

Transition to Open Science: HEIs, National, and Global Perspective

Navigating the Research Metrics Work, 12-13 Sept, 2024
Chinhoyi University, Zimbabwe

Definitions: Open Science

“Open science is a collaborative culture enabled by technology that empowers the open sharing of data, information, and knowledge within the scientific community and the wider public to accelerate scientific research and understanding”

Grand, A., Wilkinson, C., Bultitude, K., & Winfield, A. (2012). Open Science. *Science Communication*, 34, 679 - 689.
<https://doi.org/10.1177/1075547012443021>.

“Open science promotes the sharing of research materials [research outputs], collaboration, and peer review, benefiting all stakeholders, including researchers, funders, and the public”

Rahman, N. (2019). The Need for Open Science. , 2, 22-30. <https://doi.org/10.22452/JRMG.VOL2NO1.3>.

Open Science Movement



Open Science Movement

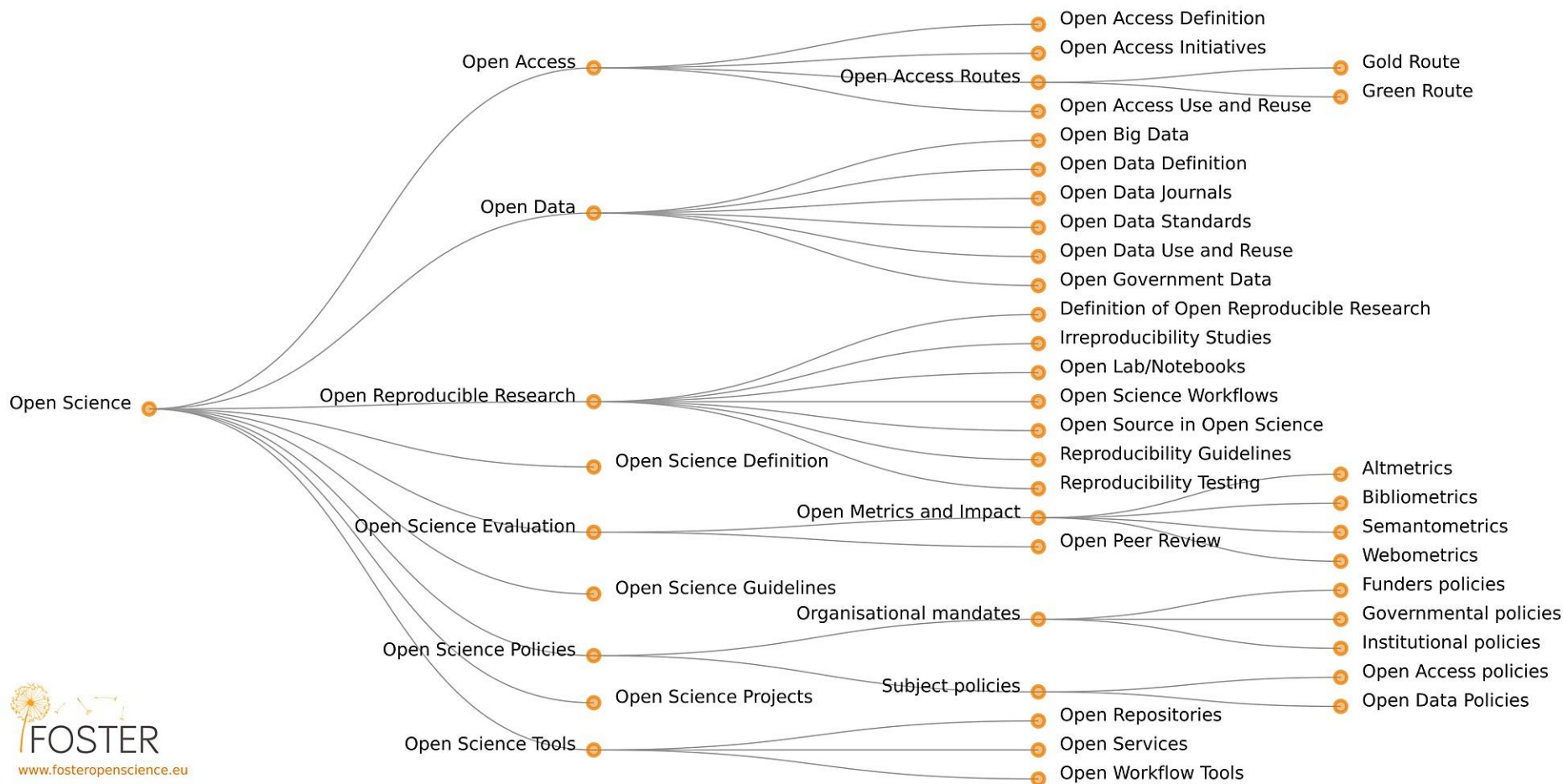
Open Access movement is tracked to these OA Declarations:

- ❑ Open Access formally started with the Budapest Open Access Initiative in February 2002,
- ❑ the Bethesda Statement on Open Access Publishing in June 2003, and
- ❑ the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities in October 2003.

(Suber, 2012)

OPEN SCIENCE: OA, OD, ORR, OSE, OSPs, OSTs

Open Science Taxonomy



Open science is a global movement aimed at making scientific research more accessible, transparent, and collaborative. Here are some key global players in the open science landscape:



Berlin 10 Open Access Conference, Stellenbosch University, 6-8 November 2012

The was an international conference that stimulated the library sector in Africa, as the first time in history that that a Berlin OA conference was hosted in Africa. The conference was based on open access and disseminating research output using the internet as a medium.

In bridging the divide the Berlin Declaration of Open Access to Knowledge in the Sciences and Humanities, created the platform for scientists (HEIs) to share research output – presently ETDs, Books, Book chapters, Journal articles, Conference proceedings, open datasets, etc. <https://scholar.sun.ac.za/items/3f7f0897-c7f1-4d6b-bc13-1621213e052f>



Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities

290 30.09.2010 Universiteit Stellenbosch – Stellenbosch University
309 27.05.2011 University of Johannesburg
317 12.08.2011 University of Pretoria
333 24.10.2011 University of the Free State
345 01.11.2011 University of Cape Town
383 21.05.2012 University of South Africa
399 25.09.2012 Academy of Science of South Africa (ASSAf)
403 22.10.2012 University of KwaZulu-Natal
406 30.10.2012 National University of Science and Technology (NUST)
408 09.11.2012 University of the Witwatersrand
410 19.11.2012 Midlands State University
472 11.02.2014 North-West University (NWU), Potchefstroom
569 13.09.2016 Solusi University
570 13.09.2016 Great Zimbabwe University
575 27.10.2016 Bindura University of Science Education
679 17.05.2021 Lupane State University



Berlin Declaration: Principles

Supporting the Transition to the Electronic Open Access Paradigm

- ☐ **encouraging our researchers/grant recipients to publish their work according to the principles of the open access paradigm.**
- ☐ encouraging the holders of cultural heritage to support open access by providing their resources on the Internet.
- ☐ **developing means and ways to evaluate open-access contributions and online-journals in order to maintain the standards of quality assurance and good scientific practice.**
- ☐ **advocating that open access publication be recognised in promotion and tenure evaluation.**
- ☐ **advocating the intrinsic merit of contributions to an open access infrastructure by software tool development, content provision, metadata creation, or the publication of individual articles.**

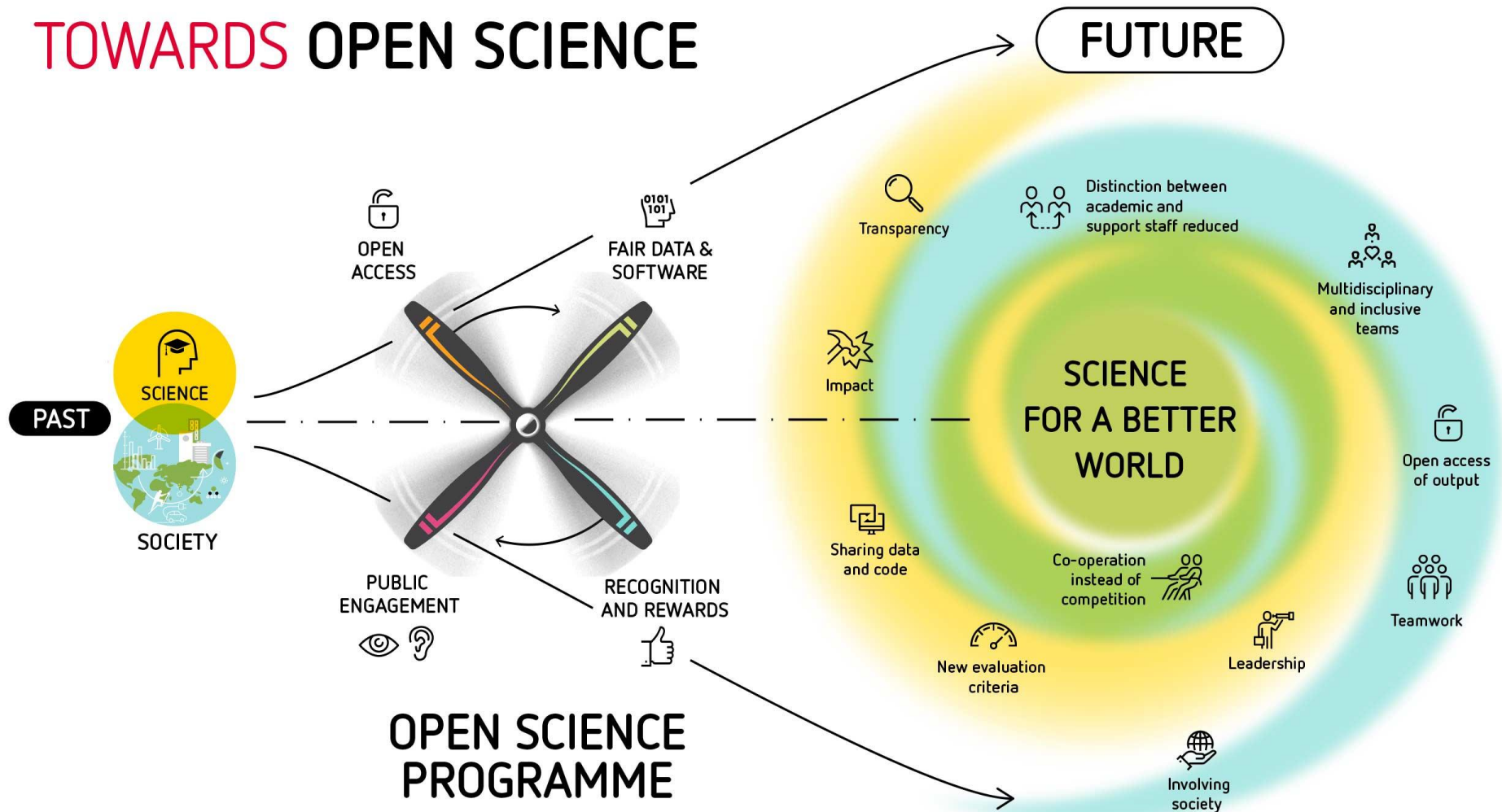


Open Science adoption in HEIs

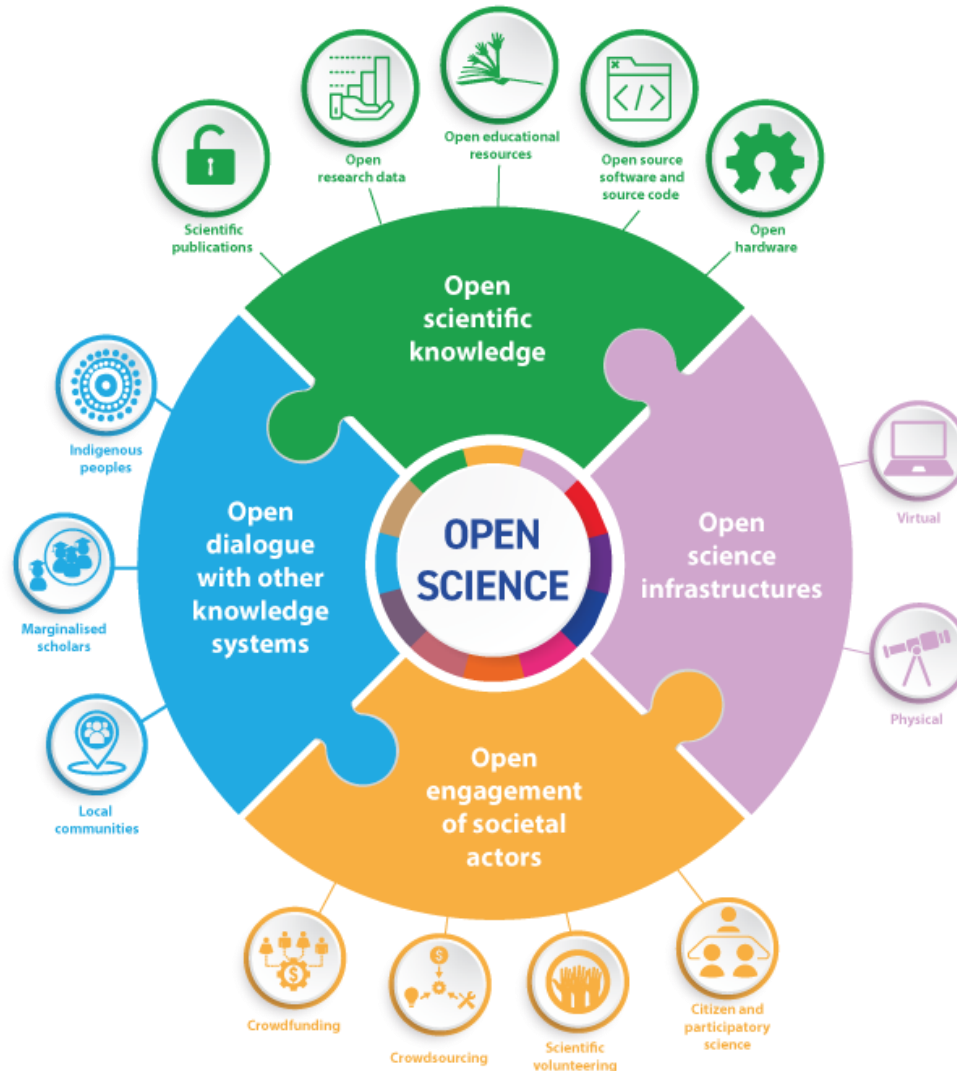




TOWARDS OPEN SCIENCE



Pillars of OS, UNESCO (2021)



