



SKILLS DEMAND AND SUPPLY IN SOUTH AFRICA'S DIGITAL ECONOMY

**A focus on youth not in
employment, education or training**

KEY FINDINGS AND RECOMMENDATIONS

Summary of key findings emerging from the analysis of skills demand and supply in South Africa's digital economy

Digital skills that are most in demand

1.

Basic digital skills

- ▶ **Digital competencies**
An essential requirement for almost all employees
- ▶ **Online operations**
Demand in small businesses (mentioned by 17% of businesses with 25 to 99 employees); examples: email communication, sending quotes, safety or scanning for viruses

2.

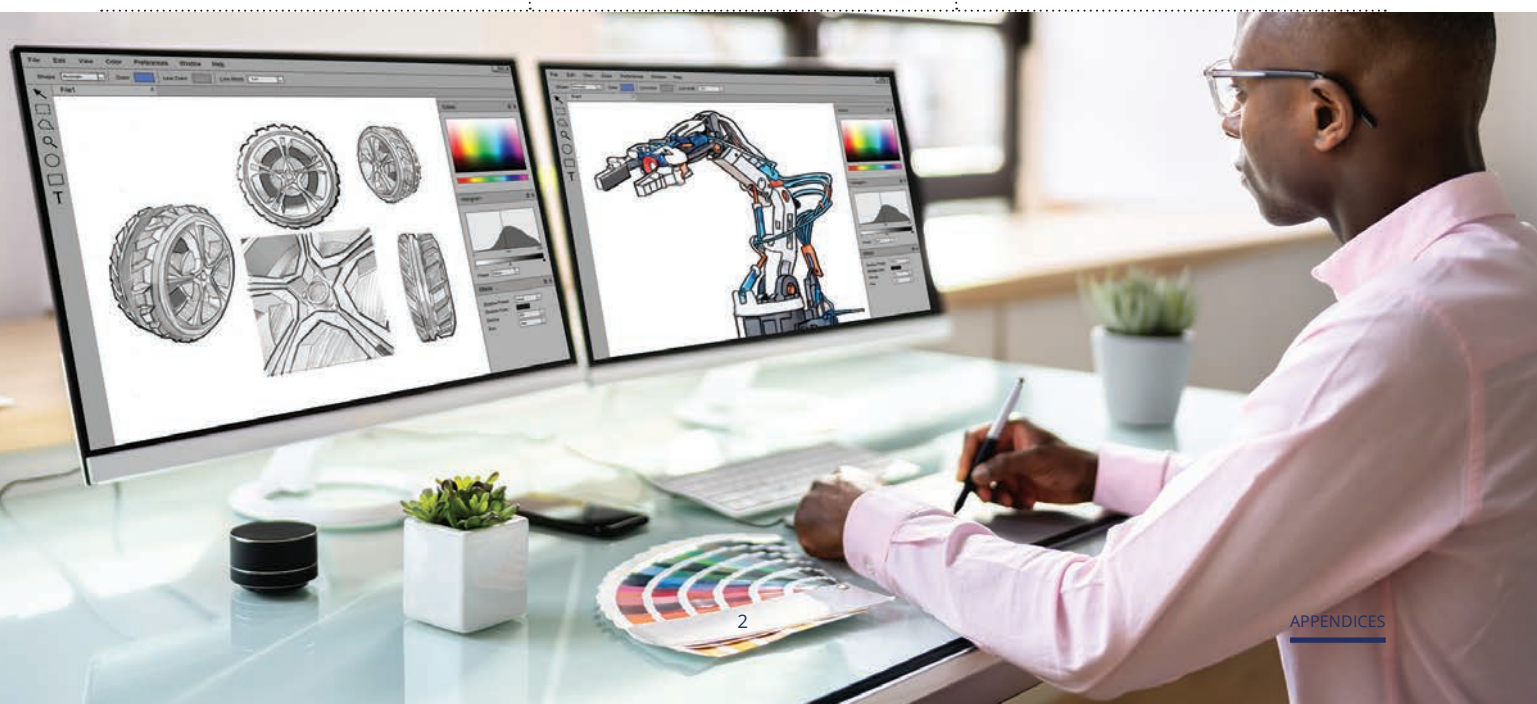
Intermediate digital skills

- ▶ **Digital graphic design**
High demand for SMEs and large businesses
- ▶ **Digital marketing**
High demand for micro-businesses
- ▶ **Coding and mobile app development**
High demand for large businesses

3.

