

The Growing DDoS Landscape



BCP Strategies Straight From The Horse's Mouth

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Covid crisis widens scope of traditional education in India



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Deep Tech & Rebuild India 2021

We are still currently in the grip of the Covid crisis lockdown. There are two things happening here. First the recession. Second the globe is in the process of a tech upgrade. The first will go. The second will continue, probably with acceleration. That is where India should not be caught behind.

The economy will recover. There will be a rebuilding phase. We should rebuild with the help of Deep Technology which should be embedded in all the layers during the recovery. America rebuilt itself out of the Great Depression to become a genuine superpower. There is no reason why India can't do something similar.

5G is very capital intensive. It uses higher frequencies which have a shorter range. That means smaller cells and more towers. The way the US built roads in the 1930s, we can build 5G corridors. 5G powers Smart Factories, Smart Homes, Smart Utilities and Smart Vehicles. Once a new technology comes, the industry adapts it and optimizes it. Industry 4.0 would automatically come instead of it being pushed.

We have entered the era of Online Education. We should make the most of that and upgrade the syllabus, become more contemporary and introduce things like Data Science in a big way. We can introduce emerging tech like Virtual Reality headsets to optimize learning experiences. That way the teaching of coding from Class 6 onward will be highly beneficial.

The data that 1.3 billion Indians generate is huge and the current infrastructure is inadequate to deal with it efficiently. AI can be a great help here. China has used things like facial recognition and AI courts with efficiency. India needs to adapt similar schemes that are suited to our needs. There is little AI research happening and we are also far behind in futuristic things like Quantum Computing. What if we had A-IITs (for AI) and Q-IITs (for quantum research). AR/VR can be used for training, simulations and knowledge transfer for police and government officials as well as responses to things like natural disasters. With immersive technology, citizens can participate on a large-scale. Digital Reality India?

Jio has had a tie-up with more than a dozen global players and is showing the ambition to be a top global tech company. If we had 4-5 more Indian tech companies do the same, we could finally have an entrant for the FAANG (Facebook Amazon Apple Netflix Google) club after a few years.

China is down. It is not out. But it may have already passed its peak a few years back. The 2020s could well be India's decade, but tech will play a large role in that.

Sunil Rajguru

IS EDTECH FINALLY POISED TO BREAK INTO MAINSTREAM EDUCATION?

COVID-19 crisis caused a watershed moment for EdTech solution providers in India, who have been focusing predominantly on supplementary education and upskilling only. A series of unprecedented and hastened digital experiments on public education systems have widened the scope of EdTech further to break into mainstream education

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COVID-19 emerged as a dominant force in the digitalization across all the sectors, but the speed of the shift was quite unprecedented and all-encompassing in the public education system. Although India was not entirely uninitiated to the concept of technology-aided education or learning, the spotlight on the EdTech platforms just grew brighter when educational institutions were forced to switch to online modes of education amidst the pandemic crisis.

India: A prominent EdTech hub

EdTech platforms in India have played a significant role in bridging the learning gaps and workforce skills gaps by making supplementary education (K12) and technical education (post-K12) more accessible. Over the past couple of years, the growing popularity of online education has offset the growth in the offline coaching space.

India has also emerged as a prominent EdTech hub in the world. If we look at the global EdTech phenomenon in respect of some key parameters like VC Funding, the number of startups, unicorns, M&A, etc., it is dominated by only a few countries such as United States (Highest number of EdTech enterprises), Sweden (The highest proportion of EdTech companies securing funding), China (Highest venture capital investment from 2014-18). India has also been riding the EdTech wave, as it has the second-highest number of EdTech startups and the Indian EdTech platform Byju's with a valuation of over \$10bn also comes out on top when compared with other EdTech unicorns list.

The COVID-19 crisis has fast-tracked things further and created a tipping point for the global EdTech phenomenon including India especially, as India is also home to one of the world's largest base of school-going students.

EdTech in India stands at a tipping point

The Indian EdTech market which was earlier projected to be in the range of \$2.8-3.2bn is now pegged at \$3.5bn by 2022 by a recent Redseer study forecast. The K12 EdTech-addressable market is projected to be worth \$1.7bn by 2022, up more than six-fold from \$265mn in 2019, while the market for post-K12 is set to grow 3.7 times to be a \$1.8bn market. The study forecast projects strong growth across all major K12 segments (Grades 1-5, Grades 6-8 and Grades 8-12), with the fastest growth possibilities in Grades 1-5.

The New Education Policy (NEP) 2020 also recognizes the importance of having access to

EdTech Market growth: K12 Segment

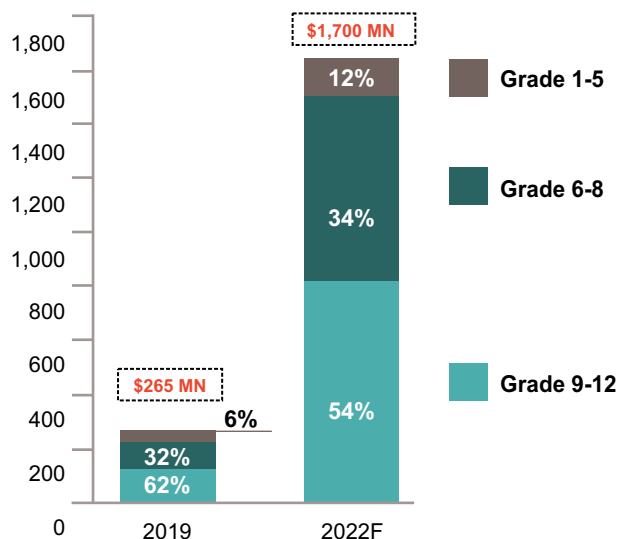


Image-1

EdTech Market growth: Post-K12 Segment

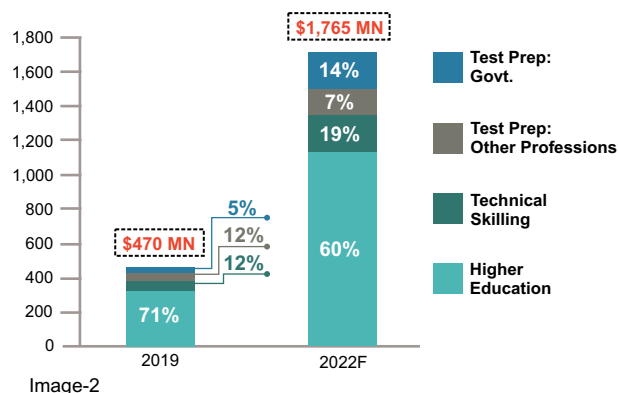


Image-2

Image & Data Source: Redseer EdTech Report 2019-20

alternative modes of quality education whenever and wherever traditional and in-person modes of education are not possible. It also laid special emphasis on leveraging technology for enriching the teaching and the online learning experiences. Hence it goes without saying that EdTech will play an instrumental role in the policy implementation and it will unleash a plethora of opportunities for the EdTech platforms to grow and focus on mainstream education.

Tech: A key enabler for education in the New Normal

Although the sudden shift to the online mode of education may appear as a crisis management ploy

amidst pandemic, many students and institutions are likely to continue online education in varying capacities, even in the post-pandemic era as well for the sheer amount of flexibility, accessibility, customized learning options, and most importantly the affordability it allows, in contrast, to physically attending school and colleges.

Cutting-edge technologies and solutions such as Artificial Intelligence (AI) Machine Learning (ML), Augmented Reality (AR) Virtual Reality (VR), online classrooms and collaboration tools, as well as assistive technologies can be a great enabler for traditional offline as well as online learning. Many fear that the sudden unplanned move to online learning with little time for preparation, zero training and insufficient internet bandwidth issues will result in poor user experience and is less likely to become sustainable in the long run. But contrary to popular belief, a new blended learning model with significant benefits is more likely to emerge from this sudden shift, making more rooms for the EdTech innovation which will make the online learning experiences as smooth and as seamless as possible in turn.



AI & ML solution- AI and ML can play a significant role in increasing efficiency through automation of repetitive and menial tasks, and in bridging the gaps between teaching and learning through infusing personalization to a greater degree.

Course aggregating platform, Get Me a Course uses an AI-driven Career Path Recommendation Engine to help individuals identify the courses and careers best suited for their skill sets. Another EdTech social enterprise, ConveGenius is using AI to offer personalized and adaptive learning solutions even for the kids who don't have access to a super-fast Internet connection or smart devices. Nestor AI by LCA Learning is a unique AI program and e-learning class assistant uses students' webcams to examine

eye movements and facial expressions to find out whether they're attentive to a video lecture.



AR & VR solution- These two technologies can potentially make online education into an immersive, interactive, and engaging learning experience. A survey by the XR Association along with Perkins Coie and Boost VC offered an ambitious projection for the education segment. When asked which sectors would experience the most disruption outside of gaming and entertainment, 38% ranked healthcare first, followed by education (28%), workforce development (24%).

Many AR/VR startups play XR content to the education segment. VR-based EdTech startup Veative Labs provides interactive STEM modules for distance learning and virtual classrooms. AR-based EdTech startup Playshifu provides educational play experiences for kids helping build STEM and other foundational skills in them.

Collaboration solution- Demands for online collaboration tools such as Zoom, Cisco Webex, Microsoft Teams, Google Meet, etc. skyrocketed during the COVID-19 crisis. As the outbreak disrupted learning in physical classrooms, the educational institutions started using online meeting and collaboration tools to stay connected with students, to conduct classes, examinations, and other



Key focus areas for EdTech in India:

- ★ K12 Supplementary Education
- ★ Test Preparation
- ★ Upskilling and Certifications
- ★ Higher Education
- ★ Language Learning
- ★ Interest-based Learning

collaboration needs.

Where the internet bandwidth and device availability became an issue, pre-recorded teaching videos were also provided to the students through Youtube and study materials were provided through email and WhatsApp.

The silver lining

Digital India drive along with the availability of low-cost data and devices had opened the floodgates for EdTech sectors in India. The underlying focus on tech-aided education and digitalization of the education sector by NEP was a much-needed shot in the arm as well.

The EdTech phenomenon in India is primarily driven by B2C demands, but demands from the B2B segments and C2C segments are on the rise as well. Now this sudden shift of the education sector to digital during the pandemic has widened the scopes for EdTech platforms to innovate for the mainstream education domain also and flourish further.

The ongoing pandemic crisis has boosted the profile of EdTech to a greater extent making it a hot area for venture capital (VC) investments, while startups across other sectors have borne a major brunt in terms of drastic fall in the number



VC Investments in EdTech

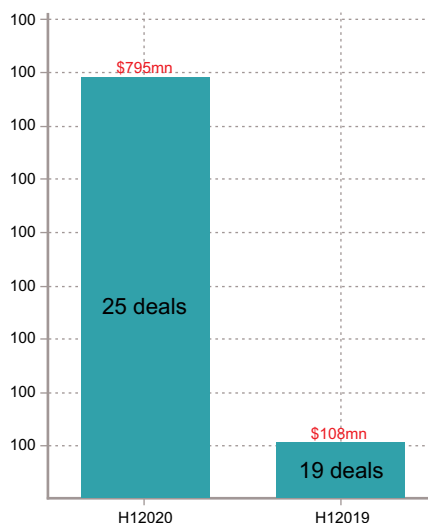


Image-3

Data Source: Venture Intelligence

of investments and deal sizes. In the first half of 2020, VCs have shown a clear preference for EdTech startups by splurging around \$795 million (25 deals) compared to \$296 million in H2 2019 (23 deals) and \$108 million (19 deals) H1 2019, reveals Venture Intelligence research data.

But there are some challenges as well. On the one hand, this unplanned and sudden shift with no training made it difficult for the teachers and students to switch to digital learning modes, it also exposed the stark realities of the digital divide between rural and urban, between rich and poor on the other and also the far-reaching consequences of it on the education. A survey conducted by Oxfam India across five Indian states reveals that over 80 per cent of children enrolled in government schools did not receive any form of education since the lockdown, while only 20 per cent teachers of government schools were trained for delivering classes online.

Although it throws an immense challenge for the EdTech solution providers to scale up and go deeper into the Tier-2, 3, 4 cities, remote and rural areas, but it can be turned into a golden opportunity to co-innovate and transform the mass education space by working along with technology providers, device manufacturers, and telecom and connectivity solution providers. The way RJio disrupted the telecom sector with cheaper data and mobile devices, the education sector in India also awaits a similar success story with bated breath.

THE GROWING DDOS LANDSCAPE

Sanjai Gangadharan



Last month, news reports highlighted one of the biggest DDoS attacks ever recorded. The attack, which targeted a large European bank, generated 809m packets per second (Mpps). This is a new industry record for a PPS-focused attack which is more than double the size of previous attacks.

