

KEY HIGHLIGHTS

South Africa Country Study June 2017

1. About South Africa

South Africa is located at the tip of the Southern Africa Region and is part of the Southern African Development Community (SADC).

The GDP for 2015 was \$314,572 billion. South Africa is also classified as an upper-middle income economy by the World Bank.

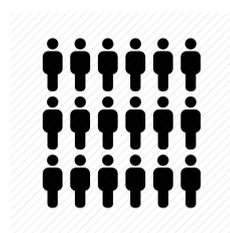
The economy of South Africa is ranked 32nd by the World Bank's GDP list for 2015. South Africa is the 3rd African Country to be on the World Bank's GDP list, coming in after Nigeria and Egypt.



96.6% of South Africans over 15 years of age can read and write, but a larger percentage of men (95.83%) than women (93.43%) are literate.



**29 00 S, and
24 00 E**



**54,300,704
million**



739.1B (PPP)

How is South Africa doing in terms of Information, Communication Technology, Education, Science Technology and Innovation which are the pillars of the African Leadership in ICT and Knowledge Society Development (ALICT) course?

2. Information Communication Technology

The National Development Plan: 2030 states that “by 2030, ICT will underpin the development of a dynamic and connected information society and a vibrant knowledge economy that is more inclusive and prosperous”.

The South African government approved the Department of Telecommunications and Postal Services’ National Integrated Information and Communication Technologies (ICT) Policy.

Telecommunications is one of the fastest growing sectors of South Africa's economy, with a network that is 99.9% digital and includes the latest in fixed-line, wireless and satellite communication, the country has the best developed and most modern telecoms network in Africa.

South Africa's has a relatively low rate of fixed-line telephony with;

4.131-million fixed-line connections and only

1.409-million fixed broadband subscriptions in 2015 and

51% of individuals using the internet.

According to the International Telecommunications Union (ITU);

59.47% of South Africans have active mobile broadband subscriptions,

51.92% of South Africans use the internet.

23.35% of households have a computer,

50.58% have access to the internet.



The Media, Information and Communication Technologies Sector Education Training Authority (MICT SETA) is responsible for skills development in the ICT sector. While the SETA does work with employers, it is also focusing on increasing rural presence and development to provide skilled resources in outlying areas.

SEACOM is 17,000 km long and with a capacity of 4.2 tbps. In 2012, the SEACOM cable was the only cable servicing the eastern seaboard of the continent and links South Africa, Mozambique, Madagascar, Tanzania, and Kenya with India and Europe.

South Africa has had several cables systems landing in the last 5 years. The landing of these cables has led to an improvement in international bandwidth capacity, both in terms of quality and pricing (via competitive sales to all carriers)

Oracle University is helping to tackle South Africa’s skills shortage by working alongside public education and skills development bodies to deliver Oracle technology learning to the youth and the unemployed. IITPSA has established a Students Special Interest Group (SIG) at the Vaal University of Technology (Ekurhuleni Campus) where ICT students are mentored and guided by members of the Institute and its Gauteng Chapter Committee, as potential new entrants to the ICT profession.

Challenges in ICT Development

- Shortage of ICT skills at all levels impacting on the development of a Knowledge Society.
- The adoption of cloud technologies, coupled with new trends such as the Internet of things (IOT), big data and mobility, is leading to a huge shortage of IT professionals with the correct mix of skills that organizations need to architect, deploy, build and manage software and other technology assets.
- Market inefficiencies still need to be addressed, because, although South Africa has the best developed and most modern telecoms network in Africa, only half the population uses the internet.

3. Education

Education is a priority area for the South African government. The 2017/18 overall budget allocation for the Department of Basic Education (DBE) is R23.4 billion, an increase of 5.1% from 2016/17. There are 13,068,855 learners and students in the basic education system, who attended 30,500 education institutions and are served by 448,105 educators.



