STATE OF DIGITAL 2018

CHANGES TO COME TOMORROW

INDUS NET® TECHNOLOGIES

SUMMARY

TECHNOLOGIES THAT ARE CHANGING THE WORLD AS WE KNOW IT

2017 has been a curious year for businesses in various industry verticals. While emerging technologies have kept discussions and conversations going, contextualizing them into profitable business models has been difficult for many businesses. 2018 will continue to see different industry verticals adopting newer technologies, while bracing themselves for the changes that are poised to occur.

The trend in 2018 will be towards applying emerging technologies in incremental and scalable ways, instead of just feeling overwhelmed by the rising number of tech buzzwords. In other words, the existing establishment will be forced to pose some difficult questions, engage in soul searching, and finally find ways to adopt technologies that enhance existing business models, while providing innovative tools for the future.

Here we aim to take a realistic look at how novel technologies are expected to influence the industries across the globe.

C ONTENT

WHAT'S BREWING
IN THE CLOUD SECURITY ARENA

TO COUNTER THREATS TO CLOUD SECURITY, INVESTING IN NOVEL TECHNOLOGIES WILL BE PARAMOUNT

Cloud security will be of prime focus as high-end mobile malware and supply chain attacks are expected to increase in frequency. Many prominent programs will be vulnerable too, while unauthorized installations of crypto-currency mining tools will cause headaches to IT departments everywhere. To counter these security attacks, businesses will invest in cloud security solutions, delivered mostly via subscription models, which might include privileged protection such as micro-segmentation.

MATTERS TO?

IT Support

Decision Makers of Organizations

KEY FIGURES

20% Drop in Cloud Distrust[1]

More than 70% of Cloud Services are Geared towards Enterprises[2]

An Average of 23.2 Cloud Threats Per Month, Per Enterprise[2]

BLOCKCHAIN
TO GROW FASTER

AS EXPECTED, VIRTUALLY EVERY INDUSTRY SECTOR WILL TRY TO IMPLEMENT BLOCKCHAIN IN INCREMENTAL PHASES.

Predictably, blockchain will continue to be adopted in a hybrid way, with most businesses opting for Permissioned blockchain model. There will be a growing focus on using blockchain to conduct genetic testing, predict health outcomes, maintain health records, and automating health insurance sector using distributed networks. Blockchain will find its use in the automobile industry as a medium to root out counterfeit automotive parts and is expected to find its way into the hiring process as a medium to check credentials of employees. Smarter incumbent banking and insurance giants will join hands with blockchain startups to access innovation and technology.

INDUSTRIES TO GO FOR MASS ADOPTION

Healthcare

Automobiles

Banking and Insurance

Human Resources Department

KEY FIGURES

Blockchain Market Valuation by 2024 - $20 Billion[3]

90% of American and European Banks Exploring Blockchain[3]

57% of Large Corporations Have Considered Blockchain[4]

NANO-TECHNOLOGY'S
IMPORTANCE TO INCREASE

THE USE OF NANO-SENSORS IN PRODUCT DEVELOPMENT, HEALTHCARE, AUTOMOBILE MANUFACTURING, ETC WILL BE WIDESPREAD.

Nano-sensors and Nano-particles will have far-reaching influences on not just personalized healthcare and genomics, but also on product innovation. 2018 will see more self-healing materials being developed, completely changing the way products are developed. Nano-sensors may also play a role in ensuring that communication between vehicles is enhanced. Marketing departments will also explore the possibilities of using Nano-sensors to creatively design campaigns for target audiences. Intelligent devices will see a growing reliance on such advanced sensors and chips as well.

