RESEARCH, INNOVATION AND ENGAGEMENT

Tshwane University
of Technology

We empower people

Annual Report Highlights 2023

CONTENTS

#ImpactfulResearch
#fromGood2Great

7

NICHE AREAS
of research to support
economic development in
South Africa's economy

RESEARCH
INTEGRATED
with everyday life

Abbreviations and Acronyms

|	
BAAP	Black Academic Advancement Programme
CCI	City Changers Institute
CFO	Chief Financial Officer
CREST	Centre for Research on Evaluation, Science and Technology
CSIR	Council for Scientific and Industrial Research
DHET	Department of Higher Education and Training
DIES	Dialogue on Innovative Higher Education Strategies
DQP	Directorate of Quality Promotion
DRI	Directorate of Research and Innovation
DSI	Department of Science and Innovation
DVC	Deputy Vice-Chancellor
EWSETA	Energy and Water Sector Education and Training Authority
FEBE	Faculty of Engineering and Built Environment
HEI	Higher Education Institute
ICT	Information and Communication Technology
ITTO	Innovation and Technology Transfer Office
ISP: 2020-2025	Institutional Strategic Plan: 2020-2025
IP	Intellectual Property
LIS	Library Information Services
MRC	Medical Research Council
MerSETA	Manufacturing, Engineering and Related Services Sector Education and Training Authority
MictSETA	Media, Information and Communication Technologies Sector Education and Training Authority
M&D	Master's and Doctoral
NIHSS	National Institute of Humanities and Social Sciences
NRF	National Research Foundation
PDRF	Postdoctoral Research Fellows
PRIPOL	Postgraduate Research and Innovation Policy
R&I	Research and Innovation
RIPPOL	Research Innovation Partnership Policy
SATN	South African Technology Network
SARChI	South African Research Chair
SCPS	Senate Committee for Postgraduate Studies
SCRI	Senate Committee for Research and Innovation
SDGs	Sustainable Developmental Goals
THENSA	Technological Higher Education Network South Africa
TETA	Transport Education Training Authority
TLPOL	Teaching and Learning Policy
TUT	Tshwane University of Technology
UCDG	University Capacity Development Grant
UNESCO	Nations Educational, Scientific and United Cultural Organization

65%
increase in
RESEARCH PUBLICATION
output units
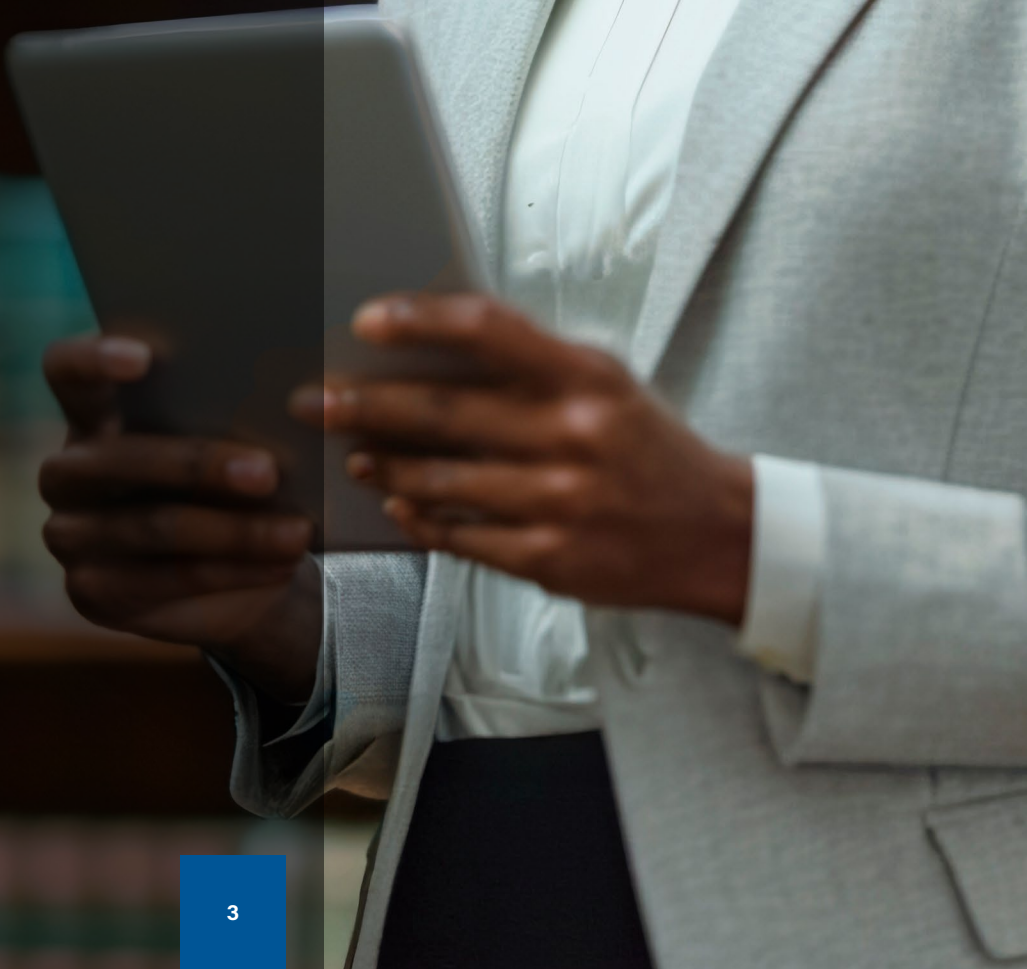
Foreword
by Vice-Chancellor and Principal

The Tshwane University of Technology's vision of "a people's university that makes knowledge work" is supported by our commitment to bringing researched and innovative solutions to societal challenges.

In backing our vision, we are determined to provide strategic and inclusive leadership through the creation of an enabling and effective environment for research development with mechanisms to monitor and evaluate progress.

We continue to implement research that is focused on SDGs and aligned with the White Paper on Science, Technology and Innovation Science (2019).

