

# Video Content Analysis (VCA)

## HD Cameras – 5000 Series



With the introduction of the **Video Content Analysis (VCA)** feature, also known as Intelligent Video Analysis (IVA), **Dallmeier** is expanding its successful **5000 HD camera series** with various powerful video analysis applications directly on the camera<sup>[1]</sup>. Now, these cameras are capable of autonomously detecting motions and objects in the captured scene and of analyzing them with highly sophisticated algorithms in real-time (**Real-time Video Analysis**).

The fully embedded video analysis tools and techniques (see below) can be individually configured and activated via the intuitive WebConfig user interface of the camera. By means of various expert settings, the amount of false detected motion events is reduced to a minimum, even in difficult weather conditions.

Detected motions and the resulting events triggered by the camera are sent with the relevant metadata in real-time to the respective **SMAVIA appliance**<sup>[2]</sup> for storage and further processing. In addition, detected objects can be automatically classified according to their specific characteristics and then assigned to a defined object type.

Using **SMAVIA Viewing Client**<sup>[3]</sup> and its **SmartFinder** function, image sequences with motion events and classified objects can be specifically searched for and evaluated in the recorded video material. This allows the operator to find relevant incidents in a very effective manner which greatly reduces the need for permanent monitoring and assessing of the live stream.

In general, the use of video analysis significantly contributes to the saving of disk space as only detected events are recorded. By implementing a **decentralized video analysis** or an **analysis-at-the-edge** (directly on the camera), the network traffic is also reduced, since no separate raw stream (uncompressed image data) has to be sent from the camera to the respective appliance for video analysis. Moreover, the performance utilization of the used appliance decreases as the analysis calculations can be performed directly on the camera.

1. Available as of firmware version **8.3.219** (only available as factory pre-installed function).
2. The storage and further processing of camera analysis events is supported as of firmware version **8.x11**.
3. The evaluation of camera analysis events is supported as of software version **2.418**.



### Intrusion Detection

Automatic detection of unauthorized access to sensitive areas

When objects (persons, vehicles, etc.) enter or leave user-defined sensitive areas, an event is automatically triggered and the information about the event is sent as metadata to the recording appliance for later evaluations.

Typical applications:

- Securing the perimeters of critical infrastructures
- Area protection and monitoring of open spaces
- Property protection and monitoring of entrances to buildings
- Observation of no-stopping and no-parking zones as well as of fire brigade access roads, emergency routes or similar

### Line Crossing Detection

Virtual tripwire

When an object touches or crosses a virtual line, an event is automatically triggered and the information about the event is sent as metadata to the recording appliance for later evaluations (can also be used in combination with **Intrusion Detection**).

Typical applications:

- Perimeter protection (fence monitoring, protection against climbing)

### Tamper Detection

Camera sabotage protection

In case of a fast scene change (e.g. when someone is changing the current camera orientation) or when someone is spraying, covering or blinding the lens, an event is automatically triggered and the information about the event is sent as metadata to the recording appliance for later evaluations.

### Object Classification

Automatic classification of objects based on specific characteristics (detection of persons and vehicles)

Typical applications:

- Logging of vehicles in no-traffic areas (e.g. pedestrian zones)
- Subsequent control and evaluation of secured areas at public events

### Face Detection

Automatic detection/recording of faces<sup>[4]</sup>

This analysis application is used to quickly find faces in the recorded video material and allows for a simplified subsequent forensic analysis.

4. There is no automatic identification of faces or data matching with face recognition databases.