

# EXPO NEWS

29<sup>th</sup>

**Convergence  
India Expo**

**7<sup>th</sup> Smart Cities  
INDIA EXPO**

**23-25**

**MARCH 2022**

**PRAGATI MAIDAN,  
NEW DELHI**

**23 MARCH 2022**

**DAY 1**



**M. Venkaiah Naidu**  
Hon'ble Vice President of India

**R**eferring to the transformational changes brought in the governance over the past seven years, these changes are both empowering and enabling the 1.3 billion people to deliver on their potential. Be it life expectancy, financial inclusion, access to healthcare, employment, owning a house, or honouring entrepreneurial ability, the quality of Indian lives is getting better with each passing day.

With Prime Minister's three word mantra - reform, perform and transform, tremendous progress has been made by the nation over the past few years in various fields such as financial inclusion, insurance coverage, number of LPG connections for poor women and tap water connection to households.

Following the principle of minimum government and maximum governance', the Government is leveraging technologies to bring transformation in every sector with India becoming the third largest start up ecosystem in the world. It is a testimony to the government's resolute commitment to improve the business environment in the

country that India's ranking rose to 63rd place in World Bank's Ease of Doing Business Index 2020.

India's strategic partnerships are based on mutual respect and the nation has given a resolute response to inimical forces who dared to challenge our integrity and sovereignty. We are guided by our unwavering self-belief and our dedication to becoming 'Atmanirbhar' in every possible way.

Nothing that there are still many challenges in our path, India has faced many obstacles but has overcome them successfully. Nothing could deter us from the path of progress and humanity. This is why India's success is the success of the world. For making India a 'Vishwaguru' once again, all stakeholders need to come together and join this Mahayajna of creating a self-reliant, prosperous, happy and strong India.

I am happy to know that in view of the above, the India Trade Promotion Organisation (ITPO), and Exhibitions India Group are organising the 29th Convergence India and the 7th Smart Cities India 2022 expo from 23-25 March 2022, at Pragati Maidan, New Delhi.



**Nitin Gadkari**  
Hon'ble Union Minister  
Ministry of Road Transport & Highways

**I** am glad to know that the 29th Convergence India & 7th Smart Cities Expo is being organized by Exhibitions India Group in association with India Trade Promotion Organisation from 23<sup>rd</sup> – 25<sup>th</sup> March 2022 at New Delhi.

An event of this magnitude is taking place at this particular juncture, when the commerce and trade in the country started resuming their vigor in the aftermath of the pandemic.

Integrated and sustainable transport infrastructure is instrumental for economic growth. The government is committed to the holistic

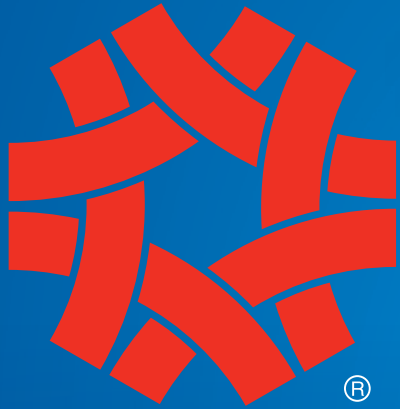
development of infrastructure through the National infrastructure pipeline and PM Gati Shakti National Master Plan and National Asset Monetization Program to fast track the envisaged overall growth.

Citizens are always kept at the center of any development. I believe in the fact that the "city to be one culture" and "mobility as a service" to make society livable, workable, and sustainable to all. The Convergence India has been the champion in the digital revolution and the Smart Cities India is a reflection of the emerging modernization and development landscape.

I hope that the two Expos would support the initiatives of the Government – Digital India, Make in India and Smart Cities Mission and provide a platform for all stakeholders to exchange views and ideas for mutual benefit while focusing on unlocking new opportunities and reviving economic growth.

I Congratulate the organisers for their efforts in conducting this event and wishing the Expo a grand success.

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## Narayan Tatu Rane

Hon'ble Minister, Ministry of Micro, Small & Medium Enterprises

I am happy to know that Exhibition India Pvt. Ltd, is organizing 29th Convergence India & 7th Smart Cities India expo during March 23-25, 2022 at Pragati Maidan, New Delhi and a Show Directory is being brought out on this occasion.

The Expo, I am sure will create an ideal opportunity for MSMEs to move into the ambit of Technology and innovations, and gear up for the future of a digital-ready India, in the interest of business excellence.

I wish the Expo all success.



## Som Prakash

Hon'ble Minister of State Ministry of Commerce & Industry Day

I am glad to know that India Trade Promotion Organisation (ITPO) and Exhibitions India Group is organizing the 29th Convergence India and 7th Smart Cities India 2022 Expo at Pragati Maidan, New Delhi during 23rd to 25th March 2022.

Trade and Investments in India continue to maintain its momentum, driven by economic and social developments and population growth. The government has been spearheading a number of initiatives such as National Logistics Policy, New Industrial Policy, E-commerce Policy and National Retail Trade policy, Gati Shakti, Investment clearance cell, Start up India and more, fostering the socio-economic growth of the sector, as well as contributing a large share towards India's GDP. Irrespective of the global slowdown and the COVID-19 pandemic, FDI into India recorded a significant jump. Trade, e-commerce and FMCG companies have massive presence in India, as well as a large consumer base for numerous opportunities within these sectors. The government has initiated numerous schemes to enable India's transition into a global economic hub.

I extend my best wishes for the success of the Expo.



## Gajendra Singh Shekhawat

Hon'ble Minister, Ministry of Jal Shakti

Water is the source of life – an essential for all human activities. However, with increasing agriculture, commercialization, rapid population explosion and changing consumption patterns, the need for water, especially clean water, is at an all-time high and India is no exception to this demand. As a fast developing and second most populous country in the world, India is facing a severe water crisis that is becoming a critical issue. Home to about 17% of the world population, and around 20% of world's livestock population, India has access to only about 4% of the world's freshwater reserves.

The Government of India has taken numerous steps to address the issues and challenges to pervade the water resources sector and water utility services in our country, while emphasizing on the use of technology for the purpose. Hon'ble Prime Minister has also set a revolutionary goal of bringing piped drinking water to all households, for which the Centre and the states will together spend 3.5 lakh crore rupees. This initiative will play a big role in making India a 5 trillion-dollar economy. This initiative is integrated with ensuring source sustainability and gray water treatment. The Government has been investing heavily into water related projects, be it for water resource management, watershed development or agriculture and irrigation projects.

The government has accorded highest priority to water and has been working on water management in a holistic manner. To ensure water security to all, the government's emphasis is on micro planning at the grassroots level for integrated water management. Noteworthy initiatives as the Jai Jeevan Mission, Atal Jal, PMKSY, DRIP, DHARMA, and Namami Gange, the government has successfully made water everyone's business.

In view of the above, the India Trade Promotion Organisation (ITPO) and Exhibitions India Group are Organising the Water India/7th Smart Cities India 2022 expo and 29th Convergence India at Pragati Maidan, New Delhi during 23-25 March 2022 along with Water India expo, to address the pressing concerns for a sustainable living for the present and future. The event will provide a platform for all the interested parties to come together under one roof and strategise the future of smart cities in India.

My best wishes to all those associated with the Mission's agenda and participating in this event.



## Bhupender Yadav

Hon'ble Minister Ministry of Environment, Forests & Climate Change

I am glad to know that the India Trade Promotion Organization (ITPO) and Exhibitions India Group are organizing the 29th Convergence India and the Clean India/7th Smart Cities India 2022 expo from 23rd-25th March 2022 at Pragati Maidan, New Delhi.

India, which has shown global leadership in the fight against climate change, is a critical part of the global climate change solutions. Being one of the world's largest emerging economy, which already has a large energy footprint globally, India has made major contributions for tackling global Climate Change.

As India grows, we will develop a new generation of resilient infrastructure, from modern airports to smart power grids to efficient railways and highways that will connect its many cities. To that end the expo is committed to attract joint efforts from private and public sector for climate resilience and adaptation.

My best wishes are with the organizers and wish the expo a grand success.





**Gen. (Dr.) Vijay Kumar Singh**

Hon'ble Minister of State, Ministry of Road Transport & Highways

The roads and highways play a very important role in connecting millions of people. They are one of the most cost-effective and preferred mode of transport due to a high level of penetration and last-mile connectivity in populated and remote areas. Keeping in view climate change commitments made by Government of India to reduce emission intensity by 33-35% by 2030 it is important to introduce alternative means in the transport sector. Electric vehicles are a promising technology option and several national governments have successfully implemented policies to promote the technology. India under the leadership of Prime Minister Shri. Narendra Modi is keen to promote electric vehicles as green mobility options since it is a viable solution to reduce air pollution in cities.

Although the electric vehicle market in India is in its nascent stage at present, it is expected to reach USD 152.21 billion by 2030 at a CAGR of 94.4% from 2021 to 2030. However, availability of adequate charging infrastructure remains one of the key requirements for accelerating the adoption of electric vehicles in India. It is important to set up at least one e-charging kiosk at 69,000 petrol pumps across the country to accelerate the uptake of electric vehicles.

The government has announced an outlay of 10,000 crores for Phase 2 of the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles, or FAME 2 scheme, to boost electric mobility, and increase the number of electric vehicles in commercial fleets. The government has also approved green license plates for electric vehicles in order to encourage people to use them. The purpose is easy identification for added benefits.



**Krishan Pal Gurjar**

Hon'ble Minister of State, Ministry of Power and Heavy Industries

The global energy sector has shifted a great deal over the years, particularly in terms of efforts to strengthen policies to tackle the threat of climate change. The growing number of net-zero emissions pledges by countries and companies reflects the increasing sense of urgency and accelerating momentum around energy transitions. India is a major force in the global energy economy. Energy consumption has more than doubled since 2000, propelled upwards by a growing population – soon to be the world's largest- and a period of rapid economic growth.

Focusing on India's energy system in particular, it is pertinent to highlight positive developments that have made the country stand out. India has achieved breakthrough success in bringing electricity connections to hundreds of millions of its citizens in recent years, which is a monumental achievement and has improved the material well-being of a huge number of people. Secondly, the way in which India has grasped the transformative potential of renewable, and solar in particular, is highly applaudable. The growth of India's renewable energy sector has been highly impressive – and India is set to lead the world in areas like solar power and batteries in the coming decade.

There are many more challenges that remain unresolved for India – in terms of energy security, access, affordability, emissions and more. But India's decision makers have shown on many occasions the value of well-designed policies. India has a wide range of policies in place that aim to bring about a secure and sustainable energy for future. The growth of India's energy and power sector explains that there are tremendous opportunities for India to develop and successfully meet the aspirations of its citizens without following the high-carbon pathway that other economies have pursued in the past. Seizing this opportunity is critically important for India, and for the world.

I am glad to know that India Trade Promotion Organization (ITPO) and Exhibitions India Group (EIG) are co-organizing the 29th Convergence India and 7th Smart Cities India 2022 expo from 23rd-25th March 2022 at Pragati Maidan, New Delhi.

I would like to commend the dedicated efforts of events like Convergence India and Smart Cities that unites the decision makers across the Indian energy sector to build a brighter future for a country that will remain at the heart of global energy trends for decades to come. In an endeavour to bring affordable, clean and reliable energy to all its citizens, I extend my best wishes to the organizers.



**Bishweswar Tudu**

Hon'ble Minister of State, Ministry of Jal Shakti and Tribal Affairs

Water is intrinsically related to human life. Civilizations have depended on the availability of water to flourish since times immemorial. However, as the world around us undergoes developmental and natural processes, access to this elixir of life has increasingly become difficult, to the extent that water is now being traded as a commodity. India has about 17% of the world population, but only about 4% of the world's freshwater reserves, which is a matter of concern. Hence, ensuring water security is a high priority for the

Government of India.

As the severity of the water crisis in India becomes critical every year, central and state government agencies are using a variety of resources to tackle the water crisis. Water Industry in India is set to introduce various new technologies and changes in the coming future. Climate change, increasing fresh water demands, rapid urbanization, automation and digitization are the main factors and important for water companies to stay competitive within the industry. Such factors are eventually turning into futuristic opportunities which will benefit businesses, customers and the environment. One among them is the adoption of Geospatial technologies supported by various governments, private and academic institutions in India.

The geospatial industry is geared to assist the government in accomplishing this critical goal.

Availability of clean water to all for personal, industrial, and agricultural use will not only ensure that India reaches its vision of becoming a USD 5 Trillion economy but will also enable our country to achieve the United Nations Sustainable Development Goals.

I am happy to learn that India Trade Promotion Organization (ITPO) and Exhibitions India Group are organizing the 29th Convergence India & Water India/7th Smart Cities India expo at Pragati Maidan, New Delhi during 23rd-25th March 2022. The efforts of ITPO and EI in making people aware of the technological transformation towards sustainable urban development of India is highly laudable. The expo endeavors to highlight the benefits of using advanced technologies for the ongoing water programmes in India and how the industry can work with the government to deliver better results.



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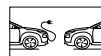
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## IN CONVERSATION



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**Both Convergence India and Smart Cities India, in their 29<sup>th</sup> and 7<sup>th</sup> editions respectively, have evolved to meet the needs of a fast growing and developing India**

### **Chandrika Behl**

Managing Director, Exhibitions India Group - organizer of the 29<sup>th</sup> Convergence India & 7<sup>th</sup> Smart Cities India 2022 expo.

### **What makes Convergence India and Smart Cities India such a sought-after expo?**

We are proud to be at the forefront of

change, promoting trade and investment through the platform of exhibitions and conferences.

Both Convergence India and Smart Cities India, in their 29<sup>th</sup> and 7<sup>th</sup> editions respectively, have evolved to meet the needs of a fast growing and developing India. Our aim is to be a facilitator of this change, and this is reflected in the way these platforms have emerged over the years to serve the market, and the nation.

Since 1987, the Exhibitions India Group has worked to create an interface between government, business, media and academia. Convergence India and Smart Cities India bring together, on a single platform, the meticulous diligence of subject matter experts, enthusiasts and leaders from across the world to define India's future roadmap.

The digital transformation in India is being fuelled by rapid innovation in the technology space. We will continue to focus on the Prime Minister's ambitious programs, including Digital India, Make in India, the Smart Cities Mission, Skilling India and Startup India to name a few.

### **What are the highlights of the expo this year?**

The expo has 800 leading brands, including 100 startups, and provides a forum to exchange ideas and deliberate with leading voices from government and industry at the concurrent conference and City Leaders Conclave. For startups, we provide the opportunity to participate in pitching competitions and mentorship sessions.

And, to recognise the important work being done across the country towards 'Building a Digital and Smart India,' we conclude

this three-day expo with the Smart Cities & FinTech India Innovation Awards.

### **What is the mission of this expo?**

Convergence India and Smart Cities India have a legacy of being platforms that foster growth and accelerate nation building. This leading platform not only showcases the latest technologies, but also demonstrates where and how these innovations fit into a smart and sustainable ecosystem. Our aim remains to contribute to India's growth story and provide a platform to showcase 'Brand India.'


As the latest innovations aim to improve the quality of life, it's the Indian citizen who benefits from advancements in technology and planning. Such meaningful engagement, as this expo provides, is a foundation stone towards achieving a future in which we create a more sustainable blueprint for society. We meet at a dynamic time, where the Indian technology landscape is thriving and achieving environmentally friendly development is necessary to realise our vision for a world that is safer, more resilient, and healthier for all people.

### **What do you have in mind for the next editions of Convergence India and Smart Cities India?**

The 30<sup>th</sup> edition of Convergence and 8<sup>th</sup> edition of Smart Cities India in 2023 will be bigger, better and, of course, smarter. In the present era of 'convergence,' distinctions between technology and infrastructure are blurred. Innovation and sustainability is the need of the hour, and that's where a platform such as this comes in.

The expo will continue to be a hub for future technologies, innovation and everything that is smart and sustainable.



 **Convergence  
India Expo**

  
**8<sup>th</sup> Smart Cities  
INDIA EXPO**

# **BUILDING A DIGITAL & SMART INDIA**

Organisers



India Trade Promotion Organisation (ITPO)  
(A Government of India Enterprise)  
Department of Commerce



Exhibitions India Group

**27-29 MARCH 2023**  
PRAGATI MAIDAN, NEW DELHI



## IN CONVERSATION



### Jibesh Kumar

Hon'ble Minister, Department of Information Technology, Government of Bihar

#### **Bihar has surfaced as one of the key states contributing heavily to the role of IT in the country's progress. What are your thoughts on it?**

Information Technology is one of the strongest pillars of India's growth story. Given the digital era that we all are living in, it is impossible to grow without innovative solutions and the advance technology. I am elated that initiatives in Bihar have exponentially contributed and helped not only the state but the country to drive further on the path of advancement. Not only the industry, but more importantly the citizens of Bihar have benefitted through the e-Governance and m-Governance model. Progress in IT in Bihar has also had positive effects on the growth of start-ups and Entrepreneurship wave in the state.

#### **IT has always been an integral fiber for any smart city. Would you say, cities in Bihar are paving their way to become smart cities?**

Absolutely! Patna, Muzaffarpur, Biharsharif and Bhagalpur in Bihar have been selected under the Centre's Smart City Mission. Our vision is very holistic, we would want cities in Bihar to be truly smart and therefore work is being carried out on all fronts, such as Infrastructure, IT, Education and Civil facilities. IT would enable and provide for integrated solutions on all fronts. The past two years have

definitely set up more challenges but it also made it evident that with the help of IT solutions at hand, we can easily meet the desired results and defy challenges. IT growth has also resulted in increased employment opportunities in the state and has fostered the pathway between education and employment.

#### **How has the e-governance changed the functionality of doing business in Bihar?**

Application of IT has provided convenience, transparency and efficiency in delivering government services, exchange of information, communication transactions, integration of various stand-alone systems between government to citizen (G2C), government-to-business (G2B), government-to-government (G2G), Government-to-employees (G2E) as well as back-office processes and interactions within the entire government framework.

