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FIRE SAFETY TIPS
FOR EDUCATION SECTOR

**LATEST TRENDS IN
BIOMETRIC SOLUTIONS**



India's diverse and vast education eco-system is spread from villages to metros. Each education facility requires a unique solution designed as per the risk factors. There is growing demand for security solutions in the education sector due to rising number of crimes, violence, copying and ragging cases. The Indian education sector has diverse range of education institutions starting from kindergartens to colleges. It is humongous challenge to provide a lasting solution to India's fast growing education sector. a&s India shares the insightful views of some of the leading stakeholders.

India holds an important place in the global education industry. The country has more than 1.4 million schools with over 227 million students enrolled and more than 36,000 higher education institutes. India has one of the largest higher education systems in the world. However, there is still a lot of potential for further development in the education system. This is indeed a huge opportunity for security solution providers and system integrators.

According to Atulya Chandra, General Manager, Honeywell Security Group – Asia Pacific, "From small schools to multi-campus universities, providing a safe, secure learning environment within the constraints of today's budgets and regulations is a challenge for every education system. Pressure to strengthen safety at schools and university campuses continues to increase. From theft to serious personal crimes to vandalism, incidents are on the rise."

He further added, "Today more than ever protecting students, faculty and school assets is a high-profile, complex challenge. School districts and educational institutions must enhance security measures and policies against a backdrop of constrained budgets and limited resources."

"Academic campuses can be huge, usually comprising of several buildings, access points and parking lots. Based on needs and location, Honeywell has complete integrated solutions ranging from video surveillance, access and attendance control systems, intrusion detection systems, suggested Atulya Chandra.

He further added, "Honeywell offers integrated security solutions that help education facilities. Honeywell's solution work towards enhancing security programs and integrates with the existing system, helping the institution to get the most out of their original investment."

"Our offerings automate the security process by enabling campus staff to be allocated to other tasks and provide administrators and security officials with key information to make intelligent decisions. Honeywell Solution helps to protect students, teachers and staff, while also defending the educational institution against litigation," informed Atulya Chandra.

According to Ashish P. Dhakan, MD & CEO, Prama Hikvision, "Educational institutions in India are facing a host of security challenges that go beyond providing strictly educational services. The major challenges include budget allocation and utilization of funds for security infrastructure upgrade, availability of skilled persons, and smooth operations. Constant maintenance is another challenge as these institutes have a tendency to rely more on security guards."

He further added, "Personal privacy is also a major concern before the authorities before implementing video surveillance solutions. Cyber security and question paper leak out are some other challenges."

"As for opportunities, India provides vast scope for security solutions providers. Educational institutes need security for a variety of reasons. These entail monitoring and controlling access to all campus facilities, providing surveillance of private records, materials and valuable equipment, tracking truancy and inappropriate student behavior, enabling automated facility lock-down for elevated threat levels and crowd control during events," said Ashish P. Dhakan.

He further added, "Recently, the University Grants Commission (UGC) has issued guidelines for ensuring the safety of the students of Higher Educational Institutions (HEIs) on and off campus across the country."

According to Prasenjeet Bhattacharya, Head, Security and Surveillance Systems Solutions, SSD, Panasonic India, "Educational institutions have become a serious target of violence, vandalism, and theft, necessitating the construction of a safe and secure campus environment. Ensuring security solutions is a complex task given the constrained budgets and limited resources faced by schools and universities. However, a company like Panasonic offers scalable solutions to meet any budget size, private or public. Our solutions streamline processes and are locally manageable, automating security processes and enabling campus staff to be allocated to other tasks, while providing the key information needed to make intelligent, time-critical decisions."

According to Manoj Khadkikar, Head - Channels & Solutions Group, ZICOM Electronic Security Systems, "The growing campus unrest and other unlawful activities necessitate a strong and effective security in and around educational campuses in the country."

According to Gautam Goradia, CEO & MD, COM-SUR, "A safe and secure environment is vital for any educational institution, protection of



Atulya Chandra,
General Manager,
Honeywell Security Group –
Asia Pacific



Ashish P. Dhakan,
C.E.O. & MD,
Prama Hikvision



Prasenjeet Bhattacharya,
Head, Security and
Surveillance Systems
Solutions, SSD,
Panasonic India

its students and teachers being of paramount importance. Unfortunately these have become vulnerable, soft targets for terrorists waiting to carry out unfathomable activities. The attack on the school in Peshawar is still painfully etched in our minds."

