



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

UTeM

RESEARCH COMMERCIALISATION CHALLENGES & OPPORTUNITIES

WHAT YOU NEED TO KNOW



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DIRECTOR
UTeM COMMERCIALIZATION CENTER (UCC)



Situated at the UNESCO heritage site of the Historical CITY OF MELAKA

Malaysian Technical University Network
MTUN
One of the four technical universities in Malaysia


Kuala Lumpur
130 km!
Melaka

Est. 2000

Pioneers in “**Practice And Application Oriented**” teaching and learning methodology for higher technical education in Malaysia.

MAIN CAMPUS

TECHNOLOGY CAMPUS



ACADEMIC

- 8 Faculties
- 86 Programs (PhD, Master, Bachelor, Diploma)
- 10,930 Students Enrolled
- 677 International Students



RESEARCH

- Niche Area : **Advanced Manufacturing & Computing Technology**
- 6 Centers of Excellence

UTeM
MELAKA
T.U.N.A.I CONCEPT
TECHNOLOGY @UNIVERSITY
ADVANCING INDUSTRIES

A University that produces highly skilled technologists and enhances inventions, impacting industries and society



STUDENT DEVELOPMENT

- 86% Graduate Employability 2018
- 26,418 Graduates since 2005
- **Professional Certification** – Microsoft Data Science, CISCO, Oracle, Lean Six Sigma, etc.



INDUSTRIAL ENGAGEMENT

- More than 100 industry partners
- **Industrial Labs** – Samsung IoT, ST IoT Academy, CISCO Academy, Microsoft IT Academy, Oracle Academy
- Active **alumni and community programs**



HUMAN RESOURCE

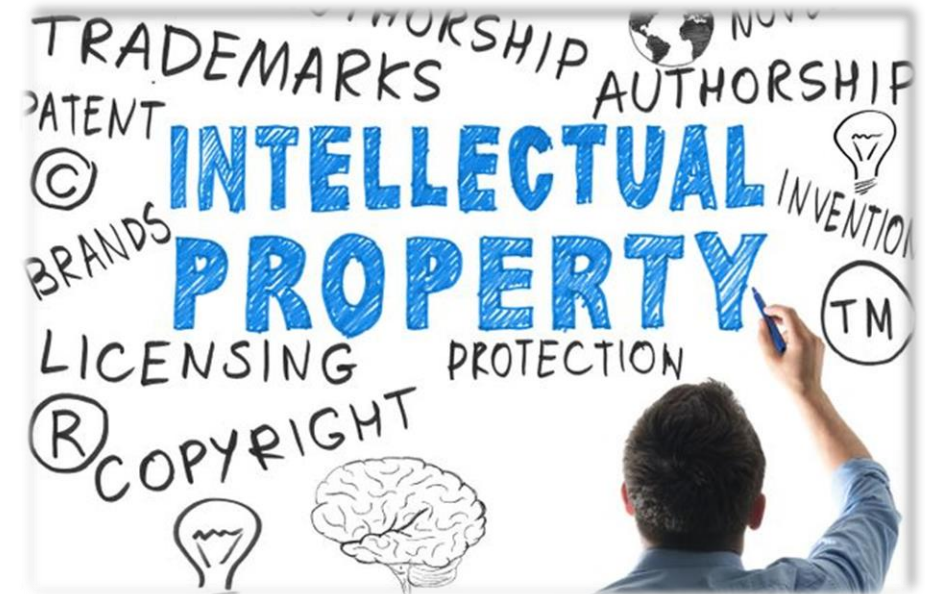
- 2,065 staff (880 academicians, 1,185 administrative)
- 326 Professional Certified staff – Technologist, Ir., C.Eng, Gs., L.Ar ., etc
- 55.1% staff with PhD
- **Academics appointed as experts and consultants** – OIC Cert, Blockchain Technology, CTFL Cert, etc.



