RESIDENTIAL ESTATE SECURITY
Handbook 2020

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Cover Story:
Hikvision alarms improve protection

Hikvision has created a broad portfolio of innovative alarm solutions that are sophisticated, automated, and always fit for purpose.

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Sustaining security and sanity

Sustainability is a critical component of almost anything in these days of a tanking economy, boosted by COVID-19, which is given further emphasis by the economy being further hammered by the ‘cure’ for the pandemic which will see the country’s economy (and the world’s) in the toilet for a long time.

In the residential estate market, economic woes are impacting estates of all sizes as residents feel the pain of an economy that’s been stamped on. This will obviously impact budgets for estate operations, which includes the money available to be spent on security.

The lockdown also saw a reduction in crime for a short period, but criminals don’t like to rest and we are already seeing the crime rates rising, with the expectation that the rates will only increase. In addition, increasing political baiting will ensure that criminal and political violence compete for attention, with many political crimes being written off as part of the already obscenely high ‘normal’ levels of crime in South Africa.

So what is an estate to do with less money, more crime and residents that still expect miracles from their security teams (while also complaining about paying minimum wage). In the Residential Estate Security Handbook 2020 we look at the question of sustainability and how estates should go about making sure the basics of security are taken care of.

We also look at access control via biometrics in the days of COVID-19 and the drive to touchless entrance and exit control. Interestingly, one of the people we interviewed pointed out that not all estates are going for popular and costly facial recognition solutions, but are reverting to cards and fobs as an access control mechanism.

We also take a brief look at the option of remote management and monitoring. Would a remote control room offer the same level of security for a lower monthly or annual cost? Our interviewees highlight a few points to ponder around this question.

Sadly, regular readers of Hi-Tech Security Solutions will know that the poor economy has also impacted their regular monthly security read. The Residential Estate Security Handbook 2020 is therefore smaller than ever before, but we have made an effort to include as much useful information as possible. You will be able to find more articles and information online, which will also be sent out in the associated news briefs, the first of which will be with you shortly after you receive the handbook. (If you do not receive the news briefs via email and would like to, please let me know at andrew@technews.co.za.

Please enjoy the Residential Estate Security Handbook 2020 and feel free to let me have any comments or criticisms, as well as suggestions for the next handbook at the same email address as above.

Andrew
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The evolution of security in residential estates

By Allyson Koekhoven.

Two large estates discuss their security processes and the ever-expanding scope of responsibilities the security team needs to fulfil.

According to the Association of Residential Communities (ARC), South Africa has 3000 home owners' associations (HOAs), with a staggering 5 million people residing in organised communities in 1.9 million homes. Previously just a nice-to-have, security has become an essential value-add for residential estates. As risk profiles change, so too does the way HOAs approach their security stance.

Louis de Jager and Terry Keller from Val de Vie Estate in the Western Cape say that they believe it’s important to emphasise that no matter how large or prestigious an estate may be, there will always be a role for physical guarding in the security equation. This strategic and symbiotic mix of technology, monitoring and manpower allows estates to be both proactive and reactive in preventing crime.

“We also believe that the security function is best handled by a combination of internal HOA employees and external security specialists. Our internal security technical manager, Danie Bosman, works very closely with our service providers – Thorburn – to ensure that security levels are maximised.

Thorburn is responsible for supplying all the technical labour and resources, while Bosman manages the entire process. Our security is hosted on an entirely separate and autonomous network from the estate’s other network requirements, with separate firewalls and links that can be accessed only by authorised people within our team,” says De Jager.

The estate’s main security operations are hosted offsite with a remote third-party company responsible for the monitoring of the estate’s 400 cameras. This is supplemented by a small control room onsite at Val de Vie where after-hours reports on security issues are received by the onsite security personnel and relayed to the correct people within the HOA and the reaction teams. “This onsite control room also serves as a backup should the links to the offsite control room go offline. In this instance, as per our SLA, the offsite monitoring company deploys the necessary people to the estate to man our onsite control room,” De Jager says.

“Based on input from the whole team, we draw up an annual capex budget for planned replacement of security equipment – cameras, access control readers and electric fencing – which is about to reach the end of its useful life. Danie is responsible for managing this process as he has the up-to-date information to hand,” says Keller.

10-year plan

Shantelle Walters of Cotswold Downs in KwaZulu-Natal says that the estate has a 10-year security maintenance programme in place, which is reviewed every year. This includes preventative maintenance and its scope is dependent on the funds available within the specific financial year.

“The security budget is carefully pre-planned and reviewed in conjunction with the overall estate maintenance plan. The process is a collaborative one, with the HOA management and our service providers working closely together to highlight critical triggers. This ensures that we evaluate technology which is almost at the end of its warranty period and then take the necessary remedial action. In addition, it gives us an

Continued on page 6
The ultimate facial recognition access control device

VisionPass

Secure access with touchless control

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VisionPass combines a state-of-the-art optical set of 2D/3D/infrared cameras with IDEMIA's latest advances in AI and image processing, enabling a high level of security and real user convenience.

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EASY DEPLOYMENT

VisionPass is ready to be deployed at any location and is both suited for indoor (wall or gate-mounted) or outdoor (IP65 rated) use. The device reuses many of the technology bricks used in other devices, simplifying its integration among a fleet of devices.
Continued from page 4

opportunity to phase out security software and equipment that has become limited in terms of its capacity and functionality."

Walters says that every three years the HOA employs an independent consultant to perform an audit in conjunction with a SWOT analysis. The goal here is to find optimal ways of successfully executing security management in the future and determining which hardware and software are required to provide for sustainable integration in a product-agnostic manner.

“We have an onsite control room which handles daily security monitoring, with a third-party security company that provides us with offsite monitoring in the event of civil unrest. I would definitely consider our onsite control room to be the nerve centre of the estate. Not only do our control room operators manage the controls and cameras, but they are also the source that our residents turn to for all other estate-related queries,” says Walters.

Service-driven HOA

While security is a major component in the HOA portfolio of responsibilities, there are obviously other elements that make for a happy resident. How then, do HOAs work together with local municipalities to ensure the supply of vital resources and the upkeep of maintenance of these services?

Security forms part of the annual Val de Vie budget review, together with other general estate maintenance elements. Keller explains that involvement in road repairs outside the estate’s boundaries, as well as the administration of basic utilities like water, sewage and electricity supply, together with refuse removal, would be totally dependent on each individual estate’s HOA mandate.

“The Val de Vie HOA manages the roads within the estate, while the roads outside the fence line are the responsibility of the Drakenstein municipality and the Western Cape province. A private supplier, in collaboration with Drakenstein municipality, supplies us with bulk electricity. The municipality also provides use with bulk water as well as refuse removal. The HOA is responsible for billing each resident for usage, but if maintenance is needed, we simply convey the message to the service provider,” says Keller.

Cotswold takes a similar approach, with all roads within the fence line falling under the control of the HOA. “However, the municipality signed over ownership of the 500-metre long stretch of road leading off the main road to the entrance of the estate, to Cotswold and two other entities. As such, we are now jointly responsible for the maintenance of that road.”

The Cotswold developer previously established an outside sewage plant which sells greywater back to the estate for the irrigation of the golf course and common areas. “We do pay refuse rates but because of the issues we have had with intermittent service delivery, we are in the process of instituting a Plan B protocol whereby we handle refuse and recycling independently. We have bulk meters for all utilities and we recover costs from the homeowners by means of individual meters installed at their homes and monitored by a third-party utility management company. We are currently investigating the conversion to automated meters,” says Walters.

Similarly, the estate has seen its HOA become active in areas typically reserved for other standalone entities to assist in generating additional revenue streams, such as rentals. “We are a family-run middle to higher LSM estate and while we haven’t seen a gap in the market for facilitating short-term rentals, we do formulate long-term lease agreements on the estate. In addition, we charge a small monthly fee to maintain any vacant land and we apply a small annual fee for the personal post boxes on site,” says Walters.

Estate management – increasing automation

As technology development accelerates and
the IoT becomes a part of daily life, what is in store for the management of residential estates? Keller believes that from a general management perspective, operational aspects are becoming more system-driven. “Our maintenance management and communications systems are becoming more automated and app-based, and the COVID-19 lockdown has made it common practice to conduct meetings remotely. However, it’s important to ensure that we still maintain personal contact between our homeowners and the HOA.”

Walters concurs and says that the HOA is driving increased automation for the future, with self-management of residents’ data on a central database being one area of focus. Electronic meetings with residents, which began during lockdown, will also result in increased interaction between the HOA and residents.

Walters says that they have experienced greater demands and expectations from their homeowners in recent years, with homeowners relying on the HOA for guidance in a number of areas. “Although this has been highlighted with the lockdown, a developing trend is that people no longer want to travel far from their homes to enjoy amenities and facilities. This means that we will need to focus more on making common areas more usable in the future.”

She adds that the Cotswold Downs resident demographic is very varied in terms of both age and socio-economic status. “This means that, in the future, the HOA will need to be more flexible and aware that they are not just serving a single type of resident. We will also need to become more self-sustainable. We foresee that ‘greening’ of the estate and sustainability of resources will become increasingly important, with the need to provide our own backup water supply using water tanks, and alternative energy through the implementation of sources such as solar panels.”

An issue which has already reared its head is how one sustains a golf course-based residential estate into the future since it is space-greedy and expensive to maintain. Walters says that this will be a major topic of discussion going forward and has already resulted in the estate investigating the development of a mountain bike/running trail on the estate.

**More internal capabilities**

With specific regard to security, De Jager anticipates that estates could be moving towards having their own investigative capacity. This would mitigate the current backlog as official channels battle numerous cases. He also predicts that drone technology will become an essential element in the estate security portfolio.

“It’s important to note that the risk manager’s strategic plans must be intelligence driven. This is our ability to leverage the specific intelligence that we have around the whole estate in terms of being able to determine where criminals are going to be and what they are planning to do. We also have a medical response company on retainer, with preferential reaction times guaranteed for our tactical teams and residents,” says De Jager.

Walters emphasises that security management at Cotswold has evolved from the militaristic style common in the early days of estate security to one that fulfils a PR role, with security personnel being able to effectively communicate with homeowners.

“We have found that unprecedented levels of open and honest communications between our own HOA and those of other estates has been prompted by the lockdown. We hold regular Zoom meetings to interpret the rules and regulations of lockdown. This has brought everybody’s unique styles to the table and enabled us to work together in a unified manner, thereby reducing silo-itis,” says Walters.
The COVID test for estate business continuity planning

By Andrew Seldon.

Many estates were caught unaware when the COVID-19 pandemic and subsequent lockdown hit. Helderberg Village was ready for the challenge.

An estate is a small city where the CEO and security manager fulfil the function of cop and kindergarten teacher, and everything in between. In times of emergency, the role of cop becomes more important.

At the Residential Estate Security Conference in Durban in March this year, which took place just as the seriousness of COVID-19 was becoming apparent in South Africa and two weeks before the national lockdown, Vagn Nielsen, CEO of Helderberg Village in the Western Cape, mentioned that the conference should have had a presentation on the coronavirus and how estates were preparing for the pandemic. Of course, our preparations were complete long before the pandemic was a ‘thing’ so it was not on the schedule. However, during the introduction, I asked the delegates what they were doing on their estates with respect to coronavirus precautions, springing a surprise on Nielsen by asking him to highlight what Helderberg Village had done and was doing.

Of course, our preparations were complete long before the pandemic was a ‘thing’ so it was not on the schedule. However, during the introduction, I asked the delegates what they were doing on their estates with respect to coronavirus precautions, springing a surprise on Nielsen by asking him to highlight what Helderberg Village had done and was doing.

What became clear to all was that preparation was key. If an estate did not have a plan B, they were suddenly looking at a panic situation when the President announced a lockdown and gave everyone three days to prepare.

As a case study in preparing for something we would never think could happen, Hi-Tech Security Solutions spoke with Nielsen about his preparations from before the lockdown was announced through to Level-3 status of the lockdown.

Preparation for the unexpected

Business continuity is the processes businesses put in place to ensure their operations continue in the event of an emergency. The lockdown was the first time in South Africa that these plans were put to the test on a national scale, and many businesses suffered as a consequence of poor planning.

Of course, some businesses are hard to run from home when they involve being on client sites and so forth; but most business continuity plans cater for issues like prolonged Eskom blackouts, riots and general unrest, union activities, floods, fires, terrorist attacks and even earthquakes. Few took the concept of a pandemic that would lock down an entire nation for three weeks seriously.

Residential estates were in a similar boat. Emergency plans do not generally cater for extremes, but rather ‘expected’ problems. In scenario planning terms, these are the unknown unknowns, the area where we don’t know what we don’t know. The four areas of scenario planning are, to put it simplistically:

- Known knowns, things we are aware of and understand; things we are certain of and therefore plan for.
- Known unknowns, things we are aware of but don’t understand; we know there are things we can’t predict, but can plan for.
- Unknown knowns, things we understand but are not aware of; others are aware of the risks and can assist in planning to deal with them.
- Unknown unknowns; things we don’t understand and are not aware of, and can therefore not plan for.

It’s possible to plan and prepare to various degrees for all of these except unknown unknowns as we have no clue about them. Now some may say that a pandemic is a known area of risk, but in reality, most would probably plan for the impact of a stray asteroid before thinking about a national, let alone global, pandemic – until now.

Communication and action is key

Nielsen was one of the few estate CEOs at the conference that started preparing for the impossible as soon as news of the danger of COVID-19 started spreading. As a village for retirees, the residents at Helderberg Village were in the category of people most at danger from the coronavirus and the first step for Nielsen was to inform residents of the virus, its symptoms and what they should do if they thought they may be infected. He also made sure outsiders knew what was happening by posting information on the village’s website and social media platforms.
Similarly, all estate employees, from the guards at the gate through to the golf and restaurant staff, were informed and educated about the virus, its potential symptoms and, importantly, how to deal with the residents. After the lockdown announcement, instructions about what residents were permitted to do or not were revised. For example, the restaurant, sports facilities and all communal activities ceased, although food delivery from the restaurant was permitted.

Apart from home deliveries from the restaurant, the estate also allowed residents to buy a basket of essentials from the caterers, which was also delivered to their homes. The ATM within the village was also operational to ensure villagers could draw cash as needed. Nielsen says there was really no reason for the residents to leave the village, or even their living areas.

Who gets in?
Controlling who gets into the estate was also critical to the Helderberg Village plan and once the lockdown was announced. Nielsen only allowed one access gate to remain operational and access was denied to anyone except residents, essential services employees and emergency or external essential services. The employees and companies that had access were all registered and had the necessary permits. The biometric access controls were also disabled for everyone except the villagers to stop even the possibility of outsiders infecting the fingerprint readers.

The gate guards performed temperature screening on everyone entering the village, and this included all the people in every vehicle. Villagers with a temperature were sent to the healthcare facility before being isolated in their homes. Non-residents with a high temperature were denied access. Staff with a high temperature were sent home and all the guards were regularly screened as well.

The estate remained fully functional, apart from the facilities that were closed, and the management team was equipped to work from home. Some staff that were not ‘deemed’ essential were given paid leave.

In the event of medical problems, the nursing staff were kitted out and able to assist. The village also had a number of maintenance teams in place (plumbers, electricians, TV specialists, etc.). Naturally, rubbish was collected and disposed of, while the maintenance on the golf course and bowling green was kept to the minimum necessary.

Some residents received regular food deliveries, but these were dropped at the gate, sanitised and transferred to a sanitised container and delivered by the security team. No unnecessary access was permitted and no concessions to walk dogs or exercise was given until the lockdown moved to Level 3.

Nielsen says that a clear and decisive plan of action was necessary and it needed to be implemented with the full cooperation of staff and residents; moreover, everything needed to be communicated clearly to residents who also needed clear lines of communication should they have queries or need to be updated on the latest regulations.

Up to the time of writing, the measures taken have protected the 1200 residents of Helderberg Village from COVID-19 and life on the estate is set to slowly return to normal as the restrictions are eased.
Home-grown, cloud-based safety and security solutions

By Andrew Seldon.

BeSecure manages estate and lifestyle villages, from access and visitor management, through to care services.

As markets mature and technology expands beyond the limitations of only a few years ago, the solutions companies are able to create have expanded beyond the ability to restrict them to a specific category.

BeSecure is a company that has taken security and communications technologies and turned them into what is best described as care and safety solutions for the aged community in South African retirement villages. Starting from a small base, BeSecure is now able to offer panic and home care solutions to individuals, as well as to care facilities such as frail care in retirement communities. It also offers seamless and even contactless access control and visitor management to retirement villages.

The company was started by three partners, Francois Geldenhuys, Andy Minnaar and Barry East, with a focus on retirement villages. Having developed its technology stack for the retirement market, from the beginning of 2020, BeSecure now offers its technology solutions to all residential and lifestyle estates. Below is a brief summary of some of the home-grown solutions available from the company.

Panic solutions

South Africa is no stranger to panic buttons, but in elderly communities, these serve more than a security function. Elderly people might need assistance when they fall or suffer other health problems. BeSecure has designed a mesh network in the 868 MHz range that can cover any sized property and pick up a panic signal instantly. Powered by solar with battery backup, the network is always on, irrespective of what Eskom may or may not do.

Furthermore, the panic solution is constantly monitored via the cloud through a system developed by the company, which keeps track of all activations and checks that all devices are functioning. Sporting a 99.9% uptime, the cloud controller runs two SIM cards to ensure connectivity while the on-site network can scale as the client’s needs change.

As with all its solutions for the aged, the company makes sure its products are simple to use so that even people who are technology phobic can use them with ease.

Home and health

Adding Bluetooth to the mix, BeSecure has also created solutions for securing elderly people in their homes. This will soon be enhanced by motion detection systems that will build a profile of an individual’s activities over time.

After a baseline has been established, when something out of the ordinary happens, on-site staff can be alerted that, for example, Mrs Smith hasn’t got out of bed today and could require a call or visit to ensure everything is in order.

Similarly, in frail care or after care facilities, people can be tracked to ensure they are where they are supposed to be, who is visiting whom, even checking that they arrive for appointments or to remind them to take their daily medication. While this may have been seen as a privacy issue in the past, the health benefits are far more beneficial. In areas where keeping people safe from the annual flu season and currently from the COVID-19 virus is critical, knowing who was in contact with whom will make healthcare faster and more effective.

Access and visitor management solutions

BeSecure has also changed the way access control and visitor management is handled. Again managed by the BeSecure cloud-based platform, the access control solutions can range from licence-plate recognition, where the residents driving their cars are granted automatic access, through to phone-based access where residents can load an app which allows them entrance via a Bluetooth connection, or even allowing residents to gain access by dialling a number when approaching the entrance and dropping the call, which will open the gate or boom as long as the individual and their cellular number is already registered. Traditional biometric, tag or PIN access can also be enabled, depending on the customer’s requirements.
When it comes to visitor management, BeSecure understands that not all visitors are the same and should not be treated the same. If management understands the risk profile of each visitor, it can adjust the access requirements accordingly, and this is what BeSecure strives to accomplish. The result is that a regular contractor or someone who visits family in an estate frequently will be able to gain automated access with little hassle, while a new visitor or contractor will have to go through a more intensive process before being granted access.

For those who do not feel comfortable with registering visitors via an app or SMS, the company also has a frictionless, phone-based visitor management solution available. The resident can obtain pre-authorisation via a phone conversation (which is automated) and the system can approve the visitor and/or wait for co-approval from an administrator.

As noted, access is controlled from the cloud, meaning the administrators will have access to complete reports of all comings and goings, as well as control over visitors. In addition, although automation is the primary focus of the BeSecure systems, the cloud-based management system is monitored 24/7 by trained people able to handle any exceptions or problems that might arise.

**Ready to expand**

One of the benefits of all BeSecure’s solutions is the cloud component which ensures constant monitoring and almost instant notifications of a problem, whether a hardware failure, a visitor request or a panic activation. All systems are also backed by a maintenance plan and SLA (service-level agreement) which includes software updates and hardware upgrades, repairs or replacement.

While the company can offer biometric solutions such as the latest facial recognition technologies, there are still user problems to overcome with these solutions, such as what happens when it’s raining or in bad light, what about people who are not recognised by fingerprint systems, etc? These issues cause frustration and accusations of poor installation or technology. This is why the company has done significant research into mobile solutions and secure ways to manage access without requiring a person (or their arms) to leave the vehicle.

BeSecure is focused on automating as much of the process around using its technology as possible, without diminishing the security and safety people of all ages require. Having reached the stage where its solutions are geared for any residential, lifestyle or retirement estates, BeSecure is also looking for partners in various regions of South Africa to expand its reach.

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Teaching old cameras new tricks

By Dr Jasper Horrell and Mark Smuts.

Dr Jasper Horrell and Mark Smuts from DeepAlert reveal how estates can upgrade their existing surveillance infrastructure to include the latest AI-enhanced analytics, without buying new hardware.

Estate security managers are facing a constant dilemma: how do they improve the security of their estates with ever-tightening budgets? Technology is moving at a bewildering pace and it is difficult to know what the most appropriate solution is: Do you rip and replace, or do you re-imagine and retrofit?

In addition, there’s the new(ish) buzz phrase doing the rounds – AI, or artificial intelligence. Can it improve security in the residential estate environment?

Analytics on steroids
Most surveillance systems rely primarily on a motion-triggered alarm system that either alerts guards on site directly through an alarm or sends the alert to an off-site monitoring company, allowing them to view the video images that led to the alarm. Unfortunately, as we all know, many of those alarms are false, often triggered by foliage blowing in the wind or pets.

AI surveillance systems, however, receive the video images from a camera triggered by motion detection and send the images to a classifier. This is where the magic of artificial intelligence takes place. Artificial intelligence can be described as the mimicking of human intelligence. Computers utilise logic and decision trees to reach conclusions.

Machine learning is a step further where the computer can semi-autonomously use statistical techniques to detect patterns and use inference to make decisions. Deep learning is yet another layer of artificial intelligence that harnesses multi-layered neural networks that progressively extract higher-level features from raw data (video images in surveillance).

It’s called ‘deep’ because there are more than two hidden layers. Computers making use of deep neural networks are able to train themselves and get better at classifying objects over time. This is similar to humans getting better with practice.

What this means is that it is possible to update existing cameras and hardware by simply “adding” video analytics enhanced by AI.

Cloud changes the game
In order to see the benefits of AI, estate managers have been conflicted by attempting to invest in the latest technologies, being high-end on-site servers/DVRs/NVRs with AI edge-based cameras, all this within ever-narrowing budget constraints. With cloud computing growing in popularity and reliability (and security), this opens a more affordable, scalable approach to AI and negates the need to replace the current camera infrastructure.

With the DeepAlert solution, the deep learning classifier usually sits in the cloud (although an on-premises option is also available). This is for two reasons. The first is that the cloud machines are receiving millions of images from multiple sites for processing and get better (more accurate) at processing over time with a little help from humans. The second is because the processing power required for accurate object classification is simply too large to deploy cost effectively on-site.

What does this all mean? It means that an analytics-enabled stream can accurately tell you what is in the scene when a camera is motion-triggered. If it is a harmless cat and not an intruder, then no alert is raised. This ‘second step’ in the filtering process reduces false positives by over 95% compared to simple motion-triggered alarms in a control room environment.

