



DST Initiatives Towards Advancing Marine Sciences



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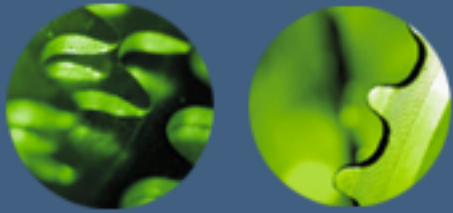
Outline

- SET policy landscape
- Alignment with Key R&D Strategies
- Science Platforms
- TYIP Grand Challenges
- Integration with Key DST Initiatives
- SEACHage
- Critical Human Capital Development Issues
- Key Human Capital Development Initiatives
- Marine Research Strategy

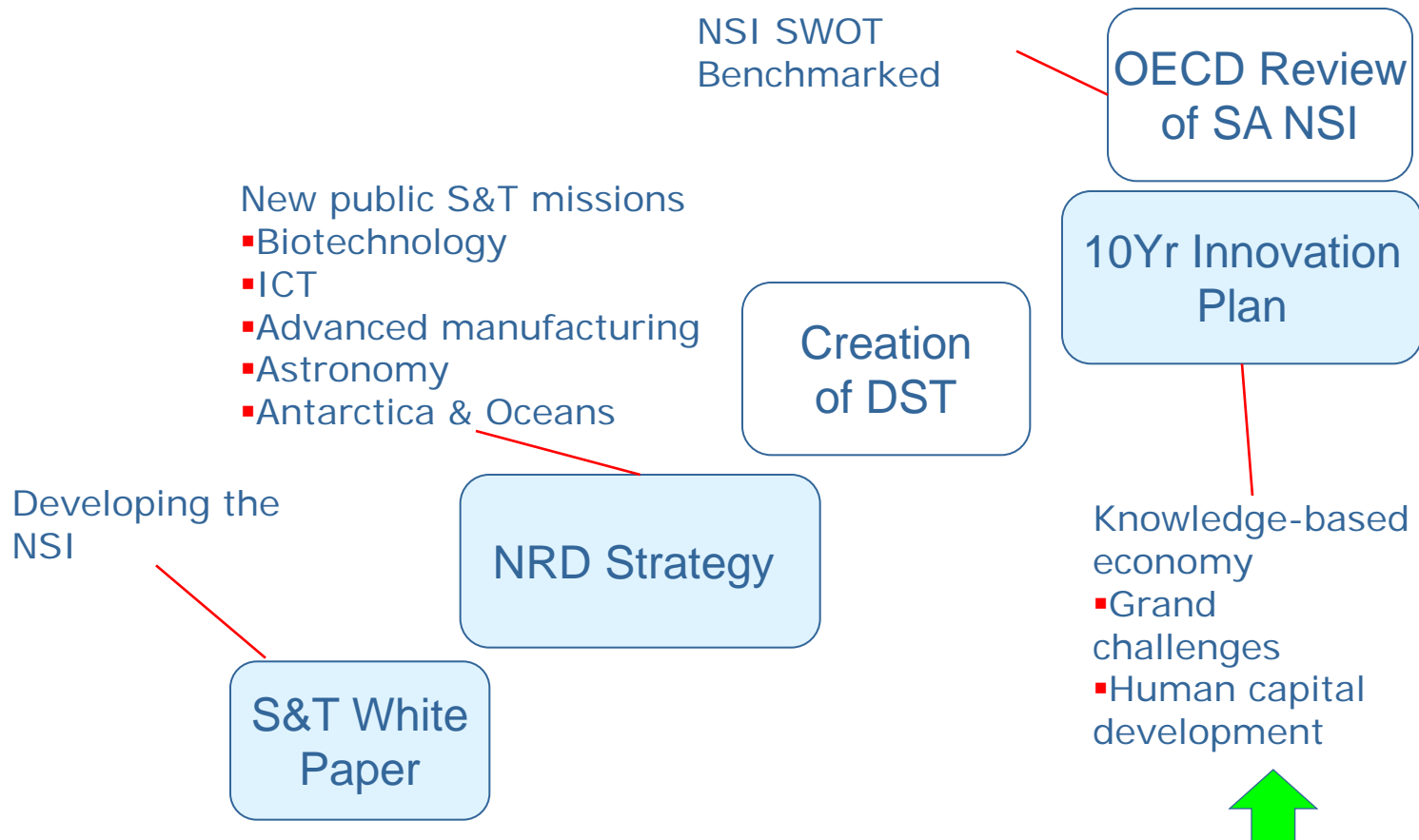


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SET Policy Landscape





ALIGNMENT WITH KEY R&D STRATEGIES

Areas where SA has geographic advantage

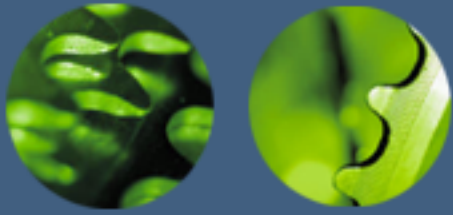
- Astronomy
- Palaeontology
- Marine Sciences
- Antarctic research
- IKS

Human Capital & Capacity Development



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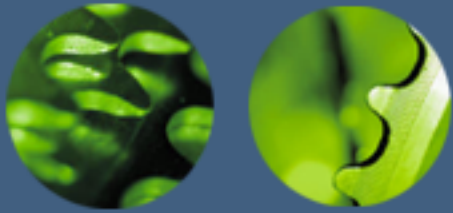
SCIENCE PLATFORMS

The DST's Science Platforms → construction of a strategic path that will generate HCD & knowledge development in science areas where South Africa displays a geographic advantage



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TYIP GRAND CHALLENGES



1. Bio-Economy (Farmer to Pharma)
 2. Space science and technology
 3. Energy security
 4. **Global change with a focus on climate change**
 5. Human and social dynamics
- Marine science covers all 5 but is predominantly covered in **4. Global Change with a focus on climate change.**
 - ID 4 major cross cutting knowledge challenges and eighteen key research themes



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A**Understanding a changing planet**

1. Observation and monitoring
2. Dynamics of the oceans around southern Africa
3. Dynamics of the complex internal earth systems
4. Linking the land, air and sea
5. Improving model predictions at different scales

