

# EXPO NEWS



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

27 MARCH 2023

DAY 1



## NITIN GADKARI

Union Minister for Road Transport & Highways  
Government of India

**A**n integrated and robust transport infrastructure has the potential to create an environment conducive to economic growth. The landmark Gati Shakti project will be a game changer in this direction. It is a digital platform that aims to bring 16 union ministers and the state governments, including railways and the roadways, together to achieve integrated planning and coordinated implementation of infrastructural projects. Infrastructure schemes like BHARATMALA, SAGARMALA, inland waterways, dry or land ports, UDAN, etc. and the economic zones comprising textile clusters, pharmaceutical clusters, defence corridors, electronic parks, industrial corridors, fishing clusters, Agri-zones, etc. will be covered to improve connectivity and make India business more competitive. The multi-modal connectivity will deliver seamless movement of people, goods, and services from one mode of transport to another, facilitate the last-mile connectivity of infrastructure projects, and reduce travel time for people.

The government is using the Gati Shakti portal to spot infrastructure gaps in last and first mile connectivity. As a result, 196 projects have prioritised to plug gaps and increase port connectivity for the movement of goods and

raw materials. The Ministry of Road Transport and Highways is already on 27 greenfield projects of around 10,000 kms and they will cost around ₹4.25 lakh crores. Additionally, work on the multi-modal logistics parks has gained momentum with tenders awarded for two MMLP projects – at Bangalore and Chennai. MMLP at JOGIGHOPA in Assam is already in final stage of completion.

The National Master Plan will transform the way India plans the major infrastructure projects and will drive economic development, even in far flung parts of the country that were inaccessible. As manufacturing capacities increase, it will lead to the modernisation of ancillary services such as warehousing, digitisation of processes, reduction in logistics cost, enable ease of doing business, and boost and attract more investment into India. Population residing in areas where such projects are developing will also benefit. In addition to job creation, power infrastructure and transport connectivity will increase, and new townships will come up.

I am pleased to know that the Smart Cities Mission, Ministry of Housing and Urban Affairs, India Trade Promotion Organisation (ITPO) and Exhibitions India Group are organising India's leading technology and infrastructure expo- the 30<sup>th</sup> Convergence India expo and the 8<sup>th</sup> Smart Cities India expo from 27-29 March, 2023, at Pragati Maidan, New Delhi.

I appreciate the organisers efforts in bringing innovators, government bodies, policymakers, stakeholders, sector players and entrepreneurs from across the globe on a common platform to share and exchange their views on the challenges as well as the opportunities for transforming Indian infrastructure sector.



## Anurag Singh Thakur

Hon'ble Minister  
Ministry of Information & Broadcasting and  
Sports & Youth Affairs  
Government of India

**I**t gives me immense pleasure to learn that Exhibitions India Private Limited, Smart Cities Mission under Ministry of Housing and Urban Affairs and India Trade Promotion Organisation (ITPO) under Ministry of Commerce are organizing the 30<sup>th</sup> Convergence India and 8<sup>th</sup> Smart Cities India 2023 Expo at Pragati Maidan, New Delhi between 27<sup>th</sup> March and 29<sup>th</sup> March, 2023.

Over the years, Convergence India has played an important role

towards nation building by supporting Government initiatives. I am confident that the hard work and dedication of the entire team of the Exhibitions India, Smart Cities Mission and ITPO will make these forthcoming exhibitions a grand success.

I extend my good wishes to the Smart Cities Mission, Ministry of Housing and Urban Affairs, India Trade Promotion Organization, Ministry of Commerce and Exhibitions India Group for organizing these exhibitions.



## Bhanu Pratap Singh Verma

Hon'ble Minister of State  
Ministry of Micro Small  
& Medium Enterprises  
Government of India

**I** am very glad to learn that the Smart Cities Mission, Ministry of Housing & Urban Affairs, India Trade Promotion Organisation (ITPO) and Exhibitions India Group are organizing the 30<sup>th</sup> Convergence India and the 8<sup>th</sup> Smart Cities India expo from 27<sup>th</sup>-29<sup>th</sup> March 2023 at Pragati Maidan, New Delhi.

As we know, technological innovation and digitisation are vital for small and medium-sized businesses to sustain their business. The expo will serve as an ideal platform for their growth and development.

I would like to extend my wishes to the organisers. I wish the event all success.



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**Krishan Pal Gurjar**

Minister of State  
Ministry of Power & Heavy Industries  
Government of India

**P**ower is among the most critical component of infrastructure it is not only crucial for the economic growth, but also important for improving the quality of life and welfare of the nation. India's power sectors is one of the most diversified sectors in the world. There is a wide range of sources for power generation such as coal, lignite, natural gas, oil, hydro and nuclear power under conventional sources, whereas wind, solar, agricultural and domestic waste under non-conventional sources. Development of conventional forms of energy to meet the growing energy needs of society at a reasonable cost is the responsibility of the Government. The existence of adequate infrastructure is also essential for sustained growth of the Indian economy.

The Indian power sector has undergone significant changes that has redefined the industry outlook. Sustained economic growth continues

to drive electricity demand in India. The Government of India's focus on attaining 'Power for all' has accelerated capacity addition in the country. At the same time, the competitive intensity is increasing at both the market and supply sides (fuel, logistics, finances, and manpower).

India has made some significant progress on the energy front. From ranking sixth among the list of countries to make significant investment in clean energy at US\$ 90 billion, to India being the only country among the G20 nations that is on track to achieve the targets under the Paris Agreement, the progress has been highly commendable. Total FDI inflow in the power sector reached US\$ 15.36 billion between April 2000 to June 2022, accounting for 3% of the total FDI inflow in India. By 2022, the solar energy contributed 114 GW, followed by 67 GW from wind power and 15 GW from biomass and hydropower and the target for renewable energy has been increased to 227 GW by 2023. Perceiving from the glimpse of the achievements, there is huge potential for further growth.

I am delighted to know that India Trade Promotion Organisation (ITPO) and Exhibitions India Group (EIG) are co-organising the 30 Convergence India and 8 Smart Cities India 2023 expo from 27-29 March at Pragati Maidan, New Delhi. The expo will create a bridge between the government sector and the private sector to jointly contribute towards writing the story of India's growth.

My best wishes to the organisers for a successful event!



**Bhagwanth Khuba**

Hon'ble Minister of State  
Ministry of New & Renewable Energy  
and Chemical & Fertilizers  
Government of India

**I**ndia, today is one of the world's most attractive renewable energy markets. India's renewable power capacity is the 4th largest in the world, standing at 136 GW (Nov 2020), which is 36% of its total power capacity. India's ranking is due to the strong focus of the government on renewable energy as well as appropriate execution of renewable energy projects.

Energy is considered crucial to achieve India's development ambitions, to support an expanding economy, to bring electricity to rural areas, to fuel the demand for greater mobility and to develop the infrastructure needs of an increasing population. As India looks to meet its energy demand on its own, which is expected to reach 15,820 TWh by 2040, renewable energy is set to play an important role. By 2030, renewable sources are expected to help meet 50% of India's power needs. In order to achieve the renewable energy target, the government is running one of the largest renewable capacity expansion programmes in the world to increase the nation's renewable energy potential.

The Government of India wants to develop a 'green city' in every state of the country. Powered by renewable energy, the 'green city' will mainstream environment-friendly power through solar rooftop systems on all its houses, solar parks on the city's outskirts, waste to energy plants and electric mobility-enabled public transport systems. Given the urgent need to ensure energy security and self-reliance to meet India's growing electricity demand, the transition to clean energy will be market-driven. And in the long term, renewable, as the least-cost source of electricity, will win the race.

I am pleased to note that the Smart Cities Mission, Ministry of Housing & Urban Affairs, India Trade Promotion Organisation (ITPO) and the Exhibitions India Group are co-jointly organising the Smart Energy India/8th Smart Cities India expo and the 30th Convergence India expo from 27-29 March 2023 at Pragati Maidan, New Delhi. Core to the development of urban centres, especially smart cities have the ability to provide 24X7 power, which can be easily sourced through renewable power. As part of its commitment towards creating a cleaner future, the organisers are making commendable efforts in achieving the goals set by the government with active participations from the economy as a whole.

Finally, I wish the event to be a grand success.



**Dr. P. D. Vaghela**

Chairman  
Telecom Regulatory Authority of India

**I**n recent years, the digital market has undergone significant technological advancements, leading to the convergence of devices, services, and networks. This convergence is driven by various factors such as the efficient utilization of resources, increased competition, innovative user applications, and technological developments. The use of digital technologies across various sectors has further intensified this convergence, paving the way for the Fourth Industrial Revolution (Industry 4.0). This convergence has brought numerous benefits to stakeholders in all realms, including urban governance and delivery of services to urban citizens in smart cities.

Smart cities, through the use of advanced technologies such as the Internet of Things (IoT), Artificial Intelligence, and others, have demonstrated the ability to enhance the quality of life for citizens, improve the efficiency of urban services, and reduce the environmental impact of the city. Use of IoT sensors, data analysis, and smart infrastructure in smart cities is leading to faster delivery services to the citizens, optimization of traffic flow, reduction in energy consumption, better waste disposal management, water distribution, improvement of public safety etc.

I am pleased to know that the 30th Convergence India & the 8th Smart Cities India 2023 expo is being organized from 27-29 March, 2023 in New Delhi by the Smart Cities Mission, Ministry of Housing & Urban Affairs, India Trade Promotion Organization (ITPO) and Exhibitions India Group. The expo will provide an excellent platform to highlight the role of digital technologies in our daily lives and identify the ICT Infrastructure needed to realise the vision of the Smart Cities Mission in India.

