Digital Transformation Use Cases in the **Telecom Industry**

Underpinning the Fourth Industrial Revolution is the emergence and greater-than-ever availability of powerful technologies like artificial intelligence, cloud connectivity, mobile, and advanced analytics platforms worldwide. And at the very heart of this digital revolution is the telecom industry — providing the interconnectivity, applications, and access needed to enable digital disruption across the globe. The telecommunication or telecom sector is a $1.5 trillion market that makes communication possible worldwide.

As **Bob De Haven, Worldwide GM Telecommunications**, has stated, “The state of telco today is a pretty dynamic and exciting environment to be in. COVID-19 did sort of present an opportunity for the Telco space and the global cloud providers to really become the hero industries in the world, to keep the economies running, and allowed the industry to continue to thrive.”

Telcom empowers everything. Whether retail e-commerce, connected vehicle experiences in the automotive industry, or integrated internet of things (IoT) solutions in manufacturing, production, and supply chain, the rapid digital transformation of businesses and consumers’ lives present a newfound opportunity for the telecom industry to extend revenue streams beyond just connectivity. Cross-industry business models necessitate agile and flexible networks that permit ubiquitous coverage, reliable, low-latency communication, enhanced mobile network, cyber-resilience, personal data protection, and intelligent, software-defined network functions and analytics.

To exploit the maximum potential value from digitization across various industries, the telecom sector must reimagine innovation models to fill capability gaps and develop new services, deploy tools and technologies that deliver exceptional customer experiences, and look for ways to drive efficiency and employee productivity while reducing costs of OSS and BSS activities within the organization.

What does digital transformation in the telecom industry mean?

- Shift from discrete, hard-to-manage network components to an independently managed, virtualized communications and cloud infrastructure
- Uniformly orchestrated security encompassing the entire technology stack, including service creation processes, data, physical infrastructure, and partners.
- Diverse and independently managed partnerships with digital service providers to overcome the limitations of clunky BSS and OSS activities and legacy systems.
- Powerful cloud-based communication, collaboration, and advanced analytics platforms that empower workers to innovate, work efficiently from anywhere, be more responsive to customers, and deliver better business outcomes. In fact, the telecommunication cloud market will reach **$125 billion** by 2030
- Replace telco closed IT infrastructures with open, easily accessible APIs that support flexible development of both internal and external third-party services
- Create a data-centric organization that leverages a consistent approach to data collection, distribution, analysis, and monetization from multiple sources across the organization
- Adopt multiple, innovating business models to offer a brand new suite of digital services to address new vertical markets with massive revenue potential.

Here we present various use cases of key digital technologies like AI, machine learning, Big Data, IoT, and cloud computing, that telecom companies must embrace to empower a future of insights, experiences, efficiency, and growth, meet rising customer expectations, and create maximum value for the industry and society as a whole

5 Digital Transformation Use Cases in the Telecom Industry

From C-suite to frontline, empower your telco workforce to collaborate securely with modern workplace experiences

Digital workplace solutions can transform the way telecom staff work together. By leveraging advanced collaboration, cloud-based communication, and productivity features, they allow employees (both C-suite and frontline), partners, and suppliers to meet, call, chat, collaborate, and get work done more securely, from anywhere

As a Microsoft Gold Partner, **Acuvate can help telecom companies connect dispersed people and resources, drive innovation, access the right information and tools, and be more responsive to customer requirements**, using renowned Microsoft technologies and cloud solutions, including Microsoft Azure, Office 365, Teams, Microsoft Surface, and the Power Platform.

- Enable secure collaboration, protect company data, and meet compliance requirements on a trusted unified platform.
- Empower customer service executives, sales associates, and field technicians to access relevant documents and content, share knowledge, find subject-matter experts, and improve customer service delivery.
- Equip on-field technicians with quick access to self-service training materials to service customers better.
- Allow on-field customer service executives to manage scheduling and appointments and provide updates to customers through a mobile-first digital portal.
- Protect subscriber data and ensure compliance to stringent telecom regulations with state-of-the-art encryption, device and access management, and multi-factor authentication.
- Reduce duplicate work streams by surfacing content based on what employees are working on and who they are working with at present.

Microsoft's productivity, communications, and collaboration solutions deliver the following benefits —

17.5%

Reduction in time-to-decision

$4.57

Million in savings from a more productive mobile workforce

41%

Of employees said mobile access created greater end-user productivity

Build and manage next-gen networks and accelerate innovation and growth with AI, hybrid cloud, and cross-industry edge

To improve network scalability, reliability, and efficiency, reduce cost, and accelerate revenue growth, telecom companies must deploy and optimize next-gen networks using carrier-grade, hybrid cloud infrastructure.

