

Security Solutions for Today's Educators

The Obstacles faced by schools, colleges and universities are Constantly Evolving, and so should we.

Developing a safe and secure environment in an educational institution is the responsibility of the entire community. Colleges and Universities must be vigilant about security on their campuses. Members of the campus community expect the highest level of security services related to personal safety, access control, and physical security. Due to the economic struggles facing many educational institutions,

administrators may find it challenging to provide reasonable protection for students, faculty/staff and its facilities.

The sheer scale of educational facilities nowadays makes it difficult to keep track of who does or does not belong in certain buildings. Furthermore, the number of incidents regarding vandalism, theft and aggression are on the rise. Evidently, emergencies like a fire require immediate response and follow-up.

Establishing effective security for educational institutions is quite the challenge.

The key for educational institutions to meet all of these information security demands is to proactively implement security controls and best practices, rather than taking a reactive approach and responding to short-term requirements.

However, with the increase of information being controlled by technology and the rise in security breaches, educational institutions are slowly embracing data security practices.

Innovative Security Solutions available for India's Education Sector

As per Ashish P. Dhakan, MD & CEO, Prama Hikvision India Pvt. Ltd., "India's education sector is vast and holds great potential for innovative security solutions. The first lockdown and the second wave of pandemic has put the education sector under lot of stress and uncertainty. However, through the digital transformation, education sector is getting some solace. The education Sector needs both online security solutions and physical security solutions.

Security has to be prioritized in every aspect of the education segment. Right from the moment the child leaves the parent to start for school till the time he is back home – for every situation many innovative security solutions have been designed. These include AI enabled Temperature Screening Solutions, Video Security Solutions for School Bus, GPS tracking, PanoVu Camera, Visitor Management, Visitor Car Checking, Automatic Number Plates Recognition (ANPR) for Vehicles and Face Recognition Solutions.

For the COVID-19 situation and post lockdown scenario, we have introduced Temperature Screening Thermographic cameras for a temperature check-up of staff and visitors, security systems in the classroom, in the corridor areas, and in the playground and campus, people counting system, crowd density and social distancing cameras. We offer a comprehensive range of security and broadcasting solutions

to the education sector. We at Prama Hikvision are committed to provide innovative security solutions to secure the Indian education ecosystem."

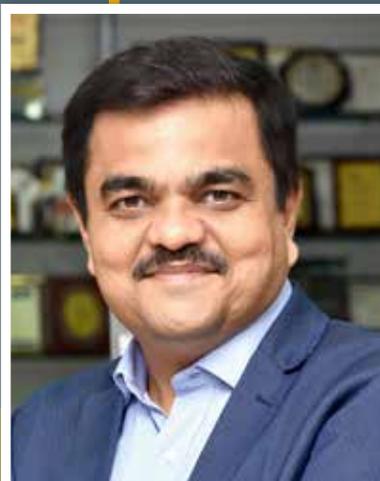
According to Anand Thirunagari, Country Lead, India, Genetec, Inc., "There are several important components to a campus physical security solution. Video surveillance provides a live and recorded visual representation of what's happening across a campus and can readily be called upon to provide important information in the investigation process. Electronic access control on doors and barriers not only regulates who goes where, but also provides protection for property and assets. The capability to immediately lock down an entire campus is also an absolute necessity in this day and age. Automatic license plate recognition (ALPR) can help locate individuals that have been banned from campus even before they park their car. These components – along with analytics, communications, and intrusion detection – can work together to provide campuses the most secure learning environment available.

But when evaluating security solutions, it's important to look at the whole picture. It's no longer satisfactory to put together disparate

security components and just hope they will work properly together via an application programming interface (API) or software development kit (SDK). While relying solely on these types of integrations in the past has been acceptable, advances in technology have resulted in unified solutions that are built from the ground up and coded together to bring the functionality of these components together in one platform that delivers seamless interaction right out of the box.

