



(Left to right) Shereen Bhan, managing editor of CNBC-TV18; Umang Bedi, managing director (India and South Asia) of Facebook; Anant Maheshwari, president of Microsoft India; Rajesh Janey, president and managing director-enterprise (India and Soarc) at Dell EMC; Paolo Colella, president-region India at Ericsson; and Deb Deep Sengupta, president and managing director, Indian subcontinent, SAP, at EmTech India 2017, the Mint-MIT Technology Review conference on technology and innovations, in New Delhi. RAMESH PATHAN/MINT

How far has India come in its digitization journey?

Internet is important for enhancing the growth of the Indian economy, but this won't be possible without govt participation

BY ARUSHI CHOPRA
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NEW DELHI

How is India becoming digital? This was the question that eight technology experts addressed on the first day of EmTech India 2017—an emerging technology conference organized by Mint and MIT Technology Review.

R Chandrashekar, president of software industry group Nasscom, said while the journey to digitization has begun, it is a matter of accelerating the pace at which it is happening.

"There is a World Bank report which says that a 10% increase in broadband penetration (in India) can lead to a 1.4% increase in GDP (gross domestic product), making internet important for enhancing the growth of the economy."

However, this won't be possible without government participation. "Regulation is not a driving force for growth, but it can be a road-block. So, government plays a critical role for creating appropriate policy framework and provide infrastructure and enable a secure and safe environment for digital transactions to take place," he said.

So far, innovation has been for India—the first 100 million Indi-



R Chandrashekar, president of Nasscom, at EmTech India 2017, in New Delhi on Thursday. PRADEEP GAUR/MINT

ans—said Rajan Anandan, vice-president India and southeast Asia at Google Inc.

"These are consumers who have high personal disposable income, they are well connected and well educated. Way forward, we will see problems being solved for India 2 and India 3—the next 200 million to 600 million Indians," Anandan said.

In India, Google has so far made 120 railway stations internet-enabled,

2018," he added. "By 2015, 2.7 billion people were live on internet; we saw internet use increase 60 times, largely from Asia Pacific. Market capitalization of consumer internet companies rose by 150% and innovation investments shot up 6x," said Boston Consulting Group's Marc Schuring (partner and managing director, Amsterdam) and Rajiv Gupta (partner and director, New Delhi) in a presentation.

This trend is a confirmation that mobile has become the first source of accessing internet in India. Facebook sees over one billion user generated posts every day, over 100 million hours of video consumed and over two billion photos shared, said Umang Bedi, the company's managing director, India and south Asia.

The company claims to have the highest personalization needed for any user owing to its robust artificial intelligence and machine learning technology.

But innovation is not limited to the likes of Facebook Inc., Google Inc., Apple Inc. or Microsoft Corp. "We have newly launched Tata Insights and Quants built on Big Data analytics, currently for internal use, Tata Digital Health (technology to connect patients with doctors and create healthcare based solutions) and Tata City (the group's foray into e-commerce). These are business incubation being carried out from the group and we're careful moving into the future and creating the future as we speak," said Gopichand Kattagadda, group technology and innovation officer, Tata Sons.

Innovators underscore India's role as centre of innovation

BY YUVRAJ MALIK & ARUSHI CHOPRA

NEW DELHI

Top innovators across industries underscored India's role as a centre of innovation and the next growth market at EmTech India 2017, Mint's flagship technology conference, hosted in partnership with MIT Technology Review.

The first day of the two-day conference saw leaders from consumer technology, energy, financial services and internet media sectors laud India's progress in areas of internet connectivity, mobility and policy, and discussed the future of disruptive technologies.

Experts discussed how technologies such as artificial intelligence, virtual reality and machine learning have become a reality and are changing and transforming lives.

Some of the key innovators are happening in these areas and experts felt this decade will be looked back upon as the most transformational decade of this century.

MIT Technology Review editor-in-chief Jason Pontin, who is on his 20th visit to India, said he had watched India's growth over the past decades with particular fascination. "One thing India has that nobody else does is the world's largest workforce or think force, as I like to call it... 65% of Indians today are below the age of 35," pointed out Telangana IT minister K.T. Rama Rao.

"When WhatsApp got acquired for \$19 billion, while it



MIT Technology Review editor-in-chief Jason Pontin. PRADEEP GAUR/MINT

was confined over the valuation, rest of the young Indians interact with on regular basis were enthused, kicked, they were out thinking about the possibilities of coming out with own ideas that will change the world. Such is the level of optimism," Rao said.

The renewable energy sector in India has also picked pace. With the government setting a target of 175 GW of renewable energy capacity by 2022. With the storage cost expected to come down and innovation in smart grid infrastructure, "solar and wind will have technology and infrastructure to become 24x7, which change the future course of energy sector," said Manoj Kohli, executive chairman at SoftBank Energy, a joint venture formed by Japan's SoftBank, Bharti Enterprises and

Foxconn.

Technology is also changing how we transact and virtual currencies such as bitcoin have become a reality in fintech and could potentially transform across the globe and value currencies in the times ahead.

"Democratization and digitization are going to give a boost to bitcoin," said Nenson Samuel, co-founder of Coi-concur.in, a bitcoin firm. "It is more about experimentation and making people more aware about bitcoin while it will take some time for cryptocurrency to be popular in India."