My best wishes to the organizers for a successful event.



## IN CONVERSATION



### Chandrika Behl

Managing Director, Exhibitions India Group - organiser of the 30<sup>th</sup> Convergence India & 8<sup>th</sup> Smart Cities India 2023 expo.

## The Convergence India expo is in its 30th year, which is a landmark achievement. What are some of the highlights of this journey?

In 1992, when Convergence India was launched by Mr. Prem Behl, as Communications India at the time, the Information & Communication Technology and Telecom sectors in the country were at a nascent stage. Since then, technological advancements have changed the manufacturing landscape across industries, boosted efficiencies, and attracted large-scale investments. And Convergence India has been leading the digital revolution from the forefront. During this journey, we have provided an international platform for Indian industry to grow, contribute towards nation-building, and emerge as a global leader.

Over the years, the expo has both been shaped by India's vision of creating a self-sustainable economy through initiatives such as Make in India, Digital India, and the Smart Cities Mission, and, equally, the expo has also helped mould the 'Digital and Smart India' that we aim to create today.

This year, Convergence India is celebrating a milestone that highlights its decades-long journey of fostering partnerships between India and the world. Through its history, Convergence India has showcased breakthrough technologies, innovations, trends and best practices. During this journey, the expo has been the launchpad for many domestic companies, including start-ups, some of which have consolidated their position in the industry to emerge as Unicorns, global players

and influencers.

Today, the expo is a hub for future technologies, innovation and everything that's 'smart and sustainable.' As we celebrate 30 glorious years, Convergence India has become synonymous with 'Brand India,' while leveraging Industry 4.0 to build a 'Digital and Smart India.'

The 2023 edition of the expo will see 1,000 participants from 35 countries, including 200 start-ups from across India, all of whom will bring together the entire ecosystem to congregate at Pragati Maidan to explore new business opportunities, forge partnerships, explore the latest innovations and expand into new markets. A series of high-level conferences will see 150 senior speakers from government and industry share their expertise and perspectives on the opportunities and challenges facing India as we race towards a \$5 trillion economy. Meanwhile, over 50,000 visitors will get a chance to interact, explore and forge alliances in one of the fastest-growing markets in the world.

This platform has achieved a milestone such as its thirty year anniversary by remaining relevant and changing with the times, but always staying true to its ethos of providing a platform that showcases 'Brand India' and ensures value creation and opportunity for all our participants. Ensuring that this value remains paramount has enabled us to emerge stronger with each passing year.

## How has the Smart Cities India expo evolved over the years?

The Government of India unveiled the Smart Cities Mission (SCM) in 2015 to fulfil its vision of creating sustainable and modern cities across the country. Inspired by the Mission, the Smart Cities India expo was launched soon after and has consistently evolved to focus on the targets and achievements of the Smart Cities Mission. We believe that smart cities are the future of India and are key to realising the dream of millions of Indians who wish to lead a life of quality and dignity.

Over the years, the Smart Cities India expo has emerged as a unique platform that brings together the major components that create a smart city, including waste & water management, water conservation, sustainable & green building technology, clean transport, urban mobility, clean & renewable energy, sanitation, and much more. The expo provides an excellent opportunity for the associated sectors to network with each other and expand business opportunities, build new relationships, explore the latest technologies, and reach out to experts and mentors.

The City Leaders Conclave allows visitors and participants to hear directly

from city leaders about the challenges and solutions deployed to address a variety of challenges faced across the country. Meanwhile, technology solutions across the spectrum ensure that citizen services are deployed in real-time and as efficiently as possible. Similarly, a Smart Transport and EV Zone showcases the latest technological developments in the space and lays the groundwork for a sustainable mobility ecosystem in the country. The Smart Cities India Awards, meanwhile, are a unique platform that is designed to felicitate, recognise, and encourage individuals, policymakers, companies, municipalities, government bodies, and associations to showcase their work towards creating smart and sustainable solutions for their citizens.

## How is digital connectivity transforming the lives of ordinary citizens and businesses?

India is presently undergoing a digital revolution, which is directly impacting the lives of its citizens, creating unique opportunities, and opening up new markets for its entrepreneurs. Financial and digital inclusion are at the core of the Government of India's policies and initiatives. From securing rural connectivity to boosting the quality of services to creating smart cities in urban settings, IT & ICT solutions have emerged as the key enablers in this process. Landmark initiatives such as Jan Dhan-Aadhaar-Mobile (JAM) Trinity have transformed the concept of financial, social and economic inclusion in India; while Aadhaar, through its unique biometric identification, has given the poor and disadvantaged easy access to subsidies. Aadhaar has also emerged as a one-stop solution for all identification requirements.

Government departments and schemes have been interconnected and brought online to allow transparency in functioning. Dashboards and online public grievance cells now allow people to access various services and even file online complaints to seek redressal. Smart and digital solutions in areas such as healthcare and education are transforming these sectors. Initiatives such as Gati Shakti have revolutionised multi-modal connectivity by bringing together several ministries and departments on a single platform to speed up infrastructure projects across the country.

IT and ICT are also extremely relevant to the success of smart cities as they play a crucial role in the implementation of various schemes. The Convergence India and Smart Cities India expos have, over the years, created a platform that enables the perfect synergy between urban development and the technology and innovations that power it.

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## INDUSTRY SPOTLIGHT

# MediaTek: The 5G Rollout in India

**5G** connectivity has been given the epithet of a disruptor since the day the next generation of mobile connectivity was inceptioned. Preparations for the rollout of 5G in India began several years ago, with chipmakers like MediaTek unveiling a variety of 5G-ready chipsets in 2019, much before the launch of the disruptive service in October 2022. In the six months since, 5G has played an imperative role across industries, placing India firmly on the route towards 'Aatmanirbharta'. The rollout of 5G heralds a journey towards technological greatness and a new world of opportunities, owing to the high-performance network technologies and smart digital innovations that are expected across both consumer and enterprise segments.

### Optimal connectivity propelled by 5G

In the last six months, telecom operators in India have made 5G services available across 78 cities in India, ensuring that both industries and individuals have access to disruptive connectivity. This is expected to foster convergence in the telecom ecosystem and impact the lives of Indians across urban and rural areas. With the consistent efforts of telecoms, chipmakers and smartphone OEMs, 5G is predicted to trigger the expansion of a comprehensive connected ecosystem covering everything, from self-driving vehicles to smart grids, from self-operating smart-home appliances to AI-enabled robots on factory floors. The solution is also key to propelling the utility of the Internet of Things (IoT), Artificial Intelligence, Machine Learning and other innovative technologies, paving the path for a future-ready and resilient India.

### Opportunities for the youth

In addition to these remarkable innovations, 5G is also seen driving the demand for skilled talent, creating an array of job opportunities for the country's youth. A report released at the time of 5G's rollout in October stated that the launch of 5G services was expected to create a demand for almost 45,000 jobs, in just the next two quarters, with 80,000 5G-related hires having taken place between January and October 2022 in anticipation of the upcoming transition. It is also a tremendous opportunity for India's youth to



## MEDIATEK

upskill themselves and optimally leverage the potential of 5G, ensuring a positive future for both the workforce and the enterprises harnessing the power of 5G services.

Separately, the rollout of 5G has also prompted the opening of the floodgate of innovative research across different segments. Accordingly, India is now focusing on exploring new avenues in R&D, across potential segments, with a keen eye on core sectors such as smart home, automotive, entertainment, industrial IoT, Edge computing, Metaverse, and more. Not only will this put India firmly on the global technological map; but in time, it will enable the country to transform into a digitally empowered society and a knowledge economy.

### Empowering multiple industries

Turning to the enterprise-level use cases of 5G, the rampant growth of connected devices has unlocked a new era of opportunities and challenges for all ecosystem stakeholders, including

device makers and technology/component suppliers. The pandemic-fuelled demand for smartphones and smart devices has been further accelerated by the rollout of 5G, triggering an avalanche of consumer electronics in the Indian market. From doors to kitchen appliances, wearables to gaming gadgets, 5G is powering the future of technology one day at a time. In this evolution, the chipmakers have emerged as the key, as semiconductor companies explore unlocking the full potential of 5G, using components such as processors, modems and logic chips to enhance memory capacity and boost processing capabilities.

The rollout of 5G has also prompted widespread innovation across core industries such as manufacturing, agriculture, healthcare, logistics, education and start-ups, with the disruptive connectivity birthing innovation across the board. The extreme drop in latency and the magnificent speed are set to fuel never-before-seen use cases in India. As innovators and solution providers, the onus is now on us to ensure this technology does not lose steam. Therefore, it is essential to bridge the digital divide and focus on driving inclusivity in 5G in an attempt to further boost R&D, innovation and overall societal development. ■



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## Alankit Group: Leading the Personal Finance Mobile App Market

### INDUSTRY SPOTLIGHT



**Ankit Agarwal**  
Managing Director  
Alankit Group

In contemporary times, Fintech companies have undergone 360-degree revolutionary alterations and have given a new definition to efficiency in achieving targets that traditionally seemed like a dream.

Managing finances, business or personal, can become an overwhelming challenge. Currently, multiple financial management tools in the market refer to the software when catering to customer financial management. Migration towards the smart life has been observed where almost all the services are moving to a digital or app-based platform. The financial industry is no different, as the financial app is helping service providers to help users have a better grasp on their invested money.