No need for expensive, new cameras
The classifier receives its video images from the RTSP feed of practically any camera (including analogue where it receives the stream from the NVR/DVR). So, no ripping and replacing. The system sends images to the cloud at a low rate when the camera is motion-triggered. The system is accurate, even with modest resolution (VGA) cameras at night. DeepAlert can also be used on IR camera streams with accurate person classification at up to 600 m in more highly tuned setups.

Deployment is usually using either a hub (between 6 and 15 stream options), straight to the cloud (no hardware required), or on a server using a virtual machine environment (larger applications of hundreds of cameras). The on-premises software is only performing
the motion detection and is therefore very light on CPU requirements. Likewise, the hub only sends motion-triggered images and then only a few frames for analysing (object classification) in the cloud. This means that bandwidth requirements are extremely low if deploying hardware on-premises. The time taken between the motion trigger and the delivery of the analysed alert is approximately 3.5 seconds.

**Integration into existing infrastructure**

Many large estates make use of video management systems in their security infrastructure. DeepAlert can integrate with some of the larger video management systems, which allows controllers to view and respond to alerts using their normal interface.

However, for estates without a video management system, DeepAlert has its own web-based user interface. The interface allows security management to set up each individual camera, creating an exclusion zone to prevent unnecessary motion triggering. Users can also create rules per camera – what object class should be alerted, on which days and during which hours.

Finally, the alerts are delivered, viewed, and actioned on the Web and can also be delivered to any mobile device using the Telegram app. This means that guards on site can be alerted via their mobile phones at the same time as an off-site monitoring company is alerted.

The ‘installation’ (usually a hub) and setup can be completed within an hour or two, depending on the number of cameras connected, and is ready to work ‘straight out of the box’.

Now is the time to consider using AI on your estate as you can upgrade your old camera network to an AI-enabled, real-time alerting system that reduces false alarms and improves security without budget-busting hardware requirements.

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Most estates have had the experience of having a risk assessment done only to find they have no way of meeting all the advised risk mitigation processes because of the costs involved in doing everything as well as the complexity of a well-designed security solution.

Of course, the costs and complexity pale in comparison to the Gordian knot of getting the project and the expense approved by the Body Corporate or Home Owners’ Association.

The reality is, compromises are the order of the day as the economy tanks and squeezing a bit extra out of the residents for upgraded security is close to impossible.

Hi-Tech Security Solutions asked two risk assessors who operate at estates around the country for their advice on how estates can keep their security effective and their residents safe on a shoestring budget.

Where do you start?

If an estate is in the position of having budgetary woes when it comes to ensuring that its security is up to scratch and that there are as few openings as possible for the ever-resourceful criminals out there, where should they start looking to invest their limited funds to obtain the best security for their money?

“In my opinion, the right place to start if one wishes to develop a strategy is with a thorough audit of what the estate already has in place in terms of the security industry subcomponents of manpower, processes and technology,” says Lesley-Anne Kleyn from Kleyn Consulting, an independent risk, safety and security consultancy. “An audit enables one to start the process of developing a risk strategy before unnecessary spending takes place.”

Of course, an audit by an independent assessor who isn’t trying to sell you products at the same time will cost money, but Kleyn says the fee should be reasonable and represent only 0.5% to 2.0% of the annual manpower spend and/or the cost of any potential technology upgrade.

“I recently examined an estate which had provided me with a professional site plan showing exactly the thermal/analytic coverage being achieved by its perimeter cameras. Neither the remote monitoring provider nor the onsite guard force had noted any disagreement. However, when I looked at the camera specifications and the video management software in place, something seemed off. Investigation soon revealed that the coverage depicted on the site plan by the original installer was just not accurate. The estate had far more sections of penetrable perimeter than it had realised. This insight completely changed what decision-makers had assumed would be their next steps.

“More importantly, we did not resolve this matter by installing additional costly cameras, but rather by implementing different video analytic software at reasonably little cost. This gained the estate analytic coverage on the existing cameras, which enabled coverage of the perimeter completely. The estate addressed its most important risk area without breaking the budget.”

Andre Mundell, an independent security risk assessor at Alwinco, has a short answer to budgetary problems: “Read your security risk assessment.

“If you don’t have a security risk assessment, you are in trouble because you don’t have security,” Mundell states. “Not understanding your security risk will end up in a disaster. The viewpoint is not management’s viewpoint but
from the viewpoint of a risk assessor. Claiming to have security without a security risk assessment is like building a house without a plan.”

In addition, he adds that an independent security risk assessment will tell you which risks are more important and need to be dealt with immediately.

**Prioritising your risks**
The only solution for the budget-restrained estate is to start dealing with the most important or dangerous risks, slowly adding more security over time until the estate reaches an acceptable level of security. Although, as Mundell says, “a risk is a risk, no matter how big or small.”

He says that most of the time the risk assessment will show that the most important risk factor can be eradicated without spending a cent. “Willpower, management, action, communication and attitude are some of the elements that contribute to the risk factor and that do not need a budget to remedy, but need to be understood.

“Simply put, you cannot do anything without a plan in place,” Mundell repeats. “Only through a risk assessment will you understand the key points that need to be dealt with immediately. When your security risk assessment is done in full, you will understand the risk and you will understand what to do to mitigate the risks. That is your plan.”

He also notes that there are security risk assessments and security risk assessments. They might sound and look the same, but it is the viewpoint that makes the difference. “There is a vast difference between the viewpoint of an independent security risk assessor and the viewpoint of a sales consultant or risk manager.”

**Protecting people first**
“People move to estates for many reasons, but it is the sense of safety that will be the paramount factor,” notes Kleyn. “Risks which should be tackled immediately are any risks which represent potential physical harm to residents. But this is easier said than done, and the specific risk areas will differ from one property to the next depending on the micro measures already in place and on the macro crime environment.

“My advice, in general, is to tackle the need for a clear, written strategy early on. Regardless of how secluded and quiet the specific estate might be right now, don’t wait for an incident to occur.”

To tackle strategy, the estate manager or security manager will probably need to wade through an overload of well-intentioned and strong opinion at the decision-making table,”

Andre Mundell.

Kleyn adds. “An audit and a risk determination exercise will be helpful in this regard. An audit will present the facts pertaining to the state of the existing manpower and the existing technology, against inarguable best practice principles. A risk determination will present the facts of the macro crime environment against the estate’s calculable likelihood and potential impact results.”

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There is a caveat, she warns: both the audit and the risk determination exercise need to be thorough. A general site survey is not an audit, and a risk determination must consist of objective measurables. Once in place, the security strategy will outline where critical spend is needed and will also lay out a three- to five-year plan for phased-in spend.

Kleyn also believes that a full assessment represents value for money on multiple levels and that every estate should journey through the process of a full assessment as swiftly as money will allow. However, she says there is nothing wrong with breaking this process up into three phases.

“An audit will cover the basics: what the estate (really) currently has in place, and how the property is tracking against best practice benchmarks. A risk determination will add the next layer of information by providing context and measurables to the surrounding criminal environment and its potential impact on the estate. From there, senior decision makers will then be able to brainstorm and develop a written security strategy.”

The quest for cheap

Of course, even with a top-notch assessment and plan in hand, there is always pressure on security and estate managers to play suppliers of both manpower and technology off against each other to get the absolute cheapest price they can. This most often works and the price will decline until you are left with someone willing to cut margins to the bone.

The question to ask yourself is whether the people that company puts on site or the technology installed is worth even the cheaper price. What will happen in an emergency when you have untrained guards making minimum wage to rely on? How long will the cheap technology last and how keen will the supplier be to service the products and/or respect warranty claims?

“We have found over the years that cheap in the context of ‘cheap technology’ is more about education and information and not necessarily about money or budget,” explains Mundell. “Cheap is never good. When it comes to security, it cannot be cheap and secure. It is one or the other. A security risk assessment will tell you the difference between cheap and good quality. It will explain the limitations and provide the information to make informed and accurate decisions.”

If the cheap products are chosen, he says the risk assessor should advise on additional measures that will eliminate the gaps that are caused by cheap products. “It’s like purchasing a cheaper multi-vitamin that doesn’t contain all the essential vitamins and minerals and you end up having to purchase additional vitamins to make up for the ones not included in the multi-vitamin. Now you need to ask yourself, did you really save money?”

As with most things in life, Mundell asserts that cheaper products don’t last as long as the more expensive products and, in the long run, the money you might have saved on the cheaper product is usually spent fixing it and eventually, more money is spent to replace the ‘cheap stuff’.

Cheap, fast or good

Kleyn says that in the security industry, clients have the option to implement manpower or technology that is cheap, fast, and good – but an estate can only ever pick two of the three. “The premise is that if an estate wants a good job, done fast, then that job will not come cheap. Similarly, if the client wants a cheap job, done fast, the result will likely not be a good one.”

Cheap installations in terms of inexperience and/or bad practice come at massive cost, not only financially in terms of device failure and/or incorrect applications leaving the estate vulnerable, but also in terms of reputational damage should an incident occur, she notes. “For example, one cannot install a handful of pan/tilt/zoom cameras which are designed to track and follow (and are great at it), when what one needs is an impenetrable static perimeter. Wrong camera. Wrong application. Big cost. Big risk. There are better ways to protect a perimeter without breaking the budget.”

Kleyn also makes the point that the industry landscape has changed in recent years. Manufacturers of what were previously considered consumer-grade equipment are now doing great things in the professional project space, at a reasonable cost.

So, Kleyn suggests the key to making the right decision lies in “the right equipment, from an appropriate manufacturer, correctly applied, to the right critical areas of the specific estate, through the right distributor, by the right solutions integrator, according to best practice principles, with all applicable discounts applied, and at the most palatable budget stretch possible, for each unique estate.”

Services on offer

The risk management services Alwinco offers can be summed up as information and education regarding risk, security and safety.

“When we are invited to estates, we attend the meetings and we explain concepts such as security risk, decision making, the importance of speaking the same security language and so on,” says Mundell. “One of Alwinco’s goals is to use every opportunity to share knowledge, give advice and guidance, we aim to educate as many people as possible about the importance of understanding security risk, security and crime.

“We discuss the reasons for everything in a risk assessment with them, although we cannot give them a risk assessment in a two-hour meeting. And as some questions cannot be answered in a two-hour meeting, a workshop will be a better option. However, after the meeting is finalised, they will have a clear understanding as to why a risk assessment is vital, and they will understand why an independent security risk assessment is their best option.

“Ultimately, security is not measured against the size of your budget, but rather the size of your willpower.”

Kleyn explains that Kleyn Consulting specialises in all three phases of the physical security risk assessment process:

- Manpower, processes and technology audits.
- Risk determinations.
- Security strategy development.

“I work mostly with end-user clients directly,” notes Kleyn. “I have also worked extensively with security service providers themselves, assisting management to identify internal challenges and facilitating change.”

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Local or remote management

What’s happening in the estate monitoring and/or management market?

Do you want your control room on the estate or run from some remote location? This is a question many estates ask themselves quite regularly when considering budget, technology and manpower concerns. Some smaller estates may never consider these options as they feel a control room is way beyond their financial capabilities, but is that still the case with all the new technology we have at our disposal today?

Hi-Tech Security Solutions asked three companies well versed in offering control room services – either remote, local, or both – what’s happening in the estate monitoring and/or management market and what the best options are for residential estates.

Moreover, we wanted to find out what control room services are on offer today and what an estate needs to consider to make its control room deliver the value the HOA (Homeowners’ Association) requires.

Ian Downie, group executive – sales and marketing at Xone Integrated Security, says many estates still link their individual homes to on-site control rooms as they find this is a more efficient service with better on-the-ground understanding of the individual risk profiles. They will sometimes also link to an armed response company for additional backup, if required.

“However remote monitoring can allow for a very cost effective, pared down service,” Downie adds. “This remote control room can monitor electric fences, gates, analytics, automated rule activation, fire detection, activation of sirens, information analytics and independent audits.”

When it comes to remote, or off-site monitoring, “the beauty of technology is that it is scalable and the appropriate solutions can be based on the requirement, size and budget of an estate,” states Rynhardt Steenkamp, East Coast communications manager at Fidelity ADT. “A variety of remote monitoring services are therefore available to any estate of any size.”

Steenkamp adds that the biggest change in monitoring has been the fact that most modern intruder detection systems are now linked to control rooms through some form of Internet Protocol (IP) communication. This allows for the integration of many devices that could assist in the detection, surveillance and identification of intruders. In addition, he says that due to this technology being compatible with cellphones, control rooms are able to get system alert notifications to residents much quicker than in the past.

“Modern intruder detection systems are no longer a standalone system but rather a piece of an integrated network of systems using CCTV, access control and responses designed to identify threats and stop criminals.”

Fidelity ADT offers security solutions which include standard to advanced intruder detection systems as well as micro single-camera monitoring or large-scale estate and area monitoring. “The immediate benefit is the fact that any intruder can instantly be detected and recorded by a dedicated control room. There is also a cost saving component due to the reduced on-site personnel in the case of purely remote solutions,” he adds.

Connected and intelligent

Rudi Potgieter, executive head of Guardian Eye at Vox, believes “…we are slowly but steadily being catapulted into this connected world...
of technology. A world where devices speak to each other, making autonomous decisions with no emotions involved, based purely on AI (artificial intelligence), machine learning and rule sets. We are still quite far away from doing away completely with the boots on the ground (if that ever happens), but the advances in personal security being driven by technology are extremely exciting.

“Alarms in the control room are being filtered and enriched by sensors, cutting down on false events, but also speeding up response time due to the accuracy of data. The meshed security approach is neither secret nor new, but the exponential evolution we currently see in the worlds of IoT sensors, rich video alerts based on AI and machine learning, and potentially incorporated into technologies such as autonomous drones, starts making for foolproof systems out there.”

Vox specialises in off-site monitoring. Potgieter explains that the company was one of the pioneers of traditional off-site monitoring 10 to 15 years ago, but has since evolved for businesses to use technology to drive efficient outcomes. “We see the sensor, and here I refer to a camera, beam, seismic sensor, etc., as a mere means to an end, and focus more on driving the desired outcome than competing with the plethora of hardware installers out there.”

He adds that as technology in general moves to the ‘as-a-service’ model over the years, so will security. “No one needs to own hardware, but everyone wants results. We at Guardian Eye are positioning ourselves as the leader in selling these outcomes as a service.”

Meet the requirements of each estate
One of the consequences of the technical world we live in is that it enables people to ‘pick and choose’ precisely what they want. For example, you can choose to backup your visitor management system to a USB drive, a portable hard drive, another PC or to the cloud. Each has its pros and cons that the decision maker should be aware of. These choices enable service providers to meet the needs of clients more effectively and at scale.

Steenkamp explains: “All our estate service offerings are tailor-made to meet the unique needs of our customers and the details of the security solution will depend on their specific requirements. It is indeed possible to integrate on-site services including guarding personnel, CCTV and access control, combined with remote services or a fully standalone remote solution.

“The services that Fidelity ADT specifically offers varies from private intruder detection systems that efficiently give a simple notification of an activation to both the home owner through our app installed on their cellphone, simultaneously notifying our control room, through to other remote monitoring services such as images being sent to the relevant personnel or through live monitoring.”

Xone offers on-site and remote management services for estates, or a combination thereof. Downie notes that there are a number of services the company can include in its deliverables. These include:
- CCTV monitoring.
- Black screen monitoring.

“No one needs to own hardware, but everyone wants results.”
– Rudi Potgieter
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• Alarm monitoring from alarm systems, fences, gates, fire systems, beams and multiple other triggers.
• Access control.
• Monitoring of analytics.
• Incident management systems.
• Maintenance monitoring.
• Cellular technology input by a resident or staff member.
• Spatial analysis.
• Detailed reporting.
• Audit of sites.
• Virtual patrols.

Ruled by a cable

However, before one gets there, there is the question of communications. Almost all the services the three companies offer depend on reliable communications, and the figure sits at 100% when talking about services managed remotely. Fortunately, we have seen fibre, LTE and soon 5G networks springing up all over the country, making reliable communications (even for multiple high-resolution camera streams) possible.

But do estates want to have the burden of running their own network when it can also be provided as part of a service from a supplier? In the same way an estate would sign a maintenance contract and/or SLA (service-level agreement) to ensure its security systems – such as surveillance cameras or access systems at the gate – are fully functional at all times and serviced regularly, leaving the wired or wireless network to someone else may be the best option as we now have a relatively competitive market that rewards good customer service.

“The key is discovering what you want and all the bits and pieces you will need to put it together.”

– Rynhardt Steenkamp

Of course, that question is putting the cart before the horse. Downie advises that the single most important facet is first to understand what you are trying to achieve before you begin to build your infrastructure – no matter how you decide to do it.

Issues to consider are many and varied, and include “… what systems you want monitored: analytics, CCTV, fire detection, fence, etc. One then needs to ask what you want to achieve with each subset. For example, if you want to view 30 cameras, is that only when they are triggered by an analytics alarm activation and if so, what is the average number of nuisance alarms per day?”

Once this is understood you will understand more of the complexity and will be able to make better decisions about issues like:
• The head-end with sufficient capability, features, storage and integration.
• Makeup of fibre infrastructure.
• Bandwidth required from the estate to the remote control room to perform these functions.
• Amount and frequency of time required by operators to perform the functions as requested.
• The structure of the SLA with clearly defined standard operating procedures.
• A quality incident management system for detailed reporting and analysis.
• Sound management to ensure your supplier is reliably doing what they have claimed.

Steenkamp adds that no matter what selection or decisions the estate makes, he would also recommend power generators for all systems with the ability to handle any power interruptions at any time.

When it comes to infrastructure, Potgieter isn't shy to state: “Stay away from owning infrastructure! The only thing constant is change and you do not want to be stuck with dated technology. Choose a partner that can deliver this as a service and ensure that you enter into a mutually beneficial contract which gives you continuous access to cutting edge technology.”

And while on the subject of networks, he also warns estates to ensure their chosen partner understands cybersecurity as well as they do physical security. “There’s no use having a world-class security deployment that has not been secured.”

With all this done, however, the estate still has to circle back to the original question and decide if it is comfortable with a remote control room, or wants people on site and at hand.

Horses for courses

“I think body corporates and homeowners’ associations are warming up to the idea of remote services,” states Potgieter. “In larger estates you will never completely replace manpower with technology, but customers are starting to see the benefits of having an independent off-site monitoring business, remotely watching the estate. Not only does it remove some risk off the premises, by not having critical events stored on-site only, but also adds a layer of security by having an impartial, independent set of eyes monitoring your security. It’s the old question of who’s watching the watchers.”

Some estates use only remote monitoring. Downie, however, says this
At Vox we offer you complete working from home solutions. Whether you’re a business that needs to enable your staff to work remotely, or if your an individual needing to work from home. We have got you covered.

Rudi Potgieter.

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can work, but is never as efficient as on-site monitoring, or even better, a combination thereof. "The hands-on operational knowledge adds significant value and greater volumes of task-driven focus can be applied."

Of course, the question is not that simple. Steenkamp says: "We have found that there is a strong need for having manned security services on-site due to the level of threat locally. Although technology is an invaluable asset in the detection, capturing and prosecution of criminals, the physical work is still required by the officers to perform an arrest. In such cases, speed is always of the essence and it makes sense to have personnel on location with 24/7 backup by an armed response team."

At the end of the day, any estate should have a control room, if it can afford one. The question of whether it should be on-site or not depends on finances, but also what the estate wants to accomplish through its control room. Does it want a central nerve centre that handles security and operational issues, or a monitoring station acting as additional oversight to the security team, or does it want something specifically tailored to the estate and its residents? Every estate will have their own requirements; the key is discovering what you want and all the bits and pieces you will need to put it together before making a decision you will have to live with for a long time."

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No one can stay alert for a potential home or business security breach every hour of every day. That’s why alarm solutions are critically important for your customers in terms of identifying and reacting to any incident in the fastest and most effective way possible.

But not all situations require the same kind of alarm system, which is why Hikvision offers a broad range of alarm solutions and technologies for different customer requirements. In some cases, a customer needs to be aware when the perimeter of a site or location is breached. In other situations, they may need to monitor entrances or site perimeters to track multiple intruders at the same time, or to speed up responses in the event of attacks in buildings or in public spaces.

Hikvision has created a broad portfolio of innovative alarm solutions that are sophisticated, automated, and always fit for purpose.

Meet customers’ home security requirements

To maximise home security, Hikvision’s solutions combine a wide range of integrated detectors, including door- and window-contact detectors, break-glass detectors, vibration detectors, smoke, and temperature detectors. Customers can also stream video from their security cameras direct to their mobile phones with Hikvision’s Intruder Verification as a Service (IVaaS) technology, which seamlessly unites video with cutting-edge intrusion detection capabilities in a single platform.

The Hikvision Intrusion Alarm solution includes wireless alarm control panels and peripherals that make it fast and easy to deploy in home environments.

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Customers with large sites to secure may need to track multiple intruders concurrently. You can give them this capability with Hikvision Security Radar, which offers a detecting distance of up to 120 metres and a 120° detecting angle. That means your customers can cover sites of 15 000 square metres and – most importantly – they can track up to 64 targets simultaneously. To make life easy for your security teams, you can define the different areas you want to monitor.

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With two infrared bars, your customers can filter out all kinds of false alarms, from small animals crossing their perimeter, to falling leaves or flickering lights – which means they always know when an intrusion threat is real.

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To help security teams work effectively, and ensure that people feel safe wherever they are, Hikvision has created an emergency alarm system. This solution allows a person in an emergency situation or attack to call for help by pushing a button, or by broadcasting a call for help to police or emergency response teams, or both. The Hikvision solution has a built-in camera and audio recording facility to collect evidence of the events taking place.

Based on these four key application areas, Hikvision alarm solutions cover all of your home security and business security requirements. While Hikvision’s intrusion alarm solutions protect homes and small businesses against break-ins, its security radar, perimeter protection, and emergency alarm solutions enable protection of people and assets and rapid responses on a far larger scale.

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More efficient guarding through the effective use of technology

Technology in its many forms can be used to optimise the efficiency and performance of an estate’s guarding operation.

Everybody wants more for less and estates are no exception. When it comes to guarding, estate managers want to know that their human resources are doing what they are supposed to do, especially if something happens. After an incident they need to be able to show their board that the guards were at their posts and responded as per the standard operating procedures (SOPs) and – hopefully – all’s well.

Moreover, estates also want technology to assist them in planning and optimising their guard force, ensuring the estate is covered in the optimal manner at all times. And, if one is honest, many want to have less guards on site and more technology.

There are, of course, a number of options when it comes to retaining a company to run the guarding of an estate. One can retain a company that only supplies guarding, a service provider offering humans and technology, or the estate can take on the task of hiring and maintaining its own guard force. In addition, of course, there are mixtures of these and other options suited to specific environments.

To find out more about the guarding function on residential estates, we asked three companies that play different roles in the guarding function what they offer estates in terms of managing their guards and ensuring their service meets the standards customers require.

**Technology for performance**

We have moved beyond the days of planning and managing guards on paper and with clipboards with a lot of ticks in the boxes. Quite frankly, we have also moved beyond the use of spreadsheets into the age where technology – hardware and software – is a means to handle the day-to-day tasks of managing guards.

