Tech insights

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Time to accelerate Network Slicing monetization

5G network slicing adoption in the Middle East and Africa

With advanced technologies gaining ground across large scale industries, the demand for communication services with service characteristics such as traffic isolation, high degree of customization, and wide area coverage with low costs have been prioritized on Communication Service Providers' agenda.

In this paper, we aim to focus on network slicing technology and how it is rapidly emerging as a differentiator between common public networks that are "good enough" but just cannot meet the growing technology demands, and high-end and specialized private networks, which require higher investments and equipment on site.

5G network slicing adoption in the Middle East and Africa

Technological advances across large industries are increasing the demand for high-performance, flexible communications services.

Network slicing is emerging as a critical instrument to address the service gap between "good enough" public networks that cannot meet these demands and specialized private networks, which require a higher investment and equipment on-premises. We now see a clear business potential for network slicing of USD200 billion in 2030 with a strong compound annual growth rate (CAGR) globally [Source: Network slicing: A go-to-market guide to capture the high revenue potential Based on a study with Ericsson and Arthur D. Little].

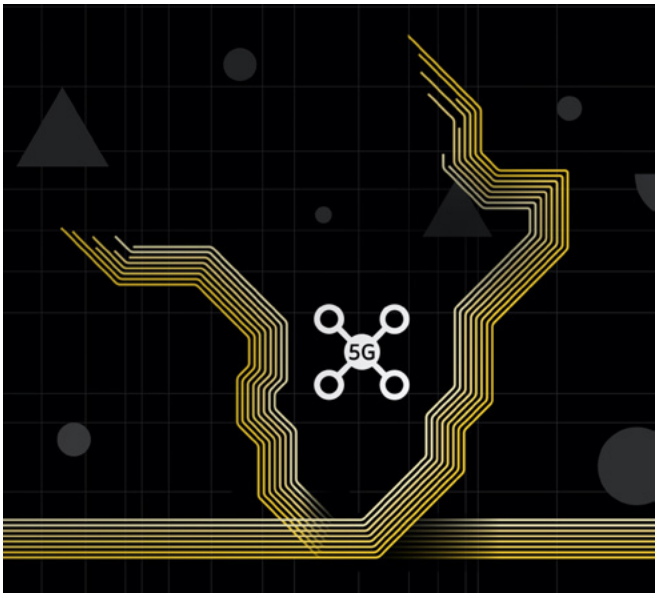
Communication Service Providers (CSPs) in the Middle East and Africa have been some of the fastest globally to roll out commercial 5G networks. The current adoption trends in the Middle East and Africa are very encouraging. The regulatory authorities in the Middle East and Africa, CSPs, and technology providers are building a strong ecosystem to further develop the 5G infrastructure and deploy use cases supporting various industries.

5G continues to be a priority for the region, given the massive economic potential it brings to the table. The adoption of 5G virtual networks has quickly picked up pace in the region and is no longer in its infancy. Today, CSPs are planning to offer 5G ultra-reliable low latency communications services, enabling industry use cases, such as virtual reality/augmented reality-enabled inspection and automation intelligence (AI)-supported video surveillance.

One of the current market trends focus on utilizing cellular technology in the oil and gas industry, by deploying an industry 5G virtual network with key technologies such as end-to-end 5G slicing, multi-access edge computing, and massive IoT. These technologies enable use cases such as 3D augmented reality and remote collaboration, smart video surveillance, intelligent security management, machine vision, drone, and robot applications – all of which are driving factors toward digitalizing the oil and gas industry.

We have also seen some developments in the utilities industry where industrial private 5G slicing through 5G stand-alone (SA) technology is being explored to enhance efficiency through a dedicated and secured network.

While there are significant economic benefits offered through these use cases, there are more areas to look into and explore based on the local market dynamics.



Where does network slicing fit?

Network slicing opens up new business models as the network becomes a platform for other businesses. This will result in new partnerships and go-to-market models.