B**Reducing the human footprint**

1. Waste minimisation methods and technologies
2. Conserving biodiversity and ecosystem services
3. Institutional integration to manage ecosystems and ecosystem services
4. Doing more with less

C**Adapting the way we live**

1. Preparing for rapid change and extreme events
2. Planning for sustainable urban development in a South African context
3. Water security for South Africa
4. Food and fibre security for South Africa

D**Innovation for sustainability**

1. Dynamics of transition at different scales - mechanisms of innovation and learning
2. Resilience and capability
3. Options for greening the developmental state
4. Technological innovation for sustainable social-ecological systems.
5. Social Learning for sustainability, adaptation, innovation and resilience.



INTEGRATION WITH KEY DST INITIATIVES

- **ACEP** is a flagship programme of the DST & is partnered by DAFF, DEA, SAEON, ASCLME & NRF.
- **ACCESS marine** is one of the seven ACCESS themes that concentrates on global change and human capital development.
- **SANAP** links marine researchers with the Agulhas II; Marion Islands & SANAE. Marine research has always formed a key component.
- **National Facilities** – SAEON has two marine platforms (Coastal & Offshore) which provide opportunities for long term ecological research.



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SEACChange

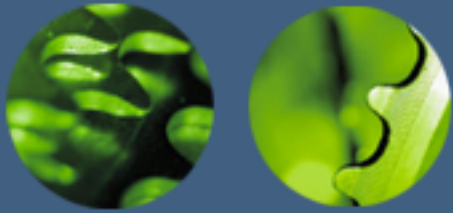
- DST is in full support of an open competitive research call
- Calls should ensure alignment with the National Priorities
- SEACChange should ensure that HCD is prioritised
 - transformation initiatives
- The SEACChange should ensure:
 - alignment and integration with other initiatives
 - maximum use is made of resources & data.



