UTM GLOBAL PLAN 2012-2020
PHASE III: 2018-2020

& enVision UTM 2025

- Timeline of PGU III development
- Environmental scanning
- The plan
- Implementation
- Monitoring


- Summary of UTM Global Plan Phase II
- Key performance indicator
- UTM in World University Rankings

enVISION UTM 2025: Thrive For A Better Future

- Introduction
- Beyond 2020: enVision UTM 2025
- Desired state by 2025
- Transformation challenges
- Game changer
As a blueprint for the university, the UTM Global Plan Phase III (2018-2020) is a catalyst for facing future challenges, especially in maintaining the sustainability of the university without sacrificing the quality and accessibility of higher education. It also focuses on improving the quality of our human talents, both staff and students, as part of our responsibility to the society at large.

Tan Sri Abdul Halim bin Ali
Chairman, Board of Directors

The UTM Global Plan Phase III (2018-2020) entails the strategic roadmap of the university in emphasizing the positive approach to empower and inspire the UTM community to strive and thrive in facing the current and future challenges. The blueprint represents the whole DNA of UTM that focuses on the human growth and positive knowledge ecosystem.

Prof. Datuk Ir. Dr. Wahid bin Omar
Vice Chancellor

Strategically, the UTM Global Plan Phase III (2018-2020) and enVision UTM 2025 mark UTM’s initiatives in confronting current challenges with realistic and doable approach. It also truly redefines and cultivates UTM’s core values in fulfilling the new UTM vision towards 2020 and beyond.

Prof. Dr. Shahrin bin Mohammed
Pro Vice Chancellor (Strategy)

• Summary of the UTM Global Plan Phase II
• Key performance indicator
• UTM in World University Rankings
• Notable awards and recognitions (2015-2017)
The introduction and appreciation of UTM Institutional DNA and the idea of New Academia based on the spirit of consensus, inclusiveness and involvement amongst university staff have ensured the successful implementation of high impact programs in the UTM Global Plan 2012-2020 (Phase II: 2015-2017).

The success of the strategic objectives and the Main Performance Indicator (KAI) representing the seven Key Focus Areas (KFA) has been manifested with the success of the UTM staff throughout the implementation of PGU Phase II. This success includes human capital development through quality education, contribution in research, innovation and commercialisation, global university rankings and community service through the university social responsibility and outreach programs. This success will be continued in the UTM Global Plan Phase III (2018-2020) in ensuring that the aspiration of UTM is achieved.
UTM FACTS AND FIGURES

ADMISSION/ENROLMENT

- 27,505 Total UG & PG enrolment (MyMOHES)
- 23,719 Total UG & PG enrolment (MyRA)

- 8,794 Total PG enrolment (MyMOHES)
- 11,731 Total PG enrolment (MyRA)

- 4,444 Master students (MyMOHES)
- 6,522 Master students (MyRA)

- 4,350 PhD students (MyMOHES)
- 5,209 PhD students (MyRA)

- 2,579 Total international students (MyMOHES)
- 3,156 Total international students (MyRA)

(Since: MyMOHES/MyRA data; cut off: 31 Dec 2017)

REPUTATION

- #253 (WUR)
- #49 (Asia)
- #90 (E&T)
- #21 (Under 50)

- QS WU Rankings (2017/2018)
- 6 subjects in Top 100
- QS Ranking by Subjects
- 6 Star Rating
- MyRA
- SETARA
- 4 HiCoEs
- Graduate employability rate

QUALITY OF EDUCATION

- 178,152 Total alumni
- 5,245 International alumni
- 69 Countries

(Since: UTM Alumni, Dec 2017)

INDUSTRY LINKAGES/BRANDING

- 802 Community engagement projects (2014 - 2017)

- RM 12.2mil Community engagement fund since 2014
- RM 461.8mil Research grants secured (2010 - 2017)
- RM 111.1mil Income from research & innovation (Jan - Dec 2017)

- 22,497 Indexed publications (2010 - 2017)

TOTAL CAMPUS EXPERIENCE

- 11,934 Outbound mobility students (2009 - 2017)
- 6,957 Inbound mobility students (2009 - 2017)

- 9,807 Students involved in ongoing entrepreneurship projects (2015 - 2017)
- 722 Students involved in Job on Campus programme

- 4,568 Students involved in Service Learning programme
- 152 Students involved in 5ETP

(Data as of 31 December 2017)
<table>
<thead>
<tr>
<th>Indicator</th>
<th>2017**</th>
<th>2016</th>
<th>2012*</th>
</tr>
</thead>
<tbody>
<tr>
<td>UTM students</td>
<td>23,719</td>
<td>22,967</td>
<td>24,974</td>
</tr>
<tr>
<td>Cumulative GPA of first year undergraduates</td>
<td>3.69</td>
<td>3.69</td>
<td>3.71</td>
</tr>
<tr>
<td>Percentage of postgraduate students</td>
<td>49%</td>
<td>53.1%</td>
<td>53%</td>
</tr>
<tr>
<td>PhD students</td>
<td>5,209</td>
<td>5,224</td>
<td>4,445</td>
</tr>
<tr>
<td>Percentage of staff with PhD</td>
<td>87%</td>
<td>84%</td>
<td>70.49%</td>
</tr>
<tr>
<td>Quantity of academic publications (SCOPUS/WOS)</td>
<td>2,248</td>
<td>3,470</td>
<td>2,249</td>
</tr>
<tr>
<td>Cumulative citation</td>
<td>63,749</td>
<td>46,290</td>
<td>25,567</td>
</tr>
<tr>
<td>Percentage of graduate employability</td>
<td>84%</td>
<td>84%</td>
<td>69%</td>
</tr>
<tr>
<td>Number of inbound and outbound students</td>
<td>2,365</td>
<td>690</td>
<td>111</td>
</tr>
<tr>
<td>Intellectual property</td>
<td>6,016</td>
<td>5,372</td>
<td>2,980</td>
</tr>
<tr>
<td>Industry linkages</td>
<td>1,850</td>
<td>1,749</td>
<td>NA</td>
</tr>
<tr>
<td>Income generation from research (RM mil)</td>
<td>64.5</td>
<td>66.6</td>
<td>49.45</td>
</tr>
<tr>
<td>Research grant (RM mil)</td>
<td>58.1</td>
<td>47.4</td>
<td>90.8</td>
</tr>
<tr>
<td>Endowment (RM mil)</td>
<td>88.3</td>
<td>82.6</td>
<td>55.84</td>
</tr>
</tbody>
</table>

**SMO (Data as of 31 December 2017)
## UTM in QS World University Rankings

### QS Ranking

<table>
<thead>
<tr>
<th>Year</th>
<th>UTM PGU I</th>
<th>UTM PGU II</th>
<th>UTM PGU III</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Subjects

<table>
<thead>
<tr>
<th>Top 100</th>
<th>Chemical Engineering; Electrical &amp; Electronics Engineering; Built Environment/Architecture; Mechanical, Aeronautical &amp; Manufacturing; Civil &amp; Structural Engineering; Computer Sciences &amp; Information System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 150</td>
<td>Environmental Sciences; Material Sciences; Agriculture &amp; Forestry</td>
</tr>
<tr>
<td>Top 200</td>
<td>Education</td>
</tr>
<tr>
<td>Top 250</td>
<td>Mathematics; Chemistry</td>
</tr>
<tr>
<td>Top 300</td>
<td>Linguistics Modern Languages</td>
</tr>
<tr>
<td>Top 350</td>
<td>Physics &amp; Astronomy</td>
</tr>
<tr>
<td>Top 400</td>
<td>Biological Sciences</td>
</tr>
</tbody>
</table>
### UTM Achievements in Other World University Rankings

<table>
<thead>
<tr>
<th>Subject</th>
<th>Rank</th>
<th>World Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Engineering</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>84</td>
<td>84</td>
</tr>
<tr>
<td>Material Engineering</td>
<td>111</td>
<td>111</td>
</tr>
<tr>
<td>Electrical &amp; Electronics</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td>Engineering</td>
<td>296</td>
<td>296</td>
</tr>
<tr>
<td>Water Resources</td>
<td>51-75</td>
<td>51-75</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>151-200</td>
<td>151-200</td>
</tr>
<tr>
<td>Computer Science &amp; Engineering</td>
<td>301-400</td>
<td>301-400</td>
</tr>
<tr>
<td>Energy Science &amp; Engineering</td>
<td>301-400</td>
<td>301-400</td>
</tr>
<tr>
<td>Environmental Science &amp; Engineering</td>
<td>301-400</td>
<td>301-400</td>
</tr>
</tbody>
</table>
UTM INSTITUTIONAL ACHIEVEMENTS: PGU I & PGU II Highlights

UTM PGU I

- Autonomous university
- Self accreditation status from MOHE
- Energy Management Gold Standard Certification (EMGS)
- ASEAN EMGS
- 3 Star ASEAN Energy Management Scheme (AEMAS)
- NanoMalaysia Excellence Centre
- First HiCoE: WCC
- Bionexus Partner (BNP) status (6 labs)
- Franchise certification: IBD UTM
- British Institute of Facilities Management (BIFM) Recognised Centre: FGHT
- Level 3 Best Practices: Low Carbon Campus based on LCCF
- Champion: Setup Weekend with Southern Zone DiGi (DiGi & MOHE)

UTM PGU II

- 6 Star Rating: SETARA 2017
- 6 Star Rating: MyRA 2014
- 6 Star Rating: MyRA 2016
- 3 HiCoEs: AMTEC, INV & IBD
- Anugerah Inovasi Sektor Awam (AISA) 2015: Financial Management
- Anugerah Inovasi KPT 2015
- Outstanding International Partnerships and Collaborations in 2015
- Most Collaborative BioNexus Partners Award 2015
- Anugerah Saintis Muda Negara 2015: 2 Prof/AP
- Top Research Scientists Malaysia 2016: 3 Professors
- Malaysia’s Rising Star Award 2016: 2 Professors
- Best Academia-Industry Collaboration, GradMalaysia Graduate Recruitment 2016
- 5 Star: The Best Records Management Awards 2016 for Public Sector Universities
- Champion: Asia-Pacific Broadcasting Union (ABU) ROBOCON 2016 – Bangkok
- Champion: ESPRIEX Business Model Competition ASEAN 2016 – Indonesia

