SOUTH AFRICA in the DIGITAL AGE

4IRSA Digital Economy Summit

MEASURING SOUTH AFRICA'S READINESS TO TAKE UP NEW OPPORTUNITIES IN THE DIGITAL AGE

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Assessing South Africa's readiness for the fourth industrial revolution should be a cornerstone of the country's economic strategy. Decisions made now will determine South Africa's future economic trajectory as technology innovation increasingly shapes the opportunities and risks to the nation's shared prosperity.

However, conducting this assessment is not straightforward. Accurately measuring South Africa's readiness requires a concrete sense of what the country needs to be digitally-ready for – i.e. the big opportunities that the country could take advantage of. And the future-focused nature of emerging digital technology is such that it is easy to ignore digital opportunities that are already emerging, but are not yet scaling due to significant obstacles in infrastructure, human capital, and the policy environment.

The *South Africa in the Digital Age* (SADA) initiative addresses both of these issues by developing a readiness assessment framework that is firmly anchored on a medium-term opportunity assessment. The assessment identifies areas where South Africa already has a competitive advantage, or where there is early activity that can be leveraged, but where there are significant blockages to scale which prevent these opportunities from growing rapidly.

For example, the global business services (GBS) sector plans to create an addition 50,000 jobs by 2022 utilising improvements in ICT and new digital outsourcing models, but the sector is unable to scale significantly because of a limited skills pipeline and poor access to global markets. **What if the sector could grow its contribution to new jobs to 500,000 by 2022?** Digital platforms for low-skill services like Uber and Taxify have created additional income opportunities for their 18,000 active drivers, but the unclear regulatory and business environment for such platforms is preventing them from scaling into other sector. **What if similar platforms across multiple sectors could create income opportunities for hundreds of thousands of low-skilled South Africans?**

These are some of the key questions that need to be addressed immediately for South Africa to be ready to realise and scale the opportunities that technology innovation is bringing. With these kinds of opportunities in mind, the country needs to urgently identify what really matters for digital readiness in these cases, and identify the priorities that need to be addressed now to unlock these opportunities. The digital readiness breakaway session at the 4IRSA Digital Economy Summit will invite participants to provide input on these key questions.

Participants in the session will engage with an established readiness assessment framework, and constructively participate in the process of identifying the 2-3 urgent priorities for South Africa to be ready for opportunities in the fourth industrial revolution. Participants in the session will also be invited to become part of the SADA Digital Readiness Assessment process post the session by engaging with the initiative's online platform on the components and results of the readiness assessment framework. In so doing, participants will have an opportunity to co-create the framework for diagnosing South Africa's future digital readiness going forward.

Overview of the SADA initiative and the 4IRSA breakaway session

South Africa in the Digital Age (SADA) is an urgent, multi-sectoral, economic strategy development process to charter South African pathways for inclusive growth in the digital age. The process is a joint venture between the Gordon Institute of Business Science (GIBS), Genesis Analytics and the Pathways for Prosperity Commission on Technology and Inclusive Growth.

South Africa was presented with the opportunity to be the first country globally to pilot this process by the international Pathways for Prosperity Commission, an initiative by the Bill & Melinda Gates Foundation and the University of Oxford. In December 2018, the Commission approached South Africa to ask whether it could pilot this strategising process in South Africa as the first country globally to do so. After consultations with Trudi Makhaya, the economic adviser to the President, it was clear that this is a historic opportunity for the country to take a world-leading role in this key area.

Thus was launched the South Africa in the Digital Age (SADA) initiative to identify inclusive economic opportunities for job creation, and the enablers and actions required for these opportunities to scale significantly. It was decided to link the process to the already dynamic Public-Private Growth Initiative (PPGI) between the Presidency and the private sector. The PPGI is the primary means by which the government is turning growth proposals by the market and non-government players into policy. Guidance and assistance in this process include the DG responsible for implementing PPGI proposals, Mpumi Mpofu, as well as Mteto Nyati, who heads the ICT component of PPGI. This is the first PPGI initiative that is multi-sectoral and the first one that goes to medium-term planning rather than removal of obstacles.

