

inCode Consulting Announces Top 10 Industry Predictions for 2019

inCode Consulting (a division of Ericsson, Inc.) today announces its Top 10 predictions for events that will shape the Telecom, Media, and Technology industry in 2019. The predictions cover the race to 5G, AR, privacy regulations and breaches, private LTE, and more. The predictions, which provide a window into the future, help Telecom, Media, and Technology players, partners and customers plan for 2019 and beyond.

Since 2003, inCode Consulting, a leading business strategy and technology consulting firm, has been releasing its annual Top 10 predictions, correctly predicting events occurring within the year with over 75% accuracy.

1

The Price of Experience

5G rollouts have begun, and while operators are seeking opportunities to monetize their investments, they face challenges. Initially, 5G will be available in limited and targeted areas, and devices will not be widely available, with forecasts estimating < 1M mobile 5G devices to be in-market by the end of 2019. Furthermore, traditional mobile pricing is focused on unlimited data plans, leading to declining ARPUs. Meanwhile, consumers are increasingly interested in purchasing experiences (YoY spending for experiences are up 303bps vs. 205bps for goods and services). In 2019, to boost revenue and monetize limited 5G coverage, **CSPs will focus on experience-based pricing to showcase and monetize their consumer 5G capabilities.**

2

Augmented Reality gets Artificially Intelligent

Augmented Reality (AR) has passed the initial hype stage and is now entering a new growth phase. Enterprises have started to embrace AR in their operations, especially in verticals such as manufacturing, warehouse logistics, utilities, and consumer products. As AR gains wide acceptance, capabilities will be further enhanced by Artificial Intelligence (AI) to create headsets with computer vision, real-time analytics, and automated actions. **In 2019, ten or more Fortune 500 companies will adopt AI-powered AR devices to elevate their workforce's efficiency.**

3

Privacy Doesn't Wait

The European Union's General Data Protection Regulation (GDPR) was implemented on May 25, 2018 and impacted many US-based companies with European operations. Separately, across all industries high-profile privacy breaches have occurred, including the Facebook-Cambridge Analytica fiasco and Marriott's customer data breach, which impacted 500M guests, being just two of the more prominent. Given these, a GDPR-type regulation in the US is likely to take the place of self-regulation, not just for web scale companies, but for all enterprises. In addition to enterprises impacted by GDPR, US communication service providers (CSPs) serving multinationals have a responsibility to safeguard customer data. Thus, CSPs will need to examine not only their OSS/BSS and data management practices, but also enhance and/or transform their data warehouses, system architectures, business processes, and reporting structures. **In 2019, enterprises will demand increased data/privacy safeguards from their CSPs, causing US-based CSPs to jump-start preparations for GDPR-like regulation in the US.**

4

Blockchain Gets Exposed

Blockchain's use as a distributed identity platform is rising, creating new honeypots of valuable data. Blockchain's most popular use case, as the enabler for crypto currency, has seen numerous breaches of private keys to user wallets, resulting in the theft of assets worth hundreds of millions of dollars. As companies rush to develop trials and roll-out blockchain-based identity platforms, the limited knowledge base and complexity will result in deployments with unintended security holes and/or vulnerabilities. Cyber-criminals, attracted to valuable data stored on blockchains, will discover and take advantage of these newly created opportunities. **In 2019, in a rush to implement blockchain, enterprises will inadvertently create new security holes that will be exploited by malicious actors.**

5

Digital Transformation: Let's Reboot it, Fast!

The US economy was strong in 2018 due to a combination of lower taxes, increased government spending, and private-sector investment. For 2019, the US Congressional Budget Office (CBO) predicts GDP growth to slow to 2.4% (vs. 3.1% in 2017). With slower growth, many businesses will need to accelerate cost-savings programs to sustain profitability targets. Digital transformation is widely seen as non-negotiable to further enhance operational

efficiency and automation, and despite \$430B invested in 2018, half of US executives believe their digital transformation programs have largely failed to realize their targeted impact. Nevertheless, faced by economic headwinds, enterprises will attack digital transformation programs with increased vigor, and **in 2019 businesses will adopt a more ROI-based approach to digital operational investments, and begin to see cost savings success.**

6

Private LTE Goes as-a-Service

Enterprises – from manufacturers and logistics players to utilities and even health care providers – are seeking to underpin their digital transformations with the security, reliability, prioritization, control, and coverage enabled by private networks. However, the core competence of building and operating a 3GPP network does not reside within most enterprises, so they are seeking partnerships to realize their ambitions. At the same time, virtualization, access to shared/unlicensed spectrum, and radio access network (RAN) disaggregation are enabling 3GPP functions to be offered as-a-service by a range of players. Tower Companies, seeing slowing growth in their core macro-site leasing business, are seeking new markets adjacent to their existing telecom expertise. OTTs have developed deep aaS experience, and some have invested in mobile core infrastructure (e.g. Google SAS, Facebook TIP). System integrators have strong IT relationships with Fortune 1000 companies, and they are constantly seeking new opportunities. Thus, **in 2019, a non-MNO player (e.g. MSOs, TowerCo, OTT, SI) will offer private broadband networks as-a-service to enterprises.**

