UCT ICT Strategy 2030

Contents

List of abbreviations

Abbreviation	Meaning
AI	Artificial Intelligence
COO	Chief Operating Officer
DSA	Department of Student Affairs
DVC	Deputy Vice-Chancellor
ED	Executive Director
HE	Higher Education
HR	Human Resources
ICT	Information and Communication Technology
ICTS	Information and Communication Technology Services Department
OIC	Office of Inclusivity and Change
OpsMag	Operations Management
PASS	Professional and Support Services
P&S	Properties and Services Department
SER	Self-evaluation Report
SRC	Student Representative Council
UCT	University of Cape Town
VC	Vice-Chancellor

Executive Summary

The purpose of this document is to present the ICT strategy as a foundation on which the UCT Vision 2030 can be delivered.

The following key areas are addressed:
1. Approach followed to developing the ICT Strategy
2. Key Insights and Themes gathered through the engagement process to inform the Strategy
3. The detail of the ICT Strategy noting the current state of ICT 2022; the dream for ICT in 2030 and the initiatives that will make the strategy real
4. The ICT Strategy on One Page
5. Next Steps for development of Implementation Plans and Execution of the Strategy

It is important to note that this document does not provide an implementation plan of the ICT Strategy as this forms part of the next phase of the project, which will start after the approval of the ICT Strategy by Council.

1. ICT Strategy : How did we get here

Context and Approach:

The 2021 Annual SER Audit Report highlighted a need for an institutional ICT strategy, recognising that ICT is a key enabler for UCT to deliver on its Vision 2030 imperatives. Post the review of the SER and annual 2021 ICTS reports by Council, UCT was tasked with developing an ICT Strategy for the Institution.

In line with the cascading approach to developing Vision 2030, the development of the ICT Strategy adopted a similar methodology by engaging with the identified stakeholder groups using a forward-looking, consultative, and iterative approach. Initial meetings with the Leadership Lekgotla were held, followed by detailed engagements with representatives of the university community creating feedback loops to ensure alignment as the strategy developed.

In line with the Vision 2030 engagement process, transformation, social engagement, sustainability, and excellence were regarded as fundamental, being present in all strategic choices in order to be effective. Figure 1 below, adapted from the UCT Vision 2030 approach, describes the method used. This approach was endorsed by Council in June 2022 and ensured strategic alignment with Vision 2030, buy in from the UCT community and external validation.
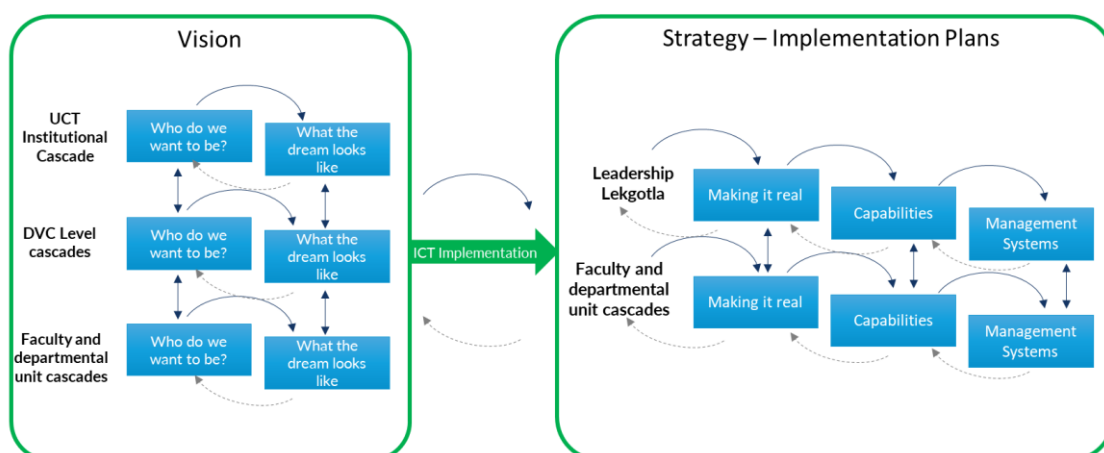

Figure 1: ICT Strategy Engagement Approach

The responsibility for driving the development of the ICT 2030 Strategy was allocated to the ED: ICTS with Executive oversight by the COO. The ICT Strategy Working Group was constituted with Professor Ulrike Rivett taking on the role of Chair.

