WEBINAR
JABATAN INFOSTRUKTUR

UNIVERSITY DIGITAL TRANSFORMATION

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JABATAN INFOSTRUKTUR, PPII, UiTM SHAH ALAM
18 NOVEMBER 2020

CONTENT

1. AN OVERVIEW
2. THE DRIVE TO CHANGE
3. MAKING THE RIGHT MOVE
4. UITM DIGITAL CAMPUS
5. CONCLUSION

1. AN OVERVIEW

THE LANDSCAPE OF THE DIGITAL WORLD TODAY

28.7 million internet users in Malaysia (Internet Users Survey 2018, MCM)

4.5 billion internet users in the World

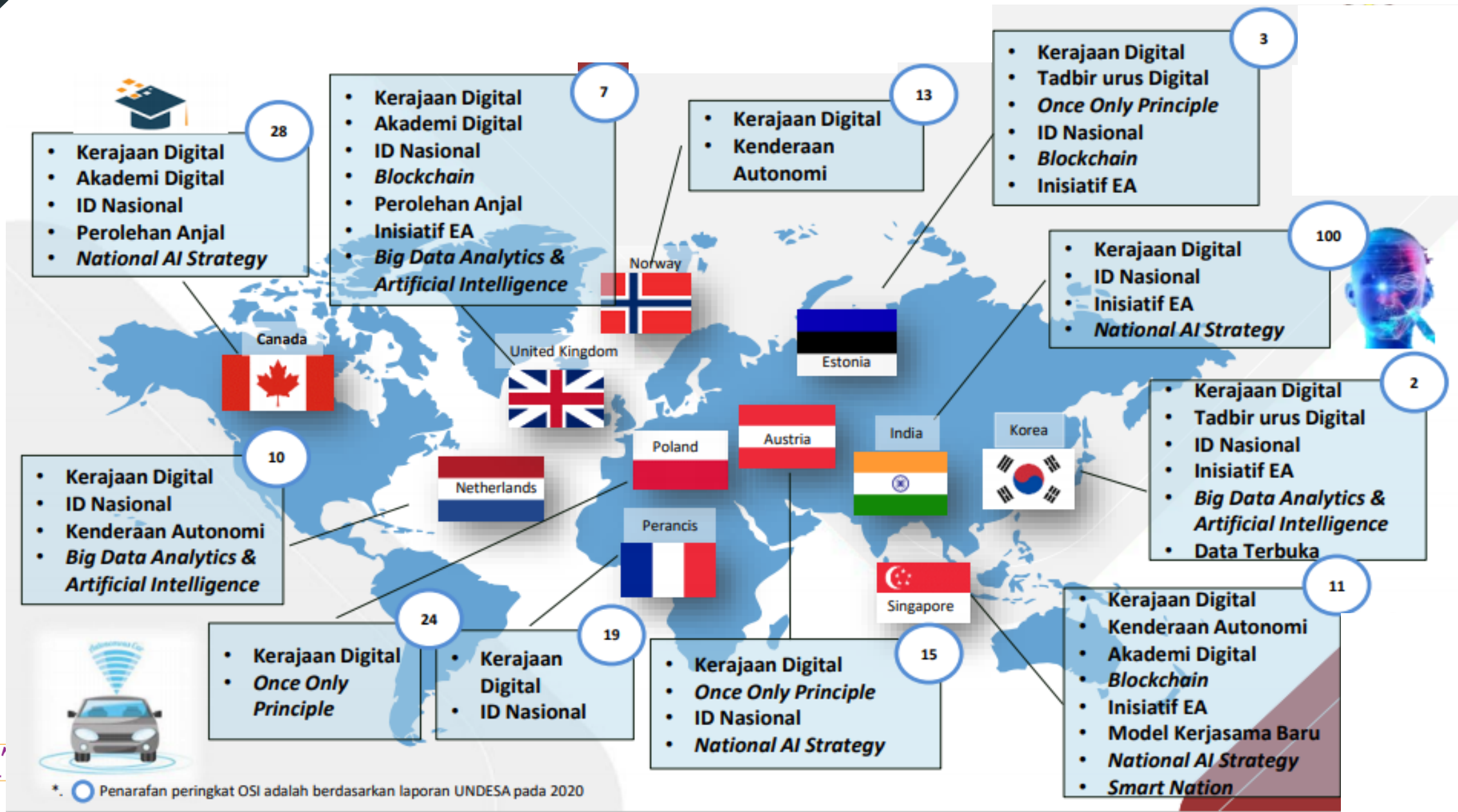
2.3 billion internet users in the Asia

6 Billion internet users in 2022 and 7.5 Billion internet users in 2030

References : Cybersecurity Ventures

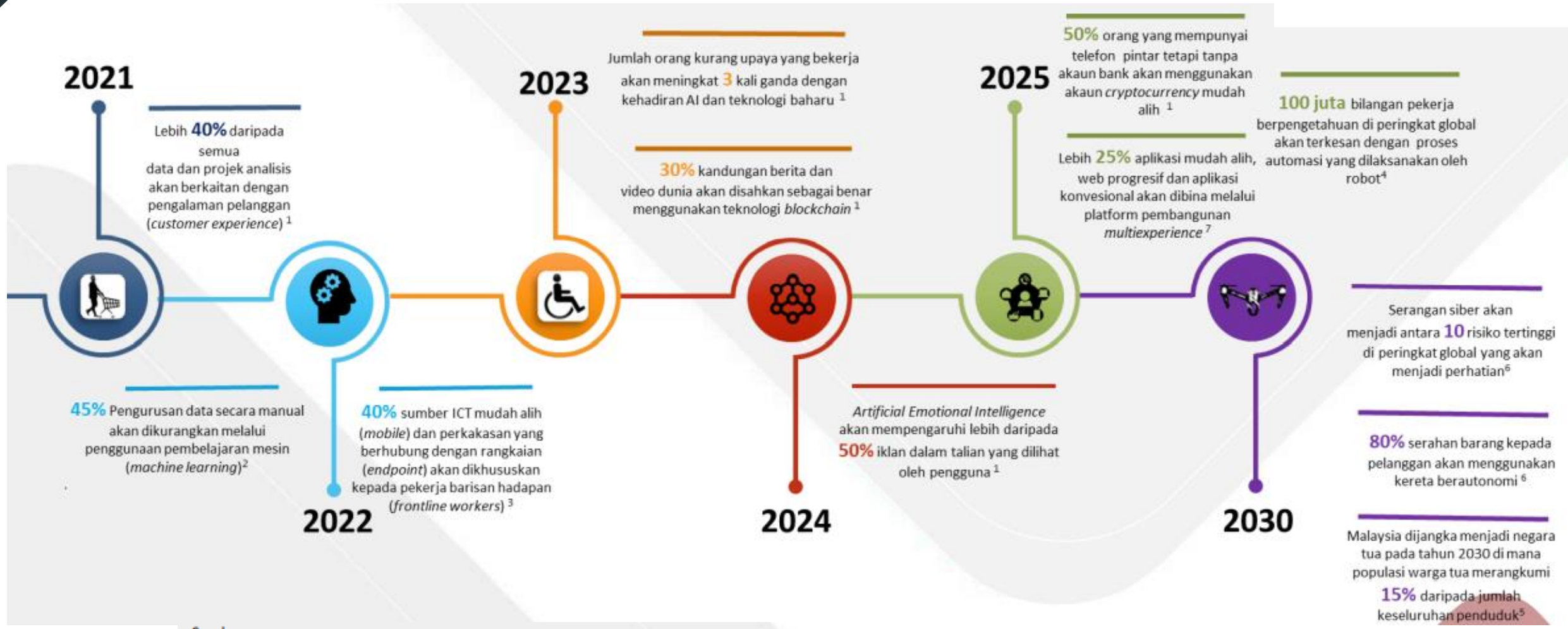
THE WORLD IS GETTING CONNECTED

GLOBAL DIGITILIZATION BENCHMARK



*. Penarafan peringkat OSI adalah berdasarkan laporan UNDESA pada 2020

GLOBAL DIGITALIZATION TECHNOLOGY DIRECTION



Sumber:

[1] Gartner (2019) |https://www.gartner.com/smarterwithgartner/gartner-top-strategic-predictions-for-2020-and-beyond/

[2] Gartner IT Symposium (2019)| Xpo 03 –07 November 2019 Barcelona, Spain |Top 10 Data and Analytics Technology Trends That Will Change Your Business

[3] Gartner IT Symposium (2019)| Xpo 03 –07 November 2019 Barcelona, Spain |The Future of Frontline Workers

[4] KPMG (2020) |https://home.kpmg/my/en/home/services/advisory/management-consulting/it-enabled-transformation/rpa1.html

[5] Malaysia's Ageing Population Trends (2016)|https://www.researchgate.net/publication/305727022_Malaysia's_Ageing_Population_Trends

[6] Frost & Sullivan (2019) |ICT Trends 2021 -2025

[7] Gartner (2020) | https://www.gartner.com/en/information-technology/glossary/multiexperience-development-platforms-mxdp

DIGITAL TRANSFORMATION (DT): A DEFINITION

DT is the **cultural**, **organizational** and **operational** change of an organization, industry or ecosystem through a smart integration of digital **technologies**, **processes** and **competencies** across all levels and functions in a **staged** and **strategic** way.

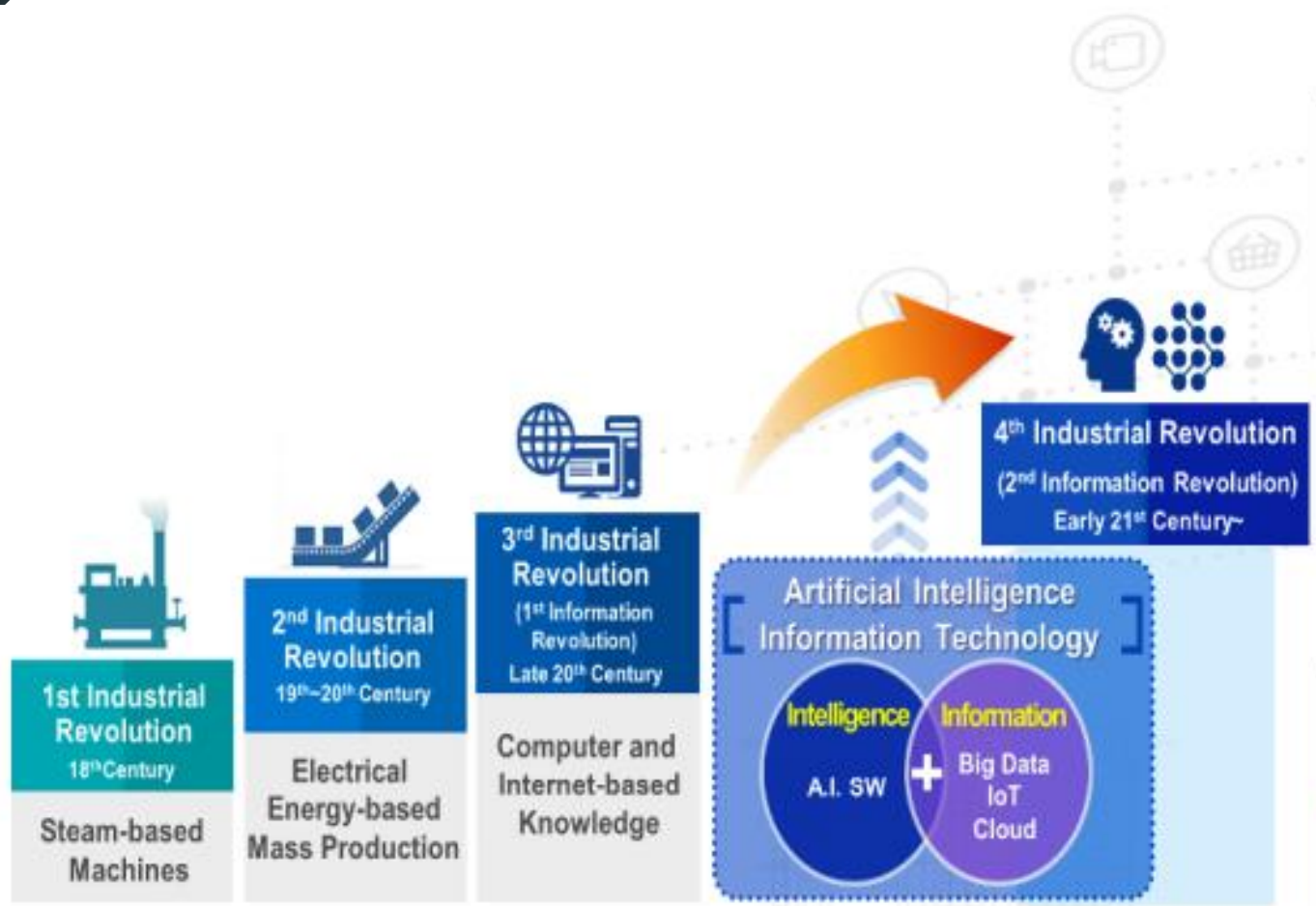
DT is not just about disruption or technology.
It's about **value**, **people**, **optimization** and the **capability** to rapidly adapt when such is needed through an intelligent use of **technologies** and **information**.

WHAT IS IR4.0?

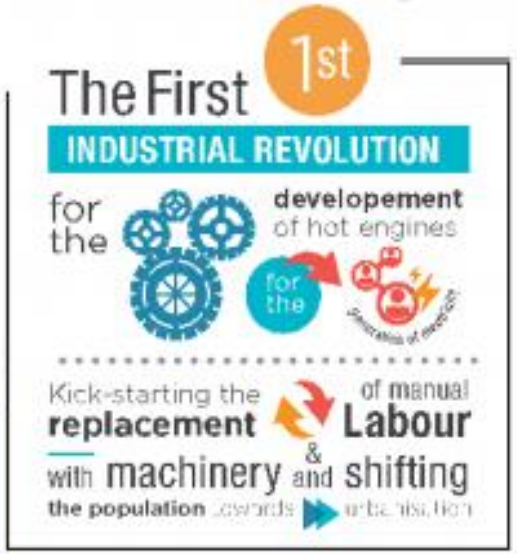
A stage in the development of knowledge in which the lines between the physical, digital and biological spheres are being blurred. The backbone include 1) Artificial Intelligence 2) Cloud Computing 3) Big Data Analytics 4) Internet of Things.

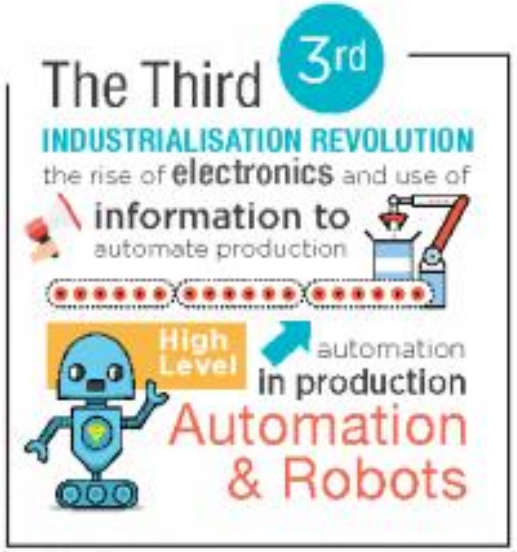
Schwab, K. (2016)

INDUSTRIAL REVOLUTION 4.0



Source: https://blogs.worldbank.org/ic4d/files/ic4d/korea_ai_blog_1.png





BENEFITS OF MOVING ON TO DIGITAL TRANSFORMATION

Productivity

- Solutions to eliminate errors and wastage
- Produce more products
- Shortened cycle times

Flexibility

- Personalised products
- Efficient production
- Large variability in production control

Competitiveness

- Low manufacturing costs
- Use of innovative solutions
- Flexible response to fluctuations of demand

Profitability

- The advantages of mass production
- Optimized processes
- Low stock inventories
- Production efficiencies

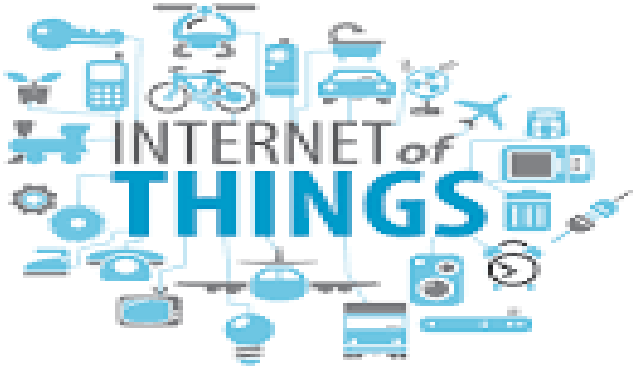
Safety

- Software prevents defects
- Sensors are protecting worker safety
- Immediate reaction

Ecology

- Switching off unused objects
- Use of green solutions
- Renewable energy

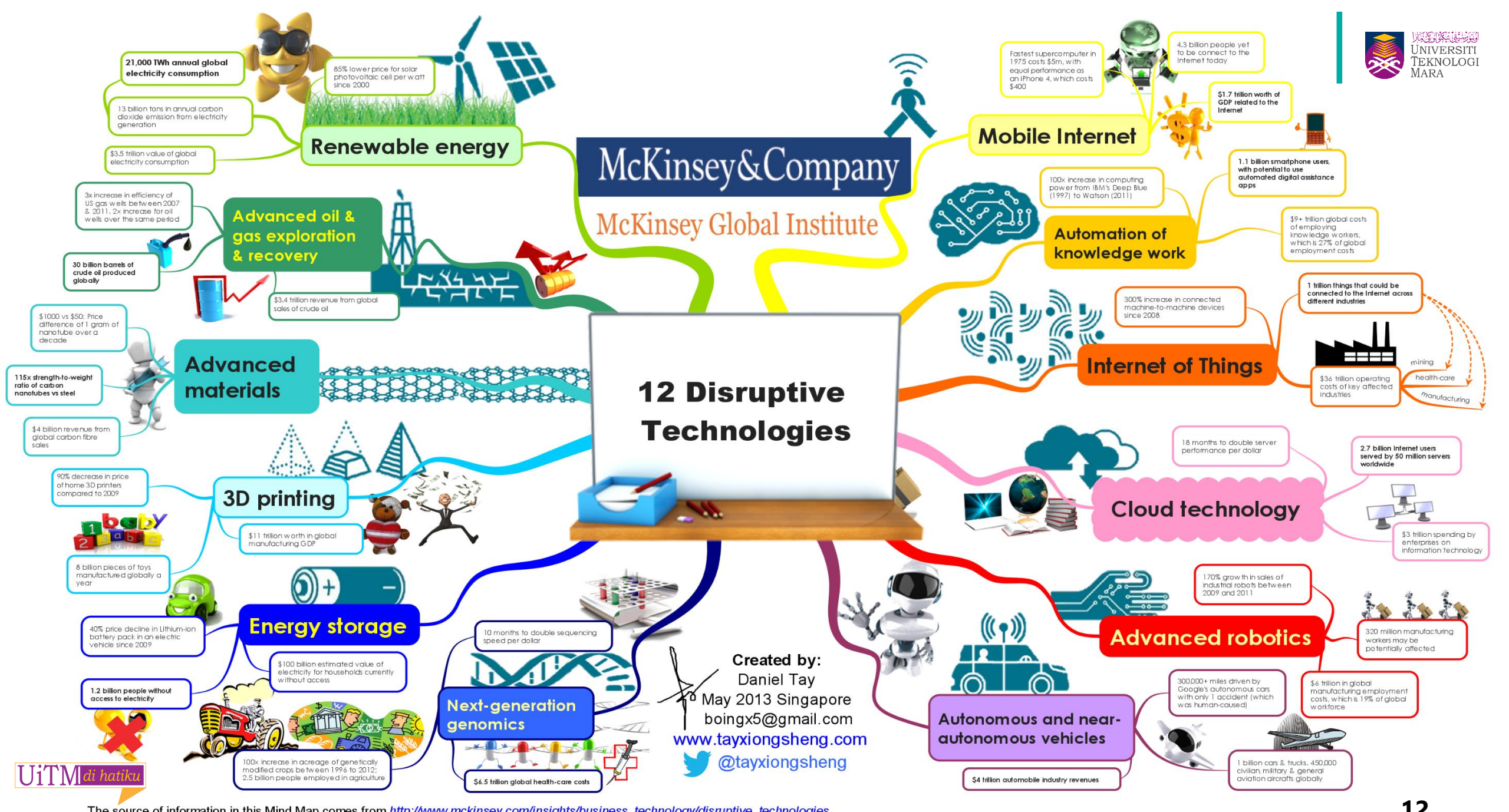
EMERGING TECHNOLOGY BREAKTHROUGHS



Sophia the social Robot

3 D Printing

Virtual Reality



The source of information in this Mind Map comes from *http://www.mckinsey.com/insights/business_technology/disruptive_technologies*