RESEARCH PROTECTION

Intellectual Properties (IP)

is a term that refers to **several types of ideas** such as **invention, artwork, symbols, names, images, and designs** in a business whose exclusive rights are recognized under applicable law



Under intellectual property law, holders of one of these abstract properties have certain **exclusive rights** to the intellectual property they create.

In Malaysia, intellectual properties **protected under law** are patent, copyright, trademark, industrial design, geographical indication and integrated circuit layout design.

Among the laws that protect intellectual property are:

- Trade Marks Act 1976
- Patent Act 1983
- Copyright Act 1987
- Industrial Design Act 1996

IP Types

Patent

**Utility
Innovation (UI)**

**Industrial
Design (ID)**

Trade Mark TM

Copyright

**Geographical
Indication**

**Integrated
Circuit Layout
Design**



ID 126810421 © Vaeenma

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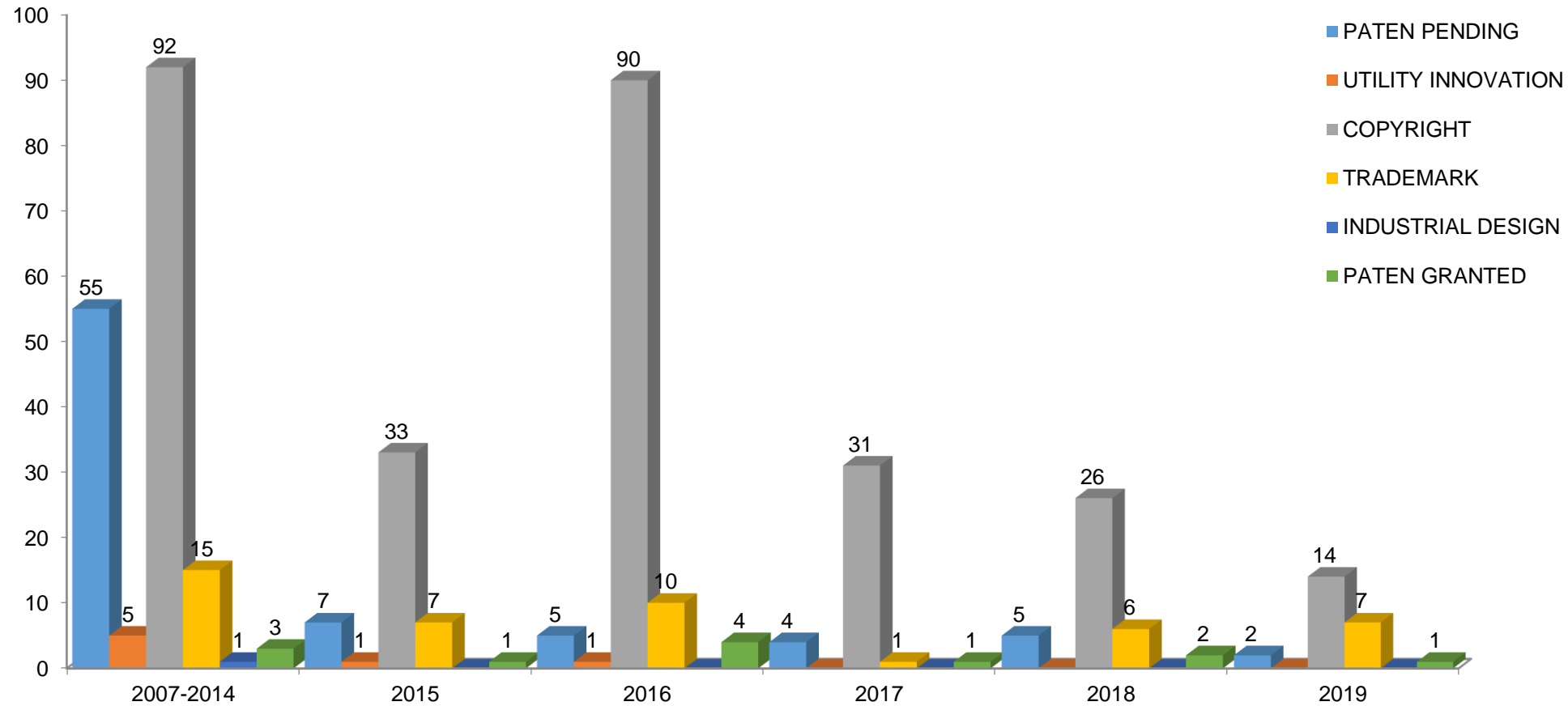


