

# PROGRAMME

## NATIONAL SYSTEM OF INNOVATION TRANSFORMATION SUMMIT

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*Science, technology, innovation and knowledge  
at the centre of government, education,  
society and industry*

**Birchwood Hotel and OR Tambo  
Conference Centre  
13 and 14 March 2025**



M Making < sure it's possible



**science, technology  
& innovation**

Department:  
Science, Technology and Innovation  
REPUBLIC OF SOUTH AFRICA



## Day 1: 13 March 2025

- 08:00 Registration and networking  
(National anthem)
- 08:30 Welcome address by Mr Nkosindiphile Xhakaza, Executive Mayor of Ekurhuleni
- 08:40 Purpose of the summit by Mr Tilson Manyoni, Chairperson of NACI
- 08:50 Message of support by Mr Panyaza Lesufi, Premier of Gauteng
- 09:00 Keynote address by Prof. Blade Nzimande, Minister of Science, Technology and Innovation
- 09:45 Panel discussion: The transformation of knowledge for South Africa's future

### Facilitator: Dr Derrick Swartz, Science Expert

#### Panellists:

Prof. Zebulon Vilakazi, Vice-Chancellor of the University of the Witwatersrand  
Prof. Azwinndini Muronga, Deputy Vice-Chancellor of Nelson Mandela University  
Prof. Shireen Motala, South African Research Chair: Teaching and Learning at the University of Johannesburg  
Dr Andile Ngcaba, Chairman and Founding Partner of Convergence Partners  
Labour (TBC)

- 10:45 Refreshment break
- 11:00 Panel discussion: Equity, diversity and inclusion in the current and future research and innovation workforce

### Facilitator: Prof. Sarah Mosoetsa, CEO of the Human Sciences Research Council

#### Panellists:

Prof. Xoliswa Mtose, Vice-Chancellor of the University of Zululand  
Dr Fulufhelo Nelwamondo, CEO of the National Research Foundation and NACI Council Member  
Mr Sandile Dube, CEO of Equinix South Africa  
Prof. Maurice Radebe, Head of Wits Business School

12:00 Panel discussion: Knowledge and STI-driven industrialisation and green development

**Facilitator: Dr Ossie Franks, NACI Council Member**

Panellists:

Prof Vladimir Linkov, Director, South African Institute for Advanced Materials Chemistry and NACI Council member  
Dr Thulani Dlamini, CEO of the Council for Scientific and Industrial Research and NACI Council Member  
Labour (TBC)

13:00 Lunch

14:00 Parallel sessions

## **Session 1: Innovation and entrepreneurship**

Venue: Wonderboom

**Facilitator: Dr Nomhle Ngwenya, NACI Council Member**

Panellists:

Prof. Lynn Morris, Deputy Vice-Chancellor: Research and Innovation at the University of the Witwatersrand  
Ms Mosa Molebatsi, Executive at Mergence  
Dr Nhlanhla Msomi, President of AfricaBio and Chairperson of Next Biosciences  
Labour (TBC)

## **Session 2: Innovation for inclusive and sustainable development**

Venue: Grand Central

**Facilitator: Ms Gugu Zwane, Acting Director-General of the Department of Science, Technology and Innovation**

Panellists:

Prof. Rasigan Maharajh, Chief Director of the Institute for Economic Research on Innovation at Tshwane University of Technology  
Mr Bani Kgosana, Chief Revenue Officer at Pragma  
Mr Kganki Matabane, CEO of the Black Business Council  
Labour (TBC)

### **Session 3: Science, technology and innovation (STI) investment and incentive schemes**

Venue: Virginia

**Facilitator: Ms Beth Arendse, NACI Council Member**

**Panellists:**

Dr Thandi Mgwebi, Group Executive: Business Advancement at the National Research Foundation

Mr Ismail Abdoola, Acting CEO of the Technology Innovation Agency

Mr Lucky Pane, Acting Executive Head of Research & Innovation, Multi-Management Private Markets at the Public Investment Corporation

Ms Tshepiso Kobile, CEO of Southern African Venture Capital Labour (TBC)

