

# 5G Monetization

## Use cases and its Need

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### Section A Introduction

The fifth generation of wireless data networks is here. It's expected to see faster adoption than 4G and exceed 3.5 billion 5G subscriptions worldwide by 2026. Global GDP growth, enabled by 5G, is expected to rise by 5.3% by 2035, estimated at a contribution of \$2.1trillion in GDP. Monetization solutions for the 5G era enable new business models and opportunities for telecoms, with the promise of increased data rates, ultra-reliable low latency, security mechanisms, and increased availability. From state-of-the-art smart city services, industrial automation, AR/VR solutions, connected vehicles, infinite possibilities lie ahead with the adoption and deployment of 5G networks.

### Section B Market Status Growth & Trends

- 1-Millisecond Ultra-low Latency
- QoS (Quality of Service) Guaranteed
- Reachability of Connected Devices
- Massive IoT
- Data Throughput
- Data Security Solutions
- Energy-Efficient Mechanism
- Robust Mobility

### Section C 5G Technologies

#### Virtualization

5G network technology takes advantage of Network Functions Virtualization (NFV) principles which leverage IT virtualization technologies to deliver communication services. It will provide a cost-effective and accelerated network deployment which will help operators in auto-scaling and fault detection.



#### Network Slicing

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#### Microservices

Applications comprise multiple smaller, streamlined, and independent components optimized for carrying out specific tasks that allow super-low latency on 5G networks.



### Section D Challenges of 5G Networks

Capital Investment	Adaptability	Monetization Opportunities
Gartner predicts that worldwide 5G network infrastructure revenue will grow by 39% in 2021, to a total sum of \$19.1 billion, increasing from \$13.7 billion in 2020.	According to a report by Gartner, 35% of roles in operators will be either new or redesigned.	By 2023, only 1% of CSPs will entail revenue from 5G services.

### Section E 5G Monetization

#### (A) Potential Business Sectors

B2B	B2B2X	B2C
AR, VR, eHealth, Vehicle-to-Vehicle Communications	Smart Cities, Optimized Network as a service (NaaS), Edge Computing	Media & Entertainment, Security, Network Slicing, Connectivity

#### (B) Business Models

B2B	B2B2X	B2C
<ol style="list-style-type: none"> <li>A significant push to Industry 4.0</li> <li>Greater connectivity and eSIM management</li> <li>Enhanced security</li> <li>Intelligence and automation</li> <li><b>Benefits</b> - Added substantial value to industries</li> <li><b>Monetization Model</b> - Network as a service (NaaS), Virtual Network Functions (VNFs), Services, Partners</li> </ol>	<ol style="list-style-type: none"> <li>Takes advantage of network slicing to customize and monetize network as a Service (NaaS)</li> <li>Emerging wholesale prospective</li> <li>Quality-based monetization</li> <li><b>Benefits</b> - Bring out value from the Digital Ecosystem</li> <li><b>Monetization Model</b> - Network showcase, network slicing, Application Programming Interface (APIs), Edge computing and hosting</li> </ol>	<ol style="list-style-type: none"> <li>Fixed Wireless Access will invite new opportunities</li> <li>The substantial growth of partner services</li> <li>Application-based monetization</li> <li>Quality of Service (QoS) based data tariffs</li> <li><b>Benefits</b> - Services and connectivity delimitation</li> <li><b>Monetization Model</b> - QoS based segments, content, and media, subscription-based services, partners &amp; associates</li> </ol>

#### (C) Monetization Needs

IT	Network as a Services	Automate Network Complexity
<ol style="list-style-type: none"> <li>B2B/IoT Portal</li> <li>Customer Supervision</li> <li>Billing</li> <li>Partner Settlements</li> </ol>	<ol style="list-style-type: none"> <li>Service model definition</li> <li>Fulfill service intent</li> <li>Sense intent issues</li> <li>Implementing better policies</li> <li>Autonomous driveability</li> </ol>	<ol style="list-style-type: none"> <li>Mobile broadband slice</li> <li>Massive IoT slice</li> <li>Mission critical IoT slice</li> <li>Other slices</li> </ol>

