany and Copenhagen’s high speed urban rail network. In matters of security, for the last more than 20 years Danish State Railways (DSB) has placed its confidence in the German manufacturer Dallmeier for video technology and the Danish company SCANVIEW A/S for support and on-site installation. The next expansion stage has successfully gone into operation: With the Dallmeier HEMISPHERE® software components in the Azure cloud and more than 2500 cameras, DSB guarantees its passengers and employees the highest possible level of security.

Wherever large numbers of people gather, unpleasant things happen too. Not only thefts and physical altercations but also vandalism of parked trains or drug offences are numbered among the daily incidents in railway sta-

tions and sidings. To be able to take prompt and efficient action in such cases, Danish State Railways relies on a video security solution from Dallmeier. The solution allows the video images from all locations to be accessed individually by an unlimited number of operators at the DSB main operations centre in Copenhagen. Comprehensive display and incident case management functions ensure that an incident can be tracked, counteracted, and investigated.

Flexibility through the cloud: HEMISPHERE® SeMSy® components run in Microsoft Azure

From the Danish State Railways main operations centre in Copenhagen, the security operatives tasked with these activities can always keep a watchful eye on everything that happens in the railway stations using the HEMISPHERE® SeMSy® video management solution. And the most important software components run in the Microsoft Azure cloud, which is operated by the DSB as its IT backbone. This enables all processes, such as systems



HEMISPHERE® SeMSy®

replaces or supplements many of the systems used previously by DSB, so it improves the efficiency and quality of our workflow.

Søren H. Nielsen,
Technical Director at DSB

management, rights, and user administration and the allocation of computing power to be executed flexibly and from one central location.

Completing tasks without distraction

Since the components are made available centrally, the operators can also access every one of the 2500 single sensor cameras as well as all Panomera® multifocal sensor systems from there rapidly and with optimum overview. Each workstation and all user views can be configured individually, so that only the widgets needed for the specific activities are visible. This enables employees to concentrate on their specific tasks without distraction.

Much more than just video: Maps and digital incident management

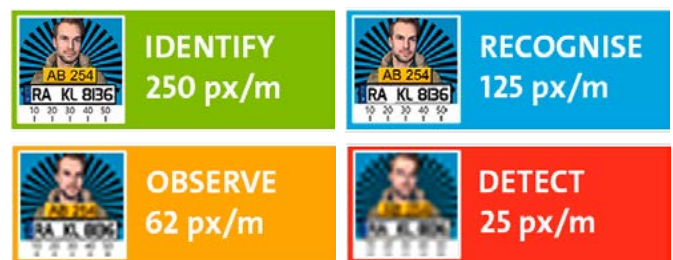
Besides classic video management, the modules of the HEMISPHERE® platform enable all pertinent case information such as photos, videos, or witness statements to be collected and recorded quickly and conveniently, and then compiled in a digital incident file. HEMISPHERE® also integrates accurate site plans of the individual locations. Operators and security managers can use this Map function to easily select the camera they need to respond to observed incidents. The operators manage the systems via Dallmeier workstations and a monitor wall consisting of

22 HEMISPHERE® SeMSy® vario decoders. Simple, lossless switching to each individual railway station is guaranteed by Dallmeier “PRemote HD”, a routine which uses transcoding to conserve bandwidth and enables access to high-resolution video material even when the internet connection is less than ideal.

“HEMISPHERE® SeMSy® replaces or supplements many of the systems used previously by DSB, so it improves the efficiency and quality of our workflow. By combining Dallmeier camera technology, cloud deployment and the HEMISPHERE® management components, we are now in possession of an extremely powerful system which offers far more than standard video management,” declares Søren H. Nielsen, technical director at DSB.

Long distances and large areas – no problem thanks to Panomera® multifocal sensor technology

Most of the railway stations in Denmark occupy large areas. Parking areas, shopping facilities and platforms all constitute areas that must be monitored. The difficulties lay in the need to ensure that the high minimum resolution quality for enabling recordings to be used in court (described in DIN standard DIN EN 62676-4) was satisfied over the entire expanse. In the patented Panomera® technology implemented by DSB, up to eight sensors with different focal lengths are combined in one optical unit. The result is a total image in consistently high resolution, in which additionally an unlimited number of detail zooms can be carried out both in the live feed and in the recording. In this way, Panomera® captures enormous distances and expanses in real time with a resolution pattern that is



The standard DIN EN 62676-4 defines the required pixel densities depending on the application.



The patented Panomera® technology operates with optics having different focal lengths in one system. Therefore, a very small number of systems is sufficient to cover the large expanses of railway outdoor areas in high resolution.