TUT strives to contribute to new knowledge generation. It does this by disseminating knowledge and research findings outcomes in the form of research publications to DHET. This is in line with the DHET Research Outputs Policy of 2015 and the 2017 Policy on the Evaluation of Creative Outputs and Innovations produced by South African public higher education institutions.

> **66 TUT strives to contribute to new knowledge generation 99**

As a university, we continue to provide incentives through the recognition of staff who perform well in research through our annual Academic Excellence Awards. We offer our researchers support through the Senate Committee for Research and Innovation.

We remain grateful to executive management committee members, the University Council, staff and students, as well as all funders and research collaborators for their support for the 2023 academic year.

With the commitment of staff and students to complete academic projects, we undertake to continue moving from good to great and reclaiming our leading position in the country in terms of research performance as a university of technology.

Prof Tinyiko Maluleke

Executive Summary
by the Deputy Vice-Chancellor:
Research, Innovation and Engagement

In 2023, Research, Innovation and Engagement contributed significantly to the University's institutional strategy (ISP:2020 – 2025), which focuses on four pillars, namely:

- Future-ready graduates who make a positive societal impact
- Impactful research, innovation, engagement and technology transfer to foster growth, development and sustainability
- Service and operational excellence through resource optimisation
- Digitally-advanced University

In March 2023, the University in partnership with the Department of Communication and Digital Technologies established the TUT AI Hub, which forms part of the AI Institute of South Africa. Further to this, seven research niche areas that respond to sustainable development goals (SDG's) were established.

The University hosted 16 Research Chairs in 2023, nine of which were funded by DSI-NRF SARChIs, which are designed to attract and retain excellence in research and innovation at South African public universities.

The other research chairs are in partnership with Gibela, MerSETA, MICTSETA, EWSETA, TETA, and African Research Chair for the Campus and School Public Safety. The University also had one internally funded UNESCO chair.

DHET approved 453.08 research publication output units which is a 65% increase from previously awarded outputs. The institutional per capita outputs have increased from 0.32 to 0.52.

TUT has also achieved remarkable success in terms of creative outputs submissions, namely patents emanating from research conducted by TUT researchers. In 2023 alone, the University was granted five patents and two trademarks were registered in six different classes. Five complete and four provisional patent applications for the Faculty of Engineering and the Built Environment were filed in 2023. In addition, 14 invention disclosures were received from across the university.

TUT submitted nine creative outputs to DHET in 2022, of which five were approved. In 2023, the University's submission increased to 16. The outcomes for the 2023 applications are not yet available.

During 2023, the University enrolled 1 729 postgraduate students for Master's degrees, while 618 enrolled for doctoral studies. A total of 469 postgraduate students graduated in 2023, comprising 397 Master's graduates and 72 doctorates. A total of 38 staff members obtained doctoral degrees in 2023.

The number of NRF-rated researchers increased by 7%

TUT hosted 100 postdoctoral research fellows from various African countries with funding from the University, the NRF and Gibela.

The number of NRF-rated researchers increased by 7%, from 54 in 2022 to 58 in 2023. Of the 58 rated researchers, about 76% were C-rated, 19% were Y-rated and 5% were B-rated.

TUT remains grateful to its funders and research collaborators. The University received grants from the CSIR, MRC, NIHSS and from various industries.

The University performed well in several university rankings, notably achieving top 600 global positions in Engineering and Computer Science according to Times Higher Education, and ranking fifth nationally in the Young University Rankings.

TUT scored in the top 50% in 90 research fields, placed 13th in South Africa and 2009th globally in Edu Rank, and ranked 1 768th globally in the Webometrics Ranking.

Dr Vathiswai Papu-Zamxaka

Achievements in Numbers

2nd
consecutive win for solar vehicle project, SunChaser

5th
nationally in the Times Higher Education Young University Rankings for the world's best universities that are 50 years old or younger

5
patents granted

2
trademarks registered in 6 different classes

R6.9-million
self-generated revenue by the Centre for Entrepreneurship Development

7%
increase in NRF-rated researchers

R13-million
increase in external research income

R14-million
in self-generated revenue by the Centre for Tissue Engineering

65%
increase in research output

87%
success rate in information literacy course

100
post-doctoral research fellows – a record-breaking first for the university

2023
year of the launch of the Hub for AI

In 2023 alone, the University was

GRANTED

5

PATENTS

2

TRADEMARKS

were registered in

SIX DIFFERENT CLASSES

Research and innovation niche areas

There were seven active niche areas to support the economic development of South Africa in line with the United Nation's SDGs. These niche areas focused the research to be locally, nationally, globally relevant and to contribute positively to the University's reputation.

A research niche area has a well-defined research theme and should move through a development trajectory and strive to develop up to the stage where it becomes a Centre or Research Chair.

The research and innovation niche areas are:

- Inclusive growth, socioeconomic development and transformation
- Climate change, water security and disaster management
- Artivism as a tool to combat gender-based violence
- Occupational health and safety
- Operations and engineering management
- Creative industries and cultural discourses of the Global South
- The living wage, executive remuneration, human resource data analytics and human resource outcomes

The Research Niche Areas are located in the Faculties of Management Sciences (1), Engineering and the Built Environment (2), Arts and Design (2), Science (1), and Economics and Finance (1).

Research Niche Area leaders successfully graduated 55 Master's and 14 doctoral students in 2023 and published a total of 44.24 research output units. Three of the Research Niche Area leaders were females (43%).

They further established collaborations with Massey University in New Zealand, the Department of Justice and Constitutional Development, the Water Research Council, the Agriculture Research Council, Curvindicks Pty Ltd, SACIA and the South African State Theatre.

Research Chairs

The main goal of the Research Chair programme is to strengthen and improve research and innovation capacity in public universities. This is achieved through producing high quality postgraduate Master's and Doctoral graduates students, and high-quality research and innovation outputs.