7

SD-WAN: One Door Closes, Another Opens

For many enterprises, the pressure on cost management and operational efficiency, combined with the rise of virtualization, is reducing the appeal of MPLS for WAN connectivity. With its greater flexibility and lower cost, SD-WAN is the option of choice and is expected to grow at a 73% CAGR through 2020 (vs. 4% for MPLS). Further, a survey of enterprise buyers found that just 48% of buyers are considering their CSP to provide MPLS and are seeking providers that can offer a range of virtualized services (e.g. firewalls, remote access, and WAN optimization). Facing the loss of high-margin MPLS circuits and seeking to retain their position as enterprises' connectivity provider of choice, **in 2019 a CSP will significantly enhance its SD-WAN competitive position by offering a bundle of virtualized enterprise services.**

8

CBRS Auctions Fail to Excite

To great fanfare in 2015, the FCC issued a notice of proposed rulemaking (NPRM) to create the Citizen Broadband Radio Spectrum (CBRS) band. Consisting of up to 150MHz of spectrum, the *innovation band* rules envisioned unlocking a (mostly) unused band for a wide-range of players to drive next-generation innovative wireless solutions. However, in the intervening years, traditional CSPs complained the rules were too cumbersome to enable economic deployment on the band. Finally, in October 2018 the FCC announced new rules for the PAL band, creating licenses with larger geographic areas and longer terms. Meanwhile, developments have continued, with SAS and ESCs nearing certification, infrastructure available from tier-1 vendors, and commercially available CBRS band 48 CBRS handsets expected soon. However, due to the rule changes, innovative enterprises (CBRS' original targets) are now less attracted to PAL, and so **CBRS PAL auctions will occur in 2019, but will generate limited interest outside MNOs and MSOs.**

9

Utilities & MNOs Find Each Other

As data growth continues unabated, MNOs are responding by adding small cells and 5G at increasingly higher frequencies (2.5GHz, 3.5GHz CBRS, mmWave), requiring hundreds of thousands of new mobile sites. The proposed "new T-Mobile" has cited a planned 5G network containing 80K macro sites and 50K small cells, while Verizon and AT&T's planned mmWave rollouts will require orders of magnitude more sites. Concurrently, for the first time, utilities are experiencing declining revenues as energy efficiency programs reduce demand for their electrons and force them to seek alternative revenue sources. Fortuitously, utilities' highly distributed network of towers, light poles, and other street furniture represent ideal sites for MNOs' small cells. While not a new realization, utilities are now incited to proactively capture this revenue stream, and so **in 2019 there will be a strategic alliance between an MNO and utility to provide unfettered access to the utility's infrastructure for 5G and LTE small cell deployments.**

10

OTTs and CSPs Dance

Over-the-top (OTT) applications have become one of the primary value drivers for wireless subscribers and CSPs are beginning to integrate OTTs' services into their offerings, such as

Metro by T-Mobile bundling Amazon Prime and Google Cloud services. As OTTs' power widens, opportunities to disrupt the mobile value chain exist. Previously, Amazon found success by bundling connectivity with their cellular-based Kindles, obfuscating the connectivity provider to customers. With the AWS button, Amazon and AT&T are back at it and **in 2019 OTTs will disrupt traditional mobile pricing by adding the cost of delivery into their services pricing.**



The Final Cord Falls

Over 55% of consumers' time spent with digital media is now through smartphones and tablets as growth in OTT applications reduces the share of leisure time spent on desktops and TVs. As the size of mobile data buckets increases and monthly ARPU declines, consumers are seeking ways to decrease their communications spend as evidenced by its growth of just 3% over the last 3 years, compared to 9% across all household goods and services. As a result, consumers are questioning the value of their fixed broadband subscriptions. After already cutting their fixed line voice and PayTV subscriptions, **in 2019, we will see consumers start to cut their fixed broadband connections in favor of mobile being consumers' sole connection.**

About inCode Consulting

Founded in 1998, inCode Consulting (a division of Ericsson, Inc.) is a respected business strategy and technology consulting firm with unique expertise within the telecom, media, and technology (TMT) industries. inCode distinguishes itself with its combination of deep technological expertise and exceptional strategic vision. Our industry focus allows us to integrate business insight with technology foresight, delivering tangible impact and sustainable value to our clients. From private equity firms to multi-billion-dollar companies, decision-makers have trusted inCode's unique approach to tackling unprecedented business challenges.

*Please visit our website to learn more and read our past Top 10 Predictions – www.incodeconsulting.com
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