DISRUPTIONS NEED PLATFORM

Digital disruption has already happened.
None of these companies existed twenty years ago.

facebook

Popular media owners create no content (Facebook)

UBER

The world's largest taxi company owns no taxis (Uber)

Instagram

The most valuable photo company sells no cameras (Instagram)

airbnb

The largest accommodation provider owns no real estate (airbnb)

The fastest growing banks have no actual money (SocietyOne)

Large phone companies own no teleco infra (Skype, WeChat)

NETFLIX

The largest movie house oens no cinemas (Netflix)

Alibaba.com

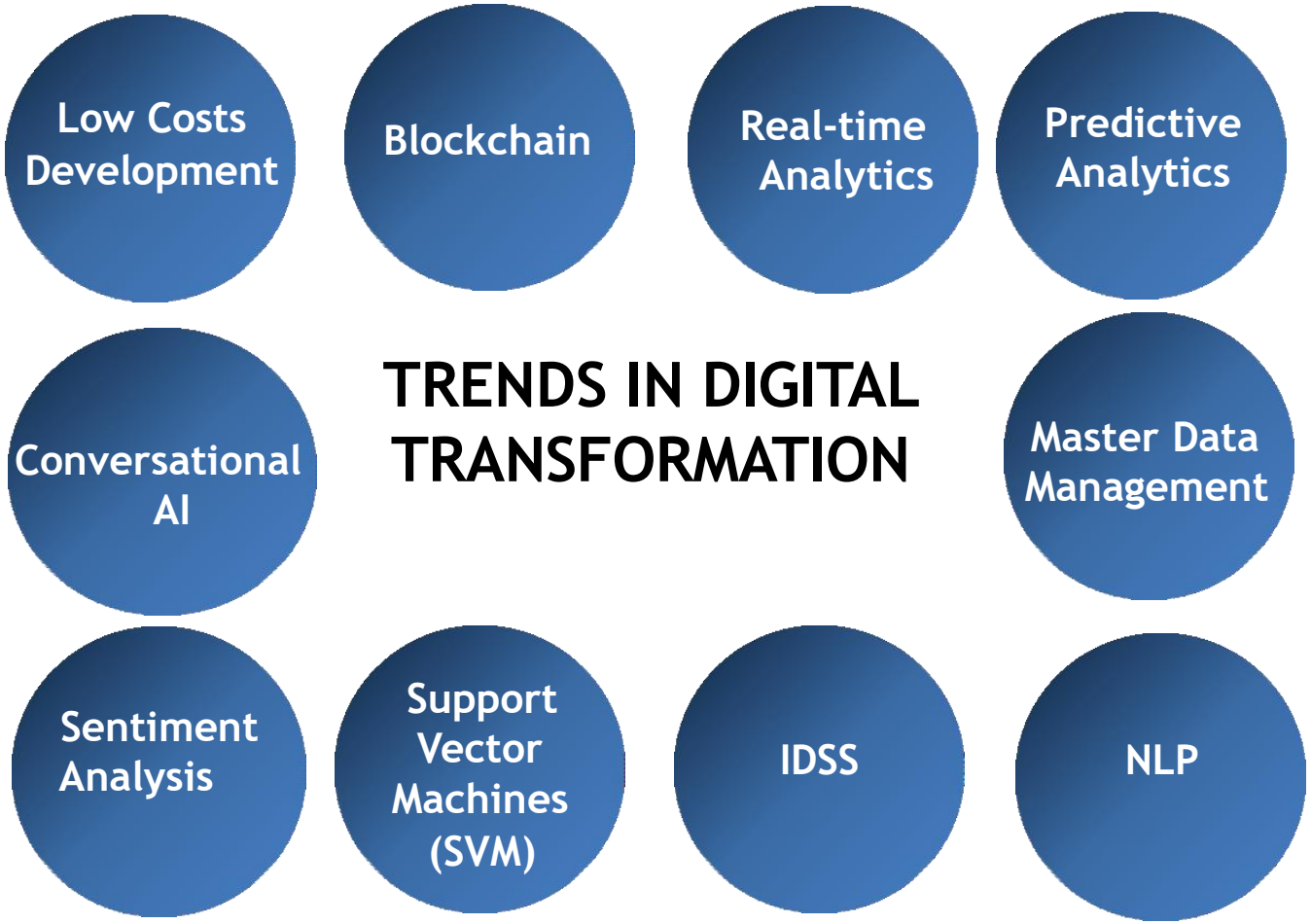
The most valuable retailer no inventory (Alibaba)

Largest software vendors don't write the apps (Apple/Google)

… a new digital order has been created through these platforms which may alter social, economic and political landscapes

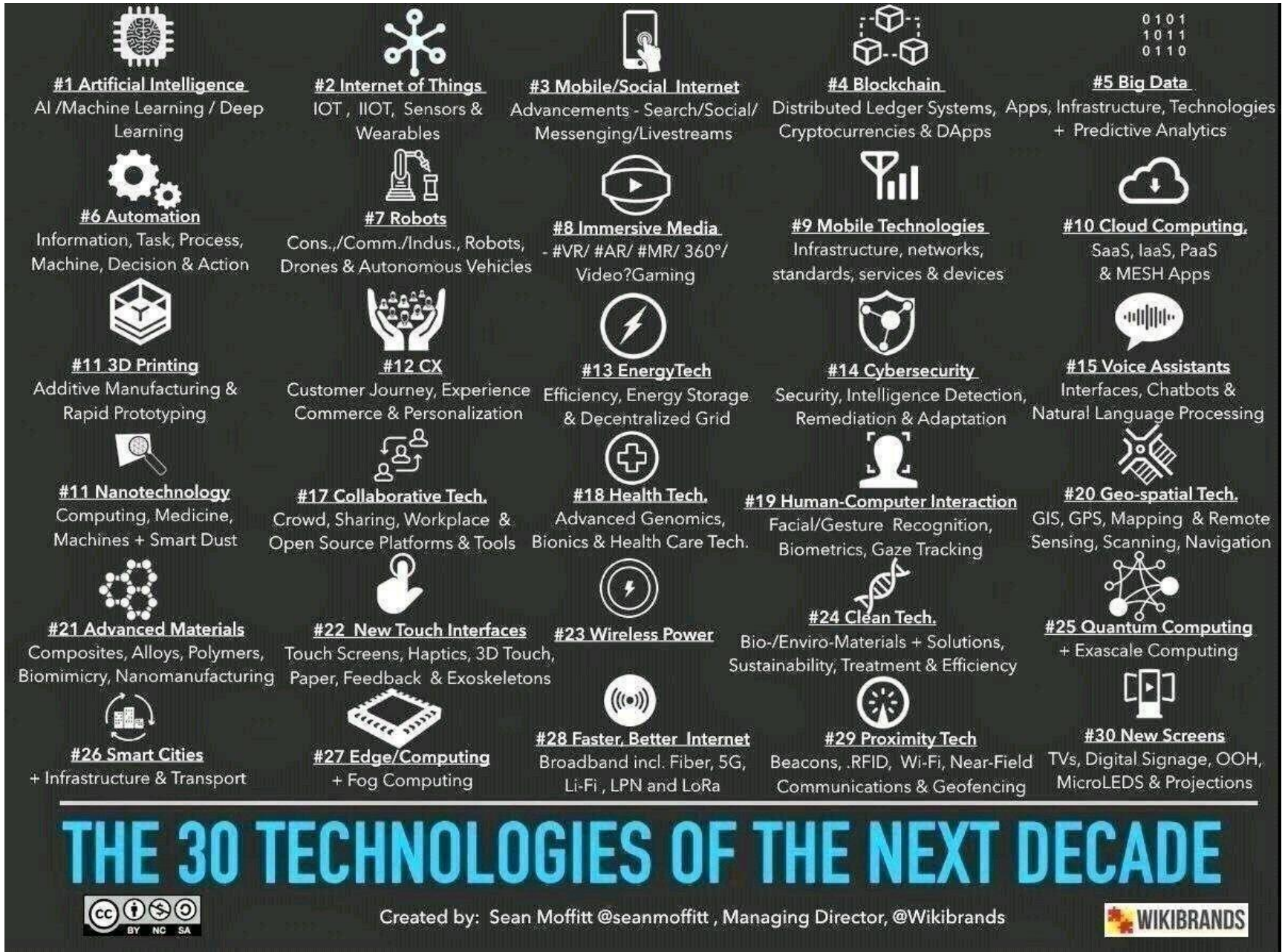
DISRUPTIVE TECHNOLOGIES AROUND US

TOP 10 DIGITAL TRANSFORMATION TRENDS FOR 2020



COMIDOR

30 TECHNOLOGIES OF THE NEXT DECADE



2. THE DRIVE TO CHANGE

CHALLENGES COVID-19 : MCO

MCO is here. It has change the landscape of how enterprise do business. What are their concerns and challenges?

"We want to reduce physical contact when dealing with our customers."

"We want to minimize physical documents dependencies."

"I want documents can be legally signed via online platform."

"We want seamless document management solution that is accessible from anywhere."

"Since we mostly do things online, we want to ensure all of our transactions are secured."

"I want to make our B2C customers' life easier"

CHALLENGES COVID-19: STAND IN THE WAY OF STUDENT/UNIVERSITY SUCCESS

EDUCATION REACTS TO COVID-19

Current
Response
Focus for remainder of fiscal year

- Education Offers
- Information, resources, training
- SME customer training, coaching
- Messaging, content, seller enablement
- Social and digital

Reflect to
Reimagine
Proactively plan for change

- Plan for future
- Continuity of learning
- How can Industry help with transition?

Rebound to
Recovery
Evolve to new normal

- What is the new normal short term and long term?

CHALLENGES IN HIGHER EDUCATION TODAY

Financial pressure is growing

Security and privacy are critical

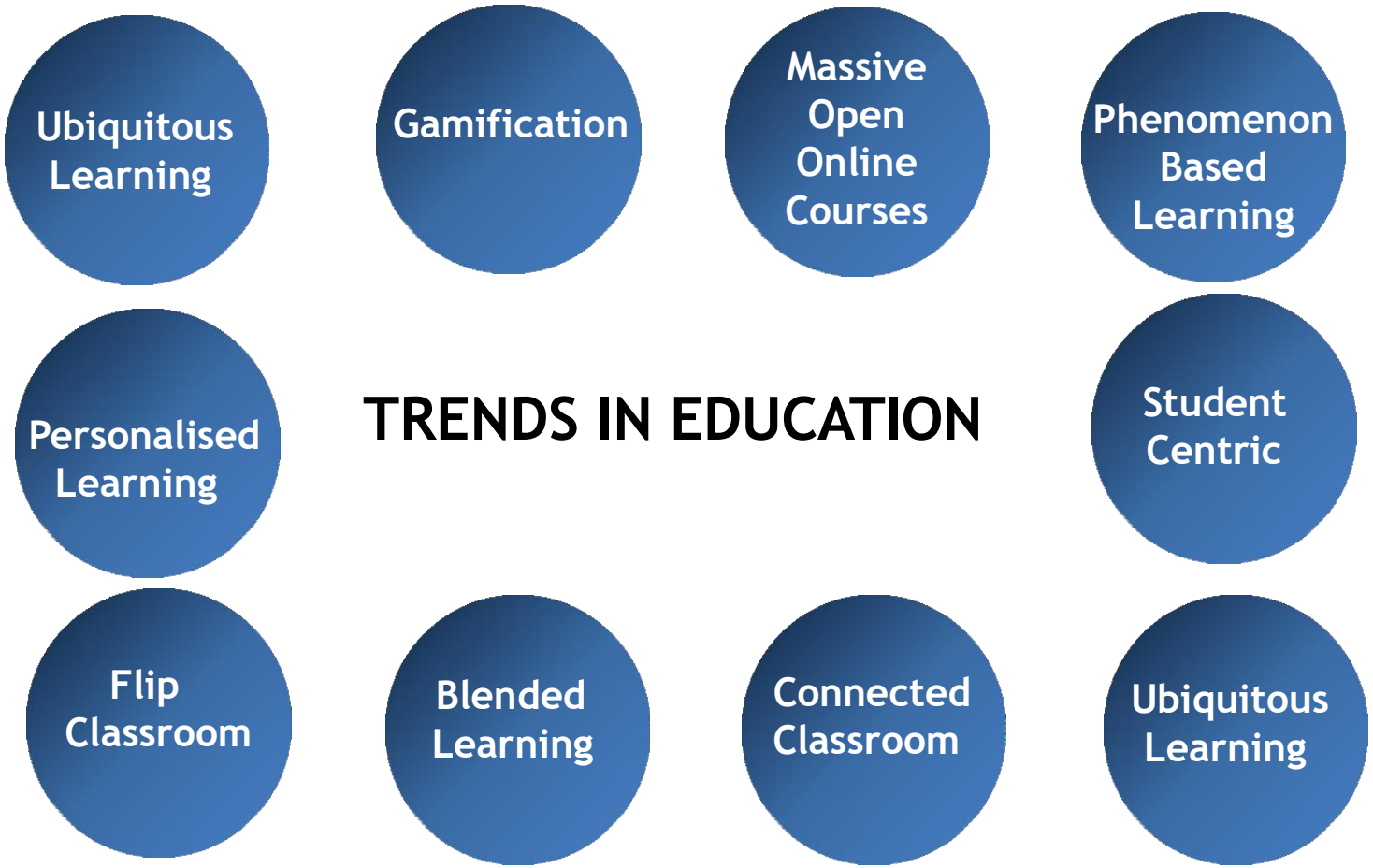
A massive increase in remote users and devices

The need for faculty to rapidly shift teaching methodologies

Ensure student health and well-being

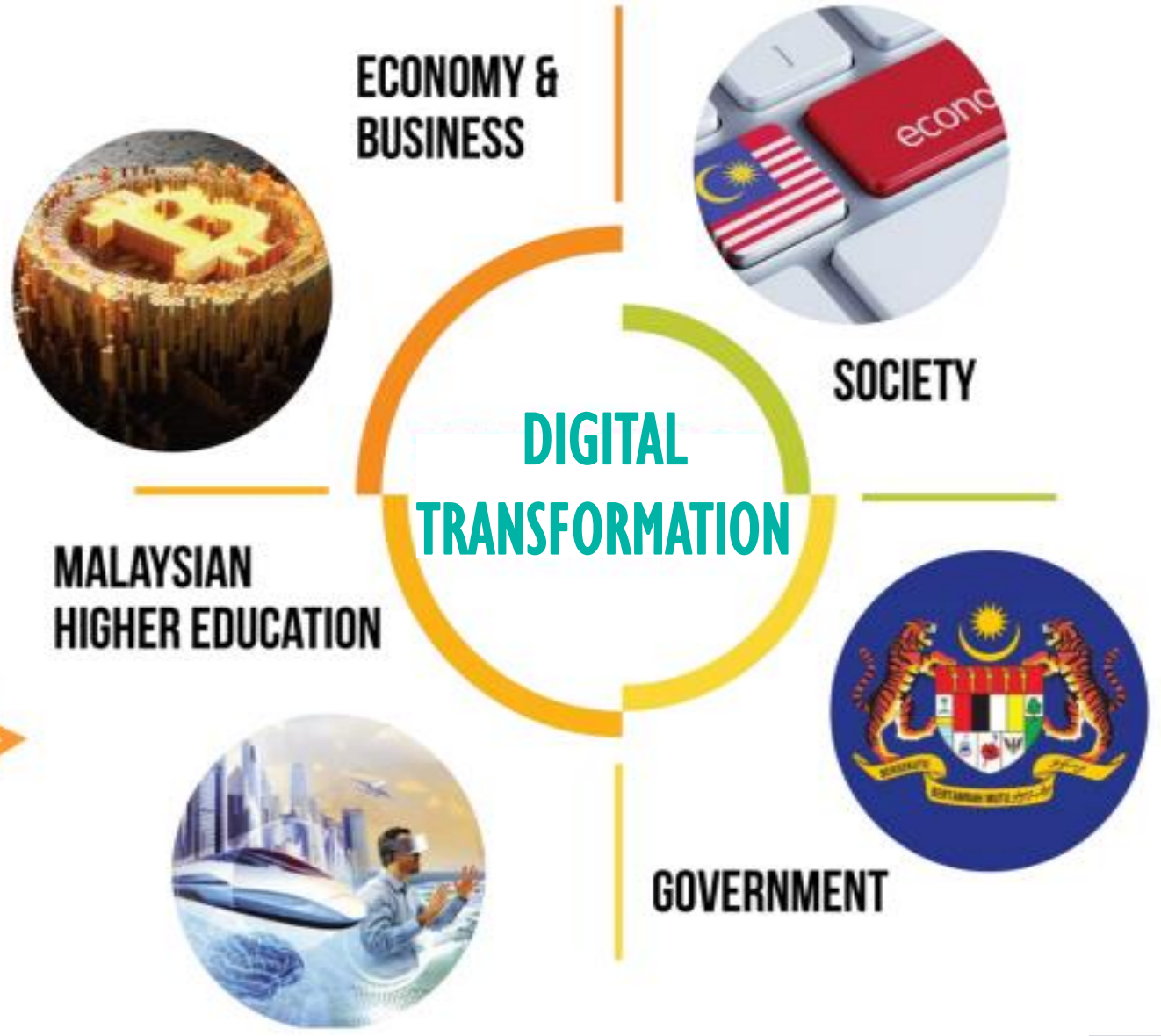
Determine what learning spaces will look like in the future

