SECURITY

In the Heat of the Night

The CCTV Year 2010 Is Starting with a Sensation: Axis is Entering the Thermal Camera Market

Ray Mauritsson, President & CEO

Martin Gren, Co-Founder

Johan Paulsson, Chief Technical Officer

Axis is starting the second decade of the century with a big surprise: they have announced the first true network-capable thermal camera worldwide – and at a particularly attractive price. The Axis Q1910 and the Axis Q1910-E see everything that radiates even a little heat within a radius of 200 m and they don't need any light for this at all. The camera manufacturer announced its very own brand new high-tech development to the public on 18 January.

Even dark nights are fundamentally no longer a problem for a modern network camera with day/night functionality. They still see something even with very little available light – and of course one can help with artificial light. However, that can be expensive and wasteful of energy, and light is not always available, nor is it always wanted because, for example, it can create shadows in which intruders can hide.

Thermal cameras do not have these disadvantages but instead many advantages that can be put to excellent use in CCTV systems. They see through complete darkness and deliver images that allow operators to detect and act on suspicious activity. Thermal cameras can also handle many difficult weather conditions better than conventional cameras, e.g. allowing operators to see through haze, dust and smoke. Until now though, they were not a real alternative for many because they were too expensive. Only recently have new sensors and materials made higher production numbers possible. Thermal cameras have already been used for a long time outside their original military field of application, such as in the aeronautics industry, in shipbuilding and also in the security and surveillance industries.

Thermal Technology for the Security Industry

The Axis Q1910 (indoor version) and the Axis Q1910-E (for outdoors) thermal network cameras are primarily intended for this area of application, according to Axis President and CEO Ray Mauritsson: 'We want to make thermal technology and, with that, first-class surveillance technology more easily available – with the first real network-capable thermal camera and the advantages of PoE, H.264, Motion JPEG, distributed intelligence and an audio function'. Above all, Ray Mauritsson adds, 'they should be used in perimeter protection and high risk environments as well as for monitoring larger areas' and generally in all environments where the manufacturer's cameras are used today. 'We see a great demand from customers in high-end professional applications to enhance their IP-Surveillance systems with thermal cameras,' says Johan Paulsson, Chief Technology Officer, Axis Communications. 'Up until now, there have been no full-featured thermal network cameras available on the market, and analog thermal cameras have proven a challenge to integrate with modern video surveillance systems'.

The network cameras can be easily integrated into existing IP infrastructures and utilize leading-edge technology, explains Ray Mauritsson. Laying additional cable can be avoided by using Power over Ethernet (PoE), and there is 2-way audio, H.264 compression technology and Motion JPEG streams in the highest quality. The cameras work with the platform-independent Open API (VAPIX), so that customer specific solutions can be easily developed and a wide spectrum of third-party applications can be integrated. In addition, ONVIF, the global interface specification for network video products, is supported.

As one would expect from such a high-tech CCTV product today, the network cameras also have intelligent video analysis functions such as movement detection, and they also support the video analysis products of third-party suppliers. Particularly remarkable, and one of many definite success factors, is the unusually economic price for thermal cameras of just € 2,229 (or € 2,599 for the outdoor version). This makes thermal technology affordable for users who, until now, would otherwise not have thought of using them for reasons of cost. Ray Mauritsson expects them to be a valuable addition to many conventional surveillance applications: the thermal camera continues to detect intruders even when the conventional day/night camera has huge difficulties delivering usable video images.

Cool Waves

A thermal camera functions basically just like other cameras: it gathers electromagnetic radiation and converts it into a visible picture. But a normal camera only recognizes visible light with a wavelength between approximately 400 and 700 nanometers (0.4 to 0.7 µm). In contrast, a thermal camera utilizes wavelengths of up to about 14,000 nanometers (14 µm) – one speaks of the infrared spectrum that in itself is divided into short, mid, long, very long and far-wave infrared regions. In this way, the camera can make use of the fact that every object that could be interesting to observe is cozily warm in comparison to absolute zero and therefore emits infrared radiation: it only needs to be slightly warmer than –273 °C, which applies even to every block of ice and every deep-frozen lamppost. Materials also differ in the extent of their emissions, that is, in their ability to transmit infrared radiation.