As the strategy sets the ICT foundation for the delivery of the UCT Vision 2030, goals that will inform the ICTS Department's priorities for the next years, are set here.

To facilitate the compilation of the ICT Strategy and make it truly representative, the ICT Strategy Working group engaged with a with the following groups of the campus community:

- Leadership Lekgotla
- Academic Faculties (DVC, Deans, and staff)
- Transformation and OIC (DVC and staff)
- Research (DVC and staff)
- University Forums (Humanitec, OpsMag)
- Unions
- Student Bodies (SRC; student representation by DSA)
- Other Higher Education Institutions (Local and International)

A full breakdown can be found in Appendix 1.

2. What we discovered - Key Insights and Themes

The iterative engagement processes set out to identify the current status of ICT experiences, the dream of where the UCT community would like to see itself within the next 7 years and the key initiatives that are needed to get us there. As we engaged with the broader campus community, the conversation became very nuanced as insights emerged from a place of lived experiences of technology. Based on these engagements, key themes and insights were identified.

Whilst there was a recognition that the performance of ICT at UCT functions at a high level when compared to other institutions in the country and on the continent, there was also an appreciation that the function is resource-constrained, which impacts our ability to be responsive and adaptable to the demands of an evolving Higher Education landscape.

With the above as context, the following insights were important considerations for the development of the ICT 2030 strategy:

- The traditional concepts of a technocentric design of ICTs were highlighted as falling short of a **user-centred approach** that puts each member of the UCT community at the heart of the future technology map of UCT.

- There was a broad **consistency of themes** across all engagements. The campus community was **passionate about technology** despite the challenges posed by an **inconsistent user experience** with disparate systems that are necessarily responsive to their needs.

- The **appropriateness and availability of technology** has a direct impact on the success of the individual / faculty / department who currently struggle to perform with systems that are not cognisant of the Afrikan context and are impacted by the unpredictability of our environment (e.g. loadshedding).

- Our processes are driven by technologies and systems which are often designed for business organisations rather than educational institutions, resulting in our colleagues needing to

adapt the way they work to systems that are not intuitive or productive. There is a need for technology to become an enabler for efficient and contextualized processes that satisfy the university's context and user needs.

- The need to **recognise the person** and **unleash human potential** was a significant theme. Colleagues and students expressed frustration at the inability of technology to enable them to be innovative, creative and effective.

- The importance of engaging across the campus and **building sustainable and ongoing relationships** was recognised as an activity that should continue. The campus community appreciated the **openness of this engagement** process and provided candid insights into the use of ICT. The process proved to be **educational** for both ICTS and campus, learning more about each other's environments and challenges. It also helped increase the understanding of constraints within which we all work and learn.

- The need to include important themes that were not necessarily at the front of everyone's mind was important to integrate. **Financial Sustainability** and **Compliance, and Security** were highlighted as key requirements that must underpin the ICT Strategy.

- Information Communication Technologies have a key role in supporting the transformation agenda through ensuring that **systems are inclusive** and **influencing the future of technology** for Higher Education on the continent. Through our many conversations, it became apparent that we have a strong role to play as leaders in transformation though ICTs.

3. Strategy for ICT

How does our strategy align with Vision 2030

Taking the lead from UCT's Vision 2030, the ICT Strategy is one that is founded on "Unleashing Human Potential through the use of ICT Technologies", and as such is focused on being people - centric by putting the person at the centre of everything we do.

What the dream looks like

Our dream for ICT is one that draws from Vision 2030 and aspires to create an ICT environment that supports the university's vision to "together create the top global university in Afrika – a university that is uncompromising in its transformative intent, deeply rooted in academic excellence, and one that strives for social, environmental and financial sustainability."[1]

To build the dream, it is important to understand how the campus feels about ICT status in 2022 and then to look ahead to 2030.

