

South Africa on the Defense

The recession has swept across South Africa's shores, but ongoing construction for the 2010 FIFA World Cup has cushioned the country from the worst. However, customers spend less with tightened pocket strings, as increased unemployment and crime push security to the top of the agenda.

BY ROSA CHEN

As cumulative job losses in the first half of the year totaled 475,000, the Bureau for Economic Research reported South Africa's economy should contract by 2 percent this year, and return to a mild positive growth projected at 2.7 percent for 2010. Key areas like production and output in the manufacturing sector decreased by 4.6 and 9.8 percent in 2008, respectively, said Sostina Shiri, Research Analyst at Frost & Sullivan.

"On the upside, the South African Rand has been the strongest emerging market against the dollar," said Bernard Senekal, MD at Sentronics.

The government has cooperated with banks for the National Credit Act, aimed at managing credit debt and terminating reckless loans.

For security, the country is perceived as lagging eons behind industrialized countries. Industry players disagree, and A&S takes a closer look at its rapidly changing landscape.

BURGEONING VOLUME

Though the market is highly fragmented, research analysts, manufacturers and distributors have placed their bets. On security equipment alone — video surveillance, access control, intrusion alarms, perimeter security and so on — market

estimates have been as low as US\$80 million, put forth by Bosch Security Systems, and as high as almost \$260 million, said Bytes Systems Integration. Both Pelco and Sentronics approximated the total market size to be about \$145 million. Again with growth rate, major players differed. Bosch's forecast, a median among predictions, expects a growth rate of 13.3 percent from 2008 to 2016.

By product, video surveillance takes the lead, with a market share of 32 percent; followed by access control at 28 percent; intrusion alarms, 20 percent; perimeter fencing, 15 percent and management software, 5 percent, said Wolfgang Engling, Country Manager for Pelco (a Schneider Electric company).

The video surveillance market alone is worth \$50 million, including analog and network video, and is growing at a rate of 15 percent, said Roy Alves, Country Manager for Axis Communications.

Michael Howard, MD for South Africa, Bosch Security Systems agreed with the double digit growth rate, adding that lower-end analog equipment is in single digit decline.

DRIVING FORCES

Ongoing property construction, a



▲ Major investments have been made to the country's metro infrastructure, which will be partially available next year for the World Cup.

growing middle class and pressure from insurance companies for clients to employ security measures are major contributors to the market's growth, Shiri said. A growing middle class means more people can afford electronic surveillance for their private or business use, Alves said.

Users are increasingly becoming aware of the benefits of using electronic equipment compared to guard services, which will fuel a willingness to pay for security equipment and move the technology from a grudge purchase to a must-have purchase, Shiri said.

INTERNATIONAL AND LOCAL PRESENCE

Brand name is important. Products

that are internationally proven and have longer life-span are being selected, rather than the quick fix solutions that have been used in the past, said Anton Hochleutner, Director of Pentagon Africa.

International brands are reaching far and wide across the country, and Asian manufacturers from Taiwan are gaining market share, especially for IP-based products, said Francois Malan, Technical Director of Camsecure.

International distributors are facing aggressive local competitors. Global products can be sold via local distributors, who provide not only the product



▲ Bernard Senekal, MD at Sentronics



▲ Andrew Seldon, Editor of Hi-Tech Security Solutions



▲ Michael Howard, MD for South Africa, Bosch Security Systems



▶ Sostina Shiri, Research Analyst at Frost & Sullivan

but also in-house skill sets for consulting and design solutions, Senekal said. Convergence is forcing distributors to sell solutions and consider different network switches, not just cameras.

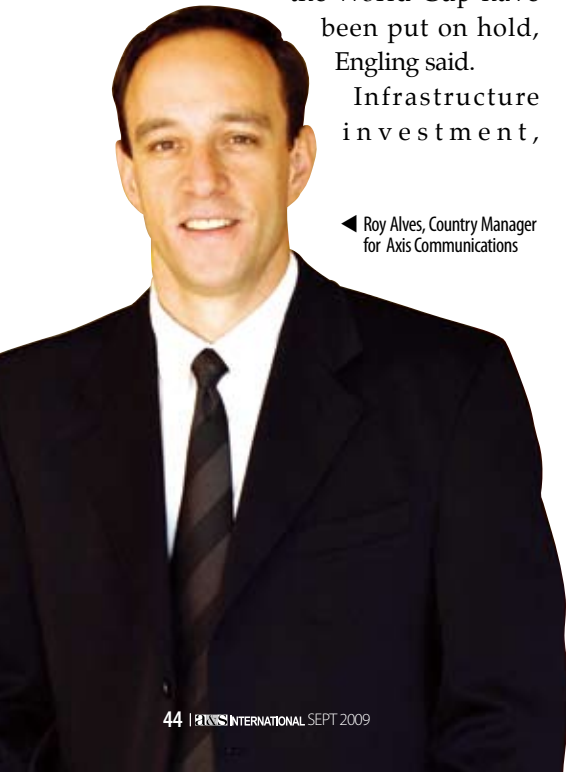
Kenny Chiu, Marketing Manager of Elvey agreed, saying, "Distributors are no longer just box/product shifters."

