

UNIVERSITY OF PRETORIA

# 2020/21

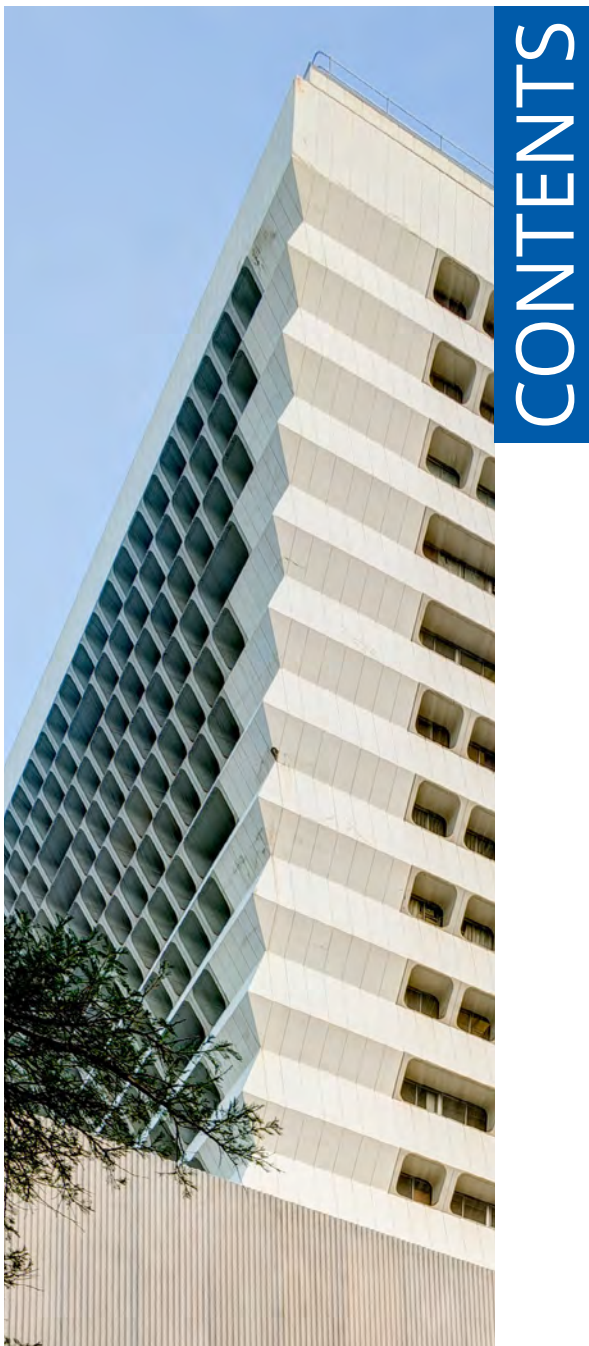
## Sustainable Development Report



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

Make today matter





# CONTENTS

## INTRODUCTION

University profile	3
About this report	4
UP at a glance	7
Perspectives from Professor Tawana Kupe	11
From the desks of Professors Norman Duncan and Sunil Maharaj	13

## OUR STRATEGIC INTENT 15

Reimagining the University of Pretoria	16
Transforming the curriculum	23
Stakeholder engagement	26
Engaging communities for mutual benefit	29

## TRANSLATING OUR STRATEGY INTO ACTION 32

### Operational sustainability 32

People practices for sustainable development	33
Towards the resilient graduate	39
Towards a resilient campus	45

### Driving sustainable development through our core functions 54

Sustainable economies	55
Life, our planet and technology	61
Inclusive societies and capable institutions	72

## Pushing the boundaries of sustainability thinking and practice 82

Advancing the practice of transdisciplinarity	83
Leadership in sustainable food systems	90

## Our global and continental influence and impact 95

Strategic convening	96
Networks and partnerships	98

## CONCLUDING THE CONVERSATION 101

Consolidated alignment with the SDGs	102
Acknowledgements	108
Contact us	108

*[click on a page number for fast navigation >](#)*



The University of Pretoria (UP) is one of Africa's top universities and the largest contact university in South Africa. We are a research-intensive university, and through our core functions of research, teaching, learning and engagement, we focus on developing people and creating knowledge to meet current and future societal needs. We are recognised for our quality education, relevance and the impact we have as we seek to make a difference locally and globally.

UP has nine faculties and a business school, the Gordon Institute of Business Science (GIBS), spread over seven campuses. It is the only university in the country that has a Faculty of Veterinary Science, which is ranked as the top faculty of its kind in Africa. Overall, UP has 120 academic departments and 92 centres and institutes, accommodating more than 55 000 students and offering about 1 100 study programmes.

As an institution of and for society, sustainable development is integral to our strategic intent. Accordingly, the University recognises the complex challenges prevailing in our operating landscape, and we continually seek to embed sustainability principles and practices into our core functions. This includes producing new knowledge through transdisciplinary approaches and innovative platforms in pursuit of solutions for a sustainable institution and a sustainable world. Our sustainability agenda is clearly articulated through our strategic goals for 2022 – 2026.

These aspirations, along with our actions to achieve them, are consistent with South Africa's National Development Plan, the African Union Agenda 2063 and the United Nations' Sustainable Development Goals (SDGs).

## UNIVERSITY PROFILE

# ABOUT THIS REPORT

Sustainable development is integral to the purpose and practices of UP. It is embedded into our institutional strategy, shaping the way our core functions of teaching, learning, research and engagement pursue sustainable outcomes and impacts for the public good.

This reflects our role as a national asset seeking to make a significant and positive difference to our country, continent and the world at large.

This Sustainable Development Report represents the “flagship” document of the emerging suite of UP’s sustainability reporting, and provides an overarching view of our activities and engagement in the sustainable development space. It follows from the first Sustainable Development Report, released in November 2020, and the Progress Report on our contributions to the SDGs, published in November 2021.

Over the past few years, we have continued to enhance our sustainability maturity, progressively integrating sustainability principles and practices into our planning and actions. Work includes deepening our understanding of the complex challenges faced by society, and driving a transdisciplinary and collaborative agenda through the University’s operating practices and core functions. Notwithstanding progress made, a lengthy journey ahead remains.

This report seeks to be an honest reflection on our progress – celebrating successes, and acknowledging challenges and opportunities for improvement. While the logic and flow follows the initial 2019 Sustainable Development Report, important shifts include

expanding coverage of stakeholder engagement and student life; focusing less on our approach, where this was covered in detail previously; and a stronger presentation of metrics for a more tangible indication of our performance.

## Reporting boundaries

The report considers operational activities to enhance sustainability across the campus – the University as an organisation – as well as how we influence sustainable development practices and outcomes beyond the University through our core functions of research, teaching, learning and engagement. Together, these shape the primary subject boundaries of the report.

We report on activities for the two-year period 1 January 2020 – 31 December 2021. By using this extended reporting timeframe, we aim to make the report more current, unlike the 2019 report that was released at the end of 2020.

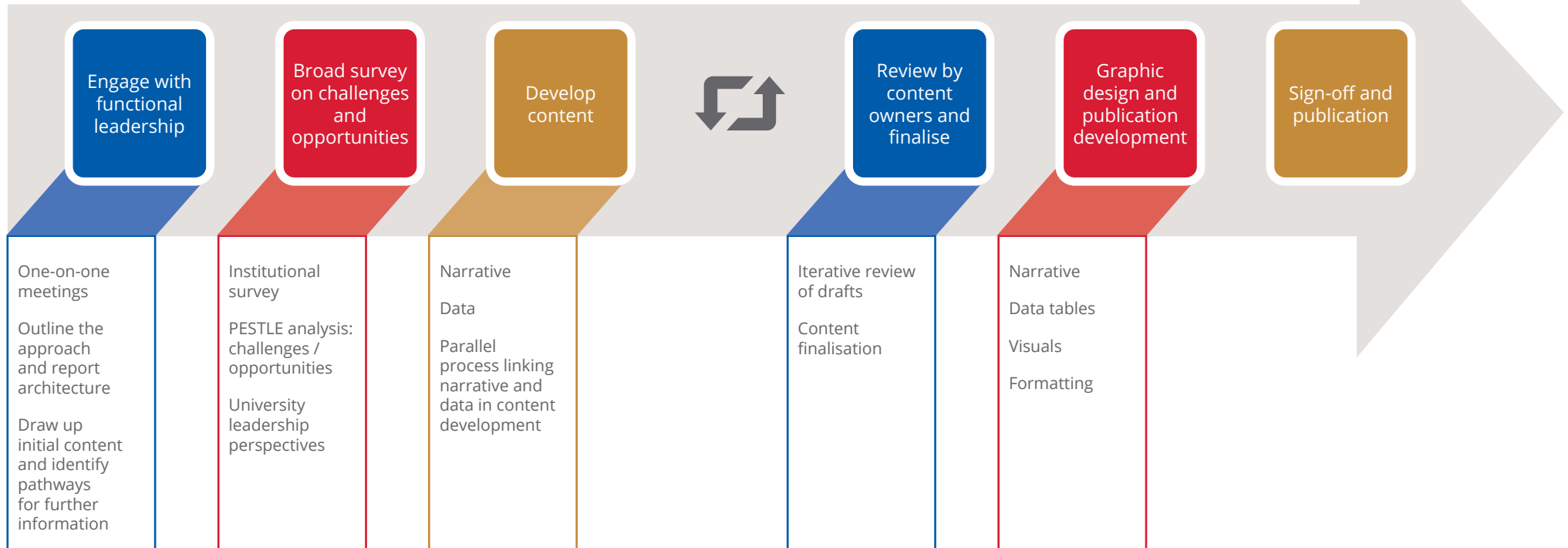
Activities considered include those undertaken solely by the University and those within partnerships or collaborations where UP is playing an active and material role. In keeping with previous reports, we reflect on the alignment of these activities and their relationship to the SDGs.

## Approach to developing the report

A key feature of the report is that its development incorporates processes used for UP’s five-year strategy (2022 – 2026), which was concluded in 2021. This is significant, as sustainable development was integrated and embedded into the institutional strategy. The high-level pathway to developing the report is illustrated on the following page.



## Pathway to developing the 2020/21 Sustainable Development Report



Initial one-on-one meetings with functional leadership validated and refined the report's approach and architecture, and identified early content for inclusion. Additional sources for further content were identified.

“The report seeks to be an honest reflection on our progress – celebrating successes, and acknowledging challenges and opportunities for improvement.”

As part of UP's five-year institutional strategy formulation, an institutional survey organised along the lines of a PESTLE (political, economic, social, technological, legal and environmental) analysis engaged the broad University community to identify significant challenges and opportunities. The top University risks were also reviewed. Finalisation of key challenges and opportunities was undertaken through Council approval of the institutional strategy. This section of the process is akin to the recognised materiality process required for sustainability reporting.

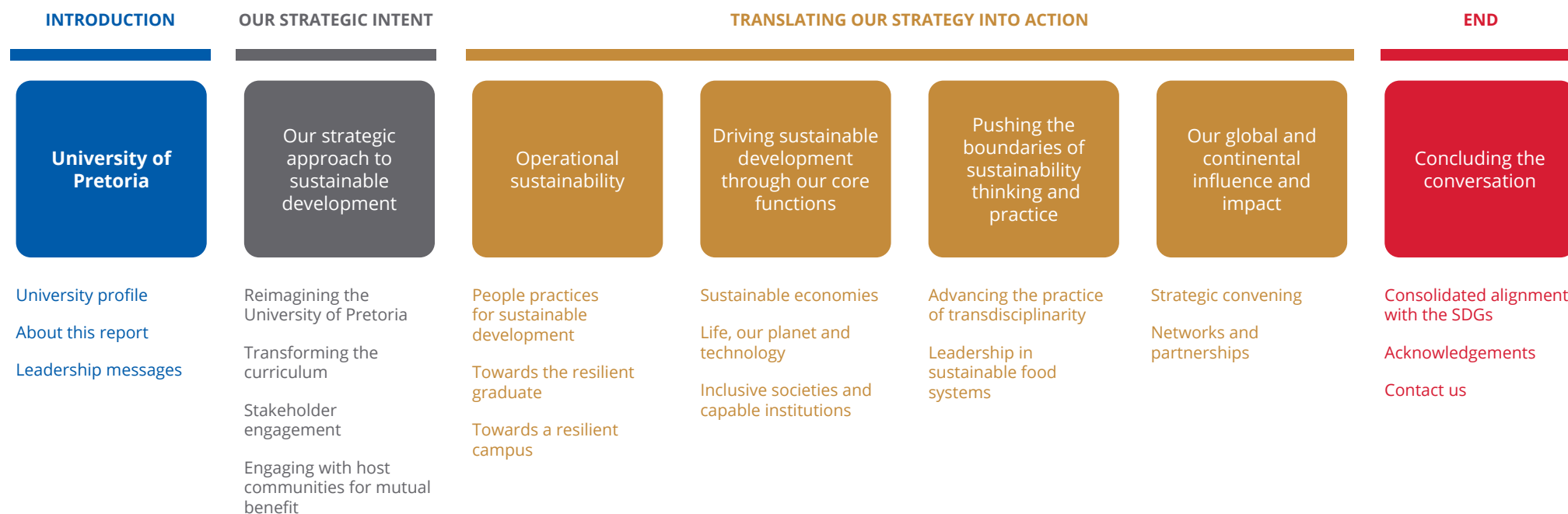
Content development comprising narrative and data was undertaken as a parallel process. Narrative was drawn from institutional reports and additional information in

the public domain, while data was drawn from institutional metrics validated for publication.

The finalisation of content was conducted in an iterative way, and a final executive approach was taken prior to publication.

## Outline of the report

The 2020/2021 Sustainable Development Report follows the same basic architecture as the 2019 publication, as shown below.



This report comprises four sections: introductory chapters on UP's profile and the current report; our strategic intent for sustainable development; translating the strategy into action; and a concluding section.

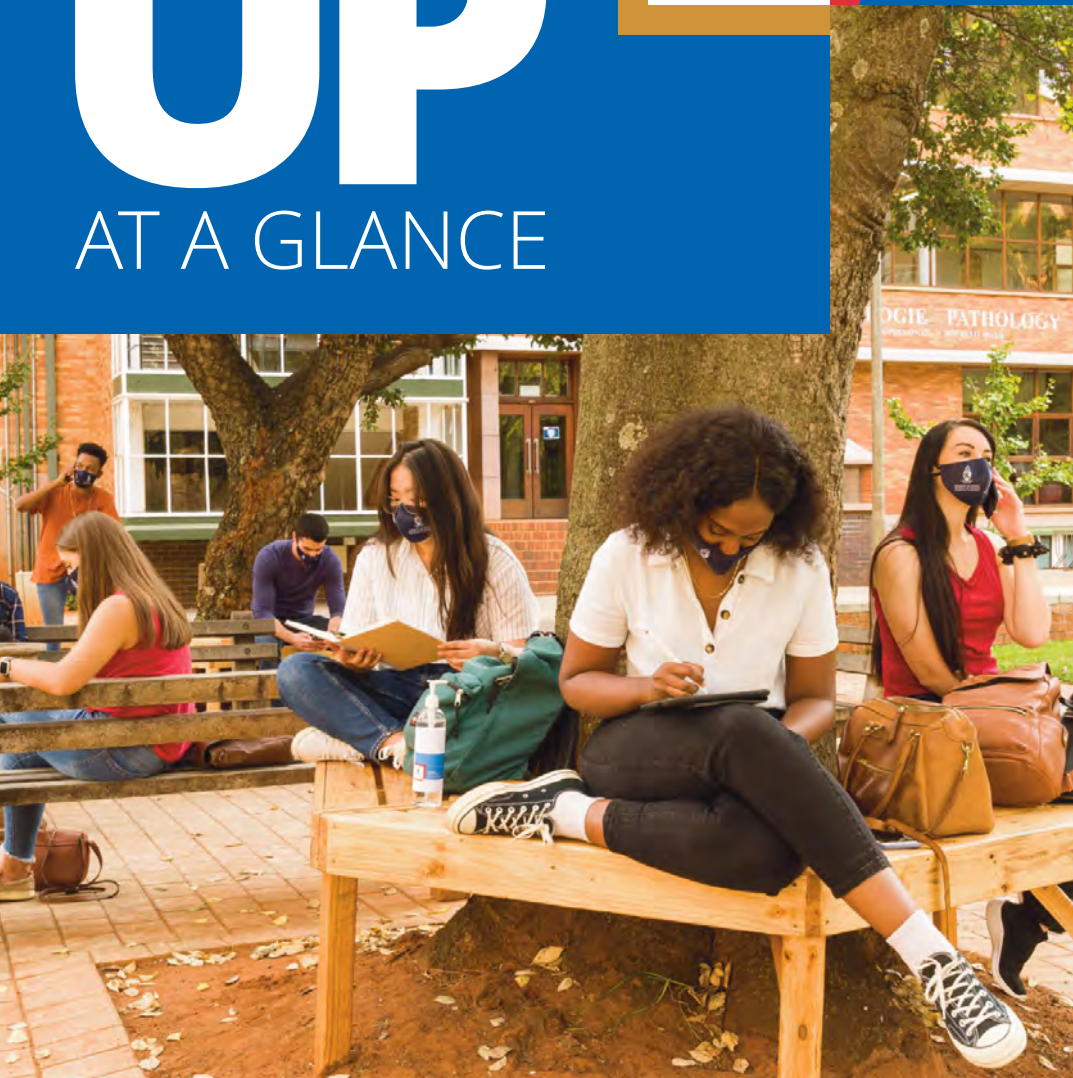
Content within this report is fully congruent with information published in the University's 2021 Annual Report.



# 2021

# UP

AT A GLANCE



## ACADEMIC OFFERING

UP has 9 faculties &  
1 business school



EDUCATION



LAW



THEOLOGY AND  
RELIGION



ECONOMIC  
AND  
MANAGEMENT  
SCIENCES



ENGINEERING,  
BUILT  
ENVIRONMENT  
AND  
INFORMATION  
TECHNOLOGY



HUMANITIES



HEALTH  
SCIENCES



VETERINARY  
SCIENCE



NATURAL AND  
AGRICULTURAL  
SCIENCES



GORDON  
INSTITUTE  
OF BUSINESS  
SCIENCE (GIBS)

4

Centres of  
excellence

1 175

Study  
programmes

51

Research  
chairs

120

Academic  
departments

145

Undergraduate programmes

72

Research  
institutes and  
centres

237

Degrees,  
certificates  
and diplomas

**A WORLD-CLASS  
UNIVERSITY**

**#48**

Mineral and Mining  
Engineering\*

**#49**

Veterinary  
Science\*\*

**#60**

Law\*

\* Universal Ranking by Academic Performance  
(URAP) for subjects

\*\* 2020 QS World University Rankings and  
Shanghai Rankings

GIBS named  
top business  
school in Africa  
for executive  
education<sup>1</sup>

1. Financial Times Executive Education 2020 Ranking

# QUALITY

We are recognised as leaders in quality education, which is delivered by a talent bank of educators.

## TOP IN THE WORLD

### TOP 1%

UP ranks in the top 1% internationally in 10 fields:

Agricultural Sciences  
Biology & Chemistry  
Clinical Medicine  
Economics & Business  
Engineering  
Environment/Ecology  
Immunology  
Microbiology  
Plant and Animal Sciences  
Social Sciences<sup>2</sup>

**565**

researchers rated by the National Research Foundation

**16**

A-rated NRF-rated researchers

**69.4%**

Academic staff with doctorates

## TOP IN AFRICA

Ranked #1 in Africa

School of Engineering in the Faculty of Engineering, Built Environment and Information Technology<sup>3</sup>

Faculty of Veterinary Science<sup>4</sup>

Faculty of Law<sup>4</sup>

## TOP IN SOUTH AFRICA

**Leading University in four subjects**

Theology, Divinity & Religious Studies

Engineering (Electrical and Electronics)

Mathematics

Accounting & Finance

**100% pass rate**

in SAICA CA qualifying exam<sup>5</sup>

**Leading departments**

Department of Materials Science and Metallurgical Engineering<sup>6</sup>

Department of Law ranked first for the highest number of accredited research outputs<sup>7</sup>



# RELEVANCE AND IMPACT

## GLOBAL RESEARCH BREAKTHROUGHS

### SMART, SAFE LISTENING

UP produced world-first technology to measure personal sound exposure in a person's ear canal, with smartphone feedback, to encourage safe listening use among young people.

### INSIGHTS INTO THE UNIVERSE

UP researchers were part of a team that solved the mystery of X-shaped radio galaxies with the MeerKAT telescope.

### COVID-19 APP

UP's Department of Statistics, in collaboration with a partner in

the Middle East, developed what is believed to be the first interactive app in the country. The app provides real-time data on COVID-19.

### RHINO FERTILITY

UP is working with international partners to perform in vitro fertilisation to support dwindling rhinoceros populations.

### SIMPLE TB DETECTION

UP and the University of Leicester are revolutionising the way tuberculosis is detected through a 3D-printed insert added to simple face masks.

## RESEARCH FOCUS AREAS

- Agriculture and sustainable food systems
- Climate change and the environment
- Economic development and sustainable futures
- Energy
- Heritage studies
- Inequalities, social justice and human rights
- One Health
- Smart infrastructure and innovation
- Water

2. Web of Science Essential Science Indicators 3. 2020 US News and World Report Rankings on the Best Global Universities for Engineering 4. 2022 Times Higher Education's World University Rankings

5. SA Institute of Chartered Accountants' (CA) CA Initial Test of Competence (January 2021)

6. Minerals Education Trust Fund, 2020 and 2021 7. Report on the evaluation of the 2018 Universities' Research Output released by the Department of Higher Education and Training, April 2020



# CREATING KNOWLEDGE

UP is recognised for transdisciplinary research and partnerships

We address the world's challenges through collaboration, transdisciplinary approaches and exciting new platforms to co-create new knowledge that translates into solutions.



## ENGINEERING 4.0

Collaborative hub for smart cities and smart transport



## FUTURE AFRICA INSTITUTE

Dedicated campus for transformative research relevant to Africa's development



## INNOVATION AFRICA@UP

Integrating natural and agricultural sciences, technology and innovation



## JAVETT-UP ART CENTRE

Focusing on the importance of Africa and its art in the world

## FIRST FOR PARTNERSHIPS

### First university in Africa

... chosen to host the Nobel Prize dialogue, the theme of which was 'The Future of Work'

### First university in South Africa

... to partner with the Joint Institute for Nuclear Research  
... admitted to the Alliance for African Partnership (AAP) led by Michigan State University

# DEVELOPING PEOPLE

Our graduates are well-rounded individuals, socially responsible citizens and are highly employable

**55 738**

Total number of contact students enrolled



**57%**

Women students registered



**60%**

Black students registered



**54%**

Students who are enrolled in scarce skills areas



**94%**

Full-time undergraduates who passed their 2020 exams

## TOP 4

The Quacquarelli Symonds 2020 Graduate Employability Survey ranked UP among the top four universities in SA, which indicates that our graduates are highly sought after.

**303 273**

Alumni in 131 countries



# 95%

Undergraduate modules available online, enabling online teaching and learning, and preparing our graduates for the new world of work



## OFFERING STRONG LEARNING SUPPORT

### FLY@UP

Ensures students can graduate in minimum time

### FLYHIGHER@UP

Improves postgraduate success rate

### SOCIAL LEARNING SPACES

Mimic real-world work and social environments

### CONNECTED CAMPUSES

Fibre optic connectivity across all campuses

### DEDICATED ECP CAMPUS

The Mamelodi Campus hosts UP's flagship BSc and BCom Extended Curriculum Programmes (ECPs) to set students up for success in the first year of their studies.

## IN TOUCH WITH THE WORLD OF WORK



### CENTRE FOR ENTREPRENEURSHIP

Enhancing employment opportunities and supporting entrepreneurs



### READY FOR WORK PROGRAMME

Preparing students to excel in the workplace and in the gig economy



### CENTRE FOR THE FUTURE OF WORK

Researching new ways of working to create a future-fit world

# MAKING A DIFFERENCE

## TOP 16

UP is the only representative from Africa in the new University Social Responsibility Network, an international group of 16 top universities



## 33 000

Students involved in community projects

## TOP 100

The Times Higher Education Impact Rankings rated UP among the top 100 universities in the world in five categories based on the Sustainable Development Goals:



## STRONG INTERNATIONAL PROFILE

### Partnering with

... the Southern African-Nordic Centre (48 universities)  
... the Atlantic ECOsystems (36 partners from the EU, Brazil and SA)

### Principal coordinator

... of Dirisana, a medical capacity-building project funded by the EU

### Lead university

... in Food Systems Research Network for Africa

### Working with

... UNICEF and the UNDP to address developmental challenges of young people



# PERSPECTIVES FROM PROFESSOR TAWANA KUPE



**Prof Tawana Kupe**  
Vice-Chancellor and Principal, University of Pretoria

As we continue our pursuit to be a leading research-intensive university in Africa, and as the world changes, we are continually called to reimagine and renew our University.

Ongoing renewal and reinvention are particularly important in our current times, where the pace of change is remarkable and we are faced with frequent and unexpected disruptions, against a background of pre-existing societal challenges that are pressing and multi-faceted. So disruptive are the changes, we speak of a “new unusual”, that is in itself dynamic and uncertain.

At the heart of our renewal, and indeed renewal of higher education at large, is reimagining the role and mission of universities as societal agents for the public good, where universities exist because of society, and function for the good of society. This is inherently a sustainable development conversation, with our sustainability as an institution and our contribution to the sustainability of societies being inextricably linked.

Over the past decade, the University of Pretoria has intentionally focused on sustainable development as an important aspect of our strategy and practice. In our long-term 15-year strategy, UP 2025, we incorporated sustainability as a strategic focus area. This set the tone and direction for our commitment to sustainable development. Through our experiences over time, and as we continued learning in our quest to ensure that our work is relevant to societal needs, our thinking has progressively matured, particularly over the past five years.

In 2019, we began a shift to seeing sustainability as something that is integral to what we do, in addition to it remaining prominent as an institutional goal and strategic area

of focus. We began to integrate our thinking around sustainable development, which translated into a more integrated approach to working together and, as reflected in our UP 2019 Sustainable Development Report, the way we report on sustainability. Linked to this, we continued to advance the practice of transdisciplinarity as a means to manage complexity and uncertainty more effectively.

We continued this journey throughout 2020 and 2021, and signalled our intent globally in my presentation 'University sector support to the UN Secretary-General's call for a decade of action on the SDGs'. The event was convened by the Sustainable Development Solutions Network (SDSN) on behalf of the United Nations, and our commitment was subsequently formalised with the inclusion of UP as a high-level case study in the SDSN guide "Accelerating education for the SDGs in universities".

Our journey has culminated in sustainable development being fully integrated into our institutional five-year strategy, which was finalised and approved in 2021. Our strategy is entirely congruent with, and supportive of, the five pillars of the Sustainable Development Goals, and the critical success factors of the African Union's Agenda 2063. The institutional strategy effectively serves as our strategy for sustainable development.

Embedding sustainable development into our institutional strategy has been a profound and intentional step. It gives a clear indication of who we are as a university, our efforts to move closer to society and ensure our ongoing relevance, and our position as an African university with a global outlook. Our work continues as we translate our strategy into practice and turn good intentions into reality. This Sustainable Development Report reflects the path we are on and the progress we have made. It also affirms our resolve to contribute meaningfully to creating a better world for all.

“Embedding sustainable development into our institutional strategy has been a profound and intentional step. It gives a clear indication of who we are as a university, our efforts to move closer to society and ensure our ongoing relevance, and our position as an African university with a global outlook.”

# FROM THE DESKS OF **PROFESSORS NORMAN DUNCAN AND SUNIL MAHARAJ**



**Prof Norman Duncan**  
Vice-Principal: Academic

In UP's second Sustainable Development Report, we seek to build on the first report that we released in 2020, and our SDG Progress Report published last year. This is premised on the idea that our sustainability reporting serves two main functions.

As a report to society, we look to find ways to reflect the work we do more comprehensively. As our own report card, it helps us to take stock of where we are, and to use reporting as a further impetus to achieve the shifts in performance and impact that we aspire to.



**Prof Sunil Maharaj**  
Vice-Principal: Research, Innovation and Postgraduate Education

In the spirit of enquiry, lifelong learning and continual improvement, we reviewed sustainability-related reporting from leading universities to identify areas where we could improve. It was evident that many different approaches are adopted. In some there is a primary focus on student life and community engagement. Others tend to focus on green campuses or the SDGs, or hybrids of the various dimensions of sustainability. What is clear, is that sustainable development reporting is an emerging practice in higher education, generating many opportunities to learn and improve.

We have chosen to adopt a broad view of sustainability, inclusive of the various dimensions that are commonly reported on. We have deliberately connected these



to our institutional strategy and the core functions of teaching, learning, research and engagement. Building on previous reports, we have included dedicated sections of stakeholder engagement, engaging with host communities and student life, given how central they are to what we do and our connection with society.

Through the report, a number of successes and achievements are evident. We continue to make gains in racial and gender diversity of our student body, and strengthen learning support for student success and work readiness. An important aspect of this is the attention we are giving to social learning spaces to mimic real-world work and social environments. Our curriculum transformation is dynamic, embracing diverse sources of knowledge and keeping abreast of our rapidly changing world. Community engagement is well entrenched within our curriculum, playing a big part in transforming students as citizens, as we work to transform the communities that we live in.

The University has enjoyed multiple highlights. We are ranked in the top 1% globally in 10 subject fields; our faculties of Law and Veterinary Science are ranked top in Africa along with the School of Engineering in the Faculty of Engineering, Built Environment and Information Technology. Our global research breakthroughs span a wide range of fields and include smart, safe listening, a COVID-19 app, simple tuberculosis detection, advances in rhino fertility, and insights into the universe. Collectively, we believe that we have a good story to tell.

Our successes are underpinned by our pursuit of excellence and the solid foundations we have established in our core functions of teaching, learning, research and engagement. In these areas we continually seek to push the boundaries, through innovative teaching and zealously advancing the practice of transdisciplinarity.

Our challenge in measuring performance remains. While we have begun to incorporate additional metrics for a more tangible assessment of our progress, we recognise that this is an evolving space and more work is needed to find the right balance of qualitative and quantitative measurement. In the same context, understanding and meaningfully evaluating our impact is a significant area of focus. We recognise that our impact goes beyond the number of publications we produce, the extent to which they are cited and our position in ranking systems. As we go forward, the true measure of success will be how we positively contribute to society and affect the lives of those around us and those whom we serve.

“We are ranked in the top 1% globally in 10 subject fields; our faculties of Law and Veterinary Science are ranked top in Africa along with the School of Engineering in the Faculty of Engineering, Built Environment and Information Technology.”





Our strategic  
intent



# REIMAGINING THE UNIVERSITY OF PRETORIA – A STRATEGY FOR SUSTAINABILITY

The University of Pretoria's five-year strategic plan, Destination 2026 and Beyond, was finalised in November 2021. A key feature of the plan is how sustainable development and, by extension, the SDGs are integrated and hardwired into the institutional strategy.

Sustainability is not a “bolt on” and on this basis, UP does not have a standalone sustainable development or SDG strategy. Specifically, our institutional strategy is entirely congruent with the five pillars of the SDGs – people, prosperity, peace, planet and partnerships. This is intentional, and is particularly important in that it begins to define who we are and how we will contribute to making the world a better place for all.

Our approach to strategic planning is framed by UP's 15-year long-term strategy (UP 2025) that guides our response to national, regional, continental and global challenges and priorities. Implementation of UP 2025 is enabled through three sequential five-year planning horizons. Although each five-year implementation plan is shaped by the direction and principles outlined in UP 2025, they are sufficiently versatile to be responsive to changing landscape dynamics within the respective planning horizons.

The 2022 – 2026 five-year plan is the third and final phase of implementing UP 2025, and it describes a reimagined UP, reaffirming our commitment to impacting society positively. While the fundamental societal challenges faced when UP 2025 was developed persist, this plan comes at a time when new challenges and opportunities that could not have been envisaged have subsequently arisen. In this volatile and disrupted space, reimagining UP is essential to our resilience and continued existence as an institution for the public good.

## Formulating the plan

Developing the plan presented an opportunity to engage with the University community to prepare our pathway beyond 2025. Leadership conversations began at various levels in 2020 and progressed through 2021. In January 2020, the Senate Conference adopted a future-ready outlook, with the idea of transdisciplinarity being central to responding to complexity and uncertainty. The concept of reimagining UP was explored in more detail at the Council Workshop on Transformation in September 2020. This was followed by strategic sessions with the UP Executive and senior management in February and April 2021, focusing on establishing a common understanding of a reimagined UP, along with the actions needed to not only survive, but to thrive and excel.

By consolidating these conversations and drawing from UP 2025 and the 2016 – 2021 plan, a strategic framework was developed, using a design-thinking approach and covering four main themes:

- Understanding the challenges and opportunities at hand;
- Crafting our desired future;
- Our approach to achieving the desired future; and
- Outlining high-level strategic priorities for coherent action.