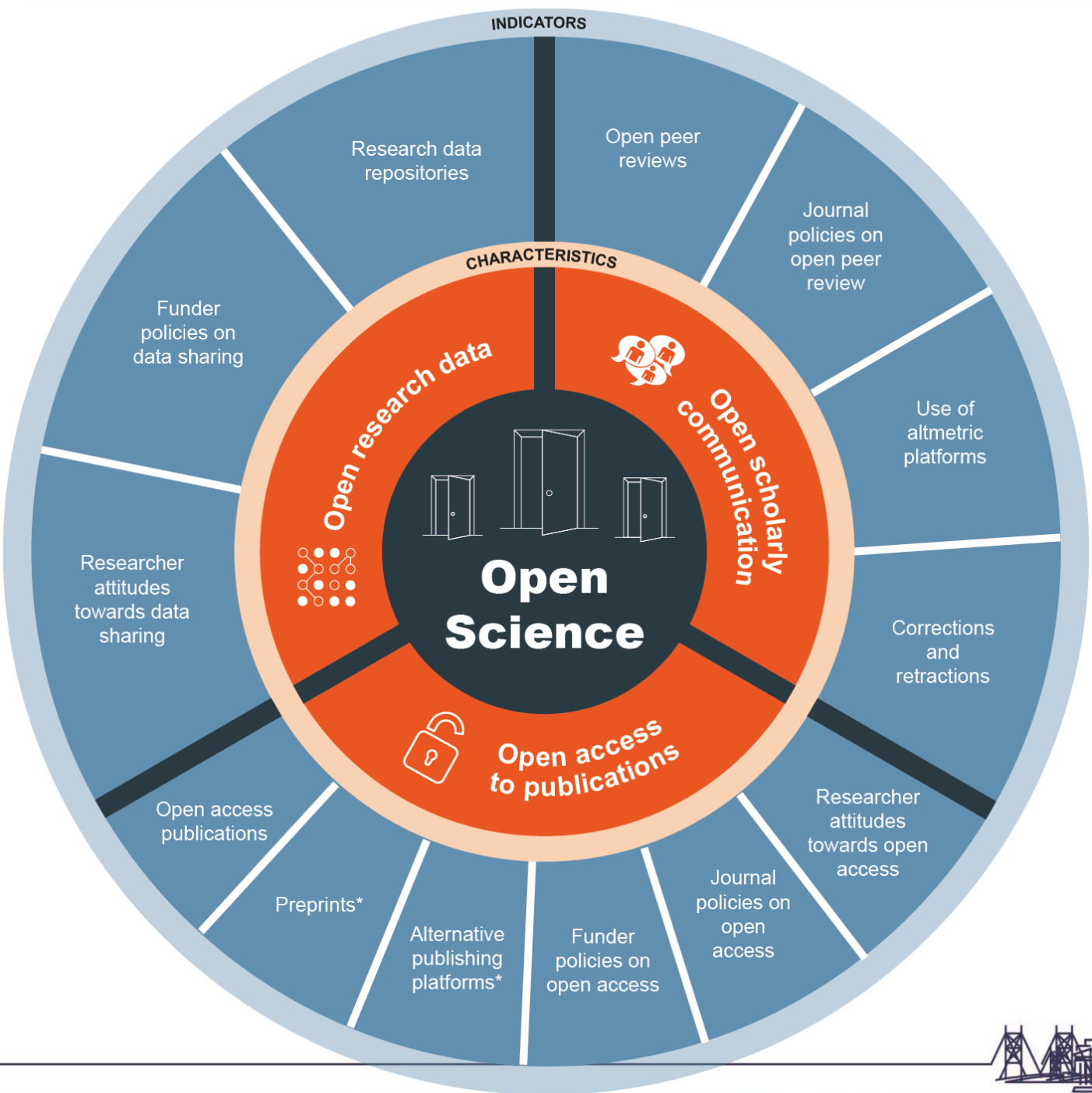
SA, Open Science in Transition

The South African draft open science policy is premised on “...the cardinal guiding principle ‘As Open As Possible, As Closed As Necessary’. This principle recognises both the legislative environment, and the critical socio-economic role of intellectual property rights.” The policy intends to make open access mandatory for publications arising from publicly funded research and desirable for research from all sources of funding. Open access benefits authors as well as those who can freely access the research.



ACADEMY OF SCIENCE OF SOUTH AFRICA
OPEN SCIENCE POLICY

What is Open Science?





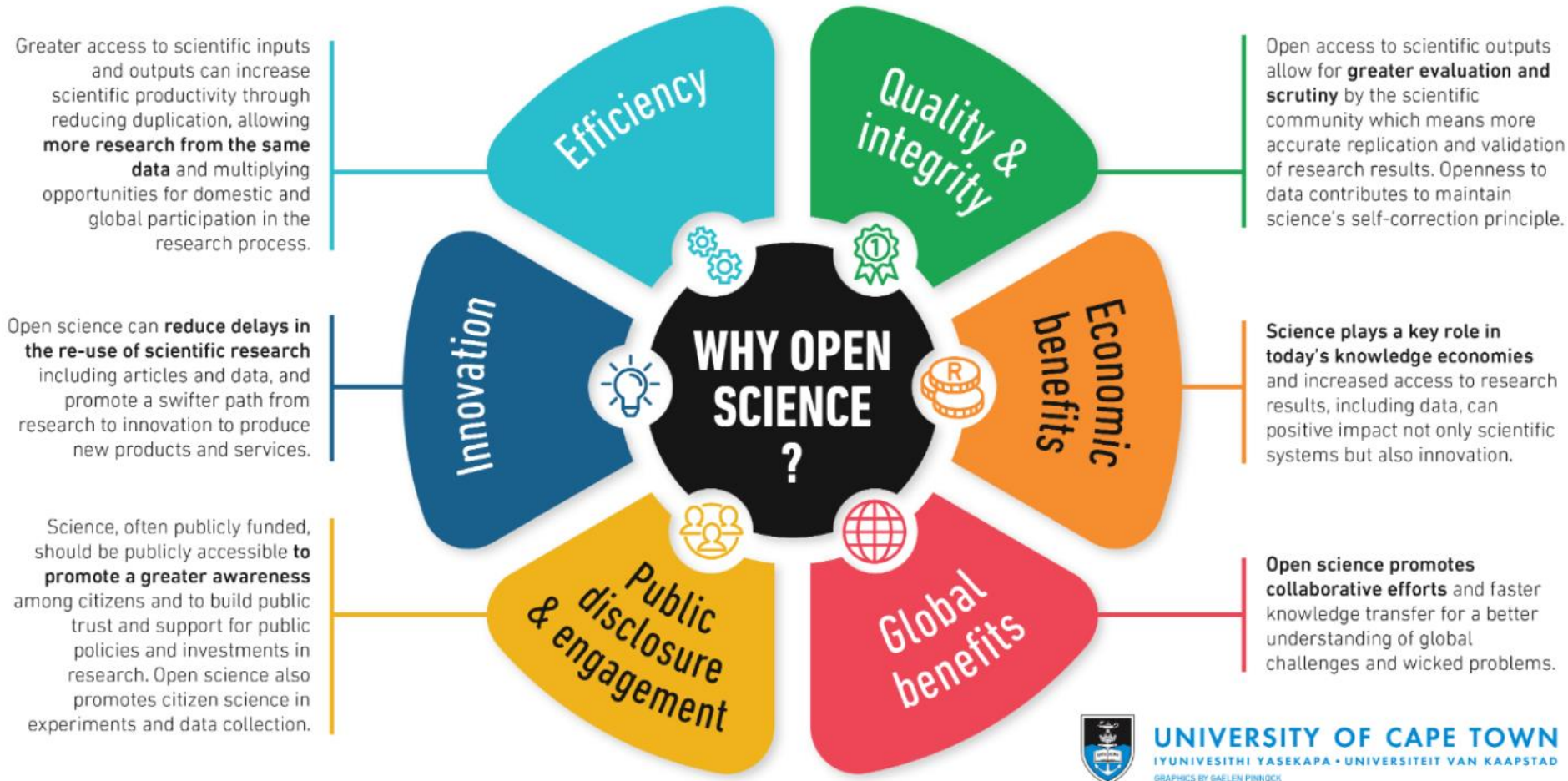
• Discipline-specific skills needed to practice open science (does not include generic computer skills, wider librarianship skills and personal competencies)

• Mapped to LIBER OS Roadmap 7 focus areas, Digcomp 2.0 framework and FOSTER learning resources

• Produced by the LIBER Working Group on Digital Skills for Library Staff & Researchers with input from other LIBER Working Groups, 2020



Why Open Science ?



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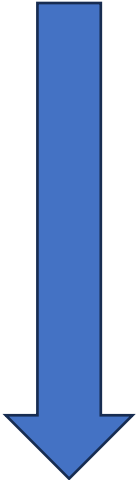
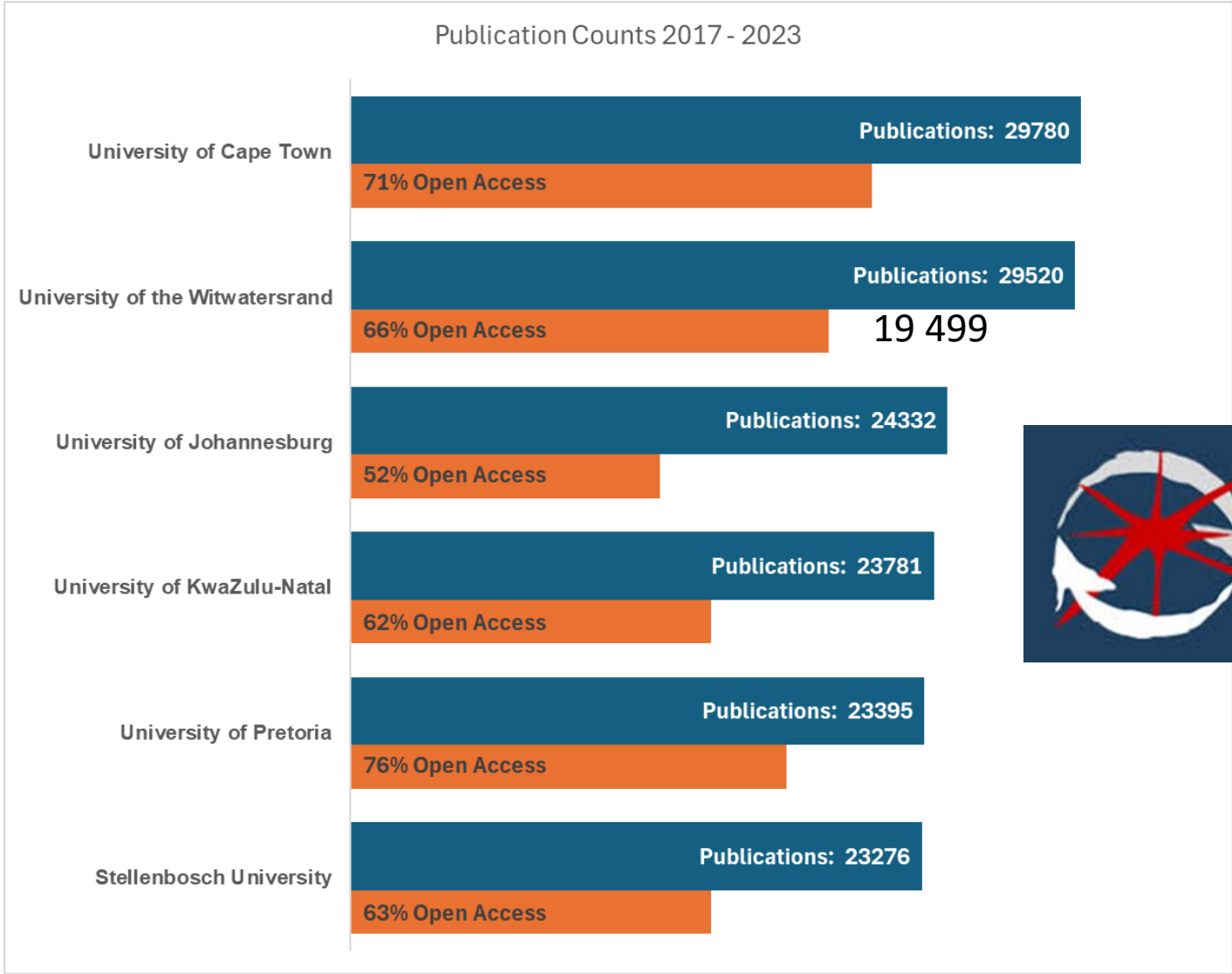


