Mona Bharadwaj

Arjun Mohan

Nader Qaimari

The Digital Revolution in Education
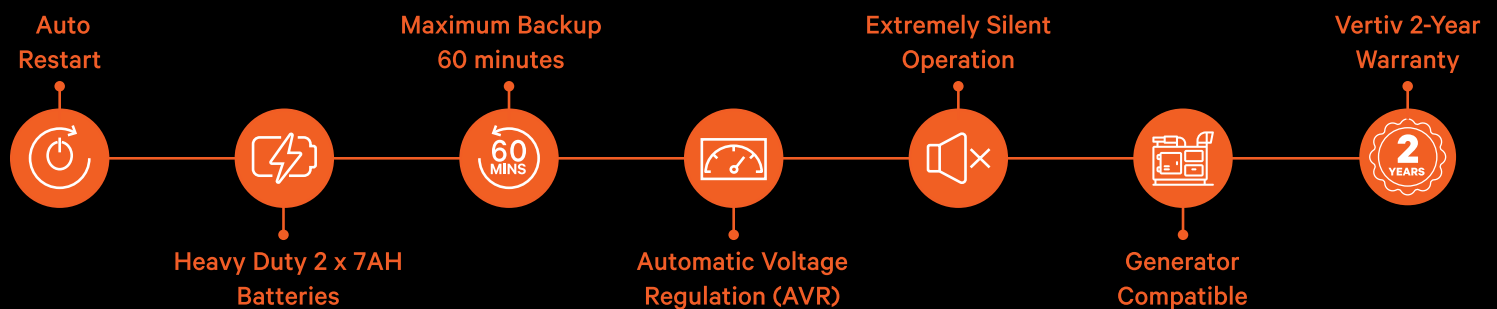
Ranjita Raman

Sudhir Goel

Dr. Anuj Kacker

Krishna Kumar

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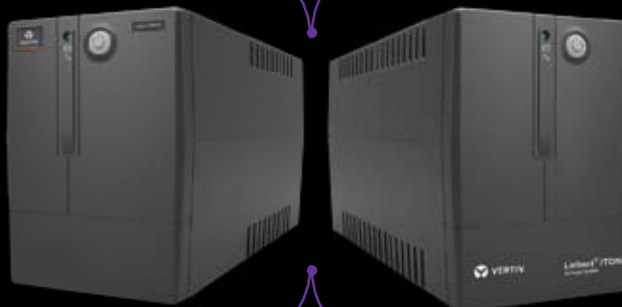
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CONTENT

THE DIGITAL REVOLUTION IN EDUCATION

2020 was an unprecedented year for school education as much as it was for the rest of the world. If 2020 revolutionized the way technology is used in education, 2021 is only going to amplify it further. Let's deep dive into how technology is revolutionizing and shaping the future of education in India

Amit Singh

The Covid-19 pandemic has battered education systems around the world, affecting close to 90 percent of the world's student population. In India, over 1.5 million schools closed down due to the pandemic, affecting 286 million children from pre-primary to secondary levels, and around 37.2 million undergraduate and postgraduate students enrolled in over 39,000 colleges across India.

To fight back the disruption and damage, educational institutes across the country embraced the digital mode of education as a solution to fill the void left by classroom teaching. With this, the hitherto peripheral digital education in India got centrestage and is now increasingly getting integrated into the mainstream.

"However, only few private schools could adopt online teaching methods and that too only after months of preparation, while many low-income private schools and government schools had completely shut down as they had no access to e-learning solutions. Students who did not have access to devices for e-learning dropped out of schools even if the school had managed to provide online classes," states Mona Bharadwaj, Global University Programs Leader, IBM India.

She however adds that over the last 6 months, there has been significant progress in the preparedness. "Many schools have put together digital material for teaching online in classes. They are well-versed with tools like Teams, Webex, and other collaboration software. They now conduct computer-based objective type tests or exams with auto-evaluation. Teachers are monitoring

> ❝ 2021 has seen the emergence and rise of Edtech in India in Tier-2 and -3 cities as well. Smaller cities are now emerging as great destination for the Edtech players and account for a substantial online learning demand. ❞
>
> **MONA BHARADWAJ,**
> Global University Programs Leader, IBM India

students over a video call to check for any malpractices," she explains.

While nothing can replace the need for physical classrooms and the face-to-face interactions with the teachers and classmates, technology is proving crucial in continuity of the education and learning during the pandemic and resulting restrictions.

Edtech rocks

While majority of the industries are focused around survival and recovery rather than growth, for Edtech segment, the opposite is true. As schools and universities shuttered in the face of a devastating public health crisis, remote learning and distance-learning initiatives experienced a dramatic spike in demand.

As online learning continues to gain prominence amidst the pandemic, India's Edtech segment is set to become a USD 30 billion industry in the next 10 years on the back of growing demand and strengthening business models, according to RBSA Advisor, a transaction advisory firm specialising in valuation, investment banking and transaction services. The firm estimates the current Edtech segment size between USD 2.75-3 billion.

REVOLUTION IN NUMBERS

1.5 MILLION schools and 39,000 colleges closed down due to the pandemic

83% jump in the paid user base of online learning

286 MILLION children from pre-primary to secondary levels affected due to the pandemic

$4 BILLION private equity investments in Edtech industry in last 5 years

37.2 MILLION undergraduate and postgraduate students affected

$1.7 BILLION the estimated K-12 Edtech market size by 2022 with 6.3x growth

$2.75-3 BILLION the estimated size of India's Edtech industry

$1.8 BILLION the estimated post K-12 Edtech market size by 2022 with 3.7x growth

90 MILLION the user base of Edtech industry

$30 BILLION the estimated size of India's Edtech industry in the next 10 years

40% increase in willingness to pay for online learning

$10 TRILLION the estimated education technology expenditure over the next decade

In addition, the industry has seen significant rise in users over the last two years. According to a report from RedSeer Consulting and Omidyar Network, Edtech users - both paid and free unique users - in K-12 and post K-12 segment have seen an increase, with the user base doubling from 45 million to 90 million from 2019 to 2020. The report also noted a 40 percent increase in willingness to pay and a massive 83 percent jump in the paid user base.

"2021 has seen the emergence and rise of Edtech in India in Tier-2 and -3 cities as well. Smaller cities are now emerging as great destination for the Edtech players and account for a substantial online learning demand," highlights Bharadwaj.

Riding on the user growth, the industry has attracted private equity investments of USD 4 billion in the last five years, leading to the emergence of global Edtech leaders like Byju's which now commands a valuation of USD 15 billion. Edtech startup upGrad, promoted by Ronnie Screwvala, raised USD 120 million in funding from Singapore's sovereign fund Tamasek in April 2021. Lead School, another e-learning company, secured USD 30 million in the same period from Silicon Valley-based GSV Ventures.

Edtech startups like Unacademy, Byju's, Eruditus, Vedantu and Toppr among others have raised millions of dollars in funding, and

Byju's blockbuster acquisition of unicorn Whitehat Jr is an indication that a post-pandemic world is likely to be one where online models of learning will continue to form a critical component of pedagogical practices. A June 2020 report from the Ministry of Human Resource Development estimated that expenditure of education technology would rise to a staggering USD 10 trillion over the next decade.

According to RBSA Advisor, online education offerings for classes 1 to 12 are projected to increase 6.3-times by 2022 from the base of 2019. The post K-12 market is expected to grow 3.7-times to touch USD 1.8 billion.

From test tutoring to gamified content, to niche skill development courses, the online education marketplace is now littered with an immense variety of digital learning products. With many studies testifying to the fact that knowledge retention via online learning is significantly greater than those seen in congested classrooms, more parents too, are coming around to the idea of remote learning.

This has resulted in higher than ever business growth for Edtech players. Byju's saw its enrolment jump by 25 percent to 50 million during the pandemic. Byju's success will see after-school

66 Companies are acknowledging the degree certificates acquired by professionals from the learning platforms as universities are adopting e-learning and partnering with Edtech platforms. This will assist organizations fill the skill gaps. **99**

ARJUN MOHAN, CEO, India, upGrad

coaching take a digital trend. In addition, upGrad has recently crossed the milestone of impacting over 1 million learners across 50+ countries. "Our course completion ratio stands at 80 percent, as compared to 3-6 percent for other MOOCs. Despite Covid-impacted conditions, we have enabled 1000 learners to get placed with organizations like Deloitte, Publicis Media, Airtel Payments Bank, NPCI, Flipkart, HDFC Life, Naukri.

com, E&Y and Ola, in March 2021, with an average salary hike of 50 percent. We are well placed to achieve the USD 2 billion revenue goal by 2026," shares Arjun Mohan, CEO, India, upGrad.

