csg

10 5G Use Cases to Monetise

In Asia-Pacific

Introduction

The fifth generation of cellular technology is upon us, and it ushers in a new era of unprecedented possibilities. With speeds up to 100 times faster than 4G, ultra-low latency and astonishing capacity, 5G will support a massive number of devices connecting to the network simultaneously.[1] This impressive capacity will provide the fast and reliable connections needed to support new and innovative use cases.

Asia-Pacific will lead 5G connectivity, accounting for half of global connections by 2025.[2] 24 operators in 12 countries have already launched 5G services,[3] and operators in the region will spend over US$330 billion in capex by 2025.[4] However, to get a return on their 5G investments, CSPs will need to think creatively, as there is not one surefire use case.

Today, CSPs in Asia-Pacific are trialing different use cases, and the future looks full of even more opportunity. In this eBook, we'll take a look at a variety of 5G use cases, both current and future, and what CSPs need to effectively monetise 5G.

IN EARLY 2020,

24 OPERATORS IN 12 COUNTRIES

IN ASIA-PACIFIC HAD ALREADY LAUNCHED 5G SERVICES.[3]

[1] "4G vs. 5G: The key differences between the cellular network generations," Business Insider

[2] "Why Asia-Pacific Remains Ahead of Europe in the Race of 5G Deployment," Frost & Sullivan

[3] "Why Asia-Pacific Remains Ahead of Europe in the Race of 5G Deployment," Frost & Sullivan

[4] "The Mobile Economy Asia Pacific," GSMA

USE CASE #1

Fixed Wireless Access

5G fixed wireless access (FWA) offers consumers and businesses remarkable speeds while creating an alternative to traditional internet offerings. With FWA, users can self-install an antenna that creates a connection with a nearby 5G tower. Once the antenna has been installed, individuals and businesses can enjoy lightning-fast 5G speeds that rival fixed broadband.[5]

FWA could be critical in bridging the digital divide. For example, in Australia, 2.5 million citizens don't have access to an internet connection.[6] In developing countries, the divide is even greater, with fewer than 20 percent of people having access.[7] FWA is currently picking up steam, and one estimate predicts that it will account for more than 180 million connections and 25 percent of total mobile data traffic worldwide by 2026.[8]

[5] "5G: Technology That Will Release Full Potential of FWA," Broadband Communities

[6] "'Digital divide': 2.5 million Australians with no internet connection," The Sydney Morning Herald

[7] "Coronavirus has exposed the digital divide like never before," World Economic Forum

[8] "Marek's Take: Is fixed wireless the answer to bridging the digital divide?" Fierce Wireless

USE CASE #2

Drones

While not yet ubiquitous in everyday life, drones are used across many verticals, including film, construction, delivery and farming. Drones give users a birds-eye view of locations and can enter hard-to-reach areas that humans can't.

In 2020, Singaporean regulators and government organizations partnered with operator M1 on 5G drone trials in coastal areas.[9] While the drones will initially support maritime use cases, the goal is to deploy them in urban areas in the future.

[9] "Singapore plans SA 5G drone trials," Mobile World Live

USE CASE #3

Augmented Reality (AR)

Apps like Pokémon Go popularised the use of augmented reality, and 5G will be instrumental in unleashing the full potential of AR. In the past, the technology was significantly held back by a lack of bandwidth, resulting in frustrating lags. 5G's low latency and capacity will allow users to interact with digital environments in real time.

5G is currently supporting a variety of AR applications, such as gaming, museum tours and sporting events. In South Korea, LG Uplus Corp. launched a set of 5G-based augmented reality glasses, where users can watch celebrity performances that appear life-size.[10]

[10] "World's 1st 5G augmented reality glasses to arrive in South Korea for $590," Business Standard