“Reimagining UP is essential to our resilience and continued existence as an institution for the public good.”



Dedicated sessions were then held with organised labour and the Student Representative Council (SRC) for further insights and contributions. Additional inputs from the broader University community were obtained by publishing the draft framework on a purpose-built website, with a survey to draw inputs into the strategy.

The finalised framework formed the basis of the 2022 – 2026 strategic plan, which was approved by the University Council in November 2021.

## Understanding the challenge

To clarify the challenges to address and opportunities to capitalise on, we consider three levels of complexity: the landscape at a macro level; issues facing the education sector with a deeper focus on higher education; and an internal look at the University of Pretoria.

We play in a globally connected world, with dynamics translating and influencing circumstances across the spectrum of local-national-continental-global domains, often underpinned by the pervasive challenges of poverty and inequality in all their forms. Interrelated challenges and opportunities are evident across political, economic, social, technological, legal and environmental (PESTLE) dimensions – driving complexity and uncertainty. In this milieu, there is continual interplay between institutional vulnerability and opportunities for reinvention.

Notwithstanding the threat to their financial sustainability, universities are called upon to play an increasingly prominent role as responsive institutions for the public good. Such a role includes influencing societal transformation, redressing historical legacies and enabling society to navigate the manifold headwinds that prevail. Central to fulfilling this role is expanding access to high-quality education, creating new knowledge through research, and developing capable leaders, teachers and practitioners across all sectors. Thus, we equip a critical mass of the populace with the necessary knowledge, capabilities and high-level skills to drive societal development and respond to current or future challenges and uncertainty.

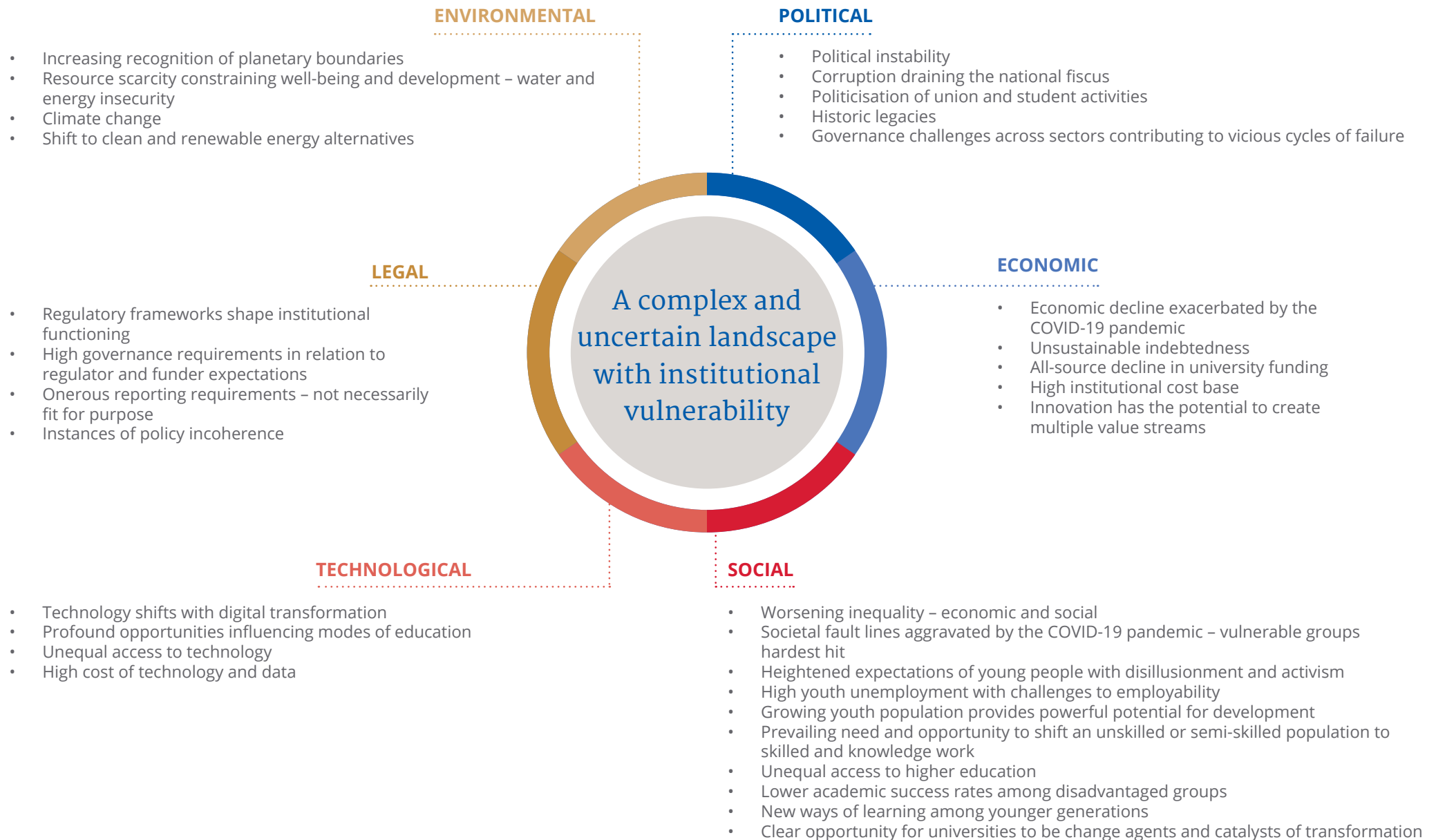
To fulfil its purpose, UP has a strong foundation that serves as a springboard to managing the dilemma of surviving and thriving when faced with adversity and complexity, while contributing meaningfully to the public good. At the same time, barriers, constraints and areas of weakness need to be addressed for us to reach our full institutional potential.

Overall, UP enjoys strong leadership, management and skills – albeit uneven across the University – as shown by our rising institutional visibility, broadened global engagement and a growing pool of enduring partnerships. Nevertheless, in our pursuit of excellence, and seeking to make meaningful contributions to societal evolution, we recognise that reimagining the University requires fundamental changes to the way we do things – across both core and support functions.



## The landscape we play in

A globally connected landscape influencing dynamics across the spectrum of local-national-continental-global levels



## Crafting our desired future

The University's vision is articulated as follows:

*To be a leading research-intensive university in Africa, recognised internationally for its quality, relevance and impact, and for developing people, creating knowledge and making a difference locally and globally.*

To achieve this, we have five goals that give direction to the strategy and a set of guiding principles that shape our decisions and actions.



### Strategic goals

- To enhance access and successful learning
- To strengthen the University's research, international profile and global engagement
- To foster and sustain a transformed, inclusive and equitable University community
- To enhance institutional sustainability
- To strengthen the University's social responsiveness and impact on society



### Guiding principles

- Consistently seek transformational approaches and solutions for the public good, grounded in diversity, inclusivity and social justice
- Nurture collaboration, transdisciplinarity and innovation to deal with complexity
- Mobilise and harness partnerships for greater leverage, innovation and impact
- Co-create initiatives, and value the various perspectives and talents of others
- Leverage technology, ICT and big data as critical enablers for development
- Renew and reinvent our approaches in the pursuit of excellence, to ensure agility, relevance and resilience





Collectively, the goals and guiding principles serve as pillars for our strategy. They are the starting point for integrating sustainable development into the fabric of our institution and achieving our desired outcomes.



### Our desired outcomes

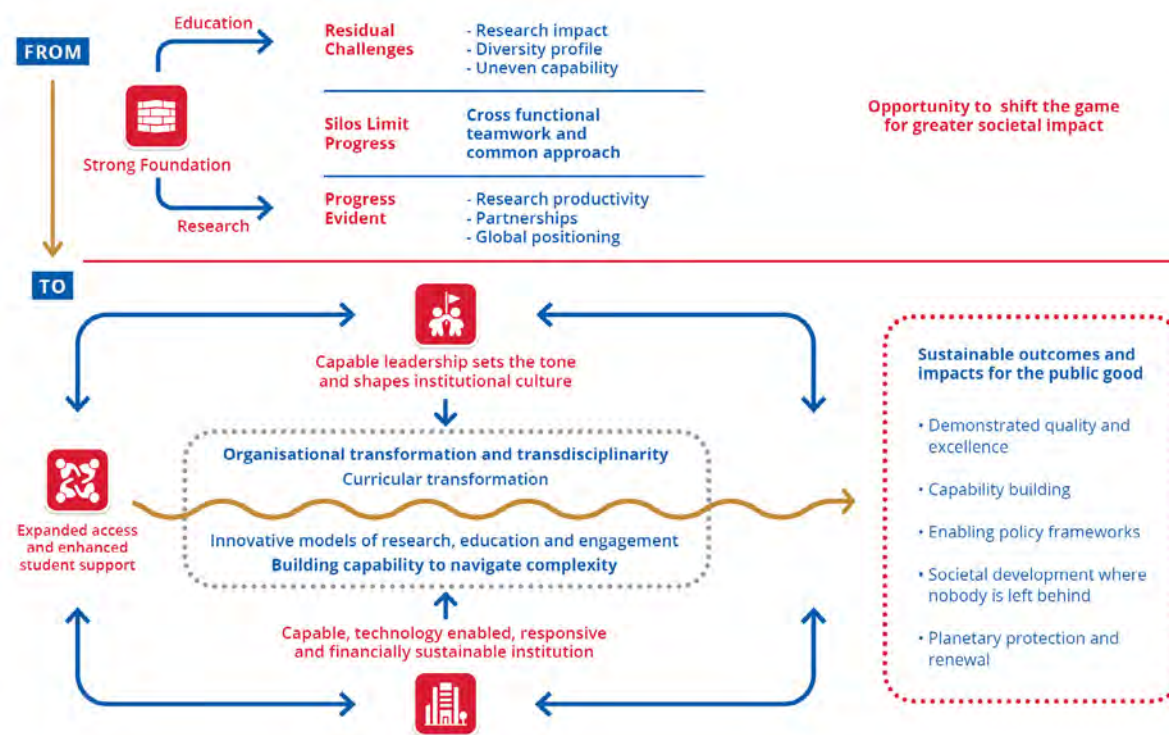
- Excellence in education, research and practice, and well-resourced initiatives
- Research that is at the frontier of knowledge
- We attract top talent
- A dynamic institutional culture that fosters diversity and inclusion
- An entrepreneurial spirit
- An end to legacy inequalities
- World-class facilities that are repurposed as we develop new approaches to research, teaching and learning
- We turn threats into opportunities, and introduce innovations and disruptive ideas or technologies
- We influence policy reform, creating the conditions for peace and prosperity
- We are recognised as a lead agent for South Africa and Africa's social and economic development and transformation
- We are engaged with stakeholders at local, national and global levels, and respected as a key partner for influence and impact

## Our approach to achieving the desired future

Bridging the gap between our current realities and our aspirations and desired outcomes requires a shift, as illustrated by our reimagining argument. This shift shapes our approach.

Significant progress is evident, such as in research productivity; student diversity; our provision of professionals; pedagogical innovations like hybrid teaching and learning; and our strategic partnerships. But residual challenges remain: capability across the institution is irregular; there is uneven success of students from different backgrounds; the diversity of academic staff needs to be broadened; and the societal impact of our research must be more palpable.

Understanding the University as a complex system in itself and as an integral part of the complex landscape it exists in is fundamental to shifting from our current to reimagined



state. In this reimagined state, we are mindful of and fully understand the linkages and dependencies between the issues we face and the way we address them in order to make meaningful and enduring contributions to society. With this in mind, to achieve our goals and optimise our performance in a complex system, key levers we will focus on are:

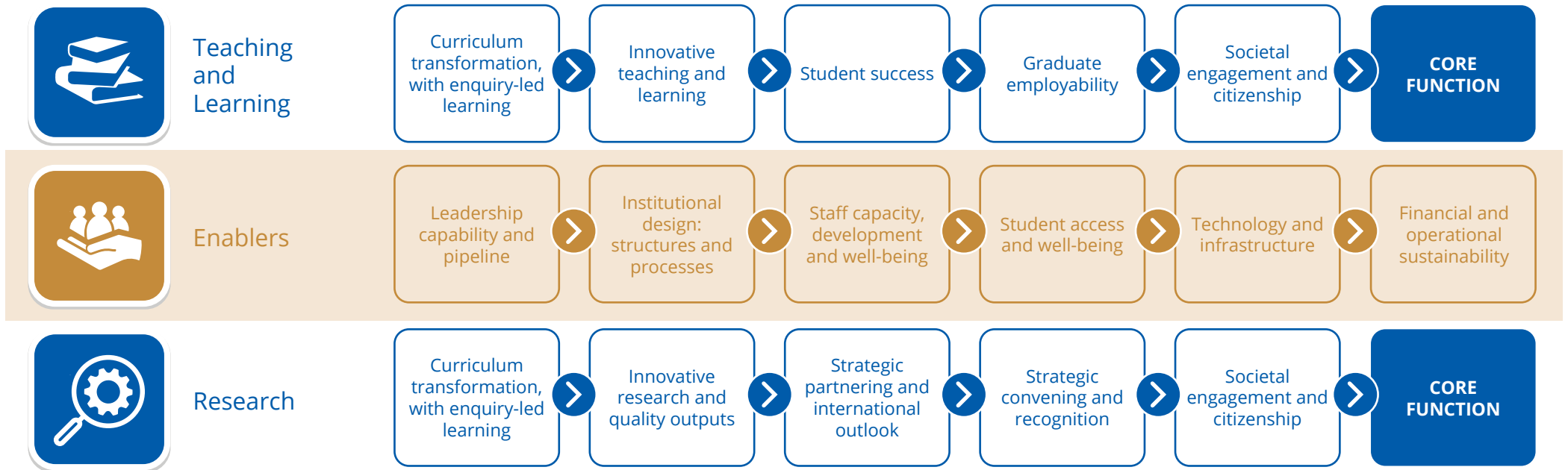
- strengthening an integrated approach;
- relentlessly driving a transdisciplinary agenda; and
- establishing a culture of innovation and entrepreneurship across all University functions.

Leveraging these areas, and breaking down the silos that inhibit our progress, enables us to address the diverse dimensions of institutional transformation better, moving us closer to our aspiration of sustainable outcomes and impacts.

## Strategic priorities for coherent action

To translate our strategy into action, we have a set of strategic priorities that enable and give effect to the strategy. Clear linkages are evident between priorities and the institution's strategic goals. Additionally, connections across priorities form critical paths which ensure coherence across activities.

## Linkages and dependencies between strategic priorities forming critical pathways

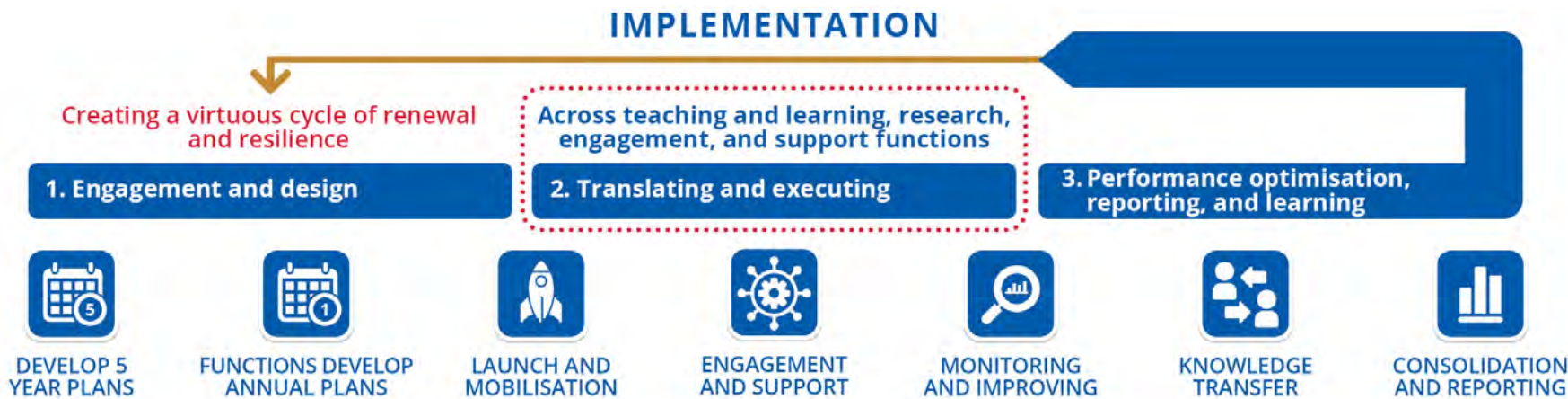


Enabling strategic priorities set the direction and create the foundation for an effective institution. We are then able to create value through our core functions of teaching, learning and research.

Each priority has defined activities at an institutional level, designed to move us towards achieving the goals and enabling relevant translation at faculty levels.

Implementing the strategy

Effective implementation of the plan involves the entire University community. The process is a continuous cycle made up of three phases, each with distinct activities.



Translation to cascade the strategy through different functions across the University began in late 2021, with the subsidiary five-year and one-year plans of faculties and professional and support services finalised by year-end.

In 2022, a monitoring and evaluation framework that aligns performance indicators and targets to the strategy will be finalised.



# TRANSFORMING THE CURRICULUM

Reimagining UP is transformational in nature, and our five-year strategic plan, Destination 2026 and Beyond, is characterised by ongoing rethinking and renewal of the University in pursuit of just cognitive, social, economic and environmental development.

As both a process and an outcome, curriculum transformation plays a central role in driving the University's transformational agenda, and in realising UP's strategic intent to develop people, create knowledge and make a difference locally and globally in ways that are relevant and impactful. It is a dynamic process that is ongoing and iterative, spanning all University faculties.

Recognising our historic curricula evolution, shaped by and rooted in colonial and apartheid influences, curriculum transformation represents profound shifts in ideology, form and function, embracing multiculturalism and ensuring responsiveness to societal changes and needs. A transforming curriculum – being continually transformed and serving as a catalyst for broader transformation – is a fundamental determinant of the University being an enquiry-led space for critical thinking, meaning and understanding, identity, and democratic public engagement. Not only does it address historic distortions, but its contextual and futuristic orientation enables meaningful academic endeavour for current times as well as for the future. It asserts and celebrates local embedded knowledge and capacity, producing cutting-edge research with a global reach for actualisation of human potential and in service of the public good.



By its very nature, curriculum transformation is, and must be, an inclusive and engaging process, embracing different voices and perspectives. Diversity of participants encompass race and ethnicity; nationality; religion; class; disability; sexuality; and gender, gender expression and non-binary orientations.

## Our curriculum transformation framework

Arising from engagement between student formations and UP management, in 2016 the University initiated a work stream on curriculum transformation. The output was a curriculum transformation framework, Reimagining Curricula for a Just University in a Vibrant Democracy, that was approved by the University Senate in February 2017. While the framework is cognisant of differences across faculties, it is formulated in a manner that enables all disciplines to address the following four key and interrelated drivers of curriculum transformation:

- Responsiveness to social context
- Epistemological diversity
- Renewal of pedagogy
- An institutional culture of openness and critical reflection

These drivers also represent domains that provide a wide-angled and holistic view of curriculum transformation. They shape curricula principles, form and function as they evolve in a dynamic space. The drivers are applicable to the core functions of teaching, learning, research and engagement.

Key outcomes anticipated through curriculum transformation include: enhancing student access and making learning accessible; decolonising the curriculum and

increasing societal consciousness; technology-enhanced teaching and learning; strengthening student retention, throughput and success; improving student support and preparing graduates for the changing world of work; ensuring excellence and quality assurance; and reinventing assessment through alternative assessment systems.

### Responsiveness to social context

Underpinned by critical and self-critical reflection, the curriculum must be attuned to local and global contexts, histories and realities. Considerations include correctness and truth; clarity of purpose and relevance to a range of contexts including their political, economic, social, technological, legal and environmental dimensions; and critical enquiry into difficult and complex societal issues such as development, inequality, social justice and globalisation.

Explicitly acknowledging and valuing indigenous knowledge systems are essential to these considerations. Similarly, sense-making of knowledge to a particular context and translating knowledge into different contexts are important for purpose, meaning and relevance. The intended outcome is to shape students and academics into thoughtful citizens who are part of a greater and diverse public that is well rounded and able to contribute meaningfully to transforming society.

### Epistemological diversity

Embracing different perspectives, world views and lived experiences, particularly from Africa and the Global South, enriches knowledge and reinforces our true identity. Existing paradigms are challenged, with the evidence-led development of new concepts. Beyond an Africa-centric view, we embrace different intellectual and cultural heritages and lived experiences, whether from the North or the South, in a way that enables the crossing of borders and enriching knowledge from different perspectives. As with responsiveness to social context, indigenous knowledge is valued. Additionally, surfacing and incorporating African, Latin American and Asian knowledges addresses distortions arising from North American and European centrism, enabling a more global outlook.

### Renewal of pedagogy and classroom practices

As ways of thinking and learning evolve, we need to continuously rethink, re-evaluate and innovate our approaches to, and practices of teaching and learning. A critical aspect is the transitions from high school to university, from undergraduate to postgraduate, and on to the world of work. Across this continuum we embed the philosophy of enquiry-led and lifelong learning in different contexts.

New modes of learning must enable a broadening of access to education, foster diversity, and serve as a vehicle for equality and emancipation of those previously marginalised. Innovations introduced must be educationally sound, ensure a student-centred approach, and should be implemented with careful planning and mindfulness. Our intended outcomes are improved student success, with resilient graduates and efficient professionals who have the skills and capacity to contribute positively to society.

### An institutional culture of openness and critical reflection

Learning and development is not limited to the classroom. The institutional culture, as reflected in its symbols, narratives, embedded practices and attendant life experiences, serves as a powerful barrier or enabler to meaningful learning and development. Establishing an environment that is conducive to transformation requires accelerated redress of legacy inequalities, ensuring that broader university structures and processes enable each person to reach their full potential. This means intentionally building trust, and a culture of openness, transparency and critical reflection. Shaping such a culture also entails unlearning dysfunctional paradigms and discarding outdated processes and practices.

### Progress on our transformation journey

Subsequent to initiating the curriculum transformation process, UP relaunched the initiative in 2021, seeking to build on the momentum established, renew commitment with an increased sense of urgency and accelerate progress towards transformation. Key insights from the relaunch included a recognition that the process is an ongoing one; it must be kept alive and current; and it belongs to everybody – inclusivity and shared responsibility are essential.

Linked to the relaunch, all faculties conducted detailed internal reviews of their initiatives, along with progress towards curriculum transformation. Over the latter part of 2021, all faculties and the SRC participated in an open and online lecture series hosted by the Faculty of Law. Participants in each lecture presented their perspectives of the transformation, taking stock of efforts and progress underway, highlighting successes and challenges, and outlining collaboration across faculties. Sharing findings and experiences supported further cross-faculty learning, in keeping with the University's drive towards a greater transdisciplinary approach.

A range of progress highlights are evident across faculties. Stakeholder consultation is an ongoing process, enabling the inclusion of indigenous knowledge and philosophies, and different perspectives. Technology is being used to map and streamline curricula, identifying gaps, overlaps and duplication, as well as to enhance modes of teaching and learning. Community engagement has for the past 20 years at least been embedded into curricula, with community engagement competencies being developed to meet society's current and evolving needs.

Overall, curriculum transformation is part of a broader and necessary academic and cultural transformation within UP. This transformed culture entails an institution and individuals who are comfortable with differences, sensitive to historical injustices, committed to social justice, and conversant in a diverse array of knowledge, world views, cultures, literature and ways of life. Imbued with societal mindfulness, we aspire to consistently and collectively show deep care for the natural world that sustains us, and demonstrate commitment and capability to contributing to the positive development and transformation of our country, continent and world.

### Going forward

The process of curriculum transformation is ongoing, dynamic and iterative. It will continue to evolve as we ensure responsiveness to a changing world. For 2022, our faculties will focus on consolidation, meeting commitments made during and after the 2021 relaunch, and finding further opportunities to drive the curriculum transformation agenda. Broader engagement through the open lecture series will continue, with one lecture scheduled for each semester.



“Curriculum transformation is part of a broader and necessary academic and cultural transformation within UP.”



# STAKEHOLDER ENGAGEMENT

As an integral part of society and an institution for the public good, we recognise the importance of understanding our stakeholders and the need to meaningfully engage with them in areas of shared interest. To this end, we view engagement as a core function, along with teaching, learning and research.

Our engagement philosophy is characterised by recognising, respecting and valuing all stakeholders for their embedded talents and capabilities, and embracing a two-way relationship of mutual benefit.











Determining who our stakeholders are is underpinned by potential impacts related to our institutional activities, or specific issues of shared interest. Potential impacts are seen from dual perspectives – how our actions impact on stakeholders, and how stakeholder actions impact on the institution. Beyond impacts, stakeholder engagement is intimately linked to partnering and collaborating in support of SDG 17 which serves as a gateway to achieving the other SDGs

Primary dimensions of our interactions and impact are our existence within host communities, and the work we do through our core functions of teaching, learning and research. Within host communities, we have an extensive geographic footprint with multiple interfaces across diverse community groups. Our operational activities have the potential for both positive and negative impacts. As a university, our core functions are intentionally geared to drive positive impact, affecting both internal and external stakeholders. Such impact extends far beyond the University's physical boundaries traversing local, national, continental and global spheres of influence.

Internal stakeholders are well defined, comprising students and staff. Student stakeholders range across different levels of study such as short courses, undergraduate and postgraduate programmes, and across different modes of study within the spectrum of contact, remote and hybrid teaching and learning. Staff stakeholders comprise academic, professional service and administrative functions.

External stakeholders represent far greater heterogeneity across and within different stakeholder categories. In mapping external stakeholders, we have broadly classified them according to the high-level type of stakeholder and the geographic location as shown, with limited examples, on the next page.

“We view engagement as a core function along with teaching, learning and research.”

	Local	National	Continental	Global	
Academia					
Civil society					
Government					
Industry					





## UP COPC



### Joint Community-based Projects

- Embedding community engagement into the curriculum – nurturing citizenship and making a difference
- 2019: >29 000 undergraduate students involved in curricular engagement projects; 272 modules; > 1 000 sites; > 7 500 students from 126 student organisations in voluntary projects

### UP Community-Oriented Primary Care (COPC) Research Unit

- Explores and innovates practices and processes for ICT-enabled COPC – enables site-specific re-engineering of primary healthcare
- Multi-partner and multi-layer health platform where research-learning-service-engagement mobilises skills and expertise across all sectors; outreach mechanisms played a key role in district activities responding to the COVID-19 pandemic

### UP Institute for Sustainable Malaria Control

- Integrated and transdisciplinary approach to malaria control
- Community initiatives range from innovative malaria education for younger children, to training local healthcare workers to empower community members
- By 2019, over 80 local health workers were trained to empower over 1 300 community members throughout Limpopo. Efforts are underway to scale to other high-risk regions

### The SDG Hub hosts the SDG Policy Support Initiative

- Together, these two projects focus on using tech (the Hub) and human networks (the Initiative) to enable SDG evidence-informed policymaking
- The Hub aggregates the best and most relevant research on the SDGs from South African and selected non-South African universities. The focus is on using machine learning to make research more accessible to policymakers
- The Initiative acts as a coordinating mechanism that brings experts from academia together with the Presidency of South Africa to support evidence-informed policymaking

### UP hosts the Sustainable Development Solutions Network (SDSN) – South Africa

- Under the auspices of the United Nations
- Mobilising efforts by academia and NPOs to accelerate achievement of the SDGs

## Our approach to mapping external stakeholders

This limited set of examples demonstrates the logic and spectrum of our engagement and partnering across stakeholder groups and at different levels of complexity, as well as the linkages to SDG17. More details of our stakeholder engagement are outlined throughout the report, including the nature of engagement in specific contexts.



# ENGAGING COMMUNITIES FOR MUTUAL BENEFIT

Engaging with society and communities is a core University function which flows from UP's teaching and research functions. Our approach to community engagement is framed by an institutional Policy on Community Engagement that is applicable to all members and structures of the University community.

It recognises that we are integral to our host communities, and affirms the importance of communities and civil society in the broader sense. Approved in 2019, the policy guides and shapes our community engagement programmes and their integration into core and support functions. It is aligned to our strategic priorities, ensures ethical conduct and serves as the basis for operational decision-making and practices.

Through community engagement we demonstrate civic responsibility and citizenship, linking the best research and teaching skills, of both staff and students, to the specific needs of diverse communities. Such needs are informed by the affected communities themselves, and our approaches are underpinned by a philosophy of mutual benefit.

In a two-way relationship we partner with stakeholders, valuing and respecting their inherent capacity, beliefs, perspectives and dignity. Our contributions give effect to the public good role of universities, and at the same time we draw benefit from communities' embedded knowledge and ideas. Student life and the attributes developed through the processes of service and engagement are enriched, contributing to their holistic development as well-rounded and socially conscious graduates and citizens. In collaborative research activities between researchers, communities and social partners, scholarship of application produces disciplinary or transdisciplinary knowledge that is beneficial to the community as well as to the researchers and the University.

We consider community engagement and development that comprises curricular, research and extracurricular dimensions. We also recognise communities as heterogeneous groupings that are made up of individuals and groups who have an interest in, currently participate in or could participate in the University's community engagement activities. Such groups could be at local, provincial or national levels.

## An integrated and enabled approach with high-level oversight

The Community Engagement Office in the Department of Education Innovation plays a key advisory, coordinating and integrating role across the University. The Office manages community engagement at an institutional level and supports faculties and institutes in their curricular and research-related community engagement. Such support includes providing training, facilitating aspects of engagement, and hosting the Community Engagement Management System (CEMS), an information platform for data management and reporting. The Community Engagement Office publishes a quarterly newsletter, *Lentsu La Sechaba*, that features opinion pieces and leading community engagement practices by the UP community.

“Through community engagement we demonstrate civic responsibility and citizenship, linking the best research and teaching skills, of both staff and students, to the specific needs of diverse communities.”

Various structures enable a tiered and consistent approach to community engagement, while enabling translation to discipline-specific contexts. The Senate Committees for Teaching and Learning, and Research and Postgraduate Education provide direction and oversight for community engagement in their respective areas of accountability. Each faculty has a Community Engagement Committee, or includes community engagement as a standing item on teaching and learning, and research committees. Residences have committees for community engagement, as do student societies and the SRC. UP also hosts a broad multi-stakeholder Community Engagement Forum.

## Curricular community engagement

Community engagement is integrated into the curriculum and is a key aspect of ongoing curriculum transformation. All faculties have determined their range of modules that incorporate community engagement, with 355 modules across the University having a community engagement component. In certain undergraduate programmes, obtaining sufficient community engagement credits is a compulsory requirement.

Communities are consulted on aspects of community engagement in the process of curriculum planning. Additionally, students undergo orientation prior to engagement, and the learning focuses on engagement processes, interventions and outcomes. Community engagement activities and learning outcomes within specific modules are aligned to students' potential career paths.



The table below summarises the number of students that participated in community engagement per faculty for 2021.

Faculty	No. of students participating in curricular community engagement
Engineering, Built Environment and Information Technology	2 601
Economic and Management Sciences	6 082
Education	5 086
Health Sciences	17 175
Humanities	2 174
Law	1 052
Natural and Agricultural Sciences	4 120
Theology and Religion	206
Veterinary Science	2 648
<b>Total</b>	<b>41 144</b>

Examples of curricular community engagement activities are included in the sections of this report that focus on driving sustainable development through our core functions.

## Research-related community engagement

Where appropriate, community engagement is integrated into research programmes, and community-engaged research (scholarship of application) is encouraged and supported. Such research often deals with complex issues and falls within the transdisciplinary space. In this context, co-designing the research projects with community stakeholders and their joint participation in the process of discovery are important determinants of success and essential for shared value. Similarly, ensuring ethical conduct, considering potential unintended consequences and providing feedback are foundational requirements for such research.

The research we undertake in the community engagement context has a strong action orientation, with evidence-informed knowledge creation being translated and practically applied to address identified challenges.

### Extracurricular community engagement

Extracurricular community engagement is undertaken through various University formations such as student societies, or at an institutional level. Such engagements and initiatives should be aligned to support UP's strategic agenda, seek positive impact and address potential unintended negative consequences. They require requisite approval through relevant University structures. (Examples of engagements through student formations are discussed in the section "Towards the resilient graduate".)

At an institutional level, an important community-related engagement is UP's participation in the Hatfield City Improvement District (CID), a non-profit organisation funded by property owners within the district boundary. Within this area, UP occupies the largest portion of land, and plays an important role as an anchor institution. The initiative is in partnership with the Tshwane Municipality and involves local police services and emergency services. Within the broader Hatfield CID, the Hatfield Campus Village was set up as an initiative to lead urban renewal and social transformation projects around the University's Hatfield Campus. The University works closely with the Hatfield CID towards shared safety and security, urban management, and social upliftment with community engagement.

