



## Request For Pricing

### QUANTIFYING THE 5G ECONOMY IN SOUTH AFRICA

**Conducting a study on the 5G Economy with a specific focus on job creation through the deployment and adoption of 5G technology**

#### About the Digital Council Africa

Digital technologies offer widespread disruption and new opportunities for rapid economic growth, innovation and job creation in Africa. The Digital Council Africa's core focus is on the deployment of telecommunications infrastructure and [partnering with industry stakeholders in the networking and connectivity space](#).

In addition, we support government with issues such as policy and regulatory inputs and best practice and apply creative thinking to ways in which Africa can deploy connectivity technologies and applications best suited to the continent of Africa.

We encourage dialogue between government and private sector from a podium that is independent and product agnostic. We do not subscribe to any set of products and will often engage with our international counterparts for advice on policy and regulation and rely on international best practice.

Since 2017 Digital Council Africa has been undertaking annual market research to track telecommunications deployment developments within selected countries on the continent and gauge year on year growth to understand digital infrastructure developments.

The outcome of this research is shared with the member organisations of Digital Council Africa and is also used by Digital Council Africa in planning its future activities. The research is furthermore shared with government organisations to track the advancement of the digital economy in Africa.

#### Preface

The potential of digital technologies to improve national economic developments, productivity of businesses across all industries, and increase quality of life [for society and human beings](#) is significant. However, the challenges of ensuring a successful deployment of future digital infrastructure are just and substantial.

The COVID-19 pandemic has demonstrated the importance of digital networks and service platforms - people have been forced to adapt to a world with increased uncertainties and risks, requiring new ways of accessing potentially life-saving services and information and providing services to society or business. Where these digital access gaps persist or have worsened, countries must work with haste to remove barriers to rapid and seamless Broadband deployment to further their digitalization goals.

## **5G in the context of more advanced economies (a US case study)**

### **Economic impact from convergence of 5G**

5G is the next generation of wireless technology. It will create 3 million jobs in the US adding \$500 billion to the US GDP. (Report by Accenture).

The US wireless industry, which generates \$475 billion in GDP, supports more than 4.7 million jobs and creates \$1 trillion in economic output.

With the rollout of 5G underway, the industry expects 5G to create 63% more jobs to build out network infrastructure across the US. It is expected that wireless providers will invest more than \$275 billion in telecommunications infrastructure in the next three years.

5G requires much denser fibre network infrastructure than 4G – and in the US more than 300,000 small cells are needed over the next four years (up to 2025). To put this in context, this equates to twice the amount of macro towers that was built in the last 30 years.

### **The study in the context of the South African economy**

It is widely accepted that the 5G economy may be a catalytic force in the economy and produce large numbers of jobs in the short, medium and long term. The initial build out of fibre infrastructure and deployment of 5G antenna is needed, but also in the medium and longer term there will be broader economic benefits from 5G which will create additional jobs as people shift to adopt the technology and apply it to digitally transform.

As of 2019, South Africa's telecom industry directly employed a total of 105,000 employees, which includes jobs supported by telecom operations as well as capital expenditures. These employees earned R 44 billion of labour income and generated R 97 billion of value added in South Africa. Telecom supplier purchases and spending by telecom and related employees additionally supported 240,000 jobs earning R 83 billion of labour income and generating R 157 billion of value added. The total economic activity of, and related to, telecom in South Africa in 2019 was an estimated 345,000 jobs earning R 127 billion of labour income and generating R 254 billion of value added.

Overall, the telecom industry is estimated to have an employment multiplier of 3.3, a value-added multiplier of 2.6, and a labour income multiplier of 2.9.

*EY report: The above analysis does not reflect the impacts of COVID-19. The time period analysed in the above is before the COVID-19 health crisis and the estimates presented do not reflect any of its potential impacts.*

## **THE STUDY**

The Digital Council Africa and its partners are looking to quantify the benefits of the telecom industry to economic development and growth, and in particular, the 5G market. Furthermore, Digital Council Africa wishes to illustrate the potential impact of the 5G economy on the wider South African economy, as well as the threats of inaction.

## **CONSIDERATIONS**

The study should consider the following:

### **Short term impact**

An MNO desiring to establish a ubiquitous 5G network must go through a capital-intensive network densification of its macro and small cell sites. This has to be done to extend and improve network coverage to facilitate higher capacity transmissions to urban, suburban, and rural areas. Furthermore, MNOs would also have to increase their investments in a mix of fixed line and wireless technologies to address the increased access and transport demands of a 5G network. In this regard, the study needs to consider short-term job impact as well as to understand immediate build-out and engineering activities which can create jobs speedily.

