

Unlocking the Value of South African Intellectual Property (IP) in Publicly Financed Funded Research

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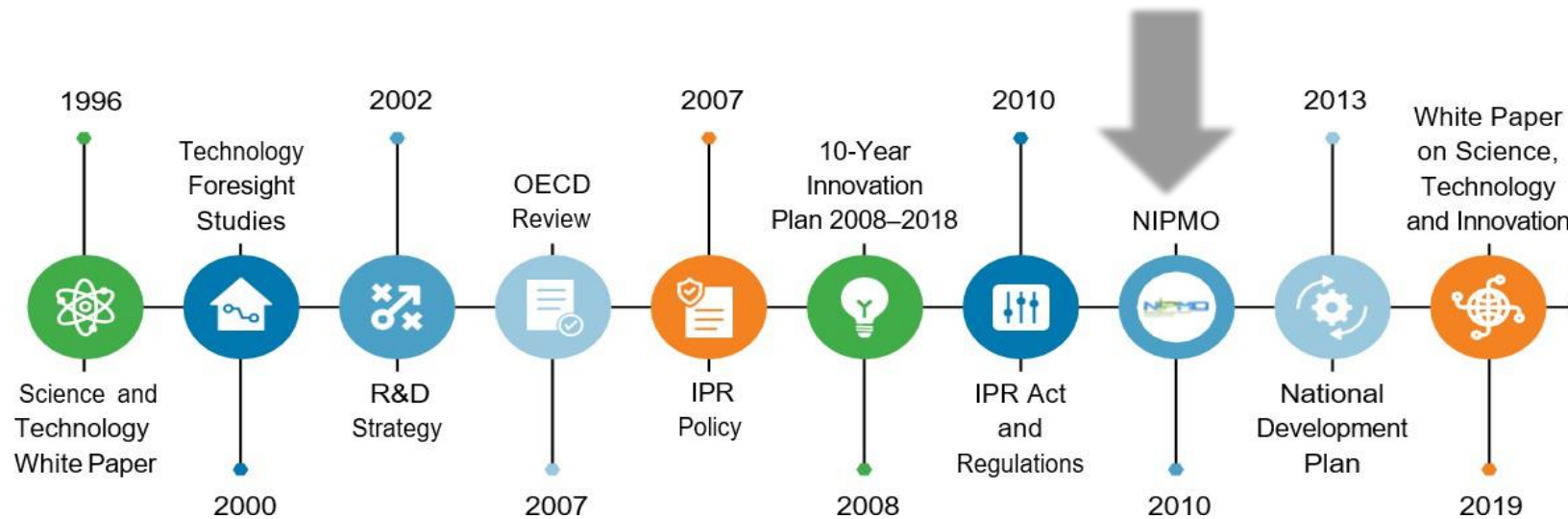
What is Technology Transfer?

“Technology transfer is the process of transferring scientific findings from one organization to another for the purpose of further development and commercialization”

AUTM- Association of University Technology Managers



South African Regulatory Framework Governing Technology Transfer



Purpose of the IPR Act:

- Provide for more **effective utilisation of IP** emanating from publicly financed R&D.

Objects of the IPR Act:

- IP emanating from publicly financed R&D is **identified, protected, utilised and commercialised** for the benefit of the people of the Republic.
- **Human ingenuity and creativity** must be acknowledged and rewarded.
- **Small enterprises & BBBEE entities** have preferential access.

Defining Institutions Applicable to the Act

“institution” means—

- (a) any higher education institution contemplated in the definition of “higher education institution” contained in section 1 of the Higher Education Act, 1997 (Act No. 101 of 1997);
- (b) any statutory institution listed in Schedule 1 (**Science Council** is a government-established organization dedicated to conducting research, developing new technologies, and providing scientific advice and support in specific fields of science, technology, and innovation);
- (c) any institution identified as such by the Minister under section 3(2);



Functions of a Technology Transfer Office

1. Develop and implement policies for IP disclosure, identification, protection, development, commercialization, and benefit-sharing.
2. Receive disclosures of potential intellectual property from publicly financed R&D.
3. Analyze disclosures for commercial potential and the most appropriate IP protection.
4. Handle statutory protection of intellectual property.
5. Refer disclosures to NIPMO on behalf of the institution.
6. Manage IP transactions and commercialization efforts.
7. Evaluate the geographic scope for IP protection with commercial potential.
8. Liaise with NIPMO as required by the Act.



