

# INDUSTRIAL SAFETY

## REVIEW

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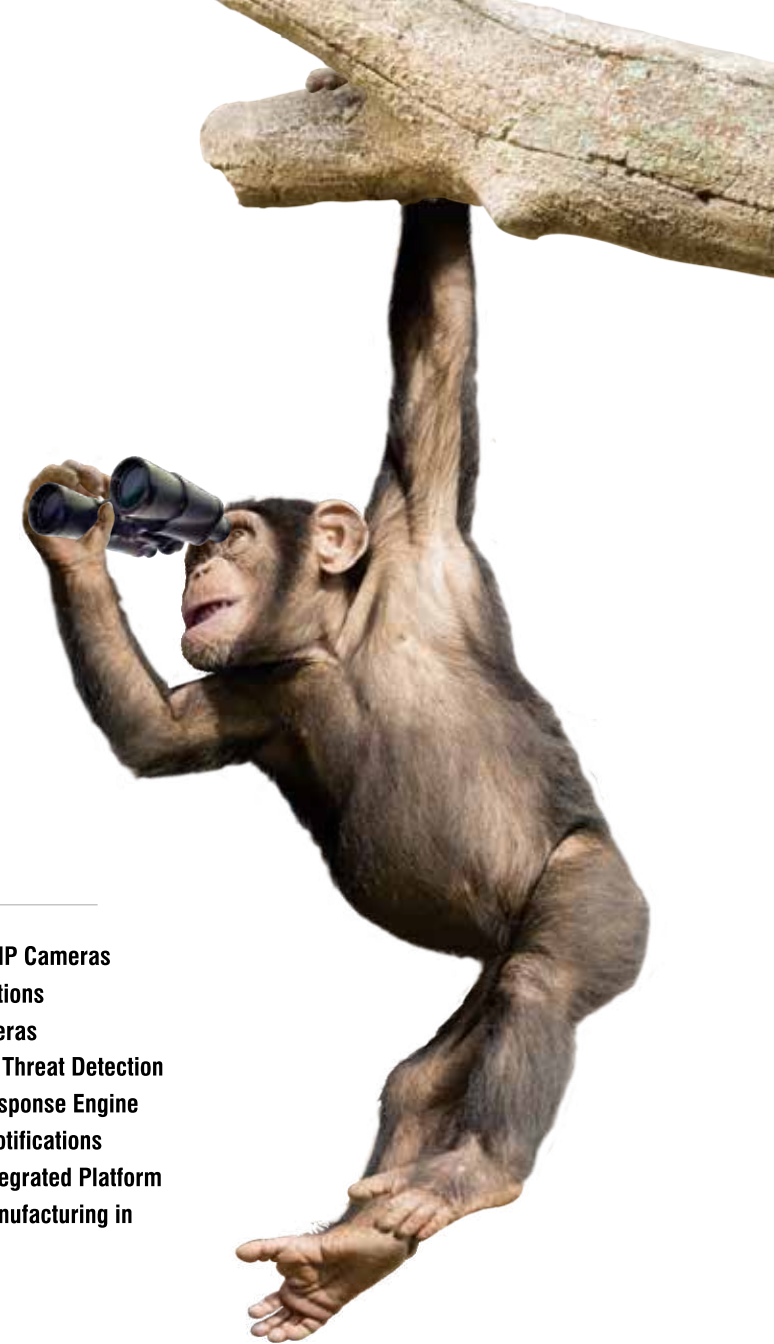
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# CEO CORNER



## India economy : Holding the breath against coronavirus outbreak

The world is in the grips of the dreaded coronavirus attack. The Covid-19 virus has slowly turned into a pandemic and impacted almost all aspects of human life. The world economy is under tremendous duress because of the uninhibited spread of the disease. According to several economists, due to the spread of Covid-19 the threat of recession has intensified the world over.

The Covid-19 virus, which originated in the Wuhan province of China, has so far claimed 2,814 lives and infected a further 82,585 people. The virus has spread over 50 countries including Japan, Singapore and Italy. It has been wreaking havoc on the global economy.

Covid-19 has hurt the tourism sector the most. Around 90 per cent bookings for various tour packages to Italy for the next month have been cancelled. The USA, which received three million Chinese tourists last year, expects a fraction of that number this year. Chinese tourists are one of the highest spenders in the world. And due to the spread of the disease Chinese business and leisure travel have practically ceased.

Against this backdrop it will be highly optimistic to expect that the Indian economy will revive any time soon. While international agencies like the IMF and World Bank have slashed their forecast of our GDP growth to less than five per cent for the current year, the Covid-19 is expected to further dent the figures.

Given that the coronavirus spread levels in India are very low and the tropical atmosphere acts as a natural immunity against viruses, we expect limited impact on India's economy, considering our country's limited presence in global supply chain and not being a major exporter to the global markets. It would be benefiting from a fall in global crude prices, shift in supply chains away from China and fall in US Treasury bond yields.

CEO



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Director - Marketing  
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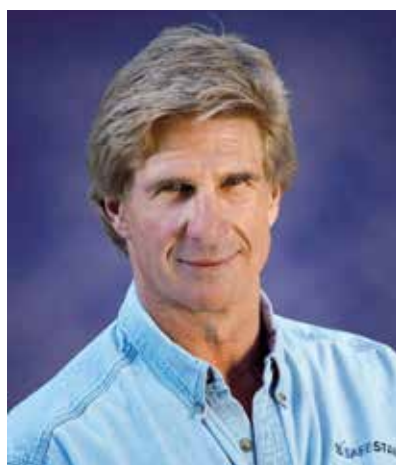
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SafeStart International

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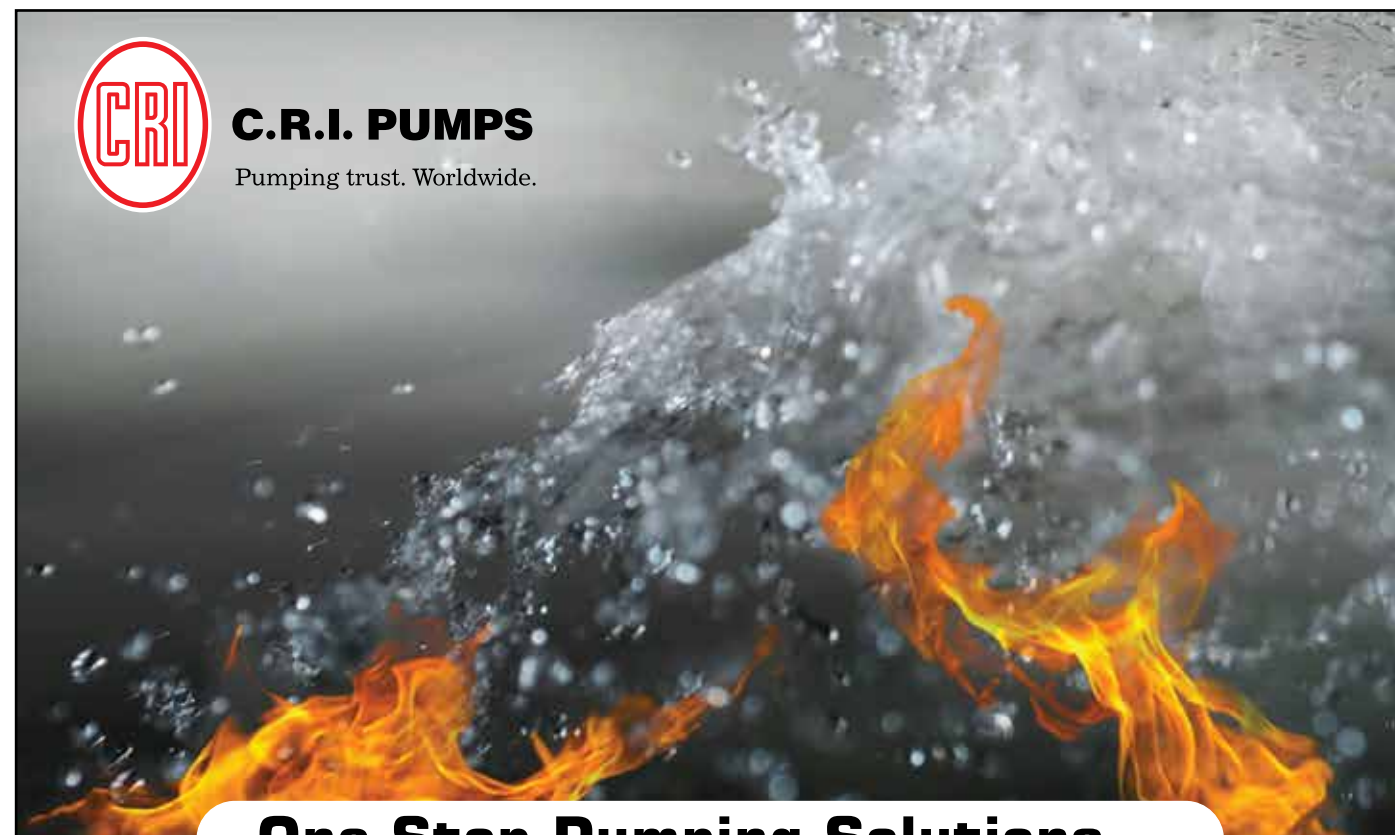


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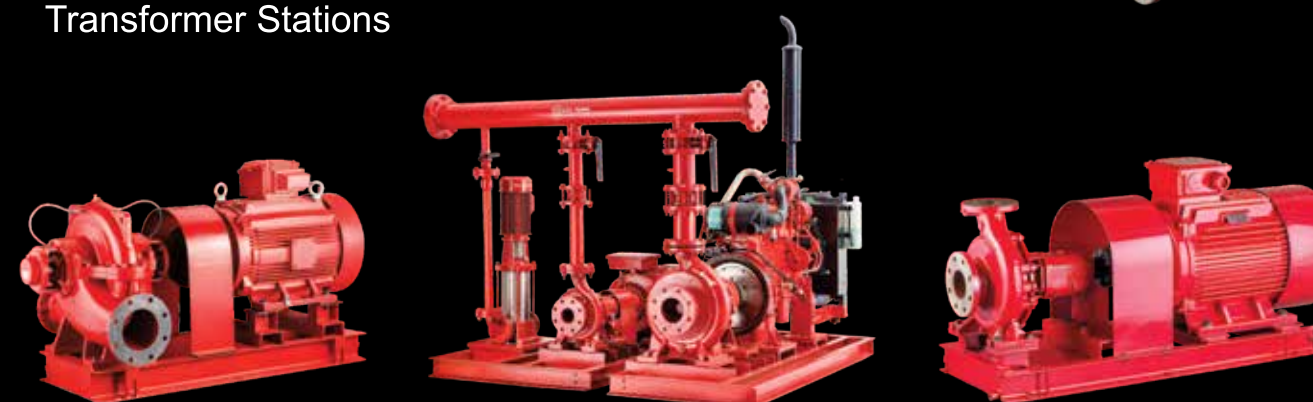
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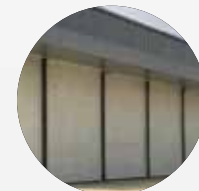
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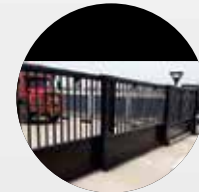
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**Q. What gave you the confidence to venture out in the safety space and co-found Prolite in 1984?**

In 1984, it was my husband who actually encouraged me and gave me the impetus to venture out and although I was unsure in the beginning, I gained confidence and learnt the ropes quickly. The rest, as they say, is history.

**Q. Tell us about some significant contributions you have made towards the growth and success of Prolite.**

My first major success came with the company winning of a big order from the CBI, in 1987. This was followed by a PAN India deal with the beverage giant, Coca Cola. This assisted the company signing a deal with ITPL (International technology Park), thus finding its way into their International vendor list and supplying lights for the rest of their projects.

**Q. Did you face any difficulty in coping in the industry (due to lesser women employees)? If yes, then please share anecdotes and your experiences.**

It is a fact of life that we live in a patriarchal society, particularly in India where traditions are very close to the



**Alka Joshi**  
Director – Marketing  
Prolite Autoglo Ltd.

## PROLITE: Success through vision with innovation

in the upper echelons in the corporate world.

**Q. What advice would you give to women to be successful in the industry?**

Today, the girls and women are already far more receptive to new ideas and challenges than say, 30 or 40 years ago. But I would only say to them that sometimes, we are inhibited by our own mind and like to snuggle into our comfort zones. I would ask them to challenge their own limitations and attempt new tasks no matter how tough they may seem. They need to come out of their cocoons and prove themselves in any field dear to them. Success begins when the mind is ready to believe. If you dare to believe you can do it, half your battle is already won. The rest therefore, must follow.

**Q. Are you involved in some CSR activities? If yes, ten please share details.**

As a corporate entity, Prolite Autoglo has concerns for the social system within which it operates by abiding by Labour Laws for children, providing necessary training & development opportunities to its employees and prohibiting use or marketing of Toxic & Hazardous products. Moreover, our products by nature are designed to help people in emergency situations and our mission is to save lives globally. In keeping with this vital need, Prolite goes out of its way to manufacture environment-friendly products that pass through thorough and stringent quality checks and tests. We go out of our way to save resources such as water and electricity, and use minimum quantities of chemicals. We have established facilities to harvest rain water, and have planted about 5000 trees so far. **ISR**

heart of people. However, the new age woman has certainly come out of her shell as is proved by Mary Kom, Sania Mirza or entrepreneurs like Indira Nooyi who is an Indian American Tamil business executive ranked among the world's 100 most powerful women, serving as chairman of PepsiCo, the second largest food and beverage business in the world by net revenue, and as CEO for 13 years from 2006-2019.

I certainly raised a few eyebrows when I began venturing out to represent my company and its product ranges but by and by, I have fitted in and earned respect and acceptability just as any man could have.

**Q. In your opinion, why only few women manage to climb the seniority ladder? What are the key barriers affecting career progression of women?**

Times are changing and women entrepreneurship is in the upswing in India today. However, women are primarily –genetically as well as temperamentally- homemakers. One can hardly expect a man to bring up children, look after their health, nutrition and related concerns and manage business at 100% efficiency at the same time. Therefore,

when women turn to business in a big way, they are required to either sacrifice the core responsibilities of a mother and homemaker or neglect their children and harm their growing years to excel in business. It's not an easy choice so many women are compelled to do both. Those who manage the balance despite that and still succeed, need to be applauded and appreciated. That's all I have to say on this.

**Q. What initiatives can we take to encourage more women to join the industry? Are there specific initiatives at Prolite that you would like to mention?**

Firstly, the mindset needs to change and deeply ingrained stereotypes challenged, in order to get women to make an impact in industry. Successful women entrepreneurs act as inspiring role models for more women to believe they can succeed as well. I am an example of Prolite's initiative to empower women in the business space. I was a deeply traditional girl from a humble Punjabi background but my husband made me believe in myself and enter the business. If more and more men do the same, we should definitely see greater involvement of the fairer sex

## Hikvision showcases latest innovative technologies at Intersec 2020



Hikvision exhibited its latest innovations at Intersec 2020, the largest security exhibition in the Middle East, January 19 – 21 in Dubai, UAE. Hikvision's multi-dimensional perception was created for a variety of security needs, reshaping security systems and providing customers with more comprehensive protection. At the show booth, visitors saw cameras with in-depth combinations of radar and video technology, showing the ability to perceive beyond the visual range in areas like traffic management.

Emerging technologies and applications opened up new possibilities for the security industry. This year, visitors experienced Hikvision's market-leading products and solutions for users across various industries.