### **Session 4: Harnessing new and emerging technologies for the sustainable development of South Africa**

Venue: Lanseria

**Facilitator: Prof. Noluxolo Gciza, Programme Manager of the Postgraduate Diploma in Cybersecurity, Nelson Mandela University**

**Panellists:**

Prof. Adnan Abu-Mahfouz, Chief Researcher and Centre Manager of the Emerging Digital Technologies for 4IR research centre at the Council for Scientific and Industrial Research

Dr Jabu Mtsweni, Chief Researcher and Centre Manager of the Information and Cybersecurity research centre at the Council for Scientific and Industrial Research

Ms Atenkosi Ngubevana, Group Executive Head for Digital Process Automation & Process Re-Engineering at Vodacom

Ms Mpho Chinyolo, Development Economist at African Development Bank and NACI Council Member

Labour (TBC)

## **Session 5: The role of science and economic diplomacy towards socio-economic development in South Africa, the region and the rest of the continent**

Venue: Heathrow

**Facilitator: Ms Anneline Morgan, Chief Director at the Department of Science, Technology and Innovation**

Panellists:

Mr Daan du Toit, Deputy Director-General at the Department of Science, Technology and Innovation  
Prof. Ibbo Mandaza, Executive Chair of the Southern Africa Political Economy Series Trust  
Ms Lebogang Zulu, Chairperson of the BRICS Women's Alliance Labour (TBC)

## **Session 6: Indigenous knowledge systems (IKS)-based science, technology and innovation for transformation and inclusive development**

Venue: Charles De Gaulle

**Facilitator: Prof. Yonah Seleti, Research Expert in IKS Maritime Studies at Nelson Mandela University**

Panellists:

Ms Retang Phaahla, Co-founder of Setšong Tea  
Dr Amani Buntu, Executive Director and Founder of Ebukhosini Solutions  
Dr Amanda Gcabashe CEO of Olintshi Innovation Brokers  
Dr Ncebakazi Galada of Mthata Incubators  
Prof. Motlalepula Matsabisa, Director of the Indigenous Knowledge Systems Lead Programme at the University of the Free State  
Prof. Kgabo Moganedi, Professor of Microbiology at the University of Limpopo Labour (TBC)

## Session 7: Youth and science, technology and innovation

Venue: OR Tambo Centre

**Facilitator: Ms Thulile Khanyile, Co-Executive Director of Nka'Thuto**

**Panellists:**

Mr Tshepo Mangoele, Co-founder and CEO of LignOrganic  
Dr Mutshidzi Mulondo, Member of UNESCO's Action Group for Women in Science  
Ms Joanna Govender, CEO of Empire Foundation  
Mr Dheepak Maharajh, CEO of UVU Bio and NACI Council Member Labour (TBC)

16:00 Refreshments and departure

18:00 Gala dinner

## Day 2: 14 March 2025

08:30 Continuation of parallel sessions

10:30 Refreshment break

11:00 Plenary session: Reporting from parallel sessions

Rapporteur from Session 1: (TBC)

Rapporteur from Session 2: (TBC)

Rapporteur from Session 3: (TBC)

Rapporteur from Session 4: (TBC)

13:00 Lunch

14:00 Rapporteur from Session 5: (TBC)

Rapporteur from Session 6: (TBC)

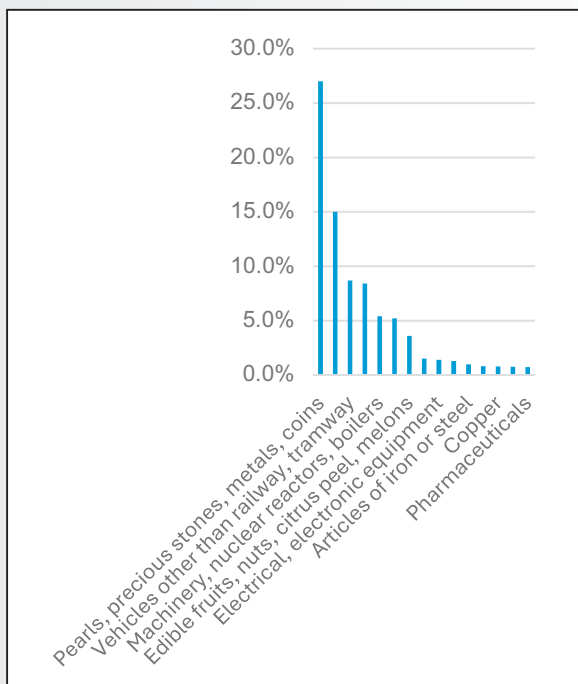
Rapporteur from Session 7: (TBC)