Unification means that all physical security components are not only run from one user interface but are – at their core – the same system. A unified campus security solution maximizes usage of the infrastructure, makes upgrades seamless, provides continuous traceability and presents comprehensive cyber security threat level management. Plus, training is simplified, as there is just one system and one interface for administrators and security personnel to learn. Support and maintenance are also more efficient, with one point of contact to find the root cause of issues and ensure compatibility between versions.

A unified campus security solution can deliver a variety of additional



Ashish P. Dhakan
MD & CEO,
Prama Hikvision India Pvt. Ltd.



The Education Sector needs both Online Security solutions and Physical Security solutions.”

benefits including increased situational awareness, real-time collaboration with the authorities, improved campus flow, more efficient parking management, and security that protects the many areas and assets that can be found in an education setting.”

Sudhindra Holla, Director, Axis Communications, India & SAARC said, “According to a study by IBEF, India has over 250 million school going students and the Indian education market is expected to grow to USD 225 billion by FY2025. With the largest population, India has a huge opportunity in the education market.

Axis intelligent surveillance technology provides maximum protection for students, staff, and education property, and also offers operational and educational benefits. The integrated video surveillance and access control solutions are scalable and flexible, delivering clear image detail and maximum coverage. The solution is also equipped with secure vestibules for visitor management and automated access for after-school activities.

Axis products enable remote access to video for all offices from a single location. The complete system can

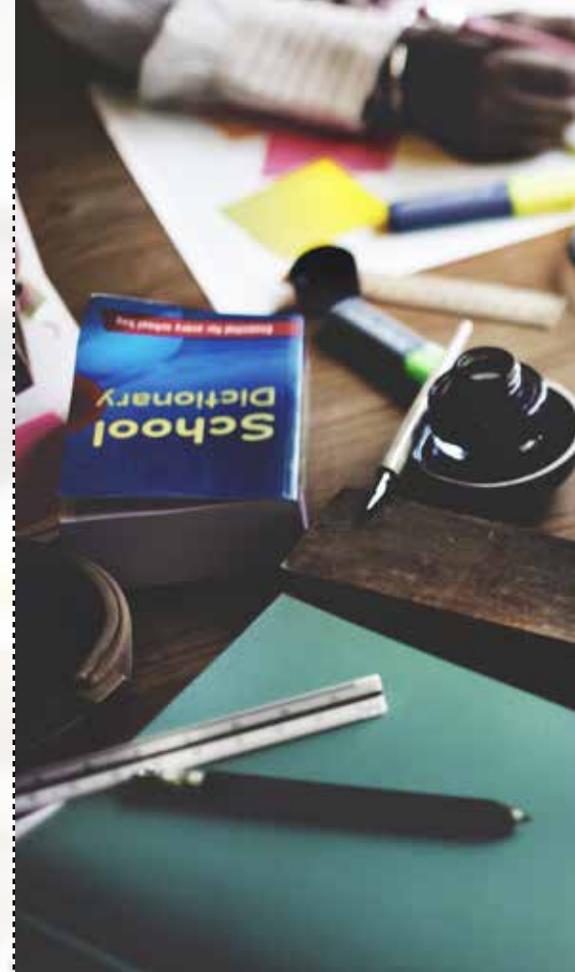
be easily integrated with the existing network of computers thereby reducing installation and maintenance costs.

AXIS M30 Network Camera Series are mini domes suitable for both indoor and outdoor surveillance with video quality up to 12 MP. The series includes panoramic cameras, cameras with IR illumination for surveillance in complete darkness, and cameras with a built-in microphone for audio surveillance.

AXIS P32 Network Camera Series include versatile, cost-efficient fixed dome cameras for flexible installation. The series includes cameras with the top-of-the-line Axis technologies Forensic WDR, OptimizedIR and Lightfinder 2.0 for high-quality images with significantly improved colors and low-light performance.

Axis products have been installed at educational institutions such as The Indian Public School, Coimbatore, Amrita School, Kerala, Dayalbagh Educational Institute, Agra, Osmania University, Hyderabad and IIM Bengaluru.”

