TSHWANE UNIVERSITY OF TECHNOLOGY - FACING THE CHALLENGES

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WHAT WE HAVE DONE: BACKGROUND

☆ TUT was established on 1 January 2004 as a result of the merger of Technikon Northern Gauteng, Technikon North-West and Technikon Pretoria.

☆ TUT has 60 thousand students across six teaching and learning sites in Tshwane (Gauteng), Mpumalanga and Limpopo.

☆ The 11 Faculties offer more than one hundred degree programmes – of which more than 70% are also offered at postgraduate level.

☆ Statistics –
  ➢ 51% Female students
  ➢ 82% Black students
  ➢ 39% enrolled in SET
  ➢ 95% enrolled in undergraduate programmes
  ➢ 5% enrolled in M and D programmes
STRATEGIC FEATURES OF TUT

☆ Teaching & Learning -
  ➢ A professional, career-orientated HEI
  ➢ Relevant career-focused programmes
  ➢ Outcomes-based education
  ➢ Work integrated learning

☆ Research & Development –
  ➢ Theme-related R&D focus areas
  ➢ Address needs and priorities of industry, government and communities

☆ Technological Innovation & Technology Transfer –
  ➢ Downstream-related activities, e.g. patenting, licensing ad commercialization
  ➢ Bridging the innovation gap

☆ Leadership in and through technology –
  ➢ Development, application and diffusion of technology
  ➢ Utilization of technology in the key activities of the institution
Strategic and vibrant partnerships -
- Innovation networks at regional, national and international levels
- Partnerships with government and industry
- Development and upliftment of communities

An innovative and entrepreneurial culture –
- Development of culture amongst staff and students
- The FIVE rules of Burton Clark

Quality and excellence –
- Focus on excellence, client satisfaction and continuous improvement
- Quality management approach and system
MOTTO

We empower people

VISION

To be the leading higher education institution with an entrepreneurial ethos that promotes knowledge and technology, and provides professional career education of an international standard, which is relevant to the needs and aspirations of Southern Africa’s people.
In support of this Vision, we –

☆ Create, apply and transfer knowledge and technology of international standard through cooperative professional career education programmes at undergraduate and postgraduate levels;

☆ Serve and empower society by meeting the socio-economic development needs of Southern Africa through the fruits of our teaching and skills of our staff and students;

☆ Extend the parameters of technological innovation by making knowledge useful through focused applied research and development; and

☆ Establish and maintain a strategic partnership network locally and internationally for the mutual benefit of the institution and its partners.
VALUES

We are committed to:

☆ The highest levels of quality and professionalism in our teaching, research and development and community service.

☆ Being a caring organisation, which makes a difference in the lives of those we are fortunate to touch.

☆ The highest standards of ethics and integrity in our interaction with all segments of the society we serve.

☆ Excellence in holistically developing our students to their full potential as responsible citizens of our country.

☆ Valuing the richness and contributions of our diverse workforce.

☆ Combating unlawful conduct (zero tolerance).
CORPORATE GOALS (2004 – 2007)

- To deliver competent graduates with an entrepreneurial focus who actively contribute to the economy and society
- To establish TUT as a recognized institution for research and development, and technological innovation
- To be the preferred higher education employer with reputable and satisfied staff
- To holistically develop learners
- To ensure an effective and efficient institution of higher learning
Strong focus on undergraduate diploma and first degree programmes, career-focused, addressing regional and national needs and priorities

Benchmark of 40% enrolment in SET programmes and 30% in business or management programmes

Postgraduate enrolment benchmark set at 7% of head counts

Incorporate cooperative education in 60% of all career-focused programmes

Educational intervention strategy for under-prepared learners
TEACHING & LEARNING INITIATIVES

- Foundation year programmes in SET faculties
- Technology Access Programme in Faculty of Engineering
- Academic student development and support, including educational intervention strategies
- Multimode programme delivery strategy
- Modules on entrepreneurship and innovation
- Student project work within industrial settings and pre-incubator environments on campuses
- Academic student development and support, including educational intervention strategies
Promoting a culture for R&D through a focused approach in developing a limited number of R&D Focus and Niche Areas

Addressing the needs and priorities of industry, government and the regional community

High priority placed on capacity building for R&D among staff and students

Establish enabling environments to ensure the participation of 40% of permanent academic staff in R&D

Effective and efficient R&D support services, including R&D administration, facilitation and statistical support
The development of 14 R&D focus areas, incorporating a number of niche areas across SET faculties and management and economic sciences

Institute for Economic Research on Innovation

TUT has 88 Professors at various levels, of which 16 of these are Professors for R&D / Research Fellows

UNESCO Chair in Technological Entrepreneurship

Two THRIP Excellence Award finalists in 2005

TUT has 15 NRF rated researchers

R&D outputs have grown to 84 subsidy units for 2004
TECHNOLOGICAL INNOVATION AND TECHNOLOGY TRANSFER

- Promote and develop a culture for innovation, entrepreneurship and technology transfer

- Enhance R&D downstream related activities such as the patenting, licensing, marketing and commercialization of IP and R&D results in the form of products, processes and services

- Promote and develop knowledge and technology intensive enterprises

- Participate in the establishment of technology and business incubators and related support structures
EXAMPLES OF EXCITING INITIATIVES

★ Participation in
  ➢ TABEISA
  ➢ GODISA
  ➢ TSHUMISANO

★ CITPROD – Centre for IT Product Development

★ SOFTSTART – Software Development Incubator

★ Innovation Fund Projects
  ➢ Office for Innovation & Technology Transfer
  ➢ TUT CLAM Consortium
  ➢ ICT solutions for Power Optimization
  ➢ ALTIS Bone Implants
INNOVATION AND TECHNOLOGY TRANSFER IN ICT

FACULTY OF ICT

EU

DST

DTI

CITPROD

Initiate // Accelerate // Grow

Technology SMEs

Innovation Hub

Business Partners

Blue IQ

softstart

NRF
SOFTSTART SOFTWARE INCUBATOR
THE WAY FORWARD

☆ Phase of consolidation -
  ➢ Redefine PQM and Faculties
  ➢ Academic topography on campuses
  ➢ Support services topography

☆ Integration of R&D and TI & TT strategies

☆ Exciting new opportunities, e.g. -
  ➢ Development of Tshwane North
  ➢ Institute of Advanced Tooling
  ➢ Automotive Technology Business Incubator