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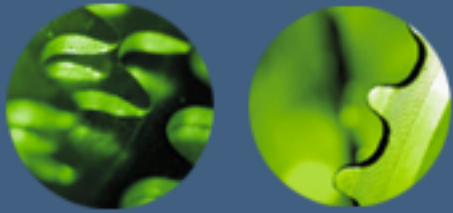




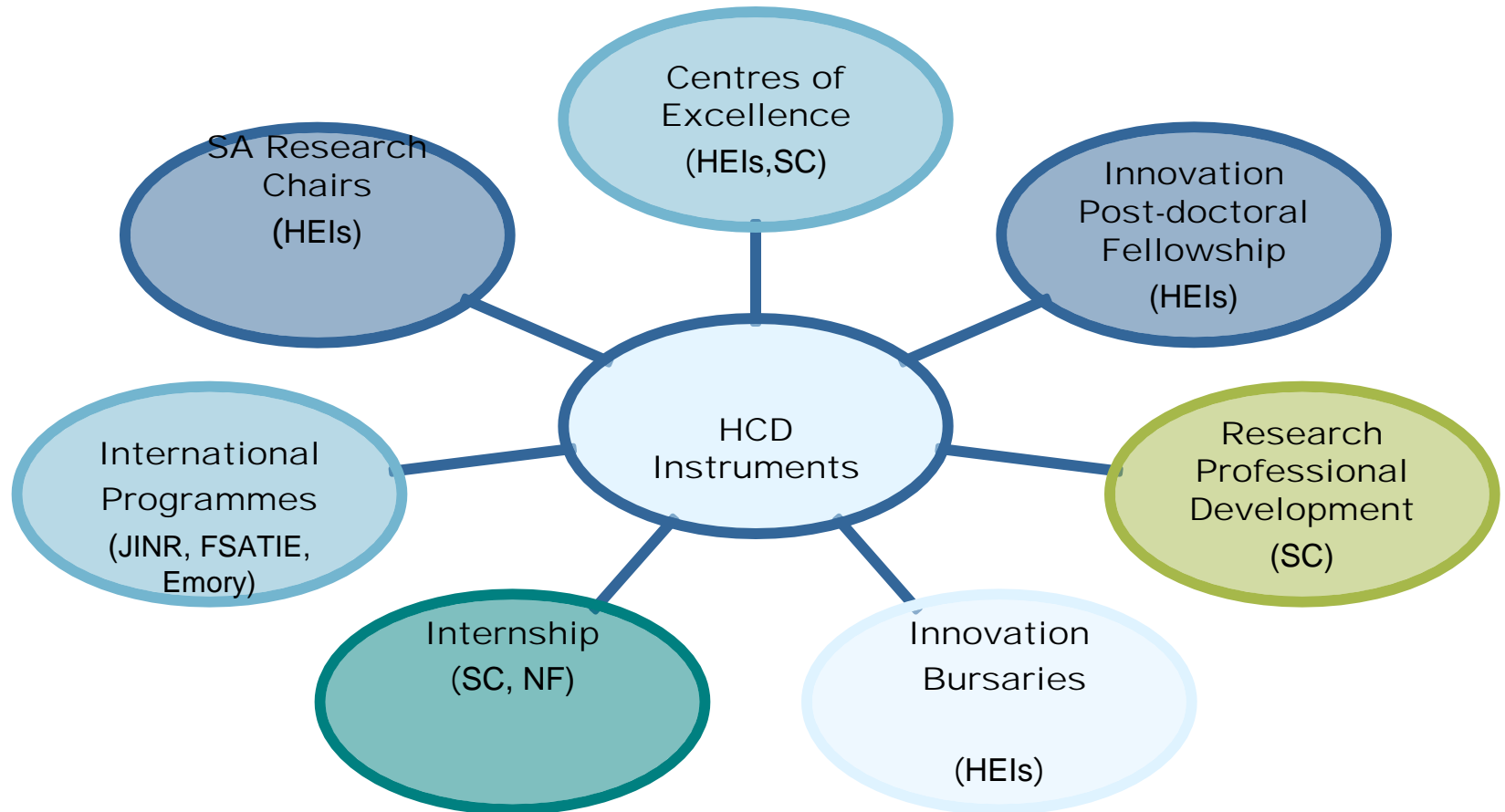
Critical Human Capital Development Issues

- **Encouraging the new generation of researchers:**
 - i.e., support more postgraduate students and post doctoral fellows.
- **Developing the emerging researchers:**
 - i.e., transform more new generation researchers into established researchers.
- **Maximising the output of the established researchers:**
 - i.e., increase the number of active researchers and ensure that they produce the required knowledge and innovation outputs and supervise the next generation of researchers.