"We integrated the Hikvision video surveillance technologies with multiple senses, like radar and related products, which cater to different client requirements and provide protection for users across multiple technologies," said Binson Xu, Hikvision Middle East's Regional President.

### Multi-Intelligence Cameras

Multi-intelligence technology supports

multiple algorithms running simultaneously on one camera. Hikvision's latest multi-intelligence cameras can run several deep-learning algorithms in parallel for a host of complex scenarios. And at same time, these cameras visualize and analyze structured data of various targets such as faces, bodies, and vehicles simultaneously. They were designed to boost situational awareness in scenarios such as urban roads, to identify violations and detect vehicle types and license plate numbers.

Furthermore, customers can also enjoy customized services provided by Hikvision such as applying various algorithms into security cameras according to the specific application scenarios proposed by customers, allowing customers to independently choose functions and create a bespoke solution for their needs.

### New and Cost-Effective Thermal Cameras

With breakthroughs in imaging, algorithms, and intelligent applications, Hikvision showcased a new, cost-effective thermal camera, which is designed for perimeter protection and fire prevention. This thermal camera is specifically

designed for short-range monitoring – up to 70 meters – and best suited for perimeter protection in residential areas, office buildings, and factories, to name a few examples.

### Intelligent Vertical Solutions

Hikvision will demonstrate Artificial Intelligence industry solutions for vertical markets and applications. For example, Hikvision's smart retail solution enables retailers to get a clear understanding of their business's statistics by using intelligent cameras, NVRs and a video management system (VMS). Visitors will also be able to see how Hikvision's Intelligent Traffic System (ITS) recognizes vehicle license plates to manage roadway traffic and parking areas using the video sand box for demonstration.

Binson explained: "We can now help banks protect employees, customers, branch offices, and ATM areas, as well as assist retailers to understand footfall in their stores and optimize their merchandising strategies, all the while helping city authorities reduce congestion and pollution with smart traffic management solutions."

At Intersec, Hikvision also showcased intelligent products, including cameras with AcuSense technologies, which can provide customer accurate intrusion prevention alerts; cameras with ColorVu technologies, to bring customers high-quality night-vision color imaging. In addition, visitors witnessed a wide range of new products and innovations, such as alarm products, face recognition terminals, automotive electronics, LED products, Hik-Central, and more.

For more information,  
Website: [www.hikvisionindia.com](http://www.hikvisionindia.com).

## Are you ready to learn what causes over 95% of serious injuries and fatalities in the workplace, community, and at home?

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## KARAM Mobile Studios to be installed in three cities to commemorate National Safety Week 2020

KARAM Industries, India's leading Personal Protective Equipment (PPE) manufacturing enterprise, celebrated National Safety Week 2020 on 4th March. On this occasion, KARAM Mobile Studios was installed in three key cities - Vizag, Haldia and Pune. The aim is to cover the Southern, Eastern & Western parts of the country and spread awareness about the safety of the workers at their respective workplaces.

The complete range of the personal protective equipment (PPE) with more than 150 products from different PPE categories, industries, and hazards was showcased in the MDVs accompanied with demo sessions, testing and interactive training workshops for the workers.


Commenting on the initiative,



Sandeep Arora, National Sales Head, KARAM Industries said, 'We at KARAM aim to spread awareness about safety through multiple activations throughout the year. The National Safety Week is the right platform for us to address the importance of safety at work for the workforce in the country. Safety is a crucial aspect of work however it is neglected due to lack of awareness and

knowledge of essential tools. KARAM's demo Vans are an extension of our beliefs as they cover vast parts of the nation, in a tryst to save lives.'

In the initial phases of spreading awareness, KARAM successfully covered states like Delhi/NCR, Lucknow, Haryana, Tamil Nadu, Pondicherry, Andhra Pradesh, Telangana, Karnataka, Gujarat and Kerala. The main objective is to cover all parts of India to spread 'safety awareness'. Last year, the third installation of the mobile studio was initiated in Mumbai.

Through this initiative, the KARAM Mobile Studios has cumulatively covered a distance of 300,000 + kms and has witnessed participation from 3, 00,000 + workers and 2,500+ companies. 

## NEBOSH launches new health and safety career guide

NEBOSH, one of the world's leading providers of health and safety qualifications and courses, has created Do Something Great: Your Health and Safety Career a special, free guide for those thinking about a career in health and safety.


The 32-page guide draws on the knowledge of 24 of the world's top health and safety thought leaders. Their advice spans everything from: how to tell if a health and safety career is for you, what qualifications to take and how to train whilst juggling a day job, through to what to look for in a good employer and how to get your first break. The experts also share their top tips for CVs, handling interviews plus the role of mentors and networking in career progression.

Do Something Great includes advice



from experts working in some of the most high profile and influential health and safety roles, such as Karl Simons, Chief Health, Safety & Security Officer at Thames Water, Su Corrin, Senior Health, Safety and Risk Manager at The Football Association and James Pomeroy, Group Health, Safety, Environment and Security Director at Lloyd's Register. It also carries tips from Claire Guise, Health and Safety Manager at Marie Curie and Rachel Butler, Group HSS&Q at DeTrafford.

For those keen to develop an overseas career, the guide also draws on international experts including Dr Abdulrahman Jawahery, President of GulfPetrochemical Industries Co (GPIC), Flavio Noè, the former Head of HSE at Gardaland, Merlin Entertainments Group in Italy, Shermin Shali, HSEQ Manager in the United Arab Emirates, and Amitabh Bhattacharya, Lead HSE Specialist for Baker Hughes in India.

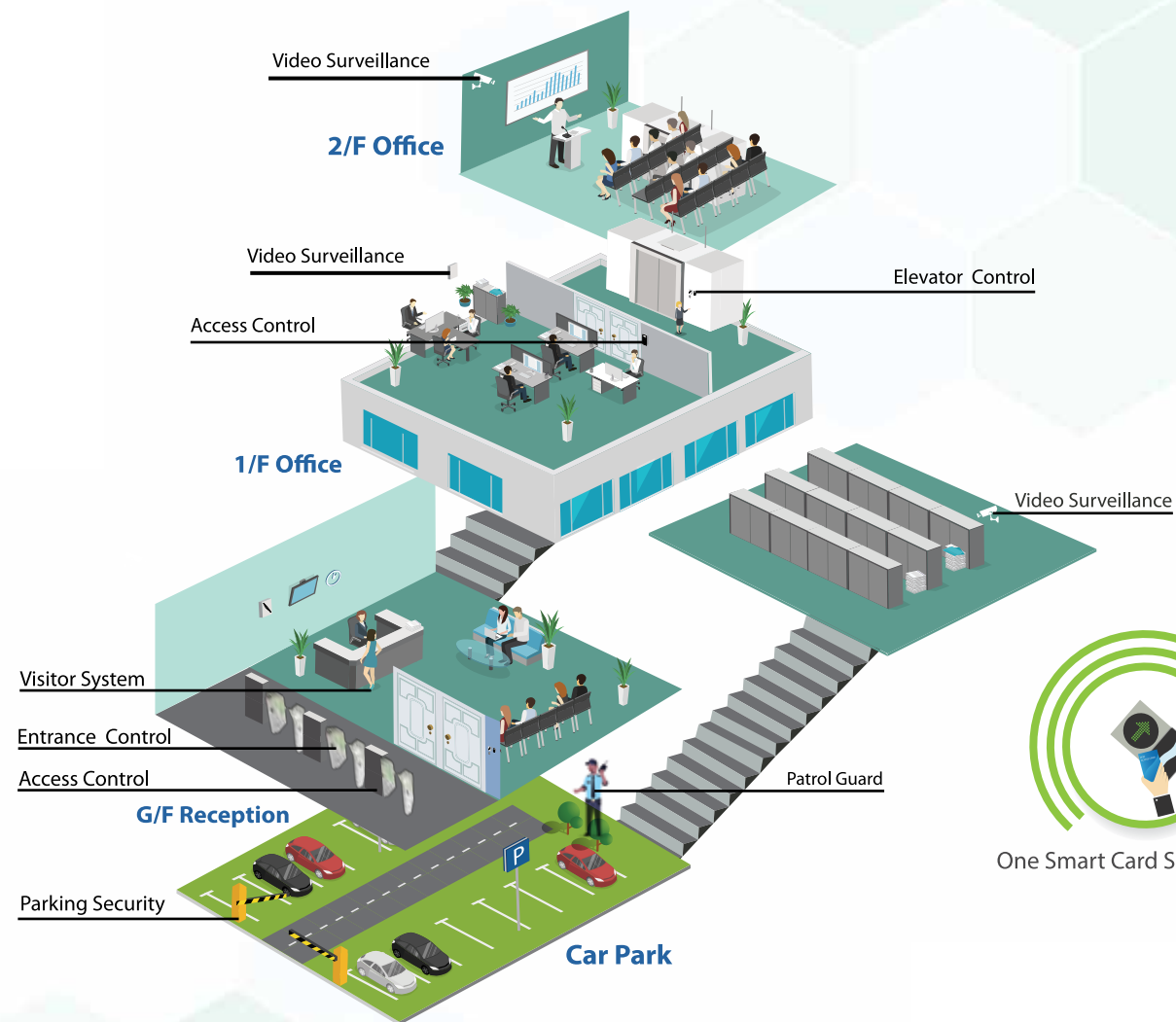
Ian Taylor, NEBOSH Chief Executive, commented, "People who've carved out fantastic careers for themselves have generously shared their experience, to help inspire and guide the next generation. For anyone contemplating health and safety as a career, or for those who've already started but are keen to get to the next level, it's an invaluable read." 

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## HCSA program successfully concluded in Mumbai

Prama Hikvision recently conducted the Hikvision Certified Security Associates (HCSA) Program in Mumbai, which got an overwhelming response from the young security professional community in Mumbai and Maharashtra.

“Prama Hikvision has set the new benchmark by offering professional video surveillance certification to validate video expertise under Hikvision Certified Security Associate (HCSA) program in India. This Hikvision certification program is specially designed for the security professionals. Besides, Hikvision provides meaningful endorsement to those, who succeed in the exam and become Hikvision Certified Professionals. We will continue with our knowledge sharing initiatives in the year



2020 with the update on Hikvision's latest technologies, products and solutions,” said Ashish P. Dhakan, MD & CEO, Prama Hikvision India Pvt. Ltd.

The three days comprehensive HCSA Program, included training sessions on Optics Basics, Turbo HD Analog Solution, PTZ Configuration, Network Basics, IP Camera, NVR, Fish Eye Camera, iVMS 4200 and Smart functions and Applications. There were some latest themes

and technologies were introduced under HCSA training. The hands on training module includes, configuration and deployment of ColorVu and AcuSense technology and cameras, Face Recognition, People Counting, Heat Mapping functions in Hikvision's latest cameras. The HCSA program also covered Networking fundamentals & designing concepts related to Video surveillance, Network security features available in Hikvision products.

During the training new 4.0 GUI of Hikvision NVR was explained. The training contained implementation of ANR technology for video stream recording in case of network failure of NVR, the implementation of RAID technology for data security on Hard disk, Hot spare system for in case of Storage device failure, Lens selection according to Field of view and Network Bandwidth & Storage calculation base on H.265+ Compression Technology. The HCSA training program was conducted by the Vinit Narvekar, Manager, Customer Trainings, Prama Hikvision India Pvt. Ltd.

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## Quantum introduces off-line protection against ransomware

Quantum Corp. recently announced new Ransomware Protection Packs to provide a simple and easy-to-implement solution for securing critical off-line data from ransomware attacks. Each pre-defined protection pack includes all the security features necessary to provide peace of mind against ransomware threats. Leveraging Quantum's unique Active Vault feature, combined with military grade encryption and Write Once Read



Many (“WORM”) technology, Ransomware Protection Packs create a highly-secure offline backup copy of data, and highlight Quantum's commitment to innovation in the service of preserving and protecting valuable cus-

tomers data.

### Protecting Critical Data with an Off-line Copy

Tape has proven to be an effective line of defense against ransomware and is shown to be resilient against modern

cyberattacks. While most companies back up data to disk on a regular basis, when ransomware viruses target backup systems, those viruses can lay dormant and undetected on the network until eventually triggering an infection throughout the entire backup environment. The ransomware can then infect data on disk - including replicated copies, even in the cloud.

Storing and protecting data off-line has significant





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benefits. When disk has been compromised, storing critical data on an on-premise off-line vaulted partition in the library reduces the complexity of recovering a production environment from the cloud, eliminating egress charges. Off-line storage is the most cost-effective method for long-term data archival, factoring in today's tape capacities.

While Quantum's Ransomware Protection Packs are secure, the active vault software layer provides intelligence. Intelligent software protection upgrades are

also available for existing library customers.


Eric Bassier, Senior Director, Product Marketing, Quantum said, "Ransomware and other forms of cyber-attacks are one of the major concerns that our customers have, in data centers as well as in the area of movie and TV production. Tape's inherent offline attribute makes it the most secure place to keep a copy of data, and with Quantum's Active Vault intelligent tape software customers can now store their content in an ultra-secure offline repository without any

human intervention."

#### The Advantages of In-Library Vaulting

The Active Vault feature, only available in Quantum's Scalar tape libraries, builds on tape's inherently secure offline nature by creating a totally "air-gapped" vault within the library. Administrators can set a policy to move tapes from the backup application-connected partition to an Active Vault partition, a logical area within the library that has no network connectivity, and no network-connected devices.

No other tape library today offers in-library vaulting. This unique feature in Scalar libraries enables customers to retain an ultra-secure and totally offline copy of data, eliminating administrative tape handling.

Quantum's Ransomware Protection packs come in three capacity points ranging from a small up to 200TB to up to 2PB in large configurations. Software licenses and services are included, and the Protection Packs are priced to be more cost-competitive than custom solutions. 

## CP PLUS displays cutting-edge technologies & innovations at Intersec 2020

CP PLUS, a globally leading security and surveillance solution brand from India, exhibited some of its high-end technologies at Intersec Dubai, held from 19-21 January 2020. Being the most influential show in the field of safety & security, it attracted over 34,000 visitors from across the globe. It has been a key platform in the industry that connects security professionals, decision-makers, manufacturers, and other stakeholders.

As a Featured Sponsor of the show, CP PLUS presented its cutting-edge technologies and latest innovations suited for growing needs of the Middle Eastern region for commercial security, building automation, smart home, homeland security, perimeter and physical security.

According to Yogesh B Dutta, COO, CP PLUS, "Intersec offers unique opportunities for patrons to explore and experience the newest security trends & technologies. Keeping the evolving needs of the businesses in mind, we featured




new-age innovative surveillance solutions at the exhibition driven by AI and IoT. Our smart, efficient & cost-effective solutions have widespread application for today's challenging businesses."

CP PLUS showcased solutions for Smart Retail, Safe City, Intelligent Building, Smart Transportation and Law Enforcement at the Intersec in Dubai. Its deep learning AI solutions received huge attention from regional and global visitors.

"Intersec has been a leading show for the safety and security industry in the region. It not only presents the latest

security technologies but also offers in-depth learning about modern security applications and trends. In this edition, we exhibited a line of our state-of-the-art video surveillance and security solutions ideal for diverse industry verticals," said Aditya Khemka, MD, CP PLUS.

Some of key products & solutions of CP PLUS at the display featured Guard+ Dome Cameras, Intelligent 4k Solution, ANPR Solution, IP Based Video Surveillance, Attendance Management System and Intrusion Detection Solution. CP PLUS also introduced its popular Consumer Series at the show comprising EzyKam (Full HD Wireless Cloud Camera), EzyTrack (Kid's Smart Watch), EzyFi (Plug & Play Wi-Fi NVR Kit), along with a range of smart accessories. Besides, its Health Monitoring System for Surveillance Devices and Command & Control Centre addressed the comprehensive need of officials. 