As per Kaushal Kadakia, Marketing Manager, Matrix Comsec, “Innovation in the arena of video surveillance is growing day by day. Intelligent video surveillance is sinking in the



monitoring routine of educational institutions. Educational institutions are opting for solutions that give them control over their premises without much supervision. Video management systems with smart triggers are being opted more. With cognitive algorithms and smart parking management solutions, video surveillance has resulted in effortless security for educational institutions. Security personnel can monitor right from the entry of an individual to their exit without much effort. Real-time notifications on exceptions lead to a safer environment for the students and staff.

Looking at the innovations in access control, the pandemic has led us to shift our security to contactless technologies. Bluetooth-based authentication, QR Code, Palm-Vein Recognition, Face Recognition (FR) are capturing the market more than conventional technologies. Again, technologies that gauge temperature are developed which can integrate with the door controllers to maintain a safe environment at the premises. Ultimately, we are looking at contactless security in the future.”





Education facilities contain several complex areas that require special attention while designing safety and security strategy. Allowing for the freedom of movement in an open environment, while also securing academic areas and common spaces, is essential to meeting the safety expectations of students, faculty, parents, and the wider community.

Key highlights of Videonetics AI powered Education Solution:

Based on government guidelines, the requirements of educational institutions/school might vary from premise to premise and those requirements will change as COVID-19 stipulations progress from one phase to the next.

We have developed a ‘proactive’ and ‘intelligent’ security solution that not only creates greater situational awareness but also notifies authorities about potential threats and improves efficiency in day-to-day operations, eventually providing happier, safer, smarter learning environment with greater academic achievement. The solution is developed to address operational needs today and evolve as those needs change.

As per Avinash Trivedi, VP – Business Development, Videonetics Technology Pvt. Ltd., **“Concurrent security challenges of education institutions:**

- With COVID-19 still among us, many educational institutions/schools are shut down, partially shut down or limiting access. While the risk of unwanted access in a campus setting has always been a security risk, campuses are also dealing with additional threats and risks associated to COVID-19.

As society adjusts to the ‘new normal,’ schools need to create an environment that is safe for all occupants, with minimal disruption to the learning experience. Now, stakeholders at government and educational institutions are concerned about how they can open safely as well as creating an environment that’s effective for education and for students and teachers.

- Typically, K-12 schools, colleges and universities are increasingly becoming vulnerable targets for

threats and attacks, education establishments need to maintain a welcoming and open environment while ensuring the comprehensive safety of the students, teachers, and staff.



Anand Thirunagari
Country Lead, India,
Genetec, Inc.



Electronic Access Control on doors and barriers not only regulates whom goes where, but also provides Protection for Property and Assets.”

Powered by artificial intelligence, Videonetics AI powered education solution offers a variety of analytics for 360-degree coverage of the education establishments for safety, security, and forensic investigation.

- Videonetics **Intelligent VMS** unifies uninterrupted views of camera feeds throughout a campus, thus allowing security operators to keep monitoring every corner of the premise.
- To provide safety of students and staff and prevent property loss, **AI enabled video analytics** including loitering detection, perimeter detection, person slip/fall detection, people counting, crowd formation, student behaviour and gesture recognition and so on, can be deployed at common areas, campus ground, classrooms, administrative areas. Thus, it empowers authority to identify potential threats and take immediate action, as necessary.
- **AI powered facial recognition** can be deployed for various purposes such as capturing student presence to restricting the access to rusticated or suspended students or other personnel within the school premises.
- Vehicle management is also of

top priority for keeping a safe campus today. The **Intelligent VMS 3.0 can be integrated with Vehicle Based Surveillance System** to provide unified view of monitoring vehicular movement, speeding, wrong way movements etc. This way, we help education facilities in ensuring safety of the students' passengers, reduce risk and manage their transportation more effectively.

Last but not the least, Videonetics unified interface provides a freedom to school to build one or many control rooms to view real-time alerts, manage them, and respond to them swiftly. They can use the information being collected by the unified interface to better understand their environment. Moreover, they can detect patterns on how people access and move through the campus/facilities to develop strategies that maximize the use of space and keep everyone safe."