Top 5 - SA Universities

Research Productivity: OA Publishing & Open Data analysis from the Dimensions/Altmetric Tools



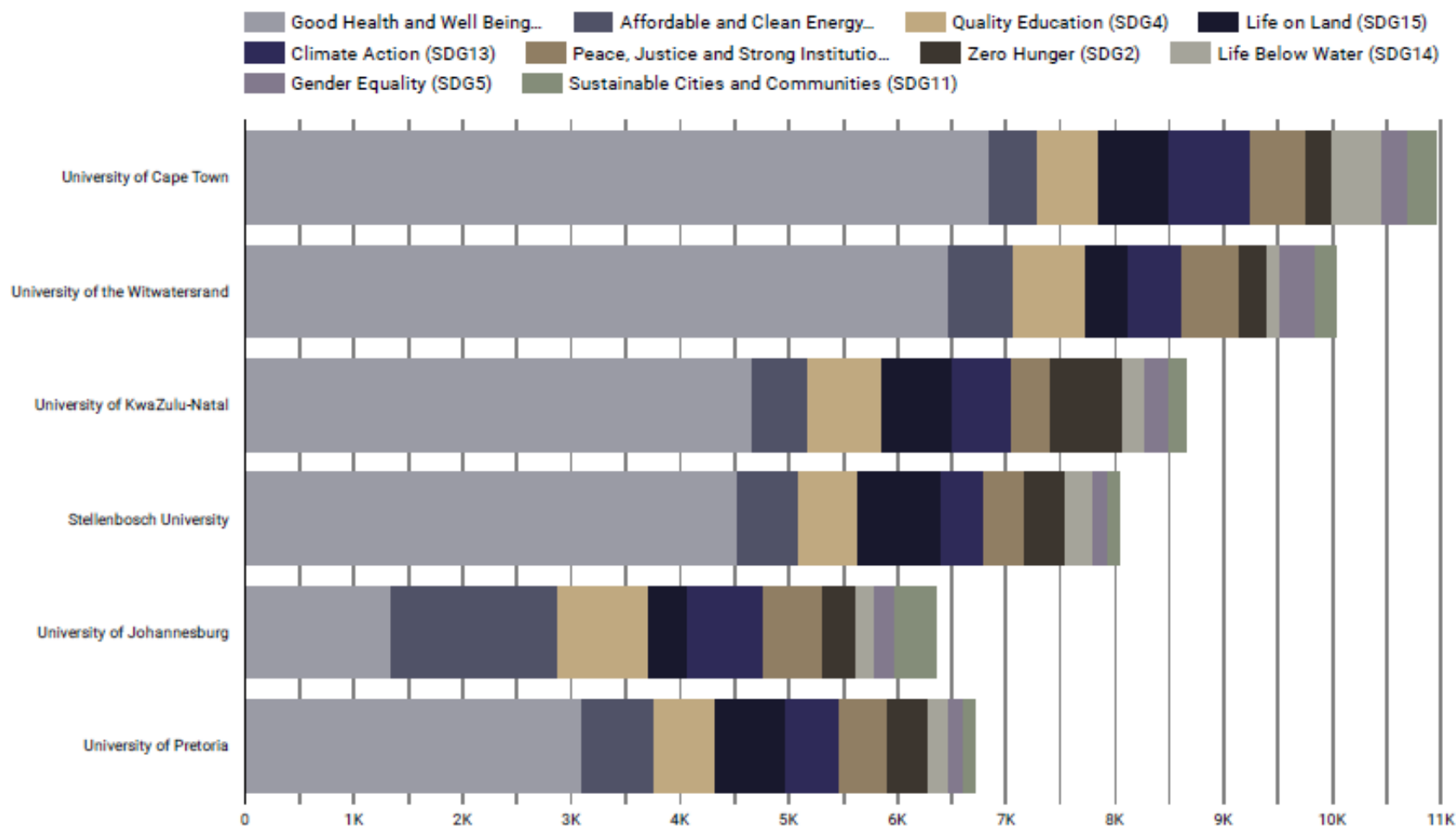
Wider Reach and Access of Wits' OA Publications