### Section F Pillars of Customer-Centric Monetization

- 01 Omnichannel
- 02 Contextual customer engagement
- 03 Revenue management
- 04 Converged charging
- 05 Policy control
- 06 Service Fulfilment
- 07 Partner-supported services
- 08 Data-driven

### Section G 5G-Enabled B2B Opportunity for CSPs in 2030

<b>Agriculture</b>	<b>Retail</b>	<b>Healthcare</b>	<b>Public Transport</b>	<b>Financial Services</b>
<b>+85%</b>	<b>+76%</b>	<b>+75%</b>	<b>+65%</b>	<b>+76%</b>
<b>Media &amp; Entertainment</b>	<b>Manufacturing</b>	<b>Public Safety</b>	<b>Automotive</b>	<b>Energy &amp; Utilities</b>
<b>+86%</b>	<b>+76%</b>	<b>+78%</b>	<b>+71%</b>	<b>+67%</b>

### Section H 5G Monetization Use Cases

#### Fixed Wireless Access (FWA)

5G will enable customers & businesses with ultrafast/data transfer speeds for HD gaming, 4K video streaming, distant learning, network reliability, etc.

By 2026, FWA is expected to account for 25% of total data traffic and exceed 180 million connections globally.

Latency has substantially reduced to 4 milliseconds due to 5G compared to 4G's 30 milliseconds.

#### Refined Mobile Broadband

Apart from lower latency and better performance, 5G will also allow a far higher number of devices to connect to the network than its predecessors simultaneously.

By 2035, 5G will produce \$13.2 trillion of global economic output. According to a report by GSMA, 69% of Communication and Service Providers (CSPs) believe that enterprise revenue is the most crucial source of the growth of 5G.

Embraces multiple business partners on a single platform, allowing CSPs to easily control and monetize B2B2X, B2B, IoT marketplace, B2C, and wholesale 5G use cases with an ecosystem of partners.

#### Massive IoT

In the 5G world, Massive IoT supports applications with many endpoints that continuously serve little bits of data, mostly infrequently and to remote locations.

Enable seamless connectivity for billions of IoT devices and applications, including connected vehicles, smart energy, and smart cities.

Use cases include time-critical measuring sensors in homes and enterprises or a simple on/off application for one or a series of smart devices.

According to Cisco forecast, there will be 14.6 billion machine-to-machine IoT connections by 2022.

#### Drones

Future uses include 5G drones for emergency response systems, public health, retail, film, construction, delivery, and farming.

Drones have revolutionized business operations from monitoring infrastructure, perimeter surveillance, aerial recording sports events, and transporting packages. Autonomous 5G drones will deliver live broadcasting with low latency and high performance and improve its security and safety operations.

#### Healthcare

5G will power new and improved assistive technology & wearables to help prevent/treat illnesses, develop preventative healthcare systems, and give access to health services.

It will enable wider adoption of telecare & telehealth technologies in different communities.

5G will facilitate high-definition consultations and remote monitoring.

During COVID-19 lockdowns, patients can connect with their healthcare providers more easily with 5G.

#### Agriculture/Farming

Wireless sensors can help farmers monitor field conditions, 5G technology can make rural connectivity feasible.

Agricultural technology/smart agriculture can reduce wastage, monitor crop development and field conditions in scarce regions, automate irrigation systems, collect weather data for precise IoT solutions.

IoT devices such as sensor networks will connect/transmit current data analysis for improved farming management and productivity.

IoT connected devices in this sector will reach 225 million connections by 2024, with revenue growth at a CAGR of 22%.

### Section I - Conclusion

In the future, 5G adoption will shape the internet economy, optimize customer and enterprise experiences, power new technologies, support new business models and innovative use cases. As of early 2021, 144 operators have launched worldwide commercial 3GPP-compatible 5G in over 61 countries, and the future looks more promising while exploring its core capabilities. Being an industry-leading integrator of digital networks, STL understands that 5G monetization is critical and has drawn upon pillars for 5G monetization that will foster partnerships, enable network platforms, and customer focus. STL superset products such as dEP, PCF, Network Slicing, and CHF provide new levers of 5G Monetization to capitalize Smart Everything, IoT, IIoT, and Enterprise automation. Explore our end-to-end 5G Monetization Solutions or register to get a free assessment now.

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