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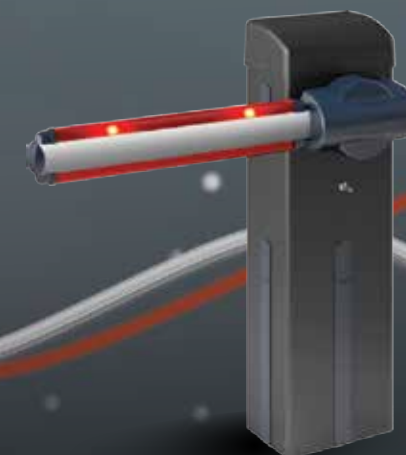
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## Videonetics announces distribution partnership with Spectra Innovations Singapore



Videonetics has announced a distribution partnership with Spectra Innovations Pte Ltd, Singapore, to offer their complete array of products and solutions across the South East Asia and ASEAN region.

Headquartered in Singapore, Spectra Innovations Pte Ltd has an established network of certified channel partners, system integrators, training and support specialists in South East Asia and ASEAN countries.

Through this partnership, Spectra is all set to offer Videonetics AI & DL powered Unified Video Computing Platform encompasses Intelligent VMS, Artificial Intelligence & Deep Learning Video Analytics, Intelligent Traffic Management System and Fa-



cial Recognition Software.

On the appointment, Avinash Trivedi, VP – Business Development, Videonetics expressed, “We are pleased to enter into this value-added distribution relationship with Spectra and introduce our indigenous offerings in the ever-growing markets of SEA and ASEAN region. As ranked amongst

the top 5 VMS providers in Asia, Videonetics continues to increase focus and investment globally.

I am assured that Spectra’s remarkable management capabilities and extensive partner network, combined with Videonetics’s state-of-the-art solutions will cater to growing demand for truly unified solutions in different verticals such as safe & smart city, aviation, transportation, critical infrastructures, heavy engineering, healthcare, education & retail to name a few.”

“Spectra is pleased to be appointed as a Regional Distributor of Videonetics. With the adoption of CCTV gaining acceptance beyond just surveillance into sectors such as garbage management un-

der Smart City initiative, loss prevention applications in retail, logistics and warehouses, productivity improvements in factories to name a few, the need for VMS and Video Analytics solutions are becoming affordable and deployable in mass scale today,” said Kanwal Sahney, Managing Director, Spectra Innovations Pte Ltd. v



## Witt celebrates 75 years of gas safety and performance optimization

valves - Witt products can be found in industrial applications all over the world. And just in time for the company anniversary, the manufacturer is working on the next milestone in the company’s history under the banner “Witt 4.0”.

Flashback arrestors for welding applications, used worldwide ever since, were first introduced to the market in 1945 by the German manufacturer Witt. Company

founder Paul Witt revolutionized the handling of flammable gases with this small but immensely important component. These safety devices remain a globally demanded part of the Witt product portfolio. The manufacturer also offers a comprehensive range of valves for industrial gas applications, such as safety relief valves, gas non-return valves and pressure regulators.

However, the company has

long since developed into other niches in the field of gas technology, and with its 200+ employees continues to set new standards. The range of gas mixers is unrivalled internationally and the gas analyzers and leak testers also enjoy an excellent reputation.

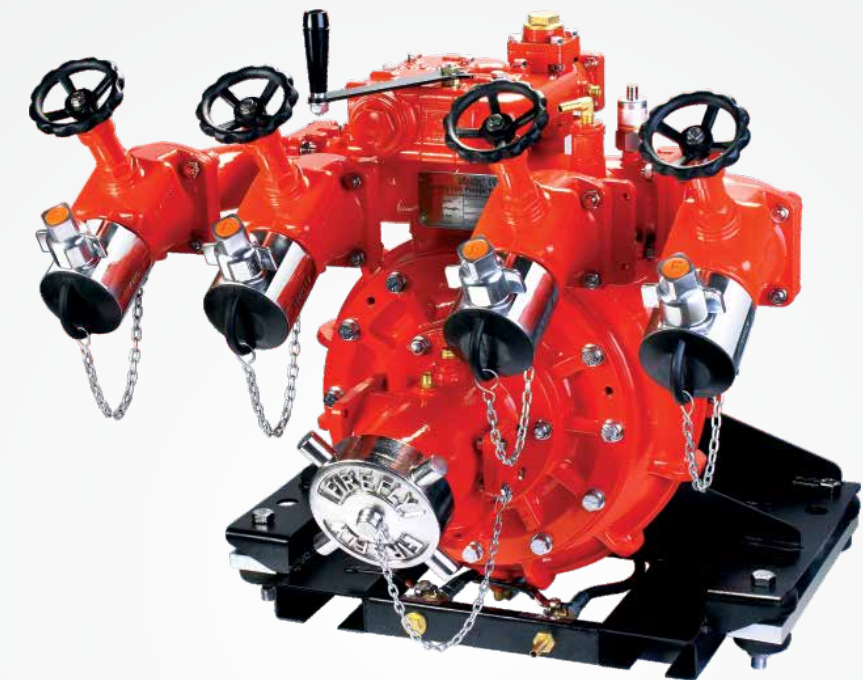
But even after three quarters of a century, Witt is still young and modern. Its R&D team is constantly improving and expanding the product range, thus responding to

The Witten-based company Witt-Gasetechnik has been setting the standard for safety and efficiency in the use of industrial gases for 75 years. Gas mixers and analyzers, pressure regulators and

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changing requirements, and developing game-changing innovations.

Witt 4.0 - smart gas technology

A current example is the shift to digital solutions for networked manufacturing in Industry 4.0 - a change that does not stop at gas technology. Witt is one of the pioneers: Dr. Richard Benning has been driving development forward for years. "Witt 4.0" is what the managing partner, who is the third generation to head the family business, calls this project, thus giving a name to the next revolution from Witt.

Smart dome pressure regulators that can measure gas pressure and temperature, calculate flow rates and transmit them to a network are

now an integral part of the product catalogue. Soon further "smart" fittings will be added.

Data anywhere and anytime Witt has also long since equipped gas analyzers and gas mixers with electronic control systems specially developed for this purpose. All relevant data is recorded, evaluated and output. In this way, these systems, parallel to the smart fittings, are seamlessly networked in the production process and can be controlled "intelligently".

All components are interconnected via the local network, and can also be read and controlled over the internet. The data converge in real time at the control station controller. Via PC or



tablet, the right people have all information available at all times. If something goes wrong or needs to be reset, they can intervene immediately: The networked gas technology thus also stands for more precise process control and minimum rejects, i.e. for maximum efficiency.

Global company with local presence

Witt 4.0 is another important building block for the company to maintain and

expand its leading market position. The manufacturer has always worked meticulously on its portfolio and is consistently expanding it. The Witten-based company has long been regarded as a "one-stop shop" for everything relevant to the safe handling of gases.

The products are manufactured in a state-of-the-art production facility in Witten. Quality management is comprehensive, all relevant standards are met and are validated by external accreditations.

Witt generates well over half of its sales outside Germany. Through subsidiaries and sales partners, the company is represented on all continents and offers its customers local advice and service. **ISR**

## CP PLUS conducts mission-tech training in Haridwar & Kanpur

CP PLUS, India's leading security & surveillance technology firm, recently concluded its Mission-Tech Training Program in Haridwar and Kanpur in January 2020. It's a comprehensive training program designed to support partners, surveillance system engineers, and other industry professionals to boost their surveillance technology knowledge and skills.

With the increasing demand for security products in India, the need for qualified and trained professionals is also growing. CP PLUS Mission-Tech renders quality and globally relevant classroom training and em-



powers professionals to provide an optimum solution for customers' ever-changing needs. Moreover, it enables businesses to remain competitive in this dynamic environment.

As per Yogesh B Dutta, COO, CP PLUS, "Mission-Tech certification technical training program creates optimum learning for partners involved in the video surveillance business. It allows them to better lever-

age the technologies to provide the desired surveillance solution to customers while creating the best value for them. This strategic training program not only helps build skills and credibility in the marketplace but also creates new growth opportunities for professionals."

Supported by National Skilling Council, CP PLUS Mission-Tech program covers three levels of certification: Certified Surveillance

Engineer (CSE), Certified Surveillance Professional (CSP), and Certified Surveillance Designer (CSD). These certification courses are well-designed for the professionals so that they can deliver customized, reliable, and scalable solutions across different verticals.

Since its formation, Mission-Tech has trained and educated many partners and surveillance system engineers (SSE) on Installation, Operation & Maintenance of CP PLUS Products. This program is designed keeping the needs of the businesses in mind so that they can evolve and go smoothly in today's dynamic market. **ISR**

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# CP PLUS Technology Show in Gorakhpur draws remarkable response

CP PLUS recently hosted its prestigious technology show ‘Seeing is Believing’ in Gorakhpur, Uttar Pradesh. The show was conducted on 5th February 2020 to discuss the best industry practices, new business opportunities, and CP PLUS state-of-the-art security solutions. There was constructive involvement of dealers, distributors, system integrators, and other industry professionals at the show.

With over 250 participants, CP PLUS technology show in Gorakhpur created another milestone for the company where it educated the partners on the latest surveillance technologies along with future security trends. It also enlightened the individuals how can they grow their business and serve customers in a



better way. CP PLUS innovative products and solutions based on AI (artificial intelligence) attracted both new and existing partners while offering a unique experience to them.

“To meet the ever-changing demand for surveillance products and solutions, it’s essential to catch up with the latest and upcoming technologies. CP PLUS tech-

nology show plays a crucial role here by presenting its future-oriented security solutions that are pertinent to the growing needs of the market. It helps partners to stay relevant with the evolving industry trends while empowering them to run a stable business in this fast-changing world,” said Yogesh B Dutta, COO, CP PLUS.

CP PLUS innovative technologies and cutting-edge surveillance solutions unveiled at the show include Guard+ Cameras for Colourful View in Dark, 5MP HD Cameras, HD Cloud Cameras, IP PTZ Cameras, Biometrics Time & Attendance Solutions, Intelligent Video Door Phones, Health Monitoring Systems (HMS) for Surveillance Devices, CCTV Cables, HDMI Cables, PoE Switches, and High-Performance CCTV Power Supply etc.

CP PLUS AI-enabled surveillance systems & technologies presented at the show have been specially designed for the growing security needs of different verticals including government, retail, business, defence, hospitality among others. **ISR**

# Videonetics ranked amongst Top 10 growth champions in India

Videonetics, World’s first AI & DL powered Unified Video Computing Platform development company, has been recognized as one of the fastest growing companies by The Economic Times and Statista in their inaugural edition of India’s Growth Champions 2020, an initiative formed to highlight the true accelerators of the Indian economy.

The ranking identified the fastest 150 growing compa-

nies among all Indian industries using specific criteria; companies had to have generated minimum revenue numbers over a three-year period to participate, be independent entities, and have primarily demonstrated organic growth.

Commenting on the achievement, Dr. Tinku Acharya, Fellow IEEE, Founder & MD, Videonetics, “We are indeed proud to be recognized among the top 10



fastest companies in India by ET and Statista. This recognition validates our drive for high performance, innovation, differentiation and global scalability. Videonetics is preparing itself for global expansion and this award will surely help expediting the global

expansion plan.”

Avinash Trivedi, VP – Business Development, Videonetics expressed, “The ranking reaffirms our constant efforts and commitment to bring value to our partners, integrators and customers across the world. I am assured that the combination of our market-leading solutions coupled with partners’ proven domain expertise will acquire more projects in the international market.” **ISR**

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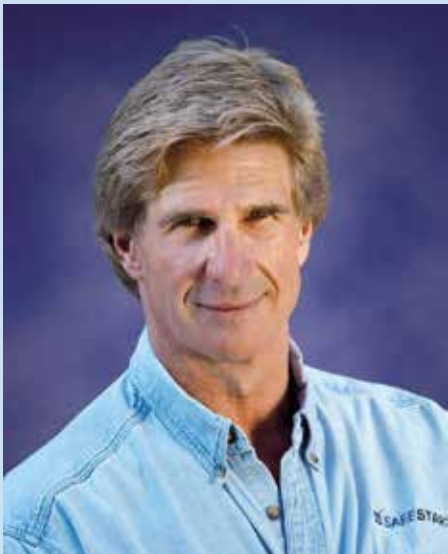
# PARADIGM SHIFTS

## Welcome to Paradigm Shifts.

This will be a series of short articles designed to provide a different perspective—a paradigm shift, in terms of how most people think about industrial safety—and on how most people think about the causes of accidental injuries. The questions that you will be asked in these articles have been asked to over three million people in 66 countries. In my case, I have [personally] asked the questions to over 125,000 people at training sessions and conferences, and during the last five years we've collected data with audience response systems. But despite the improvement in data collection, the answers and the percentages really haven't changed since we first started asking these questions 20 years ago.

Some of these paradigm shifts are controversial or cause arguments, especially with people who accepted a lot of the traditional “doctrine” about industrial safety management at face value. However, if you can keep an open mind as you go through the series, by the end you'll have a much broader perspective on the causes of accidental injuries, and you'll be much better equipped to answer questions like why does anybody ever get hurt when nobody ever wants to, or why do experts and experienced workers get hurt and killed? Or why parents who love their children can't keep them from getting hurt (especially when they are young).

Okay, so let's begin by asking a simple question: *when you think about the people you know well: your family, friends and colleagues and all of their serious injuries (excluding sports related), were they caused “primarily” by the hazards or by two critical errors occurring at the same time?*



Larry Wilson, CEO and Author  
SafeStart International

# HAZARDS OR HUMAN ERROR

If you ask people what's more important, hazards or human error, you will hear many different perspectives...

Many managers, including some safety professionals, think that industrial safety is all about, or at least mostly about the “hazards”, things that are inherently dangerous like a flame, toxic chemical or rotating saw blade, something that needs to be contained, guarded or controlled. And certainly, from a regulator's point of view, hazards—and the aforementioned controlling or

guarding of them—is basically what the inspection is all about. So, it's easy enough to see why some managers and safety professionals think hazards are so important. In addition, engineering controls, ventilation systems, guarding and personal protective equipment all cost money. Since these costs do not improve production or quality directly, it's also easy enough to understand why many managers think they are a “sunk

cost” or just a “cost of doing business”, which reinforces or helps to support the paradigm that industrial safety is primarily about the hazards.

However, there are other people who would go even further—and say that human error is inevitable; that it's a result, not a cause; and that it is not important in a well-managed safety system... and then they go home and tell their kids to be “careful”. Or, if they

do get hurt: try to be “more careful” next time. Hypocrite or wrong paradigms?

Well, hypocrite is a strong word. So, let's look at the paradigms involved here. If someone thinks that a hazard is something that is inherently dangerous like a flame, toxic chemical, etc. and you get them to look at a concrete bridge on the highway; and then ask, “Is that bridge a hazard?”, most of them will inspect the bridge, and if there's nothing wrong with it, they'll say no. “But what if you hit it at 60 mph (or 100 km/h)—on a motorbike?” Well, then it could kill you...

So, it isn't just about the inherently dangerous hazards. It's also about hazardous energy—which includes kinetic energy (see Figure 1). And in terms of potential for harm, this could be if something hits you (line-of-fire), or if you hit it or you move into it (eyes not on task, mind not on task, balance, traction or grip).

When you think about all of the forklifts and pieces of mobile equipment, or all the people riding bikes or driving cars, what tells the driver or the operator what they could be moving into other than their eyes and their minds?