According to Mr Ankit Agarwal, Alankit Group MD, "Data is the new-found oil with analysis as the combustion engine. Therefore, it is crucial to filter and analyse the unrefined and amalgamated data to gain valuable insights."

As per a data survey, the global market for personal finance apps amounts to \$1,024.35 million and is expected to

grow to \$1,576.86 million.

These personal finance apps accept a variety of financial data as input that can be used for multiple tasks such as managing bank records and tracking investments, budgets, and portfolios, to name a few. The increasing need to monitor and address consumers' incomes, as well as the explosive growth of mobile applications globally, are the primary factors driving the market growth.

"In contemporary times, Fintech companies have undergone 360-degree revolutionary alterations and given a new definition to efficiency in achieving targets that seemed like a dream traditionally. As a result, the sector has identified an opportunity and analysed data in order to provide tailored services that have the potential to alter the entire operational process significantly," asserts Ankit Agarwal.

As the use of personal finance apps grows in developing economies, these apps offer an abundance of high-quality data that can be used for analytics and artificial intelligence. In addition, artificial intelligence integration will lead to improvisation of services and further streamline the process. Furthermore, the industry is growing due to businesses focusing more on digitising their financial services and an upsurge in global Internet users. However,

the availability of open-source finance software, as well as security and compliance issues with personal finance software, limit industry growth.

Digitisation is one of the most widely used strategies in the financial services industry for refining core processing proficiencies and providing better client services and insights. Nonetheless, banks have increased their sales by putting an emphasis on digitising their financial services. Over 50% of the investments have been connected to online loans and payments. The banking industry's digitisation has facilitated faster application and disbursement processes for clients and businesses, as well as improved loan management decisions.

To summarise, the market for personal finance apps is growing as businesses place a greater emphasis on digitising their financial services to increase efficiency and produce better results. Personal finance apps, the financial industry, and proactive money management apps are becoming popular among app development companies, despite never being the focus of attention. Companies are now exploring the potential of artificial intelligence to create better platforms for managing personal finances. ■





# Artoon delivers Quality Gaming Solutions

## INDUSTRY SPOTLIGHT



**Naresh Khokhaneshiya**  
CEO  
Artoon Solutions Pvt. Ltd.

**A**rtoon Solutions Pvt. Ltd. is a Gujarat-based game development company with a mission to provide efficient game development services to the clients. The company aims to expand its ability to deliver quality gaming solutions to clients locally and globally. The company has expertise in:

- Real & virtual money multi-gaming platforms
- Skill & luck-based games
- Card & casino games
- Board & puzzle games
- Hyper-casual games, etc.

Apart from this, Artoon holds experience in website, web and mobile application development.

With the motto "Game Development is an Art", Artoon Solutions is constantly reinventing itself to provide perfect solutions to the clients.

### Innovations and launches

The gaming industry is ever-changing, and a game developer would have to transform rapidly to adapt to the evolving demands of gamers and potential clients. To maintain its position in the gaming industry, the company is developing several innovations.

- Developing multi-gaming platforms for clients in a way that every requirement is implemented into the platform
- Use of scalable architecture to achieve concurrent handling of thousands of users

- Application of frameworks that mainly pertain to multiplayer games
- Adopting 'Gameplay' that is integrable into any gaming platform.

Artoon has also adopted new technologies like Redis and TypeScript that could enhance game performance. All these changes have already given results such as readymade solutions for multi-gaming platforms, Rummy, Ludo, Callbreak, Pool, and more games. The company has also released a game titled 'Royal Pool' from its in-house gaming studio Artoon Games.

### Roadblocks and policy advocacy

Over the years, Artoon has faced challenges such as keeping pace with the latest technologies, adhering to changing government policies for online gaming in India, and the constant requirement for innovative games in the highly competitive industry.

With a changing regulatory environment and all eyes on the government's view on real-money games, Artoon is keen to tap into emerging opportunities while abiding by government guidelines. Particularly, the company strictly follows the GST laws of the country. The company offers clients readymade solutions, which can be further customised

based on the exact requirements of clients in compliance with the tax laws.

### Offerings and ideology

Artoon's inventory of multi-gaming platforms, including Rummy, Callbreak, Ludo, Pool, Carrom, Bingo, and many more games, are already popular among our customers. In recent times, the company has leveraged its experience working on multiple projects with big names like MPL, Winzo, A23, Jungle Games, Flipkart, etc. The company believes evolution is necessary to thrive in a competitive market where clients require the latest technologies to provide perfect solutions to their gaming audience.

Artoon is now focused on breaching the international market and being recognised as one of the best game developers globally. ■



## GX : Cementing India as a Hub for Global Digital Market

### IN CONVERSATION



**Sambit Swain**

Commercial Head, GX International Group

#### Tell us about the philosophy and vision of GX International Group?

The right to broadband or the freedom to connect is a critical service that everybody should have access to relish the freedom of expression and other fundamental human rights.

The fiber optic-based technology is something that will help to provide affordable, reliable and symmetrical speed options, where the quality of service and security is part of our vision. GX as a global leader has always focused on building high-quality products, and we continue enhancing the 'Quality of Service and Experience.'

As a technology-driven company, we also believe in open-source, and we recently opened one of our largest R&D centers for global development in Chennai, India.

Our vision is to create India as a hub for the global market by developing the software and manufacturing all our products in India. To achieve this vision, GX has secured investment under the prestigious PLI scheme of the Government of India. This will help us to scale up the export of our Made in India products to the European market.

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

GX is closely working with the broadband forum as one of the main contributors for the next-generation network technologies to design and develop innovations for the future. Our new product lines are based on open-source - openWRT, which is a platform for all end-user devices. Named "MayaOS", we have filed the IP rights in India for this product.

GX is also extending the Helix XGSPON product series, supporting the increased bandwidth demand for 5G backhauling and enterprise services. With a focus on the global market, we have released the new Moksha product line in India. As a result, we will be the first company to completely develop a product in this field in India.

#### According to you, what are the challenges being faced by the industry?

With several open-source platforms, GX is moving into more standard application programming interfaces (APIs). However, some vendors are not following global standardisation and building specific proprietary solutions. This is seen as a major risk for the big operators.

In Europe, operators have already started avoiding such vendors to prevent cyber attacks that can cause electrical blackouts, failure of military equipment, and breach in national security, resulting in the theft of valuable, sensitive data. They can also disrupt phone and computer networks or paralyse systems, making data unavailable.

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

Security is a critical area for GX, and we are working on the open-source platform along with the broadband forum and openWRT community. This will support the Internet service provider to integrate applications in a standard and open model, keeping the end-user and operators' security and quality of service in mind.

In today's connected world, there is an increasing risk of remote attacks and malware. This is a prime area for GX, which has been working extensively on the security side for the last three years and developed advanced functions for the European market to eliminate hidden backdoors.

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

The software segment has major security concerns today, where





## TECHNOLOGY IS PLAYING A CRUCIAL ROLE FOR THE FUTURE, WHERE EQUAL RIGHTS TO THE INTERNET WILL BE MORE IMPORTANT IN OUR DIGITAL SOCIETIES.

cybercrime cost makes up a value worth 1.2% of the global GDP, and continuously increasing. To control this, there should be a clear regulation on what type of software that is used in devices.

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

Our GPON portfolio will be in focus, with the new release of Moksha Wi-Fi 6 designed and developed in India. We will also be presenting our XGSPON portfolio, supporting the increasing demand for higher bandwidth and 5G backhauling.

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

Despite recent advances in telecommunications, many rural areas are

still under-served when it comes to broadband access. However, this is changing rapidly due to increased investment in infrastructure and the advancement of virtual reality applications.

In the coming time, rural areas will see a significant increase in broadband speeds, making it possible for residents to enjoy the same high-speed Internet service at par with urban India. In addition, the growth of the data center market will give a boost to telecom companies that offer cloud-based services.

As data centers become more widespread, they will offer more affordable and reliable service to rural customers. This will ensure that businesses in these areas can take advantage of the latest innovations in cloud computing. ■

## Jinko Solar: Creating Reliable Technology for the Solar Industry

### IN CONVERSATION



**Dhruv Sahni**  
Head of Marketing -  
South & Central Asia  
Jinko Solar

### Can you tell us about any recent innovations or advancements in Jinko Solar's solar module technology?

We continuously strive to improve our solar module technology to ensure greater efficiency and cost-effectiveness. One recent innovation is NType-TOPCon technology, which has increased efficiency and allows for mass production efficiency of our N-type TOPCon cell by up to 25%, and power output of the Tiger Neo panel by up to 630Wp. Additionally, we have introduced BIPV products that apply N-TOPCon technology and boost efficiency between 19-21% depending on light transmittance, making them ideal for building facades, atriums, terrace floors, and canopies.

We have also introduced a liquid cooling energy storage system that ensures the temperature difference of thousands of batteries enclosed in the cabinet within 2.5 degrees Celsius. This triples

the safety of our energy storage system, prolongs its lifespan, and increases discharging capability, which are the key challenges faced by current available ESSs.

### How does Jinko Solar ensure quality control and product reliability in its solar modules?

Quality control and product reliability are essential to the company, and we take several measures to ensure that. Firstly, we are a vertically-integrated organisation that maintains the most stringent QA & QC standards across the supply chain. Secondly, we use a 'smart factory' model that is copied in every facility. This highly automates and digitalises our operations to provide accuracy and consistency of quality. We also have a minimum of 54 steps of in-process quality monitoring and control and state-of-the-art testing labs at each factory. Lastly, we have an n-type grand alliance ecosystem to guide, audit and chase quality data of key suppliers via digital tools.