NIPMO Activities :

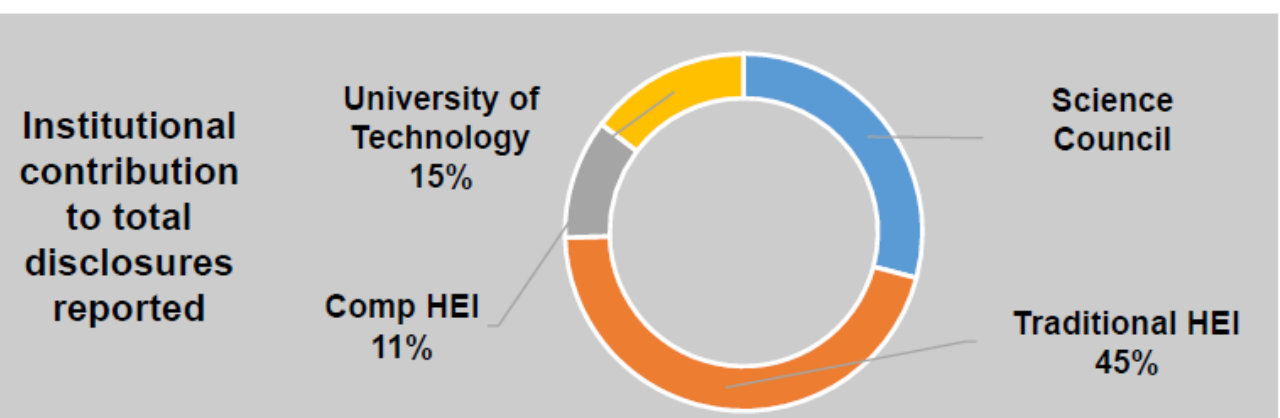
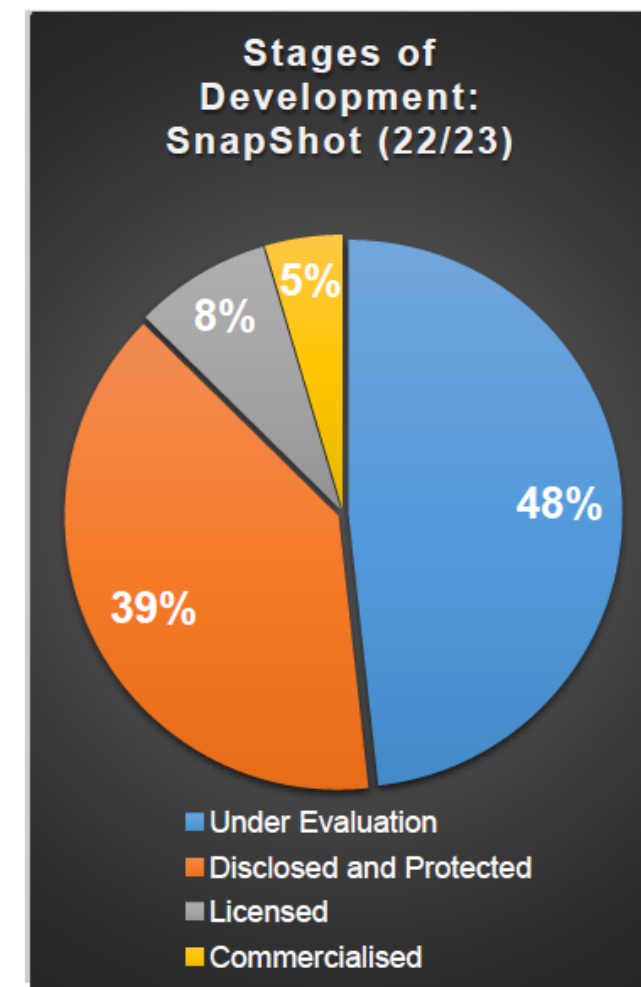
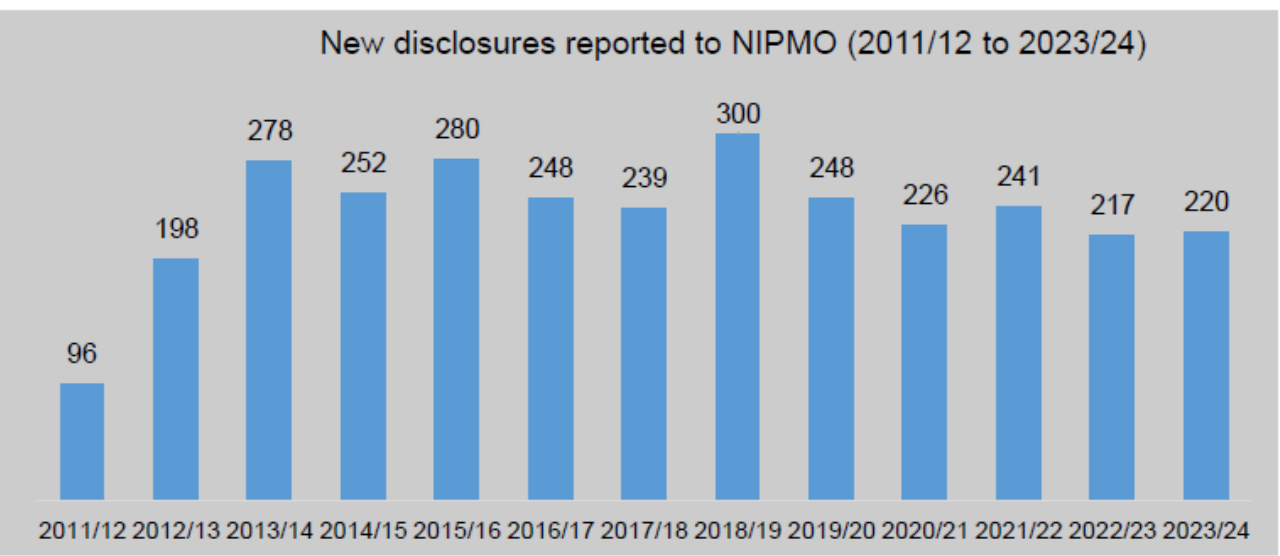
Invention disclosures reported to NIPMO



