# DIGITAL AND FUTURE SKILLS
# NATIONAL CONFERENCE

## CONFERENCE REPORT

### Digital Skills: A Cornerstone for a Digital Economy

**Date held:** 22 – 23 November 2022
**Location:** Aha Gateway Hotel, Umhlanga

communications & digital technologies

Department:
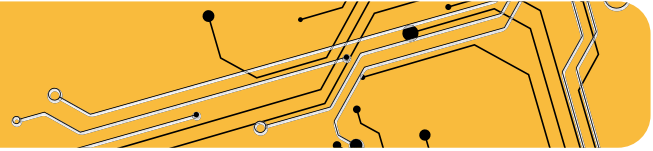Communications & Digital Technologies
**REPUBLIC OF SOUTH AFRICA**

german cooperation
DEUTSCHE ZUSAMMENARBEIT

giz
Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

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# ACRONYMS

| | |
|---|---|
| **4IR** | Fourth Industrial Revolution |
| **AI** | Artificial Intelligence |
| **BBBEE** | Broad-Based Black Economic Empowerment |
| **BMZ** | German Federal Ministry for Economic Cooperation and Development |
| **DBSA** | Development Bank of Southern Africa |
| **DCDT** | Department of Communications and Digital Technologies |
| **DHET** | Department of Higher Education and Training |
| **DS4JI** | Digital Skills for Jobs and Income |
| **DSI** | Department of Science and Innovation |
| **ERRP** | Economic Reconstruction and Recovery Plan |
| **G20** | The Group of Twenty (largest economies) |
| **GDP** | Gross Domestic Product |
| **GHS** | Stats SA general household survey |
| **GIZ** | Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH |
| **HRD** | Human Resource Development |
| **HRDC** | Human Resource Development Council |
| **ICT** | Information and Communication Technology |
| **IITPSA** | Institute of IT Professionals South Africa |
| **ILO** | International Labour Organisation |
| **ITU** | International Telecommunication Union |
| **LMI** | Labour Market Intelligence |
| **MKI** | Moses Kotane Institute |
| **MOOC** | Massive Open Online Course |
| **NEMISA** | National Electronic Media Institute of South Africa |
| **NYDA** | National Youth Development Agency |
| **OTT** | Over-the-top technologies |
| **SA** | South Africa |
| **SABC** | South African Broadcasting Corporation |
| **SAQA** | South African Qualifications Authority |
| **SETA** | Sector Education and Training Authority |
| **SMME** | Small, Medium and Micro Enterprises |
| **STEAM** | Science, Technology, Engineering, Arts, and Math |
| **STEAMIE** | Science, Technology, Engineering, Arts, Mathematics, Innovation and Entrepreneurship |
| **TUT** | Tshwane University of Technology |
| **TVET** | Technical Vocational Education and Training |
| **UNDP** | United Nations Development Programme |
| **WEF** | World Economic Forum |
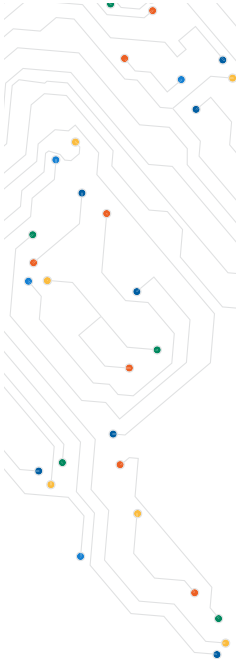
This report highlights the discussions at the National Conference on Digital and Future Skills, with the theme **"Digital Skills: A Cornerstone for a Digital Economy"**, hosted by the Department of Communications and Digital Technologies (DCDT) in partnership with the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ). The conference was held on 22 – 23 November 2022, at the Aha Gateway Hotel in Umhlanga, KwaZulu-Natal.

The increased deployment and adoption of digital technologies in the economy and society have changed the way people live, work, and interact with each other. Government entities, private sector firms, and development institutions increasingly rely on digital technologies to drive economic growth and promote social development.

Various sectors of the economy are now being transformed by digital automation, artificial intelligence (AI), robotics, augmented reality, 3D printing and a range of other digital technologies.

As a result, some roles which humans perform are disappearing, while new jobs, such as application developers, data scientists and social media marketers, are surfacing. As new digital technologies automate tasks routinely performed and completed by humans, the workforce needs to acquire new digital skills to enable them to take up work opportunities.

Embracing the discomfort of change, constant transformation of knowledge and innovation, and to the need to unlearn and relearn are necessary parts of progress. Students who are proficient in digital literacy feel more at ease and confident when using e-learning platforms. Conversely, students who do not have access to any digital skills find it difficult or unsettling to use the relevant technology, which impedes their skills development and contributes to high unemployment, with youth being the most severely affected.

The current global trend encourages societies to embrace digitalisation in all aspects of the economy. South Africa is not immune to this global trend. Government and sectoral stakeholders have the responsibility to implement policies, strategies, and initiatives that will allow the country and its people to participate in, and benefit from, the digital economy.

In September 2020, Cabinet adopted the National Digital and Future Skills Strategy. To realize the aspirations of this strategy, government identified practical measures and targets that must be pursued. The conference's overarching aim was to articulate and expand on these measures in collaboration with stakeholders who are critical to achieving a digital skills revolution. It sought to establish, foster, galvanize, and strengthen partnerships required in the transformation of digital and future skills in South Africa.

Access to connectivity, gender balance, a focus on persons with disabilities and women, youth empowerment, entrepreneurship, the creation of decent jobs, funding, investments, and the formation of meaningful partnerships between government and stakeholders are all required for the successful advancement of digital skills. ◉

# 1 INTRODUCTION

## 1.1 Background and Purpose

The National Department of Communications and Digital Technologies (DCDT) has been mandated by the South African Government to oversee the country's communications, telecommunications and broadcasting services. DCDT plays a specific role in fostering broader economic and social participation by all citizens through digital transformation underpinned by the Fourth Industrial Revolution (4IR). The Department focuses on creating a South Africa where citizens can enjoy greater economic and social prosperity and comfort, and enjoy higher levels of health, well-being, and safety through levering the 4IR. The benefits that come with the adoption of these advanced 4IR technologies bring both economic and social advantages and benefits, transforming how we relate as individuals, groups and organisations across the globe.

GIZ is a global service provider in the field of international cooperation for sustainable development and international education work. GIZ has over 50 years of experience in a wide variety of areas, including economic development and employment, energy, and the environment, and peace and security. As a public benefit federal enterprise, GIZ supports the German Government and many public and private sector clients in around one hundred and twenty countries in achieving their objectives in international cooperation. With this aim, GIZ works together with its partners to develop effective solutions that offer people better prospects and sustainably improve their living conditions.