As traditional work opportunities start to taper off, South Africa's ability to create new forms of work in a digital economy will determine the country's future economic trajectory. Whether and how these opportunities play out in South Africa will increasingly determine the country's collective prosperity as a nation. In addition to creating new forms of work, having these opportunities open to as many South Africans as possible will be critical to this trajectory creating inclusive outcomes.

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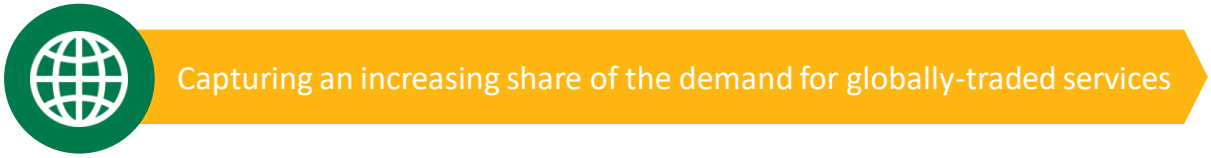
The 4IRSA breakaway session on South Africa's digital readiness invites participants to co-create a digital readiness framework for South Africa going forward. The session is designed to be a dynamic workshop in which participants can meaningfully contribute to a framework for assessing South Africa's digital readiness, and collectively identify the immediate priorities for the country's readiness. Participants will be invited to become part of the SADA digital readiness assessment community post the summit where they will be able to contribute to the measurement of South Africa's readiness for the digital age.

Digital economic opportunities

The SADA opportunity assessment provides an indication of the types of economic opportunities that South Africa may feasibly realise and scale over the next ten years. While these may not be the exact opportunities posed to South Africa over the next decade, identifying what these opportunities might look like, and the conditions required for these opportunities to scale, provides useful context to the general concept of digital readiness.

The identified opportunities were grouped into three opportunity zones to describe broad areas where opportunities are likely to arise. The opportunities zones describe a broad variety of income-generating opportunities across a number of sectors, skill levels, and educational requirements. The three opportunity zones are described below:



Improvements in ICT are allowing new kinds of work to be conducted anywhere in the world. This is opening up a new set of services that have traditionally been proximity-based, but are starting to be provided using digital, and sometimes virtual reality technology. South Africa already has a growing global business services sector, but the sector's contribution to job creation could scale significantly if South African individuals and businesses can tap into these new sources of global demand.

South Africa's BPO sector provides a good example. The sector is small but growing, and as a result has not yet specialised in the first-generation BPO services that major BPO centres like India and the Philippines have. The sector is already positioning itself as a next-generation BPO centre that provides more complex tasks than basic call centre functions, such as omnichannel customer support, customer data analytics, and a broad spectrum of specialised services in the financial, legal, HR, and medical sectors. As basic customer services tasks are being automated, these more complex tasks that are less likely to be automated (such as those requiring socio-emotional intelligence or creativity) will constitute the bulk of outsourcing demand and employment creation.

There are also new forms of BPO emerging as communication technologies get better and cheaper. Sectors where services are traditionally provided face-to-face – such as education and health care – can now tap into global sources of demand by providing services virtually. As an example, companies in South Africa have already set up BPO centres for South Africans to provide tutoring services to

Chinese students virtually through a learning platform. These types of opportunities can scale quickly as they are not constrained by local demand.

In addition to technology improvements, the rising appetite for freelance work among businesses globally has given rise to a new form of outsourcing. Companies are cutting costs by outsourcing smaller and infrequent tasks to freelancers who are not permanent employees and who provide these temporary services to multiple clients. With the rise of global freelancing platforms like Upwork and Fiverr, these freelancing services can be performed anywhere there is a good internet connection. There is an opportunity for South African freelancers to capture this new source of global demand, particularly in markets where South Africa has a language, time zone and human capital advantage.

