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# VideoGuard

## Intelligent video detection and authorization

- Detects individuals and animals in challenging light conditions
- Identifies granted access of individuals
- Is highly reliable because of the combination of used technologies
- Eliminates false alarms (reflections, water, etc.)
- Sounds alarm in case of unauthorized access
- Protects lives and property by timely warnings in case of unauthorized entrance into protected area
- Decreases financial losses caused by incidents or limited operation

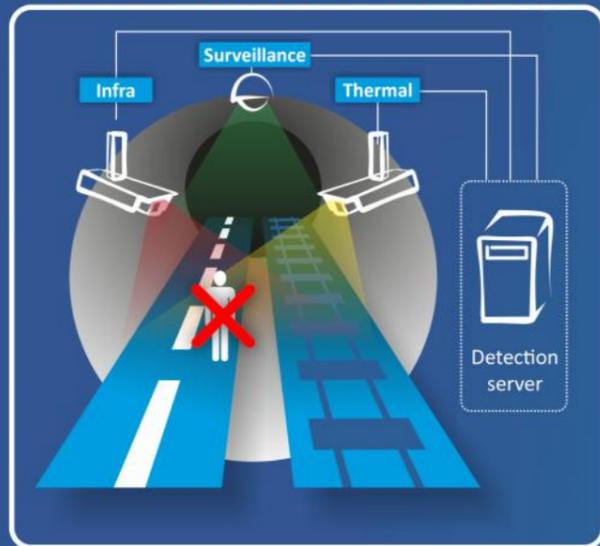
# VideoGuard

## Intelligent video detection system

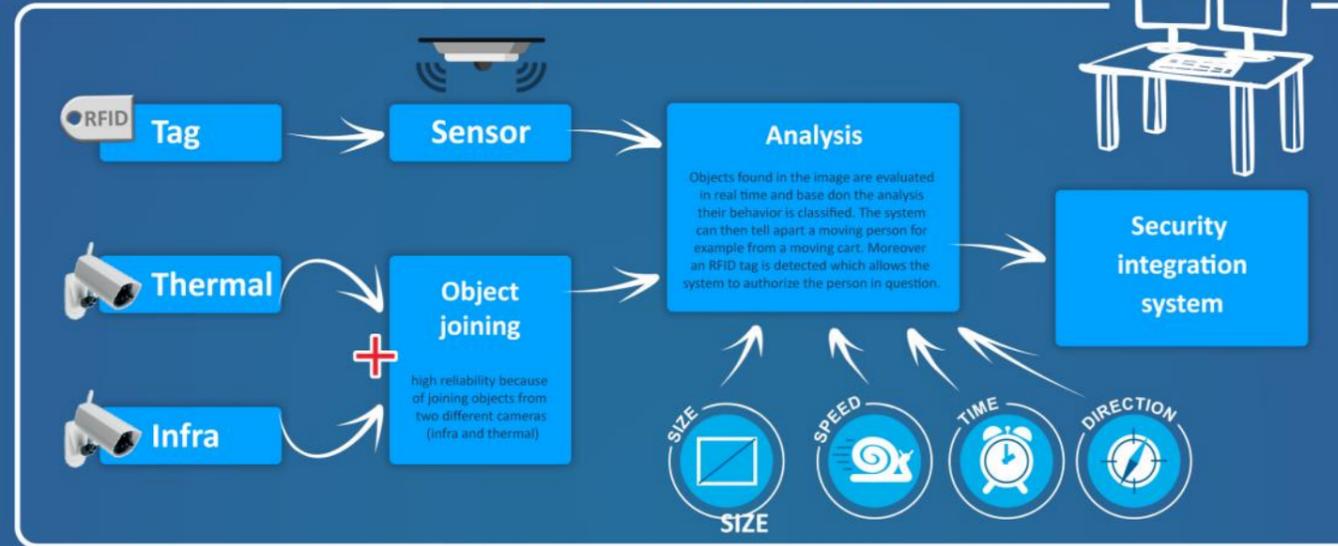
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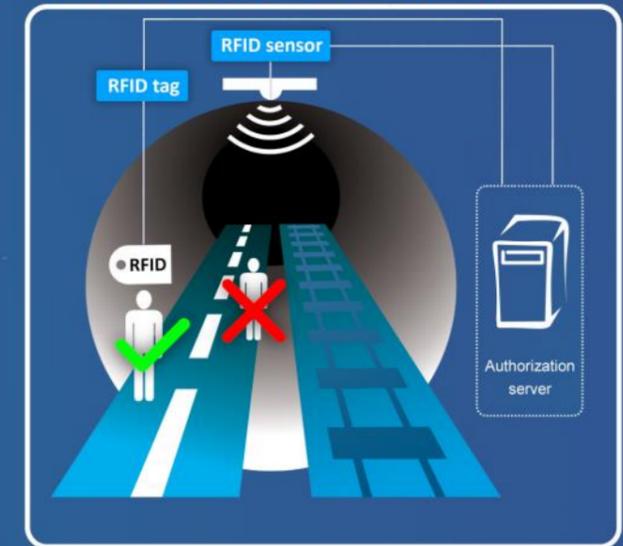
### Personnel video detection subsystem