At Acuvate, we use powerful Microsoft technologies to help telecom clients deliver differentiated experiences at scale with edge compute, 5G, IoT, and network slicing and **ensure consistent network performance and stability** across the cloud, hybrid, and edge. Moreover, we enable clients to develop innovative cross-industry edge and IoT solutions and speed new service designs for industries, such as retail, healthcare, manufacturing, automotive, and gaming.

Azure for Operators

Create new business models and revenue streams, reduce costs, and future-proof your network.

Azure private multi-access edge compute (MEC)

Enjoy ultra-low-latency networking, apps, and services, reduced integration complexity, and secure service management from the cloud.

Azure ExpressRoute

Create private connections between the Azure data centers and your company's on-premises infrastructure.

Azure Machine Learning

Enable predictive asset maintenance by studying historical data and identifying patterns and anomalies to predict possible asset failure and reduce downtime.

Azure IoT

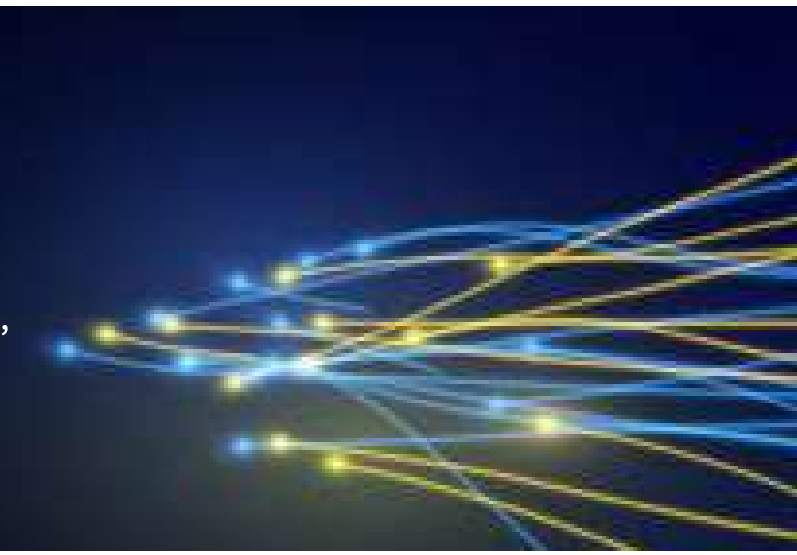
Secure, scalable, and open edge-to-cloud IoT telecom solutions and tools.

Earn lifelong loyalty of your customers with AI-driven personalized engagement strategies

Players in the telecom industry must leverage AI and predictive analytics to obtain a 360-degree, cross-channel view of customers, hyper-personalize customer journeys, deliver exceptional experiences, and augment customer service efforts to expedite issue resolution at scale.

Customizing bandwidth supply based on individuals' data usage patterns, allowing customers to adjust their plan configuration, and using AI-powered virtual agents to quickly address and resolve customer issues and free telco customer services executives to handle complex matters, are good examples here.

At Acuvate, we help telecom companies deepen customer engagement and deliver personalized, consistent, and meaningful customer engagement with Microsoft's advanced telecommunications solutions, including **Dynamics 365 Customer Insights, Dynamics 365 Customer Service, and Dynamics 365 Virtual Agent for Customer Service.**



Vodafone transforms customer care with TOBi, a virtual assistant built on Azure Cognitive Services

As one of the largest telecoms across the globe, Vodafone has 300 million mobile customers across 26 countries.

The company leveraged Microsoft's Azure cognitive services to build TOBi, an AI assistant that could deliver fast, relevant, and engaging human-like customer support across languages, products, markets, and digital touchpoints (popular messaging apps, chat, or the My Vodafone app), while reducing operational costs.

Paul Jacobs, Group Head of Operations Transformation at Vodafone, said, "We used the AI and natural language processing capabilities in Azure to give TOBi a clear personality that could make conversations natural and fun, which drives better engagement. TOBi now handles 60 percent of our customer interactions."

TOBi can predict customer intent and say things like, "We think you need assistance with this, are we correct?"

As Nina Lange-Richter, Head of Digital Products and Portfolio Management at Vodafone, stated, "With TOBi, we're not simply trying to automate everything. Rather, we consider our bot part of a mature strategy for value generation and high-quality experiences for our customers."

Moreover, amidst the COVID-19 pandemic, TOBi took the burden off Vodafone's contact centers by making the same sales offers that the company's human agents made, such as add-ons and upgrades that added customer value when physical retail stores shut down during the lockdown.

Vodafone expects customer conversations on TOBi to grow to half a billion a month over the next few years. Since launching TOBi, the frequency of customer contacts to call centers has reduced by 12 percent year-over-year.