NANO-TECHNOLOGY WILL INFLUENCE

Product Development

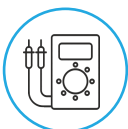**Automobiles**

Healthcare

Marketing and Advertising

KEY FACTS

A Nanometer Is One Billionth of a Meter [5]

Richard Feynman, the Nobel-prize Winning Physicist, Introduced Nanotechnology in 1959 [5]

Nano-particles Have Unique Electrical Properties [5]

ARTIFICIAL INTELLIGENCE WILL
GO MAINSTREAM

AI WILL BE USED TO IMPROVE VEHICULAR COMMUNICATION, ENHANCE BUSINESS OPERATIONS, AND BANKING SELF-SERVICE

Self-driving cars will continue to depend on artificial intelligence more than ever, to be on the roads as soon as possible. AI will also be used to help vehicles communicate with each other in order to avoid accidents and road fatalities. Banking and insurance sector will continue to make self-service aided by artificial intelligence, mainstream. Other areas which will see an increased use of AI are supply chain automation, inventory management, mechanical tasks, etc.

INDUSTRIES THAT WILL HAVE MAJOR IMPACT

Automobiles

Business Process Support

Manufacturing

Banking and Insurance

KEY FIGURES

More Than 80% of CEOs feel AI Boosts Productivity [6]

85% of Customer Interactions Will Not Need a HC Service Agent [6]

AI Is Expected to Replace 16% of Jobs [7]

MAKING 3D PRINTERS
ACCESSIBLE

3D PRINTING TO BECOME MORE ACCESSIBLE AND RESEARCH WILL FOCUS ON MAKING THEM LESS EXPENSIVE

While 3D printing has already received a lot of attention this year, the focus in 2018 will be on making hybrid 3D printing more accessible. Currently, the largest 3D printers are still not accessible, and they tend to be expensive for most enterprises to invest in. 2018 will see research and development focused on making 3D printing accessible so that printed objects can be put to use quickly. 3D printing will also find applications in the medical sector, such as printing tissues that mature into functional organs, and also in the realty building sector.

INDUSTRIES TO HAVE AN IMPACT ON

Manufacturing

Real Estate and Building

Healthcare

Product Development

KEY FACTS

3D Printing Reduces Production Costs[8]

In 2015, FDA Approved a 3D-Printed Drug[9]

Most Movies Already Use 3D Printers[9]

ANALYTICS TO GET
MORE INTELLIGENT

USING EMERGING TECHNOLOGIES TO MAKE BETTER PREDICTIONS, AND ADOPTING A CLOUD-FIRST STRATEGY

Analytics will continue to be influenced by Big Data and predictive analytics, with advanced statistical tools helping businesses to gain deeper insights. Analytics are expected to get more intelligent as well, thanks to newer and emerging technologies, helping make better predictions. As marketing and advertising departments continue to grapple with changes in search behavior, a renewed focus on predictive analysis will help some of them to innovate. There will also be a shift towards cloud-based analytical tools, which may be delivered via subscription models.

MATTERS TO?

Marketing Departments

C-Level Executives

IT Departments

KEY EXPECTATIONS

Predictive Analytics Will Be Helpful to eCommerce Store Owners

Big Data Will Soon Be Referred to As Just "Data"

Rich insights Will Be the Basis of Every Marketing and Business Decision
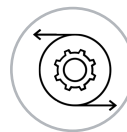
MANAGING THE
5G DATA DELUGE

5G WILL CREATE A NEED FOR DISTRIBUTED CLOUDS AND AUTOMATED NETWORKS TO DEAL WITH LARGE AMOUNTS OF DATA

While 5G networks are around the corner to become mainstream, there will be a need for distributed clouds to accommodate the gargantuan amount of data that will be generated via smartphones, AR/VR apps, etc. In addition, automated networks will be adopted to process the large amounts of data that will be generated. Developers will need to focus on building applications that load quickly, and process huge amounts of information without any lag.

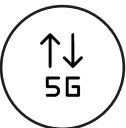## WHO SHOULD WATCH OUT?

Developers

Data Scientists

C-Level Executives

KEY FACTS

Under 5G, an HD Movie Can Be Downloaded in Just 7 Seconds[10]

5G Will Not Be a Lot More Expensive than 4G LTE[10]

5G Is Expected to Hit the Market by 2020[10]

LAUNCHING
APPS AND WEB PAGES IMMEDIATELY

IMMEDIATE APP AND WEBPAGE LAUNCHING WILL BECOME A PRIORITY FOR DEVELOPERS AS USERS DEMAND SPEED AND EFFICIENCY

Google unveiled Android Instant Apps many months ago, and it still hasn't caught on. However, we expect to see more developers focus on Instant Apps. Instant Apps are mini-versions of applications that launch immediately over the cloud, without one having to download and install the full version on their mobile device. In the same breath, Google's Accelerated Mobile Pages Project (AMP) is encouraging developers to build pages that load instantaneously. 2018 will see a growing demand for web pages and applications that load and launch instantly.