Advanced digital skills

- ▶ **Big data analytics**
Huge demand for larger businesses
- ▶ **AI and VR**
Huge demand for larger businesses
- ▶ **Cybersecurity**
High demand for SMEs and huge demand for larger businesses
- ▶ **Robotics**
High demand for large businesses



Occupations requiring technology and digital skills that are most in demand

1.

Basic digital skills

- ▶ Desktop support technician, especially for larger businesses and in the ICT sector
- ▶ Employment opportunities that require basic hardware and software skills on the ground in specific locations or regions where it is difficult to attract talent from urban areas or international talent pools, for example mining operations

2.

Intermediate digital skills

- ▶ **Website design and management**
High demand for SMEs and micro-businesses (also entry level)
- ▶ **Data analysts**
Huge demand for large businesses, especially with 3 to 5 years' work experience (also entry-level data analysts)
- ▶ **Software developer**
 - Using content management systems at entry level
 - Junior software developers at entry level

3.

Advanced digital skills

- ▶ **Software developer**
Huge demand for large businesses (three to five years' work experience, especially full stack/specialization)
- ▶ **IT/Cybersecurity specialty**
High demand for SMEs and huge demand for large businesses
- ▶ **Data scientist**
Huge demand for large businesses
- ▶ **Big data analyst/BI developer**
Huge demand for large businesses
- ▶ **Cloud architect specialist**
Huge demand for large businesses
- ▶ **ICT engineer and UX/UI designer/developer**
High demand for large businesses



Skill set of YNEET

1.

Basic digital skills

- ▶ More than half of participants report having basic digital skills, mainly hardware skills



2.

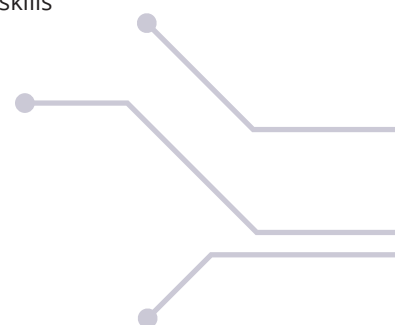
Intermediate digital skills

- ▶ YNEET do not have sufficient intermediate digital skills
- ▶ Only 18% report having desktop publishing skills, and only 8% use it regularly
- ▶ Only 13% report having digital graphic design or marketing skills, and only 4% use it regularly
- ▶ YNEET feel most equipped to apply to become a data scientist
 - 10% say they could apply
 - 5% say they could apply for jobs in website management
 - 4% say they could apply for website design jobs

3.

Advanced digital skills

- ▶ YNEET lack advanced digital skills
 - About 13% have AI, VR, IoT or cybersecurity skills, and 5% use it regularly
 - Less than one in ten have coding, mobile app development or big data analytic skills, and only 3% use it regularly
 - Less than half have heard of other specific occupations that require advanced digital skills



Key gaps (2023)

- ▶ General skill set of young people are lacking
 - Basic digital skills are the norm
 - 50% still lack software and online operating skills
 - 30% lack hardware skills
- ▶ An inclusive approach is needed to overcome the digital divide

- ▶ All types of intermediate digital skills are lacking
- ▶ Train core skills for life and work in the 21st century so that youth can use digital skills in a working or entrepreneurial context
- ▶ Understanding of specific systems and programmes that are used widely in the industry or by specific potential employers

- ▶ All types of advanced digital skills are lacking
- ▶ Train core skills for life and work in the 21st century so that youth can access opportunities that require work experience
- ▶ Practical experience of applying advanced digital skills in a working environment
- ▶ Digital leadership or digital skills on a managerial level

Future projection (five-year timeframe) in terms of skills needed in South Africa's digital economy

Digital skills that are most in demand

1.

Basic digital skills

- ▶ **Hardware skills**
Very important for SMEs and micro-businesses
- ▶ **Software skills**
Particularly important for businesses of all sizes
- ▶ **Online operations**
Particularly important for SMEs and micro-businesses, and very important for large businesses

2.

Intermediate digital skills

- ▶ **Digital marketing**
Particularly important for businesses of all sizes
- ▶ **Digital graphic design**
Very important for SMEs and micro-businesses
- ▶ **Desktop publishing**
Very important for SMEs

3.

Advanced digital skills

- ▶ **Cybersecurity**
Very important for SMEs and particularly important for large businesses
- ▶ **Big data, AI and VR**
Particularly important for large businesses
- ▶ **Robotics**
Particularly important for large businesses
- ▶ **Coding and mobile app development**
Very important for large businesses
- ▶ **IoT**
Very important for large businesses



Occupations requiring technology and digital skills that are most in demand

1.