UP's engagement at continental and global levels is discussed in the section "Our global and continental influence and impact", and includes a focus on our participation in the Universities Social Responsibility Network.



### Going forward

A philosophy and spirit of community engagement are deeply embedded at UP, and we continue to seek ways of strengthening our efforts and innovating for greater impact. A key challenge is to improve our understanding and measurement of the impact of our approaches and initiatives. Importantly, impact must be measured across social, economic and environmental dimensions, along with impact attributable to and experienced by different stakeholders. This work is underway, and we envisage a progressive maturation of our impact understanding and measurement over the next three to five years.



TRANSLATING OUR STRATEGY INTO ACTION

# Operational sustainability







As UP pursues its intent to be a leading research-intensive university on the African continent, it is well recognised that this can only be done through the people that give expression to the University strategy.

The institution operates in a highly competitive higher education landscape, with intense demands, nationally and globally, for the scarce skills needed to ensure the University's continued excellence, and to take it forward on its aspirational trajectory. Scarce skills are commonly mobile, and competition for the talent we need spans academic, private and public sectors, as well as national, continental and international borders.

Central to our success is the ability to attract, develop and retain talent in support of the University's strategic needs, to create the conditions for all employees to reach their full potential, and to align efforts for personal fulfilment and achievement of institutional goals. At the same time, our people practices are informed by South African regulatory frameworks, which seek to address the legacy ills of apartheid; the National Development Plan (NDP), which aspires for South Africa's success and competitive positioning; and the UN's SDGs, which seek a sustainable world where nobody is left behind.

In this landscape, the profile and expectations of employees continue to evolve. Work and career expectations of new generations of employees differ vastly from the earlier generations that made the University successful. This requires UP to have an institutional culture and compelling employee value proposition that not only attracts and retains a particular generation of employees, but transcends generational gaps by ensuring value to all employees, and strengthening the psychological connection between employees and the institutional culture.

A capable human resources function that provides transactional systems for organisational functioning and strategic support for organisational transformation is essential for UP to meet its regulatory obligations, deliver superior performance as a leading research-intensive university and fulfil its societal purpose. To this end, over the past three years, the Human Resources (HR) Department has worked towards moving from transactional personnel management to professionalising the function, being human-capital focused and becoming a strategic business partner that supports UP's aspirational agenda.

## PEOPLE PRACTICES FOR SUSTAINABLE DEVELOPMENT

Key aspects of this transition include:

- aligning the HR Department's people agenda offering to the University's strategic needs;
- positively contributing to human resources sustainability of the University;
- developing a recognised and compelling transformation agenda, including proof of diversity and inclusivity across the University community;
- becoming recognised as a strategic partner in the University; and
- improving stakeholder relationships for more efficient and effective service delivery.

Such a change, with a reimagining of human capital at UP, is by its very nature a challenging and long-term process. It is, however, fully congruent with UP's strategy, Destination 2026 and Beyond, and we continue to make progress on the journey.

## Our performance

Beyond the administrative processes required for effective institutional functioning, the HR Department plays a key role in guiding people practices and building capability through line management. This is the basis of strategic business partnering.

### A strategic approach to human capital

Towards the end of 2019, the HR Department began a process of reviewing its strategic approach to elevate the department's effectiveness and contribution to UP's vision. Linked to the strategy process, the University commissioned an independent audit of the HR Management System by the South African Board for People Practices (SABPP). The audit is applicable across sectors, and assesses performance against the 13 elements of the National HR Management System Standard. Findings from the audit outlined strengths and opportunities for improvement, helping to prioritise strategic focus areas and to sequence actions for implementation.

The HR strategy was finalised with Executive approval in November 2020. Strategic focus areas for the three-year period to 2023 included:

- institutional design and structure;
- job descriptions and evaluations;
- optimising the employee value proposition;

- enhancing employee relations;
- human capital development with talent management and developing a high-performance culture;
- transformation and diversity management;
- technology enhancement;
- establishing an enabling institutional culture and social responsibility; and
- human resources governance, risk and compliance.

The strategic focus areas are closely aligned to, and support the strategic priorities and critical pathways of UP's institutional five-year strategy, Destination 2026 and Beyond. During the 2020/2021 period, significant attention was given to establishing a credible HR governance, risk and compliance framework. All significant HR policies, codes and procedures were reviewed for adequacy, effectiveness and coherence. Executive approval of the updated and revised suite of documents is anticipated in 2022. The approach to human capital development was prioritised, with the development of a talent management framework to optimise the talent pipeline and support the University's transformation and diversity agenda. The process included extensive engagement with faculty leadership.

In the following sections of the report, we focus on managing talent; building leadership capability; employee well-being; and engagement and collaboration.

### A framework for managing talent

During the reporting period, formalising the talent management framework as an integral part of the human capital development strategy was a key initiative. The framework covers multiple workforce segments and, importantly, seeks to address the difficulty in attracting and retaining high-profile and high-level academics and researchers in the face of stiff competition from other institutions. It also focuses on the University's transformation and diversity agenda to strengthen the pipeline of black South Africans, and particularly females, progressing to senior academic and researcher levels.



In developing the framework, UP's current state of talent was reviewed in relation to the institutional strategy, and external practices and trends were explored. The internal and external analyses set the scene for defining UP's talent ambition, determining the requisite tools and processes to enable effective talent management, an appropriate suite of talent initiatives, and a prioritised implementation roadmap. Talent management governance structures, from faculty to executive level, have also been designed, supported by an institutional Talent Management Policy, Talent Management Committee, Terms of Reference, a Talent Management Matrix, Retention Guideline and a Talent Engagement Conversation Guideline. A range of potential career pathways has also been mapped.

Programme design and initiatives include:

- ring-fenced funding for competitive rewards and recognition of emerging academics and researchers;
- mobility and travel exposure;
- professional and academic development;
- studentships for master's, doctoral and postdoctoral candidates;
- formalised mentorship and coaching;
- investment in innovation and teaching excellence;
- performance management with alignment of key performance areas; and
- community service as part of professional development.

The programme incorporates institutional initiatives which have already been in place, and extends activities to advance talent management. Engagement with faculty deans was undertaken during the year, socialising the framework and initiating its implementation for identified talent pools.

### Building leadership capability

Capable leadership, from supervisory to executive levels, is critical to effective execution of the UP institutional strategy. Such leaders demonstrate the institutional values in all their practices and interactions, drive the required transformational changes, and create the conditions for employees to thrive and reach their full potential while achieving their own and the institution's goals and aspirations. Recognising the importance of leadership, the University offers a suite of leadership development



“Central to our success is the ability to attract, develop and retain talent in support of the University’s strategic needs, to create the conditions for all employees to reach their full potential.”

programmes for emerging leaders, mid-level managers and senior academic leaders as part of the Talent Management Framework. In support of our transformation and diversity agenda, the University has also established the UP Human Capital Development Fund aimed at specifically developing black academic staff.

The UP Programme for Academic Leadership offered through GIBS was introduced in 2012, preparing senior academics for potential leadership roles such as dean, deputy dean or academic departmental head. The programme includes 10 contact sessions and a five-day block abroad at leading research-intensive institutions of higher learning. The UP Executive Leadership Coaching Programme offers coaching for newly appointed deans and directors, as well as to a selection of deputy deans. The programme aims to maximise leadership potential.

The New Managers and Management Development Programme was introduced in 2020 to equip participants with the knowledge, personal qualities and leadership skills needed to succeed in management roles. It also prepares participants for the transition from managing a department or business unit to more complex senior managerial roles. Candidates attend 18 to 21 days of lectures arranged in monthly block sessions over 10 months, do assignments, work in syndicate groups and write exams for each study module.

In addition to institutional leadership development, UP offers opportunities for further education to academics without PhDs. Related to this, two additional programmes are being planned and piloted. The UP Future Professors Programme aims to nurture and develop the current crop of academics who have the potential for promotion to the level of professor. The Early Career Academics Programme is being developed for participants under 40 years of age, with further selection criteria being determined by the talent management task team.

### Employee well-being

Employee well-being has long been considered an important aspect of UP's ethos and value system; its contribution to employee productivity, satisfaction and perceptions of the University as an employer of choice is immeasurable. The Employee Well-being

Programme, EWP@UP, has been in place for more than two decades and has given staff a sense of belonging and being cared for by the University.

The programme offers a confidential counselling service to employees whose job performance is, or has the potential to be, adversely affected by personal or work-related stress. It also presents group-based education and well-being sessions designed for preventive or early intervention health support in the workplace.

“Employee well-being has long been considered an important aspect of UP's ethos and value system; its contribution to employee productivity, satisfaction and perceptions of the University as an employer of choice is immeasurable.”

For the 2020/2021 period, a formal evaluation of value experienced by participants was undertaken. A survey was conducted to evaluate the programme's continued relevance, intent and effectiveness of processes, understand its strengths and weaknesses and determine the participants perceived value. The survey covered lifestyle, including physical fitness and nutrition, work-related experiences, and overall perceptions of value with recommendations for improvement.

The evaluation validated the importance of the EWP@UP, supported by a significant increase in utilisation of EWP services over the past two years. Important aspects of value included employees taking ownership of their health, making voluntary lifestyle changes and strengthening a culture of healthy living. Recommendations are being incorporated to enhance the design of the programme, particularly around optimising face-to-face group sessions and scheduling them to fit into busy work schedules.





### Engagement and collaboration

Engagement and collaboration are critical to strengthening the HR Department's effectiveness and positioning as a strategic business partner. They are also key enablers when it comes to implementing the human capital strategy. Ongoing engagement and collaboration with key stakeholders continued throughout the reporting period.

At a broad level, the department continued to strengthen technology-enabled engagement, updating its content on the UP intranet to ensure that departmental information is visible and readily accessible at all levels. Additionally, manager and employee self-service options on the PeopleSoft system continued to be enhanced. The department continued to make strides in forging and strengthening partnerships with various professional service departments. These included the Departments of Internal Audit and Compliance Services, Institutional Advancement, Institutional Planning, Information Technology, Security Services and Finance. This inter-departmental collaboration enables a more integrated approach to human capital knowledge management and strategy implementation.

The Partnership and Services Unit of the department has focused on strengthening human resource capability at faculty and departmental levels. Additionally, targeted engagement with deans helps to strengthen the human resources function as a trusted business partner. Engagements focus on enlisting deans to be part of human resources service delivery, and monitoring and evaluation processes; clarifying faculty needs and improving processes; and ultimately involving deans in the planning and delivery of faculty-strategic human resource priorities.

Representatives from organised labour form another key constituency, and the department has continued to foster trust-based relationships and cooperation for organisational stability. This has included intentionally strengthening labour relations capability so that all labour relations stakeholders are informed and capable of maintaining a conducive labour relations environment. Additionally, consultations with organised labour were an integral part of the policy review programme. For the review period, employee relations have remained stable.



## Alignment with the SDGs

As an employer, our alignment with the SDGs remains as described in our 2019 Sustainable Development Report.

### Key:

Influence:	We contribute to shaping the policy landscape.
Enable:	We contribute to building capability, which supports implementation.
Direct:	Our specific outcomes contribute to achieving tangible metrics.

### Nature of our contribution

	3.1.	Reduce maternal mortality	Direct		8.1.	Sustain per capita economic growth	Direct
	3.2.	Reduce neonatal and infant mortality	Direct		8.5.	Full and productive employment and decent work	Direct
	3.3.	End the AIDS, tuberculosis and malaria epidemics	Direct		8.8.	Protect labour rights and promote safe and secure working environments	Direct
	3.4.	Reduce premature mortality from non-communicable diseases (NCDs)	Direct				
	3.5.	Prevention and treatment of substance abuse	Direct		16.3.	Promote the rule of law	Direct
	3.8.	Universal health coverage and access to health services	Direct		16.5.	Reduce corruption and bribery	Direct
	4.3.	Access to affordable and quality tertiary education	Direct		16.6.	Effective, accountable and transparent institutions	Direct
	4.4.	Increase the number of youth and adults with skills	Direct		16.7.	Responsive, inclusive, participatory and representative decision-making	Direct
	4.5.	Eliminate gender disparities and ensure equal access	Direct				
	5.1.	End discrimination against women and girls	Direct				
	5.2.	Eliminate violence against women	Direct				
	5.5.	Effective participation and equal opportunities for leadership and decision-making	Direct				
	5.6.	Universal access to sexual and reproductive health	Direct				

# TOWARDS THE RESILIENT GRADUATE

It is well recognised that our world is, and will continue to be, characterised by rapid change, complexity and uncertainty. The fast pace of change is largely driven by advances in technology, and affects the ways in which we live, the nature of the work we do and the way we work.

In the near to medium term, the future of work will be distinctly different to our current realities. Our landscape, at both macro and micro levels, is complex, with linkages and dependencies across its many facets. This was clearly evident with the onset of the COVID-19 pandemic, where a biological agent, the coronavirus, had profound impacts on political, economic, social and technological aspects. We are also living in uncertain times, where rapid change and frequent shocks to the system, such as with the COVID-19 pandemic, create instability and make forward-looking planning more difficult and less reliable.

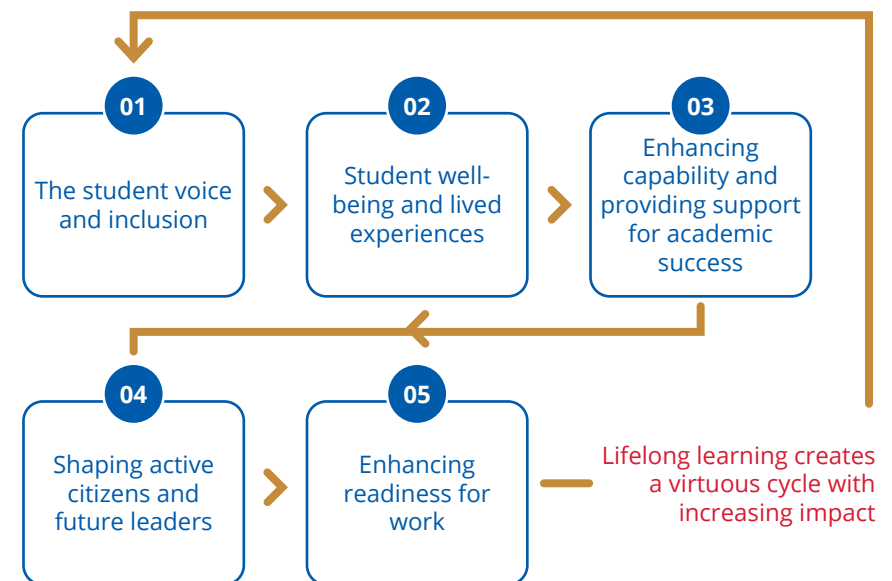
Our strategic framework for reimagining UP has evolved from, and exists in, complexity and uncertainty. It calls for and seeks to build resilience, in both systems and people – the ability to navigate and adapt to shocks and headwinds while continuing to thrive, fulfil core institutional and individual purposes, and contribute meaningfully to societal development. In the turbulent, disruptive and volatile world we live in, the resilient graduate is a necessary product of the University.

We see the resilient graduate as an enquiry-led being with the ability to adapt and bounce back from the inevitable shocks and adversity encountered in life. Lifelong learning is embraced and used to anticipate challenging circumstances, harness



internal and external resources to navigate complexity, and continue to make a difference. UP seeks to develop T-shaped professionals who possess a strong, discipline-based foundation that is complemented by a wider set of social and leadership competences. A broad suite of competences as basic building blocks enables the graduate to pivot or reinvent a career as the world changes, yet remain purposeful and resolute towards making a difference for the public good.

Our pathway to resilience comprises five steps in an iterative cycle of increasing impact.



An inclusive environment where students have a voice that is valued and respected is a precondition for building resilience, and a necessary starting point. Optimal physical, mental and emotional well-being and positive lived experiences improve the ability to learn, thus enhancing capability. Additionally, academic support improves success rates. Beyond good academic performance, a broader suite of competences must be developed as we shape active citizens and future leaders. Enabling the transition from university to working life, and improving the likelihood of successful employment, we focus on enhancing readiness for work. Along this pathway, a philosophy of lifelong learning creates a virtuous cycle with increasing impact.

“Optimal physical, mental and emotional well-being and positive lived experiences improve the ability to learn, thus enhancing capability.”

## Our performance

### The student voice and inclusion

An inclusive environment that allows and encourages the student voice to be heard creates a sense of belonging and nurtures self-identify and worth. It also begins to tap into the talents and ideas of a key constituency of the UP community and society at large.

Extra- and co-curricular student activities are governed by the UP Policy on Organised Student Life, which seeks to create a vibrant environment in which students can actively participate in well-structured activities and programmes. This enables their constructive contribution and personal growth outside the classroom, and the holistic development of well-rounded graduates and responsible citizens. Active student involvement is encouraged, for a balanced approach in which work, personal development and recreation take their rightful place. The University has a range of organised student life structures, societies and special interest groups.

An important part of this is representation of the student voice in university governance, underpinned by fostering democratic values. Elections for the UP SRC are conducted with the highest integrity, and student leaders take their place on various platforms to ensure that the voice of students is heard and listened to. Through these platforms, students participate in policy development and decision-making.

In an effort to recruit learners with disabilities, and with a specific focus on recruiting black learners with disabilities, the Department of Student Affairs' (DSA) Disability Unit (DU) facilitates a recruitment process for Grade 12 learners in the Gauteng province. Focusing on learners with special educational needs (LSEN), the DU assists with career counselling and providing information on UP course offerings, co-curricular activities and professional and support services offered. The DU services cover visual, hearing, neurodevelopmental, psychiatric and physical disabilities, as well as chronic illness and temporary disability.

With support from the DU, first-year students with visual impairment completed mobility training, including basic cane skills, and route training to bus stops and commonly used facilities and buildings. Additionally, training was provided to familiarise students with advanced assistive technology, and basic reading orientation was offered to those with neurodevelopmental disabilities. The Beyond our Limiting Disabilities (BOLD) Committee, which previously functioned as a student society, is now a recognised structure of the SRC. Student leaders with disabilities have come through the ranks and now serve on the BOLD Executive Committee.

### Student well-being and lived experiences

The University provides a range of confidential resources to support and sustain the well-being of students. The Student Counselling Unit (SCU) is staffed with professionally accredited psychologists who employ various methods to address student well-being. These include different online and face-to-face resources and consultations for peer and professional support. The SCU offered enhanced counselling services and transitioned seamlessly to online telehealth platforms during the COVID-19 lockdown. Digital mental health content, such as podcasts, posters, psycho-educational information sheets and SCU-B the chatbot, were all developed and distributed to



students through the DSA/SCU website, the student portal and social media. All client files and supportive documentation were transferred to a secure online filing system.

Prior to the COVID-19 pandemic, only 10 to 15 new students could be seen daily at the clinic for screening and consultations due to capacity constraints. All other enquiries were addressed at the counter without receiving a psychologist's immediate attention. Students who could not wait in the line were advised to return at another time, making it difficult to discern the seriousness and urgency of service requests of walk-ins without a referral. The system was always under strain and students complained about the long queues. During COVID-19 lockdown periods, increased uptake of all services was seen, requiring drastic changes to service offerings and processes. Using the email system and moving requests for service online, no student is shown away. Emails are attended to daily with a usual turnaround time of 24 hours, and never exceeding 48 hours. The management of incoming requests and channelling them to the correct service area is easier and faster. Referrals to faculty student advisors, the Student Service Centre, Financial Aid, the Disability Unit or other DSA services are efficiently facilitated.

The Cognitive Development Programme, a pilot project, was also implemented to facilitate academic development during online learning in collaboration with Edublox™. Career assessments were performed with students using an online platform and results were reported in virtual consultations.

### Enhancing capability and providing support for academic success

To strengthen capacity for adaptation, human beings need strong supportive relationships. Responsibility for this imperative is part of the functions of student administration, teaching, learning, research, engagement and professional services. Students at UP study and learn within rich networks of support, and are encouraged to form peer-learning communities. These support networks include faculty advisors, tutors, mentors, trained class representatives, student leaders in faculty houses and many other structures. There is no room to feel alone.

Besides strong relationships, mastery motivation is a powerful driver of learning and of success. The hybrid and flexible way of learning and teaching THE UP WAY, has built-in



resources to support mastery that breeds motivation. Important themes embedded into enhancing capability and providing support for student success include:

- nurturing a culture of enquiry-led learning, and embedding this into teaching, learning and research;
- creating an enabling environment for learning in all spaces, from residences to classrooms and open spaces;
- ongoing innovations in teaching and learning that enhance the current and future suite of programmes across the range of face-to-face, hybrid and virtual modes;
- ongoing and accessible academic support, and strengthening early-warning systems for students at risk to provide enhanced support;

- enhancing support networks through mentoring, advising, guiding and peer support; and
- staff training and development towards the development of a resilient graduate.

More details of our approaches and actions towards supporting student success are included in the sections “Curriculum transformation” and “Driving sustainable development through our core functions” of this report.

### Shaping active citizens and future leaders

Academic success is intertwined with developing graduates who are societal leaders and who demonstrate active citizenship. Student leadership is taken seriously at UP and is a strategic priority. We seek to produce graduates with a sound academic base, and leaders who will be responsible citizens that contribute positively towards building an equitable society which respects human rights and pursues social justice.

The DSA is responsible for providing leadership and personal development training opportunities to students who participate in various student structures at UP. As part of its co-curricular vision, it establishes internal and external partnerships to provide offerings which serve students well on their journey to personal growth and becoming enriched graduates. Leadership programmes are continually improved on, incorporating feedback from students.

The UP Friedrich Ebert Stiftung Democracy School for Young Leaders was established in partnership with Friedrich Ebert Stiftung (FES) from Germany. The programme is open to all UP students in leadership positions, or those aspiring to such, and engages participants on issues of human rights, social justice, civic participation and civic responsibility through various critical lenses. Topical issues covered include gender-based violence, mental health, the SDGs, cybersecurity, the fourth industrial revolution and climate change.

The Girls for Girls (G4G) programme is an international mentorship and leadership initiative originating from Harvard, which helps young women to develop the courage,

vision and skills to take on public leadership. The programme includes international speakers and educational content featuring leadership experts; mentorship circles with women leaders and role models; and networking with G4G circles around the world. The programme at UP was launched in 2020, with a first cohort of 62 participants. This was followed by UP's second group of 75 participants in 2021. The programme is a resounding success.

UP has a range of student-led committees and initiatives that create a vibrant student life on campus. Events and projects driven by key committees such as Student Culture, Student Sport and RAG engage the student body and play a role in student development, citizenship and societal contribution. As an example, Enactus UP is a non-profit, student-run organisation that is part of an international community of student, academic and business leaders who use entrepreneurial action to transform lives and shape a better and more sustainable world. Students who join Enactus are encouraged to empower communities through the practical application of their academic, social and emotional skills.

### Enhancing readiness for work

Learnerships and ready-for-work preparatory courses are offered freely to all registered students and new graduates. These contribute towards accessing employment opportunities and building skills for future employment. Additionally, students can engage with potential employers through well-designed events and forums. Student structures provide another avenue to prepare for the world of work, with opportunities for participation in problem-solving and conflict resolution. Important areas of attention are formal training to develop and entrench an entrepreneurial mindset, and to strengthen digital literacy. Both aspects and their related competences are critical for the future world of work.

More details of our approaches and actions towards supporting work readiness are included in the sections “Curriculum transformation” and “Driving sustainable development through our core functions” of this report.



“Students are encouraged to participate in sport, as it is a pathway to becoming balanced individuals – academically and on the sports field.”

## TuksSport: Healthy lifestyles and sporting excellence

UP is renowned for excellence in sport, and is home to more than 30 sporting codes and clubs, recreational participants, club contestants and elite athletes. Our world-class facilities are open to all students, staff members and the local community, and the campus is home to some of the best sporting communities globally.

Sport plays an important part in supporting healthy lifestyles and improving well-being. Students are encouraged to participate in sport, as it is a pathway to becoming balanced individuals – academically and on the sports field. In collaboration with the Student Sports Committee, TuksSport accommodates around 9 000 participants per week throughout the year. Beyond the University, the department serves as a catalyst to develop sport and contribute towards sustainable sport programmes for the broader South African community.



In addition to a wide range of sports clubs, TuksSport provides a comprehensive, high-performance support programme for athletes competing at national and international levels. Services are provided in a vibrant atmosphere and secure environment, and range from scientific and medical testing and fitness, technical and tactical expertise to injury management and psychological support.

Despite sport being significantly affected by COVID-19 pandemic restrictions during the reporting period, the University continued to demonstrate innovation and excellence. UP elite athletes and coaches made up about 33% of the national team at the 2020 Tokyo Olympics and 27% of the national team at the 2020 Paralympic Games. At these events, UP's Tatjana Schoenmaker won the gold medal in the women's 200-metre breaststroke, setting a new world record, while Ntando Mahlangu also set a new record when he won gold in the men's long jump at the Paralympic Games.

At national level, the University successfully hosted events in a bio-secure environment and UP teams won several titles and medals at University Sports South Africa national tournaments, including becoming 2021 Varsity Cup champions in men's rugby and being finalists at the women's Varsity Football championship.



## Alignment with the SDGs

Key:		Nature of our contribution	
Influence:	We contribute to shaping the policy landscape.		
Enable:	We contribute to building capability, which supports implementation.		
Direct:	Our specific outcomes contribute to achieving tangible metrics.		
	1.1.	Eradicate extreme poverty	Enable
	1.2.	Reduce by half people living in poverty	Enable
	1.4.	Equal rights to economic resources	Enable
	1.5.	Build the resilience of the poor and vulnerable	Enable
	2.1.	End hunger and ensure access to safe, nutritious and sufficient food	Direct
	2.2.	End all forms of malnutrition	Direct
	3.3.	End the AIDS, tuberculosis and malaria epidemics	Direct
	3.5.	Prevention and treatment of substance abuse	Direct
	4.3.	Access to affordable and quality tertiary education	Direct
	4.4.	Increase the number of youth and adults with skills	Direct
	4.5.	Eliminate gender disparities and ensure equal access	Direct
	4.7.	Knowledge and skills for sustainable development	Direct
	5.1.	End discrimination against women and girls	Direct
	5.2.	Eliminate violence against women	Direct
	5.5.	Effective participation and equal opportunities for leadership and decision-making	Direct
	5.6.	Universal access to sexual and reproductive health	Direct
	8.1.	Sustain per capita economic growth	Enable
	8.2.	Higher levels of economic productivity	Enable
	8.5.	Full and productive employment and decent work	Enable
	8.6.	Reduce the proportion of youth not in employment, education or training	Direct
	10.1.	Achieve and sustain income growth of the bottom 40%	Enable
	10.2.	Empower and promote economic inclusion	Enable
	16.1.	Reduce all forms of violence and related deaths	Enable
	16.3.	Promote the rule of law at national and international levels	Enable
	16.5.	Reduce corruption and bribery	Enable
	16.6.	Effective, accountable and transparent institutions	Enable
	16.7.	Responsive, inclusive, participatory and representative decision-making	Direct

# TOWARDS A RESILIENT CAMPUS



As South Africa's largest contact University, UP has an extensive geographic footprint and serves as an anchor institution where its primary campuses are hosted. This, along with its nature as an institution for the public good, calls for the University to play a distinctive stewardship role in protecting the environment and co-existing with host communities.

During the period under review, there were no significant changes to UP's size, structure or operating model.

Campus	Erf size in hectares	Gross floor area in m <sup>2</sup>	Assignable m <sup>2</sup>	Number of buildings
Hatfield Campus, ladies' residences and surrounds	64.04	468 257	304 608	245
Hillcrest Campus	293.41	178 780	114 939	250
South Campus	3.10	23 061	16 929	14
Faculty of Health Sciences	5.88	110 069	68 904	44
Groenkloof Campus and residences	40.02	98 008	64 046	30
Mamelodi Campus	20.02	24 982	15 563	15
Onderstepoort Campus and residences	65.83	84 250	47 737	86
Gordon Institute of Business Science	2.23	28 799	21 367	4
Other	670.61	23 765	16 807	49
<b>Total</b>	<b>1 165.15</b>	<b>1 039 971</b>	<b>670 900</b>	<b>737</b>

In 2021, there were over 53 000 enrolled students and a staff complement of around 6 000. The primary campuses that make up the organisational reporting boundary cover some 494 ha, with 688 buildings creating a built-up area of over 1 million m<sup>2</sup>. Activities across the University relate to human existence on the various campuses; the core functions of teaching, learning and research; and operational activities for institutional functioning.

Ensuring effective operations and maintaining infrastructure integrity have been prioritised and are included in UP's top risks, albeit at a medium residual risk level. Key drivers within this risk category are access to sufficient and stable energy and water supplies, along with residual and legacy spatial and infrastructure constraints due to the University's organic growth over the past century. Additionally, the University continues to actively address potential impacts on the surrounding communities and environment through its operational activities, together with the more complex set of risks arising from activities of neighbours that may affect our footprint or shared ecosystems.

Within this context, and managed by the Department of Facilities Management, UP has continued to focus on:

- developing, optimising and repurposing physical infrastructure aligned to the University's planned growth, and ensuring that it is appropriate to the urban context;
- securing high reliability of existing facilities and infrastructure to support the University's functioning, and to provide a human-centred and enabling environment for the University community; and
- addressing current and emerging issues related to environmental sustainability.

Details of our approach towards a resilient campus can be found in the

## Our performance

The key environmental aspects arising from our operations are energy and our carbon footprint; sustainable water use; waste management; and land management with its attendant biodiversity. A dominant feature of the reporting period was the COVID-19 pandemic. The extensive periods of lockdown from the beginning of April 2020

significantly reduced access to the University, with core activities largely being conducted virtually. This was associated with a reduced demand of resources, namely energy and water, and lower levels of waste generation. Through the period, operational activities and practices to support environmental protection were maintained.

## Policies and standards

The policy framework for a resilient campus focuses on issues that are material to our operating context. The suite of institutional policies span safety, health and environment and, where necessary, are supported by relevant plans, guidelines or procedures. Policies are reviewed over a five-year cycle and during the reporting period policy maintenance was undertaken with due diligence.

A list of key policies and ancillary guidelines, along with their currency, is shown in the table.

Policy	Approval / review done
<b>Health and safety</b>	
Policy on Occupational Health and Safety	Approved 2020
HIV and AIDS Policy	Approved 2018
Smoking, Alcohol and Substance Abuse Policy	Approved 2021
<b>Environment</b>	
Environmental Policy	Reviewed 2020 / 2021
Alien Invasive Species Guideline	Approved 2021
Conservation, Restoration and Sustainable Use of Terrestrial Ecosystems Guideline	Approved 2021
Protection of International Union for Conservation of Nature Red-Listed Species Guideline	Approved 2021
Energy Management Policy	Reviewed 2021
Water Management Policy	Approved 2017
Water Management Plan	Approved 2017



The Environmental Policy is supported by standard operating procedures for key environmental issues. Subsequently, after closure of the reporting period, an institutional policy on COVID-19 was approved in March 2022.

Recognising the critical contribution of infrastructure planning, design and reliability to improve sustainability performance, a new set of building standards were approved in 2020. This forms part of a review process beginning in 2018 to continually improve these standards and enhance sustainability performance. A key focus was on heating, ventilation and air conditioning (HVAC) equipment to improve HVAC plant performance for reduced energy consumption.