Further, the advantages that online learning offers, such as customisable courses, personal learning formats, self-paced learning and easy-to-navigate interfaces, suggest that the footprint of India's Edtech players is only going to grow in the coming years.

Upskilling makes a killing

With the shelf-life of skills growing ever shorter by the year, the need to consistently upskill has become of paramount importance. It is not unreasonable to expect that today's worker may shift jobs and possibly even careers several times over his/her working life.

With so many companies shifting to work-from-home models, India has already witnessed a transformation in behaviour with larger numbers of people subscribing to niche courses that better prepare them for, or leverage them within their chosen fields. From content writers to designers, to programmers to marketers, the web is increasingly being viewed as a legitimate domain of learning, and with

much more confidence than ever before.

"There has been acceptance of the fact that online degrees and courses are at par with the physical full-time degree courses. The industry has come forward to teach a lot more as part of guest lectures in the fully online degrees in turn to reduce the industry academia skills gap," underlines Bharadwaj of IBM.

Seconds Mohan of upGrad, "Companies are acknowledging the degree certificates acquired by professionals from the learning platforms as larger universities are adopting e-learning and partnering with Edtech platforms. This will assist organizations fill the skill gaps."

According to a Mckinsey global survey 2020, 87 percent of enterprises surveyed said that there was a gap in skills in their workforce. With unemployment figures reaching a record high during the pandemic, upskilling is a necessity for both freshers looking to enter the job market or experienced professionals that want to stay relevant. The pandemic has shown the convenience of upskilling from coaching by experts through the digital platform.

Riding on these trends, the online education market

for post K-12 is projected to increase 3.7 times in the next year and create a USD 1.8 billion market. Edtech platforms have showcased the power to transform the pedagogy of graduation and post-graduation culture in India with an increase

in the number of learners signing up for online higher education courses.

Further, with the lockdown giving professionals a little extra time on hand, many have opted to invest this time in upskilling themselves to

gain that competitive edge versus peers. "We witnessed more active learners on our platform and saw a surge in our B2B business too in the last six months. Over this period, we on-boarded over 50,000 corporate learners across 12 countries, led by India, the US, Thailand, and Oman, and more than doubled our monthly active users. Our B2C learner segment had an overall growth of 170 percent in FY'2021. Today, we stand strong with an overall learner count of over 2 million," discloses Krishna Kumar, Founder & CEO, Simplilearn.

The company has recently come up with its SkillUp initiative, a free learning platform to help individuals get started with free access to over 1,000 hours of learning and tech skilling programs covering over 300 in-demand skills.

Moving forward, it will be important to offer different kind of learning solutions to meet students and professionals requirements— both online and in-person. "Online higher education will also focus more on project and performance based learning, where people are able to learn how to apply skills and be able to demonstrate their experience to employers," highlights Nader Qaimari, Chief Product Officer, ISACA.

> " Online higher education will focus more on project and performance based learning, where people are able to learn how to apply skills and be able to demonstrate their experience to employers. "

NADER QAIMARI,
Chief Product Officer, ISACA

Traditional meets Edtech

Even though online education through Edtech platforms existed long before Covid-19, the crisis has been a major catalyst in the learning process of students and educators alike. Edtech is a crucial connection between increased student enrolment and improved learning.

With the onset of the pandemic, most traditional schools and universities had to transition to the online learning space. Although some of the schools and teaching institutions sought their official websites to turn it into an online teaching platform for their students, a massive number of educational institutions approached Edtech platforms for partnership to continue a seamless learning experience for the students.

In fact, educational institutions are enhancing their reach and influence by leveraging the strengths of the Edtech players. "While educational institutions offer the content, Edtech firms have good understanding of how to leverage technology and seamlessly deliver this content. The partnership is win-win for both as well as the students," shares Ranjita Raman, CEO, Jaro Education. The company has partnered with leading institutes in India including the IIMs to

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RANJITA RAMAN, CEO, Jaro Education

offer techno-functional and management courses.

In addition, players like upGrad have enabled over 100+ colleges to streamline their online learning. "We

offered them access to our tech platform upGrad Live, to replicate their offline classes, online. Our proprietary platform is more of a digital campus to provide offline

institutes a platform that can seamlessly replicate their classes, online. upGrad Live supports multiple assessment formats like coding tests in its inbuilt coding console, quizzes, individual, and group projects. Plagiarism checks and proctored exams allow for fair grading of assignments," explains Mohan.

In addition, Simplilearn has collaborated with some of the top universities, in India and abroad, including Purdue University, California Institute of Technology CTME, University of Massachusetts Amherst, Isenberg School of Management, and IIT Kanpur. "Our bootcamp style learning approach has resulted in 85 percent of learners reporting career benefits including promotions and new jobs after completing the training. With over 1,500 live classes each month, real-world projects, and more, professionals 'learn by doing' at Simplilearn," adds Kumar of Simplilearn.

Indeed, Edtech firms can play a significant role in increasing the gross enrolment ratio in higher education. "With the help of technology, quality, and accessibility, Edtech firms are now able to provide the right set of learning tools for the higher education space. Hence, institutions are launching programs with

the help of Edtech firms for various professionals and learners. In the next few years, the online higher education industry will see a major growth as more people enrol for courses to upskill themselves in order to stay relevant in an evolving workplace," predicts Raman.

Power of technology

The education space, today, is experiencing the power of technology like never before. Earlier, the immersion of technology in the education space was considered a futuristic idea, but today, it has become intrinsic in ensuring the learning journey of students is not disrupted because of the pandemic.

While the country is witnessing the unprecedentedly large second wave of Covid-19, the educational institutions are more optimistic in 2021, as they have the benefit of the learning from 2020. "More of the teachers and students have become digitally equipped. They are familiar with virtual classrooms. Importantly, the teaching content - lecture videos, presentations, and books, have moved to the cloud," adds Sudhir Goel, Chief Business Officer, Acer India.

One of the biggest benefits of integrating

> " Our approach is to blend the best of AI-driven personalization with a highly immersive and collaborative learning experience. All of this is made possible through our AI-powered learning platform called 'EngageX. "

KRISHNA KUMAR,
Founder & CEO, Simplilearn

technology in education has been the increase in accessibility for students. Today, more people than ever before have access to learning material and the latest curriculum. Teachers are using online tools that support collaboration. These

online spaces have the potential to allow students to collaborate and extend their learning beyond the physical and temporal limitations posed in a typical classroom experience. These tools also encourage global collaboration by allowing

web-based access to the collaborative space in which the learning is taking place.

Cloud and learning management systems (LMS) are the two areas the institutions are very much convinced about. In fact, to deliver classes online, a regular VC tool or a camera in front of a teacher is not enough. One needs to have a robust tech platform that can support the large volume of learners, allow for classroom-like interaction, measure session analytics and offer a seamless experience to both teachers and learners.

As education players strive to expand reach into the Tier-2 and -3 cities and beyond, they are leveraging the cloud computing model. "These locations are still weak in terms of Internet penetration, that's where we need to ensure a lighter mode of mobile App or the website that uses low bandwidth to offer the same learning experience. Therefore, we are completely rebuilding the existing infrastructure in a light cloud computing model so that consumers across remote locations can also experience the same quality of education," describes Mohan.

Further, institutions are designing the overall learning experience through industry experts that make

use of graphics, animations, edits, simulations to deliver relevant/accurate information. "We also have a robust LMS which has been built to offer learners several kinds of support services like academic and non-academic career services. We believe storytelling, pedagogy, and engagement are three critical elements that make our learning techniques unique and engaging," details Dr Anuj Kacker, President & Executive Director, Aptech. "Fine tuning of pedagogical approach enabled us to deliver education remotely and without loss of outcome. We are happy to inform that during last year, more than 2000 students were recruited from Aptech centres," he adds.