USE CASE #4

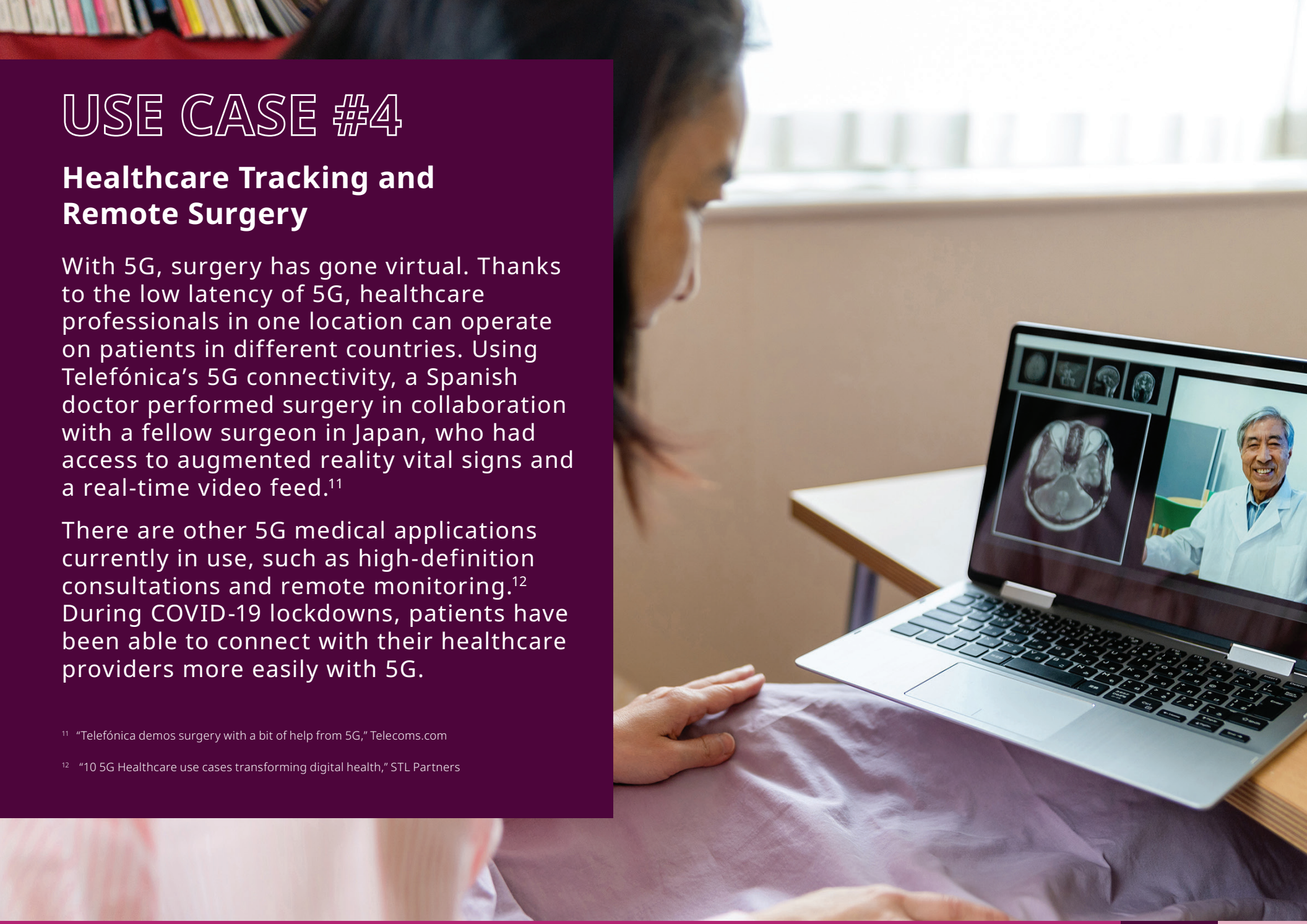
Healthcare Tracking and Remote Surgery

With 5G, surgery has gone virtual. Thanks to the low latency of 5G, healthcare professionals in one location can operate on patients in different countries. Using Telefónica's 5G connectivity, a Spanish doctor performed surgery in collaboration with a fellow surgeon in Japan, who had access to augmented reality vital signs and a real-time video feed.[11]

There are other 5G medical applications currently in use, such as high-definition consultations and remote monitoring.[12] During COVID-19 lockdowns, patients have been able to connect with their healthcare providers more easily with 5G.

[11] "Telefónica demos surgery with a bit of help from 5G," Telecoms.com

[12] "10 5G Healthcare use cases transforming digital health," STL Partners



USE CASE #5

5G Mobile Phones

To take advantage of the speed of the 5G network on a mobile, a 5G phone is required. While initial adoption was slow, 5G phones are rapidly becoming commonplace. Major providers like Apple and Samsung already offer 5G phones. In China, 5G smartphone sales accounted for the majority of all smartphone sales there in 2020.[13]

Gartner believes that sales of 5G smartphones will reach 539 million units in 2021, which will account for 35 percent of all smartphone sales.[14] As more consumers become aware of the promise of a 5G phone, such as a "5G fast lane" at crowded events, we will see widespread adoption.

[13] "China Smartphone Market Share: By Quarter," Counterpoint Research

[14] "Gartner Says Worldwide Smartphone Sales to Grow 11% in 2021," Gartner

USE CASE #6

Connected Cars

5G is driving a paradigm shift in the automotive industry. One firm estimates that 41 million 5G-connected cars will be on the road by 2030, and 83 million by 2035. General Motors plans to launch vehicles with 5G connectivity in China in 2022, and Ford has an eye on the Chinese auto market as well.[16]

The applications of 5G in connected cars are boundless, from safety to entertainment to pollution reduction. The cellular vehicle-to-everything (C-V2X) market will enable the exchange of information between infrastructure, traffic signs, pedestrians, cyclists and other vehicles.