### How does Jinko Solar approach pricing and cost competitiveness in the solar module market?

We approach pricing and cost competitiveness in the solar module market through several methods. We are continuously advancing our technology to achieve higher efficiency. We also use a vertical integration model that encompassed

65 GW wafers, 55 GW cells, and 70 GW modules by the end of 2022. This provides us with a scale advantage. Additionally, we have a resilient, flexible, and diversified supply chain ecosystem via joint ventures, share exchanges, strategic alliances, and long-term supply agreements with key vendors. Lastly, we prioritise efficient operation and management.

### What are your thoughts on the current state of the solar industry, and where do you see it headed in the future?

The solar industry faces several challenges, including cost, land/transmission constraints, and energy intermittency. To address these challenges, we see a 100% transition towards a cost-competitive and higher efficient N-type to further lower costs. We also anticipate speedy deployment of highly efficient as well as cost-sensible BIPV to utilise facades and other non-used available space.

### Can you give us a brief overview of Jinko Solar's ESS solutions?

Our ESS solutions are designed with a focus on higher safety, higher energy density than competitors (3.44 MW), more charging and discharging capability, lower power consumption, longer lifetime, a preassembled modularised design that saves installation and commissioning time, lower LCOE, and O&M cost. ■

## IntuThings: Your Technology Partner for IoT Product Development

### INDUSTRY SPOTLIGHT



**Nilay Dhamania**  
Director, IntuThings

IntuThings, an Intuz Group company (est. 2008), is a leading IoT product development enterprise based out of India and the USA.

We have the deep technical expertise and domain experience in IoT product development and industry-specific smart IoT solutions. Our mission is to create IoT products that stand the test of time - based on the best and the latest technologies and tools.

IntuThings strongly believes that technology, when leveraged to meet people's needs and business objectives, enables long-term sustainable growth.

### IoT product development

IntuThings empowers OEMs and product manufacturers with IoT capabilities, giving businesses a unique value proposition for their clients. From product discovery and IoT prototype development to the commercial production of devices, IntuThings is your go-to technology partner for IoT product development, coupled with cloud-based web and mobile applications.

IoT application features, such as device monitoring, critical alerts and notifications capabilities, and quality control with smart analytics for predictive and preventive maintenance, enable businesses to execute their processes without downtime and improve after-sales services.

### IntuThings IoT platform for different use cases

The IntuThings platform allows businesses to build a custom IoT solution that can integrate various devices and sensors to monitor or control equipment. The platform is hardware agnostic, highly secure, scalable and modular, with many custom-built features that can be integrated depending on the application requirements. The platform helps to leverage IoT technology to improve business processes and ROI in a business's digital transformation journey.

The IntuThings IoT platform can fulfil use cases, such as smart air and water quality

monitoring, fluid level monitoring, smart generator monitoring, smart assets tracking, smart warehouse monitoring, smart fleet management, and smart inventory management. In addition, the smart energy solution leverages data to optimise energy consumption, reduce waste, and lower business expenses.

### Some IoT use cases built by IntuThings

#### Take your device telemetry data to cloud

The IntuThings IoT platform enables device manufacturers to collect and visualise telemetry data on the cloud. These real-time data will help in generating actionable insights for troubleshooting device anomalies while they are in use.

For the EV ecosystem, we can build customised solutions for EV OEMs and EV component OEMs such as Battery Management Systems (BMS), VCU, motors, and charging systems, allowing OEMs to gain insights into vehicle performance, energy consumption, charging behaviour, and more.

#### Smart water quality monitoring solution

The solution monitors water quality parameters like pH, TDS, turbidity, and more in real-time. It empowers industries, municipalities, and pollution control authorities to understand groundwater conditions, allowing them to take precautionary steps whenever an anomaly is detected. Effluents

discharged from various industries without proper water treatment and filtration plants also affect flora and fauna. A water quality monitor solution keeps such challenges at bay.

For fluid level and quality monitoring, the solution helps businesses manage quality control issues, reduce operational risks, and receive real-time alerts. It is an ideal solution for industries such as HVAC, chemical storage and manufacturing, oil & gas, food & beverages, and likewise others.

#### Smart air quality monitoring solution

Industries such as chemicals, pharma, construction, refinery, and fertilizers, discharge harmful gasses in their industrial processes that severely affect the health of people working in those areas. The smart air quality IoT solution enables plant heads to monitor such gasses within the factory premises for predictive and preventive maintenance, thereby avoiding fatal accidents. The solution not only reduces the operating costs of the industries but also improves employees' health and safety.

#### Smart generator monitoring solution

Frequent power cuts, voltage fluctuations, and other power losses affect regular business operations. Generators serve as a backup plan for getting an uninterrupted power source. However, many times it has been observed that either the generators do not have enough fuel or are under maintenance.

The IntuThings solution helps the plant heads track and monitor fuel consumption, load capacity available, and the power generated. Also, it helps in preventive and predictive maintenance by sending critical alerts and notifications allowing them to reduce the generator's downtime.

### How IntuThings IoT platform solves real-world problems for sustainable growth

IntuThings endeavours to leverage IoT technology for solving real-world problems. The IntuThings platform offers a user-friendly interface and advanced integration capabilities, along with the latest technical specifications, to provide the following:

- Quicker time-to-market
- Reduced development costs
- Unwavering security and scalability
- Swift and efficient development of IoT applications
- Customisability to meet a variety of specific needs and use cases. ■







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## Ishan Technologies: Creating Personalised Solutions for India

### IN CONVERSATION



### Pinkesh Kotecha

Chairman and MD, Ishan Technologies

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

By fostering seamless, inexpensive, and robust connections for all, and developing high-speed connectivity for every city and village, we believe in connecting the unconnected, creating a digitally inclusive nation, and bridging the digital divide between urban and rural India.

With a pan-India presence, our vision is to create tailored and personalised solutions. We strongly advocate against one-size fits all. Uniqueness is our DNA, and we strive to help businesses operate efficiently with our customised IT and Telecom solutions.

#### What are the innovations being developed by Ishan Group? Which technologies do you plan to display at the expo?

Yesterday's WAN technologies cannot cater to tomorrow's challenges. We now offer Software-defined Wide Area Network (SD-WAN) over the existing network, whose USPs are scalability (a mega-scalable software architecture), zero-touch provisioning, dynamic tunnelling of VPN paths, dynamic path selection, robustness, and live alerts and analytics.

We are an authorised partner and service provider to four cloud providers, i.e., Google, Amazon, Oracle and Microsoft Azure. Cloud

Interconnect establishes a dedicated network connection from customers' premises to one or more cloud providers through highly available, low-latency connectivity.

Ishan Technologies is connected to 17 data centres across India, where the client organisation can lease dedicated servers, storage and networking hardware from us. We manage the administration, monitoring and up-time of the specific resources. Ishan Technologies actively works as a connectivity partner between any Hyperscaler and Data Centre. The SD-WAN, data centres, and cloud interconnects enable a neutral fabric and empower us to provide seamless connectivity to all our customers.

In other developments, we now provide Hosted PBX, a cloud-based service that enables a virtual PBX phone system that delivers secure, reliable phone service for a business or organisation through an Internet connection.

We offer 'Hosted Contact Centre' services, a customer experience solution in which an organisation's inbound, outbound and voice-based self-service customer interactions are handled through Ishan's network environment. This hosted option offers the end customer a lower cost of ownership. Ishan Technologies is also ready to launch the 'Hosted VOIP Class 5 Softswitch', ideal for small and medium size IP telephony service providers. This service is useful for retail, and equally beneficial for carrier-grade service wholesale providers who want to avoid the hassle of maintaining and monitoring the Softswitch server.

The technologies that we plan to put on display at the event include Cloud Telephonic, hosted PBX, VoIP, point-to-point connectivity, Internet lease line, SD-WAN, content delivery network, and compressed internet lease line.

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

Some of the challenges faced by the industry include the dispute over the adjusted gross revenue (AGR), obtaining timely and standard Right of Way (RoW) guidelines for telecom businesses by the concerned authorities, and the lack of aerial RoW policy, due to which aerial rollout becomes a challenge.

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

In the future, Ishan aims to provide an enterprise-grade network as a service that can shield each individual system from external attacks. With the help of partner companies, we intend to provide safe connectivity dealing with the impacts triggered by cyber-attacks autonomously. After 15 years of service, we are present across major parts of India. Our focus is to provide affordable connectivity covering the length and breadth of India and create our fabric for customers to connect to.

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

It is our recommendation that AGR is waived-off on pure internet to boost internet usage in rural areas and the proliferation of broadband. This is one of the biggest challenges facing the telecom industry and needs urgent pursuant advocacy.

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

Faster, reliable, agile connectivity bundled with cloud and data centre. ■



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## Matrix Telecom: Investing in R&D to build Cutting-edge, World-class Products

### IN CONVERSATION



**Ganesh Jivani**

CEO, Matrix Comsec

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

Our mission is to build Matrix as a world-class security and telecom solutions and services company operating across the world.

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

Since the onset of the pandemic and the disruption so created, the industries have adapted to make themselves and society resilient from such future occurrences.

