Video is essential to security systems and highly effective in providing orientation and vital details in alarm situations. The foyers, entrances, parking lots, perimeters and high-security areas of modern enterprises are now unthinkable without them. With the Video Engine the BIS family offers a seamlessly integrated application to connect both Bosch and 3rd party video devices.

Video Engine takes full advantage of the BIS infrastructure and so allows you to enhance your alarm management system with video verification, reduce false alarms and increase operator awareness in every critical situation. By combining Video Engine with the access, intrusion and fire notification features of BIS you can create a complete security solution tailored to your needs, all within one user interface.

**System overview**

VIE brings the power of video to your BIS installation, displaying, for instance, alarm images triggered by an intrusion, or monitoring sensitive locations within a site. To this purpose the Video Engine enhances the BIS user interface with a number of video-specific views and dialogs using up to 4 physical monitors. The Video Engine integrates well with interactive location maps and event-triggered action plans. These time and life-saving emergency procedures can now be triggered by motion or tamper alarms from Bosch intelligent video analytics (IVA), as well as by fire, intrusion and access-control alarms from other BIS engines. Valuable information can be provided to the operator from DIVAR video recorders, or VRM (Video Recording Manager).

Video-specific control commands can be automated and time-scheduled using the BIS state machine (see BIS general). They can be triggered by customizable alarm events or activated manually from context menus or icons within a BIS location map.

- Seamless integration of Bosch viewing and recording devices under one application with a common look and feel; likewise many 3rd party video devices.
- Advanced video verification for enhancing intrusion and fire detection as well as access control and intercom through the common BIS platform.
- Direct command & control of video devices from the central map viewer.
- Hyperlinks between, for example, intrusion alarms in the event log and correlated video recordings on DVRs.
- Direct integration of live or archive video in BIS action plans and ACE video verification.
<table>
<thead>
<tr>
<th>Pos.</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Central BIS server with Video Engine SW</td>
</tr>
<tr>
<td>2</td>
<td>Workstations</td>
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<tr>
<td>3</td>
<td>DIVAR IP or AN 1..n</td>
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<td>4</td>
<td>DIVAR hybrid or network 1..n</td>
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<tr>
<td>5</td>
<td>Video-web servers such as Videojet</td>
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<tr>
<td>6</td>
<td>LTC / Allegiant matrix switches</td>
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<tr>
<td>7</td>
<td>IP camera 1 ... n</td>
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Thanks to the OPC interfaces included in BIS, and the Video-SDK, video systems from Bosch, for example VRM, DIVAR and VIPX are particularly easy to integrate.

**Functions**

In addition to the common BIS features, the Video Engine (VIE) provides the following functions:

**Video subsystems:**
- Integration, controlling and monitoring of Bosch DIVAR recording systems
- Integration, controlling and monitoring of Bosch Videojet encoders (video servers), BVIP, SD and HD cameras with and without PTZ, with and without Bosch IVA (Intelligent Video Analysis)
- Integration of Bosch Video Recording Manager (VRM)
- Support of USB or iSCSI storage systems connected to those IP video devices, access to those archives
- Integration of ONVIF Profile-S-compliant IP cameras (live streaming)
- Integration of the tough and customizable Bosch USB keyboard KBD-Universal XF with joystick and jog/shuttle dial to manage cameras, monitors and recordings

**Additional video-specific displays in the user interface:**
- Multi-functional Digital Video Matrix (DVM) window for display of up to 30 simultaneous camera streams.
- Various display modes definable for the DVM: Dynamic layout and fixed layout in both 4:3 and 16:9 formats (2x2, 3x3, 4x4, 3x2, 4x3 and asymmetric 1+5, 1+7, 1+8, 2+6) with select & drop or virtual digital-matrix (VDM) layout.

*Fig. 1: Example of an alarm matrix with 2 active alarm situations*
- Simultaneous display of different video formats, such as H.264, H.265, etc.
- Camera selection and control from the location map or device overview tree.
- Live and archive images from different sources displayable simultaneously.
- Direct linking from the alarm entries in BIS/VIE event log to alarm archives on DIVAR IP systems.
- Time-based search and filtering of alarm archives on DIVAR IP systems.
- Convenient cameo controls, such as maximize, digital zoom, in-window PTZ, etc.
- Storage of reference images for comparison with live images.
- DVM overlay and full screen mode.
- Display on up to 4 physical monitors simultaneously
• Privacy zones feature for masking sensitive areas within live images

**Fig. 2:** Area masked by Privacy Zones feature

**Other VIE features:**
• Intelligent Video Analytics (IVA). The camera detects activities occurring in a video stream. Such as “Object in Field”, “Crossing Line”, “Loitering”, “Removed Object”, “Idle Object”, “Entering Field”, “Leaving Field”. These can be used to trigger alarm events within BIS.
• Acoustic camera alarms can be used to trigger alarm events in BIS.
• Control of Analog Monitor Groups (AMG) based on high definition decoders with numerous new monitor layouts.
• Video motion detection and alarm capability.
• Virtual guard tour feature with local recording function.
• Dynamic creation of camera and matrix favorites, e.g. day and night view.
• Simultaneous control of PTZ and other video sources via on-screen controls.
• Use of Videojet/VIP encoders and decoders as a virtual network matrix.

**Technical specifications**

The Video Engine package supports the following

<table>
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<tr>
<th>Qty.</th>
<th>Channels</th>
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<tbody>
<tr>
<td>400</td>
<td>(Maximum) channels per BVIP server</td>
</tr>
<tr>
<td>4000</td>
<td>(Maximum) channels per Video Engine</td>
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**Ordering information**

**BIS-FVIE-BPA49 Basic license**
License for the BIS Video Engine (VIE) within BIS
Order number **BIS-FVIE-BPA49 | F.01U.395.631**

**BIS-XVIE-1CHA49 License for 1 video channel**
License for 1 additional video channel
Order number **BIS-XVIE-1CHA49 | F.01U.395.632**