Rapid technological innovations and deployment imply that people will increasingly be sharing workplaces with artificial intelligence pl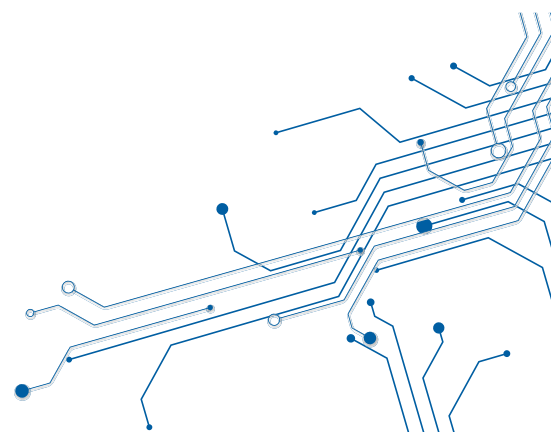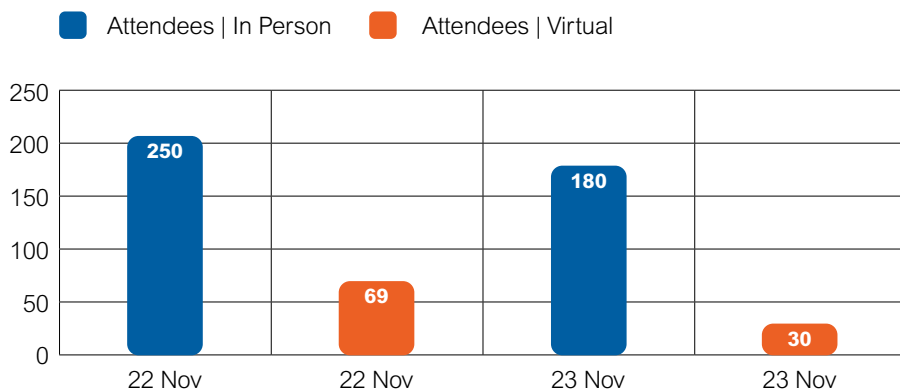atforms and robots. As new digital technologies automate tasks routinely performed and completed by humans, citizens and the workforce need to acquire new digital skills to enable them to take up new employment, entrepreneurial, and self-employment opportunities. In this regard, employers across the sectors of the economy are training and capacitating their workforce with a variety of critical digital skills required to achieve their business objectives and remain competitive. These changes have increased the demand for specialised digital skills to create, implement and maintain such technologies.

The National Digital and Future Skills Strategy highlights the need to create comprehensive digital skills development programme. The emphasis is on developing the five areas of digital competence: information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving. These digital competencies represent the knowledge, skills, and attitudes required to effectively use digital technology.

The German Federal Ministry for Economic Cooperation and Development (BMZ), in partnership with GIZ, implemented the Digital Skills for Jobs and Income Project (DS4JI), partly funded by the G20 #eSkills4Girls Initiative, together with the DCDT.

## 1.2 Structure of the National Conference

The conference's hybrid delivery demonstrated a unique disruptive learning experience in which attendees were able to engage in 4IR activities within a unique, visually rich and interactive learning environment.

**Legend:** ■ Attendees | In Person   ■ Attendees | Virtual

| Date | Value |
|------|-------|
| 22 Nov (In Person) | 250 |
| 22 Nov (Virtual) | 69 |
| 23 Nov (In Person) | 180 |
| 23 Nov (Virtual) | 30 |
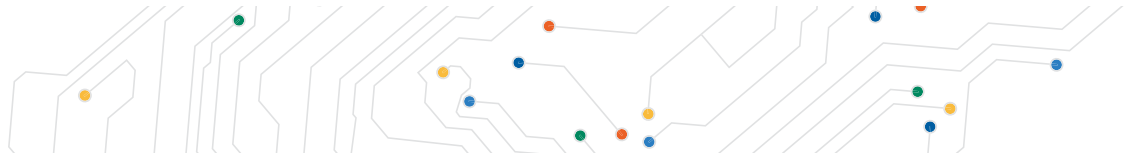
The first day of the conference featured welcome remarks by Ms Nomusa Dube-Ncube, Honourable Premier of KwaZulu Natal, a message of support from the German Embassy represented by Mr Christian Gruen, a keynote address by the Honourable Deputy Minister of Communications and Digital Technologies, Mr Philly Mapulane.

**These were followed by plenary and breakaways sessions under the following topics:**

**Session 1:** Impact of Digital Skills on Digitalisation
**Session 2:** Innovative Solutions to Digital Skilling
**Session 3:** Parallel and Deep Dive Session: Discussion on partnership modalities and commitments

**Topic 1:** Digital Transformation in Technical Vocational Education and Training (TVET)
**Topic 2:** Women4Tech and digital skills: Building a stakeholder network on #eskills4GirlsPlenary

**Masterclasses:** Content Creation, eSports and Gaming

**Session 4:** Feedback Report Breakaway Discussions

**The second day comprised four sessions under the following topics:**

**Session 1:** Arts and Creatives in the Digital Economy
**Session 2:** Youth Involvement in the Digital Economy and the Future of Work
**Session 3:** Plenary Breakaway Sessions: Discussion on partnership modalities and commitments

**Topic 3:** Role of Research Institutions in informing the digital skills development agenda
**Topic 4:** Discussion on relevant skills needed from STEAM to STEAMIE

**Masterclasses:** Film Production, Content Creation

The conference structure encouraged delegates to share challenges, opportunities, and recommendations for digital transformation as a key driver and economic enabler. It enabled critical dialogue between various industry sectors.

## 1.3  Conference Objectives

The conference aimed to provide stakeholders with the opportunity to address the growing demand for digital skills and consider the economic and social impacts thereof.

**The specific conference objectives were to:**

1) Establish, galvanize and strengthen partnerships in the area of digital and future skills in South Africa

2) Create and stimulate interest in digital and future skills;

3) Highlight the concerns and challenges brought about by the digital skills gap;

4) Provide insights on available digital skills training opportunities for youth;

5) Highlight 4IR as an enabler to critical skills sets required for the future; and

6) Share and discuss approaches to deliver digital and future skills to vulnerable groups, especially young women and girls. ◉

# 2 OPENING REMARKS

## 2.1 WELCOME

**Speaker:** Ms Nomusa Dube-Ncube -
*Premier of KwaZulu-Natal*

Ms Nomusa Dube-Ncube, the Honourable Premier of KwaZulu-Natal, highlighted the significance of government collaboration with key role players in the digital and transformation industry sectors to convene the conference, particularly in a province that is actively involved in positioning itself as a digital hub and a key driver of 4IR. She reiterated that one of the conference's objectives was to establish and galvanize partnerships in the areas of digital and future skills in South Africa, with the ultimate goal being to improve the lives of citizens in the province and country while leaving no one behind. The Digital Transformation Strategy aims to provide citizens with a citizen-centric plan that guides the province and provincial government's digital transformation, which includes the recent development of the Nerve Centre Optimisation Strategy.