DISRUPTION IN EDUCATION

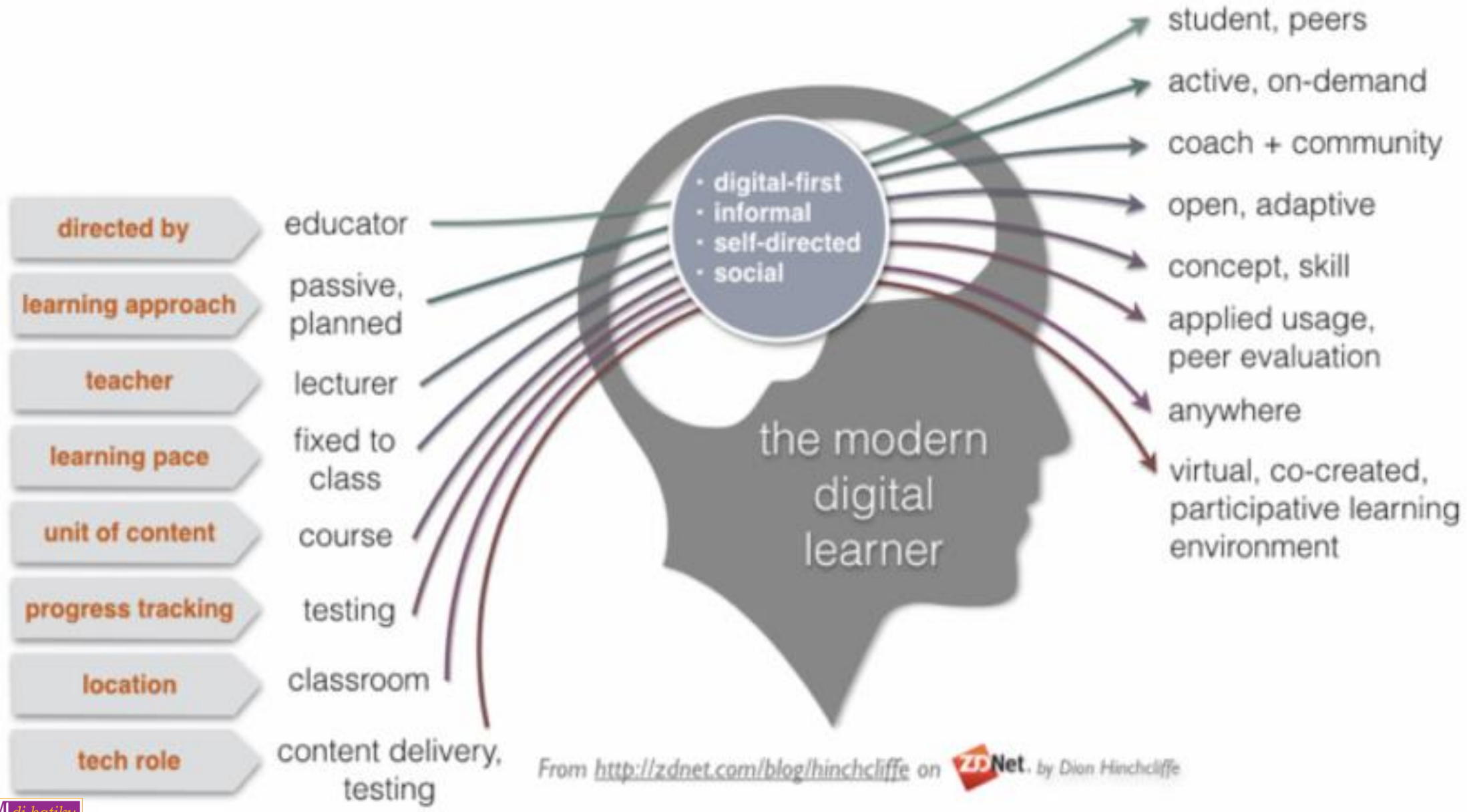


IMPACTS OF DIGITAL TRANSFORMATION TO EDUCATION

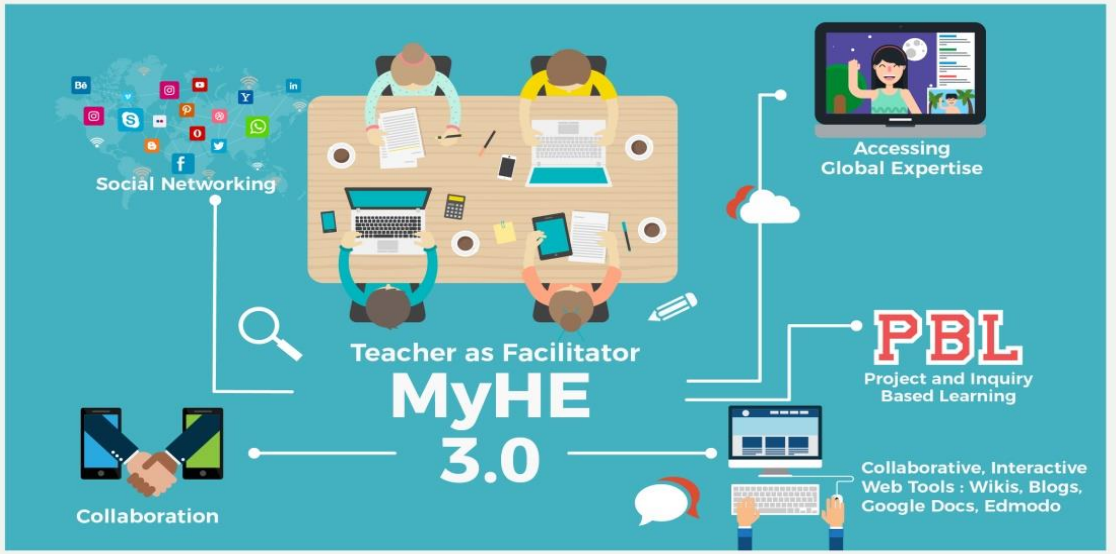
- ✓ How will the lecturers teach? (method)
- ✓ How will the students learn?
- ✓ What will the lecturers teach (content)?
- ✓ How will the learning space look like?
- ✓ What are the roles of the lecturers?
- ✓ What are the roles of the students?
- ✓ What are the roles of support officers/staff
- ✓ What are the attributes of the students/lecturers/support?

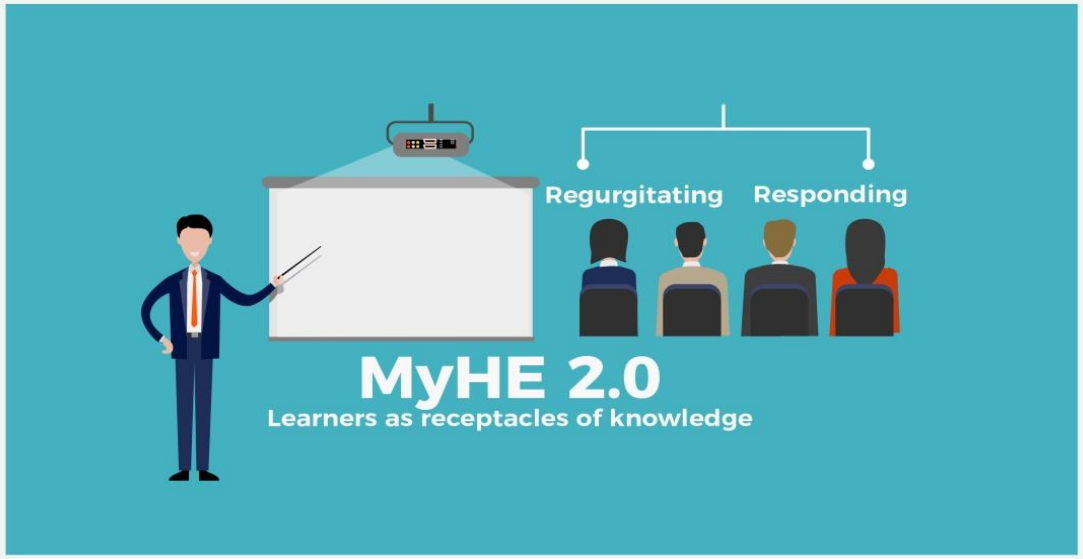


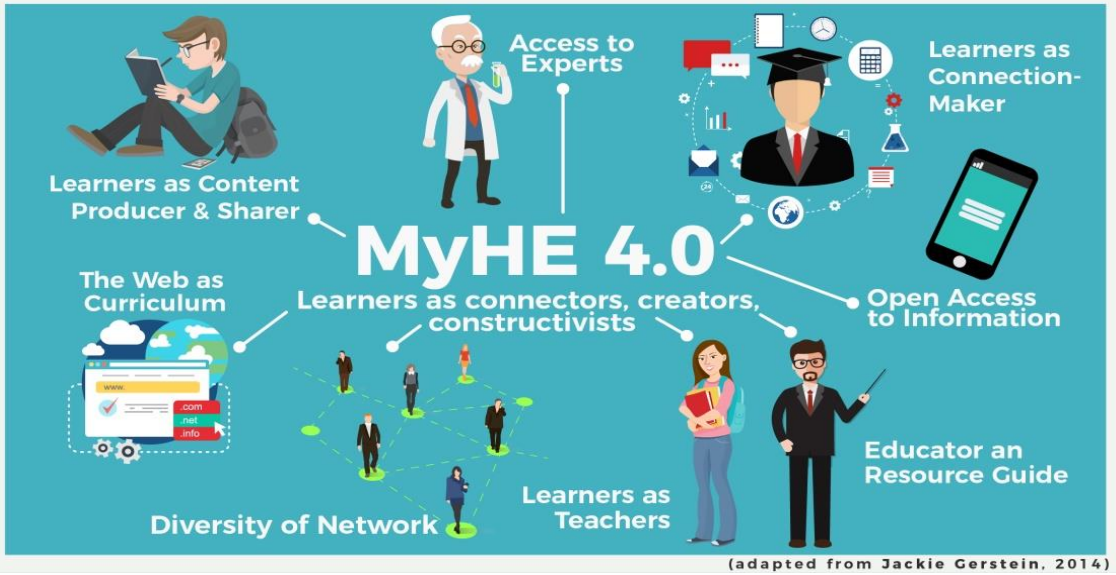
DIGITAL TRANSFORMATION OF LEARNING



DELIVERY OF HIGHER EDUCATION

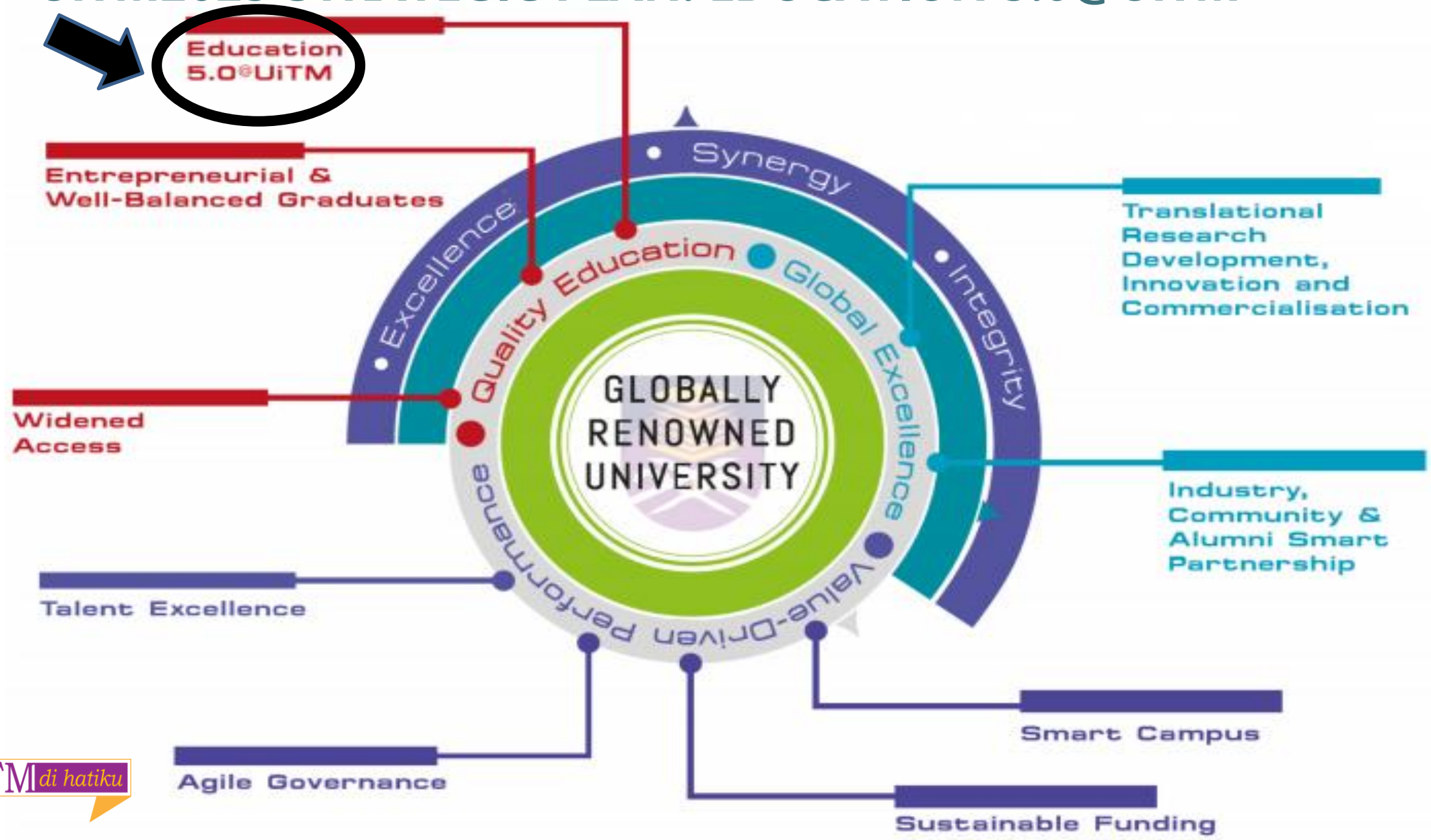






(adapted from Jackie Gerstein, 2014)

UiTM2025 STRATEGIC PLAN: EDUCATION 5.0@UiTM



What is Education 5.0@UiTM?

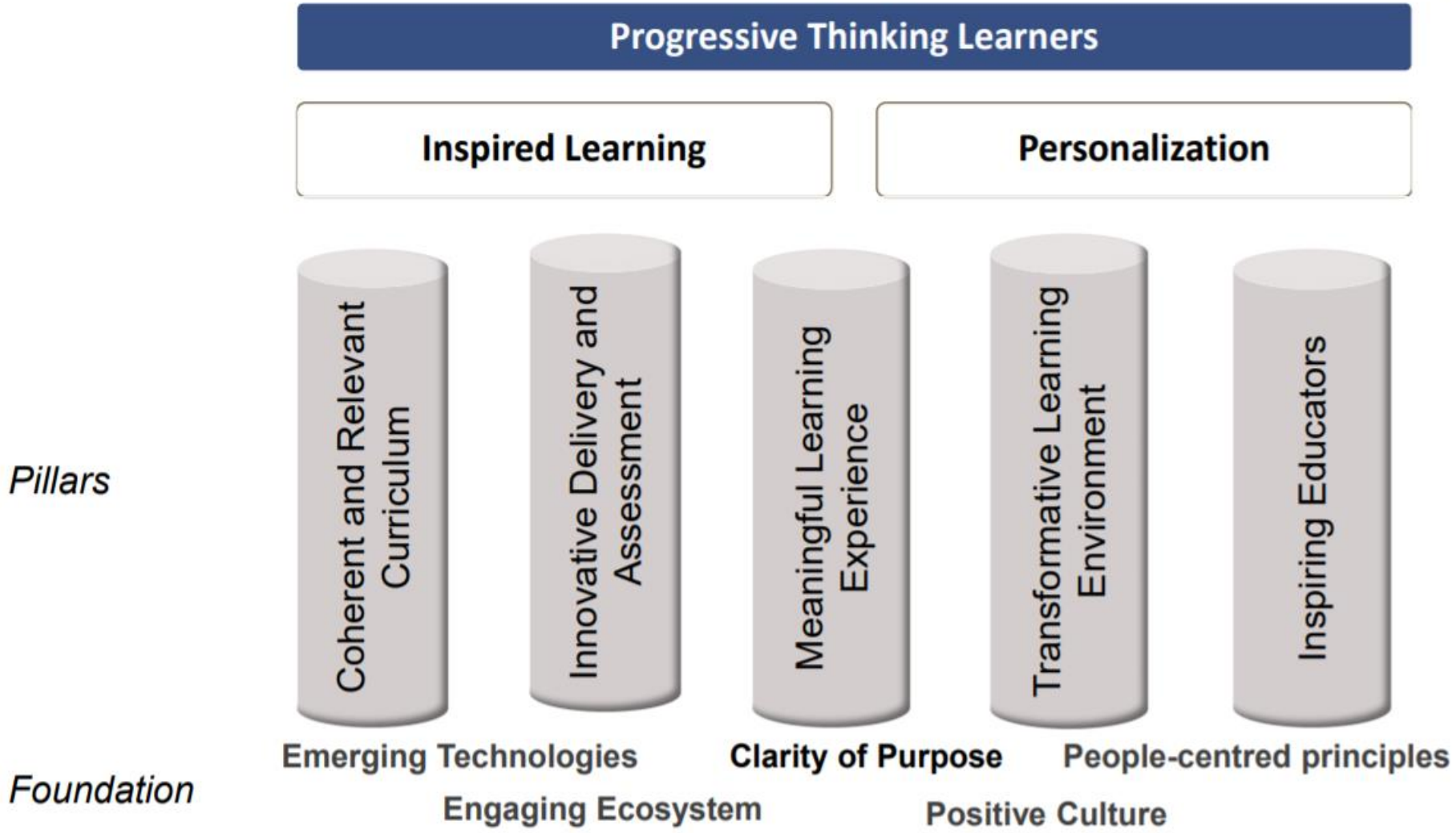
Defining Education 5.0@UiTM

A learning - centric ecosystem that is sustainable, balanced and principled, driven by values, powered by intellect and afforded by new, ubiquitous technologies

Education 5.0@UiTM is not about smart technology and the machine's capability to do what humans do; rather it is about what humans can do well rendered by smart technology and machines