TUT had 16 research chairs, nine of which were funded by DSI-NRF, the others were funded by Gibela, MerSETA, MICTSETA, EWSETA, TETA, African Research Chair for the Campus and School Public Safety. The University also had one internally funded UNESCO chair.

R182.9-million
in external research income,
representing an increase of
R13.4-MILLION
from 2022

R57.7-million
in research
output value

Research Outputs

DHET requires higher education institutions to submit their published research outputs to receive a subsidy in line with South Africa's publications-based funding.

TUT submitted 541.77 research publication output units for 2022. The submitted claims comprised 446.97 units for journal articles, 52.31 units for books and book chapters, and 42.49 units for conference proceedings.
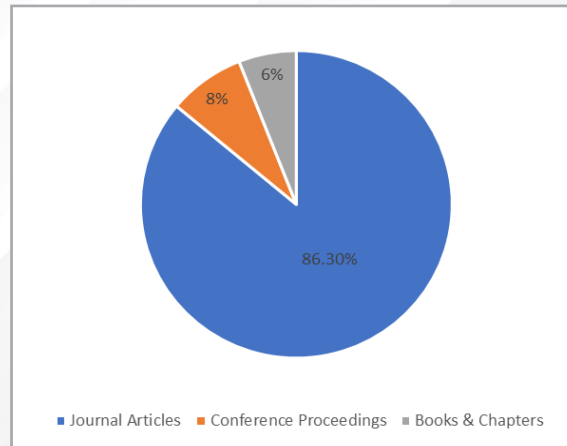
Composition of TUT's subsidy-eligible research output

A total of 453.08 research publication output units were approved and awarded by DHET, comprising 391.14 units for journal articles, 26.63 units for books and book chapters, and 35.31 units for conference proceedings.

Composition of TUT's subsidy-eligible research output

This represents a 65% increase from 274 units awarded the previous year. Units submitted for books and chapters collectively increased by 75% and units for journal articles increased by 63% and conference proceedings by 42%. The institutional per capita outputs have also increased from 0.32 to 0.52.

The increase signifies the highest contribution by TUT since its establishment in 2004, following the merger of Technikons Pretoria, North Gauteng, and North-West.

At a Rand value of R127 512 for year 2022 publications, the approximate subsidy value of approved publication units is R57 773 136.96 million.
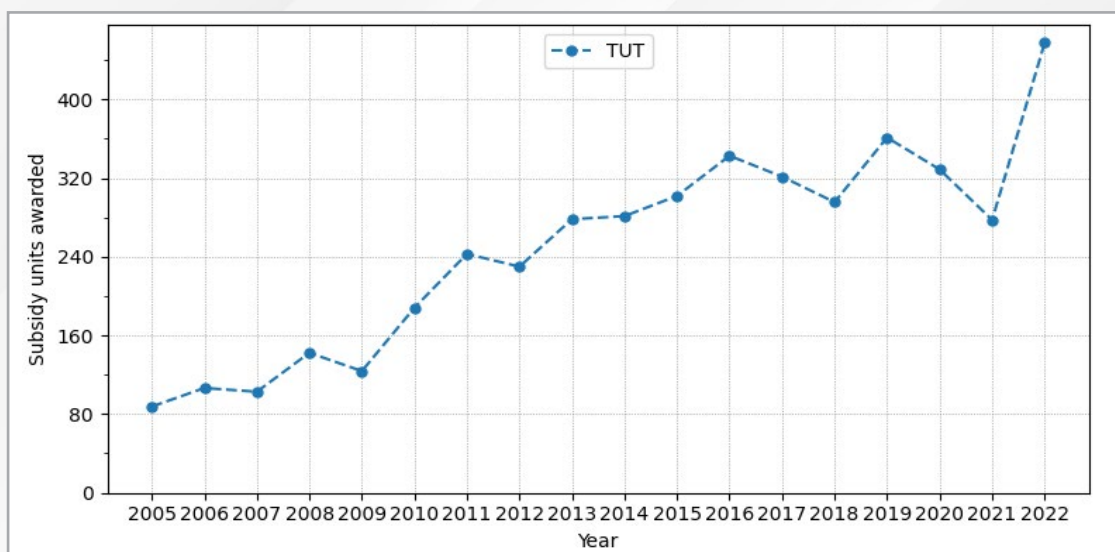
Total subsidy units awarded for all publication types from 2005 to 2022