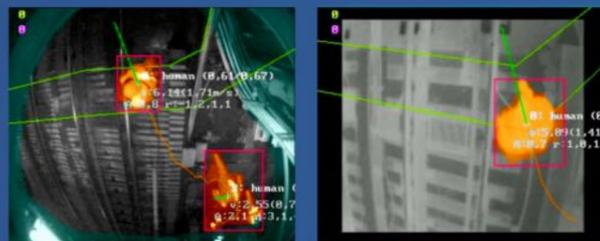
### Access authorization process



### Personnel authorization subsystem

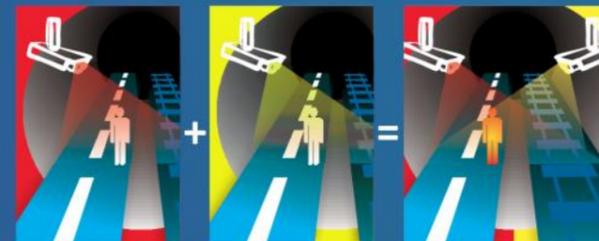


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### Infra and thermal cameras

Objects are detected using both an infra + a thermal camera with IR lighting. The combination allows for advanced detection of objects even with non-standard conditions in the detection area.



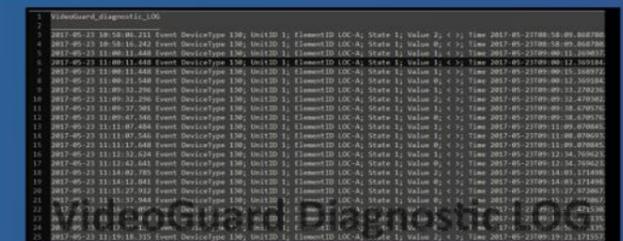
### Object joining

Using the unique technology of joining objects from multiple cameras into one joint virtual scene the system is highly reliable at object detection.



### Authorization

By reading an RFID tag the system is able to directly authorize an individual and his or her passing through the detection area. If the passing is not authorized using a registered RFID tag, it is evaluated as invalid.



### Security integration system

The events of passing through the area or alarms in case of an unauthorized passing are forwarded using an API to the security integration system for further processing.

## Video detection of individuals

Video detection monitors the desired area from above. The results of evaluating the monitored scene are forwarded to the customer's security system software. The detection notifies of events (trespassing – passage, location, direction). Connection to the customer's camera system can provide a video sequence for trespassing verification. The system processes visual signals from the infra and thermal cameras using unique algorithms. Image processing (primary detection) and subsequent evaluation is also based on 3D understanding of the scene, connecting the images from the detection cameras into a virtual scene, various measurements – attributes in the image, static evaluation and correlation of a wide range of attributes of objects' behaviour in the monitored scene.

## Joining video detection and authorization

System VideoGuard joins the detection function of individual access using a video detection system and authorization of individual access using RFID.