While many schools and colleges already had computerized systems to keep student data, the pandemic pushed them to make a shift from tech-assisted to tech-first. Education ERP for online admission and fees payment were the first modules to be implemented. This trend to become fully automated will continue with higher adoption of Student Information Systems (SIS), Library Management, and Hostel Management. Moreover, student assessment process is also going online for many.

> " AR/VR provides immersive learning experiences with gamification to seize and retain student attention. As students explore the topic or a concept in 360 degrees, their grasping power increases. "
>
> **SUDHIR GOEL,**
> Chief Business Officer, Acer India

"During the pandemic, we shifted to remote proctoring for our certification exams. We have moved ahead of the in-person examinations, and will continue to offer online examinations going forward," shares Qaimari.

New-age tech catching attention

The digital age and social media has created an audience with shorter attention spans and one which wants faster and

easy to consume content. Also, different learners have different needs and it has become critical for educational institutions and Edtech players to effectively engage and involve them in the online learning environment.

Many of the education players are driving high retention rates through a blend of course content, user engagement on the platform and AI-based technology. "Our approach is to blend the best of AI-driven personalization with a highly immersive and collaborative learning experience. All our programs are designed on the boot camp approach of training, which includes self-learning videos, live classes led and delivered by practitioners and a hands-on lab that provides a real classroom experience to learners. All of this is made possible through our AI-powered learning platform called 'EngageX. It delivers high engagement rates and a unique learning experience to the learners," details Kumar of Simplilearn.

Moreover, many of the Edtech players are using AI to deliver personalised learning experience that is aligned with learner's career aspirations. "We use Data Science, AI and Machine Learning models to understand the kind of job

> " Fine tuning of pedagogical approach enabled us to deliver education remotely and without loss of outcome. We enabled recruitment of over 2000 students during the last year. "

DR ANUJ KACKER,
President & Executive Director, Aptech

students. As students explore the topic or a concept in 360 degrees, their grasping power increases," says Goel.

Kacker adds that while Aptech already had its learning content in digital books format, the company is converting all its study material with AR over the last three years.

Road ahead

For all we shall hope, this difficult time might be restricted to a year or two, but this is when we get an opportunity to re-strategise and create a blanket learning solution that can be deployed in any crisis.

The ongoing education shift has the potential to be a game-changer for generations and the economy for years to come. However, online learning can't be substitute of classroom learning, which provides the benefits of peer-to-peer and faculty interaction, both of which are significant in a student's overall growth. In reality,

online education will increasingly become a part of the curriculum rather than a substitute.

"Moving forward, blended learning is going to be mainstream. More schools will be enabled with smart classrooms across private and public. Teaching style also will change as learning goes hybrid and teachers adopt more digital tools to prepare, teach, and evaluate students," shares Goel. In addition, student assessment methodology will see major changes. "Lot of work is going in to make suitable assessment technologies and these will be completely different from the current methodologies," highlights Kacker.

Above all, the education sector needs to focus on the under privileged as they still have less access to devices and e-learning. Dropouts have increased in schools during 2020-21, particularly girl students who got even lesser opportunity for access to mobile devices for online education.

roles available in the market and the skill sets required for these opportunities. We then map it with our learner's past/existing performances to understand and acknowledge the skill gap and build a personalised learning journey for them," underscores Mohan of Upgrad.

Besides AI, gamification through AR/VR is driving engagement and boosting the user experience in e-learning. "AR/VR provides thoroughly immersive learning experiences with gamification of learning. Most importantly, it seizes and retains the attention of

IBM REACHED 10 MILLION LEARNERS IN INDIA THROUGH TECH INITIATIVES, SKILLING ENGAGEMENTS

Mona Bharadwaj, Global University Programs Leader, IBM India, highlights the preparedness of the education sector as compared to 2020. In a brief conversation with Amit Singh, she underlines how IBM is supplementing India's skilling efforts through slew of technology and academic initiatives

MONA BHARADWAJ,
Global University Programs Leader, IBM India

■ **Please talk about the highlights of the education sector's preparedness for online education in 2021 when compared to 2020?**

In 2020, the education sector was among the most significantly impacted sectors by the pandemic. Only very few private schools could adopt online teaching methods and that too only after months of preparation, while many low-income private schools and government schools had completely shut down as they had no access to e-learning solutions.

Today, there has been significant progress in the preparedness, though a lot more needs to be done.

- Many schools have put together digital material for teaching online in classes. They are well-versed with tools such as Teams, Webex, Discord or any other collaboration software. They now conduct computer based objective type tests or exams with auto-evaluation.
- Several higher education institutes conducted their entrance exams completely online.
- Fully-online degree courses were launched towards the latter half of 2020 proving that the entire course can be taught online. There

has been acceptance of the fact now that online degrees and courses are at par with the physical full-time degree courses.

- The industry has come forward to teach a lot more as part of guest lectures in the fully online degrees in turn attempting to reduce the industry academia skills gap. Hackathons and projects in higher education have gone fully online allowing students from every nook and corner to participate and get an opportunity to learn experientially.
- 2021 has seen the emergence and rise of Tier-2 and -3 cities as great destinations for the Edtech players and account for a substantial online learning demand.

However, going forward the sector needs to focus on the under privileged as they still have less access to devices and e-learning. Dropouts have increased in schools during 2020-21, particularly girl students who got even lesser opportunity for access to mobile devices for online education. It is certainly heartening to note that the government is looking to set up 100 new Sainik schools. In addition, under the NEP, 750 Eklavya schools in tribal areas and 15,000 model schools would come up in the country.

■ How are the new-age technologies helping education sector to deliver interactive and intuitive learning platforms?

Simulation technologies, AR/VR and other such methods of content development have made

learning far more engaging and fun. Students can actually experience everything by 'seeing the subject' which not just makes learning immersive but also gives a far better understanding and longer recall.

Last, but not the least, the arrival of AI is a true game-changer in education. An easy example of the use of AI is the way Netflix curates movies for a viewer by analysing the user's interests, preferences, and choices to provide a fulfilling user experience. Imagine this

being applied to learning or education where a student can get curated content for him/her to learn from because the system not just knows where the learner wants to head (as his goal) but also how much he/she already knows about the topic and the system can create a whole learning journey. This makes learning not just personalised and also very effective.

Besides AI, gamification and cloud technologies are foreseen to drive engagement and boost the user experience in e-learning.

■ How is your

organization enabling education players to impart quality education across the corners of the country?

IBM has focused on supplementing India's skilling efforts through programs that can be delivered online as well as through traditional methods. IBM's flagship programs like STEM for Girls, IBM Academic Initiative, IBM Skills Academy, SkillsBuild, Open PTECH, though launched before the pandemic, took

> ❝We have on-boarded over 600,000 learners across our digital learning programs indicating high engagement and retention among the youth. As of today, we have reached over 10 million learners in India through our good tech initiatives, skilling engagements, collaborations with clients and partners.❞

on a digital format during the second half of 2020. Despite the prolonged lockdown of schools and educational institutions, we have on-boarded over 600,000 learners across our digital learning programs indicating high engagement and retention among the youth. As of today, we have reached over 10 million learners in India through our good tech initiatives, skilling engagements, collaborations with clients and partners.

- IBM's Academic Initiative provides software, cloud access and courseware at no charge to students and faculty to help students

get industry ready in the domains of data science, cybersecurity, cloud, AI/ML, IOT, design thinking and more. Faculty across the world leverage it for their learning and research purposes.
- IBM partners with institutes for guest lectures on topics that are latest in the industry and helps students get hands-on experience through online workshops through the KeepOnLearning initiative.
- IBM is working with AICTE and Ministry of Education (MoE) to provide skills-based training courses on the recently launched National Educational Alliance for Technology (NEAT) 2.0 platform. The courses on cloud, AI, IoT, quantum computing, and data science will provide industry-relevant, technical job-role-based training for students and faculty.
- IBM is collaborating with Simplilearn to curate an in-depth, industry-focused curriculum and introduce industry-focused training programs in data analytics, data science, AI & machine learning, data engineering, and business analysis.
- IBM is the the technology partner to NITI Aayog and Ministry of Education to build samShiksha, a digital education platform to provide last mile connectivity for quality higher education. As the technology partner, IBM is applying its Enterprise Design Thinking framework and leveraging IBM Cloud to design and build a secure, unified platform that brings together quality content from multiple governments and private content providers.

