



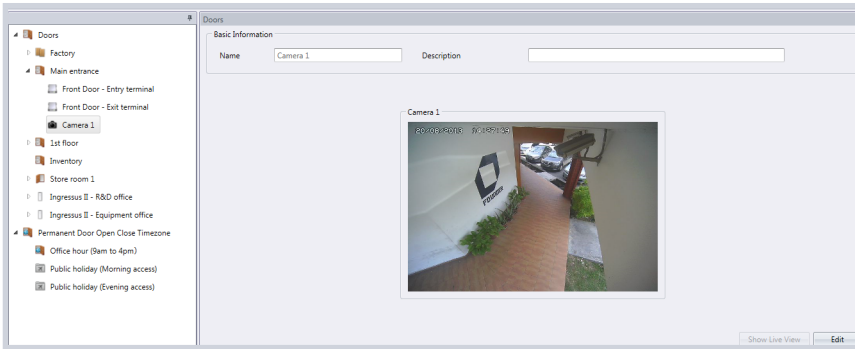
Sensors are an important element in electronic access control systems, functioning as invisible security guards to secure an area. However, sensors can only be triggered if and indicate when intruders breach the area. Security officers will know that there is an intrusion happening, but they cannot view the complete visuals of that point. They still have to present themselves to the said point for further investigation. Also, sensors can only report an intrusion but it cannot capture or record the progress of intrusion as evidence.

This shortcoming has led to CCTVs coming into electronic access control system as another layer of monitoring system. By looking at the monitor of the CCTV system, security officers can have a view of every point of an area. The system captures and records videos into a digital format to be saved into a DVR (digital video recorder) so that in case of intrusions, security officers can spot the intruders from the video for further action. The storage also allows security officers to playback or output the video as evidence.

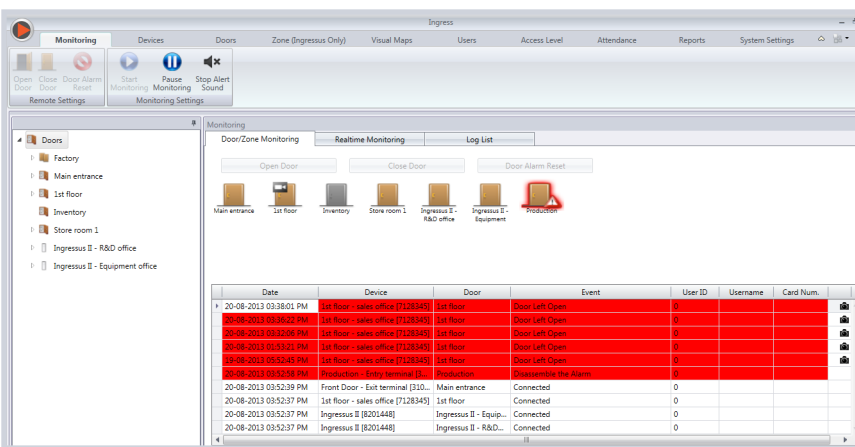
Currently, the Internet Protocol camera (IP camera) has started to make CCTVs obsolete. IP cameras are easy to install (requires only power and TCP/IP cables) and has good quality video (high resolution video and Infrared for low light environments). The IP camera links up to NVR (network video recorder) via TCP/IP connection, where the NVR compresses and stores all video footage captured by the IP camera into its hard disk. You can use a PC or a server, with large-storage hard disks to keep more video footage. The NVR can then be linked up with EAC software, embedded in the *Ingress software* for live viewing, playback or output into digital format.

The *Ingress software* works with Milestone, the world leading IP video surveillance software company. It provides IP video surveillance software to be installed into an NVR (server or PC) to work with IP cameras. Milestone can be linked up with a majority of branded IP cameras in the market. See the list of supported hardware manufacturers at Appendix. The door/entrance is always the first target of intruders when planning a break in or bypass. Installing an IP camera at this point is the best location to spot intruders. The *Ingress software* allows you to pair the IP camera to every door/entrance to monitor the IN-OUT process. Furthermore, security officers can see live view in *Ingress software* without even turning on the Milestone server/software.