Which means that whenever people are moving, eyes on task and mind on task become “primary” not secondary in terms of preventing incidents and accidental injuries. And in terms of inherently dangerous hazards like a

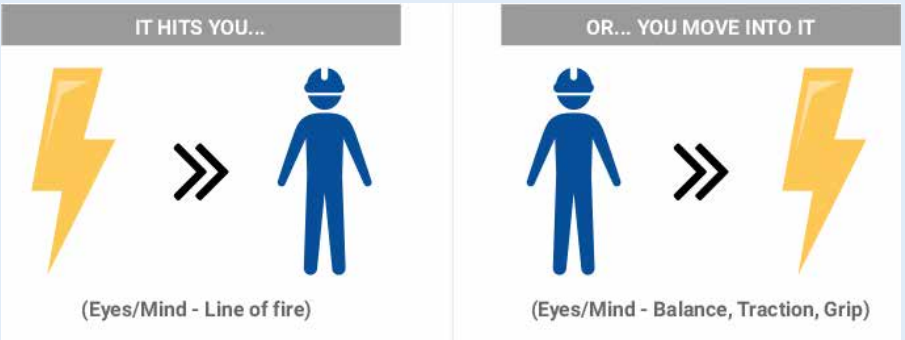


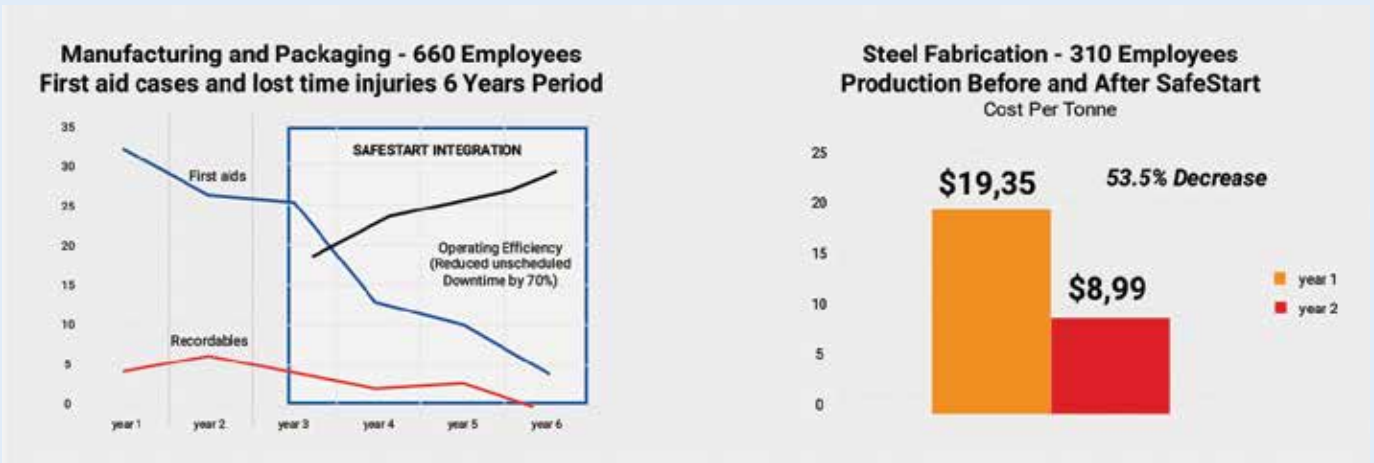
Figure 1

toxic chemical or a sharp edge, unless you contact the hazard there won't be an injury. However, you wouldn't move into it if you could see it or you were thinking about it. So again, eyes and mind on task are very important. Or, to put it another way, eyes not on task and mind not on task are usually (almost always) contributing factors with these kinds of injuries as well. Although with inherently dangerous hazards it's arguable that the guarding of the saw blade and containment of the chemical is just as important or more important.

However, since nobody is ever trying to get hurt, in almost every unintentional incident, one or two of the critical errors were also involved. For example: If a tradesman has just finished welding something and it is still red hot, the welder would not touch it with his bare hand if he was looking at the red hot metal. However, if he took his gloves off, and then turned without looking because somebody called him,

then he could touch it by mistake. Or, if the metal had cooled down enough that it wasn't red hot anymore he could touch it if he wasn't thinking that it could still be very hot. The only other way he could contact the hot metal is if he lost his balance and—in an effort to regain his balance or stop himself from falling—his hand contacts the hot metal by mistake as a result of his reflex action.

In total, there are four critical errors that by themselves or in combination are contributing factors in almost all incidents and accidental injuries. Two have already been mentioned: eyes not on task and mind not on task. One or both of these first two critical errors can cause someone to move into the line-of-fire or to lose their balance, traction or grip. Typically, it is one or more of the second two that actually put us into contact with the hazard or hazardous energy. So, it's not just about the inherently dangerous hazards. It's



also about all the potentially hazardous energy— which includes kinetic energy—which means that movement is important, and that means eyes and mind on task are important. And what that means is that unless your friends, family and colleagues are different than most people, eyes not on task and mind not on task were involved in almost every one of their serious accidental injuries—whether they were at work, at home or on the road, or whether the hazards were electrical, thermal, chemical or mechanical (including gravity).

Furthermore, these two critical errors were also most likely involved—no matter what they were doing—whether that was welding, climbing a ladder, walking or running down stairs, cutting, chopping, sawing, driving or riding, cleaning or washing, etc. But that all makes perfect sense because we are never trying to

get hurt anywhere, anytime, no matter what we're doing. And it is certainly possible to get hurt on something like a staircase, when there's nothing wrong with the staircase or no visible “hazard”, like a cord or a spill... So, when it comes to the question, “What's more important?” it's obvious that human error is hardly “unimportant” whether you have a well-managed safety system or not. But the “what's more important?” question goes ever further. If we consider the “sunk costs” of engineering controls, PPE, etc. they don't affect “top line” revenue. However, human error does, even if it's just a simple mind not on task error that causes a sales rep to miss a lunch meeting.

What about quality? Does human error affect quality? Why do carpenters say, “Measure twice, cut once”? Answer: because it's cheaper and faster than cutting twice (especially if you measure too

short). And then there's maintenance, finance, administration and HR. It's hard to think of a job or a task where human error or inattention would not be a factor. So, if you could improve eyes on task and mind on task you would improve much more than safety, or the bottom line. You would also improve production, quality and customer relations (outside or inside customers). And that's a big paradigm shift for a lot of people, especially the managers who think safety is a sunk cost.

So... what's more important?

*For more information,  
www.uk.safestart.com/paradigm-shifts*

**NEXT ISSUE**  
The three sources of unexpected events and what causes or initiates over 95% of all accidental injuries.

# Why do soles of safety shoes disintegrate?

Ageing of safety shoes is an entirely normal process that all shoes go through. If we want to benefit from all the positive properties of a safety shoe, we need to be aware of the limited product life of shoes

**“What is the service life of safety shoes? And why does the sole disintegrate after a certain period of time?”**  
**Many users ask these questions.**

**Different materials in the shoe have different service lives**

A shoe consists of various components, some of them being subject to natural decay at some point. This is often dependent on the chemical composition of a material. This composition can produce certain properties, but it can also be the reason why the material has a certain useful life. The material that is responsible for the service life of the majority of our shoes is the polyurethane in the midsole and outsole.

Complaints and, in some cases, alleged quality defects generally reach us via our Marketing / Quality department. Where these concern specific issues, our experts perform a more detailed analysis in order to identify the cause of the problem. They produce a detailed response based on their findings.

“My sole is falling apart!” We have even received complaints before where shoe soles have fallen apart immediately, despite infrequent use.

The statements made by the users of



these shoes were often fairly similar: the shoes were worn extremely rarely and were in fact only stored in the cardboard box for a long period of time.

The users had either taken the shoes shown in the photos out of the box in this state, or they had fallen apart straightaway while wearing them.

You should also know that the shoes shown are no longer the latest models. The age of the shoes from their date of manufacture ranges between at least two years and a maximum of five years.

**Why do shoe soles disintegrate?**

Some of you have no doubt got shoes in your wardrobe of a similar age which are still good to wear. The reason for this is the aforementioned polyurethane (PU) sole material.

Polyurethane (PU) is frequently used in safety shoes as it offers several positive properties.

- Very light
- Very flexible
- Very good shock-absorbing properties
- Highly abrasion-resistant
- Good anti-slip properties

All of this has a very beneficial effect on the user's natural movement patterns and when it comes to the product life of the sole as regards mechanical influences. The specific composition of PU produces these material qualities, but it also affects the service life of the material. Above all, the PU sole material is subject to a natural ageing process – hydrolysis.

**What happens when soles age?**

PU consists of long polymer chains that are gradually split apart due to the effect of moisture. As a consequence, PU loses flexibility over time and gradually becomes brittle. As the shoes reach an advanced age, this can lead to signs of disintegration in the soles.

**But why can storing shoes often be more detrimental to their useful life than if they are worn?**

Work shoes are often stored in the basement, shed or garage – places where poor sunlight & higher levels of moisture are normally present. And it is precisely this moisture that amplifies the hydrolysis process and causes the shoes to age even more quickly, even though they are not actually being worn.

**Recommendation for you and your safety shoes**

Ageing of safety shoes is an entirely normal process that all shoes go through. If we want to benefit from all the positive properties of a safety shoe, we need to be aware of the limited product life of shoes. Warrior recommends adoption of First In First Out during storing and distribution, regular use by user. Due to long storage, the shoe sole gets weak and loses its properties and does not last long. Further information can be found in the Maintenance Tips leaflet that comes with every Warrior Safety Shoe.



Website:

www.warrior.co.in



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# Monitoring and maintaining optimal oxygen levels at workplace



Monitoring oxygen levels within the workplace is important because oxygen can be dangerous if too much or too little is present

Occupational Safety and Health Administration (OSHA) defines the minimum safe concentration of oxygen as 19.5%, and the maximum safe level as 23.5%.

### Effects of Various O2 Levels

Concentration of Oxygen	Resulting Conditions on Humans
23.5% Volume	Maximum “Safe Level”; OSHA
21%	Oxygen Concentration of AIR (20.954).
19.5%	Minimum “Safe Level”; OSHA, NIOSH.
17%	Impairment of judgment starts to be evident.
16%	First signs of anoxia appears.
16-12%	Breathing and pulse rate increases, muscular co-ordination is slightly impaired.
14-10%	Consciousness continuous; emotional upsets, abnormal fatigue upon exertion, disturbed respiration.
10-6%	Nausea and vomiting, inability to move freely and loss of consciousness may occur.
<6%	Convulsive movements and gasping respiration occurs; respiration stops & a few minutes later heart action ceases.



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FIRE PROTECTION EQUIPMENTS


## WHEN FIRE DISOBEYS



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Watermist Fire Extinguishers

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First-Aid Hose Reel



Collecting Heads



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Hose Box



Landing Valve



Branch Pipe & Nozzle


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MCB



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Some industries use nitrogen gas in their manufacturing process. Nitrogen is considered harmless because it is nontoxic and largely inert. However, it can displace oxygen in the air, reducing the percentage of oxygen to below safe levels.

In simple terms, Nitrogen leakage is equal to Oxygen depletion, and that can be dangerous as per the above table.

The key to deal with this problem is to install Gas Detectors and Gas Monitor which can be configured with the exhaust fans, valves, or Hooter cum Flasher; so that whenever the gas concentration goes beyond the safe limit, the critical area not only gets ventilated but the control valves are also shut ensuring there is no more leakage and it can also alert the security guard by remote hooters.

**Know-How of the Ideal Solution**

**Gas to be Detected: Oxygen (O<sub>2</sub>)**

**1. Type of Sensor Used:**

Electrochemical Sensor for O<sub>2</sub>: It uses an electrochemical reaction to generate a current proportional to the gas concentration. The instrument then displays the gas concentration in parts per million (% V/V). The sensor is capable of detecting the gas concentration in the 0 – 25% V/V range having with a resolution of 0.1 for O<sub>2</sub> gas.

**2. Location of the Detector:**

The selection of mounting location of the detection system is very important. The gas detector should be installed near the source of the leakage and at height of 4-6 feet above floor level.

We recommend installing O<sub>2</sub> monitoring system inside each working area with an inbuilt Hooter-cum-Flasher so that people working in that area can evacuate the room once the alarm goes off. Ambetronics integrates all the gas detectors to a multi-channel Gas monitor which is installed in the security officer's cabin.

We also suggest to install one alarm in corridor and finally an alarm in the security officer's cabin.

The guard can not only check the readings given by individual detector but is also alerted by the Hooter cum Flasher that goes off whenever the gas concentration reaches the alarm set points.

**3. Alarm Activation:**

To ensure the safety of the personal in the critical area, it's recommended to set the Alarm levels as below:

Alarm 1: 19.25% V/V

Alarm 2: 18.5% V/V

**4. Certification Compliant with:**

Ambetronics Engineers Pvt. Ltd. is an ISO 9001:2015 certified company manufacturing products that are CCOE, CMRI & CE compliant.

The Gas Detectors has also successfully passed the;

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- Corrosion Test (Salt Mist)
- EMI/EMC Test

Tel: 022 – 61673056,

Mobile: 9320737646

Email: sales11@ambetronics.com

Website: www.ambetronics.com



Ashish Shah, Managing Director  
Ambetronics



**Types of Oxygen Monitoring Solution offered by Ambetronics Engineers Pvt. Ltd:**

Type of detector	Type of area in which to install
Weatherproof Detector	Safe Area
Flameproof Detector	Flammable / Hazardous Area
Flush Type Detector	Cleanroom Safe Area
Flameproof with Stainless Steel enclosure	Cleanroom Flammable / Hazardous Area

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YOUR SAFETY IS OUR CONCERN

# Ergonomics and Occupational Health

“Today, ergonomics plays an important role in the study of occupational health & safety and contribute significantly to the promotion of health and well-being of man at work”.

- R. Rajasekharan Nair & Vinod R. Alappad

## 1.0 INTRODUCTION:

Ergonomics is the scientific study of man in relation to his work and work environment, primarily aiming at increasing efficiency and productivity with emphasis on promotion of health and well-being of “man at work”.

The term ‘Ergonomics’ has its origin in the Greek: ‘ergo’ meaning work and ‘nomic’ meaning natural law, i.e., natural application of the law of work.

“Human Engineering”, “Human Factors”, “Human Factors Engineering”, “Biotechnology”, and “Engineering Psychology” are synonymous to Ergonomics. The terms Human Engineering, Human Factors, Human Factors Engineering and Biotechnology, are mostly used in North America. The term Ergonomics is widely used in Europe and other countries. The term Engineering Psychology is used in erstwhile countries of USSR.

The joint ILO/WHO Committee on Occupational Health, at its first session in 1950, defines the aims of the occupational health as follows:

“Occupational health should aim at: the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention among workers of departure from health cost by their working conditions; the protection of workers in their employment from risks resulting from factors advised to health; the placing and maintenance of the worker in an occupational environment adopted to his physiological and psychological capabilities and, to summarise; the

adaptation of work to man and of each man to his job.”

However, this definition was revised at its twelfth session (1995). In 1995, the Joint ILO/WHO Committee on Occupational Health emphasized that quality assurance of services must be an integral part of the occupational health services development.

It is thus quite apparent from the aims of both ‘ergonomics’ and ‘occupational health’ outlined above that ergonomics can play an important role in the study of occupational health, and contribute significantly to the promotion of health and well-being of ‘man at work’.

This article will focus on the outline of ergonomics and its application to **Occupational Health and Safety (OHS)**.

## 2.0 DEVELOPMENT OF ERGONOMICS:

Ergonomics was studied and practiced way back when humans started designing and making things for their use, for example, the chair.