Source: Dimensions, 3/09/2024

University of Witwatersrand - Benchmarking

SDG Related Research 2019 - 2023

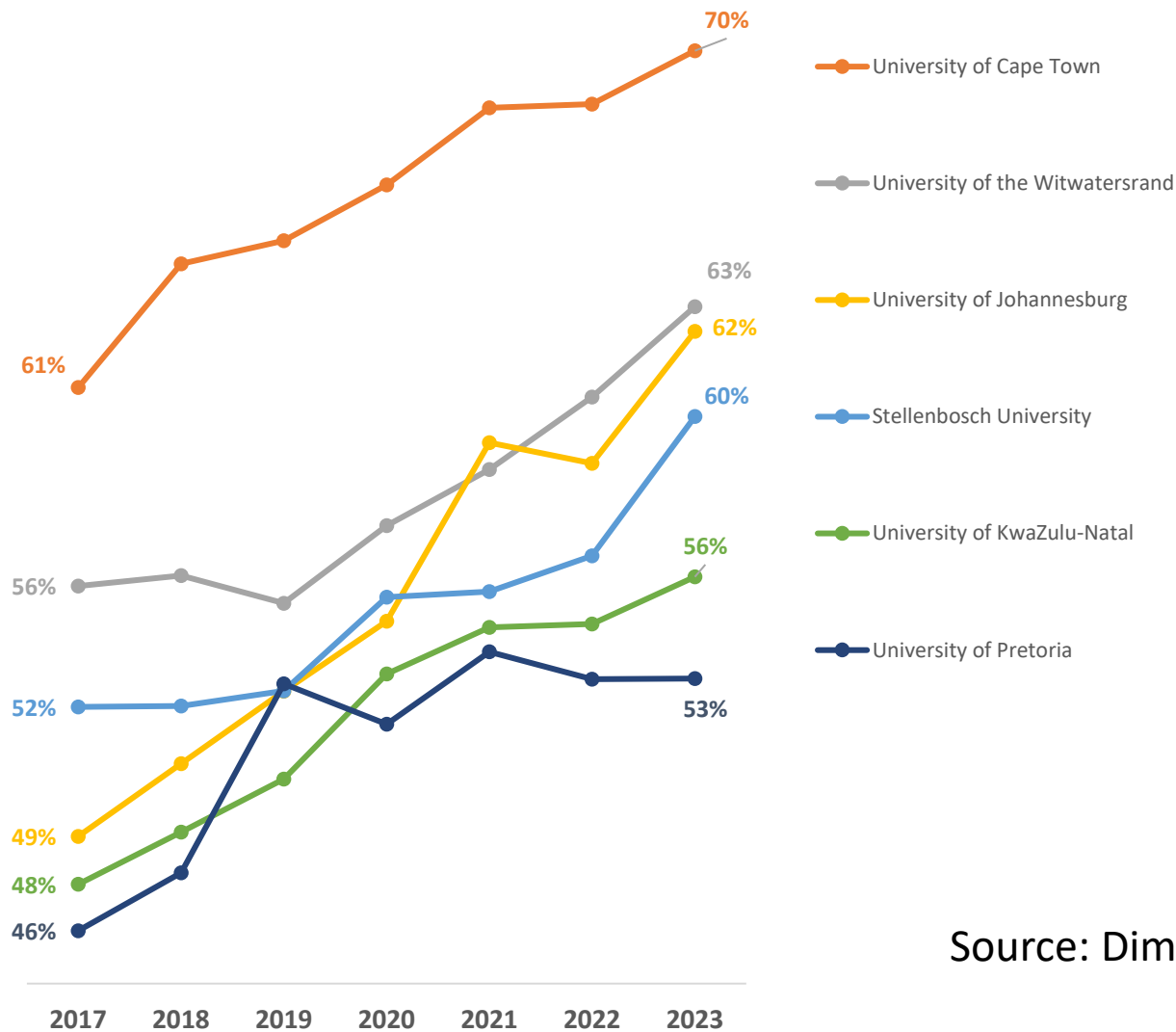


Source: Dimensions, 3/09/2024

Library metadata support for SDGs impact & rankings

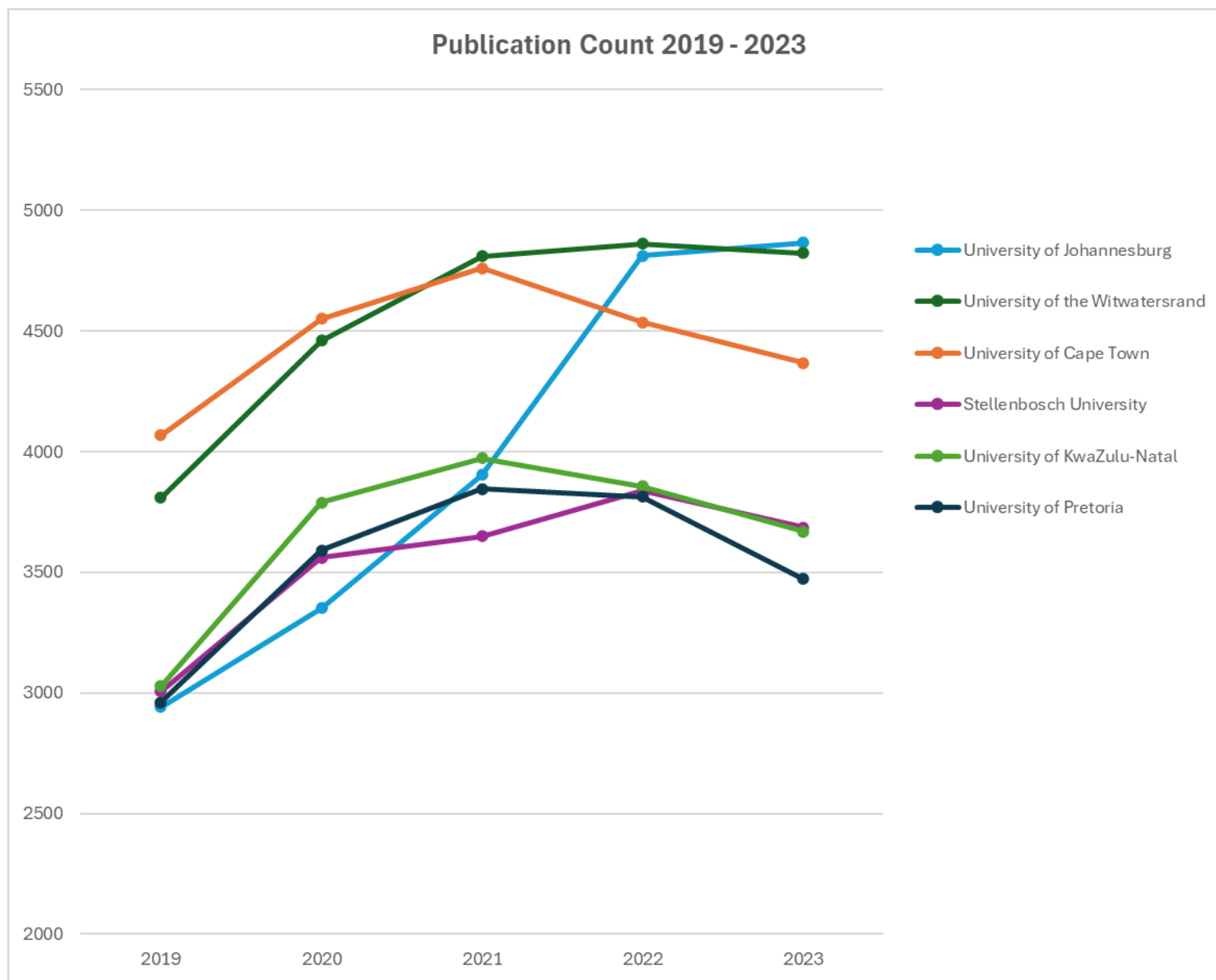
Growth of International Collaborations

Research Librarians – tracking co-authorship



Source: Dimensions, 3/09/2024

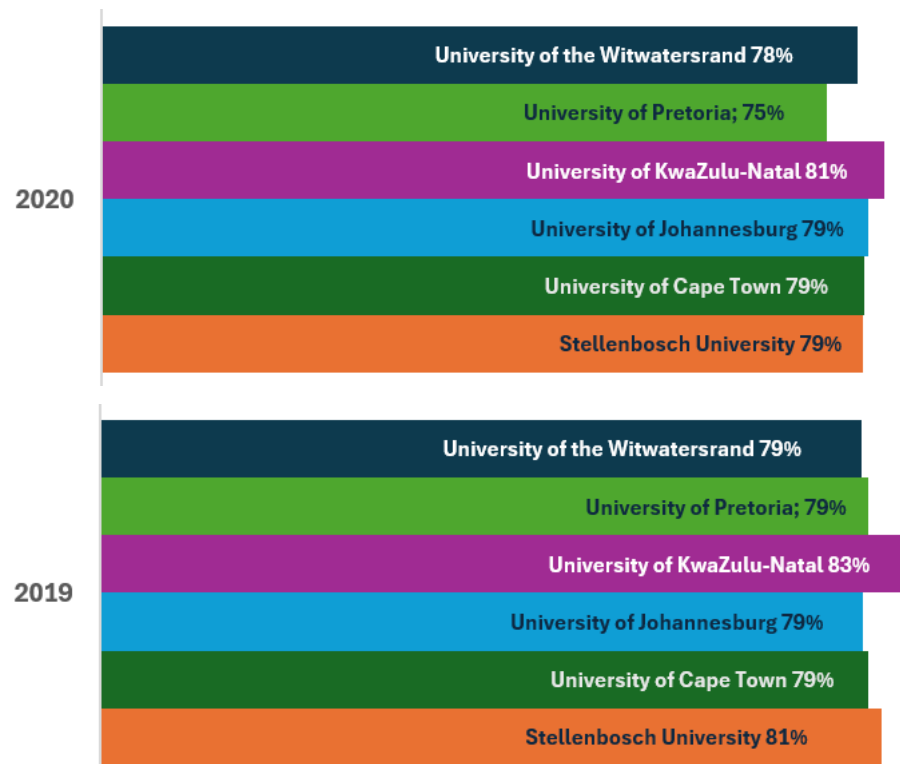
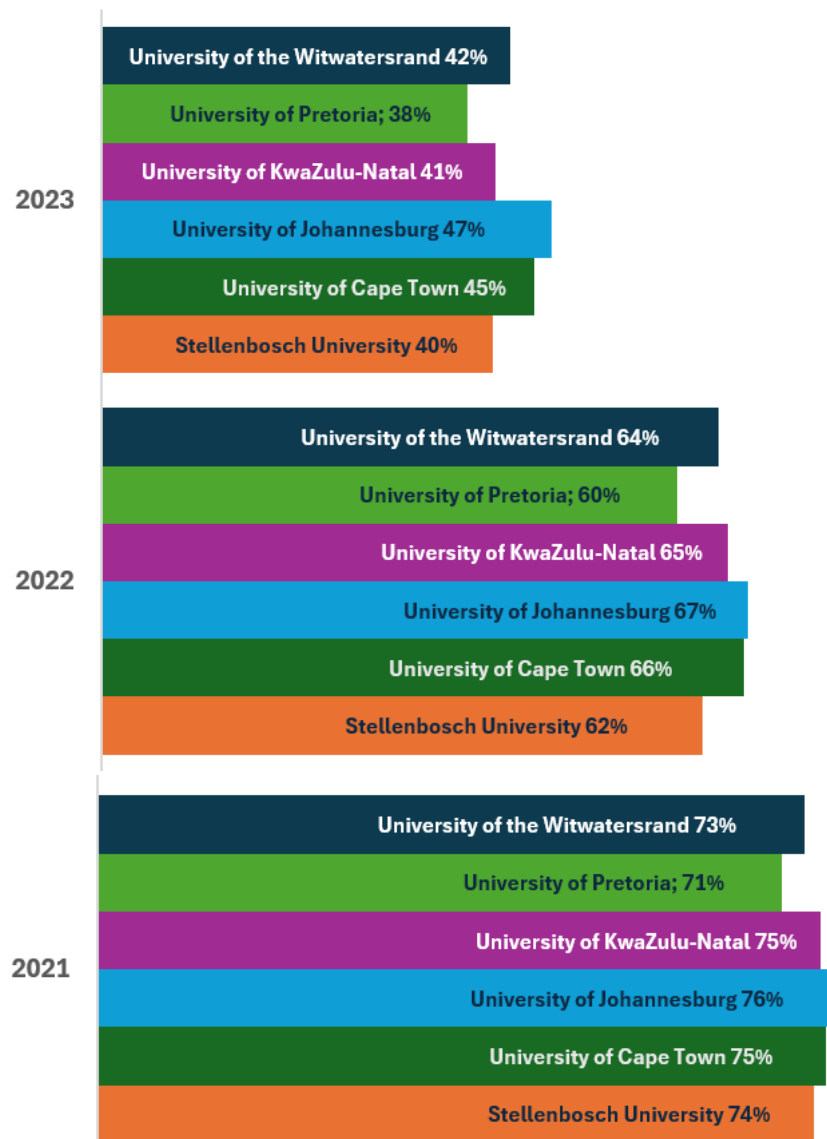




Source: Dimensions, 3/09/2024



Percentage of Publications with 2 or more Citations



Growth of Data Availability Statements

100%

80%

70%

60%

50%

40%

30%

20%

10%

0%

2017

2018

2019

2020

2021

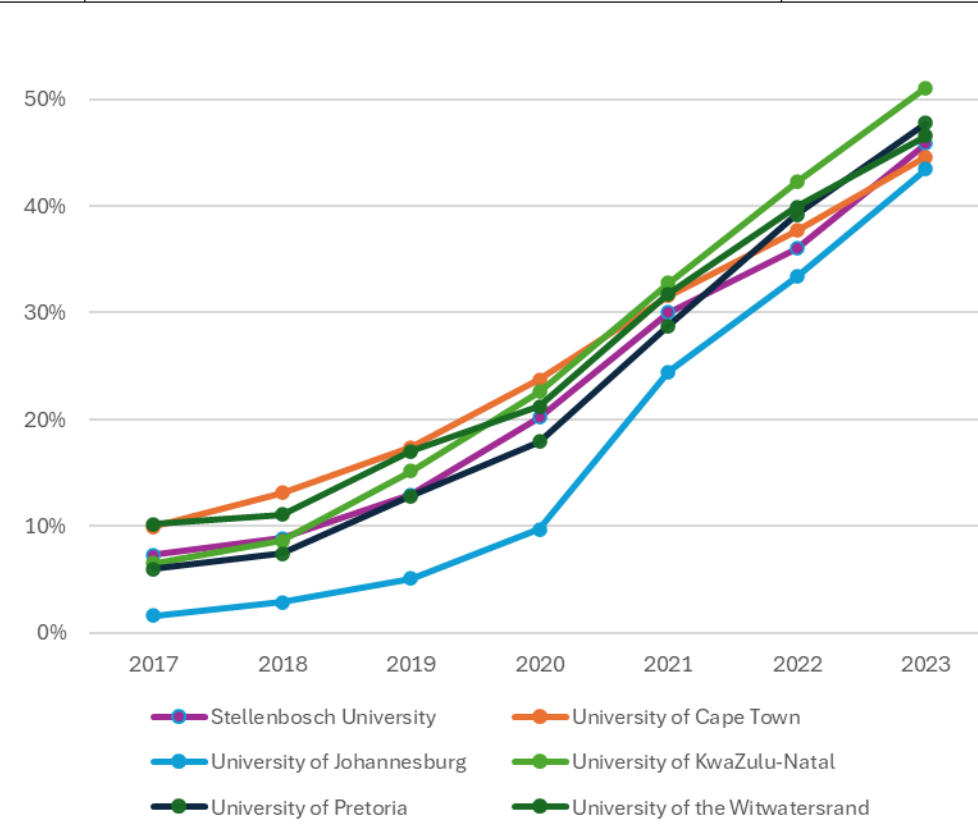
2022

2023

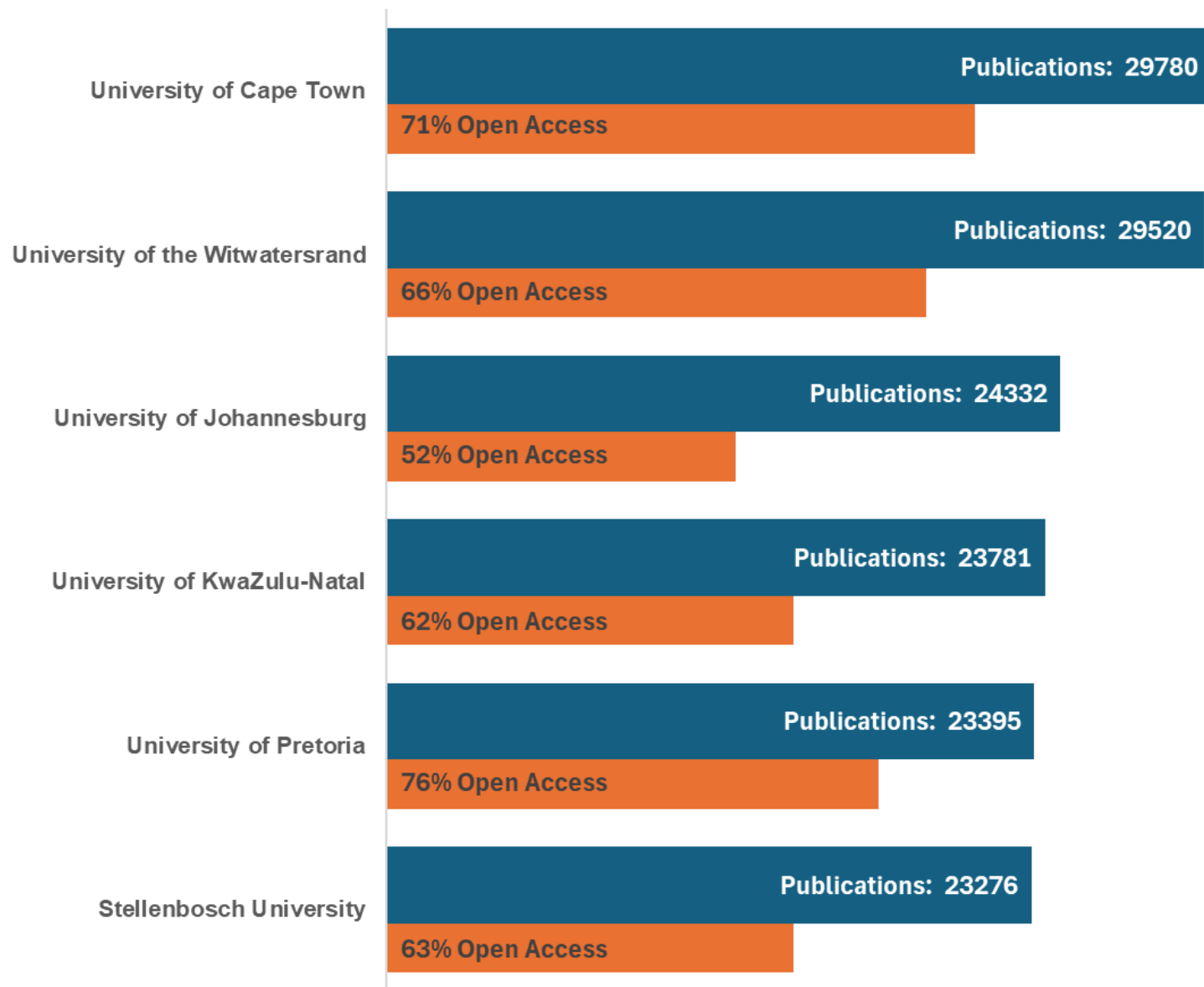
Stellenbosch University
University of Johannesburg
University of Pretoria

University of Cape Town
University of KwaZulu-Natal
University of the Witwatersrand

University	Datasets in Dimensions (2019-2023)	Associated Publications
Stellenbosch University	2026	727
University of Cape Town	27534	1584
University of Johannesburg	21899	667
University of KwaZulu-Natal	2232	799
University of Pretoria	1684	623
University of the Witwatersrand	27634	1405