Collaboration between government departments, state-owned enterprises, the private sector, and other strategic stakeholders, she stated, is critical to the strategy's implementation. She emphasised that visible changes within the administrative system, such as the establishment of the province's first digital analytic skills laboratory, demonstrate the tangible impact of the strategic decision to digitalize.

Finally, the Premier emphasised that the goal is to create a SMART province that includes both urban and rural areas; however, challenges of internet accessibility and connectivity continue to derail the goal.

## 2.2 Message of Support

**Speaker:** Mr Christian Gruen -
*Head of Cooperation, Germany Embassy*

The German Embassy's representative, Mr Christian Gruen, emphasised the significance of skills development as an economic enabler which creates opportunities for economic democratisation.

He reaffirmed the fundamental strategy adopted by both the German and South African governments towards digital transformation through various initiatives. This includes a specific focus on youth, e-skills for girls and access to digital skills through the partnership between DCDT and GIZ. It is a catalytic opportunity to ensure strategic framework development, implementation through participative leadership and collaborations with other industry sector stakeholders. He highlighted that the German Government is supporting South Africa in its transformation towards a decarbonised economy. This just transition cannot be achieved without a simultaneous digital transformation of the economy and is therefore closely interlinked with the need to digitally upskill the society and create a digital workforce.

The partnership with GIZ through the Digital Skills for Jobs and Income (DS4JI) programme, funded by the BMZ, is a critical step toward achieving these objectives.
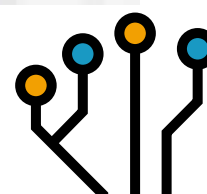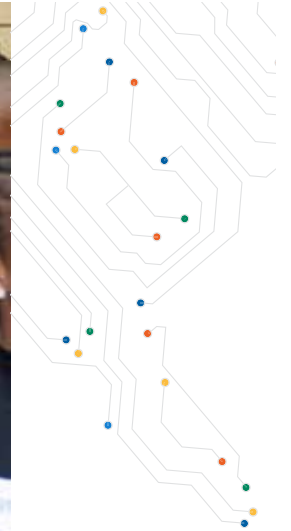
## 2.3 Keynote Address

**Speaker:** Hon. Philly Mapulane: Deputy Minister:
*Communications and Digital Technologies*

The Honourable Deputy Minister provided an overview of the cabinet-approved and implemented Digital and Future Skills Strategy of 2020, which seeks to improve digital skills across the country. The implementation of this Strategy will necessitate significant investments and collaboration between the government and stakeholders from the private sector, civil society, labour, academia, and youth facilities.

Digital technology-driven industries are expected to contribute 60% of the global GDP in 2022 and are amongst the most rapidly expanding segments of the economy.

According to the Global Skills Report 2022, African nations are expected to outperform the rest of the world in data visualisation, with South Africa leading the way with a global skill score of 94%. South Africa is well-positioned in the digital skills economy, particularly in cloud computing, machine learning, and software development.

The government has pledged to implement large-scale digital literacy programs to foster digital competency. Partnerships that were highlighted included:

- Phase 2 of the SA Connect Project, which aims to provide internet connectivity to 80% of South Africans within three years. This will be achieved through the installation of 840 base stations, approximately four stations per municipality nationwide, and an estimated 33,000 community Wi-Fi hotspots, which will provide internet access and connectivity to approximately 5,8 million households. In addition, the government intends to provide internet connectivity to approximately 18,000 schools, 3,873 health facilities, 8,000 authority sites, and 1,000 community libraries or Thusong centres over the next thirty-six months.

- The Ya Rona digital literacy skills programme, a partnership with NEMISA, aims to bridge the digital literacy gap.

- The UNDP, ILO, and ITU Digital Skills Innovation Challenge was launched to recognize the influential involvement of individuals and organisations in promoting innovation and addressing skills challenges.

- The launch of the Artificial Intelligence Institute, in partnership with the University of Johannesburg and the Tshwane University of Technology, aims to increase access to advanced digital skills and enable the creation of new knowledge and innovative technology applications in industries such as health, agriculture, education, energy, manufacturing, tourism, and ICT.

The Deputy Minister reiterated that the successful implementation of the strategy will result in significant improvements in quality of life, education, economic growth, job creation, and social development and that a lack of skills will contribute to increased unemployment.

### Key Emerging Issues and Analysis
- Digital skills development will help to eliminate unemployment and bridge the digital divide.

- Partnerships are the means by which a digitally literate population and a digitalised economy will be realised.

- Government, academia, non-profits, business, and other stakeholders each play pivotal roles.

### Recommendations
I. Affordable and easy-to-access connectivity in all areas of the country.

II. Policy development and implementation of future skills to ensure that employees are properly equipped to perform their duties.

III. Focus on reducing unemployment through the digital economy, innovation, and entrepreneurship. ⬤

## Session Overview and Objectives

The session sought ideas and opinions on successful and unsuccessful developments in an increasingly digitalised economy from digital industry experts and educational institutions. It opened the opportunity for reflection on the critical role of the education sector and government in skills planning and development, together with SETAs' responsiveness to digital skilling requirements. Qualifications and accreditation systems are gradually shifting towards a more agile approach to knowledge acquisition and skills development.

### 3.1 Impact of Digital Skills to Digitalisation

**Presentation:** Skills for the Economy

**Speakers:**

- **Ms Mamphokhu Khuluvhe –** *Director, Department of Higher Education and Training (DHET)*

- **Ms Sybil Chabane –** *Director, Department of Higher Education and Training (DHET)*

### Presentation Summary

South Africa's unemployment rate is among the highest in the world and has remained consistently high over the last fifteen years. As a result of the COVID-19 pandemic and its massive impact on economic activity and social security, the overall unemployment rate increased to 34.9% in 2021. In the second quarter of 2022:

- 8 million out of the 23,6 million labour force were unemployed.

- South Africa's official unemployment rate stands at 33.9%.

- The unemployment rate remained highest among youth age groups 15-24 years (61.4%) and 25-34 years (41.2%).

- According to the Trust Barometer Study[1] , 81% of employees expect their employers to provide training programs and keep their skills up-to-date with current trends, whereas the opposite is most often their lived reality.

- As modern technologies are developed, businesses must reskill and upskill their employees.

- The 2022 WEF Global Risk Report[2] predicts that, as a result of automation, 5 million jobs will be lost.

- Technological advancements will result in the creation of approximately 9.7 million jobs.

To address these challenges, the DHET has developed a systemic approach to post-secondary education and training. The system's challenges highlight the importance of assessing labour market skills trends, such as demand versus shortage of qualified personnel, to reduce the skills shortage in the labour market. The DHET published the 2022 Report on Skills Supply and Demand as part of its Labour Market Intelligence (LMI) research program. 78% of South African companies have reported talent shortages and difficulty hiring.