According to Manmohan Kumar, Sales Director India - Security Division, Rosslare Electronics India Pvt. Ltd., "As corporates are moving towards automation, education sector also should not lag behind and moving in the same direction and working towards automating its students attendance and bus monitoring to some extent. Biometric and card

based attendance system is very common these days with most of the schools where students and staffs are marking their attendance using the same. Access control for labs and other important areas are also getting considered. School buses are also now getting equipped with GPS and attendance system where parents are getting updated through SMS for child boarding and de-boarding Buses. ROSSLARE's complete range of card and biometric readers are getting considered for attendance and access control purpose. ROSSLARE Card Readers are also getting installed with buses integrated with SMS server for sending message to parents."

As per Parthesh Dhaggal, Founder, Enceplon, "India's educational security solutions have come of age. Today, the country has a large number of innovative security solutions in the education campuses such as access control and time-attendance solution, cloud based surveillance to increase mobility, mobile-based remote viewing, RFID based student attendance and parent notifications, automated fire alarms, smoke detectors, fire extinguishers, intrusion alarms, x-ray scanners, and





central monitoring of all campuses at different places are in place.

Furthermore, Entry Automation, Parking Solutions, RF, UHF, VHF based solutions a Digital Visitor Management System, Students Tracking System, Digital Cloud-based Student Tracking Systems, Face Recognition Systems, Video plus AI that provide insights from heat mapping, motion detection, behavior analytics.

Video is a staple component in today's school security systems. In addition to providing live CCTV feeds of their child studying in the classroom to parents, they also ensure their safety in precarious situations.

To counter cyber threats appropriate security software including firewalls, intrusion detection and prevention systems, endpoint security solutions and antivirus for all client machines as well as servers are being installed.

Key Challenges for Installing Security Systems

According to Dhakan, "There are multiple key challenges that transcend the size, location and grade

level for all campuses and educational facilities, involving not just installing security systems, but also managing them effectively.

- The need for wide area video security to adequately cover exterior and interior spaces.

- To provide a safe and secure environment, impenetrable to intruders, while retaining a fluid environment for students, faculty, staff and visitors.
- To maintain these security systems and controls in an environment that is open and conducive to learning.
- The seamless integration of Video Security, Access Control, Perimeter Security and Intruder Alarm onto one VMS platform."

As per Thirunagari, "Keeping students safe remains the top priority at educational institutions in India and across the globe. Teaching, research, and learning happen best when everyone feels safe and secure, and that's only possible in a security-enabled environment. There are a number of threats that educational institutions face on a daily basis including unauthorized visitors, theft, and gun violence.

IP technology in physical security solutions continues to improve and offers schools and campuses a variety of tailored solutions that can deliver safer schools so that students, staff, and faculty can focus on learning.

The pandemic has brought on a whole new set of challenges for campuses



Sudhindra Holla
Director, Axis Communications,
India and SAARC



A Network Architecture has many Liabilities which come into light only when a Cyber Attack occurs.”

and educational institutions. In addition to having to re-invent the way they provide education in a time of crisis, schools are also being tasked with mitigating the spread of COVID-19. Because administrators are tasked with protecting students, staff, and visitors – usually on a strict budget – it's imperative that they invest in a security system that will provide the most technologically advanced solution both today and tomorrow. Increasingly, we are seeing a greater focus on unifying disparate technologies and systems and then leveraging this unification to make data-driven decisions.

Hence, educational establishments need an open architecture physical security system that offers them the flexibility to decide which devices serve them best. Having the ability to adapt and implement new technologies quickly and effectively will play a key role in keeping staff and students safe today, and their surrounding communities thriving long after the current threat has subsided.”

According to Holla, “Ensuring a safe and secure school environment is important to educational institutions for enhancing a student’s learning. Hence, it is important for an establishment to provide the best

infrastructure and technology. Educational institutes are difficult to secure owing to their huge footfall and their different demographics. The difference between student and staff makes it difficult for the staff to monitor students by themselves.