Publication Counts 2017 - 2023



Publication Counts 2019 - 2023

University of the Witwatersrand

Publications: 22765

68% Open Access

University of Cape Town

Publications: 22284

74% Open Access

University of Johannesburg

Publications: 19878

54% Open Access

University of KwaZulu-Natal

Publications: 18317

65% Open Access

Stellenbosch University

Publications: 17740

65% Open Access

University of Pretoria

Publications: 17683

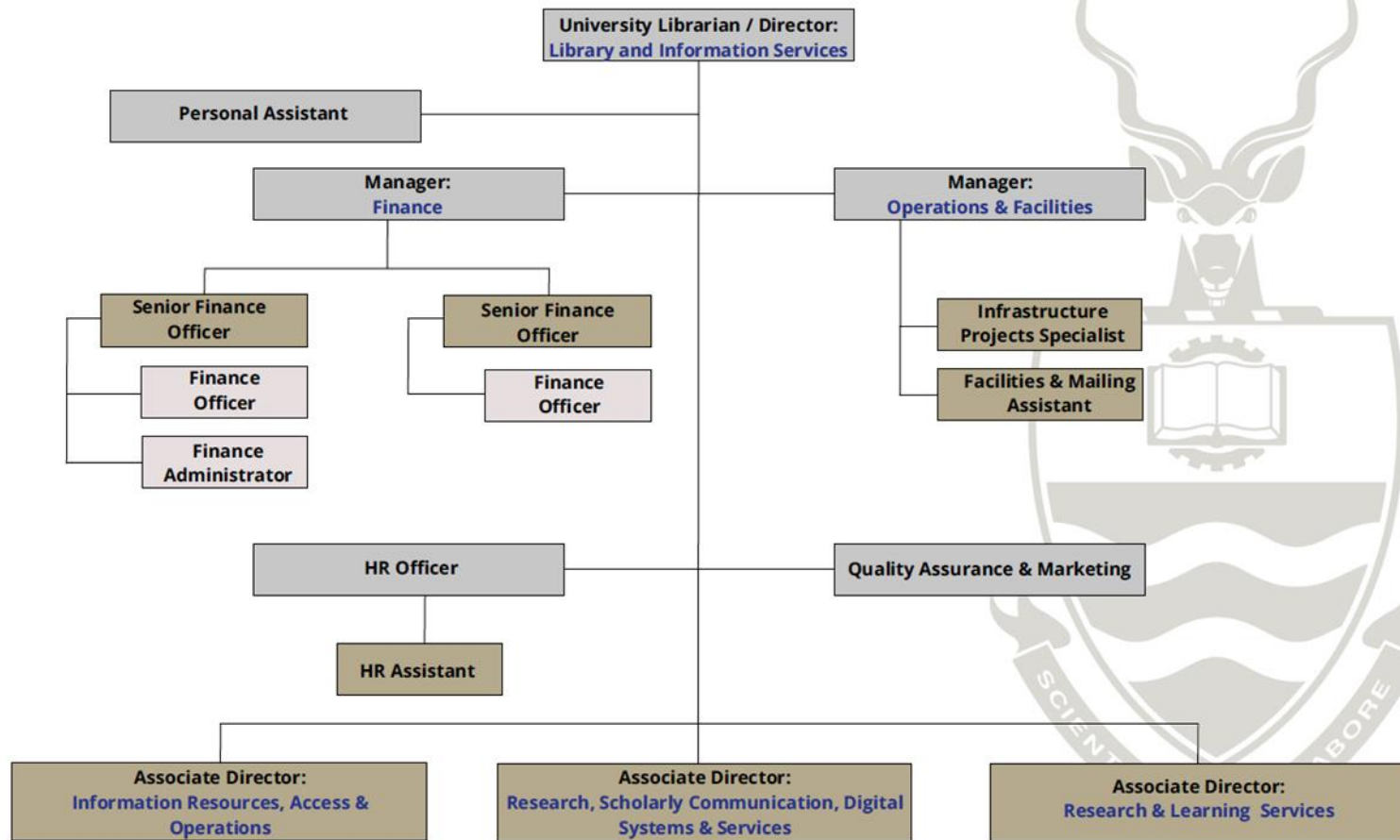
77% Open Access



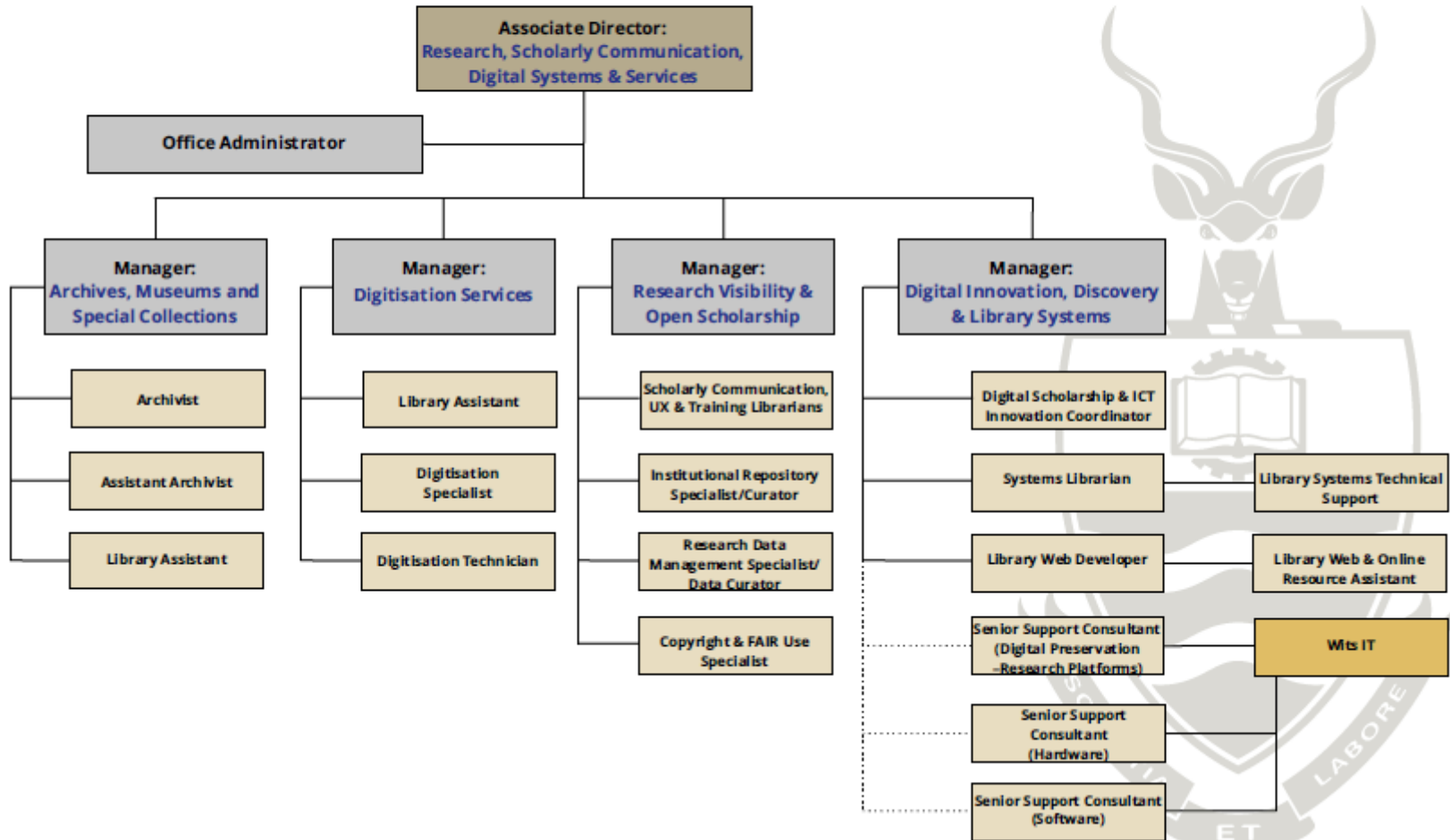
Role of HEIs libraries in supporting OS = New skills & job titles



Response to the Berlin OA declaration: HEIs, University Libraries



Research, Open Scholarship & Digital Systems



Libraries: AI Research Support Tools



Academic AI Writing Tools

Scopus[®] AI

Trusted content. Powered by responsible AI.

zotero

● ● ●
TRINKA
by enago

Research Data Management



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store, **share**, discover **research**

get more citations for all of the outputs of your academic research
over 80,000 citations of figshare content to date

ALSO FOR INSTITUTIONS & PUBLISHERS



Journal finder: APCs and Transformative Agreements



https://www.youtube.com/watch?v=32BgcNL_hjs

Research Impact Measuring Tools



Dimensions help us to identify publications, conduct co-author and co-citation analysis, and uncover translational impact with an enormous set of linked global research data, including Intellectual property, and more

Altmetric is utilised to demonstrate public engagement with research and enhance institutional, departmental, and individual reporting.



Researcher: Citations & Bibliometric Impact Measuring Tools

 **Clarivate**
Web of Science™



SciVal

Libraries: Open Access Publishing Platforms



Open Access Publishing Platforms



Research Visibility & Impact

The project hopes to generate a framework that will anchor the various research analytical tools used to assess and encourage researchers to be digital natives and self-promote their online presence

WITS' ranking & metrics

Raise WITS' ranking & metrics by:

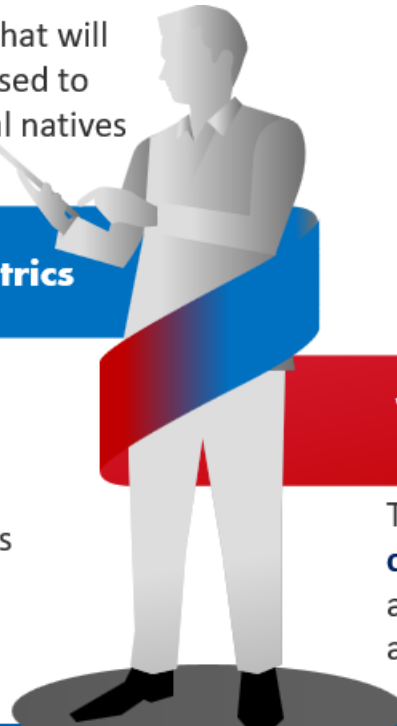
Developing our scholarly publishing systems to better serve our researchers and the public

Increase the impact of WITS' scholarly activities

By promoting the results of our research across a range of platforms

WITS' research

This will assist researchers and the librarians **to collaborate to support the impact and visibility** of a university's research outputs and researchers' activities



©Research Visibility Check Tool



The use of the **Research(er) Visibility Check** will help evaluate the Department of Library Services (DLS) and improve University of Witwaterstrand research(er) visibility. It does this by gathering researchers' data from those who have online presence and it also flags

Open Researcher Tools

Be Visible: Engage, Influence and Ensure Your Research Has Impact

Researchers promote their research and data online using Academic and social networking tools. In the research evaluation process, the DLS support researchers in profiling their research using academic and social networking tools to produce annual metrics report. These reports detail data on journal impact factors, citation scores, article-level metrics, author-level metrics including Altmetrics that quantify social media attention received by a scientific work as extracted from Scopus, Web of Science, Altmetric Explorer and other platforms.

These research(er) academic and social profiling platforms link researchers with their scientific production and performance and help profile institutional visibility and research performance. These platforms are used to quantify research excellence and to credit researchers for recognition in their specific disciplines.



Award winning researchers have online presence and have promoted their research publications including research data using academic and social profiling tools.

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|---|--|---|--|---|--|
| <ul style="list-style-type: none"> • Google Scholar • LinkedIn • ResearchGate • Semantic Scholar • Dimensions • UPSpace • Academia • The Conversation • Scopus Author ID | <ul style="list-style-type: none"> • Google scholar • research gate • LinkedIn • Academia.edu • Semantic Scholar • Twitter • Dimensions • UP Space • Supervised • ResearcherID • Scopus Author ID | <ul style="list-style-type: none"> • ResearchGate • LinkedIn • Academia.edu • Google Scholar • Research Data • Dimensions • UPSpace • University of Pretoria • Semantics scholar • Academia.edu • Scopus Author ID | <ul style="list-style-type: none"> • Google Scholar • Supervised research • ResearchGate • Semantic Scholar • Dimensions • UPSpace • Publons • ScienceOpen • Scopus Author ID | <ul style="list-style-type: none"> • Research Data • Google Scholar • Supervised research • ResearchGate • Loop • Microsoft academic • Supervised work • UP Space • ResearcherID • Scopus Author ID • Loop profile | <ul style="list-style-type: none"> • Personal Site • Data Science for Social Impact Research Group • Research Data (Figshare) • Research Data (Mendeley) • Research Data (Zenodo) • Google Scholar • Supervised work/research • ResearchGate • ScienceOpen • Semantic Scholar • Dimensions • UPSpace • LinkedIn |
|---|--|---|--|---|--|

Lazarus Gallant Matizirofa, Veliswa Tshetsha, Heather Thuynsma, *A conceptual framework for researcher visibility and impact check tool at two South African universities*, Open Science Fair, 25-27 September 2023, Madrid, Spain



Enabling Policies – OS, OA, OD, OERs

UNIVERSITY OF PRETORIA
Department of Library Services

Policy on Open Access to Research Papers and Creative Outputs Authored by University of Pretoria Researchers

Document type: Policy
Policy Category: Research

Document number: S 5120/21

UNIVERSITY OF PRETORIA
Department of Library Services

Policy on Open Access Publishing Processing Charges

Document type: Policy
Policy Category: Academic

Document number: S4420/14

(G-SC-ERC-2021-018)
Document 13



UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

POLICY DOCUMENT



[UCT Libraries](#) / [LibGuides](#) / [University Of Cape Town Current Read & Publish Agreements](#) / [UCT Read & Publish Agreements](#)

University Of Cape Town Current Read & Publish Agreements

The Read & Publish agreements give the University of Cape Town access to journal content and allow authors to publish articles Open Access.