Basic digital skills

- ▶ Around one in four businesses believe desktop support technicians will be important in the next five years; this is more than twice the number of businesses that report a current demand

2.

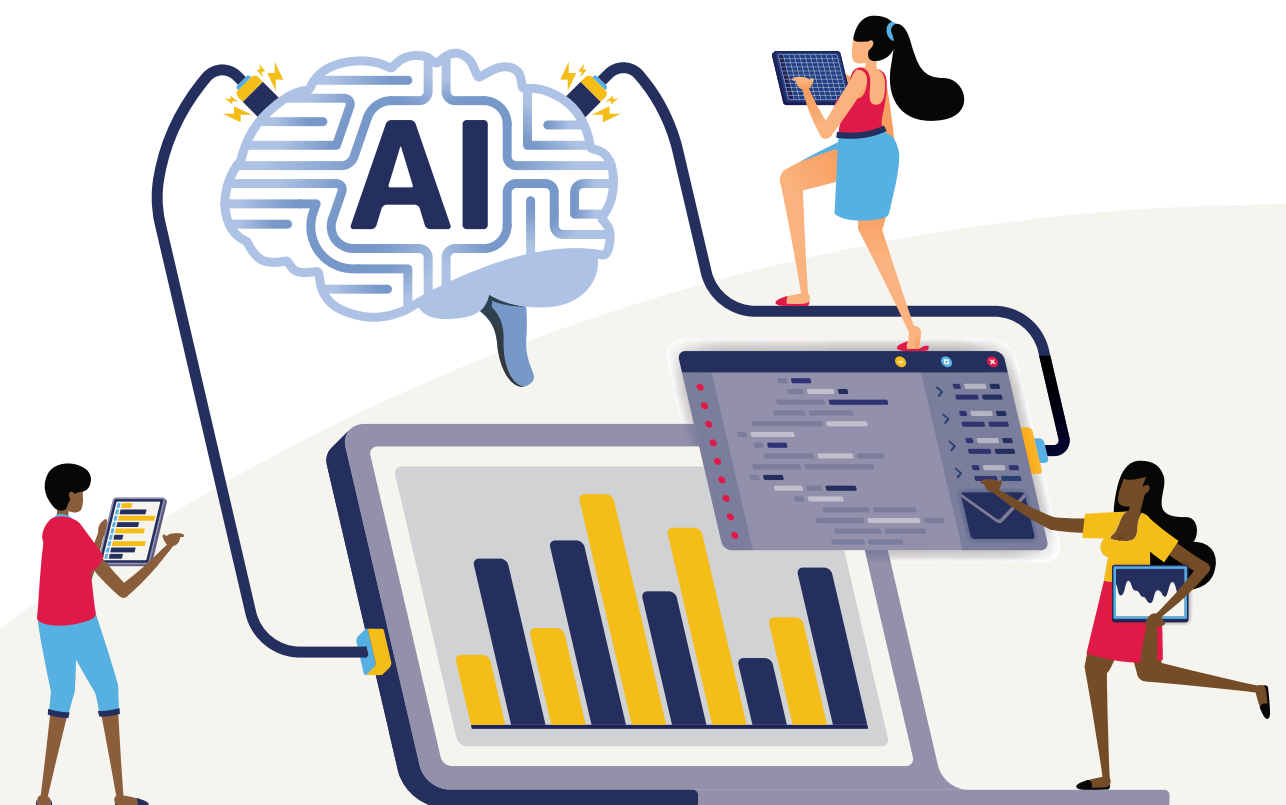
Intermediate digital skills

- ▶ **Website management and design**
Huge demand for businesses of all sizes
 - Increased importance is highest for website management and design compared to all other occupations requiring intermediate and advanced digital skills
- ▶ **Data analysis and software developer**
High demand for SMEs and huge demand for large businesses

3.

Advanced digital skills

- ▶ **IT/Cybersecurity specialist**
High demand for SMEs and huge demand for large businesses
- ▶ **Big data analyst/BI developer/data scientist/cloud architect specialist**
Huge demand for large businesses
- ▶ **ICT engineer/UX and UI designer or developer**
High demand for large businesses



Potential to upskill YNEET

1.

Basic digital skills

- ▶ An increased focus on digital skills at colleges should ensure a bigger supply of graduates with basic digital skills



2.

