

On National Technology Day Some Industry Thoughts And Insights

11th May 2022

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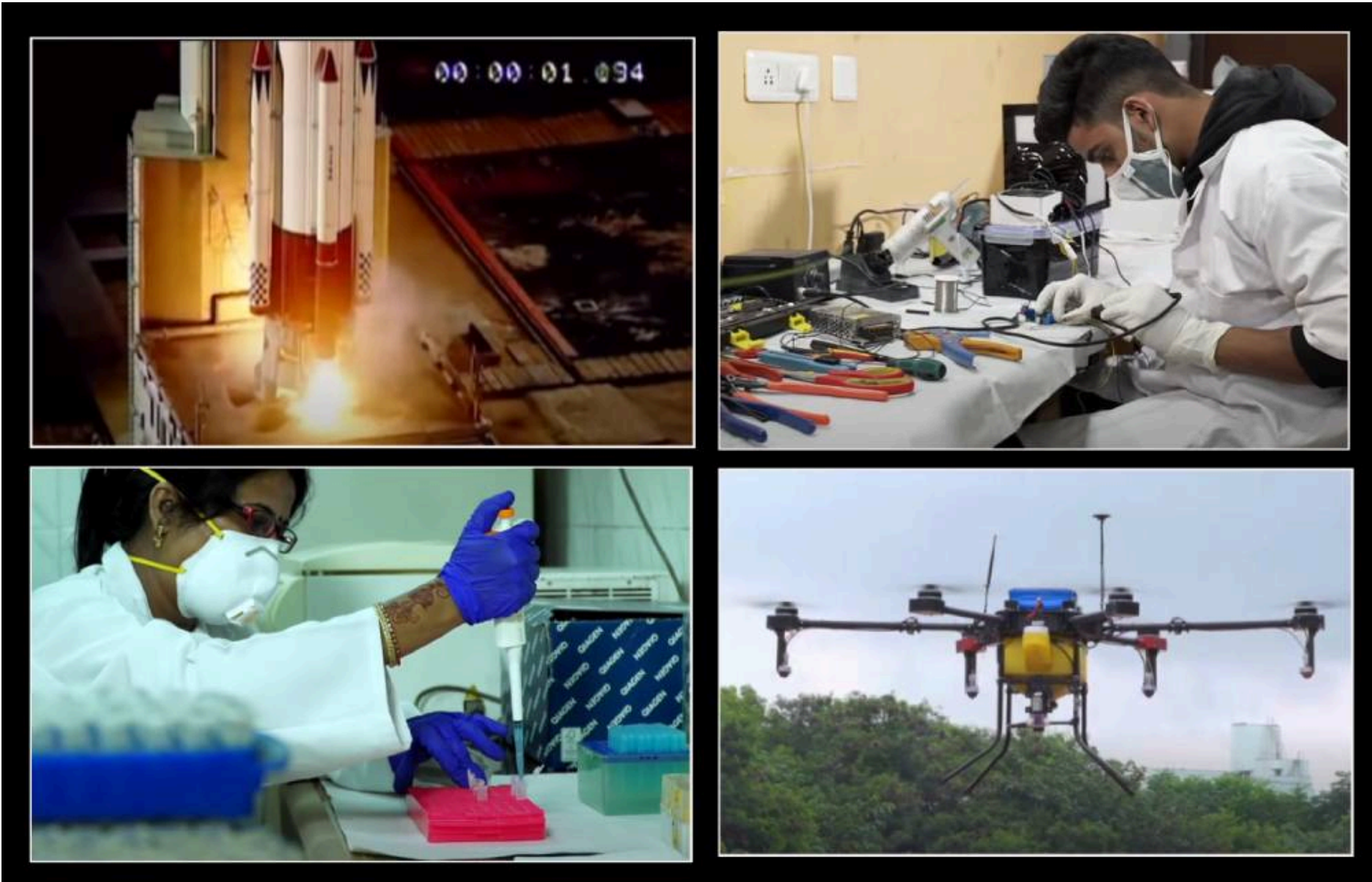


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May 11 2022: **National Technology Day** is celebrated on May 11 every year to honour the contributions of India’s scientific community including scientists, researchers and engineers. The significance is n the series of technological advancements the country achieved on the day decades earlier.

On May 11, 1998, India broke into the small group of countries that hold nuclear weapons. On that day, India successfully carried out nuclear tests at the army’s Pokhran test range in Rajasthan. O May 11 1998, India tested its first indigenous aircraft Hansa-3 which took flight in Bengaluru. The aircraft was meant for surveillance, pilot training, and other reconnaissance purposes.The day also saw the successful test firing of the surface-to-air missile Trishul.