He further added, "Creating a secure environment requires meticulous planning. Educational institutions especially in India are now beginning to take these initiatives on a more serious level, however they do not know how and where to begin. A serious security audit needs to be conducted to begin with. Then the installation of CCTV cameras, hiring efficient security guards, albeit not without conducting a thorough background check on them, timely security drills, etc."

"There are several opportunities available for security solution providers since there is healthy demand. The opportunities are vast, but there are also various challenges. The management of educational institutions tends to have an attitude where they believe that nothing can go wrong at their premises, thus making it difficult for solution providers to carry out security audits and thus help build a holistic secure environment. They look at investment in security from the perspective of receiving a ROI, which is not ideal. It is unfortunate that we only react to situations when they occur. We are unwilling to be proactive and take the required precautionary measures, concluded Gautam Goradia.

"Schools present a unique challenge because of a different set of external and internal threats to its continuity. While threats from external sources go beyond the campus into the roads in the form of plying school buses, the internal threats are amplified considering the unescorted fragile age group of the occupants. Regular safety and security solutions such as fire and surveillance systems are needed as is or in a slightly modified format, however systems such as access control will need to be radically different, both because of the age group and because of mass entries and exits," observed Narendra Kumar, Head, Strategy & Marketing, 2020 Imaging.

According to Ashwin Amarapur, Director, AllGoVision, "Schools and Educational Institutes do not engage in processes that are linked with high security threats. As a result the traditional thought process is these institutions are not the security critical areas like other critical infrastructure of the country such as power plants, oil & gas plants, transport infrastructure etc. Therefore, the authorities most often tend to follow a passive approach for security. Even if a surveillance system is in place, the budget constraints hinder the system to be truly breach free."

He further added, "The current scenario is fast changing as even schools, colleges and universities are being targeted by miscreants. The impetus is on providing a safe learning environment by protecting students, staff and physical assets, while encouraging positive behavior that fosters academic excellence. As per the research report 'Global Security Market in Schools 2014-2018' by ReportsnReports.com, security solutions in schools are being deployed at a faster rate and the security industry is forecasted to grow at 14.3% CAGR in education sector during 2013 to 2018."



"In the education sector, the video surveillance system has many added advantages apart from ensuring security by dealing with threats. The system can be used for wide variety of tasks such as recording evidence for a forensic analysis, acting as a deterrent for theft, assault or vandalism, and it is also used as a tool for enhanced monitoring as the surveillance cameras gives greater visibility to the security personnel," observed Ashwin Amarapur.

According to Divanshu Gupta, Product Manager, Security Products, Professional Solution Division, Sony India, "The biggest challenge is privacy. There are many parents who still feel uncomfortable for children being monitored by security cameras and are concerned about the leak of private information. We believe that as a country we are in a transition phase, it will take some time for people to be comfortable with and moreover get benefit out of it."

"There are huge opportunities. Education sector is growing really fast hence it is very important to provide everyone an environment which is safe and secure. Few years ago, CCTV was rarely used but now it is an essential part for the safety of children & staff members. It also shield theft of high value equipment," suggested Divanshu Gupta.

He further added, "With security system installed, things can be monitored, controlled and rectified if needed."

AWARENESS

"Administrations in educational institutions are gearing up not only to provide a safe environment for students, staff and visitors, but also to secure property and establish a rapid response mechanism to address emergencies and unforeseen crises," said Atulya Chandra. He further added, "Honeywell's solutions aims at providing a safe learning environment means protecting students, staff and physical assets, while encouraging positive behavior that fosters academic excellence."

"The level of awareness is regrettably very basic and

low. Beyond CCTV cameras and probably access control, students and academics are not aware of the various layers of security. Security solutions providers should regularly engage with the academia in educating it on the importance of a variety of security to safeguard the lives and properties within the campus, observed Ashish P. Dhakan.

"There is definitely a degree of awareness regarding electronic security in the education sector, with student safety being the number one priority. However, implementation is lacking. Though educational institutions realize the criticalness of investing in and installing an electronic security system, they are obstructed by budget and regulation related challenges. This can be solved by vendors providing comprehensive and flexible solutions to meet budget and compliance, and can be further bolstered by government support in the case of public schools," observed Prasenjeet Bhattacharya.

According to Gautam Goradia, "The level of awareness amongst the education ecosystem unfortunately does not stand today where it should. Whilst schools are aware of the threats to their students, teachers and premises, they are not doing enough to protect and prepare themselves. Why are we waiting for another attack like the one in Peshawar to happen to us?"