Intermediate digital skills

- ▶ Young people can learn intermediate digital skills through a wide range of short courses, especially online
- ▶ There is a limited number of graduates in ICT degrees at TVET colleges
- ▶ The incorporation of more and new occupational courses at TVET colleges is expected to be a multiyear process and it is expected that supply will not be able to keep up with demand

3.

Advanced digital skills

- ▶ Higher education institutions play an important role in teaching advanced digital skills – all universities teach ICT courses
- ▶ There is a supply of graduates with ICT qualifications (demand for individuals with work experience)
- ▶ Young people can use online platforms or courses that teach advanced digital skills
- ▶ Low enrolment rates in STEM courses at universities limit the skill set and talent available to the labour market

Projected future gaps

- ▶ There is an opportunity to train young people to use software, applications and systems that are essential in a working environment
- ▶ Skill sets should be improved so that young people can provide technical and desktop support

- ▶ There is a need for young people with work experience and the application of skills
- ▶ Create entrepreneurial opportunities and prepare young people to provide digital services to businesses

- ▶ Low student numbers in STEM fields can limit possible growth in the digital economy
- ▶ Colleges and training providers highlight a gap in relation to specific specialized skills, such as cybersecurity
- ▶ There is an opportunity to develop courses and training programmes that are suitable for YNEET and prepare people for specific occupations, such as cybersecurity or coding

Summary of key recommendations to facilitate a better matching of skills demand and supply in South Africa's digital economy



Objective 1: Broaden the overall understanding of the skills mismatch

Sub-objectives		Practical recommendations
1.1 Assess the demand for and supply of skills for the digital economy.		• Work with priority target groups, e.g. vulnerable groups. • Focus on priority skills in demand. • Select priority sectors most suitable and impactful for programmes that support YNEET.
1.2 Identify digital skills policy and regulatory imperatives.		• Follow imperatives from the digital skills policy and regulatory environment. • Strengthen the policy environment, including creating awareness among young people of the existing policy landscape and opportunities.
1.3 Understand the ecosystem for skills development in a digital economy and related enablers in the context of South Africa.		• Incorporate enablers of relevant digital skills into all programmes and interventions, including facilitating access to resources and opportunities, adjusting training formats and collaborating with employers.

Objective 2: Inform the co-design of digital skills development initiatives

Practical recommendations	
▶ Prioritize activities for the DCDT, ILO, ITU and UNDP's constituents, including supporting key initiatives of the Presidential Employment Stimulus programme and the National Pathway Management Network. ▶ Collaborate with TVET colleges. ▶ Provide capacity to scale good, demonstrated practice interventions and programmes.	

Objective 3: Provide recommendations for priority activities for YNEET

Practical recommendations



Offer **high-touch programmes** that equip young people with skills in **demand** in the digital economy, including longer-term training programmes (lasting six to 12 months) and skills-based courses (e.g. entry level and advanced).



Offer **preparation/ support programmes** for young **entrepreneurs** to offer digital services to businesses (including entrepreneurial skills and contractual agreements) and recruit young people through colleges or place them with SMEs that have a need for support.



Provide **support for young people in accessing existing online content** through awareness campaigns about which specific digital skills they will learn in specific courses and by facilitating internet access.



Objective 4: Inform a series of other system-level interventions

Sub-objectives



Practical recommendations

4.1

Strengthen and upgrade digital literacy/ skills curricula and competency standards.



Launch the **Digital Skills Accelerator** team to **supplement the current TVET curriculum** – the team will develop and offer hybrid, self-paced training courses on digital skills (with a focus on hands-on and practical skills) and offer support to colleges.

4.2

Integrate digital literacy and skills training into existing educational programmes at all levels.



Offer **digital training as part of work-based learning (WBL)**, for instance EPWP, including using existing online content on free/affordable platforms and providing advice on additional courses young people can complete.

4.3

Capacitate training institutions, trainers and teachers to deliver digital skills training.



- Provide **teaching support to TVET** institutions to incorporate IT and computer science courses or increase the number of students.
- Provide **strategic and operational support to TVET** institutions to roll out the 11 4IR future skills qualifications.
- Start a **train-the-trainer initiative** for educators at TVET institutions.

4.4

Establish a platform/ forum to integrate trained job seekers with relevant opportunities.



Use and leverage the existing SAYouth platform, including providing information about skills demand, developing a system to provide accreditation/ credentials for the courses and making the platform more accessible for young people with disability.





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