



Innovation and Research Policies and Partnership Connections

“Investing in People, by investing in Higher Education and Skills in Africa”

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Charlemagne Building

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Brussels



DUT TOWN FOOTPRINT



~30000
students;
96% UG;
4% PG ;
600
Academics
29.6% PhDs
Publications
0.85 per FTE
7 Delivery
sites





Session Brief:

To explore the extent to which international partnerships between the EU and Africa can meet multiple objectives, ranging from **setting 'up to date' and multi-nationally relevant curriculum** to **improved staff pedagogy and resourcing**.

Key issues / challenge questions: -

- How can HE institutions tackle the issue of developing relevant and quality curriculum and improve graduate outcomes?
- How can partnerships models reinvigorate critical programmes and courses to help to address skills shortages and better link learning outcomes to population needs?
- What can we learn from international collaborations in Africa and beyond to inform the agenda as we move forward?



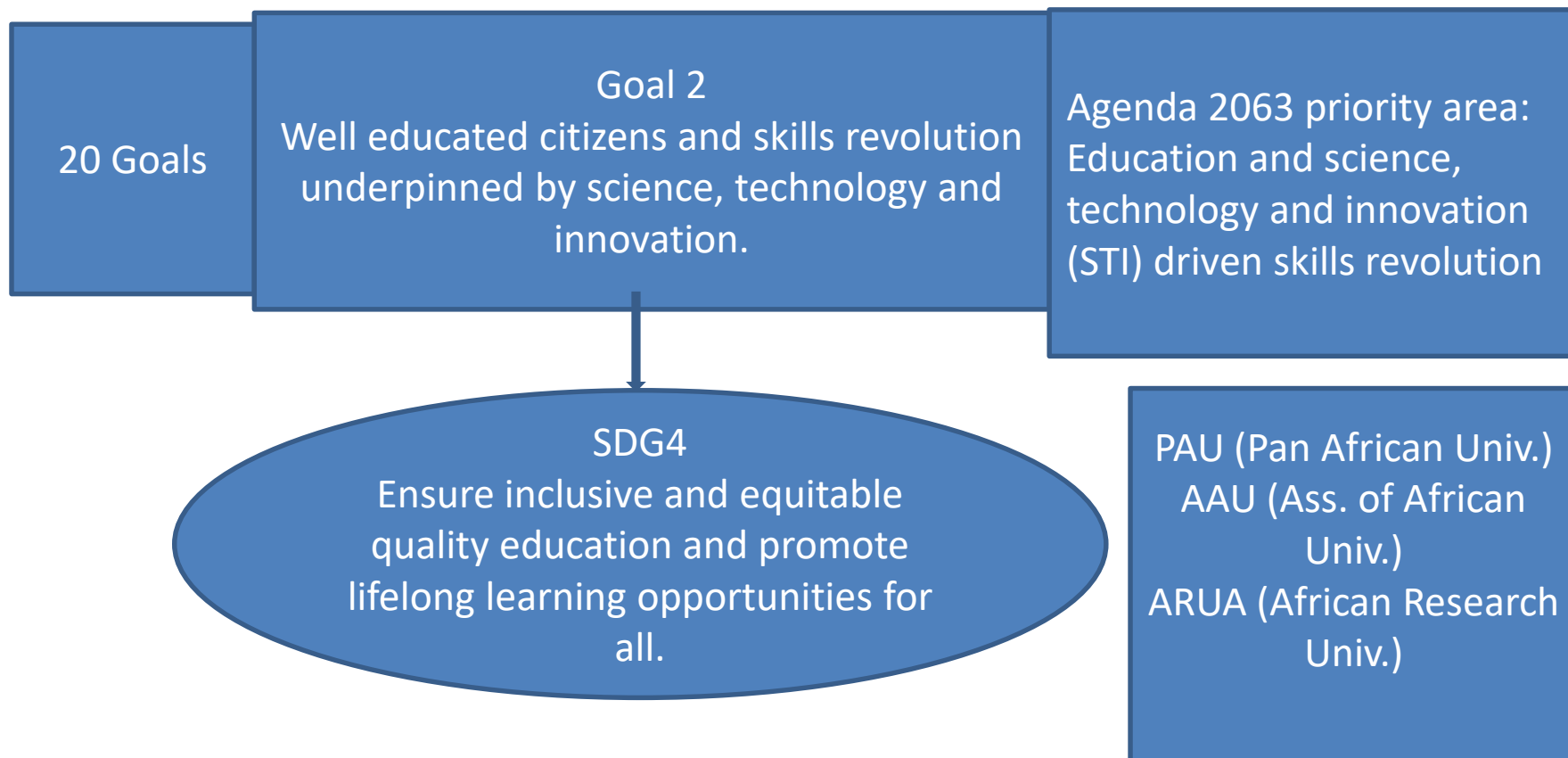
Brief presentation outline:

- Innovation & Research Strategy Documents
- Innovation & Research Policies for Development (SA Context)
- Contextual Setting - African Higher Education Institutions (SASUF Example)
- Graduate Attributes and Outcomes
- Partnership Connections
- Selected Examples/Illustrations
- Recommendations.

Innovation & Research Strategy documents (African Context)

- Agenda 2063 (African Union) aligned to SDGs:

<https://au.int/agenda2063/sdgs>

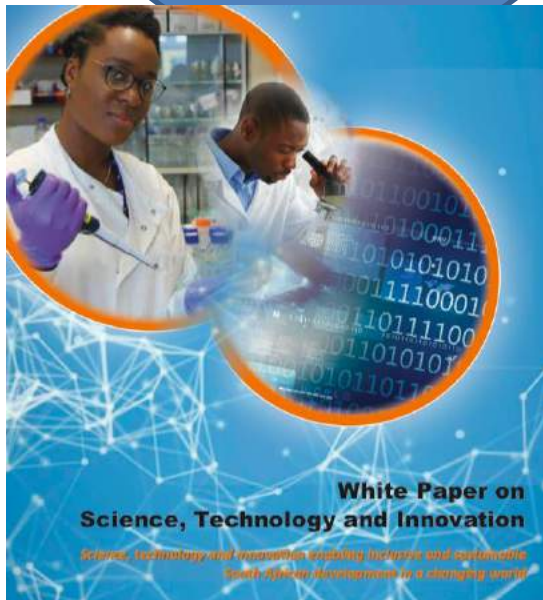


South African Context

Policies & Plans

National
Development
Plan (NDP) 2030
Aligned with
SDGs

New White
Paper on
Science,
Technology &
Innovation



Enhanced focus on:

- Inclusivity, transformation and linkages on NSI (National System of Innovation);
- Innovation culture in society and government;
- Improve policy coherence and budget coordination across government;
- Develop an enabling environment for innovation;
- Social and grassroots innovation;
- Expanding the research system;
- Develop human capabilities;
- Implementation of the pan-African STI agenda;
- Increasing investment in the NSI

Policies for mobility and exchange programmes

- **National Level** – Dept. of International Relations and Cooperation (DIRCO) strategic plan 2015-2020 (Agenda 2063, Nepad, SADC);
(SADC Protocol on Science Technology and Innovation (2008))
 - **Visas & Permits for students/researchers (Enablers!);**
- **Science Councils (National Level)**
 - Approved exchange programmes in priority areas
 - Competitive Resources to support mobility;
- **Institutional Level (Inward & Outward Mobility)**
 - Internationalisation strategy & Policies (Int. at Home?)
 - Joint degree programmes to enhance quality
 - Spelled out outcomes for graduate attributes & skills



Contextual Setting – African Higher Education Systems

- Increase in demand for higher education vs. Rise of private providers
- Decrease in government funding
- Pressure for rankings (relevance in developing countries)
- Statutory requirements to justify impact, sustainability and the public good (e.g. SA context)
- Transformation and equality imperatives (access, success)
- Graduate attributes & their employability
- Focus on 3rd /4th stream income and a drive to more innovative and entrepreneurial activities (staff)
- Need to maximize income and attractiveness of HEIs based on graduate employability and student start ups!