He further added, "These institutions, like malls are soft and easy targets for miscreants. They are unwilling to set aside larger budgets for security. They are unfortunately looking for cheap solutions to do the job. They install electronic systems but more often than not aren't even trained to work with them. So many cases have been reported where an incident has occurred but on looking for the footage, it has been found that the cameras were not working, the DVR had failed to record, or the data had been overwritten."

"In the wake of recent events, such as indiscriminate shooting by psychopaths or terroristic activities targeting schools and educational institutes, educational institutions are reviewing their security infrastructure," said Ashwin Amarapur.

He further added, "Instead of serving as forensic tools that aid in post event analysis by providing evidence of events that have already occurred, security systems now are expected to help educational institutions detect and mitigate problems instantaneously as they happen. Because of this, the authorities are adopting systems that have faster response to any security breach and allow them to deal with all kinds of emergencies in real time."

EMERGING THREATS

"In addition to facing traditional security threats of vandalism, theft and violence, campus



Manoj Khadkikar,
Head - Channels & Solutions
Group, ZICOM Electronic
Security Systems



Gautam Goradia,
CEO & MD, COM-SUR



Narendra Kumar,
Head, Strategy & Marketing,
2020 Imaging

administrators and security; personnel deal with threats that escalate into crisis events, explained Atulya Chandra.

He further added, "Campus violence has increased in education sector in last few years globally. In India, educational institutions have been facing security threats such as incidents of suicides and deaths due to ragging, shootouts, acid attacks, kidnapping, molestations, ransom, vandalism, bullying and many more."

"Honeywell provides staff and administration the ability to offer "shelter in place" with one action that allows emergency personnel to view live video remotely. We provide the means to deter and detect criminal activity, respond proactively, and provide investigative tools that enable security personnel to apprehend and prosecute individuals posing a threat to school / institution," informed Atulya Chandra.

According Ashish P. Dhakan, "The education sector has been menacingly facing multi-faceted threats. The common security concerns are: Agitation, Arson, Fire, Gas Leaks, Bullying Burglary, Drug Menace, Earthquake, Landslides, Flood, Group Fighting, Illicit activities inside campus, Intrusion to educational premises, Personal safety of staff, pupils and visitors to education premises, School Bus Drivers indulging in Child Abuse, Unprovoked Shooting Theft, Vandalism, Violence and Terrorism."

He further added, "Hikvision has a number of educational security solution and technologies in meeting and preempting the above threats. However, it is possible only if the security system is constantly and properly maintained and monitored."

According to Prasenjeet Bhattacharya, "Besides threats of theft, vandalism, and personal crimes, the incidence of violence in the education sector in the form of campus shootings and terrorist attacks has risen globally in the past few years. Furthermore, natural calamities like fires and earthquakes also pose a serious threat to high-volume and high-infrastructure institutions like schools and colleges. These challenging times call for uncompromising solutions and constant vigilance on the part of school security."

According to Gautam Goradia, "The education sector is a vulnerable one, a soft target. Cases of child sexual abuse and terrorism are on the rise. The attacks in a Peshawar school and a college in Nigeria



Ashwin Amarapur,
Director, AllGoVision



Educational
institutions are seeking a total security package to guard against threats like unauthorized entry, vandalism, unsafe parking lots and random acts of violence. A total security solution requires an IP platform and management software that centralizes the surveillance needs of the campus and enables integration with other security solutions



Atulya Chandra, General
Manager, Honeywell
Security Group – Asia Pacific

were gruesome reminders. No amount of cameras or other security measures taken seem to be deterring these heinous crimes. Management often works with the attitude that their institutions have the highest standards of safety and will never be a victim of these activities. What they fail to understand is that in cases like child sexual abuse, it is more often than not an insider job. Principals, physical education teachers, canteen staff, security guards have been found to be misbehaving with students, both girls and boys. This happens because they are not conducting background checks on the staff hired, especially security guards, peons, canteen staff, bus contractors, etc. Nor are they making good use of their CCTV camera systems. The mere installation of cameras will never serve any purpose."

He further added, "There are several schools in Mumbai that have installed cameras, yet incidents continue to take place. This is only because NOBODY makes the effort to review CCTV on a regular basis. Regular review of CCTV can help discover so many irregularities such as the non-working of cameras, staff incidents, housekeeping incidents, etc. Just being aware is not going to be enough. This awareness needs to be followed up with action that needs to be taken by schools and parents, both."