UTM PGU III

To be in the top 50 best engineering and technology university in the world, and to produce high quality graduates who are competent, competitive, innovative, entrepreneurial and exemplary in character that serve the needs of the nation and the world.
**NOTABLE ACHIEVEMENTS (PGU II): Institution**

**2015**

*6 Star Rating*
MyRA 2014

**Higher Institution Centre of Excellence 2015 (HiCoE)**
Advanced Membrane Technology Research Centre (AMTEC) & Institute of Noise and Vibration (IKG)

**Winner**
Anugerah Inovasi Sektor Awam (AISA) 2015

**Winner**
Anugerah Inovasi KPT 2015

**Salutes to Excellence Award**
Outstanding International Partnerships and Collaborations in 2015 by The American Chemical Society

**2016**

**Higher Institution Centre of Excellence 2015 (HiCoE)**
Institute of Bioproduct Development (IBD)

**Winner**
Best Academia-Industry Collaboration, GradMalaysia Graduate Recruitment 2016

**Gold Star Rating**
Energy Management Gold Standard (EMGS), ASEAN Energy Management Scheme (AEMAS)

**5 Star Rating**
The Best Records Management Awards 2016 for Public Sector Universities

**2017**

*6 Star Rating*
SETARA

*6 Star Rating*
MyRA 2016

**5 Star**
Penilaian Kualiti Data Universiti Penyelidikan MyMOHES

**Special Award**
Kelestarian Kampus Hijau Universiti Awam Malaysia 2017

**Bioeconomy Innovation Awards**
Institute of Bioproduct Development (IBD)

**Excellent Business School with Reinforcing International Influence 2016**
UTM International Business School (IBS)
### NOTABLE ACHIEVEMENTS (PGU II): Staff

#### 2015

**Prof. Farid Nasir Ali & Prof Ani Idris**  
Anugerah Saintis Penyelidikan Terbaik Malaysia 2015

**Assoc. Prof. Ir. Dr. Sharifah Rafidah Wan Alwi**  
Anugerah Saintis Muda Negara 2015

**Dr. Wai Shin Ho**  
Malaysia Young Engineer in Research di Chemical Engineers (IChemE) Malaysia Awards 2015

**Dr. Yeong Che Fai**  
Best Entrepreneurship Mentor/Coach Award at MOE Entrepreneurial Awards (MEA) 2015

#### 2016

**Prof. Dr. Ahmad Fauzi Ismail**  
One of the most cited researchers Shanghai Rankings Global Ranking of Academic Subjects in Chemical Engineering

**Prof. Dr. Ahmad Fauzi Ismail & Prof. Dr. Zainal Salam**  
Frontier Researcher Category Malaysia’s Rising Star Award 2016

**Prof. Ir. Dr. Sharifah Rafidah Datu Wan Alwi**  
Young Researcher Category Malaysia’s Rising Star Award 2016

**Prof. Dr. Sr. Mazlan Hashim, Prof Dr. Azman Hassan & Prof. Dr. Tharek Abdul Rahman**  
2016 Top Research Scientists Malaysia The Academy of Sciences Malaysia (ASM)

**Prof. Dato’ Dr. Norbik Basha Idris**  
2016 Information Security Educator International Information System Security Certification Consortium

**Assoc. Prof. Dr. Zainura Zainon Noor**  
Recipient of ASEAN-US Science & Technology Fellowship

**Dr. Norhayati Abdullah**  
Recipient of Fullbright Fellowship US ASEAN Academic Exchange

#### 2017

**Prof. Dr. Mohamad Roji Sarmidi**  
Anugerah Akademik Negara (AAN) 2017 Innovation & Product Commercialisation

**Prof. Datuk Dr. Ahmad Fauzi Ismail**  
Outstanding Award Malaysia Technology Expo2017 Malaysian Association Research Scientist (MARS)

**Prof. Datuk Dr. Ahmad Fauzi Ismail, Prof. Dr. Wong Kuan Yew & Prof. Dr. Nor Aishah Saidina Amin**  
Malaysia’s Research Star Award 2017

**Assoc. Prof. Dr. Mohd Hafiz Dzarfan Othman**  
Global Young Academy The Voice of Scientist Around the World

**Dr. Eileen Su Lee Ming**  
First Place in the Royal Academy of Engineering’s Leaders in Innovation Fellowships (LIF) Newton Fund

**Dr. Sheela Chandren**  
Recipient of the Lindau Award

**Dr. Rozzeta Dollah**  
Post-Doctoral Programme at Massachusetts Institute of Technology (MIT)

**Dr. Mariani Abd Hamid**  
Most Promising Innovation Bioeconomy Corporation and the Ministry of Science, Technology and Innovation (MOSTI)

**Dr. Zaid Omar**  
The best science communicator for FameLab Malaysia 2017
NOTABLE ACHIEVEMENTS (PGU II): Students

2015

**Champion - Pitching Award**
Asia Pacific Assistive, Rehabilitative and Therapeutic Technologies (ARTTs) Challenge 2015

**Champion**
Software Hackathon 2015 Competition
Dreamcatcher Asia dan Multimedia Development Corporation (MDEC)

**Champion**
International Oil Rig Design Competition
Petroleum Integrated Days (PETROLIDA 2015)

**Champion (3 categories)**
Introducing and Demonstrating Earthquake Engineering Research in Schools (IDEERS)

**Champion (Best Design)**
ABU Robot Contest (ROBOCON) 2015

**Emerging Scholar Award**
Golden Key International Honor Society
Jason Ang Wei Lung

18 Outstanding Awards

2016

**Overall Champion**
Innovate Malaysia Design Competition 2016

**Champion**
Asia-Pacific Broadcasting Union (ABU) ROBOCON 2016 - Bangkok

**Champion**
ESPRIEX Business Model Competition ASEAN

**Gold Award**
International Invention Innovation Competition (iCAN 2016), Canada

**Winner**
3MT (Minute Thesis) Competition Global Engineers in Asia 2016, Thailand

**Winner**
RoboCup@Home Simulation during RoboCup Japan Open 2016

**Mount Everest Conquest**
Farul Adib Muhammad Yusoff

21 Outstanding Awards

2017

**National Winner**
Malaysia Microsoft Imagine Cup 2017
Solvere group – Fourth year students from Faculty of Electrical Engineering

**Gold Medal (Silat)**
SEA Games 2017
Muhammad Faizul Mohd Nasir

**Gold Medal (Netball)**
SEA Games 2017
Pow Mei Foong & Nurfariha Abdul Razak

**PAM ZSR Architecture Prize 2016**
Architecture students from Faculty of Built Environment

**Top Prizes**
Malaysia Structural Steel Association MSSA OIC 2017 National Competition Architecture and Civil Engineering students

**Champion**
Business Simulation Monsoon SIM ERP Competition 2017

33 Outstanding Awards
02

UTM GLOBAL PLAN PHASE III (2018-2020):
*Development, Implementation and Monitoring*

- Timeline of PGU III development
- Environmental scanning
- The plan
- Implementation
- Monitoring
The UTM Global Plan 2012-2020 (PGU) has three phases of implementation in making UTM a renowned university in science, technology and engineering globally. PGU I and PGU II have been successfully implemented and achieved the desired goals.

UTM is continuing its quest to become the nation’s top educational institution that excels in science, technology and engineering, and forging ahead in terms of global rankings with the development of the UTM Global Plan Phase III (2018-2020).

PGU III is developed based on six main key focus areas (KFA) namely:

- Excellence in Learning and Teaching, and Transformative Campus Experience (KFA1),
- Research Excellence, Industry and Community Engagement (KFA2),
- Sustainable Campus, Infrastructure, Information and Communication (ICT) System (KFA3),
- Talent Transformation, Governance and High Performance Delivery (KFA4),
- Advancement and Business Development for Financial Sustainability (KFA5), and
- Global Prominence and Branding (KFA6)

The six main focus areas are translated into Strategic Objectives (SO) and Key Amal Indicators (KAI) of various initiatives and programs to be implemented. The success of PGU Phase III is dependent on four core values: Integrity, Synergy, Excellence and Sustainability towards universal well-being that strives for the good of the stakeholders, mainly the community and industry, which are also introduced in PGU Phase III.
TIMELINE OF UTM GLOBAL PLAN PHASE III (2018-2020)

21.3.2017
Seminar and workshop

11.4.2017
Engagement with Students

25.4.2017
Engagement with Staff

11.5.2017
Engagement with Industry

5.7.2017
Discussion with JPU

12.6.2017
Presentation to JPU

13.6.2017
Lab 1

18.5.2017
Lab 3

25.6.2017
Lab 2

27.7.2017
Lab 2

1.9.2017
Town Hall Meeting

11.9.2017
Town Hall Meeting

11-13.10.2017
Management Retreat

17-19.11.2017
BOD Retreat

11-13.10.2017
Management Retreat

27.11.2017
Finalise plan

Gather facts & feedback
Analysis & reporting
Steering committee feedback
Town Hall meeting
Management retreat
BOD retreat
Finalise plan

JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC
THE SNAPSHOT

UTM GLOBAL PLAN 2012-2020

24 Engagements, labs and meetings involving:

- 1,042 Participants
- 40 Students participated
- 30 Industry personnel participated
- 372 Town hall participants
- 31 Input from international & local experts
- 5,000+ Staff requested to participate in survey
- 1800+ Academic staff
- 23,780 Students
- 1,831 University-Industry linkages
- 178,242 Alumni
The development of PGU III started with the First Steering Committee Meeting, followed by the 1st Special Seminar, Task Force Labs Series (Lab 1, 2 and 3), presentation to the Steering Committee, Town Hall meeting, Writing Workshop, Management Retreat, LPU Retreat and completed with the Final Draft in November 2017. The whole activity was initiated by the Secretariat of the Strategy Management Office (SMO), the Office of the Vice-Chancellor, Head of Key Focus Areas (KFA), a team of facilitators and a group of appointed writers.