**The report indicated the skills mismatch as follows:**

**1.** 32.2% of unqualified employees (field-of-study mismatch);

**2.** 28.1% underqualified employees require skills development; and

**3.** 24.3% overqualified employees.

### DHET intervention

DHET's labour market research programme seeks to identify knowledge gaps and provide the following assistance:

- Assist with enrolment, and resource allocation;

- Provide career guidance for learners and job seekers;

- Evaluate critically skilled foreign national recruitment and compensation, in circumstances in which the South Africa labour market is unable to provide in-demand skills, and provide support in the implementation of critical skills visas;

- Ensure that skills, or the lack thereof, do not impede the implementation of the Economic Reconstruction and Recovery Plan (ERRP); and

- Use informal learning platforms, MOOCs, and work place-based learning channels to deliver responsive skills training.

**Challenges faced by the digital skills strategy are as follows:**

- Lack of funding and incentive for digital skills;

- The rate at which new programmes emerge does not correspond to the rate of technological change;

- Short courses are in higher demand than full-time qualifications, however funds are not allocated appropriately;

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[1] The Edelman Trust Barometer Study. Available from www.edelman.com/trust/trust-barometer

[2] World Economic Forum (2022) Global Risk Report: Available from https://www.weforum.org/reports/global-risks-report-2022/
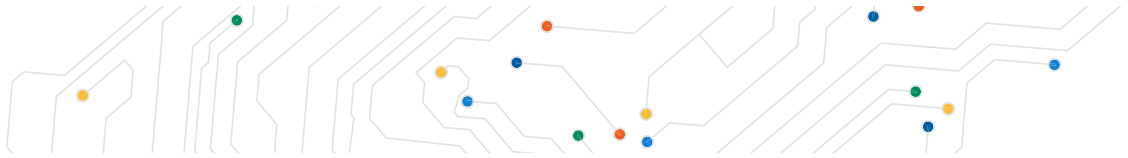
- Different approaches to skill delivery are required for short-term and long-term requirements. Short-term skill demand necessitates:

a) Faster approval and accreditation;

b) Bursaries and scholarships for digital qualifications;

c) Increased funding and student and graduate recruitment for internships and learnerships;

- Inadequate career guidance to encourage the pursuit of digital careers;

- The need for assistance with the development of new programmes;

- In the long run, South Africa will need to upskill educators, upgrade infrastructure, form partnerships with ICT companies, and develop new responsive qualifications and programs; and

- The DHET's National Skills Development Plan does not take into consideration the schooling system, nor does it address the skills demands of the different provinces, government departments, or district municipalities. It is under this premise the Department has to develop a country-wide Master Skills Plan.

**The DHET's national skills development plan has made the following progress:**

- Development of the draft concept note to reconceptualise the development of the Human Resource Development (HRD) Strategy in South Africa. The HRD Strategy is aimed to serve as a high-level coordinated response to the country's skills need for social and economic development.

- The strategy and its implementation plan are envisaged to address the skills supply and demand imbalances. It will bring coherence and efficiency in skills planning and delivery for the digital economy.

- The HRD Strategy will clarify the institutional arrangements to provide clear leadership and responsibility for key elements of the skills system.

### Panel Discussion
**Panel Members:**
- **Mr Gerhard Hattingh** - *Human Resource Development Council (HRDC)*

- **Ms Nozipho Sihlahla** - *Department of Communications and Digital Technologies (DCDT)*

- **Mr Zama Dlamini** - *Moses Kotane Institute (MKI)*
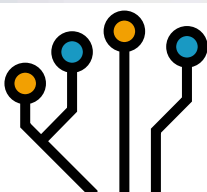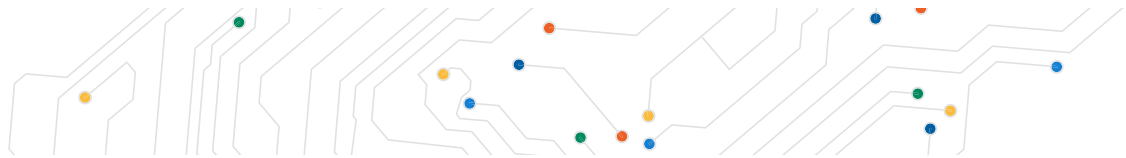
- **Dr Julie Reddy** - *South African Qualifications Authority (SAQA)*

- **Mr Ernest Nemugavhini** - *Media, Information and Communication Technologies Sector Education and Training Authority (MICT SETA)*

- **Ms Juanita Clark** - *Digital Council Africa*

### Moderator:

- **Ms Molebogeng Leshabane** - *NEMISA Board Chairperson*

### Discussion Summary

Inadvertently, the COVID-19 pandemic has created opportunities for the advancement of the digital economy and highlighted the critical need for digital expansion. However, the government lacks the funds required to implement critical skills development interventions.

The government is confronted with difficulties, including the need to ensure that learners have access to electronic devices and to zero-rated education platforms to prevent the digital divide from widening. In the last two years, there has been significant progress toward digital transformation. The Department of Cooperative Government and Traditional Affairs has released a report on the rapid deployment of broadband infrastructure.

Despite the widespread adoption of mobile technologies, young people appear to use them primarily for entertainment. There needs to be a call to encourage a "learning culture," particularly amongst the youth.

### Key Emerging Issues and Analysis

- Eliminate historical imbalances.

- Removal of barriers to the deployment of broadband infrastructure, through the three spheres of government.

- Technical skills and digital skilling programmes must include interpersonal skills and adaptability.

### Recommendations

I. Increased collaboration with various of stakeholders, including employers, training providers, and government, to address the demand for digital skills is required.

II. Develop interdisciplinary qualifications that develop social skills.

III. Create a learning culture amongst youth.

### 3.2 Innovative Solutions to Digital Skilling

### Session Overview and Objectives

This session examined existing digital innovations implemented by enterprises and training providers, and the potential cyber risks underpinning digitisation. Perspectives were shared on innovative solutions to digital skilling for the future of work and the role of artificial intelligence.

**Presentation:** Trends on Skills in the South African ICT Sector

### Speaker:

- **Mr Adrian Schofield** - *Institute of IT Professionals South Africa (IITPSA)*
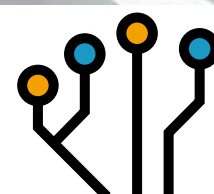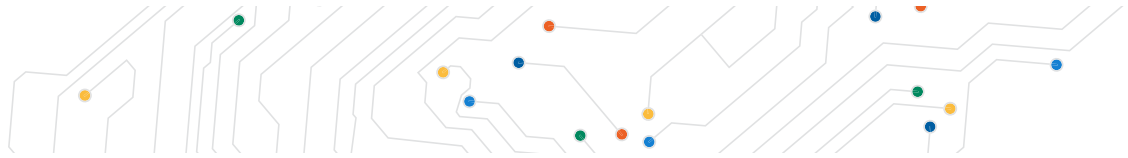
## Summary of Presentation

Mr Adrian Schofield[3] reflected on the nature of the digital skills gap, which changes and evolves as technology advances. The global skills gap remains a challenge as a result of the constant changes in digital and future skills. Emigration and immigration were highlighted as some of the factors that affect the skills gap. He noted that in a survey conducted to determine what society thinks needs to change in terms of skills development and resourcing, most respondents used globally recognised terms, such as data and internet. He further explained that a few can define what these terms mean and what skill sets are required in the digital workforce. He raised a concern that even the national critical skills list is actually a list of job titles rather than competencies which identify the critical skills in demand.

