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Semiconductor Diplomacy – New Dimension in US-China Tensions: Counterpoint

The past several months have seen rapid developments in the US policies on the deeply intertwined matters of China and semiconductors. The current semiconductor shortage has convinced the US and China alike that they are overdependent on for-



eign manufacturing for their domestic semiconductor needs, which not

only poses a challenge to commercial activity but also to national defense. Both have concluded that reshoring critical aspects of these supply chains is the key to protecting their economies, even if these efforts likely will not impact the current shortage. But semiconductor policy is not just about preventing future shortages, it is also increasingly about great power competition.

While China is a leading manufacturer in many areas, it continues to lag South Korea and Taiwan in semiconductors. This has been an area of concern for the government, which made semiconductor self-sufficiency a priority in its 13th Five-Year Plan as well as last year's 14th Five-Year Plan. China has managed to boost production but still needed to import over \$300 billion worth of chips in 2020. Over the next five years, China will continue its massive investments in semiconductor R&D and manufacturing.

In the US, meanwhile, conversations surrounding

semiconductors are increasingly being framed in terms of a tech "Cold War" with China. During deliberations over last year's defense Bill, Congress authorized new measures that would contribute to the construction of new fabs, increase funding for semiconductor R&D, and forge new public-private partnerships with American tech companies. One of the driving rationales in favor of these programs was that they were necessary to maintain America's global standing and combat China's rise, showing the growing importance of technology to national security and economic health. As notorious China hawk Senator Tom Cotton (R-AR) warned in a special report, if Congress failed to act, Americans would "wake up to discover ourselves poorer, weaker, and disadvantaged by a global order dictated by China".

The rivalry-fueled focus on semiconductors has already begun to impact private firms. The Department of Defense expanded its contract with American semiconductor manufacturer GlobalFoundries by \$400 million, leading GlobalFoundries to purchase 122 acres of land for potential expansion of one of its facilities in New York. Additionally, TSMC will build a new fab outside of Phoenix, Arizona, with financial support coming from the municipal, state and federal governments. But the real heft of government assistance is yet to come.

This past month, President Biden issued an executive order that called for the review of four supply chains for critical products, including pharmaceuticals, high-capacity batteries, critical minerals and semiconductors. This order was driven by

concerns over US dependence on other countries, especially China, for personal protective equipment during the pandemic. He additionally called on Congress to pass legislation to fund the measures authorized in last year's defense Bill that would boost domestic manufacturing and research in semiconductors (the Bill authorized these programs but did not allocate funds for them). Recent reports indicate that funding for these measures is likely to draw bipartisan support, as Republicans and Democrats increasingly agree that China's influence must be curbed.

There is a message in the measures that both countries are taking - overdependence on a handful of countries' production generates risks that diversification can mitigate. Plus, subsidizing private firms to develop overflow capacity for emergencies or shortages like the current one will save headaches later. But China and the US must be careful. The more they decouple their economies, the smaller their overlap in interests and room for cooperation will be. Currently, the two countries are interdependent on one another and other major chip manufacturers, creating a broad interoperable tech ecosystem that businesses and consumers have benefitted from. Self-sufficiency, or full decoupling, would disrupt this mutually beneficial arrangement and make the US and China less secure than they currently are. Instead, the two countries should invest in emergency production capacity for chips, and then work toward new avenues for cooperation in technology. Otherwise, the "Cold War" narrative may become a reality.

Mobile Manufacturers To Invest Rs.1300 Crore In December Quarer Despite Challenging Times

As per the Quarterly Review Reports for the quarter ending December 2020, in the first 5 months



of scheme operation and despite challenging times, the applicant companies have

produced goods worth ~INR 35,000 crore and invested ~INR 1,300 crore under the scheme. Additional employment generation during this period stands at around 22,000 jobs.

Also, other major achievements in PLI being implemented are extending an incentive of 4% to 6% on incremental sales for a period of five years subsequent to the base year. The scheme was notified on 01.04.2020; last date for application was 31.07.2020 and the scheme commenced on 01.08.2020. The scheme has received a very encouraging response.16 applications were approved under the first round of the scheme (5 companies under Global Champions Category, 5 companies under Domestic Champions Category and 6 companies under the Electronic Components category) with an incentive outlay of INR

36.440 crore.

After the success of the First Round of PLI Scheme, the Second Round of PLI Scheme has been launched on 11.03.2021, which focuses on building a vibrant and robust electronic component manufacturing ecosystem. The last date for application was 31.03.2021. Under the Second Round, incentive of 5% to 3% shall be extended on incremental sales (over base year, i.e., 2019-20) of goods manufactured in India and covered under the target segment, to eligible companies, for a period of four years. Applications received under the Second Round of PLI Scheme for Large Scale Electronics Manufacturing are in the process of appraisal.

The approved companies under the PLI Scheme for Large Scale Electronics Manufacturing include Samsung, Foxconn Hon Hai, Rising Star, Wistron and Pegatron. Out of these, 3 companies namely Foxconn Hon Hai, Wistron and Pegatron are contract manufacturers for Apple iPhones. Apple (37%) and Samsung (22%) together account for nearly 60% of global sales revenue of mobile phones and this scheme is expected to increase their manufacturing base manifold in the country. Indian companies including Lava, Bhagwati (Micromax), Padget Electronics, UTL Neolyncs

and Optiemus Electronics were approved under the scheme. These companies are expected to expand their manufacturing operations in a significant manner and grow into national champion companies in mobile phone production.

The PLI Scheme for Large Scale Electronics Manufacturing also focuses on building a vibrant and robust electronic components manufacturing ecosystem. This step will further strengthen product manufacturing in India for multiple sectors such as IT Hardware, LED Products, Automotive, Medical Devices, Solar Cells, Energy Storage, etc. for which other PLI Schemes are going to be implemented.

Over the next five years, the Scheme is expected to lead to a total production of about INR 10.5 lakh crore. More than 60% of production is expected to be exported. The scheme is also expected to bring in additional investment of INR 11,000 crore. Value addition is expected to go up from 20-25% presently to 35-40% by 2025. The scheme will generate approximately 2 lakh direct employment opportunities in next 5 years along with creation of additional indirect employment of nearly 3 times the direct employment.



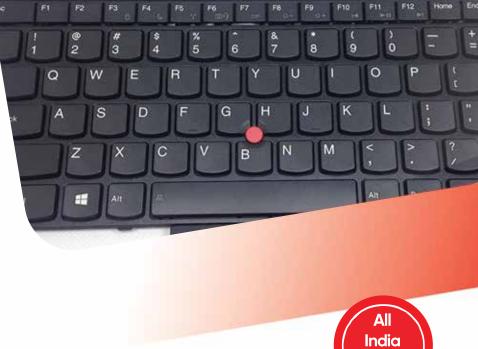
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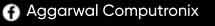
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Powering the Indian Manufacturing Sector

With the objectives of making Indian manufacturers globally competitive and making India an integral part of the global supply chain, the Government introduced the Production Linked Incentive (PLI) scheme to boost domestic manufacturing in India, in the three sectors of large-scale electronics manufacturing, medical devices, and pharmaceuticals to



The idea for this incentive plan is to partly account for some additional costs that Indian producers

face due to gaps in infrastructure, power, and logistics. By targeting additional manufacturing capacity and turnover, it also encourages greater investment for addressing export markets with higher competitiveness. The scheme is set to be in force for 5 years, bringing manufacturing to US\$ 520 billion in these sectors.

To establish India as a major hub of electronic manufacturing, the PLI scheme was launched for Mobile Phones and Specified Electronic Components amidst the Coronavirus pandemic and was notified on April 1, 2020. The scheme extends an incentive of 4% to 6% on incremental sales of goods under target segments that manufacture in India to eligible companies for five years (with the base year as FY

16 companies were approved under the first round of the scheme by the Ministry of Electronics and Information and Technology (MeitY) for large-scale manufacturing of Mobile Phones and Specified Electronic Components. This gave a major impetus to the sectors and attracted interest from manufacturing companies, both at the global as well as the local

Despite the challenging times during the Covid-19 pandemic, the companies under the scheme, including top global mobile phone companies, produced goods worth approximately INR 35,000 crore (INR 350 billion) and invested around INR 1,300 crore (INR 13 billion).

Following the scheme's resounding success in the mobile manufacturing and electronic sector and its ability in bringing in large inward investments, it was further extended to 10 more identified champion sectors with an outlay of INR 1,45,980 crore (INR 1459.8 billion. Sectors covered included Advance Chemistry Cell (ACC) battery, electronic/technology products, automobiles and auto components, and pharmaceutical drugs, among others.