Matrix has since focused on contactless technologies like Face recognition for its Access Control and Time-Attendance. Similarly, Matrix IP Video Surveillance ensures your premises are centrally managed and under constant surveillance to ease manned security. The Mobility solutions under telecommunications helped during the 'Work from Home' culture.

By pushing these technologies, Matrix has adapted to the new changes brought about by the pandemic, thus helping the sector become resilient and future-ready.

#### What is the focus area for Matrix?

Matrix is driven by two prime movers: Cutting-edge products and market reach. With this

simple understanding, we are focusing on creating world-class products in all three domains. We are innovating and building cutting-edge, world-class products by investing in R&D. Simultaneously, we are building a channel network to expand market reach and take Matrix to all targeted markets by investing in marketing, sales, and support.

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

Video Surveillance and People Mobility Management markets are growing rapidly, and Matrix is a relatively new player with plenty of headroom to grow. Second, we are also introducing cutting-edge, well-differentiated new products this year. Third, we are expanding our channel network by appointing system integrators in all the important markets in India and overseas.

#### Can you elaborate on the technologies on display at the expo?

Matrix will be showcasing its complete innovation-driven range of Enterprise IP-PBXs, Unified Communication Server for Modern Enterprises, IP-PBX for SMB & SME, VoIP & GSM Gateways, and a new portfolio of IP & DKP Communication endpoints.

At the Convergence expo, Matrix will put forth a plethora of reliably feature-rich solutions, the bifurcated categories of which can be highlighted as:

**The SOHO Solutions:** By targeting the pain areas of minimal enterprises standing at the core of these tailored solutions, Matrix brings forth -

- **ETERNITY PENX** - The Highly Customisable IP-PBX Solution
- **ETERNITY NENX** - The SOHO IP-PBX Package
- **VISIONPRO** - The Digital PBX for Small Offices

Individually, these next-gen products answer every communication woe, any small office/home office might encounter. They are designed to be equipped with major benefits such as cost-effectiveness, telephony asset retention, remote work mobility, and many more.

**The IP Video Surveillance solutions:** These consist of server-based enterprise-grade NVRs, UL-listed cameras, Matrix VMS, and more. Focusing on customer challenges such as bandwidth utilisation, storage cost, managing multi-site offices, and reactive security, Matrix supplements all organisational needs.

On-display cameras will include the Matrix range of Turret, Dome, Bullet, and PTZ cameras.

Ranging from 2MP to 8MP, Matrix cameras are stamped with UL Certification, a global standard for safety, and NEMA Certification for protection against environmental hazards, providing high-clarity images for better scenario detailing. Alongside this, Matrix will put forth its server-based enterprise grade NVRs on display.

With pre-installed Video Management Software supporting redundancies and hot-swappable hard disks - HDD/SSD capable of up to 144 TB storage capacity, this tech marvel suffices all organisational security concerns.

**Access Control & Time-Attendance:** Matrix proudly claims to be the only OEM that develops the architecture elements ranging from panels, door controllers and readers, to software, completely in-house.

Matrix will present COSEC ARGO FACE - a smart door controller with high-speed face recognition. Built-in with features such as Adaptive Face Recognition, Face Liveness Detection, and Mask Compulsion, this device showcases modern capabilities to counter security and health concerns. With its deep learning algorithm, identification speed of less than 0.5 sec, and user capacity of 50,000, this device brings high-grade security to organisations.

**Matrix COSEC PANEL200P:** This multi-faceted Site Controller, controlling up to 255 COSEC door controllers and 25,000 users, is another attraction at the expo. In network architecture mode, it acts as a bridge connecting door controllers to servers. In standalone architecture mode, it functions independently of the server, acting as the central unit for controllers. Beyond this, Matrix will also showcase its wide range of Door Controllers and Readers at this event.

#### What are your expectations with the Convergence India expo?

Convergence India is a major tech extravaganza that brings ICT professionals on a common platform to grow. Matrix is eager to showcase 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 meetings. Our core marketing and sales ethic are to touch and impact as much of the professional network as possible. Through Convergence, we open our doors to welcome you to take a quick tour of Matrix and its potential. ■



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## Automotive Megatrends Impact on Memory & Storage

### INDUSTRY SPOTLIGHT



**Aravind Ramamoorthy**  
Senior Director, Micron

**A**utomotive is one of the fastest-growing segments in the semiconductor industry, with the total market for memory (DRAM) and storage (NAND/NOR) in this segment expected to grow from \$4 billion in 2021 to \$10 billion in 2025.

Over 97 million cars are projected to be sold in 2025, with an average of 16 GB of DRAM and 204 GB of NAND in each car. In other words, by 2025, a typical car will have three times more DRAM and four times more NAND compared to a car sold in 2021. The five automotive megatrends, namely autonomous, electrification, enriched cabins, connectivity, and zonal architectures — are transforming the automotive industry. But autonomy will have the biggest impact on memory and storage due to the growing need for code, data, power, safety and product performance.

### Autonomy for automation

The Society of Automotive Engineers (SAE) defines six levels of autonomy, from Level 0 (L0)

to Level 5 (L5), where L0 has no driver assistance features, while an L5 car can drive on its own in all scenarios without a driver.

Companies such as Waymo and Cruise have put a great deal of focus on achieving L4 or L5 autonomy for robo-taxis, which require significant amounts of memory and storage to make critical decisions without driver intervention. Similarly, implementing even more limited L2+ or L3 autonomy requires more memory and storage for advanced driver assistance and safety (ADAS) features such as blind spot monitoring, adaptive cruise control, lane departure warnings, and driver monitoring systems. By 2030, almost 3 million cars are expected to be fully autonomous and more than 15 million cars are expected to support at least L2+/L3 autonomy.

With increased autonomy, the reliable operation of electronic components becomes important because malfunction can lead to hazardous situations. Automotive industry standards, such as ISO 26262, with functional safety, aim to ensure a car can navigate or safely come to a stop on its own when a critical system error is detected. The different levels of functional safety are known as Automotive Safety Integrity Levels (ASIL).

Software is also becoming increasingly important in automotive. Today's high-end cars can have up to 100 million lines of code, and in the future, an L4/5 car could have between 300 million to a billion lines of code(2). In addition to the system software, products like eMMC, UFS, and SSDs have embedded software to manage the functionality of the storage device. To

ensure that software development methodology meets best-in-class practices, Automotive Software Process Improvement and Capability Determination (ASPICE) is increasingly being requested by automotive customers.

### Memory Requirements

- Greater than one terabyte/second (TB/s) memory bandwidth to support the compute performance needed for self-driving cars (L4/L5).
- Higher interface bit width for improved throughput.
- Significant increase in DRAM capacity with greater than 128 GB needed for L4/5 autonomy.
- High level of functional safety (ASIL D) for DRAM.

### Storage Requirements

- Increased endurance for L4/L5 event-based data logging applications (black box), potentially requiring 150 petabytes<sup>3</sup> (PB) of total bytes written.
- Significantly increased densities with greater than 1TB of storage for L3+ autonomy.
- Functional safety level ASIL B or higher with ASPICE L3.

### Summary

Higher-performing memory and storage with increased capacities, functional safety and Single Root-Input Output Virtualisation (SR-IOV) are needed to support these megatrends. For over 30 years, Micron's leadership in automotive-qualified memory and storage has enabled automotive innovations through an industry-leading solutions portfolio, global customer labs, and unmatched ecosystem collaboration. Micron is partnering with tier-one automotive suppliers, OEMs, and chipset partners to develop innovative solutions to address these five automotive megatrends. ■



## INDUSTRY SPOTLIGHT

# Protean: Executing Critical Greenfield Technology Solutions



**P**rotean eGov Technologies Ltd. (formerly NSDL e-Governance Infrastructure Ltd.) is one of the key IT-enabled service providers engaged in conceptualising, developing and executing nationally critical and population-scale greenfield technology solutions. With a vision to be a globally trusted provider of impactful digital technology solutions that promote ease of living, we are building scalable digital platforms that are reliable, private and secure.

Over the past two and a half decades, we have worked closely with the Government of India and other authorities to develop and implement economically and socially relevant e-Governance solutions across the country. Some of our marquee projects include setting up the Depository System and modernisation of Tax Infrastructure; PAN Card issuance to aid the central record-keeping agency for the National Pension System and Atal Pension Yojna; Registrar to UIDAI for Aadhaar enrolments, contributing to the India Stack, and enabling governments, businesses, startups and developers to evolve presence-less, paperless, and cashless service delivery platforms.

Protean is also one of the key and early contributors to the open-source community and protocols that are powering the Open Network for Digital Commerce (ONDC) and the Kochi Open Mobility Network (KOMN). We actively support open digital building blocks for varied use cases across sectors like e-commerce,

mobility, healthcare, agriculture and education. We have also extended our service stack to provide a comprehensive set of APIs to enable end-to-end digital onboarding and data verification capabilities, which are utilised by business entities to transform their customer journeys.

To complement our assets in the digital public infrastructure space, we have launched Cloud services and Cyber Security advisory services, thereby reinforcing the foundation for a safe and secure Digital India. Protean has invested in developing 'Centres of Excellence' for open source technologies such as Sunbird, Beckn, MOSIP and OCEN and will continue to focus and invest further to build and allow products and services, which would be built for the digital public good.

Open Network for Digital Commerce is a first-of-its-kind global initiative to pave the way for reimagining digital commerce in India. Developed and managed by Protean, it is an open network developed on open protocols and based

on open-source specifications with established registries to enable wide-scale participation by digital commerce ecosystem players in India through the 'Open Gateway'. The Indian government kicked off the ONDC project on 29<sup>th</sup> April 2022 in five cities. Since then, the project has successfully expanded to more than 85 cities.