According to Divanshu Gupta, "There are many threats."

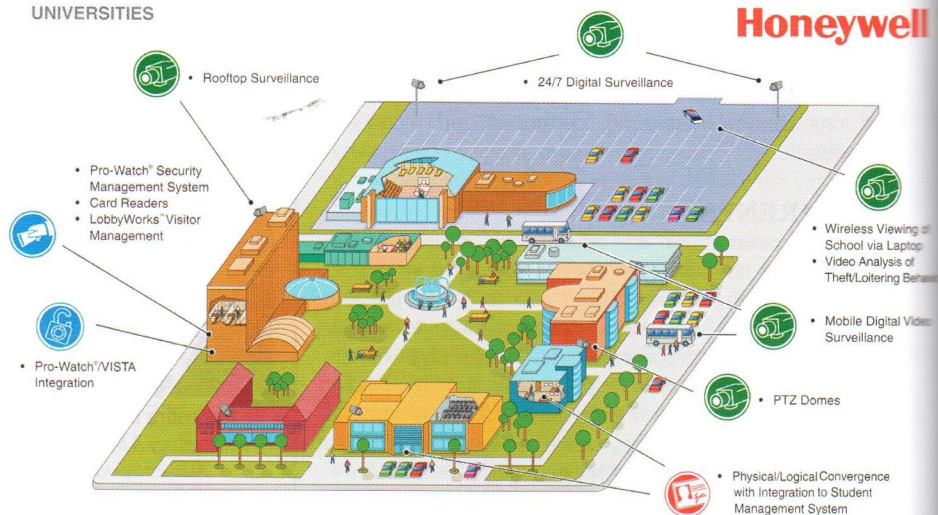
To mention a few are;

- Social crime such as intrusion to school by suspicious individuals, gun shooting, violent incident targeting students.
- Damage caused by vandalism and theft (by internal / external)
- Inefficient security operation including manned guards

SECURITY STRATEGY

According to Ashish p. Dhakan, "To prevent any unsavory incidents in educational institutions, the management should enforce strict policies and make them known to all pupils, parents, other stakeholders and visitors. For it should plan a security strategy involving all concerned."

UNIVERSITIES



"At the primary and secondary level, entry points to all school facilities must be strictly monitored, as well as access to private records and valuable equipment. Visitor entry must be thoroughly examined with internal and external video surveillance for buildings, parking lots and perimeters. Entire school districts and campus radiuses should be monitored in partnership with local law enforcement, suggested Prasenjeet Bhattacharya.

He further added, "At the college level, ensuring campus-wide security is a strategic task, requiring a balance between creating a safe learning environment and an open, free atmosphere. University campuses with boarding facilities would require 24x7 surveillance, issuance of smart access cards, parking permits and vehicle identification systems. In all cases, alarm solutions and premise lockdowns should be enabled and automated for elevated threats."

"Whether it is a primary education institution, college or University, the precautions to be taken are all the same. First and foremost, boundary walls of sufficient height should secure the premises of the educational institution. These should be further fortified with barbed wires so as to prevent unauthorized access. Secondly CCTV cameras should be installed at strategic locations within the premises," suggested Gautam Goradia.

He further added, "A Standard Operating Procedure should be formulated wherein the concerned personnel would review the cameras on a daily basis. A thorough security check of visitors/students/teachers and their bags/belongings need to be conducted at all entry and exit points. At relevant locations within the premises, adequate helpline information and telephone numbers need to be displayed for emergency situations such as a terror attack, fire, or a natural disaster (for example, an earthquake). An emergency notification system should also be in place that will enable the students/teachers/staff to alert concerned authorities/law enforcement via e-mail, SMS, telephone call in case of emergency situations."

According to Narendra Kumar, "The big range of age group in educational institutes means it comes with its own unique sets of challenges. For example, a kindergarten kid cannot be expected to punch in its identity card every time he or she enters the school. Mass entry / exit means traditional people count logic through cameras will become a challenge. While video analytics solutions such as sterile zone and loitering can be an effective security solution for a campus housing younger children, it may only raise false alarms in institutes handling senior students. While, kindergarten may require escort authorization, senior schools may require data analytics to detect student behaviour."