The PGU III workshop involved the top management of UTM, the Deans of the Faculties, all the Senior Directors and Directors, all Deans of Research Alliances and Head of Service Centre (PTJ) and Steering Committee to obtain input and views holistically on the strategies, programmes and actions to be implemented.

The Steering Committee meeting was also held with the purpose of drafting the preliminary process followed by the Strategic Proposal Session Presentation by the Main Focus Areas to the Steering Committee to determine PGU III's main strategy. The results of the meetings and follow-up discussions held between the Task Force, the Steering Committee, the project facilitators and the Secretariat successfully established the Strategic Objectives (SO) and Key Amal Indicators (KAI) until the establishment of UTM Strategy Map for 2018-2020.
In general, the meticulously designed PGU3 initiatives served as the platform for the task force members to:

1. Predict UTM trends and performances
2. Predict future changes in our environment through PESTLE analysis
3. Describe UTM’s strengths, weaknesses, opportunities and threats (SWOT)
4. Decide the 2020 UTM Desired End State
5. Use the Balanced Scorecard tools in order to develop the Strategic Objectives, Performance Indicators, Initiatives/Activities/Programs for the year 2018-2020
6. Publish PGU3 documents and to communicate to the UTM community and stakeholders

OUTCOMES

1. UTM trends and performances
2. Environmental scanning – PESTLE Analysis
3. UTM SWOT
4. 2020 UTM Desired End State
5. Revised UTM Philosophy, Vision, Mission, Core Values
6. UTM Balanced Scorecard for PGU3 (2018-2020)
   - Key Focus Areas
   - Strategic Objectives
   - Key Amal Indicators
   - Initiatives/Activities/Programs Implementation
   - PTJ or Person In Charge
The Strategy Management Committee conducted an extensive review of the external and internal environment in which the University operates. UTM’s future strategic direction is designed by taking into consideration all potential and significant macro-environmental changes in PESTLE analysis.

PESTLE analysis is an overview of the political, economic, legal, social, technological and environmental factors that may affect the functioning of UTM. It provides useful input to SWOT analysis. SWOT analysis is vital to identify UTM’s strengths, weaknesses, opportunities and threats.

Background information on the University strengths and weaknesses in relation to its opportunities and threats provides useful contexts for the development of the strategic planning framework in considering strategic issues. PESTLE and SWOT analyses assist in defining the future strategic directions that are important to the University in the next three-year period.
ENVIRONMENTAL SCANNING

Today, universities are disrupted by the revolution...

The 4th Industrial Revolution

1st revolution 2nd revolution 3rd revolution 4th revolution

Mechanization, steam & water power Mass production & electricity Electronics & IT systems Automation Cyber physical systems Autonomous

The role IHLs play in IR 4.0

Education delivery & learning via digitalization and virtual approaches

The access of education is available to everyone

Creating “Global identity” for collaborative teaching & learning with various education / industry sectors across countries

The Education 4.0 vis-a-vis IR 4.0

Digital Content - Gamified the existing selected curriculum
Software - AR / VR - mobile apps
Hardware - Internet of thing

Classroom for the future More Uni-industry collaborative effort New Learning analytics

ENVIRONMENTAL SCANNING: Future Challenges

GLOBAL Economic crisis
GLOBAL Competition due to GLOBALIZATION
Accelerating PACE of CHANGE due to DIGITAL age

Graduates for Economic vs Society Needs

- Responsible Citizen viz Global citizen
- Institutional Reputation
- Industry-Academia Collaboration
- Financial Sustainability
- Return on Investment
- Equitable Access
- R&D Input vs Output
- Institutional Autonomy vs Accountability
- Information Overloads
- Graduate 21st Century Skills

ENVIRONMENTAL SCANNING: Current Scenario

Methodology

The *Future of Jobs Report*’s research framework has been shaped and developed in collaboration with the Global Agenda Council on the Future of Jobs and the Global Agenda Council on Gender Parity, including leading experts from academia, international organizations, professional service firms and the heads of human resources of major organizations. Our analysis groups job functions into specific occupations and broader job families, based on a streamlined version of the O*NET labour market information system used by researchers worldwide.

The dataset that forms the basic of the Report is the result of an extensive survey of CHROs and other senior talent and strategy executives from a total of 371 leading global employers, representing more than 13 million employees across 9 broad industry sectors in 15 major developed and emerging economies and regional economic areas.

ENVIROMENTAL SCANNING: The 4th Industrial Revolution & The Future of Jobs
ENVIRONMENTAL SCANNING: The Future of Work

Future Challenge #3: Large Number of Jobs Are At Risk

The risk of jobs being replaced by automation varies by country

ENVIRONMENTAL SCANNING: Skills Required

### Abilities
- **Cognitive Abilities**
  - Cognitive Flexibility
  - Creativity
  - Logical Reasoning
  - Problem Sensitivity
  - Mathematical Reasoning
  - Visualization

- **Physical Abilities**
  - Physical Strength
  - Manual Dexterity and Precision

### Basic Skills
- **Content Skills**
  - Active Learning
  - Oral Expression
  - Reading Comprehension
  - Written Expression
  - ICT Literacy

- **Process Skills**
  - Active Listening
  - Critical Thinking
  - Monitoring Self and Others

### Cross-functional Skills
- **Social Skills**
  - Coordinating with others
  - Emotional Intelligence
  - Negotiation
  - Persuasion
  - Service Orientation
  - Training and Teaching Others

- **Resource Management Skills**
  - Management of Financial Resources
  - Management of Material Resources
  - People Management
  - Time Management

- **Systems Skills**
  - Judgement and Decision-making
  - Systems Analysis

- **Complex Problem Solving Skills**
  - Complex Problem Solving

- **Technical Skills**
  - Equipment Maintenance and Repair
  - Equipment Operation and Control
  - Programming
  - Quality Control
  - Technology and User Experience Design
  - Troubleshooting

Drivers of change to impact on employee skills
Share of respondents, %

**DEMOGRAPHIC AND SOCIO-ECONOMIC**

- Changing nature of work, flexible work
- Middle class in emerging markets
- Climate change, natural resources
- Geopolitical volatility
- Consumer ethics, privacy issues
- Longevity, ageing societies
- Young demographics in emerging markets
- Women’s economic power, aspirations
- Rapid urbanization

ENVIRONMENTAL SCANNING: The Future Trend

Timeframe to impact industries, business models

Impact felt already

- Rising geopolitical volatility
- Mobile internet and cloud technology
- Advances in computing power and Big Data
- Crowdsourcing, the sharing economy and peer-to-peer platform
- Rise of the middle class in emerging markets
- Young demographic in emerging markets
- Rapid urbanization
- Changing work environments and flexible working arrangements
- Climate change, natural resource constraints and the transition to a greener economy

2015-2017

- New energy supplies and technology
- The Internet of Things
- Advanced manufacturing and 3D printing
- Longevity and ageing societies
- New consumer concerns about ethical and privacy issues
- Women’s rising aspirations and economic power

2018-2020

- Advanced robotics and autonomous transport
- Artificial intelligence and machine learning
- Advanced materials, biotechnology and genomics

Malaysia Education 4.0: Connectors, Creators, Constructivists...

Malaysian Education 4.0
What we want from our students?

21st Century Attributes

Malaysian Education 4.0
What we want from our students?

Higher Order Thinking

Higher Order Thinking (Bloom’s Revised Taxonomy)

Malaysian Education 4.0
What we want from our students?

Higher Order Development

Cognitive Domain
- Creating
- Evaluating
- Analysing
- Applying
- Understanding
- Remembering

Psycho-Motor Domain
- Naturalisation
  - Articulation
  - Precision
  - Manipulation
  - Imitation

Affective Domain
- Organising and Conceptualising
- Valuing
- Responding
- Receiving

Nowadays, everyone carries with a walking encyclopedia (smartphone) all the time. Accessing info is easy but determining right info requires cognitive skill.

Automation and robotics are catching up, but human skilled and creative works are still required. Through theory and practical for higher cognitive and psychomotor skills.

Human touch and caring work cannot be replaced by intelligent machines.

United Nations Sustainable Development Goals

Launched in April 2015

From

Job Seekers
Focus on university education
Focus on inputs
Highly centralised
Reliance on government resources
Mass production delivery model
Separation of private and public institutions

To

Job creators and balanced citizens with entrepreneurial mindset
Academic and TVET pathways equally valued and cultivated
Focus on outcomes
A model of earned autonomy for institutions
All stakeholders have shared responsibility for higher education resources
Technology-enabled innovations to deliver and tailor education for all students
Harmonised HLLs

The MEB (HE) will generate major shifts in the way the higher education system operates

ENVIROMENTAL SCANNING: University Transformation Plan

- **Enhancing University Board Governance and Effectiveness**
- **Enhancing University Income Generation, Endowment & WAQF**
- **Strengthening Performance Management**
- **Enhancing Academic Productivity and Cost Efficiency**
- **Strengthening Academic Career Pathways and Leadership Development**
- **Strengthening Financial Reporting**
UTM’s future strategic direction is designed by taking into consideration all potential and significant macro-environmental changes in PESTLE analysis.

PESTLE analysis is an overview of the political, economic, social, technological, legal, and environmental factors that potentially affect the function of UTM.

| **P** POLITICAL | • Internal: Changes at the Ministry level  
|• External: Trump administration; China development |
| **E** ECONOMIC | • Reduced funding from the government  
|• Exchange rate  
|• Income generation  
|• Increased costs of living or operation |
| **S** SOCIAL | • Changes in education system or delivery modes  
|• Marketability (job opportunity, brain drain)  
|• Low income students |
| **T** TECHNOLOGICAL | • Impact of 4th Industrial Revolution  
|• Digital era: increased demands in IT facilities  
|• New learning approaches |
| **L** LEGAL | • Policy: autonomy to university  
|• IP issues, start-up, spin off companies  
|• Cyber security |
| **E** ENVIRONMENTAL | • Sustainable practices  
|• Waste management |
ENVIRONMENTAL SCANNING: PESTLE Analysis

**Political factors** creates a great impact on the future of higher education. Internal factors such as the upcoming GE 14 may involve policy changes resulting from changes in ministerial post and state leadership and effects of vision 2020 to TN50. For external factors, US travel ban policy has opened another door for other countries to encourage more enrolment from the Middle Eastern students. UTM will benefit as well. As China attracts a massive influx of international students with its attractive reform policies of visa and internship opportunities, it could be a great competitor in internationalization of higher education system to other countries.