A10 Networks recently launched its Q2 2020: State of DDoS Weapons Report, based on approximately 10 million unique source addresses tracked by A10 Networks, and the report sheds more light on the loud, distributed nature of DDoS attacks and the key trends and observations that enterprises can learn

from when adopting a successful defence.

DDoS Botnet Agents

We've previously written about how IoT devices and DDoS attacks are a perfect match. IoT devices such as smartwatches, routers and cameras are now commonly infected by malware and under the control of malicious actors who use them to launch flexible DDoS attacks. Our researchers accumulated knowledge of repeatedly used hosts in these attacks, scanning for those that show malware-infected characteristics that deserve to be treated with caution whilst under a DDoS attack.

The report highlighted the top three countries hosting DDoS botnet agents as follows:

- China 15%
- Vietnam 12%
- Taiwan 9%

From the countries above, the top ASNs hosting DDoS botnet agents were:

- Chungwha Telecoms (Taiwan)
- China Telecom
- China Unicom CN
- VNPT Corp (Vietnam)

Malware Proliferation

With IoT devices vulnerable, largely due to devices lacking the necessary built-in security to counter threats, this allows threat actors an opportunity to target these devices, through a collection of remote code execution (RCE) exploits and an ever-growing list of default user names and passwords from device vendors, to constantly increase the size and strength of DDoS attacks. Our weapons intelligence system detects hundreds of thousands of events per hour on the internet, providing insights into the top IoT exploits and the attack capabilities.

One of the key report findings highlighted thousands of malware binaries being dropped into systems, in the wake of the different IoT-based attacks and exploits. Among the malware families that were most frequent in the attack were the following: Gafgyt family, Dark Nexus and Mirai family. The related binary names from these malware were arm7, Cloud.x86, mmmmh.x86 respectively.

Digging deeper into the characteristics and behaviour of the binary we saw the most this quarter, "arm7", we found that attack types came in varied forms including, but not limited to, TCP floods, HTTP floods and UDP floods. To mitigate these attacks a firm understanding of these DDoS weapons needs to be established by understanding and reverse-engineering the attack toolkits.

Amplified Attacks

When it comes to large-scale DDoS attacks, amplified reflection is the most effective. An example of this is when the attacker sends volumes of small requests with the spoofed victim's IP address to internet-exposed servers. The servers reply with large amplified responses to the unwitting victim. These particular servers are targeted because they answer to unauthenticated requests and are running applications or protocols with amplification capabilities.

The most common types of these attacks can use millions of exposed DNS, NTP, SSDP, SNMP, and CLDAP UDP-based services. These attacks have resulted in record-breaking volumetric attacks, such as the recent CLDAP-based AWS attack in Q1 2020, which peaked at 2.3 Tbps and was 70% higher than the previous record-holder, the 1.35 Tbps Memcached-based GitHub attack of 2018.

Although CLDAP does not make the top 5 list of our Amplification attack weapons in Q2, we did record 15,651 potential CLDAP weapons. This makes it a fraction of the top amplification attack weapon this quarter, i.e., port map, where for every CLDAP weapon, we have 116 port map weapons available to attackers. The AWS attack shows that even this fractional attack surface has the potential for generating very large-scale DDoS attacks and the only way to protect against these attacks is to proactively keep track of DDoS weapons and potential exploits.

Battling the Landscape

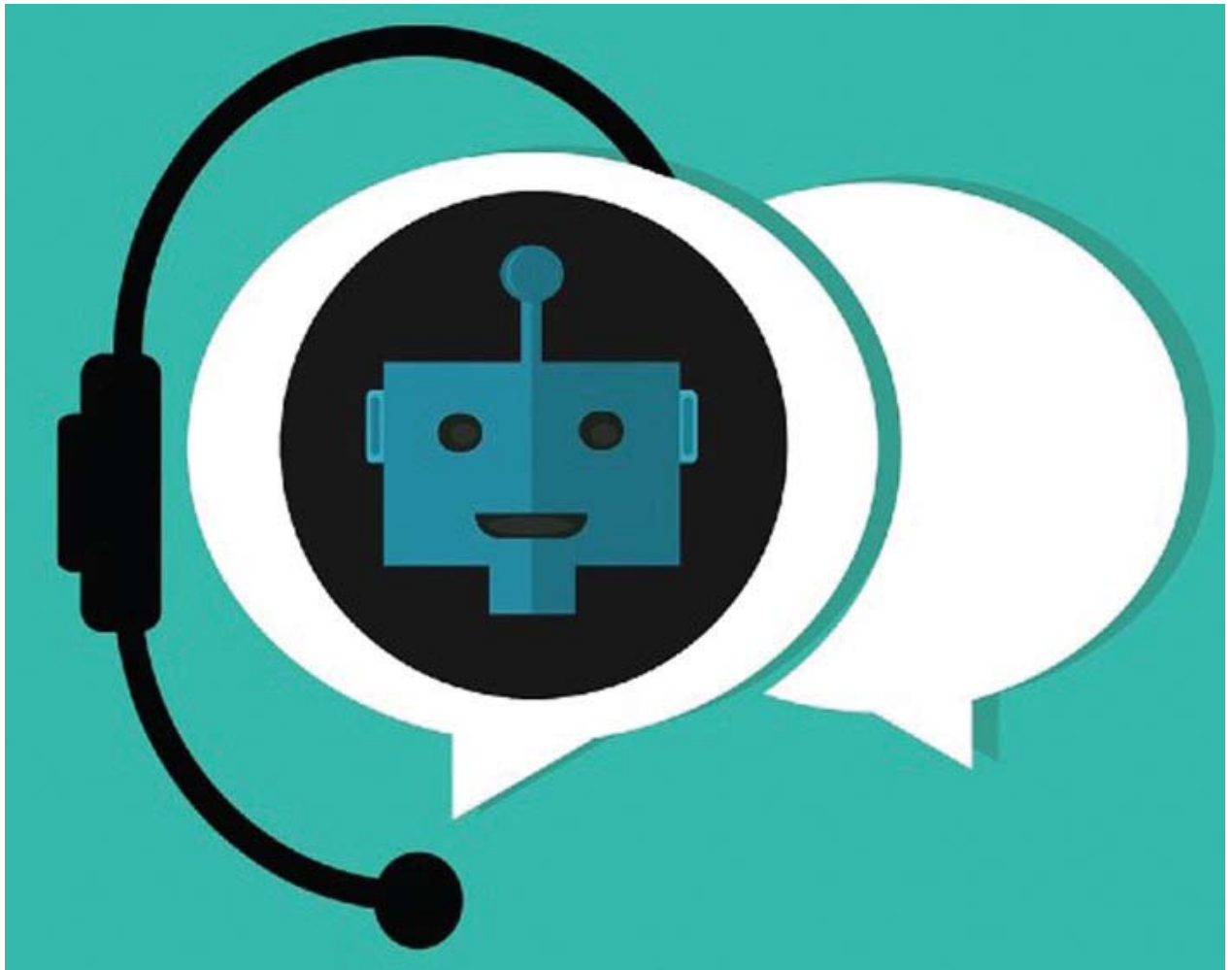
Every quarter, the findings of our DDoS attack research point to one thing: the need for increased security. Sophisticated DDoS weapons intelligence, combined with real-time threat detection and automated signature extraction, will allow organisations to defend against even the most massive multi-vector DDoS attacks, no matter where they originate.

Actionable DDoS weapons intelligence enables a proactive approach to DDoS defences by creating blacklists based on current and accurate feeds of IP addresses of DDoS botnets and available vulnerable servers commonly used for DDoS attacks. DDoS attacks are not going away, and it is time for organisations to match their attackers' sophistication with a stronger defence, especially as new technology like IoT and 5G continue to gain further momentum.

The author is Regional Director,
SAARC, A10 Networks

3 BEST NO-CODE CHATBOT BUILDING PLATFORMS

PCQ Bureau



The success of any business is directly proportional to the level of engagement with the consumers. Thanks to the era of technological advancement that we live in, these engagements and interactions are mostly through online mode rather than offline or F2F. A very significant tool for the purpose is a chatbot, which according to many is the next wave of communication between businesses and consumers. With the breakthrough in the domain of artificial intelligence

(AI), the interest in conversational interfaces such as chatbots has skyrocketed.

But it's not feasible for all businesses to set up their own chatbots and this is where no-code and low-code chatbot platforms come into play. Without the hassles of getting into the technical nuances and coding, the enterprises get their own customized chatbots through such platforms. If you are on the lookout for a similar solution, here's our pick for the best chatbot providers.

Appy Pie

Appy Pie is one of the largest no coding platforms in the world, and with the recent acquisition of



AppMaker, it has almost routed any near competition. The platform offers to build a chatbot within minutes. It has a simple three-step mechanism for the purpose – Entering the bot name and selecting the type of bot required for a specific business, customizing the chatbot, and then simply adding the chatbot to a website or mobile application.

The platform allows you to build a no-coding chatbot in multiple languages, including English Portuguese, Arabic, Spanish etc. Another USP of Appy Pie is that it lets you create multiple chatbots for different purposes such as inquiry, appointment or live chat. It further helps businesses consolidate their contacts, track Emails and keep an eye on user behaviour with Chatbot Analytics.

ManyChat

This platform enables businesses to get equipped with Facebook Messenger bots to aid marketing,



ManyChat

sales and customer support. The company claims to have powered more than 4 lakh Facebook pages in several countries across the world. It offers a free as well as a pro version.

The USP of this platform is a visual flow builder that eases structuring and conversation building. According to the company's website, "ManyChat combines Facebook Messenger, SMS and Email to automate personalized communication for every customer". It has an intuitive drag & drop system and further offers comprehensive online training.

Botsify

The platform gives the option to create multiple types of chatbots that can be used for varied purposes, thereby letting businesses handle multiple tasks at once. Botsify claims to provide completely automotive live chat sales aimed at generating new leads. If



offers to build chatbots for websites, Facebook pages as well as messaging apps.

Also, through its live chat feature, you can pitch in at any given point in time during an ongoing bot interaction with the consumer. The platform offers chatbots that can converse in more than 190 languages.

GETTING ON SAAS – WHY IT MAKES SENSE FOR YOUR BUSINESS

Vaibhav Vasa



Making your business processes more efficient and generating more revenue are top of the agenda for any business owner. There is also a lot of talk around digital transformation and leveraging the power of digital tools to make your businesses better.

If you're a business owner looking for enterprise software that you need to adopt for your business processes, you have a few choices. Developing something on your own, buying software from a

service provider or using a SaaS platform are probably the options you have at hand.

SaaS is hardly a new kid on the block. The global SaaS market is projected to reach over USD 307 billion in market size by 2026 from USD 158 Billion in 2020. This is hardly surprising because SaaS is a truly versatile delivery model for software applications and offers some very distinct advantages.

Let's take a look at why SaaS makes the most sense for you!

1. Lower costs

SaaS platforms usually work on a modular pay-as-you-go model which gives you an instant advantage over the huge up-front investment you'll have to make for developing something on your own or buying a whole software and setting it up on your servers. This also gives you the option to pay only for the number of users that uses the software and gives you much greater flexibility in choosing the platform.

According to a Giva white paper, conventional on-premise IT solutions can be up as much as 75 per cent of a business's IT budget. Worse, the human resource cost of running and maintaining a conventional on-premise system can be as high as 85 per cent of TCO, a cost that's trivial with SaaS.

2. Lower implementation time

SaaS platforms are usually very easily configured for use and you can start using it within a few hours. It may take a bit of configuration which can be quite easily managed and is often done by the provider. For example, a SaaS solution for accounting will take between 2-3 months to set up, as compared to an on-premises system that can take as much as a year to properly configure.

Compared to the time it takes for development or implementing a legacy system, this is quite miniscule. It also gives you the advantage of making quicker decisions. Most of the systems work on a modular structure which means it's easy for you to pick and choose the parts you need and not bother with the rest!

3. Security

Most of the cloud platforms come with advanced security features that are designed to prevent cyber-attacks and data theft. You don't have to worry about

the security of your servers. According to an Aptean white paper, 2/3 of IT professionals cited security as a key determinant when picking a cloud-based SaaS solution. This strongly incentivizes SaaS vendors to ensure cyber security and compliance with standards like NIST framework and ISO 27001.

Most of the SaaS providers do give an option for on-premise implementation, which means you, can configure to run these programs on your servers if you're still concerned about security or you deal with extremely sensitive data that can't be hosted on a cloud platform.

4. Features and Upgrades

The best advantage that SaaS platforms offer is that they have been developed by experts from particular domains. This means that they have already done the thinking for you in terms of the features you may need and have already included them in those platforms.

There is also a team that is focused on the task of making the software better every day. This is a great benefit as you don't have to spend your time and energy in updating and maintaining the system constantly.