Given the encouraging success of the scheme and keeping in line with the Prime Minister's clarion call for an 'Atmanirbhar Bharat', PLI was recently announced for the Indian telecom sector, during February 2021, with an outlay of Rs. 12,195 crores (INR 121.95 billion) over five years, to make India a global manufacturer of telecom equipment. Apart from telecom equipment manufacturing, the scheme covers 4G/5G Next Generation Radio Access Network and wireless equipment, Internet of Things (IoT) access devices, other wireless equipment, and enterprise equipment such as switches and routers,

The scheme proposes various financial incentives to eligible companies in the telecom and networking products sector and also aims to support the growth of the micro, small and medium enterprises (MSMEs) by encouraging the production of locally made products.

The implementation of the scheme is set to begin in April 2021 and is expected to bring in investments greater than INR 300 crore (INR 3 billion) and local production worth Rs. 2.4 trillion, of which exports alone account for Rs. 2 trillion.

EDITORIAL

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It is estimated that the scheme will create around 40,000 direct and indirect employment opportunities in the country and generate tax revenues to the tune of INR 17,000 crore (INR 170 billion), from telecom equipment manufacturing. Further, the scheme is expected to drive Intellectual Property (IP) and design-led manufacturing while also focussing on research and development to help Indian companies compete at the global level.

With many of the identified sectors being labour intensive, the umbrella scheme is expected to create significant gainful employment opportunities in the country, while also attracting global manufacturing companies to set up units and invest in India.

The scheme was also announced for IT hardware products including laptops, tablets, all-in-one personal computers, and servers with a total cost proposed estimated at around INR 7,350 crores (INR 73.5 billion). It is expected to further develop India's electronics ecosystem while positioning India as a global destination for Electronics System Design and Manufacturing and a hub for global exports of IT hardware products.

Router demand picked rapidly by 57.8% YoY to support the growing demand of employees and students

Indian networking market is one of the fastest growing market due to increase in demand of connectivity. In recent times, especially post pandemic, demand of internet connection has increased due to WFH & LFH trends. This lead

to gaining good momentum in demand across major market. According to IDC's Worldwide Quarterly Wireless LAN (WLAN) Tracker, the Indian WLAN market had a YoY growth of 8.8% during Q4 2020. The market stood at USD 61.7 million (by Vendor Revenue) majorly contributed

by consumer gateway routers. While enterprise class WLAN took a significant decline of 26.3% YoY, the consumer gateway router demand picked rapidly by 57.8% YoY to support the growing demand of employees and students working out of their homes.

Despite a growth of 8.8% in the WLAN segment, the enterprise class WLAN segment continues to

> remain the most affected networking segment with a significant decline of 26.3% YoY owing to the slowdown in campus investment caused by COVID-19. However, the sluggish enterprise class market was compensated by the growth of consumer gateway routers with a staggering 57.8% YoY growth during Q4 2020. The

growth in the consumer gateway routers was due to the remote working and online schooling With a market share of 33.2%, TP-Link was the market leader in the WLAN segment during Q4 2020, followed by D-Link due to the rapid increase in demand for consumer gateway routers. Cisco and Hewlett Packard Enterprise were the key vendors driving the market for enterprise class WLAN during Q4 2020.

Enterprise class WLAN remains to be most affected segment since the COVID-19 driven lockdown owing to the drop in campus investments. However, the market is opening with multiple enterprises looking out to adopt clouddriven WLAN that will enable management effi-

Manufacturing and professional services are the top verticals contributing to the enterprise WLAN business with investments coming from automobiles, and pharmaceutical enterprises. Business from other key verticals like government and education remained slow.

requirements.

Source: IDC's Worldwide Quarterly WLAN Tracker, Q4 2020

■ TP-Link ■ D-Link ■ Claco ■ Hewlett Packard Enterprise ■ Not

India Top 5 WLAN Companies, Q4 2020

Vendor Revenue Market Share

More than half of Indian organisations admit to falling victim to a successful cyberattack in the last 12 months

Sophos, a global leader in next-generation cybersecurity, announced the findings of the second edition of its survey report, The Future of Cybersecurity in Asia Pacific and Japan,



collaboration with Tech Research Asia (TRA). The study reveals that despite cyberattacks increascybersecurity budgets have remained stagnant and executive teams continue to underestimate the level

damage threats can do to organisations. Insignificant rise in budgets, despite significant rise in attacks

In India, despite having the highest percentage of companies with an independent security budget, 52 per cent of organisations say they fell victim to a successful cybersecurity attack in the last 12 months. Of these successful

breaches, 71 per cent of organisations admitted it was a serious or very serious attack, and 65 per cent said it took longer than a week to remediate

While attacks are increasing in frequency and severity, cybersecurity budgets remained largely unchanged as a percentage of revenue between 2019 and 2021. At the same time, India reported the highest percentage of companies that have an independent security budget. Furthermore, they expect a rise in the median percentage of technology budgets spent on cybersecurity from 9 percent today to 10 percent in the next 24 months.

Adding his thoughts, Sunil Sharma, managing director – sales, Sophos India and SAARC, said, "Cyberbreaches are a reality that we cannot afford to ignore. Within an organisation, there will always be multiple threats that can exploit various vulnerabilities and launch full blown cyberattacks. The only way to stop these threats is to actively hunt for them and neutralize them. This makes threat hunting an important function to mitigate the damage caused by cyberattacks. Hence, there is a strong need for increased cybersecurity budgets to include threat hunting in house or outsourced services

like managed detection and response (MDR). Our findings show there is budget allocated for cybersecurity in India, but it isn't enough. Indian organisations need to view cybersecurity as a value to the business and increase their budgets accordingly."

Overall, 44 per cent of Asia Pacific and Japan (APJ) organisations surveyed suffered a data breach in 2020, up from 32 per cent in 2019. Of these successful breaches, 55 per cent of companies rated the loss of data as either "very serious" (24 per cent) or "serious" (31 per cent). Seventeen per cent of organisations surveyed suffered at least 50 attacks, per week. As cyberattacks continue to rise, the report found that malware, Al/ML-driven attacks and nation state attacks will be the most serious threats to enterprise cybersecurity over the next 24 months

"Ultimately, security is about right sizing the risk. If the risk increases, budgets should also increase, but in this climate of uncertainty, we've seen organisations take a conservative approach to security spending, which is impacting their ability to stay ahead of cybercriminals," said Trevor Clarke, lead analyst and director at Tech Research Asia.



Canon India appoints Manabu Yamazaki as new President & CEO

Canon India Pvt. Ltd., the global leader in imaging technologies, announced the appointment of Mr.



Manabu Yamazaki as the new President & CEO for Canon India, effective April 1, 2021.

In his new role, Mr. Yamazaki will be spear-heading Canon's business strategy and operations in India. Before his new role,

he was working as the Chief Regional Officer for the brand in Eastern China, overseeing various functions in the APAC region. Mr. Yamazaki has been associated with Canon since 1989 and has also been a notable contributor in business management across European, Middle Eastern, Russian, and African markets.

Commenting on his appointment, Manabu Yamazaki newly appointed President & CEO said, "I am delighted and excited to join Canon India and to work closely with a team of highly skilled professionals here. As a vibrant nation, India is brimming with entrepreneurship and holds vast potential for exploring newer creative avenues. We, at Canon, are fully committed to the Indian market and I am looking forward to building on Canon's track record of success and innovation and continuing to deliver value and delight to all stakeholders. Considering the vast reach and diversity, we will continue with our endeavour of expanding product propositions and presence across different parts of the country."

Praveen Jonnalgadda promoted as Chief Information Officer (CIO) at Commscope

Praveen Jonnalgadda has recently been promoted as Chief Information Officer (CIO) at Commscope.



CommScope is a global company with operations in India as well and Praveen was key in opening its capability centre in Hyderabad in 2013, creating employment opportunities in Telan-

gana. Praveen, who hails from Miryalaguda, holds a master's degree and PhD in Artificial Intelligence

from the department of Mathematics, Osmania University.

Praveen has over 20 years of experience in leading global teams in product engineering, software development, manufacturing, supply chain and information technology. At Commscope, he is responsible for implementing a digital strategy. He joined CommScope in 2008, having previously filled leadership roles at Ford Motor Company and Sun Microsystems. The CIO Executive Council named Praveen one of their 50 'Ones to Watch' technology leaders in 2018.

NEC India rolls out digital-first campaign 'NEC Makes It Happen'

NEC Corporation India (NEC India), a wholly-owned subsidiary of NEC Corporation, has



launched its digital-first campaign titled 'NEC Makes It Happen'. The first campaign following NEC India's rebranding announcement, underpins NEC as a market leader adding value in

people's everyday lives.

The overall campaign premise underlines NEC's promise to 'Orchestrate a brighter world' by leveraging technology to build a safer and secure society. The campaign seeks to strike an emotional chord with its audience through social and digital channels while showcasing the world-leading

technological innovations that empower a billion Indians.