Key Human Capital Development Initiatives



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South African Research Chairs Initiative (SARChI)

The South African Research Chairs Initiative

- Establishment of research chairs in support of the implementation of the NR&DS, the Ten Year Innovation Plan, other government strategies and research in general
- Aim:
 - “ to expand the scientific research base of the South African higher education sector...”
- Awarded to publicly funded higher education institutions
 - “ the candidate could be based at a science councils or museums or academic health complex, etc, but spend most of the time at the university.”
- 92 chairs operational in 2010
- 60 new chairs awarded in 2011
- Total to Date of Awarded Chairs is 152

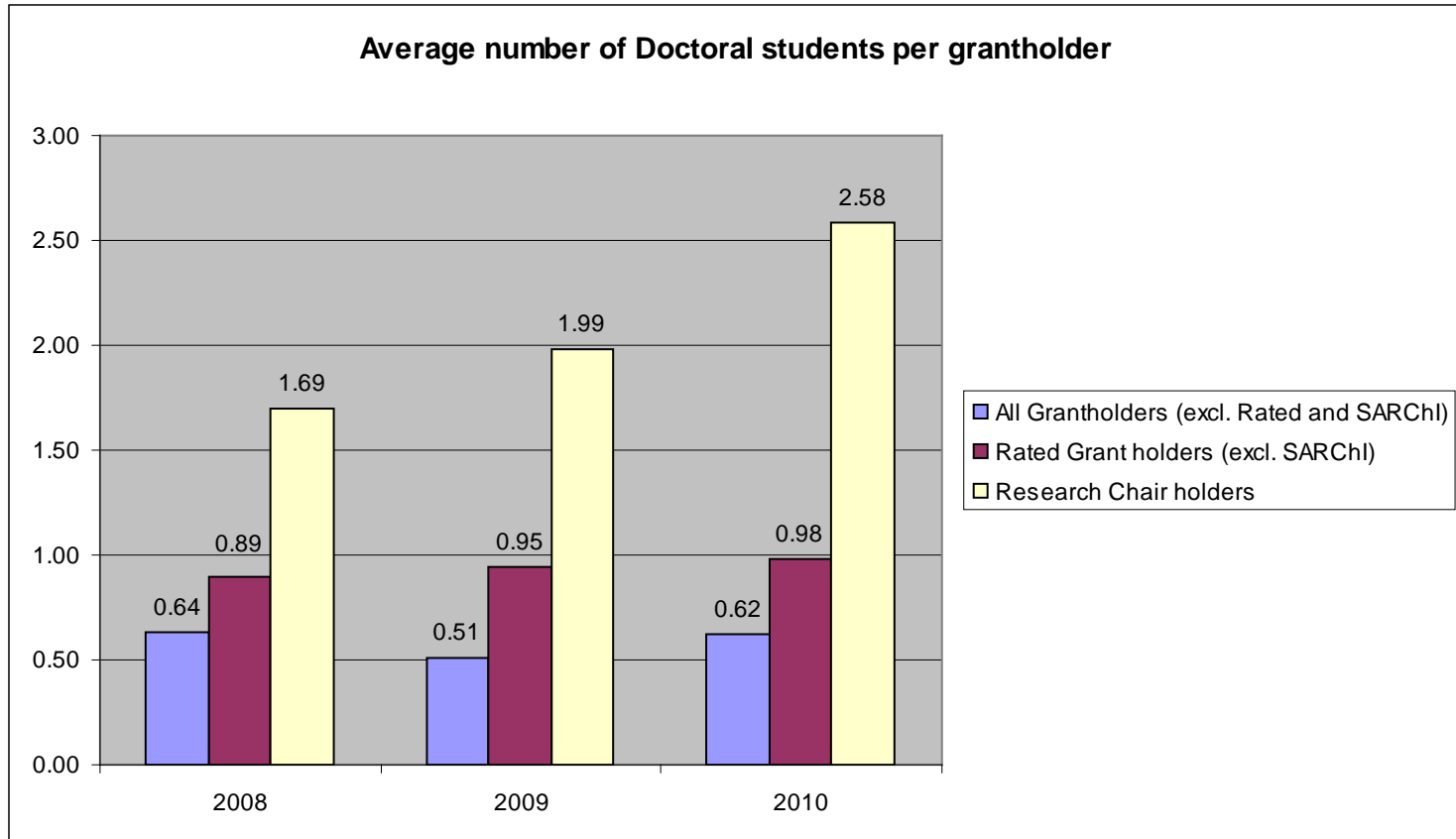


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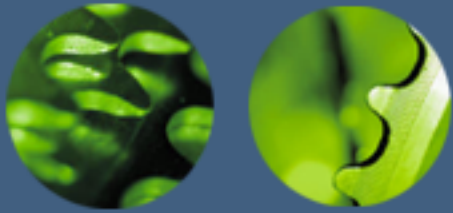