5. Upgrades and Scalability
Scalability is another benefit of SaaS platforms. Most of these platforms give you the option to start small and then add more users or modules as you grow which means there is a huge amount of scalability. This is great for small businesses and entrepreneurs beginning on their digital transformation journeys.

The modular and pay-as-you-go models make sure that you have the option of running trials of the software and seeing how it works for you in a smaller group before committing large sums of investments for on-boarding more people on these platforms.

Final Takeaways

There are definite reasons for the success of SaaS as a model. The benefits it offers businesses are unmatched compared to other models. SaaS platforms save costs on not just development but also in terms of infrastructure, security, and time.

SaaS is an opportunity for you to drive more efficiency in your business and chase those revenue goals you've set for yourselves with minimal investments and the advantage of the best in class systems that run with minimal investments and infrastructure.

They have been developed by experts from particular domains. This means that they have already done the thinking for you in terms of the features you may need and have already included them in those platforms

The author is Director, Biz Analyst

THE COMPLETE A TO Z OF 5G

5G is not just about mobile telephony, but it has the power to run entire Smart Cities. It is the one ring that will rule them all. Once implemented, it will take us to the next stage of Internet connectivity

Sunil Rajguru
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A for Automobiles

A big change when it comes to 5G will be the rise of connected vehicles. A connected car can send and receive information continuously and that's not just about GPS and the Internet, but also communicating with traffic signals and the rest of the Smart City. It will be crucial for driverless cars too.

B for Bandwidth

This is what it is all about. We are always complaining about insufficient bandwidth. When certain 4G networks came, they talked of higher speeds of up to 100Mbps, though that has not practically happened in most cases. Similarly 5G talks

of a whopping higher theoretical 10Gbps and maybe even if we achieve a fraction of that, it will be a giant leap.

C for Channel Coding:

In Coding Theory, Channel Coding relates to error detection and correction, which is a very important part of the telecom industry. Here also there will be a difference as 4G used turbo codes while 5G will rely on polar codes.

D for Devices:

When 2.5G came, you could only think of powering your mobile. While there was some



expansion with 4G, when 5G comes, it will be able to cater to every device in your home, even the desktop. In an era of multiple devices, a single 5G connection can take care of them all.

E for Edge

Edge computing brings compute and data together and greatly reduces latency times. In an era of multiple devices and every building and vehicle becoming connected, the Edge is where all the action is. 5G is probably the most important aspect of the Edge going forward.

F for Frequency

5G uses higher frequencies. But they have a shorter range. That means smaller cells. That means more towers. That means more capital expenditure. That is one of the reasons why implementation is slow.

G for Global Warming

Since 5G will allow many more devices to be connected for a greater amount of time, the Climate Change lobby says that this will lead to a further explosion of devices and hence a greater footprint in energy. With all the buildings and cars being connected 24X7, the energy footprint will indeed increase.

H for Home user

Right now many homes have multiple mobile, Internet and Wi-Fi connections at home. One 5G connection can take care of all the needs and give fast consistent broadband. It would be a boon in the Work From Home era.

I for Internet of Things

We already have more IoT devices than there are people in the world. The upper limit by the end of



the 2030s is 500 billion IoT devices. They will fully function in an all-pervading steady broadband zone which 5G can provide.

J for Joint partnerships

While India has been behind in the implementation of 5G thanks to factors like the dropping out of 5G leader Huawei, now India, US and Israel are collaborating on 5G tech. That could prove to be a big boost.

K for (square) kilometre

4G can support upto 100,000 devices per sq km. 5G is 10 times that, meaning it can support a whopping one million devices in one sq km. So it is an upgrade in more ways than one.

L for Leadership

Who takes the global leadership for 5G? No-one really. First it was China and Huawei. But after their global role was in jeopardy, nobody has stepped up to take their place. So China will steam ahead with 5G, but other countries face uncertain journeys.

M for Mobile workforce

The mobile workforce crossed 1 billion some time back and will cross 2 billion soon. For them 5G will come as a boon and give seamless, fast and reliable broadband service.

N for No touch tech



The Covid-19 crisis led to the pandemic and lockdown and the push for no touch technologies. We need more drones, robots and automated processes for all our activities. 5G will be key for that.

O for Orwellian state

Detractors of 5G say that the new technology will give a further fillip to video surveillance and monitoring. There is also something called VSaaS or Video Surveillance as a Service!

P for Public safety

5G has led to bizarre conspiracy theories that they are bad for health and many towns in the US even banned it. However this really went out of hand after the Covid-19 crisis with many saying that 5G caused the virus in the first place! Dozens of telecom towers were brought down in places like the UK in protest!

Q for Qualcomm, Intel & Jio

Jio received funding way in excess of one lakh crore of Rupees from more than a dozen global players. Then Reliance Chairman Mukesh Ambani announced that they could implement 5G within a year of getting the contract. And now both Qualcomm and Intel, crucial 5G players, have invested in Jio.

R for Regulation

This is important and only when that is set in place can the 5G roll out take place. TRAI (Telecom Regulatory Authority of India) came out with a White Paper titled "Enabling 5G in India" early last year. But now we have to go ahead and formalize it all and announce the auctions.

S for Smart

Smart Cities. Smart Homes. Smart Factories. (Industry 4.0). Smart Watches. (Wearable IoTs). Smart Cars. (Connected and driverless). Smart Utilities. They will all be powered by 5G!



T for Technology

While 2.5G and 2.75G piggy banked on 2G, and 3G-4G built on the infrastructure, 5G depends on brand new technology. Right from the towers to the tech embedded on top of it, 5G is a huge tech leap forward.

U for URLLC, eMBB and mMTC

Ultra Reliable Low Latency Communications will cater to mission critical apps. Enhanced Mobile Broadband can service highly dense areas. Through Massive Machine-Type Communications, billions of IoT devices can be connected seamlessly. 5G gives you all of that.

V for Virtualization

Network slicing allows multiplexing of virtualized networks on the current physical telecom network infrastructure. Software-Defined Networking (SDN) and Network Function Virtualization will allow it.

W for Wanzhou

Huawei Chief Financial Officer Meng Wanzhou (CFO) was arrested in Canada at the behest of the US authorities. This represents the absolute nadir for Huawei which was poised to take the global leadership for 5G before it was hit by bans. Her father Ren Zhengfei founded Huawei.

X for Xi Jinping

A few years back the Chinese head of state was flying high and 5G would have cemented him further. China was the leader in 5G and would have been at the forefront of global forefront implementation. But a series of events including the US trade war, security issues, sanctions and bans means that China missed a great chance to be a global leader.

Y for Yuan

According to one report, the Chinese 5G market revenue will be 0.6 trillion Yuan in 2020 and may go up to 6.6 trillion Yuan in 2030. (As of now, 1 US dollar is worth 6.8 Chinese Yuan).

Z for Zero

Despite all the promises, while 5G has been implemented in certain areas, in other areas it is a total zero. 5G research started in the early 2010s. In 2014, Japan formed the 5G Mobile Forum and dozens of countries completed 5G trials in 2017. But in 2020, we are still waiting for 5G (odot).



HOW TO DO A SUCCESSFUL RUSH IN PUBG MOBILE, CONQUERER TIPS AND TRICKS

Sushant Singh

PUBG Mobile needs no introduction. Since its release on mobile platforms, the game has dominated the charts both on Android and iOS. Players around the world compete in a free for all battle royal in different maps to get the famous chicken dinner. PUBG Mobile like any other battle royal game has its own ranking system.

Players all over the world compete to reach the top rank in the game. To reach higher ranks players have to participate in Ranked matches and win or get the maximum amount of kills. The better K/D you have in the game, the better you rank will be. In order to help players pushing for rank here are some tips that will help in rushing in towards the enemy. Rush is an important part of the game. The idea is simple, make a move towards the enemy's location alone. Typically the 1v4 situations are called rush play.

Tips and Tricks:

- When you are preparing to rush to the enemy hideout always remember to appoint one player of your team as a leader. It may seem not a huge deal but having a leader will help your squad to organize better and have a command structure in case something goes wrong.
- Always remember to give cover to the player who will be doing to the rush. More often than not players will rush towards to the enemy without any backup and die immediately. Patience is the key when it comes to getting the maximum kills in the game.
- Ranked matches are no joke so make sure that you practice a lot with your squad using a second account. Having a second account or guest account on PUBG mobile will allow you to play matches without worrying about losing



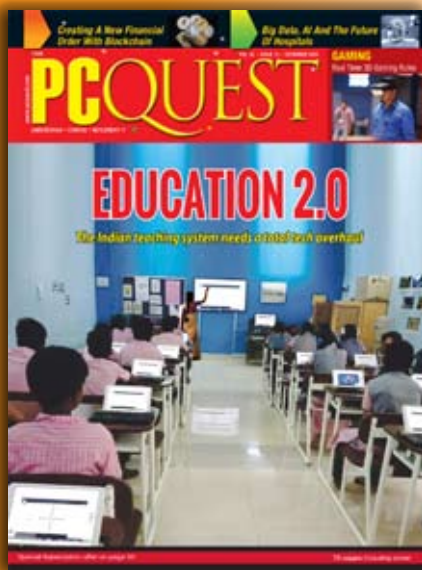
- and the losses affecting your rankings.
- When it comes to rush plays one thing that often happens is your teammates getting knocked. Instead of reviving them at that very moment, tell them to find a cover that is safe. If you go to revive your teammate when they are in the open then you will be knocked too. Always make sure that you have the maximum number of teammates alive even if means to sacrifice one of them. 3 is still better than 2.
- Practice your driving a lot or have a designated driver in your squad. Many times in Ranked matches in PUBG Mobile a squad gets wiped out cause the driver was not driving properly. When you are rushing from one location to another, having a good driver will come in handy a lot.
- When your squad is rushing towards an enemy house then remember to plan ahead. The enemy squad already has taken its position and you have the initial disadvantage. So plan ahead who will enter the house first. Never let your entire squad enter the enemy house together.

Guest author of PCQuest

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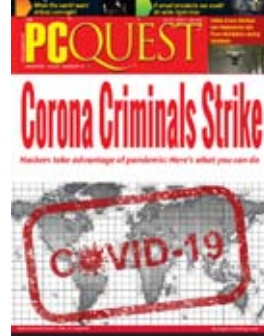
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FREE FIRE ADVANCE TIPS FOR PRO SNIPERS, RANKED MATCH GUIDE

Sushant Singh

Garena Free Fire squad matches in Ranked mode are very hard since every squad is there to win no matter what. Each squad that understands its role will always have a higher chance of winning. The player who is the sniper of the squad has the most difficult job of them all.

A sniper has to be away from the action and inform all its teammates about the enemy squad position and take long-range shots. If your squad is playing ranked matches in Garena Free Fire and you are the sniper then this guide is for you. It will be your job to make sure that your teammates are protected from the enemy squad sniper as well. So here is a simple guide of tips and tricks for advanced snipers in Garena Free Fire.

Tips For PRO Snipers:

- Garena Free Fire Ranked matches are very hard to win in the early stages. So instead of taking the maximum kills as soon as the match starts concentrate on getting the right weapon loot. As a sniper, you will need a good rifle as well like a KAR98k or AWM. Make sure you have the right loot before you start shooting.
- This is more of a suggestion based on how balanced your squad is but if your squad is



good then use two sniper rifles. Most snipers in Garena Free Fire ranked matches use the usual combination of a sniper rifle and an AR. You can use two sniper rifles instead of one.

- Headshots are not everything. Many snipers in Garena Free Fire are wasting time always trying dragshots to get headshots. If dragshots are not working then switch to taking normal shots to knock the enemy player.
- If your opponent is hiding behind a cover that doesn't mean you should move on. No players is completely hidden. If there is an enemy player hiding behind a tree then shoot on both sides of the tree. Many times enemy players panic when they know that a sniper is waiting for them outside the cover.

Guest author of PCQuest

DEEP TECH FOR SMART INDIA 2.0

India, with the rest of the world, is reeling under the Covid-19 pandemic-lockdown-recession. However when it ends we can hope for a quick recovery that will fast-track us. That will happen only if we upgrade ourselves with Deep Tech, specifically the 3As and 1C

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The task is cut out for the government and industry to take India into the next stage of development from 2021 onward. A host of emerging technologies will upgrade India and make the lives of all its citizens that much better. A look at these technologies...

1. Automation: Artificial Intelligence (AI) will be the backbone of the post-Covid world. No touch technologies, the requirement of a real time rapid feedback and the absolute avalanche of data generated (further augmented by the Covid era) that can only be crunched by AI systems and not humans. While India creates a record number of engineers in the world, the same cannot be said of data scientists, which will form the most important community of tomorrow. We need far more courses in AI to be

offered by our universities, a far greater collaboration between academia, industry and government. There is a need to promote specific AI-oriented startups. There is very little AI research that is happening out of India. IT companies who already have a foot in AI would do well to further expand and accelerate AI skilling of their employees.