ICT training

It is envisioned that through Operation Phakisa in ICT in the education sector, learners will leave the schooling system as ethical, discerning, and responsible users of information, and be ICT capable to make meaningful contributions to society. President Jacob Zuma said this programme is a most effective way of implementing the objectives outlined in the NDP.

In 2014, there were 30,500 established public and registered independent education institutions. Of these, 25,741 were ordinary schools and 4,759 were other education institutions – namely, ECD centres and special schools.

- * *As of 25 September 2015, there were also 124 Private Higher Education Institutions and 96 registered and provisionally registered private higher education institutions.*
- * *In the 2013/14 financial year at least 162 ICT initiatives were implemented in the provinces.*
- * *The Gauteng Province is providing tablets to all Grade 4 to 9 learners as part of an investment in ICT and innovation projects in public schools.*

Basic education programme.

The Curriculum Assessment Policy Statements (CAPS) made every subject in each grade to have a single, comprehensive and concise policy document that will provide details on what teachers need to teach and assess on a grade-by-grade and subject-by-subject basis.

The Mindset Network is a South African not-for-profit company that creates, sources and distributes high quality, curriculum-aligned digital content for the education sector. Mindset Learn supports learners and teachers in formal schooling with a focus on Grades 10, 11 and 12 in Maths, Sciences, Social Sciences and Finance subjects. Content is in video format and is supported by PDF notes and computer-based interactive lessons. Mindset Learn is provided directly to thousands of schools and also broadcast live via all satellite networks in the country.

The Vodacom Digital Classroom website provides teacher information and professional development resources, curriculum-related digital resources and online reading resources. It is accessible from the basic education department's website.

Challenges facing education sector in South Africa.

The fundamental challenge facing the education sector in South Africa are ICT accessibility, teacher development, a shortage of qualified teachers, and ensuring that every teacher and learner has access to electronic content.

There is still a challenge getting physical textbooks to schools; and interactive content cannot be delivered without the roll out of ICTs.

4. Science, Technology, and Innovation (STI)

The recognition of the importance of science and technology through the creation of a separate department has led to significant developments in the promotion and support of science and technology activities at the national level. The DST aims to provide leadership, an enabling environment, and resources for science, technology and innovation in support of South Africa's development.

Much of the DST's work is carried out through various organizations, many of which are government bodies. In the schooling sector, the Technical Schools Recapitalisation grant and the Dinaledi Schools grant have been combined and are now called the Mathematics, Science and Technology (MST) grant. This grant is intended to promote the teaching and learning of Mathematics, Science and Technology.

Africa Institute of South Africa (AISA)

Africa Institute of South Africa (AISA) has been at the forefront of research and training on African affairs. Through the AISA campus, an annual training programme that educates students from universities in research methodologies, AISA has contributed to fostering a new generation of research specialists. AISA has undertaken to promote knowledge creation as a fundamental part of development and growth for Africa and aims to encourage research as a career choice for young people as they leave school.

Technology Innovation Agency (TIA)

The Technology Innovation Agency (TIA) is a national public entity which serves as a key institutional intervention to bridge the innovation gap between research and development from higher education institutions, science councils, public entities, and the private sector. The TIA was established to support the government in stimulating and intensifying technological innovation to improve economic growth and the quality of life of all South Africans by developing and exploiting technological innovations.

Challenges STI Sector

- 1** Lack of a broad skills foundation.
- 2** Lack of design, engineering, entrepreneurial and management capacity
- 3** IT infrastructures are relatively under-developed.
- 4** Gender gap in the work force, in which there is an especially low number of women areas of science, technology, engineering and mathematics.