Research Data

Management Policy

WITS POLICY

FAIR DATA PRINCIPLES - CODATA



Findable



Accessible



Interoperable



Reusable





CUT Research Productivity vs Other HEIs in Zimbabwe

CUT Research productivity

Chinhoyi University of Technology - Research Snapshot



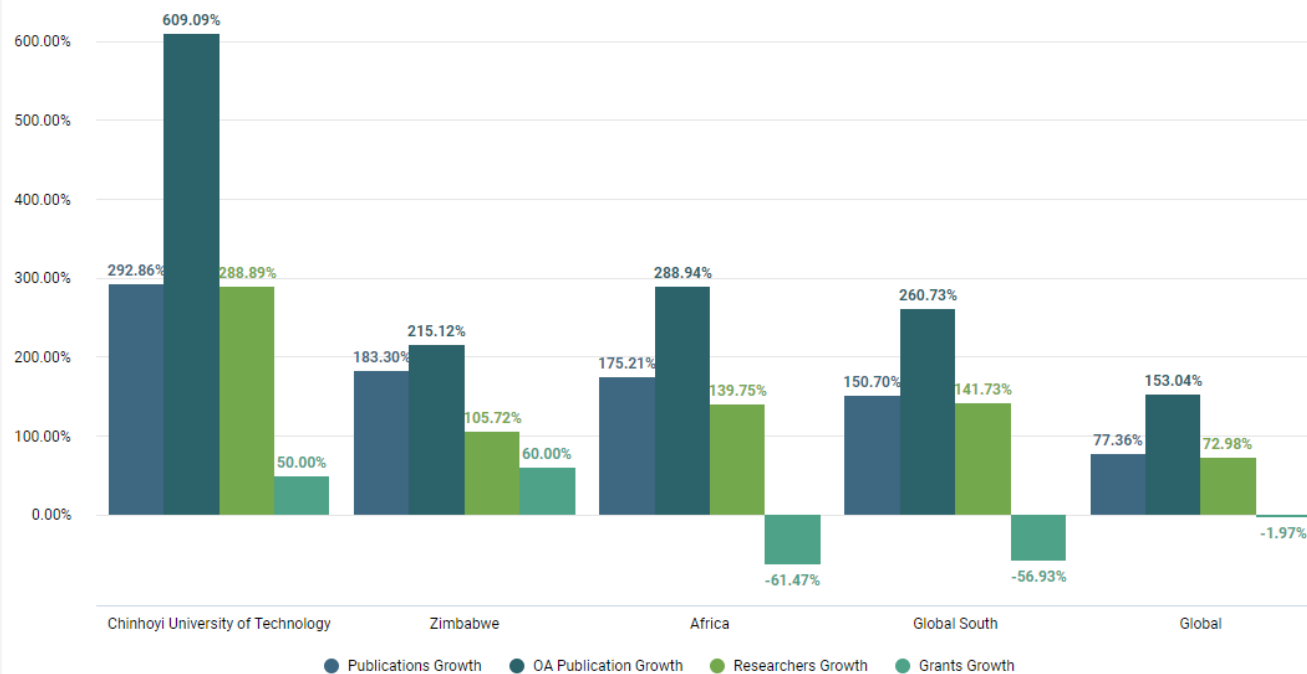
Chinhoyi University of Technology

2014
From

2023
To

This report provides a high level overview on key indicators for the selected organization. This collection of key indicators is presented against key performance calculated on a national, continent, regional and global level.

Growth of publications, open access, researcher and grants



Source: Dimensions, 3/09/2024

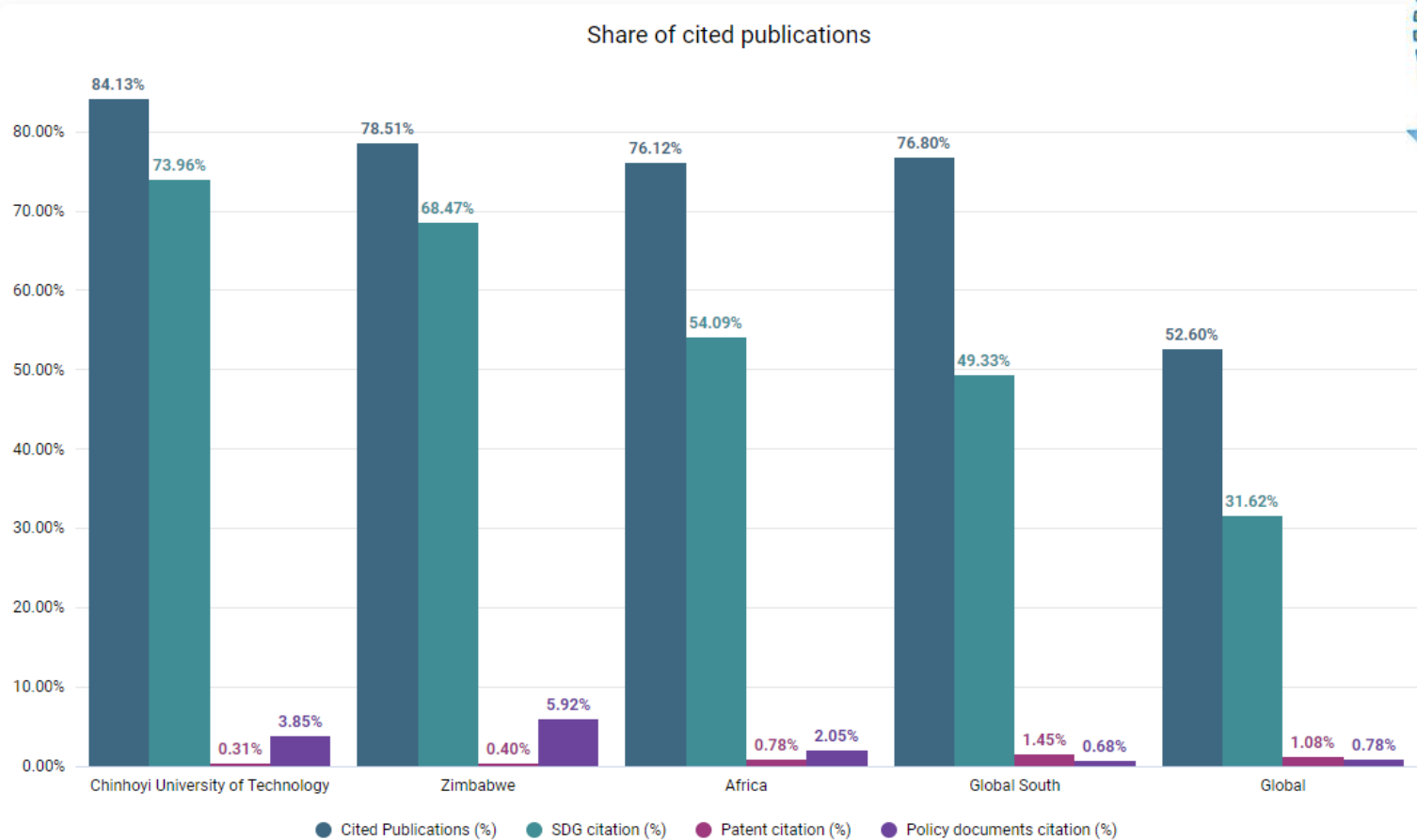
CUT: Citation impact

Chinhoyi University of Technology

2014
From

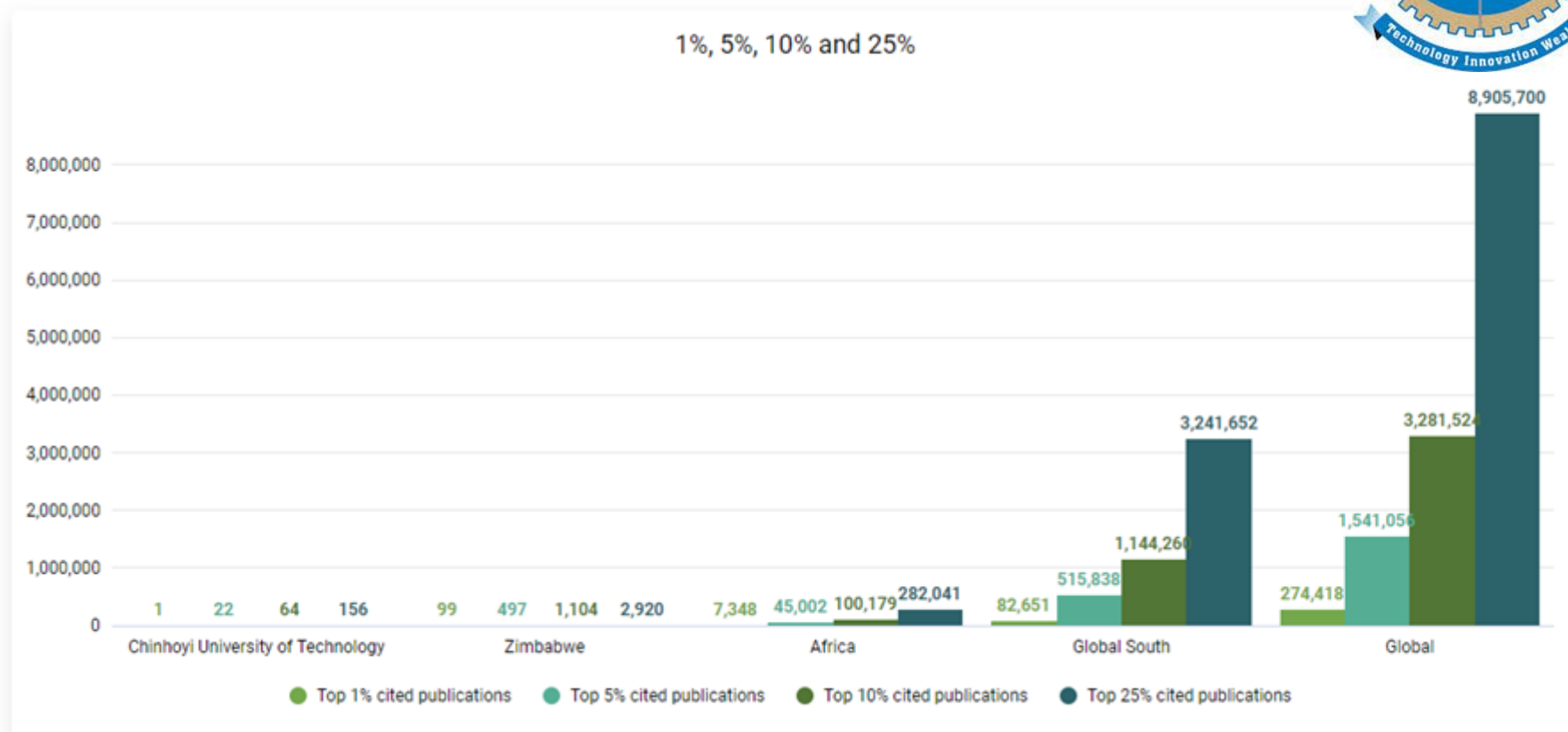
2023
To

This report provides insights on a group of citation indicators for the institutional performance on a national, continent, regional and global level.



Source: Dimensions, 3/09/2024

CUT: Citation impact %



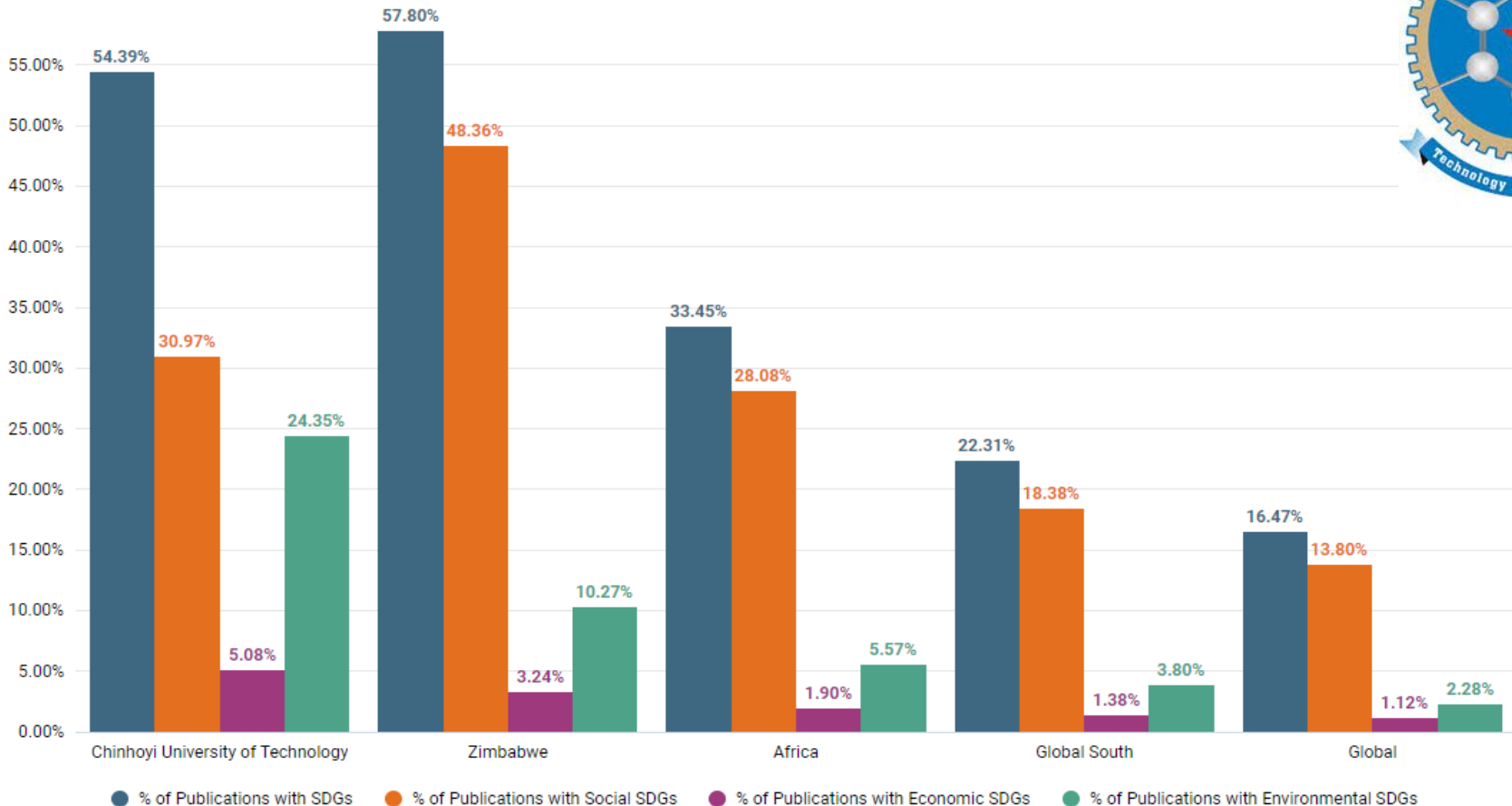
This bar chart illustrates the citation performance of the research organization. The bars indicate the volume of publications based on these being in the top 1%, top 5%, top 10% or top 25% cited publications, respectively, based on a chosen time frame and FoR 1st level.