This has been recognized and NITI Aayog said way back in 2018 that India could add \$1 trillion to its economy through integration with AI alone. This won't happen till we create an army of data scientists, the way we did with software engineers. A tremendous first step has been taken with the New Education Policy (NEP) where children can be taught coding from sixth standard onwards. WhiteHat Jr. has shown great results with kid coding and has

been snapped by BYJU'S, which is the largest EdTech startup in the world. Google is investing \$10 billion in India in the next few years and will focus on Smart Education. That will secure tomorrow, but there is greater urgency required for today. When we talk of AI, it also includes the multiple disciplines of Machine Learning, Deep Learning and Natural Language Processing.

There is another unique problem which large populations like those of China and India face. India has 1.3 billion citizens and the data they generate is huge and the current infrastructure is inadequate to deal with their problems in real time. Data and privacy issues have to be looked into first, but AI can be of a great help in sorting the problems of multitude of citizens. China has used facial recognition technologies with great success and has started experimenting on things like AI courts, where common widespread problems can be sorted out quickly and efficiently. India has introduced Aadhaar and Contact Tracing, which is a first step in that direction. Efficient AI chatbots across the myriad Central and State government websites would go a long way in solving time consuming basic and widespread queries.

Then there's Industry 4.0. In the beginning of the 2010s, India lacked severely in electricity infrastructure and even getting to Industry 1.0 was itself an issue. But at the beginning of the 2020s, we are poised for 100% electrification and we can leapfrog to 4.0. This has been accelerated by the Covid crisis where Indian industries suffered due to social distancing problems and the need for no-touch technologies. The economy is down and after the recession many small industries will look to begin from scratch and herein lies the opportunity to embrace 4.0 directly. 5G will be critical for this.

There is a need to embrace Quantum Computing, which is another technology for tomorrow. Today many countries in the world are aiming for quantum supremacy and India sorely lacks in this. In the budget presented this year, we have allocated INR 8000 crore National Mission on Quantum Technologies and Applications over the next five years. Whether this is enough remains to be seen, maybe it's time for specialized Q-IITs (Quantum) and A-IITs (AI). We require quantum research to come from the private sector. In the US, it is companies like Google which are taking the lead in quantum supremacy. But still the US government recently came out with a \$1 billion push for quantum-AI initiatives.

2. Augmented: Augmented Reality/Virtual



Reality/Mixed Reality (AR/VR/MR) have applications in multiple industries: Gaming, education & training, architecture & design, healthcare, military simulations, virtual sports & tourism, engineering & robotics, cinema etc. How far-fetched would it be to aim that every Indian own a cheap VR headset? Sometime back it would have been inconceivable to think smartphones, data consumption (Jio), messaging services (WhatsApp) and video social networking (TikTok) being a rage in rural India, so anything is possible. A headset paired with the smartphone could be a boon for the average Indian for a new level of infotainment. The entire Indian industry too could benefit from the augmented world for a multitude of things as mentioned above. 5G will be key for this too.

Coming back to the NEP, when we implement it, along with coding and AI, we can integrate AR/VR. The Indian government should also look at AR/VR for training, simulations and knowledge transfer for police and government officials as well as responses to things like natural disasters. With immersive technology, citizens can participate on a large-scale with things like city planning. It can be made part of e-governance. If every government office had a VR headset, then it would be easier to view actual projects, plans and certain documents. Information from the top museums in India could be presented in the form of headsets for rural India and even tourism could be digitized. Like Digital India, AR/VR/MR together can form a Digital Reality India for the government.

Another big area is 3D Printing. That refers to industrial 3D printing as well as the home one, which hasn't taken off due to it not being available at the right price point. This is still a nascent industry and the dollar amount is in billions, while in India it is still in the millions. But the potential is endless considering the fact that the manufacturing industry is in the trillions and in the future it may be possible to manufacture absolutely anything using 3D printing.

3. Access: Probably the most important thing



for this is 5G which will power Smart India. 5G is not limited to mobile services, but it will power entire Smart Cities. That means all the components of it: Smart factories, Smart Homes, Smart Utilities, Smart Cars etc. That is why 5G differentiates itself from 1G-4G. That is one of the reasons why Jio has received investments from all over the world to the tune of one lakh crore plus Rupees. That is why Reliance debuted directly at the No. 2 position in the PwC global Future Brand index in the recent 2020 list ahead of the likes of Samsung and Microsoft (Apple was No. 1). These lists are dominated by tech, energy and retail giants. Reliance is now big in all three.

While 5G has been seen endless delays, maybe it's time to finally bite the bullet. The reason for that is that Reliance Chairman Mukesh Ambani announced at the last AGM that Jio was in a position to implement 5G within a year of getting the contract. That means that if the government finished the process of licensing by the end of 2020, at least Jio would be in a position to implement 5G by the end of 2021. 5G promises to change the destiny of a nation and it could help India build in the post-Covid recovery. As it is the Covid crisis has pushed the Work From Home culture and the need for social distancing and no touch technologies in manufacturing. 5G will power both. Edge Computing will reduce latency and hence improve response times of all operations and save bandwidth. 5G will give a push to the Edge.

5G will also power drones which can be used for surveillance and delivery. After the Covid crisis, municipalities in India used drones to spray disinfectants while police used them to monitor social distancing and curfew norms. The private sector can use drones for mass deliveries while the government can use them for surveying, monitoring and reaching remote areas.

4. Cloud: Data is the new oil. There has been an



absolute explosion of data till the 2010s but that will further be expanded in the 2020s. AI and other analytic tools will form a big part of analyzing this data which will be impossible to do by the human mind alone. India needs many more data centres both from the quantity and data sovereignty point of view. When one looks at Hyperscale data centres, then the US is the clear leader, but more than half of these centers belong to US, China and Japan, which is a small country. A switch to all government documents on the cloud would greatly help the cause of e-governance.

The US government has built the \$1.5 billion Utah Data Centre that can store exabytes of data. (1 Exabyte = 1 million Terabytes) It is like a separate township with its own power plant. Maybe the Indian government needs to attempt something similar. Being on the right track, this year's Union Budget has proposed data center parks all over India. Public and private data parks along with a robust data privacy and sovereignty policy. India introduced the Personal Data Protection Bill, 2019 along the lines of the European Union's General Data Protection Regulation.

Cloud migration is important for Digital Transformation and Business Continuity Planning (BCP) for both large enterprises and SMBs. India is frequented by floods, earthquakes and other natural disasters, while the Covid pandemic has been a global one. In all of these cases, the cloud and data centres will help greatly in BCP. With everything getting digitized, cybersecurity will take on a greater role and a unified strategy is important. India also set up the National Cyber Coordination Centre for cybersecurity.

The Y2K crisis made India an IT services super power. If we manage the post-Covid crisis correctly and use the 3As and 1C optimally, then we could become a tech supergiant at par with the US and China.



TECH AND MONOPOLY IS SYNONYMOUS

What is it about tech and monopoly? If tech makes everything in your life easy then for a tech giant it makes a monopoly easy too. The amount of monopolies that tech has had is quite high. While the US has strong anti-trust laws, they haven't been able to do much to Silicon Valley

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Desktop OS

Windows and Desktop Operating System are almost synonymous. There was the duality of Windows and Mac, but in terms of market share, it was only about the former. Depending on which decade you look or which large market, the percentage of Windows domination was always in the 80s or 90s. That didn't change much when initially the laptop came.

And it wasn't just about the OS, even MS Word, MS PPT, MS Excel all dominated. Remember Lotus 1-2-3? One doubts if anyone remembers it today. It was Microsoft all the way. Add the Intel chip and it was the era of Wintel (Windows + Intel). In the 1990s there was an antitrust case against Microsoft, but nothing came of it. One headline even billed it as the battle of the Bills. But Bill Clinton retired as US President at the

end of the millennium and Gates is still relevant in the 2020s.

Search



Here again there only seems to be one player. Yahoo Search flattered to deceive! Bing tried but despite its muscle and money power couldn't do much. Many players like Ask Jeeves and DuckDuckGo couldn't dent Google. The Web is at the mercy of the Google algorithms and spiders. It was Facebook which came out with private content that wasn't publicly available thanks to its exclusive 2.5 billion users.

Web browser



Here one monopoly gave way to the other. Netscape came in 1994 and cornered the market. Then it couldn't stand the heat of Internet Explorer which became a monopoly from the end of the 1990s to the middle of the 2000s. Now it's all about Chrome and Explorer has bitten the dust.

Video watching



While sites like Vimeo made a niche with high quality videos and TikTok ruled the young mobile short video mindspace, if you look at the video watching, it is largely about YouTube which has been a colossus. In 2017, it was estimated that one billion hours of content was watched a day and since then it has only grown.

MP3 player



Here it has been all about Apple. iPod, iPod Mini, iPod Nano, iPod Shuffle and the iPod Touch. They all dominated the market and among hard drive players it had 90+% of the market. Combine all the iPods and all the other MP3 players in existence and still Apple would have a 70+ per cent share of the market. While there were many illegal downloading sites and streaming ones, initially iTunes dominated.

Mobile OS



While Windows dominated the desktop and laptop era one would have thought it would be a big player in the mobile era. But it was nowhere. That would make you think it would be a level playing field. But not really and here it is Android which dominates the market. In fact if you look at smartphones in India, then it has a nearly 99% market share!

The same story everywhere



In the mobile messaging area, WhatsApp dominates. In using GPS to get one's way around,

it's Google Maps. While there are many regional players in ride sharing, at the global level, Uber dominates. When you look at the Web's own dynamic encyclopaedia, Wikipedia takes the mind share. Political social media is dominated by Twitter and in visual social media its Instagram.

Combination monopolies



It's not just in individual fields. There are many monopolies in combination. Facebook is the only social media player with 2.5 billion plus users. Facebook Messenger, Instagram and WhatsApp are in the One Billion Club. All 4 are in the top 5. All four are in the Mark Zuckerberg domain. Facebook is betting big on things it has like Oculus VR.

The number one Alexa ranked site is Google Search. The number two site is YouTube. Both belong to the same company Alphabet, which also has the monopolies of Android, Chrome, Google Maps etc. It will dominate the future being the king of data and getting into things like quantum computing.

Amazon is the largest online retailer in the world and also a big global cloud player, getting into things like OTT, their Alexa devices and owns its own logistics with planes and an eye to drones and driverless cars.

Finally, China has its own monopolies. So American and Chinese companies dominate and they have left the rest of the world behind. The future looks even more monopolistic with digitization spreading far and wide and an acceleration occurring due to the Covid crisis. It remains to be seen whether Big Government can break Big Tech as monopolies are being looked at all over the world.



ARE WE FINALLY ON THE VERGE OF A PAPERLESS WORLD?

Growing up in the 1980s, I used to hear a lot of talk about a paperless office, especially with the advent of the Personal Computer. Subsequently it seemed like a pipe dream. Most key digital data was scanned or converted from its offline form, the latter which was never disposed of. Alternatively digital data was duplicated in the offline world and sometimes even came in triplicates

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The paper just piled up in the offices, godowns and landfills. The initial success of the Web also didn't make that much of a difference towards this particular goal. But there has been a great deal of digitization in the 2010s now further accelerated by the Covid crisis. A look at progress on the paperless scene...

Money:

The financial system involved a lot of paperwork: Ledgers for the bankers and cheques for the customers, among other things. Online banking was a big step forward in that direction. In fact, many physical banks are shutting down all over the world. Then we had mobile money. That was the game changer because both the middle-class and the rural masses adopted it. Indeed there are many zones in the world today which have done away with paper money for their day to day sales. Banks also want to deal less and less with paper money. Some banks have tellers with handheld tablets conducting business. The future also looks paperless with the advent of blockchain and cryptocurrency.

Identification:

In the past there were so many documents related to identification. So many forms to fill to get them too! Now already the mobile is taking care of that. You can have your Aadhaar card and a host of other government documents on your mobile. The mobile also has been a big hit with things like cinema and train tickets along with airplane boarding passes. Going forward even that may not be required as further forms of identification include your fingerprints, iris

scan and of course facial recognition is really catching on.

Mobile workforce:

In the pre-Corona era the mobile workforce crossed 1 billion and now will cross 2 billion. Most importantly, now the data collection is happening at the digital level with mobiles. You no longer have to fill forms when you go in for say a new internet connection or take insurance. The data can be collected directly online and sent to the servers. Even when it comes to claims, the agent can come and record things with a mobile.

Governance:

Government offices were the biggest source of red tapism and triplicatism. With government offices getting computerized, digitized and e-governance expanding, the need for paper is also coming down. That also applies to all the citizens, companies and organizations dealing with them.