Population and gender breakdown

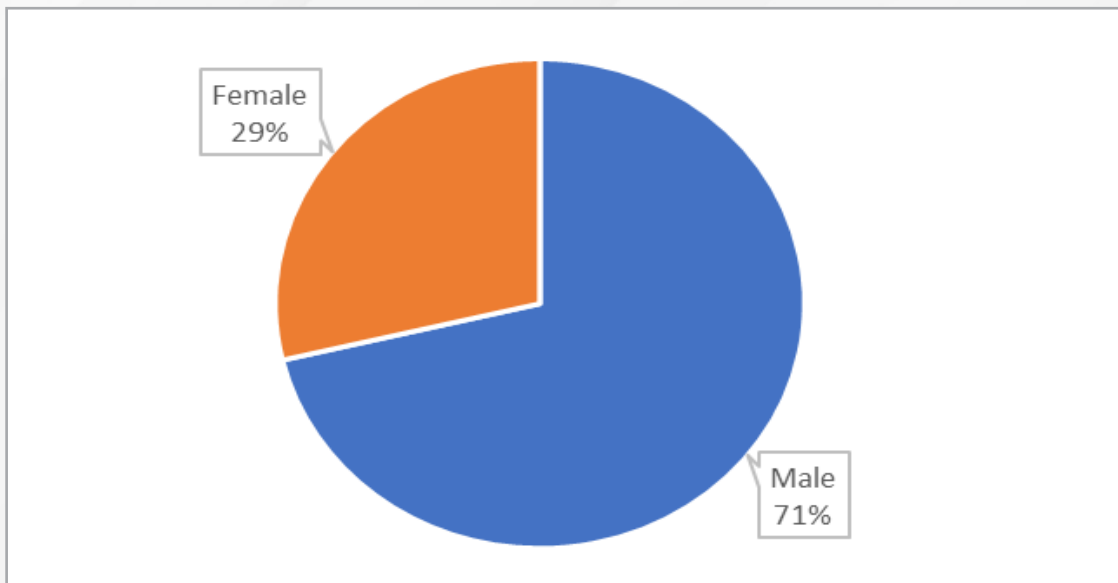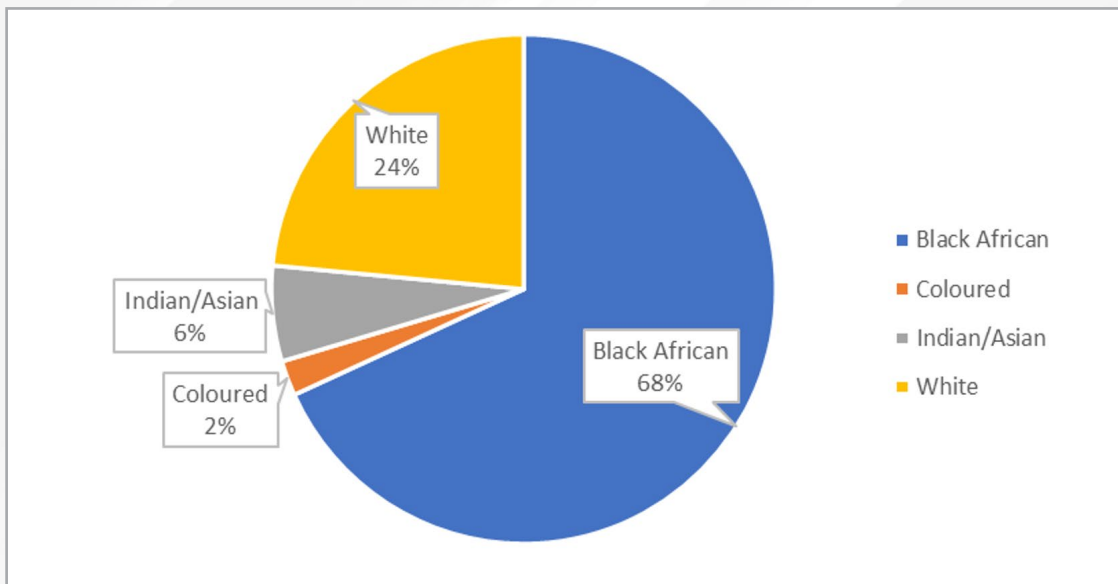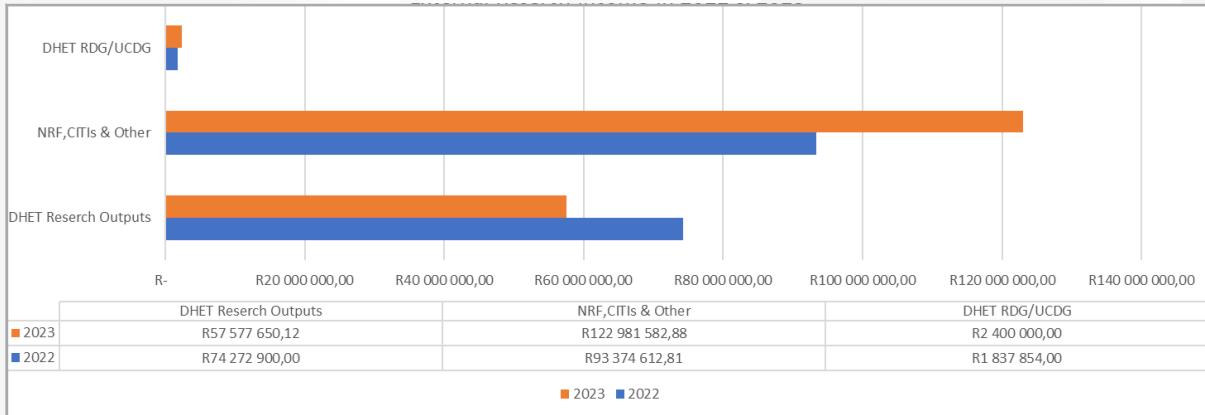Black Africans contributed 68% towards the research output of the University, followed by Whites (24%), Indians and Asians (6%) and Coloureds (2%). This statistic is in alignment with the demographics of the staff members in the University.

External Research Funding

It is important for TUT to attract funding from external institutions to give expression to the strategic pillar of service and operational excellence through resource optimisation.

In 2023, TUT received R182 959 233 in external income, an increase of R 13 473 866 from R 169 485 366 the University received in 2022.

External Research Income in 2023 & 2022

	DHET Reserch Outputs	NRF,CITIs & Other	DHET RDG/UCDG
2023	R57 577 650,12	R122 981 582,88	R2 400 000,00
2022	R74 272 900,00	R93 374 612,81	R1 837 854,00

NRF-rated Researchers

At the end of 2023, TUT had a total of 58 NRF-rated researchers, an increase of 7% from 54 in 2022. Of the 58 rated researchers in 2023, 76% (44) were C-rated, 19% (11) were Y-rated and 5% (3) were B-rated. Nine of the rated researchers were Research Chairs (seven SARChIs, one Gibela and one EWSETA), two were TUT Council-funded research and development platform holders and two were Research Niche Area Leaders.

The number of NRF-rated researchers increased by 7%, from 54 in 2022 to 58 in 2023.