The first National Technology Day was observed in 1999. The theme for 2022 is “Integrated Approach in Science & Technology for Sustainable Future”. Here are some industry insights on the occasion:

Radhica Kanniganti, Head of Engineering, Devic Earth a cleantech company: Sustainability has traditionally been a science game, especially in the environment space. With scientists researching the impact of human activities on the environment, all debates relating to sustainability have been on the basis of science. The science-based approach is also being currently used to achieve COP 26 global net-zero targets. While Science has an important role to play in understanding the issues, technology has recently emerged as an effective solution provider. Today, technology has the potential to be the game-changer in the Sustainability journey. Over the last 5 years, the advent of technology to address issues related to sustainability has resulted in two things – an increased focus on sustainability, hence driving more funds, and the ability to scale solutions faster.

Sudha KV, Vice President, Dell Technologies, India: In today's digital age, technology is driving human progress and the driving force behind technological growth comes with introducing disruptive ideas. Dell Technologies continues to be one of the global leaders in producing server tech, and India has a key role to play in this. Our Bangalore R&D centre has been instrumental in bringing about cutting-edge technology in the server portfolio. Right from conceptualization of the servers, to product upgrade and then retiring the offerings, and thinking about the next product and technology trends, the Bengaluru R&D centre is the locus of innovation. Having filed over 100 patents in the last 3-4 years, the team at the Bangalore centre has been dedicatedly helping Dell Technologies meet their goals of driving growth through technology.

Kumar Vembu, CEO & Co-Founder GoFrugal: The future is much larger and many times scarier than it has ever looked in the past. Smart companies are ones that would use technology as a smart platform for all stakeholders to seamlessly collaborate, paving the way for connected business. Omni-channel experiences will continue to evolve so far as to let consumers enjoy a seamless shopping experience - both offline and online. GoFrugal will continue to make technology easy, intuitive, and affordable to help businesses, agnostic of size and style, to stay competitive. GoFrugal has, is, and will continue to enable businesses to win by letting them work with minimal staff, with least skills, yet make 100% reliable with accurate predictions and decision recommendations-based solutions

Ganesh Shankar, CEO & Co-Founder RFPIO: Request for proposal (RFP) technology was originally developed only for procurement, to help organizations issue, track, and monitor RFPs when they sourced a new product, service, or solution provider. RFP technology developers recognized an opportunity to improve efficiency, encourage competition, and accelerate supply chains. However, these solutions neglected the needs of responders. In fact, as RFP technology made it easier for issuers to include demands for guaranteed service levels, risk mitigation, regulatory compliance, privacy assurances, and security protocols in their RFPs, questionnaires ballooned; while RFP issuing technology made it easier for organizations to ask for these requirements, responders were still stuck with manual or in-house solutions that offered unreliable results.

Sandeep Bhambure, Vice President, Veeam Software – India & SAARC: Digital technologies have the potential to revolutionize and reinvent how everyone does business in an increasingly connected world. In recent years, organizations have seen a rapid increase in the adoption of digital services as a result of hybrid work models, growing data security concerns, and overall business disruptions. As per Veeam's Data Protection Trends Report 2022 "84 percent of Indian organizations experienced ransomware attacks, making cyber-attacks one of the leading causes of downtime for organizations, for the second year in a row." The growing importance of digital services, data proliferation, and the ever-changing threat landscape have resulted in an increase in cyber-attacks (ransomware), making it critical for businesses to ensure that their organization's data is always secure. As a result, organizations are now considering aligning with a data protection framework that provides a

dependable strategy when normal operations are disrupted.

Satish Pala, CTO, Indium Software: The manufacturing industry has been in constant lookout for technology advancements that would eventually help increase operational efficiency, better quality control, lower production costs, lower maintenance costs, increase revenue, etc,. With adoption of Industry 4.0 principles, the industry has been addressing challenges like having to deal with complex processes, high costs due to legacy tools and technologies. Some of the key assessments required to be done before the tech shift include 1) the equipment readiness to be connected to a central data system, 2) Software and Hardware required for addressing loads of data being generated 3) Capacity of the IT systems like storage, processing, etc, 3) Readiness for Smart Operations and 4) Change Resistance in People. One of the key technology shifts in the manufacturing space is deploying technology solutions driven by Artificial Intelligence. Some of these AI driven use cases include: 1) Detection of anomalies and perform predictive maintenance to save huge repair costs. IIOT devices help with collection of relevant data sets 2) Improve quality control by statistical process control 3) Inspection of products/components using AI based visual tech and thereby reduce human errors.