**Economic factors** resulting in a sluggish economy may put public funding of higher education at risk. A reduction in overall local and international funding may decrease the resources allocated for research output and innovation. Exchange rate devaluations diminish purchasing power and income generation, resulting in higher cost of living.

**Social factors** consider the needs to keep abreast with current trends and changes in the education system, parallel with the community and social impact. Attractive job offers and inadequate local job opportunities will result in more brain drain and unemployment rate.
**Technological factors** focus on the readiness and preparedness of the university to adapt to the 4th Industrial Revolution and digital era that will definitely increase demands in new facilities and high technology costs. A reduction in the funding and financial incentives for technologies may make it harder for higher institutions to fulfill demands in facilities. Changes to standards and facilities are required to tie up with the intended outcomes of new learning approaches.

**Legal factors** show possible challenges and impacts on the university due to changes in policies such as full autonomous university status, visa management and status for international students, research innovation and commercialization matters and cyber security.

**Environmental factors** highlight strategies for sustainable practices towards the green campus, facilities and waste management. The strategic location and stable climate, conducive environment and diplomatic relations with other countries will propel UTM property values and demand.
The Strategy Management Committee conducted an extensive review of the external and internal factors to capture pertinent ideas pertaining to the University strengths, weaknesses, opportunities and threats. The internal factors capitalise on UTM's strengths in seeking and exploiting more opportunities.

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Strategic location (Kuala Lumpur; Iskandar Malaysia)</td>
<td>• Lack of resources from industry</td>
</tr>
<tr>
<td>• Premium assets</td>
<td>• Reduced government funding</td>
</tr>
<tr>
<td>• Alumni</td>
<td>• Ageing staff (academic and non academic)</td>
</tr>
<tr>
<td>• RU status</td>
<td>• Gap between senior and junior staff</td>
</tr>
<tr>
<td>• Collaboration with top universities</td>
<td>• Difficulties in unlocking the assets</td>
</tr>
<tr>
<td>• Competent and committed staff</td>
<td></td>
</tr>
<tr>
<td>• Built-in DNAs</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Capitalizing strategic locations</td>
<td>• Reduced funding from government (OPEX &amp; CAPEX)</td>
</tr>
<tr>
<td>• Leveraging with partner universities</td>
<td>• Reduced funding from government and industry (RDC)</td>
</tr>
<tr>
<td>• Outreach programs, branch campuses and franchisees</td>
<td>• Competition from other higher education (HE) providers</td>
</tr>
<tr>
<td>• Endowments</td>
<td></td>
</tr>
<tr>
<td>• Foreign students</td>
<td></td>
</tr>
<tr>
<td>• Academic entrepreneurs</td>
<td></td>
</tr>
</tbody>
</table>
Factors such as strategic location, possession of premium assets, abundant local and international alumni, research university (RU) status and extensive collaboration with top universities in the world provide potential opportunities to empower UTM in capitalising its strategic locations, leveraging university collaborations and partnerships, intensifying outreach programmes and initiatives on endowment, and also generating more opportunities for academic entrepreneurs.

Those internal factors contribute to reducing and countering unforeseen threats related to funding reductions from government and industry, and competitions from other higher education providers that UTM has to contend with. Simultaneously, current issues of UTM like challenges in managing succession and talents due to ageing staff and apparent gap between senior and junior staff, lack of resources from industry, reduced government funding and difficulties in unlocking value of assets which could also place UTM at risk, are closely scrutinised and strategised to make the threats less likely.

The potential impacts of these internal and external factors determine UTM’s future strategic direction and therefore, are the basis for the development of strategic planning framework, to be communicated to UTM stakeholders.
THE PLAN

1. Reviewed UTM Quality Statements
   - Philosophy
   - Vision and Mission
   - Core Values

2. Revised End Desired State

3. The Strategy Map

4. The Scorecards
   - The Strategic Objectives
   - The KAI
   - The Targets
   - The Initiatives
REVIEWED UTM QUALITY STATEMENTS

PHILOSOPHY
The divine law of Allah is the foundation of knowledge. In line with His Will, UTM strives with total commitment to attain excellence in science, technology and engineering for the well-being and prosperity of mankind.

VISION
To be a premier global academic and research institution, excelling in science, technology and engineering.

MISSION
To lead in the development of holistic talents and innovative technologies for universal well-being and prosperity.
UTM Philosophy, Vision, Mission, Strategic Thrusts and Core Values

Philosophy
The divine law of Allah is the foundation of knowledge. In line with His Will, UTM strives with total commitment to attain excellence in science, technology and engineering for the well-being and prosperity of mankind.

Vision
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Strategic Thrusts

Core Values

UTM Philosophy, Vision, Mission, Strategic Thrusts and Core Values

Holistic, Innovative and Entrepreneurial Academia
Academic and Research Excellence
Global Prominence
Leading Industry and Community

T1
T2
T3
T4

Integrity
Synergy
Excellence
Sustainability
CORE VALUES

Sustainability is reflected in the holistic drive by the campus community in integrating and balancing economic, social and environmental spheres to meet the current needs without compromising the ability to exist and survive continuously.

Excellence towards high performance and delivery will result in outstanding and remarkable achievement in all aspects of teaching, learning, research, innovation, commercialization and provision of services.

Synergy instills team spirit, togetherness, inclusivity, collegiality, respect, humility, cooperation and collaboration. It also breeds selflessness, resulting from care and concern for others above self, while embracing diversity and appreciating differences.

Integrity calls for adherence to sound moral values and strong ethical principles. This noble virtue must be internalised in our heart and soul, and manifested in our loyalty, character, conduct, deeds and action with wisdom and trustworthiness.
**Integrity** calls for adherence to sound moral values and strong ethical principles. This noble virtue must be internalised in our heart and soul, and manifested in our loyalty, character, conduct, deeds and action. It constitutes doing the right things with honesty and sincerity while staying truthful at all times in all situations and under all circumstances. With integrity comes wisdom and trustworthiness that would guide us to the righteous path, with strong conscience and conviction that what we have done is part of our obligation and responsibility.

**Synergy** instills team spirit, togetherness, inclusivity, collegiality, respect, humility, cooperation and collaboration. Synergy breeds selflessness, one of the noble qualities resulting from care and concern for others above self, while embracing diversity and appreciating differences that would lead to understanding, respect and trust for one another, at the same time lending aid and support whenever required. Synergy also promotes collegiality in engagement leading to a conducive working environment and positive work culture. It also fosters the right attitude and drive towards innovative and entrepreneurial talents that value efficiency, effectiveness and efficacy leading to high productivity.
Sustainability is reflected in the holistic drive by the campus community in integrating and balancing economic, social and environmental spheres to meet the current needs without compromising the ability to exist and survive continuously. Sustainability has become an important guiding principle in UTM and the concept is applied in every facet across all levels and disciplines to achieve institutional sustainability. To enable UTM to function as a sustainable community, various initiatives and actions are in place, embodying responsible resource consumption and management. At the same time, available expertise in various disciplines is integrated to comprehend and provide solutions in matters related to sustainability issues, locally and internationally. The aim is to strive for continued existence, sustenance, and temperance in trying times for the good of the community towards universal well-being and prosperity. It can thus be seen as a sense of social responsibility borne out of religious obligation and strong convictions.

**Excellence** towards high performance and delivery will result in outstanding and remarkable achievement in all aspects of teaching, learning, research, innovation, commercialization and provision of services. High-performance teams in the workplace make success possible by combining potential talents and harnessing existing talents to achieve a common goal and shared mission through innovative, entrepreneurial and global mindset and culture. Building a high-functioning team involves passion, capacity, determination, enthusiasm, commitment and resilience in order to thrive. These elements help an organization weather changes in its environment and adapt to trends, environmental needs, competition, hurdles and challenges creating impact and remaining relevant.

**Sustainability** is reflected in the holistic drive by the campus community in integrating and balancing economic, social and environmental spheres to meet the current needs without compromising the ability to exist and survive continuously. Sustainability has become an important guiding principle in UTM and the concept is applied in every facet across all levels and disciplines to achieve institutional sustainability. To enable UTM to function as a sustainable community, various initiatives and actions are in place, embodying responsible resource consumption and management. At the same time, available expertise in various disciplines is integrated to comprehend and provide solutions in matters related to sustainability issues, locally and internationally. The aim is to strive for continued existence, sustenance, and temperance in trying times for the good of the community towards universal well-being and prosperity. It can thus be seen as a sense of social responsibility borne out of religious obligation and strong convictions.
UTM is committed to developing holistic talent and innovative technologies, and instilling the university’s core values for the good of the community, society and the nation as a whole.

Strive for the good of the community, and end state.
<table>
<thead>
<tr>
<th>Excellence &amp; Distinction</th>
<th>QS World University Rankings</th>
<th>Value-Driven High Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest Quality</td>
<td>Global Top 50 (Engineering and Technology)</td>
<td>5 star rating (MAMPU)</td>
</tr>
<tr>
<td>Teaching and learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintaining SETARA rating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(6 STAR)</td>
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<table>
<thead>
<tr>
<th>Total Unified Effort toward Universal Prosperity and Well-Being</th>
</tr>
</thead>
<tbody>
<tr>
<td>Widened and Democratised Access</td>
</tr>
<tr>
<td>Intensified TNE, flexible education, increased and diversified financial support</td>
</tr>
<tr>
<td>Translational Research University</td>
</tr>
<tr>
<td>6 star rating in MyRA</td>
</tr>
</tbody>
</table>

**REVISED DESIRED STATE BY 2020**
In line with the Ministry of Higher Education policy, UTM provides widened and democratized access policy with the expansion of global education strategies through programs that are more inter-disciplinary, inter-university, local and international that involve the concept of flexible education and encouragement of student mobility. Through the concept of TNE or Trans National Education, students are given opportunities for overseas studies without leaving their home country. Program offerings can extend across the country by offering academic services through the cooperation of overseas partner institutions or initiatives from UTM through designated models such as articulation, remote/coastal program/special program, franchise, dual degree, joint-degree, double-degree, Student Exchange and Mobility, Branch Campus and Hybrid Cooperation.