Framing Education 5.0@UiTM

The elements of Education 5.0@UiTM : the foundation, the pillars , and the goal

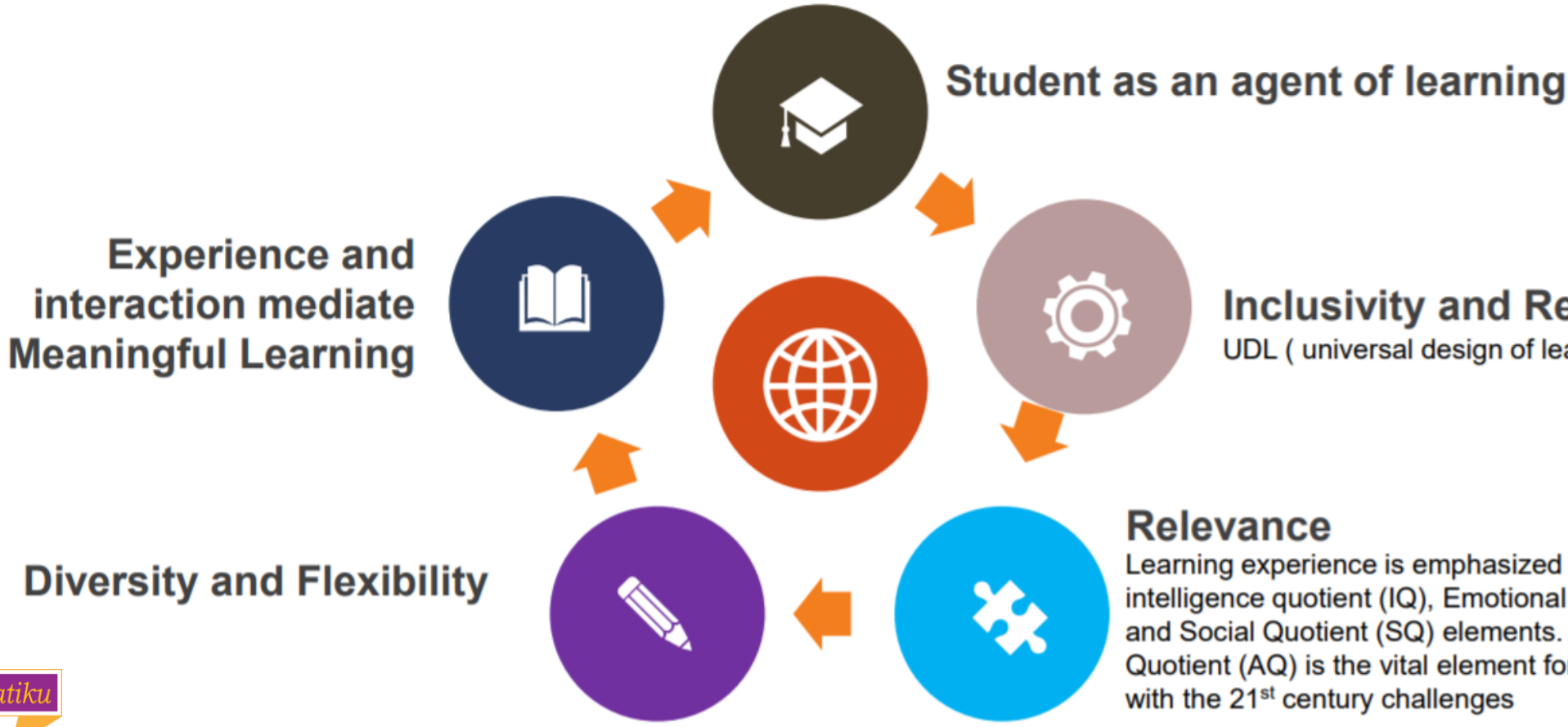


Inspired Learning

I hear, I forget
I see, I remember
I do, I understand
I think, I discover
I feel, I value
I share, I gain

Meaningful Learning Experience

A meaningful learning experience is the sum of a holistic set of dimensions – agency, diversity, flexibility, inclusivity, respect and relevance



EDUCATION 5.0@UiTM

Flexibility – Omni Learning

Learning online
Resource based learning, MOOCs, Blended Learning

Learning from the experts
Industry Experts
Experts from other universities
Experts from relevant organizations

Learning with and from peers
Peer tutoring/assessment, Learning Communities
Intercampus network

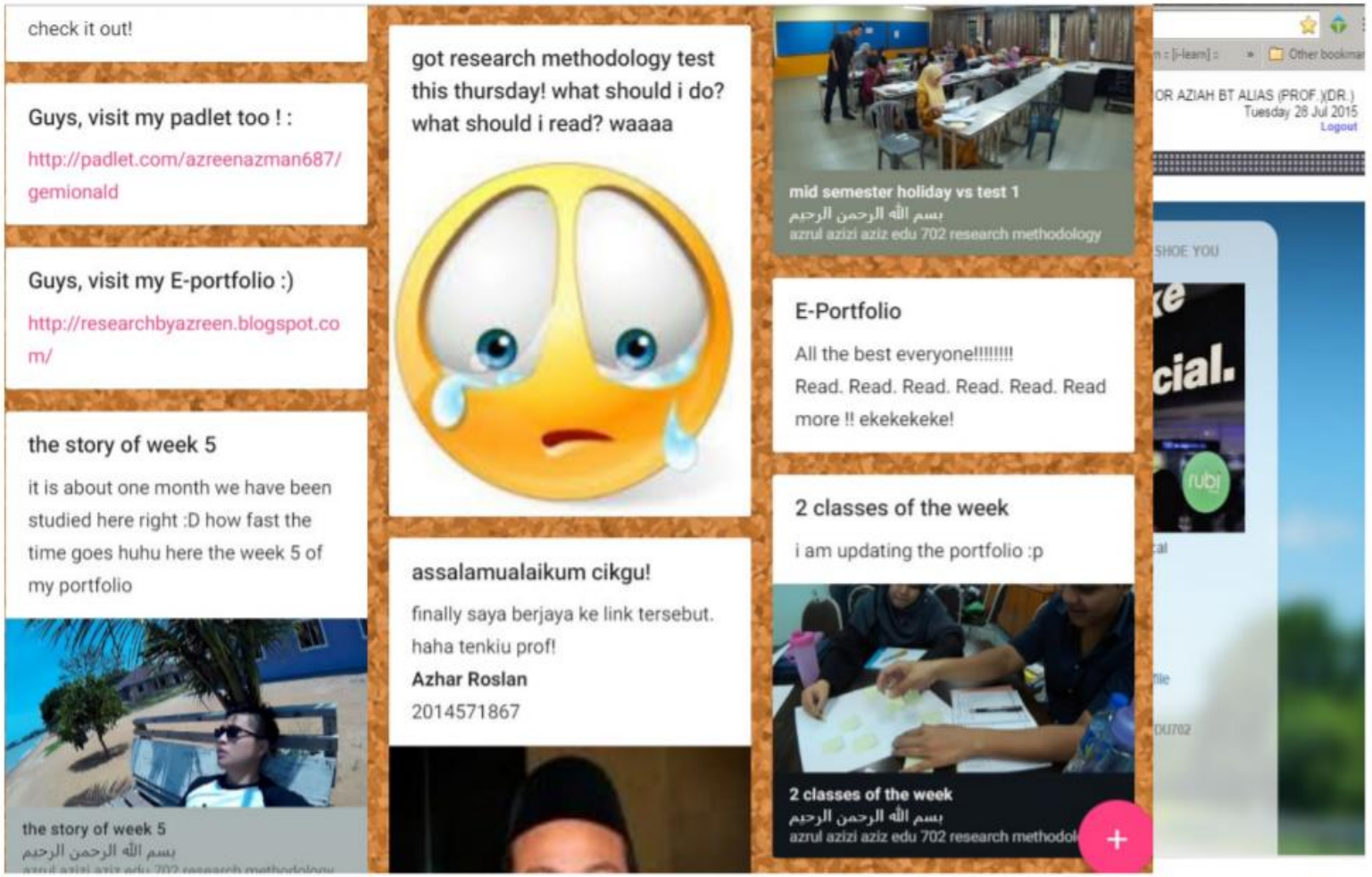
Learning at a global platform
Global learning
Virtual mobility & exchange

Learning in the community
Field experience, Service learning, community based learning, museum learning

Learning at the workplace
Work study, practicum, work based learning

Portfolios and Self Assessments

Assessment as learning



Outcome : Lifelong Learning

Students are able to learn about themselves as learners

- become aware of how they learn
- become aware /have knowledge of one's own thought processes.

Students reflect on their work on a regular basis, usually through self and peer assessment

An exciting journey indeed

Fluid, dynamic and organic curriculum
Industry and Community Relevant, Future proof content, Shared and Distributed Content, Multi disciplinary electives, Expert faculties

A student is not a statistic
Immersive, Brain based, active learning, Efficient, effective flexible,ubiquitous technology Multiple Means of Representations

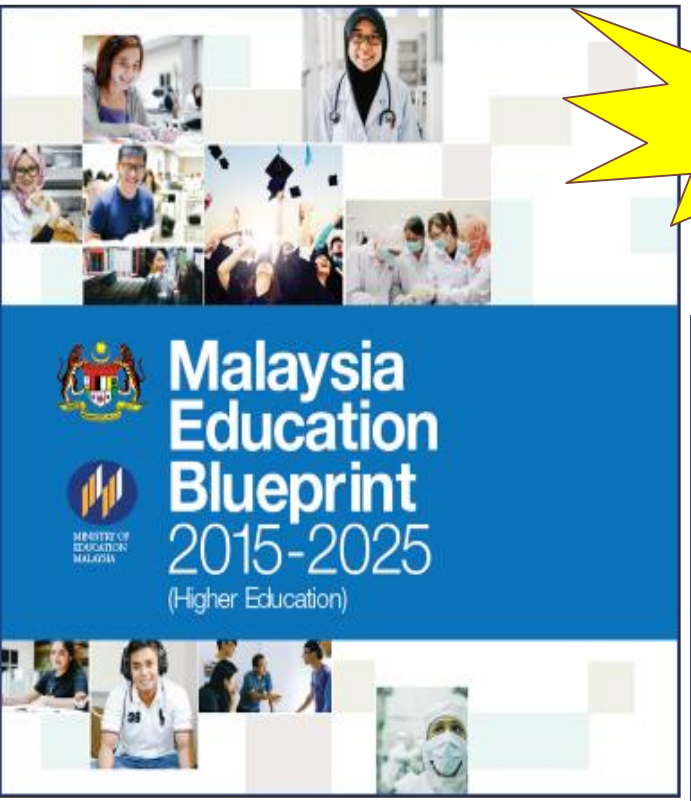
Student as an agent of learning
Experience and interaction mediate l Learning, Relevant, inclusive, diverse, flexible

Immersive Technology and Learning spaces
Expansion of unique and creative learning through adaptive immersive technology and space; **ARIF, data labs, makerspace**

Inspiring educators; with great qualities, proactive in learning and enhancing abilities. All gained knowledge, skills and abilities from academic and research work brought in and shared together in class.

3. MAKING THE RIGHT MOVE

MALAYSIA EDUCATION BLUEPRINT (MEB) 2015-2025



Launched in April 2015

The 10th Shift

Started in 2016

MEB 2015 – 2025 ROADMAP

Malaysia Education Blueprint 2015-2020: Transformation Roadmap
Key stakeholders are the Ministry, HLIs, students and industry

Framework	Development Plan	Outcomes (Anchoring growth on people)
	Global Prominence	Holistic, Entrepreneurial and Balanced Graduates
	Globalized Online Learning	Talent Excellence
	Innovation Ecosystem	Nation of Lifelong Learners
	Transformed HE Delivery	Quality TVET Graduates
	Empowered Governance	Financial Sustainability

MEB 2015 – 2025 ROADMAP

Malaysia Education Blueprint 2015-2020: Transformation Roadmap
Key stakeholders are the Ministry, HLIs, students and industry

TRANSFORMATION ROADMAP

FOCUS AREA

2015
Building Momentum
Laying Foundation

- Integrated assessment methodology
- CEO faculty programme
- University Transformation Programmes (Pilot)
- Best practices “playbooks
- TVET enhancements
- Enhancements to admissions process
- International Scholarships
- Designing “flagship” MOOCs
- Redesign Ministry organisation and operating model

2016-2020
Accelerate System Improvement

- ✓ **Online learning infrastructures**
- ✓ **Off-campus or industry-based learning**
- ✓ **Infrastructure co-utilisation**
- ✓ **Integrated Higher Education**
- ✓ **Lifelong learning**
- ✓ **Research commercialisation**
- ✓ **Financial sustainability**
- Joint research funding from industry and community
- TVET qualifications framework
- Talent mobility programmes and multi-track career pathways
- Higher Education Talent Roadmap
- Recognising prior learning
- Empowered governance for public HLIs
- International student management

2021-2025
Move towards excellence
Operational Flexibility

- Incorporation of 21st century skills
- Completing the transition of all public universities towards earned autonomy
- Achieving financial sustainability
- Assessing implementation of greater autonomy for polytechnics
- Ongoing enhancements to the quality assurance and institutional ratings system
- Completing the rebranding of TVET
- Delivering results on University Transformation Programmes by HLIs
- Ongoing review on progress of initiatives
- Continuing diversification of Malaysia’s international student population
- Ongoing review and enhancement of Malaysia’s global education brand
- Completing the establishment of international research laboratories

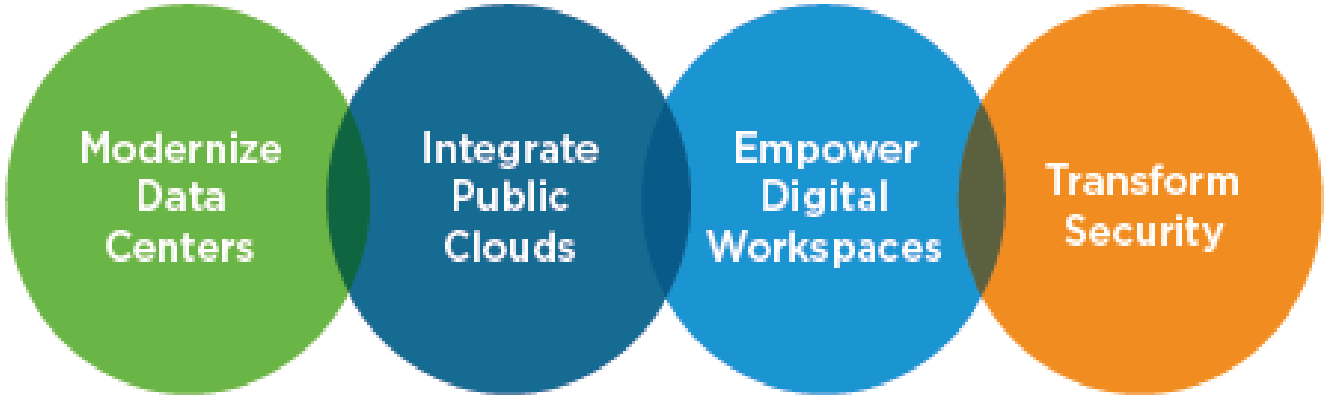
MEB 2015 – 2025 FOCUS AREA

Higher Learning Institutions (HLIs) focus areas
Core business of teaching and learning, support business of operation and administration

Teaching & Learning	Operation & Administration
Content Management	ICT & Network Infrastructure

ACCELERATE DT IN HIGHER EDUCATION

Grow Revenue, Drive Operational Efficiencies, and Reduce Costs + Mobilize Learning and Retain Students + Improve Data Security and Protect PII and IP



DIGITAL INSTITUTIONS

Digital Learning

Enhance quality and innovation of TEACHING and LEARNING

Accelerate productivity and collaboration in RESEARCH and DEVELOPMENT

Digital Campus

Improve operational efficiency of campus ADMINISTRATION and MANAGEMENT services

Transform and secure campus environment for better STAKEHOLDERS EXPERIENCE

Digital Capabilities for Education

Connected Learning	+	*Learning Spaces*	+	*Digital Platform*	+	*Smart Workspaces*
BYOD & Mobility infrastructure to transform learning anytime, anywhere with any device securely		*Blended spaces for collaborative & effective engagement, enhance learning experiences*		*Engaging learning & media resource repository, delivery & collaborative platform*		*Transformative work spaces to entrench collaboration & drive productivity gains*

+	*Smart Services*	+	*Smart Facilities*
	Innovative business & campus service offerings, transform stakeholder experiences		*Smart lighting, parking, building & environment control, security for end-to-end campus experience*

End-to-End IT Platform for Digital Institutions

Network | Security (Cyber) | Data Center (Cloud) | Mobility

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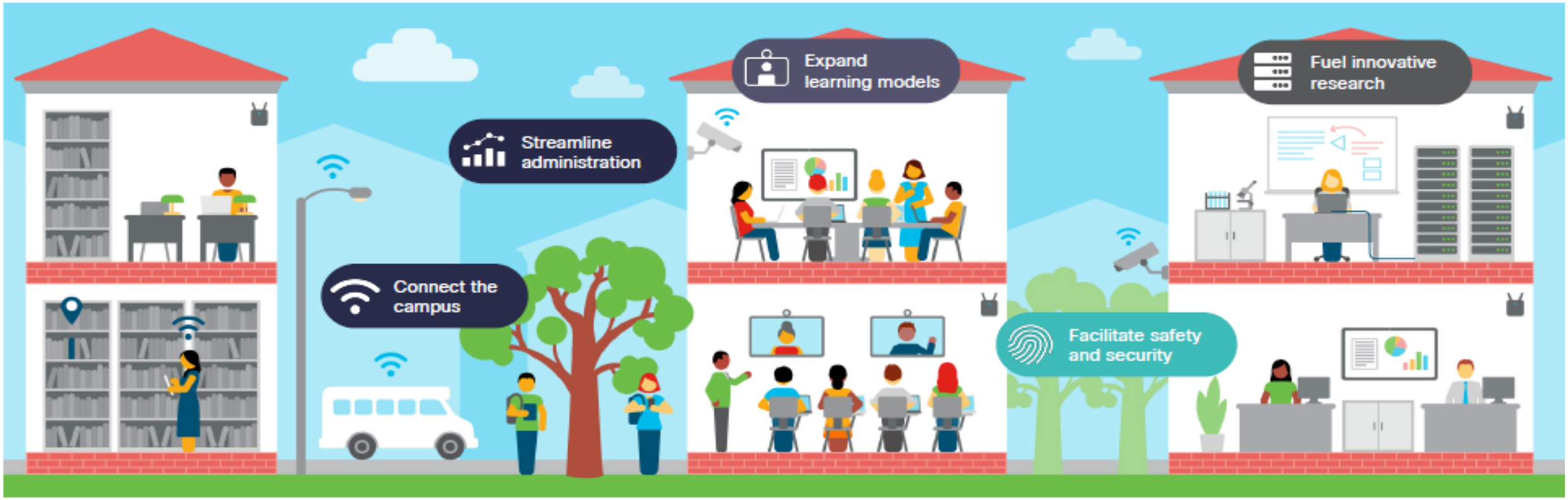
HIGHER EDUCATIONAL INSTITUTIONS TODAY