Kalpita Jain, Group CEO, Netcore Cloud: COVID-19 has resulted in a surge digital adoption across industries and geographies, transforming the way organizations function, and compelling them to adopt new technologies overnight. As digital adoption took a quantum leap, businesses tried to survive and stay relevant to customers and their evolving needs. These technology-led changes transformed the way companies interact with their customers.

Brands that adopted the 'adapt and respond' strategy to combat this change are today leading the way in customer engagement. On National Technology Day, we at Netcore Cloud, would like to acknowledge the important role that technology plays in building customer experience and engagement. We are constantly striving to incorporate new technologies that provide CMOs and growth managers more intelligent and meaningful ways to engage, acquire and retain customers. We will continue in our efforts to bring innovative and advanced technology-led solutions to marketers across the globe as we scale.

Geetika Goel, Head of Technology, Hero Vired: As a woman in the technology industry for the past two decades, I have encountered a variety of challenges and opportunities to create a niche for myself. It's encouraging to see a surge in female talent and a growing interest in upskilling. It is unquestionably a sign of India's bright future in the technology industry. This, combined with the government's laser-like focus on digitising the country, has boosted the industry and created an inclusive environment for all genders to thrive on a national and international scale. At Hero Vired, I work with a world-class team of engineers and tech enthusiasts to realise the company's shared vision and growth goals, all while instilling a strong digital-first culture.

Shriranga Mulay, Vice President, Product Development & Engineering, NTT Ltd

India: Digital technologies will be critical in building a sustainable, high-performance, and safer future for all. AI, cloud, cybersecurity, and integrated ecosystems connected with high-performance networking and computing are going to be the facilitators of the future normal of diversity and global inclusion. The majority of the tech companies including NTT are taking a range of steps to use advanced technology to create solutions that improve efficiency and reduce carbon footprint. There is an obligation to make the world better connected, and sustainable for future generations. Switching to renewable energy generation, and deploying technology that reduces the consumption of power as well as other natural resources such as water, are some of the key steps adopted as a part of a holistic and integrated approach for a sustainable future. The aim is to not only move towards Net-Zero and other sustainability goals ourselves but also create technologies that help other players in different verticals to achieve the same objectives. We aim to use technology solutions that help protect, restore

and regenerate the natural world, conserving precious natural resources for future generations.

Rahul Bhardwaj, Country Head, India, and South Asia, Graymatics: There is a lot of pressure on infrastructure and resources when it comes to development in a country like India. In the last few decades, urban areas have expanded rapidly and haphazardly, and now that the adverse impacts of global warming are being felt, the need to reverse and reduce environmental damage is also emerging. One of the key technology integrations in this arena happens to be the development of Smart Cities. The future lies in building these self-sustaining communities which can reduce resource consumption and pollution alongside efficient management of all activities. For instance, Smart Cities are envisaged to use video AI, big data analytics, and IoT-based tools for monitoring and management of transportation, utility management, surveillance, and pre-emptive security landscape. It is through such integration of science and technology to foster sustainability that the vision of a socio-economically stronger Digital India will be realized in the years ahead.

Venkatesh Sundar, Co-founder, Indusface: Digital technology has emerged as the solution for all modern-day challenges across personal and business domains. In the last 23 years, the evolution of modern tech-driven businesses and public enterprises has been the catalyst in the socio-economic rise of the country. As we transition from an era of using technology as an option to the age of digital-first living, there is a need for businesses to focus security of digital assets as part of digitization initiatives. There are apps and tools for almost everything and the threat of cyber-attacks and data theft have become pronounced in the current context.

Varun Goenka, Co-Founder, and CEO, Chargeup: Electric vehicles (EVs) are one of the best technological developments of our time. By creating an EV ecosystem, it is possible to cut down significantly on the global greenhouse emissions and build a more sustainable future. The technology sector must pay greater attention to this arena. At Chargeup, we are building Bharat's largest battery-swapping network with a focus on supporting EV adoption in India. Our Battery as a Service (BaaS) solutions are a lot more affordable and convenient for the users with no upfront cost. The batteries are monitored and managed using an AI-powered connected intelligence software that tracks the battery's health, and discharge status and also guides the EV to the nearest Chargeup swapping station when needed.