Here's a look at some of the life-changing innovations implemented by NEC in India:

- AADHAAR, a nationwide digital identity system, enabling 1.3 billion Indians to access a wide range of valuable services
- Submarine cable project, powering high-speed internet in the Andamans, opening a world of possibilities for the islanders
- Biometric airport solutions enable faces to become boarding passes under the new normal
- A comprehensive suite of Al-based biometric systems and solutions to ensure trust and keep India and its residents safe
- Real-time visualization systems to enable efficient and seamless logistics systems

Amit Chadha takes charge as CEO & MD of L&T Technology Services

Amit Chadha has taken over as CEO & Man-



aging Director of L&T Technology Services effective April 1, in line with previous disclosures made to stock exchanges dated October 19, 2020. Prior to his elevation, he was

serving the company as Deputy CEO & Whole-Time Board Member.

Amit joined LTTS in 2009 and has been a core member of LTTS' executive management team,

closely involved in the company's listing on stock exchanges in 2016. Subsequently, he progressed to assume charge as President, Sales and Business Development, where he was responsible for helping global R&D customers and Fortune 500 companies leverage LTTS' digital engineering offerings for their strategic differentiation and product development.

On his appointment, Amit commented, "The ER&D services sector is poised to play a critical role over the next decade as confluence of engineering and technology reshapes the products and services of the near-future.

Linksys and Fortinet Announce Strategic Alliance to Deliver Enterprise-Grade Performance and Security for Work From Home Networks

Linksys, a global leader in wireless networking



products, a subsidiary of Foxconn Interconnect Technology (6088. HK) ("FIT") and Fortinet, a global leader in broad, integrated and automated cybersecurity solutions, announced a strategic alli-

ance with the intent to further secure and optimize the performance and management of home networks in today's work from home environment.

Together, Fortinet, Linksys, and FIT will offer enterprise-grade connectivity and security and unparalleled quality of service to organizations that need to provide seamless and secure connectivity for their employees to efficiently work from home.

As part of the alliance, Fortinet has made a strategic investment of \$75M in Linksys, which provides leading and next-generation router connectivity solutions to consumers and businesses worldwide. In addition, Fortinet will appoint a representative to the Linksys Board of Directors.

Cygnet Infotech launches the latest version of Cygnature – an E-signing solution for all businesses

Cygnet Infotech, a global Technology Products & Services company announces the launch of its lat-



est version of Cygnature
– an electronic signing
solution offering secure,
legally valid e-signatures.
The latest version includes
a module designed for the
pharma, biotech and medical equipment companies

to help them in the FDA CFR Part 11 compliance. ygnature offers a wide range of signature types including electronic signature, digital, national ID sign, biometric, LIVE, photo sign and others. Every signature transaction captures the timestamp, IP address, Lat/ Long, device used, and browser used, in order to maintain absolute transparency in the documentation. Cygnature also allows businesses to integrate the software into their system with the use of API. With the use of custom bots, companies can seamlessly automate repetitive document uploading which saves a lot of time and prevents manual errors while focusing on core activities and scaling up quickly, on demand.

With Cygnature, users can sign documents from anywhere, anytime using any device quickly. Some of the strengths of the solution include providing highest security with encryption and blockchain. Further, it also tracks all the details of the signer like IP Address, Browser and Device details, Google Maps Location and Timestamp. There are ready API's to integrate into business systems such as web portals, applications, or website, and Cygnature offers both on cloud and on premise model.





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Panasonic India announces its versatile and semi-rugged notebook TOUGHBOOK FZ-55

Panasonic India has announced its versatile and



semi-rugged notebook TOUGH-BOOK FZ-55. The new Panasonic Notebook offers versatility in form of flexible device

management (flexible configuration options), high security (new generation advanced security system) and is designed for mobile working while ensuring high performance (across in-vehicle and on field). Aimed at professionals across automotive industry, federal/ public safety, utilities, defence and pharmaceutical. This Notebook shall be available through Panasonic partners.`

Providing a seamless and customised experience to meet diverse needs, the Notebook comes with TOUGHBOOK Universal Bay that enables users to update new functions on their device from anywhere at any time. The device is an ideal choice for work on-the-go, with its expandable battery life of 40 hours – supported by the swappable additional battery. FZ-55 comes pre-installed with Windows 10 Pro and the new 8th generation Intel Core 15 VPro Processor to deliver high-speed computing power and a warranty of 3 years.

This Notebook features a honeycomb-style magnesium casing with carry handle, the FZ-55, is armed with 8GB RAM extending up to 32GB, 256GB/ 512GB and 1TB SSD options. The device comes in-built with an efficient 10-finger input and delivers superior performance even in extreme weather conditions. It comes with the latest WAVE and MIDI playback, Intel® High Definition Audio subsystem for the high-quality multi-channel audio experiences. Offering high-speed data transfer with a USB 3.1 Type-C port that is compatible with Thunderbolt™ 3*4 and USB Power Delivery, the device has been designed to meet all mobile computing needs in extreme operating conditions.

Lenovo Launches Featherweight, Premium Yoga Slim 7i Carbon

Lenovo announces the launch of Yoga Slim 7i Carbon in India. This incredibly light, premium,



and astoundingly strong laptop packs a punch with the latest 11th Gen Intel® Core TM processor. The Intel Evo Plat-

form-based laptop is built for always-on-the-go business leaders, entrepreneurs, and millennials, to meet their lifestyle needs and to enjoy smarter living.

Starting from 966 g, the Yoga Slim 7i Carbon offers

an incredible blend of toughness and low weight. This is made possible by a sleek cover constructed from multiple layers of carbon fiber, commonly seen in supercars, and proprietary 2nd generation Web-Core 2.0 Carbon Fiber that reduces material weight by up to 40% while increasing durability. This has helped us get the lightest carbon fiber material with 25% higher rigidity. The delicate appearance conceals a rugged durability. Under the eye-catching Moon White carbon-fibre cover lies a machine subjected to Lenovo's strict in-house reliability test and nine military-grade tests for durability, meeting MIL-STD-810G standards.

LG'S 2021 Soundbars Offer Premium Audio And Al Features With Sustainable Design

LG Electronics (LG) is commencing the world-



wide rollout of the 2021 LG Soundbar lineup, with new models delivering a more premium audio expe-

rience, versatility and convenient control while upping the ante with eco-consciousness designs and packaging. The new lineup offers high-quality audio, easy connectivity, smart functionality and stylish aesthetics with a modern look that are designed to complement LG's stunning TVs and works well with any décor.

New for this year, the company's soundbars allow users to take advantage of LG TV's Al Sound Pro feature. Audio from the TV is played through the soundbar via TV Sound Mode Share, delivering the superior audio processing power of Al Sound Pro on the more capable speakers of the new soundbars. LG's soundbars now offer all of the same sound modes as its latest TVs, allowing users to easily switch between the soundbar and the TV using the TV remote.

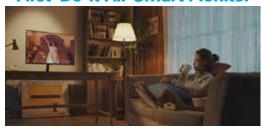
Zebronics Unveils Alexa Powered 'ZEB-Smart Bot' Smart Speaker



Zebronics launched its first smart speaker dubbed' ZEB-Smart Bot' that can remotely control appliances and has built-in Alexa for Listen to the headlines, play an audiobook, remotely control your devices, set schedules and appointments, there is so much more that one can do with. ZEB-Smart Bot smart speaker comes in a minimalist design with media/volume controls on the top that includes a microphone mute button.

voice-enabled assistance.

Samsung Launches the World's First 'Do-It-All' Smart Monitor



Samsung, India's largest and most trusted consumer electronics brand launched its all-new Smart Monitor with an innovative, Do-It-All screen that lets users enjoy Netflix, YouTube, Apple TV and other OTT apps, remotely connect with their office PC and also edit documents using Microsoft 365.

Designed to meet the ever-evolving needs of Indian Gen Z and millennials who are working, learning and consuming entertainment at the same time, the premium lifestyle Smart Monitor incorporates powerful mobile and PC connectivity, remote home office and learning features as well as Smart Hub, a comprehensive entertainment hub, similar to Samsung's built-in Smart TV platform, to watch OTT content seamlessly. Users can even get a desktop like experience without a PC by connecting Galaxy phones to the Smart Monitor through Samsung DeX.

The super sleek Samsung Smart Monitor is designed to harmonize with all types of surroundings and add a modern look to your desk. It comes with 3-side borderless display stretching from edge to edge for maximum viewing and a minimalist aesthetic.