"Video Analytics which processes the video content for providing automatic situational awareness is a key enabler in this task. Be it detection



Divanshu Gupta,
Product Manager, Security
Products, Professional
Solution Division, Sony India



Hikvision's latest technologies and solutions equipment and devices provide utmost safety and security for all people and properties in the education sector. We enlist the important ones like Perimeter Fencing, Parking Lot Solutions, Illegal Parking Detection, Biometric Solutions including facial, fingerprints, iris scanning, Fire, Emergency Alarms, Time & Attendance Solutions, People-Students Gathering Detection, Enter, Exit, Intrusion and Loiter Detection.

Ashish P. Dhakan,
MD & CEO, Prama Hikvision

of intruder trying to cross campus perimeter, or suspicious incidences involving unusual human action or abandoned objects, Video Analytics is capable of alerting against all critical security threats," suggested Ashwin Amarapur.

He further added, "The nature of threats in an educational institute may vary during the course of the day. While in the time the primary concern is access control by allowing only the authorized personnel (students, teachers, staff) and thereby ensuring any potential miscreant remain outside, at night, the focus shifts to asset protection and prevention of vandalism."

"Video Analytics can play a key role in access control system. Facial Recognition based system being a contactless form of access control, unlike traditional access card or fingerprint detection based system, helps a lot in curbing spread of epidemics in the campus for clinical reasons. Occasionally there can be malicious attempt by an intruder following closely another person to get access while the door is about to be fully closed after the authorized person's entry. Such security lapses can easily be sensed with video analytics and trailing detection, said Ashwin Amarapur.

"Agitating people or external miscreants can resort to vandalism and try to tamper camera for hiding evidence. In such scenario video analytics based camera tampering detection helps. Video analytics can also provide vandalism and graffiti detection. Gesture recognition feature can detect group fights where people are using weapons or suspicious and due to which the algorithm sense a different aspect ratio compared to usual human agent," explained Ashwin Amarapur.

He further elaborated, "From the surveillance video analytics solution can automatically detect human faces and capture the same for records and future investigations. While cases of child abuse in kindergartens or lower schools are coming in the news, Face Detection and Capture feature can be useful in maintaining evidence for people who came in the vicinity in recent times. For post event analysis face forensic search can be used where video analytics provides close matches of suspect photo in the recorded video."

"In institutes with huge ICT infrastructure the Server Rooms are prone to short circuits and related fire hazards. Video Analytics detects presence of smoke rapidly in a matter of few seconds and can alert against potential fire hazards much before the conventional fire sensors can act. This saves you from huge loss of property and data," cautioned Ashwin Amarapur.

"All different Segments in education sector face some constant problems in terms of vandalism, intrusion and theft. In many ways, it has been an uphill struggle for them, but, now CCTV technology has evolved to the point where it can really help by offering IK rated impact-resistant feature to protect the camera in tough environments, High Light Performance, Advanced Intelligent Video Analytics Camera End to trigger an alarm based on user-defined rules including intelligent motion detection, crossing line filter, object detection capabilities, WDR to capture objects clearly and adaptively even under very harsh, severe backlights

highlight conditions many more," suggested Divanshu Gupta.

SPECIAL PRECAUTIONS

According to Ashish P. Dhakan, "Students and teachers must be imparted 'Disaster Management' training that will come in handy during emergencies like flood, earthquake, landslides, fire, gas leak or explosion. A Workshop on 'Disaster Management Techniques' and 'Fire Safety Measures' will equip students and teachers to handle mishaps without panic with no or less damage to people and property. A practical demonstration on fire safety measures help the students and teachers to understand the precautions that need to be taken when putting out fire.

Students/pupils in schools and colleges should be made to wear identity card prominently inside the campus. Pupils in schools must come in uniforms.

"Evacuation drills, safety training, and security and awareness workshops for both students and staff are must-have strategies to ensure the protection of students and teachers. Without understanding the mechanism of security procedures, students and teachers cannot be expected to know what to do in case of emergencies. These exercises must be supported by a network of integrated security solutions, which set off a chain reaction of responses in a crisis situation," informed Prasenjeet Bhattacharya.

He further added, "An ideal communications system would begin with video surveillance and emergency notification, followed by facility-wide public announcement, lockdown or evacuation, and contact with first responders. Campuses should also extend a single-source hotline for external stakeholders."

According to Gautam Goradia, "One precautionary measure that must be taken is regular fire drills. They must be conducted on a weekly basis so that students and teachers are both fully aware of how to react if such a situation should occur. Besides this, thorough background checks must be conducted when hiring security guards, peons, canteen staff, bus contractors, etc. CCTV cameras MUST be checked on a daily basis. Only then will the institution begin to discover exceptions which otherwise go amiss. This will allow them to prevent incidents."