PROJECTS

Open opportunities abound. Construction is booming due to infrastructure investment for the 2010 World Cup. Infrastructure projects include airports, roads and highways, mass transportation for buses and trains, stadiums, hotels and malls. Popular low-end projects are for home security and retail on a smaller scale, Howard said. "The high-end applications are more lucrative, but lower-end projects have the most potential for expansion."

Market conditions for other projects are bleak. Most government tenders and projects unrelated to the World Cup have been put on hold, Engling said.

Infrastructure investment,



◀ Roy Alves, Country Manager for Axis Communications

IT TAPPING INTO SECURITY

Major security players have fervently learned the verse of IP. More computer suppliers from the IT industry are tapping into security, selling network cameras as well as servers, switches and laptops, said Francois Malan, Technical Director of Camsecure. This will stimulate growth and competition in the industry, as security providers have equipment knowledge whereas IT suppliers have network knowledge.

This is a pressing issue. The gap in the market, between traditional security providers and IT experts, affects smooth and efficient implementation for large-scale projects. "The availability of skills of the channel partners is a huge challenge," said Michael Howard, MD for South Africa, Bosch Security Systems.

All players — manufacturers, distributors, installers, and consultants— need to broaden their knowledge and portfolios. "You need to know which network switch or storage to choose, if you want to install a megapixel H.264 camera, but not a lot of people know this," Malan said. This will help security players stay in the "value add" if margins get pushed down due to the increasing involvement of the IT industry, said Bernard Senekal, MD at Sentronics.

however will last for the next five years, and significant IP investment will stimulate remote surveillance as well as video verification, Malan said.

PUBLIC INFRASTRUCTURE

The public sector is growing at a rate of 13.3 percent up till 2015, Shiri said. The biggest public-private partnership project is underway for the Guatrain Rapid Transport System, joining Johannesburg, Sandton City and Pretoria, which will partially open next year for the World Cup. The project's IP video surveillance infrastructure

is estimated to be \$20 million, said Shingo Kimura, Manager of Overseas Department, Takex.

"Security for public buildings like airports, stadiums, train stations and bus stations have increased video surveillance, motion detectors, guards and the use of intelligent analytics," Shiri said.

This is a direct result of the government tightening security in cities to make sure that crime levels are abated before the World Cup, Senekal said.

The Bus Rapid Transport System will have mobile video recorders and more than 8,000 cameras in the 2,000



▲ David Petrook, MD of EMEA at DVTEL



▲ Francois Malan, Technical Director of Camsecure



▲ Kevin Pearman, Business Development Executive, Integrated Security and Building Management Systems, Bytes Systems Integration

buses for the World Cup, said Kevin Pearman, Business Development Executive, Integrated Security and Building Management Systems, Bytes Systems Integration.

Roads are being dug up to lay fiber optic cables, and airports are undergoing infrastructure changes, including more parking. License plate recognition systems decrease car theft for ticketing systems at major airport parking lots, Malan said. Parking lots in Capetown, Durban and Johannesburg airports will increase capacity from 20,000 to 40,000. Analytics has also made headway in traffic control and management systems, easing congested highways and enforcing traffic laws.

Hospitals, ports, public and road surveillance utilize IP infrastructure, network megapixel cameras and H.264 compression. "These projects often have planned camera counts of up to 2,000 devices over a period of a few years," Howard said.

STADIUMS

As the 2010 World Cup looms, large investments have been made to 13 major stadiums, Chiu said.