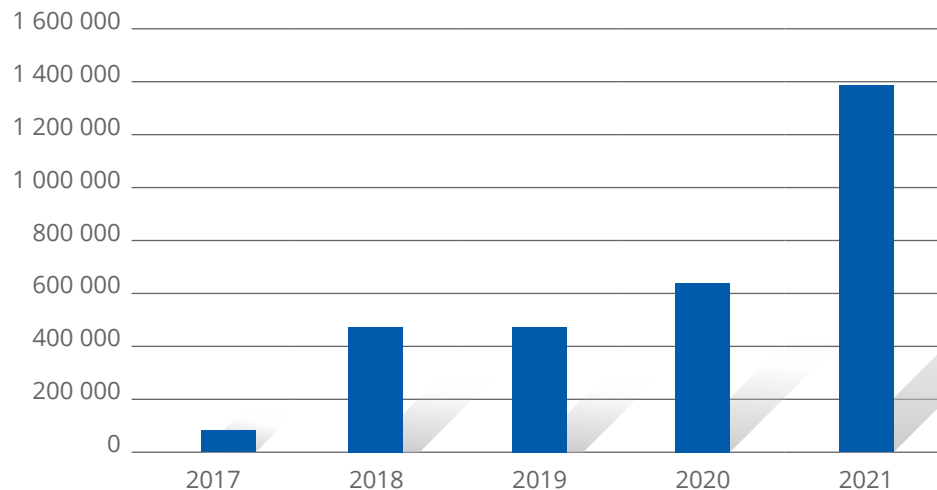
### Managing energy and our carbon footprint

Guided by UP's Energy Management Policy, efforts to progressively improve the University's energy efficiency and conservation continued through 2020 and 2021. Interventions included optimising energy acquisition and mix thereof; prioritising energy-efficiency in new infrastructure developments and when acquiring energy-intensive equipment; planned maintenance; reducing consumption, while improving utilisation and efficiency; and rigorous monitoring at energy supply points. Across the

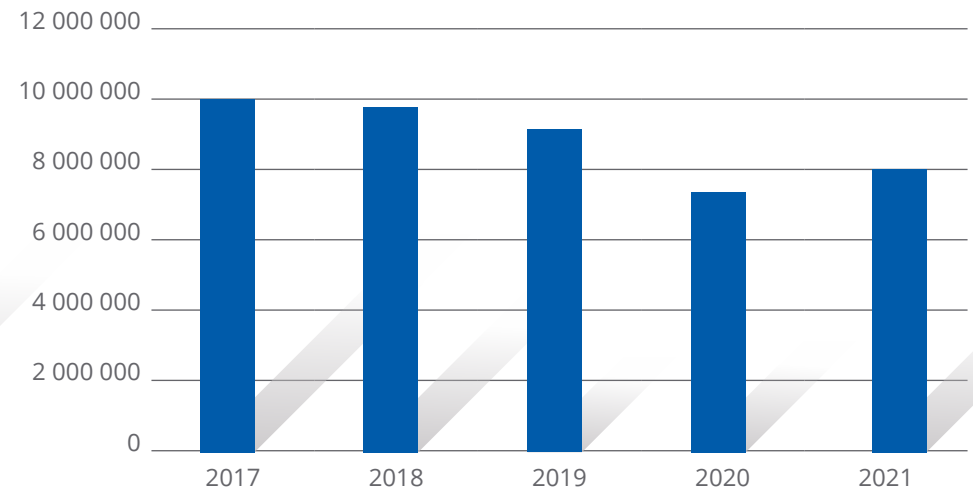
University estate and operations, the Facilities Management team continued to explore opportunities for alternative energy sources, low-carbon technology and renewable energy installations. Overall, the University continues to instil a culture of energy mindfulness and conservation.

In addition to conservation efforts, the University is mindful of energy security to address the ongoing risk of municipal supply interruptions or loadshedding by Eskom, the national power utility. This is primarily through standby generators. Beyond generators, UP has progressively increased alternative supply solutions, notably through a power purchase agreement with an independent solar energy supplier. The initial phase of this solution was the establishment of two plants on the main Hatfield Campus in 2017. The Merensky Building and Technical Services Building installations had a combined energy-generating capacity of 484 000kWh. During the period under review, capacity was progressively scaled with extension of the power purchase agreement and generating capacity for the Future Africa Institute, Engineering 4.0, Building Sciences and Centenary buildings. This represents a doubling of solar energy utilisation from 2020 to 2021, and a three-fold increase from 2019.

Electricity generated by PV (kWh)



Electricity consumption from Eskom (kWh)



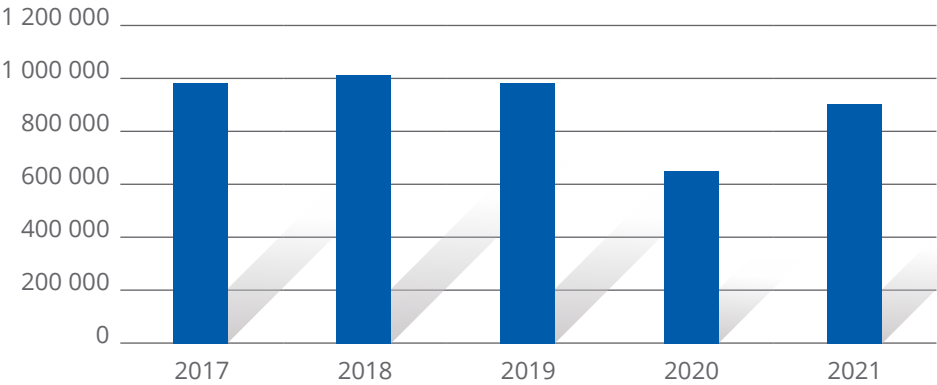
The dramatic reduction of electricity drawn from the national power utility in 2020 is largely due to reduced campus activity from the enforced COVID-19 lockdown. Nevertheless, a downward trend is noted, with a 19% reduction in 2021 from 2017 levels.

In 2021, UP produced its fifth carbon footprint report in terms of greenhouse-gas emissions (GHG). This is in line with our continued commitment to sustainable development and the rigorous application of supportive practices. As with previous reports, the GHG Protocol Revised Accounting Standard (2013) for accounting and reporting is used, applying an operational control approach. Reporting covers the primary campuses described earlier, as our organisational boundary.

We report on Scope 1: direct emissions driven by the UP-owned vehicle fleet and the use of LPG gas in research laboratories; and Scope 2: indirect emissions from the use of purchased electricity. Our confidence levels for Scope 3 data is low, and does not form part of the carbon footprint assessment.



Total elemental carbon emissions (CO<sub>2e</sub>)



Summary of carbon footprint intensity metrics

Intensity metrics	2017	2018	2019	2020	2021
Floor area (m <sup>2</sup> )	980 309	994 998	1 018 878	1 028 931	1 039 970
Total carbon footprint (t CO <sub>2e</sub> )	96 747	100 008	96 935	65 058	88 685
Tonnes CO <sub>2e</sub> /m <sup>2</sup>	0.12	0.10	0.10	0.06	0.09
UP population	60 548	60 184	58 331	59 754	59 754
Carbon footprint (t CO <sub>2e</sub> /person)	1.73	1.65	1.63	1.09	1.48

As with the reduced electricity consumption in 2020, the sharp drop in the 2020 carbon footprint is largely attributable to the prolonged COVID-19 lockdown restrictions during the year. In 2021, with the loosening of restrictions, the University moved closer to a steady state and the recorded carbon footprint is more realistic. It represents a 14% improvement from the 2017 level.

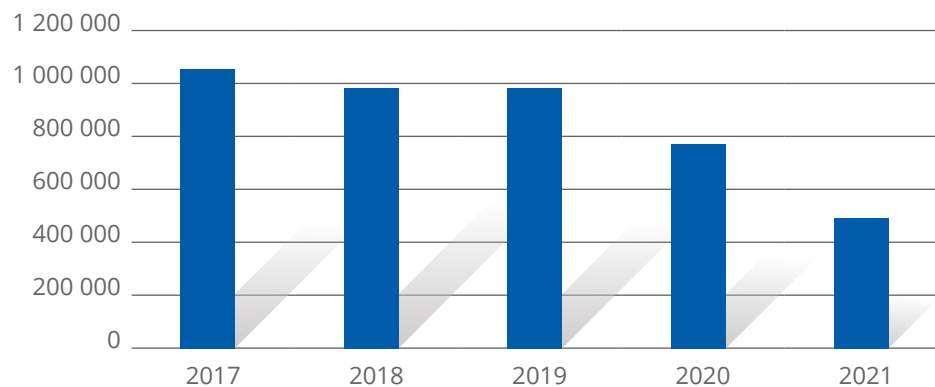
### Sustainable water use

Water use accounts for 15% of the University's utility budget. Consumption is driven by activities on the campus, including laboratory work, grounds maintenance and in its residences. Key initiatives to reduce consumption and optimise use include strengthening a culture of sustainable water use, high-efficiency plumbing systems in new buildings and installations, and preventative and scheduled maintenance with leak detection.

With a considerable geographic footprint of 404 ha, grounds maintenance is a significant driver of demand and requires special attention. Interventions include water-efficient irrigations systems, water-wise gardening and using recovered water. Recovery includes reclamation of water, ensuring that safety specifications are met and harvesting rainwater.

“Interventions include water-efficient irrigations systems, water-wise gardening and using recovered water.”

Municipal water purchased (kL)

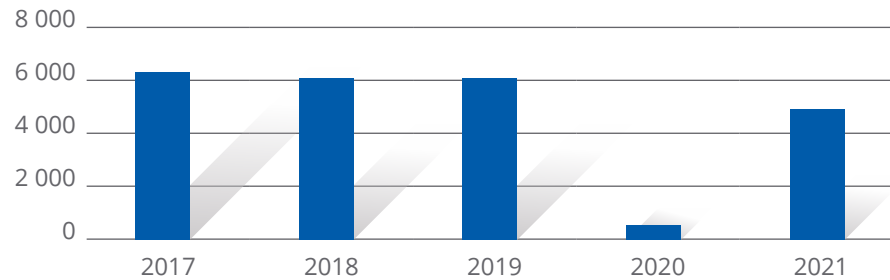


For the past five years, interventions have contributed to a progressive reduction in municipal water purchases. The dramatic year-on-year reductions in consumption for 2020 and 2021 are also attributed to COVID-19 lockdown restrictions, when there were fewer people on campus and residences were closed. Additionally, 2021 saw extremely high rainfall resulting in lower irrigation needs and increased rainwater recovery.

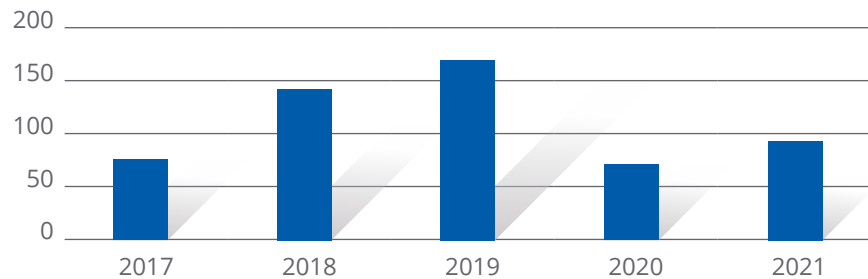
In addition to being a consumer of water, the University also releases effluent into the sewer system at Prinshof campus. The campus has the requisite licence permitting this, and the effluent complies with the relevant standards for release.



General waste to landfill (tonnes)



General waste recycled (tonnes)

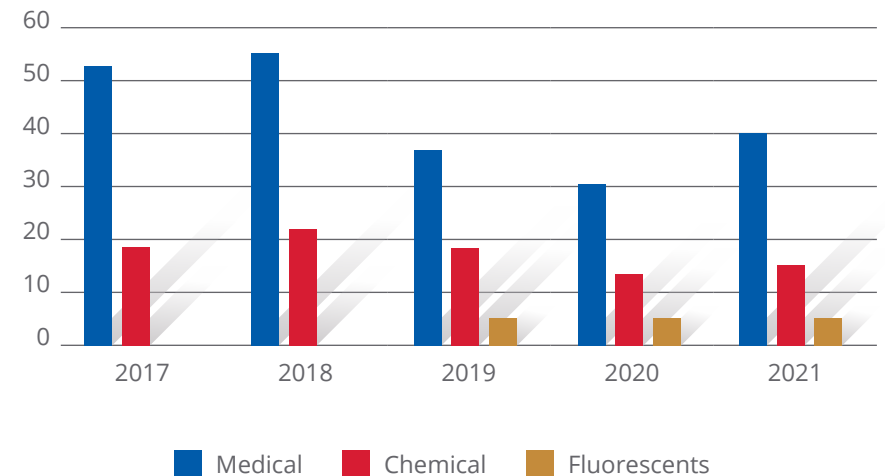


### Waste management

General, hazardous and food waste are the primary forms of waste generated by UP. The bulk of general and food waste is the result of the activities of daily living, while the hazardous waste that is generated is medical or chemical, and is the result of teaching, learning and research functions or of fluorescent tubes used for facility operations.

General waste is managed through reuse or recycling with the aim of reducing landfill waste. The programme for mixed recyclables covers paper, cardboard, cans and bottles, while furniture, e-waste, fluorescent light tubes, mobile phones and toner cartridges have dedicated pathways, using specialist service providers. An initiative is underway to channel and expand food waste to compost development using the Bokashi method.

Hazardous waste (tonnes)



As with other aspects, waste generation in 2020 was extremely low due to COVID-19 lockdown restrictions. 2021 represented a state closer to normal, and with return to normal operations in 2022, it is anticipated that waste generation will increase. Continued efforts to create awareness and a culture of waste management remain important along with holistic approaches towards strengthening a circular economy.

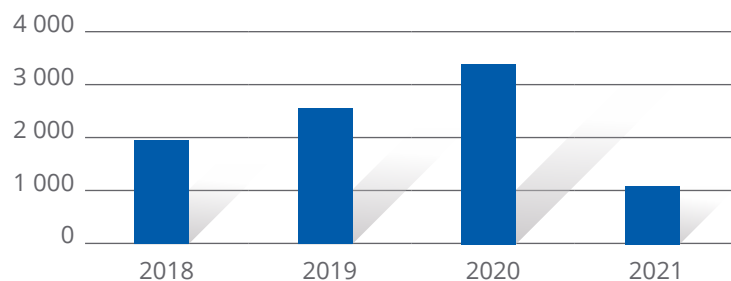
### Land management and biodiversity

With its extensive geographic footprint comprising the built environment, sports fields, recreational areas and gardens, interspersed across host communities with shared terrestrial ecosystems, land management in support of life on land and biodiversity is central to UP's existence.

The management of sports fields and gardens in the estate as well as shared sensitive water ecosystems were discussed in detail in the

. The operational activities outlined continued throughout the period under review, and the organic approach to managing the sports fields has resulted in healthier, more balanced soil. Recovery rates of turf remain favourable, and water requirements have declined. Internal mulch and compost production has continued, albeit with a decline in production during 2021.

Mulch and compost combined (m<sup>3</sup>)

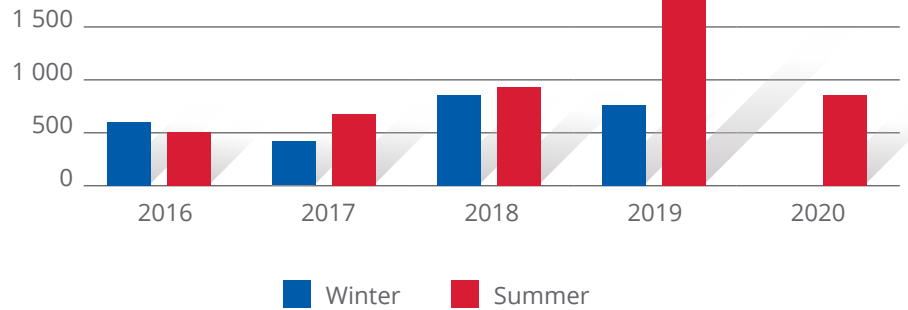


“Following the three-year rehabilitation programme of the Hartebeestspuit running through Hillcrest campus, significant progress has been made with recreating the natural habitat and modifications to cater for storm water impacts from the upstream urban environment.”

The reduction in compost production in 2021 was largely due to reduced green waste from plant material due to lower maintenance requirements of sports fields, due to fewer sporting events and activities.

Following the three-year rehabilitation programme of the Hartebeestspuit running through Hillcrest campus, significant progress has been made with recreating the natural habitat and modifications to cater for storm water impacts from the upstream urban environment. To determine impact, the University undertook seasonal bird censuses from 2016 to 2020, in collaboration with Bird Life Northern Gauteng. The intent was to assess the extent of avi-faunal (birds of a specific region or period) attraction to the affected area.

### Number of bird species recorded



Recording over the 2020 winter season was not undertaken due to hard COVID-19 lockdown restrictions at the time. Overall, a progressive recovery of bird life was confirmed against the 2016 baseline.

An emerging issue identified during the period was the risk of uncontrolled growth of feral cat populations on the various University campuses. Feral cats are descendants of previously domesticated cats that have returned to the wild. A range of problems are associated with unmanaged feral colonies, relating to hygiene, injury and death of cats, nuisance and escalating costs if unmanaged. Mindful that this is a sensitive issue across different stakeholder groups, UP has adopted a Trap-Neuter-Return programme on the various campuses to ensure that the current feral cat population does not grow uncontrollably and create a burden on the surrounding biosphere.










“A progressive recovery of bird life was confirmed against the 2016 baseline.”



## Alignment with the SDGs

Our alignment with the SDGs remains as described in our 2019 Sustainable Development Report. However, progress has been made in reporting on our direct contributions, as reflected in the section on our performance ([see page 46](#)).

Key:	Nature of our contribution		
Influence:	We contribute to shaping the policy landscape.		
Enable:	We contribute to building capability, which supports implementation.		
Direct:	Our specific outcomes contribute to achieving tangible metrics.		
	6.3.	Improve water quality	Direct
	6.4.	Increase water use efficiency	Direct
	6.5.	Integrated water resource management	Enable
	6.6.	Protect and restore water-related ecosystems	Direct
	7.1.	Affordable, reliable and modern energy services	Direct
	7.2.	Increase the share of renewable energy	Direct
	7.3.	Improve energy efficiency	Direct
	8.4.	Improve resource efficiency in consumption and production	Direct
	9.1.	Quality, reliable, sustainable and resilient infrastructure	Direct
	9.4.	Upgrade infrastructure; sustainable and increased resource-use efficiency	Direct
	11.1.	Access to housing and basic services	Direct
	11.2.	Access to sustainable transport systems	Direct
	11.3.	Inclusive and sustainable urbanisation	Direct
	11.4.	Reduce adverse environmental impact of cities	Direct
	11.6.	Protect and safeguard the world's cultural and natural heritage	Direct
	11.c.	Sustainable and resilient buildings using local materials	Direct
	12.2.	Sustainable management and efficient use of natural resources	Direct
	12.3.	Reduce food waste and food losses	Direct
	12.4.	Environmentally sound management of chemicals and all wastes	Direct
	12.5.	Reduce waste generation	Direct
	12.6.	Adopt sustainability practices and integrate sustainability information into reporting cycle	Direct
	12.8.	Information and awareness for sustainable development and lifestyles in harmony with nature	Direct
	15.1.	Conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems	Direct
	15.5.	Reduce degradation of natural habitats and loss of biodiversity	Direct
	15.8.	Prevent and reduce invasive alien species	Direct





TRANSLATING OUR STRATEGY INTO ACTION

Driving  
sustainable  
development  
through our  
core functions





# SUSTAINABLE ECONOMIES

South Africa faces significant economic challenges associated with high levels of poverty, inequality and unemployment. Concomitant and interrelated social and political dynamics increase landscape complexity and the likelihood that these challenges will not be resolved in the short term.

During the reporting period, the landscape was dominated by three broad challenge: the COVID-19 pandemic, with social and economic restrictions imposed to limit the spread of the disease; the prevalence of corruption, as reflected in numerous reports and brought into sharp focus by the Zondo Commission into State Capture; and the failure of state-owned enterprises to support infrastructure and development needs (such as a stable electricity supply), thus serving as a significant drag on national economic development. The combination of challenges has contributed to hindering the country's pursuit of sustainable economies and social cohesion, and made their resolution all the more difficult.

At the same time, the emergence of certain trends became increasingly evident. Particularly important in this context is the changing world of work. Not only are the skills and competences needed for individual and societal success changing, but expectations of how people work are changing too. Different types of knowledge work and the modes of working are likely to evolve dramatically over the next few years, moving away from traditional approaches and choices. As seen during the COVID-19 pandemic, changes to modes of working included shifts to how people work individually and in teams, less office-based and more home-based work, flexibility of scheduling, and the nature of relationships and interactions between service providers and recipients.

The implications to UP are manifold. With escalation challenges confronting us, the need for our meaningful societal contribution toward sustainable economies is more compelling. This ranges from the suite and breadth of capabilities and human capital we contribute to building; the new knowledge we create to enable solutions; and an evidence-informed approach to challenging outdated economic models and concepts, while creating new ones to serve society better. At the same time, economic constraints threaten all sources of funding, limiting the effectiveness of our existing operating models; more innovative and entrepreneurial approaches are required.



Our existing foundation has, however, enabled responsiveness to the disruptions outlined, and continues to position the University for meaningful contribution towards sustainable economies.

## Our performance

Our sustainable economies cluster comprises the Faculty of Economic and Management Sciences (EMS) and the Gordon Institute of Business Science (GIBS). We present our performance in relation to our core functions of teaching, learning, research and engagement.

### Teaching and learning

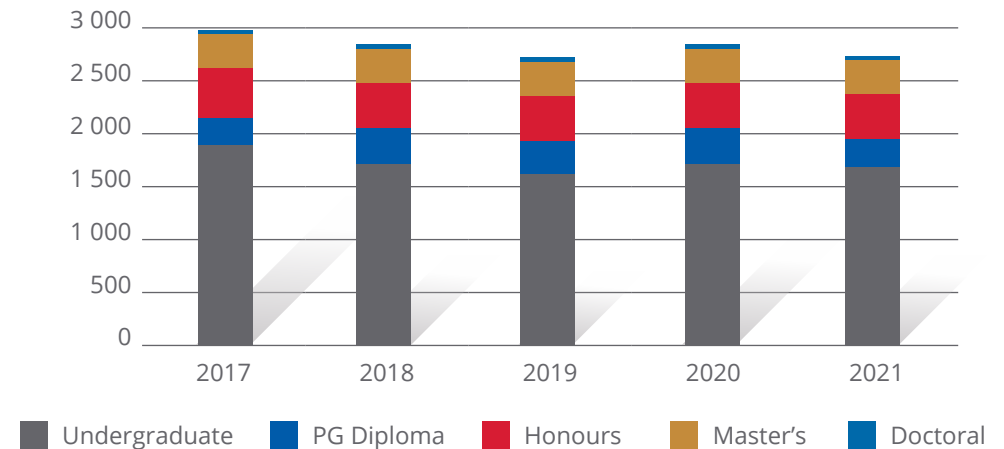
The Faculty of Economic and Management Sciences focuses on the four broad areas of Financial Sciences, Economic Sciences, Management Sciences and Public Administration. Within these fields, programme offerings are progressively optimised as part of curriculum transformation and to keep abreast of changing needs in the world of work. The faculty offers a suite of undergraduate programmes and has focused on expanding its postgraduate programme offerings at postgraduate diploma, honours, master's and doctoral levels. An example which supports building capability in the public sector and enables access to public sector employees is the Postgraduate Diploma in Public Management. The National School of Government recently included the School of Public Management and Administration as a preferred provider for short courses.

In the quest for excellence and ensuring high quality education, the faculty is progressively increasing the number and proportion of staff with doctoral qualifications, and in 2021, some 53% of academic staff had PhDs. This is supported by retaining accreditation with national and international professional and statutory bodies. The Department of Auditing is the only recognised Centre of Excellence for Internal Audit Education in Africa.

During the review period, the faculty focused on implementing the Association of Advancement of Collegiate Schools of Business (AACSB) guidelines and Assurance of Learning (AoL) processes in pursuit of accreditation. Additionally, the faculty sought accreditation from the International Association of Schools and Institutes of

Administration (IASIA) for the Master in Public Administration (MPA) programme. In addition to high quality programmes, support for student success is provided through innovations in teaching modes, such as the shift to online and hybrid teaching throughout the COVID-19 pandemic, and the contribution of faculty student advisors. Total student graduations at all levels are shown below.

### Graduate output (EMS)



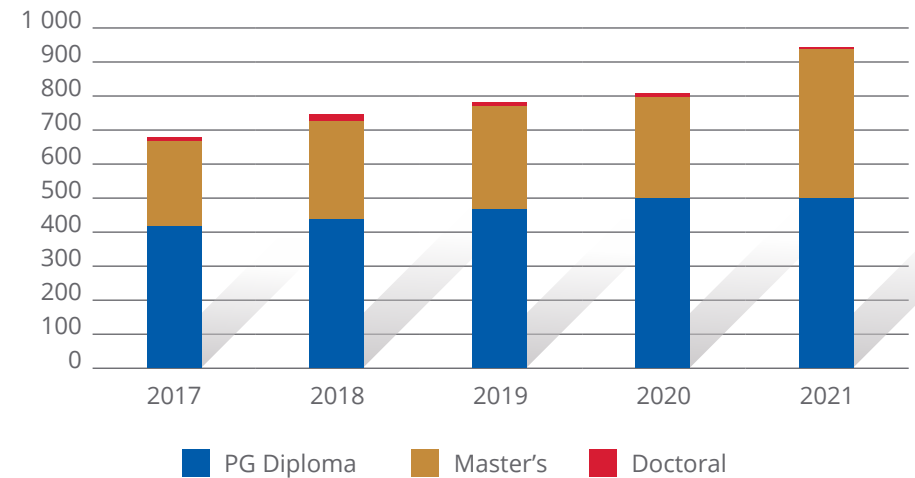
“In the quest for excellence and ensuring high quality education, the faculty is progressively increasing the number and proportion of staff with doctoral qualifications.”

GIBS is a globally recognised provider of business and executive education to corporate entities and individuals, developing responsible leaders and enabling business as a force for good. Its three arms of Academic Education (AE), Corporate Education (CE) and Social Education (SE) are underpinned by embedding a culture of innovation and collaboration, and emphasise the role of the SDGs in driving its approach. Almost 80% of academic staff have doctoral qualifications, thus being at the frontier of business knowledge and ensuring a high quality education.

With a focus predominantly in the area of general management, GIBS programmes have historically served post-experience students through the MBA, specialist master's programmes, DBA and PhD, as well as customised academic programmes for corporate education. This has been expanded to include pre-experience and early-career students with the introduction of comprehensive postgraduate diploma offerings. Groups served include large corporates, state-owned enterprises, entrepreneurs and small businesses from South Africa and the broader African continent.



## Graduate output (GIBS)



## Research

The EMS Faculty demonstrates research leadership through the Albert Luthuli Leadership Institute (ALLI), the African Tax Institute and the Unit for Forensic Accounting. Along with functional research in their particular areas, the entities also support the University's transdisciplinary agenda. The faculty also holds the South African Research Chairs Initiative (SARChI) Chair in Policy and Governance, and the South African Reserve Bank Chair in Monetary Policy Studies.

ALLI has particularly close associations with sustainable development and the SDGs. The institute views ethical leadership as a critical catalyst and enabler of transformation, and focuses on shaping current and future leaders for just social, economic and environmental development that transforms society and the natural environment. It is also home to the South African SDG Hub and SDG Policy Support Initiative. The hub aggregates the best and most relevant research on the SDGs from South African and selected non-South African universities. The focus is on using machine learning to make research more accessible to policymakers.

The initiative acts as a coordinating mechanism that brings experts from academia together with the Presidency of South Africa to support evidence-informed policymaking.

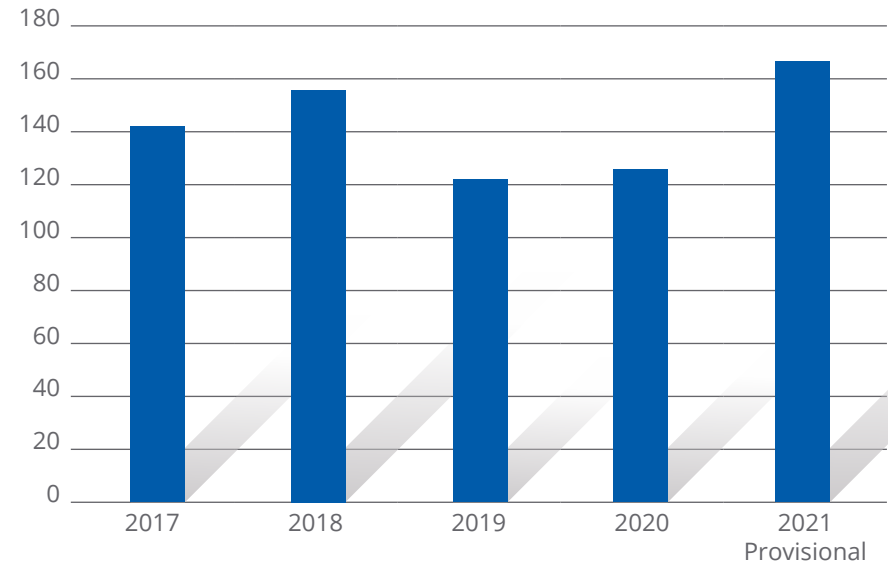
During 2021, the University approved the establishment of the Centre for the Future of Work, which was launched this year. The centre will serve as a portal for new insights, interpretations and research that are imperative to the future of work in the public and private sectors. It will be inclusive of various disciplines, and span faculty and institutional boundaries.

Along with a clear focus on business in the context of society, GIBS has seen a shift towards the increasing importance of scholarly research. Over the past five years, capacity and capability to increase research output has been strengthened through developing faculty research skills, establishing a community of research associates dedicated to research, and investing in doctoral programmes.

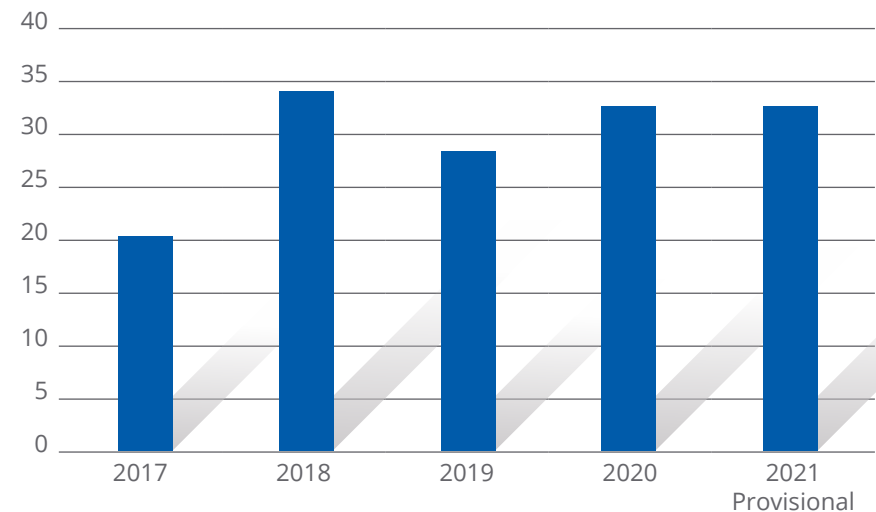
Research and development is driven by five centres of excellence: The Centre for African Management and Markets; the Centre for Business Ethics; the Centre for Leadership and Dialogue; the Personal and Applied Learning Centre; and the Entrepreneurship Development Academy. GIBS also hosts the Media Leadership Think Tank and the Responsible Finance Initiative. All have a sustainable development and SDG focus, with contextualisation to South Africa and the African continent.

From 2017, a step change in research outputs was achieved and maintained. Further initiatives are planned for the next step change towards socially impactful research, and leveraging from GIBS' position as it operates at the intersection of scholarship and practice.

Annual research units (EMS)



Annual research units (GIBS)







## Engagement

The EMS Faculty is focused on using the skills of staff and students to uplift communities by way of economic development activities and by encouraging economic literacy. Community engagement is integrated into the curriculum, and departments within the faculty lead specific community improvement projects. For example, the Department of Economics is involved in numerous projects related to economic development, and has provided economic literacy courses to government officials. The Department of Auditing hosts an annual Internal Auditing student seminar for students from all tertiary institutions. The faculty's Link-a-School project aims to build relationships with identified schools in the Pretoria region, in the form of functions and information sessions.

The Mamelodi Business Clinic, established in 2011, continues to tackle high levels of youth employment in Mamelodi by helping township entrepreneurs to grow their businesses. The clinic offers entrepreneurship mentoring, training, business advice and counselling processes. Formal students also participate and interact with informal sector entrepreneurs.

In 2020, the Centre for Entrepreneurship launched a free National SMME Support Portal to support and enhance small-business continuity in South Africa during the

COVID-19 pandemic. Through the portal, professional services and resources can be accessed online, contributing to efforts to rescue the country's economy.

At an international level, the faculty is involved with several agreements. The most prominent include student exchange programmes with Fordham University, Nanjing Audit University and Coventry University.

GIBS is a signatory to the United Nations' Global Compact's Principles for Responsible Management Education (PRME) initiative. It is also a member of the PRME Champions group. The aim of PRME is to integrate the UN SDGs into business school research, teaching and other activities. This mobilises and enables current and future business leaders to contribute and collectively deliver on key SDG imperatives. Recently GIBS was appointed a member of the founding committee of the PRME Chapter Africa, working together with colleagues from business schools and universities across the African continent, including institutions in Egypt, Ghana, Nigeria and Kenya. The founding committee is tasked with establishing a permanent chapter, with governance structures, network partners and active member engagement. In 2021, GIBS was the recipient of the PRME SIP Award for Excellence in Reporting. The award is for the GIBS PRME 2019-20 SIP Report, and is based on signatory reports which share information of progress (SIP).