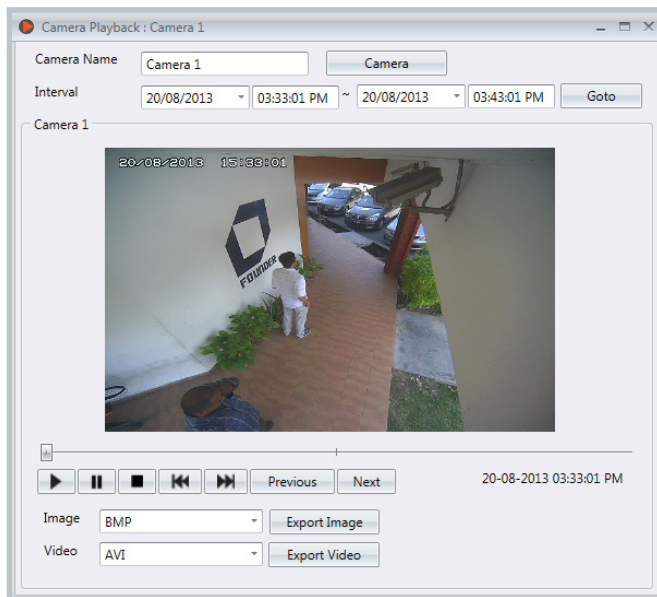




The *Ingress software* receives signals from sensors during intrusion. The monitoring system then triggers the alarm to alert security officers while the UI shows a camera icon attached to the intrusion record. The *Ingress software* can then link up to the Milestone server to recall the video captured during the intrusion (5 minutes before and after the intrusion). This can ease the security officers' efforts in tracing back video footage of the intrusion that took place.



The video can be outputted into other digital formats as evidence for further investigation.



## Appendix

List of IP Camera Manufacturers supported by Milestone

• 2N Telekomunikase	• IPIX
• 360 Vision	• IQinVision
• ACTi	• ISD
• Advancech	• Janteq
• Agilemesh	• Johnson Controls
• American Dynamics	• JVC
• AMG Panogenics	• Lenel
• Appro	• LG Electronics
• Apro Technology	• Linudix
• Arecont Vision	• Lumenera
• Arlotto Comnet Inc	• Mango DSP
• AVS Uriel	• March Networks
• Axis	• Merit Lilin
• Barix	• Messo
• Basler	• MicroPower Technologies
• Boach	• Milestone
• Brickcom	• Mobotix
• Canon	• Oncam Grandeye
• CBC Ganz	• ONVIF
• Checkview	• Optex
• Cisco	• OTN Systems
• CNB	• Panasonic
• Cobham	• Pelco
• CoHu	• Pixord
• Dahua	• Provideo
• Darim Vision	• PSIA
• Digimerge	• Razberi
• DIGIOP Black	• Samsung
• Digital Watchdog	• Sanyo
• D-Link	• Scallop
• DvTel	• Securex
• Dynacolor	• Sentry 360 Security
• EltagDatamat	• Siemens
• Eneo	• Siquira
• Ernitec	• Sony
• Etrovision	• Stardot
• Everfocus	• Stretch
• Flir	• Surveon
• GE Security	• Topview Optronics
• HikVision	• Toshiba
• Hitron	• Toshiba Teli
• Honeywell	• UDP Technology
• Hunt	• Vantage
• HW Group	• VCS
• ICanTek	• Verint
• Ikegami	• VideoIQ
• Impath Networks	• VideoTec
• IMT	• Vivotek
• Infinova	• Weldex
• Ingrasys Technology Inc	• Zylotech
• Interlogix	
• IONODES	