The study of ergonomics dates back from the beginning of the current century when F.W. Taylor, a mechanical engineer, made the first application of the ergonomics on the design of shovels in order to improve productivity. He, however, did not take into account the human factor which was involved in the productivity. Although his approach was not quite scientific, it nevertheless created some vague ideas about Ergonomics and the related management development.

In 1910, Frank Bunker Gilbreth an engineer, and his wife Lillian Moller Gilbreth, a psychologist, carried out

some systematic observations of work and time and motion. They are regarded as the ‘parents’ of Ergonomics.

The stringency of war time requirements during the second world war that stimulated the development of ergonomics as a systematic, integrated essential discipline.

The term Ergonomics was first used in Europe in an attempt to bring together various disciplines such as physiology, anthropometry, psychology and engineering in the study of man-machine relationships.

The term ‘Ergonomics’ was adopted in England in 1949 to label the science that deals with the many-sided problems of how to fit a job to man’s anatomical, physiological and psychological characteristics to enhance human efficiency and well-being.

During the same year, Ergonomic Research Society was formed in England. Since then many such societies were established in various countries which contributed the development of ergonomics world-wide.

In the years immediately after the Second World War, ergonomics made little progress because of the uneconomic nature of the recommendations, which essentially involved changes in already existing situations.

According to W.T. Singleton, a Professor in Applied Psychology, who had prepared a manual on ergonomics at the request of World Health Organisation, for the first time the engineers and administrators who had hitherto had a monopoly on all task designs, were forced to take serious account of the

Jumping  
Cusion



Inflatable  
Tents



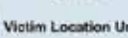
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limitations of the human operator. Thus, the anatomists, physiologists, psychologists, were called on to advise on the limits of performance and the expected level of efficiency under given conditions of environmental stress. Professor Singleton, believes that the ergonomist has also to learn to communicate with other specialists such as design engineers, production engineers, work study specialists, cyberneticians, experts on operational research, environmental engineers, industrial hygienists and industrial medical officers, in addition to the great variety of policy-makers and decision-makers, such as managers, accountants, civil servants and military officers.

### 3.0 DEFINITIONS:

**Cambridge Dictionary** defines, Ergonomics as the scientific study of people and their working conditions, especially done in order to improve effectiveness.

According to **Merriam Webster Dictionary**, Ergonomics is an applied science concerned with designing and arranging things people use so that the people and things interact most efficiently and safely.

As per **Collins Dictionary**, Ergonomics is the study of how equipment and furniture can be arranged in order that people can do work or other activities more efficiently and comfortably.

**Wikipedia** has given an elaborate definition which states that, Ergonomics (or human factors) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design to optimize human well-being and overall system performance.

Ergonomics has been defined by the **International Labour Office (ILO)**, as “the application of human biological sciences in conjunction with engineering

sciences to the worker and his working environment, so as to obtain maximum satisfaction for the worker, which, at the same time, enhances productivity”.

According to the book entitled “Introduction to Ergonomics” published by the World Health Organisation, Ergonomics – the technology of work design – is based on the human biological sciences: anatomy, physiology, and psychology.

Thus, ergonomics can be regarded as the process of designing or arranging workplaces, products and systems so that they fit the people who use them. It is the science of refining the design of products to optimise them for human use. In other words, ergonomics is to achieve the optimum mutual adjustment of man and his work, the benefits being measured in terms of human efficiency and well-being. In short, it is concerned with making purposeful human activities more effective.

### 4.0 DISCIPLINES INVOLVED:

Ergonomics is based on the human biological sciences, such as: anatomy, physiology and psychology and their subdivisions such as (i) anthropometry, (ii) biomechanics, (iii) work physiology, (iv) environmental physiology, (v) engineering psychology and (vi) time & motion study. The disciplines involved in ergonomics are illustrated in Fig. 01.



Fig 01: Disciplines Involved in Ergonomics.

However, it may be noted here that border lines between these disciplines are not rigid.

#### 4.1 Anatomy:

In general terms, anatomy is concerned with the structure of the body (the size and the way it is constructed) (See Fig. 02).

Anatomy is a necessary part of ergonomics, providing the conceptual background for anthropometry and biomechanics.

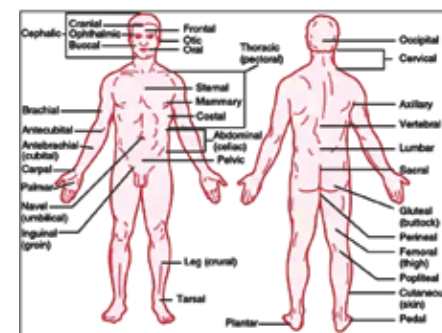


Fig 02: Anatomy of Human Body.

#### 4.1.1 Anthropometry:

Anthropometry, the measurement of man, provides the dimensional data needed for the positioning of controls and the size of work spaces. The man dimensions are shown in Fig. 03. It may be noted that all the dimensions in the figure are in inches.

#### 4.1.2 Biomechanics:

Biomechanics is concerned with the application of forces by the human body. Effective biomechanics requires a gross anatomy, in particular the locations of the man muscle group, their composition and their modes of action in relation to particular joints.

Anthropometry and Biomechanics are the disciplines that establish the principles and standards for the design of equipment, workplace and motion pattern for different operations to bring them into harmony with size, shape, mobility and structure of the human body. The aim is to enable man to exert

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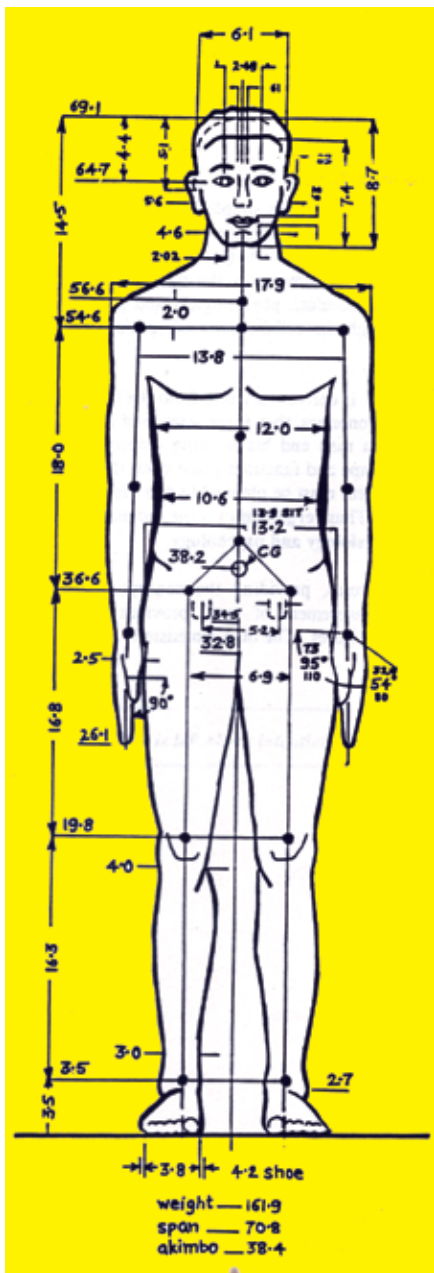


Fig 03: The Man Dimensions.

the greatest force with highest precision, speed and safety and with the least effort.

#### 4.2 Physiology:

Physiology is concerned with the function of the body (the biological process that maintain it).

Physiology has two main contributions to make ergonomics; work physiology and environmental physiology.

#### 4.2.1 Work Physiology:

Work Physiology is concerned with the human process of energy production. It is the discipline that analyses the responses of the human organism to physical activity and to the different stresses occurring during work. It measures the physiological cost of different work methods to determine how work should be performed with the least energy expenditure and with least fatigue.

#### 4.2.2 Environmental Physiology:

Environmental Physiology is the study of interaction of the living organism with physical factors of the environment. Environmental physiology depends on the same fundamental method, viz. to provide measures of the stress and standards of what is reasonable in terms of these measures. The main environmental parameters are climate, light, noise, vibration and gaseous composition of air, etc., although, there are others to be found in special environments, for example radiation.

#### 4.3 Psychology:

Psychology is concerned with behaviour (the adaptive responses of the organism to its environment).

The machine provides the power and precision but it is still up to the man to select and control the particular operation. This he does on the basis of information received partially from general environment and partially from artificial displays of information such as dials and charts.

Information about the state of the machine or the environment is received mainly through the eyes and ears. A thorough understanding of the visual and auditory mechanism is necessary in order to design efficient information presentations. Once data has been received through the eyes and ears it must be interrupted and acted upon.

Although ergonomics is primarily

concerned with “fitting the job to the worker”, and the best fit of the worker and job eventually demands a two-way approach and some consideration must be given to adapting people to jobs by training.

Psychology has two main contributions to make ergonomics; engineering psychology and time & motion study.

#### 4.3.1 Engineering Psychology:

Engineering Psychology is the discipline that studies the sensory and mental capacities of man in order to establish the conditions under which a man-machine system can most efficiently and safely operate. It also deals with the behavioural factors of performance and fatigue, such as motivation, vigilance, information processing, decision making and learning. Other important areas are the interaction between physical and mental work and the effect of environmental factors on human proficiency. The expression “environmental factor” is used here in the broadest sense, and environment refers to both physical and psychosocial environments.

#### 4.3.2 Time & Motion Study:

Time and Motion Study has developed from the combination of method developed by F.W. Taylor and the Gilbreths for improving efficiency and human work.

Time & Motion study is a major part of scientific management. After its first introduction, time study developed in the direction of establishing standard times, while motion study evolved into a technique for improving work methods. The two techniques became integrated and refined into a widely accepted method applicable to the improvement and upgrading of work systems. This integrated approach to work system improvement is known as methods engineering

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5.0 ERGONOMIC PRINCIPLES:

The basic principles of ergonomics are: safety, comfort, ease of use, productivity & performance, and aesthetics. When making work places and work stations, the above principles should be kept in mind.

Human bodies are not made to sit for hours and hours. We can't expect to sit for hours and not suffer some sort of physical consequences such as lumber back pain.

Sitting still for hours puts immense pressure on your back – equivalent to a few times of your weight. Thus, get up and move about every half an hour or so, so that your body use in a variety of ways.

In order to achieve best work performance and efficiency, one has to adopt safe actions/procedures. Better work performances and efficiency can be achieved by adopting the following:

1. Maintain Neutral Posture
2. Work in the Power/Comfort Zone
3. Allow for Movement and Stretching
4. Reduce Excessive Force
5. Reduce Excessive Motions
6. Minimise Contact Stress
7. Reduce Excessive Vibrations
8. Provide Adequate Lighting

6.0 DESIGN ASPECTS:

In ergonomics, real problems cannot be solved by remaining within the boundaries of a particular science. An interdisciplinary approach is required and in addition there are new approaches and kinds of knowledge that are not provided by traditional academic disciplines. To encompass these, ergonomics can be reviewed in terms of various aspects of the design of work such as: system design, work space design, environmental design, interface design and work situation design.

6.1 System Design:

It incorporates the principle of man as an integral part of the total man machine

system. The system ergonomics aims to ensure that it is done systematically. This involves a set of knowledge and techniques that are new and are not derived from the older human sciences. The primary design problem is one of allocation of function between man and machine and procedures.

6.2 Work Space Design:

It aims to ensure that the physical surroundings fit their characteristics of the human body, so that work can be done without excessive effort within the range of healthy postures either standing, sitting or exerting forces. It incorporates seat design, bench or console design and positioning of displays, controls and materials (See Fig. 04). Thus, it depends largely on the application of anthropometry and biomechanics.

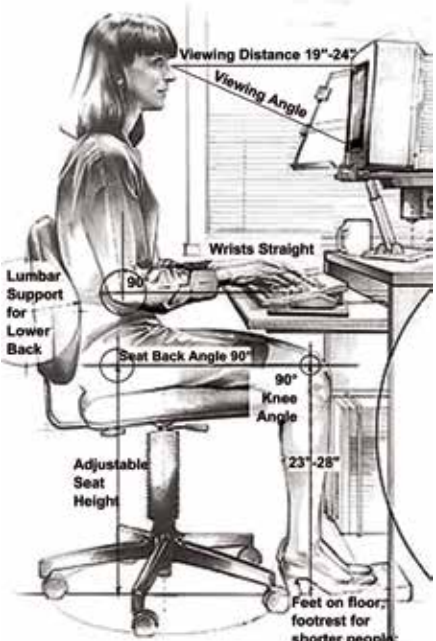


Fig 04: An Ergonomic Workstation.

Work place design should accommodate the variety of workers' shapes and sizes and provide support for the completion of different tasks. Different task requires different work surface heights, for example:

- To carry out precision work, such as writing or electronic assembly, work surface should be 5 cm above elbow height with an elbow support.
- To carry out light work such as assembly line or mechanical jobs, work surface should be about 5 to 10 cm below elbow height.
- To carry out heavy work, demanding downward forces, work surface should be from 20 to 40 cm below elbow height.

The above situations are illustrated in Fig. 05.

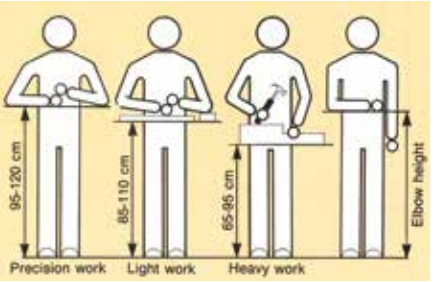


Fig 05: Work surface height for different operations.

The continuous standing or sitting while working is a common source of discomfort and fatigue. Work stations for sit/stand, semi-circular work stations and chair for sit/stand work station are shown in Fig. 06, Fig.07 & Fig.08 respectively.

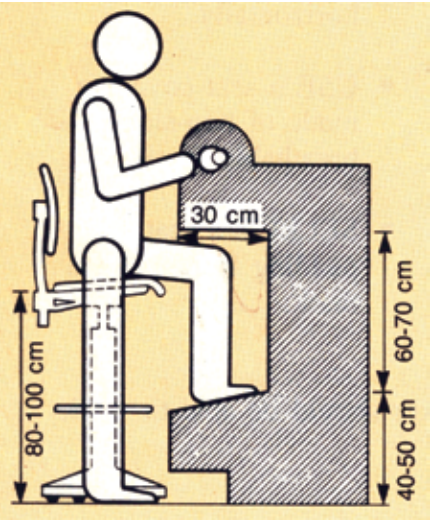


Fig 06: Workstation for Sit or Stand.































































































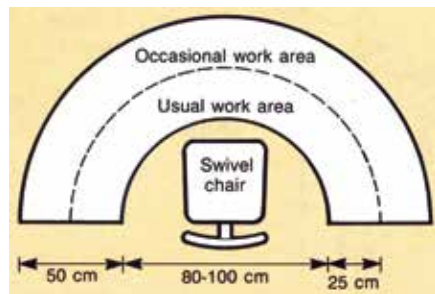


Fig 07: Semi-Circular Workstation.

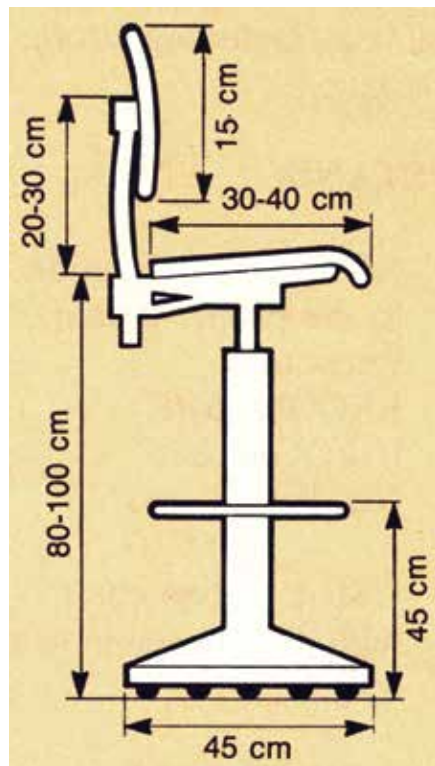


Fig 08: Chair for Sit or Stand Workstation.

