

mobileLIVE's Top 10

TMT Predictions for 2017

Introduction

mobileLIVE is a Toronto based company anchored on delivering incredible growth to its customers by providing transformation, innovation, and delivery consulting services in the TMT sector. Most corporate clients we work with, are wrestling with difficult investment, product, and digital transformation decisions. In an attempt to provide guidance and help with the decision-making paradigms, mobileLIVE's TMT team has put together a list of the top 10 predictions for 2017.

These trends are primarily based on our interaction with our clients, our research and interviews conducted; and to quite an extent the prediction process is more art than science. We encourage you to reach out and engage our analyst and business strategy teams, to help get the maximum benefit. We welcome your insights and discussion points.

Top 10 TMT Predictions for 2017

1. Operators and OEM's begin to rethink IoT monetization strategy

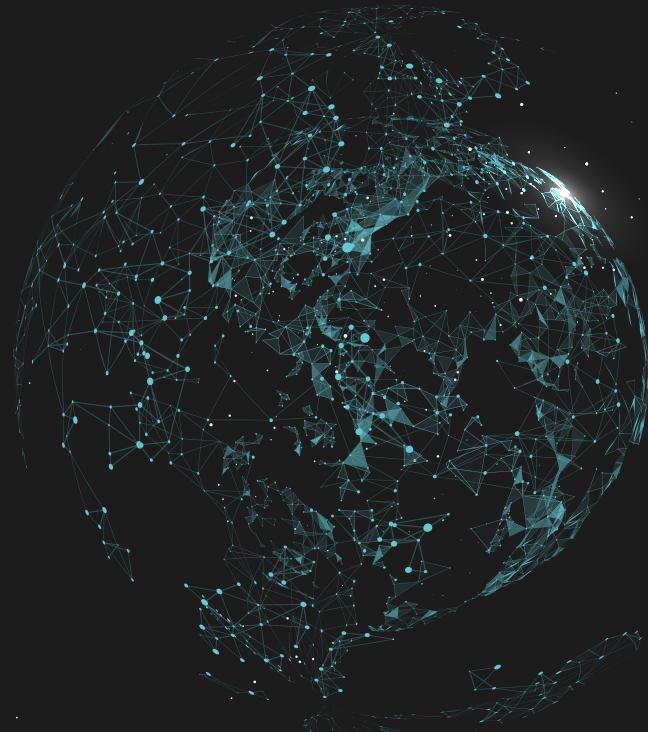
The euphoria around the “Promise of IoT” is subsiding. Network operators globally are finding themselves under increased pressure and scrutiny to start materializing the returns on the investment. Some operators have invested billions in creating critical mass for specific solutions or creating tools for developers to leverage. Though the consumers’ are becoming more excited about wearables and smart home products, we will find continued momentum to invest in the Industrial IoT space (IIoT), connected vehicles, fleets, and smart cities. Every car manufacturer will have a connected vehicle and/or autonomous driving story. However, the road is bumpy and will need fundamental shift in the ingrained product and development philosophy, to truly unlock the economic potential of Internet of Things.

2. Mainstream Apps powered by Cognitive Technologies start penetrating our day to day lives (AI, ML, NLP, Bots, Voice operated UX)

In an attempt to add value and differentiate from competition, we will see more and more companies adopt cognitive technologies, to bring magical experiences to life. AI, ML, and other forms of cognitive technologies will become more widely available and accepted. Voice will become the defacto standard of interacting with connected devices, providing new user experiences and opportunities for Tech companies to be seamlessly ingrained into their customers’ lives.