TECHNOLOGY, GLOBAL EXPANSION WILL HELP US REALIZE USD 2 BILLION REVENUE GOAL

Arjun Mohan, CEO, India, upGrad, in a brief conversation with Amit Singh, shares how technology is enabling the online higher education provider to achieve 80 percent course completion ratio while impacting over 1 million learners across 50+ countries. He also underlines his strategy to achieve USD 2 billion revenue goal by 2026

ARJUN MOHAN, CEO, India, upGrad

■ **Attention span of students is a challenge specifically in the online learning environment. How are you leveraging new-age technologies to make your Edtech platform more interactive and intuitive?**

We use technology at various levels to deliver personalised learning experience that is aligned with the learner's career aspirations. This happens when we understand where our learner stands today and where they aspire to be in their career transition. We then use the Data Science, AI and Machine Learning models to understand the kind of job roles available in the market and the skill sets required for these opportunities. We then map it with our learner's past/existing performances to understand and acknowledge the skill gap and build a personalised learning journey for them, which we

also call as the career path predictor. upGrad is the first organization to take this moonshot attempt and is working constantly to refine the product.

Moreover, as we move towards expanding into the Tier-2 and -3 markets, we are leveraging the cloud computing model to ensure growth. These markets are still weak in terms of Internet penetration, that's where we need to ensure that we have a lighter mode of our mobile App and the website that uses low bandwidth to offer the same learning experience. Therefore, we are completely rebuilding the existing infrastructure in a light cloud computing model so that consumers across remote locations can experience the same quality of education.

Most recently, we have partnered with EyeWay Vision to develop one-of-a-kind immersive AR experience for our learners. Our partnership with the Israeli company is a path-breaking step to develop a three-dimensional interactive learning ecosystem to engage our learners.

■ **Please talk about your latest achievements in terms of business growth, student acquisition, portfolio expansion, and organic/inorganic growth.**

We are in the higher education space offering 100+ courses in collaboration with top global universities like Duke Corporate Education, Michigan State University, Liverpool John Moores University, Deakin Business School, Swiss School of Business Management, IIT Madras, and IIM Kozhikode.

We measure achievements through three key parameters: our course completion ratio which stands at 80 percent, in comparison to 3-6 percent for other MOOCs; number of referrals and repeats, which have enabled a spike in enrolments at an overall level; and increment and salary hikes, where we have enabled 1000 learners to get placed with organizations like Deloitte, Publicis Media, Airtel Payments Bank, NPCI, Flipkart, HDFC Life, Naukri.com, Ernst & Young, and Ola, with an average salary hike of 50 percent just in March 2021. This was done through our subsidiary Rekrut India.

Recently, we have crossed

> ❝ Our course completion ratio stands at 80 percent, in comparison to 3-6 percent for competition. Further, we reached over 1 million learners which bear the testimony to our robust content pedagogy and delivery infrastructure. ❞

the milestone of impacting over 1 million learners across 50+ countries which bears the testimony to our robust content pedagogy and delivery infrastructure. In the next two years, we will be linking all the dots in LifeLongLearning – from anyone entering college to all the way to retirement, and everything in between. The consolidation of our

international expansion and strategic acquisitions will further fuel non-linear revenue growth in 2021.

Additionally, we will be using the freshly raised capital to further strengthen our team, scale our global market operation, bolster our technology and product capabilities, pursue M&A opportunities, expand graduate and post-graduate degree portfolio in India and scale up operations to achieve our USD 2 billion revenue goal by 2026.

■ **How do you see the online higher education space growing over the next few years?**

The Edtech sector in India witnessed a dramatic escalation in the number of learners since March 2020.

The online education market post K-12 is projected to increase 3.7 times in the next year and create a USD 1.8 billion market. Edtech platforms have showcased the power to transform the pedagogy of graduation and post-graduation culture in India with an increase in the number of learners signing up for online higher education courses.

Companies are also acknowledging the degree certificates acquired by professionals from the learning platforms as larger universities are adopting e-learning and partnering with Edtech platforms. Not only will online education pave way for a seamless learning experience but also will assist in getting better job opportunities

■ **Please talk about your top technology focus areas and expansion plans for the next couple of years.**

In phase 1 of online education, the technology made content accessible. In phase-2, technology ensured that we added multiple elements of engagement and allowed to take 'human touch' to scale. We brought a strong peer to peer learning element into education that made online learning less anonymous and more participative. Finally, we are now ushering in the phase-3 of online education, which is going to be all about outcomes and personalization. Our entire focus of technology is to build personalized learning journeys and experiences that would help achieve strong outcomes for our learners. We are all gearing up our learning engine to drive ROI for our learners.

To expand our global presence, we have recently appointed top leadership in APAC, UK and US. We have noticed a remarkable spike in student enrolments this fiscal year, from over 50 countries. Our focus this year will be on the skilling segment and to own the college and SAS space.

LEAPFROGGING FROM THE PHYSICAL TO DIGITAL

DR. ANUJ KACKER,
President and Executive Director, Aptech

The pandemic has brought about several changes in the way education is imparted and how it is used to get jobs that call for working from home. In this interview, Dr. Anuj Kacker, President and Executive Director, Aptech, elaborates about this transformation and how the company has leveraged on technology to deliver seamless education

■ **How do you see the education sector impacted despite being more prepared in 2021 as compared to 2020?**

Online learning has been there for at least 10-15 years in the form of technology-enabled education. The ongoing pandemic has only enabled lot of acceptance for this method of delivery. As the months evolved in 2020, all the educational institutes fine-tuned their methodology to be able to deliver education and the outcome in a better way. In 2021 and given the current surge, the challenges have become very difficult since they are not the same ones as experienced during the first wave.

Could you elaborate about the challenges in online education system keeping in mind the teachers, administrators and students?

Now, very often, you will find that there are teachers who are extremely good in the physical world and are able to impart education brilliantly but

have completely failed in the online world. The problem is related to holding the attention of the students in the online space. After all, each student is just a small rectangle on your screen. The second challenge is in communication. While the teacher may possess good subject matter expertise, he may find it difficult to communicate the content colloquially without any other aids. And this is particularly true when it is a technical subject. From a student's perspective, it is difficult for him or her to pay constant attention without the actual classroom environment.

Thus, companies like ours have had to reinvent many things in the pedagogic sense. We have been re-timing the duration of each lecture to say 20 minutes each with a 10 minute break and so on. The most important thing is retain the students' attention and interest. Further, in online teaching it is not possible to understand if a particular student has grasped the content while in a physical classroom such nuances

> **" Last year more than 2,000 students were recruited from our centres and that shows how efficient our virtual education model is. "**

are easily understood. Also, when it comes to job-oriented courses, online teaching can impart content but not polish up the soft skills of a student.

■ So what are the recent initiatives around digital transformation that your company has undertaken? And how has technology spending increased over the last 12 months?

We are in the business of training people for job enablement which means those who enrol have a clear objective. Our method of education is centred around 1,000+ centres across the world – these are physical centres. Our challenge

was how to manage the distribution in terms of digital delivery. Further, a lot of our course material is project work and we were fortunate in that sense because most such modules were already in virtual form. What is more important is to look at how the use of technology can enable the delivery of education and make the student understand the subject to suit his needs. The pandemic has been learning lesson and we have fine-tuned our pedagogical approach to be able to deliver things remotely and without loss of any outcome. Last year more than 2,000 students were recruited from our centres and that shows how efficient our virtual education model is.

Further, we are leveraging

new-age technologies like AR and AI. This is a journey which we have been doing over the last 5-7 years. For example, about three years ago we started converting physical books into digital ones using augmented reality.

■ What is your outlook about the education sector for the next couple of years?

There is going to be a huge change over the next couple of years and I am going to subtract the pandemic from there because many of these changes have been accelerated only by the pandemic. However, change was imminent with or without the pandemic. The way of work is going to change. There will be more gig jobs and freelancers and even regular employees will work more from their homes. This concept did not exist five years ago. People are now getting used to conference calls for meetings and so on. Change will also happen in the way assessments are done.