- B-rated: 3
- C-rated: 44
- Y-rated 11

	B	C	Y	Grand Total
2022/23	3	41	10	54
2023/24	3	44	11	58
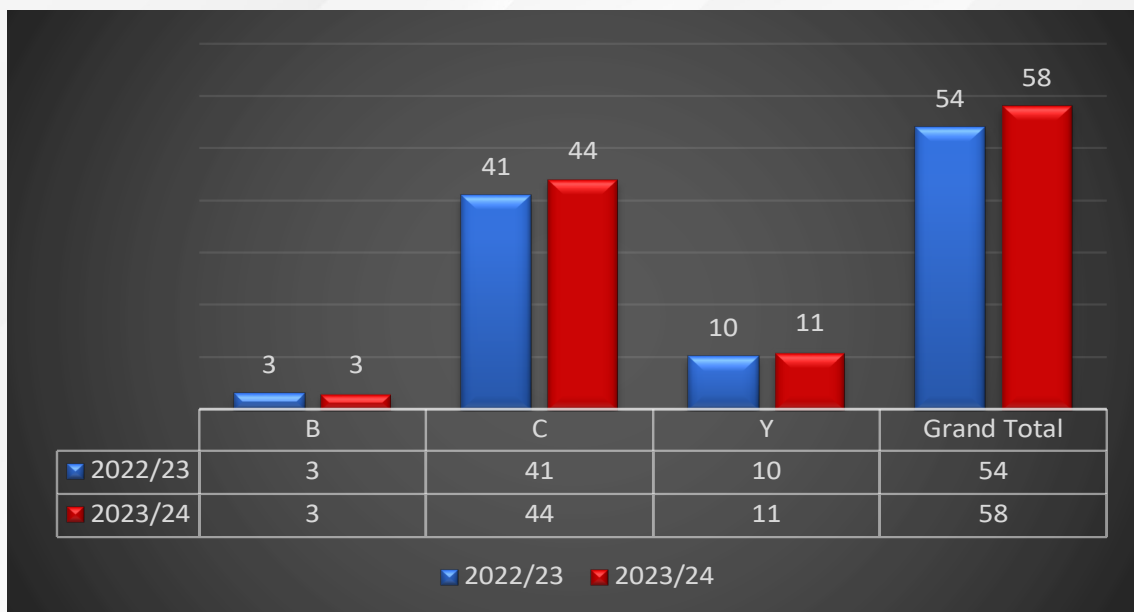
Total:
2 347
postgraduate students
MASTER'S: 1 729
DOCTORATE: 618

A total of
148
POSTGRADUATE
students
received TUT scholarships

A record
100
POST-DOCTORAL
research fellows

750
Overall number of academic staff who hold Master's and doctoral degrees at the end of 2023:
DOCTORATE: 346
MASTER'S: 404

Enrolments

The University enrolled 2 347 postgraduate students, comprising 1 729 Master's students and 618 doctoral students. The majority of postgraduate students are concentrated in four faculties – the Humanities (624), Engineering and the Built Environment (484), Science (427) and Management Sciences (419)

Graduations

A total 469 postgraduate students graduated, consisting of 397 Master's graduates and 72 doctoral degree recipients. The four faculties with the highest number of students also recorded the highest number of graduates; namely Management Sciences (123), Engineering and the Built Environment (94), Humanities (75) and Science (47).

Postdoctoral Research Fellows

For the first-time since it was founded in 2004, TUT hosted 100 PDRFs, an increase of 29 from 71 in 2022. This milestone is the culmination a sustained growth in the number of PDRFs hosted by TUT over the past five years from 57 in 2019, 57 in 2020 and 61 in 2021. Postdoctoral research fellowships strengthen the University's research productivity and increase the number of research outputs. The PDRFs are from various African countries.

The Faculties of Engineering & the Built Environment (43) and Science (31) hosted the highest number of PDRFs.

Staff Development

Increasing the number of staff members with Master's and doctoral degrees at TUT is a strategic investment in academic excellence, research innovation, and institutional reputation. By nurturing highly qualified staff members, the University can expand its research capabilities, and contribute meaningfully to the advancement of knowledge and societal development.

The number of academic staff members who held Master's degrees was 404, while 346 obtained doctoral degrees. In 2023 alone, a total of 38 staff members obtained doctoral degrees. The Faculty of Humanities has the highest number of academics with doctoral degrees with 50% academics in possession of doctorates. The second is Management Sciences (48%), followed by Science (47%) and Engineering and the Built Environment (36%).

A total of 70 staff members obtained postgraduate qualifications, consisting of 42 Master's graduates and 28 doctoral degree.

2nd
CONSECUTIVE WIN
for TUT solar car
- SUNCHASER -
at annual Bridgestone Ilanga Cup Championship

TUT's Solar Car

TUT's solar vehicle project, was developed by the Faculty of Engineering and the Built Environment (FEBE). In 2023, SunChaser won the annual Bridgestone Ilanga Cup Championship, making it the second consecutive win after winning the competition in 2022.

Vice-Chancellor's Prestigious Research and Innovation Seminar Series

- The Vice-Chancellor and Principal Prof Tinyiko Maluleke hosted two seminars. The first featured Prof Paul Harrigan, an Associate Professor and Deputy Chair of Marketing at the University of Western Australia. His research expertise is in marketing and information systems, specifically digital transformation. He has published his research in over 60 international journal articles and books, and presented it at over 50 international conferences.

- The second presenter was Dr Helen McGuirk, head of the Hincks Centre for Entrepreneurship Excellence, which is part of the School of Business at Munster Technological University in Cork, Ireland. Her work centres on supporting entrepreneurship in all its forms at regional, national, and international levels. This involves managing over 10 publicly funded projects and supporting students, educators, and industry partners.

2
trademarks registered in 6 different classes

5
patents granted

14
invention disclosures

4
provisional patent applications registered

5
complete patent applications filed

6
advocacy programmes conducted

16
creative outputs submitted to DHET

Innovations and Creative Outputs

TUT achieved remarkable success in terms of innovation submissions, namely patents emanating from research conducted by TUT researchers. The Innovation and Technology Transfer Office manages the University's intellectual property assets and the transfer of knowledge and technology to industry.

In 2023 alone, the University was granted five patents.