Source: Dimensions, 3/09/2024

CUT: Sustainable Development Goals

This report provides insights on the institutional performance indicator based on SDG in a national and international comparison. The display represents the organization and national, continental, regional and global shares of SDG. The shares are refined to present the total number of publications classified in the context of SDG and further refined by broad categorisation of the SDGs into social, environmental, and economic groups.

Share of SDG categories

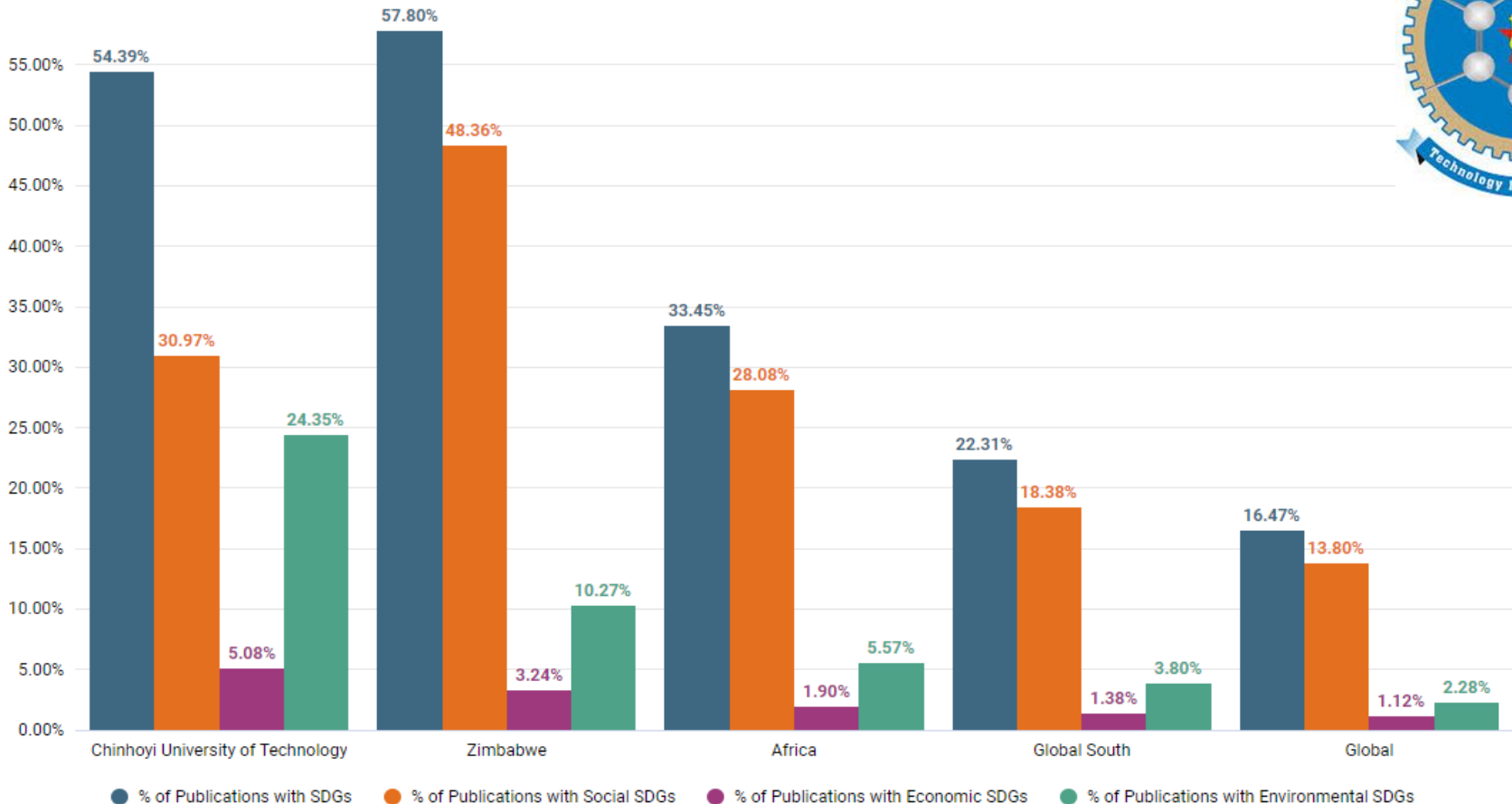


Source: Dimensions, 3/09/2024

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Share of SDG categories



Source: Altmetric, 3/09/2024

CUT: Fields of Research & Concepts

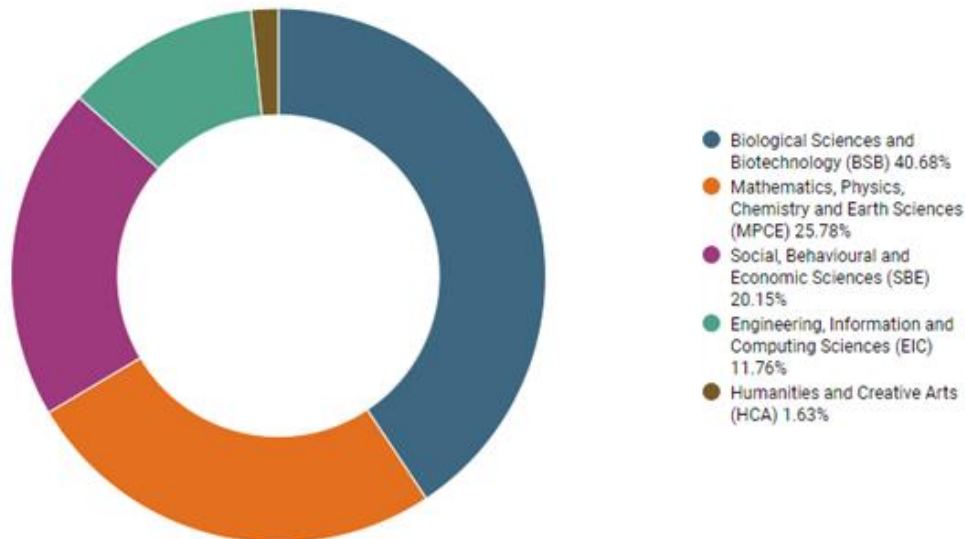
Chinhoyi University of Technology

2014
From

2023
To

Subject areas at a glance

Publications per Fields of Research(broad categories)



66.4%

% Single FoR publications (1st level) ⓘ

32.5%

% Multi FoR publications (1st level) ⓘ

1.1%

% n/a ⓘ



The 22 FoR first level (ANZSRC 2020) are grouped into five broad FoR categories on the left. Click on the individual broad FoR segment to retrieve the underlying publications with title, further information and indicators. The section on the right shows percentages contextualizing the number of publications and their characterization by the FoR classification system.

Source: Dimensions, 3/09/2024

CUT: Fields of Research & Concepts

Chinhoyi University of Technology

2014
From

2023
To

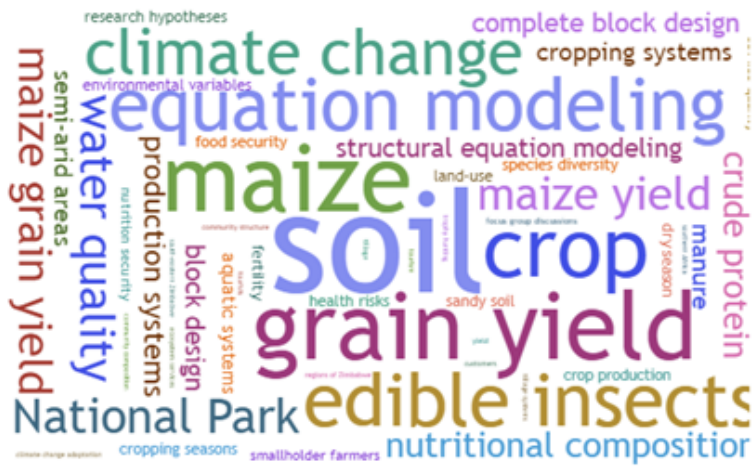
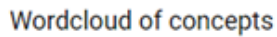
566

Publications with concepts

6,577

Unique concepts ⓘ

Concept prevalence



Word cloud returns most frequent concepts. The size of the concept represents the number of publications published by the selected organization.

Most frequent concepts

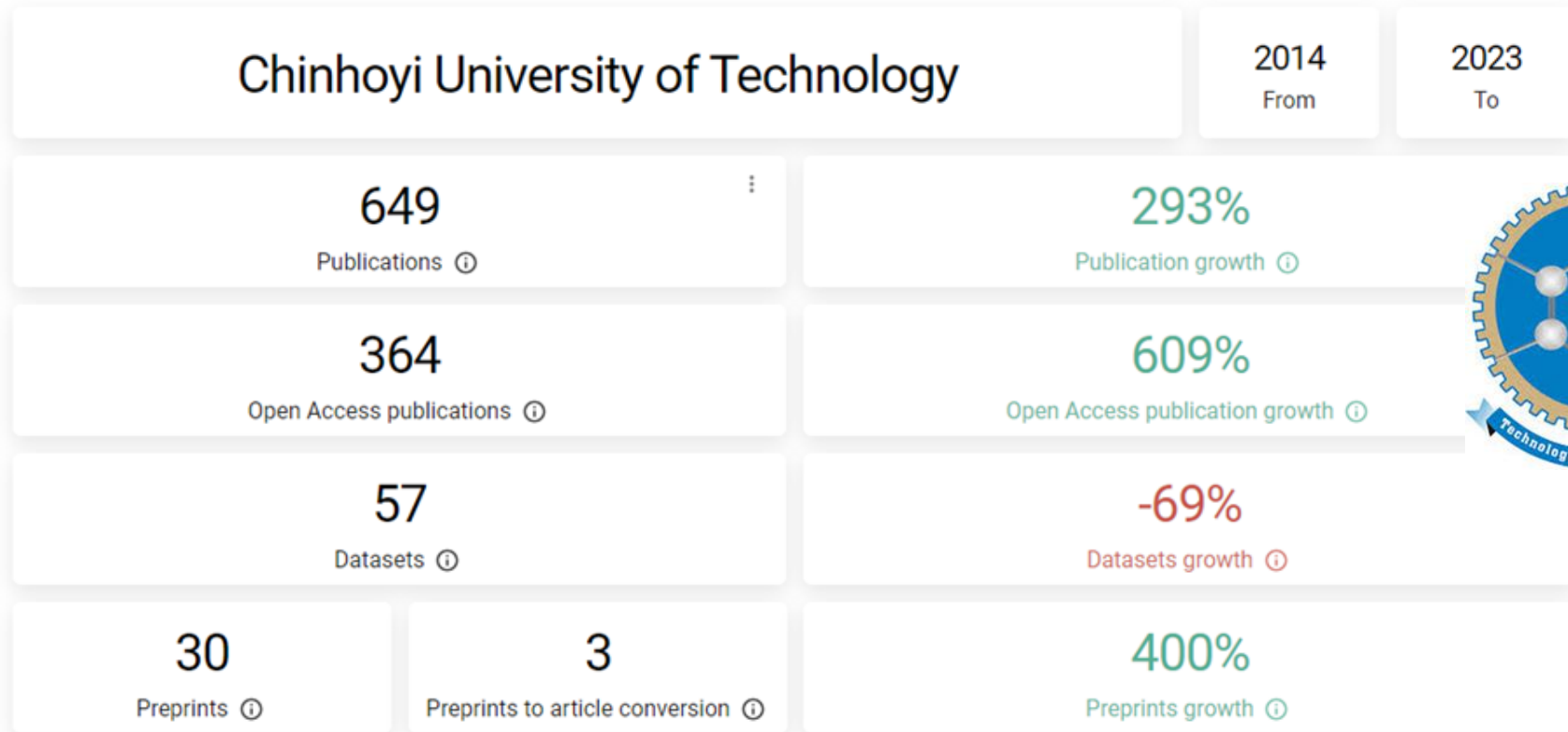
	Concept: Name	Publications	Average citations
1	soil	22	10.14
2	grain yield	17	14.76
3	maize	17	15.94
4	crop	16	12.38
5	structural equation mod...	16	25.81
6	edible insects	15	37.53
7	equation modeling	15	26.80
8	climate change	14	18.71
9	water quality	14	16.93
10	National Park	14	12.07
11	production systems	13	24.38
12	maize yield	12	13.75
13	crude protein	12	18.92
14	maize grain yield	12	12.92
15	crop production	11	9.45
16	block design	11	5.64

The table lists the concepts that appear most frequently in publications within the selected category.

Source: Dimensions, 3/09/2024

CUT: Fields of Research & Concepts

This report provides analysis on all aspects of open research, focussing in this overview on general statistics and the trend and comparison of open access at the research organization. This is based on the last full ten years by default - different year settings and a drill down by publisher can be applied via the filter (top right).