According to reports, the South African government has a shortage of qualified ICT practitioners, with 0.3% of public sector employees being qualified ICT practitioners, compared to 5% of public sector employees worldwide. As a result, key departments such as treasury, transportation, revenue services, home affairs, safety, and security are exposed to risk.

## Panel Discussion

### Panel Members:

- **Dr Kiru Pillay** - *Department of Communications and Digital Technologies (DCDT)*

- **Mr Llanley Simpson** - *Department of Science and Innovation (DSI)*

- **Ms Tiara Patho**n - *Amazon Web Services (AWS)*

- **Ms Dsimakatso Masiteng** - *National Youth Development Agency (NYDA)*

- **Mr Tseliso Mohlomi** - *Tshwane University of Technology (TUT) and*

- **Ms Carol Jaj**i - *Tshimologong Precinct*

### Moderator:

- **Mr Mlindi Mashologu** - *Department of Communications and Digital Technologies*

## Discussion Summary

Panellists discussed digital literacy's accessibility and inclusiveness. The lack of collaboration, coordination, and integration among stakeholders was cited as a factor impeding digital transformation progress. The two similar innovation initiatives implemented by the NYDA and DBSA, for example, were highlighted as initiatives that could have been implemented with greater impact in the presence of synergies, collaborations, and coordination.

Stakeholders from various sectors were encouraged to formulate meaningful partnerships to effectively increase the accessibility and inclusivity of digital literacy.

## Key Emerging Issues and Analysis

- Develop competency-driven programmes rather than job specific training.

- Graduate work-readiness programmes are required to prepare youth for economic participation.

- Provide tertiary graduates with the necessary digital and soft skills to allow them to enter the workforce without additional training.

- Provide community skills development and encourage youth to explore the digital universe.

- Development of augmented and continuous digital literacy is critical.

- Unnecessary expenditure on non-innovative programmes: the funding model for programs should be reconsidered.

- The lack of access to mobile devices and laptops affects South African youth, particularly in rural areas.

## Recommendations

I. Rethink a transdisciplinary curriculum through a design mind-set that seeks interconnectedness and new meaning.

II. The digital education curriculum should be reviewed to better prepare students for work focusing on skills development rather than job training to address and prioritise the critical skills shortages.

III. Increase the number of ICT experts in key government departments.

IV. Identify prompt solutions to provide access to internet connectivity, through collaboration, and collective initiatives rather than relying solely on the SA Connect Phase 2 project.

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[3] Most of the information was drawn from the JCSE – IITPSA Skills Survey Available from: www.iitpsa.org.za/jcse-iitpsa-skills-survey

## Session Overview and Objectives

This session discussed partnership modalities and commitments. The actions and interventions which must be carried out provide unified digital leadership of a national program on developing digital skills and emerging technologies.

### 4.1 Partnership Modalities and Commitments

#### Facilitator:

**Lwazi Ndzena** - *Department of Communications and Digital Technologies (DCDT)*

#### Discussion Summary

South Africa is confronted with a trifecta of issues: unemployment, inequality, and poverty. The majority of companies and/or organisations in the digital sector are non-South African and are primarily concerned with their organisations' advancement and profitability.

The established regulatory frameworks aimed at encouraging businesses to retain and develop skills through the BBBEE policy was highlighted. However, in spite of this policy, the country's lack of skills development remains high.

The Department must conduct an audit of existing training opportunities to ensure that training programs are coordinated consistently. This allows for sector-specific interventions, rather than solutions tailored to specific contexts. Consider vsion-aligned localised solutions instead.

According to the 2019 Statistics SA general household survey (GHS), 63% of households have access to the internet from any location. The Gauteng province has the highest rate at 74.2%, while Limpopo has the lowest at 43%. This was compared to statistics from the United States, in 2019, where 58.7% of had mobile internet access and the majority of those living in metropolitan areas having access to the internet (67.8%). An additional challenge in South Africa is that people may have access to a cellular device and network, but their devices are frequently inadequately optimised for other technological uses.

#### Key Emerging Issues and Analysis

- Connectivity is a major issue in South Africa, particularly in rural areas.

- While there are numerous coding and robotics programmes, this is a very specialised field.

- The gaming industry is a multidisciplinary environment that provides the opportunity for a massive youth-focused awareness campaign to encourage the exploration of opportunities within this sector.

- To ensure that proposals are refined and aligned with BBBEE principles stakeholders were encouraged to engage with the Council prior to submitting applications to the Competition Commission to further ensure social impact and reasonable investing.

- Eliminate the basic education gaps in literacy and numeracy through innovative solutions. Google's business model is based on collaboration with local partners to implement training programmes, and the company welcomes partnerships with both government and private sector organisations.

#### Recommendations

I. Advocate for the localisation of connectivity through spectrum licenses.

II. Review the current funding models. Funding of initiatives should be centred on partnerships.

III. The government must address the high levels of illiteracy, whereas the private sector and other industry stakeholders should address the skills gap among the literate.

## 4.2 Digital Transformation in TVET

### Session Overview and Objectives
The session served as a forum for the discussion of the findings of the Digital Transformation Readiness Assessment conducted at TVET colleges and provided advice and guidance on how to improve digital transformation in TVET colleges.

### Facilitators:
- **Mr Mogamat Petersen** - *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH*

- **Mr Sello Sethusha** - *Department of Higher Education and Training*

### Discussion Summary
The breakaway session drew thirty people from civil society, academia, government, local groups and international development corporations. It provided a concise description of the assessment of public TVET colleges' digital transformation readiness.

Lack of digital maturity stymies digital transformation. As a result, teachers, staff, and management are sceptical of the actual value that digital transformation and digital teaching products and services add to TVET teaching and training. A scarcity of experts to assist colleges in digital transformation advancement, a lack of awareness and understanding, and limited access to ICT technology are some of the influencing factors.

### Key Emerging Issues and Analysis
- Face-to-face learning has slowed technological adoption.

- Few solutions to improve the majority of TVET colleges' readiness for digital transformation.

- Inadequate selection of digital infrastructure and resources available at TVET colleges.

- Lack of training and professional development for lecturers.

### Recommendations
I. Increase the deployment of digital skills training at the school level.

II. Implement strategies to ensure that TVET college management and staff are equipped to use technology and follow international best practices.