India's PC Market Continued to Surge, Shipping 3.1 Million PCs in 1Q21, According to IDC

India's PC Market Continued to Surge, Shipping 3.1 Million PCs in 1Q21

India PC Market, Top Five Companies, Market Share, Year-over-Year Growth 1Q21 (Shipments are in thousands of units)

Company	1Q21 Shipments	1Q21 Market Share	1Q20 Shipments	1Q20 Market Share	Year-over-Year unit change (1Q21 vs 1Q20)
1. HP Inc.	1,023	32.9%	506	28.2%	102.1%
2. Dell Technologies	677	21.8%	466	25.9%	45.4%
3. Lenovo	624	20.1%	360	20.0%	73.4%
4. Acer Group	240	7.7%	218	12.1%	10.5%
5. Asus*	169	5.4%	92	5.1%	83.9%
5. Apple*	167	5.4%	38	2.1%	335.5%
Others	211	6.8%	117	6.5%	79.5%
Total	3,111	100.0%	1,797	100.0%	73.1%

Source: IDC Worldwide Quarterly Personal Computing Device Tracker, May 2021

≡IDC

The India traditional PC market (inclusive of desktops, notebooks, and workstations) continued its growth streak with shipments growing 73.1% year-over-year (YoY) in 1Q21 (Jan-Mar), according to new data from the International Data Corporation's (IDC) Worldwide Quarterly Personal Computing Device Tracker. A total of 3.1 million PCs were shipped, recording the highest ever first-quarter shipments to India. Again, notebooks remained the driving category with more than three-fourths share of the PC category, registering a stellar 116.7% YoY growth in the first quarter of 2021. Additionally, the desktop category remained steady and showed initial signs of recovery.

PCs were in high demand as enterprises, SMBs, and consumers continued their purchases. Supply has been inconsistent over the past few quarters, and demand continued to outstrip the supply allocation for the country. At the closing of the quarter, vendors were able to manage better allocations from their headquarters. Additionally, the lower than usual shipments in 1Q20 aided the annual growth as it looks more favorable due to the lower base.

"Many companies remained fully remote or had adopted a hybrid working model to manage the growing concerns of the pandemic within the country. As cases continued to rise, a few large enterprises procured PCs in bulk to manage their workforces, adopting these new working models for the long haul," said Bharath Shenoy , Market Analyst, PC Devices, IDC India. He added, "The demand for virtual learning is still strong, alongside a stronger demand for affordable PCs. This is evident from the recovery of desktops in the consumer segment, which grew 49.5% YoY in 1Q21, despite the growing trend of notebooks replacing desktops."

Top 5 Company Highlights: 1Q21

HP Inc. returned to the top position, replacing Dell in the overall PC market as its shipments grew 102.1% YoY in 1Q21. The vendor also led both consumer and commercial segments with shares of 33.0% and 32.8%, respectively. Key customer wins and better supplies in this quarter helped HP to regain the leading position.

Dell Technologies moved to second position with a 21.8% share with 45.4% YoY growth in 1Q21. Dell also slipped to 3rd position in the consumer segment as its shipments declined 49.5% from the previous quarter. However, it maintained its

BHARATH SHENOY
Market Analyst, PC Devices, IDC India

NOTE

- * IDC declares a statistical tie in the worldwide PC market when there is less than one-tenth of one percent (0.1%) difference in the unit share of two or more vendors.

- Shipments include shipments to distribution channels or end-users. OEM sales are counted under the company/brand under which they are sold.

- Enterprise segment refers to all companies with 500 and above employees, and SMBs are referred to companies below 500 employees.

- Traditional PCs include Desktops, Notebooks, and Workstations and do not include Tablets or x86 Servers. Detachable Tablets and Slate Tablets are part of the Personal Computing Device Tracker but have not been addressed in this press release.

lead in the enterprise segment with a 40.9% share and secured the second position in the overall commercial segment.

Lenovo maintained the third position and recorded 73.4% YoY growth in 1Q21. Lenovo also witnessed supply challenges; however, it was able to get allocations on time that helped it to register impressive growth in the consumer and SMB segments.

Acer Group retained the fourth position with a 7.7% market share in 1Q21, which further dipped from 8.5% in 4Q20. Delayed supplies of commercial desktops increased its woes. While it led the category in 4Q20, it dropped to the third position in 1Q21.

ASUS* tied with Apple for the fifth position with a share of 5.4% in 1Q21. Its shipments saw an 83.9% YoY growth but declined 10.9% sequentially. Additionally, it slipped to the fifth position in the consumer segment.

Apple* recorded its biggest quarter for PC shipments in India and tied for the fifth position with ASUS. Its shipments grew 335.5% YoY and 45.3% from the previous quarter. It also replaced ASUS for the fourth position in the consumer segment.

Commenting on the outlook, Jaipal Singh , Associate Research Manager, Client Devices, IDC India, said, "PC vendors are staring at uncertainty for the next few months, with new lockdowns impacting consumer sales, delaying government projects, and limiting supplies into the country. Additionally, the current COVID situation has also impacted the field teams. While most vendors' immediate concern is re-joining with full strength, they will also use this time to plan their inventory for the coming quarters, as we will see a further surge in the PC demand when the situation improves in the coming months."

Pega Launches New Partner Program to Help Drive Increased Client Value and Delivery Excellence

Pegasystems Inc., the software company that crushes business complexity, today announced at PegaWorld® iNspire the launch of Pega Partners – a new streamlined partner program that will help clients rapidly accelerate their digital transformation (DT) initiatives. With new benefits and resources designed to bring more agility to its growing ecosystem, the new program will provide a deeper and more accessible range of partner skills and solutions for clients racing to keep pace with their markets.

To achieve rapid results and persistent transformational value, companies are increasingly turning to experienced partners to speed their digital transformation journey. But finding, onboarding, and collaborating with the right partner can be a journey unto itself. It can take a significant amount of effort to validate a partner with the right expertise, establish the right delivery methods, and get the centralized support they need to see a return on investment.

With the new Pega Partners program, Pega clients will more easily identify and collaborate with the right pre-qualified partners across a range of technology and industry solutions – from intelligent automation to customer service to 1:1 customer engagement. New centralized resources, including a new Pega Partner portal and the enhanced Pega Marketplace, will help ensure Pega and its partners are in lockstep to quickly and efficiently deliver solutions that drive impactful client outcomes.

With this streamlined and strengthened program, clients will realize an improved overall experience working with Pega partners through benefits such as:
- Accelerated time to value – Through enhanced delivery capabilities and increased capacity, Pega clients will be able to bring their Pega solutions more quickly into production.
- Access to growing marketplace of solutions – With new simplified merit-based partner designations, it will be faster and easier for clients to identify the right solution for their transformation project. New solutions will be added to more than 200 Pega- and partner-driven components and solutions already available on Pega Marketplace.
- Stronger vetting and training to establish deeper client trust – Pega provides a diversity of talent to meet client needs across industries and locations – partners with the right skills, with the right experience, in the right place. Clients can have confidence that each Pega partner has been thoroughly vetted via a structured partner validation framework. New best-in-class training and updated technical requirements will help partners to up-level their skills to the benefit of their clients.

AVerMedia Introduces PW Series of Webcam for Conferencing, Online Classes, and Streaming

AVerMedia Technologies, ,the preeminent name in digital multimedia technology, recently introduced the PW series of webcam PW313, PW513, PW310P and PW315 in India. These webcams are designed to meet the growing remote collaboration needs of any organization with a portfolio of powerful and easy-to-use webcams. These are designed to deliver the best streaming experience for home offices, virtual classrooms, personal and professional calls and more to ensure sharp and high quality images without interruption and offer breathtaking quality, allowing friends and loved ones to see and hear the real you.

"We are extremely happy to introduce the PW series of webcam in India. In today's world, people are increasingly relying on video calling to maintain far flung connections. Even companies and schools are adopting teleworking, remote classes, and live streaming to prevent a large number of people from gathering at a specific location. They are designed for today's creators, making it easier than ever for people to share their passion with the world and it is widely recommended webcam by professional gamers and vloggers, and improved upon that legacy to deliver a higher video quality experience." said, Michael Kuo, CEO at AVerMedia Technologies

AVerMedia PW313

The PW313 is a plug-and-play USB webcam that records at 1080p. The device is specially crafted understanding the different pain points of today's digital world. AVerMedia has taken the best of what made the award-winning Live Streamer Cam 313, the most widely recommended webcam by professionals. The PW313 comes with two built-in microphones (mono) and a flexible, 360-degree swivel design. A well-thought privacy shutter provides users with a peace of mind against potential prying eyes of hackers; the flexible mounting clip with rubber pads enables the camera to be mounted firmly either on top of the monitor or on a tripod. When the camera is coupled with CamEngine Lite – AVerMedia's new lightweight, less system-demanding software that supports brightness, sharpness, contrast, saturation, and hue adjustments.