To achieve this state, UTM global perspectives and linkages can be improved by enhancing academic reputation, gaining credible employer review and achieving research excellence. Beyond ranking, UTM will continue to strengthen its fundamentals according to the core business in education, research, innovation and services in contributing to nation building, wealth creation and universal peace and prosperity. Consequently in meeting the needs and expectations to provide a high performance delivery to stakeholders, UTM will continually strive to be a well-managed and governed institution driven by values of being efficient, productive, agile, fast and dynamic. Thus, UTM must embed innovative operation by utilizing information and communication technology, digital and automation system to transform the university capacity and delivery capability. To facilitate effective operation, risk management should also be part of the university delivery culture. Unified efforts between academia and professionals with conducive quality ecosystem will produce impactful outcomes and accelerate a remarkable performance in order to achieve 5 star rating in MAMPU evaluation.
UTM will provide access and equity to its education programmes for all students from diverse backgrounds with diversified talents. The students’ enrolment emphasises the basis of merit and quality which aligns with UTM’s status as a reputable education provider. To realize this state, flexible, work-based and lifelong learning will be introduced by leveraging the current technological platforms of massive, open and online, 2u2i and APEL initiatives which are being supported by high quality infrastructure and diversified financial. A Global Trans National Education (TNE) program will also be intensified by offering customized programs such as shared-degree.

UTM is committed to intensify graduates’ marketability by introducing up-to-date curriculum and nurturing holistic, entrepreneurial and balanced traits which will enable them to successfully secure jobs, create jobs, continue to study or undergo upskilling based on industry-driven demands. The UTM learning environment will be enhanced by introducing an integrated and broad-based curriculum, total campus experience and iCGPA system. UTM targets to have 95% graduates being employed or become entrepreneurs within one year after convocation and having continuous increase of students’ iCGPA score.
REVISED DESIRED STATE BY 2020

UTM will continue to serve the industry and community by leveraging on teaching, learning research and services. The university will drive the industry and community by mobilising its capability to address key industrial and societal issues and problems. UTM is also committed to provide societal impact to the industry and community and forge a new model of being an engaged university towards achieving universal well-being and prosperity.

UTM will also further advance its reputation as a research university while maintaining Research University status with 6-Star Rating in MyRA. The university must continue to expand its research horizon by aligning its research niche areas, supported by a vibrant research ecosystem and to go beyond ranking and campus boundaries. Thus, UTM applies the idea of Translational Research which enables the university to be responsive to the industrial and societal needs. The research focus will be devised based on our unique strength with the vision of addressing the national and global grand agenda, inspired by enabling technology for humanity.

As the 4th Industrial Revolution 4IR provides an entirely new lifestyle derived by the convergence of technologies, a new responsive university model is desired. From the University 4.0 perspective, it has been foresighted that the impact of 4IR will change the university governance, academic curriculum, teaching and learning delivery, graduate employability, research direction, industry partnership, community ecosystem and sustainable outlook.

UTM will start to focus on implementing the 21st century curriculum and redesigning the new teaching and learning model in meeting the 4IR demands. As a continuation of the UTM New Academia Learning Innovation NALI, the university will emphasise 4IR elements of connected, personalised, flexible and customised education which were enabled by the digital facilities and cyber-physical system. In realizing UTM as a hub for digital education, UTM will champion humanising 4IR and empower people via the digital economy.

In view of an increasing world complexity and arising of many new norms, it is important to develop an institutional sustainability outlook and goals. A sustainable agenda in higher education consists of three major domains; financial, talent and campus ecosystem. To ensure a financially sustainable university, UTM will continue to diversify its income resources and portfolio while prudent budget spending and management are of similar importance. UTM targets to generate 30% of internal funding out of total operating expenses and raise RM100 million to support this PGU III planning and implementation.

From the talent perspective, UTM strives to develop competent staff inculcated with a soul of academia in order to produce a holistic, cheerful and talented staff and campus community. In addition, the agenda of a green and sustainable campus ecosystem will be enriched with the establishment of UTM living labs. In response to the future demand in which green campus is defined as a smart campus, UTM strives to establish a technology-driven campus with an expansion of the digital and cashless university community.
UTM STRATEGY MAP: UTM GLOBAL PLAN PHASE III (2018-2020)

Vision: To be a premier global academic and research institution, excelling in science, technology and engineering
Mission: To lead in the development of holistic talents and innovative technologies for universal well-being and prosperity

T1: Holistic, Innovative and Entrepreneurial Academia
S1: Globally Marketable, Holistic Entrepreneurial and Balanced Graduates
S2: Widening Access to Flexible and Quality Education
P1: 21st Century Curriculum Design and Delivery

T2: Academic & Research Excellence
S3: Market Driven Products & Services
P2: Excellent Research Standing

T3: Global Prominence
S4: Outstanding Global Outlook

T4: Leading Industry & Community
S5: Outstanding Contribution to Society
P3: Transformative Student Experience

Learning & Growth
L1: Exemplary Talent with Holistic Values
L2: Enhanced Knowledge & Technology
L3: Quality Infrastructure, Sustainable & Green Campus

Internal Processes
P4: Accelerated High Performance Delivery

Stakeholders
Financial
F1: Strategic Financial Management
F2: Diversified Income Generation

Version: 1 January 2018
UTM GLOBAL PLAN PHASE III (2018-2020)

REVISED DESIRED STATE BY 2020

- **Highest Quality Teaching and Learning**: Maintaining SETARA rating (5 STAR)
- **QS World University Rankings**: Global Top 50 (Engineering and Technology)
- **Value-Driven High Performance**: 5 star rating (MAMPU)
- **Widened and Democratised Access**: Transformed T2E, flexible education, intensified and diversified financial support
- **Holistic, Entrepreneurial and Balanced Graduates**: 95% graduates likely employed or become entrepreneurs
- **Translational Research University**: 6 star rating in MyRA
- **University 4.0**: Humanising 4.0 using 21st century curriculum to empower people via digital economy
- **Driving Industry and Community**: Well-being and prosperity are taught and measured, research performance
- **Institutional Sustainability**: People, governance, financial and reputation

Total Unified Effort toward Universal Prosperity and Well-Being

PGU I  PGU II  PGU III

2012  2015  2018  2020  2022  2025
KEY FOCUS AREAS OF UTM GLOBAL PLAN PHASE III (2018-2020)

PGU I 2012

PGU II 2015

PGU III 2020

KFA1 Excellence in Learning and Teaching
KFA2 Excellence in Research, Innovation and Commercialisation
KFA3 Sustainable Campus, Infrastructure, Information and Communication, Technology (ICT) System and Community Engagement and Industrial Network
KFA4 Total Campus Experience
KFA5 High Performance Delivery
KFA6 Financial Sustainability
KFA7 Global Reputation

KFA1 Excellence in Learning and Teaching, and Transformative Campus Experience
KFA2 Research Excellence, Industry and Community Engagement
KFA3 Sustainable Campus, Infrastructure, Information and Communication Technology (ICT) System
KFA4 Talent Transformation, Governance and High Performance Delivery
KFA5 Advancement and Business Development for Financial Sustainability
KFA6 Global Prominence and Branding

17 SO 2018

30 KAI 2015

25 KAI 2018

2018 INSPIRE PROGRAMS IMPLEMENTATION

2020
EXCELLENCE IN LEARNING AND TEACHING, AND TRANSFORMATIVE CAMPUS EXPERIENCE

OD OF KFA 1A) Excellence in Learning and Teaching
Excellence in Learning and Teaching in producing human capital with first-class mentality and values that are able to seek and explore knowledge, possess holistic entrepreneurial thinking and are able to contribute effectively as part of the country’s professional workforce.

This process begins with a comprehensive curriculum design which takes into account the curriculum of the 21st Century and the Industrial Revolution 4.0 (4IR). The process of learning and teaching is also based on the NALI method and technology. The concept of flexible education is also included in learning and teaching. The educational system provided is equitable for all Malaysian and international citizens through open opportunities irrespective of ethnic groups, geographical locations or socio-economic backgrounds.