EdTech:

Education was another area of paper overload with books, exams, records, forms and the like. Thanks to Covid now every school and college in the world has been forced online, even if it is temporary. (But a lot of that will become permanent). This will give a big fillip to online education and soon your syllabus will be mostly online and exams-tests can be given online too. Virtual Reality will be another great tool here. This also applies to the training world in companies and government offices.

Cloud-bandwidth-multi devices:

This is the most important thing. To go totally paperless, you needed a huge, secure and reliable cloud. That has finally happened. The world has more than 500 Hyperscale data centers and millions of all types. Then there's the bandwidth issue to view all of your data on a regular basis. Bandwidth has been increasingly steadily further boosted by the Covid crisis. Finally there's the issue of viewing data conveniently. Now all of us have multiple devices to do the same. It's all seamless now.

Whether its collaboration or OTT or virtual sports. Whether its drones or robots. Whether its digital transformation of small or big companies. The focus is totally on the virtual. Even when it comes to war, hacking seems to be the first line of attack. Finally there's Artificial Intelligence to stitch that all together.

There were many articles in the 1970s imagining a paperless office in the 1980s or 1990s. However now that may finally become a dream in the 2020s. With less paper: Less trees will be cut down. Great for the environment!

PAYPAL MAFIA: THE MILLENNIUM'S MOST INFLUENTIAL TECHIES?

IBM, Microsoft and Apple were all launched in the last century. When you look at companies launched in the new millennium, then the influence of the so-called Paypal Mafia (who even have a Wikipedia page named after them) cannot be denied

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Paypal was launched as Confinity in 1998. It was merged with X.com in 2000. It was renamed Paypal in 2001. In 2002, it came out with an IPO and was acquired by eBay. The events of 2002 made half a dozen Paypal billionaires and many millionaires. They went on to be probably the most influential group in Silicon Valley in the new millennium. A look at what those founders and employees achieved...

Elon Musk: The most famous of them all. He co-founded Internet city guide Zip2, which was acquired by Compaq for \$307 million in 1999. Then he launched X.com, which merged with Confinity and became Paypal. Musk exited Paypal as a billionaire and then really started going. He launched SpaceX which became the first really affordable private space agency. SpaceX came out with Falcon Heavy, which is the most powerful rocket in the world. That is also launching the Starlink satellites, which will give Internet service across the world. 1000+ have been launched and tens of thousands are planned (There are less than 10,000 satellites currently up in space).

Then Tesla probably became the first Smart Car manufacturer and Musk became the man who made electric vehicles sexy. Tesla could rule the world of connected and driverless cars of tomorrow. In conjunction with that he launched SolarCity and led a revolution in batteries for both cars and otherwise.

Musk has great plans for tomorrow too. There's his Boring Company and Hyperloop projects. With Neuralink he wants to merge the human brain and Artificial Intelligence and he's also launched OpenAI to ensure that AI is beneficial to the human race.

Peter Thiel: Called the Don of the Paypal mafia, he was Paypal CEO when it was acquired by eBay. He is Chairman of Palantir and Valar Ventures, President of



Clarium Capital and Partner in Founders Fund. In 2004 he invested half a million dollars in Facebook to take a 10.2% stake and made another billion off it (after Paypal) and he is still a director there today. He was also a partner with Y Combinator.

Reid Hoffman: Another Paypal billionaire, he was the COO at that time and went on to co-found LinkedIn. He was the Executive Chairman there and is now a partner with VC Greylock Partners. Hoffman also invested in Facebook, Flickr, Friendster, Zynga, Digg and Technorati.

Chad Hurley, Steve Chen & Jawed Karim: These former Paypal employees formed YouTube in 2005 which was acquired by Google for \$1.65 billion. Today it's the number one video site and second in Alexa global rankings (only behind Google Search).

The others: David O. Sacks founded Geni.com and Yammer. Jared Kopf co-founded Slide, HomeRun and NextRoll. Eric M. Jackson co-founded CapLinked. Andrew McCormack co-founded Valar Ventures. Roelof Botha became a partner in Sequoia Capital. Ken Howery. Yishan Wong became CEO of Reddit.

NOT ONLY YOUR HANDS BUT YOUR DATA NEEDS SANITIZATION AS WELL

Wilson Bright



Last year, McKinsey conducted a survey that showed that the pace of data consumption per user in India grew twice as fast as in the US and China, the rate of increase was 152% on an annual basis. And with the advent of the global pandemic, India has received the final push that was needed to fully embrace the digital world. Today, most businesses, schools, NGOs, and every other form of institution rely on using the internet to survive and function. With data being the forefront of our entry into the digital world—we now leverage some major benefits like cost, efficiency, speed, and a lesser carbon footprint.

We've often heard the term 'Data is the new oil', the genesis of this statement goes back in time, when mineral oil was the most profitable commod-

ity and almost every nation wanted it. Today, data has replaced oil to become one of the most valuable commodities of the 21st-century.

There are a lot of similarities that we conclude between oil and data as commodities. For example: when it comes to their usability both oil and data in its raw forms are really not commodities of any value. With oil there requires several stages of stringent filtered processes to segregate it and use its different iterations like petroleum, gasoline, etc.

Similarly, with data, there is a lot of information that is at our disposal for observation but what makes it valuable is its analysis and conversion. Through conversions and analysis, data can be converted into usable points of reference in different fields like healthcare, finance, human, and basically wherever

else there is human interaction. Today some of the top valuable companies like Amazon, Microsoft, and Google have their business models structured around the amalgamation of data.

Increasing digital consumers & their data consumption

With consumers rapidly increasing their consumption of digital technology, the data they generate create both an opportunity for enterprises to improve their consumer engagement and a responsibility to keep consumer data safe. Some of these consumer data including location-tracking and other personal information prove to be immensely valuable to companies and organizations to better understand the consumers.

The insights which are therein derived from the collected data provides a roadmap to then develop new products and services or to personalize advertising and marketing. Consumer data has clearly transformed businesses and companies, collecting data has become an integral part of a business success rate.

With so many values attached to your data – a tough question is left to us to evaluate. Do we really own our data in the digital world and how should we as consumers feel about someone else's ownership towards our information?

To get a sense of the latter question – McKinsey surveyed about 1,000 North American consumers, several questions with emphasis especially on the businesses they trust their data with. The study showcased that the consumers were becoming consciously intentional with the type of data they gave their access to.

According to the study, many consumers were comfortable sharing data with their healthcare and financial service providers, and yet in the study, no industry was able to attain a trust rating of 50 per cent for data protection. The unattained percentage is understandable given the continuous history of high-profile consumer-data breaches. The survey also highlighted how aware the respondents were aware of such breaches, which reflected in their answers about trust.

Data security has received bad press especially in the last few months where "securing" consumer data became a staggering catastrophe. Two data breaches at one company led to more than 3.5 billion records being made public. Surveys show how consumers pay attention to breaches and the respective company's reaction to the breach, which is why stakes get higher

for companies that focus on handling consumer data.

Data breaches and their repercussion on companies

Today, we've finally reached a point where all organizations irrespective of their sectors understand the value of data. Data has become a primary asset found at the core of most business. Data helps the decision-makers of a firm conceive insights into every aspect of their function and thanks to technology the procurement of data is enabled through survey research to enable organizations that belong to the large, medium and small categories.

These organizations can then churn these data into insights that help them with new positioning, messaging, chalk out demographics of their current customer base, psychographics of their employees. The focus on data has shifted from its collection to its interpretation and finally, its usage. The ongoing pandemic has flipped how businesses operate especially since the surge of remote working.

Approximately 60% of businesses wind up within six months of a data breach for they are forced to spend long months losing money, fighting legal battles, and enduring major reputation crises. Living in this digital immersed world, we've all plummeted into a critical stage of protecting our data. For now, until crystalized rules form- the best way to protect and sanitize your data is to encrypt it with keys that are always controlled by the owner of the data.

The future of security is Blockchain

With the advent of Blockchain, user-owned internet can be bootstrapped on the distributed networks which are decentralized and trust-less. The World Economic Forum predicts that 10% of the global GDP which is approximately \$7.8 trillion will be stored on the blockchain in less than 10 years. By using apps running on this network helps you to own your identity and data.

The applications provide you with keys that are issued by a decentralized system that is known only to you. The goal of the user-owned internet to provide true data ownership and data privacy. With the inflection point of these applications- data breaches and data leaks would be the troubles of the past. Blockchain as a protocol will facilitate this repair of the web for creating a user-owned internet. Blockstack's blockchain enables data ownership and privacy in the data collection space and projects like Blockstack.org are driving the change of the hour for user-owned internet.

The author is Co-Founder, BlockSurvey

SOCIAL MEDIA DEALS IN MILLIONS AND BILLIONS

One of the reasons that Social Media has trumped Mainstream Media is that the former deals in millions and billions and is much more transparent than the latter. Facebook became the first single corporate entity to register more than 2.5 billion users and if that wasn't enough then it also took over Instagram and WhatsApp both which have more than 1 billion users each

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So it is not just about the companies, but individual users and pieces of content that reach the realm of billions. A look at the superlatives...

126 billion

The total views that the T-series YouTube channel had got. T-Series launched into a battle with YouTuber PewDiePie and in the end that boosted both of their followers and view counts. T-Series also leads on this platform with 155 million followers.

6.9 billion

A quick question. What if you released a video and it garnered a whopping 1 billion views. Where would it be on the all-time chart? Not even in the Top 100! The Billion View Club is that big. On the very top of this club is *Despacito* which is touching 7 billion.

2.6 billion

Ed Sheeran's *Shape of You* may have lost it out with *Despacito* and a few others in the YouTube Billion View Club, but it rules on Spotify being the most streamed song there. It was reported that Joe Rogan, the number one interviewer in the world, was paid in excess of \$100 million to shift from YouTube to Spotify.

369 million

Instagram, the most followed Instagram account. Instagram was formed in 2010 and was quickly taken over by Facebook in 2012. This is proving to be the most popular medium among celebrities thanks to its visual appeal and hence being less prone to controversy.

239 million

Cristiano Ronaldo, the most followed individual on Instagram. Again, the visual appeal of Instagram is ideal for the beautiful game of football and the photo of Ronaldo looking as if he's heading the moon got 3.5 million likes. Ronaldo is also the most followed individual on Facebook, with his page having 123 million followers.

214 million

The Facebook App page has the highest followers among pages in Facebook.

160 million

The Samsung page has the highest number of followers after the Facebook App.

123 million

Barack Obama may have stepped down as US

President way back in January 2017, but he still has the most followers on Twitter and it looks like it is going to take some beating.

112 million

Justin Bieber is the most followed celebrity on Twitter and with a bit of luck could one day overtake Obama.

107 million

Most followers on YouTube by an individual, PewDiePie. He became infamous for his battle with T-Series and became an India watcher with his hilarious Motu Patlu take, his attack on Ekta Kapoor and his tribute to Sushant Singh Rajput.

90 million

16-year-old American dancer Charli D'Amelio was the top most followed celebrity on TikTok before disaster struck and the platform faced bans in India and America. TikTok was the fastest rising social media platform briefly before its fall. About a dozen Indians, who are not that known outside TikTok, had garnered more than 20 million followers each.

81 million

Virat Kohli, the most followed Indian on Instagram. If Instagram is the choice of the new generation then that's where the youth icons have simply whizzed forward.

71 million

The King of Pop may have passed away in 2009 when the whole social media revolution started taking place, but his Facebook page still has a good amount of followers.

62 million

Prime Minister Narendra Modi is the most followed Indian on Twitter. If you check most global elections and their Twitter account then you may not be surprised to know that the person with the most followers usually wins.

44 million

The most followed Indian celebrity on Twitter, Amitabh Bachchan. It is difficult to imagine that an Indian film star who debuted in the 1960s is still going strong in the 2020s.

(Note: These numbers fluctuate wildly with time. They were accurate at the time of writing this article)

BCP STRATEGIES STRAIGHT FROM THE HORSE'S MOUTH

Know how businesses from different industries maintained Business Continuity after being hit by the unforeseen pandemic crisis and started adapting to the 'New Normal' of remote work. Hear the businesses directly on the CIOL BCP Playbook Series (Hyperlink: <https://www.ciol.com/bcp-playbook-series/>) and CIOL News Youtube channel (Hyperlink: https://www.youtube.com/playlist?list=PLKCHjo_skivAw6iQ-Y6vkY-jpiBRTAjNG)

PCQ Bureau

BCP PlayBook: ITC Infotech fights COVID-19 disruption with 'BCP Cockpit'



ITC Infotech enabled almost 99 percent of its 10,000-odd workforce to work from home from day one of lockdown in India. The company built a 'COVID-19 BCP Cockpit' solution to provide business leaders and the operations teams with a dashboard for real-time and integrated visibility into day-to-day business operations across various metrics and KPIs for real-time decision making.