E-procurement has enabled us with a platform wherein the physical tendering activities are carried out online using the Internet and associated technologies. e-Procurement System enables the user to introduce ease and efficiency of operations without compromising on the required procurement policies and procedures of the organization and further adding on to the savings by 15-20%.

#### **Could you elaborate more on the urbanization in Bihar?**

Bihar has definitely picked up pace with urbanization, given some policy changes and implementation. Bihar has witnessed a slow urban movement but in the last few years, given the changing and rapidly evolving role of technology, it has picked up momentum. Lot of infrastructural development has been made. We have launched several schemes for urban development by working on season roads, piped water supply, toilets and drainage system, henceforth making sure that the entire state is uplifted towards progress not only the 4 cities that have been earmarked under the Smart Cities Mission. The government's seriousness could be gauged from the fact that the budget allocation of the state on urban development was Rs. 5001 crore in 2020-21, which increased to Rs. 7133 crore in 2022-23, registering a growth of over 42 percent in two years.

#### **How do you see the importance of Digitalizing processes in India?**

It is clearly evident that digital is the way ahead and without the digital capacities; there is no way to progress. The importance of a digitally connected India was underscored by the months of lockdown, where every activity had an electronic nucleus. Whether it was monitoring and tracking the spread of the corona virus, or ensuring payments via FinTech solutions- it was digital technologies that aided both the government and citizens at a time of national and global crisis. Today, India, with its incredible technical prowess and talent, has the potential to be a Knowledge Leader on the global stage, and a Digital India will help steer us in the direction of exponential growth.







#### **How do you see Smart Cities Expo fueling the process of building and developing smarter and safer cities in India?**

Smart Cities Expo is a unique platform that not only ensures the right conversation and ideation around the subject but also provides the much needed digital solution at the same time. Innovative products and tech solutions are showcased which addresses the problems on a national level. India is a unique country where we cannot simply copy paste the ideas from the west, we need to think global but act local. Henceforth, a mix of both domestic and international participants ensures that best of both worlds are on display.



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## IN CONVERSATION



### Jaganathan Chelliah

Director, Marketing, Western Digital, India

#### Tell us about the philosophy and vision of the company.

Western Digital believes in the mantra of "Innovating at the Boundaries of Technology". We're always on the verge of something new, pushing the boundaries of technology to make the seemingly impossible feasible. Western Digital India is driving the innovation needed to help customers capture, preserve, access, and transform an ever-increasing diversity of data. Our vision is to create environments for data to thrive.

#### What are the innovations being developed by the company?

As humanity seeks to innovate and forge stronger connections between us all, data is at the core of that innovation. As a leading data storage solutions provider, Western Digital creates environments for data to thrive and help inspire the next generation of game-changers and innovators. From the invention of the first hard drive to recent advancements in 3D NAND, its innovation journey continues to inspire those who dare to think big about the possibilities of data.

Zoned Namespaces (ZNS) SSDs are new generation SSDs pivotal in the evolution of data-centric architectures as we enter the zettabyte age. ZNS helps to solve storage problems for cloud, analytics, AI, and machine learning. The Ultrastar® DC ZN540 ZNS NVMe SSD is augmenting next-generation storage and system architectures' evolution by delivering higher throughput, better service quality, and lowering the total system cost of ownership at scale.

Software-Defined Storage is an emerging solution that allows the

decoupling of storage and the software by moving the 'command and control element of storage away from the hardware and into a software-based service management interface. It further helps to upgrade the IT infrastructure for better performance at a reduced cost offering flexibility and scalability to enterprises.

#### How have you adapted to the changes brought about by the pandemic?

Due to the pandemic, we witnessed dramatic disruption in every aspect of our life and work. Businesses had to reinvent themselves swiftly to a hybrid working model. With almost everything shifting to digital platforms, we are amidst a massive deluge of data creation and consumption. IDC estimates that the amount of data created by endpoints, the edge, and the core will reach 143 zettabytes by 2024, which means 143 trillion GigaByte (GB) of data. Data cannot thrive without a strong storage ecosystem. From using storage solutions like Hard Disk Drives (HDDs) to Solid State Drives (SSDs) and Cloud storage, consumers and businesses have started to embrace new solutions to meet their growing needs. With our vision to create environments for data to thrive, we are pushing the boundaries of technology to offer new solutions.

#### What are the challenges & roadblocks faced by your industry?

A major challenge we face in the Indian market is the lack of understanding from the consumers for a need for purpose-built solutions. For example - use of a normal Hard Disk for smart video security data storage is not the right fit, as data is generated 24\*7 and needs a customized storage solution like WD Purple, which are purpose-built solutions offering high quality and long-lasting storage for workloads that consumer microSD cards and desktop-grade hard drives are not specifically designed for.

Another challenge is the data backup landscape in the country. According to one of our studies, about 50 percent of respondents said they do not take a complete backup of their content for reasons like paucity of time and tediousness of the data backup process.

We are running different informative campaigns to spread awareness on the importance of purpose-built storage, etc. For example, we did a BackUpAndStaySafe digital campaign aimed at building awareness around the benefits and the importance of backing up digital content. As a part of this campaign, we released three real-life situation videos around data loss that highlight how accidentally deleting files or a virus attack on a PC can spell disaster for the valuable data saved in it. Without backup, these files can be compromised for good. We also unveiled a micro-site populated with informative posts, interesting facts about data backup, quirky creatives, myth busters, and interactive quizzes to make the experience more engaging for the visitors. Every visitor on the micro-site is also encouraged to pledge to back up their data.

#### Please tell us about your focus areas for the future.

With enterprises moving towards data center storage amid digital consumption, technological advancements would require addressing problem areas like the speed of data accessing, data backup and recovery, etc. Our focus areas will be NVMe-oF™ and software-defined storage that provides the means to bring the siloes together and enable businesses to tackle many of the competitive challenges they face. These technologies will provide CIO and CTO's technology upgrades that replace an aging data center infrastructure with innovative technologies, reducing cost and increasing efficiency dramatically by better performance and less risk of data loss.

#### Please elaborate on the technologies on display at the expo.

Introducing you to the various technologies that we harness to help our products serve you the best:

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## AS A LEADING DATA STORAGE SOLUTIONS PROVIDER, WESTERN DIGITAL CREATES ENVIRONMENTS FOR DATA TO THRIVE AND HELP INSPIRE THE NEXT GENERATION OF GAME-CHANGERS AND INNOVATORS

a full range of Connected Home and Edge Computing storage solutions to help you reduce TCO and optimize performance. In Connected Home applications, service providers are extending their infrastructure to provide not only broadcast TV and streaming video content on-demand, but also IoT-related services such as home gateway and security, smart appliances, HVAC systems, and irrigation systems. The conventional cloud-based DVR architecture (cDVR) that is used to store all the content and make decisions in the cloud is no longer adequate for service providers that seek to provide "anytime, anywhere, always-on" experiences to their customers.

Enter "Edge Computing" — the hybrid solution where computing power and data storage are brought closer to the location where they are needed — to help address the latency challenge, especially during the peak hour, due to network bandwidth, and prepare the service providers for the immediate and distant future where 4K,8K contents are made more complicated with AR/VR/MR applications. Storage at the Edge and Endpoints must meet specific requirements to help service providers achieve cost-effective DVR implementations and reduce TCO for their system and network architecture.

What makes real-time analytics at the edge become possible or even preferred, not just now but in years to come, is the possibility of conducting artificial intelligence and machine learning (ML). AI and ML are becoming increasingly more complex, versatile and sophisticated to enable real-time analysis at the edge, on the hub and, ultimately, in the cloud to get more value from all of the IoT data collected. Data can be sent to the cloud, where machine learning and AI can be trained to watch for patterns and gain insights from large data sets over time.

For many IoT applications, it has become critical for data to be screened and analyzed where it is generated - from sensors in a car, surveillance cameras, drones, personal devices, robots, gateways, etc. — and even transformed there. The ability to deliver real-time analytics at the network's edge can improve operational efficiencies, provide safer driving, create more secure environments, foresee upcoming maintenance, identify customer buying behaviors, and enable a world of opportunities.

Network latency is a challenge. It takes too long to store and forward data, whose value exists now. Edge storage manages data captures and provides the compute capabilities that aggregate and analyze that data in real time, to deliver immediate and actionable insights at the device level.

Artificial intelligence (AI), machine learning (ML), image, voice and gesture recognition, and other technologies deployed onto edge devices interact with captured data in real time to deliver valuable insights. The full digestion of analytics can be transferred to the cloud where it can be used to further train AI models for machine learning or archived for future use. The ability to access this information in real time, ultimately, creates a more efficient and effective business, operation, or environment, enabling greater opportunities for monetization of the IoT application.

**Smart Video Surveillance:** WD Purple hard drives are designed specifically to handle heavy workloads from CCTV security cameras. Your CCTV security system is only as good as the hard disk backing it. A CCTV camera is just the beginning of a surveillance system, the seeing eye. WD Purple hard drives are the heart and brain of surveillance, powering the entire dynamic to help keep you safe, without skipping a beat.

The whole purpose of installing CCTV cameras is to be able to clearly record what is happening and to go back and check the footage whenever needed. General desktop hard-drives are typically not tested for high write work-loads compared to surveillance HDDs. The storage device for a security camera system should be able to record, store and replay videos non-stop from multiple feeds. In case of any technical glitch that can cause hang-ups, the hard drive should have features to help move on to capture the next frame, or risk losing crucial footage.

WD Purple™ Pro drives are designed for new generations of high-end AI-enabled recorders, video analytics appliances, deep-learning servers and cloud solutions that can benefit from high-capacity storage with high performance and additional workload capability. WD Purple Pro drives feature AllFrame™ AI technology, which helps reduce frame



loss, improve overall video playback, and not only enables recording of multiple streams per camera but also supports up to 32 AI streams per drive for deep learning analytics within the system. WD Purple Pro drives also feature enterprise-class performance, data integrity and drive reliability, especially in larger-scale systems and enclosures where operational vibration is present.

Surveillance systems can be extremely demanding, requiring uninterrupted capture and streaming, endurance for wide weather fluctuations and adaptability for unforeseen errors. Western Digital, a global leader in digital storage solutions, offers an unmatched portfolio of storage devices for surveillance cameras; for DVRs, standard and AI enabled NVRs, server-based VMSs, and cloud server-based CCTV systems.

WD Purple microSD™ cards deliver high endurance, reliability, and extended temperature range for smart video and different types of surveillance CCTV cameras like wireless, Wi-Fi, IP, DVR and NVR based systems. In the event of a power-cut or a similar event that disrupts the connection between your camera & DVR, WD Purple microSD™ cards allow for uninterrupted storage of security video by acting as a back-up. These removable flash drives can supply your edge storage needs as well as additional back-up requirements.

**Ultrastar 20TB HDDs with OptiNAND Technology:** Robust and reliable data-storage solutions, are the need of the hour. HDDs powered with OptiNAND Technology, are re-imagined storage architecture, that brings together the two technologies of iNAND Universal Flash Storage, Embedded Flash Drive (EFD), with traditional spinning disk media. The combination of these technologies, enable new innovations, forming the basis for future capacity, performance, and reliability gains.

OptiNAND-enabled memory hierarchy utilizes the drive SoC to control communication with the iNAND EFD. With OptiNAND, key drive housekeeping functions can take advantage of an increase in metadata capability. This can

reduce future DRAM needs as well as enable more sophisticated mechanisms to achieve greater capacities, increased performance and enhanced reliability

OptiNAND, combined with triple stage actuator (TSA) technology, enables higher areal density through increased tracks per inch (TPI) to provide the highest capacities. HDDs generate gigabytes of metadata that can be utilized to increase areal density. This data is too large to be cost-effectively maintained in DRAM, while retrieving this data on demand from disk interferes with host operations and performance. OptiNAND enables cost-efficient storage and fast access to this massive quantity of metadata that can be stored and accessed in real time, freeing up valuable space on the rotating media for user data.

**Zoned Storage for the Data center:** Data volumes created by enterprises, machines, and consumer generated content continue to drive demand for data center storage capacities at petabyte, exabyte and even zettabyte scale. Today, large scale data infrastructure already uses tens of thousands of SSDs and HDDs. Managing the extreme scale of data in a cost-effective manner is quickly becoming a requirement.

**Benefits of Zoned Storage for the Datacenter:** Zoned Storage is an open source, standards-based initiative to enable data centers to scale efficiently for the zettabyte storage capacity era. There are two technologies behind Zoned Storage, Shingled Magnetic Recording (SMR) in HDDs and Zoned Namespaces (ZNS) in SSDs.

The act of implementing Zone Storage on the host allows the system software and hardware to work together more efficiently by eliminating the multiple (duplicated) levels of indirection required for logical to physical mapping between the host and the SSD controller and the file system to the device. ZNS also reduces the need for over-provisioning and removes the issues associated with write amplification and QoS variability. In short ZNS addresses the issues of scale, QoS and TCO which hinder conventional SSDs.

## "WE INTEND TO CLOSELY MONITOR THE EMERGING NEEDS OF CONSUMERS ACROSS DIFFERENT MARKET SEGMENTS AND PROVIDE THE RIGHT DATA STORAGE"







## INDUSTRY SPOTLIGHT

# Enabling an intelligent planet through tech

**A**dvantech is a MNC & leader, providing Intelligent Embedded Platform/Systems/Automation in the field of AIoT, Smart city, Industry 4.0 technologies/ Industries/Era. Advantech has the corporate vision to "Enable an Intelligent Planet". The company is a global leader in the fields such as IoT intelligent systems and embedded platforms. To embrace the trends of IoT, big data, and artificial intelligence, Advantech has been promoting IoT hardware and software solutions with the Edge Intelligence WISE-PaaS core to assist business partners in connecting their industrial chains. Advantech is also working with business partners to co-create ecosystems that accelerates the goal of industrial intelligence.

We agree with Interbrand's observation that a successful brand needs to be dynamic and flexible. Advantech believes in the importance of building a sustainable brand and it needs to foresee the trends leap ahead of customers and competitors. Therefore, we propose three phases of IoT growth. In the three phases of IoT growth, Advantech is transforming from a hardware provider to a service provider. We are

actively engaged in co-creating domain-focused solutions with partners from various industries.

### Applying a sector-lead, industry-focused business model

To better address market demands, Advantech now is now focusing on the industrial (IIoT), embedded (Embedded Design-In), and intelligent services (Smart City Solutions) markets. Using multidimensional business resources, Advantech aims to form unique business groups targeted to specific markets, establish fully effective headquarters, and reorganize regional business groups into leading organizations.

## ADVANTECH BELIEVES IN THE IMPORTANCE OF BUILDING A SUSTAINABLE BRAND AND IT NEEDS TO FORESEE THE TRENDS LEAP AHEAD OF CUSTOMERS AND COMPETITORS TO MAKE IT HAPPEN

### Partnering for Smart City and IoT Solutions to go green

As the world has been moving towards greener standards, modern and faster technology, we have kept up with that pace. In recent years, keeping the necessity in mind, new technologies have been integrated into our operations, including EV applications, 5G applications, AI, iretail, itransport, smart agriculture, hospitality automation, and new IoT products. For instance, during the pandemic, we contributed to the Intelligent Agriculture System in North America with Advantech Intelligent and Sensor Node Integration a solution that included a UBC-330, Arm-based box PC, with wireless IoT node, combined with DeviceOn remote management software service to manage temperature/moisture optimization, remote farm management, automatic irrigation, pest control, and energy control. The totally integrated solution is able to help overcome water shortages through better resource



# EXPO NEWS 2022

management and bring about a more efficient profitable operation for the organic food producers. Another with MIO-5251 is a robust and durable SBC solution for installation at outdoor EV stations. Compliant with most industrial standards, MIO-5251 SBCs have passed reliability tests for rapid-charger projects conducted by renowned car brands in Europe, North America, and India. The inclusion of network connectivity allows real-time data, such as charge completion times and charging bay availability, to be streamed to a centralized command center for monitoring EV charger metrics. "Our solution not only met the company criteria and came with a long-term warranty, but we also provided global logistics, a worldwide after-sales service network, and product certification for international exporters. Because MIO-5251 SBCs are a proven solution, the company can easily integrate them into future EV charging devices without re-verification, massively reducing time-to-market.

## Covid-19

Pandemic was bitter for everyone. It made us realize how important it is to modernize our Indian healthcare system. It shifted our technology towards digital healthcare, oxygen monitoring systems, biomedical applications, HMI, face recognition systems for the edge gateways. In a nutshell, the Covid-19 pandemic has highlighted to the technology industry, and the verticals that they collaborate, the implementation of Digital Transformation



is pressing and rapidly needed for a variety of pressing reasons. One major reason is to remotely manage assets or people, in order to save time and reduce potential harm to staff, particularly for industries such as manufacturing and healthcare.

## Products on showcase at the Expo

At the Embedded Tech India 2022 Expo, we are going to demo our ARK-1123, ARK-2230, ARK-3520P, AIMB-2000 with the assistance of WISE-DeviceOn. The compact and ultra-slim design of ARK-1123 is ideal to use in the dusty environment and could attach beside the monitor, ARK-2230 is for outdoor applications like vehicle surveillance, and ARK-3520P with multiple expansions, I/O has similar applications with high-end performance. WISE-DeviceOn makes it easy to onboard, visualize, operate, and manage your industrial IoT devices. WISE-DeviceOn easy-to-use interface, users can monitor device health and take real-time actions to power on/off, troubleshoot problems, and send software and firmware updates over-the-air on-site and remotely, at scale. Offers features like device management, power management, protection, backup & recovery, automated alert notification, data visualization, and restful API web service.

## THE PANDEMIC SHIFTED OUR TECHNOLOGY TOWARDS DIGITAL HEALTHCARE, OXYGEN MONITORING SYSTEMS, BIOMEDICAL APPLICATIONS, HMI AND FACE RECOGNITION SYSTEMS FOR EDGE GATEWAYS



## U&i - Charging the mobile space with its tech

CXO SPEAKS



**Paresh Vij**  
Founder & Director,  
U&i

**E**stablished in 2019, U&i is India's most progressive Gadget Accessory and Consumer Electronics brand. You can choose from a range of latest products and own exclusive flagship U&i gadgets. Our offerings are a perfect blend of innovative technologies, unique designs, and compelling prices. We are committed to bringing you high-quality products that boast reliable components with sleek exteriors.