III. The apprenticeship model should be implemented in TVET colleges to address tertiary qualification disparities, and a lack of experience and skills.

## 4.3 Women4Tech and Digital Skills: Building a Stakeholder Network on #eskills4Girls

### Facilitators:
- **Mr Godfrey Nkosi** - *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH*

- **Ms Alexandra Militz** - *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH*

- **Ms Suraya Adam** - *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH*

### Session Overview and Objectives
The session was attended by approximately thirty to forty participants from civil society, academia, government and international development cooperation organisations. It aimed to map gender transformative interventions in the digital skilling and ICT space, establishing the foundation for the development of a stakeholder network of key players in the context of #eSkills4Girls. Participants actively engaged by sharing their knowledge of initiatives and networks that specifically focus on women in ICT and gender in the digital space.

### Discussion Summary
Ms Suraya Adam discussed the five projects in which GIZ is involved, with a focus on gender roles.

### These projects are as follows:
i. Digital Skills for Jobs and Income (DS4JI) and associated #eSkills4Girls Initiative;

ii. The support to the Presidential Youth Employment Initiative, led by President Ramaphosa's project management office;

iii. Development of career paths for employment that focuses on a labour market transitioning to a decarbonised economy;

iv. A nationwide initiative focusing on people with disabilities in the digital sector and;

v. Programme in the Cultural and Creative Industries.

### Key Emerging Issues and Analysis
- Promote #eskills4girls to raise awareness and visibility of the initiative.

- Encourage youth to take part in exchange formats, such as conferences, to actively participate in decision-making and knowledge-sharing.

### Recommendations
I. Establish a Working Group focussed on the digital skills demand for young women. GIZ Digital Skills for Jobs and Income (DS4JI) will coordinate and provide the working group with objectives and input guidance. ◉
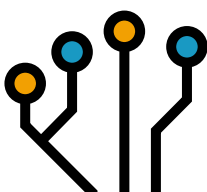
# 5 WINNERS OF THE SOUTH AFRICA SKILLS CHALLENGE INNOVATION CALL

The DCDT, International Labour Organisation (ILO), International Telecommunications Union (ITU) and UNDP Joint Programme on Digital Skills for Decent Jobs for Youth were excited to announce the winners of the South Africa Skills Challenge Innovation call, implemented in collaboration with GIZ through the #eSkills4Girls initiative and the DS4JI project.

The call was launched in July, under the topic "Boosting youth employability through digital skills". It encouraged training institutions in South Africa to submit proposals to help capacitate youth not-in-employment-education-and-training (NEET) through designing, proposing, and/or improving a curriculum. The solutions had to include both a training of trainers and a rollout plan to reach out to vulnerable youth across the country. The goal of the proposals should be to provide pre-entry level digital skills training offers which can increase access to employment or further skills development opportunities.

The call yielded fourteen eligible proposals that were narrowed down to nine finalists, through a series of technical assessments. The finalists were invited to present their concepts in the presence of an external panel consisting of skill experts, digital specialists and youth development institutions. The prizes included financial and technical support for the organisation, including a six-month programme by the ILO's International Training Centre and ILO's Skills Innovation Facility to prototype and pilot their solution.

**The prizes were divided into three categories:**

**1st Prize:** USD 40,000 for #eSkills4girls (women and girls access to and participation in the digital economy).

**2nd Prize:** USD 25,000 for #digitalSkills4youth (prototyping a new digital skills programme for youth NEET).

**3rd Prize:** USD 20,000 for #digitalskills4youth (scaling up a tested digital skills programme for youth NEET).

## 1st Prize Category

Winner: Ikasi Creative NPC's concept of "Digital Media Skills Training" aimed at women and girls in the rural areas of the Western Cape.

**Runner-up:** Africa Women Innovation and Entrepreneurship Forum (AWIEF) was awarded a voucher for technical support for their concept "Building Digital Skills Capacity for Employ-ability of Young Females in South Africa" aimed at women and children across South Africa.

## 2nd Prize Category

Due to the lack of eligible scaling-up programmes, the partnership decided to award two prototyping programmes with the same cash value.

## Winner:

Limpopo-based Vexospark with their "Digital Touch in Rural Communities" initiative that will be implemented in the rural areas of Limpopo, Eastern Cape, North West, and Northern Cape.

## Winner:

The Lindamahle Innovation Centre will work with communities in the OR Tambo District on "Training of unemployed youth (NEET) on ICT & Cisco Networking Skills".

## Runner-up:

Digify Africa, which is based in Johannesburg, was awarded a voucher of technical support for the nationwide "Digify Pro Online" concept.

## Jury Prize

Due to the high quality of the proposals, the partnership chose to acknowledge concepts that stood out with a Jury Prize. This was awarded to Cape Town-based Genesis Community IT on their "Mobile Tech Champions" initiative aimed at youth in Elsies River. They will receive financial and technical support from the partners. ◉

## 6.1 Arts and Creatives in the Digital Economy

### Session Overview and Objectives

This session aimed to raise awareness of the digital creative industry's expansion opportunities, and reflect on the Creative Industries Master Plan, particularly in terms of recommendations on digital skills, 4IR skills potential, needs, and gaps in the digital creative industries. The role of 4IR skills in the creative industries and the creative economy, was unpacked.

Presentation: Creatives Sector in the Digital Economy

### Speaker:

• **Mr Charles Mabaso** - *Department of Sports, Arts, and Culture*

### Presentation Summary

The Creative Industries Master Plan was summarised by Mr Mabaso. He emphasised that the creative sector contributes significantly to global economy and it is critical to the development of societies and cultures. Thus, the overarching objective of the Master Plan is to ensure that South Africa's creative arts economy remains globally competitive, sustainable and a job creation enabler.

### The Master Plan nine pillars are listed below.

1. Improving access to finance and investment

2. Product development and innovation

3. Domestic and international market development

4. Effective & efficient IP (intellectual property) rights management

5. IP, technical and creative enterprise skills development

6. Support for research and industry coordination

7. Transformation

8. Support for research and data collection

9. Policy and legislative coherence and implementation

### Key issues raised:

• Policy must be developed or adapted to accommodate the creative arts economy to promote fair competition and strengthen the formation of cultural enterprises.

• The creative arts economy contributes significantly to the South African economy through export markets, national and regional creative clusters, and entrepreneurship. Support is required for "suppliers" in the form of skills development, increased competitiveness, improved intellectual property protection, and innovative financial solutions and incentives through investment and financing.

• Market development can be attained through audience education and development, marketing, promotion, export development, and a focus on "buying local".

• Include animation and gaming in the country's school curriculum, as a lack of basic skills in these domains has hampered the creative sector's expansion.

• Seek to address biases associated with the creative sector's interconnections to western culture.

COVID-19 has accelerated the processes of digital globalisation and the growth of online trade in services. The question posed is whether the country and its creative entrepreneurs have the capacity and institutional support to capitalise on this growth and monetise trade in creative goods, services, and intellectual property (IP) in the burgeoning digital arena.