Vaibhav Tewari, Co-Founder & CEO, Portea Medical: The pandemic highlighted how technology must play an even larger role in ensuring high-quality healthcare support to the masses. From the conventional practice of the patients going to hospitals for treatment, modern technologies have enabled robust remote and doorstep care delivery. This new model of care is revolutionizing the sector and also making it a lot more sustainable. Today, we are using the most cutting-edge tools and processes to optimize healthcare outcomes alongside devising ways to reduce medical waste which is averse to environmental wellness. Going forward, Portea Medical believes that innovation and evolution of health-tech will further make it possible to enhance the sustainability of healthcare operations globally.

Prashant Kashyap, Co-founder & COO, Connect & Heal: Technology, innovation, and human expertise must go together in the digital age, especially in the healthcare sector. At Connect and Heal, we are leveraging technology to create a holistic end-to-end healthcare management ecosystem for the people. During this pandemic, we discovered that teleconsultation is a powerful medium to get access to high-quality health outcomes for the majority of the cases of both acute and chronic diseases. Similarly, we can enable better access and higher accountability of care using technology in health care. By bringing together doctors, paramedics, providers, emergency services like ambulances, working with corporates and payor - we have an unprecedented opportunity to create a technology-led change in healthcare delivery. As the national health stack gets operational and adopted, we can bring accountability of care, the choice for the patients and caregivers, interoperability for seamless

continued care, and transparency using technology as the backbone of this transformation.

Karan Shaha Co-Fonder and CEO, Vahak:The logistics and transportation sector is witnessing a massive and multi-faceted technology-driven change. The need for sustainability and efficiency as well as the speed of operations has necessitated fundamental changes in operations. While electric vehicles tackle on-road problems like pollution and sustainability, it is the cloud-based transportation platforms and marketplaces that will transform the operational side of logistics. Vahak has built a robust tech-based marketplace in the form of a smartphone and web app wherein truckers, shippers, and manufacturers from all over India are able to find loads & lorries for their business. In the wake of the pandemic when logistics operations suffered significantly, Vahak emerged as a live transport market that kept the wheels rolling and has enabled greater earnings for the Indian logistics sector players. Going forward, technology is set to play a much greater role in the Indian logistics sector and make it competitive at the global level.

Vishwastam Shukla, CTO of HackerEarth: 21st century technologies and the Industrial Revolution have long been blamed for the climate issues we see today. With the advent of digital and data technology, the tech sector can play a huge role in building sustainable and eco-friendly systems for the future. Companies need to start working with a 'technology ecoadvantage" and build sustainability goals into their processes. A combination of process automation, carbon data transparency, and clever product design can help companies achieve profitability with an eye on net-zero and other ESG goals. By rethinking the traditional, companies can affect major changes in the areas of digitized operations; product and service design; cloud computing; and data sharing and ecosystem building and management.

Chaitanya Chokkareddy, Chief Innovation Officer, Ozonetel: In our sector, cloud communication technologies enabled remote-working and business continuity for thousands of businesses. In fact, over the last ten years, cloud communications have been on an unstoppable rise. With technological advances and government support, we can see a thriving business environment that shows no sign of slowing down. Moreover, because AI and cloud are interlinked, cloud transformation is also essential for companies to drive digital transformation and automation. Here cloud technology enables businesses to integrate their communications with other cloud tools to break silos and transform the role of contact centres. Today cloud communications are evolving into digital-first, automation-first solutions that enable personalized interaction on every channel and at every step of the customer journey. It's all about learning to blend human and AI support perfectly at critical customer touchpoints.

Rajesh Uttamchandani, Director, Syska Group: Brands have been sharpening their expertise in cutting-edge technology as it has altered our lives, from the evolution of voice assistants to the introduction of smart products. The technological era has charged an exhilarating stage in the smart product market, delivering consumers with unique and improved smart home technologies which are leaning towards an interconnected, easy-to-control habitat. Lifestyle patterns are constantly shifting, not just as a result of external forces, but also because of shifting consumer patterns fuelled by the rapid growth and adoption of innovative technology. Hence, brands today are offering products basis evolving necessities and are prioritising around incorporating technology for a sustainable environment

Irfan Pathan, Co-Founder & CEO, Pi Green Innovations: Technology and tech-led innovations have been a game-changer for the environment and society. Recently we have observed massive progress in technological innovations across multiple businesses particularly, in the environmental health space. Technology is taking over the world, and we can safely say that it has the potential to provide solutions for most of the problems across sectors. Environmental issues are no different. Today with the help of evolved and advanced technologies, one can address and beat air pollution. Pollutant monitoring devices, retrofits, scrubbers and similar solutions are promising technologies that have

contributed to the system. We have introduced the patented 'Filterless Carbon Cutter Technology', a revolutionary innovation rated as one of the best technologies globally to reduce air pollution.

