Evidence-based Policy-making using Analytics from SciVal

Research Intelligence

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Objectives	**Introduction training on "evidence-based policy-making" in SciVal.**

Introduction (5 min.)	1
Evidence-based Policy-making (30 min.)	2
SciVal platform intro (25 min.)	3
Scenario based hands-on practice (1 hour)	4
Q&A	5

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1. Introduction

KMITL subscribes to SciVal providing research analytics to support decision making processes

360 degree analysis to inform strategic planning e.g. Strengths, weaknesses, gaps

Evaluation and benchmarking to monitor performance

Set and measure research Key Performance Indicators.

Accelerate and maximize institutional and cross institutional collaboration

Talent recruitment and retention

Support and win grants by demonstrating specific strengths

Data Sources in SciVal

newsflo
bespoke media monitoring

Scopus
Publication,
Citation, usage data

WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION

JPO

United States Patent and Trademark Office

European Patent Office

Intellectual Property Office

Publication, citation and Scopus usage data, mass media mentions, patent-article citations

**QS WORLD UNIVERSITY RANKINGS**

THE WORLD UNIVERSITY RANKINGS

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Times Higher Education and QS have exclusive long-term partnerships with Elsevier (Scopus) for the World University Rankings.

Scopus Global Representation *across all subjects and content types*

Scopus includes 76M records from 24K serial titles in 40 different languages, from 105 countries with addition of many more Thai journals in last 3 years!

Number of Journals by subject area

Physical Sciences	7,441
Health Sciences	7,133
Social Sciences	8,698
Life Sciences	4,601

Journals

24,039
Peer-reviewed journals

301
Trade journals

3,784
Active Gold Open Access journals

>8,000
Articles in Press

Full metadata, abstracts and cited references

Conference

106K
Conference events

9.5M
Conference papers

Mainly Engineering and Computer Sciences

Books

852
Book series

38K
Volumes

1.74M
Items

210,000
Stand-alone books

Focus on Social Sciences and A&H

*Journals may be classified in multiple subject areas: this count includes current actively indexed titles only
**Total number of Scopus journals in database including inactive titles is 39,743

Times Higher Education and QS have exclusive long-term partnerships with Elsevier (Scopus) for the World University Rankings.

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QS WORLD UNIVERSITY RANKINGS®

THE WORLD UNIVERSITY RANKINGS

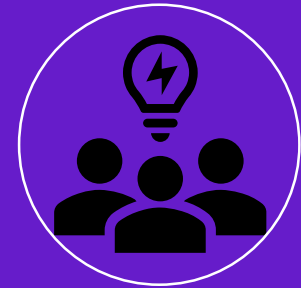# These institutions in South East Asia use SciVal for strategic planning
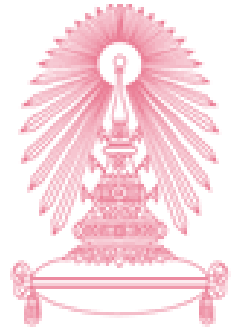
Engagement plan

Subscription kick off. Customisation. Analysis & Strategy

Quarterly trainings for key analysts and admins

Quarterly review with Policy-makers and plan for the next year.

2. Evidence-Based Policy-Making

Make smart Decisions by "triangulating" information

How much world class
research do we publish
and what is the quality
and trend?

KMITL produced 4,820 papers between 2014-2019 which received 12,232 citations, which is equal to 40% less citations than world average.