## Alignment with the SDGs

Key:	Nature of our contribution		
Influence:	We contribute to shaping the policy landscape.		
Enable:	We contribute to building capability, which supports implementation.		
Direct:	Our specific outcomes contribute to achieving tangible metrics.		
	1.1.	Eradicate extreme poverty	Enable
	1.2.	Reduce by half people living in poverty	Enable
	1.5.	Build the resilience of the poor and vulnerable	Enable
	1.b.	Create sound policy frameworks	Influence
	4.3.	Access to affordable and quality tertiary education	Direct
	4.4.	Increase the number of youth and adults with skills	Direct
	4.5.	Eliminate gender disparities and ensure equal access	Direct
	4.7.	Knowledge and skills for sustainable development	Direct
	5.5	Effective participation and equal opportunities for leadership and decision-making	Direct
	8.1.	Sustain per capita economic growth	Influence
	8.2.	Higher levels of economic productivity	Influence
	8.3.	Promote development-orientated policies	Influence
	8.5.	Full and productive employment and decent work	Influence
	8.6.	Reduce the proportion of youth not in employment, education or training	Direct
	8.10.	Strengthen the capacity of domestic financial institutions to expand access to services	Influence / enable
	10.1.	Achieve and sustain income growth of the bottom 40%	Influence
	10.2.	Empower and promote economic inclusion	Influence
	10.4.	Fiscal, wage and social protection policies for greater inclusion	Influence
	10.6.	Representation and voice for developing countries in global economic and financial institutions	Influence
	16.3.	Promote the rule of law and equal access to justice	Enable
	16.5.	Reduce corruption and bribery	Enable
	16.6.	Effective, accountable and transparent institutions	Influence
	16.7.	Responsive, inclusive, participatory and representative decision-making	Influence
	16.8.	Participation of developing countries in the institutions of global governance	Influence
	16.a.	Strengthen relevant national institutions	Enable
	17.3.	Mobilise additional financial resources for developing countries from different sources	Enable
	17.4.	Long-term debt sustainability of developing countries	Influence
	17.9.	Effective and targeted capacity-building in developing countries	Direct
	17.13.	Policy coherence and policy coordination for macroeconomic stability	Influence
	17.17.	Effective public, public-private and civil society partnerships	Direct
	17.18.	Availability of high quality, timely and reliable data	Direct
	17.19.	Develop measurements of progress on sustainable development	Direct

# LIFE, OUR PLANET AND TECHNOLOGY

The life, planet and technology cluster spans the natural, agricultural, medical and health sciences, and engineering and technology. Collectively, these sciences have historically played, and continue to play, a fundamental role in human and societal development. When applied to the public good, existing and new scientific knowledge helps to satisfy many basic human needs, improve the quality of life and human existence, and bring solutions to many of the problems we face. This is evident in their broad coverage and connectedness across the SDGs.

Beyond development, these disciplines also play a critical role in societal protection, enabling responsiveness to threats and disruptions as seen with the COVID-19 pandemic. The pandemic is particularly illustrative in that it traverses all fields of science and, as it unfolded, knowledge from each field, along with evidence-informed interventions, contributed to mitigating its societal impact. Similarly, knowledge-driven changes to practices and the development of new technologies are necessary to prevent climate change, protect the planet, adapt to its negative consequences and build system resilience.

Notwithstanding the contributions of science and technology in responding to the COVID-19 pandemic, it is well recognised that over the past two years, progress towards achieving the SDGs by 2030 has been considerably stunted. In some instances,



progress has been reversed. To regain momentum and accelerate progress towards their achievement, a step change in trajectory is needed, through positive and intentional disruption with science and technology as agents of transformation and change. Key to achieving the needed transformational shift is capitalising on digital technology and leveraging the fourth industrial revolution (4IR).

Broadening access to technology, building capability for its development and application, and just and effective use for societal development are all critical if we are to make headway in achieving the SDGs by 2030. This applies to how we operate as a university, as well as to the impact we have through our core functions of teaching, learning, research and engagement. Anchored by our commitment to transdisciplinarity, we recognise that in developing and using technology, it must be human-centred and culturally appropriate, incorporating indigenous knowledge systems and beliefs.

## Our performance

Our Faculties of Health Sciences, Veterinary Science, Natural and Agricultural Sciences, and Engineering, the Build Environment and Information Technology (EBIT) make up the life, planet and technology cluster.

Across UP, we have distinct areas of excellence within the faculties, indicating the University's broader potential for high-value societal contributions. To realise this potential, it is important for all areas to demonstrate excellence, and for greater integration and collaborative work across functions. This is ongoing as we pursue internal partnering and transdisciplinary approaches.



We present our performance in relation to our core functions of teaching, learning, research and engagement.

Teaching and learning

Undergraduate and postgraduate programmes across the cluster address scarce skills needs for the country and broader African continent.

Through its Schools of Engineering, Information Technology, the Built Environment and the Graduate School of Technology Management, the EBIT Faculty produces almost one-third of South Africa’s engineering graduates. Degrees are accredited by national and/or international statutory and professional bodies. The faculty is globally recognised, particularly in the fields of engineering and technology.

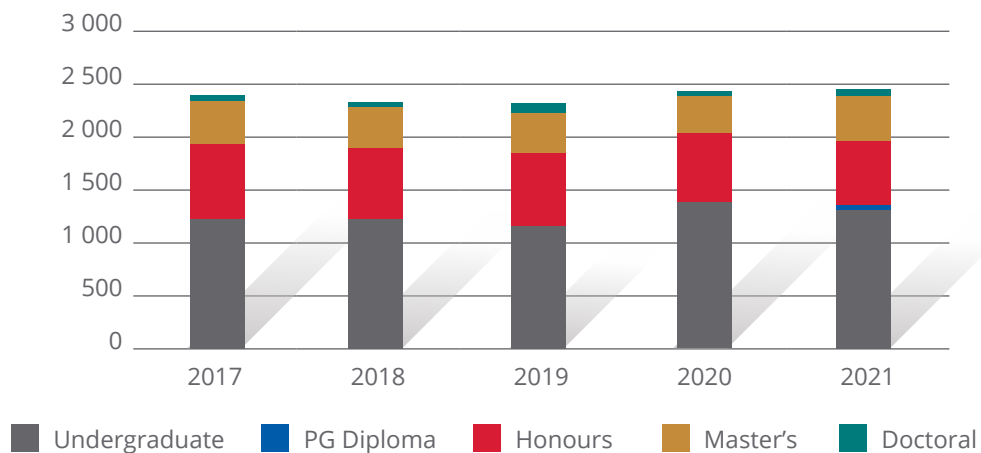
The fit-for-purpose hybrid teaching model has been adopted and adapted to meet changing needs and continues to evolve through innovations that bring the world of work to the “lecture room”. Successful and high quality outcomes are supported by superb laboratory facilities and a high academic staff complement with PhDs (67%). Academic activities and subject areas are human-centred, and are closely linked to sustainable development and to accelerated achievement of the SDGs. While the majority of SDGs are addressed, there is a particular focus on water, energy, industry and infrastructure, responsible consumption and production and sustainable cities.

The Faculty of Health Sciences has a long history of excellence in the education of healthcare professionals, and is a significant contributor towards South Africa achieving SDG3. Its Schools of Dentistry, Health Care Sciences, Medicine, and Health Systems and Public Health comprehensively cover the suite of professions in the health sector.

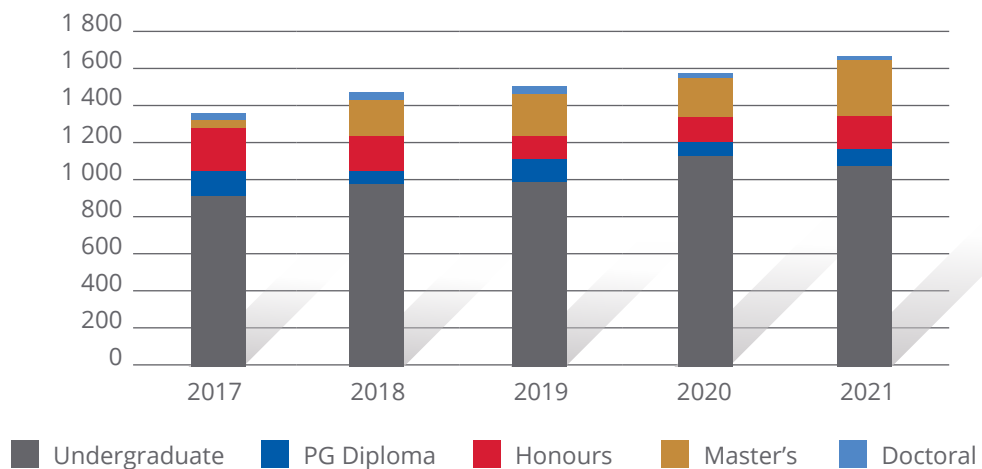
Professional education is integrated with practical training and service work in teaching facilities, and a significant component of staffing is through joint appointments with provincial government and the National Health Laboratory Services; 58% of academic staff hold a doctoral qualification.

Key aspects of curriculum transformation in the medical and health sciences are the application of technological advances and embedding a transdisciplinary approach in teaching and learning. Technology is leveraged to advance teaching methods, and to ensure that students are kept abreast of technological advances and are at the frontier of knowledge and practice in their professional fields. The importance of a transdisciplinary approach is exemplified by the University’s prioritisation of One Health which acknowledges that the interface between the environment and all forms of life plays a significant role in human health.

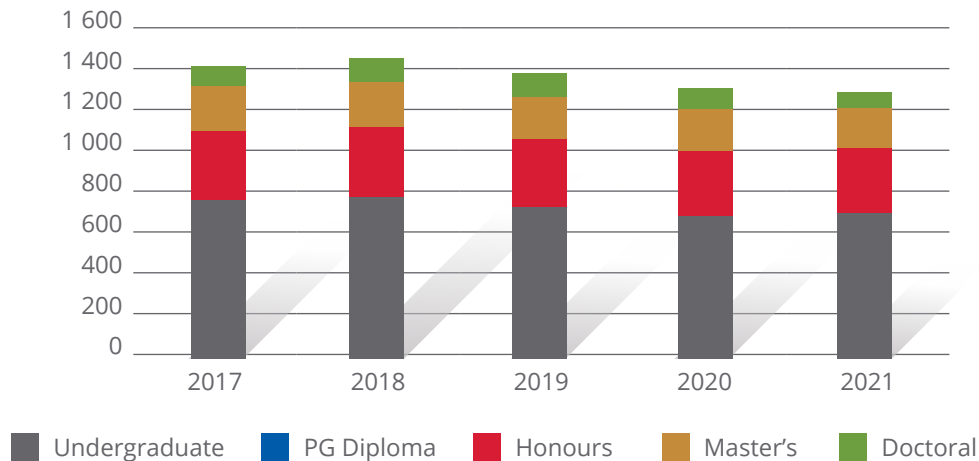
Graduate output (EBIT)



Graduate output (Health Sciences)



## Graduate output (NAS)



Departments in the Faculty of Natural and Agricultural Sciences (NAS) are organised into four academic and research clusters: agricultural and food sciences; biological sciences; mathematical sciences; and physical sciences. These clusters work cross-functionally, and offer a broad spread of undergraduate and postgraduate programmes. These continue to be rationalised, consolidated or extended as the landscape evolves. Certain specialised programmes, however, provide a distinct advantage, such as meteorology, in that UP is the only institution on the continent that offers degrees in this field.

For the period, undergraduate teaching and learning focused on three key elements: the curriculum; staff development and support; and student success and support. Strengthening integration of indigenous knowledge, sustainable development and the SDGs, and community engagement in appropriate modules continued. Staff development has been a critical component of ensuring high quality education and excellence, and contributes to student success. In fact, 86% of academic staff have a doctorate degree, and in 2020, a Community of Practice for emerging scholars was initiated.

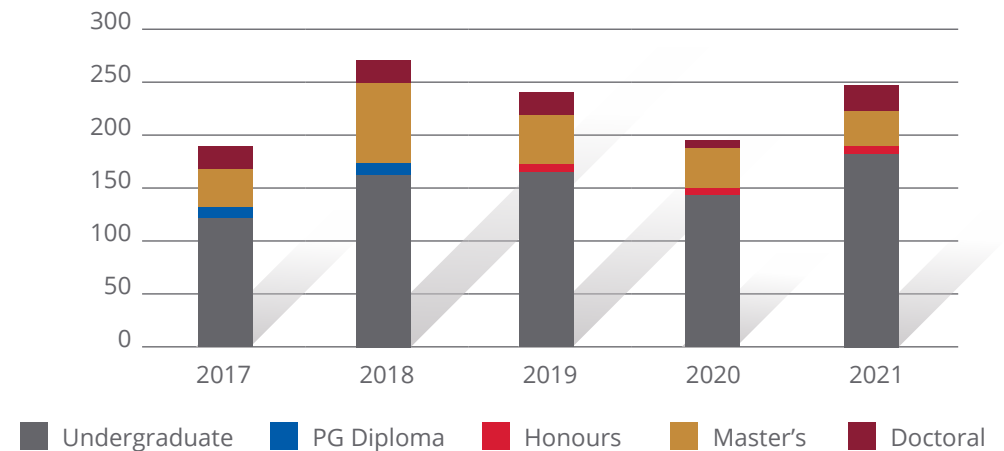
As with other faculties, there was a successful transition from emergency online teaching to a hybrid model of teaching and learning as the pandemic evolved. Evaluation of the optimal mix of face-to-face and online activities in different disciplines is ongoing.

The Faculty of Veterinary Science is the only such faculty in South Africa, and is ranked number one in Africa. The veterinary degree (BVSc) is recognised for excellence, and is accredited for automatic registration of graduates in the United Kingdom, Netherlands, Australasia and a number of African countries.

The faculty offers two undergraduate degrees, the BVSc degree and the recently introduced veterinary nursing degree (BVetNurs), complemented by postgraduate diplomas, master's and doctoral degree programmes. Some 45% of academic staff hold a doctoral qualification.

The professional master's programme (MMedVet) is accepted for specialist registration by the South African Veterinary Council. The faculty is currently exploring accreditation with the American Veterinary Medical Association.

## Graduate output (Veterinary Science)



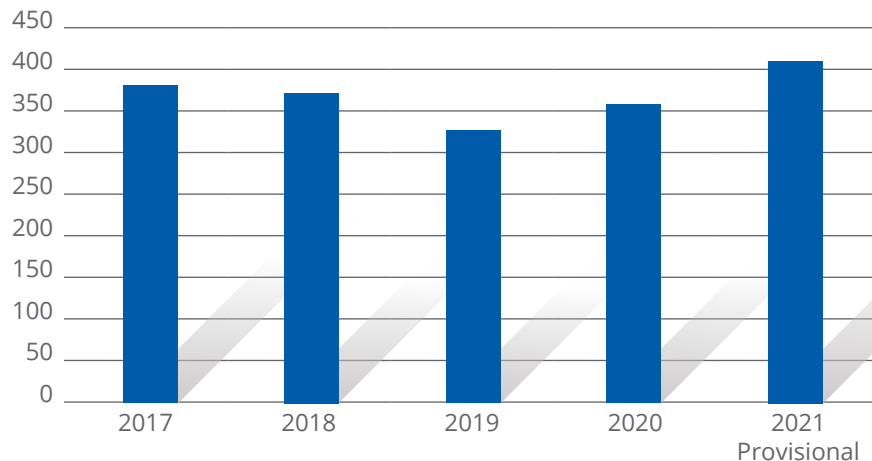
## Research

EBIT is the only faculty in the South African higher education sector to house the unique combination of disciplines related to engineering, built environment and information technology in a single faculty. This positions it to pursue an integrated research strategy that addresses the challenges of the 4IR and span a disciplinary to transdisciplinary spectrum.

The faculty has six broad research themes: water and environmental engineering; minerals and material beneficiation; 4IR; smart cities and transportation; big data science, ICT and technology innovation management; and energy. Each research theme is inherently transdisciplinary in nature, and has direct links to multiple SDGs. The themes are held together by an integrated approach, all harnessing innovation and the 4IR for synergistic integration of technologies, people and processes. This holistic view is critical to the country's competitive positioning and accelerated achievement of the SDGs.

Research is led by a constellation of 20 Industry and SARCHI Research Chairs across different industry sectors, and 15 research entities. These attract high quality students, staff and potential partners and collaborators. In 2021, the faculty was home to over 100 NRF-rated researchers, a near doubling of the faculty's 2015 complement of rated researchers. The faculty has strong collaborative relationships with select academic institutions and industry partners.

Annual research units (EBIT)



“In 2021, the faculty was home to over 100 NRF-rated researchers, a near doubling of the faculty’s 2015 complement of rated researchers.”



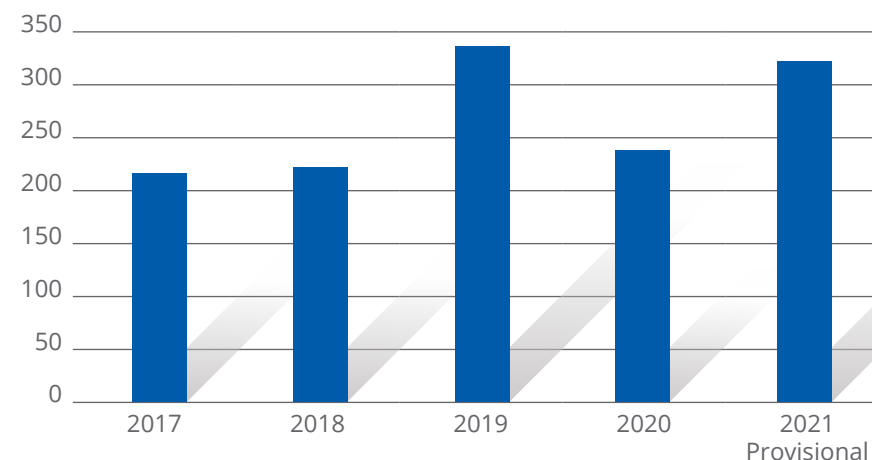
The Faculty of Health Sciences has an established history of basic science, clinical and transdisciplinary research that cuts across UP's institutional themes and the different domains of sustainable development: fair and sustainable economies; plant, animal, and human life and well-being; natural resources and the environment; democracy, inequality, social justice and cultural identity; and science, technology and infrastructure. The faculty hosts 11 research institutes, centres and units, with high research productivity and impact. Over 90% of accredited publications are in international journals.

The faculty has prioritised technology-enabled initiatives and expanded outreach to the broader community. This is done through a transdisciplinary and platform-based approach which draws in skills, competences and interest from different disciplines and sectors. Important examples include technology-inspired platforms introduced in 2020 to leverage the 4IR and technological advancements in developing skills and the delivery of healthcare; the rural population research platform which has hosted human and environmental health research for the past 14 years; and the internationally recognised urban population research platform that brings health and other professionals and organisations together in defined geographic areas for integrated primary healthcare solutions that address specific health needs.

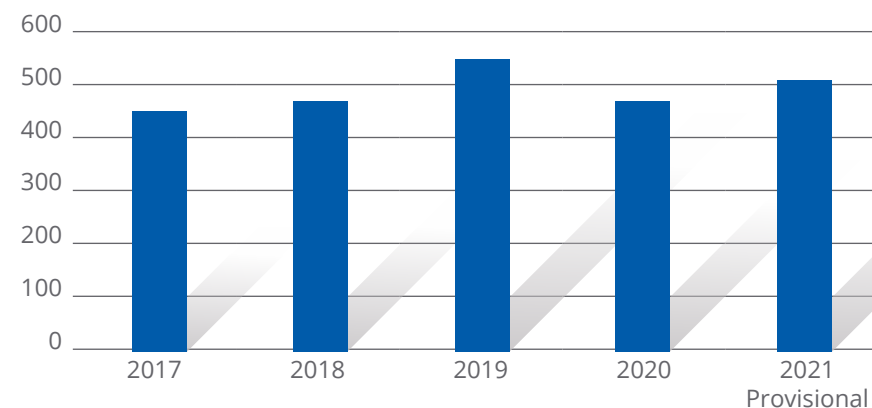
The NAS Faculty is renowned for its expertise in forestry and agriculture, food systems, biotechnology, life sciences, and mathematical and statistical sciences. It houses four research institutes and six research centres supported by eight SARCHI Chairs and 12 Industry Chairs. The Centre for Microbial Ecology and Genomics, the UP Natural Hazard Centre and the Mammal Research Institute are all world renowned.

The faculty's research focus areas and priorities comprise the following themes: agriculture; big data and data science; environmental sciences; infectious diseases; physical sciences; and traditional medicines and natural products. The broad range of disciplines in the faculty enables it to tackle interdisciplinary problems and find solutions to complex issues in modern society. These include, among others, the sustainability of food production and food security, and cures for locally and globally significant diseases such as tuberculosis, HIV/AIDS and malaria. Research is targeted and underpinned by the innovative use and development of technology.

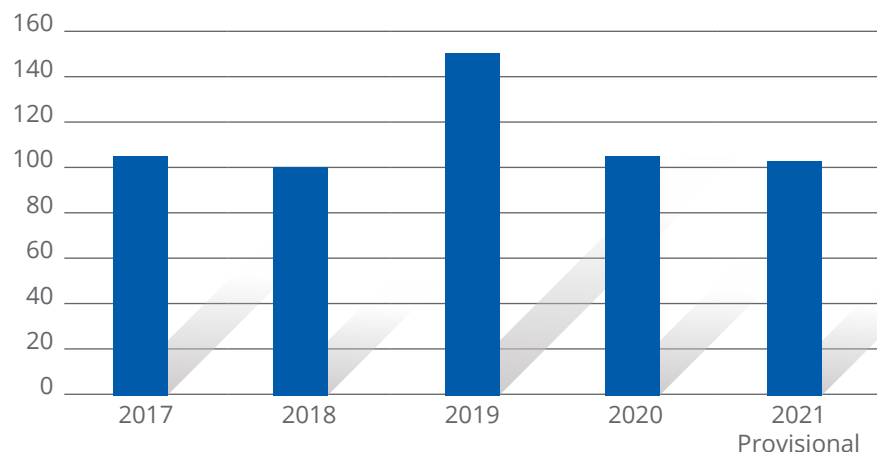
Annual research units (Health Sciences)



Annual research units (NAS)



## Annual research units (Veterinary Science)



The faculty's 214 NRF-rated researchers, eight of whom are regarded as leading international researchers (A-rated), is evidence that it is ensuring research excellence and impact. Over 90% of accredited publications are in international journals.

The Faculty of Veterinary Science focuses on clinical and non-clinical research. Clinical research addresses locally relevant issues, while non-clinical research is broader and of high impact, focusing on diseases of economic importance. Such high-impact research is of particular relevance to emerging farmer development in support of developing the rural economy and activities of the national Department of Agriculture, Land Reform and Rural Development.

The Onderstepoort campus has a complete suite of animal research facilities, with opportunity for extending its capability given its position as the only veterinary faculty in the country. The Hans Hoheisen Wildlife Research Station is the faculty's satellite facility in the Kruger National Park and has been the core of its One Health focus over the past decade. It presents numerous opportunities for disease research and the study of potentially new and emerging zoonotic diseases.

The faculty has four research centres, focusing on veterinary wildlife, equine research, exotic leather and veterinary genetics. With the faculty's attention placed on high-impact diseases and the increasing importance of zoonotic diseases on public health, establishment of a Centre for Biosecurity and Disease Risk Assessment is underway.

### Engagement

Community engagement is integrated into the curricula modules of all faculties in the cluster. The EBIT Faculty's Joint Community Project (JCP) has been particularly successful. It is a compulsory module for all graduates and is credit-bearing, with students actively engaging in interpersonal skills development and participating in service-learning activities in collaboration with community partners. All JCP projects are locally contextualised and relate to the 17 SDGs. They address issues of social justice and social policy, rather than being solely charitable initiatives.

The Faculty of Health Sciences' Community-Orientated Primary Care (COPC) learning platform takes healthcare students into the streets, homes, childcare establishments



and schools where people live, work and play. In the Longitudinal Community Attachment Programme, undergraduate medical students have an attachment as part of every block from the middle of their first year of study to the middle of their fifth year. Community-based learning is also a requirement for postgraduate students.

In 2020, the Department of Family Medicine developed a series of animated videos to educate the public about COVID-19. Titled *Our Health is in Our Hands*, the video series is freely accessible to communities across the country. Providing knowledge on protecting against the disease, preventing spread and what to do if symptomatic, the initiative seeks to empower people to take charge of their own health and the health of the people around them.

One of the NAS Faculty's largest community engagement initiatives is the science centre, Sci-Enza. Free to the public, Sci-Enza provides a range of exciting activities for learners of all grades. With over 200 interactive exhibits, hands-on learning is encouraged through shows and workshops to discover the wonders of science. Activities include science programmes, robotics and coding, and planetarium shows.

The Faculty of Veterinary Science is part of a network of stakeholders in the Mnisi Community Project (MCP). Other stakeholders include the Mnisi Traditional Authority, the Department of Animal and Wildlife Sciences, Mpumalanga Veterinary Services

within the Mpumalanga Department of Agriculture, and the Mpumalanga Tourism and Parks Agency. The project is at the human/animal (livestock and wildlife)/ecosystem interface, where the Mnisi community of semi-pastoralists is exposed to a range of challenges within their rural environment. Through the MCP, action and solution-orientated research and protective initiatives are undertaken to optimise the health and well-being of the community and their livestock.

“Community engagement is integrated into the curricula modules of all faculties in the cluster.”



## Mamelodi Campus: strategic Positioning across the spectrum of our institutional goals

Through its role and location in the heart of Mamelodi township, Mamelodi Campus is strategically positioned to contribute to UP's institutional goals. The campus serves as an anchor institution for Mamelodi and is designated as UP's Social Innovation Hub.

A seamless transition from secondary school to graduation at tertiary level is central to increasing student access to UP, attaining a transformed University community, and improving academic success. This is enabled by Mamelodi Campus's integrated approach of the Pre-University Academy (PUA), Extended Curriculum Programmes (ECPs) and transitioning students into mainstream degree programmes.

In collaboration with the District Management Team as well as principals and mathematics and science departmental heads of the 20 Mamelodi feeder schools, the PUA focuses on post-secondary school readiness and awareness; teacher development and engendering scientific literacy. For the 2021 academic year, the PUA targeted 700 Grade 8 to Grade 12 learners through face-to-face Saturday lessons or virtual interactions for those unable to attend the campus programme. Lessons are delivered by highly qualified teachers, three of whom hold PhD degrees in specialised education fields.

The ECPs focus on bachelor degrees in the natural and agricultural sciences, on commerce, and on drawing teaching and learning support from the respective faculties.

As with other faculties, Mamelodi Campus was able to effectively navigate the shift to virtual teaching and learning during COVID-19 pandemic lockdowns, at the same time retaining a student-centred approach. Notably, the campus has an active team of faculty student advisors. Their success is underpinned by establishing strong relationships with individual students, data-driven identification of at-risk students, and an effective referral system for academic support.

In addition to a strong focus on teaching and learning, Mamelodi Campus undertakes research in support of the institutional goal on research, international profile and global engagement. Seven staff members have embarked on postgraduate studies at master's and doctoral levels, and the campus hosts a staff development mentorship programme in collaboration with the University of the Western Cape, the University of Missouri and Rutgers University, Newark.

To address sustainability and achieve the institutional goal of social responsiveness and societal impact, the campus draws on its integrated efforts in teaching, learning, research and engagement with the Mamelodi Community of Learning Collaborative. Through teaching, learning and research, the capability of community members is developed, which in turn contributes to societal upliftment. Stakeholder engagement is characterised by mutually beneficial relationships focusing on relevant issues, and collaboratively developing solutions.

A detailed case study on Mamelodi Campus can be found in the



## Alignment with the SDGs

### Key:

Influence:

Enable:

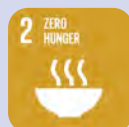
Direct:

### Nature of our contribution

We contribute to shaping the policy landscape.

We contribute to building capability, which supports implementation.

Our specific outcomes contribute to achieving tangible metrics.



2.1.	End hunger and ensure access to food all year round	Influence / enable
2.2.	End all forms of malnutrition	Influence / enable
2.3.	Increase agricultural productivity and incomes of small-scale food producers	Enable
2.4.	Sustainable agri practices/food production systems	Influence / enable
2.5.	Maintain genetic diversity	Influence / enable



3.1.	Reduce maternal mortality	Direct
3.2.	Reduce neonatal and infant mortality	Direct
3.3.	End the AIDS, tuberculosis and malaria epidemics	Direct
3.4.	Reduce premature mortality from NCDs	Direct
3.5.	Prevention and treatment of substance abuse	Direct
3.7.	Universal access to sexual and reproductive healthcare	Direct
3.b.	Research and development of vaccines and medicines	Direct
3.d.	Strengthen capacity for national and global health risks	Direct



4.3.	Access to affordable and quality tertiary education	Direct
4.4.	Increase the number of youth and adults with skills	Direct
4.5.	Eliminate gender disparities and ensure equal access	Direct
4.7.	Knowledge and skills for sustainable development	Direct



5.5.	Effective participation and equal opportunities for leadership and decision-making	Direct
5.6.	Universal access to sexual and reproductive health	Direct
5.b.	Use of enabling technology, particularly ICT	Enable



6.1.	Access to safe and affordable drinking water	Influence / enable
6.2.	Access to safe and equitable sanitation and hygiene	Influence / enable
6.3.	Improve water quality	Influence / enable
6.4.	Increase water use efficiency	Influence / enable
6.5.	Integrated water resource management	Influence
6.6.	Protect and restore water-related ecosystems	Influence / enable



7.1.	Affordable, reliable and modern energy services	Influence / enable
7.2.	Increase the share of renewable energy	Influence
7.3.	Improve energy efficiency	Direct



8.1.	Sustain per capita economic growth	Enable
8.2.	Higher levels of economic productivity	Enable
8.4.	Improve resource efficiency in consumption and production	Enable
8.5.	Full and productive employment and decent work	Enable
8.6.	Reduce the proportion of youth not in employment, education or training	Direct



9.1.	Quality, reliable, sustainable and resilient infrastructure	Influence / enable
9.2.	Inclusive and sustainable industrialisation	Enable
9.4.	Upgrade infrastructure and retrofit industries	Direct
9.5.	Enhance scientific research and technological capabilities of industrial sectors	Enable / direct
9.b.	Domestic technology development, research and innovation	Influence / enable
9.c.	Increase access to ICT and the internet	Influence / enable



11.1.	Access to housing and basic services	Enable
11.2.	Access to sustainable transport systems	Enable
11.3.	Inclusive and sustainable urbanisation	Influence / enable
11.4.	Protect and safeguard the world's cultural and natural heritage	Influence / enable
11.5.	Reduce impact of disasters	Enable
11.6.	Reduce adverse environmental impact of cities	Enable
11.7.	Access to safe and inclusive green and public areas	Enable
11.c.	Sustainable and resilient buildings using local materials	Influence / enable



12.2.	Sustainable management and efficient use of natural resources	Enable
12.3.	Reduce food waste and food losses	Influence / enable
12.5.	Reduce waste generation	Enable
12.8.	Information and awareness for sustainable development and lifestyles in harmony with nature	Enable



13.1.	Resilience and adaptive capacity to climate-related hazards and natural disasters	Enable
13.2.	Integrate climate change policies into national policies, strategies and planning	Influence / enable
13.3.	Education, awareness and capacity on climate change	Enable / direct
13.b.	Raising capacity for climate change-related planning and management	Direct

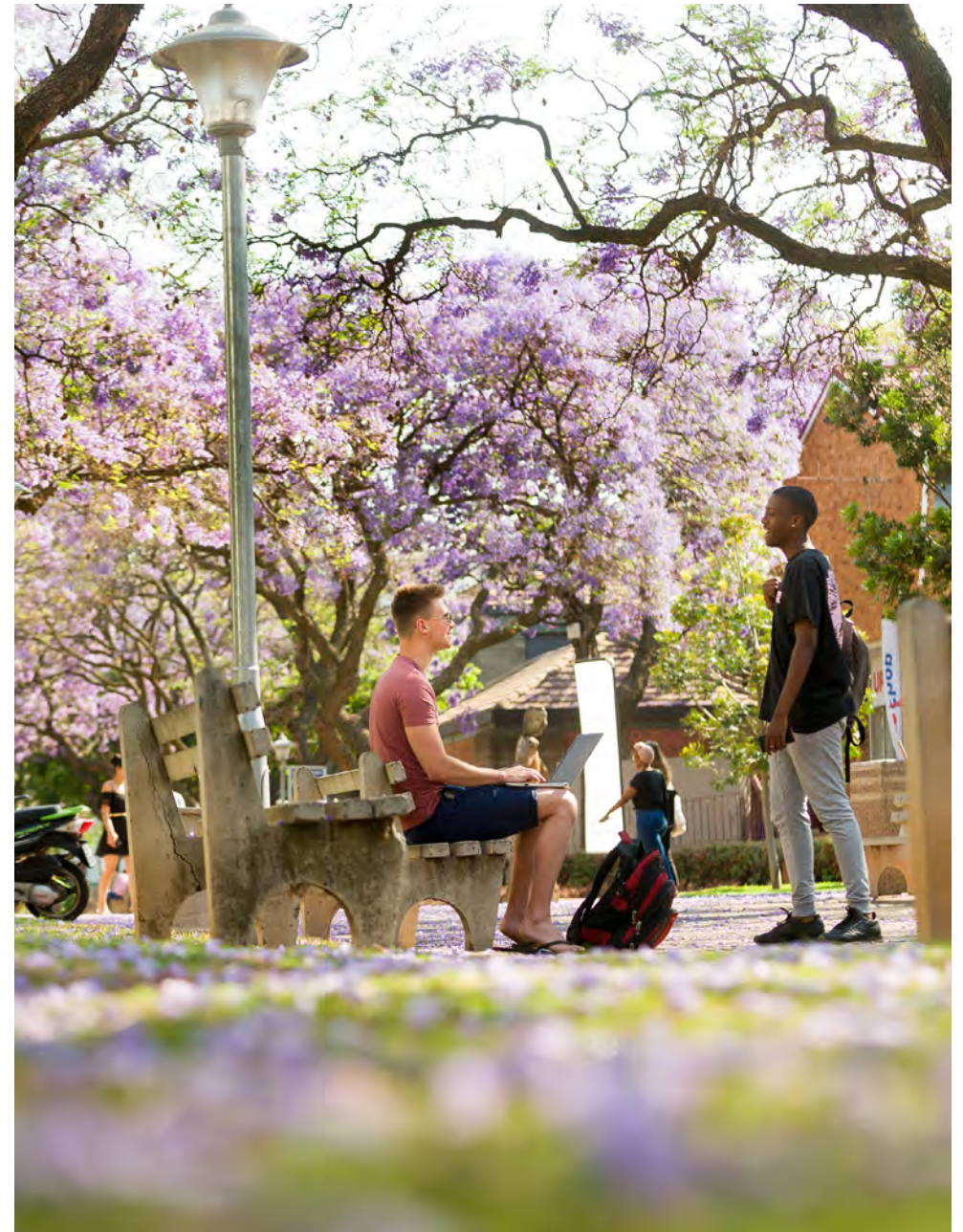




15.1.	Conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems	Influence / enable
15.2.	Sustainable management of forests	Influence / enable
15.3.	Combat desertification and restore degraded land and soil	Enable
15.5.	Degradation of natural habitats and loss of biodiversity	Enable
15.9.	Integrate ecosystem and biodiversity values planning, development and poverty reduction	Enable



17.9.	Effective and targeted capacity-building in developing countries	Direct
17.14.	Policy coherence for sustainable development	Influence
17.17.	Effective public, public-private and civil society partnerships	Direct
17.18.	Availability of high quality, timely and reliable data	Enable
17.19.	Develop measurements of progress on sustainable development	Direct





# INCLUSIVE SOCIETIES AND CAPABLE INSTITUTIONS

With high levels of unemployment, poverty and inequality in South Africa, underpinned by residual impacts of the apartheid system, the lack of equal opportunity and weakness of social cohesion remain significant challenges for the country. At the same time, high levels of corruption and systematic weakening of public institutions over the past decade have undermined public confidence and the rule of law.