Unlocking demand for low-skilled labour in the domestic economy

Although technology-enabled job creation is mostly associated with high-skill work, there is a real opportunity to scale low-skill domestic work opportunities through digital commerce. The rise in smartphone penetration and growth in digital commerce platforms that aggregate and match demand and supply for low-skilled labour, or sell goods online with delivery services, are creating increasing income-generating opportunities for low-skilled South Africans across a number of sectors.

Platforms that create cost and efficiency gains by removing the costs and time of finding work opportunities or service providers (such as Uber in the taxi sector) are already unlocking latent demand for low-skilled services. Uber is a good example because the platform was able to fix a number of issues with South Africa's metered taxi industry – high costs, low trust and credibility screening, and the inconvenience of finding service providers – using a smartphone app. As a result, there are more people using taxi services through platforms like Uber and Taxify than there were in the traditional metered taxi market. This unlocking of latent demand has resulted in a significant increase in the number of people earning income through taxi services in South Africa.

There are a number of other sectors where digital commerce platforms are starting to have a similar effect. In the accommodation and tourism sector, platforms like Airbnb are unlocking latent demand for accommodation services and allowing tour guides to sell their services to tourists through the platform. Local platforms Domestly and Kandua aggregate demand and supply for domestic services and household repair services respectively. As similar platforms expand in other sectors and scale, there is a large opportunity for the same efficiency and trust effects to unlock latent demand for a range of domestic and blue collar services.

In addition to these matching platforms, the rise in digital commerce generally is generating a new source of demand for low-skill delivery services. This includes the downstream logistics and transport services demanded by South African digital commerce platforms like Superbalist, Takealot, Zando and others to get their goods from warehouses to fulfilment centres, and then to their customers' doors. It also includes door-to-door delivery services in the online food market where platforms like Uber Eats, OrderIn and Mr D link available drivers to restaurant food deliveries. This rise in digital demand has a knock-on effect on the demand for low-skill delivery services which could scale significantly, providing work opportunities to a number of South Africans.

Establishing South Africa as a regional hub for frontier technology

Frontier technologies such as the internet-of-things, drones, robotics and AI are transforming the way organisations operate, interact with others, and create value. Business, government and consumer demand for these technologies is on the rise as proof-of-concepts are being translated into proven return-on-investment. The rising adoption of these frontier technologies has the potential to create additional work opportunities in a number of areas, particularly if South Africa is able to cater to both domestic and regional demand as a frontier technology hub.

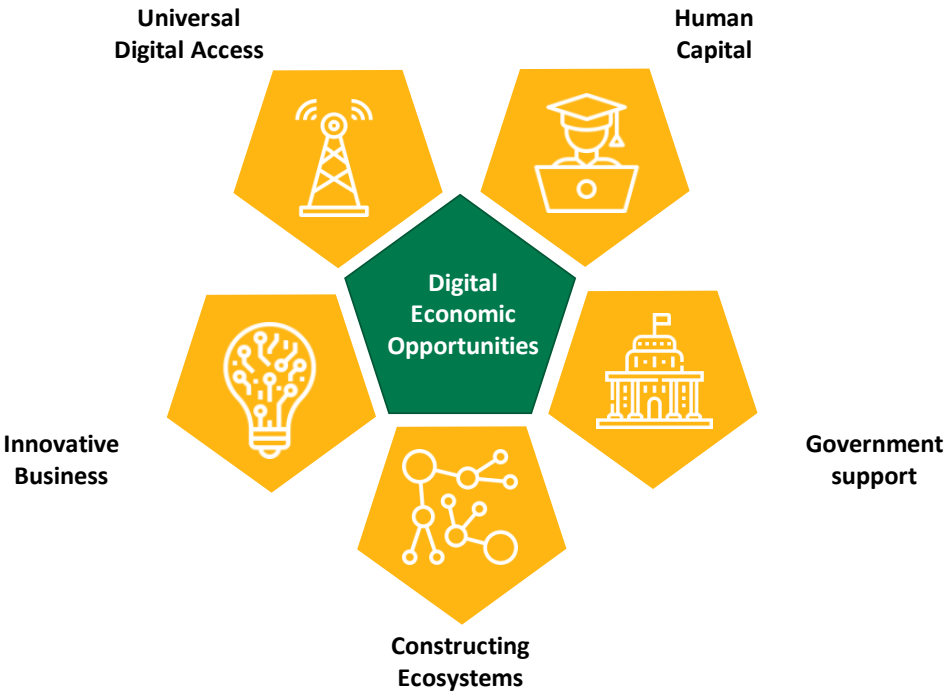
While South Africa may not become a global producer of frontier technology, there is a large opportunity for South Africa to service unmet local and regional demand for independently developed, context relevant solutions that make use of frontier technology. This includes delivering and deploying internationally developed solutions in local market contexts, enabling innovation and research to unlock local industry application of frontier technologies, and creating an attractive environment for R&D that motivates foreign firms to use South Africa as a cost-competitive platform for innovating in local and regional markets.