Research Chairs: Key Milestones



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Centres of Excellence

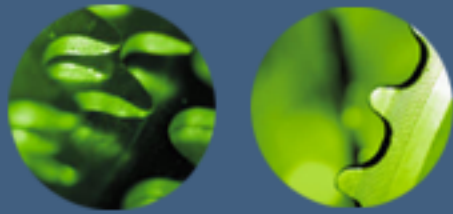
Guiding Principles:

- Are physical or virtual centres of research;
- Cluster of researchers;
- Concentrate existing capacity and resources;
- Enable collaboration across disciplines;
- Enable collaboration across institutions;
- Work on long-term projects;
- Conduct locally relevant and internationally competitive research.

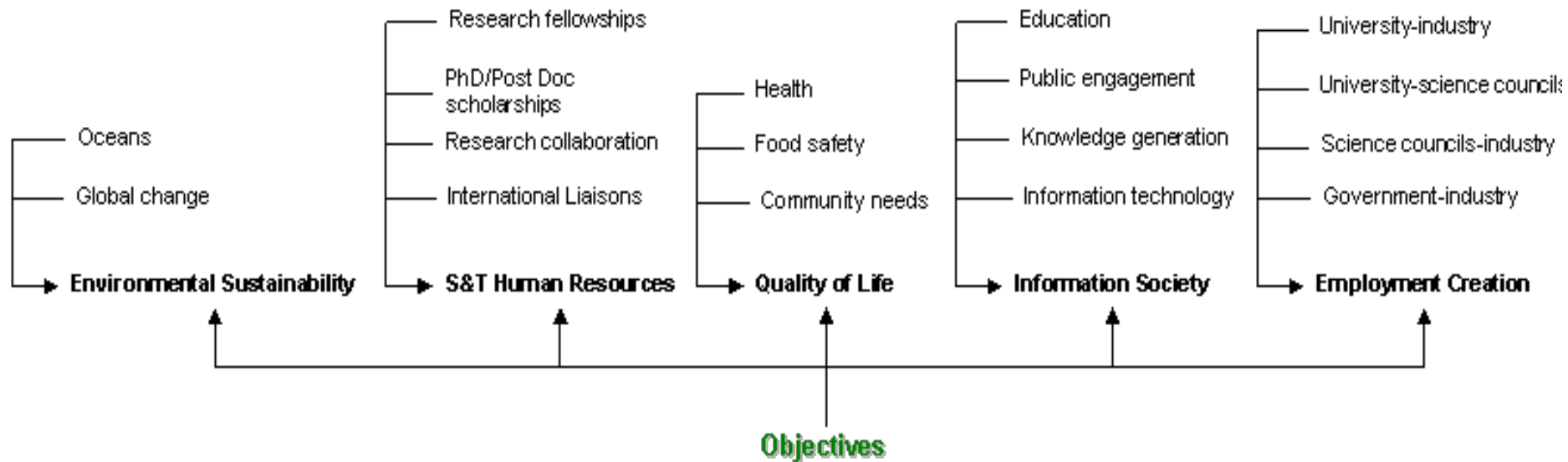


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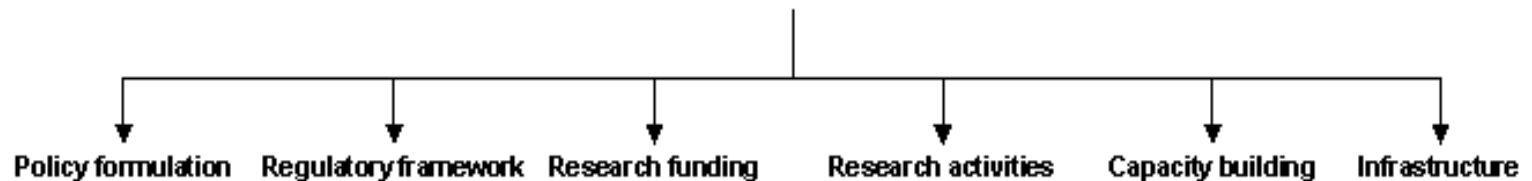


MARINE RESEARCH STRATEGY



Marine Research Strategy for South Africa

Enabling Conditions



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THANK YOU



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