Experts said with the on-going tariff war in telecom industry, data speeds and affordability have improved multi-fold.

"Over the past 6-8 months, India has grown from being a nation that was constrained on broadband to a nation that is fast becoming the fastest nation when it comes to internet speeds. Today, India has more mobile data than the whole of the US," said Rajan Anandan, vice-president, India and South East Asia, Google.

Mobile has become the first source of accessing the internet in India, skipping the use of computers and laptops. Currently, there are more than 400 million internet users in India. That number is expected to grow to 600 million in the next 2-3 years. Technology giants including Microsoft, Facebook and Google discuss solutions for India-specific solutions for users. India has 1.1 billion 100 million users who typically reside in metropolitan cities. yuvraj@live.mint.com

SoftBank sees electric vehicles turning affordable in 3-4 years

BY YUVRAJ MALIK
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NEW DELHI

Japan's SoftBank Group Corp. sees energy storage costs in India becoming affordable in about three-four years, leading to a surge in the use of green technologies including electric vehicles (EVs).

The Indian customer is the most value-for-money driven customer and by 2020-21 storage costs are going to become affordable, Manoj Kohli, executive chairman of SB Energy Corp., said at the EmTech India event on Thursday.

SB Energy is a joint venture of SoftBank Group, Bharti Enterprises Ltd and Foxconn Technology Group. "By affordable, (I mean) there is a threshold of 100 per kilowatt hour. After 2020, solar and wind will have technology and infrastructure to become 24x7, which I believe



Manoj Kohli of SB Energy. PRADEEP GAUR/MINT

will be changing the future course of the energy sector," said Kohli. "Another point is the influx of EVs over diesel and petrol cars," he added. "I think in the next three years, EVs will become far more transformational. It will not only be at the top end of the market, it will be in the mid end of the market and the lower end of the market."

At present EV sales in India are lower as compared to some other parts of the world. EV sales in the country rose 37.5% to 22,000 units in the year ended 31 March 2016, from 16,000 in 2014-15. Of these only 2,000 were cars and other four-wheelers.

The government wants to see six million electric and hybrid vehicles on Indian roads by 2020 under the National Electric Mobility Mission Plan 2020 and Faster Adoption and Manufacturing of (Hybrid and Electric) Vehicles (FAME). It has been offering subsidies on electric and hybrid vehicles up to Rs29,000 for bikes and Rs1.38 lakh for cars under FAME, but the plan is to make the scheme economically viable on its own.

"Storage is an important part of EVs. I believe about 50% of the cost of an EV is storage battery. With the coming together of technology and scale, prices of renewable and

prices of EVs will come down," added Kohli.

To be sure, India is in the process of formulating a comprehensive policy towards building an all-electric fleet by 2030. Mint on Tuesday reported that transport minister Nitin Gadkari, heavy industries minister Anant Geete, environment minister Anil Dave, and power minister Piyush Goyal are expected to attend a meeting to be chaired by finance minister Arun Jaitley to discuss the policy. The effort is being driven by the Prime Minister's Office.

Any shift to EVs will help reduce pollutants and fuel imports. This is significant given India's energy import bill of around \$150 billion, which is expected to reach \$200 billion by 2030. India imports around 80% of its oil and 18% of its natural gas requirements.

Citing the example of the telecom industry, Kohli said if the price of a handset can be brought below Rs1,000, there is no reason a similar thing will not happen in the EV space. "That (drop in price of handset) happened with technology and scale," he said.

Anuraj Raj contributed to this story.

Telangana to lead in providing broadband, potable water: Rao

BY KOMAL GUPTA
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NEW DELHI

Telangana is working to create a digital ecosystem with advanced e-commerce, e-health and e-education facilities, said the state's IT minister K.T. Rama Rao.

Addressing industry executives at EmTech India 2017, the Mint-MIT Technology Review conference on technology and innovations in New Delhi, Rao said in the next 18 months, Telangana will become the first state in the country to provide proper broadband and potable water to every household. He said the government plans to use the trenches dug for water pipelines to lay fibre optic cables for broadband.

"When we started laying down pipes for providing potable drinking water to every house (around 10 million



Telangana Information technology minister K.T. Rama Rao at EmTech India 2017, in New Delhi on Thursday. PRADEEP GAUR/MINT

houses) of Telangana, we realized that we would be laying nearly 120,000 km of new pipelines. We decided to synergize other things on to the same trench and the plan to lay down fibre optic network was also finalized," said Rao.

Digital infrastructure and digital literacy were key to cre-

ating a digital ecosystem, he said. "Unless technology has a social impact embedded into it, it is futile," Rao added.

Last year, the Telangana government opened Technology Hub (T-Hub) in Hyderabad. India's largest incubator for start-ups. Currently, the city has over 30 incubators

and co-working spaces. T-Hub aims to forge many such partnerships with governments and corporates across the world to set up T-Bridge centres, to strengthen trade relations and attract investment into Telangana. T-Bridge is a programme launched by T-Hub to connect Indian start-ups with global market opportunities and helping global start-ups to the country.

The programme also aims to create a network of mentors, venture capital funds, incubators and accelerators.

Rao said the country's strength lies in its workforce, as 65% of Indians are below 35 years of age. "The opportunities for the government to create jobs in sunrise sectors like cyber security, multimedia, content management, animation, gaming and designing are plenty," he added.