OD OF KFA 1B) Transformative Campus Experience
Provides comprehensive learning experience in the aspects of extra-curriculum, life skills, soft skills and attitudes. Students’ participation in extra-curriculum is categorized as follows: 1) Academic Enrichment; 2) Award; 3) Leadership; 4) Arts/Culture; 5) Religious/Spiritual; 6) Community Services/Volunteers; 7) GOP/Outbound/Inbound; 8) Innovation/Creativity; 9) Entrepreneurial/Management; 10) Sports/Recreation; 11) Career Development/Work Experience; 12) Counselling/Motivation
EXCELLENCE IN LEARNING AND TEACHING, AND TRANSFORMATIVE CAMPUS EXPERIENCE

STRATEGIC OBJECTIVE S1
Enhancing Holistic, Entrepreneurial and Balanced Graduates

S1.1
Percentage of graduates employed a year after graduation

TARGETS
- 2018: 85%
- 2019: 90%
- 2020: 95%

INITIATIVES
- Career pathways and job preparation programs
- Curriculum revision to accommodate 21st Century Curriculum
- Alumni database system
- Aggressive promotion on e-portfolio
**KFA1**

**EXCELLENCE IN LEARNING AND TEACHING, AND TRANSFORMATIVE CAMPUS EXPERIENCE**

**STRATEGIC OBJECTIVE S1**
Enhancing Holistic, Entrepreneurial and Balanced Graduates

**TARGETS**
- 2018: 80%
- 2019: 83%
- 2020: 85%

**INITIATIVES**
- Student development programs in collaboration with colleges and faculties
- Rigorous implementation of NALI
- Awareness programs towards UTM graduate attributes
- Study skills programs
- Implementing inter-disciplinary projects between faculties and HEP

**S1.2**
Percentage of students obtaining iCGPA above 3.0
EXCELLENCE IN LEARNING AND TEACHING, AND TRANSFORMATIVE CAMPUS EXPERIENCE

STRATEGIC OBJECTIVE S2
Widening Access for Flexible and Quality Education

TARGETS

- 2018: 25
- 2019: 36
- 2020: 45

INITIATIVES

- Industry-linked undergraduates programs (2u2i)
- Personalised curriculum for undergraduate program
- Foundation program
- Courses offered through MOOCs
- Alumni Executive Education to UTM alumni
- Gap Year program

KFA1

S2.1 Number of flexible undergraduate and postgraduate programs
STRATEGIC OBJECTIVE S2
Widening Access for Flexible and Quality Education

TARGETS

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 1:</td>
<td>8,000</td>
<td>9,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Cluster 2-4:</td>
<td>16,000</td>
<td>17,000</td>
<td>18,000</td>
</tr>
</tbody>
</table>

INITIATIVES

- Diploma, bachelor and part-time executive programs
- Non-academic programs (i.e. CPD program)

S2.2
Number of participants in lifelong learning programs and part-time programs
STRATEGIC OBJECTIVE S2
Widening Access for Flexible and Quality Education

TARGETS
- 2018: 500
- 2019: 1,500
- 2020: 3,000

INITIATIVES
- UTM academic programmes abroad (TNE)
- MoU/MoA with international institutions
- MoU/MoA Government to Government; with OIC members
- Collaborations with international alumni as marketing ambassador
- Joint marketing - faculties with UTMSpace
- Staff as marketing ambassador

S2.3
Number of students attending TNE programs
EXCELLENCE IN LEARNING AND TEACHING, AND TRANSFORMATIVE CAMPUS EXPERIENCE

**STRATEGIC OBJECTIVE P1**
Design and Implement Curriculum based on 21st Century Learning

**TARGETS**
- 2018: 80%
- 2019: 90%
- 2020: 100%

**INITIATIVES**
- Developing the understanding and acceptance of 21st century curriculum
- Training on how to design and implement of 21st century learning curriculum
- Training on 21st century T&L deliveries and assessments
- Programme audit
- Training on remote supervision
- Support and resources for 21st century learning

P1.1
Percentage of programs implementing 21st century curriculum

Alumni as Industrial Advisory Panel (IAP)
Programme nomenclature review
Excellence in Learning and Teaching, and Transformative Campus Experience

Strategic Objective P3
Transformative Student Experience

Targets
- 2018: 80%
- 2019: 80%
- 2020: 80%

Initiatives
- Social entrepreneurship programs with NGOs
- Volunteering programs
- High impact leadership programs
- Internationalisation programs
- Outbound mobility programs
- English proficiency programs
- Value, religious and spiritual inculcation programs
- Community engagement and service programs
- Sports and recreational programs

P3.1
Percentage of undergraduate students involved in Holistic Student Development (HSD) program

Percentage of undergraduate students involved in Holistic Student Development (HSD) program: 80%
EXCELLENCE IN LEARNING AND TEACHING, 
AND TRANSFORMATIVE CAMPUS EXPERIENCE

STRATEGIC OBJECTIVE P3
Transformative Student Experience

2018: 300
2019: 500
2020: 800

P3.2
Number of alumni involved in student development programs

INITIATIVES
- Engagement programs by faculties/PTJ to support UTM endowment, seminars, tournament and sports event
- Establishing Alumni Chapter abroad
- Prominent alumni network
- UTM alumni as advisers, fellows, speakers, project assessors, mentors, etc.
- Connecting alumni with state students association
- Collaboration and research with alumni
- Annual sports events with alumni
- Engagement programs with alumni
- Alumni coordinators at every faculty
EXCELLENCE IN LEARNING AND TEACHING, AND TRANSFORMATIVE CAMPUS EXPERIENCE

STRATEGIC OBJECTIVE P3
Transformative Student Experience

TARGETS

- **2018**: 3 per year/student
- **2019**: 4 per year/student
- **2020**: 5 per year/student

INITIATIVES

- Redefining roles of residential college principals and fellows
- Establish Standard Operating Procedure (SOP)
- Enhancing synergy between PTJs in implementing student development programs and activities
Strongly focusing UTM as an institution that emphasizes research through various activities in line with the university’s goal of maintaining the status of Research University.
**STRATEGIC OBJECTIVE S3**  Demand Driven Products and Services

**S3.1** Gross income from research activities

**TARGETS**

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM 30 mil</td>
<td>RM 45 mil</td>
<td>RM 60 mil</td>
<td></td>
</tr>
</tbody>
</table>

**INITIATIVES**

- Increase the gross income generated by research activities
- Niche area re-alignment and market-focus innovation
- To increase the visibility of UTM expertise
STRATEGIC OBJECTIVE S5  Outstanding Contribution to Society

S5.1 Number of high impact community engagement project

<table>
<thead>
<tr>
<th>YEAR</th>
<th>TARGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>70</td>
</tr>
<tr>
<td>2019</td>
<td>70</td>
</tr>
<tr>
<td>2020</td>
<td>70</td>
</tr>
</tbody>
</table>

INITIATIVES

- Customization of IISJ Projects based on District Growth Plan
- Community projects with Social Return on Investment (SROI) > 1
- Training researchers to be SROI mentors
- Provide matching grants for SROI adoption to CE projects that has achieved 5 star rating
- Enhance ASEAN/international communities through collaborative innovation projects
- Enhanced ecosystem for students involvement/CE exposure at the ASEAN / international level
- Community engagement activities to target external funding

KFA2

RESEARCH EXCELLENCE, INDUSTRY AND COMMUNITY ENGAGEMENT
STRATEGIC OBJECTIVE P5  Research Excellence Programs

P2.1 Research funding received

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM</td>
<td>RM 70 mil</td>
<td>RM 80 mil</td>
<td>RM 100 mil</td>
</tr>
</tbody>
</table>

TARGETS

KFA2  RESEARCH EXCELLENCE, INDUSTRY AND COMMUNITY ENGAGEMENT

INITIATIVES

RDCI course training to academic staff

New grant initiatives (university-industry grant)

Workshop on Winning Proposal aligned to niche area and government focus area

Double tax deduction awareness (DTD) campaign by supervisors for industrial training (student)

Roadshow DTD with industries

Amount of grant obtained through DTD

Proposal bank for international grant application

Workshop on 'high impact research'

Grant incentive to RGs for Q and Q2 output
STRATEGIC OBJECTIVE P5  Research Excellence Programs

P2.2 Total citations from indexed publications

TARGETS

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>55,000</td>
<td>60,000</td>
<td>65,000</td>
</tr>
</tbody>
</table>

INITIATIVE

Publication incentives

RESEARCH EXCELLENCE, INDUSTRY AND COMMUNITY ENGAGEMENT

KFA2
THE PLAN: Key Focus Area, Strategic Objectives, Targets and Initiatives

KFA3

SUSTAINABLE CAMPUS, INFRASTRUCTURE, INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SYSTEM

OD OF KFA3

Creating a sustainable, conducive, safe and healthy environment, and strengthening community and industrial linkages. The implementation approach is through the enhancement of ICT technologies that contributes to the implementation of the Digital Campus concept, the completeness of library knowledge assets, the 'Living Lab' experience, and the effective community and industrial collaboration at the national and international levels.
**STRATEGIC OBJECTIVE L2**
Enhancing Physical, Knowledge and Technology Assets in line with the Realization of University 4.0

**TARGETS**

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>80%</td>
<td>85%</td>
<td>90%</td>
</tr>
</tbody>
</table>

**INITIATIVES**

- Thorough upgrading of UTM JB and UTM KL infrastructure (faculty, student residential colleges, staff residences and café)
- In-campus electric bus project
- Star rating to arcade operators as to maintain quality and service
- Campus safety surveillance through the use of CCTV

L2.1 Customer satisfaction index for all PTJ
SUSTAINABLE CAMPUS, INFRASTRUCTURE, INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SYSTEM

STRATEGIC OBJECTIVE L2
Enhancing Physical, Knowledge and Technology Assets in line with the Realization of University 4.0

L2.2
Customer satisfaction index for conducive digital environment

TARGETS

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>90%</td>
<td>90%</td>
<td>90%</td>
</tr>
</tbody>
</table>

INITIATIVES

- Safety and reliability of UTM ICT systems through MS ISO IEC 27001 (ISMS) certification, CCMC and UTMCert Team
- Migration of UTMKL Data Centre
- High availability through the upgrading of New Data Center (Tier 3 Certification)
- Provision of ICT facilities and UTM applications through activities under Digital Lifestyle Initiatives
- Infrastructure provision and ICT training projects with external investors
- Centralised space management

Improve provision and use of UTM main application systems
Migration of End of Life (EOL) core network equipment
User support through ICT problem solving
STRATEGIC OBJECTIVE L2
Enhancing Physical, Knowledge and Technology Assets in line with the Realization of University 4.0

TARGETS

2018 2019 2020
Top 300 Top 200 Top 100

INITIATIVES

Increase in UTM-Institutional Repository (UTM-IR) internal digital content in order to achieve top 100 target in the Web Ranking of Repositories (World) by 2020

Enhancement of database subscription
SUSTAINABLE CAMPUS, INFRASTRUCTURE, INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SYSTEM

STRATEGIC OBJECTIVE L3
Quality, Infrastructure, Sustainability and Green Campus

TARGETS

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30%</td>
<td>60%</td>
<td>80%</td>
</tr>
</tbody>
</table>

INITIATIVES

- Development of database for sustainability awards (national and international levels)
- Maintaining green and sustainability recognitions/awards
- Enhance “Waste-to-Wealth”, “Recycle, Reuse, Reduce (3R)” programs
- Inculcate culture of volunteerism among staff and students