The State of ICT at UCT in 2022:

The themes for the UCT ICT experience in 2022 where:

- We have established ourselves as a **leader in the ICT landscape** in the Higher Education Sector in South Africa and are recognised as delivering level of service that is of a high and relatively consistent standard.

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[1] Vision 2030 Planning Team, UCT Vision 2030, September 2021

- We have a **well-established network infrastructure** on campus and are one of only two universities in South Africa that has cyber insurance contributing towards excellent Information Security provided by ICTS.

- **Technology is at the core** of what we do and dictates how we engage and operate within the technology ecosystem, i.e. the user community adapts and adjusts their processes **rather than being supported.**

- We have **technology solutions** that are experienced as inflexible, and not consistently responsive to user needs or cognisant of the differing requirements between the various departments and user communities constraining our ability to be creative, innovative, and efficient.

- We have **adopted technologies** which are not reflective of the Afrikan context , resulting in administrative overheads and process interventions.

- Our users experience an **inconsistent** and often **confusing user experience** aggravated by systems that operate in a fragmented manner with limited integration and obtuse user interfaces that do not encourage use and engagement.

- Our ICT functions are **resource-constrained** creating risk to the university through limited capacity to meet the continuing demand for ICT initiatives, as well as key-man dependencies and the ability to recruit and train appropriately skilled and demographically representative capacity.

- We operate in an **unpredictable external environment** where we are exposed to the vagaries of our climate and unreliable power supply impacting our ability to deliver a stable ICT Infrastructure with reliable connectivity, power, and computing capability to ensure business continuity.

- The demand for ICT initiatives and projects exceeds the current capacity and capability. This has created an environment with a **multiplicity of projects** and initiatives that are **not co-ordinated** leading to unclear priorities. A frequent consequence of resource constraints and unclear priorities is the absence or **inadequacy of adequate stakeholder engagement** and **change management** throughout the full lifecycle of projects and initiatives.

- We have **devolved ICT functions** across the institution with unclear accountabilities leading to duplication and inefficiencies as well as contributing towards the inconsistent user experience.

The State of ICT at UCT in 2030 (our dream):

The dream for ICT described below is reflective of the insights and themes that were gathered in support of delivering the technology platforms that will enable and deliver the goals of Vision 2030. We seek to deliver an ICT environment that is truly reflective of the transformation envisaged by Vision 2030 and creates an ecosystem where the potential for every person of the campus community is capacitated and realised.

ICT in 2030 is one where:

- We have succeeded in transforming our current technocentric ICT to one that is **people-centred** by putting the person and their unique needs at the heart of the technology environment. We involve our campus community from the inception of each initiative and

collaborate to deliver in a cross-functional manner, where all inputs into the end solution are valued.

- We have recognised the need to create **flexible** systems that are **responsive t**o the **uniqueness of our Afrikan** context and have made progress on a migration path to convert our current systems landscape to one that is more reflective and responsive of the Afrikan ecosystem.

- We are recognised as being **influencers of the technology agenda** in the Higher Education Sector on the continent. By becoming the voice that challenges the global technology HE strategies, we will no longer accept solutions that are not meeting our Afrikan needs.

- We have created an environment where **technology** is **intuitive** and responds to the diversity of the campus and its needs. Our solutions will seek to leverage the capability that exists in our institution to build systems that use AI and advanced computing technologies to create an environment that is inclusive and intuitive for all.

- We have created a **collaborative, digitally capable** and **engaged campus community** that **generates** and **shares knowledge** to enable and provide equal opportunity. Our approach has been multi-faceted, adopting a change management approach that meets our diverse capabilities. We will implement technologies that facilitate knowledge management and sharing.

- We have built a **resilient ICT ecosystem** with high security and availability that is no longer impacted by the challenges posed by our external environment creating seamless continuity.