As a part of its ONDC journey, Protean has been the first and the ONLY gateway service provider powering all network participants with 'Open Gateway' services. This helps them to perform the fundamental role of enabling discovery between buyer and seller entities on the network and enable interoperability amongst network participants. With millions of discoveries already processed via the gateway since its Beta launch, Protean now aims to rapidly scale up ONDC with the addition of a large number of network participants.

Protean Cloud Services is an AI-powered private Cloud offering for business enterprises that was launched in 2022 by the Honourable Prime Minister, Shri Narendra Modi. The launch of 'Protean Cloud' is in synergy with the government's 'Atmanirbhar Bharat' initiative that enables digital transformation and adoption of homegrown technology solutions in citizen-centric IT-enabled services. It features a Virtual Private Cloud (VPC) configuration with a comprehensive security framework and the certainty of Total Cost of Ownership (TCO). Protean also offers computing power for carrying out analytics using AI and ML with complete flexibility for customers to configure systems as per their needs.

Protean forayed into the Cyber Security business with the launch of its wholly-owned subsidiary Protean InfoSec Services Ltd. in 2022. The company offers indigenous cyber security consulting and advisory services to organisations across sectors that need assistance in handling financially sensitive information of their clients and stakeholders. It will cater to enterprises with services such as detailed gap assessment, development of strategies, designing and strengthening the security architecture, security assessment, audit, and awareness training.

Protean will focus on the three most important aspects of Cyber Security viz. Information & Cyber Security Architecture, Governance Risk Compliance & Data Privacy Practice, and Information & Cyber Security Tech Services. The company will also oversee the implementation of new technologies and assist clients with a roadmap for enhanced cyber safety. ■



**protean**  
Change is growth

## Muvi: Providing an Entire App Interface & Experience as an End User

### IN CONVERSATION



### Anshuman Das

CEO, Muvi

#### Please share something about your vision.

Muvi aims to disrupt the global OTT video and audio streaming market that is ruled by the larger enterprises, by offering a very cost-effective solution for content owners to launch their own platform, thus lowering their overall cost and time involved in go-to-market and providing them monetisation options beyond the borders of traditional advertising and giving them more control over how their content is distributed.

#### What are the new innovations undertaken/implemented by your company?

Launched a decade ago, Muvi One was the first no-code end-to-end audio/video streaming platform provider, inaugurated at a time when building and launching your own streaming service like Netflix was a tedious affair. This involved multiple components and services to be pieced together and required thousands of dollars of upfront investment. Muvi One pioneered the no code OTT platform building market and is still rated as the #1 OTT platform in the world by G2!

Muvi Onyx - Muvi One's patent pending app,

allows customers to experience how their own mobile or TV app will look, feel and function with their own content, without actually having to buy any mobile app service from Muvi. Muvi Onyx takes the words "Try before you buy" quite literally, allowing you to experience the entire app interface and experience as an end user before you go ahead and buy the same. Muvi Playout is a cloud-based playout engine with an easy to use drag and drop EPG style scheduler helps content owners launch their own Cloud TV channels or FAST channels instantly.

#### How is Muvi embracing new technologies/concepts in the new aftermath of the pandemic?

At Muvi, we are constantly innovating with the latest technologies to provide solutions to our users. We have introduced:

- **Muvi Minis** help you create and launch your very own short-video app to let the users contribute with their videos! You can enable the users to create short videos like TikTok, Instagram Reels, and YouTube Shorts, and post them on your platform.
- **Muvi Playout** is a cloud playout solution that allows you to launch your live TV and audio channel/FAST channel and broadcast pre-scheduled on-demand content sequentially in real-time over the Internet.
- **Try Your Apps** is an exclusive feature of Muvi One wherein customers can develop, preview and try their own branded Android streaming app in minutes with just a few button clicks. You get a complete streaming app with all the features as per your branding that you can preview and try it out for free.

- **Muvi Onyx** is a patented preview application by Muvi that allows any lead/customer to take a preview of the application before they subscribe to it. So, a lead can install the application on their device by navigating to the respective store and installing it.

#### What product/services will be launched at the event?

We are thrilled to launch brand new services such as:

- **Muvi Huddle** - Built as part of Muvi's Live streaming product offering, Huddle is a one-of-a-kind, two-way live streaming and video conferencing solution, a product through which you can not only schedule seamless video conferences, but also broadcast secured live streaming sessions at scale. Catering to multiple use cases, Huddle can be used in 1:1 sessions or group video meetings, or even town halls, and product launches.
- **Muvi eLearning Module** - Muvi One's eLearning module has been specifically designed with tutors and educators in mind, looking to sell online courses and training as well as organisations requiring portals for learning and development and internal employee training. It boasts of an advanced LMS through which chapters, courses, quizzes, assessments, polls and grading could be created.
- **Muvi Playout** - Our cloud-based playout solution helps you launch linear TV channels/FAST channels instantly. Features include drag-and-drop scheduling, automated time scheduling, bulk upload, real-time transcoding, ad-insertion, subtitling and captions.





## MUVI CONTINUES TO INNOVATE AND GROW AT A RAPID SCALE IN THE STREAMING SPACE, WITH AN AIM TO BRING FLEXIBILITY AND SCALABILITY WITHOUT COMPROMISING ON THE SECURITY AND QUALITY.

### How are you addressing the challenges presently being faced by the sector?

The current Playout market is more oriented towards on-premise and traditional channel broadcasting systems. Providing a cloud-based playout solution for that market was a tough choice. We have taken this into consideration while building Muvi Playout to make it easier for customers to adapt to the cloud playout. With the rise of COVID-19, the video conferencing market got overcrowded with simple meeting software that anyone can use. Launching another meeting software is not very interesting, but we are moulding our product to address unique use cases for content owners and businesses. We hope we can thrive that way.

### What are the products being showcased at the expo?

Our SaaS products include Muvi One, Muvi Live, Flex and Playout. *Muvi One* It is a feature-rich, end-to-end cloud video platform that offers a variety of advanced features enabling enterprises to launch their OTT, e-learning, sports streaming, media and entertainment, health and fitness platform in a jiffy. Special mention needs to be made about Visual Designer- world's first streaming website designing studio, which is a completely no-code drag-and-drop website template designing platform. With VD, you can customise the entire website template with an easy-to-use drag-and-drop interface, allowing you to make changes, add text, update colours and add pages, sections, or widgets the way you want it, to suit your brand requirements. Its built-in multiple monetisation options are a special attraction for enterprises who want to monetise their content by opting from its varied content monetisation models including PPV, subscriptions, AVoD and crowdfunding.

Despite the online video platform being loaded with high-end features, Muvi offers competitive pricing policies. Muvi One has a plethora of advanced video streaming features that empowers content creators to create professional-grade broadcasts including:

- Video encoding and transcoding at multiple bitrates
- Advanced HTML5 video player supported adaptive bitrate video playback
- Multi CDN option for a fast, latency-free video delivery



- Adaptive online video player
- High-end video security features like multi-DRM, watermarking, screen record protection and IP restrictions among others
- Cross-browser and cross-device video playback capability
- Fully customisable website with ready to plug/use templates and an advanced functionality of a customisable visual designer for the non-coding DIYers
- An advanced CMS with an array of content management features
- Multiple social media channel integration
- Video API
- Multiple monetisation models that include subscriptions, ad-based and TVoD
- Integration with most-popular payment gateways like Paypal, Stripe, PayU, Authorize.net, etc
- Full video API integration
- SDKs for iOS and Android developers.

Apart from Muvi One, our flagship product, we also help businesses launch multi-device live streams instantly through our exclusive live streaming product, *Muvi Live*. Muvi Live is a robust video live streaming platform with a full-featured service for private live streaming with tight security and privacy controls, making broadcasting live streams an easy and secure job. Be it streaming online sports events or town halls, Muvi Live ensures fastest and high-quality live streaming across multiple devices through live cloud encoding. Built for enterprises, Muvi Live partners with a top-tier and scalable CDN to reliably stream high video quality content to huge audiences for live event streaming.

Despite the streaming live platform being

loaded with high-end features, Muvi Live offers competitive pricing policies. Features of Muvi Live include:

- Secure video upload
- Global content delivery network
- Secure private live streaming with DRM
- Ultra low latency live streaming
- HD live streaming
- Multiple monetisation options
- ABR-supported streaming
- Cross platform live streaming
- Live streaming from mobile
- Multiple social media channel integration
- Zoom live streaming integration
- Integration with most-popular payment gateways like Paypal, Stripe, PayU, Authorize.net, etc
- APIs and SDKs for developers
- Live streaming recording option
- Live streaming from the nearest server based on location.

We also provide AoD/VoD service through *Muvi Flex*- an enterprise-grade cloud video hosting platform. It is an end-to-end cloud video platform that offers a variety of advanced features like cloud encoding, top-tier delivery, video security, and cross-device playback that enables enterprises to launch a VoD/AoD platform instantly, without any coding knowledge. Using Muvi Flex's robust and customisable platform you can upload, manage and distribute videos and also build responsive video solutions on your apps/websites using Flex's easy-to-use CMS. Muvi Flex caters to every industry from e-commerce, hospitality, fitness to eLearning and is best suited for content creators and marketers. *Muvi Playout* Apart from AoD/VoD and live streaming, we also provide services for launching cloud based linear TV channels and FAST channels through our cloud-based playout solution - Muvi Playout. Features include drag-and-drop scheduling, automated time scheduling, bulk upload, real-time transcoding, ad-insertion, subtitling and captions.