Køge Nord railway station is one of 298 stations in the Danish State Railways network. Capturing as much as possible in one image, and at high resolution: An essential aspect for security over large expanses.

consistent over the entire object space – with very few camera systems. This in turn not only ensures that recordings are always usable in court, but it also allows a big chunk of the infrastructure costs compared with conventional solutions to be eliminated.

Real enterprise capability for a complex and dynamic environment

Danish State Railways employs over 7,000 personnel. Of these, over 1,000 jobs are in Administration. Figures of this magnitude entail complex user and rights management challenges in the video surveillance of currently 180 railway stations. Moreover, it is not only the employees but also public authorities such as the Police which are authorised and even required to access the video information system. In this context, it is imperative to be able to maintain an overview of rights assignment for reasons of data protection and data security. Therefore HEMISPHERE® can be integrated seamlessly in the DSB's User Administration Active Directory.

System updates are another challenge in large-scale environments. In complex projects running for many years, it is imperative to implement a system that allows for incremental updating. In the context of such programmes, it is usually most important for the newly implemented systems to be downwardly compatible. HEMISPHERE® offers the capability of integrating existing systems in a new environment – regardless of the original provider – thereby enabling the customer to migrate incrementally. Comprehensive test phases, such as the Dallmeier “Factory Acceptance Test” (FAT) complete this integration and guarantee not only full security but also optimal function of the system upon commissioning.

“We updated the video management system used by Danish State Railways with the Dallmeier SeMSy® III VMS system back in 2016. With the migration to the HEMISPHERE® platform including the new generation of the SeMSy® VMS and further modules in 2020, we were able to implement a kind of modular principle consisting of video management, data management and frontend



applications. This enabled us, in cooperation with DSB, to 'compile' exactly the total solution that met the requirements of the time in cost-optimised manner. At the same time, the many other functions and modules provided mean that we are ideally set up to deal with requirements of the future," says Torsten Ussing, MD at SCANVIEW A/S.

It is not only products that count

Since the digital wavelet recorders of the early 2000's, DSB has relied on products from the German manufacturer Dallmeier and the operational and technical services of its exclusive Scandinavian partner SCANVIEW. Ensuring that such a long cooperation continues to flourish entails a high degree of flexibility. Rapid responsiveness, customer-specific stocking of spare parts and short delivery times are the essential prerequisites for such a relationship. But guaranteed data protection and cybersecurity are also essential

issues, particularly in the context of video surveillance in public areas and in the age of the GDPR. Dallmeier products are developed and manufactured entirely in Germany and in conformance with the GDPR guidelines "Security by Design" and "Privacy by Design". In this way, both the Danish State Railways and its passengers benefit from the highest standards for data protection and data security.

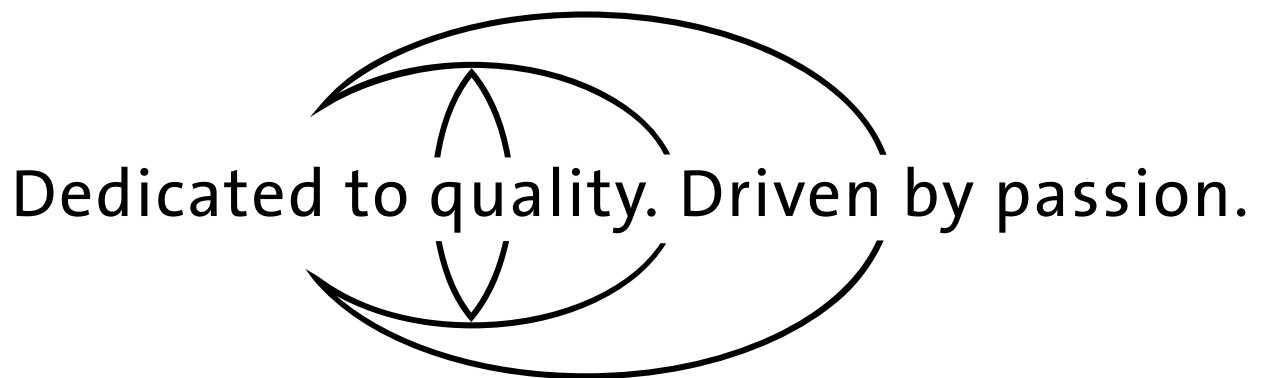
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Let's talk about your project!

 info@dallmeier.com

 +49 941 8700-0



Dedicated to quality. Driven by passion.

Dallmeier electronic GmbH & Co.KG
Bahnhofstr. 16
93047 Regensburg
Germany

Tel: +49 941 8700-0
Fax: +49 941 8700-180

info@dallmeier.com
www.dallmeier.com