### Panel Discussion

**Panel Members:**

**Ms Kelebogile Molopyane** - *Africa Beyond 4IR*

**Mr Trevor Rammitlwa** - *National Electronic Media Institute of South Africa (NEMISA)*

**Ms Jackie Motsepe** - *KZN Film Commission*

**Ms Isabelle Rorke** - *Animation SA*

**Dr Tegan Bristow** - *WITS Digital Arts*

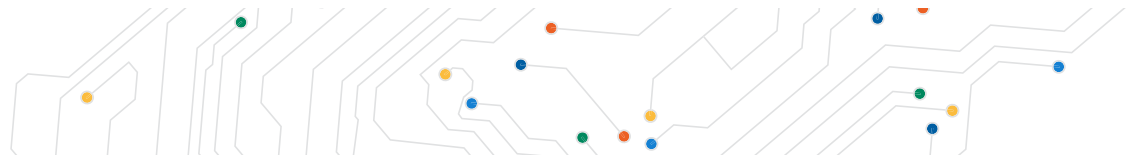**Ms Carol Jaji** - *Digital Skills Academy*

**Mr Tulo Mlati** - *Digitech Entrepreneur*

**Moderator: Ms Beth Arendse** - *SA Creative Industries Incubator*

### Discussion Summary

The panellists considered the statement: *"There's huge demand for South African cultural products and services, but we have not invested in a skills pipeline."*

## Understanding the creative economy

The creative economy encompasses numerous disciplines. South Africa's economy has grown at twice the national rate since 2009, demonstrating that it is a sector with enormous potential that is underutilised due to insufficient development at the local level to fully capitalize on opportunities within the sector, particularly for rural youth.

South African creatives are faced with various challenges, including limited or no access to specialised resources such as animation studios and 3D printers; SETA funding requirements which inhibit entrance; internship opportunities in the private sector are difficult to secure; and the SABC's unwillingness to invest in the broadcasting of African animations, which limits opportunities for industry growth. Inefficiencies, insufficient and inadequate resources stymie incubator solutions in the sector.

Rapid technological advances in areas such as artificial intelligence, cyber-security, systems, and software continue to have a significant impact on the creative economy. As a result, skills development programmes must be aligned with current digital transformation trends.

South Africa lacks the necessary structures and systems required to bring creative activations products to market. It is essential to increase the number of medium-sized businesses and studios that serve as intermediaries between creators and the market. Mentorship programs would be effective in training creative entrepreneurs and freelancers on contract literacy, intellectual property rights, and monetising their intellectual property.

### Key Emerging Issues and Analysis

- Funding models and investment vehicles that incentivize creativity and enable those with limited resources to participate in the creative economy must be developed and the relevant policy frameworks need to be revised.

- Participation in emerging opportunities across the digital economy will necessitate the sector's focus on diverse skills development to enhance the quality and marketability of content creation.

- The development of the creative industry necessitates access to basic education which promotes creativity, problem-solving, and strategic thinking. Similarly, basic education must include digital literacy and digital applications such as coding, e-gaming, and animation in the curriculum to prepare youth for employment in the digital workplace.

- Technology is constantly changing, both for the creator and for the end user. As a result, the landscape is shifting and new opportunities emerge on a daily basis.

- A lack of resources, such as high-tech equipment and studios in which to create animation, games, movies, and television productions, is impeding the development of this industry, particularly in rural and township areas.

### Recommendations

I. The establishment of a robust legal and institutional framework to improve copyright licensing and monetisation, financial support for the commercialisation of creative activities, and government involvement in business support services (e.g., training, incubators, innovation labs, market incubators, cluster development, and market development programmes), the establishment of enabling institutions to represent the interests of the creative sector, and the harmonisation of government policies.

II. Advocacy to shift away from the traditional low-value-added, practitioner-industry model and toward a strategic collaborative approach that fosters higher levels of creative and digital entrepreneurship.

III. Reinstate arts education in public schools and include gaming and e-sports in the school curriculum.

### 6.2 Youth Involvement in the Digital Economy and the Future of Work

### Session Overview and Objectives

The discussions in this session focused on the nature of skilling, upskilling, and reskilling that is required in response to market skill demands and the future of work.

**Presentation:** Demo on Digital Skills Platform

**Speaker**: **Mr Andy Searle** - *Digital Work Accelerator*

### Presentation Summary

Youth unemployment is a global crisis and particularly critical in South Africa. South African youth unemployment rates are 46.5%, or 4.8 million, which is slightly higher than the population of Cape Town. This highlights the importance of focusing on scalable inclusivity and accessibility of digital skills for the youth. Digitalisation creates job opportunities whilst simultaneously posing one of the greatest threats to economic competitiveness and social security due to the digital divide. A lack of digital literacy exists, as does a high level of exclusion due to barriers to learning and employment.

The magnitude of the challenges associated with developing future skills necessitates an agile, demand-led, and skill-based solution enabled by technology. This must be implemented through a policy framework that removes barriers to learning and working.
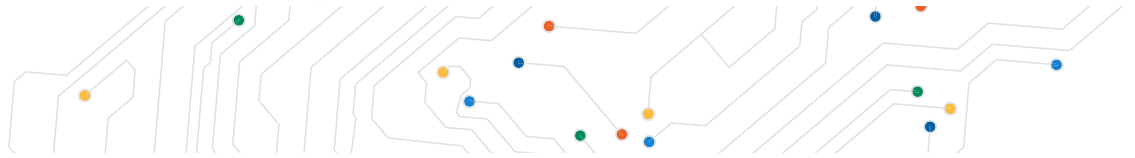
Digital skills have the potential to help us move away from the current educational paradigm and improve educational quality and accessibility. In the context of 4IR and a digital economy, traditional educational models need to be reviewed.

The United Nations Development Programme (UNDP), in partnership with the Department of Public Service and Administration, the National Youth Development Agency and the Public Service, has a project that promotes good governance by assisting in the development of digital and professional skills among a pilot cohort of training ambassadors who have been deployed to various government organisations across South Africa since August 2022. The interns undergo a six-month digital upskilling programme that includes both a mandatory curriculum and a self-managed curriculum, which include professional skills and emerging technologies.

## Panel Discussion
### Panel Members:
- **Ms Lerato Shai** - Presidential Youth Employment Intervention (Presidency)

- **Ms Christine Sund** - *Joint Programme Digital Skills for Decent Jobs for Youth (UNDP / ILO / ITU)*

- **Mr Emmanuel Kganakga** - *Department of Women, Youth and People with Disabilities*

- **Ms Abongile Mashele** - *Google South Africa*

- **Ms Trisha Govender** - *LaGrange Academy*

- **Mr Andrew Bourne** - *ZOHO*

### Moderator:
- **Mr Nathi Mbele** - *Adnotes*

## Discussion Summary
To create opportunities for the youth skills development must be demand-led, as skills development without market demand is ineffective. Youth must be offered opportunities to influence decision-making. Internships help interns gain necessary on-the-job skills, and interns are encouraged to ensure that their internships are beneficial and add value to their development.