The U&i team has seasoned and talented professionals with decades of experience in lifestyle products, designing, and ecommerce technologies. Our dedication to customer satisfaction and ability to provide the best deals drive our operations.

### Tell us about the philosophy and vision of the company.

We at U&i are always in a process of bringing products at affordable prices with

an excellent quality.

### What are the new innovations being developed by the company?

As far as the word innovative comes particularly in terms of electronic and consumer durable products, companies are taking a back seat and are mainly dependent on other coun-try's manufacturers but the idea of Make in India is doing very well and in the coming days, we will surely think about new innovations.

### How have you adapted to the changes brought about the pandemic?

It's our belief that no one on this globe gets affected by any natural or artificial disaster. But during the pandemic, mainly during the first wave, we at U&i didn't get disappointed with the situation but we focused on making face shields and distributed those to all the corona warriors and tried to send those across the nation with help of our large dealer network.

### What are challenges & roadblocks faced by your industry?

When you are in a competitive market, one should always be prepared to face new challenges. There wasn't any specific roadblock or challenge that we faced but due to some uncertainty in the logistics industry, it mainly affected the demand and supply channel.

### Please tell us about your focus areas for the future

Currently, we have a large dealer network with an extensive process and our products are visible and available in all the major parts. But we are in a continuous process of making our product available at bespoke locations, too.

### Please elaborate on the technologies on display at the expo.

As we deal in mobile accessories, we are going to showcase our most hot selling and loved products at the expo.

### What can we expect from in the times to come?

We can expect more demand in future because the use of smart phones are increasing day by day and most of the accessories are being bought by smart phone users.

## U&i OFFERS A PERFECT BLEND OF INNOVATIVE TECHNOLOGIES, DESIGN, QUALITY AND DURABILITY IN THEIR PRODUCTS AT COMPELLING PRICES







## EXHIBITOR CORNER

# Beyond Broadcast: OTT and DAI Solutions from Ateme

**T**he last couple of years have changed the habits of many, and the viewers are now more sophisticated than ever. They expect to watch video on their terms – when they want, and on the device of their choice. But the competition is getting stiffer. With more and more D2C offerings available, how do you compete?

If you are looking forward to build or refresh your OTT platform, you wouldn't want to miss Ateme's exhibit at the 29th Convergence India 2022 expo, booth n° 5.177. The finest in the industry, going beyond broadcast, offers a full solution for your OTT video delivery, for both linear and VOD content, covering three essentials: create, captivate, and capture.

### CREATE your OTT platform

So many components, so many suppliers, and so many factors to consider. How do you navigate the complex OTT environment?

Discover Ateme's integrated offering for OTT video delivery: multi-codec encoders, any format origin/packaging, scalable Cloud DVR, audience-aware CDN, and revenue-generating Dynamic Ad Insertion.

With all these components designed to work together, pre-integrated and pre-tested, you not only slash integration costs but you also get to market them quickly and start making money sooner, with a future-proof platform. As the various components

are upgraded, they will continue to work together, smoothly, delivering value-added features such as low latency and Dynamic Ad Insertion.

### CAPTIVATE your audience

To attract and keep viewers, you need to offer a superior viewing experience, yet growing traffic risks keeps clogging your network, driving down your quality of service. How do you deliver good quality experience at all times – even during peak traffic?

Discover how the triple Technology & Engineering Emmy® Awards winner can help you reduce network traffic and achieve exceptional video quality and immersive sound, low latency, personalization, and more, while also helping you reduce energy consumption and increase your sustainability credentials. And if you have invested in a 5G network, you can take the audience experience to another level yet with Ateme's elastic, cloud-native CDN that fits in a 5G, Multi-access Edge Computing infrastructure that increases bandwidth, reduces latency, and enables higher video quality and personalization.

## ATEME OFFERS FULLY INTEGRATED SOLUTIONS FOR VIDEO DELIVERY THAT HELP YOU BOOST VIEWERSHIP ENGAGEMENT FOR YOUR CONTENT

### CAPTURE value

Once you have your OTT platform and your audience, how do you make money from it?

Discover Ateme's solutions for monetization, which include recouping your investment by leasing your network with Ateme's Open Caching compliant CDN.

You can also increase your ad revenues with Ateme's rich, server-side Dynamic Ad Insertion solution that works on both HLS and DASH streams. With the addressable advertising market expected to reach a whopping US\$85.5 billion by 2025 according to SpotX's eMarketer 2020, you can make sure you get a significant slice of that with a solution that helps you reach more devices, monetize more inventory, and increase the value of that inventory.

Besides monetizing your platform, you might also want to optimize your costs by starting small and growing your platform with growing subscriber numbers. Find out how Ateme's scalable OTT solutions can help you minimize your upfront investment and spend more only when you are ready.

All this – and more, including demos of contribution and encoding solutions for broadcast, cable, DTH, IPTV and OTT – is happening on booth 5.177 at the 29th edition of Convergence India. Drop by, to discover cutting-edge solutions that has the potential to meet the demands of today and tomorrow.



## MediaTek heads for building a better, connected tomorrow

### SPEAKER HIGHLIGHT



**Anku Jain**  
Managing Director,  
MediaTek India, India

The pandemic-driven digital transformation is entering the next phase globally. In India, the impact has been visible across the section of the population. Smartphones and the myriads of applications which they enable to the mass market have brought significant transformation in the personal and professional lives of a vast majority of citizens in India. In the new digital era powered by 5G, the market for digital technologies is set to flourish further. The smarter world demands smarter technologies that can enhance productivity, reduce the impact of carbon footprint, and enable sustainable development across the entire spectrum of communities.

MediaTek has been powering almost 2 billion devices in the digital space, spanning a wide range of categories like smartphones, laptops & tablets, smart TVs, voice assistants, smart speakers, automotive components, networking devices and more. With 40% share, MediaTek has emerged as the leader in the global smartphone SoC market. It is estimated that every 2 in 5 smartphones in the world are now powered by MediaTek chipsets. We are also leading the market for SoCs for voice assistant devices (VADs), smart TVs, and smart speakers.

In India, the market for smartphones and connected technologies is growing at an amazing level thanks to the ambitious digital initiatives launched by the government as well as the relentless interventions of the industrial bodies and ecosystem participants. As India awaits the launch of 5G, there's a high level of optimism for the industry, not just for smartphones but across the entire connectivity segment including smart home, industrial automation, automotive, smart cities, healthcare, gaming, surveillance and more. MediaTek is at the forefront of innovation for chips enabling the smart era powered by digital technologies like AI, IoT, AR/VR, Edge and WiFi enhancements.

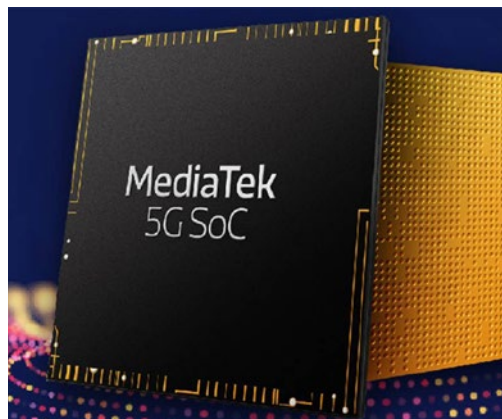
### Fostering Technology Democratization

MediaTek smartphone chipsets are designed to deliver the industry's best innovations to all categories of handset brands across segments such as mass-market, mainstream, new premium, and flagship.

The latest in the series is the Dimensity 8100 and Dimensity 8000 5G chipsets built with TSMC's 6nm process. Featuring an octa-core CPU, they deliver enhanced connectivity, displays, gaming, multimedia and imaging features to premium 5G smartphones. By offering the perfect balance of price and performance while also delivering flagship-level gaming and AI features, the new Dimensity 8000 series will introduce an exciting market opportunity for OEMs in India, especially in the mid-market segment.

MediaTek recently released its flagship chipset Dimensity 9000, the world's first chipset to feature TSMC's 4-nm processor technology. With the octa-core CPU delivering over 3 GHz performance, Dimensity 9000 is built to address the massive bandwidth demands of the mobile market. The chipset also integrates MediaTek's fifth generation Application Processor Unit (APU 5.0), which offers 4X power efficiency gains compared to the previous generation APU, offering the ideal balance of performance and power efficiency for a wide range of AI multimedia, gaming, camera and video experiences.

Meanwhile, MediaTek Helio family of 4G chips continue to deliver incredible gaming experience powered by latest chipset enhancements in display, touchscreens, connectivity and energy efficiency. MediaTek HyperEngine gaming technology is at the forefront of the innovation in gaming, enabling low-latency connections, long-lasting battery, brilliant audio-visual experience and higher frame rates for more responsive gaming. The HyperEngine, which is now enhanced



for 5G, packs a wealth of advanced features to further accelerate game load times and manage resources intelligently to provide consistently high FPS while also maximizing battery life.

In one of the major breakthroughs, MediaTek has successfully conducted the first live demo of Wi-Fi 7 earlier this year. The development happens in the backdrop of the rising demands for always-on, reliable and fast Wi-Fi connection that can simultaneously run several applications such high-end video calls, 4K/8K TV entertainment, real-time gaming. Wi-Fi 7 will make 4K and 8K video calling mainstream in the coming days.

Another major innovation from MediaTek is the Dimensity 5G Open Resource Architecture that allows OEMs to tweak the SoCs to integrate their own algorithms and optimizations at a deep level for attributes like contrast, colour, sharpness, and brightness, thereby allowing them to create unique variants of the products. Currently the platform is available for select Dimensity chipsets, with access to in-chip, multi-core AI and display processors.

### Shaping the Future Tech in India

In India, MediaTek is on a mission to deliver enhanced capabilities across camera technologies, power saving enhancements, latest networking technologies and standards, gaming, AI as well as other technology trends that make the devices smarter and more productive. The R&D centers in Noida and Bengaluru house over 700 of the best talents in the industry, who have been instrumental in driving the company's goal to create incredible technologies that deliver incredible experience.

MediaTek has been associated with almost all major smartphone brands, both Indian and global. We see great potential in Indian device ecosystem, not just smartphones but other segments like IoT, AR/VR, Edge, AI and more. Home automation is a key segment awaiting an explosive growth in terms of tech innovations. Smart controls for energy efficiency, smart surveillance, entertainment and safety are some of the areas that can drive major innovations. MediaTek 5G integrated chips can bring the best of AI, IoT and Edge to devices of the future. Our AIoT chipset platforms with Edge AI hardware with built-in security deliver high levels of performance with ultra-low power consumptions.

In an era driven by technologies like AI, robotics and automation, the relevance of MediaTek's chips continues to rise. We are committed to sustain this momentum and deliver the best technologies that can transform the world of our customers.

## Early Wage Access - A go-to solution for all financial crunches

### INDUSTRY SPOTLIGHT



**Ashish Goyal**  
Co-Founder and CFO,  
EarlySalary

**8** 1% of Indian employees have faced a financial shortfall between pay periods. According to Financial Express findings, nearly 72% have resorted to alternate financial options during emergencies due to bad economic conditions. To resolve this problem, fintech companies have invented Earned Wage Access that enables employees to access a portion of their salary before payday. The remaining amount will be paid during the pay period without disrupting the payroll. It is a better option for short-term loans than swiping credit cards with high-interest rates or taking a personal loan with a tenure of just 12 months.

Several major employers have adopted EWA programs. By offering employees immediate access to cash, these companies have found a low-cost way to retain employees and generate goodwill among their workforce.

It helps the users to maintain and align their income and expenses better, while reducing their need for high-interest credit schemes. EWA provides a temporary loan ahead of the employee's salary to meet financial expenses during unforeseen situations. It also helps consumers to manage their unexpected expenses, investment planning and improve their financial wellbeing.

This financial product helps the employees from complex traditional pay cycles and makes the earned salary available to them in real-time and instant access to ready liquidity anytime. This thus reduces the stress of managing urgent expenses on the employees.

With advanced technology and new policy introductions in the finance sector, you can now borrow EWA loans from online lenders. Sometimes you can also borrow up to three times your monthly salary, but these loans need to be repaid within twelve to fifteen months. The primary advantage of this is low salary loans can be availed also with a moderate credit record, however for these types of loans, the interest rates tend to be calculated monthly.

### Use of Early Wage Access Loan

A low-salary loan helps in meeting critical monetary commitments effectively. Below are the possible circumstances where EWA can be useful:

- Payment of house rent or deposit - In case one finds an apartment which one wishes to rent but due to lack of money, they couldn't. This is when EWA can come in handy.
- Vehicle repairs - Breakdowns are unexpected and can happen anytime, anywhere and hinder your travel plans. EWA can be your go-to solution for the same.
- Utility and other bills - There are times when you can be all filled with the pressure of paying for your utility bills and have a cash crunch at the same time. Then EWA can help in paying back all the bills and ease your stress.
- Medical expenses - Medical emergencies are other unanticipated events and can be hugely troublesome. Even after medical insurance, several expenses need to be maintained like regular check-ups and more. Short-term loans like EWA can lose your burden so that you can focus on things that are really important.
- School expenses for children - School and college expenses are other expenses that can be worrying. But EWA has your back and can provide you with the solutions you were looking for.

### Why choose EarlySalary?

EarlySalary guarantees ease and speed with which salary advance is credited. This is what makes it better than any other loan provider. Traditional credit options used to take days or weeks to get approved, seldom negating the idea of salary advance in the first place. But with EarlySalary, one doesn't have to wait long

for the loan and get it with the least workload.

EarlySalary's salary advance has no impact on the credit score of the employees and charges a minimal processing fee. The repayment solutions are hassle-free, provide an option for customizable salary advance and give an end-to-end digital experience.

The other product offered by EarlySalary is Shakti which provides short-term credit support, and access to funds as low as Rs. 10,000. The repayment options are flexible, give end-to-end digital experience and at last, helps in building a credit score.

### What are the benefits of getting Salary Advances from EarlySalary?

- Instant loans up to Rs. 5 Lakh
- Cash transfer to your bank account in minutes
- Flexible repayment tenure from 90 to 730 days
- No prepayment charges, pay interest only on the amount used
- Advance salary loans at 24%-30% per annum translation to 2%-2.5% a month.

With the growing Fintech industry, it is necessary to stay updated. Digitalization has already made the work for everyone easy. But financial problems never go away. This is where EWA can help. Especially EarlySalary's salary advance loan scheme which is fast and easy.

According to Refyne Survey, 77% of people feel positive about the EWA concept, 28% are ready to use this product and 59% of people would consider EWA as a deciding factor for their next job.

If you would be interested to know more about EarlySalary's employee wellness programs, you can visit our kiosk at the FinTech India Expo during 23rd - 25th March 2022.







## PARTNER VOICES

# Department of IT, Government of Bihar

IT is playing an important role in growth of the country today and Bihar is participating as one of the major player in IT sector of the country.

Bihar has seen a revolutionary transition in terms of IT infrastructure and has shown tremendous growth on IT Front & Good Governance. The initiatives of e-governance and creation of investment opportunities in the state has been phenomenal. All this is being done under the administrative control of the Department of Information Technology (DIT) which was established in the year 2007. The Department of Information Technology is also the guiding force for other departments of the state for the usage and deployment of Technology enabled services for their benefits and benefits of their consumers.

Some of the key initiatives that have already been taken to keep afloat the government system even in a pandemic are eOffice, that has increased productivity and transparency by Anywhere Anytime working, and eVidhan Application, which will enable paperless proceedings at Vidhan Parishad was launched on 25th Nov 2021. Other key initiatives

are CFMS, BSDC, BSWAN, BAAF, and eProcurement (Eproc 2.0).

IT department has also emphasized on Incubation and Research centres and has funded C-DAC to initiate research and development in the fields of Artificial



**Jibesh Kumar**

Hon'ble Minister, Department of Information Technology, Government of Bihar

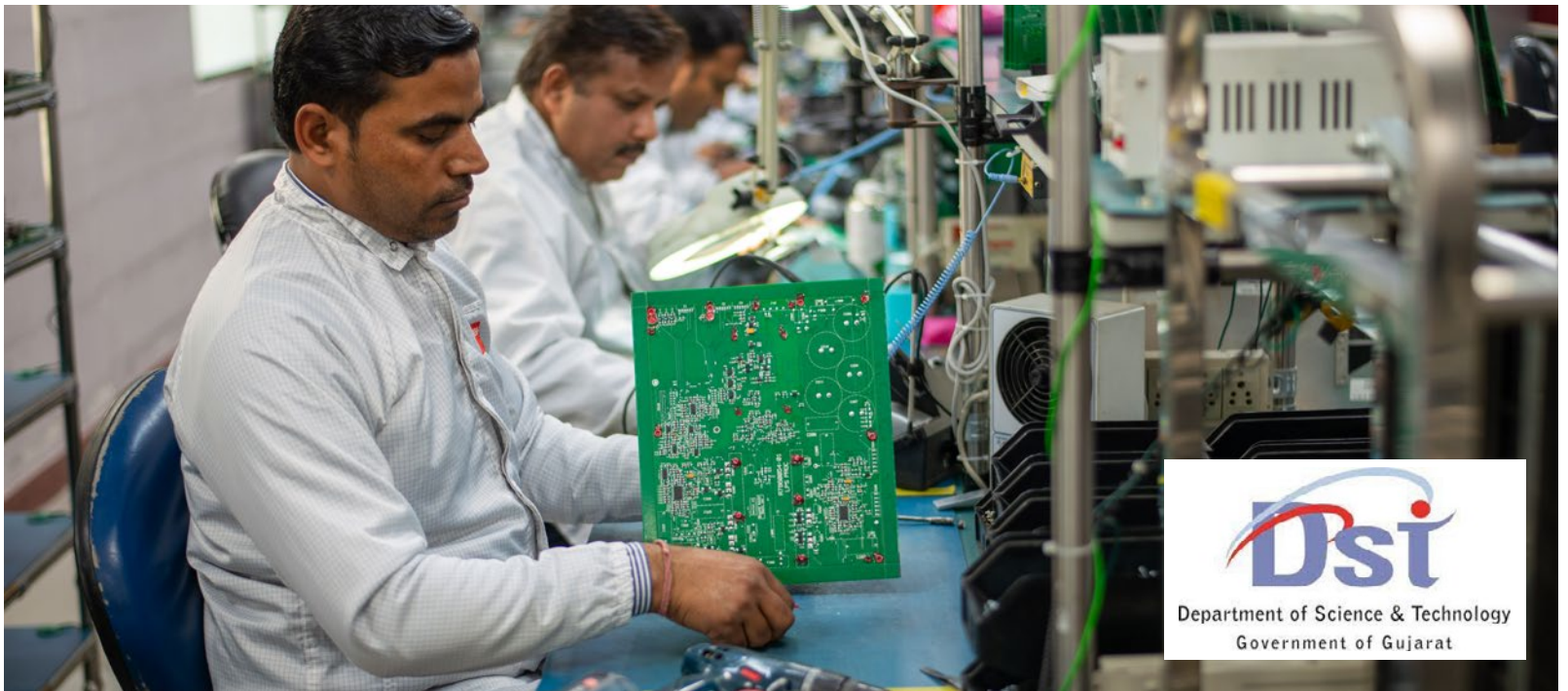
Intelligence, Data Science, Cyber Security & Cyber Forensics, and Internet of Things as part of the initial planning (IoT).