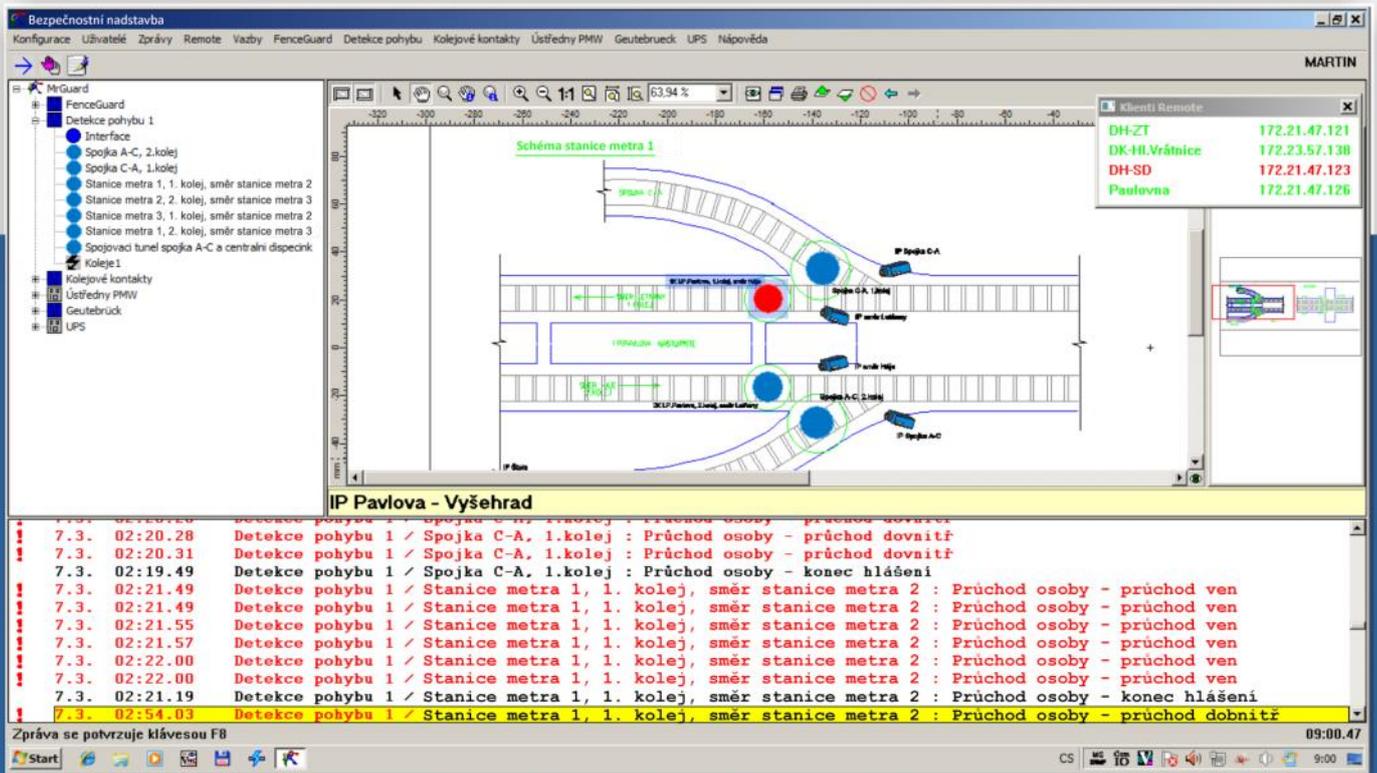
An individual passing an area, which is monitored by a combination of infra and thermal cameras, is detected with high reliability by the video detection subsystem. The video detection subsystem is due to the sophisticated analytical and statistical methods able to eliminate unwanted false detection (e.g. shadows, light reflections, passing vehicles). The video detection subsystem also utilizes multiple couples of detection cameras into one virtual space. Because of that even very wide profiles can be reliably detected.

The detection of an individual using a video detection subsystem is followed by an authorization of passing through the area using an RFID tag.

If the detected individual is authorized by the subsystem for individual authorization, information about the authorized passing is forwarded to the security system. In case of not authorizing the individual, an alarm event is forwarded to the security system. If a connection with the security system is established an overview camera is displayed on the alarm monitor with a video loop of the alarm event.

## Security integration system

The authorization system of individuals is based on identifying persons entering a designated area. An identification by RFID tags is used. Individuals authorized for entry are identified using an ID tag registered in the system. When an individual passes through his or her authorization is verified by checking the ID tag in the database of authorized IDs. The subsystem for authorization of individuals identifies the ID tags using a set of antennas which cover the entire detection profile. The high refresh rate allows for authorization of multiple people passing through the detection profile. The system uses robust ID tags with very long detection reach and long lifespan.



Display of operation and alarm states on the observation workplace of the security integration system

## Typical usage

VideoGuard is a security system which has been designed for monitoring access to areas where only selected types of objects are detected under difficult light conditions and have to be authorized. An example of typical usage are underground metro tunnels.

## Integrated security user interface MrGuard

To monitor the secured area an integrated system is used – MrGuard. Clear maps of secured areas, which interactively display eventual alarms and allow for very fast orientation in the zone of alarm are prepared in the system MrGuard.

MrGuard is at the same time interconnected with the local camera system which can in case of alarm show live view from the cameras in the secured area for current situation overview as well as play video loops pro an overview of the situation in time of a security incident.



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