A WASTE RDI ROADMAP FOR SOUTH AFRICA

The Waste RDI Roadmap and the role of Research Chairs





science & technology Department: Science and Technology

REPUBLIC OF SOUTH AFRICA





Vision

- Increased well-being and prosperity through science, technology and innovation
- Mission
 - To provide leadership, an enabling environment, and resources for science, technology and innovation in support of South Africa's development

The Waste RDI Roadmap and associated Research Chairs are therefore implemented in line with the DST's mandate "to use science and technology to improve the country's economy, create employment and improve the quality of life of all citizens" [Minister, 2014], as part of a suite of strategies including the Global Change Implementation and Bioeconomy Strategies





- The Waste RDI Roadmap, an initiative of national government, sets out a plan aimed at guiding waste R&D and innovation, and associated investment, in South Africa over the next 10 years
- Through a consultative process with industry and academia, stakeholders identified a number of short-, medium- and longterm RDI objectives necessary to achieve the goals of the Roadmap, and South Africa's national waste policy objectives
- This included the establishment of, amongst others, Research Chairs, aligned with the Clusters of the Waste RDI Roadmap, aimed at embedding activities of the Waste RDI Roadmap within the National System of Innovation









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- Waste diversion away from landfill
 - Creates opportunities to move resources into a local secondary resources economy
 - And in so doing, create environmental, social and economic opportunities for South Africa
- In this lies significant opportunity and need for research, development and innovation (RDI) to –
 - Unlock new solutions for utilising "waste"
 - Inform policy development and implementation
 - Inform technology uptake
 - Inform decision-making through sound evidence





Alignment of the Research Chairs

- The Waste RDI Roadmap sets out ambitious targets for a number of KPIs
- The SARChI Research Chairs are one of a number of instruments to give effect to achieving these KPIs
- As are partnerships between Government, Academia and Business

	Key Performance Indicator	Outputs Ambitious**
Technology Development	Products and services to market	4
	Technology packages	20
	Prototypes	60
Knowledge Generation	Registered patents	25
	Patent applications	70
	Publications	590
Human Capital Development	Post Docs	65
	PhDs	165
	Masters	245





Alignment of the Research Chairs

Strong links with Strategic Planning and with Modelling/Analytics — (SARChI) Modelling and Technology Waste Logistics Waste and Waste and Strategic Solutions Planning Analytics Performance Environment Society Systems Analysis Process Performance Strategic Macrolobs and Labour Aquatic and Modelling Optimisation Network Economics Design Business Business Practices Technology Land Value Chain Models Development Strategy **Planning and** Behaviour Socio-Economic and Management Systems Atmosphere **Technology Evaluation** Policy and Legislation Environmental Awareness and and Demonstration Modelling Communication Operational Climate Change Governance Technology Logistics Analytics Human Health Localisation Processes (SARChI) Impact Strong links with Technology Assessment Strengthen the ability to Build and strengthen the Develop and use methods, Design, development, Optimisation of strategic, Deepen understanding of basis and application of tools, techniques, evaluation, demonstration, tactical and operational identify, monitor, evaluate waste-related strategic analysis and advice platforms, systems and localisation and decision-making in respect and report on opportunities and threats, for the purposes of frameworks for the deployment of of logistics objectives, environmental impacts of to increase the success of evidence-based decisiontechnologies – both local assets and resources waste and its management. analysis, monitoring and influencing perception and evaluation of technical. and inbound – for in order to inform better practice positively making to inform strategy formulation, planning and its economic, social and customer-driven targeted and more execution and management environmental performance effective responses



opportunities and impacts

associated with secondary

resources



improvement



We look forward to working with our Research Chair holders and key partners over the next 5-10 years as we continue to strengthen South Africa's R&D and innovation with regards to social and behaviour issues, and the opportunities for job creation in the waste sector, and in exploring opportunities for climate mitigation, and greater organic waste and industrial biomass diversion to alternative waste treatment technologies both within local government and industry







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Outlines the proposed interventions, progression paths and the related instruments, and the required RDI investment over time



Trends

Describes the local and global trends in waste management and approach adopted in arriving at the priority waste streams for the Roadmap



Capabilities

Maps the nature, availability and maturity of waste RDI capability and capacity in South Africa



Opportunities

Provides an overview of the Market Opportunities we see, how attractive they are and what is required to realise them



