

5G: An answer for a prosperous economy in SA?

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Manufacturing has transformed economies and societies since the late 1700s. The key element that kept it going and thriving is no more than innovation and smart design. With manufacturing making up close to 12% of South Africa's GDP, there's a solid case to make regarding the value of innovation.



Source: [Pexels](#)

Comes in 5G: networks that offer manufacturers the chance to build smart operations and truly take advantage of technologies such as automation, artificial intelligence, augmented reality for troubleshooting, and the Internet of Things (IoT).

According to the Ericsson study [5G Business Potential](#), the expected addressable market in 2026 will be \$113bn, a substantial 7% potential revenue growth from current service revenue forecasts.

Driving operational efficiencies across industries

Global exploration mining budgets increased 35% to \$11.24 billion according to S&P's World Exploration Trends 2022 report which is a significant indicator, considering South Africa has the largest reserves of platinum-group metals.

South Africa's commercial ports also play a critical role in the domestic economy as an enabler of trade - a cornucopia of development opportunities is on the table.

Cellular networks bring unprecedented optimisation value to port and mining sites, delivering a new level of process and operational efficiency that reduces costs, lowers environmental impact, and boosts economic value.

By fusing cellular technology with industry 4.0 technologies, these industries can create agility, advance operations, and use real-time data to increase operational efficiency.



The ports of Livorno and Rotterdam for instance, which we have supported in enabling IoT, have reported that optimising vessel berthing led to a 20% average cost reduction per year which was equal to roughly 2.5 million Euros.

Port and mining may just be two out of countless industries that could benefit from digital technologies. And with consumer and personal communication-centric commercial 5G networks already live around the globe, the next wave of 5G expansion will allow businesses of all types to reap the benefits of enhanced mobility, flexibility, reliability, and security – taking IoT and industrial applications to never-before-seen levels.

The need for game-changing cellular innovation

As the world progresses toward Industry 4.0, increased mobile broadband adoption will become a critical component in the economy of most countries and cellular networks will play a key role in sectors such as education, health, manufacturing, and many others.

However, cellular technology faces significant adoption challenges in Africa such as low urbanization and significant capital investment requirements. We have been working on innovative radio technologies to help the nation's telecom sector to meet these challenges.

One of our latest on this front is the 6626 radio which combines two frequencies and six ports in a single unit, enabling a single radio to power all three sectors on the tower. Supporting all standards from 2G to 5G, the 6626 radio is bringing significant reductions in energy consumption, weight, volume and cabling requirements.

Cellular innovations such as the 6626 radio reduce operating costs and support communications service providers (CSPs) in efficiently growing South Africa's cellular capabilities.

With 5G networks being up to 10 times faster than 4G, energy performance has become a key requirement for the network. We can create significant energy savings by driving network innovation and modernising the network. The issue of network energy consumption and carbon emissions require an integrated approach that looks beyond individual product performance and addresses the whole network.

By basing our 5G infrastructure on ultra-lean designs and Massive MIMO (multiple input, multiple output) techniques, we are rethinking ways to build, operate, and manage networks more smartly and more strategically. As Africa heads into a digital-driven future, we are determined to foster such cellular innovations that help break the energy curve.

On the road to 5G readiness

There has been a strong digital transformation momentum across South Africa. As digitalisation increases in the country, larger amounts of contiguous spectrum allowing wide bandwidths in a broad range of frequencies will become necessary to meet the capacity and coverage needs for cellular networks powering transformational digital technologies.

In the last few years, we've seen South Africa focusing significant efforts on this matter and have actively been working on enhancing 5G policies and regulations to help the nation stay equipped for the digital age. One recent example is the Independent Communications Authority of South Africa (Icasa) beginning a three-stage 5G spectrum auction early this year.

South Africa's efforts to accelerate spectrum auctions and new spectrum allocations will no doubt maximise the economic benefit of cellular technology in the country and ensure the nation's cellular networks exuberate maximum performance and global competitiveness.

We believe collaboration is key to achieving large-scale transformative change and since our inception in Africa, we have put enormous time and effort into collaborating with regional partners to set the open standards that make advanced communications and connections possible in the continent.

With a commitment to continue working closely with telecom operators across South Africa, we hope to build a strong digital eco-system that enables sustainable growth and propels the realisation of a prosperous digital economy in South Africa.

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