L3.1
Number of PTJs/Units that achieve green and sustainable award ratings (e.g. > 3 Green Leaves)
THE PLAN: Key Focus Area, Strategic Objectives, Targets and Initiatives

KFA4

TALENT TRANSFORMATION, GOVERNANCE AND HIGH PERFORMANCE DELIVERY

OD OF KFA4
The effective, efficient and dynamic governance and service towards the quality and excellent service delivery that meet the aspirations and expectations of stakeholders.
STRATEGIC OBJECTIVE P4  Accelerated High Performance Delivery

P4.1  
Percentage of restructuring and redeployment exercise according to Governance Blueprint

TARGETS

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50%</td>
<td>80%</td>
<td>100%</td>
</tr>
</tbody>
</table>

INITIATIVES

- Development of Governance and High Performance Delivery Blueprint based on milestone
- Restructuring of PTJ/Faculty/Division guided by the blueprint
- Staff repositioning to accommodate the structure as outlined in the blueprint (Auditing, Profiling, Positioning)
STRATEGIC OBJECTIVE P4  Accelerated High Performance Delivery

P4.2  Percentage of improvement for quality management to support University 4.0

TARGETS

- 2018: 50%
- 2019: 80%
- 2020: 100%

INITIATIVES

- Develop PTJ productivity index
- Centralise instrument in assessing all PTJs and faculties
- Monitoring PTJ/faculties performances based on CSI findings
- Develop a framework for management ecosystem (IQA)
- Enculturation of ecosystem for quality management
- Digitalise all university’s systems related to University 4.0
- Compositing work process through innovative and standardised approaches
**Strategic Objective L1**
Exemplary Talent with Holistic Values

**Initiatives**
- Strengthening leadership modules through individual and leadership development programs before behaviour assessment
- Collecting data for all talent pool in implementing the functional capacity
- Improving the approach in assessing staff performance

**Targets**
- 2018: 80%
- 2019: 85%
- 2020: 90%

- Increasing staff competencies according to their career pathways (DCP)
- Developing and implementing modules of leadership development within the ALTM cluster
- Preparing leadership profile for every member within the ALTM cluster
- Assessing staff level of competencies
- Analyses on CIS findings in determining competencies gap
- Provide support training based on competencies gap
- Ensuring staff competencies and readiness as incumbents for strategic positions
THE PLAN: Key Focus Area, Strategic Objectives, Targets and Initiatives

ADVANCEMENT AND BUSINESS DEVELOPMENT FOR FINANCIAL SUSTAINABILITY

OD OF KFA5
Ensuring UTM has a sustainable source of income through the internal sources of revenue generation to lessen the dependency on government financial grants. The ratio of internal resource generation to government funding is 30:70 by 2020. Eight key areas for the income generation are:

1. Academic-based program
2. Consultancy, commercialization and R&D grants
3. Business entities
4. Assets and land bank
5. Medical, residential college, and other facilities
6. Contributions from contributors
7. Human resource development
8. University’s investment
**STRATEGIC OBJECTIVE F1** Strategic Financial Management Practice

**TARGETS**

- 2018: 1.0
- 2019: 0.9
- 2020: 0.8

**INITIATIVES**

- Energy usage reduction through in-house energy audit/management
- Fleet management initiative
- Reducing water wastage through Water Efficiency Program and NRW program
- Removal of student bus service subsidy
- Reduce contract costs

**F1.1** OPEX/Income generated internally is less than 1.0
**STRATEGIC OBJECTIVE F1** Strategic Financial Management Practice

**INITIATIVES**

- Cost-saving Initiatives:
  - Waste operation management through in-house waste recycling programs
  - Faculty’s sustainable financial management
  - Creation of strategic business unit
  - Fair distribution of grants to PTJ based on gross income

**TARGETS**

- 2018: 1.0
- 2019: 0.9
- 2020: 0.8

**F1.1**

OPEX/Income generated internally is less than 1.0 (cont.)
**STRATEGIC OBJECTIVE F2** Diversified Sources of Income Generation

**INITIATIVES**

<table>
<thead>
<tr>
<th>Academic-based Programs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main stream programs</td>
</tr>
<tr>
<td>Inbound and Non-Graduating Students (NGS)</td>
</tr>
<tr>
<td>Research grants from industry and international collaborators</td>
</tr>
<tr>
<td>Revenue from products and on-demand services</td>
</tr>
<tr>
<td>Income generation and cost savings from activities at Training Centre</td>
</tr>
</tbody>
</table>

**TARGETS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Target (RM mil)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>RM 233</td>
</tr>
<tr>
<td>2019</td>
<td>RM 290.25</td>
</tr>
<tr>
<td>2020</td>
<td>RM 340.25</td>
</tr>
</tbody>
</table>

**F2.1**
Total of internal income from various sources
STRATEGIC OBJECTIVE F2: Diversified Sources of Income Generation

INITIATIVES

- Philanthropic Income:
  - Enhancing "University Endowment Fund"
  - Empowering "Faculty Endowment Fund"
  - UTM Educational Waqf Fund
  - Crowd funding initiatives – UTM Cares
  - e-Caruman Zakat

TARGETS

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>RM 233 mil</td>
<td>RM 290.25 mil</td>
<td>RM 340.25 mil</td>
</tr>
</tbody>
</table>

F2.1 Total of internal income from various sources (cont.)
STRATEGIC OBJECTIVE F2: Diversified Sources of Income Generation

TARGETS

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>RM 233 mil</td>
</tr>
<tr>
<td>2019</td>
<td>RM 290.25 mil</td>
</tr>
<tr>
<td>2020</td>
<td>RM 340.25 mil</td>
</tr>
</tbody>
</table>

INITIATIVES

- Diversified Investment:
  - Returns from fixed deposit/shares/meteor
  - Increment in reserve
  - Contribution from subsidiary company

F2.1 Total of internal income from various sources (cont.)
**STRATEGIC OBJECTIVE F2** Diversified Sources of Income Generation

**INITIATIVES**

Unlocking of assets and monetisation:
- Land lease and ventures
- Hospitality and accommodation
- Healthcare
- Sports and recreation
- Space and facilities rentals
- Fleet management and auto services

**TARGETS**

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM</td>
<td>RM 233 mil</td>
<td>RM 290.25 mil</td>
<td>RM 340.25 mil</td>
</tr>
<tr>
<td></td>
<td>2018</td>
<td>2019</td>
<td>2020</td>
</tr>
</tbody>
</table>

**F2.1**
Total of internal income from various sources (cont.)
KFA6

GLOBAL PROMINENCE AND BRANDING

OD OF KFA6
Continuously improving university's global visibility as a preferred brand in Science, Technology, and Engineering.

STRAATEGIC OBJECTIVE S4 Enhancing Global Prominence

S4.1 Ranking of UTM in QS World University Rankings

INITIATIVES

- Transformation of University-Industry ecosystem
- Develop database of national and international industry and academic partners
- Engagement with national and international industry/employer
- Organising or actively participate in international seminars/conferences/events to enhance global reputation
- Winning awards through recognition by prestigious national/international bodies/agencies
- Visibility of expertise through social media and electronic
- Intensifying strategic internationalization and global engagement

TARGETS

2018: 230
2019: 210
2020: 200

GLOBAL PROMINENCE AND BRANDING
STRATEGIC OBJECTIVE S4 Enhancing Global Prominence

INITIATIVES

Assign appropriate faculty/RA to achieve selected subjects in Top 50
Assign appropriate faculty/RA to achieve selected subjects in Top 100
Assign appropriate faculty/RA to achieve selected subjects in Top 200
Assign appropriate faculty/RA to achieve selected subjects in Top 300
Assign appropriate faculty/RA to achieve selected subjects in Top 400

S4.2 Ranking of UTM based on QS University Rankings in Engineering & Technology

TARGETS

2018 2019 2020
75 65 50

GLOBAL PROMINENCE AND BRANDING

KFA6
STRATEGIC OBJECTIVE S4 Enhancing Global Prominence

**S4.3** Brand Awareness Index

**INITIATIVES**

- Develop instrument to assess university brand awareness index
- Increase number of promotional articles in UTM newshub
- Increase national and international media coverage
- Increase number of UTM showcase and case stories
- Improvements in engagement score of UTM social media channels
- Increase visibility by improving ranking in webometric world rank

**TARGETS**

- 2018: 75%
- 2019: 80%
- 2020: 85%

**KFA6**

GLOBAL PROMINENCE AND BRANDING
MONITORING OF THE PLAN

xx.4.2018
Quarter 1 Reporting

xx.7.2018
Quarter 2 Reporting

xx.10.2018
Quarter 3 Reporting

xx.1.2019
Quarter 4 Reporting
enVISION UTM 2025: Thrive For A Better Future

- Introduction
- Beyond 2020: enVision UTM 2025
- Desired state by 2025
- Transformation challenges
- Game changer
Universities of the future has to evolve in response to global transformation and rapid changes within the social, economic, political and technology domains. Against this backdrop, UTM must chart its own journey to stay relevant by unlocking the future, seizing the opportunities and mitigating the risks. In this context, enVision UTM 2025 unfolds the UTM outlook beyond 2020. Several focal challenges and plausible scenarios have been identified, characterised and foresighted involving the dynamic nature of Higher Education (HE) institutions, HE revolution and a new paradigm of HE.

The year 2025 signifies the common set of UTM vision, values and aspiration in line with Malaysian Education Blueprint (Higher Education) 2015-2025. Leveraging the strength and harnessing the knowledge gained from UTM Global Plan Phase III (PGU III) 2018-2020, enVision UTM 2025 outlines the future of our desired states in meeting expanding needs.

To achieve the best depiction of UTM future, PGU III is being mapped with enVision UTM 2025 via the INSPIRE Program: Innovation in Science, Engineering and Technology towards Universal Prosperity. Strategic planning and coordination within INSPIRE Phase I (PGU III) and INSPIRE Phase II & III (enVision UTM 2025) will ensure we achieve our desired futures in 2025.