15:30 Outcome statement and closing by Deputy Minister, Ms Nomalungelo Gina (Tentative)

16:00 Refreshments and departure

## INNOVATION IS KEY

- Innovation systems are open, complex, and self-organising. They are the engine for wellbeing, economic competitiveness and sustainability.
- Innovation activities include –
  - knowledge, financial and commercial actions, including AI;
  - engineering, design, product development, creativity, marketing and brand equity;
  - R&D – own or sourced;
  - intellectual property search and registration;
  - employee training;
  - software and database development;
  - acquisition or leasing of assets.
- R&D is one of many paths to innovation.
- Innovation in firms and public sector innovation are complementary.
- The path dependence of the export basket shapes industrial policy. We remain a commodities exporter.



## INNOVATION NATION



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"Ongoing transformation of the NSI is about ensuring that the benefits of innovation are shared equitably across society. This includes enhancing access to science and education for young people from working-class and poor backgrounds to ensure they can become future scientists and innovators."

–Prof. BE Nzimande, Minister of Science, Technology and Innovation

## THE JOURNEY

- The target of GERD at 1,5% of GDP has not been attained.
- There has been a drift to basic research, and sharp rises in health sciences, and social sciences and humanities research.
- The manufacturing and mining and quarrying sectors drove a R980 million increase in business sector R&D expenditure over 2022.
- The financial intermediation, real estate and business services sectors accounted for 43,9% of total R&D expenditure, while the manufacturing sector accounted for 31,2%.
- The tax deduction for business R&D has not generated additionality.



- 30% STEM university target attained.
- NSFAS massified.
- The SA Research Chairs Initiative and centres of excellence and competence have boosted scientific outputs.
- Universities remain the postgraduate study hub of sub-Saharan Africa.
- TVET centres of specialisation hold promise to build links with industry.
- There has been a significant increase in scientific publications.
- NIPMO support for offices of technology transfer and Patent Cooperation Treaty (PCT) applications has contributed to increased intellectual property registration.
- Demographic representation has improved.
- The stock of researchers needs to grow.
- Large investment in knowledge infrastructure like new universities, TVET colleges, radio astronomy, computing and connectivity.



## SOME FACTS

- Universities account for 85% of publications (Web of Science database.)
- We boast a diversified science system that clusters in blue sky and social science categories, while engineering and material sciences have low emphasis. (P is the article count.)

ESI science categories (2018-2022)	P	Cites	Cites/ P	Highly cited
Clinical medicine	18 844	489 753	25.99	3.3
Environment/ ecology	11 958	194 080	16.23	1.4
Chemistry	11 579	167 230	14.44	0.9
Social sciences, general	21 325	161 883	7.59	1.0
Plant and animal science	14 751	159 960	10.83	1.2
Space science	4 293	150 522	35.06	3.2
Physics	7 343	141 308	19.24	2.2
Immunology	6 544	131 115	20.04	0.8
Geosciences	7 122	102 685	14.42	1.1
Engineering	8 507	101 423	11.92	1.4

- Target for US patents not attained.
- Trademarks and plant cultivar rights dominate.

	1996	2023
US Patent awards	105	122 (2019)
Patent Cooperation Treaty applications	93	693
Trademark applications (SA resident)	7 051	22 471
Trademark applications (SA abroad)	11	2 827
Plant cultivars in force	n/a	3 809
% high-tech exports	5	5
Global Innovation Index	n/a	60

- The top PCT applicants are Stellenbosch University, Detnet, University of Cape Town, University of Pretoria and Poynting.
- Innovation impacts include Pratley putty, lithium ion cathode material, cardiac stent, AI and fintech.