Two trademarks were registered in six different classes. A trademark is a type of intellectual property that helps to protect a brand by distinguishing it from competitors. It is used to protect the name, logo, or slogan associated with a product or service from being used by others without permission. A trademark can also be used to help customers identify a brand or product.

Five complete patent applications for the Faculty of Engineering and the Built Environment were filed in 2023. A complete patent application is a formal application, which is accompanied by the complete specification and has claims that provide scope of the invention for getting complete legal protection.

Four provisional patent applications were also filed for the Faculty of Engineering and the Built Environment. A provisional patent application is the first step that helps to protect a new invention from being copied during the 12-month period before a formal patent application is filed.

In addition, 14 invention disclosures were received by Innovation and Technology Transfer Office. An invention disclosure is a confidential document written by the researcher for use by the office or by an external patent attorney to determine whether patent protection should be sought for the described invention.

DHET implemented the Policy on the Evaluation of Creative Outputs and Innovations in 2019. The policy recognises quality creative research outputs produced by public higher education institutions. In 2023, TUT received the creative outputs report from DHET. Five of the nine submissions it made to DHET were approved.

For the 2023 year, TUT submitted 16 creative output applications. The outcomes for the 2023 applications are not yet available.

Centres, Institutes, Technology Stations, Hubs and Incubators

As a means to generate third-stream income contributing to financial sustainability, the University established centres, institutes, technology stations, incubators and hubs. TUT had seven centres, two institutes, three technology stations, two hubs and one incubator in the University.

In 2023, the University was proud to launch the TUT Hub of the Artificial Intelligence Institute of South Africa (AIISA) in partnership with the Department of Communications and Digital Technologies (DCDT) and the University of Johannesburg.

The establishment of the AIISA was a recommendation made by the Presidential Commission on the 4th Industrial Revolution Report, which aims to provide a guide on how South Africa should take advantage of the emerging digital technologies at a global scale.

5th
nationally in the Times Higher Education Young University Rankings

Top **600**
global position in Engineering and Computer Science according to Times Higher Education

In the top
50%
in 90 research fields

13th
in South Africa

2 009th
globally in Edu Rank

1 768th
globally in Webometrics Ranking

University Rankings

In 2023, TUT was recognised in various university rankings, including the Webometrics Rankings, Edu Ranking, Times Higher Education Subject, and Young University Rankings. In the Engineering Subject, Times Higher Education ranked TUT in the second band (501–600) globally and fifth nationally. In the Computer Science Subject, TUT was placed in the second band (501–600) globally and eighth place nationally.

Lastly, in the Physical Sciences Subject, TUT was ranked in the third band (800+) globally and ninth place nationally. TUT was ranked 5th nationally and 401st worldwide in the Times Higher Education Young University Rankings.

The University excelled in 90 research fields, securing a spot in the top 50%. It was placed 13th in South Africa and 2009th globally in the 2023 Edu Rank assessment. In the Webometrics Ranking, which focuses on visibility, transparency, and excellence, the university was placed number 1 768 internationally out of 1 997 universities and 13th nationally.

Research Internationalisation

In alignment with Strategic Pillar 2 of the ISP: 2020-2025, which emphasises impactful research, innovation, engagement, and technology transfer to facilitate growth, development, and sustainability, TUT has actively undertaken internationalisation efforts to forge partnerships with the academic fraternity and industry partners. Throughout the 2023 academic year, TUT has assumed a pivotal role in integrating local expertise with international knowledge, thereby catalysing collaborative progress in pioneering research. This has been accomplished through the establishment of strategic partnerships and the creation of research exchange programmes as follows:

FOCUS AREA	INTERNATIONAL PARTNERSHIP	INTERNATIONAL PARTNERSHIPS AND REGION/COUNTRY
Joint Research Projects-Management Sciences	**Incoming Researcher:** From 1 June to 31 July 2023, TUT hosted one researcher from the Central University of Punjab, India. **Outgoing Staff Participation:** One TUT staff member participated in 2023.	ICSSR (India) & NIHSS (South Africa)
Forestry Curriculum Development – Climate Change	**Achievements:** TUT is one of five SA institutions in Forest21 for innovative forestry qualifications. **Stakeholder Engagement:** TUT hosted a meeting with key forestry stakeholders on 24 February 2024.	Forest21 Erasmus Project (South Africa, Europe)
Sustainability Research – Sciences	**Research Project:** Microbial diversity and biotech focus completed in 2023. **Events:** TUT hosted Uppsala & Umeå Universities (28 March 2023).	South Africa-Sweden University Forum (SASUF), Sweden
Academic Exchange Programs - ICT	**Incoming:** Hosted a distinguished scholar in 2023 for the Faculty of ICT. **Outgoing:** Staff from ICT awarded Fulbright Scholar-in-Residence in June 2023.	Fulbright Program, USA
Visiting Researchers – Management Sciences	**Incoming Researchers:** Two researchers hosted from Universidad Complutense de Madrid and United Nations University – MERIT as part of the CatChain Project.	CatChain Project (Spain, Netherlands)

Student Mobility

In line with Strategic Pillar 2 of the ISP, which centres on producing future-ready graduates, student mobility at TUT is a significant part of the research and innovation. Mobility enhances cultural exchange and expands students' global perspectives, thus fostering a diverse and inclusive academic environment.