In fact, INSPIRE Phase II (2020-2022) is future-proof of UTM’s growth overarching 2025 and reflects our future-look after 50 years of establishment. enVision UTM 2025 is built on four thrusts; Translational Research, University 4.0, Trans National Education (TNE) and Institutional Sustainability. In addition, six game changers will bring impact have been identified. To achieve this transformation, it is pertinent to start guiding our future actions by thinking about our future collectively, inculcating a high impact culture, with differentiation value, uniqueness and entrepreneurial attribute. Overall, enVision UTM 2025 projects UTM as the University of The Future with excellence and distinction to address national and global challenges, recognising priorities and realising potential opportunities towards universal well-being.
BEYOND 2020: enVISION UTM 2025

REVISED DESIRED STATE BY 2020

- Highest Quality Teaching and Learning: Maintaining SETARA rating (6 STAR)
- QS World University Rankings: Global Top 15 (Engineering and Technology)
- Value-Driven High Performance: 5 star rating (MAMPU)
- Widened and Democratic Access: Enhanced URI, Beetle, increased and diversified financial support
- Holistic, Entrepreneurial and Balanced Graduates: 95% graduates being employed or starting entrepreneurship
- University 4.0: Humanising URI, using 21st century curriculum to empower people via digital economy
- Driving Industry and Community: Well-being and prosperity via teaching and learning, research and services
- Institutional Sustainability: People, governance, financial and reputation

Total Unified Effort toward Universal Prosperity and Well-Being

PGU I  PGU II  PGU III  INSPIRE I  INSPIRE II  INSPIRE III  UTM 50 YEARS

Top 10 in QS Top 50 under 50

UTM GLOBAL PLAN enVISION UTM 2025

2012  2015  2018  2020  2022  2025
## DESIRED STATE BY 2025

<table>
<thead>
<tr>
<th>Excellence &amp; Distinction</th>
<th>QS World University Rankings</th>
<th>Value-Driven High Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empowered</td>
<td>Global Top 100 and</td>
<td>5 star rating (MAMPU)</td>
</tr>
<tr>
<td>Student’s learning and</td>
<td>Global Top 20</td>
<td></td>
</tr>
<tr>
<td>teaching experience</td>
<td>(Engineering and Technology)</td>
<td></td>
</tr>
<tr>
<td>(flexible, personalised,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>student centered)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Unified Effort toward Universal Prosperity and Well-Being</th>
<th>Translational Research University</th>
<th>Holistic, Entrepreneurial and Balanced Graduates</th>
<th>Driving Industry and Community</th>
<th>University 4.0</th>
<th>Institutional Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Widened and Democratised Access</td>
<td>Beyond MyRA, high impact,</td>
<td>95% graduates being employed or become</td>
<td>Well-being and prosperity via</td>
<td>Humanising 4IR using 21st century</td>
<td>People, governance, financial and reputation</td>
</tr>
<tr>
<td>Intensified TNE, flexible education,</td>
<td>beyond borders</td>
<td>entrepreneurs</td>
<td>teaching and learning,</td>
<td>curriculum to empower people</td>
<td></td>
</tr>
<tr>
<td>increased and diversified financial</td>
<td></td>
<td></td>
<td>research and services</td>
<td>via digital economy</td>
<td></td>
</tr>
<tr>
<td>support, equity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**University 4.0**
- Humanising 4IR using 21st century curriculum to empower people via digital economy

**Institutional Sustainability**
- People, governance, financial and reputation

**Driving Industry and Community**
- Well-being and prosperity via teaching and learning, research and services
The next leap of UTM transformation relies on the strengths built around students, global outlook and delivery performance. Among the notable forces which shape the HE future landscape are students. Our core business in educating future generation will remain. However, an innovative approach is needed to redefine education via flexible and personalized perspectives which place student at the centre of a learning environment. UTM flexible education can be realised based on the advancement of technology, accelerated via the present online learning platform. While considering the importance of individual differences, it is imperative to empower UTM students with the customized self-learning experiences and self-paced process.

We also live in a time of globalised world which provides exposure to many new norms and dimensions. In this regard, UTM’s passion to excel and become distinct at the global scene is observed in the upward trend for QS World University ranking. This is a manifestation of the knowledge culture embedded in the UTM ecosystem which drives our global reputation. UTM will continue to strengthen the global mission to be positioned in the Global top 100 and Global top 20 for the niche area of engineering and technology. In ensuring a sustained institutional excellence, UTM governance should also be efficient, effective, dynamic and responsive towards forthcoming changes. Significant use of information and communication technology, digital technology and automation process is vital to deliver a high impact, rapid, large scale and quality services to various stakeholders. This transformative delivery requires seamless governance structure, innovative system and non-routine work procedure. As a benchmark, UTM strives to achieve 5-star rating in MAMPU competency ranking.
UTM’s excellence and distinction will be characterised by the convergence of our fundamental strengths with the inbound transformative wave. In education, leveraging on the open, online and massive model will ensure a widened and democratised access to a quality education provided by UTM. UTM also capitalises the 4IR by introducing the 21st century curriculum which drives the education of tomorrow with digitalization and cyber-physical system. Importantly, it is essential to humanise 4IR to achieve UTM’s aspiration in education. UTM also offers a total campus experience which ensures that the students of the future have the necessary attributes as professional talents and global citizens. UTM strives to expand its research horizon beyond campus and enabling technology for humanity. The idea of translational research will be our core strength via the concept of applied knowledge should address industrial and community issues. Consequently, institutional sustainability in the financial, talent and campus ecosystem is pivotal to position UTM’s readiness for the next phase of transformation.
FROM GOOD TO GREAT: enVISION UTM 2025

GOOD

1. Upward trend in ranking
2. Preferred faculty in engineering and technology by students
3. RU status with 6 star rating
4. SETARA * STAR rating
5. 1347 PhDs holders
6. UTM DNA shines across the board
7. Quality preserved
8. 147 linkages with industry
9. 245 collaboration with universities
10. Awards winner – staff and students

UTM NOW

PGU III

INSPIRE 1.0

2018

INSPIRE 2.0

2020

INSPIRE 3.0

2022

GREAT

UTM 50 YEARS OLD

1. Holistic, Entrepreneurial and balanced graduates
2. Championing University 4.0
3. 200 in QS WUR, Top 50 in QS Eng & Tech
4. Driving Industry and community
5. Translational research – MyRA 6 star
6. Highest Quality in T&L
7. Financial sustainability
8. 5 STAR value driven performance deliveries
9. Widened and democratised access

1. Holistic, Entrepreneurial and balanced graduates
2. Humanizing University 4.0
3. 100 in QS WUR, Top 10 in QS Eng & Tech
4. Driving Industry and community
5. Translational research beyond borders
6. Empowered student campus experiences
7. Institutional sustainability
8. 5 STAR value driven performance deliveries
9. Widened and democratised access

10. Awards winner – staff and students

UTM 50 YEARS OLD

2025
## TRANSFORMATION CHALLENGES RELATED TO enVISION UTM 2025

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Challenges and Issues</th>
<th>Critical Success Factors (CSF)</th>
<th>Risks Consideration</th>
</tr>
</thead>
</table>
| University 4.0 Transformation | - Student diversity  
- Curriculum design  
- Students campus experiences  
- Tools and media  
- Staff readiness and competencies  
- Support system | - High quality student intake  
- High student diversity  
- Aggressive program marketing and branding  
- Competent staff  
- State of the art facilities | - Insufficient funding and personnel for marketing programs and branding  
- Negative differences of student culture |
| Trans Research Transformation | - Producing impactful research  
- Research branding and marketing  
- Commercialization  
- Critical mass with research capacity  
- Industrial collaboration - poor uptake by industry on the research products  
- Synergy between researchers and institutions  
- International collaboration | - Critical mass  
- Performance deliveries  
- R&D commercialization  
- Maintaining research university status  
- Internal campus support | - Insufficient critical mass to transform R&I.  
- Unfavourable investment climate  
- Difficult to get partners from industries |
# TRANSFORMATION CHALLENGES RELATED TO enVISION UTM 2025

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Challenges and Issues</th>
<th>Critical Success Factors (CSF)</th>
<th>Risks Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trans Education Transformation</td>
<td>• Rigid policies&lt;br&gt;• Getting trusted global and local partners&lt;br&gt;• Cultural differences</td>
<td>• Trusted global and local partners</td>
<td>• Slow/Unclear TNE Processes</td>
</tr>
<tr>
<td>Institutional Sustainability Transformation</td>
<td>• Reduced funding&lt;br&gt;• High asset maintenance&lt;br&gt;• Lack in numbers and capable staff on finance/entrepreneurs&lt;br&gt;• Staff talent management/succession planning&lt;br&gt;• Difficulties in getting external funding&lt;br&gt;• Culture on campus sustainability&lt;br&gt;• Red tape and lack of autonomy with agencies&lt;br&gt;• Rigid policies&lt;br&gt;• Customer focus</td>
<td>• Surplus funding&lt;br&gt;• Competent staff&lt;br&gt;• Business information system&lt;br&gt;• Paradigm shift&lt;br&gt;• Good governance&lt;br&gt;• Strong delivery system</td>
<td>• Insufficient funds for maintenance&lt;br&gt;• Rapid change of technology&lt;br&gt;• Lack of remuneration and incentives to attract top brains especially internationally renowned staff &amp; researchers.&lt;br&gt;• Resistance to change from lack of paradigm shift among staff and support staff.&lt;br&gt;• Rigid regulatory framework that impedes innovations in financial, social and environmental sustainability&lt;br&gt;• Lack of performance-based reward system.&lt;br&gt;• Insufficient funding for marketing/attracting top brains.</td>
</tr>
</tbody>
</table>
Nurturing/Motivating Entrepreneurial Academia
Translating Innovation To Wealth
Driving Financial Sustainability
Transforming UTMKL Into Autonomous Entity
Realising University 4.0
Accelerating High Performance Delivery
ACKNOWLEDGEMENTS

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Tan Sri Abd. Halim bin Ali
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Dato’ Abu Bakar bin Mohd Nor
Dato’ Ir. Low Keng Kok
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GRAPHIC DESIGNERS:
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