Hear more from Sudip Singh, MD & CEO, ITC Infotech on the CIOL News YouTube Channel. (Hyperlink: <https://www.ciol.com/bcp-playbook-itc-infotech-fights-covid-19-disruption-bcp-cockpit/>)

BCP PlayBook: Cyient resets strategies & business processes for the New Normal



The company has been able to achieve more than 90 percent productivity in less than three weeks by embracing an effective culture of collaboration across the organization. The company has brought in best-in-class encryptions and security protocols to keep the data secure across the organization and has also benchmarked the security architecture with third party assessment tools.

Hear more from Karthikeyan Natarajan, President & COO, Cyient on the CIOL News YouTube Channel. (Hyperlink: <https://www.ciol.com/bcp-playbook-cyient-resets-strategies-business-processes-new-normal/>)

BCP PlayBook: 'Digital' helped Happiest Minds attain highest-ever NPS amid disruptions



Happiest Minds has enabled almost 99 percent of its 2,400-odd workforce across 16 locations in India to work from home during the lockdown by embracing digital. A focus group worked on innovative solutions that can enable digital transformation across business functions and can be repeated at multiple customer contacts. A resilient BCP plan has also helped the company achieve the highest Net Promoter Score (NPS) ever. NPS is a metric used in customer loyalty and satisfaction measurement.

Hear more from Rajiv Shah, President & CEO - Digital Business Services, Happiest Minds on the CIOIOL News YouTube Channel. (Hyperlink: <https://www.ciol.com/bcp-playbook-digital-helped-happiest-minds-attain-highest-ever-nps-amid-disruptions/>)

BCP PlayBook: Tesco put people at the heart of its COVID-19 resilience plan



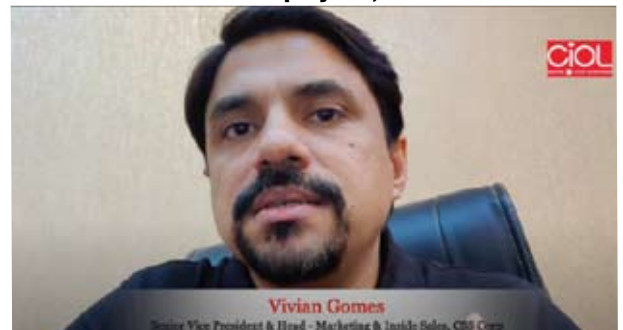
Tesco, being one of the largest food retailers in the world, the concept of 'Resilience' did come with an added responsibility of feeding nations for the company and where they operate.

Tesco's sales volume both offline and online increased dramatically during the COVID-19 crisis. Especially online shopping doubled to 1.2 million customer orders per week. In early March, 52,000 of

Tesco employees either fell sick or self-quarantined themselves.

Hear more from Sumit Mitra, CEO, Tesco Business Services & Tesco Bengaluru on the CIOIOL News YouTube Channel. (Hyperlink: <https://www.ciol.com/bcp-playbook-tesco-put-people-heart-resilience-plan/>)

BCP PlayBook: CSS Corp's resilience frameworks drew 'CHEER's from employees, customers



CSS Corp stepped up its preparedness to handle the crisis by using a proprietary resilience framework, which helped it to implement work from home for its 7,000-odd employees across 18 Global locations. In order to stabilize operations, it constituted a virtual command centre to monitor all global client projects and programs, and update daily status reports. The company digitalized all the HR functions and implemented virtual hiring, onboarding, and training of the employees. It also created a 'CHEER' framework for employee wellbeing and boosting team engagements.

Hear more from Vivian Gomes, SVP & Head - Marketing & Inside Sales, CSS Corp on the CIOIOL News YouTube Channel. (Hyperlink: <https://www.ciol.com/bcp-playbook-css-corps-resilience-frameworks-drew-cheers-employees-customers/>)

BCP PlayBook: BCP PlayBook: Mindtree bet on co-innovation & reskilling to spring back to normalcy



Mindtree was able to instill confidence and ensure client satisfaction with forward planning and seamless execution of BCP. The company has been using its digital learning platform, Yorbit to run reskilling programs, so that employees can utilize the time available to enhance their skills. Another key area of focus for Mindtree was deepening relationships with existing clients and building customer confidence to ensure stability during this period of crisis. During this period, the company has launched several co-innovation initiatives with its customers.

Hear more from Dayapatra Nevatia, COO, Mindtree on the CIOL News YouTube Channel. (Hyperlink: <https://www.ciol.com/bcp-playbook-mindtree-bet-co-innovation-reskilling-spring-back-normalcy/>)

BCP PlayBook: Sun Life ASC aced resilience by taking offline insurance processes online quickly



The COVID-19 crisis has made insurance companies revisit their insurance distribution strategies and look for more non face to face engagement models of selling insurance.

Due to the lockdown, the advisors were facing difficulties in selling policies as they were unable to step out to meet the clients. Hence, Sun Life ASC's technology teams across the Philippines and India launched a digital sales system enabling its clients and advisors to discuss and purchase solutions virtually from the safety of their own home.

Hear more from Gaurav Mishra, Chief Operations Officer, ASC & Site Head, ASCP, Sun Life Financial on the CIOL News YouTube Channel. (Hyperlink: <https://www.ciol.com/bcp-playbook-sun-life-aced-resilience-taking-offline-insurance-processes-online-quickly/>)

BCP PlayBook: Tata Tech helps customers 'ReSet' & thrive in the New Normal

COVID-19 has brought about unprecedented challenges to the clients across various sectors and



geographies due to disruptions in the supply chain, liquidity crunch and muted consumer demand. Tata Technologies prioritized health and wellbeing of employees and stabilized cash flows. Then it pursued structural enhancements by actively monitoring, analyzing the situation and building foundations for advantage and Prepare for a rebound by pro-actively seizing demand re-bound and exploring moves for strategic advantage.

Hear more from Arun Krishnamurthi, President-Europe, Tata Technologies on the CIOL News YouTube Channel. (Hyperlink: <https://www.ciol.com/bcp-playbook-tata-technologies-help-customers-reset-thrive-new-normal/>)

BCP PlayBook: ThoughtWorks' collaborative work culture made the switch to Remote Work smooth



During the COVID-19 crisis, ThoughtWorks put together its learnings in a remote work playbook of IT best practices and that proved very helpful for its clients and partners around the world, as they have been making their own transitions to remote work and encouraging their people to adopt those practices. Plus, ThoughtWorks always had a very open and collaborative work culture, hence the shift was not tough.

Hear more from Saptarsi Hore, COO, ThoughtWorks on the CIOL News YouTube Channel. (Hyperlink: <https://www.ciol.com/bcp-playbook-thoughtworks-collaborative-work-culture-made-switch-remote-work-smooth/>)

Leveraging CyberMedia Network During Covid-19



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“AI KEY FOR KNOWLEDGE MANAGEMENT, OUR NO. 1 FOCUS”

Alok Kirloskar, Head-International Business, Kirloskar Brothers Limited, talks about all the latest technologies and trends including Industry 4.0, Artificial Intelligence, the New Economy, the Internet of Things and how they use VR for training and AR for service

PCQ Bureau



Said Alok Kirloskar, "For a business promoter, AI for me has one very clear aspect: Knowledge management. That's how I see AI as our number one focus. Workers and management get information about the business. They are learning and able to identify trends about business."

About IoTs he said, "We use these for monitoring pump diagnostics and pump health. We have pumps on our offshore platforms. Almost 50% of the world's offshore oil platforms have our pumps on them. It's very difficult to go to those platforms. That is where these devices help."

For the complete interview, click: <https://www.youtube.com/watch?v=hZB1Q2yviQ&t>

Covid an opportunity to accelerate digital journey

Covid opportunity to accelerate digital journey # MaxLifeInsurance



▶ ⏮ 🔊 0:47 / 10:27



We caught up with Suhail Ghai, EVP & Head – Information Technology, Max Life Insurance, who talked about all the changes taking place thanks to Covid, how technologies like Artificial Intelligence can help in dealing with the New Normal and a paperless world.

While talking about the Covid-19 pandemic and the lockdown which came up early this year, said Ghai, “We were able to move 7000 people to work from home over a period on one week. Before the end of March all our critical operations were functional. Our sales team showed a lot of agility to redefine virtual selling processes and train thousands of agents how to sell virtually and effectively. We also worked maniacally on all our processes which were non-digitized in a matter of a couple of weeks. We worked on removing physical paper from our journeys through OTPs and digital signatures.”

Check out the complete interview: <https://www.youtube.com/watch?v=sIQjpd0mTcY&t>

Catch the latest videos on the YouTube channels of PCQuest and CIOL News, featuring Tech Talks with industry leaders, the BCP Playbook on how to cope in the post-Covid world, Cloud Conversations, Webinars, TechNews This Week and panel discussions.

POWERING AUTOMOTIVE ENGINEERING WITH ENGINEERING LIFECYCLE MANAGEMENT

PCQuest, in association with Trident and IBM, held a live webinar on the theme of “Empower your Engineering by IBM Software Solutions” to give automotive software developers and system engineers a guided tour on automotive software design and development

PCQ Bureau

The live webinar was well-attended and participants got detailed information on the IBM Engineering Lifecycle Management (ELM) from Trident and how it can help in managing the complexity of automotive software development and improve the delivery.

Sunil Rajguru, Editor, PCQuest, said how connectivity is empowering the automotive industry to develop and add new apps and services and how software is playing an increasingly important role in defining those consumer's experiences.

Auto Industry is a multi-disciplinary industry, where mechanical, electrical, and software go hand in hand to build a complex system. But the industry's reliance on software is increasing day by day for critical vehicle functions. Safety regulations and consumer demand for performance and convenience have led to exponential spike in automotive software complexity as well.

The lines of software codes written for an average luxury car often exceed that of a fighter jet and as humans write those codes, there is significant room for errors as well. In fact, a growing number of vehicles are getting recalled for software glitches nowadays.

Suneel Santharam, Sr. Client Specialist, IBM India said, “The increasing complexity has added many challenges for automotive engineering such as the need for visibility across the entire project, agility in development, collaboration between OEM and supplier, innovation, scalability, etc. One has to keep an eye on quality, regulatory compliances, safety and security also. The heterogenous tool landscape poses another challenge.”

As the complexity of product design increases, the reliance on modern engineering and development processes becomes increasingly crucial.



IBM Engineering Lifecycle Management (ELM) is a comprehensive solution for software or systems development and good for maintaining cross-engineering consistency also. This solution is designed for requirements analysts, developers, systems engineers, and testers.

Rajneesh Bhagat, Operations Head, Trident Information Systems said how the company is helping prominent govt entities and public sector with IBM ELM solution.

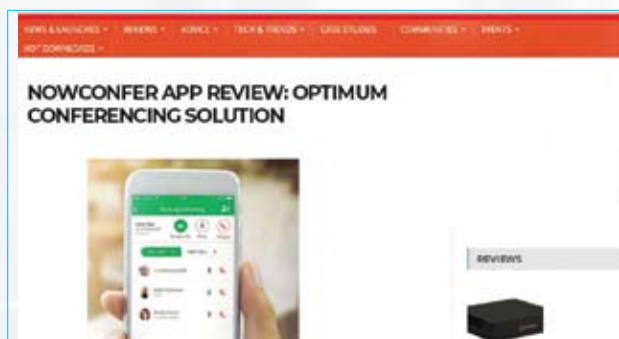
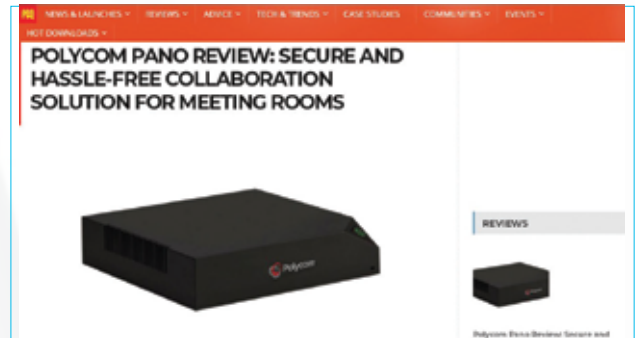
Vivek Buzruk, Sr. Architect, Trident Information Systems explained how Trident helps in high performance deployment, value-driven incremental adoption, and measured management and optimization and how it can help software practitioners in reducing their unplanned work and overheads and improve productivity.

“We first understand the customer goals and constraints, analyze current practices, tool usage, integration requirements and pain points and then identify and prioritize required ELM capabilities, architect tool configuration and usage model implementation. We continuously improve existing ELM practices and optimize software release using local and global configurations driven collaboration,” said he.

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RUGGED TABLET

ZEBRA L10

— Ashok Pandey
ashokpa@cybermedia.co.in

Zebra L10 series is not your usual tablet. It's a rugged device that can be used in different types of rough conditions. Not only does it look tough, it can actually tolerate various extreme conditions. There are 3 models in this series; XSLATE L10 which has a traditional tablet outlook but reinforced XPAD L10 that comes integrated with a handle for easy mobility, and XBOOK L10 that is equipped with a fully-functional foldable keyboard.