In the 2023 academic year, the following mobility programmes were implemented with partner HEIs:

FOCUS AREA	LEVEL OF STUDY	PARTNER HEI
Career and Fellowships Opportunities	Postgraduate students and Alumni	World Bank Group, South Africa
Arts and Design	1 Master's Scholarship in Film Studies awarded - **Outgoing**	Fulbright Program, USA (New York University)
Research Exchanges in Horticulture	1 PhD Student – **Outgoing**	University of Trento, Italy
Engineering and the Built Environment	1 Masters Student (Electrical Engineering – **Incoming** 8 Masters Students (5 Civil Engineering, 1 Management and 2 Architecture) - **Outgoing** 1 Masters Student (Electrical Engineering) – **Outgoing** 1 PhD enrolled in Joint Doctorate Program in Engineering – **Incoming** and 1 PhD graduates in 2023 1 Masters Student in Electrical Engineering - **Incoming** 1 PhD Student (visiting research) - **Outgoing**	University of Trento, Italy Protea+ Cross Mobility Programme, University of Gustave Eiffel, France University of Versailles Saint-Quentin-en-Yvelines (UVSQ), France French South African Institute of Technology (F'SATI), France Queen Elizabeth Commonwealth Scholarship, Botswana Fulbright Program, USA
Information and Communications Technology	2 Masters Student in ICT – **Outgoing**	Polytechnic University of Valencia, Spain

The implementation of mobility programmes, which incorporates the co-supervision of postgraduate students, has resulted in significant advantages. These programmes aim to facilitate cultural exchange, enrich global perspectives, and foster academic collaboration. Furthermore, they have provided unique educational opportunities, access to a diverse range of research expertise, and expanded professional networks, thus equipping students with the necessary skills for international careers.

University Partnerships

TUT acknowledges the crucial role of partnerships with HEIs in advancing SDG 17 (Partnership for the Goals). In 2023, the University established new strategic partnerships in addition to existing ones to facilitate knowledge exchange, resource sharing, research, and innovation, aimed at collectively advancing progress towards achieving the SDGs.

European partnerships

SWEDISH AGRICULTURAL UNIVERSITY

MoU signed for collaboration is agricultural research.

UNIVERSITY OF EASTERN FINLAND

Collaborations in the fields of pharmacy, toxicology, public health and nutrition, food and environmental policy and food law.

For 2023,
- A TUT PhD Students is being Co-Supervised by a Colleague at EUF – Faculty of Science
- Joint Team Finland Knowledge (TFK) grant application has been submitted and awarded.
- Additional two joint funding applications have been submitted.

UNIVERSITY OF EASTERN FINLAND

RUSSIAN BIOTECHNOLOGICAL UNIVERSITY

Task Team in the TUT Faculty of Science establish to establish collaborations in Biotechnology

ROSBIOTECH
Russian biotechnological University

UNIVERSITY OF ECONOMIC AND HUMAN SCIENCE WARSAW

MoU signed for collaboration is economics and humanities research.

UNIVERSITY OF ECONOMICS AND HUMAN SCIENCES IN WARSAW

Asian partnerships

HENAN POLYTECHNIC UNIVERSITY

TUT has ongoing collaboration with HPU through his position as the IMWA President (International Mine Water Association)

HEBEI RICHARD AGRICULTURE TECHNOLOGY

TUT has signed an agreement in September 2023 with Hebei Academy Of Agricultural Sciences & Richard Agricultural Technology Co. Ltd

Outcomes of the Agreement:

1 staff member from TUT (Faculty of Science) participated in staff exchange and visiting researcher project in field of Agriculture

Funding has been made available to implement the exchange programs

HUBEI UNIVERSITY OF TECHNOLOGY

TUT has signed an agreement in September 2023 with Hubei University of Technology

Outcomes of the Agreement:

Research projects and exchange of staff and students are being planned
A visit by a delegation from HUT is planned for December 2023

Internationalisation Funding for Research

TUT's focus is on internationalising research and generating revenue through global university partnerships to enhance academic research, foster collaborations, and ensure financial stability as outlined in Strategic Pillar three of the ISP, Resource Optimisation.

In the 2023 academic year, TUT received significant funding for various projects:

Erasmus Funding for ICT Research: €58 345 Euros (about R1.2-million) for the project "A Modular Higher Education System in Data Protection and Cybersecurity for Supporting the Digital Transformation in Mozambique and South Africa," in collaboration with partner institutions.

Hochschule Weihenstephan-Triesdorf University of Applied Science (HSWT): Following an MoU between TUT and HSWT, a funding proposal under the Erasmus+ Capacity Building in Higher Education program was approved, awarding the consortium €880 000 (about R17.5-million).

Joint Institute for Nuclear Research (JINR): Two submissions were made for the JINR Research and Innovation Grants, with one advancing to the second phase and resulting in an award of R320,000 under the NRF-JINR project.

Forest21 Project: The University, one of the five South African institutions participating in the Forest21 curriculum development project, is using the opportunity to develop and fast-track a fresh and innovative forestry qualification

Promotion of access to information on international opportunities

In 2023 the Internationalisation Office, in collaboration with DHET and DSI, organised a hybrid information session. The primary objective of the session was to disseminate information regarding international funding and study opportunities to alumni, postgraduate students, and researchers.