## Key Emerging Issues and Analysis
- The magnitude of the challenges associated with developing workplace skills for today and tomorrow necessitates the use of technology-enabled agile, monitored, and skill-based solutions.

- Skills development versus demands of the economy.

- Access to skills development.

## Recommendations
I.   To create an enabling environment, government should continue to develop a national strategy that adequately encourages the development of employability for today and the future.

II.  Improve access to digital literacy education through basic education curricula and local hubs.

III. Employers should create a conducive environment for youth, through internships and mentoring programmes, to promote youth empowerment. ◉

This session aimed to explore the procedures and interventions required for the implementation of a coordinated national digital skills programme.

## 7.1 Partnerships Modalities and Commitments

### Facilitator:
• **Lwazi Ndzena** - *Department of Communications and Digital Technologies (DCDT)*

### Discussion Summary

During the discussions, an overview was provided of the ICT Council's mandate to assist in partnership coordination and stakeholder engagement. The manner in which companies violate BBBEE policies while being unaware of the significance thereof was illustrated. Stakeholders were encouraged to consult and seek guidance from the council before approaching the Competition Commission.

Lack of coordination, duplicative provincial strategies and uniformed approaches to broadband strategy implementation clearly indicate a lack of collaboration between the government and stakeholders.

### Key Emerging Issues and Analysis

• Lack of financial support for e-sports and animation projects. The implementation of 4IR technologies is challenged by a lack of adequate relevant skills, the unavailability of training capacities, expensive technologies and negative perceptions such as fear of job loss by industry professionals.

• It is necessary to create a list of critical skills development needs based on market demands and community capabilities and requirements.

• Massive public awareness campaigns, particularly in rural areas, are required, with youth identified as digital ambassadors.

• Existing digital content should be used to develop games and animation for the education and gaming industries.

### Recommendations

I. Increased investment in the ICT sector.

II. Creation of a national critical skills database.

III. Improved coordination of initiatives and digital skills programmes.

IV. SMME incubation.

V. To ensure synergies and integration for better-coordinated initiatives, the national census should include assessments of ICT gaps or digital divides.
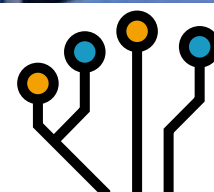
# 8 CONCLUSION



The two-day Digital and Future Skills National Conference, convened by DCDT and GIZ, benefited from the valuable and rich inputs presented by strategically high-ranking government leaders, organisations, training institutions and academics. The multi-sectoral and participatory approach of the conference provided participants with an important forum and opportunity to reflect collectively on the issues, factors, gaps, and challenges faced by the country's digital transformation, skills development, labour market needs and high youth unemployment towards the implementation of digital skills as the cornerstone for a digital economy. Thus, concrete partnerships and practical, implementable solutions to the challenges are required to implement a nation-wide digital transformation programme.

The DCDT acknowledged that developing digital skills requires significant investment, coupled with continuous lobbying to attract both local and international investors.

The government's current partnership with GIZ in the digital skills for jobs and income initiative demonstrates government's commitment to the successful implementation of the National Digital and Future Skills Strategy.

The establishment of meaningful partnerships in digital skilling with tangible impacts and measurable outcomes, accessibility, inclusivity, coordinated initiatives, funding, and investment were key emerging issues that were consistently raised during the two-day conference.

*"Success is not success unless it benefits others; to measure the difference, it must benefit people."*

## 8.1 Summary of Recommendations

I. Increased collaboration for the deployment of internet connectivity, access to resources and skills development with various of stakeholders, including employers, training providers, civil society, labour, academia, youth facilities and government, is required to address the demand for digital skills.

II. Increased investment in ICT sector:

- Review the current funding models. Funding of initiatives should be centred on partnerships.

- Advocate for the localisation of connectivity through spectrum licenses.

III. Government to create an enabling environment:

- Increase the number of ICT experts in key government departments.
- The establishment of a robust legal and institutional framework to improve copyright licensing and monetisation, financial support for the commercialisation of creative activities, and government involvement in business support services (such as training, incubators, innovation labs, market incubators, cluster development, and market development programmes), the establishment of enabling institutions to represent the interests of the creative sector, and the harmonisation of government policies.
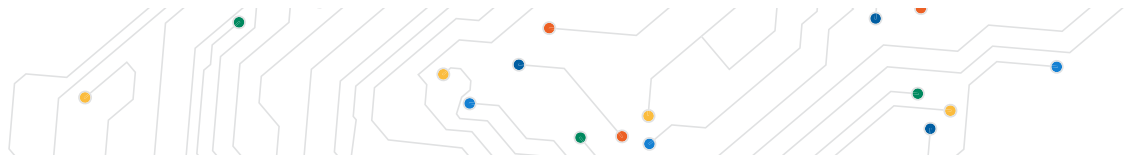
**IV.** Increase the deployment of digital skills training at the school level:

- Include basic digital literacy at school level.

- Reinstate arts education in public schools' curriculum.

- Include gaming and e-sports in the school curriculum.

**V.** To better prepare students for work, the tertiary digital education curriculum should be reviewed as follows:

- Developing interdisciplinary qualifications that develops social skills.

- Rethinking a transdisciplinary curriculum through a design mind-set that seeks interconnectedness and new meaning.

- A focus on skills development rather than job training.

- The digital education curriculum should be reviewed to better prepare students for work focusing on skills development rather than job training to address and prioritise the critical skills shortages.

- The apprenticeship model should be implemented in TVET colleges to address tertiary qualification disparities, a lack of experience, and skills.

- Implement strategies to ensure that TVET college management and staff are equipped to use technology and follow international best practices.

**VI.** Increased employability and employment creation

- Employers need to create enabling environment for the youth, such as internships, mentoring, and shadowing opportunities to gain work experience.

- Establish a Working Group focusing on the digital skills demand for young women. GIZ Digital Skills for Jobs and Income (DS4JI) will coordinate and provide the WG with objectives and input guidance.
- SMME incubation.

**VII.** Increase the opportunities in the creative industry through:

- Advocacy to shift away from the traditional low-value-added, practitioner-industry model and toward a strategic collaborative approach that fosters higher levels of creative and digital entrepreneurship.

- Focus on the development of critical skills that are required to sustain the creative industry.

- Increased information sharing and availability, and improved coordination of initiatives and digital skills programmes.

- Creation of a national critical skills database.

**VIII.** Implementation of the National Digital and Future Skills Strategy's eight pillars.
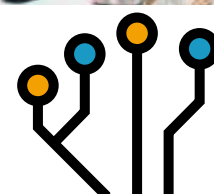
**For more information please visit:**

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