IT department has also funded NIELIT for enhancing Capacity Building by opening training centres at Patna, Buxar and Muzaffarpur and IIT, Patna for incubation support. On similar lines, as Bihar is an Agri driven state, Bihar will soon open an Agri CoE to enhance agricultural productivity by innovative use of technology.

The Government of Bihar is taking progressive steps in the field of Information Technology by working with a multidimensional approach to encourage investment in the state. The "Invest IT Bihar" campaign is an initiative of the Department of IT, Govt. of Bihar. The primary objective of the "Invest IT Bihar" campaign is to encourage investors & entrepreneurs to invest in the Bihar's IT sector and to make this state a preferred investment destination in eastern region. Bihar is on the way to becoming next IT hub in the country, with infrastructure development going at a fast-pace and offering IT / ITeS and electronics companies a great platform.

The steps taken by the Government of Bihar's Department of Information Technology will lead to Bihar developing its identity as a strong and sustainable IT hub in the region, as well as creating job opportunities for the people of Bihar.





## PARTNER VOICES

# Department of Science & Technology, Government of Gujarat

**T**he Department of Science and Technology, Gujarat is creating excellent infrastructure for inculcating scientific temperament, science education, research and development and encouraging scientists and entrepreneurs to pursue value-added research to respond to the various challenges for Atmanirbhar Bharat. The idea is to make science accessible and engaging, creating an environment where children and common citizens are empowered to advance their own learning, and hopefully, are inspired to do something incredible with their future.'

DST, Gujarat focuses on growth and development of new & emerging technology areas. It has been increasingly using the ICT (Information and Communication Technologies) to offer citizen based service as per convenient location with an initiative to improve the reach, more transparent and reduce response time with reducing costs. DST is also pro active in its initiatives and ranks first state in the country to have made e-Governance functional in all its Municipalities, Municipal Corporations and Panchayat Locations.

The State Government has adopted Innovative, constructive and result oriented progressive policies for the promotion of e-governance. Through the Nodal Agency, the Government's Science and Technology Department position Gujarat, as a key state in the Knowledge Sector

and acts as a medium to make Government-Citizen Interface more effective, transparent and efficient. Gujarat is an aspiring leader with e-readiness Initiatives with the IT Policy and has been positioned at L2 Stage in Information Communication Technologies (ICTs) which is categorized based on Environment, Readiness and Usage Applications. Awarded for Best e-Governance, Gujarat is a frontline State in the implementation of e-governance policies & projects and setting up of key infrastructure for E Governance. DST promotes information sharing with the citizen by way of display and disclosure of information of large number of functional departments and their subordinate organizations through their respective websites which act as 'Information tools' in the State.

With an ambitious target to increase exports from the existing Rs 3,000 crore to as high as Rs 25,000 crore in the information technology (IT) sector, the Gujarat government rolled out its new Information Technology & Information Technology-enabled Services (IT & ITeS) policy, 2022-2027. The new IT & ITeS policy of the state is envisioned to transform its IT landscape in the IT ecosystem, expressing confidence to create 1 lakh IT-related jobs across Gujarat in the next five years. The idea is for Gujarat to become a "destination of choice" for the IT ecosystem, by strengthening various aspects, to make Gujarat one of the leading states

in the field of IT. The policy would help to develop a unique and simplified incentive scheme, establish a robust cloud ecosystem in the state and foster research & development in new and emerging technologies, such as artificial intelligence, machine learning, quantum computing, blockchain etc. The government has also taken substantive steps towards the improvement of cloud infrastructure in the state. To promote the development activities and to boost the cloud ecosystem in the state, the government shall facilitate the setting up of a CLS by way of support in land identification and allotment along with necessary utility infrastructure support at the doorstep.

The government in association with the IT industry and premier academic institutions in the state and other national and international research institutions envisions establishing an artificial intelligence (AI) Centre of Excellence (CoE) soon. The AI CoE will offer courses in emerging technologies in the IT sector to create a talent pool in the state.

As the biotechnology market is showing an upward trajectory worldwide, the state government has mapped out a new Biotechnology Policy, with the objective to make Gujarat a globally-recognized Biotechnology Hub. The new policy promotes partnerships between various stakeholders such as NGOs, scientific establishments and industries. Biotechnology has made significant contributions in solving new-age problems, especially in the field of health and agriculture. The science-driven industry has been instrumental in understanding and fighting the global Covid-19 pandemic. It was due to biotechnology that we got effective rapid antigen tests, RT-PCR tests, vaccines etc. The new policy also looks to strengthen the overall ecosystem. Gujarat is committed towards promoting faster and inclusive growth and research and development in the arena of science and technology.



## PRODUCT HIGHLIGHTS

# Empowering future-proof products & business models

Through the establishment of a dedicated agency — Kerala Startup Mission (KSUM), Kerala, strives to create a vibrant ecosystem of sustainable startups that work on exponential technologies, developing solutions that address the problems of the society at large. It is heartening to note that through multiple interventions Under Kerala Startup Mission and its sector specific partner organisations, 2500+ registered startups, 3 Lakh + square feet of incubation space, 35+ incubator, 200+ mini incubators, Future technologies lab, MIT Super Fab lab to promote digital fabrication and 22 fablabs including mini fablabs are distributed across different districts. Many of these facilities also house advanced labs for hardware, biotechnology, electronics, advanced computing etc. KSUM is the implementing body for the Kerala Technology Startup Policy that supports startup ecosystem by means of 9 components such as Infrastructure, Incubators and Accelerators, Human Capital Development, Funding, State Support, Governance, Public Private Partnership, Scaling Existing and Establishing New Incubators and Startup-Boot Up-Scale up model for moving fast from ideas to IPO.

### International exposure and recognition

Getting the startups exposed to international avenues is always critical and being the responsible ecosystem player Kerala Startup Mission has been part of more than 25+ global startup conferences and thereby providing exposure to more than 130 startups from the state.



**K E R A L A**  
**STARTUP MISSION**

STARTUP	PRODUCT DETAILS
Klivolks Pvt. Ltd.	Automation tools for enterprises and government agencies for managing players, participants etc for their events and competitions.
Teamstarbase Pvt. Ltd.	Waste management solutions using Dag ledger
Le Orion Informatics Pvt. Ltd.	Travea - One stop Travel accounting ERP (Multi currency, Muti lingual) for Travel management companies Across the world
Troncart Solutions Pvt. Ltd.	Flow - Smart water metering solution for smart cities
ChargeMOD   BPM Power Pvt. Ltd.	ChargeMOD acts as a platform to connect Electric Vehicle Drivers with EV Charging Stations.
Innspark Solutions Pvt. Ltd.	Innspark is a startup in cybersecurity sector with solutions in SIEM, SOAR, UEBA & NBAD
Septa Milles Pvt. Ltd.	Lifology has created the first Guidance Eco-system in the world. The system consists of users, experts, education institutions, skill development experts, policy makers and coaches. The users can experience long term sustaining guidance through the eco-system.
ScapeXtreme Pvt. Ltd.	ScapeXtreme Private Limited is into Assembling, Manufacturing and Marketing of Smart Televisions in India
Evelabs Technologies Pvt. Ltd.	Driipo Smart Infusion Monitor and IOT nurse call systems for hospitals
Occudiz	Digital Performance tool, Occuz360, where you can enhance your digital presence and provide a more memorable customer experience
Orgaayur Productions Pvt. Ltd.	Orgaayur mainly specialise in rooftop urban smart farming solutions such as Wick Irrigation system, Hydroponics and AquaPonics. They do host an e-commerce platform to enable our customers to sell their surplus vegetables and to conduct online training and awareness sessions. The smart farming solutions are integrated with IOT to send real time notifications to the Urban farmer so as to get a seamless experience in farming.
Wheelhouse Consultancy Pvt. Ltd.	Lead Accounting Plus, a complete accounting software solution for small and medium businesses
FIT IN Consultants (Opc) Pvt. Ltd.	COOL HOMES - Patented modern green method of building luxury residential units in low-budget with much higher strength and 15+ exclusive features.
Aceware Fintech Services Pvt. Ltd.	ATM to Home is a doorstep ATM/Banking delivery service NEO banking service to provide Current account opening to retailers shops,MSME's and startups. UPI/QR -All in One QR -Payments Services.
NectarIT Solutions LLP	Using the ML and analytics engines, we are able to extract valuable insights from assets helping to be operated optimized, efficient and greener.
Pinmicro India Pvt. Ltd.	Our IoT-based real-time indoor locating and positioning solution – assistplus generates operational savings and enhances workplace safety by significantly improving the utilization of your business resources (workforce / assets / inventory).
Estrrado	Education ERP & Mobility solutions
RIOD Logic Pvt. Ltd.	RIOD Logic specialize in the design, development and manufacturing of IoT based electronic products. The range of products include sensor based control systems, smart meters, Level-1 EV Charing solutions, GPS tracking solutions and industrial automation solutions. They also have developed a cloud platform which will serve as a domain for our users to view real-time data of their systems.
ARAMIS Imaging LLP	Completely indigenously developed Web Based viewer and RIS-PACS system coupled with an open Teleradiology platform. The viewer includes artificial intelligence solutions to enhance workflow
SmartMatrix Global Technologies Pvt. Ltd.	SmartMatrix has developed a product primarily focusing on a worldwide Indian audience where they can come to one single platform to interact and entertain in their regional languages
ASIMOV Robotics	ASIMOV provide highly customizable world-class robotic platforms and solutions to industries and real-life issues while working with hazardous, unsafe, inefficient, repetitive scenarios. Our products include humanoid robots, human look-alike robots, AMRs.AGVs,Manipulator arms etc
Travidux	Travidux'S product Business Intelligence Suite helps business and people use data to make more informed decisions

## A glimpse of Matrix Comsec's stellar innovations drive at Convergence 2021

### PRODUCT HIGHLIGHTS



**Ganesh Jivani**  
Managing Director,  
Matrix Comsec

**E**stablished in 1991, Matrix is a seasoned innovator in Security and Telecom solutions for modern organizations. Matrix offers a comprehensive range of well-engineered solutions for IP Video Surveillance, Access Control, Time-Attendance, and Telecom applications. All these solutions are specifically designed for large and multi-location enterprises, SME, and SMB organizations.

As an innovative, technology-driven, and customer-focused organization, Matrix is committed to keeping pace with the revolutions in the Security and Telecom industries. With around 40% of its human resources dedicated to the development of new products, Matrix has launched cutting-edge products like IP Video Surveillance Systems, Video Management System, Network Video Recorders and IP Cameras, Access Control and Time-Attendance Systems as well as Telecom Solutions such as Unified Communications, IP-PBX, Universal Media Gateways, VoIP and GSM Gateways, and Communication Endpoints. These solutions are feature-rich, reliable, and conform to international standards.

**Mission & Vision:** Our mission is to build Matrix as a world-class Security and Telecom solution provider and services company operating all over the world. With its independent Research and Development, Matrix's primary focus is to develop solutions equipped with cutting-edge technologies to deliver preventive security and higher productivity.

**Products being showcased at the expo:** Matrix offers its products in Asia, Europe, North America, South America, and Africa through an extensive network of more than 2,500 channel partners. Matrix has gained the trust and admiration of customers representing the entire spectrum of industries. Matrix has won many international awards for its innovative products. The ones being exhibited at Convergence 2022 are as follows:

**ETERNITY GENX:** ETERNITY GENX12S is the next-generation hardware platform, on which the SARVAM UCS SME server software is hosted. It offers IP at the core with seamless connectivity to the all-pervasive legacy and new-generation advanced wireless telecom networks like POTS, ISDN, T1/E1, and GSM/3G. The next-generation platform supports up to 99 VOIP (SIP) trunks, 40 GSM ports, 8 T1/E1 ISDN PRI ports, 32 ISDN BRI ports, and 64 analog trunks with up to 999 UC users, 96 digital users, and 240 analog users. Both AC and DC power supply options are available.

**PRASAR UCS:** Presenting, Matrix PRASAR UCS – an Enterprise-grade Unified Communication solution that offers Collaboration, Communication, Messaging, and Mobility. Matrix PRASAR UCS brings diverse users from multiple locations to a common communication platform for real-time collaboration and communication. The users have options of using either Matrix SPARSH desk-phones or Matrix VARTA applications on smartphones, tablets of their choice. With Embedded UC Platform and advanced call management, Matrix PRASAR UCS improves the organization's agility and productivity.

**SIMADO GFX11:** SIMADO GFX11 is a compact GSM fixed cellular terminal for voice applications, used to make and receive calls over the GSM/4G network while retaining the existing infrastructure. Organizations can buy GSM FCT devices to have a GSM Trunk facility for their conventional PBX. SIMADO GFX11 eliminates interconnection charges and provides substantial cost savings by turning all calls into mobile-to-mobile calls. It easily integrates with any PBX or telephone via GSM/4G network.

**SPARSH VP210:** SPARSH VP210 is a new member in the family of SIP Phones that redefines

the telephony experience and quality of business communications. It provides features and functions normally available in high-end IP Phones such as 128x64-Pixel, Backlight Graphical LCD, 4-line Display, Integrated PoE, Gigabit Ethernet, and a broad array of Call Management features.

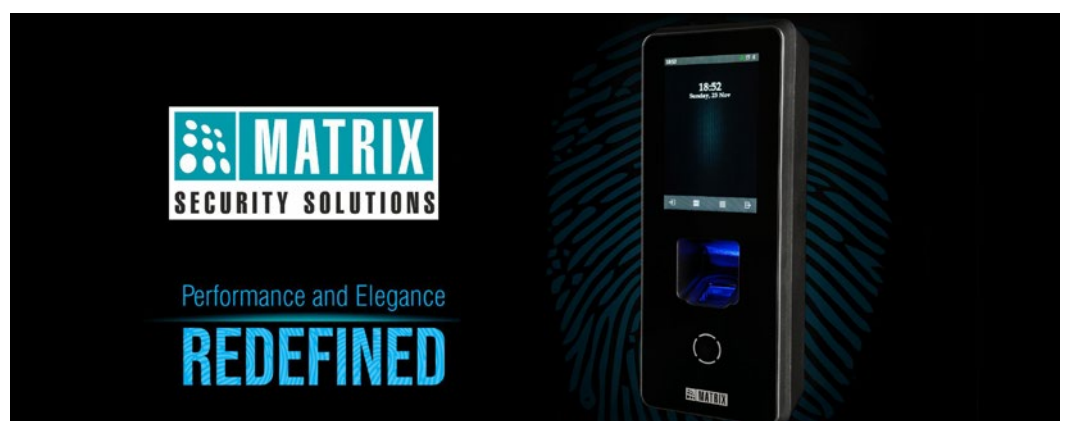
Now with its Standard SIP Protocol, this sturdy desk phone is compatible with any third-party IP system. This helps it protect an organization's existing investment while modernizing front-end telecom architecture. SPARSH VP210 finds its applications in call centers, enterprises, small businesses, and branch offices.

**SPARSH VP510E:** SPARSH VP510E sets the benchmark for quality performance with elegant design and crystal-clear voice. SPARSH VP510E features a vivid LCD Graphical Display, Context-Sensitive Keys, Direct Station Selection (DSS) keys, 32 Keys Expansion Module, Headset Connectivity, High-Quality Full Duplex Speaker Phone, and High Definition Audio Quality.

### Convergence India is a major tech:

Extravaganza that brings ICT professionals on a common platform to grow. Matrix is eager to participate in showcasing its latest Telecom solutions such as Unified Communication Servers/Platforms, Universal Media Gateways, User Terminals, and Convergence's high-end audience this year.

We look forward to meeting key decision-makers and service providers at various business enterprises. To bring the first-hand experience of our Telecom solutions that provide a competitive advantage to our customers worldwide will be our primary aim. Our core marketing and sales ethic are to touch and impact as much of the professional network as possible. So through Convergence, we open our doors to welcome you to take a quick tour of Matrix and its potential.







## Micron is at the vanguard of the 5G Era with its tech

### EXHIBITOR CORNER



**Raj Talluri**  
Vice President &  
General Manager,  
Mobile Business Unit  
at Micron

**W**hen the most important stories of the day cover COVID-19 and breaking news updates, discussions of the latest technology trends can feel superfluous. But as I work from home each day, I realise the relevance, potential and power of 5G all around me.

My family has experienced same fears and challenges as yours — fears about health and safety, as well as challenges in managing school, work and relationships. Our everyday needs have changed. And at the center of it all is one critical concept: connection. From doctors to drivers to friends, from working to schooling to gaming, connectedness is what's making our world go around — or grind to a halt.