Tiziana Hayward, marketing and sales director at Stallion Security, explains that the company uses multiple measures and tools to optimise the performance of its staff. Stallion makes use of a range of technology from its suppliers and has not developed specific tools in-house, however the data from the various systems used is integrated into one platform called the Business Management System (BMS).

Casey De Villiers from Activeye, the artificial intelligence (AI) business of the Active Track Group, says Active Eye builds on estates’ existing security infrastructure with its Activeye Machine Vision solution. “This solution was developed in-house by our team of software engineers,” she explains. “A server is deployed on site and the artificial intelligence software is loaded onto it. The site’s CCTV is then linked to the server.”

The solution introduces a rule-based environment that builds a database of so-called normal versus abnormal behaviours. When an abnormal event occurs – such as a person entering a premises outside normal hours, or an individual arriving with a weapon – officers on site are notified of the event.

Activeye uses a combination of analytics tools to generate rules based on site activities, which are thereafter processed by an AI engine. The company’s platform relies on various analytics tools, which include facial recognition, car counting, people counting, vehicle identification, age approximation, gender, ethnicity, emotional states, human-related traits and object identification.

These analytics tools are applied to the data captured by on-site CCTV. Activeye can exceed the data captured by any other CCTV solution on the market by converting any general purpose 2 MP IP or analogue cameras into a facial recognition and number plate recognition camera. The solution plugs into the existing camera system at the site. It does not interfere
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with the video management system or analytics that are used with the surveillance installation.

OnGuard's managing director, Richard Frost, says his company has been developing tools for the guarding industry since 2004. The company provides OnGuard Mobi, an app that runs on a rugged mobile device that guards carry with them on their patrols. It also supplies the mobile device itself, which was designed by a German company; the software is all locally developed. OnGuard Mobi gives supervisors the technology needed to keep track of tour guard routes and their activities, and it supports push-to-talk to ensure two-way communications are possible.

OnGuard also offers the Identiscan electronic visitor management system (EVMS), again a combination of a rugged mobile device and an app (software) designed by OnGuard.

Looking at some of the other tools the company has developed over the years, Frost says, “In our stable there are various options available to our customers. For example, we have the simple ‘stay awake’ which functions as a ‘dead man’s handle,’ forcing the guard to get up from his fixed post and patrol to one single point every few minutes. Then there is our tried and tested i-button patrol system that is almost indestructible. All our systems are configured remotely and have the same simple web interface for reporting and management.”

Patrol optimisation

Of course, OnGuard Mobi is the front-end solution for guard patrols and Frost explains that the back office runs on a portal management system that can be accessed via the Internet. A guard supervisor, for example, could login and see the current routes guards have been instructed to take, and modify them as well as the schedules as required. Any information that needs to be in the guards’ hands will also be synchronised with the Mobi device. The management platform is also capable of pulling in the video feeds from most CCTV cameras to assist in the management of the full security function.

Stallion’s Hayward says the company makes use of a web-based system to plot guard routes and is able to determine how long each route should take. Feedback can also be stored from the guard patrols as they check in at the designated checkpoints. Because it is web based, the routes can be optimised and changed at any time and sent to the respective patrol units.

In addition, Hayward adds that various other security systems can be integrated into the Stallion BMS, including access control, CCTV, patrol and fleet management systems. The system will use the data to measure the performance of the estate’s security infrastructure according to specific key performance indicators (KPI) determined by the estate.

Optimising guard patrols is not strictly part of the Activeye Machine Vision solution, however, De Villiers says the company can include it for an additional fee. “The negative aspect of guarding systems is that the patrols are generally highly predictable and carried out at the same time, following the same sequence or route. We have found a way to randomise patrols while still maintaining the same, if not increased, service levels.”

The integration of the patrol solution will form part of the integration of other systems – like CCTV – that the system requires to deliver optimal service to the estate.

For the residential estate, service is the key as the full security function must be operating at full capacity all the time.

The service you pay for

Hayward explains that for Stallion it’s all about selling an integrated solution that manages your and your staff’s performance in real time. “Through continuous risk assessments, keeping up to date with the technology and demand, as well as innovation, it is possible to motivate solutions which are simple and cost-effective, and importantly, reduce costs on shift visits, wear and tear on vehicles, fuel and insurance, etc.

“In summary, we have the products to monitor the supervisors and guards in real time to ensure that they are executing their tasks and meeting their KPIs to the highest industry standards.”

Frost notes that OnGuard charges a monthly or annual fee for its services (whichever the client prefers). The fee includes all services from OnGuard, including the hardware, connectivity, back-end services, on-site maintenance and telephonic support.

Similarly, Activeye supplies its solution on a rental basis, which includes all fees. “No capex is required as the software can be implemented with existing CCTV systems,” states De Villiers.

For more information contact:

- Activeye, +27 11 551 1765, info@activeye.co.za, www.activeye.co.za
- OnGuard, +27 21 701 7777, info@onguard.co.za, www.onguard.co.za
- Stallion Security, +27 11 533 8888, info@stallion.co.za, www.stallion.co.za
The division of Bidvest Protea Coin responsible for Estate Security is geared towards the development and delivery of customised residential safety and security solutions.

As an autonomous and specialized division we offer an objective, unbiased perspective, based on industry best practice and decades of proven experience. We work closely and discreetly with each client to mitigate known risk, identify exploitable weakness and establish tailor-made protective measures that minimizes risk and meets the individual needs of each client.

We involve our clients throughout the engagement process to ensure that they are active participants in each and every decision impacting their estate, home, family and the greater community.

As part of the Bidvest Group, a listed company of the JSE, we proudly conduct our business in a responsible, ethical and fully compliant manner. Our client centric approach, agility and innovation are core objectives that each member of our team strives to live by everyday.

**Key services and areas of focus include:**
- Training of estate and residential staff in proactive crime prevention
- Cost effective access and egress control measures, including our latest acquisition - 'ClickOn'
- 24 Hour monitoring and response services
- Residential risk analysis & threat management
- Residential estate security planning
- Provision of trained security officers in residential estate-specific security

Additional specialized services include, but not limited to:
- Covert & overt crime prevention operations
- Air-wing & tactical response services
- Drone technology
- Investigation & informing gathering
- Screening & vetting services
- Close protection
The coronavirus has made touchless biometrics an important consideration for access control installations globally, including for residential estates. While we saw a dramatic increase in the availability and interest in facial recognition before the pandemic, this is a technology everyone is considering today, with the virus quieting many of the privacy concerns of the past.

It would not be unreasonable to say that the quality of facial recognition systems has improved dramatically, even in comparison to the systems available a year or two ago. However, facial recognition systems are still more expensive than your traditional fingerprint solutions and whether prices will decline further due to mass adoption remains to be seen.

That’s not to say that facial recognition is the only biometric modality out there that supports touchless identification and verification. Other systems that could be considered are touchless fingerprint readers, palm vein and iris biometrics, voice recognition and more that are not yet in the mainstream. And, of course, they may not all be suited for residential needs.

Touchless biometrics allow estates to keep their access controlled while catering for the dangers of the coronavirus

Hi-Tech Security Solutions approached a number of local biometric leaders to find out more about touchless technologies in general, as well as what the uptake (or not) in the residential market is like.

**Touchless is where it’s at**

Walter Rautenbach, managing director of Suprema SA, says there has been a marked increase in interest in touchless biometrics over the past few months, not only in Africa, but internationally.

He says facial recognition is mostly in demand now due to the general increase in popularity of this modality, even before COVID-19, due to the ease of use and the number of available products. What currently makes this more popular in light of the pandemic is its potential to also detect if people are wearing masks and to simultaneously incorporate temperature screening.

“I say the latter with caution as face masks make face recognition more difficult and temperature screening actually uses totally different technology,” explains Rautenbach. “Vendors have been adjusting their face algorithms to incorporate the utilisation of masks successfully, but one is just never sure how the retesting of algorithms was done in such a short period of time, what shortcuts were taken and if accuracy was sacrificed.

“Distributors, system integrators and end users must, at all times, ensure that the technology works and that it is not just fad-addressing, make-a-quick-buck solutions,” he warns.

He also notes that it is difficult to gauge if the ‘extreme urgent want’ for touchless will remain or if touch biometrics will return to their glory as we return to normality. It is also extremely difficult to measure if the need in specific verticals, such as residential, will be more demanding than others.

“Our two month experience has seen a 4000% increase in cards and mobile credentials as people rush to have some control rather than none with the sudden disabling of touch technology.”

**Not all about the face**

Nicolas Garcia, sales director (Biometric Terminals), Middle East and Africa at IDEMIA, agrees that there has been an increase in...
Top Priority

When you add Suprema’s internationally acclaimed access devices to your integrated estate security solution you can expect a comprehensive access control platform which is intelligent, fast, accurate and easy-to-use.

Creating a keyless environment for residents to access the estate, their homes and other facilities has always been a priority but with the changing landscape of access management, due to the impact of COVID-19, the focus has moved to contactless entry.

✓ A device for every need. Indoors, outdoors, hands-free, with and without biometrics
✓ Centralized biometric access solution available for large sites
✓ Install directly into homes for key-free convenience
✓ Secure elevator control for high-rise residential living

Not only functional, Suprema always lives up to the lifestyle of the estate through beautiful design and flexible mobile management.

Contact us to find out how Suprema can solve your no-touch entry requirements as well as if and how contactless entry can be achieved on your existing Suprema installation.

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Demand for contactless biometrics due to the current context. He says IDEMIA currently receives requests that are balanced between facial recognition and fingerprints, and that most of these are ‘real projects’.

“Nevertheless, we also do continue to receive requests for our touch-based fingerprint terminals, as clients have integrated our cleaning/sanitisation recommendations,” Garcia says.

“In the residential market, we do observe a particular interest for contactless biometric access control. We have historically been quite active in this vertical in South Africa. Gated community security managers understand that with a device like MorphoWave installed at entrance gates, they can provide both security and convenience to residents who can wave their hand through their car window, in a quick and easy hand gesture.”

Hikvision South Africa’s Tim Yen also echoes the above sentiments, noting, “We have seen a marked increase in interest for contactless biometrics. A lot of companies and institutions are looking to migrate to touchless biometrics due to the current climate. It certainly is still early days, but the demand is now there for this kind of technology and we already have several large institutes in various verticals such as education, commercial, logistics, mining and manufacturing doing proof-of-concept projects, if not outright buying in to our solutions.”

Finally, David Corder, general manager at Saflec Systems, backs Garcia up in saying that the company has noticed more interest in other forms of touchless biometrics. Chief among them are facial recognition and the MorphoWave reader. As a side note, he has also noticed that some customers who were being pushed to take out their fingerprint readers have opted to revert to card-only access, “which is an interesting regression”.

Reliability and trust

Focusing on facial recognition specifically, the issue with this technology in the past is the perceived unreliability of the biometric readers in recognising and verifying identities. While there are definite improvements in the accuracy of facial recognition (as well as in other touchless technologies), has enough been done to create the trust people have in, for example, fingerprint biometrics?

Rautenbach takes a practical approach on this issue, noting that the user’s selected manufacturer must provide them with the certified false acceptance rates of the product of interest, and these should match prescribed standards – independent of whether it is for face, finger, touch or no-touch. “Face has been on the rise, even before the explicit need for touchless. Part of the reason for this is the increase in data, deep learning and the continuous improvement based on dataset size increases, and the upward curve will continue steeply for many years to come.”

An area where touchless has not made significant inroads to date, he adds, is in the law enforcement world where entire countries have databases of ‘touch fingerprints’. “Although it is, in a way, the same modality and comparable in one way, it is not in another. The performance of touchless fingerprint capture over legacy touch fingerprint databases (as you left it at the crime site through touch) is not that good. It can still be compared by a fingerprint expert, but the data that is captured looks different and touch ‘flattens’ it, where touchless has a curve. This is not a limitation that will exist forever as deep learning learns to flatten the curve and up performance, but it is a concern at the moment.”

With reference to IDEMIA’s two touchless products, Garcia says NIST’s latest contactless-to-contact fingerprint capture evaluation shows that contactless fingerprint capture is getting very close to the most advanced contact technologies. “In this evaluation, MorphoWave technology has emerged as the best performing contactless device in the industry.

“For facial recognition, we propose VisionPass, that uses similar high-performance and accurate algorithms, including anti-spoofing to defeat attempts to fool the reader with photographs or 3D masks. To cope with fear about privacy invasions, we have included an ‘intent area’ which is 70 cm from the device, so that people passing by beyond that distance cannot be accidentally ‘caught’ by the device.”

When deciding between fingerprints and facial recognition, Garcia says it is up to customers to decide, based on their own experience and the preferences and sensibilities of users (for instance, residents of gated communities), as to which technology they prefer.

Yen adds that in the access control fields, facial recognition technology has already been used in overseas markets for more than a decade. “Currently our recognition frontier algorithm is called deep learning; it continuously improves verification accuracy

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Touchless Technology for any Property or Residential Estate

Secure your Property or Residential Estate with a Full Comprehensive Touchless Biometrics Solution from ZKTeco.

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when the facial templates database gets bigger. In other words, this technology has only gotten better with time. Currently our readers reach up to 90% accuracy in terms of face matching and I would encourage prospective end users to come and see the technology for themselves.”

What’s on the market?

Given the interest in all things touchless, there are obviously a number of new and improved solutions available to estates. Corder says Saflec is doing quite a number of integration projects to ensure that touchless biometric systems can be used seamlessly with its technologies.

“We have already integrated the CMI Tech EF-45 iris scanner. This product has a recognition rate of less than one second across a 10 000-person database. And as noted above, Saflec has also fully integrated the MorphoWave contactless fingerprint scanner as well as the Virdi AC-7000 facial recognition device. This has a database of 60 000 faces when used for 1:1 matching, and 3000 when used as a 1:N device.”

Hikvision also offers a wide range of facial recognition products, says Yen. This includes camera-based facial recognition that has the intelligence to track, trace and identify individuals over multiple sites. “This kind of tech is fantastic for institutions that are looking at fraudulent behaviours or would like to build trends such as demographic statistics for marketing purposes.”

In addition, the company has access-based facial readers that incorporate a facial, fingerprint and card reader all in one; as well as facial readers that have temperature measurement built in with AI intelligence to also enforce mask-wearing policies.

For IDEMIA, Garcia says the MorphoWave Compact is a touchless fingerprint reader that scans four fingerprints through 3D images in less than 1 second by a quick and easy contactless hand gesture. Each device can scan up to 50 users per minute, with up to 100 000 users in the database. The device operates both indoors and outdoors.

“VisionPass is the equivalent for facial recognition,” notes Garcia. “Its advanced 2D, 3D and infrared camera set can scan up to 30 people per minute with no action on their side. The device scans people between 1,20 m and 2,00 m away, copes with face changes (hat, beard, glasses, etc.) and different angles. It also works efficiently with all face types and under all lighting conditions, and it defeats spoofing attempts.”

In addition, he explains that Augmented Vision is a software suite from IDEMIA that is plugged into existing CCTV systems and adds a facial recognition layer to provide real-time surveillance and access control capabilities (alert management, condition door opening, intrusion detection of unknown/unwanted people, etc.) or post-event investigation services.

Suprema is not a new player in the world of touchless biometrics, states Rautenbach, with its initial launch of the FaceStation being in 2011. “Subsequently Suprema launched the FaceStation 2 in 2017 and the FaceLite in 2019, increasing recognition speeds and the number of supported identifications by 300%. In 2019 we had some secret revelations of Suprema’s new high-end face terminal, now geared for outdoor use and increasing performance by over 1000%.

“Yes, the amount of zeroes are correct and a true reflection of the improvements in facial biometric algorithms and the aid lent to it through deep learning. This does not mean the previous products are inferior, it just means the accuracy and speed have increased so much that the number of users that can be reliably processed in the same time has increased.”

Suprema’s facial recognition uses infrared 2D/3D modelling, which automatically offers high accuracy, live face detection and which is not susceptible to light (operates seamlessly in the dark and up to 25 000 lux). It is also not discriminatory, with the same performance for any skin colour. Integration with leading thermal camera providers also tightly integrates temperature screening that can deny access and create central alerts where out-of-bound temperatures are detected.

The launch of Suprema’s mobile credential in 2019 is another product drawing interest in terms of the move to touchless technologies. This product has its own new company, Moca Inc., and the AirFob brand (https://mc.mocainc.com/en/), with functionality extended to Suprema’s access range as well as to products outside of Suprema’s terminals.

The options are there for the choosing. However, as Rautenbach advises, selecting the right option for your estate is not that simple.

“If your manufacturer of choice doesn’t offer reasonably affordable touchless, then I believe you should be looking for an alternative as they will not be around for long. Just be aware that all touchless, especially face, are not the same. Make sure that you understand the difference between visual face, the impact of skin colour, why liveness detection is important, and how light can influence your implementation. To make things easier for yourself, find a partner that you can trust and that can provide you with the scientific data explaining what works and what does not.”

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• IDEMIA, +27 11 601 5500, sec.san.contact@idemia.com, www.idemia.com
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• Suprema, +27 11 784 3952, enquiry@suprema.co.za, www.suprema.co.za
Providing peace of mind

By Johlene Selemela, ZKTeco.

A touchless access control solution translates into better hygiene for everyone.

Access control systems today include touch entry systems. While these methods maintain their effectiveness in securing your property, they present concerns considering the coronavirus pandemic. The world and life as we know it has changed dramatically, further driving the migration of biometric access control and workforce management technology to touchless solutions that can help preserve the health and integrity of every human being.

While access control systems are advantageous and necessary, there are touchless options to secure your property that can help prevent the spread of the virus. The capabilities of ZKTeco's touchless access control solutions provide much needed peace of mind to the residential estate body corporate and owners wrestling with the uncertainties of securing their investments and properties during these very challenging times. What better time than now to consider implementing touchless access control technology that uses facial and/or palm recognition?

A touchless access control solution translates into better hygiene for everyone. It also allows for a much quicker flow of foot and vehicle traffic, enhanced security and convenience for authorised users seeking access through a door, gate, or turnstile. Our touchless technology embedded with face and palm recognition sensors provide 100% touchless user authentication for a variety of applications spanning access control, time and attendance, visitor management and more. Touchless access control from the gate to your door is all possible now, from intelligent touchless vehicle management and monitoring solutions to mask and temperature detection devices for your residential gate and door.

Access control systems are the front lines in any security setup. Touchless biometric devices and surveillance systems fulfill a dual role: in addition to keeping unauthorised people out and letting authorised persons through. Many access control systems can also track who comes and goes and when; such information is of utmost importance to any secured residential area.

Integrated security management

Looking at integrated security management platforms is no less important. An integrated security solution refers to a solution that bundles together different aspects of physical as well as electronic security to provide a holistic mechanism that contributes to the overall risk management strategy of any organisation or residential area. The integration of various products installed to give a complete access control system solution for any residence can make your life easier, while providing more security for your family.

Components of any integrated solution may include (but are not limited to) CCTV surveillance systems, access control systems, alarm systems, fire detection and suppression systems, electric fences, entrance control systems, physical guarding and so on. The extent as well as the scope to which each residential area may require these systems is determined by the risk profile of each one of them, as some will need more than others.

ZKTeco’s intelligent touchless vehicle management and monitoring solution consists of a variety of devices that are installed at the entrance of a residential estate to provide a comprehensive touchless solution. These include but are not limited to our licence plate readers, UHF readers, boom gates, facial recognition devices, etc.

The key factor at the end of the day is how these systems can be integrated to make the use thereof easily manageable, and how responsive the integrated solution is to the daily operational needs of the residential owner and residential area. With the correct placement and usage of various security products any property, especially residential, can be able to ensure that the people living within their properties feel safe and secure.

Integrated health

Our Proface X and SpeedFace series, which include face and palm recognition readers, also detect if a person requesting access has an acceptable body temperature and is wearing a protective mask. Our touchless biometric readers with body temperature detection will instantly read if someone trying to enter registers an unacceptable temperature. Users will be denied access if an unacceptable body temperature or no mask is detected. This helps improve the safety, efficiency, security, and visitor service of any residential property.

For more information contact ZKTeco (SA), +27 12 259 1047, sales@zkteco.co.za, www.zkteco.co.za
Estate security was the topic at the Durban Country Club in March 2020.

Back in the good old days when conferences that people attended in a single location were a thing, Hi-Tech Security Solutions held its Residential Estate Security Conference 2020 at the Durban Country Club in March, shortly before the COVID-19 lockdown started.

COVID-19 did not affect the conference with only one person cancelling their attendance due to fears of the virus and the conference was once again well attended. This conference cut down on the number of presentations in order to provide delegates with quality information and more time to network with the sponsors and each other. The sponsors in Durban were:

**Platinum sponsor:**
- IDEMIA

**Gold sponsors:**
- Dahua Technology
- Vox
- Bidvest Protea Coin

**Silver sponsors:**
- Comb Communications
- Excellerate
- Hikvision
- Nemtek
- Secutel

The presentations were packed full of information pertinent to the estate market. Below we offer a brief insight into the presentations.

**What does AI look like today?**

The conference started with a presentation by Gerhard Furter from Iris AI. Furter provided an overview of what artificial intelligence (AI) actually is and then expanded into some current real-world AI capabilities.

Putting it simply, Furter explained that AI “is a technology that allows a piece of software to act like it is a fairly intelligent human”. AI systems can learn from data, change their own behaviour and think about certain kinds of things more effectively than a human thinks, but the system (at this stage) can’t guess, be intuitive or understand something that does not have data associated with it. It is therefore bad at understanding politics or religion.

He went on to cover some of the areas in which AI is making its presence known today, such as:

- **Recognition:** AI software can recognise humans using their faces or skeletons, extract human traits such as age, gender and ethnicity.
- **Presence:** AI understands the impact of a person’s presence (or an object’s presence) in a space, and can use this to interpret behaviour.
- **Condition**: Medical AI can diagnose illness weeks in advance and even assist in surgery.
- **Augmentation**: AI systems can be used to augment the human body through both invasive and non-invasive means.

### Understand risks to manage them effectively

Kevin van Zyl, the managing director of Horizon Risk Solutions, was up next and he delved into the topic of risk management for estates. Van Zyl first defined what risk is before expanding on specific aspects of an estate’s strategy to create a secure environment.

Of the topics discussed, he included the A’s of threat analysis – adversary, asset, action – followed by the process of identifying vulnerabilities and developing a strategy to deal with them. The process is not a single, one-time project, but an ongoing process of improvement based on the Six Sigma data-driven improvement cycle: define, measure, analyse, improve, and control. This is only one approach an estate can take, but it is a recognised process with many years of work behind it in a variety of industries.

Naturally, the collection of data from diverse resources to analyse and highlight the areas of risk is critical. Additionally, solutions are not standalone products or systems, but different options selected according to the requirements of the estate in question, which build on each other to create a sustainable security infrastructure that is flexible enough to adapt to new threats and solutions as they arise.

### Efficiency and cost savings

Kevin Monk, managing director of Stallion Electronic Security, was up next with some insight into how estates can reduce their security spend and improve their efficiency when retaining a company offering the full security solution as a service. In his presentation, Monk explained that the service involved everything from guarding and monitoring through to technology, installed and maintained according to a set service-level agreement (SLA).