Acer launches new Nitro 5 with latest AMD Ryzen 5600H series processor for PC gamers in India

Acer India, unveiled the Nitro 5 gaming laptop powered by the latest AMD Ryzen 5600H high performance processor that comes in 2 new graphics card options which includes the 2nd Generation



Ray Tracing Cores & 3rd Generation Tensor Cores powered NVIDIA RTX 3060 graphics card along with NVIDIA GTX 1650 graphics card for power-packed

gaming, multi-tasking and editing. The powerful processor and graphics capabilities combine to help gamers get the most of the 15.6" screen with a large screen-to-body ratio that boasts up to a 144Hz high refresh rate for a smooth gaming experience. Nitro 5 adds to the gaming experience with the outstanding audio using TrueHarmony™ technology, and with DTS: X® Ultra which features optimized bass, clarity, precision and 6 custom content modes with smart amplifier which supports Windows Spatial Sound for PC Gaming with DTS license integrated.

Both variants pack an RGB-backlit keyboard and can be upgraded upto 32GB RAM for an incredibly fast performance with state-of-the-art cooling using Acer CoolBoost™ technology with quad exhaust port design. It also supports a host of peripherals and accessories with full range of ports, including HDMI 2.0 and the newest USB 3.2 standard with Gen 2 support.

AMD Brings Power of "Zen 3" to World's Best Mobile Processors for Business

AMD announced the AMD Ryzen™ PRO 5000 Series Mobile Processors, bringing the uncompro-



mising performance and efficiency of the "Zen 3" core architecture to premium business laptops. Paired with AMD PRO technologies that offer strengthened multilayer enterprise-class

security features and powerhouse productivity, the new AMD Ryzen PRO 5000 Series Mobile Processors are built to meet the demands of the modern workforce. With broad availability from HP and Lenovo expected starting in Q2, the num-

ber of AMD-powered enterprise notebooks is expected to triple by the end of 2021.

"Navigating an increasingly distributed work environment requires more performance and security from our professional laptops. Businesses need to be confident they are investing in technology that will meet the needs of their employees, whether they are working remotely or from the office," said Saeid Moshkelani, senior vice president and general manager, Client Business Unit, AMD. "The new AMD Ryzen PRO 5000 Series Mobile Processors significantly increase the capabilities of ultrathin enterprise notebooks and deliver best-in-class user experiences with leadership performance, exceptional battery life and robust security features for every work environment."

Intel Launches Its Most Advanced Performance Data Center Platform

Intel launched its most advanced, highest performance data center platform optimized to power the industry's broadest range of workloads —

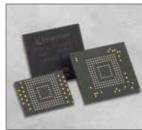


from the cloud to the network to the intelligent edge. New 3rd Gen Intel Xeon Scalable processors (codenamed "Ice Lake") are the foundation of Intel's data center platform,

enabling customers to capitalize on some of the most significant business opportunities today by leveraging the power of AI. New 3rd Gen Intel Xeon Scalable processors deliver a significant performance increase compared with the prior generation, with an average 46% improvement on popular data center workloads.1 The processors also add new and enhanced platform capabilities including Intel SGX for built-in security, and Intel Crypto Acceleration and Intel DL Boost for Al acceleration. These new capabilities, combined with Intel's broad portfolio of Intel® Select Solutions and Intel® Market Ready Solutions, enable customers to accelerate deployments across cloud, Al, enterprise, HPC, networking, security and edge applications.

Kingston Partners with NXP Semiconductors on i.MX 8M Plus Processors

Kingston Technology, a world leader in memory products and technology solutions, announced it is partnering with NXP® Semiconductors



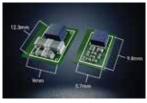
on their new i.MX 8M Plus applications processors. NXP is a leading applications processor developer for creating infrastructure solutions involving smart technology, and Kingston solution is part of the reference board for its latest application processor.

Smart device makers requesting NXP's engineering verification kits featuring the i.MX 8M Plus chipset will see Kingston's eMMC onboard. This creates a terrific opportunity to expand the relationship with NXP and also further showcase Kingston embedded memory solutions to other IoT manufacturers. Kingston's discrete memory and storage solutions were also embedded on NXP's previous-generation i.MX 6 and i.MX 7 series processor boards.

is proud that its eMMC embedded memory

Industry's first DC/DC controllers with an integrated active EMI filter

Texas Instruments (TI) (Nasdaq: TXN) today introduced a new family of synchronous DC/



DC buck controllers that enable engineers to shrink the size of the power-supply solution and lower its electromagnetic inter-

ference (EMI). Featuring an integrated active EMI filter (AEF) and dual-random spread-spectrum (DRSS) technology, the LM25149-Q1 and LM25149 enable engineers to cut the area of

the external EMI filter in half, lower the conducted EMI of the power design by as much as 55 dB μ V across multiple frequency bands, or achieve a combination of reduced filter size and low EMI. For more information, see www.ti.com/LM25149-Q1-pr-in and www.ti.com/LM25149-pr-in.

Reducing EMI in the power supply is a growing design challenge, especially as electronic content increases in advanced driver assistance systems (ADAS), automotive infotainment and cluster, building automation, and aerospace and defense designs.

Qualcomm Announces Successful Data Calls Using 5G mmWave and Sub-6 GHz Aggregation



Qualcomm Technologies, Inc. announced the completion of 5G data calls that successfully combine millimeter wave (mmWave) with FDD or TDD sub-6GHz spectrum by utilizing 5G Standalone (SA) mode Dual Connectivity. Using the 4th-generation Qualcomm® Snapdragon™ X65 5G Modem-RF System and Qualcomm® QTM545 mmWave Antenna Module inside a smartphone form-factor device, Qualcomm Technologies' engineers first aggregated 5G sub-6 GHz FDD with 28GHz mmWave spectrum, then 5G sub-6GHz TDD with 39GHz mmWave spectrum, demonstrating Snapdragon X65's ability to aggregate low-/mid- and high-bands across key global combinations.

Spectrum aggregation, including dual connectivity using mmWave and sub-6 GHz frequencies, is critical to delivering multi-Gigabit speeds and massive capacity required for a new generation of consumer and enterprise applications. Combining different types of radio spectrum will enable mobile 5G devices to wirelessly achieve wired broadband-class speeds, even in challenging conditions such as crowded venues and transit hubs, in addition to powering robust 5G fixed wireless access services in homes and small businesses.

MediaTek and Samsung Introduce World's First Wi-Fi 6E Enabled 8KTV

MediaTek and Samsung introduced the world's first 8K QLED TV – the flagship Samsung 8K QLED



Y21 – powered by MediaTek's MT7921AU, delivering the fastest connectivity experiences through its cutting-edge Wi-Fi 6E capabilities. Following

their announcement of the world's first Wi-Fi 6 enabled 8K TV in 2020, MediaTek and Samsung are yet again driving the smart TV industry forward with the latest connectivity features and premium 8K imaging for unparalleled home entertainment experiences.

MT7921AU supports Wi-Fi 6E and Bluetooth 5.2 from a single, highly integrated platform. With 1.2 Gbps speeds, consumers can enjoy smoother streaming and gaming for uninterrupted entertainment. Wi-Fi 6E is designed to make use of uncongested bandwidth in the 6GHz spectrum and offers numerous advantages over previous Wi-Fi generations, such as significantly faster multi-gigabit data throughput, lower latencies and the latest security and connection reliability features.

POCO unveils the X3 Pro in India

POCO has launched its latest smartphone, POCO X3 Pro building on the #PROformance legacy of



Anuj Sharma, Country Director, POCO India, said, "At POCO, we strive to deliver the best of technology in line with our consumers' requirements. Our rise to the top 3 in the online smartphone space is a testimony to the love from our consumers. Our first phone, POCO F1 launched in 2018 continues to be the performance champion till date being the longest

popular smartphone prevalent in the market." He further added, "Taking the performance legacy forward and in line with the belief of democratizing the market, we are presenting our users with POCO X3 Pro, from our flagship X series. With this smartphone, we are introducing the most powerful smartphone to have ever launched in India under 20,000. Powered by the flagship Qualcomm® Snapdragon 860, POCO X3 Pro brings in features and performance never seen in this segment before. A perfect amalgamation of gaming, photography, and high performance, POCO X3 Pro comes with LiquidCool plus technology for a smooth gaming experience, and features a massive battery with MMT charging technology for a 'never stop' experience. We are delighted to bring this smartphone and look forward to our fans' response."