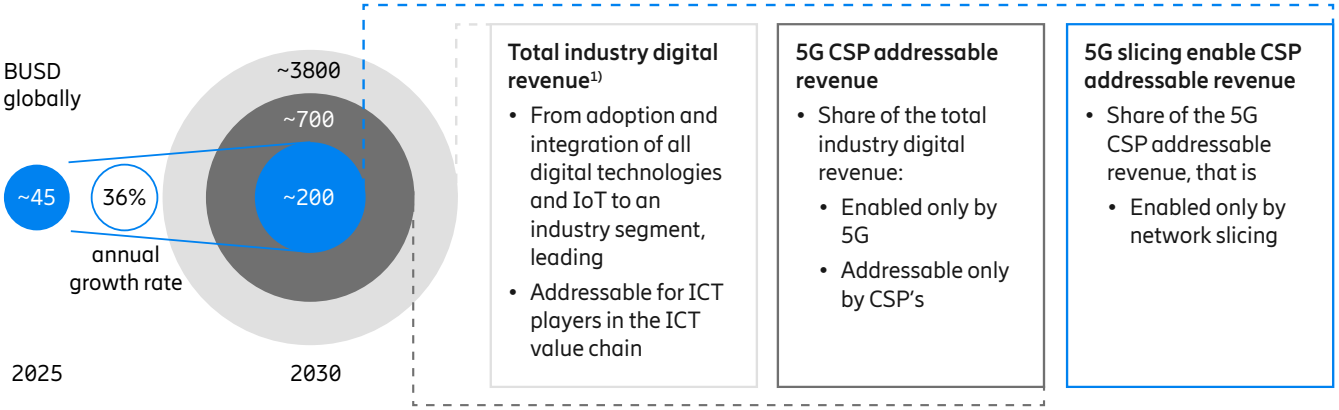
Industrial digital revenues offer growth opportunities for CSPs. The current CSP business will have a 0.75% CAGR, compared to 12% for digital industrial (Source: ADL). Looking at the total digitalization revenues, mobile enabled revenues will also grow faster with a 20% CAGR compared to 9% for the total. Cellular connectivity becomes increasingly relevant for industries with the growth of IoT and connected objects.

Arthur D. Little (ADL) estimated the total digital revenue potential for industries and allocated that revenue across industry segments. It comes to about USD 3.8 trillion for the total revenue potential for all information and communications technologies (ICT) companies for the adoption and integration of digital technologies to enable new digital use cases. ADL then isolated the mobile-enabled revenue from a 2030 perspective, which is essentially 5G-enabled revenue for three categories:

- 5G Created: 5G is required for deployment
- 5G Enhanced: 5G is preferred, but not required
- 5G Independent: 5G is one of many possible solutions for connectivity

ADL analyzed more than 400 5G use cases, which generated a USD 1.490 billion digital revenue potential, roughly 40% of the total revenue. From there, ADL isolated slicing-enabled revenue from mobile- enabled revenue, which is roughly USD 510 billion, or 30% of the mobile-enabled revenue. The subset of slicing-enabled revenue that CSPs can address comes to roughly USD 200 billion. In 2025, the same figure is estimated to be 45 BUSD, which implies an annual growth rate of 36% for slicing-enabled use cases addressable by CSPs. Network slicing will power roughly 30% of 5G revenues for the CSPs.

USD 200 Bn slicing enabled revenue by 2030



Note: 1) Include revenues from B2B, B2B2x, B2G
Based on Ericsson and Arthur D. Little macro study on network slicing 2021

Defining a winning network slicing strategy

As an emerging service, there are some challenges to adopting the best network slicing strategy for the CSPs, including implementing new sales and service deployment processes.

Network slicing offerings cannot easily be categorized into tiers or buckets and it is important to acquire specific knowledge of the vertical in order to be successful. This reinforces the need for CSPs to have an enterprise market strategy in place, because the choice of industry segments to target will determine the types of use cases that should be supported. It will, in turn, determine the technical capability and deployment journey for the CSP.

The focus in the telecommunications industry is shifting from demonstrating technology proof points on network slicing, to what the business strategy should be. It is time to build both commercial and technical capabilities for different segments.

A successful journey relies on a solid slicing strategy as the foundation, yet there are various strategic questions that should be addressed such as:

1. Which verticals and use cases should be considered according to CSPs' overall strategic objectives?
2. Which pricing strategy, cost allocation, and go-to-market should be adopted over time?
3. What can be built organically versus through partnerships?

Each industry use case will have a unique ecosystem that contains a variety of different players, each of which plays a role within the value chain. The slicing journey for a CSP starts by determining the role they can play within the ecosystem and identifying partners for whom network slicing will add value. The next step is to determine end-customer demand for the use case. This involves early slicing trials, tests, and pilots while assessing the regulatory environment. Slice-based services will typically require new pricing models based on value and technical capabilities that need to be built on the foundation of NFVI(Network functions virtualization infrastructure) and VNFs(Virtual network function)/ CNFs(Cloud native network function), such as 5G Core and network resource management. The deployment of network slices is a journey over several years and the buildup will take place in a few waves.

