

CHANGING THE INNOVATIVE MINDSET AT OUR STATE OWNED ENTITIES

How is Necsa going about this?

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NECSA MANDATE AND LEGISLATIVE FRAMEWORK

State-owned company established in terms of the **Nuclear Energy Act 46 of 1999**, reporting into **Department of Mineral Resources and Energy (DMRE)** – with the following key legislative mandate:

To **undertake and promote research and development** in the field of nuclear energy and radiation sciences and technology and to make these generally available

To **cooperate with any person or institution** in matters falling within these functions

Discussion Point
Turning Necsa around to being a highly innovative organisation that is profitable

UNDERSTANDING RESEARCH, DEVELOPMENT AND INNOVATION CHALLENGES AT SOE'S

- Challenges at state entities include:
- Bureaucracy and silo mentality
- This is how we do it: culture; lack of accountability and measures
- Technology limitations
- Resistance to change and risk aversion
- Lack of resources and incentives for development and innovation



UNDERSTANDING DEVELOPMENT AND INNOVATION

- "Innovation, for its part, can refer to **something new or to a change made to an existing product, idea, or field.**" (<https://www.merriam-webster.com/dictionary/innovation> downloaded 2024-08-12)
- Types of Innovation:
 - Incremental
 - Disruptive
- Why develop and innovate at state entities?
- Better serve the public: service delivery and accessibility; public expectation.
- Enhanced economic growth: efficient public service attracts investment; competitiveness
- Accountability and transparency: using tools that allow this



STRATEGIES FOR CHANGING THE MINDSET AT NECSA

- Leadership Commitment: Importance of top-down support
- Building a Culture of Innovation:
 - Encouraging creativity and experimentation (HR involved in financial turn around of Pelchem)
 - A set of high impact priorities have been put in place
 - All Senior Managers had to give 1 day a week to assist develop strategies to implement the new impact areas
- Training and Development:
 - Formal training interventions to help staff understand their space in relation to others.
 - Upskilling employees to think innovatively
 - Using a system of inclusivity to ensure ideas come forward



STRATEGIES FOR CHANGING THE MINDSET AT NECSA

- Cross-departmental teams and knowledge sharing to foster collaboration
 - A new structure created, jobs protected but almost everyone redeployed to a growth structure already being revised after three years.
- Partnerships with private sector, academia, and other government bodies
 - Necsa mandate is to make innovation generally available
 - Necsa, Eskom and Transnet (Energy)
 - CSIR, SANEDI, Necsa and Universities (Renewable energy)
- Addressed HR Concerns
 - Addressing fear of failure and encouraging risk-taking.
 - For innovation, staff need to be comfortable in their space
 - Ensuring continuous communication and transparency
 - Everyone has a voice (we use first names)



CASE STUDIES FOR APPLICATIONS OF R, D AND I FOR ENTITIES

- **NTP Radioisotopes**
 - Medical Isotope development and production company
 - Incremental – New medical isotopes - forward integration – clinical trial - NuMeRI
 - Disruptive – Industrial Isotopes – Mining Shroud –TRL
- **Pelchem Pty Ltd**
 - Disruptive – Moving Pelchem from a bulk chemical supplier to a low volume high value fluorochemical manufacturer, HF, F2
 - Incremental – revised production techniques for XeF2, high purity products
- **This needs to be owned by all**



CONCLUSION

- To address the current challenges with regard to the research, development and innovative system in SA:
- Strong leadership is critical
- Shared vision
- Bring people together
- Communication
- Job security and certainty
- Be constructively disruptive



THANK YOU