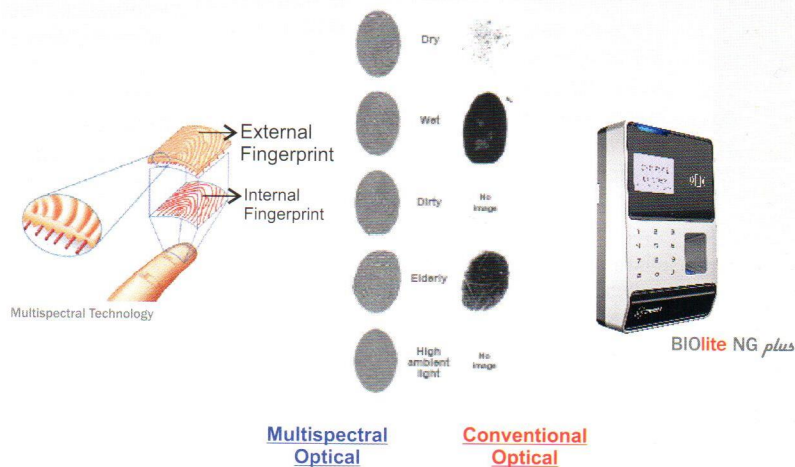
According to Ashwin Amarapur, "Providing a safe learning environment means protecting students, staff and physical assets, while encouraging positive behavior that fosters academic excellence. For this while video surveillance is quite inevitable, there is a challenge in maintaining privacy of people who are under surveillance. AllGoVision has an advanced technology providing a unique solution for privacy requirement by masking the faces of people. This is typically used in surveillance scenario where you want to record the unmasked video for future identification needs, and would like the masked video to be viewed live for monitoring purpose. Also if you are exporting a video for evidence of some action which doesn't necessarily need the person to be identified in the scene, you can use the masked video while maintaining the persons' privacy."

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LATEST TECHNOLOGIES AND SOLUTIONS

According to Atulya Chandra, "Educational institutions are seeking a total security package to guard against threats like unauthorized entry, vandalism, unsafe parking lots and random acts of violence. A total security solution requires an IP platform and management software that centralizes the surveillance needs of the campus and enables integration with other security solutions."

He further added, "Video surveillance is a force multiplier on campuses as it deters crime, prevents vandalism, monitors parking lots, aids in investigations and implementation of university policies and allows remote access. Apart from emergencies, archived video can also be used to provide evidence in disciplinary cases."

"Video Content Analytics (VCA) also allow crowd behavior recognition. A video surveillance system using analytics can identify a variety of misdemeanors happening in the campus, suggested Atulya Chandra.

He further added, "From intrusion detection to IP video and analytics, Honeywell's integrated solutions protect campus facilities to help prevent the distractions and losses that keep students, teachers and administrators from being productive. Comprehensive security management systems and smart card technology track employees, students and visitors as well as limit access to classrooms, dorms and specialized facilities. Best of all, these solutions streamline processes and are easily managed, with the existing manpower in place. In fact, in many cases the institution can optimize the staff by integrating all systems into a common security platform that can be managed locally, or link several campuses together to be managed centrally."

"Noteworthy security issues at schools and universities around the world sometimes result in new laws and regulations that affect your school. Keeping up with the ever-changing legislation and requirements for school security is a full-time job in itself. Honeywell provides solutions for diverse requirements such as clean rooms, healthcare facilities and laboratories along with the ability to provide audit reporting. Honeywell's staff of security experts stays up-to-date on regulatory changes, helping to ensure that our solutions meet the complex compliance requirements of the education market, elaborated Atulya Chandra.



The realities of today's world demand sophisticated security solutions that layer levels of protection with a multi-technology, multi-tiered approach. Attacks on campuses are increasingly time-sensitive, necessitating real-time communication and access to information. Panasonic's advanced security systems provide integrated solutions, which can proactively alert campus personnel on real and potential incidents, and are accessible anywhere on the network. Our systems improve response times through advanced intrusion detection, video analysis, facial recognition, behavior detection, and remote live monitoring on smart phones and tablets.