The first step is network slice management and orchestration, then comes the management of services, revenue, customer, and partners as well as resources. Last but not least, market storefront, customer channel and journey, sales and marketing need to be addressed.

Done right, slicing can drive CSP top line in three dimensions

CSPs will play different roles in relation to the end-customer depending on the domains where network slicing is being commercially deployed.

Today, what we see most commonly, is the commercial implementation of slicing in the business to consumer (B2C) model.

In the B2C domain, the CSP charges a premium directly to the consumer for higher quality or dedicated access to content that is delivered by slicing. For example, when a customer buys access to a low latency mobile gaming slice or buys an FWA service . Here, the CSP is **the connectivity provider**, with some additional complexity. Once the customer gets over playing a mobile game, he or she terminates the usage slice and returns to the normal package.

In the business to business or government (B2B/B2G) model, the "slice buyer" is the end customer, typically a government entity or business that uses the slice to realize a use case for internal operations. Here the CSP is **the service enabler** and charge the end-customer based on the services. With these models, the complexity is gradually increasing.

In business to business to business (B2B2(B2)X), the CSP is selling the service in collaboration with a partner. The chain could be long with the second customer selling slice-enabled services to yet another entity. Here the CSP is a **service creator**, offering a new vertical of services in collaboration with partners for its end-consumer. This is the most complex role for a CSP from a business modeling and go-to-market perspective.

It is worth clarifying that a CSP can take any of the three roles in all B2X models and that all roles and models can be applied in parallel, depending on customer segments and use cases.

B2C

Customer buys access to low latency mobile gaming on their device

B2B/B2G

A manufacturer buys a service that is based on a network slice to realize a robotics use case on a production line

B2B2(B2)X

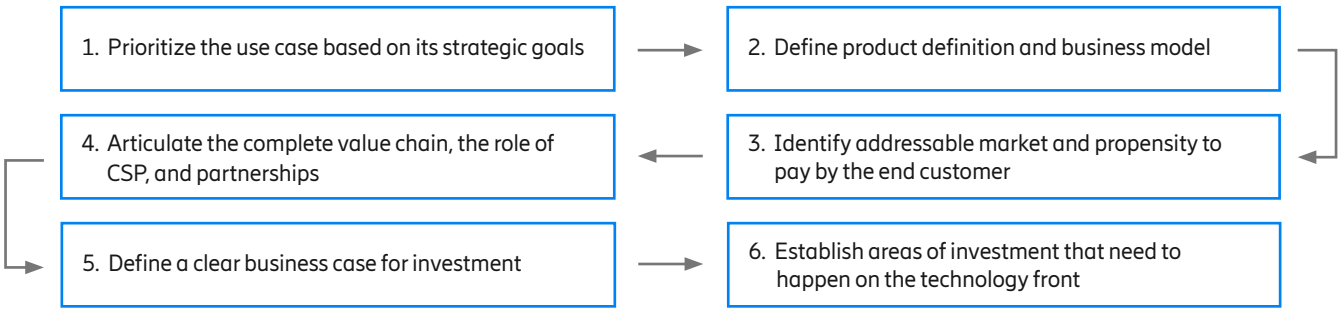
CSP collaborating with cloud gaming vendor to launch cloud gaming services for its end consumers

The network slicing deployment journey

Where to start, how to monetize, and which operating model to adopt are the key questions for CSPs to address.

Once CSPs have identified one or more use cases with requirements that a simple, fairly static slice can satisfy, the organization must identify ecosystem partners and a go-to-market strategy, and then learn as they grow.

It is important to adopt a plan that works for their ecosystem considering their competitive landscape. To support CSPs in the Middle East and Africa to accelerate their network slicing journey and address their challenges, Ericsson is offering a dedicated program enabling CSPs to:



If you need more information about network slicing or Ericsson's offering, please fill your details here and we will connect with you.

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Taranjeet Singh is the 5G ecosystem builder for the market area Middle East & Africa at Ericsson. Taranjeet is a seasoned professional with 20+ years of technical, managerial, and executive experience within telco, ICT, and wireless industries in the Middle East, Europe & Asia.

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