Schools and colleges have been installing CCTVs on their premises, entrances, exits and peripheries for better surveillance. Doing so enables few people to monitor a large group of staff and students. Manual intervention is reduced with the help of remote screening. This ensures safety of the educational institute in all nooks and corners of the campus.

Audio solutions are required for making important announcements to students and staff in an efficient manner like assembly gathering and issuing notices. This becomes a systematic process with the help of audio systems making everyday processes smoother.”

As per Kadakia, “The key challenges for installing security systems such as video surveillance and access control is vandalism. Educational institutions are usually a target for vandals and they often try to damage the security systems installed on the premises. Again, campuses having multiple branches require a complex security system that gives them a centralized



control is a challenge. The security architecture can be distributed but should give the authorities a centralized governing.

Similarly, installing solutions that can add new devices to the system and integrate with the existing security systems is a challenge. So, keeping such things in mind security should be deployed. However, Matrix's security systems are designed to overcome these challenges and offer clients the convenience of integrating their existing systems with their solutions. Also, another concern for security solution installation is the infrastructure of some of the educational institutions. Educational institutions established 50 years ago might need to put in extra money for installing modern security systems. As a result, it can lead to additional costs for the clients.”

As per Trivedi, “There is a need for a professional approach in designing and implementation of security solutions for educational premises and campuses. The ultimate objective of such institutes is to impart knowledge and prepare students for future. Therefore, such system should





not be too overpowering, at the same time should not be under prepared to meet safety and security challenges.

A unified and holistic approach of system design is required while preparing the security setup blueprint. All the safety and security sub systems such as access control, video surveillance, gate automation, vehicle movement monitoring and management etc. are required to be integrated and work cohesively as a true unified system in order to provide a well-coordinated response to such threat situations.

Secondly, a comprehensive security system can have a positive impact on school safety, but security is never a one-size-fits-all solution. It is always important to take a school's individual challenges and design into consideration."

According to Kumar, "The irregular behaviour of students are the biggest challenge where if Cards /Biometric not shown by children, attendance are not getting marked. ROSSLARE offers UHF Long Range Reader where it can detect the UHF Tag/Card with Students.

Turnstile and other barriers are getting installed to ensure that student should follow the lane for getting detected and attendance should not be missed.

Buses not equipped with proper power supply and Internet options

become an hindrance in installing GPS and SMS Based Services for Parents."

As per Dhaggal, "As the educational campuses are getting bigger and they require numerous security systems to be installed. The first and foremost challenge is privacy. The devices installed should be unobtrusive or non-intrusive but secure, subdued, supportive and reassuring. The installed devices should see without being seen except by the concerned security authorities of the educational institutions. The second challenge is to ensure that the systems are vandal-proof and function 24x 7x365 in all weather conditions. Otherwise, it increases the vulnerability of the education institutions and exposes them to risks.

The security devices' operations must be simple. In case of emergency more than one authorized team should be able to operate the systems to avert calamity. The installation should not affect the connections of other necessities. Other challenges include inadequate bandwidth, legacy technology including out-of-date equipment, obsolescent cabling and equipment in building, inherent structural problems within the building, fragmented institutional



Avinash Trivedi
VP – Business Development,
Videonetics Technology Pvt. Ltd.



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management, geographic remoteness lack of funding for networking, shortage of networking expertise, improper links between buildings and between campuses, and security measures. Educating the user community about conforming to an institutional IT security policy is yet another challenge.”

Preparing students, teachers, staff and parents for better Security Enhancement through Strategies, Guidelines and Policy Framework

According to Dhakan, “This is more of an issue of mind-set. We need to change the mind-set from the reactive security to proactive security. In India, as compared to the developed countries, the cost largely overwhelms the initiative to adopt even the basic security measures. The concept of security is not treated with the importance it deserves, in a majority of cases, it is adopted more out of a need to adhere to compliance norms rather than providing a perfect security solution. This apathy results in deployment of antiquated, poor quality systems with redundant technology. In such cases outdated systems fail to provide the desired results and defeat the very purpose.