5. In conclusion:

- Government policies, strategies, platforms, and legislative measures indicate that South Africa is advancing steadily towards a KS. The government aims to integrate ICT into all spheres of education.
- Ministries responsible for ICT, education, and STI have some cross-cutting policies in place aimed at the continued economic growth and socio-economic development, and are moving towards achieving KS development goals, but these achievements are being hampered by the lack of last-mile internet connectivity, lack of funds, lack of a singular national programme for areas such as teacher ICT development and ICT roll outs to schools (which relies on the coordination of provincial departments of education), and in the regulation and governance of the ICT sector being spread across various entities. Further to this, many policies related to ICT focus on infrastructure and roll out of ICT rather than as using ICT as a tool for growth and development.
- South Africa has made improvements in basic education enrolment, but tertiary institutions are under pressure, as growth in these institutions has not been as been in line with the goals set out in the National Development Plan.
- Another challenge is the low participation of women in science, technology, engineering, and mathematics. Thus, the government has afforded a high priority to Maths and Science education at school.
- South Africa's national system of innovation has evolved over the years, showing great potential technologically and in human resources to become one of the leading countries in research and development and innovation. However, there is a need for greater alignment between the plans and for more collaboration between the public and private sectors.

Key Partners

- ⇒ Department of Science and Technology (DST)
- ⇒ National Research Foundation of South Africa (NRF)
- ⇒ Human Sciences Research Council (HSRC)
- ⇒ Council for Scientific and Industrial Research (CSIR)
- ⇒ Academy of Science South Africa (ASSAf)
- ⇒ Africa Institute of South Africa (AISA)
- ⇒ National Advisory Council on Innovation (NACI)
- ⇒ South African National Space Agency (SANSA)
- ⇒ Technology Innovation Agency (TIA)
- ⇒ National Intellectual Property Management Office (Nipmo)
- ⇒ Agricultural Research Council (ARC)
- ⇒ Mintek
- ⇒ Medical Research Council (MRC)
- ⇒ Council for Geoscience (CGS)
- ⇒ South African Bureau of Standards (SABS)
- ⇒ ESKOM
- ⇒ Sasol
- ⇒ National Health Laboratory Service (NHLS)
- ⇒ Bureau for Economic Research (BER)
- ⇒ National Institute for Communicable Diseases (NICD)
- ⇒ The Institute for Economic Research on Innovation (IERI)

- ⇒ Institute for Security Studies (ISS)
- ⇒ Teacher.org.za
- ⇒ South African National Biodiversity Institute (SANBI)
- ⇒ Independent Communications Authority of South Africa (ICASA)
- ⇒ Telkom
- ⇒ MTN, Vodacom, Cell C, Telkom Mobile
- ⇒ Ikamva National eSkills Institute
- ⇒ ICT for Development Centre, University of Cape Town
- ⇒ the Department of Basic Education (DBE). Department of Basic Education (DBE) with the support of nine Provincial Departments of Education (PDOE)
- ⇒ Department of Higher Education and Training (DHET)
- ⇒ SchoolNet South Africa
- ⇒ Matthew Goniwe School of Leadership and Governance (MGSLG)
- ⇒ University of South Africa (UNISA)
- ⇒ Stellenbosch University
- ⇒ University of Cape Town
- ⇒ University of Johannesburg
- ⇒ University of KwaZulu-Natal
- ⇒ North West University (NWU)
- ⇒ University of Pretoria
- ⇒ University of the Western Cape
- ⇒ Wits University
- ⇒ Nelson Mandela Metropolitan University (NMMU)
- ⇒ Walter Sisulu University
- ⇒ University of Mpumalanga (Foundation phase education only)
- ⇒ African Centre for Peace and Security Training
- ⇒ National Agricultural Research Forum (NARF)
- ⇒ Water Research Commission (WRC)
- ⇒ Institute for Water Research
- ⇒ National Education Collaboration Trust (NECT)
- ⇒ Department of Communications (DOC)

Knowledge Society Ministries

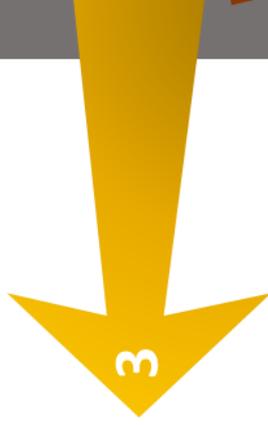
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6



INTERESTING FACTS ABOUT KS DEVELOPMENT IN SOUTH AFRICA

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