As we move past the initial pandemic waves, I have seen 5G as a way to “terraform” a virtual world to feel like the real one so many of us have missed. Today, telemedicine often means describing our ailment over a glitchy, pixelated call that may have been better as audio. If

there's anything technology has made obvious, it's that we're on the precipice of amazing connectedness — and that we aren't there yet.

At home mulling some of the ways Micron's 5G work can support a hybrid approach to work and learning in the future, I am more convinced than ever that we are positioned to take the lead in turning that future into reality. Micron is one of the very few manufacturers in the world that provides both memory and storage — two of the foundational 5G infrastructure technologies.

### 5G elevates people's experiences

Many consumers know 5G means “faster.” But with the world being slowed down, we're seeing what faster can mean. Let's start with bandwidth — that is, being able to send more data faster. Two years ago, a high-resolution video call with 30 people would have felt like a luxury. Today, it's one of our biggest wishes just to get through the workday. But a video call on 4G, or with multiple people on it, is not a “real-life” experience. It's like a radio signal you can't quite tune in. Remember texting with a flip phone? The experience probably didn't match your expectations. Then, smartphones delivered a keyboard, and we discovered the experience we had been seeking all along. Whether we're at work, at school, or with friends and family, 5G will make that calendar full of conversation more enjoyable.

### Reliable connections are critical

5G is integral to giving the internet of things a

bigger role in automotive design, in smart city infrastructure, and in the future of health care. The two primary drivers of this are power and coverage. 5G network base stations are expected to be able to support 1000 more device connections per sq meter than 4G LTE networks—greatly expanding coverage efficiency. While 4G modems were a start to all of these advances, they don't work with low power, and perpetually changing batteries isn't practical. Micron products benefit from best-in-class low power. Lower power means longer battery life. With 5G, modems have batteries that will last 10 years. We're finally creating that connected world we've been watching in sci-fi movies. And a connected world is a more convenient world. But it can be more than that.

### Advanced memory and storage solutions are essential for 5G deployment

As higher bandwidth 5G networks become a reality, the bottlenecks to realizing the above-mentioned type of user experiences promised by 5G becomes the speed at which the processors and connectivity devices can access the memory and storage systems. Without significant advances, the processors and connectivity devices cannot take advantage of the 5G networks. The faster the 5G networks get, the more critical memory and storage access speed becomes as the servers and network infrastructure required to deliver the data has to be faster and more efficient than the network airwaves. We, at Micron are developing both memory and storage solutions to optimize the customer experience. And isn't enhancing the customer's experience the whole point?

### 5G connectivity is where the future begins

As we enter the third year of the pandemic, we're following the changing psychological needs, sociological trends, workplace requirements and educational approaches. Connectivity is what makes all that change work. And connectivity takes memory — more, better, faster memory. It also takes really low power. And it takes higher bandwidth to support the new standards.

At Micron, we are on the vanguard of this new era. We are working hard to ensure we're first to market with products with high bandwidth, low power consumption and low latency. That leadership — enhancing everything from autonomous driving to virtual reality (VR) and beyond — and the collaboration with our customers to create a global footprint are putting us in front today and for the future. Our aim is ultimately to connect the world.





## PARTNER VOICES

# National Highways Authority of India (NHAI)

**T**he National Highways Authority of India (NHAI) was constituted under an Act of Parliament was set up in 1995. NHAI is responsible for the development, maintenance and management of the National Highways.

Mandated with the implementation of some of the biggest programs for National Highway development like the Golden Quadrilateral (GQ), National Highways Development Project (NHDP) and Bharatmala Pariyojana NHAI has taken highway development in India to global standards while setting many technological and engineering benchmarks.

NHAI at present is implementing the Bharatmala Pariyojana, which is India's largest highway infrastructure program till date with development of 34,800 km of National Highway corridors at an investment of Rs. 5.35 Lakh Crore. As a part of Bharatmala Pariyojana, 22 flagship greenfield corridors of length 7,700 km have been envisaged in addition to capacity augmentation of existing roads through brownfield projects to cater to the increasing traffic volumes in major corridors.

Apart from facilitating movement of people, Bharatmala Pariyojana will move the logistics needle in the country by doubling the speed of road freight movement from ~40 km/hr to ~80 km/hr. Completion of the highway corridor network planned under Bharatmala Pariyojana

will also significantly reduce cost of logistics leading to savings worth crores of rupees for the nation.

In the 27 years of its service to the nation, NHAI has developed some of the most iconic projects that have become the signature of India's highway development prowess. Some of the engineering marvels include the Eastern Peripheral Expressway - India's first smart expressway, the Delhi-Meerut Expressway - India's first 14-lane highway, the Chenani - Nashri tunnel, which is the longest bi-directional road tunnel in Asia and the upcoming Delhi-Mumbai Expressway- India's longest greenfield

expressway among many others.

Not just smart expressways and green highways, NHAI is also credited with developing India's first Emergency Landing Facility (ELF) on a National Highway. The 3 km long specially developed stretch is on National Highway 925A in Barmer, Rajasthan and is of immense strategic importance for the Indian Air Force and national security.

In addition to building the highway infrastructure, NHAI is also managing Highway operations that include developing way side amenities, managing toll collection, deploying advance highway management systems and providing incident management support through ambulances and cranes.

NHAI is committed to develop National Highways Infrastructure at a rapid pace and envisions to provide safe, smooth, and seamless travel experience on National Highways.





## EDITORIAL

# Taiwan's latest technological innovations to be showcased at Convergence India 2022

**T**he pandemic took a toll on almost all aspects of human life but what reduced the ramification was the use of technology. From education to livelihood, technology played the most crucial role in normalizing the unprecedented.

During dire need, leading Taiwanese brands and tech giants put forth their innovative solutions to ease digital transformation. The brands facilitated remote working, automated manufacturing and school learning with help of its technologically advanced digital tools. Taiwan's most innovative products are quality affirmed by the Taiwan Excellence (TE) award. Established by the Ministry of Economic Affairs in 1993, the Taiwan Excellence awards are a testimony of quality. Every year, potential products are subjected to a rigorous and stringent selection system that covers four major aspects of 'R&D', 'Design', 'Quality' and 'Marketing' to identify products that offer 'Innovative Value' while satisfying the key criterion of being 'Made in Taiwan'. TE has gained significant recognition from all over the world for several innovative technological products. From complete supply chain of electronics and communication projects to construction material and hardware tools, TE Brands have made their presence in all domains. TE award, along with promoting innovation, offers Taiwanese companies a podium to showcase their technology and products internationally.

## THE PRODUCTS DISPLAY TECHNOLOGIES THAT MAKES US HEALTHY AND PROMISES A GREEN TOMORROW

The products display technology that makes us healthy, promises our future generations a green tomorrow and keeps us moving. On similar note and in compliance with United Nation's Sustainable Development Goals (SDGs), the Taiwan government is taking various steps towards sustainable practices in accordance with Environment, Social and Corporate Governance (ESG) guidelines. It has also implemented several regulations and measures to provide enterprises with guidance and support to encourage the sustainable development of industries. These steps will strive to ensure that there is overall social and environmental welfare.

TE brands have always been at the vanguard for providing world-class and most innovative tech tools. They have built some of the most popular knowledge sharing platforms to enhance the quality and utility of remote communication. Numerous collaboration tools and specialized support mechanisms designed in Taiwan offer solutions to educational institutes, companies and various industries across the globe.

Over the past decade, Taiwan has made a name for its ICT industry and series of other

products that help smoothen innovative ways of working and learning. It is because of its approach towards the advancement of technology that the country has strengthened its position on the world map.

Now, to regain momentum, industries worldwide are adapting to new ways and technologies. TE too has been functioning in full swing to bring back normalcy.

In similar spirit, TE will be participating in Convergence India 2022 to be held in Pragati Maidan, New Delhi and will host its exclusive pavilion (Booth 5.27) with a number of leading Taiwanese brands like AAEON, ADATA, Advantech, Aver, Avison, BenQ, CyberPower, D-Link, Gigabyte, Goodwill, MSI, Planet, Plustek, QNAP, Synology, TSC, Winstar and Zyxel. These brands will display an array of products in the fields of ICT, smart healthcare, technology and smart lifestyle.

This year's highlighted products include Aver's 4K Dual Lens PTZ Conferencing Camera CAM550 which is equipped with an AI lens for automated PTZ functionality, which delivers a full view of meeting attendees; Synology's DS920+ Network Attached Storage DiskStation that allows you to boost system I/O and application performance; MSI's Vector GP76 gaming laptop that delivers an enhanced performance along with high-edge AI features so that you can enjoy unparalleled speed while multitasking, lag free gaming and streaming. And lastly one of the key attractions is AORUS's FV43U gaming monitor that is certified to ensure spectacular display quality, the most fluid gaming and entertainment experience.

We welcome you to visit us at Hall 5, Booth 27 and explore the various innovative offerings of our brands.



## Advance your organisation's cyber security and resilience - Red Canari

### IN CONVERSATION



### Thirstan Falconer

Director of Marketing & Partnerships, Red Canari

#### Tell us about the philosophy and vision of the company.

Red Canari was founded back in 2013 to address the gap in the market for highly technical, offensive cybersecurity. Our experts provide our clients with research-driven technical assessments. We are a full-service shop and do all the paper-based engagements like Cybersecurity Maturity, NIST and ISO compliance, Threat and Risk Assessments; however, it is our highly technical, offensive cybersecurity services that differentiates us from other consultancies in the market. Red Canari security professionals are all experts in their field and use their own cybersecurity research to deliver cutting edge results for our clients. Our experts are authors of globally adopted cybersecurity tools and they regularly present their research on the world stage at the biggest conferences in the industry, including Black Hat and DEF CON. Our team has ethically exploited high profile vulnerabilities and has received press coverage for their work in Canada, the United States, and Europe.

Red Canari clients trust our security professionals to emulate sophisticated threats posed by their adversaries. They rely on our experts to deliver highly technical attack vectors to measure the security of their attack surfaces and exploit vulnerabilities before their adversaries do. While many firms in the market preach the benefits of one-size-fits-all technology solutions that

are susceptible to fail against skilled threat actors, we know that a mature cybersecurity program combines careful investments in people, processes, and technology. A mature and healthy cybersecurity program should always include a combination of highly technical offensive cybersecurity assessments that emulate the most sophisticated tactics, techniques, and procedures deployed by dangerous cyber threat actors.

#### What are the new innovations being developed by the company?

Cybersecurity is about innovation, but not just by the heroes. Every day, black hat hackers are researching new vulnerabilities and perfecting new techniques that they can deploy to break into secure environments for state-sponsored motives, intellectual property theft, or financial gain. Dangerous threat actors work on the assumption that their targets have fully mature cybersecurity programs with good investments in the people, processes, and technology used to deploy them. Yet every week, we read new reports in the press about how responsible corporate organizations have been breached, have had valuable information exfiltrated from their environments unknowingly, or were a target of a ransomware attack that have cost them millions of dollars in exchange for preserving their valuable assets.

Organizations reach out to Red Canari because our experts replicate the unrelenting perseverance of their adversaries throughout every one of our cyber engagements. Our security researchers meticulously test our clients' technical environments to discover both known and zero-day vulnerabilities and skillfully measure their ability to detect and respond to breach scenarios by our Red Team. Most of our clients have mature cybersecurity programs and look to our experts to provide high quality cyber assurance. Our experts are not deterred by best-in-class technology, modernized and refined processes, and highly trained Blue Teams; on the contrary, this is where we take your organization's cyber resiliency to a higher level.

#### How have you adapted to the changes brought about by the pandemic?

Since 2020, Red Canari has been committed to following restrictions and guidelines put in place by governments at the recommendation of their Public Health Units. This has meant that whenever possible, projects are done remotely. Though this has not stopped the necessity to be on-site for assessments that require physical access, such as when our experts are assessing the security of Operational Technology environments. However, the pandemic has meant that businesses and governments adapt to remote work in unprecedented ways and Red Canari has also moulded in the ways.

Many experts would have predicted that it would take years of planning to shift entire public and private sector organizations to work remotely; instead, this shift was done in just a few weeks back in 2020. Businesses and governments responded to a global pandemic with impressive confidence and robust decision-making. In some cases, many organizations have signalled that the days of working permanently in an office have ended.

The pandemic has changed the way modern work gets done. However, this shift has made even more of us entirely dependent on technology and opened secure on-site systems to remote access. This means that more than ever before, secure systems are accessible from the internet. Just because an organization responded swiftly to keep their business operations active during the pandemic, does not necessarily mean that they did so in a safe and cyber secure manner.

Throughout the pandemic Red Canari clients have relied on our experts to support their organizations to a 'work from home' transition. We performed





## REDCANARI

extensive penetration testing to ensure that our clients' infrastructure was cyber secure from threat actors who might look to exploit this opportunity for ransomware operation or denial of service attacks. Other organizations have used the pandemic as a reason to transform their business operations and accelerate Cloud Transformation programs. Our clients have relied on our experts for critical advice to ensure these Cloud Transformations are done according to industry best practices and the best cybersecurity standards possible. More sophisticated clients have further secured their operations through Red Teaming a full-scale cyber-attack.

### **What are challenges & roadblocks faced by your industry?**

The two most alarming cybersecurity challenges in 2022 are the significant increase in ransomware attacks by cyber criminals and the threat posed to businesses who are targeted in conflicts between nation-states. Last month, Fortune reported an alarming 105% increase in ransomware attacks in 2021, with some industries being explicitly targeted by cyber criminals. Last year governments saw an 1,885% increase, while the healthcare industry faced a 755% increase in ransomware attacks. Experts have noted that the prevalence of ransomware attacks are linked directly to the unprecedented shift to remote work since 2020 with company employees working outside their office networks in droves. In 2022 ransomware trends will continue to rise, as nefarious ransomware operators develop new tools and techniques to make their exploits even larger and more advanced.

The recent Russian invasion of Ukraine has raised considerable alarm of the cyber threat posed by state-sponsored hacker groups undertaking cyber warfare. The fear is that the threat will quickly expand beyond Ukraine and that businesses in critical industries with ties to allies in this conflict (or others like it) will lead to increased risk for attacks by cyber threat actors. While it is true that some organizations in key industries will see their threat and risk profiles change in 2022, all organizations should be making investments to strengthen and mature their cybersecurity program. Knowing how to effectively deploy these investments within a specific budget requires investment in offensive engagements, like penetration testing, application security testing, and Red Teaming. The insights made from these

assessments will help organizations identify gaps and make informed and careful investments into their people, processes, and technology.

The biggest roadblock in 2022 is organizations thinking that one technology or tool can prevent an attack from a sophisticated threat actor. The truth is that there is no single solution to the evolving cyber threat landscape.

A mature cybersecurity program requires intelligent investments into the people, processes, and technologies that make up the environment. These investments must include network penetration testing, application security testing, and Red Teaming assessments to exploit vulnerabilities and measure the effectiveness of Blue Teams in identifying and responding to simulated threats of real-world attackers.

### **Please tell us about your focus areas for the future.**

More and more of our clients are looking to our Red Team to measure their organizations' ability to detect and respond to an attack from a cyber threat actor. Red Teaming and Purple Teaming are important tools that can reduce risks and challenge an organization's plans, programs, and assumptions about its cyber security. While organizations can scaffold defensive layers into their systems and networks to prevent threats, they still require an active Blue Team to configure, preserve, and operate this infrastructure. These defensive systems, as well as vulnerability assessments and penetration tests, fall short of achieving the primary goal of preventing, detecting, and responding to real threats. The problem with designing an organization's security from just these perspectives is that they exclude an understanding of the likely threats. This omission can be significant and can lead to the mitigation or acceptance of risks that are not fully understood and that cannot be revealed during traditional security testing and auditing.

The most significant benefit associated with Red Team and Purple Team assessments is that they give an organization the experience to practice attack scenarios in a safe, secure, and controlled exercise. The assessments also help organizations identify gaps in their people, processes, and technology. This information is critical to strengthening cyber resilience. All the preparation, studying, rules and procedures that organizations may have adopted leave most organizations unprepared for a real threat event. Red Team and Purple Team engagements prepare Blue Teams for a real cyber-attack and give them the experience and confidence to act during a crisis.

Our focus in the future will be on supporting our clients with Red Team and Purple Team assessments. These assessments require substantial planning to create a validated threat profile and customized attack scenarios to replicate



## “WE ARE EXCITED TO BE AT THE 29<sup>th</sup> CONVERGENCE INDIA EXPO AND EXPERIENCE FIRST-HAND THE INNOVATION HAPPENING ACROSS INDIA”

the tactics, techniques, and procedures of their likely adversaries. A Red Team assessment proceeds with no contact between the Red Team and the Blue Team throughout the entire engagement, nor any awareness of when or how an environment will be attacked. Comparatively, a Purple Team assessment has the same key features of a Red team, except it utilizes debriefs after the execution of each attack scenario. During these debriefs, the Red Team and the Blue Team discuss the best approach to detect and respond to the threat that was presented. Before the Red Team moves on to the next scenario in the attack lifecycle, the attack scenario is repeated to measure how well the Blue Team responds the second time. Red Team and Purple Team assessments are critical ways for organizations to measure the maturity of their cybersecurity programs.

### **Please elaborate on the technologies on display at the expo.**

Red Canari is Canada's premier offensive cybersecurity consultancy, located in Ottawa. We are trusted by the Canadian Industrial Security Directorate and the North Atlantic Treaty Organization to work on sensitive and highly classified cybersecurity projects in the public and private sectors. We are also cleared to examine, possess, and transfer controlled goods by the Canadian Government's Controlled Goods Program; this means that we are cleared to work with Tier 1 and Tier 2 defence contractors. We are also the only cybersecurity strategic partner of the International Air Transport Association, an international trade association that represents 288 airlines and about 82% of the world's air traffic.