AVerMedia PW513

The webcam allows capturing 4K video at 30fps or can dial up to 60fps for 1080p recording. The Live Streamer CAM 513's built-in 4K optics captures astonishing 4Kp30 video that fulfils creators' needs for high-quality images. Featuring the newly added functions like AI-Framing, ePTZ, noise cancellation, and more, users can now auto-adjust camera composition by motion-tracking, digitally zoom in and

MICHAEL KUO
CEO at AVerMedia
Technologies

out, customize PTZ positions, and a lot more while eliminating unwanted ambient noise. The CAM 513 takes full advantage of its Sony Exmor R 4K CMOS and F2.8 apertures to deliver top of the line, pristine 4K video quality for live streaming and video collaboration.

AVerMedia PW310P

The PW310P is a plug-and-play webcam with an autofocus feature which helps to present users with the best video clarity. The webcam can rotate 360-degree which offers more flexibility and freedom while using. Users can also adjust video settings such as brightness, contrast, sharpness, and more, to get the most desirable appearance in any environment. The plug-and-play PW310P webcam also comes with Dual stereo microphones that reduces the noise from the side and rear to optimize the recording in front. Additionally, the webcam is compatible with all popular video collaboration platforms, including: Zoom, Skype, Google Meet, Microsoft Teams, OBS, and more.

AVerMedia PW315

The AVerMedia PW315 is a mid-range webcam suited for professionals, educators, or content creators seeking high-quality audio and video. It provides clarity and smoothness via 1080p full HD video and a frame rate of 60fps, which minimizes lag and distortion during video conferences, remote teaching, or live streams. With a 95° wide-angle field of view, users can capture more background or multiple users in group meetings, while teachers can easily share documents or show projects on-screen. AVerMedia's free CamEngine software provides access to additional features on the PW315, such as digital Pan Tilt Zoom (ePTZ) and AI automatic framing. These features allow users to zoom in on details, automatically shift focus to whoever is speaking, or bring everyone into the frame, making it perfect for content creators and streamers.

Vertiv India Announces 'Summer Bumper 2021 Offer' Program

Quarterly program for India channel partners will incentivize sales of small and micro uninterruptible power supplies of up to 20 kVA

Vertiv , a global provider of critical digital infrastructure and continuity solutions, has announced the 'Summer Bumper 2021' program. This program will offer Network Solution Partners (NSP) and Value Added Resellers (VAR) channel partners in India the opportunity to earn redeemable PAYBACK loyalty program points for sales of Vertiv™ Liebert® small and micro uninterruptible power supply (UPS) up to 20 kVA. It offers channel partners the chance to redeem PAYBACK points for multiple slabs ranging between INR. 25,000 to INR. 25,00,000. This program is valid for a time period of three months from April 1, 2021 to June 30, 2021.

Vertiv's association with PAYBACK, India's largest multi-brand loyalty program, presents a great opportunity for NSPs and VARs to enhance their earnings driven by a surge in the demand in the new calendar year. The program is valid for sales through Vertiv's national distributors: Compuage, Ingram Micro, and Savex. To redeem points, Commenting on the offer, Gopakumar Ambujakshan, director, product management (small and micro UPS), Vertiv in India said, "We're constantly introducing programs to keep our channel partners motivated

GOPAKUMAR AMBUJAKSHAN
Director, Product Management (small and micro UPS), Vertiv

❝ Fine tuning of pedagogical approach enabled us to deliver education remotely and without loss of outcome. We enabled recruitment of over 2000 students during the last year. ❞

and engaged. Now, with work from home and remote operations, the need for reliable power solutions has become critical to every business. Hence, through such initiatives, we extend our continuous support to our partners and reward them for their excellent work during these challenging times."

Eurotech Technologies Launches Advanced Fiber Media Converters

Eurotech Technologies, a leading provider of fiber connectivity products, today introduced a wide range of fiber media converters. Designed to convert Ethernet networks to fiber networks by converting Ethernet signals to optic signals, these fiber media converters supports a series of data communication protocols, including; Ethernet, Fast Ethernet, Gigabit Ethernet, T1/E1/J1, DS3/E3, as well as multiple cabling types such as coax, twisted pair, multi-mode and single-mode fiber optics.

The BestNet fiber media converters mediate between 10/100/1000Base-Tx segment and 1000Base-FX segment. Delivering cost effective and flexible solution for a wide range of applications in the field of LAN campus network, the media converters are primarily designed for large, high speed/bandwidth demanding workgroups that require expansion of the Ethernet network. It can extend the conventional 10Mbps Ethernet or 100Mbps fast Ethernet via fast Ethernet Fiber-optical line.

"Advancing and enabling connectivity between network equipment's the BestNet fiber media converters helps in extending the life of cabling infrastructure and active equipment's without costly upgrades, as it seamlessly integrates with legacy equipment's and accelerates future growth," said Anuj Jain, Managing Director, Eurotech Technologies.

The high performance fiber media converters support IEEE802.3, IEEE802.3U, IEEE802.3X, IEEE 802.3z/AB, IEEE802.1d as well as 10Base-T, 100Base-TX, and 100Base-FX. Auto-Supporting 10Mbps/100Mbps, with interface speed of 100Mbps the media converters are equipped with broadcasting filtration function, automatic recognizing and modifying address with store-and-transmission operational mechanism. Delivering full duplex flow control or half duplex backpressure flow control the advanced electronic integration module ensures stable and excellent performance, while its auto sensing exchange chip, has full functionality of transfer & exchange and guarantees the safety and stability of data transfer.

Forty-Eight Port Panel for Copper and Fiber Optic Cabling

R&M is extending its Netscale distributor family for data centers with a combined solution. Mixed-media cabling for data centers and office cabling on a single height unit

R&M, the globally active developer and provider of cabling systems for high-quality network infrastructures, based in Wetzikon, Switzerland, is extending its family of high density fiber optic distributors for data centers with a version for mixed FO and copper connection use. The new Netscale 48 patch panel has, as its name suggests, 48 ports. It is the height of one unit in a 19□ rack. The main new feature is the dual function. Along with fiber optic cabling, the panel accepts copper cabling. Until now, two height units were required in data centers to bring the two transmission media together in one rack. With Netscale 48, FO and copper cabling can be combined on one height unit in the most confined of spaces in data centers and in the LAN environment. This compact mixed-media solution helps free up valuable space for more cabling, switches and servers.

The mixed media platform Netscale 48 can be equipped with all types of adapter available on the market today. These include the FO connectors LC, SC, MPO, E-2000™ and even the latest types CS, SN, MDC of the Very Small Form Factor (VSFF) class. The R&M products Cat. 6A ISO, Cat 6A EL and Cat. 8 can be used for copper connectivity.

R&M supplies pre-terminated cabling systems which technicians will find easy both to install and remove. Optical fibers are spliced directly on the platform. Netscale 48 was designed in such a way that changes can be made without disrupting the network. A further new feature is the integrated patch cord manager. It saves space-consuming additional height units with cable guides on the front.

Netscale 48 supports Automated Infrastructure Management (AIM). The sensor strips of the AIM system R&MinteliPhy can be plugged in or replaced during operation (hot-pluggable).

Maximum cabling density

The Netscale range from R&M offers the highest density of FO ports in 19" cabinets in the industry. The family includes the larger platforms Netscale 72 and Netscale 120. Netscale 72 is used to simplify migration to new network generations. A typical case is the step from a 10 Gigabit network to a 40 or 100 Gigabit network. Furthermore, Netscale 72 is used to create spine-leaf network architectures in cloud data centers. With up to 120 ports per height unit in a 19" rack, Netscale 120 offers the maximum cabling density for 10, 40 and 100 Gigabit Ethernet. It is also the first Ultra High Density platform with integrated functions for automated infrastructure management. In this way, Netscale helps data centers manage the exploding quantities of ports and cables.