of Institutions
91% reported disclosures

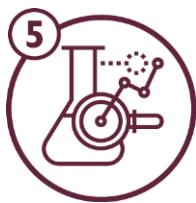
3000+ Innovation disclosures Received

11% of Disclosures abandoned



Stellenbosch University

- **Vision:** Stellenbosch University will be Africa's leading research-intensive university, globally recognised as excellent, inclusive and innovative, where we advance knowledge in service of society
- Ranked among the top 300 universities in the world*
- Top 3 on the African continent
- Research-intensive university
- 10 Faculties on 5 campuses



Core strategic theme

Research for impact

Create an embedded culture of **innovation** and **entrepreneurship** in our research.

Fast facts

Qualifications

8 760

qualifications
awarded for 2023



320

doctoral degrees
awarded for 2023



Global ranking

296th

in QS World
University
Rankings 2024/25



301-350th

bracket on Times Higher
Education World
University Rankings 2024



People

35 000

undergraduate,
occasional and
postgraduate students



3 600

academics and
professional
support staff



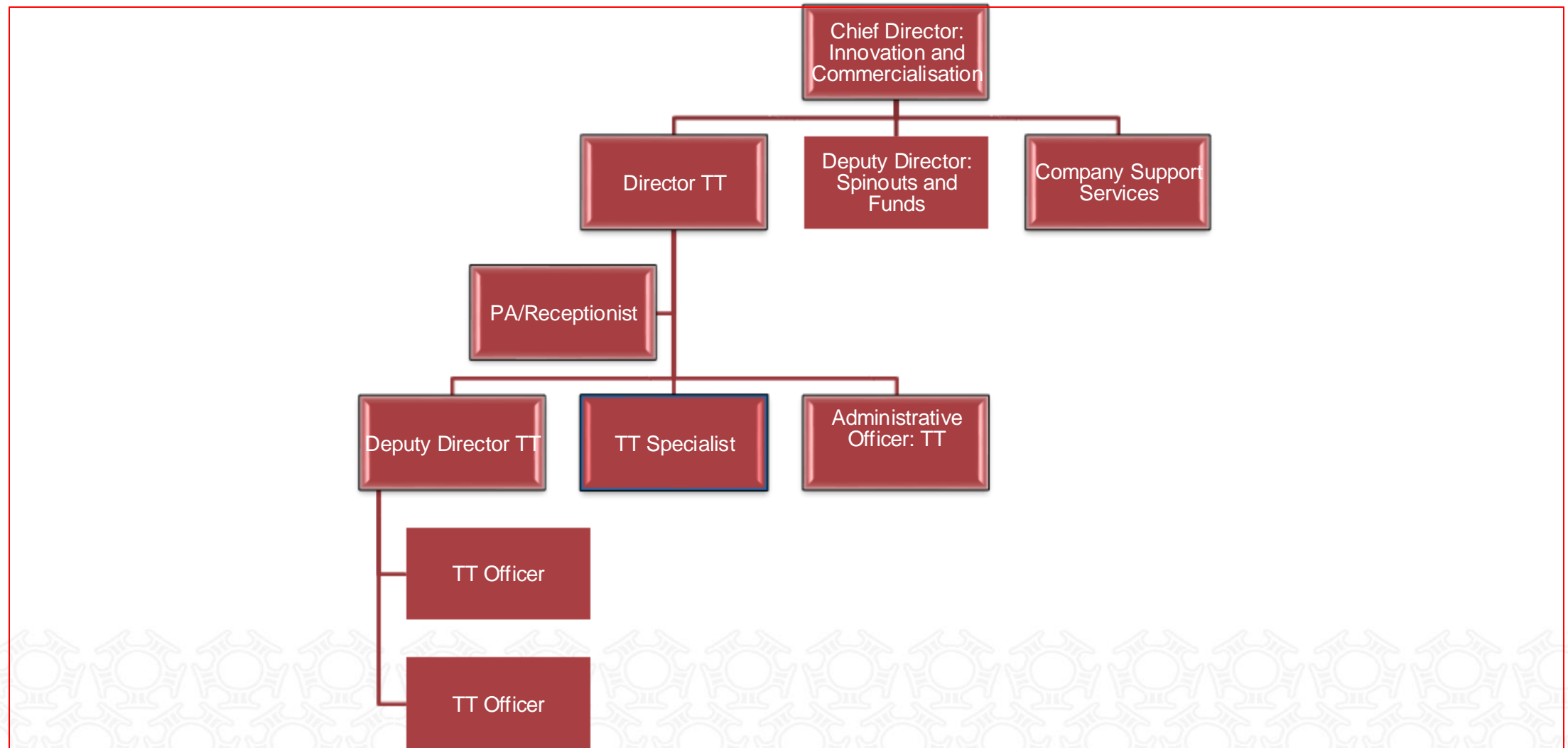
*As at June 2024.

Entrepreneurial University

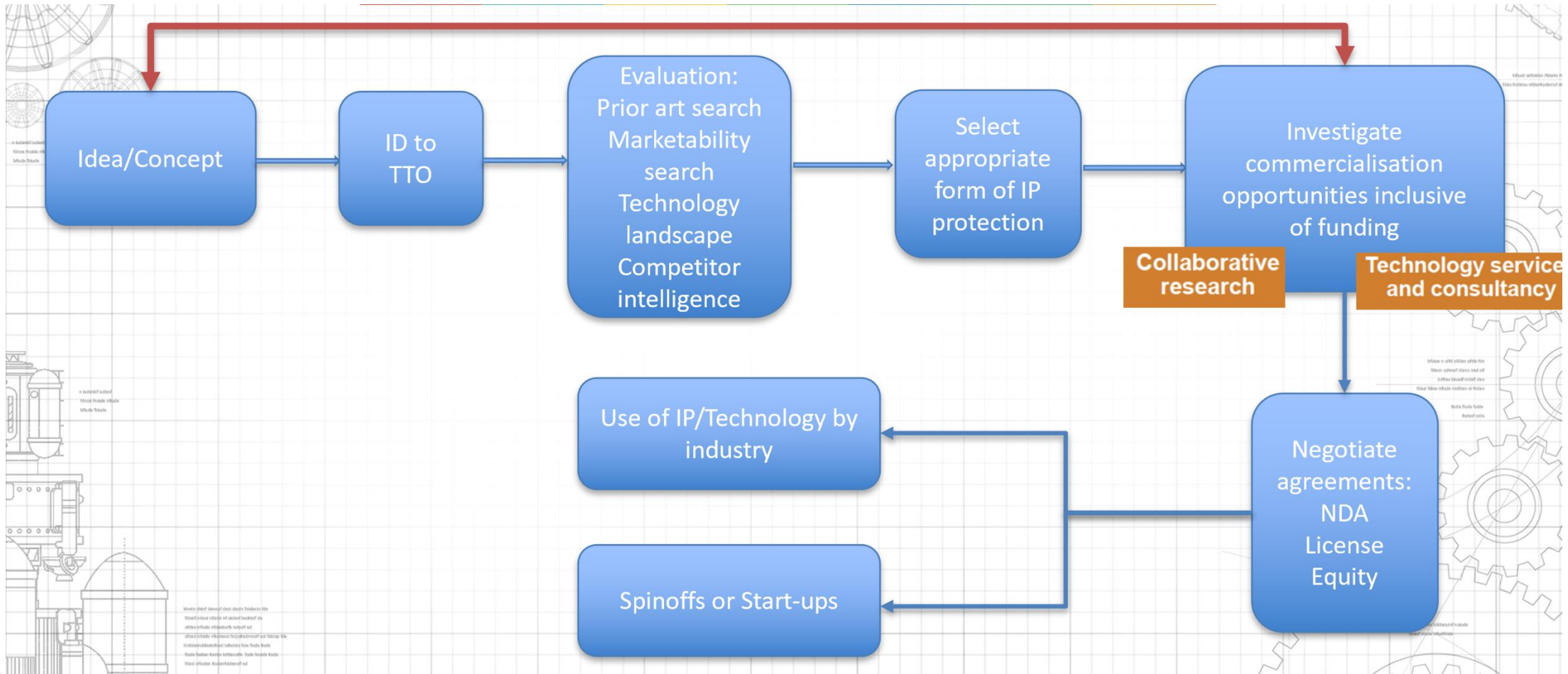
An entrepreneurial university *has the ability to **innovate**, recognise and create opportunities, take risks and respond to challenges. It **sells** its services in the knowledge industry and is a **natural incubator** that supports its academics, technicians and students to create new ventures - (Kirby, 2020)*



