



Reliable and accurate video surveillance is of utmost importance at critical infrastructure such as tunnels, bridges and highway crossings. We combine the intelligent features of VDG Sense with our experience in infrastructure projects around the world, to provide the most innovative solutions for infrastructure video surveillance.

With the flexibility of our video management software, VDG Sense, to integrate in any infra-surveillance system, and the right hardware to operate in these conditions, we have the most innovative and best solution infrastructure video surveillance.

## VDG Sense - flexible and reliable video management

VDG Sense uses powerful macros, custom layouts and high-end intelligence that can help ensure the safety and optimal flow of traffic at critical infra situations. These can detect abnormalities or pre-defined situations, in which VDG Sense can automatically decide to interact with the total security solution to shut down lanes or provide a detour.

## Failover protection

From our experience in major infrastructure projects around the world, we understand and have redefined the importance of continuous, unfailing video surveillance. If a system fails, this has immense consequences on safety for passing traffic and results in high costs. For every infrastructure project, we therefore integrate specialist failover systems, making sure the installed video surveillance continues to operate, even in case of a system failure.



## **About VDG Security**

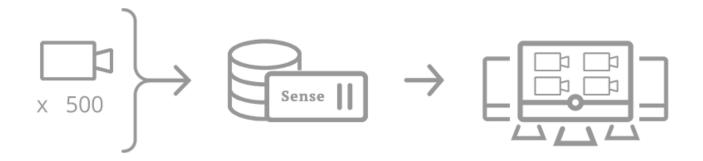
VDG Security B.V. creates innovative video management solutions. VDG stands for Video Development Group. VDG Security develops tailor made, flexible and integrated video management solutions for customers worldwide. VDG Security

offers innovative solutions to every security need. VDG Security is part of the TKH Group and the TKH Security Solutions. TKH strives to improve public safety and mobility through high-quality, reliable, and innovative security solutions.



#### **Custom layouts for optimal monitoring**

The layout of VDG Sense, for both client viewers, as well as video wall displays, can be adjusted to the amount of information available. With a large amount of video channels coming from multiple sites, it is virtually impossible to view all video streams at once or keep an overview.



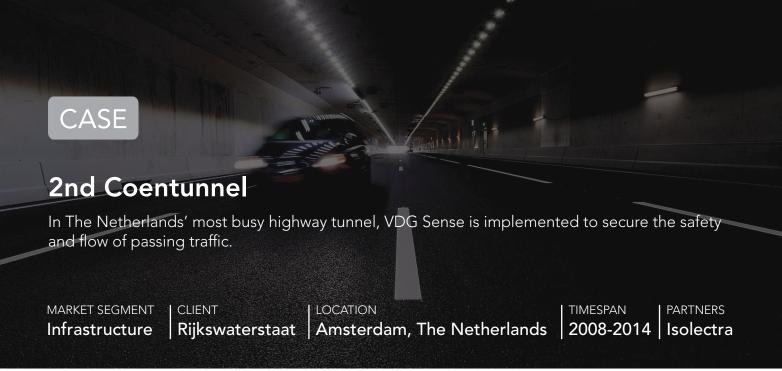
Custom layouts help process and filter this amount of information efficiently. It is possible to work with multi-layouts for different screens, clients and sites. Combined with our event driven macros, you can be sure that you will always see what you need to see, when you need to see it. Especially in critical infrastructure, this is an essential feature to really enhance the usability for operators and emergency services.

## Special feature: emergency viewers

Special for infrastructure solutions, we have made it possible for emergency services to view camera images on location. When emergency services arrive at a scene at critical infrastructure, the right information of what has happened can add to a fast and accurate judgement of the situation. Video images can contribute to this in a great way. Therefore it is necessary for the emergency services to be able to see the images on that location. With special viewer screens on location, a member of the emergency services can get in direct contact with the operator, and ask for the necessary images to be displayed on the viewer screen. This way the data remains in hand of the operator, while the emergency services have immediate access as well.

VDG Sense is the video management software (VMS) of VDG Security. With VDG Sense users are in control of all live images and stored video data. It is based on an open platform, tailored to the specific needs and requirements of its users, and can be

fully integrated into any security solution. With its many features and intelligent add-ons, VDG Sense is the most innovative video management software available.



VDG Sense is integrated in the tunnel control system through the HTTP API. The system is programmed to operate completely autonomous (without an operator in control). When an issue occurs, the system automatically sends the required image to the control room video wall, located 20 kilometers away. There, the operator can then visually verify the signal that he has received from the tunnel control system. The video security installation is specifically used to verify, and not to detect. Detection is integrated through the tunnel control system.



"VDG is capable of delivering very specific solutions for video security management. Their reliability and scalability is unique and therefore places them ahead of their competition."

WERNER HULST — MANAGING DIRECTOR OF ISOLECTRA B.V.

# Redundancy

What makes the tunnel a complex set-up, is that redundancy is essential. The operator must be able to trust on the visual verifications at all time. When the video system would hesitate or stop working all together, the safety of passing traffic can not be guaranteed and the tunnel is shut down. A shutdown is not only very costly, but also causes major infrastructure problems for traffic who depend on the tunnel.

To ensure a continuous videostream, an extensive redundant solution is provided. This means that in case of a failure in one of the servers, the other servers automatically and instantly take over the tasks of that server, making sure there is never a loss of video data.

## **Video Tagging**

Developed specifically for this case, Video Tagging is an important feature for operators to save video data. In a standard VDG Sense set-up, new video data is written over old video data when the storage is full. In case of an event, the operator can manually tag video data within a specific time frame, making sure that video data is never deleted or overwritten. This can be done up to one hour before the event occurs, showing any possible causes that could have lead to the event captured on screen. Video Tagging is used to make sure that video data can be retrieved in a later stadium for research or investigation purposes.

The system also automatically detects when storage contains too much tagged video data. In that case, the operator can choose to delete video data that has already been used, or to export the files to an external storage, such as a USB drive or external hard-drive.