



**PROGRAMME
WEBINAR ON THE 4IR**

MONDAY 17 FEBRUARY 2025, 10h00 -12h00

The Impact of 4IR Technologies: An Overview

Programme Facilitator

- Dr Karen Calteaux: Impact Area Manager: NextGen Enterprises and Institutions (NGEI) Cluster: Council for Scientific and Industrial Research (CSIR)

ITEM	SPEAKER	TIME
Opening and Welcome	Dr Jakob Jacob Moroe <i>Researcher: Parliament RSA</i>	10:00 – 10:05
Keynote Address	Hon. Dr Annelie Lotriet <i>Deputy Speaker: National Assembly: Parliament RSA</i>	10:05 – 10:15
Introductory Remarks	Dr Mmboneni Muofhe <i>Deputy Director-General: Socio-Economic Innovation Partnerships: Department of Science, Technology and Innovation</i>	10:15 – 10:25
Showcasing CSIR's 4IR Technologies: A Video Presentation	Dr Karen Calteaux <i>Impact Area Manager: NGEI Cluster: CSIR</i>	10:25 -10:30
Panel Discussion	<p>Department of Science, Technology and Innovation Dr Mmboneni Muofhe</p> <p>Department of Communications and Digital Technologies Mr Alfred Mmoto <i>Acting Deputy Director-General: ICT Policy Development and Research</i></p> <p>CSIR Dr Laurette Marais <i>Senior Researcher</i></p> <p>Mr Jay Moodley <i>Senior AI and XR Researcher</i></p> <p>Dr Sunveer Matadin <i>Manager: Centre for Robotics and Future Production</i></p>	10:30 – 11:20
Way Forward and Vote of Thanks	Ms Linda Stofile <i>Senior Researcher: Parliament RSA</i>	11:20 – 11:30



KEYNOTE SPEAKER: Hon. Dr Annelie Lotriet – Deputy Speaker of the National Assembly (Parliament RSA)



Dr Annelie Lotriet, born and raised in Johannesburg, has an extensive background in academia and politics. She holds a BA Languages degree (English and Latin), Postgraduate Diploma in Higher Education, B.Ed, M.Ed and D.Ed degrees, as well as an LLB from UNISA. She also lectured at Vista University and University of the Free State where she became the Head of the Department of Afro-Asiatic Studies, Linguistics and Sign Language as well as an associate professor. Dr Lotriet transitioned into full-time politics in 2009 when she was elected as a parliamentarian in South Africa’s National Assembly (NA) and served as the Shadow Minister of Arts and Culture, Higher Education and Training, and Science and Technology. In 2024, Dr Lotriet was elected as the Deputy Speaker of the National Assembly (NA) for the 7th Democratic Parliament.

In addition to the responsibilities of the Deputy Speaker, including legislative matters and upholding the Rules and Orders of the NA, she oversees various areas. These include training and capacity building for NA Members of Parliament (MPs), monitoring the implementation of Parliament’s ICT policy, collaborating with stakeholders towards an e-Parliament strategy, overseeing the development and implementation of Parliament’s language policy, and implementing policies concerning benefits and facilities for former MPs. She also serves as the Chairperson of the Board of Trustees of PARMED. Dr Lotriet is the country’s first Deputy Speaker from an opposition party since 1996.

OPENING REMARKS: Dr Mmboneni Muofhe - Deputy Director-General (DDG) for Socio-Economic Innovation Partnerships (Department of Science, Technology and Innovation)



Dr Mmboneni Muofhe is the DDG for Socio-Economic Innovation Partnerships at the Department of Science, Technology and Innovation (DSTI) in South Africa. Dr Muofhe previously held the position of DDG for International Resources and Cooperation and DDG for Technology Innovation in the same Department.

He has years of experience in the South African Science, Technology and Innovation System and the global innovation systems in general, which includes doing scientific research, managing research, international cooperation, development and implementation of innovation funding schemes and implementation of various innovation initiatives and instruments.