Versatile and Born Survivors

The uses of thermal technology can be found in practically all areas in which security technology is applied. In the perimeter protection of, for example, power stations, harbors or prisons, it serves as an invisible, discrete and cost-effective method of surveillance. It complements not only the physical protection of fences, but can also replace expensive floodlight systems. The thermal network cameras can also be used as an elegant method of preventing vandalism, break-ins, etc. but also for car parks, university campuses or high security compounds or in loading bays. They also minimize false alarms because they are not disturbed by thrown shadows. Further areas of application are danger areas such as motorways, tunnels or railway tracks: a thermal camera will immediately recognize that a person is in danger here.

The devices are really robust. The outdoor model, Axis Q1910-E, even operates down to an inhospitable –40 °C and up to an equally unpleasant +50 °C. There is a built-in heated window against the cold and it is protected against dust and strong jets of water. The accessories include software products such as the Axis Camera Station and Axis Camera Application Platform which allows downloading of third-party analytics software as well as Axis' own Axis Cross Line Detection. A pan-tilt motor is also planned.

Strategically Important Step

The target sales market for the new products is explicitly the civil user: this includes the protection of buildings and critical infrastructures, transport, inner-city surveillance, etc. The company specifically wishes to avoid military applications, says Ray Mauritsson, but also other applications in which thermal technology is used today, such as temperature measurement applications, etc.

For Axis co-founder and board member Martin Gren the introduction of the network thermal cameras is a strategically important step: 'They are a very important addition to our comprehensive product portfolio. We are now able to provide even more solutions for high-end applications – in high quality! In addition we are opening up thermal technology to new fields of application in vertical markets in which Axis is already very strongly represented today but where thermal cameras are rarely in use: e.g. on school grounds and university campuses, in city centers and in traffic control as well as in railway networks, at airports, in harbors and on the motorways'.

The market for thermal cameras is almost virgin, explains Martin Gren: the ratio of ‚normal' cameras to thermal cameras currently used in industry is 400 to 1. It can be expected that the new technology will be a door-opener to complex high-end projects in which the Axis world will be able to give its entire technology competence free rein. The first feedback from some trusted partners and exclusively selected media representatives of the GIT editorial staff has already confirmed this positive estimate even before the launch: a real sensation in the CCTV market!

►CONTACT

Axis Communications AB, Lund
Tel.: +46 46 272 18 00 · Fax: +46 46 136130
www.axis.com

Panasonic System Solutions and Panasonic Communications Company to Merge

Earlier in 2009 Panasonic reported its decision to merge the business operations of Panasonic System Solutions PSS, a division that markets professional CCTV systems including Super Dynamic 5, iPro and peripheral devices, Panasonic Communications Company Ltd PCC (a division that markets business telephone systems as Network Communications Group and Home Networking products such as DECT phones and IP cameras) and Document Solutions to become Panasonic System Networks Europe (PSNE). Panasonic can provide the following European update now.

Simon Wright, Deputy Managing Director of PSNE, explains the advantages of the merger which is aimed at converging company expertise; "The amalgamation of experience and expertise will support Panasonic's strategy to unite communications and security networking products. The net result is aimed at driving a strong competitive edge for Panasonic and their customers through the delivery of products that are designed for the new network age. In turn this will also benefit business scalability for the new organisation; Panasonic System Networks Europe, giving stronger solutions to our customers.

Purpose of Business Reorganisation and Integration

Panasonic System Solutions has an edge in the visual business while Panasonic Communications Company has an advantage in the communication business. In response to a trend in demand and expectation that is gradually moving away from analogue towards digital CCTV, communications and peripheral products, Panasonic will reorganise and integrate PSS and PCC to promote more effective management of resources and management structure improvement. The business reorganisation will mark a new phase of business which unifies audio, imaging, visual and data in IP networks and is aimed to support business expansion mainly in emerging markets. Panasonic transfers the rights and obligations with respect to the business of PSS to PCC and change PCC's trade name to Panasonic System Networks as of January 1, 2010.

http://panasonic.net