Novelty
Inventiveness Step
Industrial Applicability

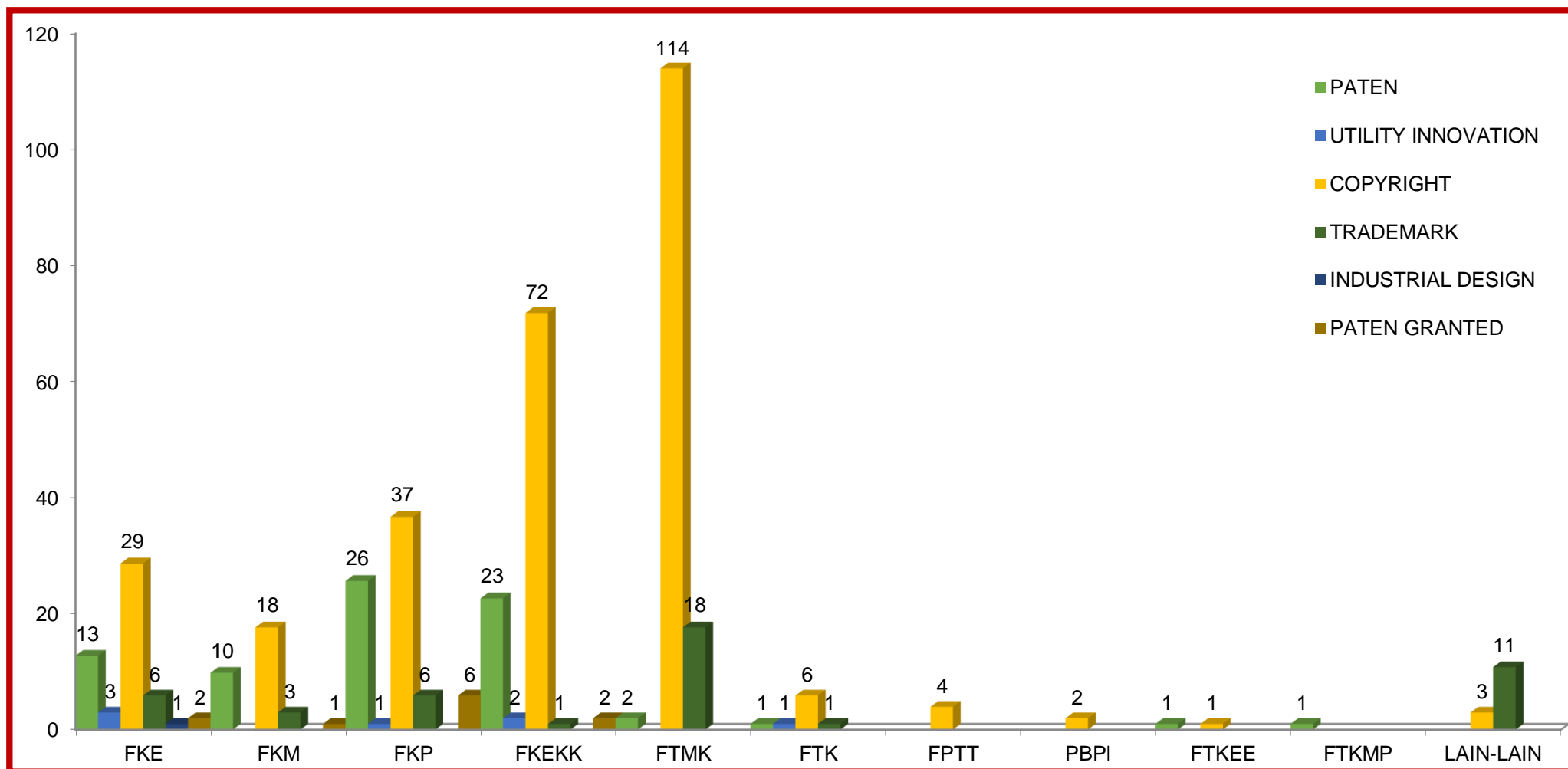
Total Filed IP

IP TYPES	PATENT PENDING	UTILITY INNOVATION	COPYRIGHT	TRADEMARK	INDUSTRIAL DESIGN	PATENT GRANTED
NUMBERS	63	7	312	46	1	15

= 444 IPs
~ RM 986,000



Total IP by Year



Total IP by Faculty

Total Commercialized IP

Commercialization Method	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
<i>Outright Sale</i>	1	0	1	1	0	3	2	1	1	0	10
<i>Technology Licensing</i>	0	0	0	0	0	0	0	0	1	0	1

No.	Product	Researcher	Faculty	Industry Partner	Year
1	Kids Cashier	Dr. Sazilah bt Salam	FTMK	LTT Global Communication	2009
2	MyLexics	Dr. Syariffanor bin Hashim	FTMK	Venton Publishing	2010
3	Energy Efficiency & Save (EFAS)	Prof Dr. Zulkifli bin Ibrahim	FKE	Amr Intellisys Sdn. Bhd.	2011
4	My 2nd Eye	Ir. Dr. Anuar bin Mohamed Kasim	FKE	Standard Chartered Bank Malaysia Berhad	2014
5	An Automatic Tyre Pressure Controller	Prof Ir. Dr. Sivarao Subramonian	FKP	DAG Technologies Sdn Bhd	2014
6	Electro-Mechanical Locking System	Prof Ir. Dr. Sivarao Subramonian	FKP	DAG Technologies Sdn Bhd	2014
7	Order Saya	PM Dr. Massila Kamalrudin Dr. Safiah binti Sidek	FTMK	Syarikat Al-Ain IT Sdn Bhd	2015
8	Mobile Robot	Dr Tan Chee Fai	FKM	Intellogic Technology Sdn Bhd	2015
9	Residents Smart Visitors	Prof. Madya Dr Massila Kamalrudin	FTMK	Syarikat Zuleyco Resources Sdn Bhd	2016
10	Vehicle Smart Security (VESS)	Ir. Dr. Anuar bin Mohamed Kasim	FKE	VG Global PLT	2017
11	Male Urinal System	Prof Dr. Hambali bin Arep@Ariff	FKP	Spectrum Teknik Sdn. Bhd.	2017

COMMERCIALIZATION

