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*Gerhard Hamann,  
Project Manager, Electronic Systems, ARL.*

### Customer Profile

The Suvarnabhumi Airport Rail Link connects Suvarnabhumi International Airport with Phaya Thai Station in Bangkok. The 28km line offers both non-stop Express (15 minute) services and Commuter (27 minute) services stopping at each of the six City Line stations. The City Air Terminal, located at the Makkasan station allows passengers to check in for flights, along with their baggage.

### Surveillance Requirements

The CCTV system is designed as a major component of the overall Airport Rail Link (ARL) communications system, providing real-time video monitoring and video recording for the safety and security of passengers, staff and railway facilities.

From an ARL operations standpoint, it is of critical importance that the security system operators are alerted to urgent events on the train platforms, station concourses, baggage handling areas within the City Air terminal, as well as within rail tunnels and depot areas in real-time so that they can react quickly and efficiently. This required integration of the video surveillance system with the Rail Link emergency call boxes, emergency plungers and fire alarm. The software needed to allow for simultaneous viewing and recording of video images, as well as alarms and events from all 560+ cameras.

From a technology standpoint, the video management software needed to be installed on industry standard (IEC 61000) IT hardware and software so that the CCTV system could seamlessly integrate into the ARL COM infrastructure. Additionally, the software needed to work with a variety of Bosch camera models while providing the flexibility to use other camera manufacturers in the future.

### Solution

Aimetis Distribution Partner, AES Group, designed a CCTV solution to meet the above requirements. The solution included a variety of Bosch IP cameras managed by Aimetis Symphony™ intelligent video surveillance software.

“As a green field project, this was a great opportunity to take advantage of an IP video solution from the start,” said Henny Beeber, AES Group. “Installing IP video provides ARL Operations with a number of significant benefits over analog CCTV, including lower total cost of ownership, infinite scalability, centralization, greater flexibility of system design and use, and the ability to use intelligent video analytics.”

Bosch IP cameras send video directly to the management and storage servers over a dedicated LAN network, using 3Com rackmount and GarrettCom industrial switches throughout the station with no need for analog video switches. Aimetis Symphony manages those IP video feeds, displays them and provides operators with the tools to use the video information effectively.

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### Summary

Aimetis Symphony™ intelligent video surveillance software manages IP video images from more than 560 Bosch cameras installed within the 28km Airport Rail Link network and City Air Terminal, including train platform, station concourse, baggage handling, tunnel, and depot areas.

### Technology Used

- Aimetis Symphony Professional & Enterprise
  - *Video Management & Analytics software*
- Bosch IP Cameras (Fixed, PTZ, PoE)
- IPvisions Window 2003 Intel Xeon Server
- Dedicated CCTV network using GarrettCom Industrial Ethernet Switches

### Results

- Flexible, cost-effective deployment
- Single software for video management and video analytics
- Real-time alerting of critical events with high accuracy and low rate of false alarms
- Automatic response to alarms
- Infinite scalability for future expansion

# Suvarnabhumi Airport Rail Link & City Air Terminal

A combination of Aimetis Symphony Professional and Enterprise licenses are used to manage the cameras throughout the surveillance system. Aimetis Symphony Professional is a robust video management platform designed for critical environments. It provides full redundancy, PTZ controls, SCADA integration, video wall and alarm management capabilities. Aimetis Symphony Enterprise incorporates all the features of the Professional version, and adds a suite of video analytics algorithms for intelligent surveillance.

"The major benefit of using Aimetis Symphony is its extreme flexibility in terms of system design," said Gerhard Hamann, Project Manager, Electronic Systems, ARL. "We were able to deploy a flexible IP video surveillance system using the Airport Rail Link OTN (Open Transport Network) infrastructure to centrally view cameras for all stations. Additionally, as a single solution for both video management and video analytics, not only are we able to use analytics to detect intruders in the tunnel portals, but we can also easily add video analytics to other cameras in the future. This overall flexibility helped keep deployment costs low and reduced integration issues while simultaneously providing ARL Operations with an extremely reliable and intelligent video management platform.

ARL Operations is using video analytics mainly to detect people entering the tunnel portals. Operators are alerted to set rule-breaks in real-time for verification and response. They can also use the event time-line to view activity that occurred throughout the day by simply clicking on areas where alarms or activity is indicated, or perform a search through recorded video for particular events in seconds.

ARL stores two streams of video from each camera, one short term (72 hours) at 25 fps, and one long term (30 days) at 1 fps. As most incidents are investigated within 72 hours of occurrence, this allows them to export high quality video for use as evidence during those investigations. Aimetis Symphony integration capability allows for automatic actions in response to alarms as well, for example, locking a door, sounding an alarm, or sending a snapshot and notification to a PDA.

"Installing Aimetis Symphony™ IP video provides ARL Operations with a number of significant benefits over analog CCTV, including lower total cost of ownership, infinite scalability, centralization, greater flexibility of system design and use, and, not least of which to mention, the ability to take advantage of intelligent video analytics."

**Henny Beeber, AES Group**