Connect the campus

- Campus wireless and connectivity
- Mobile experiences and location services
- Smart campus and automation

Streamline administration

- Data-informed operations
- Administrative collaboration
- Student engagement and retention services

Expand learning models

- Active learning spaces
- Distance learning
- Faculty professional development

Facilitate safety and security

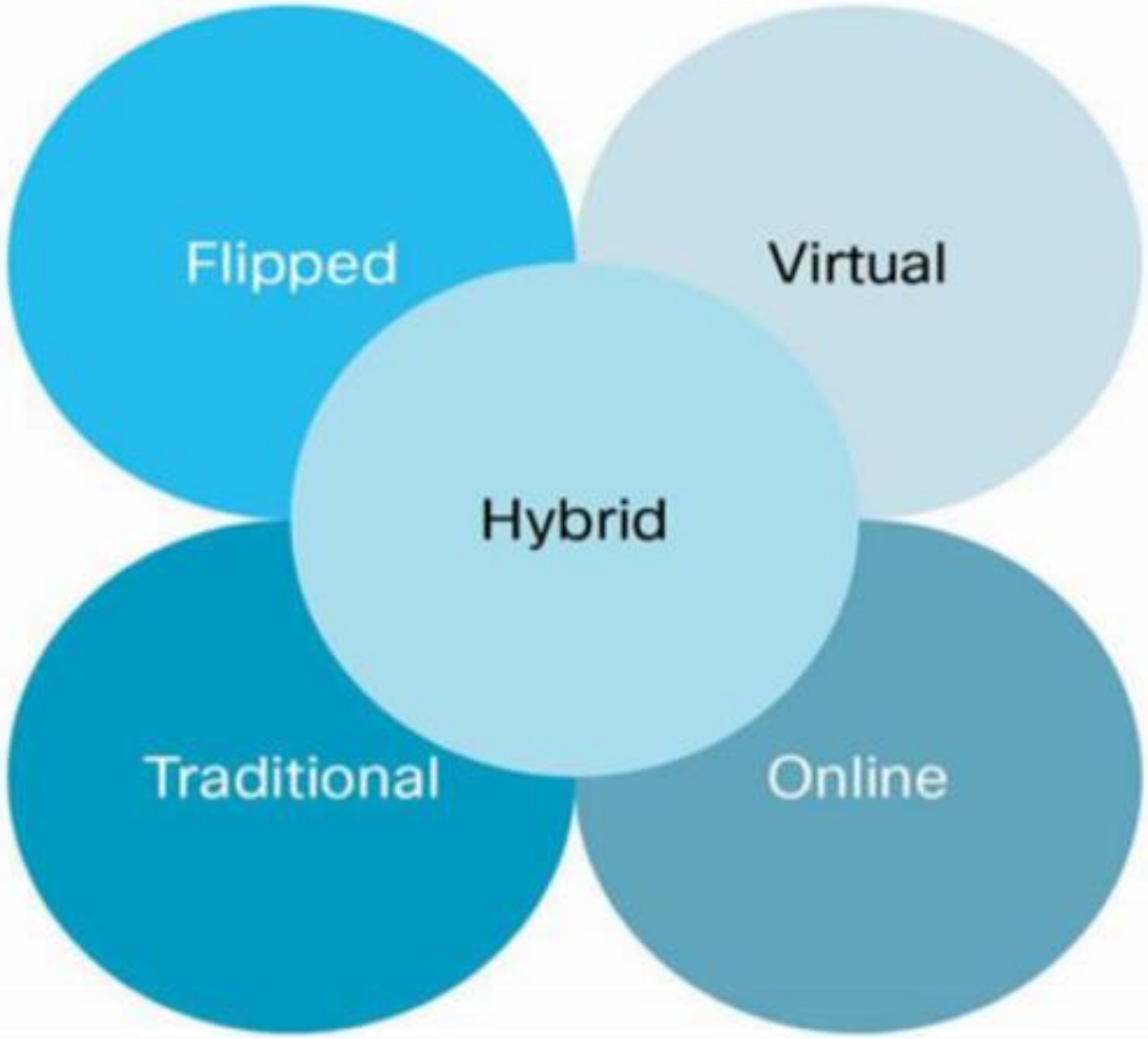
- Network, endpoint, and web security
- Identity and access control
- Video surveillance and physical security

Fuel innovative research

- Research collaboration
- High-performance computing
- Research cloud security

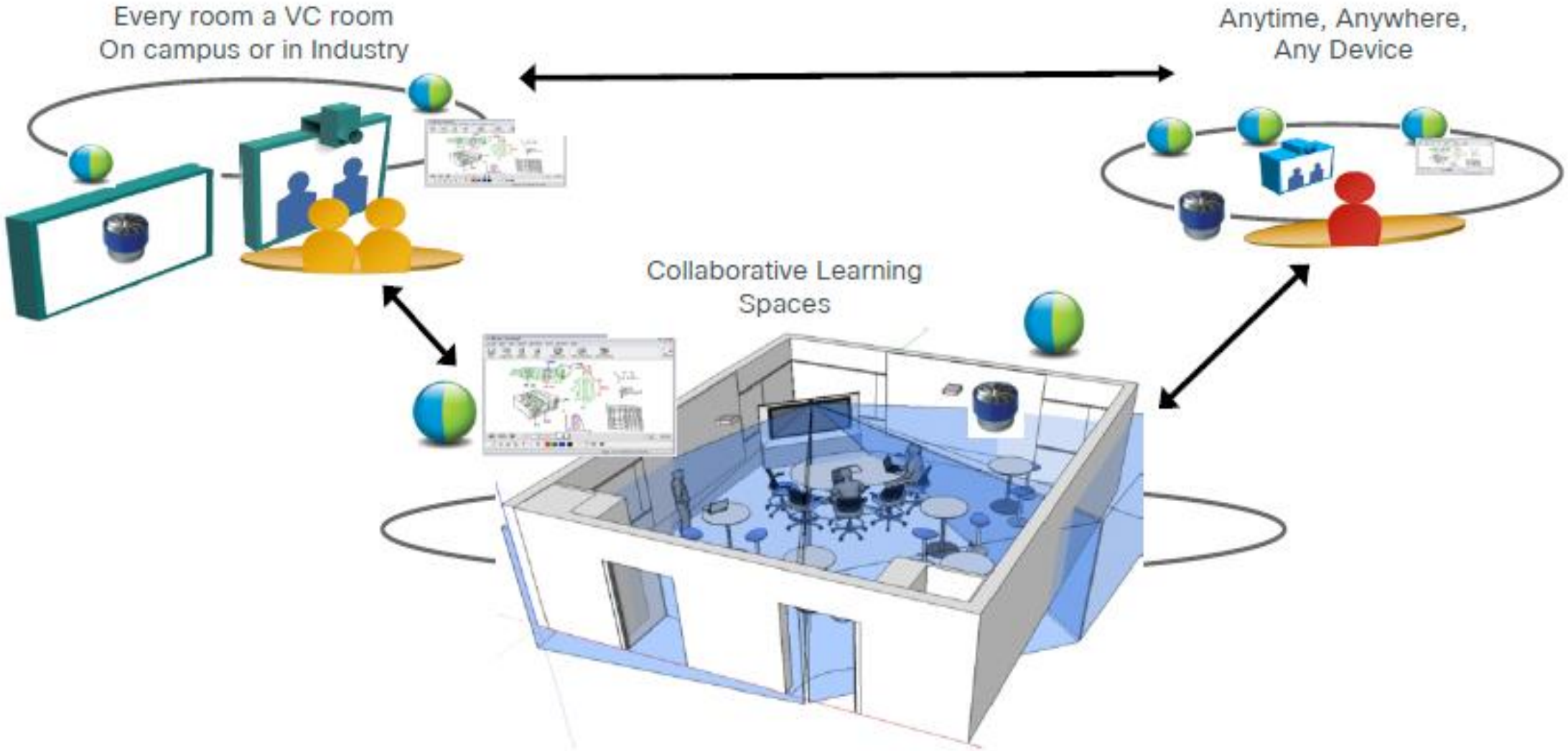
BLENDED LEARNING STRATEGIES FOR EDUCATION

- **Flipped** – students review lecture content prior to class; class time focuses on discussion and application of lecture



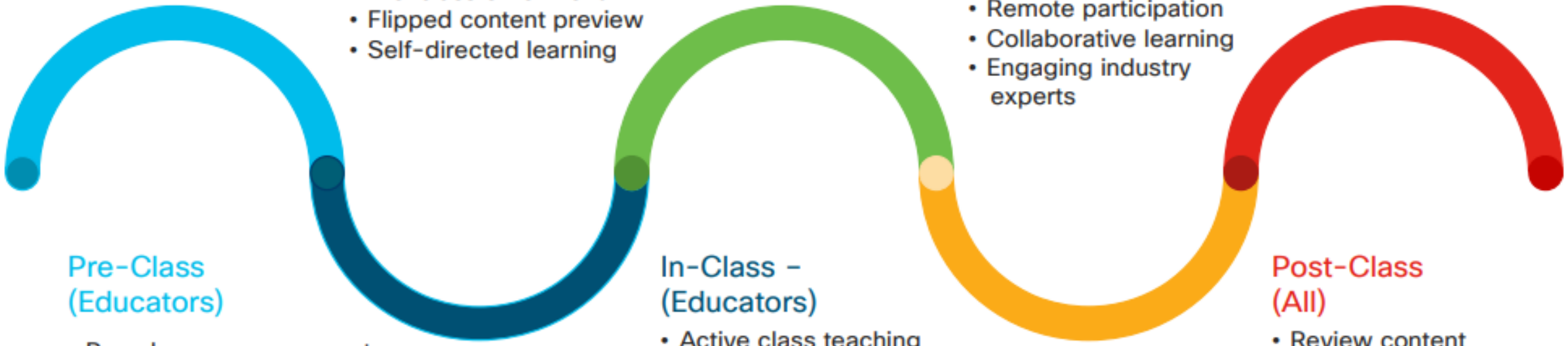
- **Virtual** – face-to-face classroom experience is replaced with virtual classroom
- **Hybrid** – integration of multiple teaching methods into the course pedagogy
- **Traditional** – in-person, typically lecture-based courses
- **Online** – content delivered online; student self-study oriented approach with minimal teacher interaction (e.g., MOOC)

BLENDED LEARNING SPACES



Seamless experience across platform

Day-in-a-life of: Teacher, Student, Industry Partners



Pre-Class (Educators)

- Pre-class announcements
- Flipped content recording
- Prep calls with Industry Guests / Experts

Pre-class (Students):

- Pre-class enrollment
- Flipped content preview
- Self-directed learning

In-Class – (Educators)

- Active class teaching
- Remote immersive & lifesize teacher
- Industry guest speaker
- Remote Industry experts
- Rich / engaging content

In-Class (Students)

- Active learning / engagement
- Remote participation
- Collaborative learning
- Engaging industry experts

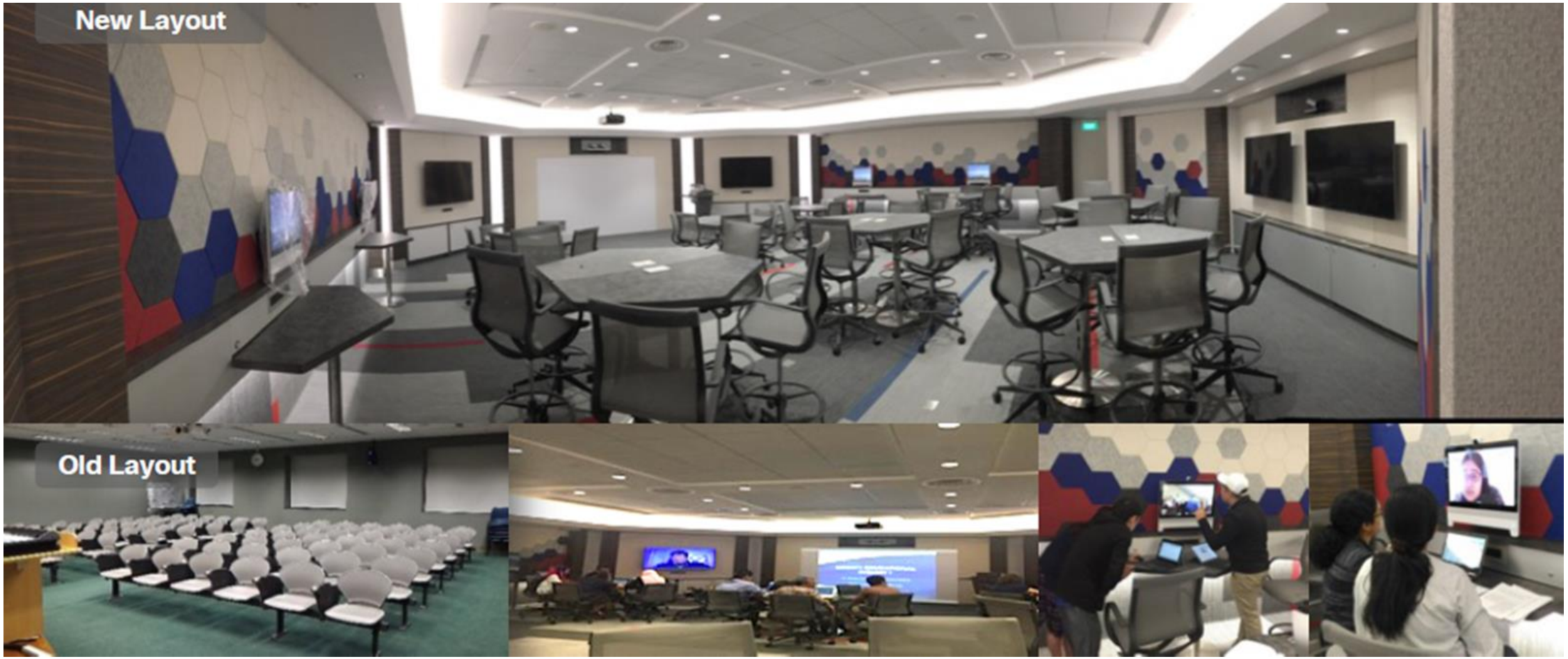
Post-Class (All)

- Review content
- Tutorial / consultation
- Research & project work
- Partner with anyone, and anywhere in the world

LEARNING STATION @ COMMON SPACES, LIBRARY AND HOSTELS

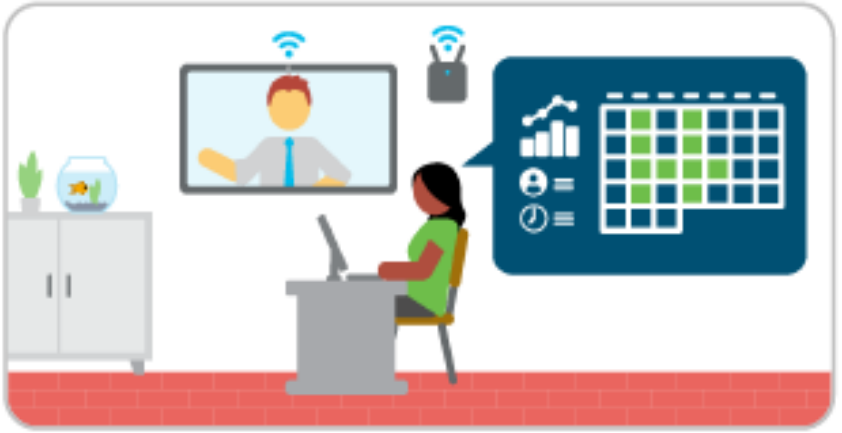
- Purpose-built video/audio conferencing for huddle spaces for small group of students
- Attend Classes in a group
- Project group work
- Group discussion
- Special needs students

LEARNING SPACES DESIGN: ACTIVE COLLABORATION ROOM



ADMINISTRATIVE COLLABORATION

Boost administrators' productivity with collaborative, digital workspaces.



Business needs

- Make meetings more efficient and valuable, less time-consuming
- Improve attendance and engagement at meetings
- Reduce wasted time spent traveling to meetings
- Reduce meetings on same topic
- Improve cross-departmental collaboration
- Improve compliance metrics through better tracking

Capabilities

- Conduct live video calls with any number of participants from any device
- Record meetings for review and missed participants
- Continue discussion after meeting in secure, private messaging space
- Conduct large-scale video broadcasts (including global)
- Broadcast messages across customized digital signage

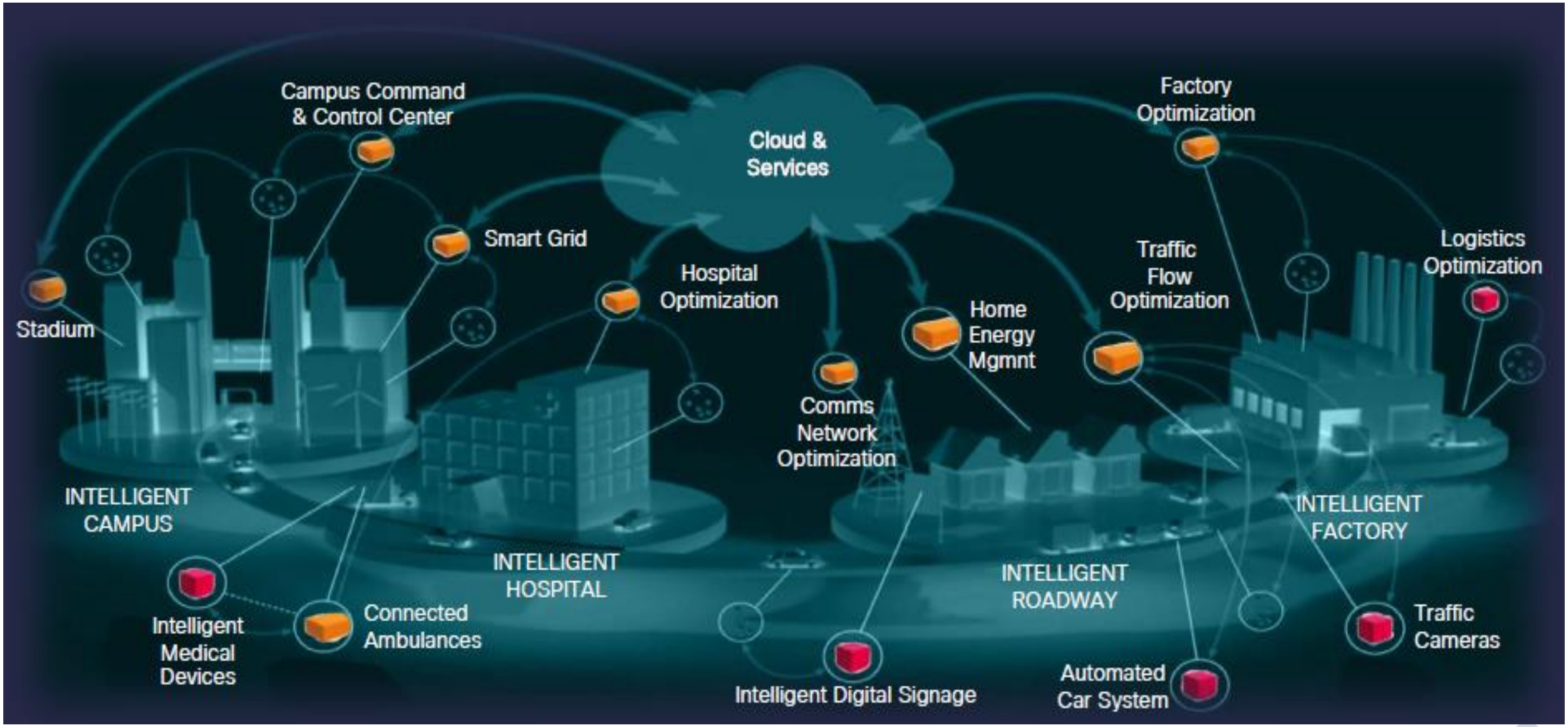
Business outcomes

- Better administrative decision making across teams
- Streamlined staff training
- Improved meeting attendance
- Elimination of travel time to meetings
- Validated compliance metrics