Rajesh Kabra, Managing Director, RR Parkon: In the recent years, technology has played a huge role in the country's development and advancing its infrastructure. Today with the increase in urbanisation, cities are facing a crunch at every aspect, especially the rising congestion on roads disrupting the free flow of traffic. With the advancement in technology and smart parking solutions, this issue can be handled well. The integration of Information Communications Technology (ICT) solutions and the use of Internet of Things (IoT) and data have greatly improved the overall efficiency of the Indian parking industry. Today, we are able to eliminate the need to drive around in circles endlessly in search of a parking space ensuring that we, drivers save time while contributing to reducing emissions as well.

Dhruvil Sanghvi, Founder & CEO, LogiNext: Within the logistics sector, traditional digitization efforts have lasted several decades, however most of these technologies are now obsolete or based on on-premise solutions. Cloud computing has revolutionised numerous businesses, including logistics. Software as a Service, or SaaS, has emerged as a winning business model for new high-growth technology companies. Customers and technology suppliers both profit from this. Customers benefit from a product that is constantly upgraded, and it lowers the bar for technology providers to produce better products. Working in the SaaS space, I have seen that this model significantly reduces software costs. In addition, once a piece of software is produced and deployed in the cloud, it requires very little upkeep. When software was installed on-premise, a specialised support team was necessary, and each deployment required many servers to manage. There is only one deployment using SaaS, and it is delivered over the cloud. This translates in gross margins of 85 percent on average, which is a fantastic standard

Ravi Chhabria, Managing Director, NetApp India: Innovation is at the heart of everything we do, and it all starts with our ability to harness the power of the data we have and use it to change people's lives. Management of storage, regardless of where it exists across clouds, infrastructure, and as a service, has become a vital competence for all enterprises as India experiences the age of cloud adoption and data explosion. Our industry-leading storage infrastructure capabilities may be expanded to any format – on premises and in the cloud – and even between cloud service providers using ONTAP. This is the cornerstone for hybrid multi-cloud, and it also simplifies the management of both structured and unstructured data, reaping tremendous benefits in terms of manageability, storage efficiency, and interoperability. The team in India is responsible for a large portion of this effort.

Rajesh Sinha, Founder and Chairman Fulcrum Digital: On National Technology Day, I'd like to honour and celebrate the contribution of Dr. APJ Abdul Kalam as a scientist, people's President, and exceptional teacher. His exemplary work in the fields of science, technology, and rural empowerment has always inspired me and the world. I also want to take this opportunity to appreciate and applaud our scientists, innovators, and technologists playing a pivotal role in transforming lives with deep tech solutions. Similarly, at Fulcrum Digital, we are on a relentless pursuit of making lives better with the power of our digital platforms. We help customers bring technologically advanced and future-ready products faster to the market through our integrated suite of platform, digital engineering services, and technology consulting.

Paresh Zaveri, Chairman & Managing Director, Aurionpro Solutions: Buckminster Fuller, an American architect once said 'You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete'. The quote clearly defines the need & capability of model improvisation to develop, change & implement the new technologies in everyday life for all firms & entities. Technological innovations will be key to the futuristic survival of all industry sectors. We at Aurionpro Solutions are committed to innovate, adapt and succeed in leveraging emerging tech to build products of the future, and placing customer needs at the core of what we do. As we

celebrate National Technology Day, I'd like to express my gratitude to all our tech leaders for doing their best to place India at the forefront of global tech innovations.

Shaina Ganapathy, Head of Community Outreach, Embassy Group: As a country, we are steadfastly moving towards a digital tomorrow. Technology has become extremely important for businesses looking to expand on the impact they create. At Embassy, we believe in empowering students of government schools with the skills for self-development and future employability through holistic and innovative learning programs. Particularly in this area, technology has enabled us to reach those that are otherwise difficult to reach, and teach in innovative ways that were not thought of before. 'EdTech' has brought us smart classrooms, digital learning and evaluation, and a whole plethora of learning content with it. This National Technology Day, we commemorate how technology has enabled us to improve the ways we can support our communities by leaps and bounds – we are excited to watch and learn from its steady growth.