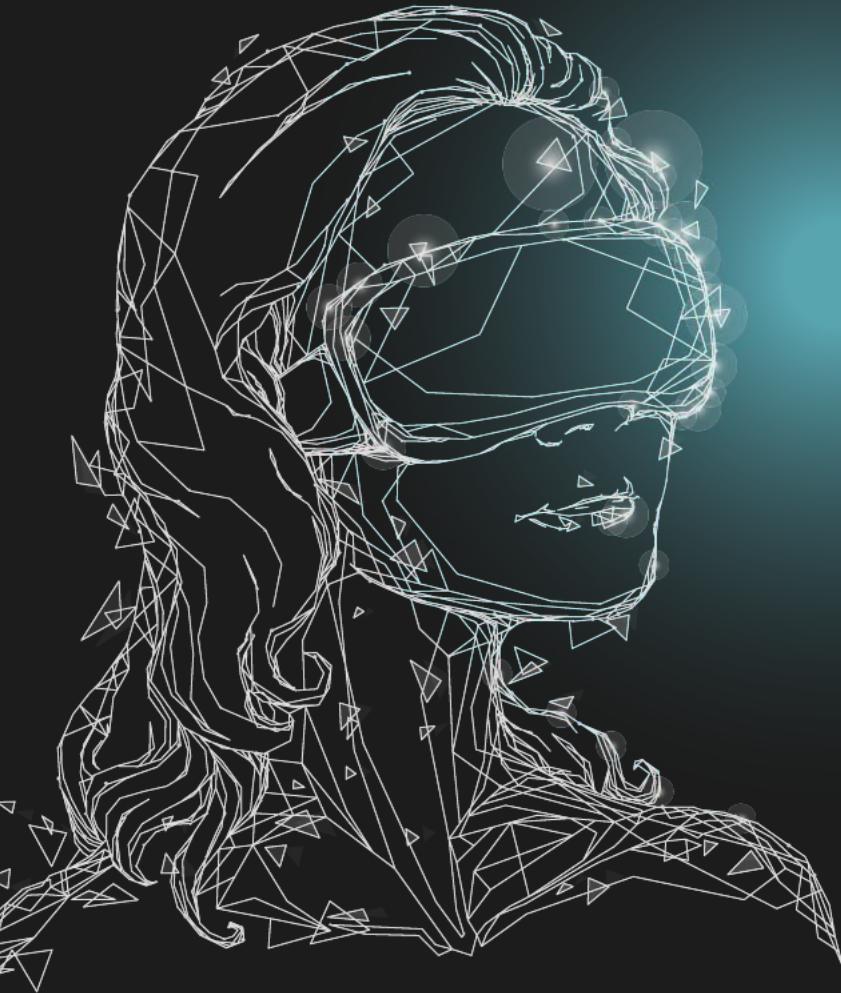
3. Big Data continues to unlock big value

Scramble for Big Data Scientists intensifies as enterprises and SMBs across all industries alike get bit by the bug. As the “personal data economy” continues to explode, new business models and products will continue to be unleashed largely, thanks to insights and trends uncovered from Big Data Lakes. However, there will also be many experts hand waving but enterprises will have to be careful with their investments. The current rule of thumb being used at start-ups; pegs the economic value of every big data scientist to their overall valuation by an incremental \$5MN. These numbers, will only continue to increase for the next 6-12 months.



4. VR/AR the next application and content frontier

Augmented and Virtual Reality investments reached a record high in 2016, and so has the excitement. In an attempt to engage the customer more effectively, companies have started to invest heavily in creating immersive experiences - primarily lead by the big 4 (Apple, Facebook, Google, and Microsoft) by truly leveraging AR/VR. We forecast that by 2021 at least 1 billion people will have constant access to AR/VR content and devices, with the majority of the market cornered by Gaming, Mobile/Hardware OEMs, and Social Network providers.



5. The pendulum swings decisively towards SDN, Virtualization, and Small Cells

With the growing tsunami of data usage and number of connected devices per capita, some Tier-1 network operators will continue pushing the envelope on SDN and NFV. Despite the challenges with Network and Service orchestration they will ensure continued investment from the vendor community to rapidly evolve this new architectural approach. In the next 12-18 months, we will find the organizational resistance across the Tier-2s also waning as the pendulum swings materially in favor of redistribution of legacy infrastructure capex towards "Open and Programmable" SDNs. On the back of it, the idea of Network as a Service (NaaS) i.e. the ability to procure and scale bandwidth on demand, will begin to gain momentum with enterprises.

From a radio perspective, in an attempt to offload mobile traffic from macro networks and augment capacity, we will see continued investment in small cells. We forecast roughly 250-300% increase in small cell in 2017, subsequently breaching the 1 million global deployment number by 2021.