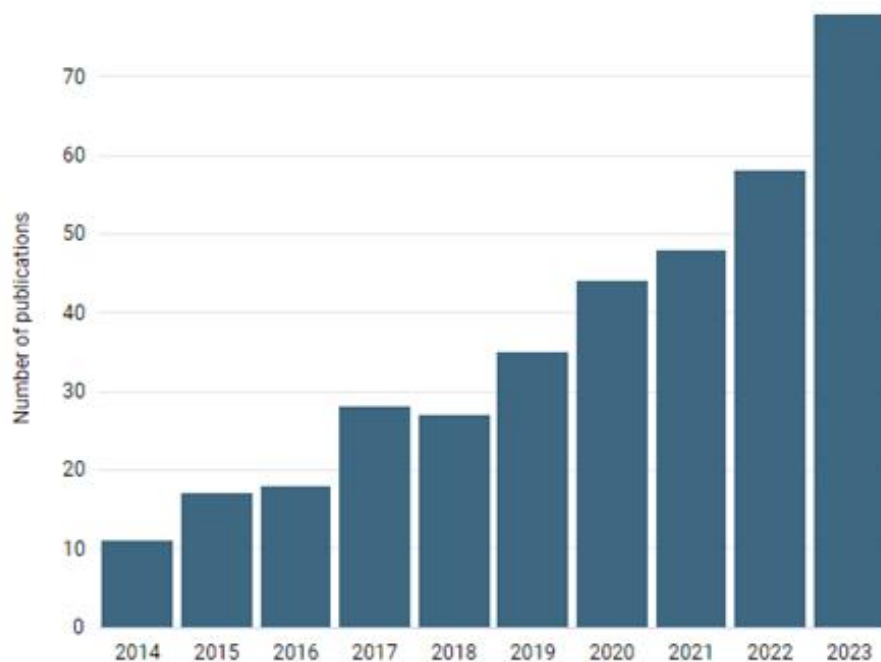
A general overview on publications in the context of Open Access. For the selected research organization the number of publications, those publications that are openly available, and datasets publicly available are presented based on the publication date in the selected time frame. The overall number of preprints and those that are published in journal format are presented and linked in a downloadable table with associate metadata. Growth rates, indicating the change (%) over the entire selected time frame are presented for all types of research outputs.

CUT: Fields of Research & Concepts



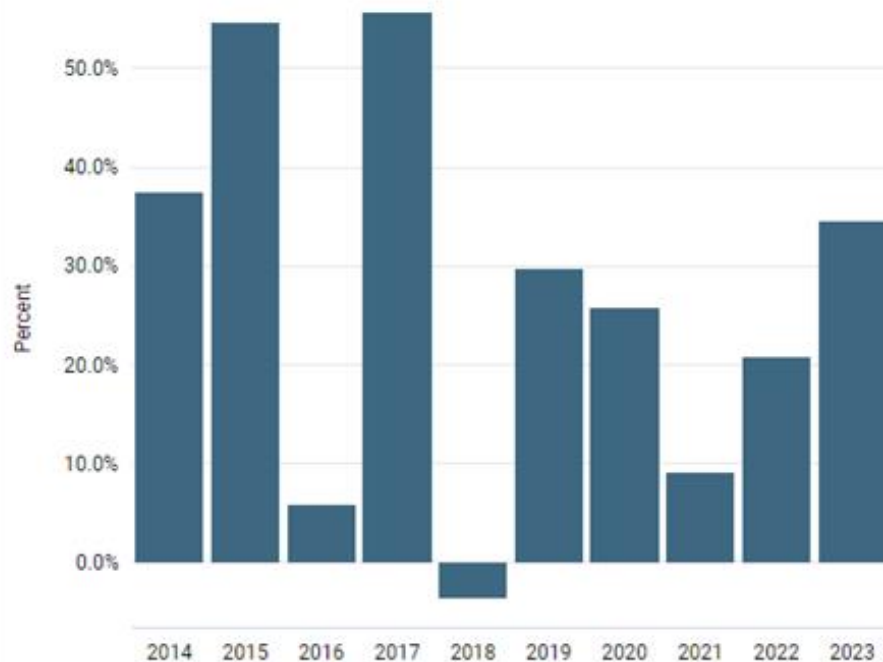
Source: Dimensions, 3/09/2024

OA publication volume



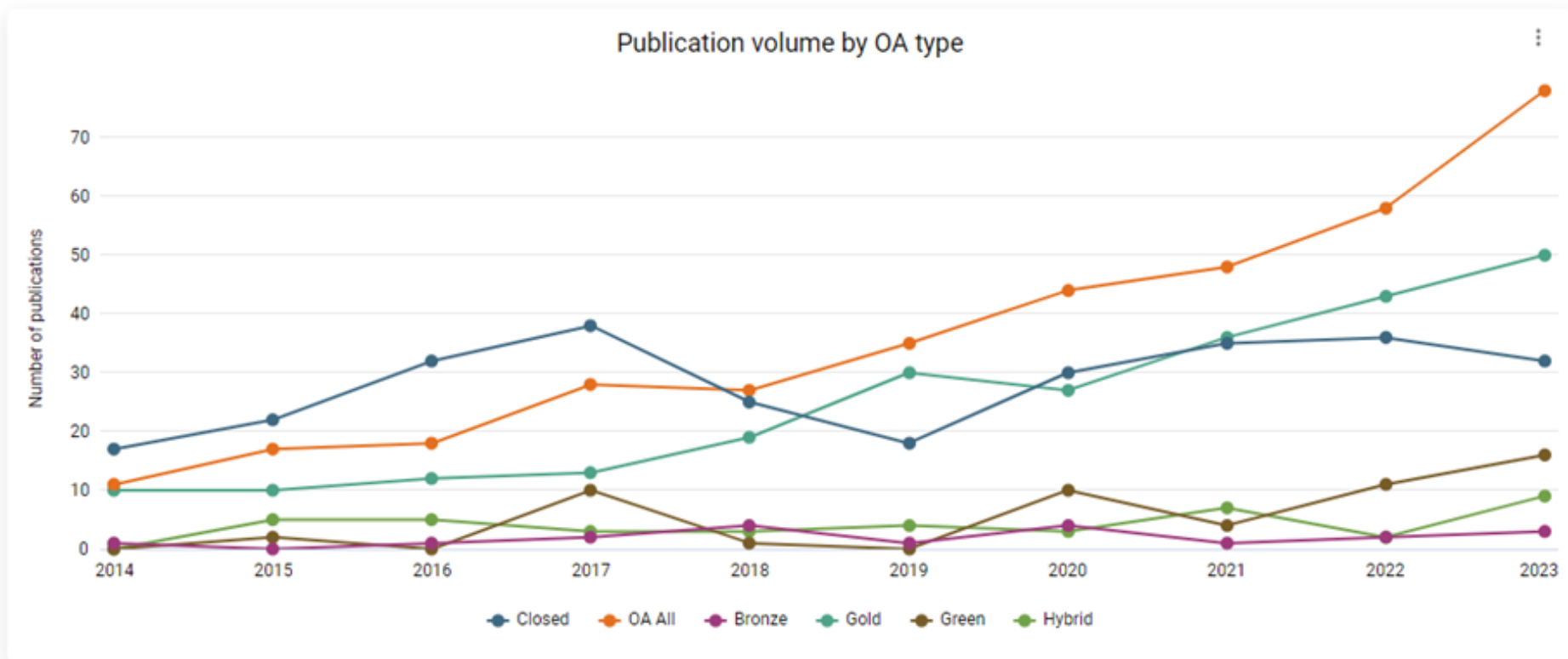
Number of Open Access publications (deduplicated) per year published by the selected organization. Click on the individual bar for a year of the selected timeframe to retrieve the underlying publications title, further information and indicators (e.g. all and recent citations, FCR).

Relative change of OA publications by year



Relative change of Open Access publications by year. The chart illustrates the growth rate using a 1-year-window. For example, a value of 10% in 2015 indicates that there were 10% more OA publications in 2015 than there were in the previous year of 2014.

CUT: Fields of Research & Concepts



This graph presents the number of publications by Open Access type (see legend) and furthermore groups these in terms of a total OA count ("oa_all"). For comparison, all non OA publications ("closed") for the same years in the chosen timeframe are presented too. Clicking a dot (indicating a year of the relevant OA type or collection) leads to a downloadable list with individual items and the underlying publications titles, further information and indicators (e.g. all and recent citations, FCR).

Source: Dimensions, 3/09/2024

CUT: Collaborative Research



Chinhoyi University of Technology

2014
From

2023
To

649

Publications ⓘ

6%

Single authored ⓘ

18%

Institutional co-authored ⓘ

22%

National collaboration ⓘ

43%

International collaboration ⓘ

0%

Corporate collaboration ⓘ

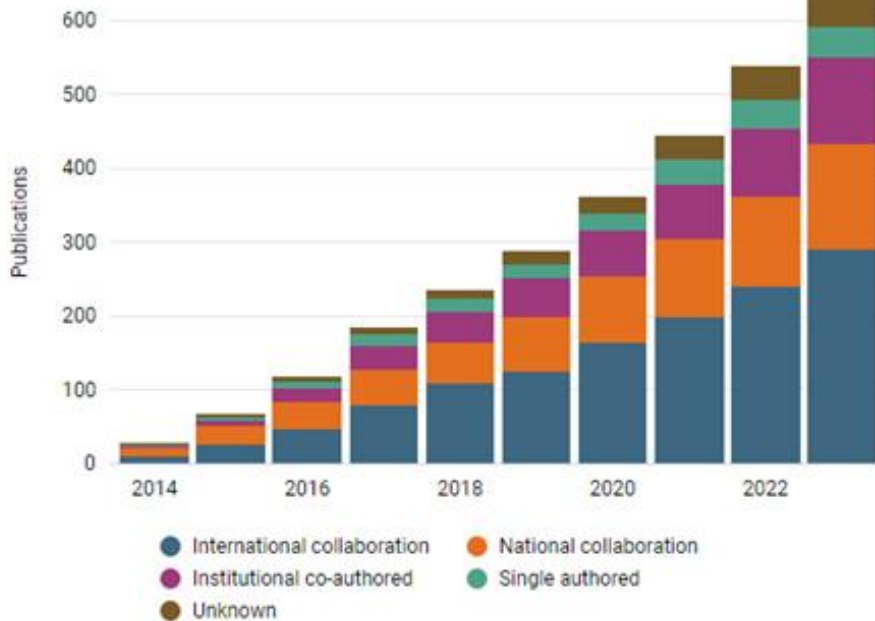
These general statistics provide a summary view on the different shares by type of collaboration based on the resulting number of publications set by the filter settings. The default last ten year setting can be changed under the filters (top right) which allow a broad variety of settings based on publication types, broad FoR and SDG categories and drill-downs by FoR first level, FoR second level, or individual SDG.

Source: Dimensions, 3/09/2024

CUT: Collaborative Research

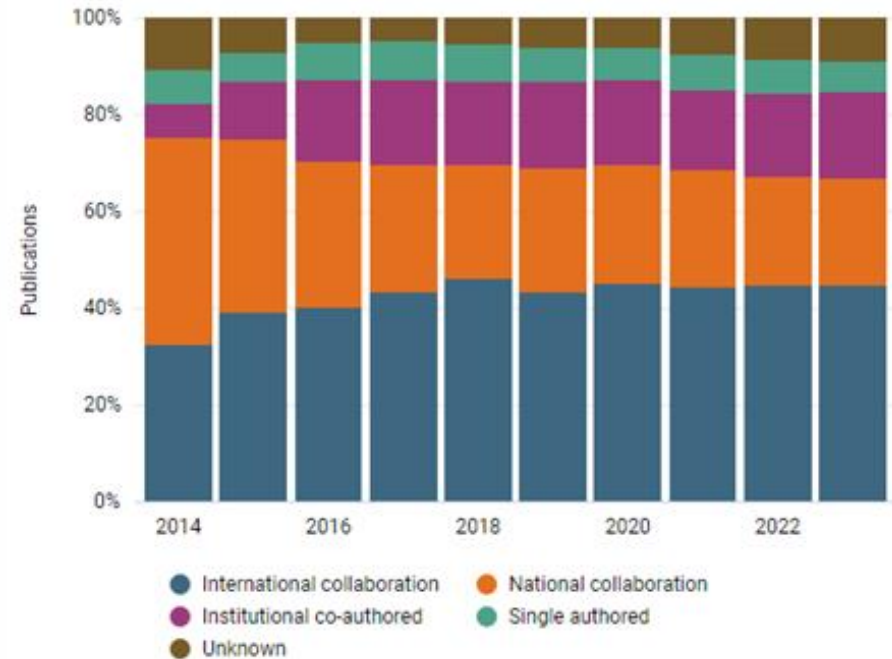


Cumulative publications per year and type of collaboration



Cumulative number of publications by collaboration type over the time period. E.g. the international collaboration is the number of the organization's publications that have been co-authored by two or more countries (other than the country of the organization itself).

Relative number of cumulative publications per year and collabo...



Relative number of publications per collaboration type. E.g. the percentage of international collaboration is the share of the organization's publications that have been co-authored by two or more countries (other than the country of the organization itself).



UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG



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Wits Libraries

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Google Scholar/ LinkedIn

- Board Member of the Networked Directory of Theses & Dissertations (NDLTD)
- Member: National CODATA Committee
- Member- Confederation of Open Access Repositories
- Steering Committee Member – Global Open Repositories
- Ex-Member of the South African Open Science Policy Dialogue
- Ex-Member of the African Open Science Platform, NRF/ASSAff/DSI