- We have a **co-ordinated approach** to prioritising ICT initiatives that support the strategy and sustainability of the university. Our priorities are clearly understood by all, and we work in partnership with others to deliver these priorities.

- We operate in an environment where we have a **consistent approach** to ICT development whilst recognising the need to offer **autonomous flexibility.** We have developed an approach to streamline our solutions removing duplication and process inefficiencies.

- We have created **transparency** of ICT priorities and delivery through **inclusive communication** with the campus community. We have established processes that ensure the interchange of information in a timely and inclusive manner.

Making it real

Vision 2030 has a great dependency on ICT as an enabler to achieve its goals, thus making it imperative for us to deliver the 2030 state described above. Our dream will only be realised if we define the initiatives required to deliver our envisioned state of ICT in 2030.

The following initiatives will drive the delivery of the ICT dream 2030 :

Initiative 1: Capacitate the university community to be digitally enabled and self-sufficient

- Create the context and understanding of what technology offers through targeted change initiatives
- Improve the availability of ICT with easy to use and intuitive technology platforms that allow students and the campus community to easily connect to technology
- Provide proactive user support using multi-channel communication, training, and self-help tools
- Provide user support through extended hours and utilising technologies such as bots and artificial conversation entities
- Provide technologies that support the new world of Higher Education teaching, learning, and working by combinations of online, virtual, and physical interaction
- Provide and facilitate access for researchers to scientific computation capable of addressing AI/ML and informatics driven research.

Initiative 2: Move towards a pro-active responsive approach to ICT investment

- Deliver a university wide Enterprise Architecture that articulates the foundational elements to ensure that efficiencies and value are delivered through investments
- Build a solution approach with delivery teams that provide support throughout the entire lifecycle to ensure that the full value and benefit of the ICT is realised.
- Use analytics to deliver digitally enabled reporting that is easy to use and interpret

Initiative 3: Develop a secure and resilient ICT architecture

- Implement a resilient architecture that delivers a secure ICT environment with high availability that is scalable, providing sufficient capacity to enable smooth operations and the capability to deliver on advanced computing requirements
- Improve our institutional ability to detect and respond to internal and external threats on our ICT infrastructure and data
- Understand security availability and financial commitment required to implement an appropriate mix of technologies that serve our community

Initiative 4: Deliver efficient and effective ICT systems that are financially sustainable

- Create a technology roadmap that:
  a. implements identified system integration opportunities to create a seamless and secure experience for users
  b. implements a data strategy inclusive of aspects such as master data management, data ownership and archiving
- Provide for a holistic review of processes to identify and implement improvements and automation to enhance productivity

Initiative 5: Develop an institution-wide view that provides an integrated approach to technology which guides ICT decisions

- Implement a Governance and Operating Model that delivers:
    a. the prioritisation and alignment of initiatives
    b. a standardised approach to service level management
    c. clear delineation and guideline for central vs devolved ICT accountabilities
- Review the ICTS organisation in the context of the Vision 2030 goals to design a future ICTS organisation that has the skills and capacity to deliver on the strategy.
- Develop and Implement an ICTS Talent Plan to ensure skills development and modes of employment aligned to the future ICTS organisation.
- Create an implementation and governance framework for change management to drive the implementation of projects

Initiative 6: Implement novel and innovative ways of working that are inclusive and make best use of available resource whilst ensuring that autonomy is respected

- Create a technology ecosystem that allows innovative technologies to emerge and be adopted at an institutional level
- Implement a framework that is supportive of ideas generated by the campus community and oversees the adoption and execution of these.

Initiative 7: Adopt a human-driven approach that underpins the strategy

- Create a user experience that is consistent, collaborative, and intuitive throughout the campus community and incorporates the diverse requirements of our colleagues
- Implement new ways of working that engage our user communities from the inception of each initiative and collaborate to deliver in a cross-functional manner where all inputs into the end solution are valued.
- Enhance the current customer engagement model to be pro-active and consistent through communication channels that facilitate the interchange of information.
- Create a community that guides the organisation by looking for innovative and novel ways to harness our capabilities

The execution of the strategy will be underpinned by an Organisational Change Management program that will focus on preparing, equipping and supporting the campus community at an individual and organisational level.