To inculcate the culture of security awareness and compliance among

the education ecosystem, various interactive training programs and contests can be helpful. The government can do a lot more by supporting the cause of education security. It is essential to have robust policies, guidelines, and standard operating protocols (SOPs) for the education sector. The government, educational institutes and security industry association can come together to frame guidelines for a safe and secure education ecosystem.”

As per Thirunagari, “Over the past 14 years, several educational boards like the Central Board of Secondary Education (CBSE) have issued guidelines that emphasize the importance of school security and student safety.

The CBSE has laid down briefs on fire safety management, structural safety, how to deal with violence and ragging in schools, how to protect children from sexual abuse, and how to ensure the safety of children in school buses, among others.

This calls for a proactive collaboration on establishing and monitoring safety procedures applicable to infrastructure, resources, transport, as well as the emotional and physical well being of children within the school campus to create a safe learning environment.



A holistic and comprehensive approach is needed from a physical security and operational efficiency standpoint to ensure children’s safety not only at school but from the moment they leave their homes and get on the bus.

Installing security systems like video surveillance at strategic locations across the school premises can ensure that a child’s day-to-day life in school is being monitored and recorded. Having access control systems combined with clear lockdown procedures can help delay a potential intruder’s access and give school authorities enough time to assess the situation and take necessary actions.

When security systems like video and access control are unified, the system can help monitor the entry points into school and provide a visual record of who is entering and exiting the school building. These recorded videos can be helpful to identify any intruders who access the facility.

Schools must be vigilant and constantly on the lookout for any forms of child abuse, whether physical, emotional, or sexual. The





staff should be trained to identify key indicators of abuse and be prepared to respond instantly to inappropriate or harmful behavior. To help guide the correct response Standard Operating Procedures (SOPs) can be digitized using tools like Genetec Mission Control.

The security systems can be effective in school safety investigations, or even act, as deterrents to would be perpetrators.

It is also important for the school administration to include vehicle fleet management as an integral part of the security program. Technology initiatives such as fleet management with real time GPS tracking along with bus cameras can be accessed only by authorized school administrators to ensure surveillance is operational at all times. Such technology interventions would provide real time situational awareness to various stakeholders including the parents, to ensure child's safety not only at school but also while students is transiting from home to school.

The Genetec Security Center, a unified security platform can enable schools

to bring disparate systems into one single platform and user interface enabling effective security and operational efficiency.”

According to Holla, “Monitored training, guidance and education

on policy frameworks and strategies is required to prepare students, teachers, staff, and parents on security enhancement. It is not an easy task to secure every corner of an institution and safeguarding every staff and the large student population. This can only be achieved with the help of a robust surveillance system with both audio and video assistance, making surveillance easier.

Audio solutions can be used to communicate with students, staff, and unwanted visitors. This elevates surveillance and communication experience. High-resolution cameras with discreet designs can blend into the façade allowing surveillance of multiple areas at the same time. Visitor management systems enable remote monitoring of entry and exit of visitors such as parents and vendors. Remote access allows viewing and controlling of security systems from anywhere.”

As per Kadakia, “The first strategy that can be framed for the enhancement of security is creating awareness amongst the students, teachers, staff and parents regarding the security systems in the premises. Again, for creating a secure environment, the educational institutions and campuses should make sure that the areas that



Kaushal Kadakia
Marketing Manager,
Matrix Comsec



Real-time notifications on exceptions lead to a Safer Environment for the students and staff.

are prone to trouble are covered in the field of view. The educational institutions can mark the regions, which require more security. Again, parents can look into the security of the educational institutions and make sure that they are sending their children in secure premises. Next, anti-ragging policies and guidelines should be framed and circulated amongst parents, teachers and students in order to avoid any kind of misbehavior with fellow students.

Furthermore, the students should be made aware that if they are caught in any kind of act that breaks the code of conduct expected from them strict actions would be taken against them. Video surveillance in such cases acts as evidence for the same. Finally, for tightening the security in the educational institutions the staff and teachers can establish committees against any kind of mistreatment with the students.”