While these challenges are sharply in focus, they occur against a background of global societal and emerging issues such as climate change, technology development and artificial intelligence. The constellation of factors and dynamics at play all influence the human condition, interrelationships between individuals and groups, ethical decision-making and actions, and the quality of our future existence.

Higher education, by virtue of its nature and place in society, has a critical role to play in redressing the imbalances, building capability for individual and societal success, creating knowledge that challenges outdated and regressive concepts and paradigms, and developing new approaches for inclusive and just societal development. Considering this role through the lens of the educational and societal ecosystems that higher education is a part of, significant barriers to equitable access to higher education prevail. Those with the greatest need, mostly rural South Africans, face the greatest hurdles such as funding constraints and support networks. Youth who do gain access to higher education experience inequitable success rates, with students from disadvantaged backgrounds being the least successful.

The disruption and uncertainty brought on by the COVID-19 pandemic have had profound effects on social dynamics in society, and on the functioning of the University. At a societal level, existing fault lines have been magnified with disproportionately high impact on marginalised and disadvantaged groups, increasing their vulnerability and degrees of inequality. For the University, rapid and drastic shifts in core and operational processes were required to respond to restrictions imposed, while continuing to fulfil the institution's core purpose.

Despite UP being the largest contact University in South Africa, all faculties pivoted to online teaching and assessment modes as soon as social distancing restrictions were imposed. This responsiveness was enabled by the University's established capability and preparedness in digital technology, and was supported by rapidly implemented staff training to ensure competence in designing and delivering virtual teaching. The 2020 and 2021 academic years were successfully completed.

Going forward, the complex landscape we operate in, beset with uncertainty and headwinds, affirms the need for universities to be flexible and agile in fulfilling their purpose and contributing meaningfully to society. Our experiences through the COVID-19 pandemic confirm that despite the magnitude of challenges faced, UP is up to the task. They further serve to reinforce the impetus towards reimagining the way we do things, as we strengthen our agency in bringing about transformational societal change.

## Our performance

The inclusive societies and capable institutions cluster comprises the Faculties of Education, Humanities, Law, and Theology and Religion. We present our performance in relation to our core functions of teaching, learning, research and engagement.

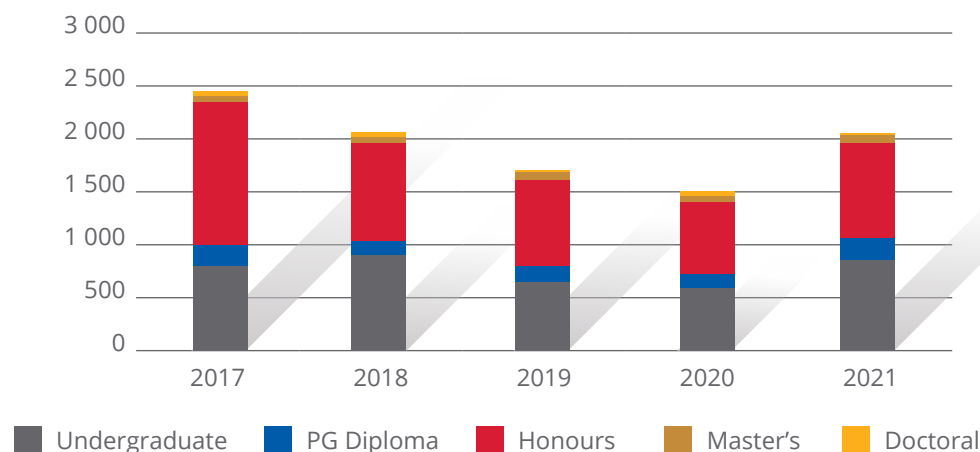
### Teaching and learning

Through the training of teachers, administrators and leaders in education, the Faculty of Education makes a key contribution to SDG4, enabling its achievement beyond the University boundaries. The goal further serves as an enabler to other SDGs. The faculty comprises five departments: Humanities Education; Science, Mathematics and Technology Education; Education Management and Policy Studies; Educational Psychology; and Early Childhood Education. Collectively these cover the full spectrum of education and strengthening of the education ecosystem.

The faculty consistently produces outstanding professionals in education, such as high quality teachers, school leaders, managers and educational psychologists. Beyond the technical requirements of the various programmes, key aspects incorporated as part of curriculum transformation include anti-discrimination, social justice, diversity awareness and social cohesion. Additionally, recently introduced professional

programmes addressing critical needs and scarce skills within the education system include leadership and management; the technical vocational education sector; visual impairment; computer-integrated education; and learner support.

### Graduate output (Education)



“The faculty consistently produces outstanding professionals in education, such as high quality teachers, school leaders, managers and educational psychologists.”



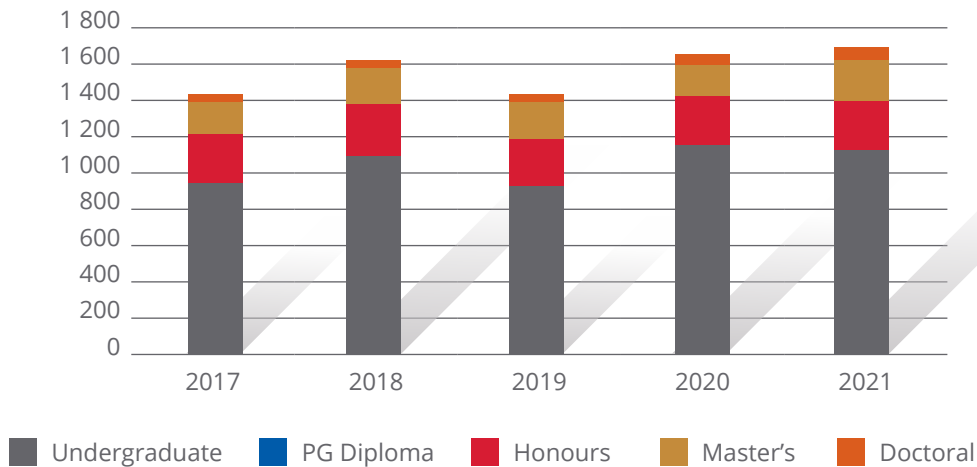
The Humanities and Social Sciences play a key role in the University's human-centred approach to positive societal impact. Our humanity is shaped by the literature we read, the history we share, the languages and cultures we encounter and the way our leaders wield their power.

Beyond curricular transformation and ongoing innovation in undergraduate teaching and learning, the faculty has introduced a range of international teaching and joint degree collaborations. These include two global classroom modules at postgraduate level and joint PhD programmes. The Master's programme in Tangible Heritage Conservation is the only programme of its kind on the African continent, and attracts strong international and southern African uptake. The first cohort of students graduated in 2020.

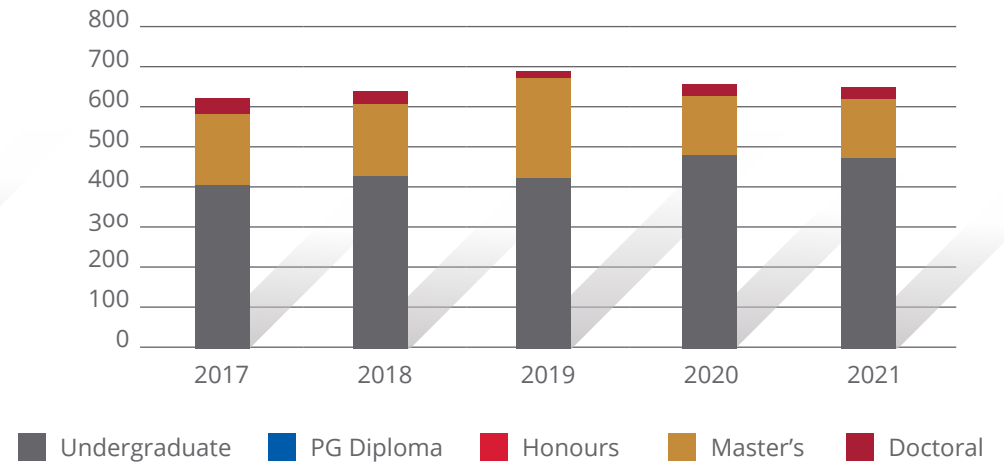
UP Law was ranked top in South Africa and Africa by Times Higher Education for the fourth consecutive year. The faculty offers a highly sought-after LLB degree and strong postgraduate qualifications with the largest law-related doctoral programme in Africa. Staff are highly qualified, with 75% of permanent staff holding doctorates. Both undergraduate and postgraduate programmes are commonly oversubscribed. The faculty also teaches law modules for the BA (Law) and BCom (Law) degrees, and presents service courses in other faculties such as EMS and EBIT.

A number of the LLM and MPhil programmes distinguish the faculty through their significant African footprint. These include Disability Rights in Africa, Human Rights and Democratisation in Africa, International Trade and Investment Law in Africa, Sexual and Reproductive Rights in Africa, and Extractive Industry Law in Africa.

Graduate output (Humanities)



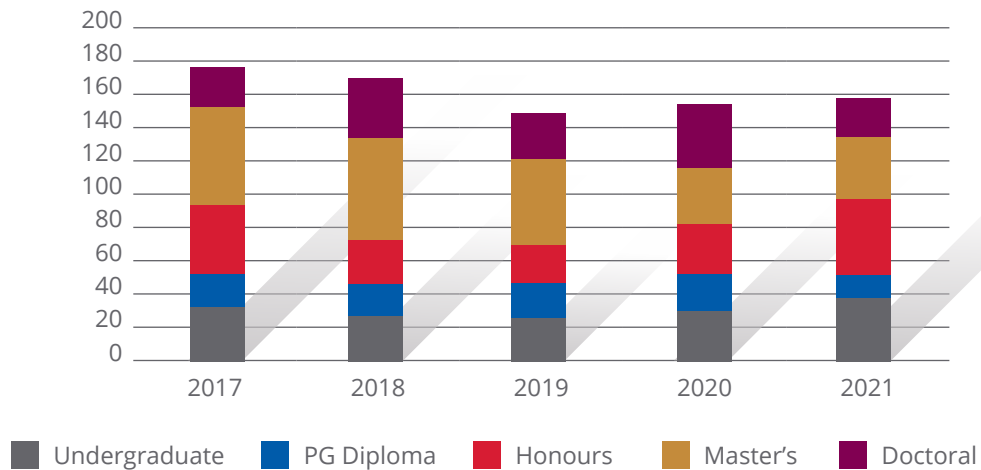
Graduate output (Law)



While the Faculty of Theology and Religion is relatively small, it is dynamic in its presence and impact within the University community, nationally and internationally. Through curriculum transformation, and in the context of a changing world, it has begun expanding its historic Christian focus to incorporate multi-faith knowledge and experiences into teaching, learning and research. Sustainable development and the SDGs are embedded into the curriculum.

The faculty creates a space for pluri-versality, differing epistemologies, interreligious dialogue, and it teaches theologies that are constructive, critical, relevant, contextual and engaging. In doing so, it develops people with broad competence beyond a theological foundation, meeting increasing demands in the changing work of ministry, and options for students to pursue career opportunities beyond theology.

Graduate output (Theology and Religion)



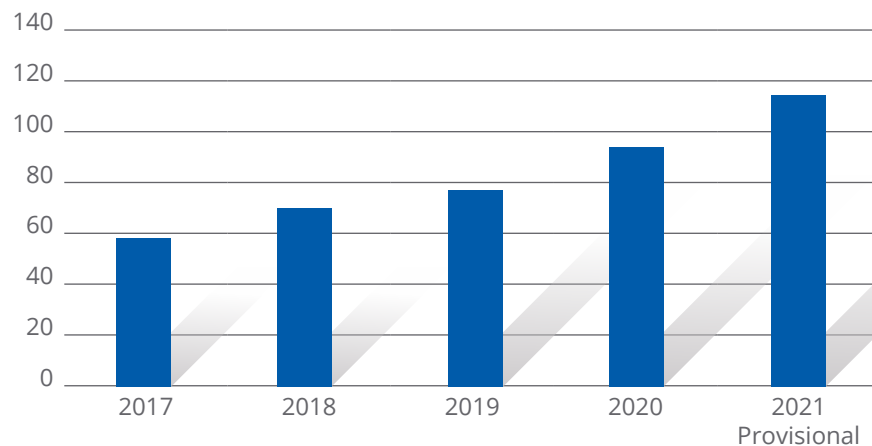
“While the Faculty of Theology and Religion is relatively small, it is dynamic within its presence and impact within the University community, nationally and internationally.”

## Research

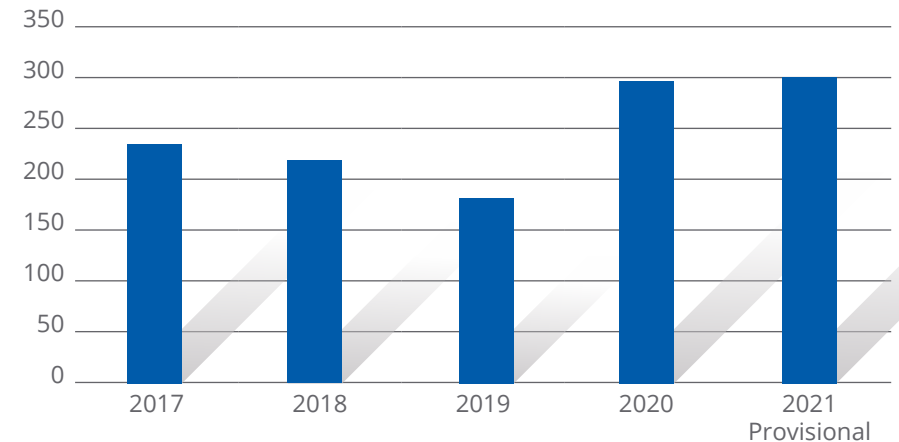
Building on its strong foundation and demonstrated excellence in teaching and learning, the Faculty of Education is transitioning along the pathway of being research-active to research-intensive. The pathway includes staff building on work undertaken through their doctoral studies, engaging across other UP faculties and with international collaborators to extend their research work, and leveraging their growing research base for greater productivity and impact.

The faculty hosts Humanities research centres: the Centre for the Study of Resilience; the Centre for Evaluation and Assessment; the Living Lab for Innovative Teaching at the University of Pretoria; the Centre for Diversity and Social Inclusion; and the Centre for Visual Impairment. The faculty is also a founding member of the Interuniversity Centre for Education Law and Education Policy. These centres relate to all the targets of SDG4 and cut across other SDGs. Collectively they lead the faculty's research agenda, and with the academic departments, support postgraduate studies.

### Annual research units (Education)



### Annual research units (Humanities)



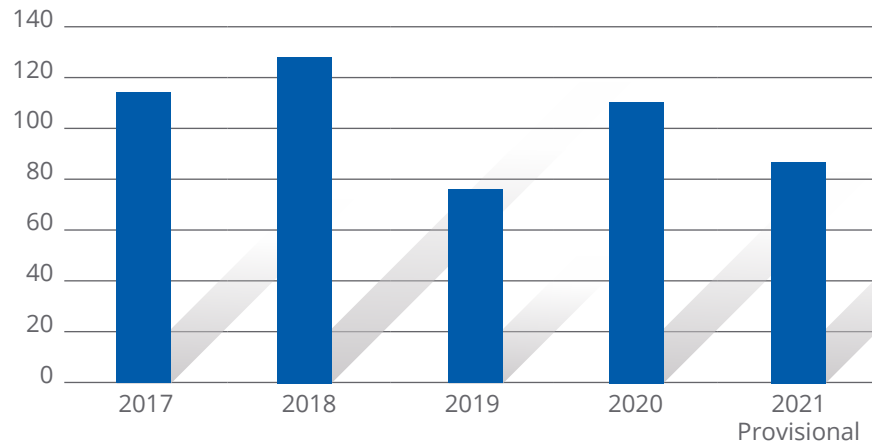
A key characteristic of disciplines making up the Faculty of Humanities is its grounding in complexity. This is particularly important in our current world beset with uncertainty and wicked problems. Research in the humanities helps to clarify dilemmas and develop pathways to address the human side of major societal challenges such as climate change, pandemics, poverty and social inequalities.

The faculty hosts five research centres: the Centre for Augmentative and Alternative Communication; the Centre for Japanese Studies; the Centre for Mediation in Africa; the Centre for Sexualities, AIDS and Gender; and the Centre for the Study of Governance Innovation. The centres shape the faculty's research agenda and are focal points for inter- and transdisciplinary work.

The growing importance of artificial intelligence from ethical, social, philosophical and societal perspectives has motivated increased attention in the faculty, and is an important area of transdisciplinary work. Similarly, changes to employment models and the future of work are emerging areas of collaboration.



### Annual research units (Law)

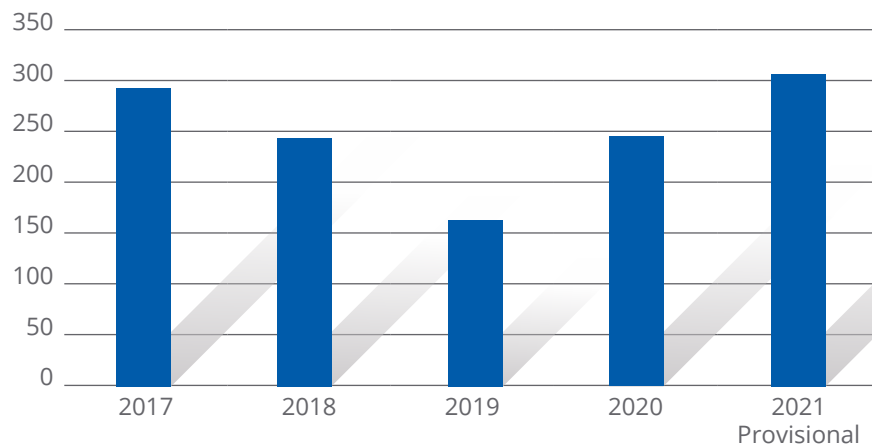


Research in the Law Faculty spans a number of SDGs, and has a particular focus on inequalities, social justice and human rights. It is well placed to contribute to transdisciplinary research initiatives across the University and with international collaborators. It is a pioneer in collaboration with other African universities and offers postgraduate programmes that appeal to a wide range of students from Africa and internationally.

The centres, institutes, units and chairs are the main vehicles for intra-, inter- and transdisciplinary research and collaboration. These include the Institute for International and Comparative Law in Africa, the Centres for Human Rights, Intellectual Property Law, Sport and Entertainment Law, Child Law, and Medicine and Law. The faculty hosts two SARCHI Chairs in International Development Law and African Economic Relations, and International Constitutional Law; the ABSA Chair in Banking Law in Africa; and the UNESCO Chair in Education Law in Africa.

A key challenge experienced during the period was the impact of the COVID-19 pandemic on research outputs. This is seen as a worldwide challenge for academics, facing increased domestic and childcare responsibilities (particularly women) or being directly affected by illness or bereavement.

### Annual research units (Theology and Religion)



The Faculty of Theology and Religion undertakes high quality and collaborative research that promotes justice, peace and the integrity of creation, reconciling diversity and focusing on the flourishing of all life. This aligns with all pillars of the SDGs — people, prosperity, planet, peace and partnerships — and consequently supports a wide spread of SDGs.

The faculty's Centre for Faith and Community spotlights and contextualises cutting-edge public issues such as poverty, racism, climate change and gender-based violence. It works with a range of stakeholders including academics, community leaders and institutions with the shared aim of contributing to transforming society.

Research outputs are outstanding in both research productivity and impact. Based on this work, UP consistently ranks highly in the QS World University Rankings Index in the category Theology, Divinity and Religious Studies. From a research perspective, in 2021, it ranked 10<sup>th</sup> globally in citations per paper, and second in h-index citations.



## Engagement

In the Faculty of Education, most courses have practical and community-based learning as compulsory components of degrees. Students also contribute their skills to communities in voluntary capacities and various faculty initiatives focus on strengthening communities.

During the period, the faculty's Centre for the Study of Resilience collaborated with Pennsylvania State University to translate a global learning tool into three local languages. The tool, known as Quality Talk, is used in the US and China, and encourages critical thinking and analysis among children. It was adapted based on findings from a study conducted among researchers, teachers and learners in Mpumalanga, and translated into a user-friendly resource for families to use at home. Images used were adapted to be contextually relevant.

In another initiative, the faculty collaborates with schools in resource-constrained and vulnerable communities using intervention research to facilitate positive change. The participatory style of research involves people at ground level as active participants in order to understand and clarify the challenges faced, craft contextually relevant solutions and implement them. This empowers participants to become partners of change who eventually drive the process of change themselves. Over the past decade, the approach

has evolved into two related initiatives: the Supportive Teachers, Assets and Resilience (STAR) project involving 74 teachers in 11 schools across three South African provinces; and the Supporting Home Environments in Beating Adversity (SHEBA) project where volunteers participate in an adapted version of the STAR intervention to support the schools, teachers and communities where they work. An example of the sustainable initiatives seen at grassroots levels is the establishment of vegetable gardens which supply school needs as well as generate income from the sale of produce.

Students from the Faculty of Humanities are involved in a range of voluntary and compulsory community engagement projects that encourage empathy, consideration and a critical understanding of disparities in South Africa's socio-economic structure. Students are equipped with these skills to help them be part of creating a better world. Beyond curricular community engagement, the faculty has partnership agreements with over 25 universities and entities internationally, with a footprint across five continents. The faculty considers all international partnerships critically before establishing or renewing them. This ensures that the partnerships are mutually beneficial and, from a UP perspective, aligned to the institutional strategy. Current examples of such partnerships include the relationship with the African Leadership Centre at King's College, London, which includes a joint PhD degree; the Humboldt student exchange programme; the EU Erasmus+ staff and student exchange

programme; and a trilateral collaboration between the Centre for Mediation in Africa, the South African Department of International Relations and Cooperation and the Norwegian embassy.

As with all faculties, the Faculty of Law embeds curricular community engagement into its academic programmes. This is supported by extracurricular programmes which allow our communities to access legal advice, care and representation. Most extra-curricular community engagement activities are undertaken by the Centre for Child Law, the Centre for Human Rights and the Law Clinic. The Centre for Child Law carries out impact litigation, advocacy and research in order to advance the best interests of children in South Africa. The Centre for Human Rights is recognised internationally for excellence in human rights law in Africa, and functions as both an academic department and a non-governmental organisation. As a leader in human rights education in Africa, the centre works towards a greater awareness of human rights, the wide dissemination of publications on human rights in Africa, and the improvement of the rights of women, people living with HIV, indigenous peoples, sexual minorities and other disadvantaged or marginalised persons or groups across the continent. The Law Clinic is a statutorily recognised legal aid clinic. It provides free, quality legal services to the indigent, and superior clinical legal education to final-year law students. While part of the Faculty of Law, it is run as an independent professional attorneys' practice where

final-year LLB students, candidate attorneys and junior legal practitioners are offered a unique opportunity to practise law while being mentored by experienced UP Law Clinic attorneys. The main office is situated in Hatfield and there is an outreach office in Hammanskraal.

Nationally and internationally, the Faculty of Law has networks and working relationships with the African Union and United Nations, and collaborates with South Africa's National Planning Committee, the World Bank, the International Law Institute and the Law Schools Global League.

Staff members and students from the Faculty of Theology and Religion are commonly immersed in the lives of their respective faith communities. Often, teaching, learning and research are linked to these communities, reciprocally enriching and aligning the programmes that the faculty offers with the needs of these faith communities. The Centre for Faith and Community is actively engaged with communities as it grapples with how faith can be a powerful resource for healing, justice and transformation in a society with high levels of inequality, exclusion and conflict. The centre connects students from theology and other faculties to some of the city's most challenged communities. In this way, research and practice is both in, and with communities, seeking to build a health society together.

“Nationally and internationally, the Faculty of Law has networks and working relationships with the African Union and United Nations, and collaborates with South Africa's National Planning Committee, the World Bank, the International Law Institute and the Law Schools Global League.”



## Alignment with the SDGs

### Key:

Influence:

Enable:

Direct:

### Nature of our contribution

We contribute to shaping the policy landscape.

We contribute to building capability, which supports implementation.

Our specific outcomes contribute to achieving tangible metrics.



- |      |  |           |
|------|--|-----------|
| 1.3. | Implement appropriate social protection systems and measures | Influence |
| 1.4. | Equal rights to economic resources                           | Enable    |
| 1.5. | Build resilience of the poor and vulnerable                  | Enable    |



- |      |  |           |
|------|--|-----------|
| 3.5. | Prevention and treatment of substance abuse                                      | Enable    |
| 3.7. | Universal access to sexual and reproductive healthcare                           | Influence |
| 3.8. | Universal health coverage, including financial protection and access to services | Influence |



- |      |   |                    |
|------|---|--------------------|
| 4.1. | Free, equitable and quality primary and secondary education                   | Influence / enable |
| 4.2. | Access to quality early childhood development, care and pre-primary education | Enable             |
| 4.3. | Access to affordable and quality tertiary education                           | Direct             |
| 4.4. | Increase the number of youth and adults with skills                           | Direct             |
| 4.5. | Eliminate gender disparities and ensure equal access                          | Direct             |
| 4.6. | Achieve literacy and numeracy   | Enable             |
| 4.7. | Knowledge and skills for sustainable development                              | Direct             |
| 4.a. | Build and upgrade education facilities  | Influence          |
| 4.b. | Scholarships for developing countries   | Influence          |
| 4.c. | Increase supply of qualified teachers   | Direct             |



- |      |  |                    |
|------|--|--------------------|
| 5.1. | End all discrimination against all women and girls                                 | Influence / enable |
| 5.2. | Eliminate violence against all women and girls                                     | Influence / enable |
| 5.3. | Eliminate all harmful practices  | Influence / enable |
| 5.5. | Effective participation and equal opportunities for leadership and decision-making | Direct             |
| 5.6. | Universal access to sexual and reproductive health                                 | Influence          |



- |      |   |                    |
|------|---|--------------------|
| 8.1. | Sustain per capita economic growth  | Enable             |
| 8.2. | Higher levels of economic productivity  | Enable             |
| 8.3. | Promote development-orientated policies   | Influence          |
| 8.5. | Full and productive employment and decent work                                    | Enable             |
| 8.6. | Reduce the proportion of youth not in employment, education or training           | Direct             |
| 8.7. | Forced labour, modern slavery, human trafficking, child labour and child soldiers | Influence / enable |
| 8.8. | Protect labour rights and promote safe and secure working environments            | Influence / enable |



10.2.	Promote social, economic and political inclusion	Influence / enable
10.3.	Equal opportunity and reduce inequalities – legislation, policies and action	Influence / enable
10.4.	Adopt policies and progressively achieve greater equality	Influence
10.7.	Migration and mobility of people	Influence



11.3.	Inclusive and sustainable urbanisation	Influence
11.4.	Protect and safeguard the world's cultural and natural heritage	Influence



13.1.	Resilience and adaptive capacity to climate-related hazards and natural disasters	Influence
13.3.	Education, awareness and capacity on climate change	Influence

“Higher education has a critical role to play in redressing imbalances, creating knowledge that challenges regressive concepts, and developing new approaches for inclusive and just societal development.”



16.1.	Reduce all forms of violence and related deaths	Influence
16.2.	End abuse, exploitation, trafficking and violence against children	Influence / enable
16.3.	Promote the rule of law at national and international levels	Influence / enable
16.5.	Reduce corruption and bribery	Influence / enable
16.6.	Effective, accountable and transparent institutions	Influence / enable
16.7.	Responsive, inclusive, participatory and representative decision-making	Influence / enable
16.8.	Developing country participation in institutions of global governance	Influence / enable
16.10.	Public access to information and protect fundamental freedoms	Influence
16.a.	Strengthen national institutions to prevent violence and combat terrorism and crime	Influence / enable
16.b.	Promote non-discriminatory laws and policies for sustainable development	Influence / enable



17.9.	Effective and targeted capacity-building in developing countries	Influence / enable
17.14.	Policy coherence for sustainable development	Influence / enable
17.16.	Enhance the Global Partnership for Sustainable Development	Influence
17.17.	Effective public, public-private and civil society partnerships	Enable / Direct
17.19.	Develop measurements of progress on sustainable development	Direct



TRANSLATING OUR STRATEGY INTO ACTION

# Pushing the boundaries of sustainability thinking and practice





# ADVANCING THE PRACTICE OF TRANSDISCIPLINARITY

The issues of complexity and uncertainty in a volatile and disrupted landscape are central to UP's strategy, and shape our actions as we seek to ensure our relevance and meaningful responses to societal challenges and opportunities.

Complexity is driven by the issues faced, and spans numerous dimensions. For instance, in a connected world, issues such as poverty and inequality cut across local, national, continental and global boundaries.

They also affect multiple aspects of the landscape – political, economic, social, technological, legal and environmental – with linkages and dependencies between aspects. Furthermore, there are clear connections across time horizons, with past and historical legacies shaping our present and contributing to the future. Often, complex challenges remain unresolved, although the nature and multiple faces of each challenge may change markedly over time.