It’s called a service because the estate would pay a set monthly fee and receive all the agreed-upon components. Any deviation in the service from the agreed SLA could also result in penalties to the service provider, thereby making it a better option than retaining multiple providers for different jobs, who can point the finger for failure at each other, according to Monk.

He also showed how the fees could be calculated (the actual fee would depend on what the estate required, such as how many guards and camera feeds, etc.), demonstrating that the service model would actually work out cheaper for an estate. Additionally, new services can be added easily as and when required.

### Invisible efficiency and security

Shantelle Walters, CEO of Cotswold Downs, provided some insight into the security operation at the luxurious Cotswold Downs Estate. In an estate of this nature, residents demand security as a natural part of their lifestyle, but at the same time do not want it to intrude or be too ‘in your face’. As Walters noted, “Security requires a delicate trade-off between providing effective protection to a particular environment while creating a positive experience for the customer.”
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To accomplish this does not require the latest technology, but careful planning. Having experience in shopping mall security where shoppers don’t see all that happens behind the scenes in terms of security, Cotswold Downs also wanted ‘invisible efficiency’ where its security was effective, but not intrusive.

Walters highlighted some of the processes in place at the estate to keep residents safe and the commercial ventures, such as the golf course and restaurant, secure and accessible. She also touched on the importance of a good security team that has a history in the area, as well as regular communications with neighbouring estates that will allow communities to work together in support of the area’s security in general.

Cyber risks threatening residential estates

While most of the conference was focused on the threats to estates from a physical security perspective, Craig Rosewarne, the managing director of Wolfpack Information Risk, gave delegates a peek into the threats they also face in the cybersecurity world.

The connected world we live in means that every estate is online in some way, and many of the estate security systems are also connected to the Internet. That means these systems are open to cyberattacks, which are so prevalent in the world today. Whether it’s a phishing email or malware included in an attachment, many criminals would like to get the information estates hold on their residents and their bank accounts (and other personal details). Additionally, imagine how impressed your residents and HOA (homeowners’ association) will be if your estate systems are locked by ransomware, preventing people from getting in or out of the gate.

And it’s not only the estate that is at risk. With the number of gadgets and networked systems making their way into homes today, many of them insecure, there is also the danger of home users being targeted and infected, or even infecting the estate systems inadvertently.

Understanding the cyber threats out there and how to secure your estate and residents is critical as more online activities are conducted in the ‘new normal’.

Platinum presentation

As the Platinum Sponsor, IDEMIA was invited to address the audience for a short overview of its products and solutions aimed at estates. However, the company was ahead of the curve and banned all travel for its staff due to the pandemic.

Fortunately, Impro, an IDEMIA partner, was on hand to handle the presentation in which IDEMIA’s MorphoWave was highlighted, along with Impro’s Access Portal, which is fully integrated into the Wave.

Gold sponsor panel

After the lunch break, the Gold Sponsors formed a panel to answer questions about their offerings as they apply to estates.

Rudi Potgieter from Vox explained how the company had changed from a telecoms giant and branched out into other fields, such as supplying visitor management solutions for estates. He was also able to talk about where the security market is going in light of the various changes in communications and technology.

Jet Zhu from Dahua Technology and he was able to go into more detail about the company’s AI advances and how these can help estates in terms of perimeter protection through better analytics. He also spoke on other Dahua solutions for estates, from access control and ANPR through to speeding control as well as critical infrastructure.

Steve van Greunen was on hand to tell the delegates more about Bidvest Protea Coin’s services to estates. Of the various topics he touched on, he drew attention to the potential future for estates through the improved use of technology and people, and how these goals can be reached in the real world where simply starting from scratch is not a viable option.

Make your network work for you

A network is a vital necessity these days, especially as more people work from home. Estates are no strangers to fibre networks, however Rudi Potgieter from Vox was on hand to explain how the network (whether fibre or something else) can provide much more than a mere data connection. A unified and well-managed network can be used to offer data as well as voice connections (and video, which has become more important) in a simplified and cost-effective manner. Some of the options for large estates could even add to the coffers of the estate when run in collaboration with various service providers in the market.

Highlighting the seriousness of the cyber threat, even for estates, Potgieter also mentioned cybersecurity and some of the risks that modern IoT (Internet of Things) devices and solutions can bring to the table. So, while networks are necessary for estates as well as each home within the estate, and also potentially beneficial to the estate’s budget, care must be taken to ensure the digital entrances to estates and the data they hold are as well protected as the physical access control points.

Not a fly-by-night solution

The use of drones for security has been the topic for conversation on numerous occasions. The problem in South Africa is not a lack of skill or technology, but the overbearing regulatory burdens covering the use of drones. Bertus van Zyl is the managing director of Drone Guards and he was on hand to talk about the utility of drones and the ways in which estates can make use of them – legally.

Drone Guards has a number of options for estates looking to use drones in support of their guarding operation. Although the popular idea is to reduce the number of human resources in security through the effective use of technology like drones, the reality is that technology is more effective as a support to the human element, making people more effective and not as a replacement.

Van Zyl was planning to demonstrate one of the drones in the airspace around the Durban Country Club (DCC), however, the ever changing regulatory landscape prevented this. To explain: the previous week, the land the DCC was located on was open for the demonstration flight, however, on the conference day the drone used picked up that the area was now restricted (for some reason) and refused to lift off. (Leading drone manufacturers include a GPS function in their equipment that will prevent drones from taking off in restricted airspace, like airports, for safety reasons).

Closing another successful and edifying Residential Estate Security Conference, and potentially the last one for some time given the implications of the COVID-19 pandemic, Hi-Tech Security Solutions thanked the speakers and sponsors for their support, and all the delegates who we hope went home with some interesting insights to apply in their estates security operations.
Frictionless access with a wave from IDEMIA

IDEMIA was the Platinum Sponsor for the Residential Estate Security Conference 2020 and set up its MorphoWave Compact frictionless fingerprint biometric scanner at its stand so that attendees could experience the system for themselves. It also showed delegates some of its other biometric devices, using both fingerprint and facial recognition.

The MorphoWave Compact is a frictionless biometric reader perfectly suited to residential estates due to its speed, which limits bottlenecks at boom (entry and exit points) of estates, and accuracy (reducing the issuance of cards, which are not secure, easy to clone and regularly lost). Most importantly today, it is a frictionless technology (there is no need to touch it, which makes it more hygienic and therefore more popular with users).

The MorphoWave Compact acquires four fingers in 3D for maximum accuracy, with one pass of the hand over the sensor. This ergonomic, touchless solution delivers an unmatched combination of security, safety, convenience and throughput.

When it comes to products and services IDEMIA will be releasing over the next year or so, IDEMIA’s national sales director, Ingo Mutinelli, noted: “IDEMIA’s product roadmap looks exciting and this year will see enhancements of facial, finger and/or hand readers, as well as new software for a video/facial recognition product set. These have all been designed with the view of making movement freer for authorised persons and to quickly stop unauthorised movement.”

The company’s VisionPass facial recognition solution was launched recently. The device includes a camera set that takes 2D, 3D and Infrared images, analyses and compares them to make sure that there is a real person in front of the device and that the correct person is identified. Additionally, the system ensures that identification still takes place accurately, no matter what the person may be wearing, for example, spectacles or a cap, etc.

For more information contact IDEMIA, +27 11 601 5500, sec.san.contact@idemia.com, www.idemia.com

Thermal cameras with artificial intelligence

Dahua focused on perimeter security at the conference, sharing its stand with Stafix as it showed how fencing and surveillance together offer estates a formidable perimeter security solution.

The company, which also sponsored the Johannesburg Residential Estate Security Conference in 2019, said the conference was good for the company and provided good exposure for the products on display.

Jet Zhu, Dahua’s technical manager for the Africa region, was also on hand to talk about how Dahua can assist in securing estates during the sponsors’ panel, which was held after the lunch break.

The Dahua stand had a thermal camera set up for visitors to look at, along with the displays to demonstrate what the viewer will see and can do from their control centre. The thermal camera provided more than simply thermal images as it was enhanced with Dahua’s artificial intelligence software which allows for more accurate detection and recognition of people and objects. In turn, this leads to far fewer false alarms, which allows the security team to focus on real alarms rather than running after fake alerts.

In addition to the thermal camera, Dahua also displayed a few other cameras on its stand, including some devices aimed at the home security market which are simple to set up and use.

Looking ahead, over the coming year Dahua will be placing more emphasis on artificial intelligence, machine vision and using these to deliver better business intelligence from video data. Summing it all up, Dahua wants to show how its solutions can deliver BI (business intelligence) and ROI (return on investment).

For more information contact Dahua Technology South Africa, +27 10 593 3242, sales.za@dahuatech.com, www.dahuasecurity.com
Cost effective without compromising security

Bidvest Protea Coin was a Gold Sponsor at the Residential Estate Security Conference. The company did not have products on display because it offers estates a complete solution, from guards through to technology and maintenance.

The key for the company is not a one-off sale, but rather a long-term contract with estates. This, said CEO Costa Diavastos, enables estates to select the optimal security solution for their needs without having a massive expense at the start of the project. Bidvest Protea Coin offers a rental or lease option that allows estates to pay a monthly fee for their entire security operation – as noted, this can include guards and technology – which is defined at the start of the contract period to avoid any unpleasant surprises.

More than simply paying for the products, the contract with the company includes maintenance and repairs over the course of the contract, including preventive maintenance to ensure that the equipment installed performs properly at all times. At the end of the contract, estates can take ownership of the installation, or they can upgrade to the latest technology, again paying a monthly fee.

This approach enables estates to make sure they have the security they need at a predictable cost over the term of the contract.

For more information contact Bidvest Protea Coin, +27 12 665 8000, info@proteacoin.co.za, www.proteacoin.co.za

Broad range of estate solutions

Hikvision is known for its range of surveillance products, both analogue and IP. Its stand at the residential conference covered the surveillance aspect of Hikvision’s product portfolio, but also went further.

For example, AcuSense technology from the company runs on its DVRs and provides intelligence to estates that will allow the system to automatically differentiate between animals and humans – and more. Hikvision’s ColorVu, on the other hand, allows cameras to view colour images, even in the dark, making the job of operators and guards easier by transmitting clearer images.

When considering the estate perimeter, the latest technology from Hikvision offers perimeter protection boosted by intelligent software that detects motion on the perimeter, but goes further in that it can automatically identify who or what is moving, avoiding false alarms when animals or vehicles are detected. In fact, the technology is able to identify humans even if they crouch or crawl, and the system can learn to ignore branches blowing in the wind and other non-security events. Thermal cameras are, of course, also available.

Hikvision also supplies access control solutions for estates, as well as intercoms for individual residences or even smaller estates. The company also offers licence-plate recognition (LPR) cameras as an additional security measure at the gate. The latest development from Hikvision in its access control portfolio is the MinMoe range of products that offer fast facial recognition. These readers recognise faces at up to 2 m and have also been enhanced to provide mask detection – temperature readings are also possible.

Finally, Hikvision also offers the Hikvision Intrusion Alarm solution, which includes wireless alarm control panels and peripherals that make it fast and easy to deploy in home environments. Of course, wired solutions are also available.

For more information contact Hikvision South Africa, +27 87 701 8113, support.africa@hikvision.com, www.hikvision.com
Excellerate looks beyond traditional guarding

A security officer’s responsibility has become more than the mere aspect of security – client interactions and interactions on a technical level, maintenance checks and so on are now essential duties. As such, higher-graded security officers are being used who provide a more personal interaction with community members and clients in terms of medical assistance, public relations, more advanced decision-making, etc.

Owing to this, these officers need to be well versed in the different fields of service that they are now expected to offer, going beyond the security aspect and honing new skills in parallel service fields.

Security organisations must develop induction programmes which educate security officers on the different values and ethics expected by all employees when rostered for duty. Upskilling employees to engage with clients on a more personal level is a must, as these security officers are the forefront of the organisation itself.

Technology becomes a force multiplier in achieving these goals – reduction in manpower provides the avenue for more technology in order to increase the overall security level experienced by the client.

Excellerate Services has a suite of best-of-breed technologies that have been integrated into a sophisticated SLA, incident and people management system which it calls Velocity. Each interaction with the system by a security officer is timestamped and system audited, where exceptions are automatically raised for investigation upon non-compliance.

For more information contact Excellerate Services, +27 31 573 7600, info@excellerate.co.za, www.excellerate.co.za

All-in-one bodycam for workforce tracking

The SecuTraq MPS is an all-in-one body-worn camera (BWC) to assist in keeping track of guards on site in real time. Whether you want to do close monitoring of individuals or manage thousands of guards with GPS tracking, SecuTraq can assist with guarding workforce tracking and management.

The SecuTraq MPS offers:
• GSM data communication.
• Battery backup: up to 6 hours of battery life.
• Real-time tracking: GPS tracking and GPRS for remote areas.
• Camera: sends photos and video clips to the control room immediately.
• Panic button: send distress signal instantly to control room when guard is in distress.

All of the above happens in real time, making this a powerful GPS tracking platform by using familiar components of guarding such as checkpoints, reports and incident management, using technology to provide an easy-to-use, completely integrated guarding platform.

The SecuTraq platform used to monitor the MPS bodycam is cloud-based, meaning you can monitor your guards/workforce from anywhere and at any time. It also allows the control room operator to request photos and video clips remotely, monitor signal strength, battery levels, tampering, panic activations, etc.

The control room can manage guards with route planning where they can pre-plan an exact route to be controlled via virtual waypoints throughout the site. Using geo-fence definitions, late arrivals and early abscondments can be managed.

The MPS also boasts:
• 5 megapixel recording.
• PTT (Push to Talk) functionality.
• 4G cellular network.
• Wi-Fi and Bluetooth.
• HD 1080p camera with 130-degree angles.
• Infrared light.
• Night vision.

The SecuTraq MPS BWC empowers, protects, and manages your guarding force, while enabling control room operators to take control of the units remotely when a guard may not be responding. Additionally, the SecuTraq platform is cloud-based; meaning you can monitor your guards from anywhere in the world.

For more information contact Secutel Technologies, +27 10 015 1401, sales@secutel.co.za, www.secutel.co.za
Securing estate perimeters

Nemtek was back as a sponsor of the Residential Estate Security Conference and was pleased with the outcome. The company’s Jason de Freitas said: “The residential security conference has now become one of our main attractions for the year. The quality of visitor at the show was perfect; we have got many leads to follow up. I am sure the leads will be fruitful, but the hard work lies ahead.”

The company has a range of products designed to secure the perimeters of estates, however its display at the conference focused on its Network Energizer solution as well as the new Dual-Action Tension Sensor (DATS) which De Freitas said was a great hit. “The units in question help overcome the separation of wire, thus using an electric fence energizer and a DATS will raise the security level of your fence with minimal installation resources.”

Other recent innovations from Nemtek available to the residential market include a new range of fence lights as well as low-voltage lights. De Freitas noted that these products, in addition to the development of the Dual-Action Tension Sensor, were the result of the company taking a step back, closely examining its range of smaller products, and then focusing on making them better. “We thus answered many questions from the industry and moved to meet as many requirements as possible.”

For more information contact Nemtek, +27 11 462 8283, www.nemtek.co.za

Bringing the wonders of fibre to your estate

The Hi-Tech Security Solutions Residential Security Conference in Durban was a magnificent event where Vox showcased its visitor management solution. The response was overwhelming, and we would like to take this opportunity to thank the Hi-Tech Security Solutions team and all the delegates who took time to engage with us.

To summarise, Vox has expanded the cloud-based visitor management solution to cater specifically for the needs of small multi-dwelling unit estates and large residential estates. This ‘guardless’ offering enables people to more securely control access into their complexes. To cater for the trying and tumultuous times we find ourselves in, we have extended the solution to incorporate various frictionless access control options.

Speaking of which, as the current times force more of us to work and study from home, it is essential to delve deeper into the capabilities of whether organisations can deliver on the requirements our new digitally driven environment requires. Vox prides itself as a leader in this space with our comprehensive approach built on the pillars of communication, access to information and connectivity, ensuring that all elements needed for people to work optimally from home are in place.

Underpinning this is the expected increase in demand for fibre-to-the-home (FTTH) installations. Employees need faster and more stable Internet connectivity if they are to be productive. To simplify the process, Vox is selling FTTH bundles directly to the corporation, meaning the company can provide fibre access to its employees, giving them a reliable foundation on which to access cloud-based solutions. Included in the offering is our Vox Vobi mobile softphone app which empowers users to make and receive calls from their mobile phones over the Vox network.

To complement this, Vox also provides complete managed IT support, so all the hardware needs of employees are taken care of when working from their home offices. Next on the list should be optimising productivity. The Microsoft 365 line of subscription services is a case in point. Apart from its original applications, it has recently added Microsoft Teams – an integrated collaboration platform that incorporates chat, video, and audio meetings, file storage, shared files, calendars and apps, and collaborative editing. Through these, Microsoft 365 delivers a comprehensive value proposition for the digital workforce. But this means little if its deployment is not done correctly.

Vox can assist in every step of the deployment and supplements that with extensive online training.

Remote working will be part of the new normal as the business landscape evolves. How prepared the organisation will be to deal with it is dependent on the steps it takes today.

For more information contact Vox Telecom, +27 87 805 0000, info@voxtelecom.co.za, www.vox.co.za
Your security system depends on **POWER**

Security systems are not fully secured without the appropriate level of power protection

**Products:**
- Premium alarm batteries
- UPS batteries
- Solar equipment and batteries
- Telecom batteries
- Inverters

**Services:**
- Installation and servicing of UPS batteries
- Design and installation of solar systems
Granting visitor access securely

By Andrew Seldon.

Visitor management is a critical part of estate security that should secure residents and property while providing access that is almost seamless and as fast as possible.

The perimeter is the most obvious target for criminals trying to get into a residential estate. The longer the perimeter, the better the chance they can find somewhere to sneak in unnoticed. But for estates that have secured their perimeter efficiently, the next most likely target is the gate where criminals can try to sneak or con their way in.

Visitor management (VM) is therefore a critical part of estate security as pretending to have some or other reason to be on the estate can often get the gate opened and allow you to roam freely. Over the years, we have seen the migration from visitor books to more advanced technologies, such as biometrics, licence scanners and CCTV to support the VM function.

In addition, the advances in technology make it possible to create an integrated platform today that not only incorporates VM, but the estate’s other security systems and even operational systems – such as bookings at the golf club – all on the same system that will have all the information available to authorised people at the touch of a button. The ideal solution is to have a solution that enables the efficient and fast management of all estate business, integrated into a single interface.

To find out more about what is happening in the world of visitor management, Hi-Tech Security Solutions asked a few of the leading providers of VM and additional services and solutions to the residential estate market for their input on VM in 2020 and beyond. Our respondents were:

- Brett Wray from Entry Pro.
- Chandi Kruger from GLOVent Solutions.
- Mpho Radiokana from neaMetrics and Suprema SA.
- Zulmira Ferraz from Powell Tronics.

**Hi-Tech Security Solutions: What functionality is included in modern-day visitor management systems and what benefits to these solutions offer to estates and residents?**

Chandi Kruger: GLOVent offers a user-friendly mobile app for residents to send pre-clearance codes to visitors. To save costs, the codes can be sent via WhatsApp. Furthermore, a courtesy notification is sent within the app on arrival and departure of visitors. It also includes features like deliveries and collections, group bookings and innovative ways to give visitors access to the estate.

**Are cloud solutions becoming an integral part of VM or do estates prefer holding sensitive data on site?**

**Brett Wray:** Today’s age of modern technology means that our lives have become more and more dependent on smart technology and the security industry is no different. This is, in this case, a tremendous advantage. At Entry Pro, we implement smart app technology for estate visitor management solutions. The Entry Pro app allows residents to manage their visitors by providing them with pre-cleared codes prior to arriving at the estate. This not only alleviates entry-lane traffic, but also provides estate managers with access to records which are imperative to estate security and general management.

Our system provides various analytical reports, which ensure accountability within estate security. Although the Entry Pro app is aimed at access control and security of the estate, it also features additional features to assist estate managers with general management of the estate. Entry Pro is POPIA compliant and all personal information provided to us is securely stored on a cloud-based solution, not only for security reasons, but also for physical safety, which is imperative.

As far as cloud is concerned, cloud solutions are the preferred way of storing data because of the safety of the data and backups. Cloud systems also provide estate managers with access to the data anywhere and anytime; they don’t have to be on site to access data.
Mpho Radiokana: Visitor management solutions have, in recent years, become an integral part of integrated estate management solutions that are able to provide information, not only about visitors, but also information pertaining to the estate facilities and events. They are also able to provide instant communication to all residents, reporting of incidents, etc. with clever statistics and analytics that provide the necessary information enabling management to make decisions on their day-to-day management of these estates.

Residents making use of modern-day visitor management systems have the ability to generate pre-cleared access credentials for their visitors. Depending on the system, this can be an access PIN, a QR code or a mobile smart CSN card, in which case the visitor uses their phone in place of a physical card for access.

In addition to the standard features of most visitor management systems, residents are also given the ability to apply for the reservation of estate facilities, this being anything from a clubhouse to other communal facilities that require booking. Certain systems also encourage active reporting of any incident that may be of concern to estate management, providing residents with the convenience of submitting a report from their mobile phone on matters such as burst water pipes, broken streetlights, etc. Other features include panic buttons in case of an emergency, which send a distress message to estate security with information of the requester.

We have also seen visitor management systems becoming very analytical and being able to track patterns, which may prompt estate security to pay attention to behaviour, such as a certain resident having a higher volume of visitors every month compared to other residents, which could point to someone running a business illegally in the estate. Alternatively, for example, all visitors belonging to resident X never use their access credential to exit the property apart from what is allowed, which could pose a security risk.

When it comes to cloud vs. on-site storage of sensitive data, many VM systems seem to be opting to have their solutions hosted in the cloud. This, for some estates, is a suitable option for them as cloud-hosted solutions may prove more affordable than hosting on-site with predictable month-to-month costs, easy scalability if required, more stringent data security measures and less risk of the physical hardware, including the data residing there-on, being stolen.

Zulmira Ferraz: As technology progresses, modern-day visitor management systems have surpassed the antiquated methodology of scribbling your name and a contact number in an eloquent table on a clipboard. Using tools such as handheld licence decryption devices,
Within two weeks of the virus hitting South Africa. The temporary solution didn’t require any additional equipment or changes for our clients, which expedited the process of implementing it as quickly as possible.

Any visitor management solution is reliant on the accurate information being provided to the estate by the visitor. With our system, the record trail is more accurate and full accountability is attained at all times.

There are various products on the market that allow touchless technology, such as RFID linked to number plate recognition of residents, however this only includes the vehicle registration details but not the occupants of the vehicle, which could have been stolen or hijacked. We do not recommend this option to our clients.

We do, however, offer a touchless biometric reader to our clients, which doesn’t require any contact. Although some facial recognition readers are available, the developments still have quite a way to go before it would be an option for estates or any widespread implementation – and it has quite a significant cost implication.

Having said that, Entry Pro believes that guards still play a crucial role in visitor management and access control. We believe that it is still vital for guards to play an active role in tasks requiring human action to fulfil system parameters. With technology advancing at the rapid pace that it is, human interaction will no doubt become obsolete in the future, but for now, they still play a vital role, especially in estate visitor management and access control.

