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**DEPARTMENT OF SCIENCE AND INNOVATION**

NO. 2136

6 June 2022

**REPORT ON THE REVIEW OF THE HIGHER EDUCATION, SCIENCE,  
TECHNOLOGY AND INNOVATION INSTITUTIONAL LANDSCAPE**

I, Bonginkosi Emmanuel Nzimande, the Minister of Higher Education, Science and Innovation, hereby publish in accordance with section 85 (2) (b) of the Constitution of the Republic of South Africa, the review report of the Higher Education, Science, Technology and Innovation Institutional Landscape, for public comment.

Members of the public are invited to submit their comments/input on this review report within 30 days of the date of the publication of this notice. Written comments may be submitted to:

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Attention: Urszula Rust

Email: [comments@dst.gov.za](mailto:comments@dst.gov.za)

The review report of the Higher Education, Science, Technology and Innovation Institutional Landscape can also be accessed online from [www.dst.gov.za](http://www.dst.gov.za)



**MR BE NZIMANDE, MP**  
**MINISTER OF HIGHER EDUCATION, SCIENCE AND INNOVATION**  
**DATE: 12/05/2022**

# A New Pathway 2030: Catalysing South Africa's NSI for Urgent Scaled Social and Economic Impact

A Review of South Africa's Higher Education,  
Science, Technology and Innovation Institutional Landscape (HESTIIL)

Report by the HESTIIL Ministerial Committee

September 2020

## Chairperson's message

It was a special privilege and honour for us to respond in December 2019 to the call of the Minister of Higher Education, Science and Innovation, Dr Nzimande, to undertake this review of South Africa's Higher Education, Science and Innovation landscape. Our review followed on the heels of the 2017 Review of the Science, Technology and Innovation landscape. This time though, in the context of the consolidation of the Ministries of Higher Education and Training, and Science and Technology, to form the Ministry of Higher Education, Science and Innovation, our brief was formally extended to incorporate the review of the full spectrum of research entities and universities that fall within the purview of the new ministry. Even then, our review is far more comprehensive and extends to all the country's public research entities and institutions that fall within the purview of other ministries.

The devastating COVID-19 global pandemic and the associated lockdown of the country came just as our work was gathering pace. However, after we had found our 'digital' feet, we were able to progress our work at an unimaginable depth and pace. While we lost out on *in situ* international benchmarking, this was made up through a World Bank-hosted webinar and an extensive and detailed set of virtual engagements with South Africa's research entities, institutions and universities. In the event we consulted with the three leading government departments that sit astride the country's research-innovation-technology-transfer-industrialisation value chain, viz. the Departments of Higher Education and Training, Science and Innovation, and Trade, Industry and Competition. We were also privileged to test and consult our initial findings and views with twenty research entities and institutions, Universities South Africa (USAf) representing the country's twenty-six universities, eight development finance institutions, thirty-six representatives from various business and industry associations and entities, and twenty-three representatives from various civil society organisations. We gleaned immense insights and wisdom from these consultations, all of which have enriched our findings and recommendations.

It is self-evident that our country's adaptive, self-organising and dispersed 'republic of science' has until now successfully evaded coordination. This has had significant consequences for the evolution of our National System of Innovation (NSI), most notably for achieving sustained depth in our areas of current and emergent excellence, and for achieving far greater social and economic yields as required by the National Development Plan 2030. Strikingly, as we show in our report, our research outputs are plateauing at a level that has already placed the country behind China, S. Korea, Malaysia and Singapore and which will soon see Egypt surpassing it. Equally significantly, our patent outputs are already in decline from a low peak. These developments are in part the consequence of the absence of system steering, and of sustained under-investment in our research, development and innovation (RDI) enterprise that will require focused remediation over the next decade. It is also the consequence of the over-concentration of the RDI enterprise in historically advantaged institutions where the development of inclusive, diverse, pluralistic and non-patriarchal knowledge-producing research communities and cultures have proved extraordinarily sticky.

Our overarching recommendation is that the RDI enterprise should be expanded in a planned and coherent manner. This will over the next decade require a doubling of investments from the state, business and industry. It will also require the focused, coherent and progressive pivoting of existing incentives – viz., input and output grants, transfers and taxation – to support the achievement of capacity, depth and far greater social and economic outputs. In order for the latter to be successfully achieved, a common language should be nurtured and socialised across the NSI. We are particularly optimistic about the country's prospects, more so in light of its COVID-19 global pandemic response demonstrates that the borders separating deeply siloed government departments, business and industry, and the country's leading science organisations and scientists can be crossed in service of

providing a comprehensive response and programme of action. It is precisely this cross-governmental, cross-research entity, cross-business and industry and cross-civil society approach that will be essential if we are to coherently expand and deepen our NSI in the service of our nation.

We were able to undertake and complete our work because of the exceptional support provided by Dr Phil Mjwara, Director-General of Science and Innovation, and his amazing team of colleagues. In this regard, we are especially indebted to Ms Nthabiseng Msomi for her complete dedication to our work and her outstanding support. We are also grateful to Ms Thandeka Mhlanga, our researcher, who undertook on our behalf extensive research of key peer and industrialised nations' NSIs and provided valuable input into our findings and recommendations.

Finally, I record my sincerest appreciation to my colleagues and Ministerial Committee members who invested so much of their time, energy, passion, empathy, wisdom and patience in developing this report -

Prof. Anastassios Pouris;  
Prof. Aris Sitas;  
Prof. Brian Figaji;  
Mr Lumkile Mondli;  
Ms Marjorie Pyoos;  
Mr Mpho Madisha;  
Prof. Puleng LenkaBula;  
Prof. Thenjiwe Meyiwa, and  
Dr Sibusiso Manzini.

Our diverse and experienced team bring commendable experience and insights from across the higher education, science and innovation system including civil society.

So, with our work completed, we are honoured to hand over this report to Minister Nzimande for his consideration and action.

Prof. Ihron Rensburg

Chairperson: Ministerial Committee on the Review of the Higher Education, Science, Technology, Innovation and Information Landscape

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