Motorola introduces moto g¹⁰⁰

moto g100 is secured by the capabilities in ThinkShield for mobile. Security is at the core



of what we do and with ThinkShield for mobile, to deliver best-in-class business-grade security, manageability, productivity and service. On top of our more secure supply chain and adherence to Android's Core Security and Policies, we design

enhanced security into our hardware and firmware through our Platform Security, and create a chain of trust through advanced System Security and security certifications. Additionally, to meet the most rigorous requirements of our enterprise customers, we also offer artificial intelligence-based protection through our partnership with Zimperium, an industry leader in smartphone security and mobile threat defense. Powered by the Snapdragon 870 5G Mobile Platform, moto g100 is the fastest moto g ever with 5G speeds1 and Wi-Fi 6 connectivity for overall incredible performance. moto g100 also boosts augmented and mixed reality experiences, and combined with 5G networks that use sub-10-millisecond latency between head movements and the virtual display, you will find an even more immersive AR/VR experience. To further bring this experience to life, Motorola is partnering with Lenovo to build the next generation of mixed reality hardware and software to their new Lenovo's ThinkReality A3 smart glasses.

Lenovo is the first company to build an end-toend XR1 based solution, offering the mobile phone, AR smart glasses, and a software SDK with a new optimized user interface for phone-toheadset interaction, which helps bring enterprise augmented virtual and mixed reality experiences to market faster.

Chinese smartphone maker Vivo launches the Vivo X60 series in India

All the three models in the vivo X60 series flaunt a 6.56-inch centered punch-hole Super AMOLED display with a resolution of FHD+ (1080 x 2376 pixel), a 120Hz refresh rate, and an in-screen fingerprint sensor. But the panel on the stan-



dard variant is flat compared to curved on the other two.

Under the hood, the vivo X60 and the vivo X60 feature

a Qualcomm Snapdragon 870 SoC while the vivo X60 Pro+ sports a much powerful Qualcomm Snapdragon 888 chipset. For those unaware, the Chinese versions of the first two models are powered by a Samsung Exynos 1080 SoC.

Talking about cameras, the vivo X60 and the vivo X60 Pro have an identical triple camera setup (48MP + 13MP + 13MP) and a 32MP selfie camera. However, although both have Zeiss optics, the primary sensor on the Pro model not only has a larger F/1.48 aperture but also Gimbal Stabilization 2.0. Anyway, the standard model does come with OIS. Whereas, the other two sensors are accompanied by a 2x telephoto lens and a 120° ultra-wide lens that also acts as a macro lens respectively.

On the other hand, the vivo X60 Pro+ features a quad-camera setup with Zeiss T* coating (main camera). This setup includes a 50MP Samsung GN1 sensor with OIS, a 48MP Sony IMX589 sensor with a 114° ultra-wide lens and gimbal stabilization, a 32MP 2x telephoto shooter for portraits, and an 8MP sensor with a 5x periscope lens. Lastly, it also has the same 32MP selfie camera.

Lenovo Unleashes Next Mobile Gaming Powerhouse with the Lenovo Legion Phone Duel 2



L e n o v o announces its new flagship gaming phone, the Lenovo Legion Phone Duel 2. With the number of mobile gamers

increasing to over 2.6 billion last year3 and projected to grow in popularity, mobile gaming has entered into a golden era with a multitude of device choices and more immersive games. But not every smartphone is built the same. If winning matters, the only way to unlock players' gaming potential is with a smartphone designed to win. Engineered for extreme performance, with cutting-edge, gamer-first features designed to give mobile gamers the competitive advantage, the new Lenovo Legion Phone Duel 2 incorporates a second-generation Advanced Technology Architecture (ATA 2.0) for unparallel symmetry when playing in gamer preferred landscape mode. It's intelligently cooled by the incredible combination of an integrated, large passive cooling vapor chamber and active Twin Turbo-Fan resulting in one complete thermal system for peak performance and reliable FPS.

Samsung India Launches #FullOn-Fab Galaxy F12 with True 48MP Quad Camera and 90Hz Display

Samsung, India's most trusted smartphone brand, today launched Galaxy F12 and Galaxy F02s in India. Galaxy F series is Samsung's India-specific smartphones for which Samsung has tied up





with Flipkart. Galaxy F12 comes with a True 48MP quad camera with ISOCELL plus technology, a smooth 90Hz Display and best-insegment 6000mAh battery. Galaxy F02s comes with a

stunning 6.5 HD+ Infinity-V Display and a massive 5000mAh battery.

"Galaxy F has been designed for young millennials in India who want to do more and be more. Galaxy F has already become one of the most popular smartphones on Flipkart. We are now bolstering the Galaxy F line-up with the #FullOn-Fab Galaxy F12 and Galaxy F02s that come packed with features, allowing our young consumers to have fun and express themselves limitlessly.," said Aditya Babbar, Senior Director and Head, Mobile Marketing, Samsung India.

Speaking about the launch, Aditya Soni, Senior Director, Mobiles, Flipkart, said "The partnership between Samsung and Flipkart is driven by a shared passion for being customer-first, at a time when smartphones have emerged to be the new essentials for most of us. The F series has brought together two of the most trusted brands, and the new Samsung Galaxy F12 brings trusted technology to a new segment altogether.

Indian technology services expected to reach USD 300-350 bn in revenues by 2025

As industries across the world witnessed a rapid acceleration in digitization, technology-driven companies are now leading the path to a faster



recovery globally. The National Association of Software and Services Companies (NASS-COM) today launched a report titled 'Future of Technology Services – Winning in this decade' to illuminate the growth observed

by the IT services sector and to provide insights into how to create impact and sustain growth in an ever-changing marketplace. Independent thirdparty research and analysis was conducted by McKinsey & Company as Knowledge Partners With the consumers' ever-evolving needs, enterprises are keeping up with continuous innovation, leading to a shifting global marketplace and 10% annual growth in the IT services sector, generating high returns for shareholders and investors in the last decade.

Being valued at roughly USD 1 trillion today, the technology services sector is now among the most significant contributors to economic growth worldwide, especially in India—the industry now produces about 27 percent of the nation's exports and provides livelihoods to about 4.4 million people. Despite this, players across the sector face challenges like driving growth in revenue per employee and providing them with digital skills. However, with the government playing a more significant role in digital services, increased investment and innovation, and the rise of regional power centers dominated by local players, businesses and the industry will see a mas-

sive transformation in the next decade.

The report highlights that India's technology services industry could accelerate growth by 2-4% over the next five years, reaching USD 300-350 bn in annual revenues if it can win in the cloud, Al, cybersecurity, and other emerging technologies. This will require closer collaboration among stakeholders across the private sector, academia, and the government.

Fueling over 50 digital initiatives across sectors like banking and finance, healthcare, governance, etc., the technology services industry continues to be a prime driver of India's digital dream with a contribution of 8% to the overall economy. With the ongoing pandemic and the pace at which almost every sector has accelerated their digital transformation journeys, the increasing cloud consumption and other digital services like Artificial Learning (AI) and Machine Learning (ML) are making way for the digital and cloud services, with an opportunity to reach USD 600-700 bn by 2025. Coupled with cybersecurity and IoT digital spending, the technology services are expected to reach USD 300-350 bn in revenue by 2025.

Sharing her thoughts on the report launch, Debjani Ghosh, President, NASSCOM, "The Indian Technology services sector can utilize the potential of deep technologies like cloud, artificial intelligence, machine learning, IoT, etc., through effective transformational practices, thereby contributing to the overall economy in the coming decade. The government needs to encourage and support digital literacy and skilling to ensure its talent, energy, imagination, knowledge, and unmatched commitment unites to address the customers' surging needs.

It is equally vital for India to reach a new level of cooperation to continue the remarkable growth observed in the sector. At NASSCOM, we look forward to helping bring people, companies, the government, universities, investors, and customers together to drive innovations that we cannot imagine today—and that will make the nation and the world better, safer, cleaner, more prosperous places."

The next decade will continue to witness growth in technology spend – primarily driven by the rise of technology natives and digital reinventors, new tech-enabled business models like ecosystems, direct-tostakeholder channels and a rise in demand for Digital 2.0 accelerated by the industrialization of Cloud, Al and cybersecurity.

Competitive intensity is expected to rise further with hyper scalers, next-gen SaaS companies, players, and specialists competing for the tech. Services value pool. There is an ever-increasing need to differentiate amongst the providers in this space. As the competition intensifies, scale and specialization will be critical to succeed in the next decade of technology services.

Providers will need to refresh their service lines and offerings and stay relevant to cater to these more digitally adept enterprises, who expect higher-quality services and have very different buying behavior. Talent will also be a key differentiator, and the war for acquiring and retaining the next-gen talent will aggravate in the future.

To pursue these opportunities and contribute to the overall growth, there is a need for a complete shift in the operating model and concerted action from the industry and the government to reimagine enablers to sustain India's position as the hub for digital services growth and reorganize the industry with business model innovation before the next big wave of disruption transforms the world again.

Top 10 Data and Analytics Technology Trends for 2021

Gartner, Inc. identified the top 10 data and analytics (D&A) technology trends for 2021 that can help



organizations respond to change, uncertainty and the opportunities they bring in the next year.