Chandi Kruger: Guard interaction is a very important aspect in visitor management. With our solution, the power of giving access is taken away from the guard, but the guard is still needed. In estates with no guards present at the gate, the estate is vulnerable.

Facial recognition with temperature readings is an important aspect for biometrics, as this will assist in preventing the virus from spreading. GLOVent introduced a non-touch solution for residents, where residents can open the gates with the mobile app used for generating codes for visitors.

Mpho Radiokana: Contactless access control technology not only assists in the health/hygiene aspect, but also improves the overall user experience of visitors, improves the job of the guards and where adequate system training has been provided, it will also reduce the waiting times.

Technology alternatives to physical guards are on the rise, although guards remain a crucial part of security management. There are some efforts with technology to reduce the head count of guards, such as drones doing patrols, but there is only so much that a drone can do.

Zulmira Ferraz: The coronavirus pandemic has, in a relatively short timeframe, had a substantial impact on visitor management and access control overall. Users are acutely aware of surface contact and so are driving the estates and the security sector to move to more contactless or hygienically safe security systems. Interest in solutions like licence plate recognition, UHF remotes or long-range tags, and even the old trusted technology of proximity RFID tags has spiked quite drastically in the last few weeks in South Africa.

This is not to say that the highly secure biometric technology is being discarded; quite the opposite actually. With the great advances that the biometric manufacturers have made with their contactless hand or facial biometric devices in the last year, many estates are in the process of upgrading their security entrances.

The biggest change that we’ve noticed in the last few weeks is that many estates are putting a lot of thought into the systems that they have

Continued from page 43 licence plate recognition cameras, mobile apps for visitor pre-authorisation and transaction history, and web portals with online reporting and statistics, visitor management systems are now able to provide a large collection of accurate access information and flexibility previously not available to estates nor their residents.

By being able to share the responsibility of visitor access with the residents by requesting that they authorise their visitors’ access through the estate portal or visitor management mobile apps, the estate is empowering the residents to be more conscious of who is being let onto the estate. What we have found with estates that have encouraged this facility amongst their residents is that there is a more receptive and knowledgeable approach to security and systems upgrades as residents feel more involved in the protection of the lifestyle they have invested in.

As for cloud vs. on-premises, the stand-alone systems are gradually moving to cloud-based environments purely based on the fact that these systems, in our experience, are on sites with little infrastructure or are managed by management companies that share a portfolio across various properties. The larger or more established estates, however, tend to favour an on-premises solution so as to better manage POPIA compliance.

**Hi-Tech Security Solutions:** With the coronavirus top of mind of late, are you seeing estates adopting touchless technology for VM? How important are guards in current VM solutions?

**Brett Wray:** Due to the outbreak of COVID-19, Entry Pro developed a temporary touchless solution for our clients that was implemented within two weeks of the virus hitting South Africa. The temporary solution didn’t require any additional equipment or changes for our clients, which expedited the process of implementing it as quickly as possible.

**Any visitor management solution is reliant on the accurate information being provided to the estate by the visitor. With our system, the record trail is more accurate and full accountability is attained at all times.**

There are various products on the market that allow touchless technology, such as RFID linked to number plate recognition of residents, however this only includes the vehicle registration details but not the occupants of the vehicle, which could have been stolen or hijacked. We do not recommend this option to our clients.

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The biggest change that we’ve noticed in the last few weeks is that many estates are putting a lot of thought into the systems that they have...
To urgently invest in, thus not only opting for solutions that are safe for residents’ use, but that also allow for alternate access options for visitors and contractors. These alternates range from issuing visitors with QR codes that can be read by the more advanced technologies, to WhatsApp messaging containing one-time access codes that are verbally given to the guards who then can enter them on the handheld devices for authentication rather than the visitor physically typing it into a keypad reader.

As a company that is actively involved in the residential estate sector, we are currently in the process of investigating and incorporating additional technologies to our VM solutions, such as LPR, QR codes, voice prompts, facial recognition, self-service kiosks and thermal imaging technologies for temperature monitoring so as to better align our systems with the new normality of life during and post coronavirus.

While our VM is predominantly self-service from a resident perspective, it is and has always been our recommendation that visual or physical verification be part of the estate gate access process to ensure the highest level of security. Guards will most likely remain an integral part of estate security for that additional visual verification, not to mention a personal touch to round off a visitor’s experience of the estate, however, we suspect that guarding companies will reduce the number of bodies at one time on the estate if and where possible to minimise the risk of infection.

We have noticed with many of our clients with guarding facilities, that great care and effort has gone into training their teams on the necessary health and safety precautions relating to COVID-19 and the public.

**Hi-Tech Security Solutions: Are VM platforms today standalone solutions or are they integrated into broader management platforms? What does your company offer in terms of integration – only VM or platforms that can integrate or manage other security and/or operational systems?**

Brett Wray: Some visitor management platforms still function as a standalone solution, however it has been our experience that, as with everything else, clients require more. The Entry Pro solution is definitely a standalone visitor management platform, but it is also much more. We strive to assist our estate managers with additional features and added bonus capabilities to assist them as much as possible with estate management. Not only that, but we are also able to integrate with other management portals and applications. Our reporting and analytical data provided from our...
Continued from page 45
system, for not only security but also general estate management, is invaluable and unsurpassed, as well as crucial to our clients.

Chandi Kruger: Visitor management is a value-added service that GLOVent offers. The VMS can be integrated into the CMS, document management, database management, licence plate recognition and resident access control systems, giving the estate a turnkey solution with one master database. The GLOVent core product can be integrated with any third-party solution.

Mpho Radiokana: Certain providers give the option to have the VM system integrated into other management platforms. This is often beneficial and the information can feed into one system, allowing for more effective management of access control.

Suprema products can be used as standalone systems, but many options exist where Suprema has been integrated into leading technology specialists such as Avigilon, Isonas, Gallagher, Impro, Paxton, Software House, Cathexis, Arteco, Milestone, Hikvision, Ipxia, Jarrison Time and more, with further integration opportunities available through API or SDK-level integration.

The iVisit visitor management solution is a neaMetrics-built solution that is fully integrated into Suprema’s BioStar 2 for visitor access control. iVisit is a value-adding solution that enables property managers to significantly reduce the overall running costs by eliminating recurring costs associated with dial-in systems such as SMS and airtime bundles. Additionally, costs are reduced by enabling sharing of the same access terminal used by residents with other user groups for access (visitors, contractors, domestic and general staff) instead of different user groups all using their own dedicated terminals.

Zulmira Ferraz: Many of the VMs on the market are standalone solutions. At Powell Tronics, we cater for both a standalone solution, namely PT-Scan, as well as a fully integrated solution, PT-Guest, both of which have allowed us to grow a successful and established footprint across the South African residential and business estate sector.

Our PT-Guest solution is integrated into Impro Technologies’ Access Portal and Imronet access control platforms with several options of visitor pre-authorisation for the resident, i.e., both an iOS and Android app, web interface and SMS short-code option.

As many of the larger estates have also invested in estate management systems including our own HOME solution, and in order to keep up with the market requirements, our PT-Guest solution also offers secure API integration for these systems to incorporate the strength and functionality of PT-Guest in the back-end while having a seamless front-end that residents have become accustomed to.

Hi-Tech Security Solutions: What specific VM solutions/platforms do you supply to the estate market and what functions do they fulfill apart from VM (if any)?

Brett Wray: The Entry Pro system in not an off-the-shelf product, we offer a wide variety of functions and features to assist our clients.

Our system was designed by estates, for estates, and we offer the management of various estate management functionalities. We are constantly developing and adding new features, requested by our clients, to our system. Our system, designed for convenience, is easily accessible from your mobile device. Entry Pro has been an industry leader for over a decade in access control and visitor management, and with our collective 30 years’ experience in the security industry, we have a deep understanding of the industry and our clients’ needs and are able to adapt to any environment.

Mpho Radiokana: We supply a wide range of hardware that supports various authentication modes, including card, mobile smartphone via mobile phone, PIN (keypad authorisation), fingerprint and face. The extensive range of hardware includes readers that are feature-packed and fit into both centralised and decentralised access control systems and are suitable for both indoor and outdoor installation.

On the software side, the Suprema BioStar 2 platform is a web-based open integration platform with multiple modules, including a video module, which allows for access and video management from a single platform. Apart from visitor management functionality, BioStar 2 offers full access control and time and attendance features, so it can be used to allow access to residents.

Additionally, we have a team of developers with expert knowledge and extensive experience in Suprema products and identity management in general, that are able to work with large estates and security managers requiring specific solutions.

In the near future, we foresee an upgrade to the iVisit VM, BioStar 2 access management platform, as well as new hardware. These will introduce features that will help in managing the global epidemic and will improve the overall access management experience.

Zulmira Ferraz: As mentioned in the previous points, Powell Tronics has successfully been offering the PT-Scan and PT-Guest solutions to residential and business estates for the past five years. By having both a standalone and an integrated visitor management option, we have been in a fortunate position to be able to offer clients holistic access security within varying budget constraints. Apart from the capability of capturing accurate visitor and access statistical information, our ability to integrate to various estate and facility management systems ensures that estates have end-to-end solutions that cater for all aspects of estate life.

For more information contact:
• Entry Pro, +27 11 267 0720, sales@entrypro.co.za, www.entrypro.co.za
• GLOVent, +27 11 568 0132, info@glovent.co.za, www.glovent.net
• neaMetrics, 0861 632 638, info@neametrics.com, www.neametrics.com
• Suprema, +27 11 784 3952, enquiry@suprema.co.za, www.suprema.co.za
• Powell Tronics, 0861 784 357, marketing@powelltronics.com, www.p-tron.com
Who’s entering the estate?

Identiscan is Onguard’s handheld 2D infrared IP68-rated barcode scanner.

Residential or private estates are becoming more popular in South Africa, as well as the need for tighter security measures at the visitor's point of entry. Security, and especially access control, needs to be made as fluid as possible so that residents and guests can be granted entry in an easy and convenient way. This process has to be both efficient and fast, keeping the entrance lanes free of congestion, but at the same time taking accurate information of every visitor entering.

When a visitor arrives at an estate, the first thing on their mind is, how long am I going to have to wait? With Identiscan it’s under sixty seconds.

When a visitor arrives at the entrance, the duty security officer approaches the vehicle with Onguard’s handheld 2D infrared IP68-rated barcode scanner. The COVID-19 screening questions, a new feature, are asked and acknowledged. The visitor’s driver’s licence and vehicle disk is scanned.

Then, choosing from a preloaded on-screen drop-down menu, the destination within the estate and reason for the visit are chosen. Should a foreign document be produced, the information will be captured via manual format and a photo of the original document can be stored with that entry.

A resident hosting a dinner party can, via the Identiscan Telegram bot, provide guests with a visitor token allowing for a quick entry and exit. Much the same as a regular visit, the token is received by the guest and given to the security officer and the driver’s licence is scanned for identification purposes and continuity of the scanning in process. Once the token is used the resident will receive, via the Telegram bot, a photo confirming who used the token.

You now have the visitor’s name, surname, ID number, car make, model, colour and registration number, destination and reason for visiting, as well as the security officer who processed the entry.

With this accurate information, the boom can be opened from the scanner using Bluunlock. This is a Bluetooth receiver paired to the scanner allowing the user to open or close the boom and/or automated gate; thus allowing the security officer to stay within sight and close to the visitor at all times.

PoPIA compliance and protection of visitors’ information at the point of entry are a very important aspect of the secure scanning process offered when using Identiscan. To achieve this the visitor information is uploaded from the device directly to a secure, off-site server, preventing any unauthorised usage of visitors’ details.

Using the Identiscan live web platform, estate managers can log on with a randomly created alphanumeric server-generated PIN to manage each device’s setup and configuration; this being in the form of choosing the entry criteria from the platform matrix, drawing an entry and exit report or loading a vehicle or person blacklist for transgressing estate rules amongst the other numerous platform features offered.

A unique visitor whitelist can be created giving only listed details entry. If you are not whitelisted, entry will be denied. This is perfect for retirement villages wanting to take absolute control of securing who enters the property.

For more information contact Onguard Patrol Management, +27 21 701 7777, jamie@onguard.co.za, www.onguard.co.za

Take estate security seriously

Crime syndicates continue to target lifestyle estates, often using inside information.

“Although lifestyle estates and complexes offer greater security, crime is still a factor and one can not become complacent,” says Charnel Hattingh, national marketing and communications manager for Fidelity ADT.

Technology has, however, become a much more affordable option to use as part of the security solution for residential estates and security complexes. “Finding the technology that meets the security needs of the estate and is within budget is key,” says Hattingh.

Thermal cameras, for example, are greatly enhancing the security of estates. “These camera systems can warn security officers before an intrusion occurs. By using analytics on these cameras, the system can warn the control room when someone comes within a few metres of the perimeter, which gives the security officer time to react even before a breach occurs,” explains Hattingh.

She adds that a combination of thermal cameras and CCTV cameras is worth considering. Where the thermal cameras read heat signatures only, the CCTV cameras can assist in terms of identification, be it people or number plates.

“Electric fences can and should be incorporated and integrated with the cameras. When there is a disturbance at the electric fence, the camera focusing on that specific zone will kick into operation.” An alarm will be triggered and the officer monitoring the cameras can see whether it is a legitimate breach and a response can be dispatched.

“One of the cornerstones of a successful camera surveillance system,” says Hattingh, “is professional monitoring and responses to incidents. If this component is not guaranteed, the system is basically ineffective.”

She adds that while security companies are constantly on the lookout for ways to improve their service to residents in estates, residents have to do their part too.

“This is because residents become complacent about their personal home security. Be sure to lock doors and windows and ensure vehicles are locked even if parked in a garage. Don’t leave valuables lying around, particularly where they may be visible to a passerby.”

She adds that it’s important to always be alert when entering and exiting the estate.

“Criminals have targeted residents leaving from or returning to estates and hijacked them a few metres from the gates, if not right in front of the gates. The reality is that people relax and become less alert the closer they get to home. Don’t think that just because there is a security guard at the gate that you can become complacent. If you notice anything suspicious at the gate, don’t pull in right away but rather watch from a safe distance.”

She adds that appointing the right security company is also paramount. “The first step in appointing a security service provider is the undertaking of a comprehensive risk assessment. This will enable the estate manager and the team to devise a long- and short-term security plan, usually with assistance from a qualified consultant,” she concludes.

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Catching the intruder vibes

By Andrew Seldon.

A simple barrier is no longer a sufficient defence against the continual criminal onslaught estates face on a daily basis.

While a fence or wall of some sort is still the foundation for a perimeter solution, a simple barrier is not a sufficient defence against the continual criminal onslaught against estates (and everywhere else). And if one considers the expected further decline in the economy, the onslaught is only going to get worse.

Traditionally, a perimeter has been defined by a fence or wall of some sort, which was supplemented with electric fencing with zone alarms and eventually visual and/or thermal cameras. However, there is another option for perimeter security – fibre-optic cables that use acoustic (vibration) information to determine what is happening on your perimeter (of course, the cost of fibre is an issue and we have local companies who do the same task with copper cabling).

Using fibre cables attached to a fence or even underground can provide accurate information on a breach or potential breach, even to determining the number of people or vehicles near the fence. But how have these cable defences changed over the years? Are they reliable enough to use to ensure the safety of people or as another layer of perimeter security?

Reliable and effective, fibre or copper

Cliff Rose, managing director of AcoustAlert, says that fibre-based Perimeter Intrusion Detection Systems (PIDS) are available to complement security arrangements on the perimeter fence, which may already have an electrified fence element. “In fact, it is good practice to have more than one level of detection on a perimeter fence, especially if the only element is electrified fencing,” says Rose. “Other layers now more commonly used are CCTV cameras with analytics, which may include line crossing, human and/or vehicle detection as well as the so-called self-learning behaviour analytics.”

While most people assume PIDS means using fibre-optic cables, Rose says fibre and copper cables do a similar job and can be used with or without an electric fence. However, “neither fibre nor copper has the potential deterrent value of a high-voltage shock”.

These technologies are still versatile and can, for example, be used on mesh-type fences to detect tampering with the fence or as an early warning system for an impending intrusion. These PIDS are also adept at detecting digging under a fence, where electrified fencing cannot. For under-dig detection, either fibre or copper systems can be used.

Stuart Large, product line director and business development at the Fotech Group, adds, “Systems based on Distributed Acoustic Sensing (DAS) technology have been deployed to protect many assets around the world and thousands of kilometres in total. Fotech’s LiveDETECT solution is protecting military installations, civil airports, government buildings and other key infrastructure.”

In addition, LiveDETECT has been deployed to detect people or vehicles illegally crossing international borders, preventing people-trafficking or the smuggling of contraband. Whether it is for a perimeter or a border, fibre-optic cable is deployed strategically to detect intrusions. It can be mounted on a physical barrier, such as a fence or wall, where people are detected climbing the barrier or attempting to cut through it, or buried in the ground where footsteps, vehicular movements, digging and tunnelling activities are of concern.

“The DAS system converts the fibre-optic cable into a series of thousands of vibrational or acoustic sensors. The system is very sensitive and therefore detects small disturbances caused by the previously mentioned events,” explains Large. “Software algorithms process the data in real time to identify what events are really occurring and discriminate them from other disturbances, such as the wind or rain. This ensures confidence in the system by providing alarms to the security in a timely manner and minimising false alarms. Alarms are reported with an accuracy of a few meters and shown on a map to facilitate a direct and rapid response.”

The cost factor beyond the wire

Rose adds that the problem implementing a fibre solution is the high cost of the “field processing unit”, although the cost per meter becomes more palatable the longer the fence that needs protection is. Another issue with fibre is that a cut in the fibre can disable large lengths of fence from being protected until a specialised technician comes along to fix with a fibre splicing tool.

Therefore, he says that for shorter length fence protection, the cost for the fibre option is expensive and sometimes not justified. “On the other hand, copper based sensor cable systems (which can be more sensitive than fibre) have a much lower cost for the field processor and are cost effective for short, medium and long fence solutions. Coupled with this is the low cost to repair, which can be done quite simply requiring no special tools or skills.”

“In any event shorter detection zones are preferred in order to ensure that large sections
of protection are not taken out in event of cable damage.”

When it comes to the equipment required for back-office processing, Large says the Fotech LiveDETECT system comes in a standard 19-inch rack, which will reside in a suitable room. “One end of the fibre will need to be connected to the system and the other end, which may be up to 50 km away, will simply be terminated,” Large explains. “The LiveDETECT system is often integrated with another system, for example Genetec Security Center, where the alarms from the DAS-based system can be integrated with other inputs such as a camera system or radar to provide seamless management of security.”

The role of artificial intelligence
PIDS systems generally function by processing large amounts of data from which alerts are extracted and processed. This naturally leads to the question of whether and how AI can make a difference in this market as it does in the surveillance analytics market. Rose and Large approach this question from different angles.

“With PIDS, the analysis of the response from the cable (copper or fibre) as a result of vibration on the fence is the basis and ability of the field processor to analyse the frequency and amplitude emanating from the sensor cable,” explains Rose. “Certain analytics may be inherent in the field processor to disregard unwanted information and amplify wanted responses, and this is what makes a cable detection system what it is. It is unlike a CCTV camera made to reproduce the image in front of it and then using analytics or AI routines to determine ‘allowed or not allowed’ changes in the image based on direction, size, speed, contrast, colour, motion and so on.

“So unlike CCTV cameras with analytics or AI, cable sensor systems have a specific job and are not necessarily driven by AI in determining pending threats, direction, amount and so on, but will react to predetermined responses based on wanted and unwanted input from the sensor cable.”

The Fotech system employs AI and the use of machine learning is imminent. Large explains, “The DAS systems need to process a huge amount of data very quickly. A number of algorithms are used to process the data in real time and detect the unique signatures of the events we’re concerned about and report them to an alarm server, called Panoptes. Within Panoptes, events are accumulated and logic is applied to decide when to raise a green, amber or red level alarm. All of this takes place automatically, controlled by AI.

“Currently, the preferred way to optimise performance is to refine parameters within the algorithms by using real data recorded on site, so Fotech engineers will spend time on location simulating the events the system must detect and testing the performance. This culminates in a site acceptance test in front of the client. In the future, this will be further enhanced by a process of machine learning.”

AcoustAlert and the Site Manager
“As a general rule we rarely find applications for fibre solutions in the shorter to medium-length perimeter fence projects and this is primarily because of the high cost per metre for fibre solutions,” says Rose. “Coupled to this is the cost of repair and maintenance when fibre cables are damaged.

“We find our AcoustAlert system very functional and cost effective for most fence detection applications. The field units, although employing latest technology features, are easy to set up and are equally simple to maintain. AcoustAlert has simple relay interfaces to tie into any alarm or remote signalling system, or in bigger applications is simply managed over a LAN by a central PC workstation with the AcoustAlert software suite. The software has graphic capabilities for displaying your site map and alarm zoning, Continued on page 50
Continued from page 49

as well as managing other external devices through LAN based I/O controllers, which are all easily programmed to respond to input conditions and drive output responses.

“This software, Site Manager, can be used to remotely (from the guard room) open and close gates, switch lights or sirens on or off, pick up any alarms from other types of PIR and beam detectors as well as alarm conditions from electrified fences. All these alarms and responses are logged and available in a report form in order to do investigations after the event or for record.

“AcoustAlert and the Site Manager software are cost effective and made in South Africa.”

A complete solution

“Fotech can provide a complete solution comprising the LiveDETECT module which contains the DAS system and Panoptes alarm server, along with UPS, KVM and network switch along with fibre cable and the equipment necessary to install it, which might include splice boxes and cable ties,” states Large. “Fotech-trained engineers will make the installation and Fotech will be happy to provide warranty and ongoing support.

“Fotech’s system is versatile and can be configured to meet the specific requirements of each project. For example, a lower-cost solution is available for short-range installations and Fotech’s dual-channel technology can be configured to monitor the cable around a perimeter in both directions. This ensures that if the cable is cut, both sections of the perimeter loop are monitored without interruption to the perimeter monitoring solution.

“Fotech was recently acquired by BP Launchpad, a subsidiary of BP. This ensures that even in the current tough economic climate, Fotech will be able to continue to invest in continual technology development and commit to stand by our clients for the long term.”

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Perimeter security decisions

Stafix offers advice to guide estates through perimeter decisions.

Perimeter security is no joke. There are an almost endless number of products and solutions available for a security team to choose from, but which of these, and which combination of these are suited to your environment?

A fence alone is not a secure solution for an estate any longer, if it ever was, so Hi-Tech Security Solutions asked Stafix Security Centres for some insight into what estates should consider when assessing, designing and improving their perimeter security. Stafix’s Shaun Williamson spoke with a few of his colleagues and together they recommend the following, covering the physical fencing and technology to supplement it.

The fence line

Starting out, it is important to do a full boundary assessment, working out where the potential risk areas are. Areas along the access road, areas of lower wall, areas of difficult wall design, areas of easy and difficult access all need to be assessed. It is also worthwhile doing an assessment on the wall structure, highlighting potential weaknesses.