Prasenjeet Bhattacharya,
Head, Security and
Surveillance Systems Solutions,
SSD, Panasonic India

on real and potential incidents, and are accessible anywhere on the network. Our systems improve response times through advanced intrusion detection, video analysis, facial recognition, behavior detection, and remote live monitoring on smart phones and tablets, said Prasenjeet Bhattacharya.

"ZICOM leads in ensuring adequate security in many school and college campuses across the country. Apart from providing video surveillance (CCTV cameras, NVR, Networking, Storage Servers and other accessories), ZICOM also secures the campus through its Access Control Systems, Perimeter Fencing, Parking Management System, Fire & Emergency Alarms, Biometrics, Time & Attendance Systems, 24x7 Remote Monitoring and Health Check of security systems. It also offers 'e-Track' the most advanced school bus tracking system to ensure children's safety," said Manoj Khadikar.

He further added, "ZICOM launched early 2015 'e-Track' to help worried parents, working couples and the school authorities to keep a constant tab on the school bus and the pupils. After a resounding success in a Pune School it has been widely adopted in leading schools in Mumbai and other cities."

ZICOM'S TIME & ATTENDANCE SOLUTIONS

Time and attendance play an important role in educational institutions. It inculcates

He further added, "A reliable security system is an important investment in controlling costs by preventing resources from being squandered on non-educational expenses. Honeywell's Pro-Watch security management system can minimize wasted cash outlay by mitigating risk and eliminating costs associated with theft, property damage and liabilities. Our offerings automate the security process by enabling campus staff to be allocated to other tasks and provide administrators and security officials with key information to make intelligent decisions."

According to Ashish P. Dhakan, "Hikvision's latest technologies and solutions equipment and devices provide utmost safety and security for all people and properties in the education sector. We enlist the important ones like Perimeter Fencing, Parking Lot Solutions, Illegal Parking Detection, Biometric Solutions including facial fingerprints, iris scanning, Fire, Emergency Alarms, Time & Attendance Solutions, People-Students Gathering Detection, Enter, Exit, Intrusion and Loiter Detection."

He further added, "Hikvision also offers intelligent video surveillance that improves critical response time, unified integrated system and ensures complete system reliability. Video surveillance and video analytics systems also allow crowd behavior recognition. An IP video surveillance system using video analytics can identify a variety of misdemeanors – be it a drunken person entering the campus, students bunking classes, disturbing the library environment. Consequently, campuses that have installed Hikvision's security solutions have never faced, touchwood any untoward incident so far which stands as testimony to our quality products, its efficacy and empirical values."

"The realities of today's world demand sophisticated security solutions that layer levels of protection with a multi-technology, multi-tiered approach. Attacks on campuses are increasingly time-sensitive, necessitating real-time communication and access to information. Panasonic's advanced security systems provide integrated solutions, which can proactively alert campus personnel



punctuality and discipline. Many leading educational institutions looking out for an effective T&A Solutions have installed ZICOM's cutting-edge security solutions.

ZICOM has got both biometric and bio proximity Time & Attendance Systems. ZICOM's Time and Attendance linked to access control enables students' access to specific areas only.

ZICOM's BioEnable iClock Time and attendance and access control features high performance, high image quality optical fingerprint sensor. Push Data and Photo identity make it more secure and fast. It also has options for Wi-Fi and GPRS connectivity.

"CCTV Camera Systems, fire alarms, smoke detectors, and perimeter security taut wires are some of the equipment being used by education institutions," suggested Gautam Goradia.

How often do we read a news item that speaks of cases of child molestation at a school, or that there was such a case but no evidence found because the cameras were not working/DVR had failed/video had been overwritten? The answer, almost on a daily basis.

"COM-SUR is working towards making the education system safer not only in India but also globally. Currently, educational institutions are relying only on CCTV cameras and a few perimeter security measures such as taut wires, etc., but this is not enough. CCTV cameras are of no use if they are not being reviewed on a daily basis. Once review is conducted regularly, cases of bullying, suspicious movements in /around the premises, safety issues in school buses, cheating, indiscipline, housekeeping issues and so on can be discovered easily," informed Gautam Goradia.

He further added, "Further, COM-SUR allows the



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Gautam Goradia,
CEO & MD, COM-SUR

creation of 'Visual Lists'. These could be depicting guard information, or information of students and teachers going on a school trip, or can even be the list of school personnel who are to be contacted in case of an emergency. With this information easily available to them, parents would feel secure about their child's safety."