Playing this role would require the scaling of high-tech service jobs, with strong multipliers among a range of related tech and non-tech services. Firstly, complementary high-tech skills such as AI, data science, and software engineering are all required to develop and deploy these innovations locally. Secondly, the deployment and maintenance of frontier technology solutions will drive the demand for more common tech skills such as IT sales and support, cloud computing and information security. For each job the frontier technology industry fills, multipliers are likely in the range of 7 to 10, as each job needs to be supported by the host of complementary functions that make the development and deployment of these technologies possible.

In addition to these direct employment effects, the application of frontier technology will reshape how sectors like agriculture, mining and many others operate. This will unlock new forms of production, and subsequently new job opportunities, within these industries. Mining provides a good example of the potential trade-offs with technology adoption and employment. Although automation technologies may displace a number of the existing mining jobs in South Africa, it can also unlock new production models which can help to resuscitate the sector’s competitiveness and support its traditionally-strong employment contribution.

Readiness assessment framework

After identifying the three opportunity zones, the assessment then measures South Africa's readiness to take up these opportunities. Firstly, the key "readiness conditions" that need to be in place for South Africa to take up these digital opportunities are identified. Then, the identified readiness conditions were grouped together into the five pillars as shown below. These pillars combine conditions that cut across the opportunity zones and provide a taxonomy for thinking about readiness for digital economic opportunities.



The **Universal Digital Access** pillar considers whether all South Africans have access to the digital economy in order to take advantage of digital economic opportunities. It considers the state of the country's digital infrastructure, of ICT regulation, and of device and data affordability across various geographies and demographics.

The **Human Capital** pillar considers whether South Africa's education ecosystem is sufficiently preparing individuals with the skills and talent that will be demanded by private sector and other organisations as digital economic opportunities are scaled. It includes considerations of the state of basic and secondary schooling, and the flexibility and relevance of tertiary education pathways.

The **Government Support** pillar considers whether the public sector in South Africa is adequately prepared to support the new types of opportunities that may emerge. It includes the role of government as a custodian of innovation, as a creator of opportunities through fiscal tools, as a smart source of demand, and as a bridge for the poor to access digital opportunities.

The **Innovative Business** pillar considers whether private sector stakeholders and support systems are adequately prepared to respond to and scale economic opportunities presented by the digital age. It considers the processes required for new business models to be developed and scaled, and

whether there are adequate inputs into those processes (such as entrepreneurship, innovation financing, and the diffusion of technology across markets).

The **Constructing Ecosystems** pillar considers whether there are sufficient organisations and processes that link up and co-ordinate stakeholders that usually operate in silos. Co-ordinating different stakeholders around a specific opportunity is critical to the opportunity's ability to be scaled. This includes considerations of business-to-business co-ordination, public private solutioning, the presence of market facilitators, and access to global markets and ideas.