▲ Kenny Chiu, Marketing Manager of Elvey



▲ Uri Engelsman, VP of Sales and Marketing at Pima Electronic Systems



▲ John Lakin, Sales Manager for South Africa, HID Global

"Security tenders consist of independent power supply, improved guards, turnstiles to speed the flow of people, and IP video surveillance," said Andrew Seldon, Editor of Hi-Tech Security Solutions.

Building management systems are also winning bids for stadium projects, Engling added.

SHOPPING MALLS

Sandton City, the largest shopping mall chain in South Africa, has invested \$188 million in upgrading all centers, including new office towers, refurbished malls and major improvements on security, Malan said.

A number of these projects are

integrating IP video into their system or replacing analog with IP, Alves said.

The retail sector is positioned to grow 8.9 percent during the same time frame, where replacing existing installations will take up the most growth, Shiri said.

Sandton City Johannesburg employs 700 cameras, and is expected to double that count in the next two years. Its video surveillance system uses sophisticated video management software and H.264 compression on a fully IP infrastructure, Malan said. The site's access control deploys traditional keypad-based locks, keys and magnetic stripes for the retail area.

EXPANDING PORTFOLIOS

Companies previously considered equipment manufacturers have become security service providers, while those regarded as guarding services companies now offer installation and system integration services, said Sostina Shiri, Research Analyst at Frost & Sullivan.

From the video front, consultants are calling for fully integrated building management system platforms, said Wolfgang Engling, Country Manager for Pelco (a Schneider Electric company). Almost all tenders being released are now bundled with total solutions. Bosch Security Systems, Hi-Tech Security Solutions and Sentronics are of the same mind.

"Infrastructural spending in government and private sectors' growth continues to feed a funnel of large, complex projects and opportunities, requiring 'full solutions' including access control, video over IP, voice evacuation, fire detection and building management systems," said Michael Howard, MD for South Africa, Bosch Security Systems.

IP PENETRATION

Though still in its infancy, efforts to strengthen network infrastructure are admirable. A fiber-optic cable system was completed, linking South and East Africa to global networks at 1.28 terabytes per second along 17,000 kilometers. "Telecommunications backlog due to the government's stringent policies makes it difficult for newcomers to invest in the market. The cost, therefore, for broadband Internet is still one of the highest in the world and cellular carriers still have some work to do

MARKET UPDATE

in order to maintain service stability and affordability, prior to the 2010 World Cup,” Chiu said. This lag delays IP and GSM/GPRS-related product implementation. Results of the new system remain to be seen.

Current adopters of Wi-Fi and IP technology buy and build their own networks, adopting the greenfield option to manage their infrastructure, Engling said.

Manned guard and armed response personnel and systems continue to lead the pack, said David Petrook, MD of EMEA at DVTel. IP-based solutions aid the reduction of those services by providing a much quicker response time.

“Industry analysts expect that by 2013, network video will take up 50 percent of the video surveillance market,” Alves said.

For now, the IP to analog market ratio is 2 to 8, Senekal said. “The commodity market, mostly comprising analog products, has a sales cycle of roughly 50 days. Large-scale installations that demand IP have a much longer sales cycle, sometimes six to eight months.

You can see, therefore, how the market is still very

◀ Wolfgang Engling, Country Manager for Pelco (a Schneider Electric company)

much analog-oriented.”

TECHNOLOGY ADOPTION

All product categories — video, alarm and access control — are undergoing evolutionary change. Pelco, Bosch Security Systems and HID Global agree that, as an emerging market, the market is eager to try out cutting-edge technology and is characterized as “early technology adopters,” compared to the conservative styles of America and Europe.

VIDEO SURVEILLANCE

Network, megapixel cameras, H.264 compression, PoE, progressive scan technologies, intelligence at the edge and thermal imaging technologies are all becoming popular, Senekal said. Products that support network infrastructure such as industrial switches at the edge, bigger core switches and hybrid DVRs are seeing more adoption.

However, H.264 and megapixel cameras are still expensive, and the majority of cameras are non-HD with MPEG-4, Seldon said. Users need to learn about the real benefits of H.264, such as lowered storage cost, before it gains wider acceptance.

“Many manufacturers simply put an H.264 header onto an MPEG-4 stream to meet tender specifications, which detracts from the true storage savings of H.264,” Engling said.

Another obstacle is that the current stable of offerings lacks in day/night and PTZ cameras, Malan said. “Most



▲ Shopping malls are undergoing major improvements on security.

H.264 cameras are indoor cameras, which limits your ability to specify applications.”