"The speed at which the COVID-19 pandemic disrupted organizations has forced D&A leaders to have tools and processes in place to identify key technology trends and prioritize those with the biggest potential impact on their competitive advantage," said Rita Sallam, distinguished research vice president at Gartner.

D&A leaders should use the following 10 trends as mission-critical investments that accelerate their

capabilities to anticipate, shift and respond.

Trend 1: Smarter, Responsible, Scalable AI

The greater impact of artificial intelligence (Al) and machine learning (ML) requires businesses to apply new techniques for smarter, less data-hungry, ethically responsible and more resilient Al solutions. By deploying smarter, more responsible, scalable Al, organizations will leverage learning algorithms and interpretable systems into shorter time to value and higher business impact.

Trend 2: Composable Data and Analytics

Open, containerized analytics architectures make analytics capabilities more composable. Composable data and analytics leverages components from multiple data, analytics and Al solutions to rapidly build flexible and user-friendly intelligent applications that help D&A leaders connect insights to actions.

With the center of data gravity moving to the cloud, composable data and analytics will become a more agile way to build analytics applications enabled by cloud marketplaces and low-code and no-code solutions.

Trend 3: Data Fabric Is the Foundation

With increased digitization and more emancipated consumers, D&A leaders are increasingly using data fabric to help address higher levels of diversity, distribution, scale and complexity in their organizations' data assets.

The data fabric uses analytics to constantly monitor data pipelines. A data fabric utilizes continuous analytics of data assets to support the design, deployment and utilization of diverse data to reduce time for integration by 30%, deployment by 30% and maintenance by 70%.

Trend 4: From Big to Small and Wide Data

The extreme business changes from the COVID-19 pandemic caused ML and Al models based on large amounts of historical data to become less relevant. At the same time, decision making by humans and Al are more complex and demanding, requiring D&A leaders to have a greater variety of data for better situational awareness.

As a result, D&A leaders should choose analytical techniques that can use available data more effectively. D&A leaders rely on wide data that enables the analysis and synergy of a variety of small and large, unstructured, and structured data sources, as

well as small data which is the application of analytical techniques that require less data but still offer useful insights.

"Small and wide data approaches provide robust analytics and Al, while reducing organizations' large data set dependency," said Ms. Sallam. "Using wide data, organizations attain a richer, more complete situational awareness or 360-degree view, enabling them to apply analytics for better decision making." Trend 5: XOps

The goal of XOps, including DataOps, MLOps, ModelOps, and PlatformOps, is to achieve efficiencies and economies of scale using DevOps best practices, and ensure reliability, reusability and repeatability. At the same time, it reduces duplication of technology and processes and enabling automation. Most analytics and Al projects fail because operationalization is only addressed as an afterthought. If D&A leaders operationalize at scale using XOps, they will enable the reproducibility, traceability, integrity and integrability of analytics and Al assets. **Trend 6: Engineering Decision Intelligence**

Engineering decision intelligence applies to not just individual decisions, but sequences of decisions, grouping them into business processes and even networks of emergent decisions and consequences.

As decisions become increasingly automated and augmented, engineering decisions give the opportunity for D&A leaders to make decisions more accurate, repeatable, transparent and traceable.

Trend 7: Data and Analytics as a Core Business Function

Instead of being a secondary activity, D&A is shifting to a core business function. In this situation, D&A becomes a shared business asset aligned to business results, and D&A silos break down because of better collaboration between central and federated D&A teams.

Trend 8: Graph Relates Everything

Graphs form the foundation of many modern data and analytics capabilities to find relationships between people, places, things, events and locations across diverse data assets. D&A leaders rely on graphs to quickly answer complex business questions which require contextual awareness and an understanding of the nature of connections and strengths across multiple entities.

Gartner predicts that by 2025, graph technologies will be used in 80% of data and analytics innovations, up from 10% in 2021, facilitating rapid decision making across the organization.

Trend 9: The Rise of the Augmented Consumer

Most business users are today using predefined dashboards and manual data exploration, which can lead to incorrect conclusions and flawed decisions and actions. Time spent in predefined dashboards will progressively be replaced with automated, conversational, mobile, and dynamically generated insights customized to a user's needs and delivered to their point of consumption.

"This will shift the analytical power to the information consumer — the augmented consumer — giving them capabilities previously only available to analysts and citizen data scientists," said Ms. Sallam.

Trend 10: Data and Analytics at the Edge

Data, analytics and other technologies supporting them increasingly reside in edge computing environments, closer to assets in the physical world and outside IT's purview. Gartner predicts that by 2023, over 50% of the primary responsibility of data and analytics leaders will comprise data created, managed, and analyzed in edge environments.

D&A leaders can use this trend to enable greater data management flexibility, speed, governance, and resilience. A diversity of use cases is driving the interest in edge capabilities for D&A, ranging from supporting real-time event analytics to enabling autonomous behavior of "things".

IT Leaders are adapting to new challenges by prioritizing collaboration, cloud and security more than ever before

According to Cisco's new Accelerating Digital Agility Research, CIOs and IT decision makers (ITDMs) are looking to maximize investments and drive innovation after a difficult year which raised the profile of IT leaders in driving critical workplace innovation.

Over the past twelve months, CIOs and ITDMs



months, CIOs and ITDMs from across the globe have been challenged to accelerate their digital and cloud capabilities while protecting their organizations from a growing list of expanding security threats. IT leaders must look to maximize critical

investments made in 2020.

To set up their organizations for success in 2021 and beyond, IT leaders have adapted priorities and strategy to focus on core issues including delivering secure collaboration tools to keep distributed workforces productive, maximizing technology investments from the past year, delivering the best end-use experience to employees and customers, embracing cloud and "as a Service," and tackling corporate and societal issues with technology.

"IT leaders are at the forefront of ensuring critical success for their organizations in 2021," said Liz Centoni, Cisco's Chief Strategy Officer and GM, Applications. "Even as questions remain and new challenges will surface, CIOs and IT decision makers are telling us they need to accelerate digital agility for their teams, so they have the speed, flexibility and choice to consume services across both traditional and modern environments."

Key findings:

To prepare for the future of work, teams need highly secure access and the best collaboration experiences to succeed as a hybrid workforce. While a majority (61%) of CIOs and ITDMs are unsure of what the future of work looks like, 89% believe that maintaining security, control, and governance across user devices, networks, clouds, and applications is essential. Most (86%) agree it is important to empower a distributed workforce with seamless access to applications and high-quality collaborative experiences. Securing the expanded threat landscape created by a distributed workforce is paramount – 88% believe it is important to secure remote work tools and protect customer or employee data in the distributed work environment.

IT teams must create optimized end-user experiences to keep pace with IT environments that have become increasingly distributed, dynamic, and complex. More than three-fourths of the CIOs and ITDMs surveyed agree that user experience should focus on delight versus satisfaction. To deliver a great user experience, 89% think it is important to ensure a consistent application performance across both the application and infrastructure, and 86% believe it is important to make infrastructure as dynamic as application software to meet the changing policy and optimization needs of the application and developer. While the user experience should aim to delight, nearly all (90%) say it is important or very important to maintain application-to-infrastructure security to meet compliance without slowing down the busi-

The need for agility, speed, scalability and security is driving adoption of hybrid cloud environments and SASE (Secure Access Service Edge) solutions. CIOs and ITDMs are using cloud to achieve business resilience. However, there is no one-size-fits-all cloud solution. While most CIOs and ITDMs (84%) agree it is important to offer freedom of choice when it comes to cloud environments – whether on premises, public cloud,

private cloud or SaaS – 86% think offering a consistent operational model across these environments is essential. Nearly 70% of CIOs and ITDMs have adopted SASE solutions because they were investing in cloud applications that needed to be secured (61%), they like to stay up-to-date on industry best practices (56%) and/or their workforce is going to stay distributed (37%).

Customers expect a cloud-consumption experience regardless of whether their solutions are deployed on-prem or in the cloud, leading to widespread adoption of "as a Service" solutions. Of those surveyed, 73% have adopted "as a Service" solutions and 76% use flexible consumption models. Three fourths of those surveyed believe that "as a Service" will help deliver a better experience for the end user and a better experience for IT teams, helping their organizations achieve operational consistency. In addition, 76% say "as a Service" will provide better business outcomes, and 77% want "as a Service" solutions to simplify processes and remove risk.