A wall or palisade type fence is the first logical form of perimeter protection. It is essential to reinforce this with a monitored, well-constructed electric fence and management system.

Additional vibration detection can be added to the wall, palisade or under the fence using vibration cable. This is then usually backed up with some type of visual verification system.

Electronic additions

Once the barrier protection is in place, the next inclusion will be CCTV to offer visual verification. A correctly designed system would look at the fence line to monitor any intrusion by people crossing this boundary. Very important is the elimination of false alarms which can now be accomplished by the AI capabilities in leading brands. The next option would be to look at vehicle detection and the possibility of automatic number plate recognition (ANPR).

Logically, a perimeter security system should entail as many components as possible, including a physical barrier, intrusion detection and visual verification. However, having many different systems will also need some type of monitoring, this being either electronic with alarms, or guards. The ideal solution would look at integrating the electric fence, CCTV, access control, intrusion, detection systems together using one software platform. If too many systems are used, this can lead to user fatigue and compromise the estate’s security.

The one-system approach will also ensure only important information is being observed as a guard or operator can get easily distracted when monitoring too much information.

What Stafix offers

Stafix Security Centres, through its JVA Perimeter Patrol Management system and large electronic solutions range, is able to offer an expandable range of solutions for an estate perimeter. Within the range, various layers can be added to the system, fully integrating with the existing JVA management system. Each year new electronic and physical solutions are added to the portfolio.

Support and proximity to repair locations is important and the company offers the largest footprint with 28 shops and over 300 staff locally supporting installation companies. At all locations, it has technicians who are able to support installation companies with quick repairs and on-site support when required.

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www.securitysa.com
Improved perimeter security with IoT

Vox has introduced an Internet of Things (IoT) solution that helps better protect areas such as residential, commercial and industrial estates, by providing notifications when boundary fences have been cut or tampered with.

“The Vox Fence Tamper solution acts as an intelligent early-warning perimeter security system by alerting users to break-ins and can be used in conjunction with cameras and beams to create a multi-layered security solution. However, it can also be used as a cost-effective alternative to protect vast areas, such as game parks,” says Vox’s Rudi Potgieter.

Traditional security solutions are dependent on power and connectivity, whether radio, cellular, traditional LAN or Wi-Fi connectivity, and this is not feasible in large-scale deployments. Fence Tamper consists of battery-powered IoT devices which wirelessly transmit data via radio frequency or a LPWAN provider such as the Sigfox network, which has been purpose-built for IoT communications.

The devices are installed against fencing structures, such as palisade, prefabricated walls, welded mesh and more, to provide a reliable means of detecting intrusions – be it cutting of wires, or breaking through or climbing over or even burrowing under a fence section.

“With the addition to monitoring for any motion along the installed surfaces, these intelligent devices can detect energy fluctuations, which could signal that fence wires have been stretched or loosened. Each IoT sensor runs its own detection algorithm, profiling possible intrusions for a specific section, helping increase effectiveness,” says Potgieter.

Devices are mounted to the fence upright, at around 6 metre intervals on prefabricated walls and at 15 metres for wire fences. Up to 64 devices can be connected wirelessly to a single standalone controller, which is powered by a 30 Watt solar panel and batteries, requiring no additional infrastructure to be deployed.

Alternatively, the solution could be used to protect a smaller critical area, such as cellular base-station towers.

Alerts can be set up to monitor for intrusion, tampering and even low battery, while the solution can integrate with existing security systems to enable features such as automatic activation of perimeter lights.

False alarms are kept to a minimum, as the IoT devices are not affected by environmental conditions, such as rain, mist or wind, by the nearby movement of people, animals and other traffic or even electrical fields or interference, meaning that they can be installed and used in high static areas.

Additionally, the Fence Tamper solution can be combined with PTZ (pan/tilt/zoom) cameras located in strategic areas to provide users with a live video feed upon the triggering of an alarm, to provide further verification of an incident.

“These devices are easy to install and configure, and do not compromise the aesthetics of the fence as no wires or conduits are needed. Several of them can be installed at regular intervals providing users with continuous perimeter protection across long distances for a period of over 4 years, and at a very low operating cost,” concludes Potgieter.

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Automated parking for 200

The PKE system simplifies and speeds up the entry and exit of users, improving the user parking experience.

A new parking area that can accommodate up to 200 vehicles in the centre of Agordo (Belluno), in Italy, was recently involved in a redevelopment process. It was built by CAME Parkare, a CAME Group company specialising in the design of advanced parking management systems and pay-to-park areas.

The parking facility is currently for the exclusive use of the customers of the nearby supermarket, but the implementation of paid and subscription parking spaces has already been prepared for the opening of eleven other businesses in the area, for offices and homes.

Since Agordo is a tourist resort close to the ski lifts in the heart of the Dolomites, the parking area can also be a service for mountain enthusiasts who will visit the town of ancient origins.

The PKE system simplifies and speeds up the entry and exit of users, improving the user parking experience thanks to its parking control system based on a network of automatic devices that regulate access, check payments and record all activities inside the car park. The car park has an entrance (with PKE SLIM terminal) that guarantees efficiency and continuity of service, thanks to the presence of two integrated devices for printing entrance tickets. In case of low stock of the first roll, it allows a quick passage to the second roll, optimising common maintenance operations and improving the level of service to the consumer.

The outgoing terminal, again a PKE SLIM model, offers a compact design that concentrates all the functions of QR technology in the minimum possible space without compromising the intuitive user interface, for a smoother exit from the parking area. For payment of the parking fee, there is an automatic pay station, and a manual pay station for the operator, which can also create subscriptions.

The parking area is equipped with a CAME Parkare device called E-validec, a system that allows to establish promotional discounts offered by different retailers to reward the loyalty of their customers.

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Thermal cameras have made an enormous impact on perimeter security, with more advances still to come.

It wasn't too many years ago that thermal cameras suddenly made their debut in the commercial market where they offered a different form of surveillance that made it almost impossible for people to hide. Of course, in these early days, thermals were extremely costly, but some estates bit the bullet to be able to effectively protect their perimeters.

Fast forward to today and thermal cameras are still expensive, but much less expensive than they were when first launched. More estates have installed them and there is more security teams can do with them, much of it automated by analytics.

Today thermal cameras are all the rage because they are said to be able to measure the temperature of people from a distance, and even multiple people at a time. How accurate the various cameras are at this task is not for us to discuss in this article, but we are more interested in the thermals' applicability to perimeters on estates.

Vanessa Tyne, senior key accounts manager and team lead at Axis Communications, states that one of the main reasons to consider thermal cameras on the perimeter is because thermals are less sensitive to problems with light conditions, such as shadows, backlight, darkness and even camouflaged objects. “All these conditions can cause a lot of false alarms, and unnecessary response,” she says.

“Thermal cameras deliver images that allow operators to detect and act on suspicious activity 24 hours a day, 7 days a week.”

“Thermal cameras have been used for several applications, be it perimeter detection, temperature screening of machinery, people and long-range detection solutions, and have an extensive reputation in various fields, from military applications to wildlife conservation,” agrees Quintin Van Den Berg, CCTV product manager at Bosch Security and Safety Systems.

“The market has evolved rapidly and there are now multiple form factors and fused (optical and thermal) solutions freely available.”

New developments

Jet Zhu, technical manager, Africa Region for Dahua Technology, adds that more intelligence is being built into thermals through advances in artificial intelligence (AI) which will improve perimeter protection by being able to detect fires, humans and filter out all the false alarms created by animals, light, trees and so forth.

Going forward, he says the same thermal systems will be able to double their detection distance with new, optimised software.

One of the latest developments in thermal technology from Axis, according to Tyne, is using thermal cameras and analytics for initial detection, and then through integration with other devices, such as radar and PTZ cameras, allow the estate to verify the alert is a real alarm situation and track the intruders until security can apprehend them.

As a bonus, Tyne notes that thermals offer another benefit in today’s privacy-conscious society, they don’t deliver images that allow reliable personal identification. This is especially useful when considering privacy regulations like POPIA as it ensures an organisation will remain safely in compliance, without missing potential threats.

Van Den Berg adds that we can now also see geolocation data being added to thermal camera feeds in integrations, such as with Bosch and software partners like Genetec. Using this solution, users can follow moving objects on a geographical map with the Restricted Security Area (RSA) surveillance add-on in Genetec Security Center.

“Bosch cameras with built-in video analytics generate information on an object’s location, speed and trajectory using the metadata,” he adds. “Moving targets can automatically be displayed on a map so one can assess and respond to threats accurately in a ‘live time application’ This not only increases the productivity of control room operators, but improves the total cost of ownership by reducing the number of hardware devices that need to be deployed.”

More to come

The evolution of thermals is not over. As AI capabilities advance, we will see more software innovations changing the scope and capabilities of thermal cameras. Smoke detection is one feature that will be advanced, according to Zhu, apart from even more accurate detection and classification of people, animals and so forth.

Tyne agrees, noting that the reduction of false alarms is something that is continually on the radar for improvement. “In many instances, guards have been reduced on site thanks to early thermal detection analytics that work by detecting very small heat signatures,” explains Tyne. “There are some Al analytics available that can do human detection at a few kilometres. This type of analytic is server based at this stage, but there is a big move to do Al on the edge. Axis has a portfolio of on-edge analytics that will allow you to do loitering detection as well as intrusion at the same time and according to the requirements of the site.”

And let’s not forget the possibilities the Internet of Things (IoT) introduces.

“With the Internet of Things (IoT) and increasing intelligence, there are new possibilities for connected security devices beyond their traditional uses,” Van Den Berg says. “Smart security devices now act as sensors, gathering information on activity or objects in an area to provide business and live security insights that bring new value to organisations. Our industry must anticipate how these capabilities will change end-user requirements and preferences.”

The visual question

As noted above, thermal cameras can’t do identification. They can be used to confirm that an object on the perimeter is a human being, but that is as far as it goes. If the security team wants more assistance, they need to look at other technologies, such as visible light cameras.

Van Den Berg notes that being able to expand coverage of long perimeters to identify normal or suspicious activity is critical to the security of these applications. However, he says a fragmented approach with radar, laser, or video analytics results in incomplete or insufficient coverage.

“The solution is seen in the potential of our MIC IP Fusion cameras, the combination of their rugged design with built-in Intelligent video analytics that are specifically designed for the most demanding environments,” he explains. “These solutions fuse the metadata of the camera’s built-in optical (visible light) and thermal imager, providing users with full situational awareness – regardless of whether it’s the optical or thermal video stream that’s being watched.

“Metadata from fusion helps users to focus on ‘invisible’ things that need attention. If an event is detected, but is not necessarily visible
THERMAL SURVEILLANCE

Vanessa Tyne. in the video stream being watched, an alarm is triggered anyway and users can simply click the alarm overlay box. The user will then see the video data related to that event.”

Van Den Berg also expects to see more technologies being pushed into drone solutions and driving down the cost of manufacturing.

Dahua has also met this challenge by adding visible light lenses to some of its thermals to provide the security operators with colour images. The company is also working on thermal-on-drone solutions as this provides a more flexible option in certain environments – and a drone can get to an event faster than a response unit and then follow the intruders.

Tyne also mentions a drive to using radar technology in conjunction with thermal and optical imagery. This allows for heightened security applications for estates that are looking for total solutions. The visual view is for verification, which many end users are requiring for cases that may go to court. Once again, she also sees thermal-on-drone technology gaining some traction, but feels that it is still quite costly for the average perimeter security project.

Latest solutions available

From an Axis Communications perspective, Tyne says the company has a portfolio of dual-head cameras that have both thermal and optical technology built in: the Q87 series. Additionally, it has a full range of thermal cameras in varying resolutions and lens sizes, which are complemented by the Axis on-board Guard Suite analytics.

“You are also able to apply Perimeter Defender to the edge, which delivers a more advanced perimeter detection analytic. From a solution perspective, we are also incorporating audio, allowing estates to place IP horn speakers across the perimeter, linked to the thermal and optical cameras and the control room.”

Bosch will focus on the launch of the INTEOX open camera platform this year. Van Den Berg says that to take full advantage of the opportunities that the IoT brings, the safety and security industry must embrace change.

“The approach is leading by example with the launch of a new camera platform.

“INTEOX recognises the fact that security solutions have far more potential than just creating a safe and secure environment. Security devices are actually sophisticated sensors that provide valuable data that can be analysed and used in a host of new and beneficial ways, many of which we can only imagine.”

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Dahua AI technology ranked #1

Dahua Technology’s AI-based Visual Tracker recently won first place in the comprehensive accuracy ranking of the Generic Object Tracking Benchmark (GOT-10k), surpassing other AI companies and top academic research institutions.

The GOT-10k data set is a general object tracking algorithm evaluation data set with international authority. It is published and maintained by the Intelligent System and Engineering Research Centre of the Institute of Automation, Chinese Academy of Sciences (CASIA). Among the data set, the training set is composed of 10 000 video sequences, including 563 target categories and 87 motion patterns.

This algorithm simulates the human eye’s ability in object motion estimation and tracking. It is responsible for outputting the position and distribution of an object in subsequent frames according to its initial position, while adapting to changes in camera angle, environment, influence of obstructions, surrounding disturbances and other factors. It can be widely used in video monitoring analysis, man-machine interaction, intelligent driving, robotics and other fields.

In order to achieve accurate tracking of moving objects in a complex environment, the RSIA team of Dahua Technology innovatively used a set of representative points instead of bounding box for target state estimation, thereby achieving more fine-grained localisation and modelling of object appearance. As for the framework, two parallel branches were used. Combined with a multi-layer aggregation strategy, it effectively obtained detailed structural information of targets and high discriminative power when handling distractors.
Residential Estate Security Handbook 2020

Lightning season is yet again upon us (almost), and we have yet to have a season free from Eskom’s rolling blackouts – planned and unplanned – by whatever polite name they choose to refer to them. And while we know that lightning is a clear danger to electronics, so is load shedding.

Load shedding is not just about working without power; every time the power comes back there is a short voltage spike that damages your electronic equipment. Over time, this equipment will fail and it is a matter of chance whether your manufacturers or insurance companies will honour claims for surge damage due to the ever increasing number of claims they are facing.

To get a handle on surges, lightning and the power issues electronic security equipment is facing, Hi-Tech Security Solutions asked Roelof van Jaarsveldt of PSS Distribution and Bruno Jones from BFR Digital for some insights and advice.

Hi-Tech Security Solutions: What are the real dangers of surges when it comes to load shedding? Will better quality products be able to withstand the surge?

Van Jaarsveldt: When the power is restored after the given period of load shedding, the increased voltage that was sent down the power lines will create a surge for the first few properties in line with the transformer on the street. For optimal surge protection, one needs to look at online UPSes. The alternative to this would be connecting surge plugs to your equipment as all electronics are at risk as this affects anything connected to the power.

Jones: Rotational load shedding is wicked! It damages electronic devices, appliances and industrial electrical equipment, and worse is that your conventional surge protection does not protect your sensitive electronics from electrical power surges caused by rotational load shedding.

We also know that rotational load shedding in South Africa is here to stay. Most energy experts say that it will be with South Africans until 2026 – a minimum of 5 years.

Most people believe that their insurance cover will replace devices damaged by Eskom’s power outages, however, although most insurance cover provides clients with peace of mind against damage from lightning strikes, this is not the case for load shedding damages. So, read your policy.

There is also an impression that buying better quality equipment helps withstand the surges caused by rotational load shedding. Most equipment manufacturers use off-the-shelf switch-mode power supplies in their products. The quality of these power supplies is what will determine how the product will cope with load shedding.

Hi-Tech Security Solutions: How can one protect your electronic equipment from these surges?

Van Jaarsveldt: Surge plugs have become popular over the past few years; they are also compulsory for some insurance companies to honour a claim for surge-damaged goods. The ultimate solution for protecting against surges would be an online UPS; they offer the highest possible level of protection. If these are all in place, ensure that they are working.

Jones: Unplugging your electronic equipment before the scheduled load shedding and plugging it back in 10 minutes after the power comes back on is the best form of protection. However, it is not foolproof. When a suburb is turned off or turned on, it causes ripples throughout the entire supply grid. The further you are from the suburb being load-shed, the lower the level of the surges.

It would help if you had surge protection. But what type of surge protection?

Standard mains surge arrestors make use of MOVs (metal oxide varistors). These MOVs are connected from line to earth, that is from live to earth and from neutral to earth. If you happen to have a more expensive mains surge arrester, then there will probably be a MOV between live and neutral.

The MOVs have a typical clamping voltage of...
about 275 Volts. While the voltage of the circuit remains below the metal oxide varistor’s clamping voltage, it remains non-conductive (dormant). But when the clamping voltage is reached, the metal oxide varistor starts to conduct. In this state, the MOV connects the live or neutral to the electrical earth to dispose of the electrical surge energy safely.

The problem with load shedding is that most surges from load shedding remain below the metal oxide varistor's typical clamping voltage. Because of this, your electronics, appliances and industrial electrical equipment get fried by electrical surges before your surge arrestor even starts working.

What is needed is a device that tracks the mains sine wave and provides a small window of operation that has a low transient let-through voltage. This device comprises an electronic circuit that is more than a single component.

**Hi-Tech Security Solutions: What about lightning protection? Protecting against a surge is very different from protecting against lightning, so can these two jobs be done for a reasonable cost with a single device or solution?**

**Van Jaarsveldt:** A complete lightning protection system consists of external lightning protection, which refers to a lightning rod outside your house, and internal lightning protection, which is surge protection. Surge protection as well as a UPS have been recommended by numerous suppliers as they offer a buffer on the strike, giving the equipment a chance to withstand the excess voltage coming in due to the lightning strike. Protecting the entire distribution board is also an option that is becoming popular.

**Jones:** For lightning, we need to add our trusted MOVs. Remember that MOVs are designed to protect against transients from lightning (high-voltage spikes and surges). Therefore, to have a surge arrestor that works for both lightning and load shedding, both sine-wave tracking surge arrestors and MOVs need to be combined into a single surge arrestor.

This hybrid-type surge arrestor is larger than a MOV-based surge arrestor, but it is a load shedding surge arrestor and a lightning surge arrestor in one.

**Hi-Tech Security Solutions: What advice would you give to a residential estate if they wanted to ensure all estate electronics are protected from surges and lightning?**

**Van Jaarsveldt:** In a situation where more than one point would need protection or when the equipment is not all within proximity, we recommend a surge arrestor to be installed in the distribution board. A surge arrestor is a device that protects your equipment on an electrical circuit against transient voltages.

**Jones:** I would recommend our hybrid-type 60 kA surge arrestor at the BD on the circuit supplying power to their electronics and our hybrid-type 20 kA surge arrestor at the actual equipment being protected.

**Hi-Tech Security Solutions: What solutions do you offer for surge and lightning protection?**

**Van Jaarsveldt:** At PSS Distributors we offer the latest technology in power protection equipment. The range of surge protection devices include constant voltage transformers, UPSes, traditional surge plugs, and in certain situations, automatic voltage stabilisers. We can protect incoming power, satellite connections, network lines, telephone lines, CCTV signals and more.

**Jones:** We offer an extensive range of hybrid-type mains power surge arresters and surge arresters for communications cables. Our most popular low-voltage surge arrestor is for PoE (Power over Ethernet) devices like CCTV cameras.

To properly protect PoE devices in the field is expensive. The surge arrestor is the cheap bit, it is the electrical earthing infrastructure needed that is expensive. This is why we introduced Surge Blockers. Our PoE Surge Blockers require no electrical earthing connection and are extremely effective when a few simple installation guidelines are followed.

For more information contact:
- BFR Digital, +27 11 786 5575, brunof@bfrdigital.co.za, www.bfrdigital.co.za
- PSS Distributors, +27 11 608 4259, sales@pss.co.za, www.pss.co.za

**POWER MANAGEMENT**

### Double-sided spike barriers

**Umthunzi Valley in Carlswald, Midrand, offers a variety of secure residential apartments for discerning homeowners. Ideally located with easy access to Midrand, Waterfall, Fourways and Centurion, the development encompasses 215 luxury lifestyle apartments with luxurious appointments.**

**State-of-the-art security and access control, together with open spaces, beautifully landscaped gardens and a multitude of amenities provide the ultimate living experience.**

In an effort to augment the access control aspect, Turnstar supplied four Velocity Raptor automatic tyre spike industrial vehicle barriers.

The Velocity Raptors have been installed at two entrances and two exits, each with one visitor’s and one residents’ lane. The barriers are powder coated in charcoal blue to complement the upmarket ambience and contain an integrated optic LED light strip for maximum visibility, safety and aesthetics.

The fit-and-forget Velocity Raptors at Umthunzi Valley feature a double-sided spike that provides the maximum illegal ingress and egress vehicle prevention. The barrier arm and spikes are driven by two separate motors and the three-stage interlinked opening and closing procedure prevents mishaps occurring when a vehicle drives underneath the barrier arm before the barrier arm is in the raised position and before the spikes have lowered fully.

“In essence, the opening procedure is: the spikes lower, the barrier arm raises and the optic LED barrier arm changes to green. The closing procedure entails the optic LED barrier arm changing to red, the barrier arm descending and then the spikes rising. The Velocity Raptor is a good choice for safety-conscious homeowners’ associations with its intelligent collision detection, mid cycle auto-reverse, safety loop and infrared beam system. In addition, the built-in battery backup allows up to 1500 operations in the event of load shedding, with a manual override ensuring continuous operation once the battery power is exhausted.

“Added to these features is the fact that the high-speed operation of the Velocity Raptor means that less bottlenecking occurs, which is especially useful when large volumes of residents are departing for work at the same time,” says Craig Sacks, managing director of Turnstar.

For more information contact Turnstar Systems, +27 11 786 1633, craig@turnstar.co.za, www.turnstar.co.za

- PSS Distributors, +27 11 608 4259, sales@pss.co.za, www.pss.co.za

**For more information contact:**
- BFR Digital, +27 11 786 5575, brunof@bfrdigital.co.za, www.bfrdigital.co.za
- PSS Distributors, +27 11 608 4259, sales@pss.co.za, www.pss.co.za

**Umthunzi Valley feature a double-sided spike barrier arm changing to red, the barrier arm descending and then the spikes rising.**

**Velocity Raptor tyre spike barriers keep residents safe at Umthunzi Valley.**
Xanadu upgrades its security

By Andrew Seldon.

Xanadu Nature Estate, east of the Hartbeespoort Dam, is set on 240 hectares overlooking the picturesque Magaliesberg mountain range. The estate sports walking trails, green belt parks and bird hides to ensure the tranquillity and enjoyment of life on the estate. The estate is surrounded by 8,4 km of perimeter fencing.

A few years ago, the estate upgraded its perimeter defences with the addition of over 40 FLIR and Opgal thermal cameras (see https://www.securitysa.com/7377r). However, the problem Christo Wentzel, the Xanadu security trustee, encountered was that while they could cover areas from 100 m to 500 m in front of the camera, once the intruder had passed the camera’s field of view, they could get lost in the huge estate with no way of tracking them.

Despite the size of the estate, the estate’s response unit can reach any breach location within 3 minutes. While these reaction times are above average, three minutes is enough for intruders to vanish into the estate.