A few weeks back, I received two L10 tablet variants - XBOOK L10 and XPAD L10. Both are ruggedized tablets but have their own respective form factors to cater for usage in different scenarios.

The Rugged Design

While it doesn't come with a fancy design, the tablet's outer shell is built to handle rough environments. It comes in a magnesium frame that is enclosed with a non-removeable rugged casing, making it suitable for use regardless if you work at a construction site, warehouse, or any other venues with extreme working conditions. The tablet is even capable of handling extreme conditions like – heat, cold, drops, liquid spills, etc.

The tablet has multiple connectivity options that include LAN port, audio jack, two full-size USB ports, a reversible USB-C port and a micro-SDXC card slot. All the ports can be secured behind the locks with a slide of a button. So, if you were to ever spill water or coffee onto it, rest assured that it will likely escape unscathed. The L10 series of devices are rated IP65 even when the ports are opened,



Price: Starts at USD 2,199

SCORE

Overall: **9/10**

PRICE: **8/10**
PERFORMANCE: **9/10**
FEATURES: **10/10**

KEY SPECS: CPU- Qualcomm Snapdragon 660 octa-core 2.2 GHz; Operating System- Android 8.1 Oreo with Zebra's Restricted Mode for control over GMS and other services; Memory/Storage- 4GB/64GB or 128GB eMMC; 8GB/128GB eMMC; Graphics- Qualcomm Adreno 512 GPU

PROS: Rugged tablet, enterprise-grade accessories, battery life, camera quality, 3 years warranty

CONS: Could have latest Android OS



thereby accentuating its durability and toughness. For the XBOOK, even its backlit keyboard is rated IP65.

Working under extremely hot or cold conditions with the tablets can now be worry-free. These devices are built to last and have been tested through multiple drops and tumbles. In fact, if it ever slips out of your grip accidentally, it's likely to survive the drop because it has been tested and proven to have survived drops to concrete (up to a height of four feet / 1.2 metres)!

Both L10 models come with a stylus that clips into the tablet's body with the added protection of a lanyard, ensuring it won't be misplaced. For the XBook, it can be used together with the lock-in optional companion keyboard, which works as an additional protector to the screen when closed. The foldable keyboard is compact yet fully functional. But admittedly, it may be more suitable for mobile usage, rather than for long hours of typing in the office.

There are numerous accessory options available for the L10 series of tablets including a whole range of cradles and shockproof

vehicle docks, extended battery packs, a serial port (a lot of industrial equipment still uses the RS232 standard), RFID readers, carrying cases, and the like.

Compared to other 10-inch tablets, it is slightly heavier and has a weight that ranges from 1.2 kg to 2.0 kg (depending on the selected variant). Most of the weight comes from its reinforced casing which makes the tablet ruggedized.

Display

The 10.1-inch wide-format IPS screen is protected by Corning Gorilla Glass 3, with perfect horizontal and vertical viewing angles. The screen offers 2K resolution WUXGA 1920 x 1200 and has an aspect ratio of 16:10.

The 10.1-inch screen has a brightness level of 500 nits. As it is designed for outdoor usage, you can easily work on the device in direct sunlight. If needed, Zebra even offers an optional ultra-bright 1,000 nit View Anywhere display for added brightness.

The multitouch screen offers 10-point touch and comes with auto-sensing standard, glove and wet touch.

Camera

The L10 tablet has a 13MP rear autofocus camera with flash and a 5MP front camera. Using the rear camera, you can capture decent quality documentation and other images. The rear camera is packed with a powerful LED flash, enabling you to capture shots even in the dark. Meanwhile, the front camera is good for video calls, etc. Located beside the front camera are dual microphones to optimize sound detection and ambient light sensor to detect the surrounding light and appropriately adjust the device's screen to match it.

Both front and rear cameras are decent enough for what we can expect from such rugged devices. The Android tablets also come with a basic camera app, which could have been customised for better quality images and other features. However, you can always check for third party camera apps to fulfil your camera desires.

Battery

This tablet comes with a removable battery that can last for up to 9.8 hours. If needed, you can choose the extended battery option, which delivers up to 26 hours of usage. Zebra L10 supports Hot Swap mode, which enables the user to replace the battery without powering off the device. In this mode, the display turns off and enters a low power state. This feature is especially useful for users who are out in the field as they no longer have to struggle to find a power socket to charge their devices when their devices are running out of power. Instead, they can simply swap the battery out and continue to focus on their jobs, thereby saving time and enhancing productivity.

Performance

Technology has evolved and it is evident in a device like the Zebra L10. We have seen lots of rugged tablets over the years, but not quite like this one. The Zebra L10 offers all integrated variants with a whole lot of accessories and a wide range of performance scaling.

The L10 Android table is equipped with Qualcomm Snapdragon™ 660 octa-core 2.2 GHz processor, combined with options to choose from: 4GB RAM and 64GB or 128GB eMMC another variant 8GB RAM and 128GB eMMC. Zebra has configurations suited for everyone. The tablet runs on Android 8.1 Oreo with Zebra's Restricted Mode for control over GMS and other services, while the graphics is powered by Qualcomm Adreno 512 GPU.



After using the tablet for more than a month, we didn't experience any performance lag at all, in spite of testing it with varying apps including MS office suite. In terms of multitasking, we were able to switch between productivity apps like MS Word, Chrome, Outlook, Trello, etc. without any delay. To test it further, we activated Google Chrome that ran with up to four tabs, the Microsoft Word app, Excel App, the camera function, Pixlr image editor, and some other day-to-day usage apps concurrently. Noticeably, the tablet showed no signs of lagging and continued to operate perfectly.

The tablet is equipped with the Adreno GPU, which means it can also handle high-graphics intensive apps. So, we added the AutoCAD mobile app and some other design apps on the tablet, and it operated smoothly. That said, we did experience a slight, negligible delay while multitasking between four high-graphics intensive appsc at the same time.

The tablet is well equipped with connectivity options including Wi-Fi, 4G, Bluetooth, etc. thereby enabling the user to roam freely regardless if you are using it outdoors or indoors.

In terms of its battery life, the tablet is supposed to offer up to 9.8 hours of battery backup. So, we put it to the test by running a looping video on the XSLATE L10 while blasting it on with full volume, tuning the screen to maximum brightness, and connecting to the internet concurrently. Under such extreme conditions, it's amazing that the battery was still able to continuously run for a total of 4 hours 16 min. The battery backup for this rugged tablet is truly impressive. And I'm convinced that the tablet with be able to comfortably last more than 8 hours under normal circumstances.

For more information, please visit <https://www.zebra.com/ap/en/products/tablets/l10-series-xbook-xslate-xpad.html>



Bottomline: A ruggedized, yet powerful and feature-rich tablet that offers a whole lot of enterprise-grade accessories to cater to the different requirements of varying users. With this rugged device, you won't ever need to worry about the extreme conditions that you may encounter at work. Because you know that the Zebra L10 will be able to hold its own. With an overall good performance, this is indeed the perfect rugged device.

SMARTPHONES

POCO M2

POCO M2 comes with a MediaTek® Helio™ G80 octa-core processor with two Cortex-A75 cores at 2.0GHz and six Cortex-A55 cores at 1.8GHz. With 6GB of RAM to go with the aforementioned components.

POCO M2 features a 16.58cm (6.53) Full HD+ display, with a resolution of 2340 × 1080, the Corning® Gorilla® Glass 3 protection and the display is reading mode certified by TÜV Rheinland.

POCO M2 features a quad camera setup consisting of a 13MP primary sensor, 8MP ultra-wide sensor, 5MP macro sensor and a 2MP depth sensor. It comes packed with a 5,000mAh built-in battery-powered with support for 18W fast charging (10W charger in box) to ensure long hours of battery backup.

POCO M2 will be available in 6/64GB and 6/128GB storage variants for INR 10,999 and INR 12,499 respectively.



TECNO SPARK Go 2020

TECNO SPARK Go 2020 is designed with premium features at an affordable price of INR 6499. It comes with a big 5000 mAh battery, 6.52 inch display, and a 13 MP AI dual rear camera. And this time, the device sports a unique audio-sharing feature that enables users to connect two Bluetooth Earphones or three Bluetooth speakers simultaneously – in effect amplifying the entertainment quotient that will make times with family and friends a truly memorable one.

The SPARK Go 2020 sports a BIG 6.52" Dot Notch Display with 20:9 aspect ratio. Complemented with 480 nits brightness, 89.7% Screen to body ratio and 720x1600 HD+ resolution, the device provides for a seamless visual and immersive video viewing experience. It is equipped with an AI Dual Rear Camera with a 13MP Primary Camera with F1.8 aperture, 4XZoom, PDAF, etc. The 8MP selfie camera with a F2.0 aperture and a micro slit front flash with adjustable brightness is perfect for selfie lovers.

The Smart Security features of Face Unlock and Smart Fingerprint with 0.2s fast unlock enables one to be armed with a robust smartphone security. The device houses a 2GB RAM and 32 GB internal storage and runs on a Helio A20 1.8 Ghz processor.



TABLET

Huawei MatePad T8



The uniquely designed Huawei MatePad T8 offers consumers a power packed performance and premium features, but falls light on their pockets.

With chic metal body and ultra-slim design, the tablet is ergonomically built, feels lightweight and sleek, and fits well for children and adults alike. The Huawei MatePad T8 is equipped with an 8-inch display and is a perfect tablet for use on the move. Backed by an energy house of a 5100 mAh battery, the device keeps running for upto 12 hours of video playback and web browsing. Powered by an advanced Octa-core chipset 2 GB RAM +32GB memory, the device works as smooth as butter owing to its rapid processing speed.

With a stronger performance, the device hosts EMUI10 allows users to quickly launch and switch between apps without any lag, and the enhanced dark mode makes it more comfortable to read.

The product will be available in LTE and WiFi version for consumers in India at attractive prices starting INR 9999 making MatePad T8 the one of the most affordable tablets with an Octa-Core processor in India.

GPU

ASUS ROG Strix, TUF Gaming and Dual NVIDIA GeForce RTX 30 Series GPUs

ASUS's three new NVIDIA GeForce RTX GPUs, including ROG Strix and ASUS TUF Gaming GeForce RTX 30 series, GeForce RTX 3080, ROG Strix and ASUS Dual GeForce RTX 3070 models. These new GPUs bring buffed-up cooling, PCBs, and power design to complement the new NVIDIA Ampere architecture. From competitive action to high-res immersion, this lineup delivers the latest and greatest in 3D gaming performance.

The new NVIDIA GeForce RTX 30 Series GPUs, the 2nd generation of RTX, features new RT Cores, Tensor Cores and streaming multiprocessors, bringing stunning visuals, amazingly fast frame rates, and AI acceleration to games and creative applications. Powered by the NVIDIA Ampere architecture, which delivers increases of up to 1.9X performance-per-watt over the previous generation, the RTX 30 Series effortlessly powers graphics experiences at all resolutions, even up to 8K at the top end. The GeForce RTX 3090, 3080 and 3070 represent the greatest GPU generational leap in the history of NVIDIA.



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AUDIO

Sony Speakers: MHC-V83D, MHC-V73D, MHC-V43D and MHC-V13

Sony high-power party speakers - MHC-V83D, MHC-V73D, MHC-V43D and MHC-V13 are packed with stunning sound and experiential party lights, these party speakers are set to unleash the inner pop star in you and make every moment at a party memorable.

This new line-up of High-Power party speakers features key upgrades for better power and improved sound quality, such as the High-efficiency Tweeter that uses horn tweeters and High-efficiency Midrange that uses mid horn speakers. It introduces not just greater height expansion of sound but also a wider range, reaching the whole dancefloor. The Omnidirectional Party Sound is a result of combining the front and rear tweeters, the midrange, a woofer and JET BASS BOOSTER, enabling music to reach further and wider, pleasing guests with great sound wherever they are.

Karaoke sessions at home have never been better before. With the new DSP reverb module feature in the V83D, V73D and V43D blends vocals with background music to make the experience more seamless creating an immersive experience of singing in a concert hall. A pair of dedicated built-in microphone holders contain the cables and microphone, giving a tidy look and a stress-free experience.

All four products within the High-Power party speaker range allows for three different guitar modes to be selected for the ultimate jamming session: Clean for playing pop songs, Overdrive for rock and metal tracks and Bass for a bass guitar playing experience.

Find your singing superstar via Karaoke ranking, the Karaoke Ranking feature scores a user's singing and ranks it through the Fiestable app, giving users the chance to engage in friendly competition with friends and family by gunning for a spot in the top 10 leaderboard.