- **Commercialization** is the process of bringing new products or services to market.
- The broader act of **commercialization** entails production, distribution, marketing, sales, customer support, and other key functions critical to achieving the commercial success of the new product or service
- Technology Licencing (Exclusive/Non-Exclusive), Outright Sale, Royalty, Dividend



Phase TRL		Hardware	Software
Research	1	Basic principles	
	2	Concept and application formulation	
	3	Concept validation	
Development	4	Experimental pilot	
	5	Demonstration pilot	
	6	Industrial pilot	
Deployment	7	First implementation	Industrialization detailed scope
	8	A few records of implementation	Release version
	9	Extensive implementation	

Technology Readiness Levels

- TRL 0: Idea.** Unproven concept, no testing has been performed.
- TRL 1: Basic research.** Principles postulated and observed but no experimental proof available.
- TRL 2: Technology formulation.** Concept and application have been formulated.
- TRL 3: Applied research.** First laboratory tests completed; proof of concept.
- TRL 4: Small scale prototype** built in a laboratory environment ("ugly" prototype).
- TRL 5: Large scale prototype** tested in intended environment.
- TRL 6: Prototype system** tested in intended environment close to expected performance.
- TRL 7: Demonstration system** operating in operational environment at pre-commercial scale.
- TRL 8: First of a kind commercial system.** Manufacturing issues solved.
- TRL 9: Full commercial application,** technology available for consumers.