[16] "Ford CTO hypes 5G in autonomous vehicle future," Light Reading

USE CASE #7

Factories

The modern factory is much more connected and complicated than you may imagine. Massive, advanced machines are equipped with different sensors that are connected to cloud-run analytics operations. Currently, many of these machines require wired connectivity or less-reliable Wi-Fi connections.[17]

5G-enabled sensors will shed this dependency and unleash the potential of a connected, intelligent factory. Further, 5G can enable "humanoid" robots that can replace humans in a dangerous factory setting.[18] In Japan, Fujitsu launched a private 5G network at a factory in Oyama to power use cases like field automation and remote support.[19]

[17] "Smart Manufacturing Powered by 5G," PWC

[18] "These Factory Robots May Point the Way to 5G's Future," Wired

[19] "Fujitsu Launches Private 5G Network to Realize 'Smart Factory' at its Oyama Plant," Fujitsu

USE CASE #8

Smart Cities

Smart cities have the potential to fundamentally improve and change the way human beings live—and make the Jetsons more closely resemble the Flintstones in the process. With the power to process massive amounts of data in real-time, 5G will be crucial in the enablement of smart cities.

5G-enabled smart cities will allow governments to better understand and serve their communities. One application that every motorist will appreciate is the deployment of adaptive traffic signals, which will substantially reduce traffic congestion. Even though real-time traffic monitoring is severely underutilized today, a recent trial in South Korea showed the technology to be 94 percent accurate.[20] From energy and utilities to transportation and safety, smart cities can pave the way for a more sustainable and efficient future.

[20] "A Look at Solutions for Smart City Traffic Infrastructure," Smart City Hub

USE CASE #9

Agriculture/Farming

Like smart factories, connected machines can be used to great effect in farming. As many farms are in rural areas, connectivity can be difficult and expensive, so 5G technology can make rural connectivity feasible.

Wireless sensors can help farmers monitor field conditions, which should result in better crop yields. With the global population rising, connected agriculture can also help fill the gap in food disparities by enabling more predictable agricultural yields. Pāmu, one of New Zealand's biggest farmers, is "working with Vodafone to improve processes using 5G."[21]

[21] "How much will 5G transform New Zealand business, really?" The Spinoff

USE CASE #10

Autonomous Cars

Think of it—you're watching your favorite show, sitting comfortably with your feet on the dash while you're driving solo to work. What was once thought to be pure science fiction is fast becoming a reality. The low latency and high speeds of 5G will be one of the technologies key to supporting a network of self-driving vehicles, with steering and navigation responding in a matter of milliseconds. There are multiple benefits of 5G for autonomous driving, such as network slicing and 'edge' data centers.[22]

Telstra has deployed an industry-leading suite of managed IoT connected car solutions across Asia-Pacific, with CSG providing billing and provisioning capabilities.[23] Telstra's IoT connectivity management platform provides the framework for the connected car, with solutions to onboard, rate and provide billing to Telstra's customers based on the services utilized.

[22] "5G network as foundation for autonomous driving," Deutsche Telekom

[23] "CSG Supports Telstra Connected Car Solutions Across Asia-Pacific," Business Wire

How to Monetise 5G

Operators have made enormous investments into 5G and are ready to see a return on their investment. 5G network usage needs to be rated and charged in near-real time, at massive scale without substantially increasing costs.

Operators will need to modernise their technology stacks to meet the needs of 5G and the expanding ecosystem needed to deliver innovative use cases to the market. CSPs will need new charging and mediation components for 5G—a charging function (CHF) and a convergent charging system (CCS).

To manage the rapid growth in third-party offerings, CSPs will need to invest in zero-touch partner onboarding, catalogue management and settlement solutions. The ideal solution for monetising 5G will be cloud-first, based on proven and market-leading technology, showcase proven scalability and be deployed and certified in virtualised environments.

While the 5G era has already begun, it's clear the best is yet to come. The fifth generation of cellular technology will fundamentally modernise the way many industries operate today, creating a massive opportunity for operators. The right monetisation solution will ensure that CSPs realise the potential of their 5G investments.

About CSG

CSG empowers companies to build unforgettable experiences, making it easier for people and businesses to connect with, use and pay for the services they value most. Our customer experience, billing and payments solutions help companies of any size make money and make a difference. With our SaaS solutions, company leaders can take control of their future, and tap into guidance along the way from our more than 5k-strong experienced global team.

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