Stellenbosch University Technology Transfer Office

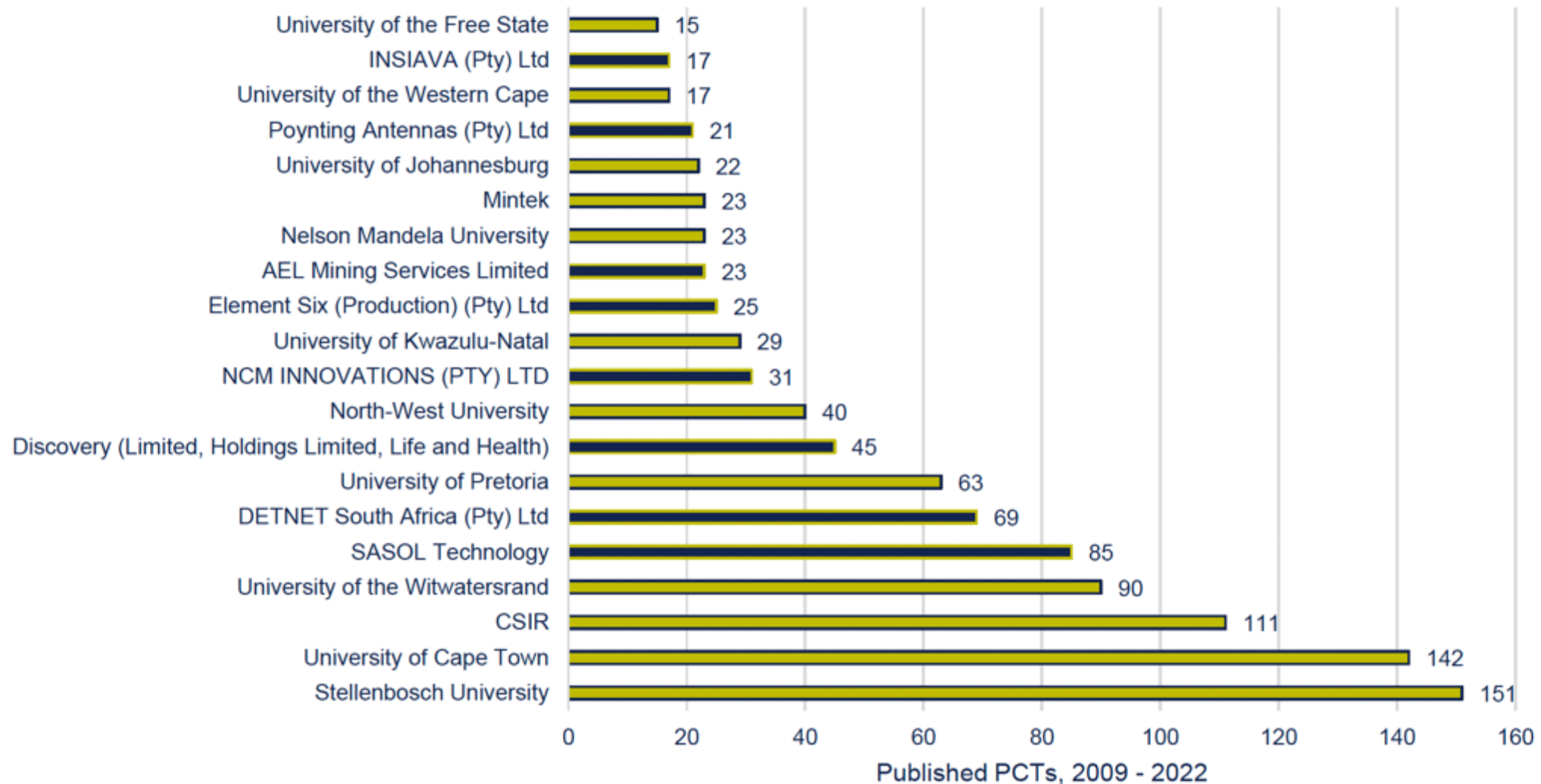


Technology Transfer Process



The most innovative place in Africa

Top 20 Entities: Total Published PCT Applications for 2009-2022



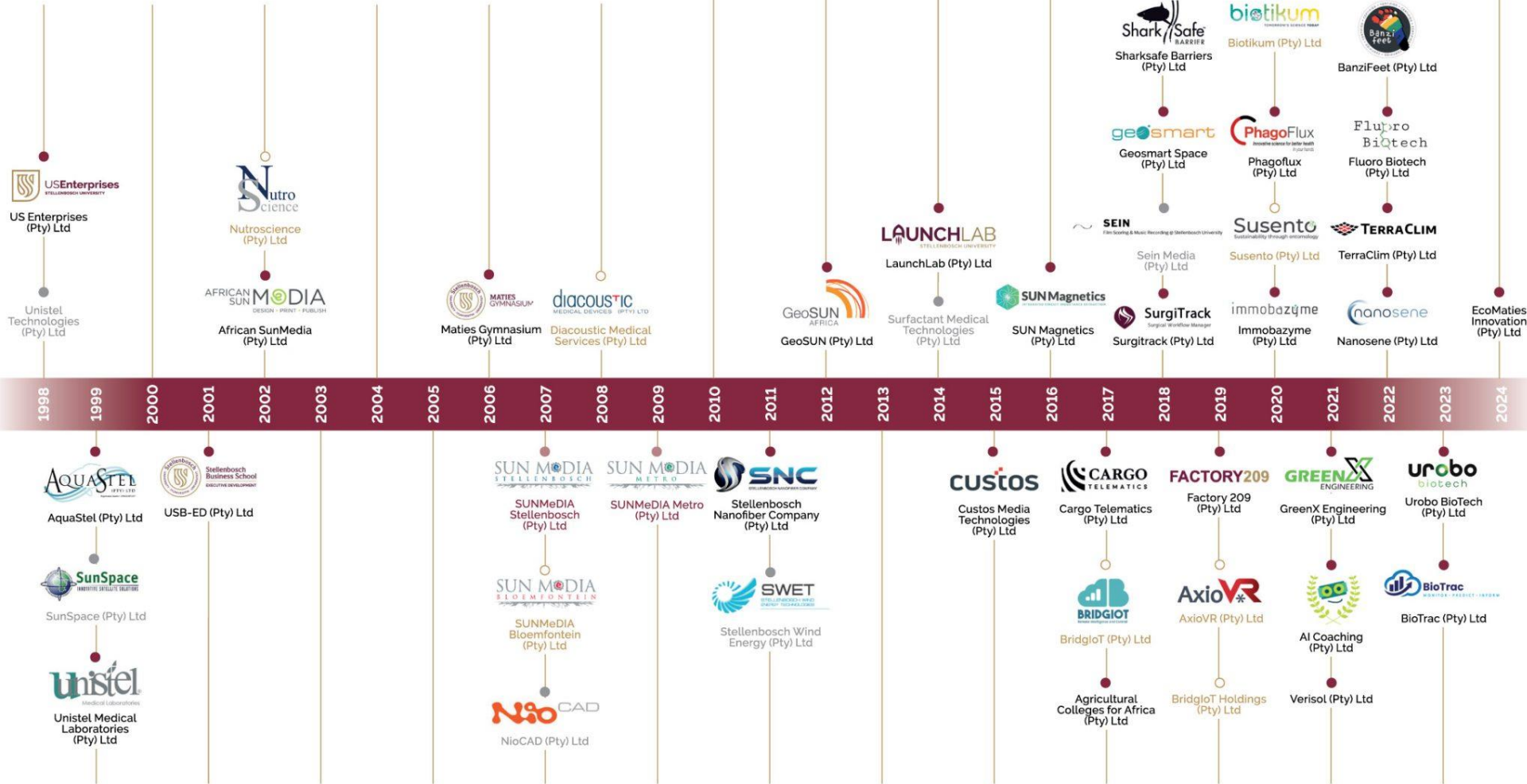
SU Group of Companies



USEnterprises
STELLENBOSCH UNIVERSITY

Timeline 1998 – 2024

- Active
- Exited
- Merger
- Deregistration



Setting up a Technology Transfer Office

Functions of a Typical TTO

- Awareness raising on IP and TT
- Soliciting, managing & evaluating invention disclosures
- Patent prosecution
- IP portfolio management
- Technology marketing
- University IP Policy
- Identifying best exploitation route
- Negotiating licensing terms
- Establishing & incubating new ventures
- Contract drafting
- Distributing benefits
- Managing industry relations
- Project management
- Fostering co-development industry partnerships



Setting up a Technology Transfer Office



Type of TTO Structures

- Part-time person in Research Office
- TT function as a division of the Research Office
- Separate, dedicated TTO
- Separate TTO company

Minimum to start off with:

Director / Manager

- Must have excellent communication skills
- Must be able to work successfully with researchers and administration and external parties (licensees and funders)

Clerical Support

- TTO operations require significant clerical and administrative support