The solution Wentzel and the Xanadu Homeowners’ Association came up with is the installation of the GroundAware radar system with a controlled reach of 1 km. This system is the first of three radar installations the estate will install that will eventually cover the entire estate. The radar system allows Xanadu to detect potential intruders before they cross onto estate property and then track them wherever they move, and it will do so 24 hours per day, 365 days per year. To assist the security teams, PTZ cameras will also be placed on top of the radar towers, allowing for further visual verification and tracking.

Wentzel says the first radar installation is up and running. The estate had to move the location of the tower initially because of problems experienced with Google Earth, which managed to ignore some blind spots, but this has been resolved.

Additional perimeter changes

Wentzel adds that the current cameras on the estate’s perimeter are not being removed, but will continue operations until they reach obsolescence. Furthermore, A1 Fence has been tasked with replacing the estate’s 8,4 km palisade fence, a project which is currently underway.

A-1 Fence is an international company with manufacturing in India and Dubai. Its South African office was the 8th international office the company opened and Scott Wilson, general manager of A-1 in South Africa, says the company prides itself on manufacturing its own fencing solutions.

More than simply providing a fence to Xanadu, Wilson explains the company engaged with the estate to determine exactly what they required before providing the full solution. The solution included walking the site to ensure that A-1’s advice was based on the realities of the environment and terrain, and would suit the estate’s needs.

A-1 offered two of its vetted partners the job of installing the solution, and although the COVID-19 lockdown hampered the rollout slightly, the process is ongoing.

Wilson adds that launching a local manufacturing operation was on the cards for A-1, but has now been put on the backburner – for obvious reasons.

During this process, the fibre-optic cabling that was attached to the fence to carry the thermal and visual camera feeds, and which is now supporting the radar installation, will be moved underground. Over time, should the estate require it, it may be adapted and used for seismic perimeter protection. This, however, is something that will be decided in a few years’ time, adds Wentzel.

A final upgrade that was initiated just before the COVID-19 lockdown and the subsequent fear of using biometric access control systems that required users to touch a reader or screen, is facial recognition technology. Although Wentzel says the timing was coincidental, and fortunate, electronic access to the estate has been upgraded by utilising a facial recognition system from ZKTeco.

He says the system works very well, in fact, better than expected. Some initial problems were experienced, which were solved by tilting the angle of the camera and adjusting the shading to cater for the direct afternoon sunlight. Since that change, the system has been performing above expectations.

Drones on patrol

As if the above was not enough, Xanadu is also investigating the use of drones for improved estate security. While drones can be very useful for estate security, the regulations around legal drone usage in South Africa are very restrictive. The estate is working with the Civil Aviation Authority (CAA) to show how drones can be used safely with remote pilots, or even automatically when patrolling a perimeter at set times of the day. This will not only assist with security operations, but the images captured by the drones can also be used to assign tasks to the estate’s maintenance teams – to cut the grass, for example.

Furthermore, Wentzel says a drone can respond to a panic alarm far faster than the reaction units on the estate – it takes 21 seconds to travel the longest distance in the estate – which will make the security team more efficient and provide accurate, real-time information during emergencies.

“As Xanadu, we are proud to be one of the country’s leaders in the utilisation of the latest technology in estate security systems,” said Wentzel.

Readers can find out more about Xanadu at www.xanadu.co.za
Automated estate protection

Marlenique Estate makes use of an end-to-end Axis Communications solution, installed by Energize Technology Africa for automated security.

Marlenique Estate is situated in the Simondium area of the Winelands District of the Western Cape and is a beautiful 180 hectare farm estate with resident houses, function venues, offices, and fresh produce. The estate is owned by the Van der Merwe family of the renowned Boplaas 1743 Estates in Ceres. Boplaas, established in 1743, is the oldest family owned business in South Africa.

Vandalism and theft was a huge problem on the estate, with almost daily incidents. The estate had security guards on 24-hour patrol, which had proven to be largely ineffective and very expensive. Energize Tech Africa was given the task to design and install a full security solution that automated all aspects of securing the premises in order to allow the estate to rely on armed response only in the event of an incident.

Since 2017, Energize Technology Africa has focused on safeguarding agricultural, lifestyle estate and corporate customers with intelligent security devices that offer early warning solutions. It has standardised on using the same security model from Axis Communications that has proven to be an efficient end-to-end solution.

The Marlenique requirements

All security and access controls on the estate needed to be fully self-automated to operate without human interaction. With the use of analytics and Vapix commands, the solution from Axis achieved the desired outcome. (Vapix is an open API from Axis Communications that allows integrators to automate various tasks with an HTTP-based API.) With the high quality in the backend software and analytics from Axis Communications, Energize Technology was able to build a system that is low on maintenance and which has a low false alarm ratio.

Axis products used at the entrances

Door stations: Calls reception with the function of failover to other lines. With the door station connected to Axis Camera Station, you have a record of all entries to the estate.

LPR bullet cameras and Axis Licence-plate recognition software: You can manage auto entry and exit to all authorised vehicles.

Axis products used on the perimeter

Thermal: With thermal cameras you can cover large distances, and with the Axis Perimeter Defender analytics there are minimal false alarms. As first line defence, the integrator connected large floodlights to the I/O of the thermal cameras, which switch on automatically at night when someone comes within a metre of the fence line.

Horn speakers: As a second layer of deterrence, the horn speakers give a pre-recorded message if the perimeter is breached; it is also at this stage where the armed response company gets notified of the incident.

PTZ: The PTZs have been programmed to patrol the perimeter and surrounding area and to work with the thermal cameras. If the perimeter is breached, the thermal camera will tell the PTZ camera where to look for a visual view of the perpetrator.

Axis products used around houses, pump houses, venues and offices

A mix of bullet and dome cameras are installed around these areas for visual overview, and are also equipped with analytics for human detection. I/O modules are installed and connected with radio receivers and 4-button remotes for the residents. With these remotes, the analytics on the cameras can be armed/disarmed as well as be put into ‘arm-stay’ function, which allows the owners to move freely in common areas like the braai area and swimming pool, while the rest of the system around the house is armed with intelligent analytics.

When the panic button is pressed, all 20 Axis Horn speakers on the farm sound off with a pre-recorded message indicating where the panic is, all 20 spots on the estate activate, all the cameras in that area start recording and the armed response is notified of the incident.

Since initial installation, the system has been expanded to the pack house where it also makes use of network audio and multisensor cameras. A greenhouse is planned and an Axis end-to-end solution has already been designed for it.

The results

With the level of analytics and intelligence the system almost runs autonomously – the estate owners manage the system. Any perimeter breach or panic alarms from the system go through to the armed response company in the area. The system is so well put together that most if not all incidents are deterred before anything happens.

In the first two weeks after installation, there were three perimeter breaches and in two of these arrests were made because of the early warning the intelligent solution provided. Vandalism and theft have gone down to almost zero. Productivity of the crops has also increased to almost more than double because of elimination of theft.

Since the installation, the estate has added a solar farm that previously would have been vandalised and had the panels stolen. Marlenique Estate also boasts Africa’s first floating solar farm that was built on one of the dams.

Most importantly, the system proved to be more cost effective than 24-hour on-site guards to patrol the estate were.

Carl van der Merwe, owner of Marlenique Estate, said: “Boplaas 1743 approved the proposal from Energize Technology Africa to install a security system for our farm, Marlenique Estate. We didn’t believe it was possible to curb the endless security issues we were experiencing, but I’m delighted to say that Energize has managed to provide us with the perfect security solution. The Axis equipment has been running perfectly. We’re so impressed that we’re currently rolling out the same solution on four more of our farms.”

“In our opinion Axis Communications is the only way to go. The products are world-class and the service received is always professional and done with a smile,” concludes Mike Pritchard, director of Energize Technology Africa.

For more information contact Axis Communications, +27 11 548 6780, terri.miller@axis.com, www.axis.com

Project statistics

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**PRODUCT SHOWCASE**

**Long-distance UHF readers**

The U1000 and U2000 are long-distance RFID access control systems which integrate functions of UHF readers and controllers. Compared with UHF readers, they increase access control functions and support TCP/IP communication, Wiegand in/out, two relays, third-party electric lock, door sensor, exit button, which enable easy installation and convenient use.

The machines also support ZKAccess 3.5 and ZKBioSecurity 3.0 software. They have obtained an IP66 protection certification and are suitable for outdoor use. With long-distance identification capability, the machines can be used in many applications including long-distance fixed vehicle access management, long-distance access control management and long-distance pedestrian access management.

For more information contact ZKTeco (SA), +27 12 259 1047, sales@zkteco.co.za, www.zkteco.co.za

**Range of grid-independent power systems**

With failing infrastructure and unreliable electricity supply, security systems and powering them has never been more important. So having either an independent power supply for your security equipment or a backup power supply is imperative in today's world. SBS Solar has a range of solutions to provide power, save on costs and above all provide peace of mind.

That range includes DIY solar lighting solutions, comprising products such as a 10 W solar security light with movement sensor, remote controlled area lighting, and standalone street lighting for gateways, pathways and common areas. Each of these is independently powered from a solar panel and a lithium or deep-cycle battery. Also available is a 5 kVA system that supplies power to a garage door, alarm system, light, electric fence and CCTV system (as well as TVs, fridges and other comforts) for 6 hours.

While a battery backup system supplies power for a limited time, one of the company's energy storage systems can supply power indefinitely. It does this by combining the battery with a solar system that can be connected not only to critical items, but to most of a household, and will reduce grid usage as well as supplying indefinite power for security requirements.

For more information contact Specialised Battery Systems, +27 11 425 3447, info@special-battery.co.za, www.special-battery.co.za

**Wireless access control technology**

SALTO Systems has released the SALTO NEO Cylinder, a new compact electronic cylinder. The compact NEO is designed for doors where fitting an electronic escutcheon is not possible or required and can be installed on standard doors, server racks, gates, cabinets, electric switches, sliding doors and more. It's available in an extensive range of models to suit almost any kind of door, from Europe to Asia to the Americas.

The SALTO NEO Cylinder provides the most efficient and convenient way of securing your building and assets. The re-engineered clutch system design makes efficient use of energy, dropping consumption to impressively low levels, resulting in 110 000 cycles with just one set of batteries. System standby power consumption is reduced, which extends the electronic cylinder's battery life.

The IP66-rated SALTO NEO is weather resistant, making it especially suitable for the outdoors in even the harshest of environments. Encapsulated safely inside the tough NEO Cylinder exterior is the latest in electronic lock technology.

Upgrading a mechanical door to electronic access control enhances security, but the SALTO NEO Cylinder provides greater control over the door by offering end users access to audit trails, reports, alerts and more.

Using smart keys and mobile technology with the NEO allows users to manage access rights – quickly and keylessly – which is more secure than using mechanical keys. There is also additional value in the flexibility, convenience and operational efficiency provided by the NEO Cylinder's wireless technology.

Because the SALTO NEO Cylinder is compatible with SALTO SVN, SALTO BLUEnet Wireless and the SALTO KS – Keys as a Service – cloud-based technology, it can be switched to any of SALTO's technology platforms at any time without changing the hardware. This allows businesses to decide which technology fits better with their security, operations and IT needs.

The NEO adds SALTO SVN-Flex technology, which increases the potential, efficiency and reliability of the SALTO SVN, yielding better security, control and convenience for users and sites.

SALTO JustIN Mobile technology is onboard every cylinder. This gives users and system administrators the capability to send or receive a mobile key to open any door or gate with an installed SALTO NEO Cylinder with their iOS or Android Bluetooth or NFC-enabled smartphone. This adds incredible convenience and efficiency for end users in the field, which is where a NEO would most likely be used. JustIN mobile app capability also complements usage of SALTO's other management platforms: SALTO SPACE on-premise management software or the SALTO KS cloud solution.

For more information contact SALTO Systems, +27 87 701 5858, info.za@saltosystems.com, www.saltosystems.com
Have you ever watched a spy movie in which operators monitor a large number of surveillance screens? Such scenes often appear blown out of proportion, but they are closer to reality than one might think. Take some time and do an online search of what modern day surveillance rooms look like; these systems are both intimidating and impressive.

In the past, CCTV systems were promoted together with video management systems (VMS) which essentially managed the display of cameras and the recording and playback of video footage. The quality of such systems has improved drastically over time thanks to continuous advancements in video and image capturing technologies. Storage space has also become a lot more affordable, therefore poor-quality video display and recording is a thing of the past and need not be tolerated in modern surveillance systems.

However, Protoclea believes that a security system should be more than just a reactive monitoring system. Such systems only allow a person to respond to a security threat, not prevent such threats from occurring in the first place. With our solutions, proactive security has become a reality.

Phorcas is a sophisticated security information system developed by Protoclea. The system is designed to integrate multiple sub-systems into a powerful crime fighting solution. It features a user-friendly interface, intelligent video display and video wall functionality. It is easily expandable and effectively functions over multiple operator stations.

### Integrated security management system

The system can be integrated with video systems consisting of between 1 and 800 cameras, perimeter, biometric and access control systems, as well as system health monitors, amongst others, to offer a single user interface for all. The system also has strong analytical capabilities, including motion detection, drone detection, crowd activity monitoring, object identification and removal, and facial recognition.

By integrating information from all available resources and performing contextual analysis, crime can be effectively prevented.

For further information contact Protoclea Advanced Image Engineering, +27 11 100 0935, sales-desk@protoclea.com, www.protoclea.com

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The FF Group offers a cost-effective Serverless ANPR solution for parking management, in partnership with Hanwha Techwin. The solution enables the ANPR cameras to communicate directly with each other without the need for a server.

The Serverless ANPR automatically controls the movement of up to 1000 listed cars through barriers and provides carpark management information, such as time spent and occupancy rates. Easy to configure and cost-effective, Serverless ANPR has already been successful in the EU market and is now being released in South Africa by XtraVision.

For more information contact XtraVision, +27 11 450 1056, marketing@xtravision.co.za, www.xtravision.co.za

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Secure touchless access

Suprema’s facial biometric terminals bring no-touch access into secure residential estates, high-rise apartments and luxury homes, providing fast, easy and intuitive user authentication with the added benefit of hygiene.

Suprema offers two facial recognition devices, namely the FaceStation 2 and FaceLite.

Combining the latest optical technology with Suprema’s facial recognition algorithm, these touchless terminals accurately distinguish the faces of users with the added benefit of live face detection to block spoofing using photographs or 3D printed masks.

By detecting changes in the surrounding environment, accurate hands-free access control for indoor installations at locations near windows, lobbies and building entrances as well as covered outdoor areas is possible. By controlling a near-infrared LED, according to the surrounding brightness, Suprema’s facial recognition technology makes it possible to authenticate users even in an environment with 25 000 lux, which is equivalent to full daylight (not direct sunlight) with equal performance in total darkness.

Both offer a massive memory capacity and can accommodate up to 30 000 (3000 1:M) users, 50 000 face image logs (FaceStation 2 only) and 5 000 000 text logs, making it ideal for any site, large or small.

FaceStation 2 can work as a video intercom, eliminating the need to install a separate intercom system, giving residents control over their visitors.

Suprema’s face recognition solutions support mobile credentials, using NFC or Bluetooth Low Energy (BLE). This means that smartcards can now be loaded to any new-generation mobile phone supporting NFC or BLE, eliminating cards where multi-factor authentication is required. The latest RFID standards are also supported through multi-band RF reading technology.

For more information contact Suprema, +27 11 784 3952, enquiry@suprema.co.za, www.suprema.co.za
According to Stats SA, over 83,000 vehicles were reported stolen in 2018/2019 with around 32,000 incidents of hijacking reported during this period. Not only do vehicle thefts and hijackings result in considerable financial loss, but endanger the lives of victims as well.

Vehicle management systems offer an effective solution to avoid becoming one of these statistics. Such systems should consist of two major components: vehicle and driver identification. These components can be achieved through a range of solutions, from manual identification by a security guard through to automated identification solutions such as ANPR and biometrics. Of course, there are pros and cons to each of these regarding cost, quality and system performance.

Benjamin Franklin once said, “An ounce of prevention is worth a pound of cure.” This is the central theme behind the products designed at Protoclea. The company’s Detecta system offers automated vehicle identification and secure access management solutions and can be customised to meet your specific needs. It can function as a standalone system or be integrated with an existing access management system.

Detecta features vehicle identification (make and model), automated number plate recognition (ANPR), vehicle colour recognition, driver identification, high speed and free flow detection capabilities. It confirms that the vehicle and driver entering the premises are matched to the vehicle and driver exiting the premises. The system can also be used to generate local or cloud-based whitelists and blacklists and can be integrated with stolen vehicle databases. The software also offers analytics to identify discrepancies or suspicious activities on the premises.

For further information contact Protoclea Advanced Image Engineering, +27 11 100 0935, sales-desk@protoclea.com, www.protoclea.com

The Arteco Video Event Management Software (VEMS) focuses on ease of use and resource management. The company’s research and development principles have united video analytics and video management software on a single platform at competitive price-points to standard VEMS products. The company views video analytics as an enhancement to the video security experience and not as a costly addition or complication to standard video management.

The latest offering, ArtecoVCA, allows automatic recognition of people, objects and vehicles. Being server-based, it allows for any camera, irrespective of brand, to be transformed into an intelligent device where excellent detection is required and very low false alarm rates are non-negotiable.

A single ArtecoVCA licence will provide the following rules: abandoned object, appear/disappear, dwell, counting, direction, enter/exit, object filter, colour filter, speed filter, stopped rule, tailgating and also a deep learning filter to reduce false alarms even further.

ArtecoVCA is seamlessly integrated into ArtecoNEXT and is therefore suited for residential security applications. Besides analytics, ArtecoVEMS is integrated with access control, intrusion, fire, lighting, electric fencing, perimeter intrusion detection systems (PIDS), building management, and LPR/ANPR systems.

For more information contact XtraVision, +27 11 450 1056, marketing@xtravision.co.za, www.xtravision.co.za

Boomgate Systems has come up with a range of new products.

The new Walk Through Sanitisation Tunnel from Boomgate has a few special features, such as mixing the disinfectants automatically. Customers can adjust the spray pressure to the tunnel and it comes with a filter to prevent the nozzles from clogging, which is a common failure in other spray tunnels. It also sports a two-year warranty and only uses 100% natural disinfectant that has been tested and is SABS approved.

The company has also developed the new Genius Electronic Advertising Barrier and Electronic Advertising Display Cabinet. The patented design barrier is designed to interface with any existing parking or access control system. The barrier can be equipped with a 27-inch built-in monitor and is designed to be vandal proof with an ultra-high security lock on the cabinet door with a 4-way locking mechanism. The advertisements can be uploaded to the screen via an Android app and can be changed at any time from any location.

Boomgate Systems has also designed a standalone Electronic Advertising Cabinet for the 27-inch screen that can be installed next to an existing barrier.

For more information contact Boomgate Systems, +27 11 674 4441, boomgate@global.co.za, www.boomgatesystems.co.za
Facial and palm verification terminal

The SpeedFace-V5L [TD] is an upgraded version of the SpeedFace-V5L visible light facial recognition terminal, using intelligent engineering facial recognition algorithms and the latest computer vision technology. It supports both facial and palm verification with large capacity and speedy recognition, as well as improved performance.

The system supports touchless recognition technology as well as new functions, namely temperature detection and masked individual identification, which eliminates hygiene concerns effectively. It is also equipped with an anti-spoofing algorithm for facial recognition against almost all types of fake photos and video attacks.

The 3-in-1 palm recognition (palm shape, palm print and palm vein) is performed in 0.35 seconds per hand; the palm data acquired will be compared with a maximum of 3000 palm templates.

The terminal with temperature and mask detection will help prevent infections at each access point of any premises and public area.

To obtain the full functionality out of the SpeedFace-V5L [TD], users must adhere to the following.

- Stable temperature environment (no wind, 16°C - 32°C).
- Indoors.
- Measurement distance of 30 cm – 50 cm.
- Avoid direct sunlight.
- Avoid glass reflection.

For more information contact ZKTeco (SA), +27 12 259 1047, sales@zkteco.co.za, www.zkteco.co.za

Outdoor access terminals

Most residential estates require rugged, dust- and weather-proof access control solutions that provide exceptional durability and superior performance in extreme conditions.

Suprema offers seven such access control terminals, purpose built for outdoor use. These include BioStation 2, BioLite N2, and BioEntry W2 that provide card, PIN and finger authentication and Xpass, Xpass 2, Xpass S2 and Xpass D2 that operate with card/PIN only. Outstanding outdoor performance can be attributed to their IP65/7-rated protection,meticulous sealing, and extra protective engineering, with BioEntry W2, Xpass 2 and Xpass D2 also offering IK-08 vandal resistance.

Suprema hosts a number of different communication interfaces for higher flexibility and multiple installation options. They are easy to install and easy to operate. Touchless access can be achieved through a selection of RF options as well as mobile card (NFC and/or BLE) and Suprema’s latest mobile access (Airfob) solution which is supported by Xpass 2 and Xpass D2.

BioStar2, Suprema’s access control platform, offers a cloud-enabled mobile access control application with real-time reporting, alarm notifications, remote access and monitoring. Suprema terminals have also been integrated into many other leading access control platforms.

Wide-area surveillance with early detection

Consider the landscapes of South Africa. Large properties are common in our country, with the majority of the country’s land area being used for agricultural purposes. Unfortunately, crime is a sad reality in South Africa and a need exists for effective security solutions to protect the lives and possessions of our people.

Protecting large open areas in an effective and cost-efficient manner is challenging. In addition to this, security measures relying on response to, rather than prevention of, threats are not always feasible due to the remote nature of such properties.

Protoclea believes in a proactive rather than reactive response to securing properties. Being aware of a threat beforehand allows landowners to implement the necessary steps and alert security personnel, and thereby prevent threats from reaching the property. It considers various practical and technical limitations that cannot be addressed through traditional security camera systems and thereby provides an effective wide-area surveillance and early-detection system developed specifically for South African environments.

Oxylus is an adaptable solution that can be customised and configured to meet specific needs of landowners. Its modular design makes it possible to select the best, most appropriate hardware solutions for the intended purpose.

The system consists of a thermal and daylight camera fixed to a stainless steel, industrial quality pan-tilt head capable of rotating 360 degrees and of continuous monitoring. Both cameras record high-resolution videos, allowing accurate identification of potential threats.

The thermal camera covers a range between 50 m and 1500 m, depending on the choice of camera, while the daylight camera features a 10x optical zoom and starlight capability. The system’s software features a configurable scan pattern, audible or notification-based alarm outputs, a usage log of events and user interaction, and considerable storage time. Optional extras include a spotlight (2000 m range), wiper, and access control capabilities.

For further information contact Protoclea Advanced Image Engineering, +27 11 100 0935, sales-desk@protoclea.com, www.protoclea.com

A new camera platform designed to modernize the security and safety industry. The first fully open platform of its kind, INTEOX gives users, system integrators, and application developers unlimited freedom for innovation and customization.

INTEOX, the first fully open camera platform

The MorphoWave Compact acquires four fingers in 3D for maximum accuracy, with one pass of the hand over the sensor. This ergonomic, touchless solution delivers an unmatched combination of security, safety, convenience and throughput.