Prasad Sreeram, Co-founder & CEO, COGOS: In this dynamic era of evolution, technology is the only constant, depending on which businesses survive and thrive. Use of technology has put logistics sector out in front and made it a backbone of the economy. Tremendous growth has been seen through it and with innovations that results in even better efficiency, the sector looks to grow in folds.

Aveekshith Bushan Regional Director & General Manager - Asia Pacific Aerospike : Throughout the pandemic, the Indian technology industry was instrumental in enabling both the global and Indian end-user to keep the lights on. We helped end-users live and work online and transform businesses into digital enterprises. In India, Aerospike and other leading technology companies are continuing to help by finding solutions for supply chain issues, online fraud, and increasing shopping cart size. Many of the core server features of the product have been built in the India office. Further, much of the ecosystem and connectors have been designed and built here as well. As we all know, India is a large center for engineers and developers. Aerospike strategically leveraged some of the top engineers to create the Aerospike Database 6 which powers the Aerospike Real-time Data Platform and they continue to shape the future of the product.

Gaurav Burman- VP & APAC President, 75F, India: Technology is now fully integrated into our lives, and we are witnessing a global evolution of technology and data every day. Technologies like IoT, AI & ML, cloud computing, and building automation have taken the world by storm. Such innovations and the use of intelligent building management systems (BMS) are now witnessing more demand and development than ever. On that front, India's technological advancement is prominent and it also contributes to the global developments in a major way. India ranks third among the most attractive investment destinations for technology transactions in the world. According to IBEF report, India now ranks 46 among 50 countries in the Global Innovation Index (GII); up from 48th in 2020. The prolonged Covid-19 pandemic has highlighted the importance and accelerated the implementation of digital technologies in all avenues. Although we are getting more tech-savvy and technologically adept, we must not lose sight of the need of living in an environmentally sustainable manner. Technology is boosting the economies and industries on a global scale for the past few decades, but the most important aspect of our technology for the future is cleaner and greener technology.

Sandeep Mukherjee, Director, Fluent Commerce- India: Due to the pandemic, there's possibly no part of the world that has not turned to technology to alleviate the inconveniences caused by lockdowns, travel restrictions and supply chain delays in the last few years. In the same race, India upped its game and is currently third in the world as the most attractive investment destination for technology transactions, suggesting that its technological fields have evolved significantly. The pandemic also transformed consumer buying habits in India, with e-commerce penetration numbers shooting up as consumers became more comfortable making purchases online. According to the Payoneer report, during this time the Indian e-commerce sector moved up to 9th in cross-border growth in the world

with a 21.5% increase expected in 2022. Simultaneously, there was a need to improve the fulfillment and delivery operations of retailers, which could only be accomplished by implementing effective and highly flexible Order Management systems. People now prefer online shopping and doorstep deliveries, making efficient and convenient order fulfillment even more vital for business success. Thanks to technological innovation and effective resource management, the sector can now soar higher than ever before to fulfill the current demands of the new business ecosystem, such as e-commerce, no-contact deliveries, dark stores, and surge in temperature-controlled storage and transportation.

Sidharth Kulbhaskar, Founder, Myla.in: We must remind ourselves of the saying of Steve jobs. “ It’s not a faith in technology, it’s faith in people” . The best technologies always have ingredients of empowering people and bringing them together both as the creator and user of the technology. As humans we shouldn’t forget it.

RK Shenoy, Senior VP – Mobility Engineering, Bosch Global Software Technologies:The world has witnessed tremendous technological improvement in the last decade. The technology available today is powerful and increasingly transformative with substantial impact in sectors such as Mobility, healthcare, manufacturing, oil and gas, agriculture, etc. Majority of businesses are amid navigating their digital transformation journey and are investing in Innovation and R&D to deliver effective products and services, keeping the User-Experience in mind. With emerging technologies like Artificial Intelligence, Digitization and Software defined products combined with Electronification, every domain is helping in improving the quality of life of people across the world, creating newer business models to generate recurring revenue and strive for better operational efficiencies. Today, as India observes National Technology Day, it is important that we acknowledge how technology is aiding in providing innovative and sophisticated business offerings. At Bosch Global Software Technologies (BGSW), we expect an increased penetration of technologies such as Cloud computing, Big data, AIoT, Robotics and Edge computing, in every domain we are working in. The success lies in applying these technologies using our core domain competence to create new products and services while providing high quality offerings at competitive pricing. We, at BGSW have also strengthened our innovation focus with targeted investments in Center of Excellences, and nurturing best-in-class talent, both in-house and at Academia, while enhancing capabilities to hone global technology leaders for the next techade.

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