....“Personally to me, when I developed a product, my motivation is not to commercialise the product. I develop the product that I believe can help others. So making money is not in my mind at all. As I said, we develop thing that we like. I will never change my motivation. Because my product is all to help people with special needs“....

RESEARCH COMMERCIALISATION CHALLENGES

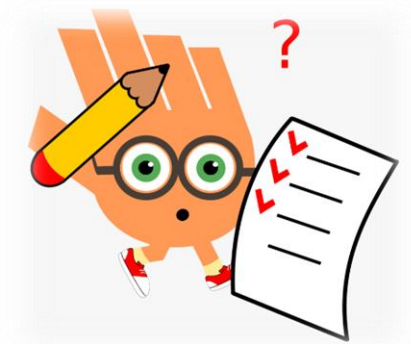
Less concerned and aware about the importance of

- Intellectual property protection and commercialisation policy
- Producing innovative research products
- Gaps between academics and industry collaborators



RESEARCH COMMERCIALISATION CHALLENGES

- Uncertainty in the technical and **market** segment
- Availability of the **funding**
- Lack of **collaboration** between academics and industries
- Lack of **incentive** provided by the institution to encourage for more commercialisation activities
- Failed to see the **commercial potential** of the research products



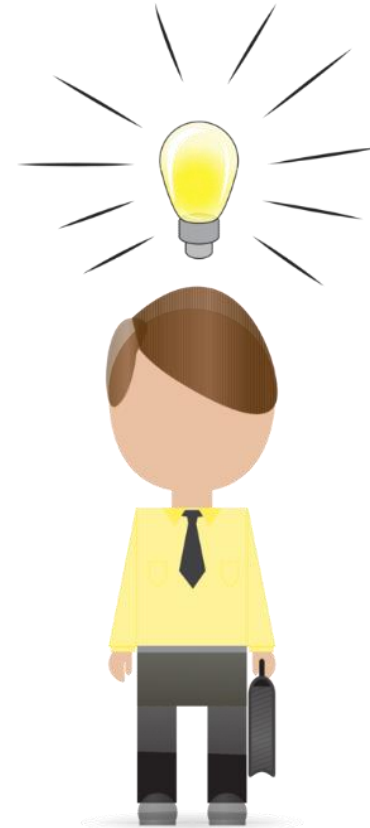
RESEARCH COMMERCIALISATION OPPORTUNITIES

- Product Pitching for Business Matching
 - ✓ MTDC, MIDA, MITI, MOSTI, TPM
- Commercialization Fund
 - ✓ MTUN Commercialization Grant, PRGS, PJP
 - ✓ MTDC (CRDF 1-*RM500k*, CRDF 2-*RM4m*, CRDF 3-*RM4m*)
 - ✓ MIDA (DISF - *RM1m*)
 - ✓ CRADLE (CIP IGNITE I,II, ACCELERATE, CGP)



RESEARCH COMMERCIALISATION OPPORTUNITIES

- Awards & Recognition
 - ✓ AAU, Promotion, APC
- Spin-Off Company
- Test-bed Incentive



IP APPLICATION FORM

[UCC\Proses Penilaian Permohonan.docx](#)

[Application Form - Patent, UI, ID](#)

[Application Form - Copyright](#)

[Application Form - Trademark](#)

COMMERCIALIZATION'S FLOW CHART

[Flow Chart](#)

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Thank You



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