Stakeholders

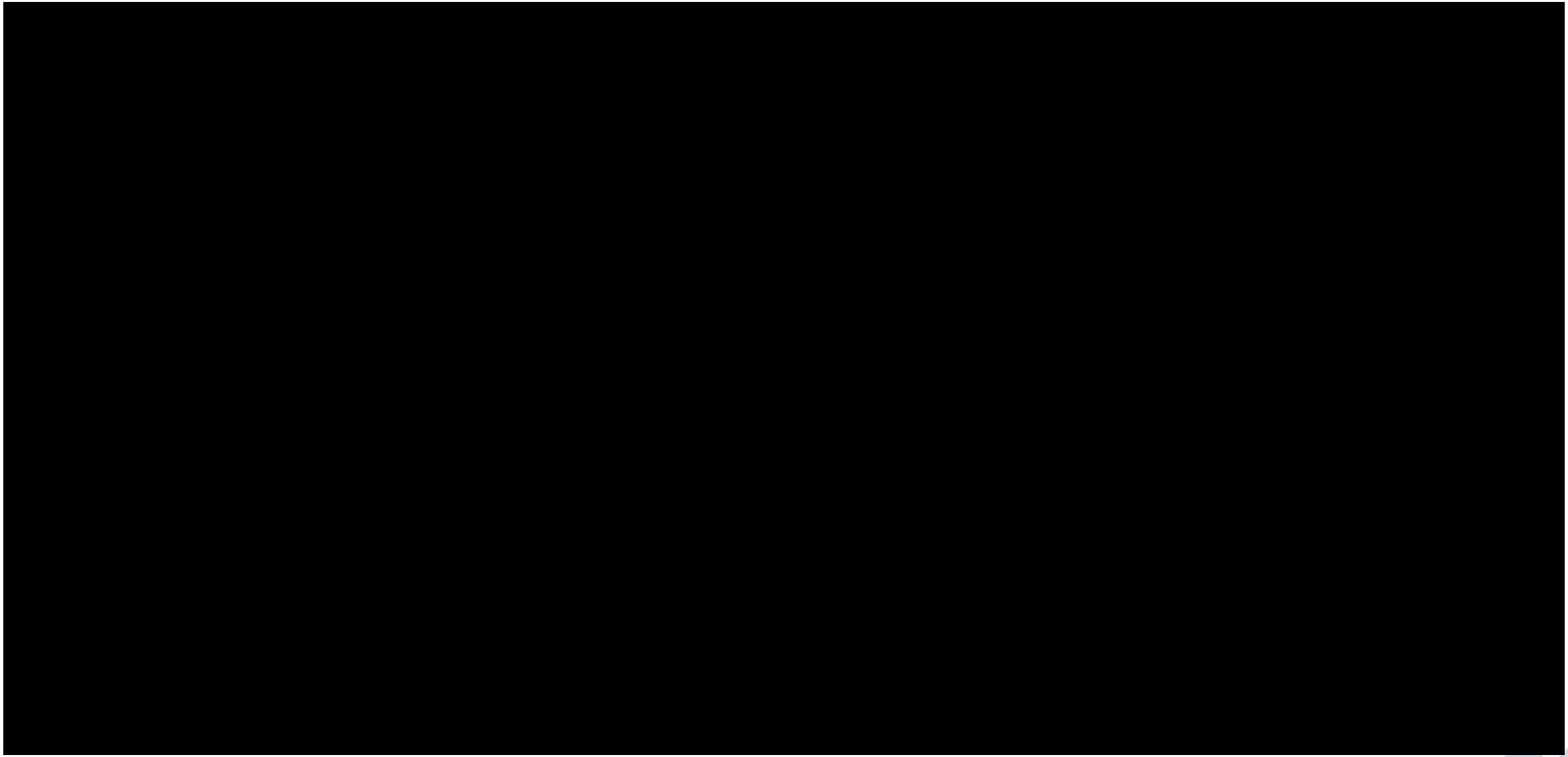
- Chancellor
- Vice Chancellor
- Deans
- CFO
- CIO

A CAMPUS WITH A DIGITAL OVERLAY

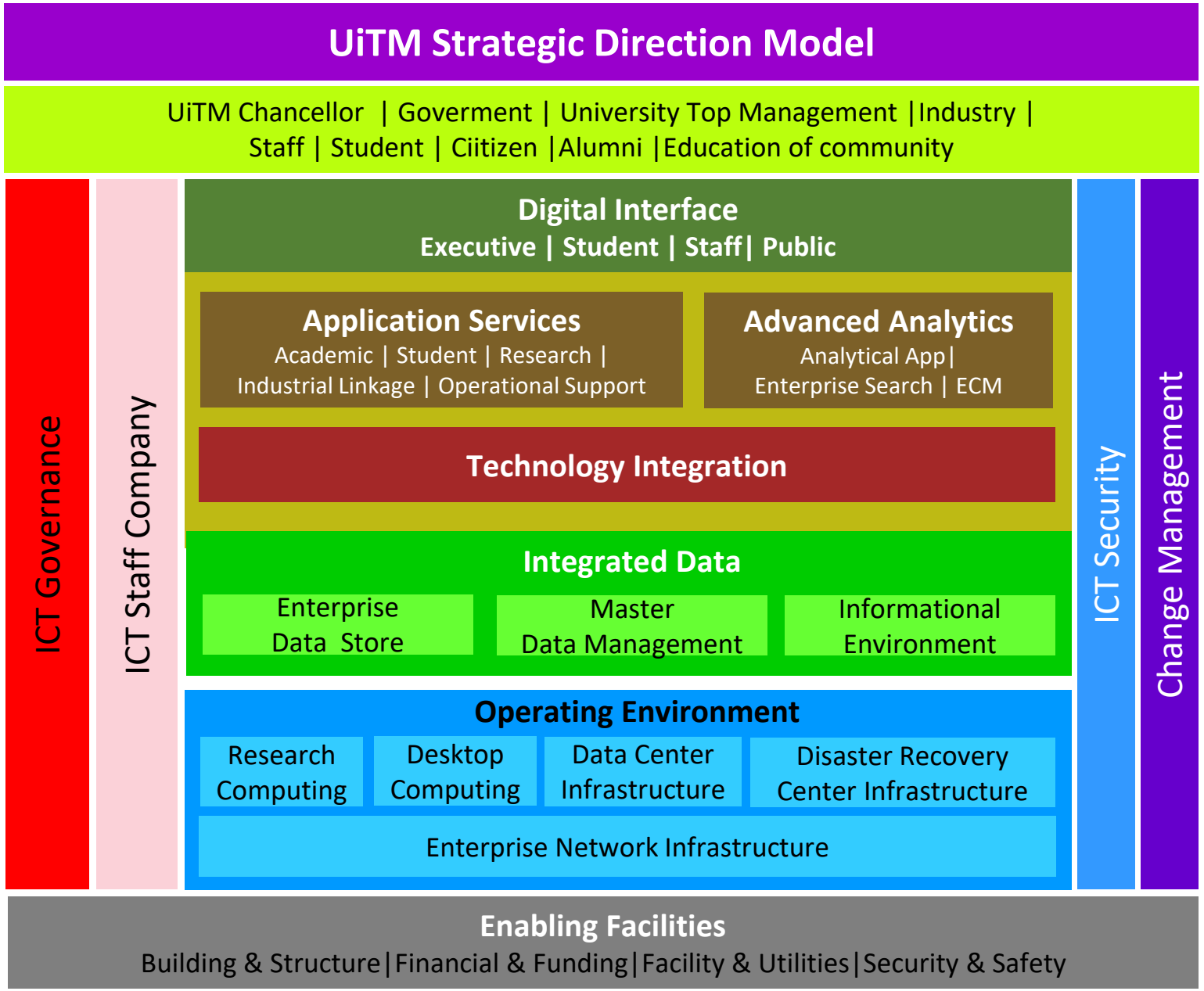


3. UiTM DIGITAL CAMPUS

DIGITAL CAMPUS LIFE STYLE



UiTM ENTERPRISE ARCHITECTURE



Stakeholder

Communication Channel

Application Architecture

Information Architecture

Technology Architecture

UiTM2025 STRATEGIC PLAN

3 Strategic Thrust	9 Strategic Theme	24 Key Strategy
144 Key Initiatives	21 Key Performance Indicator	121 Performance Indicator

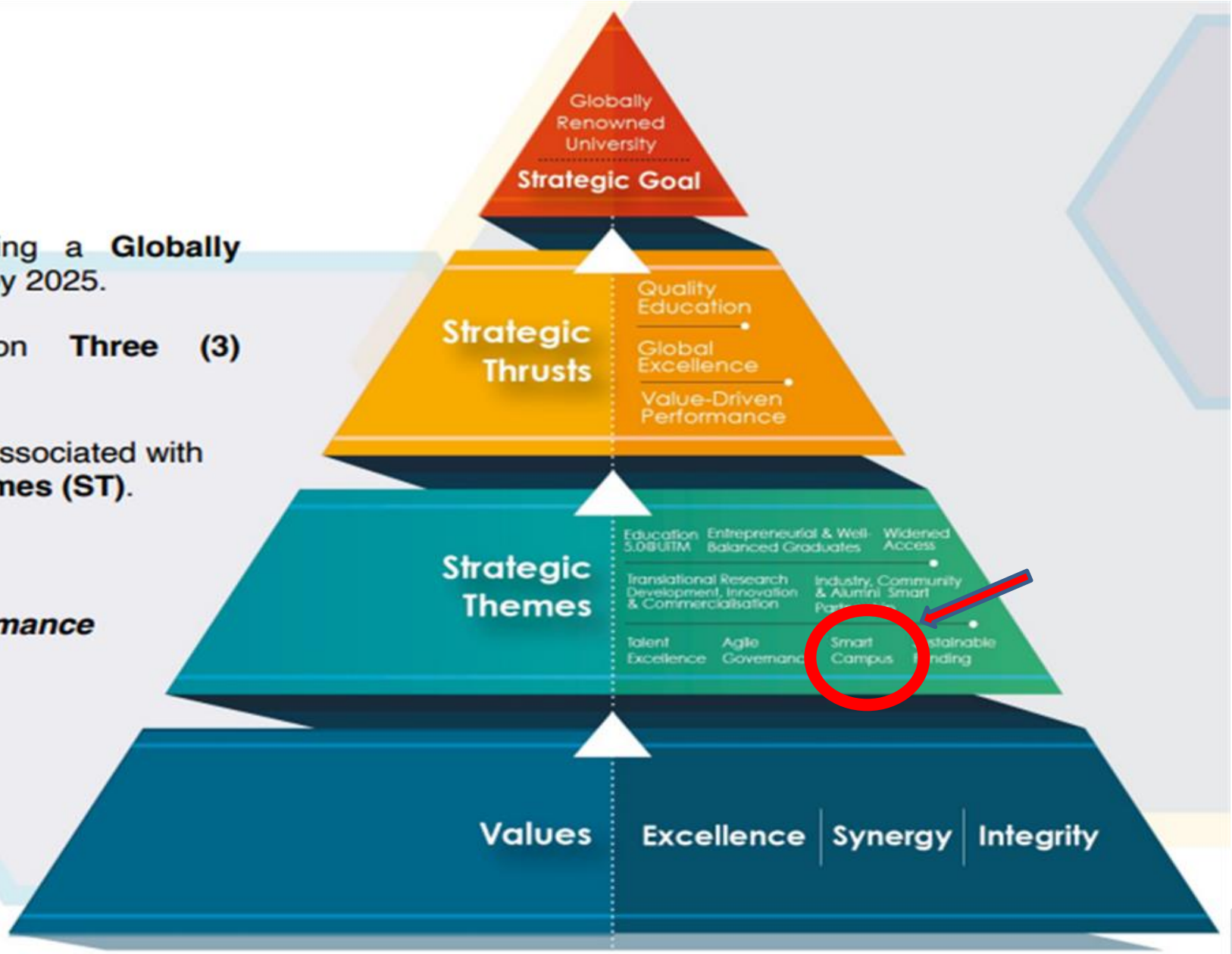
UiTM2025 DESIRED STATE

UiTM aims at becoming a **Globally Renowned University** by 2025.

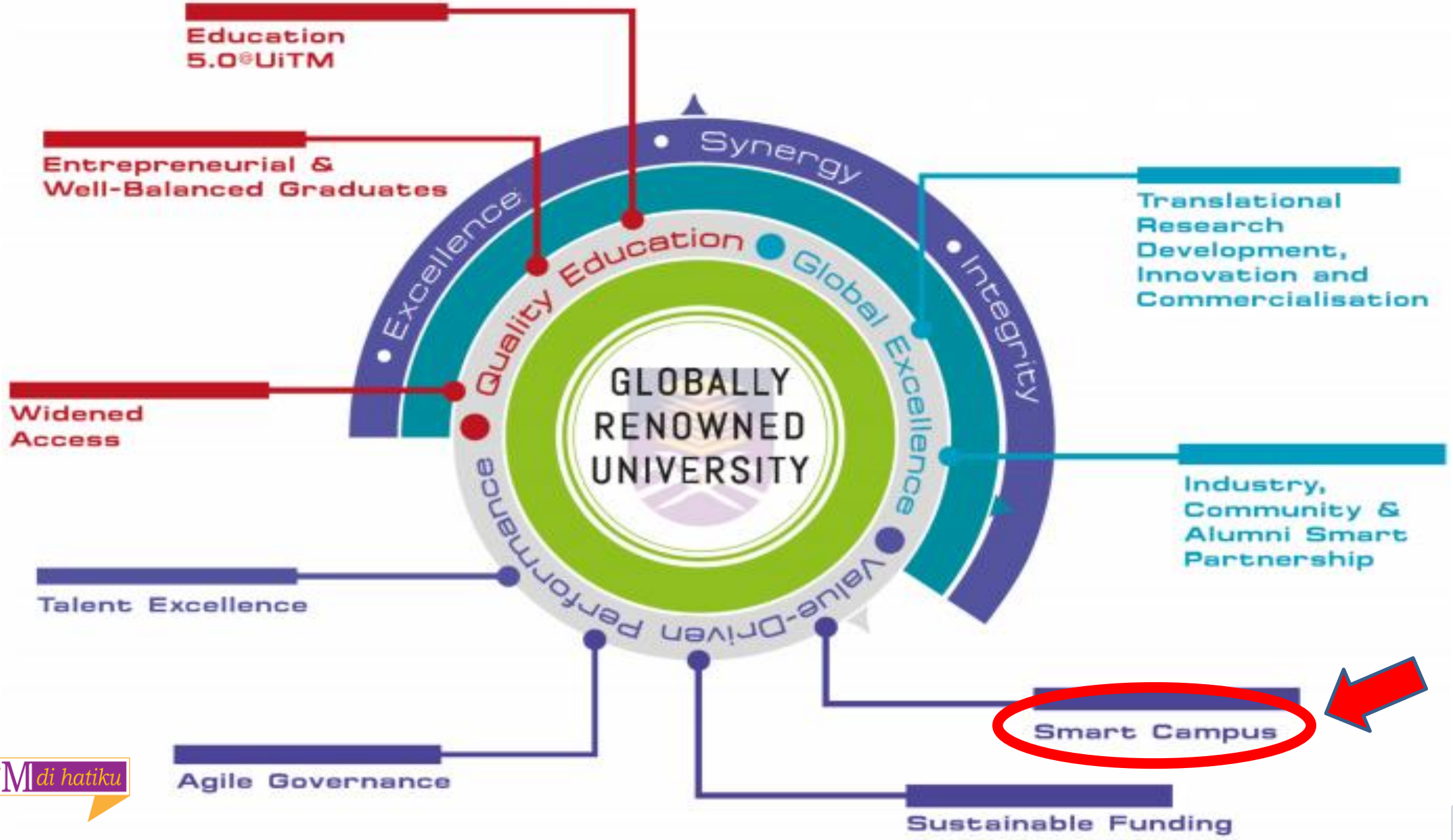
UiTM2025 anchors on **Three (3) Strategic Thrusts**.

Each strategic thrust is associated with identified **Strategic Themes (ST)**.