6. LPWAN will continue to generate interest in the short-term

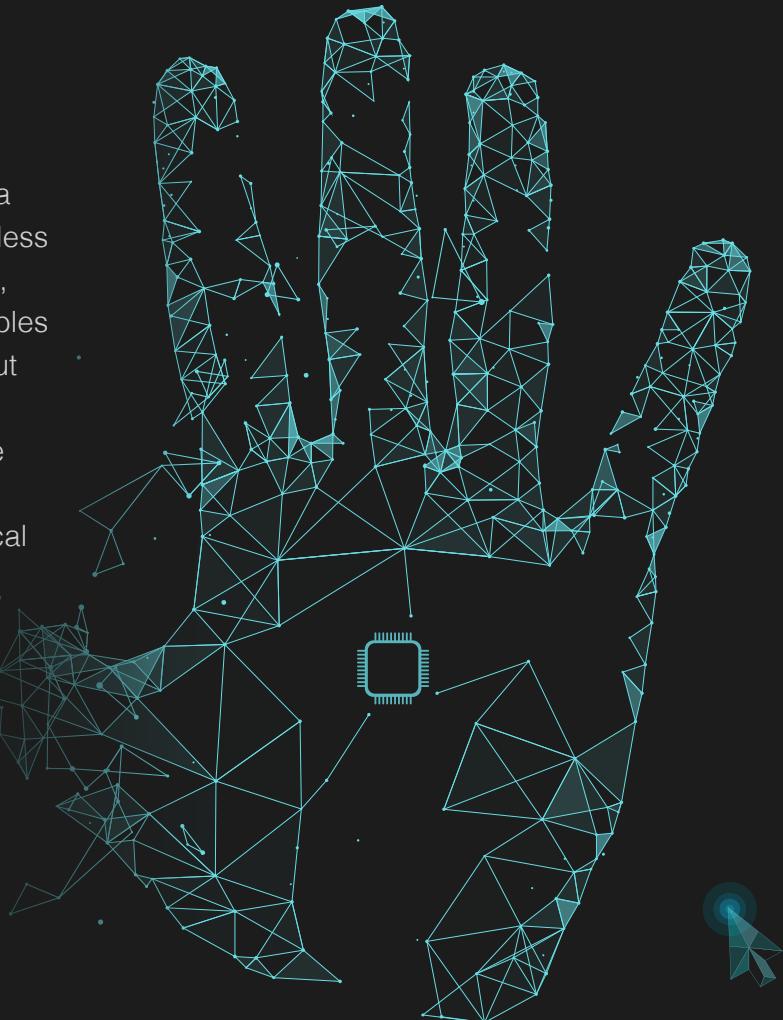
Since 2015 there has been tremendous excitement around launches of new proprietary networks specifically being built for IoT - Sigfox, LoRA, Ingenu to name a few. The promise of ultra narrow band, low energy consuming, low cost radio communication network has seen hundreds of millions of dollars been pumped into the ecosystem. However, with 3GPP finally recovering from their miss and beginning to roll out standards for NB-IoT; we will start witnessing the beginning of the end for some of these solutions within the next 2-3 years.

8. 5G Trail Blazers

Unlike the previous rollout of incremental mobile technologies, the move from 4G to 5G is not going to be in a single step but rather a multitude of sustained upgrades over the next few years. This year, we expect some operators to have a few of the foundational building blocks already in place, for their key markets. The lack of standards and availability of any 5G handsets, would peg a wide scale launch of 5G only in the next decade. However, we anticipate at least 150 operators to launch the interim bridge to 5G, called LTE A or LTE A Pro, this year.

7. eSIMs begin to gain traction

The concept of a programmable SIM is not a new one, however, we will begin to witness less reticence from operators to implement them, namely for connected devices. From wearables to connected cars, it will help OEMs to rollout consumer connected devices seamlessly across the globe. The local operators profile will be dynamically downloaded on the embedded SIM, ensuring connectivity at local rates, making the business case plausible. As a result of strong growth of IoT Devices and development of eSIM specifications by the GSMA - the growth of eSIMs will start to materially outpace traditional SIM cards, by a factor of 7-10x over the next 5 years.



