Broadband over mobile devices has not only boosted the developments of apps, games and social media, but has also had transformational impact on how end users pick and use entry-level or DIY surveillance cameras in their homes or at their businesses.

Assessing and Accessing Entry-Level Cameras

BY TEVIN WANG

The days when DIY surveillance cameras were too difficult to DIY or too cheap to render usable quality video are long gone. "Surveillance cameras specifically designed for homeowners or small businesses simply did not exist, and there were no dedicated channel partners, either," said Joseph Cheng, GM for China, Edimax Technology. "Things are changing with the advances in IT and IP, which enable people to remotely view video from any location, at significantly lower price points."

When looking at residential or SMB installations, aesthetics is the No. 1 issue and concern. "Webcams tend to come with 'cute' designs," said Tom Shih, CTO of Planet Technology. "We want our home surveillance cameras

to project a more solid and secured feeling, while aesthetically pleasing at the same time."

Being able to be effortlessly blended into home or office décor is another consideration. "We design our cameras to be unobtrusive, to fit into customers' existing fixtures," said Simon Carr, Commercial Director for Y-Cam Solutions.

Cheng agreed. "Our core design concept is to be as simple and sleek as possible. The look should make homeowners feel relaxed, instead of being 'watched.' Our top sellers are those that look least like professional surveillance cameras."

MORE THAN SKIN DEEP

Webcams are designed for video phones and videoconference stations, while DIY surveillance cameras are for monitoring and webcasting. Video quality is crucial, especially if an intrusion takes place and video footage is needed for investigative and evidentiary purposes, said Jason Yeh, PM at Micronet Communications. "The components used and performance outcomes are definitely superior to webcams."

"Lenses, image sensors, processors or even PoE ports used in DIY surveillance cameras are better than those in webcams, and these differences are directly reflected in prices,"

▲ Mobile apps and cloud-based services allow customers to keep an active eye on their homes whenever they are away.

Yeh said. For instance, most lenses in webcams are made of plastic while DIY cameras are of glass. "DIY surveillance cameras are capable of operating 24/7, and are more durable than webcams which tend to have overheating and life cycle issues."

Webcams are not stand-alone devices and require no use of PCs or Macs. Chipsets within DIY cameras, on the other hand, are fully capable of image processing on their own, Shih said. Settings, such as brightness, contrast, sharpness, white balance, back-light compensation and digital zooming, are also more comprehensive. "DIY surveillance

cameras allow for more subtle adjustments," Cheng said. Some products feature basic remote-adjustment capability.

Bandwidth consumption could be another issue, with too many connected devices sharing limited bandwidth resources. DIY cameras are designed with different options in frame rate, compression and bit rate settings, allowing users to strike their own balance between bandwidth and image resolution.

While DIY units are gaining market traction, finding the right mix of features and components at a reasonable price still remains a challenge. "The consumer market in general is price-sensitive," Cheng said. DIY camera users, in most cases, do not necessarily need the resolution offered by professional digital or surveillance cameras. "Most manufacturers adopt fixed lenses, to compete in the marketplace."

BOOMING AND YET VARIED

Economic instability and social unrest boost security, and a real-life example would be Europe. According to IMS Research, the European consumer and DIY video surveillance equipment market is, at a value of around US$100 to $150 million, forecast to grow at a similar

▲ **Joseph Cheng,** GM for China, Edimax Technology

▲ **Tom Shih,** CTO of Planet Technology

▲ **Jason Yeh,** PM, Micronet Communications

▲ **Zak Wood,** Director of Global Marketing, Trendnet

▲ **William Rhodes,** Market Analyst, IMS Research

rate to the Americas market.

"In Western Europe and Scandinavia, end users are more demanding of video quality and completeness of product features," said Hans Chang, PM of Compro Technology. "Features like digital zooming, day/night, PTZ, motion sensor and two-way audio are quite popular."

Cheng seconded it. "In Europe and North America, customers focus more on high-end, feature-rich cameras; in Asia, we're quite optimistic about the emerging Chinese market."

Customer preferences in different regions dictate product development and appearance. "Users in Europe prefer sleek, elegant design and unique functionality; North

WEBCAMS VS. DIY SURVEILLANCE CAMERAS

Webcams	DIY Surveillance Cameras
Require PCs or Macs	Stand-alone and low power consumption
No video management features; designed mostly for videoconferencing	Basic video management
Two-way communication	Motion detection, PTZ (with digital zooming), day/night and two-way communication

Americans, on the other hand, are in favor of models with fancy appearances and new features," Shih said.