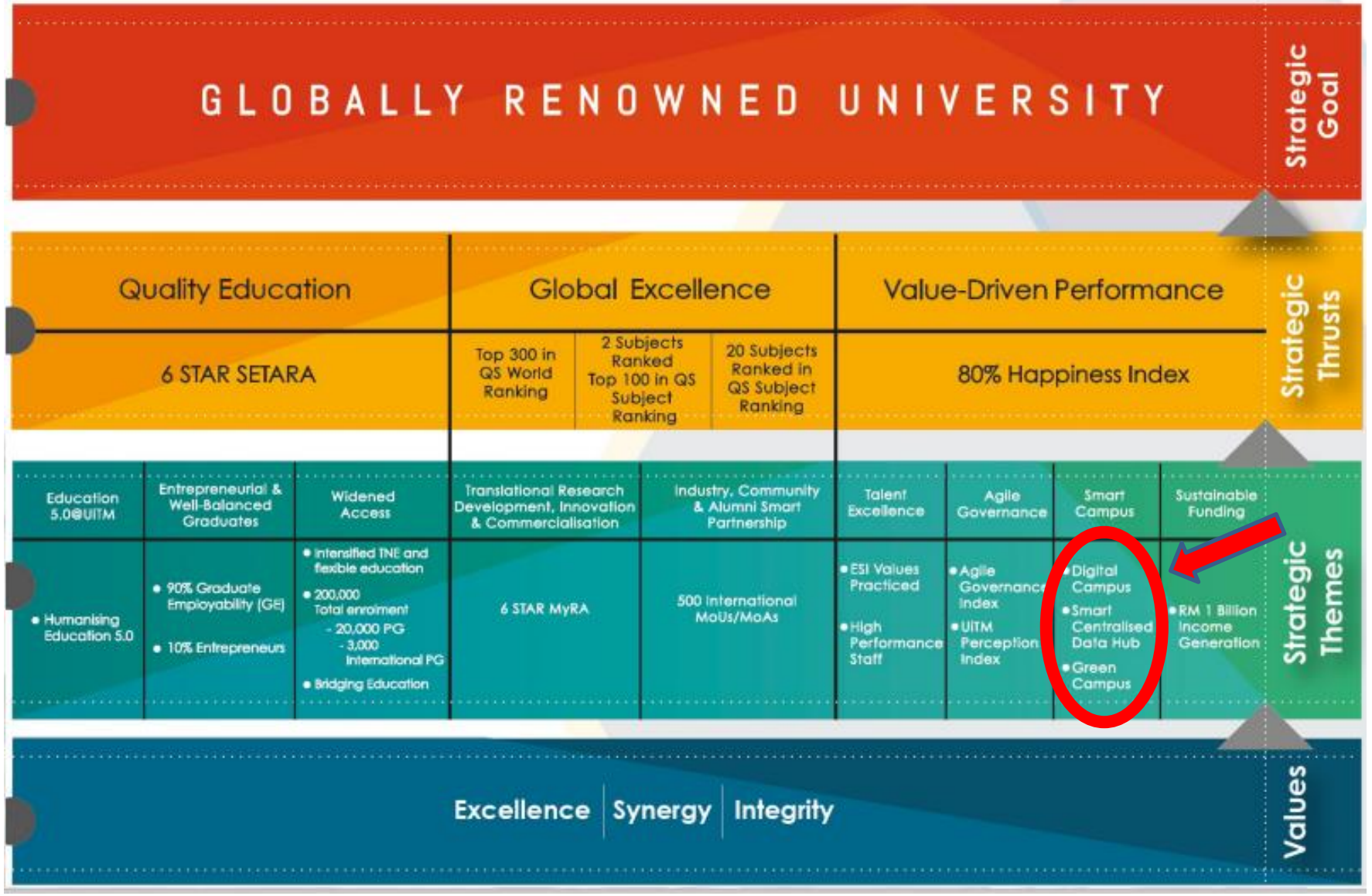
- ***Quality Education***
- ***Global Excellence***
- ***Value-Driven Performance***



UiTM2025 STRATEGIC PLAN: SMART CAMPUS

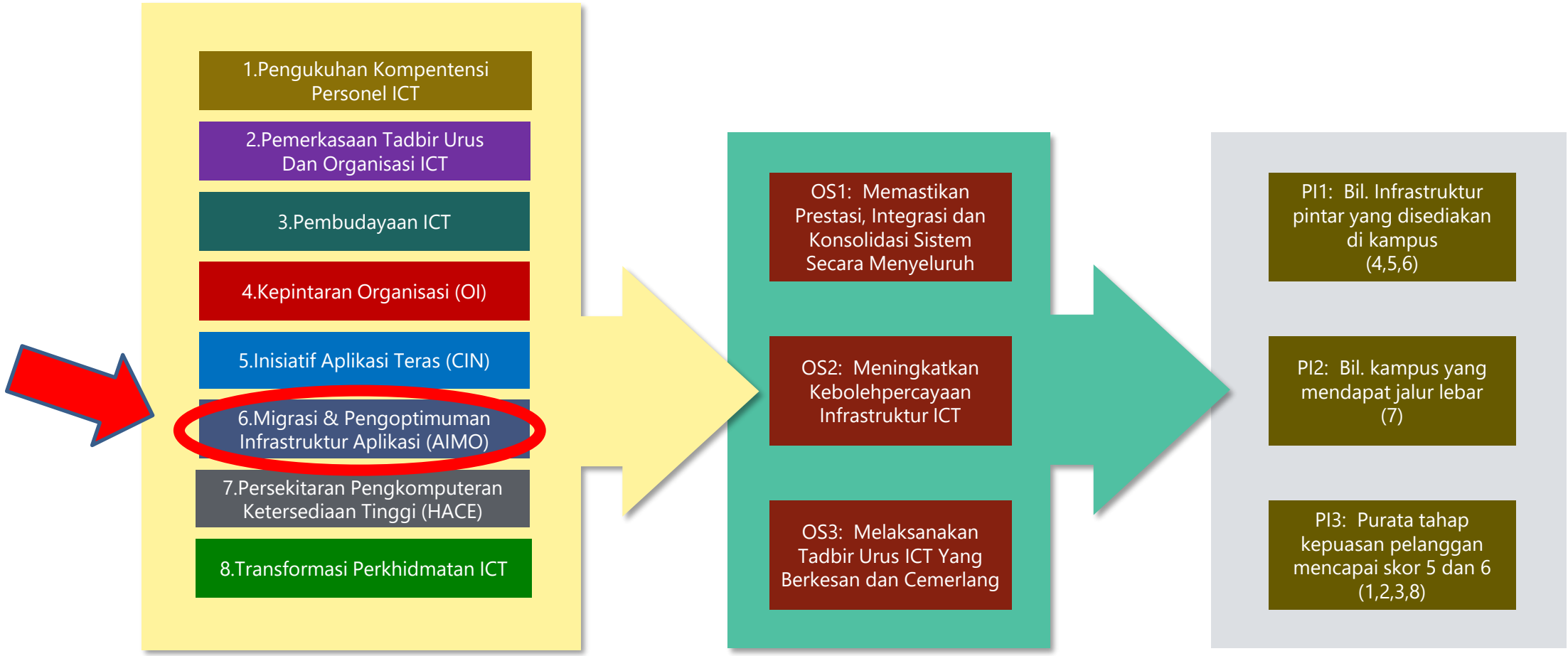


UiTM2025 DESIRED STATE: DIGITAL CAMPUS



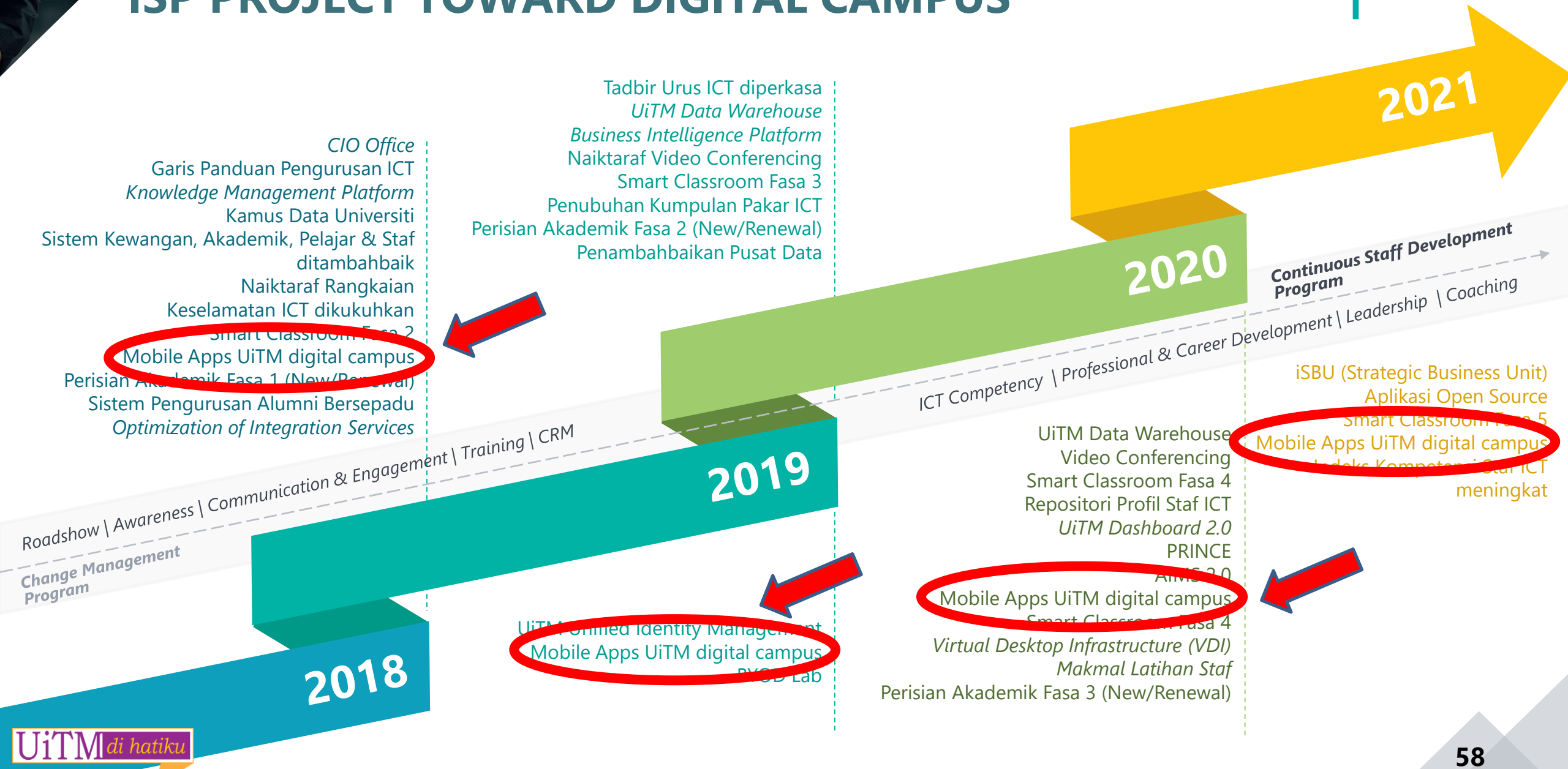
UiTM ICT STRATEGIC PLAN (ISP UiTM) 2018-2021

MAPPING ISP PROGRAMME, ICT STRATEGIC OBJECTIVES (SO) & RMKe-11 PERFORMANCE INDICATOR (PI)

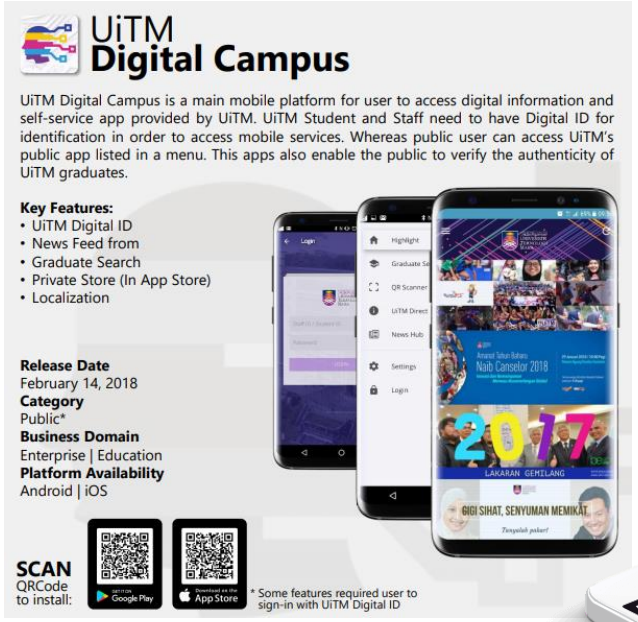


8 PROGRAM ICT | **3 OBJEKTIF STRATEGIK ICT** | **3 PETUNJUK PRESTASI (PI)**

ISP PROJECT TOWARD DIGITAL CAMPUS

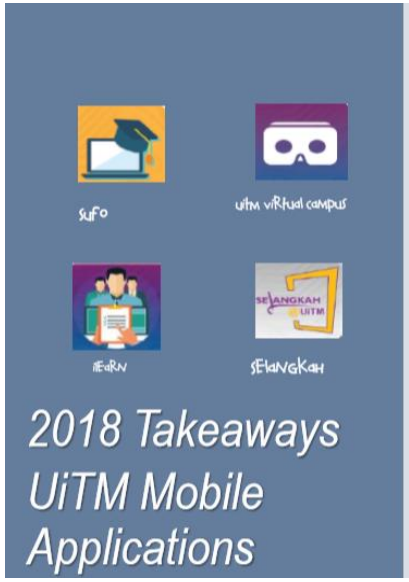


MOBILE APPS UiTM DIGITAL CAMPUS



UiTM Digital Campus Team

Project Advisor: Prof Datin Dr Noor Habibah Haji Arshad | Sariani Sarijo ◈ **Project Manager:** Mohd Hairy Mohamaddiah ◈ **Team Leader:** Mohd Azrul Mohamad Tajudin ◈ **Mobile Developer:** Mohd Yuzi Zali | Ahmad Adam Rusly | Ahmad Farhan Mohd Fadzil | Mohd Rafhan Mohd Amin | Mohamad Firdaus Abd Shukor | Hairulnizam Ghazali | Nur Mohd Raqib Kamarudin | Faidah Muhammad | Mohammed Haire Kahfi | Mohd Izwan Salim | Siti Sapura Binti Jailani | Khairur Faiq Ab Patah | Emilia Hadi @ Mawi | Raihanah Abdullah | Azizian Mohd Sapawi | Dr. Hayati Abd Rahman ◈ **Business Analyst:** Dr Prasanna Ramakrisnan | Azizi Bin Jantan | Ahmad Faizar Bin Jaafar | Sharina Binti Mohd Nasir | Arfah Binti Jamian ◈ **Digital Marketing:** Mohd Hairy Mohamaddiah | Zamani Umar Husin



DIGITAL CAMPUS BENCHMARK

Curtin University

Melbourne University

Singapore Polytechnic

Universiti Teknologi Malaysia

UiTM DIGITAL CAMPUS FOCUS AREA

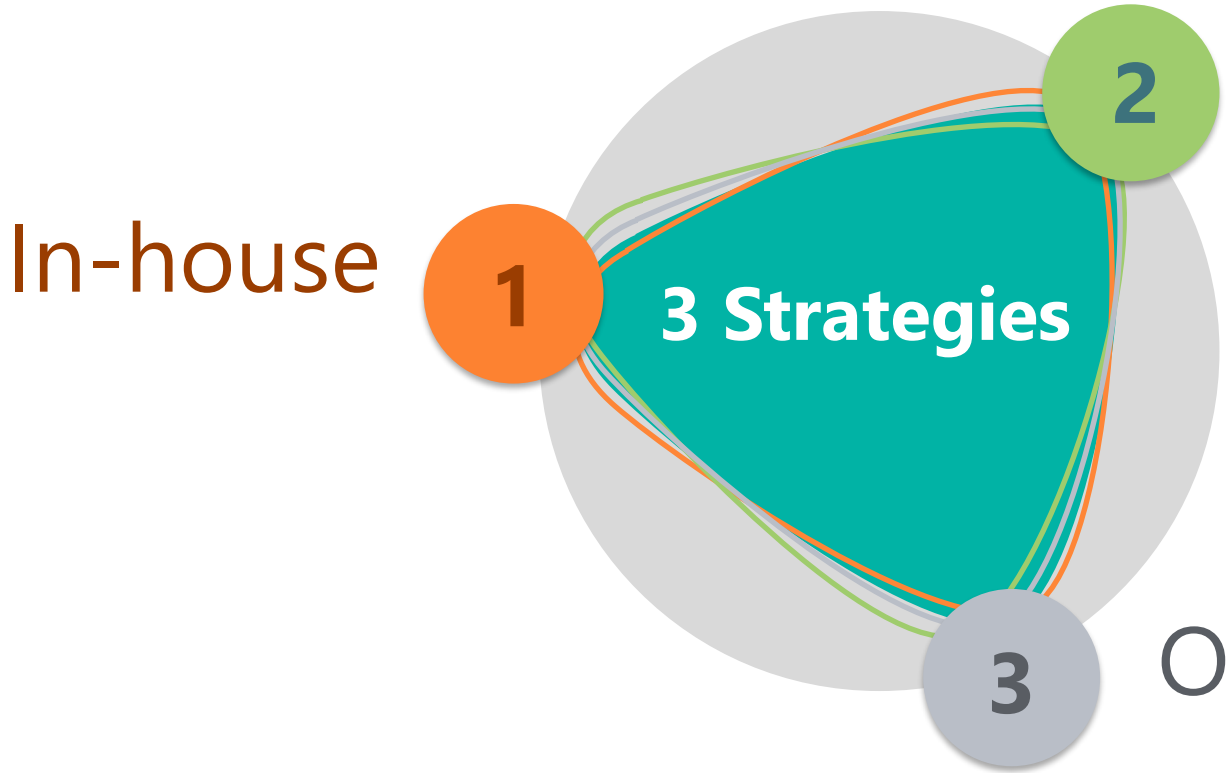
4 Smart Teaching, Learning & Research

1 Smart Centralized Data Hub

3 Smart Talent

2 Smart and Safe Eco-Friendly Lifestyle

UiTM DIGITAL CAMPUS - IMPLEMENTATION STRATEGY



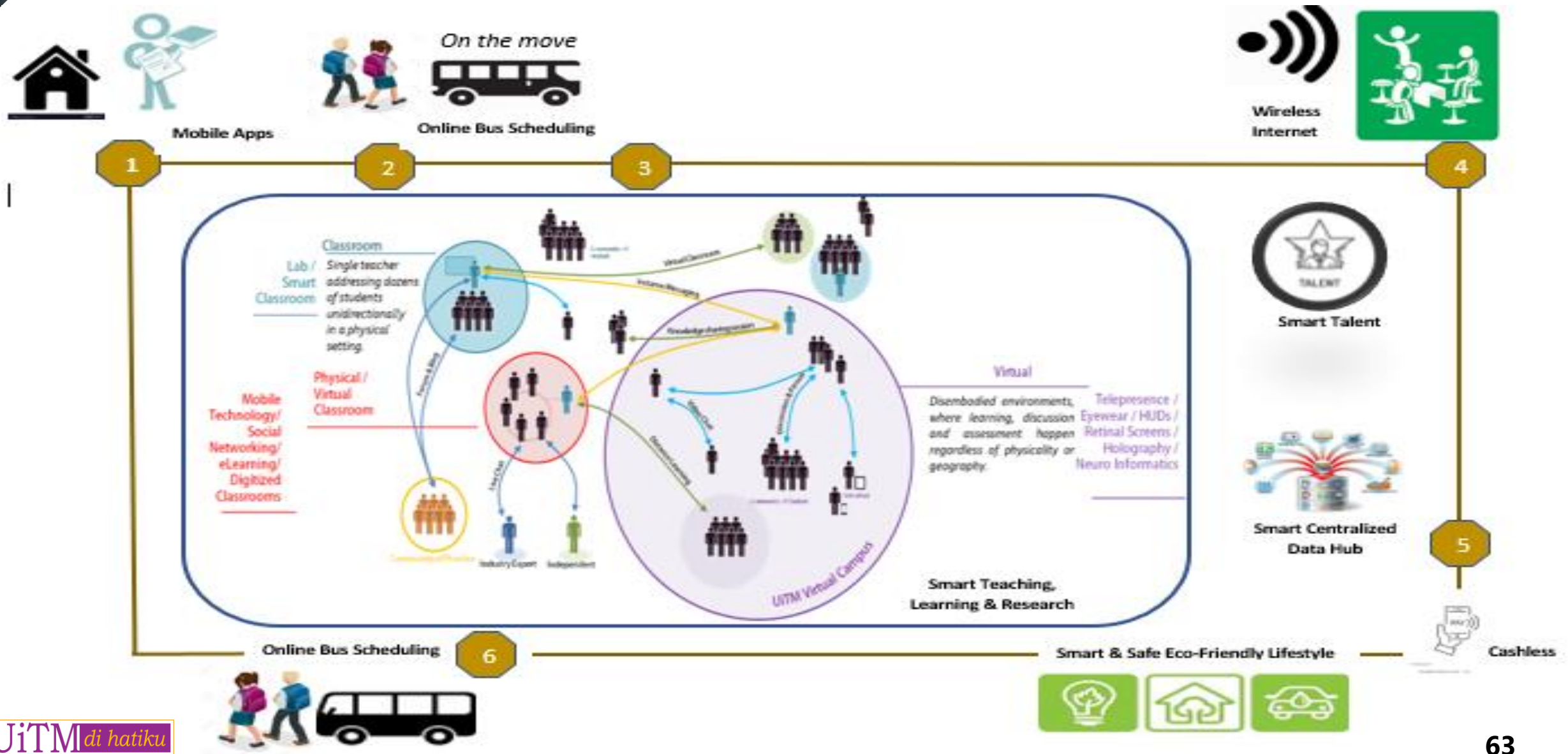
In-house

Strategic Partner (Joint Venture)