### **Medium Term Impact**

5G mobile networks represent the next major phase of mobile telecommunications standards beyond the current 4G Long Term Evolution (LTE) standards. 5G technology will do far more than usher in new service opportunities for mobile network operators (MNOs). In the medium term it is expected that 5G will act as a catalyst that turns mobile into a robust and pervasive platform that fosters the emergence of new business models and transforms industries and economies around the globe.

### **Long Term Impact**

By 2035, the ubiquity of 5G will result in impacts that advance beyond the capability of existing technologies, platforms, and industries, yet the proliferation of 3G and 4G mobile technology provide important analogues as the 5G economy blossoms. As large as 5G private-sector-led investment is expected to be, it is, nonetheless, additive to the infrastructure investment and R&D spending that was preceded by 3G and 4G. The prospect of 5G ubiquity is a continuum of 3G and 4G investments that emerge from technology and spectrum licensing dynamics that incentivized R&D and big economic wagers on the prospect of an increasingly wireless-reliant economy. Policies and incentives that encourage investments and the availability of risk capital, aided by strong intellectual property protections will maintain the hospitable environment that will allow the 5G economy to flourish.

### **Study objectives and scope of work**

The project objective is to illustrate how 5G network deployment is likely to impact the South African telecommunications environment and the broader economy in the country.

The specific aspects to address are:

1. Expected deployment of 5G network infrastructure by the various network operators, including but not limited to:
  - a. The total expected capital and social investment in infrastructure, services and all other associated costs in their network deployments / rollouts of 5G;
  - b. The expected timeframes for the rollout and expected phased coverage during rollout in South Africa;
  - c. Pricing and affordability: how 5G access will compare to other available mobile/ fixed broadband products;
  - d. Possible opportunities for collaboration in the sector which will enable rapid deployment of infrastructure.
  
2. Impact of 5G deployment on job creation:
  - a. direct impact;
  - b. in related industries; and
  - c. in the broader (digital) economy.
  
3. Provide further explanation on:
  - a. The types of jobs which will be created (job families, etc);
  - b. Where in the value chain the jobs will come from (i.e OEM's; Installation Repair and Maintenance (IRM) etc);
  - c. Which of these jobs could be for youth;
  - d. The key criteria required within the various roles;
  - e. What is required to enable young people entering these roles (e.g. skilling).
  
4. Impact of 5G on the digital economy as a whole and how it will contribute to the creation of the broader digital economy.
  
5. What are the enablers that 5G promise to stimulate in terms of economic growth, how it will make South Africa more competitive as a country and drive job creation?
  
6. Provide an employment readiness index on whether South Africans are prepared to capitalise on these jobs, with a special focus on youth skills.
  
7. Analysis on community access and affordability - more specifically, is the rollout of 5G expected to expedite affordable coverage and reach for currently underserved communities.

## Stakeholders

The following stakeholders need to be considered in doing the evaluation:

- a) Impact on related / auxiliary industries, such as fibre network operators (fronthaul and backhaul infrastructure) and;
- b) Mobile network operators to consider costs associated with the deployment of 5G base stations;
- c) Data centre operators.

Include expected investment going forward (drive by 5G deployment) and the amount of jobs that will be created as a result.

Provide a view of 5G deployment and its impact on the above over three phases:

- Short Term (1 – 5 Years)
- Medium Term (5 – 10 years)
- Long term (beyond 10 years).

## **Research methodology**

Companies should use a combination of quantitative and qualitative data in their findings and final report.

## **Bidding information**

Responses should include a cover letter containing the following information:

- The name of the bidder;
- Company registration number;
- Contact details;
- The bid price as stated on the form of tender;
- The number of B-BBEE points claimed by the bidder.

*\*Supporting documentation may be requested from the successful bidder*

## **Delivery schedule**

Quotations and responses should reach the Digital Council Africa by close of business 15<sup>th</sup> October 2021. Late responses will not be accepted.

**Please submit responses to Ms Hunadi Phaiphai: [Hunadi@digitalcouncil.africa](mailto:Hunadi@digitalcouncil.africa)**

*\*Contract inception is Monday 1 November 2021.*