Product Name	Best Buy
MHC-V83D	Rs. 56,990
MHC-V73D	Rs. 44,990
MHC-V43D	Rs. 31,990
MHC-V13	Rs. 16,990



boAt Rockerz 335 Wireless Neckband Headphones

boAt Rockerz 335 is featuring a staggering 30 hours of playback time, with Qualcomm low latency and passive noise cancelling, fast charging which provides 10 hours with just 10 minutes of charging and Enhanced Bass with boAt Signature Sound.

The boAt Rockerz 335 is fuelled by a 150mAh Li-Polymer battery that serves your audio pleasure for a continuous 30 hours on a single full charge. It features Qualcomm aptX HD Audio technology, powerful 10mm dynamic drivers and also has low latency audio performance that comes in handy during gaming sessions. Lastly, there's also Qualcomm cVc technology for enhanced background noise cancellation during voice calls.

The boAt Rockerz 335 uses Bluetooth v5.0 for connectivity, also it provides dual device pairing. The IPX5 rated neckband comes at a price of 1999 INR.



AI CLASSROOM SERIES TO SKILL INDIA'S FUTURE WORKFORCE WITH AI CAPABILITIES



As part of its ongoing efforts to promote skilling as a national priority, NASSCOM FutureSkills and Microsoft have joined hands to launch a nation-wide AI skilling initiative. The initiative aims to skill 1 million students in AI by 2021. The collaboration will provide Microsoft's AI, machine learning and data science expertise to students through easy to consume modules including live demos, hands on workshops and assignments. These introductory sessions on AI will be available for undergraduate students at no cost and will cover the basics of data science, machine learning models on Azure, and understanding of cognitive services to build intelligent solutions.

IMMERSIVE TECHNOLOGY TO REIMAGINE ONLINE SHOPPING EXPERIENCE

The Accenture Interactive and based on a survey of more than 3,000 consumers across North America, Europe and Asia-Pacific, the report — "Try It. Trust It. Buy It." — notes that the recent impact of COVID-19 has drastically shifted consumer behavior, with shoppers now embracing new immersive technologies related to online shopping. In fact, 47% of consumers said these technologies make them feel connected with products. The report suggests that as companies increase their focus on these technologies — 64% of leading consumer brands are starting to invest in augmented reality, virtual reality, 3D content and 360-degree video — they should shift their thinking from investing in one-off experiences to driving scale and efficiency to these experiences. In fact, the research found that immersive experiences can boost consumer confidence in an online purchase by 4% globally.



FACE ANALYSIS-EMOTION RECOGNITION AI FOR BUSINESS INTELLIGENCE



EnableX.io announced the launch of its Face Analysis and Emotion Recognition AI solution - FaceAI. Aimed at augmenting live video with Cognitive and Emotional States understanding, FaceAI enables companies with deep insights into the emotional impact of each conversation, providing smarter, more contextual and dynamic customer engagements. Encompassing advanced technologies, FaceAI has the ability to identify demographic features such as the Likely Gender and Age; facial features such as Hair Colour, Cheekbone, eyes; and emotions such as Anger, Disgust, Fear, Happiness, Sadness, Empathy, Surprise, and much more. Besides these, it also measures the attentiveness and liveness of the person which can be helpful in developing a deeper understanding of the customer or caller's sentiments and affective state.

API INVESTMENTS TO REMAIN STRONG



Postman released the results of its 2020 State of the API Report. It surveyed 13,586 API developers, testers, executives, and others to understand who is working with APIs, how they are getting their work done, and where they see the industry headed.

Key survey findings:

- API investments have remained strong.
- The pandemic has changed the world, but it didn't stop APIs.
- APIs are the nucleus of digital transformation.

FEMALE WORKFORCE PARTICIPATION UP FROM 30% IN APRIL TO 37% IN JULY



LinkedIn 'Labour Market Update', a monthly analysis that captures the evolving industrial landscape to provide real-time hiring and job insights sheds light on the hiring rate in India, female representation across the workforce and in key sectors, and the impact on hiring rates for talent with different skillset from July. The findings emphasize that hiring continues to recover, gender parity has improved, and female workforce participation has increased from 30% in April to 37% at the end of July.

42% OF INDIAN EMPLOYEES ACCESS CORPORATE DATA ON PERSONAL DEVICES

Trend Micro released survey results that show smart home devices and their apps represent a major weak link in the corporate cybersecurity chain as the lines



between work and home life increasingly blur. Trend Micro's Head in the Clouds study surveyed more than 13,000 remote workers across 27 countries to find out more about the habits of distributed workforces during the pandemic. It revealed that 42% of workers in India use personal devices to access corporate data, often via services and applications hosted in the cloud. These personal smartphones, tablets and laptops may be less secure than corporate equivalents and exposed to vulnerable IoT apps and gadgets on the home network. Over one third (37%) of remote workers surveyed do not have basic password protection on all personal devices, for example.

ROBOTIC ARM 2.0 IPOT TO HELP RETAILERS

Aspire Systems announced the launch of new and improved update of its Robotic Arm: 2.0 iPOT, an intelligent Point of Sale



Operational Testing. Aspire's Robotic Arm was designed for testing Point of Sale Systems (POS System) in a shorter and more efficient way. Created based on years of experience in resolving automation challenges for testers, it helps increase automation coverage to 90%, thereby, making manual testing redundant. It also gives retailers opportunities to enable faster time to market and reduce daily operational disruptions.

ACCESS TO GEOSPATIAL DATA

Demand for high-quality geospatial data has skyrocketed across industries as the global economy becomes more and more digitized. HERE Technologies released HERE Data Layers

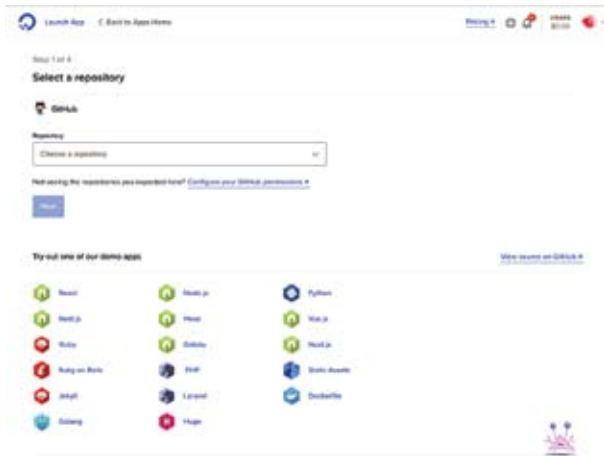


to improve software developer and data scientists' access to the rich cartographic features and attributes captured within an enterprise-grade mapping platform. HERE Data Layers are standalone geospatial representations of the world's road networks, pathways, buildings, structures, places, land use and land cover. They serve as a menu for developers and data scientists to select the datasets needed to power today's location-based functions, applications and customer experiences.

SBI MODERNIZES ITS PAYMENT SWITCHING SYSTEM

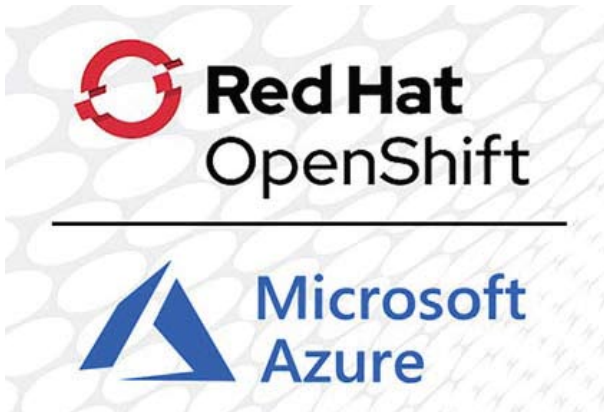
ACI Worldwide has modernized payments infrastructure for ATM and point-of-sale (POS) at State Bank of India (SBI), the country's largest bank with more than 440 million account holders. Operating more than 58,000 ATMs, the bank is a long-time ACI customer, utilizing its market-leading Retail Payments solution to acquire, authenticate, route, switch and authorize financial transactions across its ATM, POS and eCommerce channels. The solution enables SBI's ATM network to acquire Visa, Mastercard and RuPay cards, as well as manage ATM/POS authorizations. Transaction processing volumes frequently exceed 30 million transactions per day.

SIMPLIFYING APP DEVELOPMENT IN THE CLOUD



DigitalOcean announced DigitalOcean App Platform, a new Platform as a Service (PaaS) offering that automates infrastructure management so developers can deploy their code to production in just a few clicks. The new offering advances the company's managed services strategy to simplify cloud computing so developers as well as small- and medium-sized businesses (SMBs) can focus more time creating software that changes the world.

AZURE RED HAT OPENSIFT AVAILABLE IN INDIA



Microsoft and Red Hat announced the general availability of Azure Red Hat OpenShift in India. Jointly managed with Red Hat, Azure Red Hat OpenShift brings an enterprise-grade Kubernetes solution built on Red Hat Enterprise Linux to Microsoft's public cloud, Microsoft Azure. Azure Red Hat OpenShift provides a powerful on-ramp to hybrid cloud computing, enabling IT organizations to use Red Hat OpenShift in their datacenters and more seamlessly extend these workloads to use the power and scale of Azure services.

SINGLE-PAIR ETHERNET PHY EXTENDS REACH OF FACTORY



Texas Instruments introduced a new Ethernet physical layer (PHY) capable of transmitting 10-Mbps Ethernet signals up to 1.7 km through a single pair of twisted wires. The extended cable reach of the DP83TD510E is 1.5 km more than the 200-m requirement of the Institute of Electrical and Electronics Engineers (IEEE) 802.3cg 10BASE-T1L single-pair Ethernet specification. This additional cable length helps designers extend the reach of industrial communications without increasing system weight or cabling costs.

GLOBAL RANSOMWARE ATTACKS HAVE SKYROCKETED

Check Point researchers issued warning to organizations worldwide against surging ransomware threats, after conducting a study that revealed a 50% jump in the daily average of ransomware attacks in the last 3 months alone, compared to the first half of 2020. US ransomware attacks doubled (~98% increase) in the last 3 months, making it the #1 most targeted country for ransomware, followed by India, Sri Lanka, Russia and Turkey. Ryuk ransomware now attacks 20 organizations a week. Percentage of global healthcare organizations impacted by ransomware doubled. Healthcare sector is now #1 most attacked industry in the US.



GLOBAL FINTECH APP USAGE GREW SIGNIFICANTLY IN H1

Adjust, the global app marketing platform, and app intelligence provider Apptopia, released The Mobile Finance Report 2020 — a global benchmark of banking, payment and investment apps — showing COVID-19 has considerably accelerated the already exponential growth of fintech apps in 2020.

DIGITAL INDEX: RANKING OF INDIA'S TOP ENGINEERING COLLEGES

Digital indexing will evaluate the Engineering Colleges for overall **“DIGITAL INFRASTRUCTURE, DIGITAL TEACHING & LEARNING PRACTICES, ADOPTING DIGITAL TECHNOLOGIES, DIGITAL SKILL DEVELOPMENT, ATTRIBUTING NEW DIGITAL CULTURE”**.

The biggest question of the decade. Are these colleges providing quality education equipped with the new age infrastructure and how are they coping with the situation in Pandemic?

Does your Institute meet the
DIGITAL INFRASTRUCTURE
demand for New age learners?

Is your Institute
FUTURE READY?

T-SCHOOL SURVEY & RANKING | DIGITAL INDEX | EMPLOYABILITY INDEX

Key Highlights

- Survey of **1000+** Engineering Colleges
- **10,000+** students
- Digital Skill Development and many more

To be a part of this Programme, Contact
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90,000+
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90+
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& Tech Experts



COMMUNITIES

Technology Decision Makers - Enterprise and SMB, Telecom, Channel Partners, Start-ups, DeepTech, Functional Heads and many more

MOVED THE NEEDLE DURING COVID-19 CRISIS

- From Survival to Revival
- Proactive Business Recovery
 - Changing Customer Expectation in Crisis
- Cyber-Sanitize your business
- Proactive Sales Strategies for faster business recovery
- New IT Priorities 2020

- CXO of the Week
- CiOL Live Video Series
 - Start-Up Circle
 - CiOL Cloud Burst
- CiOL Live Tech News

- Are There any Make in India IT Products for Us to Use?
- Cloud Adoption in Digital World
- Govt to Harness IT to Empower MSME Sector



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IN THE LAST 150 DAYS



- **DQ TECH TALK** Series
- Business Continuity Planning Series
- Dataquest Digital Indexing
- DeepTech (India's largest Virtual Conference)

- Secure Smart & Intelligent Network
- App Modernisation
- Collaboration in WFH environment
- DevOps
- **CyberMedia LABS** Product Review

- Business After Covid
- TLF Dialogue Series
- 25 Years of Mobile Telephony India

and many more....