### 6.3 Environmental Design:

It is concerned with ensuring that the lighting, heating, ventilation, noise, vibration and so on are appropriate to the requirements of the human operator.

### 6.4 Interface Design:

It focusses on the exchange of information between the man and the machine / environment.

### 6.5 Work Situation Design:

It deals with wider issues such as hours of work, rest pauses and with

special problems such as shift work and interpersonal and organisational aspects of work.

As all these areas overlap, an ergonomist is expected to take an overall view and identify the key design aspects in relation to particular times of people engaged in particular tasks.

Most machines today are carefully designed for optimal performance, but the size and physical working capacity of the worker assigned to the machine frequently is overlooked. Most commonly, equipment in working situations is designed to fit the normal workers. Thus, attention must be focused on linking machine to man in such a way that he will be able to function safely, efficiently and comfortably.

### 7.0 APPLICATION OF ERGONOMICS

Ergonomic applications are intended to assist in devising more ideal work station for safe and efficient job placement of workers.

The application side of the ergonomics is concerned with designing plant and equipment knowing the human capabilities and limitations.

Numerous examples could be given of equipment that was designed poorly from the point of view of human factors. To site one, most of the chairs and tables used by all of us at home as well as in offices are ergonomically unfit and produce fatigue. To site another example is that most of the knives and other tools / gadgets used by housewives in the kitchens are still ergonomically unfit and produce cuts and wounds (See Fig. 09). An ergonomically designed kitchen knife is shown in Fig. 10, which is safe for use. Pliers are available in various



Fig 09: Ergonomically unfit Kitchen Knife.



Fig 10: An Ergonomic Kitchen Knife.

shapes and sizes and used for different purposes. While using pliers choose tools with sufficient space between the handles to prevent the palm of fingers from being pinched (See Fig. 11). Always choose a plier that have a grip span of 6 to 9 cm (See Fig. 12). Therefore, improvement of design can be made in almost any product by incorporating the ergonomic principles.



Fig 11: Wrong way of holding a Plier.



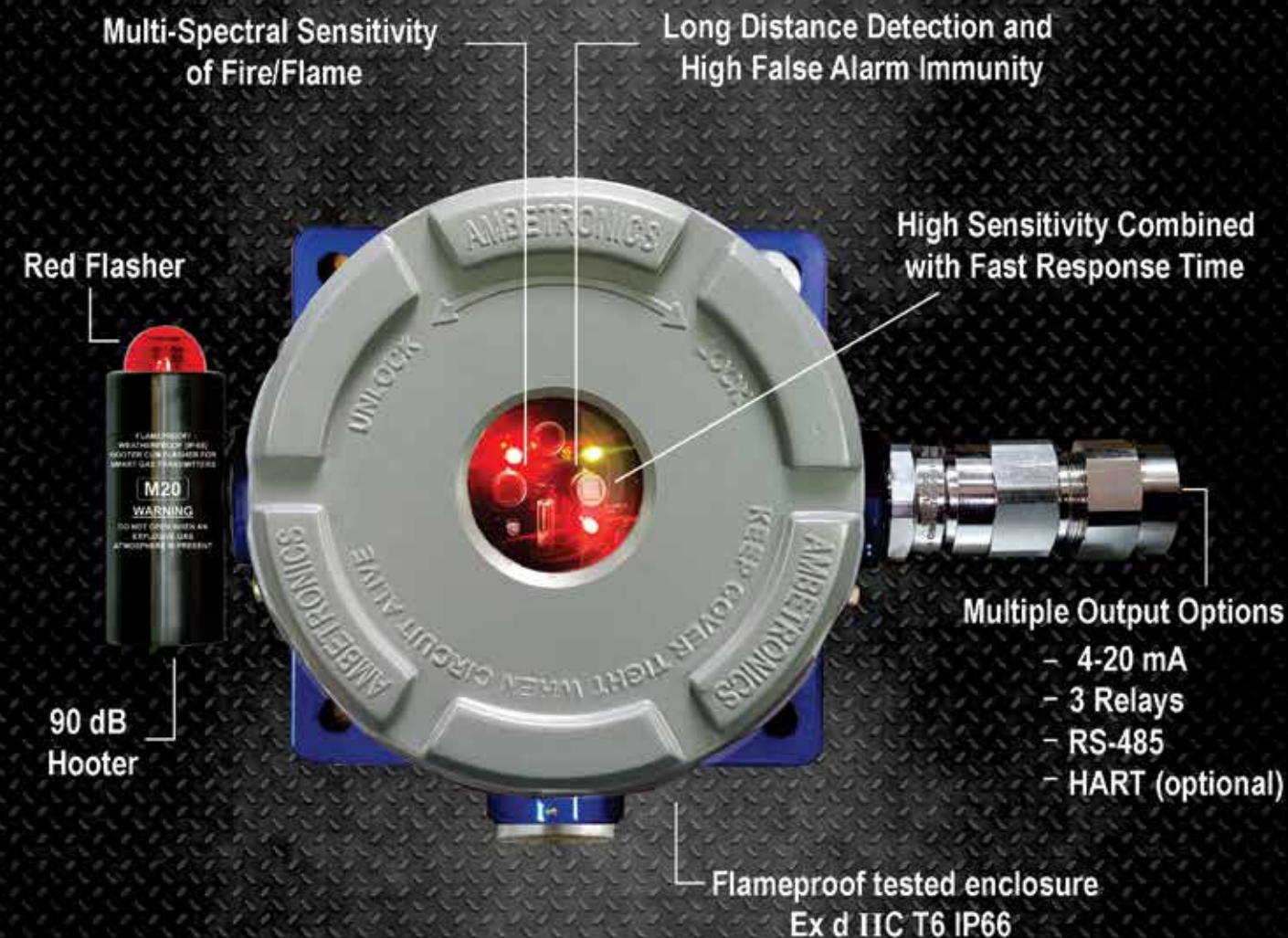
Fig 12: Right way of holding a Plier.

Incidentally, the Canadian Centre for Occupational Health and Safety (CCOHS) has published a number of Ergonomic / Safety Infograms, which will be a good reference material. The sketches illustrated in Figures 05, 06, 07, 08, 11 and 12 are borrowed from CCOHS Infograms.



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When you are looking for ergonomic hazards in the workplace, consider workstations and desks; all tools, equipment, and machinery workers use to do their jobs; and the physical processes workers perform.

While no employer wants their workers to be uncomfortable, it is important to understand that ergonomics isn't just about comfort; it is directly linked to safety and injury prevention. Poor ergonomics contribute to muscle strain, muscle imbalances and fatigue.

Many muscle strains result from performing the same matter over and over again. These become repetitive stress injuries, which are some of the most common workplace injuries. Ergonomics alone won't eliminate this type of injury. It may be remembered here that even if you do a movement correctly, if you do it too often, you are bound to get tired or overuse your muscles and connective tissue. However, proper ergonomics will significantly reduce fatigue and strain. Several common work activities pose repetitive stress ergonomic hazards. Examples include typing and mousing, which can result in carpal tunnel syndrome.

Today, keyboards, mice and other devices that are developed using ergonomics are said to have "ergonomic design". An ergonomic mouse having a 54° vertical angle encourages a healthy wrist and forearm posture which reduces muscle strain (See Fig. 13). This type of design is produced by ergonomics studies that help engineers better understand the way people use devices. For example, an ergonomic chair (See Fig. 14) may help support your lower back and prevent you from slouching. An ergonomic desk may adjust to the appropriate height, so you can sit up straight and view your monitor at the right level. A desk setup that contributes to poor posture will

cause neck and back strain and stress. The stress from poor posture can lead to back pain by causing problems with your muscles, discs and joints. This will

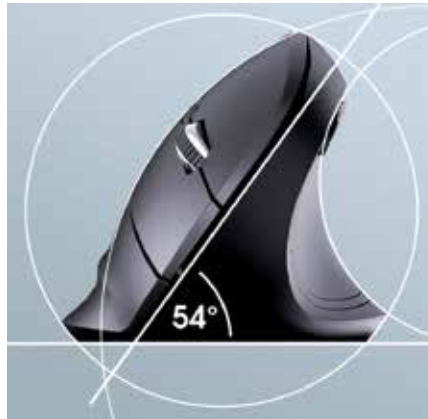


Fig 13: An Ergonomic Mouse.



Fig 14: An Ergonomic Chair.



Fig 15: An Ergonomic Keyboard.

eventually lead to injury. An ergonomic keyboard may have a small slope on each side that fits your hand position more naturally than a flat keyboard. A "fixed-split keyboard" (See Fig. 15) is a single board, with the keys separated into two or three groups, allowing the user to type at a different angle than the typical straight keyboard. It is widely claimed that an ergonomic keyboard may reduce muscle strain and reduce risk of carpal tunnel syndrome or other kinds of repetitive strain injury.

When multiple ergonomic objects are used together, it creates an ergonomically sound environment. This is especially important in office workplaces, where people often spend the majority of their day sitting in front of a computer. Small changes like adjusting a monitor to the correct height may prevent neck pain. By paying attention to ergonomics and making the necessary changes, you avoid the aches and pains that bad practice and receptive stress injuries can cause.

Other work-related actions that cause repetitive stress injuries include: overhead work, auto-mechanical work, driving, stocking shelves, massaging clients, butchering, etc. Poorly designed or maintained tools and equipment may require workers to perform awkward movements or to control their body in order to perform a task. Repeated day after day, this causes excessive fatigue and may result in an injury. Fatigue is one of the most common causes of workplace injuries.

#### 8.0: APPLICATION TO OHS:

The application of ergonomics can be applied to various disciplines, both industrial and non-industrial categories.

##### 8.1 Industrial Disciplines:

The application of ergonomics applied to occupational health and safety-oriented disciplines are:

1. Industrial Hygiene
2. Occupational Medicine
3. Physical Medicine & Rehabilitation
4. Safety Engineering

##### 8.1.1 Industrial Hygiene:

Industrial Hygiene's task is to safeguard man from acute and chronic exposure to hazards that may arise in the pursuit of his occupation. It is quite apparent that, without knowledge of man's physical and mental performance capacity and his tolerance limits to stresses of the physical environment, this task cannot be performed efficiently. Ergonomics offers most of the above information to the Industrial Hygienist, and where the required data are not yet available, the methods of ergonomics can be applied to obtain them.

##### 8.1.2 Occupational Medicine:

The practitioners of occupational medicine require the knowledge of ergonomics to judge rightly whether a disease is of occupational origin. Many obscure complaints and symptoms are caused by an incorrect fit between man and equipment or by a disregard of human tolerance limits to different stresses connected with a job.

##### 8.1.3 Physical Medicine & Rehabilitation:

The task of physical medicine and rehabilitation is to help the injured, the sick, and the handicapped to recover the functions necessary for a self-sustained life. From ergonomics, information is obtained about the detailed mechanism involved in normal human functions and the physical and mental requirements necessary to pursue an occupation.

##### 8.1.4 Safety Engineering:

Safety Engineering and ergonomics are closely related because all the measures that promote a better fit between man and equipment assume also a higher degree of safety.

Safety engineering is an engineering discipline which assures that engineered systems provide acceptable levels of safety. It is strongly related to industrial engineering/systems engineering, and the subset system safety engineering. Safety engineering assures that a life-critical system behaves as needed, even when components fail.

Safety engineering concepts provide the structure for both safety and industrial design engineers to develop intrinsically safe equipment, systems, processes and facilities. When employed early in a design process, safety engineers provide insight into how people will interface with the equipment and facility design.

##### 8.2 Non-Industrial Disciplines:

The application of ergonomics can be applied to several non-industrial disciplines such as:

1. Biomedical Engineering
2. Sports Medicine and Physical Education.

##### 8.2.1 Biomedical Engineering:

Biomedical engineering meets ergonomic in several areas, since it applies the techniques and principles of anthropometry, biomechanics, work physiology, engineering psychology and time & motion study.

Since, biomedical engineering is closely related with rehabilitation, it deals with construction of artificial limbs and other mechanical and electronic aids for the handicapped.

##### 8.2.2 Sports Medicine and Physical Education:

Sports medicine and physical education is the application of the know-how of work physiology to measuring the attitudes performance capacity and to establishing an optimal training programme. The methods of time & motion study and biomechanics

are utilised to establish the most efficient movement pattern for the different sports activities. In problems of contestants' motivation becomes involved.

#### 9.0 CONCLUSION:

Ergonomics is the study of how humans interact with man-made objects. It is the science of designing the workplace, keeping in mind the capabilities and limitations of the worker.

Although ergonomics is relevant in many areas, it is commonly applied to the work place environment. The goal of ergonomics is to create an environment that is well suited to a user's physical needs. It is often used to create comfortable workstations for employees.

Today, ergonomics plays an important role in the study of occupational health and safety and contribute significantly to the promotion of health and well-being of 'man at work'. There is a need for ergonomics training for the workers, supervisors and managers to make them aware of the concept of ergonomics.

It may be kept in mind that an equipment designed on the principles of ergonomics is far less likely to be a source of an accident than one designed without such consideration. Without hesitation one can say that the introduction of ergonomic approach can rightly be regarded as a major advance in accident prevention philosophy.

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*By Prama Hikvision India*

**E**ZVIZ, a global smart home security brand has introduced the new EZVIZ Wi-Fi Security Kit. The Wi-Fi security kit is a complete Wi-Fi solution for home, store, and office. It is all one need to set up a security solution for home, store or office premises. The kit consists of an 8 channel NVR and 4 bullet cameras.

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# Keep Hazards at Bay & Make Welding a Pleasure

by S.K. Palit

**S**afety is a critical consideration for any welding project. Arc welding is a safe occupation when proper precautions are taken. But, if safety measures are ignored, welders can face an array of hazards which can be potentially dangerous, including electric shock, fumes and gases, fire and explosions and more.

In order to help keep welders safe, organizations such as the American Conference of Governmental Industrial Hygienists (ACGIH) and the Occupational Safety and Health Administration (OSHA) offer safety guidelines to help control, minimize or to help employers and workers avoid welding hazards. Employers should ensure that all workers comply with the following important guidelines in the workplace:

- Read and understand manufacturer instructions for equipment
- Carefully review material safety data sheets
- Follow the company's internal safety practices

Awareness of the most common welding hazards and knowing how to avoid

them ensures a safe, productive work environment for all.

## Electric Shock

Electric shock is one of the most serious and immediate risks facing a welder. Electric shock can lead to severe injury or death, either from the shock itself or from a fall caused by the reaction to a shock.

Electric shock occurs when welders touch two metal objects that have a voltage between them, thereby inserting themselves into the electrical circuit. For instance, if a worker holds a bare wire in one hand and a second bare wire with another, electric current will pass through that wire and through the welding operator, causing an electric shock. The higher the voltage, the higher the current and, thus the higher the risk for the electric shock to result in injury or death.

The most common type of electric shock is secondary voltage shock from an arc welding circuit, which ranges from 20 to 100 volts. Bear in mind that even a shock of 50 volts or less can be enough to injure or kill an operator, de-

pending on the conditions. Due to its constant change in polarity, alternating current (AC) voltage is more likely to stop the heart than direct current (DC) welders. It is also more likely to make the person holding the wire unable to let go.