Dr Muofhe led the implementation of various science, technology and innovation strategies such as the National Space Science Strategy, Bioeconomy, and Hydrogen South Africa (Energy). He currently leads the implementation of the Circular and Digital Economy (the new sources of growth) aspects of the White Paper for Science, Technology and Innovation; the modernisation of critical sectors of the South African Economy such as Mining, Agriculture and Manufacturing and the mainstreaming of Science, Technology and Innovation in government through innovation sensitive planning and budget coordination.



PANELIST: Dr Sunveer Matadin – Manager: Centre for Robotics and Future Production (CSIR)



Dr. Sunveer Matadin holds a B.Sc. in Electrical Engineering, an M.Sc. in Electronic Engineering, and a PhD in Mechanical Engineering with a specialization in Robotics.

With 18 years of industry experience at Transnet and Standard Bank of South Africa, Dr. Matadin has honed expertise in hardware, software, and firmware development as well as research, development, and innovation. His extensive experience includes product development, testing, deployment, and maintenance engineering, particularly in the locomotive and rail sectors. As a registered Professional Engineer with ECSA, he has excelled in senior management roles, leading national engineering teams and managing product management and financial modeling projects. In addition to his industry experience, Dr. Matadin has two years of entrepreneurship experience in technology and product development.

He currently serves as the Research Center Manager at the Centre for Robotics and Future Production at the CSIR. Dr. Matadin has been recognized for his contributions to African transport innovation, winning the African Transport Innovation Award at the Transport Africa Awards in 2017 for the eProduction - Production Tracking System. He was also a runner-up at the 2017 International Fujitsu Innovation Awards for the same project; Received the True Blue Award from Standard Bank in 2007 for new product development, innovation, and strategy; and Holds one patent.

PANELIST: Dr Laurette Marais – Senior Researcher (CSIR)



Dr Laurette Marais is a senior researcher in the Natural Language Processing Research Group at the CSIR and serves as the Node Manager for the group in its role as the Speech Node of the South African Centre for Digital Language Resources (SADiLaR). Although her academic background is in theoretical computer science, having obtained her PhD in Computer Science from Stellenbosch University in the field of descriptonal complexity in 2018, she has been researching and developing human language technology for the South African languages since 2009.

Her primary interest is in developing high accuracy computational language resources for the South African languages and to apply these in ways that contribute directly to a sustainably multilingual South Africa. A major focus of her research is the development of computational grammars for the South African languages, so far including Afrikaans, isiZulu, Siswati and isiXhosa. She currently leads a research and development project, called Ngiyaqonda! which is funded by the Department of Sport, Arts and Culture, wherein computational grammars are utilised alongside speech technology to support literacy development in foundation phase learners.



PANELIST: Mr Jay Moodley – Senior AI & XR Researcher (CSIR)



Mr Jay Moodley is a distinguished expert specializing in Digital Twins and Industrial Metaverse technologies. Mr Moodley currently serves the Senior AI & XR Researcher for the CSIR.

With a robust background in Engineering, Economics, and Information Technology Management, he brings over fifteen years of experience in strategic technology development and implementation across various industries, including Mining, Manufacturing, Industrial Automation, Renewable Energy, and Defense.

His longstanding commitment to advancing Fourth Industrial Revolution (4IR) leadership has led to the development of award-winning technology initiatives and the establishment of multiple Technology Centers of Excellence in collaboration with local and international businesses across Europe, America, Asia, and Africa. As a principal member of the Metaverse Standards Forum, his research has been published in multiple scientific conferences, including IEEE, and has been widely featured in SABC radio and television interviews.

Currently, Mr Moodley manages a diverse portfolio of XR projects at the CSIR, where he collaborates with industry experts and government stakeholders to develop scalable solutions, advise on technology adoption and governance, and foster new and upcoming talent in the industry.