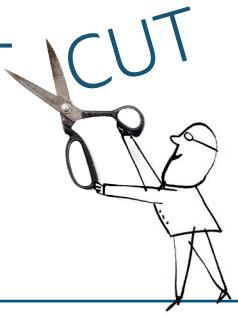
SHORT CUT



goetzpartners

STRATEGY I M&A I TRANSFORMATION

FROM SUPPLIER TO STAKEHOLDER:

Monetizing high investments for 5G

5G is almost upon us. Like previous generational changes to telecoms networks, it will bring more mobile data, travelling faster. But more importantly, an abundance of new and improved services. The breadth and potential of these services is almost unlimited and will impact every sector.

Possible applications range from live VR news broadcasts in the media sector, to remote surgery in medicine, to educators being able to create virtual classrooms in remote areas. Ultra-reliable communication based on low latency will also propel the automotive industry, enabling self-driving cars and public transport vehicles.

Meeting the challenge

The challenge for the telecoms industry is monetizing this 5G opportunity. Despite accelerating levels of demand for data, and the many opportunities for new and innovative services, that these will bring significant commercial benefit to operators is far from a certainty.

Existing commercial conditions are tough for operators: markets are saturated and highly competitive; and OTT providers have been busy creating freemium alternatives to existing operator services. This has made customers intolerant of charged services from telecoms providers, and more than happy to switch to the many alternatives they now have. Meanwhile, existing services for data have become commodified and indistinguishable.

Evolving telecoms infrastructure to meet 5G requirements will also require considerable capital investment, up to several trillions USD. Not least, the number of base stations will need to increase considerably, since, despite all its advantages, 5G signals have a much shorter reception range than 4G. In urban areas, the requirement may be as much as 500 times the existing provision.

Together, these challenges mean that successfully creating and selling 5G services is a critical development for operators. This goes far beyond creating the conditions in which 5G signals can be sent and received which, on their own, might only provide slender revenues. Rather, it means securing a fundamental position in the resulting ecosystem of services. These will require new business models beyond those currently employed by more traditional operators.

New business: new models

The business application layer – where new services, currently in their infancy, are surfaced to their users – is only one part of the story, though an extremely important one: this is where most customers will be spending money. That projected spend will justify the investment required to power the development of everything required for 5G to exist. The second layer is beneath the surface, where operators and other MNOs will create the business enablement layer of libraries of network functions and APIs, which can be selected to provide specific service elements for different applications. Beneath that is the physical infrastructure of the network – the base stations, servers, fibre-optic cables, access nodes and customer-premises equipment.

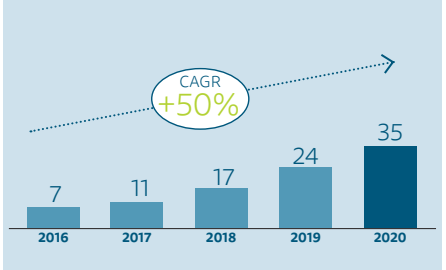
> *If operators position themselves as among the providers and enablers of these advanced new services, then there is enormous potential for growth.*

DR. ALEXANDER HENSCHEL
Managing Director, goetzpartners

ACCELERATING DEMAND FOR DATA

Overall monthly data traffic is expected to reach 35 exabytes in 2020: 7 times current volumes

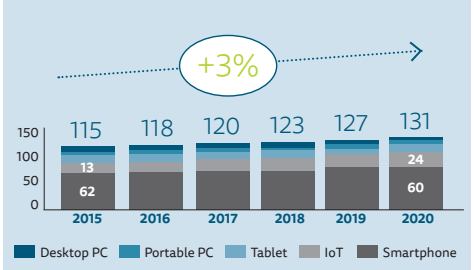
GLOBAL MOBILE DATA TRAFFIC, EXABYTES PER MONTH FOR 2016-2020[1)]



1) Cisco VNI Mobile, 2017

Meanwhile, IoT devices will become the second largest type of connected device, after smartphones

GLOBAL DEVICES AND CONNECTIONS GROWTH, BLN[2)]



2) IDC, March 2015

There are opportunities for operators in each of these layers: infrastructure, business enablement and specific applications. But it will require a different mind-set for those operators currently focused on monthly tariffs and simply providing infrastructure to serve those tariffs. If operators think of themselves as utilities, then that is what they will become. If they instead position themselves as among the providers and enablers of these advanced new services, then there is enormous potential for growth.

So, what needs to happen?

While 5G is still in its infancy, telecoms providers need to prepare and reshape themselves to monetise the opportunities it presents: through technical changes, through innovation and through relationships.

