Kapsch TrafficCom

Traffic Surveillance: **Kapsch Incident Detection System.**

The **Kapsch** Incident Detection System (IDS).

In accidents, seconds can be crucial. Fast and efficient coordination of the rescue effort is imperative to save human lives, avoid danger and keep infrastructure damage to a minimum. The Kapsch Incident Detection System allows reliable detection of any events or anomalies within seconds and therefore assures safe operation and traffic flow in tunnels and along roads.

Kapsch IDS integrates main functions within one system:

Video Analysis.

Images from cameras mounted on roadside provide the basis for mathematical image processing algorithms used for object detection and object tracking.

Traffic Flow Data Generation.

- One of the results gained from video analysis is traffic flow data generation. It allocates information for speed measurement, distance measurement, vehicle classification, distinguishing between passenger cars and trucks, and vehicle counting, as such enabling connected control systems to provide several traffic statistics (e.g. vehicles per day and traffic density).
- The Kapsch system includes a License Plate Recognition Module that automatically identifies and reads the number plate of all vehicles.

Event Detection.

- The prime motivation for traffic safety technology is to protect and safeguard human life and infrastructure from harm or threats in dangerous traffic situations as well to enable the road authorities in order to control the traffic flow.
- For detection of incidents in tunnels, such as smoke or visibility degradation, the whole tunnel profile is analyzed. The system continuously measures visibility quality and immediately detects strange movements, such as people or lost cargo. Wrong way drivers, traffic jams, slow drivers and hazardous goods plates can be reliably identified and reported.
- High performance algorithms and state of the art computer design provides gapless detection at higher camera distances.

Digital Storage and Playback.

Kapsch Incident Detection System offers an integrated digital recording of 25 full images per second per camera.
All camera images are permanently stored in separate buffers. A ring-buffer enables access to past events and keeps live images from each camera. The buffer capacity is freely configurable within the storage capacity.
In a situation of alarm, Kapsch IDS starts recording the event. This event record is combined with the pre-record period from the ring-buffer and stored in the permanent event buffer.
The user accesses the ring and event buffer via a digital video recorder where videos may be reviewed, sorted, filtered y (e.g. by camera, date, event, etc.) and exported to an external media.

Digital Image Transmission/CCTV.

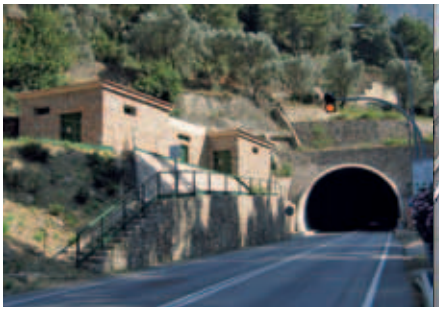
Live images are sent from the camera to the corresponding camera node, where the signal is digitized and compressed (encoded). These digital video streams are transmitted by a local area network (LAN) to a playback unit, where the images are decoded and being displayed on designated monitors.

Integration in Control Systems.

Kapsch IDS offers a wide range of supported interfaces to provide full integration into a given Supervisory Control and Data Acquisition (SCADA) system. With integration into the SCADA system, the scope of information is expanded, system use is considerably eased (digital video recorder), the work load is distinctly relieved by automated, event-triggered alarms rather than constant monitor watching, and user workplace remains unchanged.

Benefits.

- High performance algorithms for maximum detection quality with low false alarm rate
- Modular architecture allows setups in various environments
- Lean architecture
- Short project time to a running application



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