As per Trivedi, “Awareness and inclusiveness is the key. The school administration and other stakeholders such as parents, teachers, local administration, policy makers are all required to come on board and cooperate in successful implementation of the guidelines and policies towards safety and security of our students. There are

enough policies and guidelines from the Government however its implementation is in the hands of such stakeholders. Government agencies to play an important to regularly conduct workshops for creating awareness at the same time ensure implementation of the guidelines by conducting strict vigilance and audit on the safety and security preparedness of the educational campuses.

It is important that a ‘safety and security rating’ mechanism should be put in place for all the education institutions so that a parent can make an informed decision while selecting the institute of a choice for their wards.”

According to Kumar, “Its important to make student and teachers to understand that their online presence is important for their security. A parent can take immediate action if SMS of Boarding and De-Boarding has not been received. School can also take immediate action if students’ punches are missing as daily reports can be generated accordingly. It is important that school should have clear strategy and guidelines for the safety of their student and teachers which needs to be following by parents and school management.”

Dhaggal said, “Better security can be achieved through training school administrators, teachers, staff (school resource officers and security officers, secretaries, custodians, school bus drivers, etc.) and parents on school violence prevention, school security, school threat assessment, and school emergency planning best practices.

Evaluating and refining school security measures, updating and exercising school emergency preparedness plans, strengthening partnerships with public safety officials, creating enhanced crisis communications plans and social media strategies better security atmosphere can be prepared.

School emergency plans should address preparedness procedures such as lockdowns, evacuations, parent-student reunification procedures, mobilizing school transportation during the school day, emergency communications protocols with parents and the media, and mobilizing mental health services.

Regular interaction among these three is a must. That is students, teachers





and staff- essential components of a security environment. By collaborating with security solutions providers, educational institutions can organize a ‘Safety Week’ where key security products are displayed.

They can conduct workshops on the importance of security by inviting security experts and enrich the knowledge of students, teachers and the staff on security aspects. A booklet on security explaining security policy, guidelines and strategies will help everyone connected with educational institution know about the significance of security. They can bring out a newsletter on Safety and Security every month and security professionals can be invited to contribute the latest on security matters. This newsletter can be made in printed edition or online depending on the educational institute’s resources.

Periodic demonstration of fire alarms, fire extinguishers and first aid practices, emergency evacuation and the vital steps that are to be taken in a crisis situation.

Introduction of security courses in

the curriculum will help in preparing skilled manpower for the security industry which in turn will result in better security will equip each one in the educational campus to handle the situation without panic when the need arises.



Manmohan Kumar
Sales Director India - Security
Division, Rosslare Electronics
India Pvt. Ltd.

Schools, colleges and other educational institutions can invite CEOs and other senior officials, security professionals, police officers, firebrigade heads from the industry for enlightening them on various security issues. By sharing their vast knowledge and rich experience the industry experts can help academia in preparing for better security. The industry - academia and regular police interactions will go a long way in improving security set up in educational institutions.

DOS AND DONT'S NOTICE BOARD/HAND OUTS for students, teachers, staff and parents will be much useful.”

Educational Institutions Lacking in Preparedness to Handle Cyber Threats and Attacks

As per Dhakan, “Most of the key educational institutions are unaware about cyber threats, but they need to focus more on preparedness part. The awareness about cyber security needs to be developed in the education ecosystem and each stakeholder must be trained to follow the standard operating protocol (SOP) to avoid any security breach.”

According to Thirunagari, “Although educational institutions may not



School can also take Immediate action if students’ punches are Missing as daily reports can be generated accordingly.”

seem to be as an obvious a target as financial services or healthcare organizations, the reality is that they actually house a great deal of sensitive personal and financial information, as well as valuable proprietary research data and intellectual property that is highly attractive to cybercriminals. To successfully protect students, faculty, and visitors, schools and universities need to put in place robust cyber security strategies.