To avoid secondary voltage shock, welding operators should wear dry gloves in good condition, never touch the electrode or metal parts of the electrode holder with skin or wet clothing and be sure to insulate themselves from the work and ground, keeping dry insulation between their body and the metal being welded or ground (such as a metal floor or wet surface).

ADOR Welding Limited (AWL) offers a wide range of PPE (Personal Protective Equipment), like Welding Gloves, Safety Shoes and other safety products to ensure welders' safety. In addition, AWL offers VRD (Voltage Reducing Device) as a built-in feature as an option, and also VRD Units which can be fitted externally to any AC or DC SMAW Welding machine, which keeps the secondary voltage down to a safe level of 18-20 V when no welding is being

done (machine switched on, but in idle condition). Full welding power is automatically enabled whenever the welder strikes the welding arc.

An even more serious shock, primary voltage shock, may occur when a welder touches electrically "hot" or "live" parts inside the welder case or the electric distribution system to which the welder is connected. This action can lead to a shock of 230 or 415 volts. AWL offers ELCB as an option in their welding machines to completely eliminate this hazard.



## Fumes and Gases

Overexposure to welding fumes and gases can be hazardous to the health of the welder as well as any other person who is working in the vicinity of the welding area. Welding fume contains potentially harmful complex metal oxide compounds from consumables, base metal and the base-metal coatings, so it is important to keep the head out of the fumes and use enough ventilation and/or exhaust to control the exposure to substances in the fume, depending on the type of rod and base metal being used.

The specific potential health effects which relate to the welding consumable being used can be found in the Health Hazard Data section of the Safety Data

Sheet available from the consumable manufacturer.

Welding areas require adequate ventilation and local exhaust to keep fumes and gases away from the breathing zone and the general area. In most situations, a ventilation system- such as a fan, and an exhaust system or fixed or removable exhaust hoods- to remove fumes and gases from the work area are provided.

AWL has introduced in their range different models of Welding Fume Extraction Systems, both stand-alone as well as centralized systems (KING EXTRACTORS), with advanced technology, special filters and with or without built-in compressors

## Fire and Explosions

Welding arc creates extreme temperatures, and may pose a significant fire and explosions hazard if safe practices are not followed. While the welding arc may reach temperatures of 10,000 degrees Fahrenheit, the real danger is not from the arc itself, but rather the intense heat, sparks and spatter created by the arc. This spatter can reach up to 35 feet away from the welding space.

To prevent fires, before beginning to weld, inspect the work area for any flammable materials and remove them from

the area. Flammable materials comprise of three categories: liquid, such as gasoline, oil and paint; solid, such as wood, cardboard and paper; gas, including acetylene, propane and hydrogen.

## Ergonomics

When welding heavy material manually and during assembly welding the loads are very static. Positioning welding also gives high loads. Ergonomic control of Welder's position, arrangement of rotating tables (rotators and turn tables) is important to reduce welder fatigue and chances of poor weld quality.

## Other Safety Considerations

Welders should also be aware of other safety considerations within the work environment. For example, those working in a confined space or in an elevated area may need to take extra precautions. In any welding situation, welding operators should pay close attention to safety information on the products being used and the material safety data sheets provided by the manufacturer and work with their employer and co-workers to follow appropriate safe practices for their workplace.

Good common sense is also key while opening cans of electrodes, keep hands away from sharp edges. Remove clutter and debris from the welding area to prevent tripping or falling. And never use broken or damaged equipment or PPE. To keep up with the most recent safety practices, welding operators should utilize resources from the American Welding Society (AWS), OSHA and welding manufacturers.

By following these safe practices and using common sense, operators can stay safe and keep production moving with no lost-time accidents. Safety & Health Fact Sheets are provided in the ANSI Z49.1 Standards.

*[The author is Head-CCC & Strategic Support - Equipment, SGP & WAPS at Ador Welding Ltd.]*



Ador safety products

## SATATYA NVR6408X H.265 NVR with 4K Decoding for proficient security



**S**ATATYA PARAM range of NVRs are high performing, power-packed workhorses engineered for serious video surveillance deployments. In addition to high-resolution recording and live view of multiple streams, they offer innovative

cascading, powerful investigation and instant notifications. All in all, these flexible and reliable NVRs are ideal for modern organizations looking for proficient, persistent and preventive security.

### Features

- Video Channels: 64 IP Channels
- Inbuilt Storage Slot: 8 SATA Ports (10TB each)
- Raid Support: RAID 0, RAID 1, RAID 5, RAID 10
- Compression Technique: H.265 with 512 Mbps Throughput
- Cascading: Monitor Cameras Connected with up to 20 NVRs without a Server
- 4K Decoding and HDMI 2.0 - 4K resolution on HDMI 2.0 for live view and playback

## Matrix COSEC DOOR Palm Vein Reader for enhanced security

**M**atrix COSEC DOOR Palm Vein Reader is a state-of-the-art biometric that uses the infrared light to map the unique vein structure of the palm, capturing over millions of data points. Acquiring the data from the internal vascular pattern of the palm, that is unique to each individual and exists underneath the skin layer. Thus, making it impossible to forge and thereby making it arguably, the most secure compared to other

biometric technology.

### Key Features:

- Contactless technology
- Multiple credentials with Palm Vein, Card and PIN
- Multiple connectivity options with ethernet, in-built Wi-fi and Mobile Broadband (3G/4G)
- Data capacity that stores 20,000 Palm Templates and 10,000 Users
- Event buffer up to 1,00,000



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# Need of the hour

LEAPTOR offers smart solutions for smart cities



Urbanisation is now becoming the most happening global phenomenon. According to the United Nations report, about 68 per cent of the world's population will reside in urban areas by 2050. More and more people will be migrating to the metro region, putting more pressure on urban planning. Policymakers will need to optimise the management of their communities to create sustainable economic stability. We are living in

the age of smart cities with rapid advancement of connected devices, software systems, and information communications technologies.

The smart city also demands smart security for the safety of residents in all means. Whether it is an airport, railway, or any other public transport area, the smart solution is the need of the hour. A company like Leaptor, that offers a range of smart solution products under two major categories- Physical Access

Systems and Vehicular Access Systems, is therefore, also the need of the hour.

## Physical Access Systems

The Physical Access System comprises of products, which mainly focus on the physical protection of information, buildings, installations and other material resources. These systems are designed to bring down the risk of injury or security breach by the third party. At Leaptor, you will find five

major products – Turnstiles, Swing Barriers, Flap Barriers, Sliding Barriers and Access Controls. The installation of these items can make the most determined intruder think twice. These smart security solutions by Leaptor are largely installed in commercial areas including metro stations, airports, toll plazas, etc.

## Vehicular Access Systems

Leaptor, under its smart security

solutions also offers vehicular access systems, which are designed to handle all vehicles entering into the zone. The access systems are mostly installed in commercial areas to restrict vehicular access in the checkpoints. The company offers the Bollards Boom Barrier Access Control system, which is impact resistant. Leaptor's Vehicular Access System is highly automated and is a power-connected equipment that can be installed at the edge. One can control the

vehicle barrier in several ways to make it more easy to use. All the products under Vehicular Access System from Leaptor are easy to deploy, user friendly, designed for users and closed parking, and compatible with access control devices.

## The pursuit of Smart City Security

When the concept of a smart city emerged, it was time to take the right steps. The implementation of new smart security was challenging. It was not surprising that security in this type of high-end technology was still overlooked. However, in recent times, the smart city trend with a security solution is becoming more deliberate and strategic. Public transport areas are now embedded with smart security systems that make the area more secure than the traditional ones.

## Smart Security to make life easy

Product manufacturers like Leaptor are flooding the market with new “smart security products” to build secure smart cities. Unsecure devices and security solutions are fertile ground for hackers and intruders, causing a breach of security. Smart city security solutions are the collaborative effort of- product manufacturers, standard boards, and gateway providers. This allows making the smart city infrastructure strong.

Leaptor is changing the smart security system and each product is the result of innovative R&D and high-tech manufacturing facilities.

LEAPTOR®

For more information  
Website: [www.leaptor.com](http://www.leaptor.com)

# Hikvision alarm products to improve protection of homes and businesses

Alarm systems have been available for decades, but many solutions offer little functionality beyond a sensor triggering an alert in the event of a break in. To take alarms to the next level, Hikvision is bringing a number of new and innovative technologies to market

*By Prama Hikvision India*

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. In some cases, for example, 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.

To address this broad range of end-customer requirements, Hikvision has created a broad portfolio of innovative alarm solutions that are sophisticated, automated, and always fit for purpose. These allow you to:

- **Meet customers' home security requirements with Hikvision Intrusion Alarm**

A break-in at a customer's home can cause major upset, as well as material and financial losses. With Hikvision Intrusion Alarm solutions, they can get peace of mind that their home is properly protected.

To maximize home security, our 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 pioneering 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. Wired products are also available for small commercial applications.

For residential applications, end users can connect into the alarm control panel, receive alerts, and watch streamed video from CCTV cameras on their handheld device. They can also configure their home security system remotely and view alarm reports.

- **Detect and track multiple intruders concurrently over large distances with Hikvision Security Radar**

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 meters and a 120° detecting angle. That means your customers can cover sites of 15,000 square meters and – most importantly – they can track up to 64 targets simultaneously.

To make life easy for your customers' security teams, they can define the different areas you want to monitor, such as the warehouse, the car park, the perimeter or entrance, and others as needed. One Hikvision Radar can link up to 4 PTZ dome cameras at the same time to check multiple targets via video. With Hikvision, your customers also get an extremely low rate of false

alarms. This means they can focus on real intruders rather than pets or other animals, or weather interference such as fog, rain or snow.

- **Stop criminals before they can do any damage with Hikvision Perimeter Protection**

The best way your customers can minimize safety risk and damage to their assets is to stop intruders while they are still outside your site or building – and that's what Hikvision Perimeter Protection is all about. To stop criminals in their tracks, we use two parallel infra-red bars that have to be broken at the same time for the alarm to be sounded.

With two infra-red 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.

In further, our solutions are temperature and weather hardened, enabling deployment outside, in all kinds of perimeter locations. Your customers can also monitor their perimeter security remotely via their handheld devices.

- **Increase safety for people in public places with Hikvision Emergency Alarm**



An emergency situation can unfold anywhere, in a school, on a university campus, in a park, or in the street. To help security teams work effectively, and ensure that people feel safe wherever they are, Hikvision has created our 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.

In addition to these benefits, our solution is available in different formats and can be integrated with joined-up 'safe city' technologies,

including dome cameras, license-plate recognition cameras, low-light cameras, and more.

This kind of solution is already being to improve safety in cities, parks, universities and schools worldwide and can be deployed in a wide range of other customer scenarios.

**Fit-for-purpose alarm solutions for every application**

Based on these four key application areas, Hikvision alarm solutions cover all of your customers' home security and business security requirements. While our Intrusion Alarm solutions protect homes and small businesses against break-ins, our Security Radar, Perimeter Protection, and Emergency Alarm solutions enable protection of people and assets and rapid responses on a far larger scale – either for large sites or in smart-city environments.

**HIKVISION®**  
See Far, Go Further

*For more information,  
[www.hikvisionindia.com](http://www.hikvisionindia.com)*

# Solution for early detection and screening for controlling Covid-19 spread

## Human Temperature Detection Solution

Amid the outbreak of Covid-19, we have developed “**Human Temperature Detection Solution**” for pro active detection of high temperatures which could help Indian Health bodies to keep track of people with high temperature during this outbreak and take necessary actions in order to control the outbreak.

Sparsh has launched at record timeframe the following Human Body Temperature Detection Solutions for early detection and screening for controlling Covid-19 Spread.

The solutions are capable of detecting and alerting temperatures above threshold levels by screening

humans from distance of 1 foot to 10m which helps preventing human to human proximity and thus spreading of Covid-19.

This solution helps **avoid human to human contact**, rather a person can be sitting anywhere far and monitor the solution. This will help screening a larger population in public areas like Airports, Railways Stations, Metros, Hospitals, Bus Stations, Govt. Buildings, etc which becomes almost impossible if given a chance to be done by person(s).

## Look & Go Solution

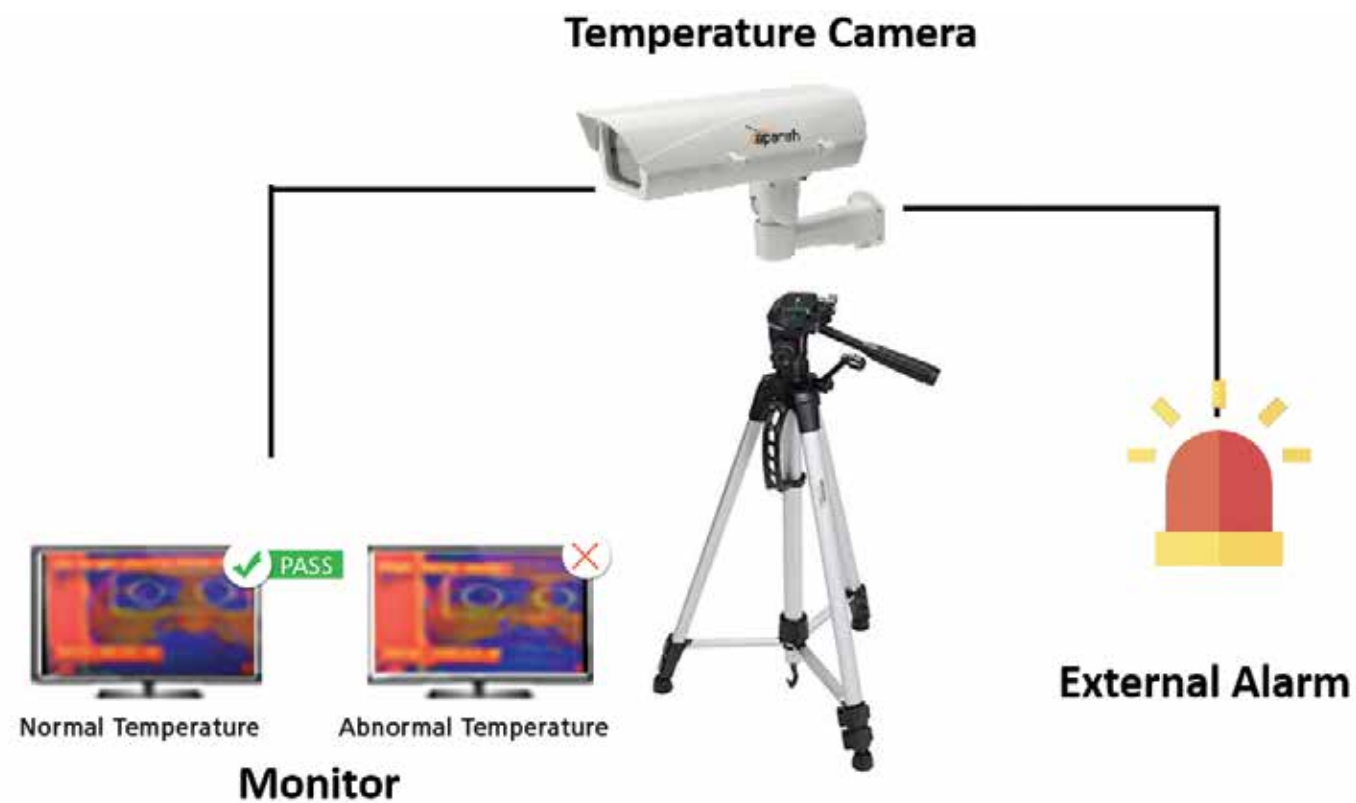
Ideal to conduct screening safely and efficiently of those who may potentially

be infected with flu. Body temperature of those infected is expected to be around 38~39°C while adult human normal temperature should be around 36°C. This camera can visualize such temperature difference instantly from safe distance for you to segregate those who may have been infected.