### How can your solutions/technologies be leveraged for a better tomorrow?

Muvi helps companies move their traditional streaming technologies to the cloud, and with this transition, enterprises can save on on-prem infrastructure and by being on the cloud use only required resources that are needed at any given point in time. ■

## INDUSTRY SPOTLIGHT

# Realtek provides the most Diverse, Relevant, and Best Solutions

**R**ealtek Semiconductor Corporation is a world-leading IC provider that designs and develops a wide range of IC products for connected media, communications network, computer peripheral, multimedia, and smart interconnect applications.

Its products include 10/100/1000M/2.5G/5G Ethernet Controllers/PHYs, 10/100/1000M/2.5G/10G Ethernet Switch Controllers/Media Converter Controllers/Gateway Controllers, Wireless LAN Controllers & AP/Router SoCs, xDSL, VoIP Solutions, Bluetooth, xPON, IoT Solutions, Automotive Ethernet Solutions, High Fidelity Audio Solutions for Consumer and PC Applications, Reader/USB Hub/Type-C Controllers, Web/IP Camera Controllers, LCD Monitor/ATV/DTV Controllers, and Digital Home Center Controllers.

With advanced design expertise in RF, analog, and mixed-signal circuits, and with a strong manufacturing and system knowledge, Realtek offers full-featured, high-performance, low-power, and competitive total solutions.

### Smart is Redefined - Ameba E Series IoT solutions

The RTL8720E, RTL8726E, RTL8730E Ameba E series new 5th-generation IoT products support the latest technologies such as Smart Voice, Wi-Fi 6, Matter, dual-core design, and more, to effectively upgrade your smart home systems. The Ameba E Series integration of Wi-Fi and DSP chips, the company provides a more competitive one-chip solution with higher cost-effectiveness by using one single to enable our partners to increase the popularity of smart voice efficiently.

Ameba E also works great when applied for wireless home theaters. It is equipped with low latency, low power, and multi-room technologies. Through Wi-Fi network transmission, not only can it free speakers from cable restrictions; it also provides a high-quality experience in video and audio synchronisation.

### Realtek Bluetooth is everywhere, everything - BEE Series Solutions

Realtek's Bluetooth solutions are called "BEE" series. BEE means Bluetooth Everywhere Everything. The Bluetooth applications appear range from PC, audio, entertainment, medical, industry, wearable, smart home, and IoT, and can be seen everywhere.

Realtek's BEE, as a connectivity MCU, is a highly-integrated Cortex ARM and BLE in a single chip. BEE can offer comprehensive peripheral interface, which TFT/AMOLED/SEG-COM/MIPI/RGB/I2C/I2S/SPI/UART/USB, and voice ADC and audio codec. It also provides security boot and TrustZone in single chip. RTL8762D, which BLE MCU is suitable for a fitness watch; and RTL8763E, which BT classic+BLE MCU is suitable for calling watch. Realtek also has mature application SDKs that can provide to customers the BLE Mesh, HomeKit, Wearable, RCU, Dashboard, Find My, Data Transparency, Amazon BSS, Amazon Gadget. BEE offers not only BLE, but also proprietary 2.4G/Zigbee/Matter, which is multi-protocol MCU provided.

The immersive gaming headphone experience enabled by the RTL8773D single-chip, low latency (20ms) solution supports the simultaneous 2.4GHz and Bluetooth connections with audio-mixing of gaming audio and Bluetooth music/phone call concurrently. Its high-performance neural network algorithm perfectly removes all keystroke noises for the best gaming experience. With an integrated high performance ANC engine, the RTL8773D can reach up to 40dB noise cancellation improvement.

### Home connecting to the World -Wi-Fi and AP router solutions

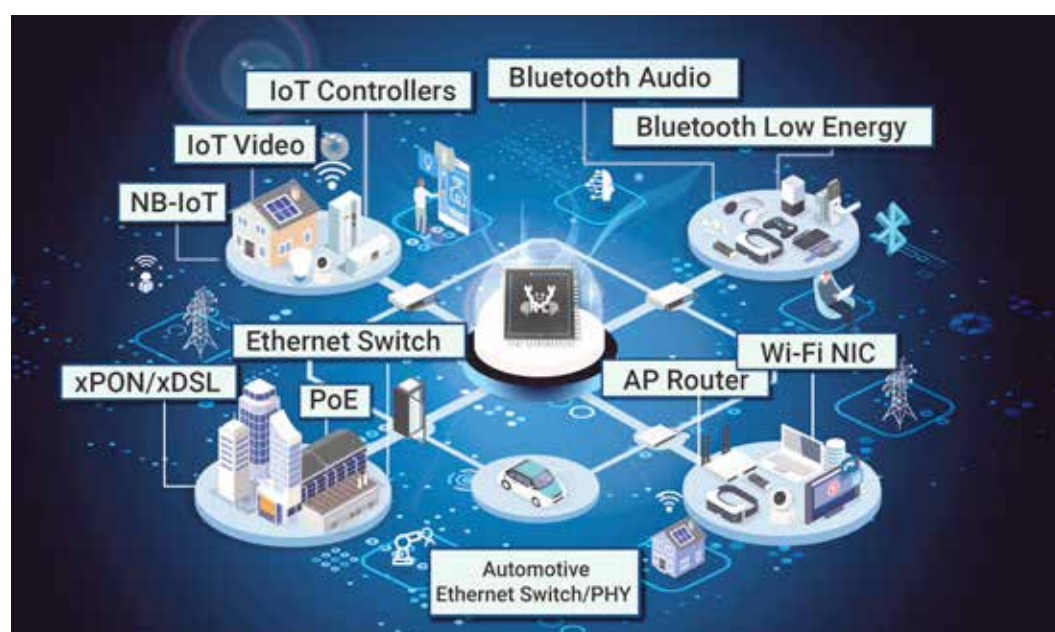
Realtek also introduces VR Air Bridge, an accessory that provides an easy streaming

wireless PC-VR experience (RTL8832AU/RTL8832CU) and launches the 1st VR USB Wi-Fi 6/6E dongle for simplified air link with VR head-mounted device. It allows the user to explore their wireless VR game and enjoy the freedom of full 360° movement. Furthermore, Realtek's Wi-Fi 7 (RTL8952A/RTL8922A), the next major generation and evolution enhancements, will support time-sensitive network applications like AR/VR, 4K and 8K video streaming, automotive, gaming and video applications. There is also Realtek Wi-Fi 6 AP router solution (RTL8198D/RTL8832CR+RTL8192XBR/RTL8198XB+RTL8832CR+RTL8192XBR) with AI QoS and AI technology to elevate online user experience and reduce Internet lag.

### Broadband Infrastructure Network - xPON and Switch solutions

Realtek has an ethernet switch at/bt PSE + FE/GE/2.5G/10G PHY + L2/L3 for one-stop shopping that includes the unmanaged switch, smart switch, and managed switch product family. In addition, unmanaged and smart switch have World-wide No.1 market share. The 10G AnyPON of RTL9617C is a highly integrated home network equipment unit IC that contains ARM 1GHz Quad-core, powerful offload engine, and Dual Lan PCIE for Wi-Fi-7 and Wi-Fi-6.

Realtek's solutions have innovative and exclusive specifications, high performance, and high reliability. They are expected to win the customer mindshare and market share, bringing more convenience and safety to the consumers. ■







## INDUSTRY SPOTLIGHT

## Skyline Open Programme empowers DataMiner DevOps Professionals

**S**kyline Communications is the leading global provider of end-to-end digital transformation solutions for the ICT media and broadband industry. Skyline recently launched its open DataMiner DevOps Professional Programme. This tailored programme is designed to help ambitious DevOps professionals reach their full potential as innovative DataMiner solution creators.

The programme empowers individuals to continuously deliver maximum value to their data-driven organisations by utilising the power of DataMiner, Skyline's vendor and domain-agnostic digital transformation software solution. Members of the programme can collect DevOps Points to unlock membership levels, each with its exclusive benefits to help further enhance their skills.

"The programme is not just for coders or engineers, but is open to anyone who wants to create innovative solutions," stresses Pramod Gupta, Sales Director, Skyline Communications. The ICT industry is rapidly becoming democratised due to the rise of

transformational technologies and DataMiner already offers extensive capabilities in this area. For example, DataMiner's powerful no-code apps enable DevOps professionals to provide people across their organisations with



**Pramod Gupta**

Sales Director, Skyline Communications

data and control capabilities, tailored to their specific roles and responsibilities.

The need for qualified DataMiner users is growing, and data-driven organisations need to evolve their operations faster than ever due to the highly unpredictable nature of today's market. The DataMiner DevOps Professional Programme is designed to meet this need.

"In addition to leveraging transformational technologies like DataMiner, the programme also focuses on empowering people and cultivating a mindset of continuous evolution," explains Pramod. "The recent technology evolutions have far-reaching impacts and the power lies with organisations that can fully leverage this potential. While DataMiner is a key strategic asset to make that happen, with our DevOps Professional Programme, we want to further empower our users in all possible ways."