A poorly secured camera, unencrypted communications between a server and client application, or out-of-date firmware can all easily be exploited by cybercriminals and educational institutions can be just as vulnerable as any other organization. Ransomware attacks are particularly costly, and have been known to target systems running common, but outdated software.

All too often, people are the weakest link when it comes to cyber security breaches. Staff or students not changing default passwords on IoT devices is an easy way for opportunistic cybercriminals to gain access to a university's system for instance. Brute force attacks consist of criminals guessing passwords, packet-sniffing captures network traffic, and

man-in-the-middle attacks eavesdrop on communications between two systems, using the gained information to their advantage.

Most physical security solutions are a work in progress with new devices being added to expand the system or to replace outdated or broken products. The process of adding new equipment – perhaps from a different manufacturer with less stringent cyber security standards – is another opportunity for a vulnerability that educational organizations should be aware of.

To ensure that a physical security system is protected from cyber-attacks, it's never been more important to choose trusted vendors who use multiple layers of defense such as encryption, multi factor authentication, and authorization, as well as penetration testing—and only work with systems integrators who are committed to providing continuous protection against cyber threats.”

As per Holla, “According to the Union government, cyberattacks increased by almost 300% last year due to the pandemic. Effective data protection involves identification of vulnerabilities, assessing threats, and implementing necessary security



actions. Educational institutes have a propensity to not pay much attention to cybersecurity due to lack of awareness and knowledge. Cybersecurity is a complex implementation and requires the government and intelligence agencies to work together with the industry and vendors to avoid any large-scale thefts and incidents. Institutes must be more proactive in defending such incidents and have response teams ready to help tackle and recover if any incidents occur.

A network architecture has many liabilities which come into light only when a cyber attack occurs. To reduce such threat, system updates must be rolled out soon after the attack. A reliable vendor will always proactively respond to such crises. Vendors and OEMs must ensure that there is a clear immediate action plan in place for customers to lessen risks and attacks.

Coming to video surveillance, Axis Communications provide one of the most trusted solutions with robust data protection. Axis products integrate IoT and cloud solutions





giving way to futuristic technology which helps in preparedness for any attack into the feed of a high-quality surveillance system.”

According to Kumar, “Because of COVID-19, schools are opting for online classes and lots of data is at risk. School needs to see how they can have their own secure platform for online classes, assignments and exams so that there is no risk of Cyber Threats and Attacks. ROSSLARE offers Biometric Fingerprint Scanner which can be used for Secure Login into the system and Threats can be avoided.”

Dhaggal said, “Recognizing the widespread cyberattacks, educational institutions are gearing up to meet the challenges posed by cyber criminals. However, not all the educational institutions are aware of the dangers caused by cyber threats or on the importance of cyber security breach that generates multiple problems and causes loss of reputation and income.

As educational institutes hold a wealth of personal data of students, staff, administrators and third-party

vendors this particular sector has become highly vulnerable.

While affluent modern educational institutions in India are now getting more cybersavvy and equipping themselves to handle and forestall

cyber threats and attacks, others which have various constraints such as limited budget, lack of skilled or trained personnel and use of legacy technology and hence they lack in preparedness. Many educational institutes in non-urban centres overlook security challenges and fail to understand the impact of a cyber-attack and adopt an attitude to respond after an attack rather than take any pre-emptive or preventative measures. The urgency to safeguard their IT infrastructure from cyberattacks is inadequate in these places. Sheer neglect, lack of initiative to instal or delay in installing a robust cyber security in the educational institutions are also the reasons for lack of readiness in mitigating the crisis.

However, in the recent days the Private and Public Collaboration is creating awareness and the situation is improving. The educational institutions are inviting cyber experts and taking help from them to build a secure IT infrastructure. Amity, SRM, SASTRA, JSM, Great Lakes and many other educational institutions are steering the trend towards robust cyber security.” **AKS**



Parthesh Dhaggal
Founder,
Enceplon



The educational institutions are inviting Cyber Experts and taking help from them to build a Secure IT Infrastructure.”