HFCL Limited announces launch of its TIP OpenWiFi Compliant Access Points ready for PM-WANI deployments

Leading Indian Wi-Fi brand IO by HFCL Limited, today announced the launch of its Telecom Infra Project (TIP) OpenWiFi compliant Access Points. TIP is a global community of companies and organizations that are driving infrastructure solutions to advance global connectivity. The TIP OpenWiFi platform will ensure plug and play interoperability across multiple vendors resulting in a faster roll out of features. HFCL has been working very closely with TIP to develop cost effective open source powered Access Points and wireless controllers to extend the reach and accelerate the growth of high-speed broadband services across the world.

HFCL is also collaborating with a few leading core solutions providers, to offer IO Outdoor and Indoor TIP OpenWiFi compliant Access Points for PM-WANI deployments. PM–WANI is an Indian Government's public Wi-Fi project, aimed at deploying millions of Wi-Fi hotspots and provide affordable high-speed Internet to everyone in the Country. Relying on its indigenously developed secure Wi-Fi solutions, along with TIP OpenWiFi integration, HFCL aims to create a robust and interoperable Wi-Fi Network integrated with third party captive portal and AAA solutions for the use and benefit of users across the Country.

VVDN Technologies, a premier product engineering and manufacturing company, has been the preferred technology manufacturing partner of HFCL for Making in India all of HFCL's Wi-Fi and unlicensed band radio solutions.

MAHENDRA NAHATA
Managing Director,
HFCL Limited

HFCL strongly believes that using TIP OpenWiFi, together with the Government of India ambitious BharatNet initiative, would augment broadband uptake in every part of India.

"Our vision to connect the unconnected has further been strengthened with TIP OpenWiFi compliance for our IO Indoor and Outdoor Access Points. It will enable us to extend our reach globally and offer open source powered Wi-Fi solutions interoperable with other TIP compliant provider products thereby helping faster, cost effective, and plug and play deployments", said Mahendra Nahata, Managing Director, HFCL Limited.

"To be successful, true disaggregation of a network technologies requires a range of approaches and form factors, provided by a range of industry suppliers. On behalf of TIP, we are excited to have HFCL as a member of the TIP OpenWiFi ecosystem," said David Hutton, Chief Engineer, TIP.

DAVID HUTTON
Chief Engineer, TIP

Poly Launches New Series of Personal Video Solutions for Remote and Hybrid Workers

Poly Studio P Series, combined with Poly Lens and Poly+ Unite Professional-Grade Devices, Remote Management and Insights, and Support and Services Together in One Dynamic Offering~

Poly , today announced the Poly Studio P Series, the industry's first professional-grade personal video conferencing equipment, designed for today's remote workers.

Developed with the "work-from-home" and remote worker's success and convenience in mind, the Poly Studio P Series includes the Poly Studio P5 Webcam, Poly Studio P15 Personal Video Bar, and Poly Studio P21 Personal Meeting Display. For collaboration confidence, Poly Studio P5 Kits outfit you with a ready-to-work, out-of-the-box experience that let you bundle the new Studio P5 camera with select award-winning headsets or the portable Poly Sync intelligent speakerphone to optimize your complete work-from-anywhere set-up. These personal solutions combined with Poly Lens Desktop App and Poly+ paid subscription service bring hardware and software together under one roof, to simplify device management and solve work from anywhere.

According to the World Economic Forum's Future of Jobs report, 83 percent of global organizations surveyed plan to provide more remote work opportunities than before the pandemic.[1] IDC research also shows that 65 percent of organizations in the Asia Pacific have adopted collaboration platforms for the first time in 2020, with peripheral devices such as audio headsets and video cameras being among the top five top technology investments for technology parity for all members of the workforce.[2]

"The pandemic has changed the way we view work and workplaces, and organizations are increasingly shifting to hybrid or remote working. One of the most crucial components for remote working to be successful is quality video and audio-conferencing devices. The Poly Studio P Series provides the best collaboration

experience so that users can have their meetings with confidence" said Ankur Goel, Managing Director for Poly India & SAARC. He added, "What is unique about Poly P Series is that we offer the complete package – from the product to services, we provide a conferencing experience that allows users to be productive and collaborative, no matter their work location."

The new Poly Studio P Series includes:

• Poly Studio P5 Webcam– Personal webcam with camera optics optimized for video conferencing. Poly Studio P5 Webcam packs 1080p resolution and 4x digital zoom, comes with a built-in privacy shutter, directional microphone, and integrated USB connectivity for headsets for easy audio plug-and-play connectivity.
• Poly Studio P15 Personal Video Bar – Zoom and Microsoft Teams certified personal video bar with powerful 4K clarity, automatic camera framing, and a powerful integrated speaker and microphone array with advanced NoiseBlockAI technology to block outside noise and give you everything you need in one sleek device so you can look and sound your best.
• Poly Studio P21 Personal Meeting Display – Video conferencing display that includes everything you need for a premium video conferencing experience, including a 21" display, camera,

and audio all-in-one. Dynamic ambient lighting adjusts to illuminate and improve your appearance and overall video quality. USB connectivity frees Poly Studio P21 to work with any video app that runs on a PC or Mac.
• Poly Studio P5 Kit – The Poly Studio P5 webcam paired with your choice of personal device: A Poly headset or Poly Sync portable speakerphone, so you're up and running in seconds. Choose between four out-of-the-box combinations with a corded or wireless headset options from the Voyager and Poly Blackwire families, as well as kits that include Poly Sync.

Complete Remote Management: Poly Lens Desktop App and Poly+

For added confidence and convenience for remote workers and small business owners who might not have access to dedicated IT, or for the IT manager who is looking for ways to manage and support a fleet of remote workers' technology, the entire Poly Studio P Series comes with access to Poly Lens device management service through the new Poly Lens Desktop App. With the Poly Lens Desktop App, you'll be able to easily gain insights and manage a remote workforce from the cloud.

The Poly Lens Desktop App also empowers users with tips on device setup, troubleshooting for the best possible lighting and camera placement, and ergonomics for the optimal workspace setup. You also have the option to receive personal health and wellness tips throughout the day, such as suggested movement and hydration to keep your energy flowing. Meanwhile, IT can manage data and insights for voice, video, and headsets under a single pane of glass.

In addition to the new Poly Studio P Series and Poly Lens, Poly is also announcing Poly+, an exclusive personal device support service to provide:

Enhanced 24/7 tech-support around the world, including phone, chat, web, and live video so you can have your own dedicated IT hero on speed dial

An extended 3-year product replacement and overnight device replacement[3] for lightning-fast support when you need it most

Single-app support across compatible Poly personal conferencing solutions so you can control your personal device settings, ensure up-to-date software, and advanced troubleshooting tools

Poly's Studio P Series offers flexibility and choice with products that are designed to meet the hybrid demands of your day so you can be clearly seen and heard wherever you choose to work. The Poly P Series allows you to connect to the cloud-based video provider of your choice, including Microsoft Teams, Zoom, GoTo by LogMeIn, and StarLeaf, so you can show up and stand out in any setting.

Availability

The Poly Studio P5, P15 and P5 Kits are now available for pre-order through authorized Poly partners and resellers.

The Poly Studio P21 will be available from mid-2021 onwards.

Dell Technologies Unveils Edge Solutions, Partnerships

Dell Technologies has unveiled solutions and partnerships designed to extract value from data at the edge.The new offerings are part of the company's edge strategy to deliver fully integrated technologies that allow workloads to run and be managed across multiple clouds and applications.

Edge devices serve as a growing source of data. Gartner predicts more than 50% of enterprise-generated data will be created and processed outside the data center or the cloud by 20221.

"Data is the currency of the digital world, and it's time for customers to take it to the bank," said Jeff Boudreau, President and General Manager, Infrastructure Solutions Group, Dell

JEFF BOUDREAU
President and General Manager, Infrastructure Solutions Group, Dell Technologies

Technologies. "The edge is quickly rivalling data centers and public clouds as the location where organizations are gaining valuable insights. By putting compute, storage, and analytics where data is created, we can deliver those data insights in real time and create new opportunities for businesses."

The newly introduced solutions and partnerships include:

Streaming Data Platform: An upgraded Dell EMC Streaming Data Platform (SDP) offers real-time analytics at the edge. With a smaller footprint, SDP is ideal for capturing, storing and analyzing streaming data in real-time at the edge. An amusement park customer is using SDP to send alerts to staff when a ride needs maintenance. The park can quickly evaluate and fix the attraction instead of waiting until it requires costly repairs.