Challenges:

Unit of Analysis: Global, African Continent, South Africa

- ❖ Climate change, environmental protection
- ❖ Conflict
- ❖ Security (including cybersecurity)
- ❖ Water & sanitation
- ❖ Food & energy security, migrations.
- ❖ Africa – Growing population (Youth unemployment)
- ❖ Poverty, Health, Hunger,
- ❖ Violence & Gender based violence (SA)



Example - South Africa-Sweden University Forum (SASUF)

<https://sasuf.org>

(Co-designed thematic areas for collaboration & 4IR)

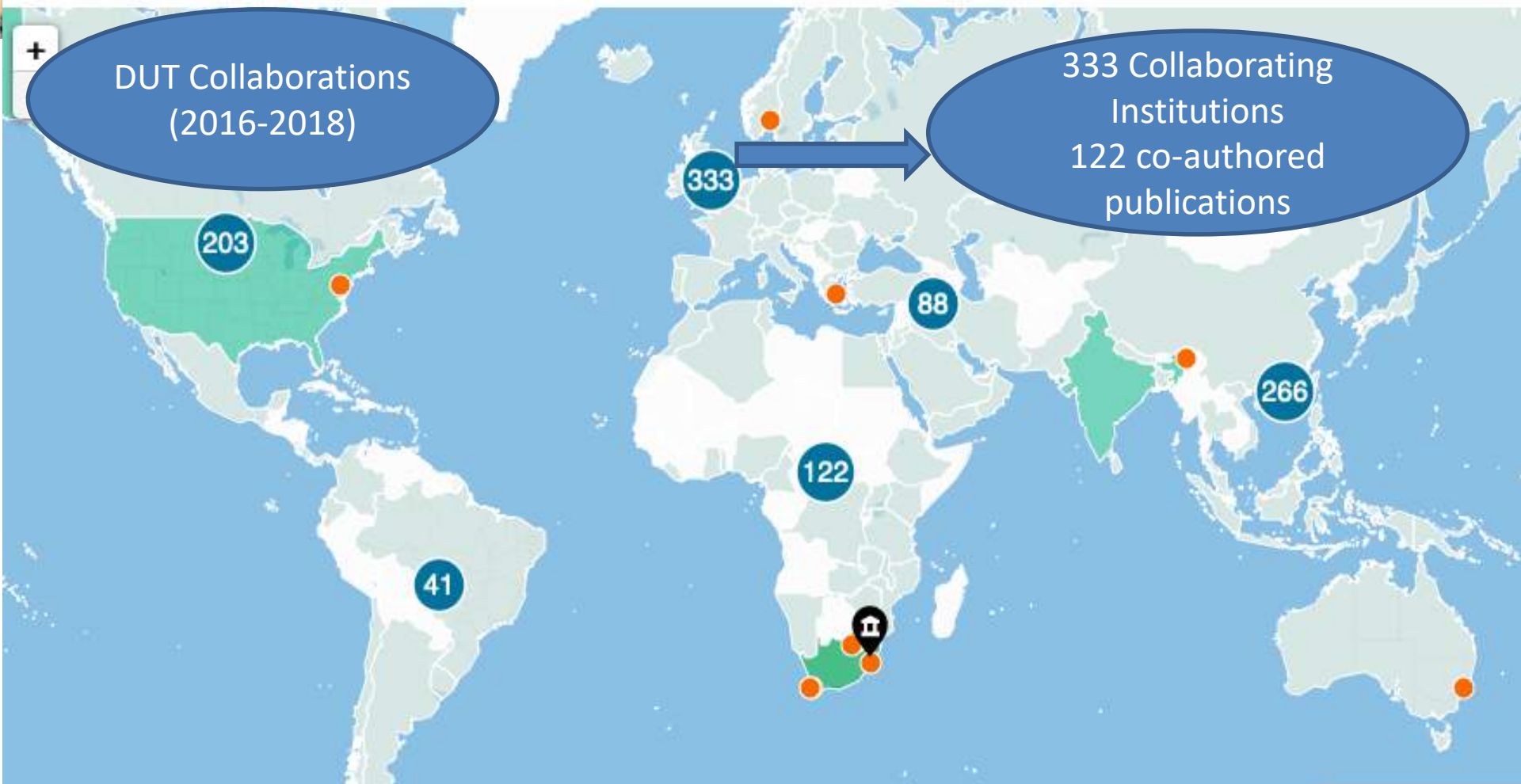
Description:

- SASUF is a strategic internationalisation project running from 2017-2020 with the overall aim of strengthening ties between Sweden and South Africa in research, education and innovation.
- SASUF is a collaboration **between 37 universities in Sweden & South Africa** together with embassies, civil society organisations, funding agencies & ministries in both countries.
- Uppsala University (coordinator) & Univ. of Pretoria (SA)



Thematic Areas (SASUF)

- **Climate change**
- **Education for a sustainable society,**
- **Social transformation** through change, knowledge and social development strategies for society,
- **Understanding the burden of disease and its impact on the health systems of the two countries in the future; Sustainable urbanisation, travel and tourism in the 21st Century,**
- **Digital technologies, big data and cybersecurity.**



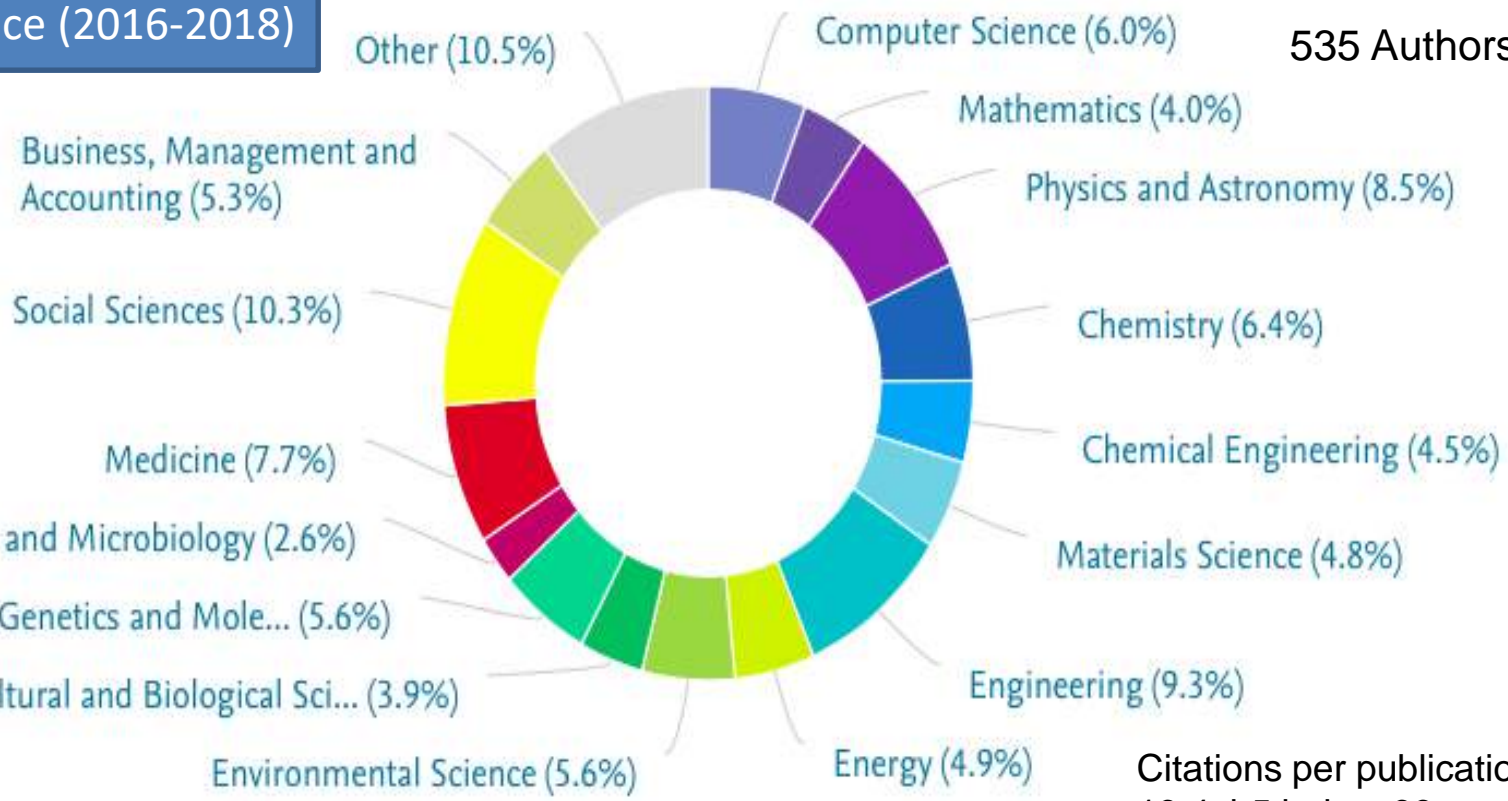


Overall Research Performance (2016-2018)