Red Canari experts pride ourselves on delivering highly technical, research-driven, manual cybersecurity assessments for our clients. We excel at discovering zero-day vulnerabilities and executing complex attack scenarios that expose a client's crown jewels. We pride ourselves on practicing the tactics, techniques, and procedures of the world's most sophisticated threat actors and consistently pursuing research and innovation to break into the most secure information technology and operational technology environments in the world. Whether it's complex systems, fully customized applications,

hardware, or embedded IoT devices – our experts are experienced at breaking all kinds of things. Our clients trust us to provide high quality cyber assurance on crucial projects in national defence, critical infrastructure, core banking systems, and health care.

### **What can we expect from Red Canari in the times to come?**

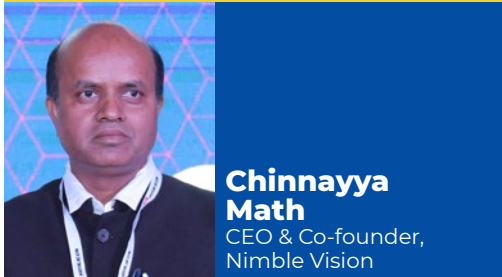
Headquartered in Canada, Red Canari launched its affiliate in the United Kingdom in 2021. We serve a large client base in Canada, United Kingdom, United States, and Europe and we have made significant headway in expanding our clientele into Asia, the Middle East, and North Africa. We are proud of the diverse portfolio of clients that we have developed all over the world. Our experts continue to be one of the industry's most trusted experts in the defence, financial services, banking, energy, and health care spaces.

We have pursued critical relationships with clients in India, which is one of the largest emerging information technology markets in the world. India is also home to corporations with a heavy influence in the international oil and gas and financial service sectors. These are industries in which we have considerable experience and have a strong understanding of the threat environment. Over the last 5 years, the Indian Government has emphasized the critical need for organizations to strengthen their cyber resilience. In particular, the Government has invested significant resources to drafting a comprehensive Data Protection Bill. Though this legislation has not yet become law, Indian organizations are taking critical steps into strengthening their cybersecurity. As the Indian economy continues its unprecedented and accelerated growth, cyber threats are affixing their attention toward targets in the country for exploitation. Red Canari deploys our research-driven expertise to support companies all over the world who look to strengthen their cyber resilience. Red Canari is eager to expand our client base in India and help organizations adapt to the changing cyber threat landscape.



## Nimble Vision: Simplifying life through automation

### STARTUP TALKIES



#### Tell us about the philosophy and vision of the company.

Nimble Vision was created with the idea of simplifying life and with the aim to build a sustainable society through smart analytics of water consumption, leakage and automation. It specialises into smart water and sewage management using IoT and AI.

#### How, do you think, your startup is making the world a better place to live?

With conservation of natural resources being the need of hour, the company focuses on innovations that can contribute towards a sustainable society.

#### What is the best marketing and customer acquisition strategy according to you?

I believe that social media is one of the best ways to reach out to a global market with minimum efforts. Apart from this, I believe offline marketing and word of mouth from the existing clientele can also do wonders.

#### What were the high and the low points of this journey?

With regard to the lows, the Covid-19 pandemic turned out to be a major challenge and roadblock, affecting the day-to-day business majorly. The good thing is that with the things are gradually getting normalised. The business is now picking up and we have gained expertise in collaborating with multinational companies.

#### Who do you perceive as your competition? How do you differentiate yourself from them?

Currently, we don't have conventional 'perceptions' which are without any additional data, analytics is of competitors. So, we are trying to improve existing solutions which are how to use data analytics and insights as part

of our solutions, and that is what turns out to be our USP.

#### What would be your goal to accomplish in the next six months?

In next one year, our target is to reach a 5 Cr revenue. We are also in the process of building a team with special emphasis on marketing and reaching out for partnerships as well. So we have a validated platform, and all we need is to scale our solutions further.

#### How much revenue and market share has been generated by Nimble Vision?

So currently we're making a justifiable revenue to run the company and our growth is to achieve 5 cr revenue in next one year itself.

#### Where do you envision Nimble Vision in ten years from today?

Ten years down the line, Nimble Vision would definitely be somewhere into hardware-based solutions with water and couriers of automation as well.

#### Apart from being an innovator, what are some of the hobbies you have?

Apart from developing innovative solutions which can help common people, I love to read and spend time with my family which gives me more energy to work on building the platform as well.

#### How has the 28th Convergence India and the 6th Smart Cities India expo aided further growth for Nimble Vision?

The 28th edition of Convergence India and the 6th edition Smart Cities India expo really helped us a lot to meet to connect with different people, the system integrators, startups, collaborators and leaders from the water sector. It also gave us a different perspective to what we are doing and how can

we further improve our solutions.

#### Any words of wisdom for future participating startups?

My suggestion for future startups is to participate in such expos and explore the opportunities to collaborate with industry leaders, scale the business to new heights and validate where we are and how can we further improve our solutions. That is definitely a good crosscheck point for all of us.

#### In what ways is the 29th Convergence India and the 7th Smart Cities India expo advantageous for the startups?

The upcoming 29th Convergence India and the 7th Smart Cities India expo can help startups to explore business and networking opportunities and judge as to how can we improvise our solutions further.

#### What are the other innovations being developed by the company?

Apart from water, we are working on sewage treatment, and building the next generation water treatment. We are trying to eliminate the need of the RO technology to treat the water. We are also working on zero wastage solutions and developing a technology where we can remove the water harnessed electronically.

#### How was your experience at the Start-up Pitch Competition?

My experience with the Startup Pitch Competition last year was absolutely wonderful as we came out as winners and the feedback and guidance after every round as received by the jury and the IIT Innovation Centre Bihar, proved to be very valuable and inspiring. We are very thankful to the Smart Cities India expo and the IIT Innovation Centre, Bihar, for this kind of recognition. It is not only about the acknowledgment and recognition but also the media attraction that we received which further helped us gain good clientele. Partnering with IIT Innovation Centre as investor has helped us in a lot of things from marketing to operations, it has been a good deal. Finally, I would like to wish all the best to the organisers, the start ups and all others, Thank you.

## TEN YEARS DOWN THE LINE, NIMBLE VISION WOULD DEFINITELY BE SOMEWHERE INTO HARDWARE-BASED SOLUTIONS WITH WATER AND COURIERS OF AUTOMATION AS WELL

## TACODI: Communicate smartly and securely with the whole wide world

### CXO SPEAKS



**James Tharayil**  
Chief Executive Officer  
Tacodi Electronics

### Tell us about the philosophy and vision of the company.

This is a crucial time in India's history as the country continues to go through digital transformation, bringing significant change to almost all sectors of society – from the way people receive critical services like healthcare to how students are taught, and business gets done. Key verticals like tele-medicine, online education and government are creating a tremendous growth market for video conferencing hardware and software products in India.

Tacodi's innovative, user-friendly and versatile VC products and VC technology platform are a part of 'Make in India' initiative and are designed, developed and manufactured based on Global standards. Tacodi supports the futuristic Digital India Mission committed to digitally connecting and empowering people from all sections of society, especially those from remote rural areas.

The World meets up today, more than ever before, on Small Screens all over the globe. That is why we are dedicated to making your Virtual meetups feel as close, direct, warm and as engaging and satisfying as meeting face to face in Ultra HD 4K. Our innovative and intelligent user interface, high quality, scalable and secure technology platform and very affordable and standards based VC products make all your online meetups feel immediate, immersive and true-to-life real

### What are the new innovations being developed by the company?

Most of the demand for Video Conferencing hardware and software is met by imported products from countries like China. In addition to the massive drain in valuable foreign exchange, relying on imported hardware and software for video conferencing also exposes India's critical infrastructure to security risks and potential supply chain disruption based on geo-political events that India will have no control over. More importantly, relying on imports deprives Indian customers of customized and localized

technology solutions that adapts to our unique requirements in Telemedicine and online education.

At Tacodi, we are building, Intelligent devices to communicate smarter. Our innovative, easy-to-use Video Conferencing Hardware incorporating all the performance optimizing designs like onboard H.265/H.264 codec, newest WiFi and Bluetooth module, redundant power supply, port aggregation for increased network bandwidth and redundancy etc paired up with our award winning, easy to use Video Conferencing Client and Server Software allows you to turn any space into a video meeting room in seconds.

### What are challenges & roadblocks faced by your industry?

Human Resource: Need for finding the right resource.

- Starting with Education/Curriculum which is not futuristic, by the time the course is completed, knowledge gained is outdated being a fast growing sector.
- Industry/University link is weak, needs efforts on either side to collaborate better.
- Indian Industry focus remains in low tech, cheap labour attitude.
- Multinationals don't part with complete knowledge, small parts of products development is given to Indian Engineers for protection of IP.
- While inviting foreign investment in this sector, knowledge transfer must be a clause (China did it). Must insist in hiring senior/experience manpower, MNCs must replicate same hierarchy as in the parent Company.
- R&D to spearheaded by Public/Govt sectors, creating stronger relations with technical Institutions.
- Policies to move from Labour arbitrage → to patents, new product development, investment in startups.

### Vendor Development: of Ancillary Industry;

- Paint shop.
- PCB printing/multilayer printing, raw materials/machinery for PCB printing. Quality awareness
- Consistency; produce functionally/aesthetically acceptable products .
- Lack of internationally acceptable test labs
- Credibility of test labs/certifications.

### Please elaborate on the technologies on display at the expo.

Below list of our locally manufactured products will be on display.

### TE-3000 Series Hardware Endpoint from Tacodi™

Our Hardware Endpoints ensure smooth, highly secure and hassle-free way for your teams to stay productive and seamlessly connected always.

Broadly categorised according to the number of users in a multi-party video meeting that the endpoint can conveniently connect together according to your needs, we offer three different configurations : Entry Level, Mid Range and High End, all offering 4K and true HD 1080p capabilities.

### TC-900 Series PTZ Camera from Tacodi™

Tacodi manufactures a range of hi quality cameras in multiple versions enhancing the true-to-life richness of our VC technology platform. Tacodi Cameras are designed for large huddle rooms as well as other smaller spaces, and packs big features into a compact form factor. Capture & Display resolution is available in either 1080p or 4K HD according to which version you opt for. All our Cameras come with a USB or HDMI cable to connect them to Endpoints.

### Tacodi™ TSP-50 Series Speakerphone

Our sleek desktop speaker phones with their efficient noise reduction and echo cancellation capabilities, capture your audio with clear enhanced fidelity and play it on speakers. The salient features are:  
Reach the entire room Hear everyone clearly  
Easy installation Mute/unmute indicator

### PREMIUM QUALITY USB/Bluetooth SPEAKERPHONES

Tacodi TSP-50 series USB/Bluetooth speakerphone provides you with remarkable sound quality for meetings as well as for music. Remote participants and music sound amazing with the TSP-50 series high-performance speakers.

### What can we expect from Tacodi Electronics in the times to come?

As a 'Make in India' startup developer of innovative, cutting edge hardware and software video conferencing technologies, Tacodi will continue to pursue its business growth objectives in the opportunities offered by "Hardware MCUs and room based video endpoints"; "Virtual Classroom"; "Cloud based video conferencing (VCaaS)"; "Telemedicine" etc.

The international market is an automatic necessity for Tacodi products. We will pursue the middle east and the far east markets aggressively.





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*Arjun Kapoor*

(Arjun Kapoor)



## Unlimint - Tomorrow's global payment services

### CXO SPEAKS



**Trevor Goott**  
Director: Africa and India, Unlimint

### Tell us about the philosophy and vision of the company.

Unlimint provides fast-growing innovative businesses with a constantly evolving financial interface, made by innovators for innovators. Our mission is to be "ready for tomorrow" and to provide our customers with a sense of stability in the everchanging financial landscape and an opportunity to be prepared for whatever the tomorrow of business brings their way, so that while others observe, they can already take an advantage.

### What are the new innovations being developed by the company?

In addition to our two main solutions, acquiring and banking services, our company also created an acquiring solution specifically tailored to the gamedev industry and is in the process of launching two new products this year – BaaS (Banking as a Service) and our very own eCommerce platform.

Unlimint's BaaS API solution enables companies to deliver innovative payment and account solutions, simply, seamlessly and conveniently. Whether you are launching your own branded card program, opening accounts for your customers or need new and innovative payment solutions, Unlimint takes the cost, risk, and complexity out of adding financial services capabilities so businesses can focus on their core business.

The eCommerce platform will be a one stop service for launching an international online store. From product and order management to traffic acquisition tools, from website builder to integrations with Facebook, WhatsApp and Unlimint payments.

### How have you adapted to the changes brought about the pandemic?

During the pandemic, it became even more obvious how crucial online payments are and

that they should become more accessible to people around the world. So, in the past two years we focused on strengthening our offering so that we could support our customers more. We welcomed instalments as a payment service, which is essential for the LatAm region, became the first direct member of Russia's payment system Mir, to offer them as a payment option across the four continents of Asia, Latin America, Europe and North America, we also signed an agreement with Discover and announced the launch of a new product division.

### What are the challenges & roadblocks faced by your industry?

Some of the key issues and challenges the industry faces with respect to past and future growth of Fintech industry in India, include:

- Data security and privacy risk – Data leaks, platform downtimes, and information theft.
- Unbanked population,
- Poor infrastructure in terms of Internet Connectivity

- low literacy level
- Trust in cash
- Cyberthreats

### Please tell us about your focus areas for the future.

Our team has a constant strive for finding new ways to upscale and innovate our solutions. This is why you can definitely expect us to keep on working on new features and exploring new technological advancements.

### Are there any modifications in the regulatory framework that you would advocate for?

The regulator is working closely with the industry and addressing the requirements in a proactive manner, we have complete trust in the Indian regulatory framework and the government.

### What can we expect from Unlimint in the times to come?

Unlimint aspires to become a friendly payments partner to the MSME segment in India.

We are working towards a mission to bring affordable product for the SME across and provide a new age robust system which they can trust for all their business & payments needs. Giving wings of global market to local Indian businesses by using our 'to be launched' marketplace product.

## THE REGULATOR IS WORKING CLOSELY WITH THE INDUSTRY AND ADDRESSING THE REQUIREMENTS IN A TIMELY MANNER. WE HAVE COMPLETE TRUST IN THE INDIAN REGULATORY FRAMEWORK AND THE GOVERNMENT





## Technological advancement is imperative for the future of India's supply chain

### EDITORIAL



**Rajnish Gupta**  
Vice President & Head  
for India and Sub-  
Continent business,  
Zebra Technologies  
Asia Pacific

The world is entering the era of Supply Chain 4.0. It is set to create faster, more flexible operations that can cater to the on-demand economy and enable manufacturers and distributors to operate with greater effectiveness, efficiency, and safety. The supply chain and logistics sector in India is one of the largest and best-connected in the world. However, surrounded with various challenges, the country is currently ranked 44<sup>th</sup> in global logistics performance. It is imperative for the Indian manufacturing and logistics sector to integrate technologies such as Internet of Things (IoT), cloud computing, artificial intelligence (AI) and machine learning to upscale manufacturing and distribution operations.

Supply Chain 4.0 will ultimately result in the formation of "smart factories" that bring together the power of enterprise-wide connectivity, real-time analytics, and automation to track and optimize every process, asset and resource with end-to-end accuracy. The key is to invest in the right technologies to gain a competitive edge and take advantage of future growth opportunities.

### A New Age of Real-Time Control and Transparency

The traditional lifecycle of a supply chain has proved to be fragile and unpredictable with the gradual increase in customer expectations. With the logistics and supply chain market in India expected to touch \$307 billion by the end of 2021, digital transformation is imperative to achieve real-time transparency and performance management from the first mile through the last.

Integrating radio frequency identification (RFID) tags and readers is one of the key technology evolutions that can help automate inventory processes, streamline workflows, and speed up production lines. RFID solutions can also complement and integrate with modernly redesigned machine vision solutions to increase process accuracy and reliability.

### Increased Visibility Across the Supply Chain

For the supply chain to work well, accuracy and unparalleled real-time visibility are required throughout the network. RFID tags update the traditional 2D barcode for enhanced track and track, inventory management, quality control and reporting capabilities while integrating with other advanced solutions like machine vision and predictive analytics to improve – even automate – decision making and workflows. Today, RFID technology has become increasingly effective and affordable to deploy in the warehouse and logistics environment, and that has resulted in its wider adoption among small, medium and large enterprises.

### RFID Tracking from the Individual Item to Pallet Level

The manufacturing plant is particularly well suited for passive RFID readers as materials generally follow a fixed path through a facility. New wide area advanced RFID antennas can expand the scanning range for real-time location tracking of every asset in the warehouse.

With RFID tags, production managers can make sure materials are correctly sequenced, so the right components hit the line at precisely the right time. Increased visibility both empowers organizations to detect errors and prevent problems before they occur, avoiding potential quality control issues that could damage a company's reputation.

### The Supply Chain 4.0 Ecosystem

The supply chain transformation extends beyond just one or a few industries. Much of the same supply chain technology can be applied in categories from automotive and apparel to pharmaceutical and grocery, extending from the manufacturing plant and warehouse to transportation and ultimately

the final point of distribution, such as retail and healthcare facilities.

RFID solutions help grocers, quick-service restaurants, food suppliers and even hospitals dramatically increase inventory visibility, lower costs, and reduce waste. RFID also increases traceability in the pharmaceutical supply chain and integrates with temperature monitoring solutions to deliver more detailed information.

### Navigating the Complex Stock Keeping Unit (SKU) Phenomenon

While RFID solutions are highly effective across industries, the apparel, accessories, and footwear sectors are some of the best examples of the successful implementation of tagging all the way to the point of consumption. RFID is particularly useful in these categories due to the complex SKU phenomenon that factors in the item style, color, and size.

In these categories—specifically, the retail store environment—RFID tagging pays dividends in inventory management, the automatic verification of orders and fulfillment, and managing reverse logistics, which is a particular pain point due to apparel retailers' high rate of returns.