Commit to a greener telecom environment by reducing diesel wastage

Telecom operators worldwide incur very high energy costs. In emerging markets, energy (diesel costs) can account for as much as **7%** of expenditures. These costs are expected to increase many-fold with the proposed new 5G services requiring two to three times more power than its equivalent 4G site.

However, the surprising fact is that in current mobile networks, transferring data only consumes around 15% of energy. 85% is wasted due to equipment lying idle when there is no data transmission, heat loss in power amplifiers, and inefficiencies in battery units, cooling units, and rectifiers.

However, the surprising fact is that in current mobile networks, transferring data only consumes around 15% of energy. 85% is wasted due to equipment lying idle when there is no data transmission, heat loss in power amplifiers, and inefficiencies in battery units, cooling units, and rectifiers.

Deploying AI and IoT expands the energy-saving potential of the telecom sector. These powerful technologies can analyze exponential amounts of data pertaining to real-time demand, traffic patterns, and network-resource availability, allowing telecom companies to automatically put parts of the system into shut down or sleep mode when they aren't needed.

Let's look at a real-life success story

A mobile network operator saves millions of dollars with Acuvate's cutting-edge IoT solution to address diesel wastage

A mobile network operator providing telecom services and smart devices to 170+ countries had multiple towers spread across various cities racking up significant diesel expenses. The company's existing diesel generators weren't equipped to efficiently monitor diesel levels, causing pilferage and wastage.

What the client wanted?

- Active monitoring of diesel levels and reserve thresholds
- Tracking the intermittent opening of lids for unscheduled restocking
- Insights into efficient-usage and pilferage-proof functioning

Acuvate executed a top-of-the-class IoT solution and placed smart sensors (level, temperature, and vibration sensors) to make the generators more intuitive. The sensors provided a robust tracking of diesel levels, including when the generator is being refilled, how much is being used during power failure, when the generators have reached reserve levels, and how much replenishment is needed.

Real-time data analysis also informed how the current process of monitoring generators can be made more efficient using real-time strategic interventions through the company's central command control system.

The company witnessed exceptional savings of USD 1-1.5 million by minimizing diesel pilferage across three states in the first year of implementation of the IoT solution.

Streamline operations (OSS) and business (BSS) support systems through intelligent cloud-native processes and applications

To innovate new services, increase agility in operations, and survive in a market of tougher telco regulations and increasing competition from non-traditional service providers, telecom companies must automate legacy OSS and BSS activities, simplify business workflows, and increase operational efficiencies.

Acuvate helps telecom companies leverage leading Microsoft solutions like Microsoft Azure Cloud and the Power platform to streamline operations (OSS) and business support systems (BSS) and realize the following business benefits

- Accelerated time to market
- Reduced operations costs
- A data-driven culture that uses AI, machine learning, and intelligent analytics to monitor performance, predict business outcomes, and improve decision-making with actionable, data-backed insights

Malaysian telco giant Celcom uses Microsoft Azure to accelerate time to market, control infrastructure costs, and infuse a culture of excellence in its datacenter

Celcom is a leading telecommunication network in Malaysia with more than 13 million users and 11,000 network sites. To keep pace with innovation in connected industries, drive down infrastructure costs, and accelerate time to market, the company chose to migrate to the cloud with Microsoft Azure.

The Azure FastTrack team guided the telecom giant through every stage of the migration process, and also helped establish initial governance practices, such as cost management, security baseline, resource consistency, identity baseline, and deployment automation.

Calvin Yau, IT Strategist at Celcom, stated, “We now have a 99.99 percent uptime SLA in place, that gives us a sense of certainty.”

Additionally, Celcom has gained potential cost savings from on-premises infrastructure, and the agility needed to be future-ready. As Alan David Wilson, Head of IT Strategy & Architecture at Celcom, stated, “We are able to set up additional Disaster Recovery (DR) to safeguard some of the legacy systems that didn’t really have DR before, so we got business continuity out of it.”

Celcom looked at the Azure IoT hub to connect, monitor, and manage billions of IoT assets. Machine learning is also something the company explored to include anomaly detection capabilities in applications. They also use image processing algorithms to identify, caption, and modernize media archives.

About Acuvate

Acuvate Software is a global player in next-generation digital services and consulting with 15+ years of experience improving business efficiencies and generating new revenue for numerous telecom enterprises worldwide.

We leverage new age AI, IoT, cloud computing, and advanced analytics technologies to build enterprise apps and solutions that support and redefine collaboration, intelligent analysis, and orchestration of information in the telecom industry.

www.acuvate.com info@acuvate.com