- **Preparing the infrastructure:** telecoms providers should already be making the switch to virtualised networks, powered by SDN and NFV[1]. This not only allows tailored services for current enterprise customers, but also prepares for the creation of future new services for bespoke 5G applications.

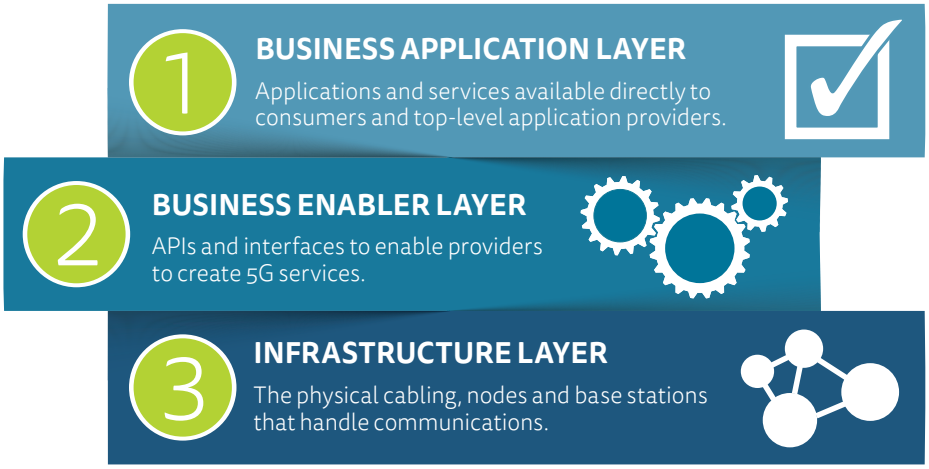
- **Enabling innovation:** they should already be developing open innovation platforms to allow partners and enterprise customers to access the specific network functions required for their applications. This can't wait: the leaders in next-generation communications applications are already at work, creating applications using existing and transitional, 4.5G technology that they'll hope to rapidly scale to 5G. This means Telco Operators have to move up from the infrastructure layer to the business application layer and strengthen their position and capabilities in this area.

- **Partnering for success:** they need to focus on establishing the partnerships that will bring these services to life. An example already in the field is SK Telecom, which is currently working with Ericsson as technology supplier and BMW to create a 5G connected car. SK Telecom worked with Ericsson to create a 5G network at BMW's driving facility in South Korea to allow the vehicle to be tested, allowing high-speed connections up to 170 km/h. These close, co-operative ecosystems between operators, technology providers and specific verticals will be the key to developing 5G services in which operators are an active partner, rather than simply the supplier of a data pipe.

From a business model perspective, this means Telco operators have to change their business model – currently mainly built on monthly fixed fees for using infrastructure and providing connectivity for end consumers – to business models based on revenue shares from partnerships with other companies, providing smart services to end consumers on the 5G infrastructure of the Telco Operator. It's a very important priority: consumers will become increasingly unwilling to pay for pure infrastructure services in the near future.

THREE LEVELS OF OPPORTUNITY

Historically, operators have largely concerned themselves with the lowest layer, infrastructure. However, realising the commercial promise of 5G will require them to move into the middle layer of application enablement, and into the top layer: fully fledged 5G services of their own.



KEY ATTRIBUTES OF 5G NETWORKS

HIGH DATA SPEEDS

Data speeds between 10-20 times existing bandwidth will be unleashed using connections in the higher frequency spectrum. This not only feeds our desire for ever richer media and communications, but unlocks radical new service opportunities in multiple sectors.

LOW LATENCY

Use of the millimeter wave spectrum and distributed networks will considerably reduce the latency of mobile data transmissions. This responsiveness is vital to the success of connected and autonomous car developments and other real-time applications.

MASSIVE CONNECTIVITY

The number of connected devices will accelerate sharply as IoT becomes increasingly cost-effective and innovative new use cases for connected devices emerge. 5G is designed to handle the volume and density of these new connections.

MOBILITY AND SPEED

Multiple radio access technologies, alongside other technologies, will connect to ever more advanced and adaptive networks allowing fast, steady connections at speeds of up to 500km/h.

DEVICE TO DEVICE

High-data traffic can be exchanged directly between devices. In other words, our smartphones or tablets will become mini mobile base stations. Additionally, such capability in 5G can allow content to be broadcast from one to many users.

1 SDN (Software-Defined Networks) and NFV (Network Function Virtualisation) are technologies that allow network operators to replace some physical infrastructure with software. This creates more flexibility, is faster to deploy and ultimately reduces costs.