### The Path to Supply Chain Success

Manufacturing operations are complex, and every supply chain is different. Each company has its own goals and unique technology needs. Strong, active leadership is required to guide the organization through the digital transformation process. Realistically, implementing these technologies cuts across traditional divisions within a company, requiring the cooperation of teams including IT, operations, cybersecurity, and beyond. It also necessitates the highly honed skills of senior leaders who can align different constituents within the organization to work together and change how things are done.

**MANUFACTURING IS COMPLEX, AND EACH COMPANY HAS ITS OWN GOALS AND UNIQUE NEEDS. A STRONG, ACTIVE LEADERSHIP IS REQUIRED TO GUIDE THE COMPANY THROUGH THE DIGITAL TRANSFORMATION PROCESS**

## Knowledge powers the development of smart cities

### SPEAKER HIGHLIGHT



**W**hen the UK government began to explore the potential of smart cities in 2014, the sheer complexity of the interfaces involved made the existence of a clear framework for guidance essential.

The Department for Business Innovation and Skills, the predecessor to the Department of Business, Energy and Industrial Strategy (BEIS) commissioned BSI to produce the first smart city standard and since then a portfolio of standards has emerged to guide innovators through the concrete jungle.

"The number of standards produced since then shows the value of standardization within a very complex area," . The amount of data being shared and the number of actors potentially involved makes it necessarily complex.

A conventional manufacturing standard may have involved manufacturers, customers and suppliers. With a smart city there are so many relationships beyond the traditional; ordinary citizens, local authorities, urban planners, financial planners, utilities, traffic control and so on.

The technology to do these things exists, the difficulty is the getting the interfaces between different systems to work. Standards help in several ways, for example by defining terminology so that there is a common understanding between the different parties involved.

With a huge interconnected organism like a city, you are going to end up with a complex system and a lot of data. "Because there is so much data, there is the risk you might try and use the wrong data or use incomplete data to achieve your purpose; standards play a critical role in helping people to identify the data they need and how to structure it as information," said Dan.

There is also the pressing issue of data security. "Security is important in a situation where there are large flows of data, ensuring data is shared on a need to know basis. We have a standard, PAS 185, that provides guidance on that."

More and more cities around the world are starting to set up smart city strategies from

Barcelona in Spain to Hangzhou in China. In the UK, Peterborough, Bristol, Greenwich, Exeter, Oxford, Cambridge, Leeds and Milton Keynes, have launched smart city strategies looking at how to integrate physical, digital and human aspects to cope more efficiently and effectively.

Standards which originated as PASs in the UK have gone onto provide feeder documents for international standards. "The UK has been in the vanguard of smart city thinking, especially ways of applying digital innovation," said Dan. "We have a very good track record of not just innovation but documenting procedures in our standards in such a way to make them easy to use."

### BIM is a cornerstone of the smart city

Building Information Modelling (BIM) standards have been fundamental to creating a platform for the digitalization which is essential for smart cities to operate.

BIM and information management have always been an element of smart cities because both are based on open, shareable data. BIM relies on having this data structured as information to support decision-making related to assets. It is this structure that creates the building blocks for the smart city to achieve the advantages presented by digitalization.

BIM processes relating to information management ensure that assets are built in the most efficient, low carbon way, for instance, by utilizing the information provided to reduce the amount of concrete needed. However, the real value of BIM comes after the build has been completed, because an asset designed using BIM can minimize the use of resources such as energy and water and can provide the data about the asset essential to the operation of a smart city.

The UK has led the way in BIM standards with PAS 1192-2 published in 2013 and 1193-3 in

2014. These have now progressed to become ISO 19560 parts 1 and 2, with parts 3 and 5 due to be published next year. "The fundamental concepts established in the PASs have carried through to the ISOs for adoption internationally. This is testament to the good foundations laid by the UK within these PASs," said Dan.

Although the principles of information management using BIM were established before the UN Sustainable Development Goals were formulated, the relationship between them is clear. Depending on how the information intended to be used information management using BIM can support UN goals such as: clean water and sanitation (6), affordable clean energy (7), industry innovation and infrastructure (9), sustainable cities and communities (11), responsible production and consumption (12) and climate action (13).

## BUILDING INFORMATION MODELLING PROCESSES RELATING TO INFORMATION MANAGEMENT ENSURES THAT ASSETS ARE BUILT IN THE MOST EFFICIENT, LOW CARBON WAY, SUCH AS USING LESS CONCRETE





## Successfully connecting the world since the last 40 years

### EXHIBITOR CORNER



**Ankit Chopra**  
Director, Keith Electronic

**K**eith Electronics Pvt. Ltd. was established in 1980 with the goal to become an industry leader in providing unmatched quality products and services.

We constantly strive to meet the changing needs and demands of our customer as per latest technology. Our quality products and best support are the key factor for sustainable business.

Since 4 decades, the company has been providing sales and after sales support to renowned overseas manufacturers. We offer reliable, cost effective and high quality products from Fujikura & Yokogawa, Japan. Fujikura make Fiber optic fusion splicer and Yokogawa make OTDRs, that make a perfect combination for fiber network testing.

As we all know, the industry is growing day by day and demanding more accurate and advanced features in products. So, Fujikura, Japan launched an "ACTIVE FUSION CONTROL TECHNOLOGY" feature in their Fiber optic fusion splicers. This new technology realizes low splice loss and incorporates the following features:

- Optimized fusion control depending on fiber cleaved end face condition before fusion splicing.
- Optimized fusion parameter selection based on the automatic discrimination result of the optical fibers.
- Real-time optical fiber brightness intensity analysis and control during fusion splicing

One more advanced technology "Active Blade Management Technology" is introduced in machines which significantly reduces the frequency of poor quality cleaves. Even when a poor cleave is detected, fujikura splicing machines compensates it by using Active Fusion Control Technology to apply optimized fusion to reduce the incidence of high splice loss. By using these 2 key technologies

together, our splicing machines minimizes the occurrence of high splice loss and greatly reduces the need for rework and re-splicing.

After adding these features, our new range of splicing machines are Fujikura 88S+, 66S+, 48S+, 38S+, 28S+, 88R+.

We have also added a new OTDR AQ7280 in our product range with higher dynamic range and large display size. The AQ7280 is the most flexible OTDR in our line-up due to a modular platform to create a variety of systems from a basic unit to units with filtered ports to test live traffic networks in applications from long haul, to metro, core and FTTH.

Fiber optics has been a revolutionary technology and it represents the brick or the core component to build up the new "Highways"

Covid-19 pandemic impacted too much on our daily life and business. It changed the way of our work, business & lifestyle. Work from Home, online classes, online shopping and virtual meetings, all of these demand high speed of internet. Somehow, covid gave telecom and Internet service providers more business opportunity, Which exponentially increased the demand of FTTH (Fiber To The Home).

Recently Indian Government also allowed 5G projects in India. 5G has a huge potential for value creation in India as the pace of digitization is accelerating. Various IoT and enterprise usecases, smart home, factory and public safety use cases will spur LTE, 5G growth and data usage further.

With fibre infrastructure connecting only 30% of India's telecom towers, this number has to multiply fast enough for a successful roll-out across India. We need to boost fiberisation in India.

To deliver IoT solutions that can adequately cater diversified customer needs, leading telecommunication operators have launched IoT platforms that will integrate data seamlessly and connect billions of devices. Such platforms are poised to fulfil IoT's requirements backed by a secure, low latency

high-speed internet. 'Neighbourhoods of connectivity' irrespective of our geo location will drive the future consumer needs.

In this exhibition, we will showcase all our splicing machines & OTDRs which are best in class for optical fiber applications. Fujikura 88S+, Fujikura 66S+, Fujikura 48S+, Fujikura38S+, Fujikura 28S+, AQ1000, AQ1210Series Otdrs are available for demonstration and testing.

## SOMEHOW, COVID GAVE TELECOM AND INTERNET SERVICE PROVIDERS MORE BUSINESS OPPORTUNITY, WHICH EXPONENTIALLY INCREASED THE DEMAND OF FTTH (FIBER TO THE HOME)





## EXHIBITOR CORNER

# Transforming how the world uses data to drive business

Quantum technology, software, and services provide the solutions that today's organizations need to make video and other unstructured data smarter – so their data works for them and not the other way around. With over 40 years of innovation, Quantum's end-to-end platform is uniquely equipped to orchestrate, protect, and enrich data across its lifecycle, providing enhanced intelligence and actionable insights. Leading organizations in cloud services, entertainment, government, research, education, transportation, and enterprise IT trust Quantum to bring their data to life, because data makes life better, safer, and smarter.

Quantum recently announced its latest innovations to protect against ransomware and other forms of cyberattacks. Quantum's Scalar® Ransom Block is an industry-first feature of Quantum's Scalar tape systems that eliminates the risk of data being accessed or compromised over the network. This patentpending feature creates a hardware "block" between data stored on tapes and every network-connected device including the robotic tape system.

Quantum also announced the availability of an update to the Quantum VS-HCI Series Acuity software platform, which was recently acquired from Pivot3. The 10.9 version of the Acuity software platform addresses the

system-level availability, health, maintenance, and performance needs of organizations where video is mission-critical in delivering the highest levels of safety and security. This update extends the features of the VS-HCI Series built-in Intelligence Engine, which is at the core of the Quantum Acuity software platform and comprises many automated system management capabilities including performance optimization, advanced video data protection, system health monitoring and analytics, and auto-healing. Acuity 10.9 also delivers additional simplicity and automation, provides 24 x 7 system up-time in video surveillance environments and enables customers to automate end-to-end system and data life-cycle management. All these enhanced capabilities deliver even lower total cost of ownership for

video surveillance implementations of all sizes.

### Showcase at the Expo

Media and Entertainment

- CatDV Asset Management Platform
- Quantum StorNext

Smart City and Buildings

- USP (Unified Surveillance platform)
- ADAS (Advanced Driver-Assistance Systems)

### Your difference is in your data

At Quantum, we believe it's time to shift how the world thinks about data. No longer is it just accumulated and stored. Data is now enhanced and rich with information about your business and it's gaining value at every turn. That's why you need a secure, end-to-end solution that allows you to manage and preserve your data for decades, to easily extract insights from it – whether it lives in your workplace, at the edge, or in the cloud. That's what we do. We provide organizations with the software and services to manage and enrich data, including the most complex unstructured data and video files. And when you enrich it, data delivers the insights you need to drive your business forward—faster than ever before.





## EXHIBITOR CORNER

# Launch of DD India Channel on YuppTV OTT PLATFORM Worldwide



In pursuance of its vision to expand the global reach of DD India channel, to put forth India's perspective on various international developments on global platforms and to showcase India's culture and values to the world, India's public broadcaster Prasar Bharati has signed a Memorandum of Understanding with 'Yupp TV', an over-the-top (OTT) platform, which is a gateway for television viewers across the globe.

With this, DD India is now available on the OTT platform of Yupp TV in the USA, UK, Europe, Middle East, Singapore, Australia and New Zealand.

DD India, Prasar Bharati's international channel, is India's window to the world. The channel through its various programmes offers international viewers India's perspective on all domestic and global developments. Available in

more than 190 countries, DD India also acts as a bridge between India and the Indian diaspora spread across the world.

DD India has established itself as a global influencer on India related issues through its sharp analysis and commentary, thought provoking views and opinions and cutting edge visual presentation. One of the popular shows based on in-depth analysis and research is Bio-Quest. This series deals with the origin of COVID-19, Vaccine development and other scientific discoveries related to COVID. Some of the other high viewership shows are India Ideas, World Today, Indian Diplomacy, DD Dialogue, News Night, etc.

Through YuppTV, one can watch live TV anytime anywhere in the world. Yupp TV has made Indian TV channels easily and cost effectively available across the globe.

The content hosting agreement was signed

by Prasar Bharati CEO Shashi Shekhar Vempati and Yupp TV Founder and CEO Uday Reddy.

### About YuppTV

YuppTV, a pioneer and one of the World's largest online Over-the-top (OTT) entertainment solutions provider has made the consumer witness the renaissance in TV watching experience. Making the best use of technology growth and advancement, YuppTV enables its consumers to experience the convenience of virtual home entertainment anytime, anywhere.

YuppTV has a worldwide reach of its Live TV, Catch-up TV, TV SHOWS, Movies and much more video content through a powerful engine built for propagating the video content through six screens namely - Connected TVs, Internet STBs, Smart Blu-ray Player, PCs, Smart Phones and Tablets.

## WITH THIS, DD INDIA IS NOW AVAILABLE ON THE YUPP TV OTT PLATFORM IN THE USA, UK, EUROPE, MIDDLE EAST, SINGAPORE, AUSTRALIA AND NEW ZEALAND



## Skyline Communications gets ready with new DataMiner solutions

### EDITORIAL



### Naveendran Murthy

Key Account Manager, Skyline Communications

Skyline Communications, the world's leading provider of end-to-end vendor- and domain-agnostic digital transformation platforms, is rolling out a wealth of new DataMiner solutions. These will enable operators within the ICT media and broadband industry to increase their value proposition in a new data-driven and cloudified future.

The key ingredients for this new generation of DataMiner solutions are collaboration, cloud, artificial intelligence, orchestration, and process automation. Moreover, all these features are built on a sophisticated data acquisition and control plane. This fundamental layer ensures that you can easily integrate with new data sources and products at any point in time, and

that you can do this in a scalable manner, without any impact on the entire software stack on top.

"While there's a lot to be said about the very exciting features and capabilities of each of these solutions individually, the real power and value comes when you combine them. Each solution amplifies the value of the others because of the way they have been integrated by design," commented Ben Vandenberghe, CEO at Skyline Communications. "This mirrors the transformation we see in the world around us, where there is also a culmination of various individual technology innovations."

#### The need for innovation

Like many other industries, the media and broadband industry is constantly evolving because of changing business models, changing working habits, changing consumer behavior and expectations, and, of course, changing technologies. However, these new, transformational technologies aren't only part of the solution, they also pose many new challenges to data-driven businesses.

"The redefining nature of the technology evolutions emerging across the industry over the past years made it clear that our users would soon be facing an entirely new set of challenges, and they would crave innovative solutions to deal with this," continued Ben Vandenberghe. "Just look at the ever-growing underlying complexity of an operation, the indispensable need to continuously evolve workflows, the far more distributed makeup of a typical operation, the ever-increasing risks related to cyber security, and the strategic need to run an operation across multiple cloud platforms and technology domains."

That's why, for several years now, Skyline has been meticulously designing and developing the foundations for some very ambitious innovations that can ensure DataMiner users will deliver exceptional ICT media and broadband services to their customers. "These innovations will truly redefine how our users manage their next-gen operation end to end, straight across all vendor, domain and technology boundaries, and across resources on the ground and in the cloud," according to Ben Vandenberghe.

#### Transformation through innovation

Over the past years, Skyline has earned a strong reputation of being innovative. And now, as a culmination of all these efforts, the company can boast a truly transformational platform. Out of the box and by design, DataMiner addresses key challenges, such as security, complexity, and multi-cloud architecture. At the same time, it also provides a pronounced open architecture with powerful enabling capabilities that empower users to evolve easily and continuously. "In that sense, DataMiner has become one of the most valuable strategic assets for our users, as it enables them to tap into the full potential of all the other underlying transformational technologies, such as cloud, virtualized products, all-IP, and much more," concluded Ben.

#### DataMiner Data Acquisition & Control Layer

Any data-driven operation relies on a unified data acquisition and control

## NEW GENERATION OF DATAMINER SOLUTIONS REQUIRE COLLABORATION, CLOUD, ARTIFICIAL INTELLIGENCE, ORCHESTRATION, AND PROCESS AUTOMATION TO WORK EFFECTIVELY



plane that empowers users to integrate with new data sources easily and quickly. DataMiner is unrivaled in this respect, supporting any type of data or interface, including both standard and proprietary protocols, structured and unstructured data, file indexing-based processing, streaming data and much more. All this is possible transparently across on-premises and cloud infrastructure. The open-source model, the accompanying professional Integrated Development Environment (IDE) based on Visual Studio, and the CI/CD capabilities make it a perfect fit to establish a powerful and unified DevOps data engineering operation. DataMiner is also the only solution in the industry where the data integration results in a real-time, fully standardized and secured digital twin of the entire operation, a vital asset for mission-critical operations. Once a data source has been integrated in the digital twin, it can be easily leveraged with maximum convenience throughout the entire DataMiner System and even beyond, with third-party apps.

### DataMiner Cloud Platform

With the public DataMiner Cloud Platform, a new cornerstone of the DataMiner ecosystem, Skyline offers its users all the common cloud advantages, including ultimate convenience, powerful off-the-shelf capabilities and integrations, and of course also on-demand use and continuous scaling. However, users are completely free to choose whether they deploy DataMiner on the ground or in the cloud, or in a tailored hybrid fashion, without having to make any compromises with respect to features and capabilities. This results in a unique, innovative proposition compared to the limited options typically offered in the industry in general.

### DataMiner Collaboration

In an ever more distributed operational context with agile teams, valuable operational data must be integrated seamlessly with everyday human collaboration workflows. By design, DataMiner offers unprecedented novel ways to achieve this, in a secure and scalable manner. Irrespective of where the data originated from, once it is plugged into the DataMiner digital twin, users have it available at their fingertips. They can not only access the data in

common collaboration tools such as Microsoft Teams, but can also instantly share it with anybody via visually appealing real-time updated dashboards or for example through tailored webhooks.

### DataMiner Orchestration

In a context of continuous evolution and on-demand utilization of resources, to establish a next-gen operation you need sophisticated orchestration with full awareness of availability, capabilities and capacity of resources. DataMiner offers its users an open-architecture orchestration and automation solution that goes beyond anything else available in the industry. The solution enables the conversion of any third-party technology into standard functions, resulting in powerful virtualization that cuts across any vendor, technology, and domain boundaries, from the ground to the cloud, and across different cloud providers.

### DataMiner Process Automation

To successfully achieve Digital Transformation objectives, it is essential to be able to automate processes end to end and to monitor and evolve them continuously. Just like for orchestration, here too DataMiner offers its users a completely open-architecture solution in line with BPMN and with unrivaled capabilities, supporting both technology and human-oriented activities. The latter provides a unique opportunity for users to bring their automation to the next level, transparently cutting across the entire operation.