Recognising that such complexities cannot be addressed in isolation and through a single-discipline approach, we believe that focusing on three key and interdependent levers is essential to making headway, as we seek an impactful contribution to addressing them:

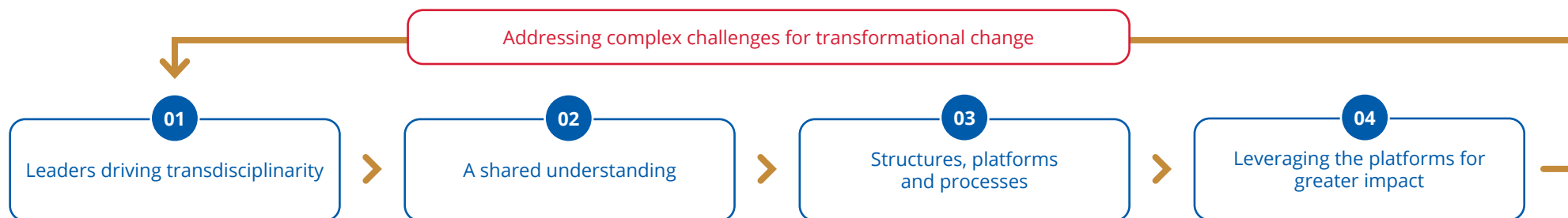
- Strengthening an integrated approach
- Relentlessly driving a transdisciplinary agenda
- Establishing a culture of innovation and entrepreneurship across all University functions

These are all underpinned by collaboration and partnering, both within the University and externally.

While the idea of transdisciplinarity as a means to deal with complex challenges continues to gain traction, there remains debate around how it is defined and how to translate it into reality. In the absence of a shared understanding and a coherent and intentional approach to putting it into practice, there is risk of transdisciplinarity being an esoteric concept that does not drive real and transformational change.

As we implement our current five-year strategy and seek to advance the practice of transdisciplinarity at UP, our pathway to impact considers the importance of leadership in driving the transdisciplinary agenda; developing a shared understanding of transdisciplinarity; establishing structures, platforms and processes for transdisciplinarity; and leveraging the platforms for greater impact.





As a starting point, leaders set the institutional tone and direction, and create the conditions for transdisciplinary work. A shared understanding is the basis for a common commitment and a coherent approach as transdisciplinary work is undertaken through various entities of the University, and through defined processes. By strengthening a common and collaborative approach across the different entities, within the University and for outward-facing initiatives, we create leverage and embed transdisciplinarity within the University culture for greater impact.

### Leaders driving transdisciplinarity

Driving the transdisciplinary agenda requires effective leadership at many organisational levels, ranging from leaders creating an enabling institutional environment to those successfully managing specific transdisciplinary projects. In recognition of the role leaders play as change agents and enablers of agency for transformational change, strengthening leadership capability and the leadership pipeline is a strategic focus area within UP's institutional strategy.

At an executive level, transdisciplinarity has been enabled through the establishment of institutes, centres and units within faculties, as well as through the University's strategic transdisciplinary platforms. Additionally, UP has implemented a full suite of leadership development programmes which continue to evolve and improve. Leadership programmes are discussed in more detail in the section "People practices for sustainable development".

There are important characteristics that we seek to develop in leaders when considering leadership through transdisciplinary and sustainable development lenses. Discipline-based capability with the ability to look beyond disciplinary boundaries is a necessary foundation. Empathy and social skills are needed to engage others and mobilise them to achieve their own and the institution's objectives, to enhance collaboration and to harness the multiple and diverse talents needed to resolve complex challenges. Openness, inclusion and diversity are embraced. A societal outlook, being in tune with the dynamics of our operating landscapes, ensures that the work undertaken is relevant, and must be coupled with an urgency for innovation and transformational change.

Such attributes are important at all leadership levels, although the balance of technical, social and commercial competences will vary in different leadership roles.

### Establishing a shared understanding of transdisciplinarity

In the face of many different interpretations of transdisciplinarity, we have intentionally chosen not to apply a prescriptive definition for the University. Rather, our approach has been to encourage conversations towards a common language for shared understanding, meaning and application of transdisciplinarity to emerge, grounded in academic rigour and experiential learning. Through the conversations underway, key characteristics of transdisciplinarity are evident and are shaping our working definition. Transdisciplinarity is anchored in, and does not replace, disciplinary and multidisciplinary excellence.

These serve as necessary building blocks, and the University undertakes disciplinary work across the spectrum of functional to transdisciplinary levels. Transdisciplinary work is problem-focused and deals with complex issues – our understanding of the issues determines the voices that need to be around the table. It is characterised by a joint approach, across disciplines and sectoral boundaries, with participants having an array of social and technical attributes. Through transdisciplinary processes there is mutual learning along with co-production of useful knowledge.

A working understanding and common approach has enabled us to pursue our transdisciplinary agenda as it continues to be refined. The developing concept applies to teaching, learning and research.

### Structures, platforms and processes for transdisciplinarity

Many of UP's established institutes and centres focus on complex challenges and are geared towards multi- and transdisciplinary work. These generally serve as faculties' frontline vehicles for research. Over time, however, the extent of transdisciplinary practice has varied across institutes and centres, with pockets of excellence and uneven capability interspersed across the University. To address this and elevate a transdisciplinary approach within the University, from 2019, UP set about establishing four strategic transdisciplinary platforms – the Future Africa Institute, the Javett-UP Art Centre, Engineering 4.0 and Innovation Africa@UP. While each platform has a distinctive focus and set of capabilities, they all share the common purpose of addressing complex challenges and seeking transformational solutions.

Subsequent to previous reporting in our , each platform has evolved significantly in terms of its focus and span of initiatives. Additionally, progress has been made in strengthening collaboration across the platforms.

#### Future Africa Institute

The Future Africa Institute is UP's collaborative platform that works with society across the full spectrum of sciences to address Africa's biggest and most urgent contemporary challenges. Seeking to develop and unleash the transformative potential of African sciences for thriving African societies, the platform is distinguished by transformative research focusing on the future of Africa in a global context. Working at a pan-African

level, it convenes and connects diverse collaborators across the worlds of science, policy, business, civil society and the media to lead transformative research on transnational challenges facing the continent. Framed by the SDGs and the African Union's Agenda 2063, these include the cascading systemic risks associated with climate change, pandemics, poverty and inequalities, and social and political polarisation. Work to develop Africa's transformative research leadership capacities is underpinned by the institute's compelling belief in the potential of youth. To this end, the platform focuses on investing in early-career researchers as agents of change in both science and society.

To drive this transformative agenda and build research capability on the continent, the institute is establishing a suite of thematic research chairs. These chairs address complex challenges with the potential for transformative change, lead the strengthening of research capability and build the requisite global partnerships for African research. They foster a culture of dialogue and action for change. During the reporting period, two Future Africa Institute research chairs were established. The chair Advancing One Health: People, Health and Places addresses the complex health interfaces between people, other forms of life and the planet. Activities within the theme are connected to South African national One Health initiatives and global initiatives under the auspices of the UN and World Health Organisation. The chair Securing Sustainable Food Systems in Africa addresses the complexity and dynamism inherent to food systems, and how food systems create leverage for thriving, resilient communities and societies. Parallel to capability-building through the research chairs, the institute hosts a dedicated Future Africa Research Leadership Fellowship programme for postdoctoral researchers from across Africa.







“Javett-UP’s initiatives are integrated with establishing a shared African identity that demonstrates care and embraces differences and inclusivity.”

### The Javett-UP Art Centre

The Javett-UP Art Centre has made significant strides as a platform and catalyst for the arts to be a meaningful voice in transdisciplinary conversations on the development and transformation of South Africa and the African continent. With close affiliation to the Faculty of Humanities, it serves as a creative space to engage diverse publics in exploring the human condition and reimagining our futures.

Drawing on its curatorial expertise, hosting and convening capability, and enquiry-led exploration, Javett-UP drives a functional agenda through the arts, as well as transdisciplinarity, collaboration and innovation. Initiatives based on the platform’s core expertise include restoration and preservation of heritage, and various teaching, learning and transfer-of-knowledge programmes. These are integrated with establishing a shared African identity that demonstrates care and embraces differences and inclusivity. For example, as the only programme of its kind on the African continent, the master’s programme in Tangible Heritage Conservation has a strong international and southern African uptake. The first cohort of students graduated in 2020. Additionally, the centre is the long-term host of the iconic Gold of Africa and Mapungubwe Gold Collections, which celebrate African history and a proud African heritage. Examples of collaboration with UP’s sustainable economies cluster, and the cluster on life, our planet and technology include initiatives supporting entrepreneurial enterprise and those that use art to enhance awareness for planetary protection and renewal.

In engaging with the broader communities of diverse publics, Javett-UP has an intentional focus on young people and those who are excluded from engaging with the arts. This includes ensuring exhibitions and content are relevant to different groups’ needs and expectations. Frequently hosted school tours engage deeply with young scholars, nurturing their interest and spirit of enquiry, and broadening their understanding of the critical role of the arts in societal development. Work is underway to expand access and interaction by strengthening the Javett-UP digital ecosystem, including use of social media platforms for online conversations with artists, streaming of restoration projects and interactive digital online tours.

## Engineering 4.0

Engineering 4.0 was formally launched in November 2020 and is a government-industry-academia collaboration focusing on smart technology, smart transport, cities and infrastructure. Collaborating with the South African National Roads Agency, the Council for Scientific and Industrial Research, and York Timbers, the platform adopts an integrated and human-centred view of smart technology, transportation and infrastructure ecosystems, along with their interfaces. Research and initiatives underway focus on road construction, road use, traffic flow and smart transport systems both now and into the future. The wide-angled and ecosystem approach incorporates research into road construction, the materials used, vehicle-pavement interactions, infrastructure materials and management, exhaust-related emissions, and autonomous and semi-autonomous vehicles. Through smart technology development and optimising interfaces between the different ecosystems, the intended outcomes include reducing energy consumption in transportation, maximising productivity in industry, and improving the population's quality of life. For instance, improvements in agriculture logistics would lead to increased efficiency, reduced costs of transportation and reduced wastage or damage to fresh produce.

A flagship feature of Engineering 4.0 is an active two-kilometre test lane on Pretoria's N4 national highway that is fitted with sensors next to, above and below the lane. Real-time data is collected, and using big data analytics and the Internet of Things, monitoring and analysis of road surface performance, traffic movements and density, emissions testing and air quality assessments are conducted. This allows optimisation of pavement design and construction, and the data can be used to model many aspects of transportation systems to serve the economy and broader societal well-being.

In support of our integrated approach, Engineering 4.0 has a range of internal capabilities. It hosts a national roads reference laboratory for independent testing of materials for the road construction industry, while the York Wood Engineering Laboratory focuses on advanced engineered wood products for the continent. A dedicated concrete laboratory for the development and testing of concrete and related structures supports improved road construction and infrastructure development. Additionally, a training laboratory trains and certifies road materials technicians employed by various testing laboratories.



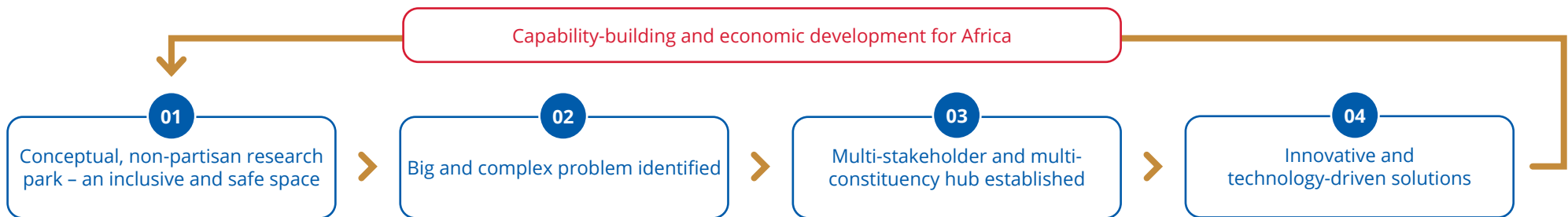
## Innovation Africa@UP

Innovation Africa@UP is a non-partisan, inclusive conceptual research park, with a dedicated focus on establishing strong government-industry-university collaborations. The platform leverages and integrates the natural sciences, technology and innovation to address big challenges.

The platform's work is problem- and solution-orientated. A big and complex problem requiring a transdisciplinary approach with participants from different sectors and constituencies is identified. A hub is formed around the problem, leveraging internal and external competences and talents. Innovation Africa@UP has strong internal networks with, and links to other UP research centres, institutes and platforms.

Internal talent from these entities participate in the hubs alongside external experts from government, industry, other academic institutions and civil society. Collaborative research is undertaken through the hubs, and the solutions designed are geared for implementation. Hubs also focus on developing capability through the research solution-design process, as well as capability for implementation and scale. Work undertaken also seeks to influence the policy landscape. Collectively these outcomes support economic development and success of the African continent. To date, hubs in forestry and agriculture have been established, and planning for a biosecurity hub is at an advanced stage.

The operating model is illustrated in the diagram.



The conceptual development and coherence of hub choices is managed from the Innovation Africa@UP centre. The centre also houses key capabilities to support and enable hub functioning. These capabilities include a sophisticated Information Hub that collects and collates data in myriad forms and from multiple sources; data warehousing and data analytics; and knowledge management. In addition, the centre establishes relationships with other networks and connects them to the work of the hubs.

“A big and complex problem requiring a transdisciplinary approach with participants from different sectors and constituencies is identified.”



## Leveraging the platforms for greater impact

While each transdisciplinary platform has a unique focus, they all share a common imperative in that their innovations should be about transforming lives, and transforming communities, locally, continentally and globally. Each platform in its own right creates value, but if they act independently and with a siloed approach, the total value accrued by the University and the extent of impact we have will be limited to the sum of value and impact derived from individual entities. Through a common and collaborative approach that creates leverage, we seek synergy that embeds a culture of transdisciplinarity across the University, and for the cumulative value we create to exceed the sum of value from each platform. In doing so, we are mindful that this should be not be done in a way that constrains creativity within each entity.

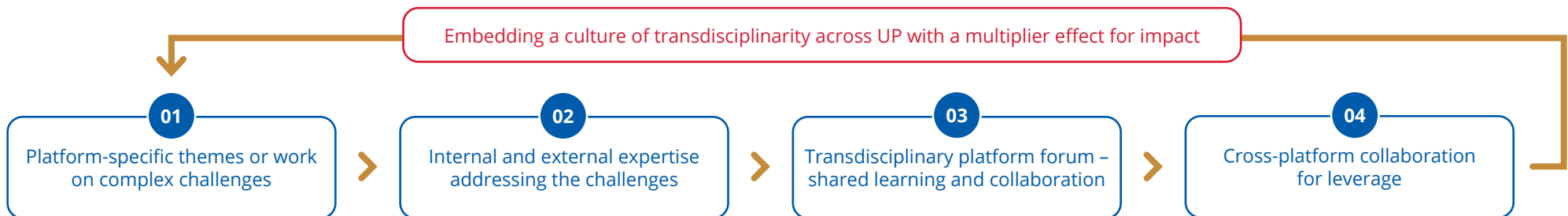
During the period under review, significant progress was made in enhancing collaboration between the strategic transdisciplinary platforms and the broader University, as well as across and between the four platforms. This progress has been driven by a common operating model shown in the diagram below.

Within each platform's distinctive focus, the themes identified and issues addressed are congruent with UP's broader strategic intent and agenda. The work done at an

individual platform level is transdisciplinary in nature, and expertise is drawn from the broader University along with external experts, ensuring that the right voices are around the table to undertake cutting-edge research and address the issues at hand. This forms the basis of two-way and mutually beneficial relationships between the platform, the faculties hosting internal talent and external partners.

A forum comprising the University's executive leadership and the leadership of the strategic platforms has also been established to nurture communication and collaboration between and across the platforms themselves. The forum has broadened understanding of each platform and enabled learning from individual platform experiences. Initiatives for cross-platform collaboration have been identified and mapped, and instances of collaborative work have begun.

This operating model and pathway serves as a prototype for developing and implementing additional strategic platforms as the University evolves. It continues to be strengthened, and we anticipate that it will support further embedding of a culture of transdisciplinarity within and across UP, as we seek to amplify our societal impact for the public good.





# LEADERSHIP IN SUSTAINABLE FOOD SYSTEMS

Access to safe, affordable, good quality and nutritious food is a basic requirement of our human existence and humanity. It is central to the challenges of poverty and inequality, where a lack of food is ubiquitous to poverty, and access to food is grossly uneven in unequal societies. Furthermore, inequality is evident in food systems that are not inclusive.

As a reflection of their complexity, food systems traverse political, economic, social, technological, legal and environmental dimensions of the societal landscape. Across these dimensions are numerous interfaces, the intricacies of which need to be explored for a holistic approach to food system strengthening. While this complexity presents challenges, opportunities are also at hand to strengthen food systems and create leverage for social and economic development, and at the same time protect the environment.

As several African countries continue to experience political instability, political dynamics and legal frameworks serve as powerful enablers or barriers to establishing and maintaining food systems. The African Union has prioritised agriculture as a means to radically transform the African economy. This was initially set out in the Comprehensive Africa Agriculture Development Programme of 2004, and reaffirmed in 2014 by adoption of the Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods.

Economic instability and downturns in African economies, worsened by global events such as the COVID-19 pandemic, severe drought and ongoing conflict have impacts across multiple aspects of food systems. With pre-existing vulnerability and insufficient value creation in African food systems, efforts to build that capability are further constrained.

In Africa, it is estimated that around 278 million people suffer from chronic hunger, and some 30% children under five are undernourished with stunted physical and cognitive development. This impacts on both adult productivity and the long-term ability of children to reach their full potential. Nutritional disorders are not limited to undernutrition. Diets with inappropriately high carbohydrate and fat content, and micronutrient deficiency are associated with the emerging pandemic of lifestyle-related disorders including obesity, Type 2 diabetes and cardiovascular disease.

Socially, diets and food systems have strong associations with cultures and identity, and these are important considerations in developing sustainable food systems. Shifts from traditional food preferences and consumption patterns may contribute to lifestyle diseases, and incorporating indigenous foods and practices into evolving food systems is likely to be a source of social value.

Our planet and the environmental landscape are intimately linked to food systems development and strengthening. Resources such as water and energy are scarce, and climate change brings further complexity and greater barriers to sustainable food systems. Life and disease in plants, animals and humans are closely linked to the environment, such as through zoonoses and parasitic infections. Food systems may also impact negatively on the environment and, for instance, in this two-way relationship, current food production systems are responsible for the bulk of unsustainable land use practices.

Global technology shifts including the use of big data and artificial intelligence bring significant opportunity to the food systems space. While agriculture in Africa has not kept pace with the 4IR, the sciences, technology and innovation have real potential to improve resource efficiency, practices within food systems and to develop multiple streams of value.

In this complex set of inter-relationships, there is a compelling argument to address food security and sustainable food systems in Africa. This spans both managing the threat and consequences of inadequate or unhealthy diets, and capitalising on opportunities to strengthen food systems. The “wicked” food system challenges outlined present a daunting task, requiring a truly transdisciplinary approach for their resolution. Notwithstanding the magnitude of the task, resilient food systems can play a significant role in addressing poverty and inequality, and unleashing Africa’s economic potential through value addition and the growth of related value networks.

### Established capability in food systems

UP has a long-standing, dedicated focus on food systems. Across its faculties and transdisciplinary platforms, the University has a broad suite of competences and collaborations that enable it to play a leading role in advancing continental and global thinking and practices around sustainable food systems.

Building on historic strengths, the institutional research theme ‘Food nutrition and well-being’ led to the establishment of an institute of the same name (IFNuW) in 2012. Over time, the institute evolved into several distributed areas of excellence, now hosted by UP. These include co-hosting the Department of Science and Innovation-National Research Foundation (DSI-NRF) Centre of Excellence (CoE) in Food Security; the SARChI Chair in Nutrition and Food Security; the African Research Universities Centre of Excellence (ARUA CoE) in Sustainable Food Systems; and the United Nations Academic Impact Hub for SDG2.





## Sustainable food systems in Africa

Established in 2018, the ARUA CoE in Sustainable Food Systems is hosted by UP, with the University of Ghana and the University of Nairobi as partner institutions. Work is undertaken in collaboration with a broad range of stakeholders to drive agricultural and food system transformation for sustainable food security and nutrition in Africa.

During the reporting period, significant work was undertaken to frame and refine the CoE's strategic approach to ensure coherence and impact in its work.



### Strategic goals

- Empowered researchers and demonstrated research excellence
- Sufficient, safe, nutritious, culturally appropriate and consumer-driven food for 21st-century Africa
- Africa's agriculture and food systems transformed for improved health and livelihoods with shared prosperity

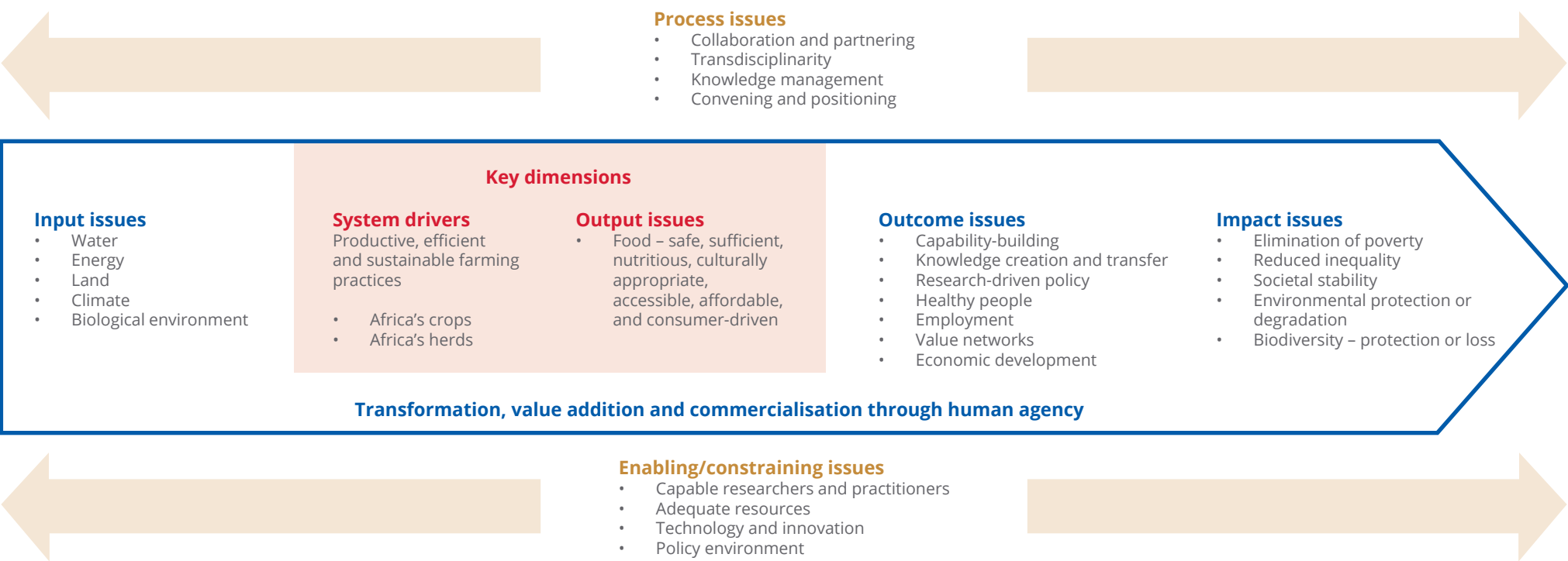
“Established in 2018, the African Research Universities Alliance Centre of Excellence in Sustainable Food Systems is hosted by UP, with the University of Ghana and the University of Nairobi as partner institutions.”



### Guiding principles

- Seek transformational approaches and solutions for broad societal interest and the common good
- Embrace collaboration and transdisciplinarity, ensuring the right skills and talents are around the table to address the challenges at hand
- Mobilise and harness partnerships for greater leverage, innovation and impact
- Adopt a systems-thinking approach to deal with the complexity inherent to sustainable food systems
- Co-design and co-create research and initiatives
- Embrace diversity and inclusivity to enrich project design and expected outcomes
- Address the issues of vulnerable and marginalised groups
- Harness technology, ICT and big data as critical enablers
- Ensure ongoing relevance of our research, in line with changing societal needs, with appropriate translation into practice for sustainable and resilient food systems
- Maintain a continual pursuit of quality and excellence

The ARUA CoE encompasses all aspects of food systems, from environmental resources and the policy landscape enabling food systems to the wide array of effective food system impacts.



The CoE is anchored in the core dimensions of Africa's crops and Africa's herds, and how they are transformed into food through human agency, with value-addition and commercialisation. This core interfaces with the broader aspects of our planet; economies and people; policy landscapes; and evolving technology developments. The combination of core food system dimensions, complex food system interfaces, the intent to build researcher and practitioner capability, and pressing societal needs shape the CoE's research agenda.

To bring the research agenda to life and to leverage existing capabilities within the CoE, in 2021, partnering universities began an extensive mapping exercise across their institutions. The exercise is guided by the food systems conceptual framework of the High Level Panel of Experts on Food Security and Nutrition. With a primary focus on consumer-driven, safe and nutritious food, the exercise is seeking to detail the food system challenges faced and what research is being undertaken, who is undertaking the research, current expertise within the network, and collaborations with national and international partners. It is anticipated that the mapping exercise will be concluded in 2022 and, as the first of its kind, will establish a significant platform for accelerated work towards sustainable food systems in Africa.

## Global influence and impact

In recognition of UP's leadership role in driving research that advances food security and improves nutrition, in 2018, the University was selected to host the United Nations Academic Impact (UNAI) Hub for SDG2 on ending hunger, achieving food security and improving nutrition. The initial appointment was for the period through 2021, and subsequently extended for a second term to 2023. UP is in the company of 16 other universities internationally, each one hosting a specific SDG.

Established in 2010, the UNAI focuses on higher education, seeking to align the sector with the United Nations and mobilise its support and contributions towards realising UN goals and mandates.

The hub shares advances in technologies, research and science to help countries accelerate progress on SDG2, inspire other researchers and mobilise the broader community to take ownership over the fight against hunger and malnutrition. Its work is guided by the UNAI's 10 principles.

As reflected throughout this report, at an institutional level, UP has demonstrated commitment to all 10 principles. This commitment has translated through to work specifically undertaken in relation to SDG2 and the UNAI SDG2 hub.

During the period under review, the hub's work included participating in or leading collaborative research projects and publications; hosting webinars and panel discussions on agriculture and food systems; and supporting the capability-building of emerging researchers. UP representatives from the hub and the ARUA CoE played a lead role in high-level discussions at the UN Food Systems Summit in 2021.



### The UNAI's 10 principles

1. **Addressing poverty:** A commitment to addressing issues of poverty through education
2. **Capacity-building:** A commitment to building capacity in higher education systems across the world
3. **Education for all:** A commitment to educational opportunity for all people regardless of gender, race, religion or ethnicity
4. **Global citizenship:** A commitment to encouraging global citizenship through education
5. **Access to higher education:** A commitment to the opportunity for every interested individual to acquire the skills and knowledge necessary for the pursuit of higher education
6. **Human rights:** A commitment to human rights, among them freedom of enquiry, opinion and speech
7. **Intercultural dialogue:** A commitment to promoting intercultural dialogue and understanding, and the "unlearning" of intolerance through education
8. **Peace and conflict resolution:** A commitment to advancing peace and conflict resolution through education
9. **Sustainability:** A commitment to promoting sustainability through education
10. **United Nations Charter:** A commitment to the principles inherent in the United Nations Charter





TRANSLATING OUR STRATEGY INTO ACTION

Our global and  
continental  
influence  
and impact





Bringing key and influential voices to the table to address issues of societal significance is an important aspect of influencing and increasing impact. The ability to do so is underpinned by the credibility and trustworthiness of the convening agent.

In democratic societies, universities are often regarded as non-partisan and can serve as safe spaces for diverse constituencies to engage in honest conversations. This is particularly difficult, yet more important, when dealing with complex challenges where polarisation and low trust levels between stakeholder groups may prevail. The University of Pretoria sees this as an opportunity to differentiate itself and to pursue its purpose of societal transformation.

Over the past five years, UP has increasingly been seen as a reputable strategic convenor that is recognised for the influential voices it gathers to shape dialogue, thinking and practices for a sustainable world. During the reporting period, several high-profile meetings and events were hosted.

### Dr Angela Merkel visits UP

In February 2020, UP hosted Dr Angela Merkel, former Chancellor of Germany, at the University's Future Africa Institute. She met with a diverse panel of students for wide-ranging discussions on topical issues. These included Germany-South Africa relationships, ways towards a just energy transition in South Africa, addressing economic development through small- and medium enterprise development, the 4IR and gender equality.

Through the visit, young South Africans and future leaders were exposed to global leadership and wisdom.

### UP Africa Week

The inaugural UP Africa Week held in March 2021 brought together a diverse group of 200 participants from around the globe, including Vice-Chancellors and Deputy Vice-Chancellors from UP's global and African networks and partnerships. Affirming the institution's leadership and commitment to partnerships, the event focused on building capacity in Africa and accelerating impact at scale to achieve the SDGs and Agenda 2063 in a post-COVID-19 world.

## STRATEGIC CONVENING

Focusing on the interconnectedness between SDGs 1, 2, 3, 4, 12 and 17, the gathering featured four blended events, all underpinned by a philosophy of transdisciplinarity:

- Times Higher Education (THE) Southern Africa Impact Forum
- Preparation for the 2021 UN Food Systems Summit
- African Vice Chancellors' Forum
- Sustainable Development Solutions Network (SDSN): Transforming Universities

Through a combination of virtual and face-to-face interactions, the programme was designed to facilitate conversations and develop collaborative arrangements to shape innovations and adaptations for a post-COVID-19 world.

The THE Southern Africa Impact Forum connected leaders and experts from academia, business and public policy to share research, ideas and solutions around reimagining the role of universities in society. This set the scene for transdisciplinarity and collaboration, and for preparations for the UN 2021 Food Systems Summit, which aimed to proactively position universities as lead agents initiating regional food systems dialogues that transform African food systems.

The inaugural African Vice Chancellors' Forum brought together a group of leading African institutions of higher education to engage with African policymaking institutions on key sustainable development priorities for the continent. Other participants included the African Development Bank, the African Union Commission, and representatives from the private sector and civil society.

Concluding UP Africa Week and in collaboration with the Sustainable Development Solutions Network (SDSN), the final session focused on practical steps for universities to fulfil their critical role as agents of societal development and transformation.

### UP hosts Africa's first Nobel Prize Dialogue

In May 2021, UP hosted Africa's first Nobel Prize Dialogue. Themed 'The Future of Work', the event featured five Nobel Prize laureates, bringing science and society together with a unique gathering of laureates, opinion leaders, policymakers, students, researchers and the general public. Three Economic Sciences laureates – Christopher Pissarides, Joseph Stiglitz and Abhijit Banerjee – were joined by Physics laureate Brian Schmidt and Peace Prize laureate Muhammad Yunus.

Various panel discussions and interviews throughout the day dealt with questions such as what is the new normal for working life; what benefits does diversity bring to the workplace; how does an ageing global population change the labour market; and how is the COVID-19 pandemic changing the nature of work? The widening gap between the have and the have-nots was highlighted, compelling leaders to respond with more urgency and care, and in a more interconnected and eco-systematic way.

A critical aspect of the Nobel Dialogue was that it represented Africa joining critical conversations on current major issues that are both local and global.

“The THE Southern Africa Impact Forum connected leaders and experts from academia, business and public policy to share research, ideas and solutions around reimagining the role of universities in society.”

### High-level dialogue on manufacturing vaccines in Africa

This dialogue was led by South African President Cyril Ramaphosa and French President Emmanuel Macron, and hosted at UP's Future Africa Institute in May 2021 as part of President Macron's first state visit to South Africa. African ministers and deputy ministers, the German Minister of Health, members of the science and medical communities, and representatives from the diplomatic corps were also part of the conversation.

With a focus on the COVID-19 pandemic and equitable access to affordable vaccines, there was consensus that Africa has the capabilities and the experience to produce vaccines. A collaborative approach was needed, along with pricing transparency and a recognition that vaccines are for the public good.



# NETWORKS AND PARTNERSHIPS

In our [2020/21 Sustainable Development Report](#) we presented our approach to collaboration through networks and partnerships as a means to enhance our impact and drive greater change in the interests of just societal development. The report included a high-level overview of continental and global networks that UP participates in at an institutional level.

During the period under review, our approach was further clarified and sharpened through a consolidated and institutional level strategy – the Africa-Global University Project (AGUP). In this report we will present an updated view on our approach through AGUP, and focus specifically on two collaborations in the sustainable development space where UP has played a lead role.

## AGUP – our next generation strategy for partnering

In recognition of the partnering and collaboration imperative as we seek to meaningfully address complexity, in 2019, UP established the Office for International Strategic Partnerships (ISP). It focused on developing a strategic framework for international partnering to ensure an institutionally coherent approach, and leveraging established partnerships to support UP's strategic intent. The framework was approved by the University Executive in November 2020.