WHO SHOULD WATCH OUT?

App Developers

Business Owners

Digital Marketing Teams

KEY FACTS

AMP Is a Collaborative Effort Aimed at Making Mobile Browsing Quick and Smooth[11]

Instant Apps May Soon Give Way to Cloud-based App Launches[11]

The AMP Project is Open Source[11]

4D
IN SOCIAL MEDIA

4D EXPERIENCE WILL BE A PRIME PRIORITY FOR DIGITAL MARKETING TEAMS WHICH NEED TO CAPTURE AUDIENCES ON SOCIAL MEDIA.

With augmented reality and virtual reality enhancing social media experience, 4D film will become ever more popular in marketing circles. The influx of VR headsets and augmented reality will open new opportunities on social media for marketing and advertising departments, which have experienced a diminished stature in recent months. It shouldn't be an exaggeration to say that 4D experience on social media will help breathe new life into marketing teams.

WHO SHOULD WATCH OUT

Digital Marketing Teams

Advertising Departments

C-Level Executives

KEY FACTS

4D Combines 3D Film with Physical Experiences

Simulated Environments Help Create More Immersive Marketing Campaigns

Social Media Marketing Gets Easier with 4D Content

USING RUBY ON RAILS TO CREATE
DEVELOPER INFRASTRUCTURE & TOOLS

RUBY ON RAILS WILL HELP CREATE DEVELOPER TOOLS AND INFRASTRUCTURE WHICH WILL HELP THEM TO FOCUS ON BUILDING BETTER APPS BY FREEING UP TEMPORAL RESOURCES

There will be a renewed interest in server-side frameworks such as Ruby on Rails, because of the ease of development and scalability options they offer. In addition, Ruby on Rails will also be used to develop app development infrastructure, which will help reduce the burden of developers and allow them to focus on novel projects. Rails will also be a popular app development tool in the coming months and years.

MATTERS TO WHOM?
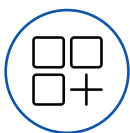
Developers

C-Level Executives

IT Departments

KEY FACTS

Ruby on Rails Is Witnessing a Renaissance of Sorts

Rails Will Provide the Tools and Infrastructure Needed to Develop Better Apps
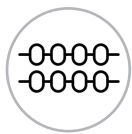
Using Rails Helps Build Better Mobile Apps

BONUS
PREDICTION

WITH TECHNOLOGY, ETHICAL QUESTIONS ARE NEVER TOO FAR AWAY

The coming months will witness a lot of ethical, political, and administrative questions posed with respect to technologies such as artificial intelligence. Businesses will also opt for open source software programs instead of relying on propriety programs in order to reduce costs. Ironically, this move towards open source software may also encourage businesses to form useful opinions on net neutrality, which may be at stake at the moment. These and other situations will force everyone involved to address ethical concerns.

WHAT'S HAPPENING?

Net Neutrality at Stake

Open Source Growing in Popularity

Ethical Questions Regarding Emerging Technologies Raised

WHAT'S NEEDED

There needs to be nuanced discussions between governments regarding net neutrality

Open source software may help reduce development costs in general, allowing more businesses to access technologies

Technology is never free from ethical questions, and to create a better world, all of us need to consider various outcomes

INNOVATE.
SLOWLY, AND STEADILY

Woody Allen once said "the heart wants what it wants", much to the ire of his critics. While there will always be new technologies every year, it's really about how prepared you are to implement technologies that matter to your business success the most. It is probably for you to ask yourself how you should cope with the changes that are occurring in the world, and how emerging technologies will help you to remain afloat, and even thrive. To get what you want, it helps to take small steps towards change, instead of making drastic attempts towards technological restructuring.

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