- Volumes of paper as well as daily correspondence with attorneys, potential licensees, and researchers

Setting up a Technology Transfer Office



Common features of a great TTO

- A clearly stated TTO mission
- Customer-friendly relations with internal and external constituents
- Strong links to potential industry partners
- A highly supportive institutional administration and community

Can-do attitude!

Many different skills sets required:

- Technical / research / academia
- Commercial
- Legal / contract
- Networking

There is no formal Tech Transfer degree or qualification

Staff develop skills and experience over time

South African Universities vs Science Councils



Feature	Universities TTOs	Basic/exploratory research
Mission & Focus	Commercialize academic research, support start-ups	Applied research aligned with national priorities
Type of Research	Basic/exploratory research	Applied/industry-driven research
Source of Funding	Public grants, institutional funding, IP revenue	Government funding, contract research with industry
Stakeholders	Faculty, students, industry partners	Government, industries, public institutions
Commercialisation Strategy	Spin-offs, licensing, long commercialization timeline	Licensing, industry partnerships, fast commercialization
IP Management Strategy	Patents, copyrights across disciplines	Industry-specific IP for commercial use
Collaboration & Networks	Academic, entrepreneurial, venture capital networks	Government, sector-specific, public-private partnerships

South African Technology Transfer Offices

Benefits of commercialisation	Difficulties experienced by institutions
<p>Revenue generation <i>(R185 million across 17 institutions for 2014 to 2018)</i></p>	<p>Over 60% of institutions not empowered to: establish startups and technology incubators, or access incubation space.</p>
<p>Job creation <i>(55 start-up companies formed, employing over 320 people)</i></p>	<p>82% of Sciences Councils - don't have policy in place to set up start-up companies and indicated that process is complex and inefficient.</p>
<p>Consumer access <i>22% of disclosures became available for consumer/public or commercial use (2014 -18)</i></p>	<p>23% of Higher education Institutions have no formal approval process in place to conclude an IP transaction</p>
<p>Food security <i>Sweet potato - cultivar "Bophelo" – successfully licenced in 22/23 by ARC</i></p>	<p>78% of institutions (in 2018) did not have sufficient funding for technology development, upscaling and commercialisation</p>
<p>International recognition <i>Hyrax Bioscience (UWC spin out) – first to detect Omicron variant in</i></p>	<p>61% of institutions reported that support from institutional executive management partially functioning</p>



<https://educationcollab.ashesi.edu.gh/about-us>