Technology will be a driving factor in the facilitation of CIOs and ITDMs to tackle talent retention, internal corporate initiatives and broader societal issues in 2021. Most CIOs and ITDMs (85%) believe the ability to attract and retain talent in the all-digital world will be critical. Nearly half of those surveyed said they are upskilling current talent (49%) and investing in talent in new areas (46%) over the next 12 months. Most CIOs and ITDMs (90%) plan to tackle internal initiatives in 2021, including sustainability (50%), employee mental health (50%), privacy (47%), diversity and inclusion (47%). In addition, 85% will tackle external societal issues in 2021, including digital divide (39%), healthcare (37%), climate change (35%), social justice (34%), human rights (33%), misinformation or "fake news" (31%), poverty, hunger and homelessness (28%).

Indian Gaming Industry: The game-changer of the gaming world

Rushing through the green field, Sam must reach the loot area quickly to pick up the ammunition. There are others too. He reaches swiftly, picks



up some grenades, health supplies, a helmet. He got lucky this time; he got an assault rifle too. Now the next stage- he must rush towards the white zone to be in the game. He crosses the blue zone in time. He is looking for people around. Suddenly, 'bang, bang, bang,' someone has spotted him. He runs towards a shelter. Through the scope, he wants to find out his enemy's location. He spots the other person. Wait, there are others too. Sam is playing solo. No need to engage. He gets on his ride and flees the place towards the other destination.

Sam is not alone. Millions like him are now playing these kinds of games that require higher sustained and selective attention. India, with the world's largest youth population, is poised to become the world's leading gaming destination. Estimated at USD 930 million with a compound annual growth rate of 22 per cent, it is the world's second-largest online market with more than 560 million internet users.

India's prowess in the field of IT coupled with other multifaceted dynamics have resulted in the rise of the Indian gaming industry. This could be gauged from the fact that India now has 275 online development companies, up from just 25 in 2010.

The rise in smartphone/tablet usage, disposable income, and the introduction of new gaming genres have provided a boost to India's gaming sector. Such is the prominence of smartphones that mobile gaming (71 per cent) dominates the sector. The COVID-19 pandemic has also led to rise in online/mobile gaming activities. The lock-down period saw an increase of 21 per cent in time spent on gaming apps with the consumer base crossing 300 million.

According to a report, the Indian gaming industry is estimated to grow at 41 per cent each year. Puzzle, action, and adventure genres are leading the gaming chart in India. With the emergence of various sports leagues, the industry is also witnessing a sharp rise in online fantasy sports platforms. NITI Aayog has submitted a draft guiding principle for the uniform national-level regulation of online fantasy sports platforms in India. It sees India becoming the hub of online fantasy sports and predicts its potential to attract FDI of more than INR 10,000 crore over the next few years as well as generate 1.5 billion online transactions by

5G because of its speed, lower latency, and ability to provide seamless Virtual Reality (VR) experience will further boost the sector. VR is already catching up and revolutionizing the way we play games. Coupled with 5G, VR will be cordless and provide hassle-free, truly immersive high-resolution gaming graphics. Augmented Reality (AR) games will also gain more traction with 5G.

Artificial Intelligence (AI) shall play an important role in shaping the gaming industry. It is currently being used in fantasy sports, where bots are available to chat. Its usage in the VR gaming platforms and others shall make games more interactive and fun.

Moving to the content bit, gamers have a special affinity towards the adventure genres. It is evident from gaming history, that adventure games either related to history, or any fantasy (movies, mythology, current affairs, etc.) have been accepted with open arms by the gamer community.

For example, characters from Grand Theft Auto (GTA) are heavily inspired by the Martin Scorsese classic movie, 'Goodfellas.' Similarly, different versions of 'Call of Duty' draw their inspiration from World War II, the Cold War, etc.

India-based games in this category are few and are yet to take the gaming world by storm as games like GTA, Call of Duty, etc. have done. Considering India's rich heritage, Indian game developers can never be short of ideas or stories.

To help the Indian gaming industry, the Confederation of Indian Industry (CII) through the India Gaming Show (annual event) and the Indian Digital Gaming Society (IDGS) — an industry body under the CII aegis — is working towards building the Indian gaming ecosystem. It provides a global platform to the Indian business community and creates a business platform for international partners to explore the vast Indian market and partnership opportunities.

The Government is also pushing to further develop the gaming industry. It has allowed 100 per cent FDI through automatic route in the Electronic System and IT & BPM sectors.

The video game market value worldwide is approximately USD 160 billion (in 2020) and is set to grow over US\$ 200 billion by 2023. Considering India's young demography, IT prowess, and the possibility of providing and developing exciting content, it is going to be the game-changer of the gaming world.

Gaming Platform EWar Games' User base Grows by 10x, Crosses 1 Million Users

Bengaluru-headquartered gaming and esports platform EWar Games has witnessed a massive 10x jump in its users over the past few months of 2021, following which the total user base of the EWar app has crossed the 1 million mark.



The notable growth in EWar's user base has been happening gradually but in an accelerated manner through the past 3-4 months and is led by a plethora of users from India's northern regions.

Among key factors that have contributed in the recent past towards the prolific growth of EWar's gaming platform are increased user retention levels by providing a great experience on the product side and excellent customer support coupled with major investments by EWar into growth and acquisition and esports penetration.

Notably, EWar saw a steady rise in user volume since the Covid-19 lockdown in India last year, i.e. from March-April 2020 onwards. Due to Covid, more and more people across the country

started staying inside their homes and engaging themselves in online gaming, especially competitive real-money gaming and esports. Ever since many users downloaded the EWar mobile app and started playing various games on EWar chose to stay back on the platform even after the lock-downs were over.

Mr. Parth Chadha, Founder & CEO, EWar Games, says,"There is no denying the fact that the Covid-19 lockdown last year provided a major boost to the gaming and esports ecosystem in India; we at EWar saw a huge spike in our users with a 5X growth during Covid. However, the best part for us has been that we could continue with the growth momentum even during the Unlock phase and beyond, thanks to EWar's highly user-centric operations to enable a smooth gaming experience and great customer support. We are happy to note that the number of users on our platform grew by 10X in the last four months with MoM growth of around 2X each month, and we expect similar growth in the coming months, with newer segments like fantasy gaming contributing towards the same. Apart from the growth in a total number of users, we are also currently witnessing much higher levels of user engagement and daily traffic (as compared to pre-Covid times)."

Explaining the reasons behind their latest growth spurt, Mr Parth Chadha adds, "We feel the high rates of user stickiness on our app can be attributed to a number of factors, including a great user experience, the innovative games' mix that we maintain and change every month based on users' likings and predictive analysis of what they would like based on our internal user research, and to top it all, our seamless customer support experience, which almost every other gaming platform is missing today. Our spends on user research and UX of the platform has been strategically planned and prioritized, hence reaping us great benefits and massive user spike in the recent months, and also making EWar one of the most sustainable and cost-effective gaming platform in the Indian market which is constantly growing with great numbers but in a sustained manner with extremely high user retention."

Digital Payments' Volume in India To Grow To 71.7 percent Of All Payment Transactions by 2025

More than 70.3 billion real-time payments transactions were processed globally in 2020, a surge of 41 percent compared to the previous year, as the COVID-19 pandemic dramatically acceler-



ated trends away from cash and cheques towards greater reliance on real-time and digital payments, a new global report from ACI Worldwide and GlobalData reveals. The second installment of 'Prime-Time for Real-Time,' first launched in 2020, analyzes global real-time, account-to-account payment volumes and forecasts across 48 global markets. It projects a Compound Annual Growth Rate (CAGR) for real-time payments of 23.6 percent from 2020 to 2025.

According to the report, India retains the top spot with 25.5 bn real-time payments transactions, followed by China with 15.7 bn transactions. In 2020, the transaction volume share in India stood at 15.6 percent and 22.9 percent for instant payments and other electronic payments respectively, while paper-based payments had a considerable share of 61.4 percent. This is poised to change by 2025 where share of volume by instant payments and other electronic payments is expected to rise to 37.1 percent and 34.6 percent respectively, leaving the volume of paperbased transactions at 28.3 percent. Furthermore, by 2024 the share of real time payments volume in overall electronic transactions will exceed 50%, according to the report.

"India's journey of creating a digital financial infrastructure has been characterized by collaboration between the government, the regulator, banks and fintechs. This has helped to advance the country's goal of enabling financial inclusion

and also provided rapid payments digitization for citizens. The pandemic has further accelerated adoption of digital payments with many first time users adopting digital payments and significant uplift by merchants," said Kaushik Roy, VP and head of product management, Asia, ME and Africa, ACI Worldwide. "As the industry evolves, we expect to see increased adoption across different users and volume growth driven by mass adoption, recurring payments, transit payments as well as cross-border transactions."

As the pandemic continues to drive changes in consumer and business behaviors, banks, merchants and intermediaries across the payment ecosystem are responding rapidly, prioritizing the shift to digital to protect current revenue streams, and searching for new ones through a fully digitized customer experience.