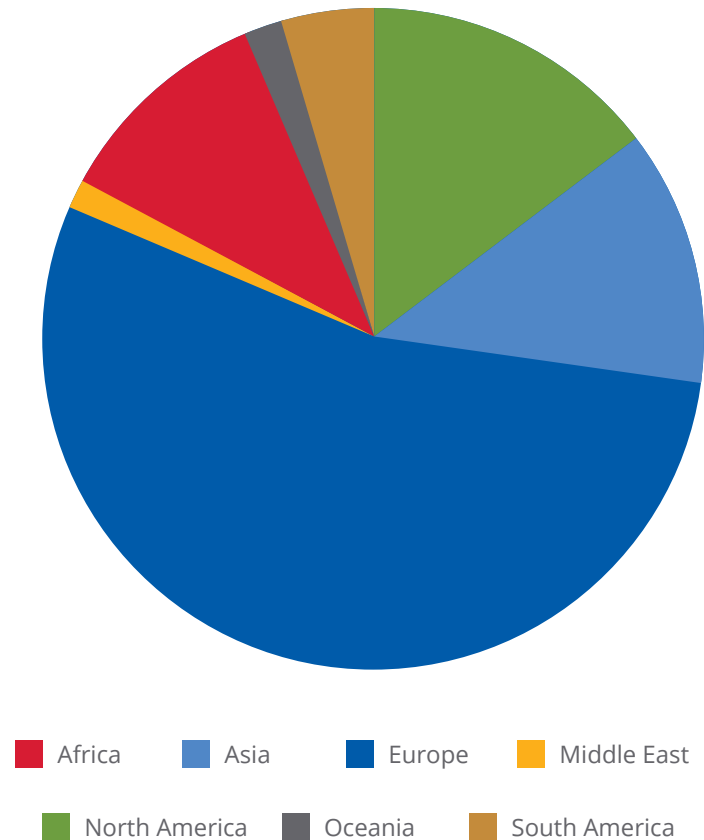
A prerequisite to establishing partnerships is our philosophical alignment with potential partners, and the shared intent for mutually beneficial, collegial and high-impact partnering that enables societal development and transformation. Strategic partnerships should be anchored in a transdisciplinary approach, and cut across teaching, learning, research and postgraduate education.

To this end, we pursue high-value strategic partnerships with higher education institutions, university networks, centres of excellence, government, the private sector and civil society. This involves establishing core strategic partnerships across all regions in Africa and on major continents. In this way, while rooted in Africa, we are also outward-facing and connected to the world.

Aligned with the broader UP institutional strategy, our partnerships must contribute to a distinctive student value proposition for a diverse student population, a curriculum that reflects the demands of society and the future world of work, and an unrivalled student experience. Attracting and retaining leading researchers and scholars must be embedded into partnering arrangements, as well as developing early-career researchers through joint programmes, supervision and exchange programmes.

Within partnerships and collaborations, we also seek to capitalise on our existing strengths and capabilities, and leverage our strategic transdisciplinary platforms.

## 2021 Active partners



Work is underway to explore the current partnership footprint of 196 active partners, and to identify potential core strategic partners and potential gaps to strengthen the core partner footprint.

## The International Summit on University Social Responsibility

The University Social Responsibility Network (USRN) was established in 2015, and comprises 16 leading universities, with UP being the only African university member. The network sees the mission of universities in a broader sense than the traditional view, which is limited to knowledge creation, and recognises the need for universities to intentionally develop useful knowledge for solutions to economic, social and environmental problems in society.

The USRN holds its international summit biennially, and in 2021, UP served as the summit host. The theme for the year was 'University Social Responsibility: Priorities for the Next Decade', and focused on exploring the changing mission of higher education. The summit shared and showcased ideas and experiences on innovative ways to drive social responsibility within the university community and broader society.

A key focus was on shifting the dialogue from "What are universities good at?" to "What are universities good for?" Amplified by the COVID-19 pandemic, it has become increasingly evident that universities can, and should, intentionally work towards addressing society's pressing challenges. In this sense, the notion of academic responsibility is as important as that of academic freedom. By necessity, with freedom comes responsibility. It was also evident that university efforts and contributions to host communities served as a multiplier effect in supporting social and economic development.

## Hosting the Sustainable Development Solutions Network (SDSN) National Network for South Africa

Recognising the importance of education, research, policy analysis and global cooperation to sustainable development, the SDSN was established in 2012 under the auspices of the UN Secretary-General. Through its national, regional and global networks, the SDSN mobilises knowledge institutions and their associated expertise,

to generate and promote practical solutions for sustainable development, including achievement of the SDGs and the Paris Climate Agreement.

The Albert Luthuli Leadership Institute (ALLI) and GIBS are members of the SDSN globally, and the SA SDG Hub, which resides in ALLI, has had various engagements with the SDSN. On an executive level, in July 2020, UP's Vice-Chancellor and Principal participated in the event 'University Sector Support to UN Secretary-General's Call for a Decade of Action on the SDGs', which was convened by the SDSN. Additionally, a case study of UP focusing on institutional transformation to support the SDGs is included in the SDSN guide

In May 2021, the SDSN Networks Strategy Council approved the appointment of UP as host of the SDSN National Network for South Africa. The appointment involves setting up the national network and its related governance structures. The Local Leadership Council, made up of prominent and influential people, provides oversight, guides the work of the network and enables network activities through their personal influence. Members of the national network comprise institutions that qualify for membership with the SDSN Global Network. Collectively, the members drive innovative projects to accelerate achievement of the SDGs.



“With a broad global and cross-sectoral footprint, the SDSN is a key role player in the sustainable development space, and collaboration within and across the network presents opportunities for universities to enhance their impact for the common good.”



A photograph of a university campus. In the foreground is a large, well-maintained green lawn. Behind the lawn is a historic stone building with a prominent clock tower. The clock tower has a red dome and a clock face. Above the clock face is the year '1910'. Below the clock face is a small plaque that reads 'YOU LETTERS OLD ARTS'. The building has multiple arched windows and doorways. To the right of the historic building is a modern, multi-story white building with a flat roof and a series of horizontal slats. Large green trees are on both sides of the historic building. The sky is overcast.

Concluding the  
conversation



# CONSOLIDATED ALIGNMENT WITH THE SDGS

In this report we have illustrated our alignment with the SDGs through operational sustainability and driving sustainable development through our core functions. Our contributions are by means of three potential pathways that may directly contribute to achieving tangible targets; building capability, which supports implementation; or to evidence-informed policy-shaping.

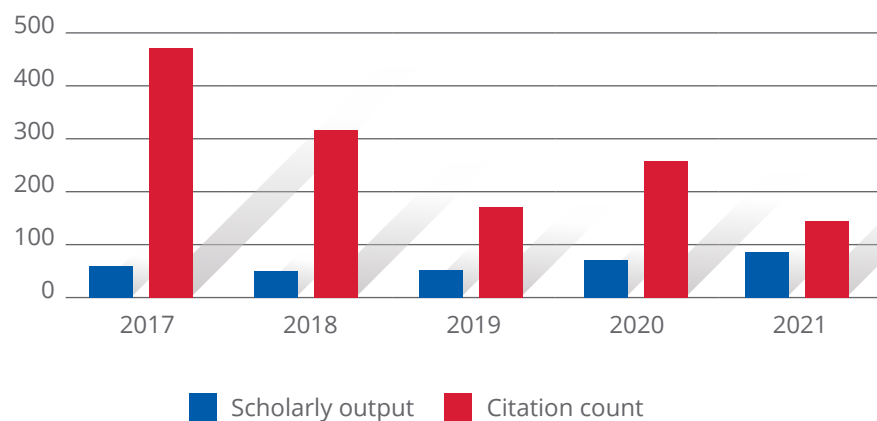
In our relation to the work we do, we reflected further on what the SDGs mean in relation to the work we do. We categorised the SDGs to tell the story of how they make sense within our context and are central to the human condition.

This approach remains valid as we give expression to sustainable development through our institutional strategy.

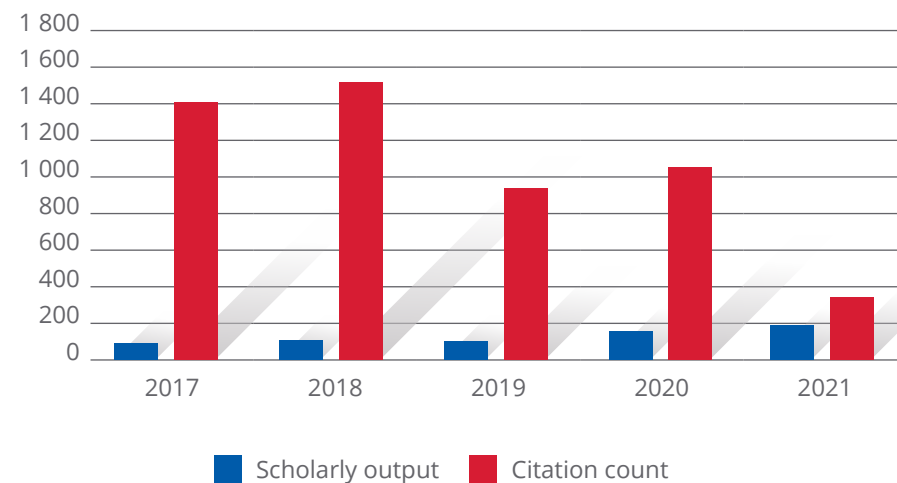
Our comprehensive coverage of the SDGs is further reflected in the research we undertake to address societal issues and have positive impacts. Research outputs for each SDG over the past five years is illustrated in the figures in the following pages.



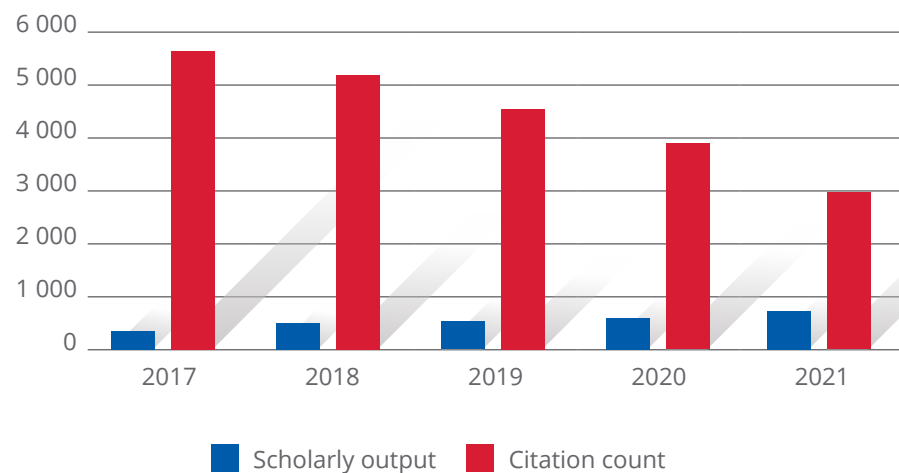
### SDG1: No Poverty



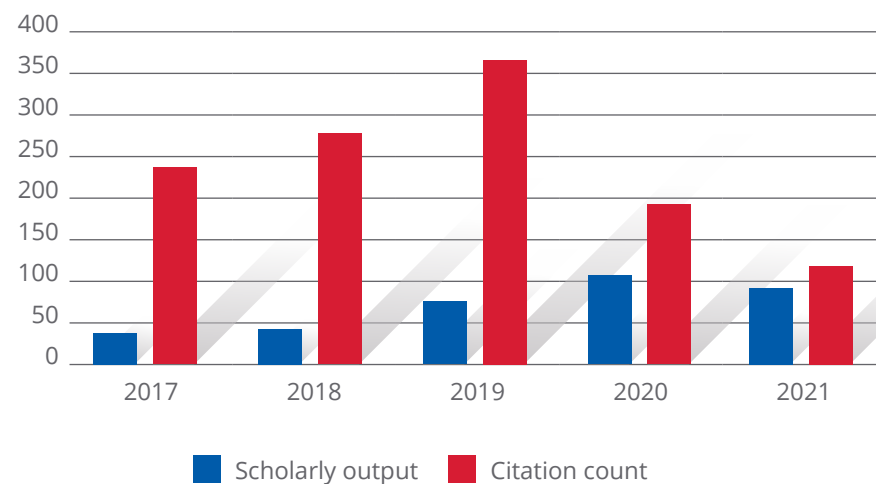
### SDG2: Zero Hunger



### SDG3: Good Health and Well-being

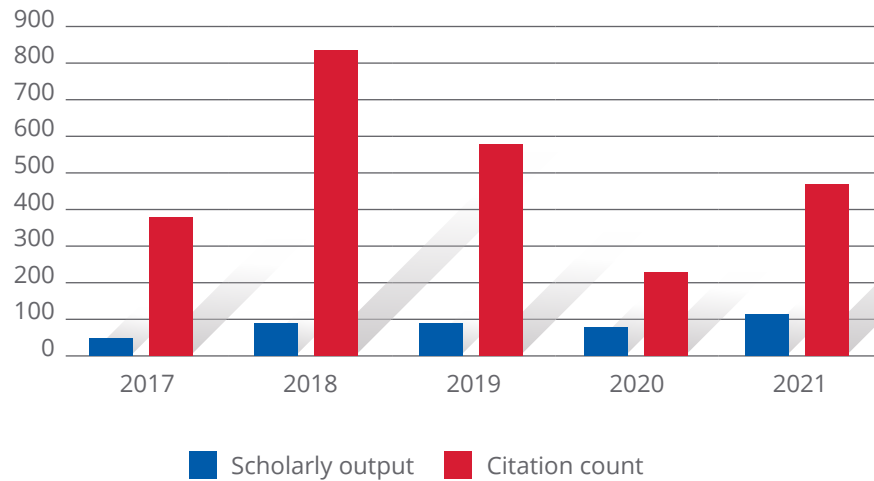


### SDG4: Quality Education

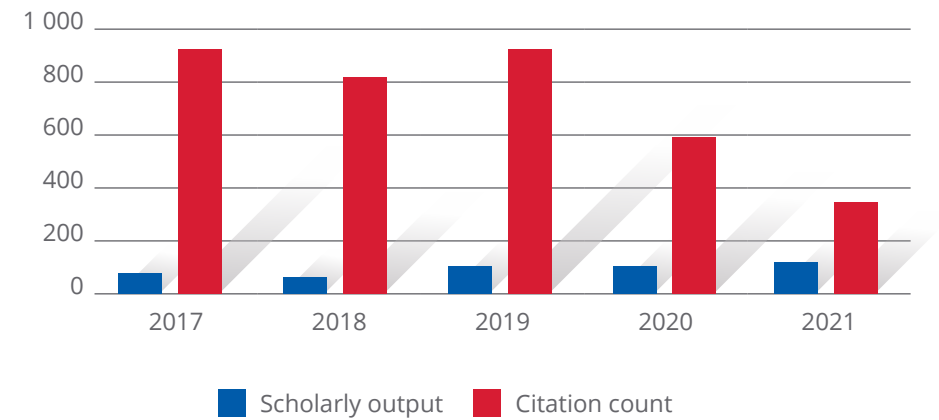




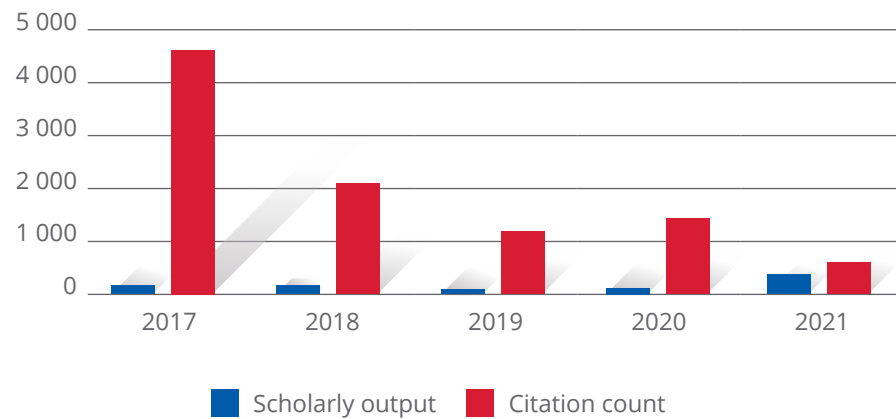
### SDG5: Gender Inequality



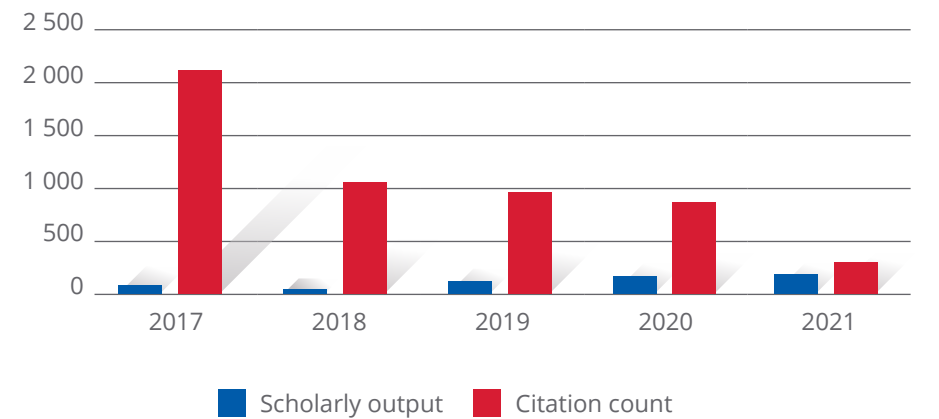
### SDG6: Clean Water and Sanitation



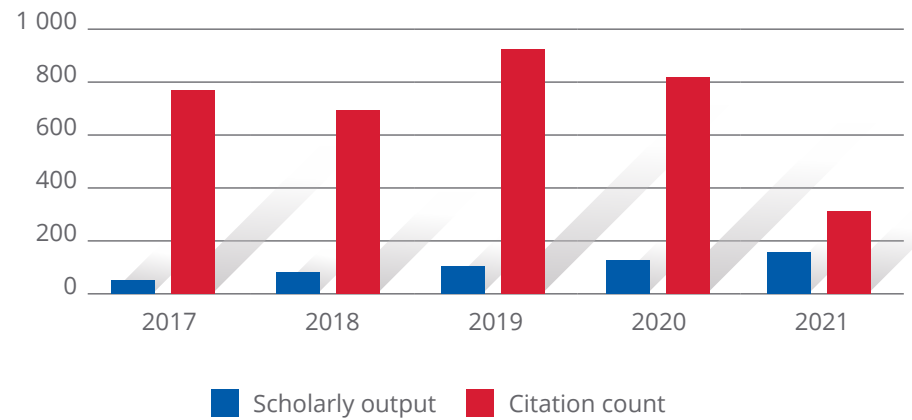
### SDG7: Affordable and Clean Energy



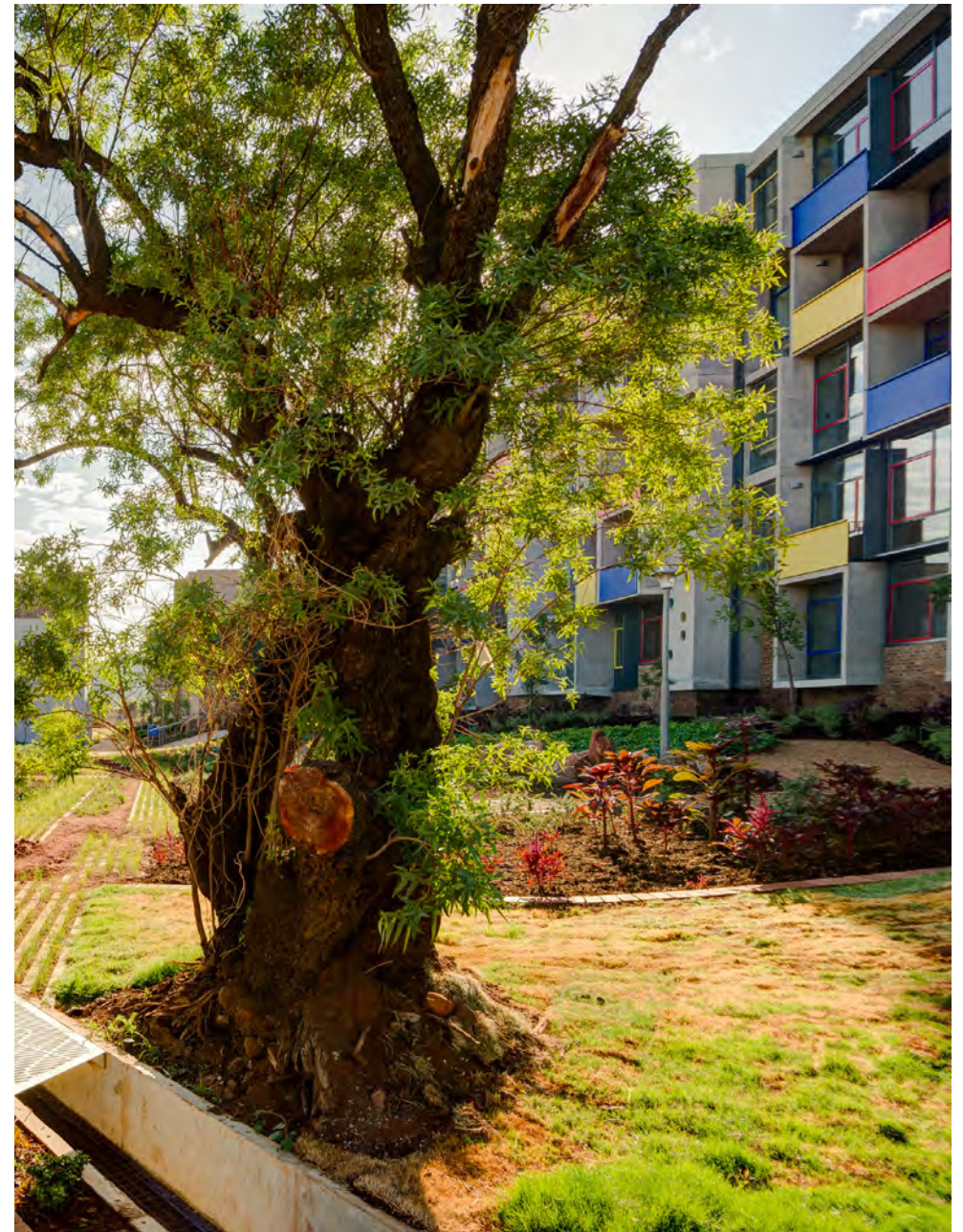
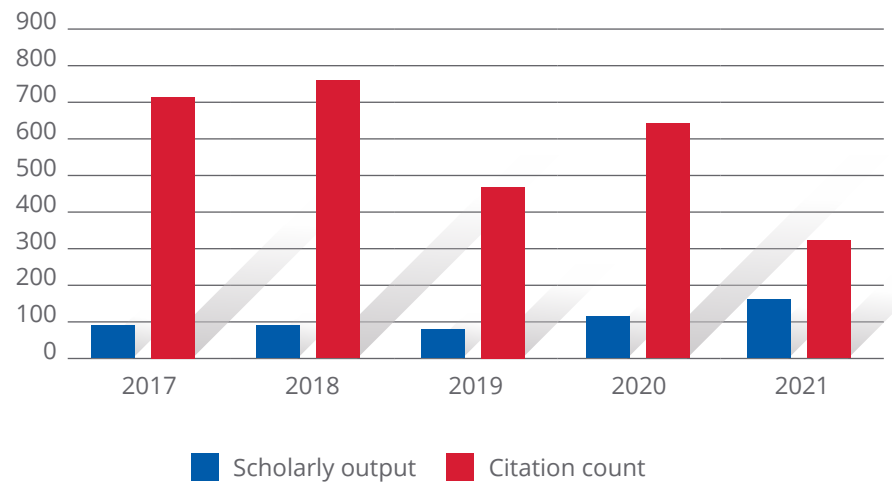
### SDG8: Decent Work and Economic Growth



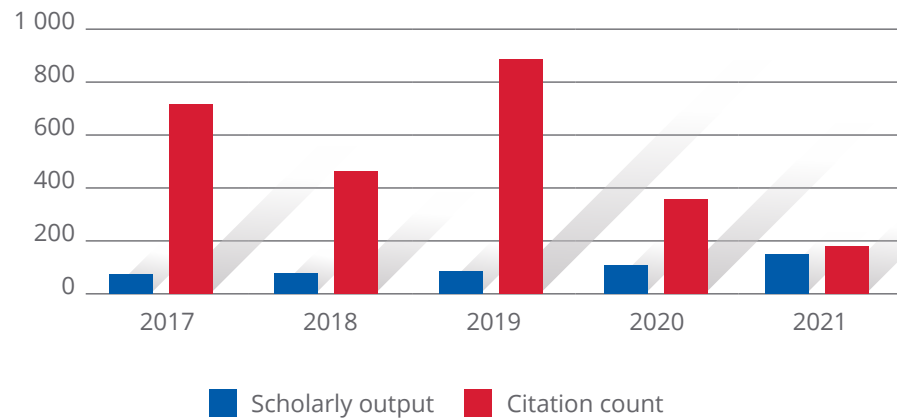
## SDG9: Industry, Innovation and Infrastructure



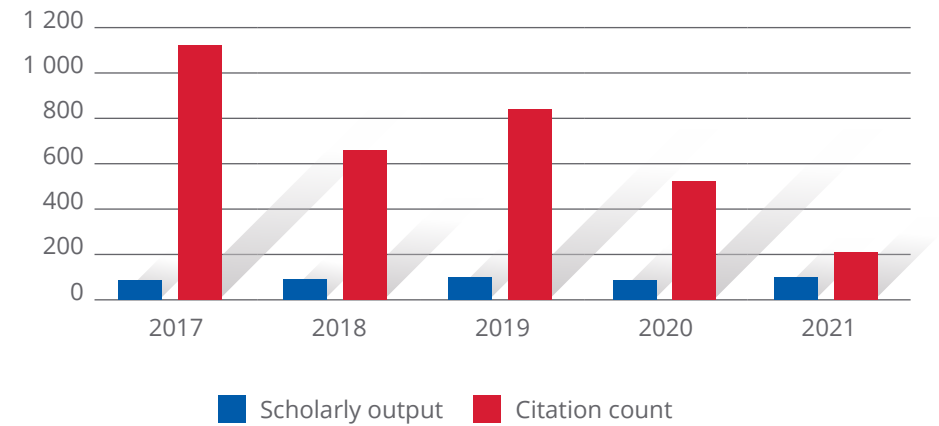
## SDG10: Reduced Inequality



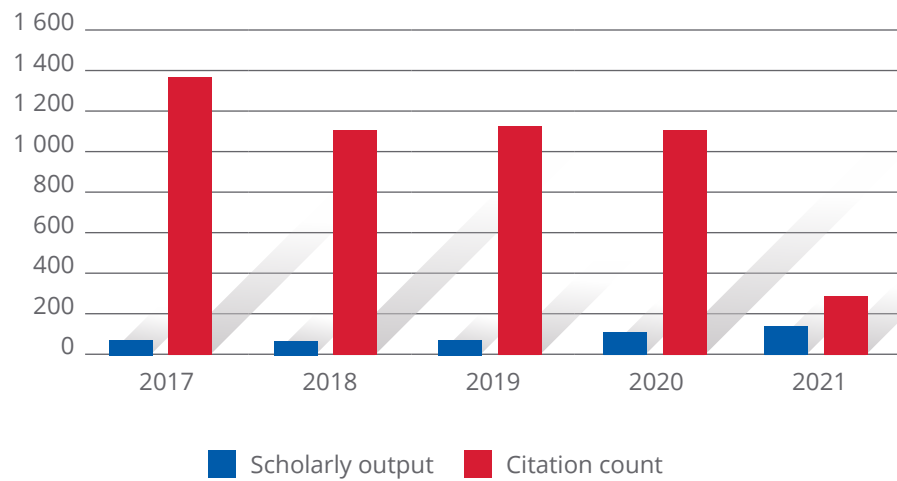
### SDG11: Sustainable Cities and Communities



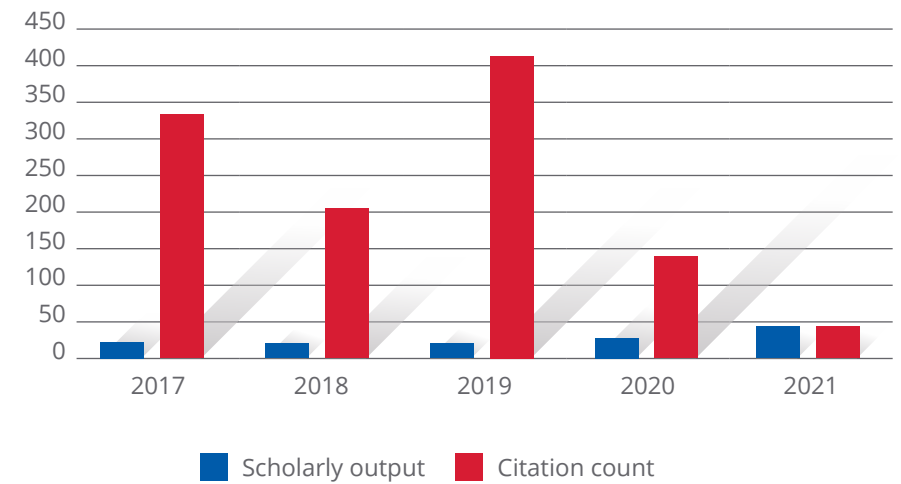
### SDG12: Responsible Consumption and Production



### SDG13: Climate Action

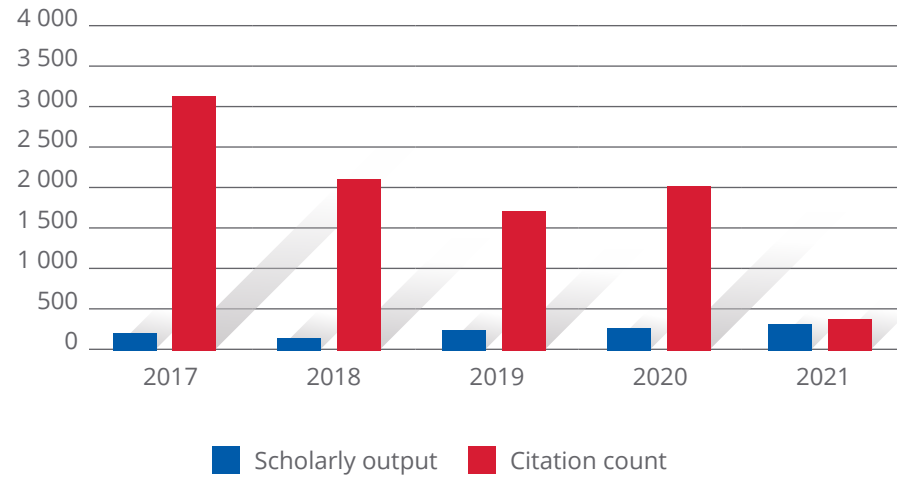


### SDG14: Life Below Water



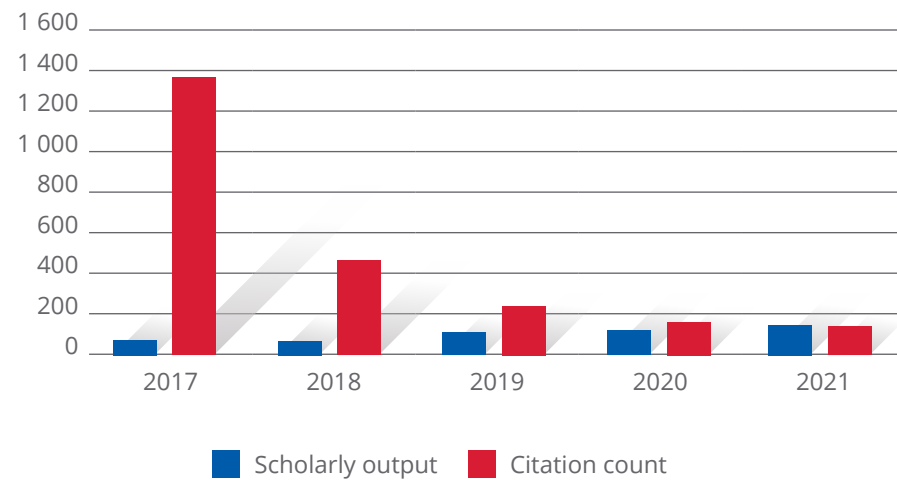


## SDG15: Life on Land



Beyond comprehensive coverage, we continue to demonstrate progressively increasing research productivity across the SDGs. We will continue to work towards increasing the relevance of our research so that its impact is seen in improving the lives of the people of South Africa, Africa and the world.

## SDG16: Peace, Justice and Strong Institutions





## Acknowledgements

The UP 2020/2021 Sustainable Development Report reflects the work, talents and dedication of UP's academics, professional service, administrative staff and students who collectively make up the UP community. In the absence of their efforts and demonstrated excellence, this report would not have been possible.

We also acknowledge the UP Executive team for their authentic commitment to sustainable development, their efforts to embed sustainable development into the University's strategy and culture, and the support provided in preparing this report

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