## How it Works

Human Temperature Detecton Solution uses face detection technology and the infrared energy that a body emits, which is invisible to the human eye. The system constructs a heat map and calculates the temperature.

One has to face the camera and stand still, allowing a clear view of the



**Solution AI Based Contactless Abnormal Temperature Alert**

corners of the eyes — the tear ducts — where the skin temperature comes closest to that of the body's core.

When the system detects someone with temperature above threshold, an alarm will be generated and face of the person will be stored along with temperature readings in the records.

This helps automate the screening process, this helping in protection of human to human transfer of virus.

This is an **Eye Tears Duct Pore temperature** screening solution which is far more accurate than thermal cameras which are basically used for only body temperature measurement.

Only this solution gives accurate reading and rest and approximations thus not very useful.

Some of the World facts amid this

outbreak:

- Italy's entire population under quarantine measures.
- China's Q1 growth seen at 4.5% - lowest since financial crisis -Reuters poll.
- Airlines expect a \$113 billion drop in revenue this year.

This pandemic in a way also brings an opportunity for India because it accelerates the de-risking of supply chains which originates from China. This opportunity exists only if we can control the outspread of this virus in India.

## About SPARSH

Samridhi Automations. Pvt. Ltd. established in 2006, is a pioneer and leader in manufacturing Electronic Video Surveillance equipment in India

with product presence and in more than 250 cities in India. Its brand SPARSH has revolutionized the security market by being India's first company to manufacture CCTV cameras in the country in the year 2008. At our state-of-the-art manufacturing unit at SIDCUL Industrial Area, Haridwar, our focus on indigenous design, development and manufacturing of technologically advanced Surveillance Equipment & Devices has put India on the international map.



For more information,  
[www.sparshsecuritech.com](http://www.sparshsecuritech.com)

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# Nitrile Fully Coating (Warrior)



**1** 5 gauge grey nylon and spandex liner, first nitrile smooth fully coating in Red, second sandy nitrile palm and thumb coating in Black.

## Features & Benefits

- Unique double dipped provides superior grip under dry and wet condition.
- Ultra finest gauge nylon fiber provides outstanding comfort.
- Ergonomic designed offers great comfort and dexterous.
- Dexterity, oil resistance, antislip and comfortable
- First layer with 3/4 or fully coating are available

## Application

- Light metal fabrication
- Assembling and finishing
- handling in Oily Surfaces
- General maintenance, Painting,
- Other automotive application, Mechanical Industries Parameters

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# How Cyberpark Calicut is securing IT campus with ZKTeco Entrance control solution

With ZKTeco Turnstile security barrier, Cyberpark Calicut is able to ensure real-time monitoring of check-in and check-out activities of users and prevent unauthorized entry

Cyberpark Calicut is a top-notch emerging IT destination located among the major transportation hubs of Kerala, extending over 70 acres and sparkles with modern architectural business centres. The business centres offer premium infrastructure filled with state-of-the-art technologies and amenities. The campus is fortified with lush green ambience rendering an eco-friendly environment to the employees. In a nutshell, Cyberpark Calicut is an ideal business park for an IT ecosystem.

## The Challenge

Handling crowd has never been easier, especially in a tech-park scaling in acres. Hence, Cyberpark administration wanted to establish an entrance control system at each business centres to facilitate the employee crowd as well to prevent any unauthorized entry into the organizational premises, thereby establishing safe and security to the business ecosystem as IT parks could be potential spots for terror attacks and geopolitical risks. Apart from the security requirements, it also wanted



the entrance control system to be more presentable and compatible with the premium architectural design of their premises.

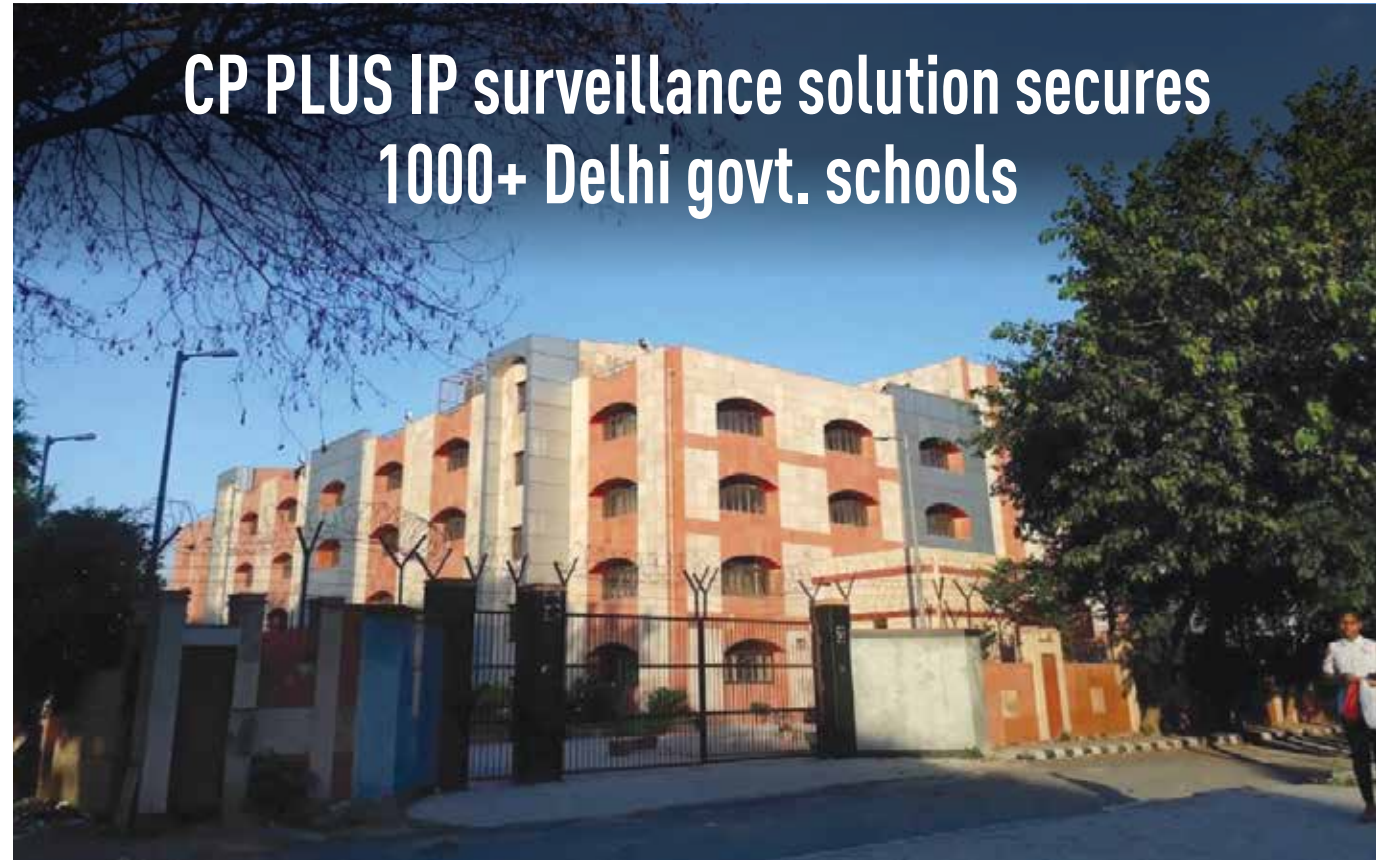
## Solution Provided

In line with the requirements, ZKTeco has offered TS1000 Pro, a Tripod Turnstile security barrier with smart card accessibility and elegant design. The device is capable of withstanding

long-term usage with SUS304 stainless steel body. By default, the tripod arms are held in a locked position, thus denying access to the secured side. Hence, only employees with RFID card access can pass through the system. Furthermore, the rotatory movement of the tripod arms provide access to only one member at a time offering a high-level security. The employees need to display their respective smart card over RFID reader embedded in the barrier to gain access to either inside or outside. On the other hand, people without access card won't be able enter into the organization preventing any external infiltration. During emergency circumstances the tripod arms completely collapse, thereby ensuring unencumbered exit to safety.



## CP PLUS IP surveillance solution secures 1000+ Delhi govt. schools



Over 1,000 Delhi Government schools (728 buildings) are now installed with CP PLUS IP video surveillance solution that ensures a safe learning environment for pupils

Schools are the foundation of our society and they are the house of learning for our future generation. Hence the security of school buildings and children is our topmost priority. Delhi Government was seeking an advanced and reliable security infrastructure to ensure a safe & secure environment for school children. It was an important step by the government to curb crime and provide peace of mind to parents of scholars. They intended dependable CCTV solution for more than 1000 Delhi Government schools where total number of buildings are 728. The project involved supply, installation, testing, commissioning and CAMC of CCTV system in the schools.

CP PLUS, a pioneering solution provider in the field of electronic

security, proposed an array of its cutting-edge CCTV products and comprehensive surveillance systems to meet this historic project. The aim here was to provide best-in-class security solutions in all Delhi government schools.

### Challenges

Safeguarding school children, faculty and assets require a profound solution. It is the prime responsibility of the school administration to create a safe and secure learning environment. Delhi government schools needed advanced, integrated and cost-effective surveillance solutions that help in deterring and detecting any criminal activities. Effective surveillance, monitoring and control were the main aspects here to prevent any

mischievous activity and monitor suspicious people, objects or vehicles etc. The administration wanted well-structured security systems in the schools to help protect the scholars and the property along with providing quality education for children.

### Solution

CP PLUS, a pioneer in providing state-of-the-art video surveillance solution, recommended and provided the best suitable solution for this largest CCTV project in education vertical which will also meet the objective of enhancing safety & security in the city.

Approximately 1.5 Lakh 4MP IP Cameras including Outdoor Bullet, Vandal Dome & PTZ Cameras, along with over 2400 Recorders were installed in the Delhi government

schools in total. Keeping the cruciality of the project in mind, CP PLUS team ensured best-in-class security solution along with excellent technical support and quality service in the supply of relevant surveillance equipment and accessories.

CP PLUS integrated security solutions in Delhi government schools involved advanced CCTV systems with the latest technologies for HD recording where admin users can view all cameras at any time from any place through Web and Mobile app. The solution included 4MP cameras with day/night vision, NVRs for recording and LED displays at the school control room, and IP Cameras for classrooms, gates, common areas, boundary, etc. And the server here can store 30 days of full HD recording.

CP PLUS comprehensive solution

in the schools included a well-equipped command & control centre (CCC) for integrated monitoring and management of the entire space in real-time. Moreover, there is an integration of Health Check Software in the system for live monitoring of all devices connected in the network for complete situational awareness. Also, the software features scalable solutions for future integrations. Some of the key capabilities of Health Check Software are:

- Live data about all CCTV devices (Cameras, NVRs etc.) such as up-time and downtime
- Immediate alerts at CCC and on SMS for Power Supply, Camera Fault, NVR or HDD Fault etc.
- Live Status of All Schools
- Automatic fault reporting to Vendor for healthy functioning of the system

### Result

With this India's largest CCTV project in education vertical, Delhi government schools now have integrated CCTV camera systems to capture and monitor all the activities in the school buildings. This not only ensures a safer environment for students but also uphold the peacefulness of their parents. Further, it standardizes security procedures in the infrastructure while ensuring streamlined school management and operations.

CP PLUS has set a historic milestone by equipping Delhi government schools with advanced surveillance solution. It has been achieved through good collaborative efforts of CP PLUS team and Technosys Security Pvt Ltd – system integrator for the project.

Website: [www.cplusplusworld.com](http://www.cplusplusworld.com)



# National Bank of Umm Al Qaiwain enhances employee productivity with Matrix Time-Attendance Solution

With Matrix Time-Attendance Solution, the bank has been able to ensure quick salary processing by eliminating manual calculations. Also, the shift allocation and shift correction processes have been streamlined

**N**ational Bank of Umm Al Qaiwain is a Public Shareholding Company incorporated in Umm Al Qaiwain by Amiri Decree Number (1) on January 5, 1982, issued by the Ruler of Umm Al Qaiwain and commenced its operations with effect from August 1, 1982. The local government of Umm Al Qaiwain is the largest shareholder and promoter

of the bank. The bank is engaged in providing retail and corporate banking services through a network of 14 branches in U.A.E. The Bank carries out Islamic banking operations through Islamic Banking window established in 2005 across its branch network.

## Challenges:

They were searching for a fool-proof

solution that would help them in managing the Time-Attendance and overtime calculation. With offices spread over 14 locations in UAE, management of attendance data was a daunting task. Thus, centralized attendance data management and maintaining a complete record of their employees were a part of their key requirements. Moreover, their payroll

processing deployed a software - RAMCO, wherein the attendance data was manually entered.

## Solution:

After a comprehensive discussion with the customer, Matrix offered a centralized platform - COSEC CENTRA, to manage all the data centrally. Door controllers - COSEC VEGA FAX installed in all the office entrances. These door controllers are integrated with the central platform that pushes the event data to the server.



Furthermore, the Matrix platform is integrated with the payroll system - Ramco. All manual work for report generation was eliminated outrightly, simplifying the salary procedure.

## Results:

After implementing Matrix solutions, NBQ witnessed drastic changes while following their processes. Effortless attendance management of multiple locations from the Head Office was prominently one of them. The shift allocation and shift correction processes were streamlined. Their solution included some advanced features like customized attendance policy formation and real time alert on attendance related event & auto-scheduled reporting.

This, in turn, ensured efficient employee database management improving productivity.

## Products and Solutions Offered:

### COSEC VEGA FAX

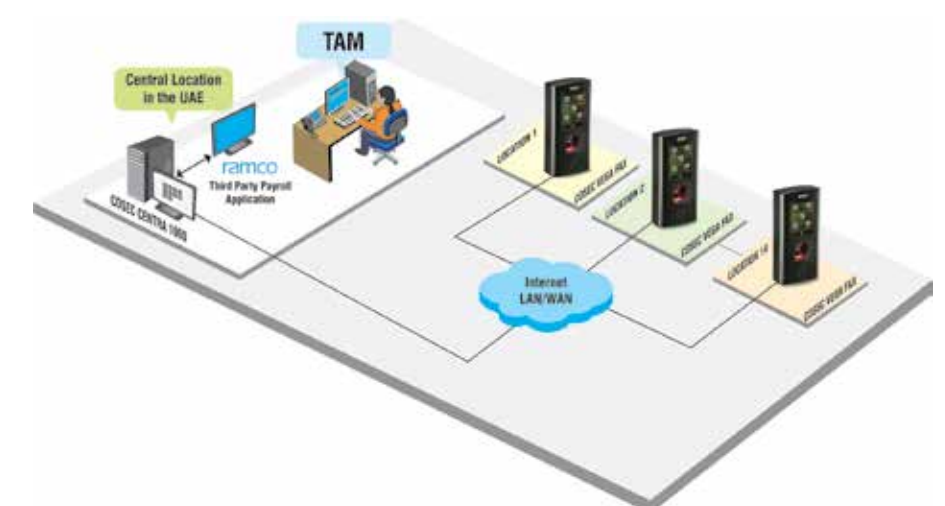
A complete Time-Attendance and Access Control solution with a blend of aesthetics, size, connectivity, reliability and ease-of-use. Designed for large enterprises with multi-location organizations.

### COSEC CENTRA PLT

A web-enabled application server that controls the entire system from anywhere in the world. It is the heart of the entire solution and acts as a bridge between applications and the devices.

### COSEC CENTRA TAM

An enterprise-grade solution, designed for organizations for Time-Attendance and Leave Management processes like recording entries and exits, salary processing, etc.





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