The MorphoWave Compact’s reduced size also comes with a very competitive cost of ownership, an IP65 rating and a rich feature set that includes time and attendance functions. To protect premises, organisations need access control solutions that are thorough, dependable and do not slow people down.

IDEMIA relied on its patented, touchless 3D fingerprint technology to develop a product meeting these needs in high-traffic environments: the MorphoWave Compact has rapidly become the benchmark in frictionless access. The overwhelming success of MorphoWave Compact deployments in major Fortune 500 companies across the globe not only proves the technology delivers on its promise, but also confirms the possibility to use it everywhere.

Organisations can now ensure a frictionless access experience everywhere to authorised users.

For more information contact IDEMIA, +27 11 601 5500, sec.san.contact@idemia.com, www.idemia.com

Frictionless fingerprint access

Bosch has introduced the new range of IP 3000i cameras. The portfolio includes a range of four form factors that offer high-quality, 24/7 performance with reliable surveillance features for standalone installations or general surveillance. Micro dome, mini dome, bullet and turret options are available with resolutions from 1080p up to 5 MP, up to 30 fps and a high dynamic range of 120 dB for indoor and outdoor use.

All Bosch IP 3000i outdoor models are rated IK10 for high impact resistance and can withstand challenging weather conditions because of their IP66 rating. The outdoor models also have built-in infrared as standard, enabling them to capture high-quality images – even in complete darkness. The FLEXIDOME IP turret camera also has this infrared feature for indoor surveillance.

However, the range also offers something new in such competitively priced cameras; built-in ‘Essential Video Analytics’ as standard with video analytics features such as perimeter protection and traffic monitoring.

For more information contact Bosch Building Technologies, +27 11 651 9600, security.systems@za.bosch.com, www.boschsecurity.com

IP 3000i cameras with built-in analytics
Bosch launches a fully open camera platform

As the world becomes increasingly connected, the Internet of Things (IoT) presents new opportunities for individuals and businesses. However, to take full advantage of the opportunities that the IoT brings, the safety and security industry must embrace change. Bosch is demonstrating the vast potential of the IoT with INTEOX. The INTEOX open camera platform combines built-in Intelligent Video Analytics from Bosch with good performance, a commonly used open operating system and the ability to add software apps securely.

The new platform supports the latest technologies, for example, neural network-based analytics, the next step in machine learning and artificial intelligence. INTEOX enables app developers and integration partners to take advantage of its built-in intelligence and capabilities to easily develop unlimited software apps based on a common language. At the same time, system integrators can customise their security solutions to meet specific and changing customer requirements by adding apps and deploy them into INTEOX cameras.

“As sophisticated sensors with Intelligent Video Analytics built-in as standard, INTEOX cameras can provide valuable data that can be analysed and used in a wide variety of new and beneficial ways, many of which the industry can only imagine. Bosch supports the platform with the highest levels of data security and privacy protection and the quality and simplicity that comes with working with Bosch,” says Michael Seiter, senior vice president responsible for the Bosch Video Systems & Solutions business.

The INTEOX camera platform will power an entirely new line of MIC, AUTODOME, FLEXIDOME and DINION fixed and moving cameras supported by an open IoT infrastructure. Developed by Security and Safety Things GmbH, a Bosch start-up company, this IoT infrastructure is based on four pillars:

- An open OS based on the Android Open Source Project and strengthened for increased security.
- An application store to access relevant app information, browse the public store and purchase ready-to-use apps for all INTEOX cameras.
- A web portal for app developers and designers that offers information and tools to develop and test apps.
- A device management portal that shows app and device health statistics and enables easy management of apps.

The INTEOX cameras, together with the IoT infrastructure, enable app developers, system integrators, integration partners and other market players to create customer-specific apps and insert them easily into INTEOX cameras.

For more information contact Bosch Building Technologies,
+27 11 651 9600, security.systems@za.bosch.com,
www.boschsecurity.com

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Directory of estate security product and service provider

**Axis Communications SA**
Contact: Vanessa Tyne  
Tel: +27 11 548 6780  
www.axis.com  
**Branches:** Cape Town, Johannesburg, Durban

An Axis Communications intrusion protection solution reliably protects any residential estate, through visual and thermal cameras with built-in analytics, combined with radar tracking to alert control room operators. They automatically trigger pre-recorded warnings to potential intruders, who can then be identified via PTZ cameras.

**Betafence**
Contact: Glenn Schluter  
Tel: +27 21 868 7300  
www.betafence.com  
**Branches:** Paarl, Midrand

Betafence, a PRAESIDIAD brand, is a leader in perimeter security. Its fences and technology solutions are tailored to meet the needs of the South African market. Its Betaview and Securifor products have been trusted for many years to protect and secure people and assets.

**Bidvest Protea Coin**
Contact: Karin Schoeler  
Tel: +27 12 665 8000  
schoelerk@proteacoin.co.za  
www.proteacoin.co.za  
**Branches:** Johannesburg, Centurion, Rustenburg, Potchefstroom, Cape Town, Port Elizabeth, East London, George, Durban, Richards Bay, Pietermaritzburg, Ladysmith, Witbank, Nelspruit, Polokwane, Kimberley, Bloemfontein

Bidvest Protea Coin operates a separate and highly specialised estates division, which caters to the specific needs of residential estates. Its national footprint and track record in providing a range of multi-faceted security services to a number of residential estates, golf estates, resorts, hotels and game farms speaks for itself.

**Betafence**
Contact: Glenn Schluter  
Tel: +27 21 868 7300  
www.betafence.com  
**Branches:** Paarl, Midrand

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**Bidvest Protea Coin**
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**Boomgate Systems**
Contact: Shane Van Dam  
Tel: +27 11 674 4441  
sales1@boomgatesystems.co.za  
www.boomgatesystems.co.za  
**Branches:** Cape Town

Manufacturer of vehicle and pedestrian access control equipment and high-security equipment like boomgates, spike barriers, turnstiles, goosenecks, camera posts, sanitisation walk-through spray booths, and automated hand sanitisation dispensers that can be used with a Boomgate.

**Bosch Building Technologies**
Contact: Quintin van den Berg  
Tel: +27 11 651 9600/4  
quintin.vandenberg@za.bosch.com  
www.boschsecurity.com  
**Branches:** Midrand (head office), Cape Town (satellite office)

Bosch Building Technologies has its own range of security, safety, communications and sound solutions, and is open to integration with third-party software platforms. Estate security technology from Bosch encompasses optical and thermal video systems with built-in IVA and high dynamic ranges, access control, alarm monitoring and integration management systems.

**Came Bpt South Africa**
Contact: Riccardo Battaini  
Tel: +27 11 616 3222  
csa.info@came.com  
www.camebpt.co.za  
**Branches:** Johannesburg, Cape Town, Durban, Pretoria

Came Bpt South Africa is a branch of the Came Group which incorporates companies like Came, BPT, Urbaco, Parkare and Ozak. It provides a wide range of access control technologies: audio and video intercom, gate and door automation, traffic barriers, turnstiles, parking systems, access control systems and automatic bollards.

**Cathexis Technologies**
Contact: Dene Alkema  
Tel: +27 31 240 0800  
sales@cathexisvideo.com  
https://cathexisvideo.com/  
**Branches:** Durban, Centurion

CathexisVision Video Management Software, with its extensive range of features, provides clients with efficient and effective security solutions to satisfy all infrastructure and management requirements in the residential estate environment. Clients access a plethora of benefits, and receive outstanding value on their security investment.
Clearline Protection Systems
Contact: Eaghan Lai-Thom
Tel: +27 11 848 1100
sales@clearline.co.za
www.clearline.co.za

Clearline endeavours to supply the latest protection to safely protect its customers' equipment from the damaging effects of lightning and power surges. Clearline boasts over 30 years of design and supply experience of more than 300 specifically designed protection solutions for power, telecommunications, security, CCTV, visual communication and consumer applications.

ClickOn Communications
Contact: Mark Watt
Tel: +27 12 803 6783
mark@clickon.co.za
www.clickon.co.za
Branches: Pretoria

Specialises in the design and implementation of electronic visitor and resident access control solutions including integrated dialling systems, card and biometric solutions, driver and vehicle licence scanners, cloud-based access control portal, resident smartphone app, reporting facilities, bulk email and SMS communication, visitor preclearance access codes, and rental and maintenance services.

Dahua Technology South Africa
Contact: Janis Le Roux
Tel: +27 62 341 3792
janis.le.roux@dahuatech.com
www.dahuasecurity.com/sa
Branches: Cape Town, KwaZulu-Natal, Gauteng, Nationwide

Committed to the mission of 'Enabling a safer society and smarter living,' Dahua adheres to its core value of 'customer-oriented,' in order to provide the market with excellent quality and service, to create more value for customers, and make unremitting efforts to build a safe, intelligent, convenient and efficient society.

DeepAlert
Contact: Ryan Bromfield
Tel: +27 82 465 9590
ryan@deepalert.ai
www.deepalert.ai

Powerful AI video analytics enabling efficient perimeter protection of estates. DeepAlert helps CCTV controllers monitor more effectively and respond quicker to real threats by reducing false alarms by over 95%. Accurate, real-time detection of threats mean better utilisation of guarding resources and significant cost savings using existing surveillance infrastructure.

Elf Rentals
Contact: Jonathan Krebs
Tel: +27 81 740 2342
jonathan@elfrentals.co.za
www.elfrentals.co.za
Branches: Johannesburg, Port Elizabeth, Durban (service team), Cape Town (service team), East London (service team)

Elf Rentals started in 1995 as a specialist security provider of full maintenance operating leases of electric fences, CCTV, access control and related power supply and network equipment. The offering includes a 24-hour service solution with a guarantee on all equipment and insurance cover for the duration of the agreement.

Elvey Security Technologies
Tel: +27 11 401 6700
info@elvey.co.za
www.elvey.co.za
Branches: Greenstone, West Rand, East Rand, Pretoria, Polokwane, Nelspruit, Rustenburg, Bloemfontein, Bellville, Cape Town, George, Port Elizabeth, East London, Durban

Elvey is a distributor of a wide range of intruder detection, access control, surveillance and fire detection equipment. All Elvey products are backed by the highest levels of training and technical support provided by an extensive branch network. Elvey also offers financing of security systems.

Entry Pro
Contact: Brett Wray
Tel: +27 11 267 0720
sales@entrypro.co.za
www.entrypro.co.za/#services
Branches: Head office in Johannesburg, servicing SA nationally

Entry Pro, a leader in estate access control and visitor management solutions for over a decade, has extensive experience in the security industry and a deep understanding of its clients' requirements. Through constant innovation and advancement in technology and systems, it strives to provide unsurpassed solutions encompassing excellence and reliability.

Fidelity ADT
Contact: Fidelity ADT
Tel: 0861 212 300 or 0861 212 400
alwaysthere.c@fidelity-adt.co.za
www.adt.co.za/contact-us
Branches: Fidelity ADT has branches across South Africa. Its online branch locator is at www.adt.co.za/branch-locator.

The cornerstone of all security starts at home. This is why Fidelity ADT has ensured a hands-on and immediate response service to assist with any incident related queries, around the clock. Its home security services extend beyond just alarm monitoring and armed response.
### Gallagher Africa
**Contact:** Morne Grobler  
**Tel:** +27 11 971 4200 or +27 79 494 9147  
**morne.grobler@gallagher.com**  
**www.gallagher.com**  
**Branches:** Johannesburg

Organisations face complex security challenges and business risks. Understanding these challenges and responding with innovative solutions is the cornerstone of what Gallagher does. Gallagher creates and delivers integrated security solutions to meet the varying needs of customers, from basic access control, to critical sites with today’s highest security requirements.

### Hikvision South Africa
**Contact:** Nick Wang  
**Tel:** +27 72 238 8274  
**wangjingyi5@hikvision.com**  
**www.hikvision.com**  
**Branches:** Johannesburg, Cape Town

Hikvision provides smart and proactive CCTV system, access control with face identification, flexible visitor management, smart parking with ANPR, building solutions unified with CCTV, access control, video intercoms, alarms and much more.

### IDEMIA
**Contact:** Ingo Mutinelli  
**Tel:** +27 82 554 4504  
**ingo.mutinelli@idemia.com**  
**www.idemia.com**  
**Branches:** Johannesburg

IDEMIA, the global leader in ‘Augmented Identity’, provides a trusted environment enabling citizens and consumers alike to perform their daily critical activities (such as pay, connect and travel), in the physical as well as digital space.

### Impro Technologies
**Contact:** Tim Timmins  
**Tel:** +27 31 717 0700  
**info@impro.net**  
**www.impro.net**  
**Branches:** Johannesburg, Durban, Cape Town

A proudly South African manufacturer, Impro has been pioneering the access control industry for over 30 years. It offers off-the-shelf solutions which can be tailored to your specific needs – from controllers, readers, tags and software, to biometrics and a host of integrations. Everything you need from one trusted supplier.

### Mantis Risk Solutions
**Contact:** Craig Peel  
**Tel:** +27 79 895 3436  
**craig@mantissecurity.co.za**  
**Branches:** Johannesburg, Pretoria

Mantis Risk Solutions is a security specialist in the analysis, planning, design, supervision and implementation of integrated security systems, with security officers carefully selected and trained to provide the best, latest and safest security measures to ensure the client’s wellbeing and peace of mind.

### MiRO Distribution
**Contact:** MiRO Sales  
**Tel:** +27 12 657 0960  
**sales@miro.co.za**  
**www.miro.co.za**  
**Branches:** Johannesburg, Cape Town, Durban, Nelspruit

Value-added distributor of broadband wireless, Wi-Fi, networking, VoIP, SD-WAN, IoT, security and IP video. MiRO empowers integrators, service providers and resellers to successfully connect business and residential customers with its best-of-breed solutions. Its team of experts can assist with technology information, pre-sales solutions planning, finance solutions, training and after-sales support.

### Identiscan
**Contact:** Jamie Bell  
**Tel:** +27 72 123 8104  
**jamie@onguard.co.za**  
**www.identiscan.co.za**  
**Branches:** Cape Town, Pretoria, Durban

With the implementation and rollout of the Protection of Personal Information (PoPI) Act, paper-based access control registers are no longer compliant and will soon become obsolete. Identiscan has developed a modern solution for their replacement called Identiscan, a handheld mobile data terminal for scanning both motor vehicle and drivers’ licences.

### neaMetrics
**Contact:** Mpho Radiokana  
**Tel:** +27 11 784 3952  
**info@neametrics.com.com**  
**www.neametrics.com**  
**Branches:** Johannesburg, Nairobi

neaMetrics develops customised, integrated software solutions for biometric ID (fingerprint, face, iris), identification (AFIS) and card personalisation (smartcard, RFID, ID cards). It is a distributor of Suprema and other identity products, providing specialised turnkey ID solutions.
Progroup Manufacturing
Contact: Angelique Roos
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angelique@progroup.co.za
www.progroup.co.za

Progroup manufactures and sells custom-designed control and security room consoles, specialised desks and interior fittings. The company also provides an installation service for control and security consoles and interior fittings.

Protoclea
Contact: Bennie Coetzer
Tel: +27 82 445 6982
sales-desk@protoclea.com
www.protoclea.com
Randburg

Protoclea provides specialised solutions for vehicle access management (ANPR), control room integration and information management (PSIM) solutions as well as wide area surveillance solutions. Products are turnkey friendly and can be configured for every site’s specific needs. Protoclea’s products are developed in South Africa and design support is available.

Radio Data Communications
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Tel: +27 11 452 1471/2
sales@radiodata.co.za
www.radiodata.co.za
Branches: Branches or representation in Johannesburg, Cape Town, Durban, Nairobi

Focused on cutting-edge communication technology, RDC offers a full range of technologies to meet the needs of any residential estate’s security communication product strategy. RDC delivers highly reliable communication services, continually offers new add-on innovations, limits cost and delivers this with extensive experience, technical backup and value-added services.

Regal Distributors SA
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info@regalsecurity.co.za
www.regalsecurity.co.za

Regal is an industry leader in the distribution of access control, CCTV, electric fencing, gate automation, intrusion detection, power supplies and network solution products. Regal offers customers comprehensive training, technical support and repairs on all of its quality products.

Rhyco Risk Projects
Contact: Gary Swart
Tel: +27 83 306 5499
gary@rhyco.co.za
www.rhms.co.za
Branches: Gauteng, Cape Town

Electronic security, risk consulting and solutions company with local and international experience. Rhyco provides quality services in the security industry for corporate, industrial, retail, manufacturing and housing estates. Rhyco provides a turnkey solution, from risk assessments to electronic security equipment designs and fibre installations, integrations, testing and handover.

SAIDSA (South African Intruder Detection Services Association)
Contact: Cheryl Ogle
Tel: +27 11 845 4870
saidsa@mweb.co.za
www.saidsa.co.za

SAIDSA is the representative employer body for the electronic security industry, encompassing service providers of basic alarms to sophisticated electronic intruder detection systems and CCTV, and incorporating signal monitoring as well as the provision of armed reaction services.

Secutel Technologies
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sales@secutel.co.za
www.secutel.co.za
Branches: Johannesburg, Cape Town, George, Durban, Bloemfontein, Polokwane, Nelspruit, Port Elizabeth

Secutel Technologies provides the latest in security technology, with solutions for intruder detection, real-time workforce management and asset tracking, video analytics and camera to cloud. It’s established as a leader in the physical security technology industry, with products installed at banks, residential estates, retail outlets, wholesalers, schools and universities.

Specialised Battery Systems
Contact: Sheldon Oren
Tel: +27 11 425 3447
sheldon@special-battery.co.za
www.special-battery.co.za
Branches: Benoni, Durban, Cape Town

Specialised Battery Systems supplies a range of products suitable for the residential estate environment, in addition to an experienced team capable of providing specialised design and installation services. The company’s range of solutions covers everything from solar systems and solar carports, to battery backup and supply.
Stafix Electric Fence and Security Centres
Contact: Shaun Williamson
Tel: +27 11 397 3507
efc@stafix.co.za
www.stafix.co.za

Branches: Bloemfontein, Cape Town, Centurion, Durban North, East Rand (Jet Park), East London, George, Kimberley, Klerksdorp, Nelspruit, North Rand (Kya Sand), Paarl, Pietermaritzburg, Pinetown, Polokwane, Port Elizabeth, Potchefstroom, Pretoria, Rustenburg, Somerset West, Upington, Vanderbijlpark, Vryheid, West Rand (Roodepoort)

Stafix Security Centres is the southern African distributor of the international Stafix and JVA ranges of electric fence energisers. It is a South African owned company that is committed to providing its customer base with a choice of quality imported and locally manufactured products that meet all electric fencing needs.

Stallion Security Group
Contact: Tracey Maaske
Tel: +27 11 533 8888
traceym@stallion.co.za
www.stallion.co.za

Branches: Johannesburg, Durban, Port Elizabeth, Cape Town, Bloemfontein, Kimberley, Pretoria, Witbank, Vaal Triangle, North West

Stallion Group is a holistic service provider with an impeccable track record and a brand within the top 5 companies in the industry. Incorporating estates, complexes, churches residential homes, the company’s focus remains on improving its client security benefits and it is one of the select few security companies which is able to finance electronic security and therefore provide solutions for enhanced residential security.

Suprema
Contact: Suprema Team
Tel: +27 11 784 3952
enquiry@suprema.co.za
www.suprema.co.za

Branches: Johannesburg, Nairobi

Suprema offers leading matching performance access terminals and software, suitable for residential estates and exclusive private homes, distributed through its trusted partner channel. Leading-edge APIs, device SDKs and development support allow for easy integration into existing or new access platforms. SA-based training, device repair and support enable superior service.

Thorburn Security Solutions
Contact: Ranesh Ranjith
Tel: +27 11 441 5300
sales@thorburn.co.za
www.thorburn.co.za

Branches: Northern region: Gauteng, Mpumalanga, Limpopo, North West and Northern Cape; Eastern region: KwaZulu-Natal, Eastern Cape; Southern region: Western and Southern Cape

Thorburn Security Solutions is an industry leading national security services provider which offers intelligence-driven security solutions through an integrated risk-reduction approach. It provides a holistic, innovative, ultra-flexible solution that offers an array of security management options.

Turnstar Systems
Contact: Scott Davey
Tel: +27 11 786 1633
info@turnstar.co.za
www.turnstar.co.za

Branches: Johannesburg, Western Cape, KwaZulu-Natal

Turnstar provides state-of-the-art security with access control products that are a fit-and-forget solution for estates, offering a full range of products to secure vehicular access as well as pedestrian access including automatic and manual booms, spike barriers and turnstiles to secure any estate. All Turnstar products offer fully integrated performance.

Vox
Contact: Diana Martins Prenner
Tel: +27 83 463 1161
diana.prenner@voxtelecom.co.za
www.vox.co.za

Branches: Johannesburg, Centurion, Pretoria, Bloemfontein, Port Elizabeth, Durban, Cape Town, East London, Nelspruit

Vox is a market leading end-to-end integrated ICT and infrastructure provider and telecommunications company. From data to voice, as well as cloud, business collaboration and conferencing tools, Vox offers intelligent solutions that connect South Africans to the world.

XtraVision
Contact: Theuns van Schalkwyk
Tel: +27 11 450 1056
theuns@xtravision.co.za
http://xtravision.co.za/

Branches: Gauteng, Cape Town

XtraVision is an authorised importer and distributor of a complete range of technologies for surveillance, physical barrier, access control and perimeter detection solutions. The company’s product portfolio serves the entire fire and security market, and has an established reference base from the private sector to the public sector.

ZKTeco
Contact: Hendrik Combrinck
Tel: +27 12 259 1047
hendrik@zkteco.co.za
www.zkteco.co.za

ZKTeco is a multinational enterprise specialising in the manufacture and development of time and attendance and access control technology. A global provider of computer vision visible light facial recognition biometric technology, ZKTeco develops biometric technology in the mass commercial market and provides effective solutions to help organisations improve management efficiency.
The monthly Smart Home Automation news brief covers the products, solutions and services required to manage and control appliances and devices within a smart, automated home.

Products and technologies covered but not limited to:

- Home automation of TV, audio, appliances etc
- Energy and lighting automation/control
- Temperature control
- Fire detection
- CCTV cameras
- Remote viewing of homes
- Family communication with home and security response companies
- Alarm control and remote control/communication
- Access control and identification

For further information contact:
Sharon Chauke  |  sharon.chauke@technews.co.za  |  +27 11 543 5800

Proudly brought to you by Technews Publishing
Do you know who’s on your ESTATE?

Knowing who is on a residential estate is one of the biggest challenges facing estate managers. This challenge increases when there is a golf course or similar public facilities. Add in contractors, residents' staff, estate staff and visitors, and that’s a lot.

That’s where Impro Technologies’ access control solution can help.

Features include:

- **Mobile phone solution** with their tag, for residents to enter by presenting their phone instead of a tag
- **Biometric readers**, such as fingerprint or face, for indoor and outdoor use
- **Automatic number plate readers** to reduce queues of vehicles and increase resident convenience
- **Emergency features** on the management software to immediately lock down or open all access control points
- **Integration** with other equipment such as CCTV and intrusion alarms.

For a free consultation, simply visit [www.impro.net/estate](http://www.impro.net/estate), complete the form and we’ll contact you to discuss your specific needs – no obligation, no risk.