Joining the DataMiner DevOps Professional Programme is easy and requires little effort as qualification for the programme comes naturally, while members focus on growing their DevOps skills, mindset, and culture. ■

## VueNow: Positioning itself to become World's top Edge Computing Network

### IN CONVERSATION



### Sukhwinder Singh

CEO, VueNow Group

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

As an IT infrastructure company, VueNow embodies the philosophy of data democracy through innovation and accessibility. By providing localised data centres, the company enables businesses to access data with low latency, improving the efficiency and accuracy of their operations.

This philosophy of accessibility extends beyond businesses, as VueNow also prioritises sustainability by utilising renewable energy sources and reducing its carbon footprint. Our commitment to innovation, accessibility and sustainability showcases the company's dedication to not only meeting the current needs of its customers but also shaping the future of data centre technology.

Our innovative services have placed us among India's top DC providers, with the vision to become the world's largest Edge computing network by 2025. We aim to introduce 70-tier 4 DCs and 1500-tier 4 Edge DCs by 2025 to assure data democracy across the nation. By 2030, we will operate a network of 91-tier 4 DCs and 3,000-tier 4 Edge DCs providing 99.9% uptime, thus enabling seamless services without disruption to businesses worldwide.

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

As an IT infrastructure company, VueNow is well-positioned to drive innovation and shape the future of the industry. Several key areas need to be addressed by VueNow in the future to ensure consistent success.

- **Expansion:** VueNow will continue to expand its network of Edge data centres, providing even greater accessibility and high accuracy with low latency to businesses and consumers alike.
- **Technology improvement:** VueNow focuses on investing in new technologies that can optimise services. This includes investing in advanced automation, AI and machine learning.
- **Sustainability:** VueNow strives to reduce its carbon footprint by adopting renewable sources of energy such as solar, wind and geothermal power, besides investing in energy-efficient hardware. This way, we hope to substantially reduce the carbon footprint of the company.
- **Data Security:** Data security and reliability is a key objective for VueNow, particularly as cyber threats become more frequent and sophisticated. This includes investing in robust cybersecurity measures, regular testing and updating security protocols, and providing comprehensive recovery solutions in any adverse situation.

By focusing on these key areas, VueNow

**WE PROVIDE AN EDGE DATA CENTRE SOLUTION THAT DELIVERS LOW LATENCY PROCESSING, COST-EFFICIENCY, AND SCALABILITY, ALL WHILE KEEPING DATA SECURE THIS TECHNOLOGICAL REVOLUTION**

can position itself as a leader in the Edge data centre industry, meeting the evolving needs of its customers and contributing to the consistent growth of the digital economy.

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

VueNow advocates several changes to the regulatory framework:

- **Data privacy:** Stronger data privacy laws and regulations ensure that customer data is protected and secure. This may include regulations around data breach notifications, data access, deletion requests, and penalties for non-compliance.
- **Sustainable development:** VueNow supports the development of green technologies and renewable energy sources through regulatory support. This could include tax or other financial incentives to encourage the adoption of renewable energy and energy-efficient hardware, as well as regulations around carbon emissions and energy consumption in DCs.
- **Financial incentives:** We support policies and rules related to financial incentives, such as interest subsidies, land subsidies, stamp duty relaxations, and incentives for power supply in data centre parks and units.
- **Non-financial incentives:** In addition to financial incentives, VueNow promotes policies that encourage non-financial incentives, including mission-critical infrastructure in which DC should be classified under the Essential Services and Maintenance Act (ESMA), 24-hour water and electricity supply etc.

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

With VueNow, you can expect faster, more efficient and more secure last-mile data processing and storage solutions. As data-intensive applications such as IoT devices, streaming and gaming gain popularity, and a growing need for data across sectors like the hospitality, medical care, financial & banking services, education, legal, law enforcement, sales & marketing, manufacturing, and transport emerges, it has resulted in a growing demand for Edge data centres that offer low latency and high bandwidth. As such, VueNow will focus on providing efficient and reliable solutions that can support these types of applications.

Furthermore, VueNow will reduce its carbon footprint by increasing energy efficiency in the future to become more environmentally sustainable. ■



## Bluei: Enriching Customers Lifestyles with Innovations and Services

### IN CONVERSATION



**Akhilesh Chopra**  
Director, Sales & Technical

#### Tell us about Bluei, its goals and vision.

In 2003, the company entered the mobile industry under the leadership of Mr Rajesh Chopra. After six successful years, the company launched the brand Bluei when it ventured into a new business of security cameras. Then in 2011, Bluei came into the mobile accessories market under the leadership of Mr Akhilesh Chopra. We aspire to be the largest mobile gadgets, technology sales and distribution company. The company recognises the customer's ever-changing needs and aims to enrich their lifestyles with innovation, technological advancements, and services of superior quality. Our goal is to enrich our customers' lifestyles with innovation, technological advancements, and services of superior quality.

Our vision is to level up the ladder to become India's most famous lifestyle and portable electronics brand, putting forward our range of products including speakers, neckbands, headphones, power banks, car accessories, and security cameras.

#### Has the company recently undertaken innovations?

Our best-in-class R&D and engineering team

helped us to develop a new product – Eardopes, in India. With this product, customers can enjoy comfort, better audio quality, stylish design, new technology, and dust and water protection. Most headphones that are available in the market lack audio quality. The highs might be too high, the bass is often overpowered, and they are uncomfortable to wear. It is a standard belief that no pair of headphones is perfect. With Bluei, this might become a possibility. The idea behind this new audio technology is to get a perfectly balanced high-fidelity sound out of Eardopes.

#### Did Bluei embrace new technologies/concepts in the aftermath of the pandemic?

The Bluei brand has upgraded its business plan to offer products that satisfy the changing customer demands as a result of the pandemic. We work hard to offer premium accessories at competitive prices so that our customers can study and work comfortably from home without being disturbed. The needs of every generation are met by our goods, which are also made to be simple to use. Our accessories are designed to satisfy these needs since we recognise how important flexibility is in the contemporary work and educational environment.

#### Will you be doing any soft launches during the expo? Also please share the products that you will display?

We are doing a soft launch of our product Bluei Eardopes.

In addition to that, we will be showcasing our smart watches, TWS earplugs, neckbands, headphones, earphones, power bank, mobile chargers, wireless chargers, data cables Aux cable, car chargers, bluetooth speakers, home theatres, SMD rework station, Acetone cleaning gel, OTG and connectors.

#### What are the challenges faced by the industry?

As I can see, with the rapid advancement in the gadgets industry, the global technological landscape keeps revolving. The need to control costs continues to be a major driving force for manufacturers, with new technologies emerging in the market and providing revenue opportunities. Manufacturers need to initiate partnerships with technology solutions providers and other organisations that can supply expertise outside of the company's core focus.

- *Meeting the Demand for Smart Gadgets* - With the rising demand for smart devices that have now become a necessity in our lives, consumers want everything "smart". Smartwatches, earbuds, speakers, and even smart headphones have been put on the market to meet consumer demand. This has also paved the way for smaller smart devices like smartwatches, chargers, and other fitness devices. These devices now require the assembly of minuscule parts – adding another layer to the electronics manufacturing industry. Micro parts require micro-machines that are small enough to assemble these smart devices through the micro dispensing of adhesives, and this is where the challenge lies.

- *Short Product Lifecycle* - Smartwatches, fitness trackers, and headphones are all part of the "trends" in the electronics gadgets industry. Since consumers change their minds as often as the weather, this could mean a particular product could fly off the shelf one week and then a week later, and nobody is interested. Due to the ever-changing trends in the electronics industry and fluctuations in production, it can be difficult for manufacturing companies to accurately predict and maintain their production goals.

#### Any policy advocacy for your sector?

Bluei's policy is to work with a select group of channels to provide its distributors with a monopoly, while ensuring that their profit margins are maintained. This approach is aimed at generating sustainable business growth for both Bluei and its distributors. ■

## CONVERGENCE INDIA EXPO CREATES A PLATFORM FOR PLAYERS TO PROMOTE BRAND INDIA AND EXTEND THE IMPACT OF 'MAKE IN INDIA' AND 'DIGITAL INDIA'

## U&i: Standing Strong in a Competitive Market

### IN CONVERSATION



**Paresh Vij**

Founder & Director, U&i

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

We at U&i are working to bring products at affordable prices and excellent quality.

#### What are the 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 dependent on overseas manufacturers. However, we believe in 'Make in India' and, in the coming days, we will be launching new innovative products.

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

During the pandemic, particularly during the first wave, U&i focused on making face shields for corona warriors and distributed them across the nation using our large dealer network.

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

When you are in a competitive market, you should always be prepared to face a new challenge. However, uncertainty in the logistics industry is impacting the demand and supply cycle of the goods.

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

We boast of a large dealer network that has helped our products to be visible and available across all the major parts. Meanwhile, we are in a continuous process of making our product

**IN 2021, U&i TOOK PART IN AN EXHIBITION FOR THE FIRST TIME. SINCE THEN, WE HAVE REALISED THE POTENTIAL OF SUCH AN EVENT AND HOPE TO REPEAT THIS EXPERIENCE YEAR-ON-YEAR**

available at spoke locations as well.

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

We deal in mobile accessories so will be showcasing our most popular products at the expo. ■

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Smartphones



Feature phones



arm-based Chromebooks



Android Tablets



Smart Speakers



Set-top Boxes



Smart TVs & Digital TVs



Connectivity, Broadband & Networking

Source: (2020 market share): Strategy Analytics, Gartner, IDC, IC Insight, IHS and MediaTek company data.  
Revenue Share based on Q1-Q3 2021