976
Scholarly
outputs

Citation
Count
13,083

535 Authors



Citations per publication
13.4; h5 index=33



DUT Outbound Students **to Europe** (from 2016 to present)

University	Country	No. of Students
DHBW, Ravensburg	Germany	17
Munich University of Applied Sciences	Germany	5
University of Valladolid	Spain	13
University of Rey Juan Carlos	Spain	6
Huelva University	Spain	3
University of Porto	Portugal	1
TOTAL		45

However every year +/- 35 students at DUT from Germany!

<https://www.dut.ac.za/german-exchange-students-introduced-to-life-at-dut/>



Examples of DUT Partnerships:

1. Duale Hochschule Baden-Wuerttemberg (DHBW) Campus Ravensburg and Loerrach, Germany

Involves a student development programmes, short-term visiting students, Visiting academics program, Research collaboration.

2. University of Valladolid, Spain

Student and staff exchange programme. **Includes collaboration activities around benchmarking the curriculum.**

3. University of Rey Juan Carlos, Spain

Student and staff exchange programme

4. Munich University of Applied Sciences, Germany

Student and staff exchanges and joint projects

5. Leeds Beckett University, UK

Visiting staff, benchmarking of strategy and COIL activities.



According to the World Economic Forum Report:

Top 10 skills

Graduate Attributes & Outcomes

in 2020

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

Mathematical & Analytical Skill, (4IR)etc.



in 2015

1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity

Agile & Quality Curriculum ("skills for competitiveness and innovation")





Some Examples: Innovation & Entrepreneurship

- I. The Global Cleantech Innovation Programme (GCIP) for SMEs and Startups promotes innovation in clean technologies through a cross-sectoral and multistakeholder approach to build sustainable innovation ecosystems (<https://www.facebook.com/GcipSouthAfrica/>).

<https://www.dut.ac.za/dut-entrepreneurs-win-best-entrepreneur-award-in-vienna/>

(DUT aims to improve the life chances and aspirations of student entrepreneurs and for them to reach their maximum potential).

Winners-2 entrepreneurs: Phumelele Khumalo and Nosihle Dlamini winning the 'Best Entrepreneur Award' on a global stage, Vienna Cleantech Week and GCIP Forum 2019. (UN Industrial Development Organisation (UNIDO))

Country Programme: GCIP-SA; Bioprocessing; Get2Natural)



1. DUTs **Interior Design student, Lwazi Mshibe's** perseverance paid off, following his announcement as the winner of the Department of Trade and Industry's (DTI) Furniture Design Competition Awards in the Student Category, during the awards ceremony held at the Ticketpro Dome in Johannesburg.

<https://www.dut.ac.za/top-accolade-for-dut-student-at-furniture-design-competition-awards/>

2. **Vodacom July Durban Awards - DUT Fashion and Textiles students** once again dominated the Vodacom Durban July Young Designer Award presented by Durban Fashion Fair on Saturday, 07 July 2018 at the Greyville Racecourse, as three DUT students clinched the top three spots for a second successive year.

<https://www.dut.ac.za/dut-students-dominate-vdj-young-designer-award-again/>

Graduates as Job Creators!



Key Lessons:

1. Relevance & Contextual Setting (Policy+Strategy)
2. Credits for mobility – co-designed programmes addressing key issues and skills gaps;
3. Resources & Grants for mobility (e.g. Erasmus+, SASUf , COIL (DUT flagship) etc.)
4. Monitoring & Evaluation – Quality and Learning experiences for both students & staff.
5. Impact & Advocacy – Evidence for benefits to society.



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