4. ICT Strategy on a Page

ICT STRATEGY: 2022-2030

ICT Strategy Statement: Using ICTs to unleash human potential

STATE OF ICT IN 2022:

The current state of ICT within the Institution is reflected by the following:

- **Leader in the ICT landscape** in Higher Education Sector in South Africa

- A **solid network infrastructure** with **world class Information Security**

- **Technology-centred** ICT. Technology is the focus

- **Inflexible technology solutions** that are not consistently responsive to user needs

- **Adoption of technologies** that are not reflective of the Afrikan context

- Inconsistent and often **confusing user experience**

- **Resource-constrained** ICT function with **committed staff** and Help Desk

- Operating in an **unpredictable external environment**

- **Multiplicity of projects** and initiatives that are **not co-ordinated** leading to unclear priorities

- **Devolved ICT functions** with unclear accountabilities leading to duplication and inefficiencies

Key ICT Initiatives:

- To **capacitate the university community** to be **digitally enabled** and **self-sufficient**

- To move towards a **pro-active** approach to **ICT investment**

- To develop a **secure and resilient ICT architecture**

- To deliver efficient and effective **ICT systems that are financially sustainable**

- To develop an **institution-wide view** that provides an integrated approach to technology which guides ICT decisions

- To implement novel and **innovative ways of working** that are inclusive and make best use of available resources whilst ensuring that autonomy is respected

- To deliver a **human-driven technology roadmap** that underpins the strategy

Key ICT Assumptions:

- The ICT Strategy is a "living document" and will be continuously assessed and reviewed in response to a changing world

- The ICT Strategy will be underpinned by the delivery of Implementation Plans describing the technologies and related timelines

STATE OF ICT IN 2030:

The dream for ICT is to be: :

- **People-centred ICTs** that put the individual at the core

- **Flexible** systems that are responsive to our **unique Afrikan** context

- **Influencing the technology agenda** in the HE Sector on the continent

- **Intuitive technology** that responds to the diversity of the campus

- A **collaborative, digitally capable** and **engaged campus community** that **generates** and **shares knowledge** to enable and provide equal opportunity

- A **resilient ICT ecosystem** with high security and availability

- A **co-ordinated approach** to ICT initiatives that support the strategy and sustainability of the university

- **Consistent approach** to ICT with sufficient **autonomous flexibility**

- **Increasing transparency** through **inclusive communication** with the campus community

5. Next Steps and Timeline

Considerations and assumptions for the execution of the ICT Strategy are noted as:
- The ICT Strategy is a "living document" and will be continuously assessed and reviewed in response to a changing world.
- The ICT Strategy will be underpinned by the delivery of Implementation Plans describing the technologies and related timelines.

Post Council approval of the ICT Strategy, the Implementation Plans that are aligned with the major initiatives, as well as budget proposals will be developed internally and submitted for approval.

This will be followed by the strategy execution process which takes note that seven years is a long timeframe for IT given the rapid pace of technology development
As such, the implementation planning to 2030 will:
- Include continuous monitoring and evaluation activities to track progress.
- Build in a review process that assures relevance of the technology implemented.
- Re-align and update the ICT Strategy and resulting plans as needed.
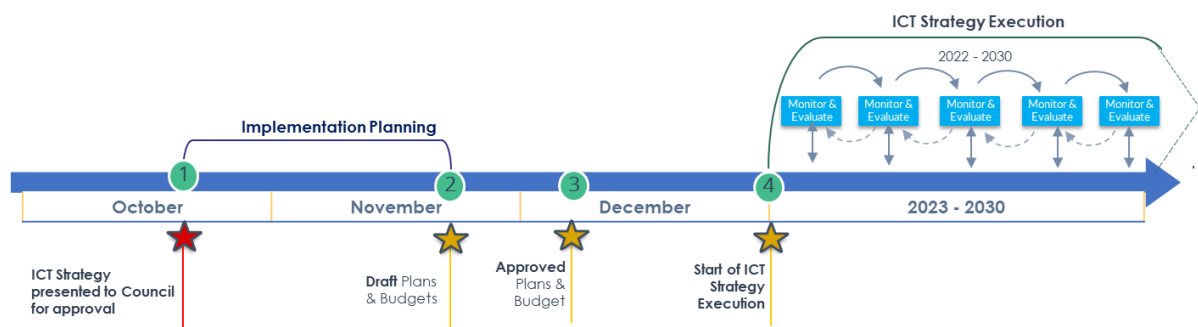
Milestone Legend:

1	15 October	ICT Strategy presented to Council for Approval
2	18 November	Draft Implementation Plans and Budget
3	03 December	Approved Implementation Plans and Budget
4	January 2023	Start of ICT Strategy Execution

6. Appendices

Appendix 1: Engagements completed

Groups Engaged	Sessions Held
Leadership Lekgotla	DVC's and Faculty Deans
	PASS Eds
	UCT Executive
	Vice-Chancellor
University Forums & Unions	Ops Mag
	Humanitec
	Union Representatives
Academic	Centre for Higher Education Development
	Commerce
	Engineering & The Built Environment
	Graduate School of Business
	Humanities
	Law
	Science
	Teaching & Learning
Transformation & OIC	Office of Inclusivity and Change
	Transformation
PASS Departments	Communication & Marketing Department
	Finance
	Human Resources
	ICT Directors
	Institutional Planning Department
	Libraries
	Properties & Services
	Registrar
Students	Department of Student Affairs
	Student Representative Council
Research & Internationalisation	Research & Internationalisation
	Research Office
External	Gartner Research
	University of the North West
	Bristol University?

Appendix 2: Matrix of themes

Key Themes
Intuitive and consistent User Experience facilitated by Seamless integrated Systems
Inclusive & Transformative ICT
Holistic IT landscape incorporating Applications, Platforms and Connectivity
Learning Spaces and Classroom of the Future
Data Strategy: Reporting, Analytics, Management, Availability etc
Putting the student at the core of what we do, enabling our students for success
Agile, Flexible and Responsive
Improved Processes and Efficiencies through Automation
ICT Change and Communication
Digitally enabled and capacitated university
Collaborative Research
Technology Leadership; Influence ICT in Afrika
Governance, Risk, Compliance
Build ICT Capacity through resourcing and capability development
Project Prioritisation and Demand Management
Foster internal and external relationships
Unpredictable Environment & Business Continuity

Note:

- The above themes are listed with those mentioned most at the top, down the least mentioned
- Not all themes were mentioned by all groups
- The need to include important themes from areas with fewer colleagues, such as Financial Sustainability and Compliance are highlighted as a key requirement that underpins the ICT Strategy

Appendix 3: Initial themes gathered

The following themes were identified through an initial round of engagements:

- Contribute to the **Financial Sustainability** of the Institution using technology to support innovative and alternative ways to generate of new revenue streams and improve process efficiency driving a lean Institution.
- Facilitate **technology enabled learning** for new hybrid teaching and learning methods.
- Develop **digitally enabled learning spaces** exploring the use of aspects such as Virtual Reality.
- Provide **virtual collaboration** and **interactive research** to position UCT as a leader in research both nationally and globally.
- Provide and facilitate access for researchers to scientific compute capable of addressing AI/ML and informatics driven research.
- Use **analytics** and provide digitally enabled **reporting** that is easy to use and interpret.
- **Enhance student systems** to improve the overall student experience within the institution ensuring that the needs of all students are considered.
- Improve and streamline processes for **Governance .**
- **Transform and change ICTS** to meet the changing requirements of the students and environment.
- Become **responsive and agile** through proactive identification and resolution of impactful changes and opportunities.
- Introduce **cultural change** within ICT which has many dimensions, a key one being the creation of a culture where all UCT staff are digitally enabled and able to succeed in an environment of continuous change. This is a theme that requires further unpacking / understanding as we progress through the cascaded engagements.