With millions of people globally having to change the way they work and live – and the way they shop and pay – mobile wallet adoption rose to an historic high of 46 percent in 2020, up from 40.6 percent in 2019 and 18.9 percent in 2018. Countries like Brazil, Mexico and Malaysia where many people historically relied on cash are now some of the fastest adopters of mobile wallets.

"The pandemic has cast the spotlight on the importance of digital payments and robust payment infrastructures, condensing a decade of anticipated innovation into one year and creating human behavioral changes that will not reverse as we emerge from the crisis," commented Jeremy Wilmot, chief product officer, ACI Worldwide. "Countries with a robust digital payments infrastructure already in place have coped better than those without when it comes to containing the economic impact of the pandemic. Real-time payments have enabled governments, working jointly with financial institutions, to accelerate much-needed disbursements and economic stimulus payments to their citizens. They have also enabled real-time liquidity to businesses that had to adapt to disrupted supply chains."

"Real-time payments are still in a nascent stage worldwide, and mostly focused on the obvious use-case of P2P payments in many countries," said Samuel Murrant, Lead Analyst, Payments, GlobalData. "However, the pandemic has provided an opportunity to accelerate the growth path for these instruments. As consumers become used to the speed of real-time settlement for P2P payments, they will naturally move to using them for e-commerce over the relatively slower and less convenient process of using cards online. From there, there is potential to move into in-store payments, once enough consumers recognize real-time payment brands and the user base is high enough to deliver sufficient value to merchants."

Summary of Key Findings:

Global real-time payments growth:

- Total number of real-time transactions in 2020 were 70.3 bn, up 41 percent from 50.0 bn in 2019
- The real-time share of global electronic transactions in 2020 was 9.8 percent, up from 7.6 percent in 2019; it is predicted to be 17.4 percent by 2025
- The value of real-time transactions was up by 32.8 percent from 2019 rising from \$69tn to \$92tn; the expected CAGR by 2025 is 12 percent Top 10 countries globally by number of real-time transactions in 2020:
- India retains the top spot with 25.5bn real-time payments transactions, followed by China with 15.7bn transactions; South Korea is in 3rd place with 6.0bn, Thailand 4th with 5.2bn and UK is in 5th place with 2.8bn
- Nigeria follows up in 6th place with 1.9bn transactions, Japan in 7th with 1.7bn
- Brazil climbs into the global top 10 as number 8 due to the launch of PIX, with 1.3bn transactions driving a 58 percent YoY increase from 2019 to 2020. Expect to see the country climbing even higher next year with a 5-year growth prediction of 25.3 percent CAGR
- The US ranks number 9 with 1.2bn transactions and Mexico ranks 10 with 942mn

Fastest growing countries for real-time payments:

- The top spot goes to Croatia with an expected CAGR of 374.4 percent between 2020 and 2025, followed by Colombia (112.7 percent), Malaysia (83.9 percent), Peru (74.4 percent) and Finland (71.4 percent)
- The highest growth region (CAGR 2020-2025) is predicted to be North America (36.5 percent), as both Canada and the US modernize and drive their new real-time systems (RTR and FedNow)

Global mobile wallet adoption:

- Mobile wallet adoption rose to an historic high of 46 percent in 2020, up from 40.6 percent in 2019 and 18.9 percent in 2018
- Total mobile wallet transactions amounted to 102.7 bn in 2020 and are expected to reach 2,582.8 bn by 2025

Payments fraud:

- Globally, card related fraud remains highest in terms of reported incidents from consumers, but fraud incidents associated with real-time payments were on the rise from 2019 to 2020 as fraudsters tend to target new channels
- Real-time payments scams that were on the rise include: confidence tricks (12.5 percent rising to 13.7 percent), Identity theft (6 percent rising to 11.6 percent) and digital wallet account hacks (4.4 percent rising to 6.2 percent)

Al and ML will Eliminate Menial Jobs in Near Future

At a time when the world is turning to non-fossil fuels and renewable energy to cut down carbon emissions and help sustain a better environment,



an innovative product from India has been in the limelight on the global stage.

Predictive Intelligence At Work

Retina 360, a global product from the Chennai-headquartered **Bahwan CyberTek**, has won a patent from the United States patent this February. This product employs predictive analysis to enable proactive decision synchronization in real-time. It minimizes operational risk and maximizes process productivity for multiple process industries. Primarily, it has been created for managing oil and natural gas. Now, it is also used for most non-fossil fuel assets.

Winning a patent from the United States Patent and Trademark Office (USPTO) is a milestone for any company, which means it has fulfilled the standards of a patent and has been duly rewarded by the patent-awarding organization. In another positive development, RT360, a predictive analytics fintech global product from Bahwan CyberTek, has bagged the Technoviti Award in February. It helps mitigate risks in banks and other financial institutions.

"We wanted to be a pioneer in the areas we work on. When we entered the market, most of the players were already well-established. That's when we realized that we need to think differently, build a hybrid product that would address several pain points and help with business efficiency and effectiveness," opens up S.

Durgaprasad, Co-founder, Director and Group Chief Executive Officer of the Bahwan CyberTek Group.

Enhancing Fleet Productivity

Every product created by Bahwan CyberTek has been 'ahead of the curve'. Take, for instance, CueTrans – IVMS, a logistics and transportations tool. It is another unique offering from the company, designed to offer fleet owners elaborate real-time information about their fleet's location, status, routes and utilization. This aids the fleet owners to understand the behavioral pattern and derive the data by capturing and extrapolating the points. This has reduced the utilization time and improved asset productivity by 15 per cent for one of its Oman-based clients in the oil and gas sector.

Quality Through Knowledge

With a revenue of over \$300 million in 2020-21 and a 3,000-strong workforce, including its subsidiaries, this company has had a unique transition from a traditional to a knowledge-based platform.

"Our biggest business motivation is being quality conscious. We were at Top 38-CMI level 5 when we entered the market. It was possible as we assured the desired outcome to our customers every single time. This is more than a milestone; it is a way of life," stresses Mr Durgaprasad, adding, "We had to offer more than what was available in the market. Every product we have conceptualized involves large domain knowledge and serves the need to be proactive. Most importantly, they are user-friendly. On a Key Performance Indicator (KPI) analysis, our products ensure additional revenue generation by measuring the gaps, mapping them, and facilitating more work on nullifying a possible loss."

Stanford University's case studies on Bahwan CyberTek term the company nimble-footed and trace its journey as once faced with failure, it could then innovate its way to success. The company's major success points can be attributed to having pride in creating something. This sense enabled each of its products to be ahead of the

Disruption The Key

Mr Durgaprasad mentions how the market leaders are disruption managers or the ones who predicted disruption and prepared for it. For Bahwan, they had to be the ones who created and drove change. Each product under the group had a silent observation period of a minimum of three years before being launched in the market. The Co-founder singles out DropThought, one of the company's digital experience products, as something that was created it in a limited time with much better mind share and market share than

what was available in the market.

"We have several market leaders wishing to collaborate with us. We work across many portfolios in the upper stream and downstream, ensuring the last-mile delivery, disaster management, etc.," claims Mr. Durgaprasad.

To predict one's capabilities, to know the customers' pain points, and implementing the same on a real-time basis is where the future of technologies lies. Modern businesses focus more on being proactive and mitigating the risk well in advance, which is the need of the hour.

The best example for this is the Covid-19 pandemic, which hit businesses at the least anticipated moment, forcing them to act fast for seamless business continuity. "The transition to the cloud is a given; no business would or could run without it. Big data analytics on the cloud has added more value to this. Similarly, Artificial Intelligence (AI) and Machine Learning (ML) are done deals. These technologies may be nascent, but will automate and eliminate menial jobs in the near future. This would aid in using the human innovative knowledge for better usage," observes Mr Durgaprasad on the future of technology.

The Years Ahead

As technology grows, vulnerability increases. It may be a cyber threat, Al manipulation or something else altogether. According to the CEO, "It is important to build a protective layer before building the product and ensure its safety before reaching the market. Even predictive analytics can be manipulated, which is why the department managing this should be different from that of operations. The best business practice here is to be proactive and adopt protectionism."

"Technologies like predictive analysis can be used to build a better and more profitable business, which depends on the intuition of the business leader. Technology definitely would make the business grow more rapidly than in the past. The downside would be that a digital divide would happen," elucidates Mr. Durgaprasad.

With India being a country with a large digital divide, we need more products that could be shared till the last mile. He adds that smart people would aim for this, and a major adoption of technology would happen in healthcare and education

"The next 10 years would be a landmark period for India in technology. We are well ahead of automation in terms of government projects and even far ahead of the United States in many areas. India is going to have more home-grown unicorns. Many more innovations are coming from India," predicts Mr Durgaprasad as he signs off.