### DataMiner Augmented Operation

In a data-driven world, AI plays a key role to ensure that the overabundance of operational data can be leveraged to the fullest extent. Out of the box, DataMiner Augmented Operation provides capabilities that automatically take any data plugged into the digital twin into account, irrespective of where the data originates from. Today, DataMiner Augmented Operation already includes powerful metric forecasting, anomaly detection, proactive alarming, alarm filtering, incident identification, automated data tagging and much more. It heralds a new generation of intelligent operational management platforms, which drastically reduce operational costs and enable users to manage their operation in a far more proactive manner.



## PRODUCT HIGHLIGHTS

### Rectus India - Empowered by Innovation

**W**e are a team of qualified professionals with extensive industry exposure that brings to you a mix of youth and decade old experience, to take care of your enterprise-wide networking, security, and data communication requirements. We strive to bring you the best-of-the-breed technology solutions at affordable price points thereby adding value to your business. Our specialty is in designing network solutions to meet your unique business requirements through a consultative approach to problem-solving. We constantly refine our business processes to maximize ROI for our clients.

Our portfolio of solution offerings includes information security, storage, networking, Wireless/Wi-Fi, Visualization/Cloud Computing, Computer accessories, and Rental services. We source superior technology products from some of the most reputed brands in the world at competitive prices and bring to you, an unparalleled support service giving you comprehensive information management solutions and services.

Since Wi-Fi transmits over the airwaves, it's of course much more susceptible to interference than the wired network. There can be interference from your network or neighbor's, non-Wi-Fi wireless devices, microwaves, and even radar systems in long-distance, hi-bandwidth PTP currently no solutions are available in the hi-interference area.

We are interdicting a combination of ALG & Mimosa for the hi-interference area. Using this combination, we can deliver PTP, PTMP, Short or long links with hi-bandwidth. Using these combinations, customers can buildup 5GHz strong links. Looking for 1KM to 80KM PTP link?

Searching solutions for a hi-interference area such as airport, big city, etc.? PTMP in hi-interference area? There are many questions in the customer's mind. Now we have all answers with value for money solutions.

We are launching ALG UHP-5800-30-06-DP WITH MIMOSA B5x, 5GHz PTP, ALG UHPX-5800-30-6-DP with MIMOSA C5c, ALG PS-10900-37-09-DP-UHP EXP MIMO - MICROWAVE Antenna, ALG- FN-2400-15-SNMP- DC UPS for links, FG-185T fusion splicing unit, with touch screen & OTDR FG-650M in the trade show. We are displaying products of Fibergate, Mimosa, ALG, Mikrotik showcased at the expo.

**Fibergate:** Fibergate is a leading manufacturer of various products of information

and communication solutions for optical communication technology, fiber optic cable assemblies, fiber optic cables, tools, test and measurement consumables, accessories, and related products. Our team is a group of senior level talented individuals, who strive to make a difference. We are dedicated to developing new technologies for future applications.

Currently, the company's main business scope includes GPON, EPON, ONU, ONT, OLT, EDFA, DWDM, switches, IPTV, Fiber Optic Tools & Test Equipment, Fiber Splicer, Fiber Patch Cords, passive devices, and other products that are widely used in Broadband, radio, and television cable network, triple play, and safe urban security, road facilities, airports, ports, Securities industry, tourism scenic area, school education industry, public security law and politics, medical and health, intelligent community and large and medium-sized enterprises, etc.

**Mimosa:** Mimosa Networks is a technology company that specializes in hybrid fiber-wireless fixed access broadband solutions. It develops antennas, accessories, and PTP and

PTMP hardware products as well as Mimosa Management Platform - cloud monitoring software for on-premises and

private deployments. The company provides services for rural area households, cable operators, utility providers and co-ops, security organizations, and farms.

**ALGcom:** ALGcom has been present in the market since 2003 when it began to work in the telecommunications consulting and services segment. In 2007, the company expanded its area of activity by conducting indoor cellular coverage projects for the main cellular operators in the United States. In 2008 the company underwent transformations, beginning to work with the manufacture of antennas and accessories for telecommunications. With 100% national technology and production, ALGcom is dedicated to innovation, research, and development offering to the market national high-performance products.

**MikroTik:** MikroTik is a Latvian company that was founded in 1996 to develop routers and wireless ISP systems. MikroTik now provides hardware and software for Internet connectivity in most countries around the world. Our experience in using industry-standard PC hardware and complete routing systems allowed us in 1997 to create the RouterOS software system that provides extensive stability, controls, and flexibility for all kinds of data interfaces and routing. In 2002 we decided to make our hardware, and the RouterBOARD brand was born. We have resellers in most parts of the world, and customers in probably every country on the planet.

### OUR PORTFOLIO OF SOLUTION OFFERINGS INCLUDES INFORMATION SECURITY, STORAGE, NETWORKING, WIRELESS/WI-FI, VISUALIZATION/ CLOUD COMPUTING, COMPUTER ACCESSORIES, AND RENTAL SERVICES







## PRODUCT HIGHLIGHTS

# PPC Broadband – Active Solutions for FTTH

**P**PC is proud to return to the Convergence India Show in 2022. Visit us in stall 5.219 to see a full display of our comprehensive solutions for fiber-to-the-home (FTTH) applications. As a true end-to-end solutions provider, PPC offers a range of optical products that enable signal transmission from the central office through the outside plant to the customer premises. At this year's show we are displaying our active product solutions alongside our passive product portfolio. See Our Display – Stall 5.219

### Active Products Display

The PPC Broadband exhibit will feature three core active product displays:

### Optical Line Terminals (OLT) and Optical Network Terminal (ONT)

A GPON network consists of two main active transmission equipment types – namely, Optical Line Terminals (OLT) and Optical

Network Units (ONU) or Optical Network Terminals (ONT).

An OLT provides aggregation and switching functionality between the core network and PON interfaces. It offers PON interfaces towards ONU/ONTs and service interfaces towards the core network. The interfaces towards ONU/ONTs are called PON interfaces and the interfaces towards core network are called Uplink Interfaces or System Network Interfaces (SNIs).

ONU and ONTs are the system blocks to provide access to users. The access node in FTTH architecture for network termination installed within a user premises is termed an ONT. Whereas the access nodes in FTTB/FTTC/FTTCab architectures, installed at locations such as Curb/Cabinet/MDU (or MTU) basement, are termed as ONU.

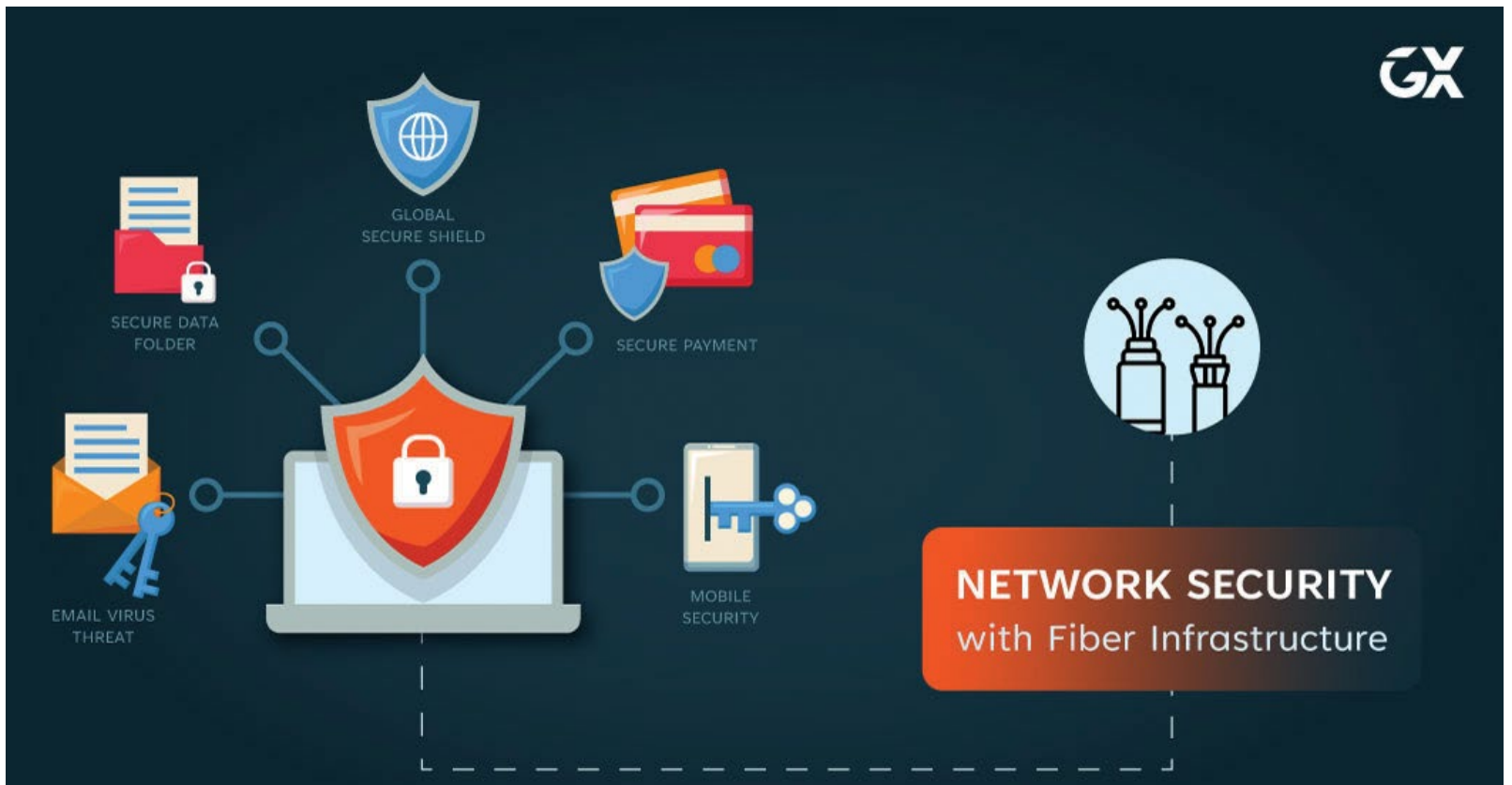
### Erbium Doped Fiber Amplifier (EDFA)

Erbium Doped Fibre Amplifier (EDFA) is an optical amplifier that is used to boost

optical signals carried through a fibre optic communications system. The power of a data transmitter may be boosted with a high-power EDFA before entering a long fibre span or a device with large losses, such as a fibre-optic splitter. It operates at 1550 wavelength which is in-line with the low-loss band of fibre, where telecom fibres have their loss minimum and its technology has been relatively mature and widely used. The core element of a fibre amplifier is a piece of fibre doped with a rare earth element, which can provide laser amplification via stimulated emission when it is optically pumped with other light injected into the fibre.

### A True Partner to Every Customer

PPC is a committed partner to our worldwide base of customers. Pairing the capabilities of our global manufacturing sites with the knowledge-base of our regional sales and customer support offices, we are able to equip and enable large-scale multiple system operators (MSOs), internet service providers (ISPs) and telco companies as well as regional operators, local operators, and public and private in-building providers. To learn more about our business, our solutions, and how we serve and support our customers, visit us in stand 5.219.



## Cyber security for users on networks

### INDUSTRY SPOTLIGHT



**Paritosh Prajapati**  
CEO  
GX Group

There are about 4 million malware that are detected every day and India is one of the most cyber attacked nations in the world. Major reason behind this is that India has one of the world's largest online devices with 1.15 billion phones and more than 700 million Internet users.

Cybersecurity is a global concern right now as entire market is preparing for digital environment effect, where by 2025 it is expected that there will be more than 30 billion Internet of Things (IoT) connections, almost 4 IoT devices per person on average and that amounts to trillions of sensors connecting and interacting on these devices. According to The McKinsey Global Institute, we have today 127 new devices connect to the internet every second.

Devices getting connected has a risk factor which is security and privacy, part of the digital evolution we also facing a major cyber attack risk on the business community.

International Cyber security forums have raised this topic to higher level as we are expecting to see even more of espionage and attacks on our digital systems. We as users are having multiple work transitions and with these changes, cyber criminals find ways to bypass these systems.

Although the industry is particularly vulnerable, increased cyber-attacks are noticeable in all sectors. The high price tag for digital intrusions is a direct reflection of the fact that cyber-attacks are now being used systematically for industrial espionage. The state supported cyber-attacks are also gradually becoming more advanced and we need to add more resources, not least to the national cyber security.

### What steps are taken in device world?

The Broadband Forum has put out its new User Services Platform (USP), a standard aimed at implementing, deploying, and managing devices in a broadband-enabled home network.

USP creates what it calls a unified, common

approach to securely deploy, manage, and control network-aware consumer electronics, including home and enterprise Wi-Fi, Internet of Things (IoT) and other emerging applications.

OEMs as us GX and other can with this support Service providers and consumer with USP standard product to perform lifecycle management of connected devices and carry out upgrades to address critical security updates. Record encapsulation for end-to-end integrity, security, and privacy improving global cyber security norms by creating a more standard platform.



**WE, AS USERS, ARE HAVING MULTIPLE WORK TRANSITIONS AND WITH THESE CHANGES, CYBER CRIMINALS FIND WAYS TO BYPASS THESE SYSTEMS**



## How IUDX can help create a better tomorrow?

### SPEAKER HIGHLIGHT



**Inder Gopal**  
Chief Executive Officer,  
India Urban Data  
Exchange, India

Indian smart cities, like other cities in the world, are sitting on a valuable new asset – data. This data, when used effectively, can improve the delivery of public services, decrease fraud and human error, and catalyze massive operational efficiencies. However, unlike traditional assets, this data is typically dispersed across departments and organizations. Departments often do not even know what data is available. Moreover, these data silos are stored in different formats making them hard to process. Security and privacy considerations also play a role in who can get access to the data. All these factors make it hard to use the data to improve digital governance and infrastructure.

This is where the India Urban Data Exchange (IUDX) comes in. IUDX makes it easy to locate pertinent data, provides the required security and privacy mechanism, and translates data into a common standard format. In the two years of its existence, IUDX has been instrumental in enabling a wide variety of data-driven applications within Indian cities that are targeted towards improving infrastructure and services to citizens. In Pune, we have enabled a citizen safety application, using data about street conditions, lighting, crowds, obtained through IUDX. In Surat, we have enabled an application that provides the accurate time of arrival and estimated occupancy for buses, using data on bus position, traffic conditions, and ticket sales available through IUDX. In Varanasi, data from garbage truck instrumentation, garbage bin sensors, citizen input, are pulled through IUDX to deliver a powerful application that optimizes solid waste pickup, reducing costs by 30% in the holy city. Agartala has benefitted immensely with a low-cost, yet extremely efficient IUDX based intelligent traffic management application. In Vadodara, IUDX has helped create an on-demand end-to-end resistance-free path for emergency assistance, eliminating chances of human error in the

process and also reducing the time and effort taken in creating a green corridor every time a need arises. We are already deployed in 15 smart cities across the country and more cities are being added every month.

IUDX is an open source software platform that facilitates secure, authenticated, and managed exchange of data amongst various data platforms, 3rd party authenticated and authorized applications, and other data sources, data producers, and consumers. It gives our smart cities an opportunity to step up and take control of their vast data resources, enabling improved function of their own departments as well as creating new sources of revenue. Not only this, the exchange of data will pave way for the creation of innovative solutions that would make our cities and eventually our country more inclusive and help it grow sustainably.

Within each of the cities, citizens and the community will benefit through the availability of better, more innovative, and cheaper applications and services. The cities themselves will benefit from the reduced development cost and faster development times enabled by a standard platform,

as private apartment complexes) will have a new opportunity to share and monetize their assets. Academic institutions and research labs will be able to conduct more meaningful research by having direct access to a wide variety of data. The initiative will also provide enhanced citizen and government engagement and promote a connected citizen experience. As the ultimate beneficiaries, citizens will see improved infrastructure, efficient public utilities, and new economic development activities.

While IUDX was created with a purpose to make our smart cities truly smart, the concepts that underlie IUDX can be easily adapted to other sectors such as Agriculture, Logistics, and Health. In each of these sectors, there is a requirement for data exchange. The Ministry of Electronics and IT (MeitY) has identified data exchange as a core component of the India Ecosystem Architecture 2.0 (IndEA 2.0). We believe a suitably modified version of IUDX can play a major role in these strategic sectors, creating broader benefit for the country.

The widespread use of the IUDX platform will dramatically enhance the power of new data-driven services available to citizens and administrators, and also increase the speed at which these can be created. The collateral benefit on the broader public and private sector ecosystems will be equally significant. As city administrators and private companies see the value of sharing their data, it is expected

## IUDX MAKES IT EASY TO LOCATE PERTINENT DATA, PROVIDES THE REQUIRED SECURITY AND PRIVACY MECHANISM, AND TRANSLATES DATA INTO A COMMON STANDARD FORMAT

together with the ability to choose vendors freely and avoid vendor lock-in. They will see a new source of revenue through the unlocking of data assets and will unleash innovation from entrepreneurs and the community, without any cost to themselves. The industry will benefit enormously through the improved ability to find skills and rapidly ramp up projects. They will also see reduced development expenses enabled by a standardized and opensource platform, and be able to focus on innovation and differentiated value rather than design basic platform software. Start-ups, in particular, will benefit from the decrease in heterogeneity IUDX provides. Third-party sources of data (such

to create a virtuous cycle - more data will be collected and shared, which will enable new services to enhance the value of data collected, and so on.

In addition, the burden on governmental resources will be reduced as private companies see the advantage of participating in this data ecosystem. Instead of waiting for governmental action to address issues, the culture will shift to self-empowerment where private companies and even individuals will use ingenuity to create data-driven solutions from IUDX-obtained data, without complicated procedures and approvals. The ultimate beneficiary of all these developments will be the urban Indian citizen and the quality of life in our cities.



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