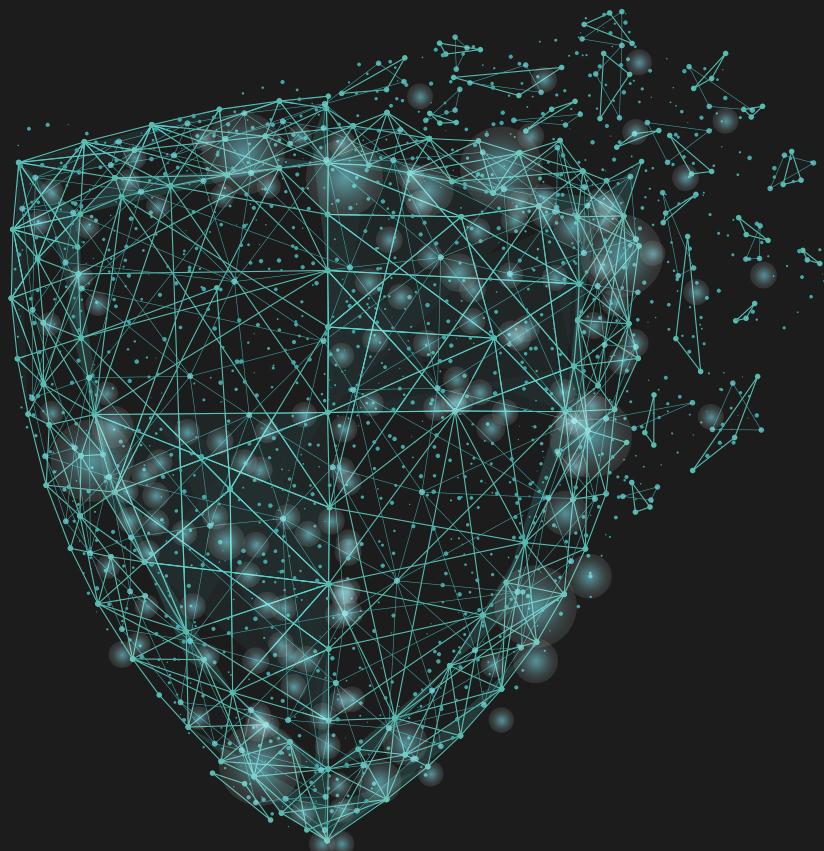
9. IoT accentuates cybersecurity vulnerabilities

Connected devices will continue to pose serious security challenges to businesses and the web worldwide. We estimate 70% of current IoT products are vulnerable to known security threats and despite that fact, little will be done to address them. We expect a large scale security breach resulting in damage to at least one multi-national brand and (possibly) even loss of life within the next 12-24 months. This will lead to increased regulatory scrutiny and mandate to invest in stringent security standards and certifications.

audience of 2 billion people using smartphones, globally. With continued investment from the VC and Tech industry alike combined with a pro business US government, we expect the trend to continue. To compete more effectively, we will see Telcos change and evolve. Case in point, embracing OTT content along with MSOs and Video Service Providers investing in original video content. Similarly, in the Banking sector we will find core Financial services evolve at breakneck speed, as legacy institutions embrace change through the FinTech revolution. The core anchors of this change and evolution will happen using new technologies such as Blockchain, Big Data, and Biometric solutions, Mobile, and Cloud.

10. Constant tech disruption becomes the norm

The last decade has seen an unprecedented number of unicorns take life, as they leverage mobile as a tech platform and a captive



About mobileLIVE

mobileLIVE is a Canadian tech-service provider unifying people, technology, and business to accelerate digital transformation.

We don't see this transformation as a choice anymore; rather an imperative. One that focuses on perfecting experiences, not just products and processes. One that empowers us to do more, by doing it more intelligently. And one that believes in the creation of tomorrow - today.

Our reputation - reliable; our industry recognition - notable; and our record of never having lost a customer - non-negotiable.

At mobileLIVE, success isn't a decision. It is a choice. A choice to be better than yesterday!