Many systems are still specified to 7.5 fps, not because users demand it, but because existing surveillance systems are so limited in technology deployment, Alves said. For more bandwidth and higher resolution, an uptake in megapixel products will be with H.264 compression, and 1.3 megapixel cameras are most in demand, Engling said.

For storage, DVRs are growing quickly and the VCR tape market is shrinking. Asian DVR manufacturers, especially those for entry-level applications, are additionally looking for ways to capture some of the market share from the transition to IP, by offering hybrid DVRs, Malan said. Another popular option of upgrade is to use encoders and replace DVRs with NVRs, Engling added.

INTRUSION ALARMS

South Africa is a price sensitive market, resulting in a glut of cheap alarm products and inordinate false alarms. Most sensors are infrared, with a move to microwave to lessen false alarms, Seldon said. “Most



alarms are linked to guarding companies, who have said that 80 to 90 percent of alarms raised are false alarms.”

Radio monitoring dominates, and local producers have established bus interfaces with protocols of foreign panel manufacturers. Recently, however, radio options are increasingly being replaced with reporting over GPRS networks, said Uri Engelsman, VP of Sales and Marketing at Pima Electronic Systems. These protocols protect against cutting phone lines. Additionally, being monitored channels, when a connection is lost, the monitoring center is immediately alerted.

“Wireless alarm systems for up-market installations are also gaining momentum,” Kimura said. Added to this, GSM communication devices and external PIR sensors are popular choices.

Other trends have seen distributors such as Elvey setting up its own Access Point Name, a dedicated bandwidth channel acquired from a cellular carrier, Chiu said. It ensures alarm signals and streaming reach their destination even at peak hours.

For technology deployed against an IP backdrop, alarm and video surveillance dominate the market. Most DVRs have dry alarm contacts; today, network cameras can use them to integrate the alarm sensor straight to the camera, Engling said. As users become more product-conscious, video verification by cellular phone or Internet is on the rise, Chiu continued.

ACCESS CONTROL

As fraud and trust are serious issues, the access control market

HEIGHTENED SECURITY AT THE CONFEDERATIONS CUP

Key players of increased national security during the FIFA Confederations Cup included the South African Police Service (SAPS), the South African Defence Force, Metro Police Services, the intelligence community, the National Prosecuting Authority and other government departments. Major risks were armed robberies, hi-jacking vehicles, terrorist attacks and muggings, said Gert Pretorius, Vice Chairman of The South African Institute of Security.

In the host cities of Johannesburg, Rustenburg and Tshwane, city security employees increased to 6,000 to 8,000, and specialized high-risk forces, comprising members of the SAPS were also on standby to deal with emergency situations. Transport security increased as well, with special trains employed and more than 550 railway police members on duty. Judging from an increased visibility of security and police services, “I think it is fair to expect that a strong and visible police force will definitely be able to deter criminals during the upcoming FIFA 2010 World Cup,” Pretorius said. “One can accept that the SAPD has learned valuable lessons with the appointment of a no-nonsense Commissioner, and we are looking forward to a more aggressive approach by the SAPD to reduce crime significantly.”

prefers biometric technologies, said Barry Venter, MD of Tubular Intelligent Solutions.

While 70 percent of access control systems are card and punch card systems, biometrics has gained traction in the past three years as a rapidly growing industry, Seldon said.

Of the biometric systems installed, the vast majority are for corporate use, and typically employ fingerprint technologies. Its most popular usage is a one-to-one matching of a template stored on a card, for greater security and increased reliability, said John Lakin, Sales Manager for South Africa, HID Global.

The trend is for time and attendance, integrating biometrics with accounting packages for even SMBs, Malan said. Driven by the bottom line to save costs, companies implementing the systems gain ROI from better staff management, as the systems guarantee employees are not overpaid. Primary markets for biometrics include health care and

mining, using facial recognition.

There is extensive use of both biometrics and smart cards, with increasing use of templates stored on a contactless smart card, and decreasing use of centralized template storage, Lakin said. However, rarely is biometrics integrated with other systems such as home automation, building automation or video surveillance. This is becoming a topic for discussion, particularly in high-profile sectors such as banking and transportation.

CHANGING LANDSCAPE

The government will issue more security work in 2010. The Department of Defense has allocated \$87 million for future projects, with nearly \$10 million reserved for electronic security, Pearman said. The country's welcoming attitude toward sophisticated technology, paired with well-informed security and IT experts, makes South Africa poised to host a successful 2010 World Cup. 