"Further, COM-SUR enables the creation of Standardized Intelligent Incident Reports in PowerPoint/PDF. These contain the entire story (the 5 Ws and 1 H (Who, What, Where, When, Why and How). These enable the concerned stakeholders to take the appropriate 'next steps' in case of an incident. Com-Sur's Incident Reports use historical data to deliver patterns. What kind of incidents are taking place on what days, time, location etc., is what these patterns suggest. This allows stakeholders to take corrective/preventive measures, concluded Gautam Goradia.

"GIS-based fleet tracking systems are available today for use by schools for their buses. They come with advanced functionalities such as geofencing, so you not only know where your assets are at any given point, but can also identify anomalies with respect to location and time. When it comes to access control, we have long range wireless readers that do not necessitate punching by students, and this enables monitoring and recording of entry / exit into school buses and campus, even when they happen in large numbers," suggested Narendra Kumar.

He further added, "Latest internet technologies mean this can be quickly correlated with the attendance management system and SMS gateways for notification to parents. Video analytics solutions inside the campus have become an essential innovation adoption required in school, considering the threats posed by insiders to the security of inmates. Software technologies today have become very advanced that all of these can be brought under one common platform for single-window alert handling and response management of situations."

"While Video Analytics is an essential constituent in the new designs of IP camera based surveillance infrastructure, many of the existing security system comprising CCTV systems can be renovated and empowered by Video Analytics. Open platform solutions can work with existing infrastructure (ONVIF compliant cameras and VMS software) in a seamless manner. Even for analog CCTV systems, which used to have coaxial cables to display on monitor and record on a VCR / DVR, the benefits of video analytics can be reaped by using encoders to convert an analog video signal on coax over to an IP formatted signal that can be transmitted onto an Ethernet compliant fiber optic medium," observed Ashwin Amarapur.

According to Divanshu Gupta, "It is crucial that the solution not only provide safety and security for staff, students and visitors, but also remain discreet and does not intrude on the daily life of them."

He further added, "Sony's unique signal processing and intelligent video analytics technologies to provide unique features such as a high frame rate, View-DR, XDNR, DEPA Advanced, Gyroscopic Image Stabilizer, Focal Plane Distortion Correction, and Defog Image Processing."

"We have various cameras in our line-up and our Full HD cameras X series SNC-XM631 were well received with the customer in education sector with its compact design, vandal resistant with an IK10 rating for protection against tampering or deliberate damage, high picture quality to capture the scene clearly even under the challenging low-light conditions in areas of variable lighting," observed Divanshu Gupta.

He further added, "Another requirement from education sector is the simple and flexible system that is easy to install and operate across multiple sites. With our SNC Toolbox, the staff can automatically find Sony network cameras on the network, perform firmware upgrades, apply a setting for multiple cameras, and other key functions, thus management is easy and efficient."

"Just as in the broadcast or consumer markets, the transition from SD (standard definition) to HD (high definition) is pretty much established, and now, the trend is moving to 4K. We believe – as evidenced by recent product introductions including Sony – that the next innovation in security will be 4K," informed Divanshu Gupta.

APPLICATION CASES

"We have provided IP based surveillance to the prestigious institutes like Lady Harding



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Ashwin Amarapur,
Director, AllGoVision

College, Aligarh Muslim University and PDPU to name a few. While, the common thread in these organizations is an enterprise level solution that is scalable, open and upgradable to analytics or integration with third party security system, the networking planning is different based on the existing infrastructure and the campus specific requirements. Lot of attempts has been made to provide a balance between the security and the free learning atmosphere," concluded Prasenjeet Bhattacharya.

"2020 Imaging is working with one of the international schools in Mumbai for central tracking and notification system. The solution will detect identity-based entry and exit of students into and from the school buses as well as the school campus. Notifications will be sent to parents during each movement. At the backend, the system will talk to the attendance management system and also the parent-student portal so there is a common alert management and notification platform. In a subsequent phase, the solution will also integrate with the surveillance and fire system so there is a common picture of the school's operations. In addition to this, the solution will also integrate multiple facilities of this school across cities into a central location giving complete command and control of the operations," informed Narendra Kumar.

"China's Changzhou University was in need of a smart security system which can provide real time alerts against intrusion attempts at perimeter and other critical zones in the campus. The project was executed by Securex and deployed AllGoVision solution on 16 camera channels for Video Analytics Intrusion Detection as well as Smoke Detection requirements. Back home in Pune, India, the Symbiosis International University also embraced AllGoVision's advanced video analytics for intrusion detection application," concluded Ashwin Amarapur.

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