The event garnered a total of 31 staff members, 133 students, 47 alumni, and 211 online participants. Furthermore, the internationalisation subscription mailing list, facilitating access to international study opportunities, expanded its reach to 323 subscribers by December 2023.
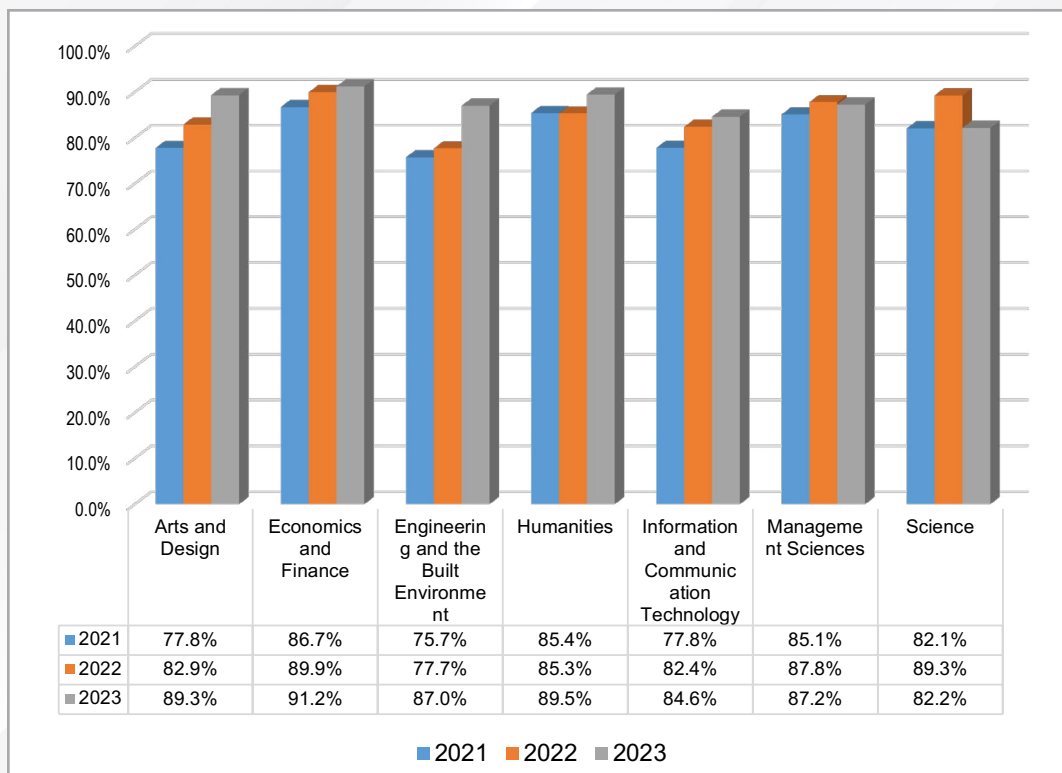
Library Information Services

Ensuring campus libraries have uninterrupted information services during loadshedding or power cuts by equipping them with generators remains a priority for the University.

In 2023 there was a 10.20% decrease in the number of information requests compared to 2022.

In 2023, 7 444 information requests were fulfilled, down from 8 244 in 2022.

	2021	2022	2023
Requests for information	3942	8244	7444
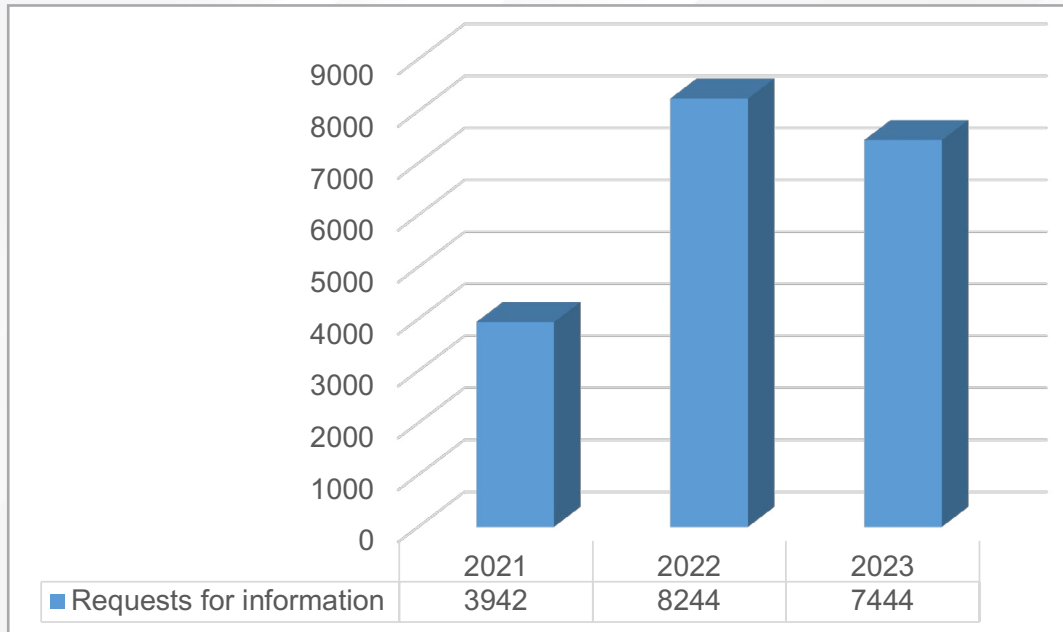
- In the year 2023, a total of 5 112 students were enrolled in an information literacy course (13).
- The average success rate achieved was 87%, representing a 1.4% increase from the 2022 success rate of 85.6%.
- Notably, the Faculty of Economics and Finance exhibited the highest information literacy success rate at 91.2%, followed by the Faculty of Humanities at 89.5%, and the Faculty of Arts and Design at 89.3%.

	Arts and Design	Economics and Finance	Engineering and the Built Environment	Humanities	Information and Communication Technology	Management Sciences	Science
2021	77.8%	86.7%	75.7%	85.4%	77.8%	85.1%	82.1%
2022	82.9%	89.9%	77.7%	85.3%	82.4%	87.8%	89.3%
2023	89.3%	91.2%	87.0%	89.5%	84.6%	87.2%	82.2%

Digitalisation of Research

- In 2023, significant progress was made in enhancing technological infrastructure to support researchers, faculty, and staff, including the approval of DSpace for improved digital archiving and the procurement of new devices to increase staff efficiency

- LIS has enhanced its research support efforts by entering into 11 transformative agreements with various publishers. These agreements allow researchers to publish journal articles for free in selected open-access publications. A total of 33 articles have been published, resulting in an estimated cost savings of about R1.6-million in publication fees.

Conclusion

In the 2023 academic year, plans were implemented to tackle the challenges of low student participation in scholarship opportunities.

The university is committed to supporting postgraduate students and researchers with research capacity-building workshops, scholarships, and grants. In addition, the Senate Committee for Research and Innovation Guidelines is under review to ensure that support is reaching the right recipients.

The Internationalisation portfolio has made commendable progress in advancing the University's global engagement agenda for the 2023 academic year.

LIS has effectively supported the university's learning, teaching, and research objectives.

**Tshwane University
of Technology**

We empower people

#fromGood2Great