CROSS THE ATLANTIC

US households are paying $10 billion annually for home security services, according to a Parks Associates study, with about 20 percent of the total households covered by 2015. Value adds such as video monitoring and home

automation features will expand the market by 30 percent beyond traditional security by 2016. Such a business opportunity has attracted the likes of Comcast, Rogers Communications, Time Warner Cable and Verizon Communication. These cable/ISP companies are now offering similar services to their subscribers.

Vendors welcome these new "players" — telcos/ISPs/cable

TV companies — with open arms. "The convergence of nontraditional industries and brands into this space means more choices for consumers, greater availability through new channels, and better overall awareness," said Zak Wood, Director of Global Marketing, Trendnet.

These new players help create more market needs as they promote their own monthly offerings very aggressively. "As these companies have a broader reach and are better equipped to communicate with home users, more people now know what is possible and how home solutions can help in day-to-day life," Carr said.

"Compared to working with traditional channel partners such as resellers/dealers and retailers, working with telcos/ISP/cable companies requires more finesse and customizations in order to be better bundled into their service offerings for mass viewers and subscribers," Yeh said. China Telecom, for instance, works with some kindergartens to offer parents with remote viewing and automatic text messaging services.

Homeowners now have more access to consumer surveillance cameras. "We work with online portals, but we also rely on the expertise of security integrators for providing installation services for certain residential units and SMBs," Carr said. "We're also working with telcos/ISPs/cable companies to reach out to a wider audience, and partnering up and developing with other technology companies that provide solutions that surveillance can connect seamlessly to, be it home automation or NAS options."

If possible, let end users experience the cameras themselves, Cheng said. "Do some research through official and unofficial demos or forums beforehand. Users should find a good vendor who is willing to work with you and take some time to truly understand your requirements, and determine their own trade-offs when playing with and selecting cameras."

SEE MORE, DO MORE

Other catalysts in play include growing availability of DIY camera kits in retail outlets and the emergence of consumer-grade surveillance cameras. "The concept

▲ The connected-home market is evolving with the advances in IT and IP.

of 'bringing your own devices (BYOD),' especially smartphones, is prompting people to consider and connect to security services," Yeh said.

Mobile apps and cloud-based services would allow consumers to keep an active eye on their homes and even businesses wherever and whenever they are. By utilizing cloud video services for home security, the home video surveillance market will increase substantially over the coming years, according to IMS Research. Lower prices and better features and functionality would also be important drivers.

EASY DOES IT

"Installation and configuration issues have been largely addressed. The emphasis is not only on plug-and-play locally but also plug-and-view remotely," Cheng said. As more people adopt wireless networks in their homes, wireless cameras would also contribute more to the growth. "Priorities should be placed on developing the best user interface, experience and support," Carr added.

Chang agreed. "We've found that users in some regions don't like to read user manuals. 'Good' DIY surveillance systems must have simple instructions along with intuitive GUIs, instead of layers of menu items."

DIFFERENTIATION

Some network solution providers are entering the home and SMB market, offering DIY kits plus basic video/storage management software and cloud service. "Users can remotely watch video by logging into specific websites with corresponding passwords," Shih said. Other users could rely on telcos/ISPs/cable providers for their hosted service offerings.

Breadth of solutions and responsiveness to market needs are also key differentiators, Wood added.

MOVING FORWARD

The connected-home market is now evolving. "We've seen strong interest and noteworthy growth since early 2010. Across the markets where we sell our home security services, we estimate that we are second only to ADT in market share," said Tim Thompson, VP of Telephony and Security Operations, Suddenlink.

Telcos/ISPs/cable companies are also making more waves in home security, offering DIY surveillance kits plus broadband subscriptions. One of their greatest advantages is their direct data pipeline. "Home networking and home surveillance could generate other promising opportunities," Cheng said.

In order to stay in the game, security companies need to offer interactive security services before telcos/ISPs/cable companies take away all potentials. "You've got the top two cable companies in the U.S. offering a robust, interactive home security solution," said Greg Roberts, VP of Marketing, iControl Networks. "It's critical that security companies adapt this technology to survive. Now!"

With increasing competition, traditional security channel players also need to adapt their mindset to cooperate with telcos/ISPs/cable companies or provide even more customized home automation offerings.

According to MultiMedia Intelligence, the DIY surveillance camera market is forecast to reach roughly $1 billion by the end of 2012. The connected home is no longer just a concept. "We see substantial growth potential across all categories, and are projecting year-on-year growth of more than 50 percent for the next several years," Wood said. "In the consumer segment, learning tools and consumer education will always remain key sales drivers."