Manufacturing edge solutions: The Dell Technologies Manufacturing Edge Reference Architecture with PTC helps manufacturing companies derive insights from workstations, computers, mobile devices and other endpoints within the manufacturing environment. With access to edge data in one place, companies can increase production line reliability, reduce operational costs and make more informed real-time decisions.

Integrated with APEX Private Cloud, it offers a high-availability

edge framework as-a-service, so companies can virtualize and containerize applications, removing complexity and saving time. Manufacturing customers get a consistent cloud experience and pay only for what they use.

"PTC's solutions help companies transform the way they engineer, manufacture, and service products across the entire lifecycle, and the edge has become a new frontier for innovation," said Jonathan Kateman, Senior Vice President, M&A and Technology Partnerships, PTC. "With the Dell Technologies validated solution for manufacturing, customers are empowered to get the most out of their Industrial IoT environments through deployment on the APEX Private Cloud."

Duos Technologies uses Dell Technologies edge infrastructure to revolutionize railroads

Duos Technologies is using Dell Technologies infrastructure and services to deploy artificial intelligence solutions at the edge. Duos Technologies has successfully made railcar inspections 120-times faster with first-of-its-kind technology used by major railroads including CSX.

Hundreds of trains cross North America every day, moving

JONATHAN KATEMAN
Senior Vice President, M&A and Technology Partnerships, PTC

approximately $700 billion worth of imports, exports and domestic shipments in 2020.

CHARLES FERRY
CEO, Duos Technologies

The traditional inspection process takes an average of eight minutes per railcar, resulting in unscheduled stops that cost rail companies millions of dollars annually. Duos Technologies created the Railcar Inspection Portal, or rip, to streamline this process. Powered by ruggedized Dell EMC PowerEdge servers and Dell EMC PowerVault storage arrays, rip can inspect in eight minutes more than 120 railcars moving at full speed. These real-time analytics help customers increase safety, enhance maintenance accuracy and reduce costs.

"Our goal is to transform industries through intelligent solutions, bringing together machine learning, artificial intelligence and video analytics," said Charles Ferry, CEO, Duos Technologies. "The infrastructure behind these solutions is absolutely critical to our business. Dell Technologies provides the solutions and services that help our rail customers unlock the value of data at the edge. Together, we're able to keep trains moving and get them where they need to be faster and more safely."

New Relic Unveils Innovation and Community Initiatives for Every Stage of the Software Lifecycle

Observability leader launches Pixie Auto-Telemetry, Errors Inbox, Network Observability, Custom Visuals, New Relic for Startups, and New Relic Student Edition to help engineers plan, build, deploy and run more perfect software

New Relic, the observability company, announced a series of new product innovations and community initiatives at its annual developer conference, FutureStack 2021, to help engineers make observability a data-driven approach to how they plan, build, deploy and run software. New Relic launched its new Kubernetes experience, powered by Auto-Telemetry with Pixie, which integrates with New Relic One to deliver instant Kubernetes observability without requiring users to update code or sample data. Additional highlights include enhancements to New Relic's error tracking, network monitoring and programmability capabilities, as well as two new community offerings to bring the power of New Relic Full-Stack Observability to more engineers: New Relic for Startups and New Relic Student Edition.

"Now more than ever, the world relies on digital services and their underlying software to connect with family, friends and colleagues remotely, buy groceries for delivery, meet with doctors virtually and access entertainment at home. Our mission is to make observability a daily practice for millions of engineers by putting the power of telemetry data in their hands at every stage of the software lifecycle, so they can deliver great digital experiences to their customers," said Bill Staples, CEO-elect at New Relic.

"Our vision is brought to life in the innovations announced today, and in our FutureStack themes of Open-Build-Run. Our focus remains on engineers and their success, delivering transformative innovation that empowers them to level up their observability skills and create the next generation of software that powers the world."

Instant Kubernetes Observability: Auto-Telemetry with Pixie

Integrating Pixie into New Relic's Kubernetes solution can remove some of the largest barriers to Kubernetes observability, namely the time and expertise required to manually instrument application code. Auto-Telemetry with Pixie gives engineers visibility into their Kubernetes clusters and workloads instantly without installing language agents. Available throughout the New Relic One platform, Pixie data enables engineers to debug faster than ever before. It also empowers engineers to observe everything on-cluster without sampling, then uses AI/ML models to send the most relevant subset of that data to New Relic's Telemetry Data Platform for correlation with other services, intelligent alerting, and long term storage.

BILL STAPLES
CEO-elect, New Relic

Origo Launches Digital Auction Platform for Farmers for Better Prices, Direct Connect and Digital Payment

The firm adds another feather to its cap through the initiative, allowing people to access the platform for end-to-end solutions.

After receiving accolades for introducing a range of new-age services for agri stakeholders, one of India's leading Ag-fintech startups, Origo, is looking to scale another summit. Through the launch of the e-auction service, the platform has now become capable of delivering a holistic experience to all users. The feature will allow seamless trading of commodities and a transparent and digital way to procure and sell your commodities.

SUNOOR KAUL
Co-Founder,
Origo Commodities

A digital platform that offers options such as price discovery, price risk, trade settlement, forward & reverse auction, etc. is the current need of farmers, traders and processors. Procurement is at the core of agri commodities supply chains, and a combination of efficient practices is now seeing the light of the day through initiatives from organizations like Origo.

Origo's e-Auction platform will allow all participants to register digitally from their location through their mobile phones, receive notifications on upcoming auctions so that they can participate, transparency of the auctions, all documents and payment tracking on the mobile and digital payments so that farmers can receive their payments faster and directly into their accounts. Auction platform offers the capability of forward auction (to sell) and reverse auction (to purchase) commodities.

Origo's auction platform will be useful for both private and government entities. Government entities can use the platform for sale of additional stock in the open market with ease and also use the platform for MSP procurement from Farmers with quick digital payments for their deposits.

On the other hand, Origo has made several strides in offering state-of-the-art warehouse management systems, upgradation of supply chains, and securitized debt instruments to institutional investors and others.

Speaking on the occasion of the launch of the service, Sunoor Kaul, Co-Founder of Origo Commodities, said "After successes in the Structured Trade and supply chain, our efforts are now focused on streamlining through digital platforms that can address all concerns related to the commodities ecosystem. We have already witnessed considerable traction from the agri community due to its transparent nature and real-time monitoring tools, and hope the auctioneering and procurement will add to the ease of dealing with agri commodities."

Channel Point

E-learning technology emerges as top ed market focus

E-learning platforms have been witnessing an exponential uptake by the education and corporate sectors over the past three to five years. Schools and businesses are adopting online learning tools for improving the engagement and learning experience of students & employees. Service providers are utilizing this opportunity and expanding their EdTech products & services.

The COVID-19 pandemic has further transformed the e-learning market with the closure of schools and universities globally. According to UNESCO, in March 2020, over 1.2 billion students in 186 countries were affected by school closures due to the pandemic. Countries that are worst hit by the coronavirus pandemic have seen unprecedented growth in distance learning enrolments. The pandemic has changed prevailing attitudes on remote learning technology adoption as there is really no choice now.E-learning technology has quickly become a top requirement in the education vertical, and schoolshave been reaching out to partners for help. And partners will likely find education vertical customers with varying needs for assistance. Higher education CIOs face unique challenges when it comes to evaluating and selecting the technology infrastructure that drives student success while also enabling faculty and staff to do their jobs. In large public institutions where the student population rivals that of small cities, there's rarely a one-size-fits-all answer.

Global Market Insights, a market research firm, expects the e-learning market to grow from $200 billion in 2019 to $375 billion in 2026, expanding at an 8% compound annual growth rate during that period. The market numbers take into account academic institutions, as well as corporations that provide e-learning to employees. Global Market Insights cited technologies such as cloud computing and AI -- along with the COVID-19 pandemic – as factors accelerating e-learning growth around the world.

The newness of large-scale remote learning means many schools are building initial systems through trial and error. Some schools will excel, others will stumble. But best practices will emerge, and schools will eventually replace stop-gap efforts with more permanent deployments. School'sdigital learning initiatives will see a lot of change between now and the next three to five years. They will be digitally enabled to get through things like this pandemic or other disruptive events and the emergence of an AI-enabled e-learning solution will help in the development of smart content, digitized study guides, and real-time questioning.

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