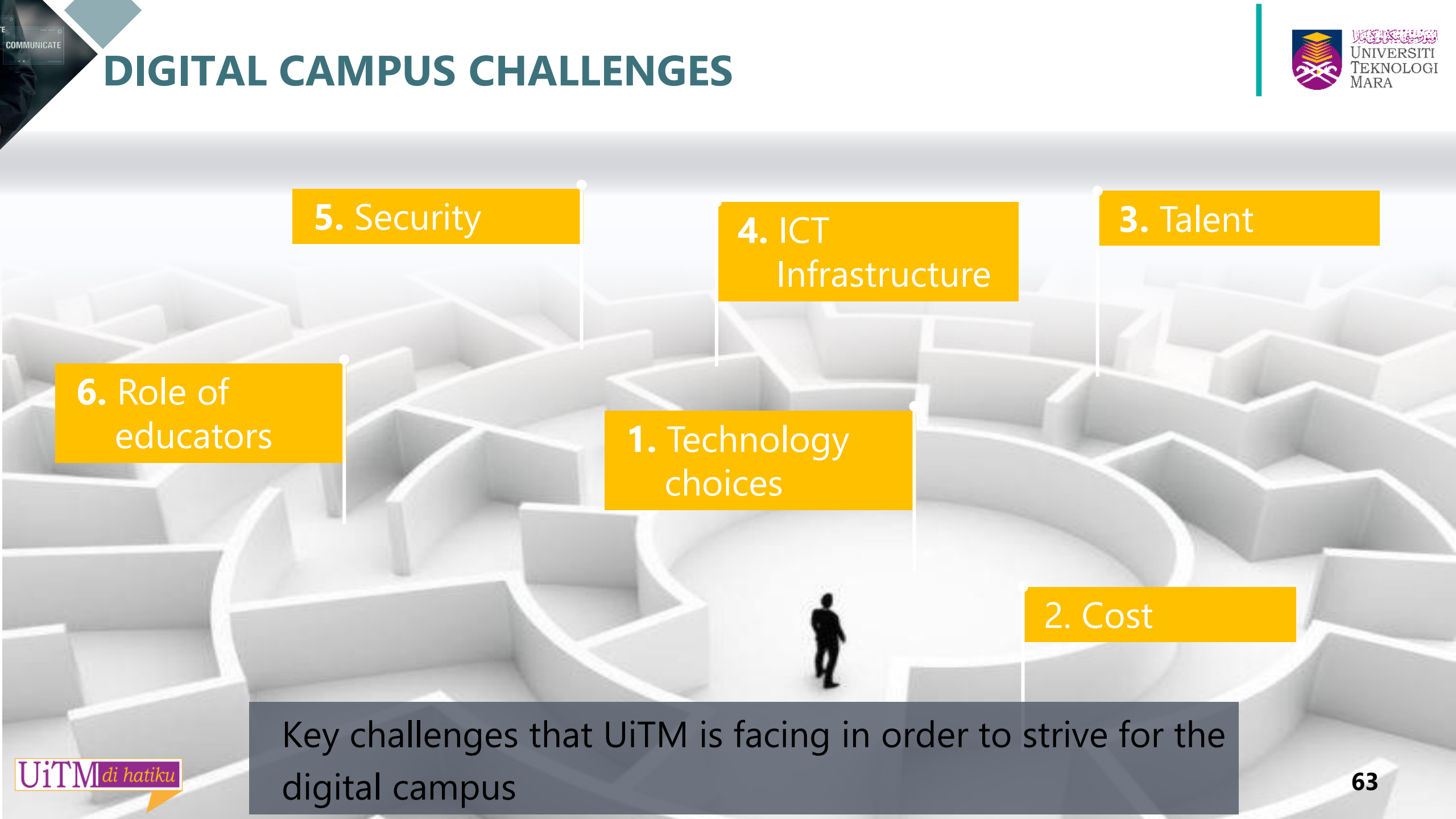
Outsource

UiTM DIGITAL CAMPUS – STRATEGY PARTNERS

UiTM'S DIGITAL CAMPUS LIFESTYLE



DIGITAL CAMPUS CHALLENGES



Key challenges that UiTM is facing in order to strive for the digital campus

6. CONCLUSION

RMKe-12 2021-2025

Way Forward?

Rancangan Malaysia Kedua Belas (RMKe-12) adalah kesinambungan kepada Pelan Rancangan Malaysia Kesebelas (RMKe-11) yang digubal berasaskan 'Wawasan Kemakmuran Bersama 2030' dan menjadi garis panduan kepada pembangunan jangka panjang.

Pembangunan RMKe-12 **memfokuskan kepada 7 Tonggak** berikut:

- Tonggak 1: Sumber Pertumbuhan
- Tonggak 2: Pertumbuhan Hijau
- Tonggak 3: Pemboleh Pertumbuhan
- Tonggak 4: Modal Insan
- Tonggak 5: Inklusiviti dan Kesejahteraan Rakyat
- Tonggak 6: Reformasi Institusi
- Tonggak 7: Modal Sosial

Tiga dimensi pembangunan dan reformasi institusi adalah sejajar dengan *Sustainable Development Goals* (SDG) yang ditunjangi oleh Tadbir Urus Kerajaan dan Alat Dasar Baharu.

Kemampanan Alam Sekitar:
Pemuliharaan dan pemeliharaan

2

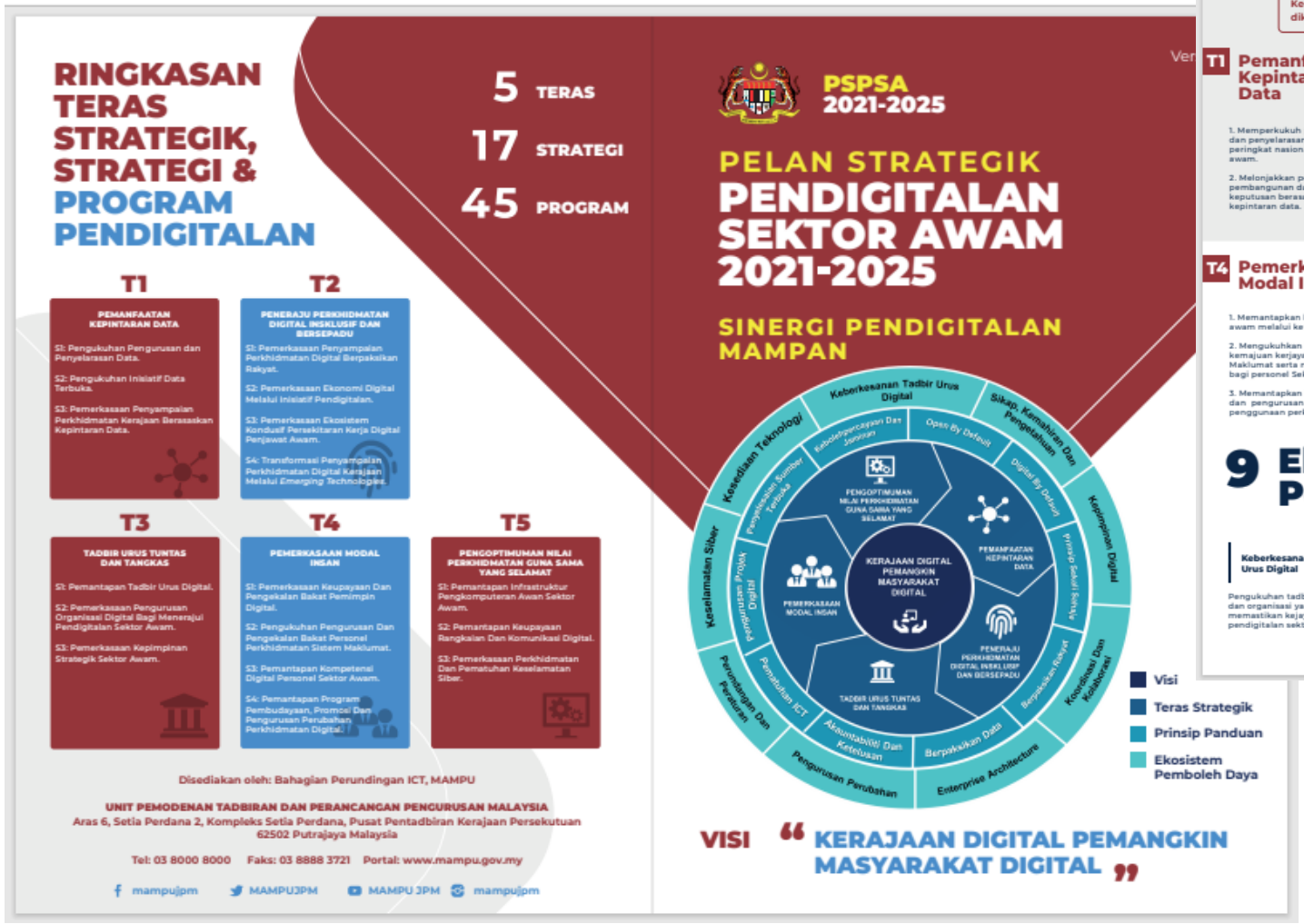
1

Pemerkasaan Ekonomi:
Pemacu dan pemboleh pertumbuhan, ekosistem dan imperatif

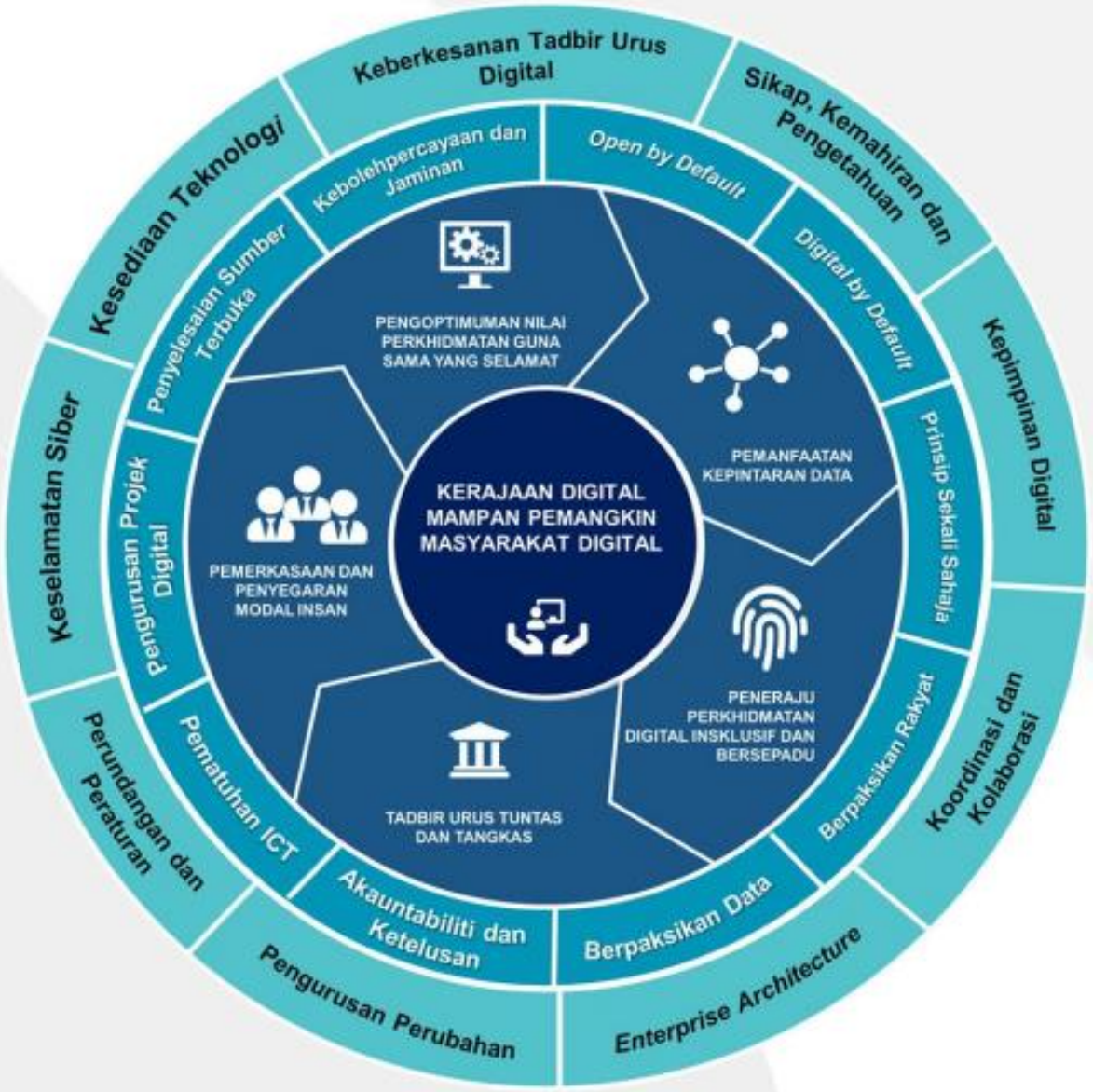
3

Perekayasaan Sosial:
Meningkatkan modal sosial, keterangkuman dan kesepaduan sosial

PSPSA 2021-2025: SINERGI PENDIGITALAN MAMPAN

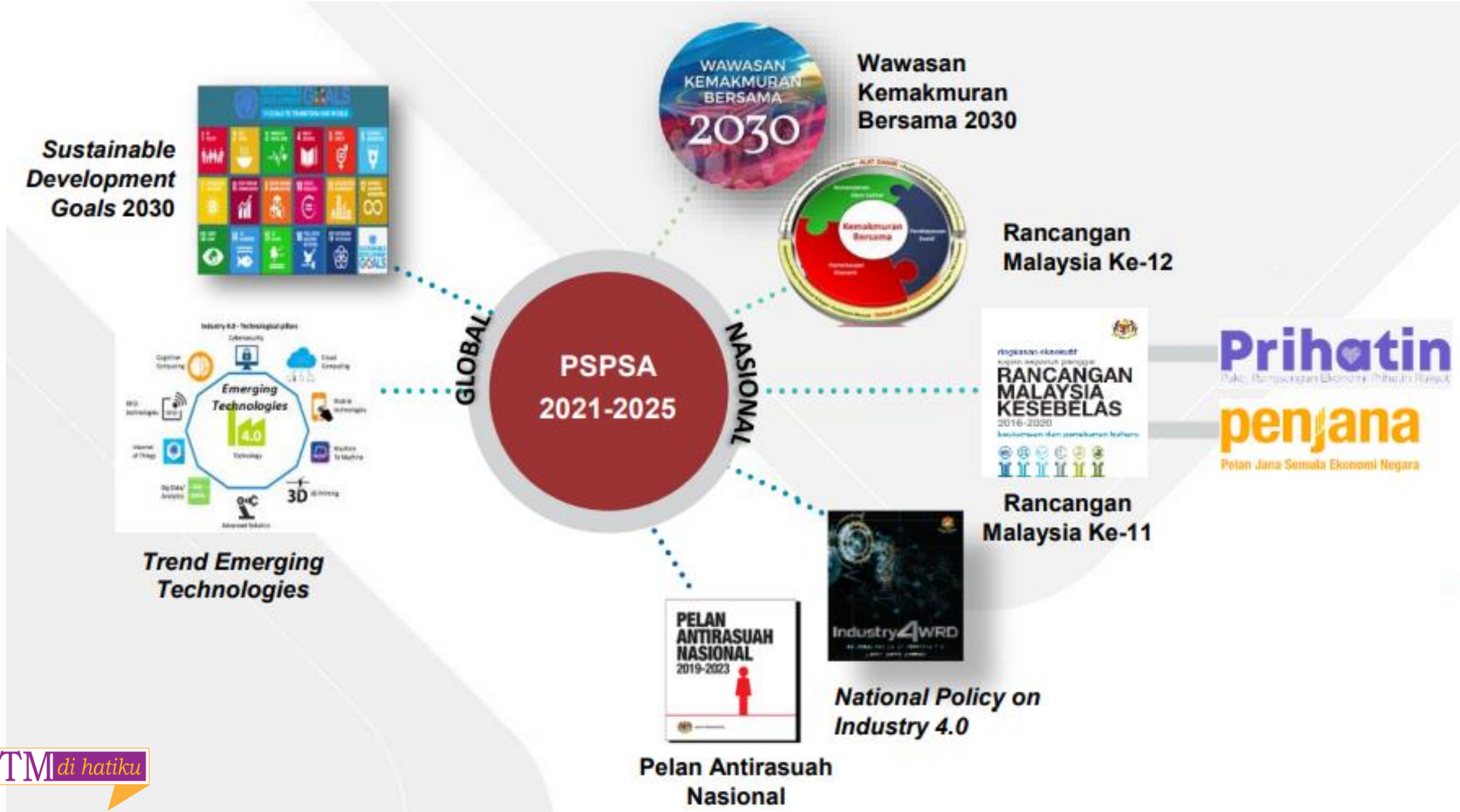


PUBLIC SECTOR DIGITILIZATION FRAMEWORK



- VISI
- 5 TERAS STRATEGIK
- 10 PRINSIP PANDUAN
- 9 EKOSISTEM PEMBOLEH DAYA

ALIGNMENT TO GLOBAL AND NASIONAL DIRECTION



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Thank You

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Pejabat Pembangunan Infrastruktur & Infostruktur
UiTM Shah Alam

UiTM di hatiku

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