4,820 ▲

Scholarly Output

3,033 ▲

Authors

0.60

Field-Weighted Citation Impact

12,232

Citation Count

2.5

Citations per Publication

27

h5-index
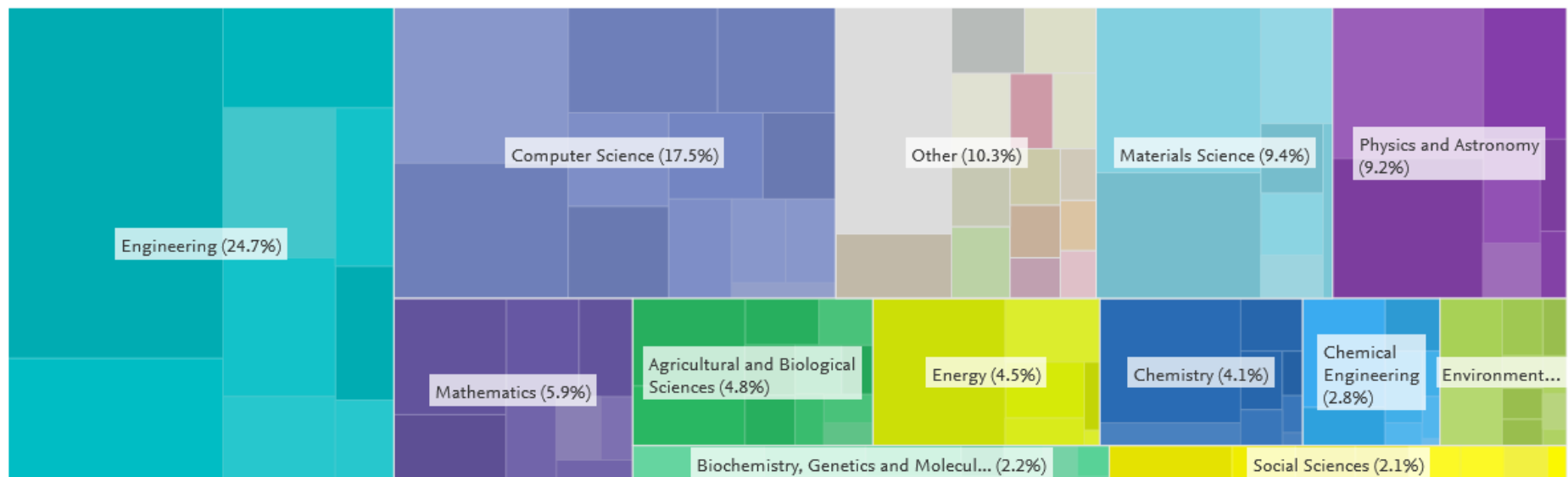
Engineering (24.7%)

Computer Science (17.5%)

Other (10.3%)

Materials Science (9.4%)

Physics and Astronomy (9.2%)

Mathematics (5.9%)

Agricultural and Biological Sciences (4.8%)

Energy (4.5%)

Chemistry (4.1%)

Chemical Engineering (2.8%)

Environment...

Biochemistry, Genetics and Molecul... (2.2%)

Social Sciences (2.1%)

King Mongkut's Institute of Technology Ladkrabang

1001+ (THE ↗) | 🇹🇭 Thailand | More details on this Institution

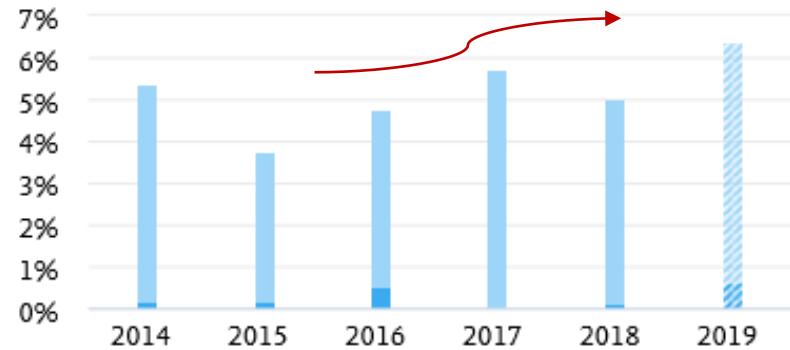2014 to 2019 ⌄ | no subject area filter selected ⌄ | ASJC

KMITL shows growing trend in terms of publication output paired with slight decrease in quality measures like outputs in top journal percentile and FWCI
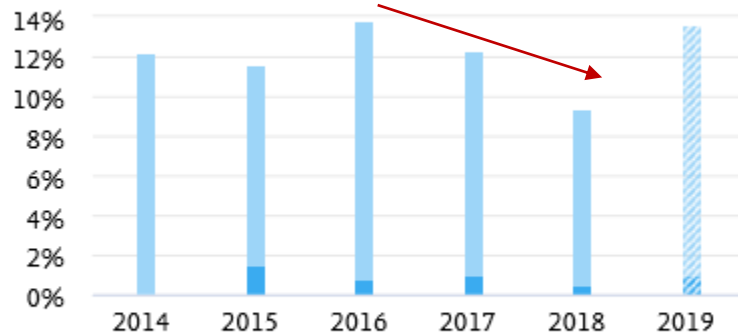
Scholarly Output
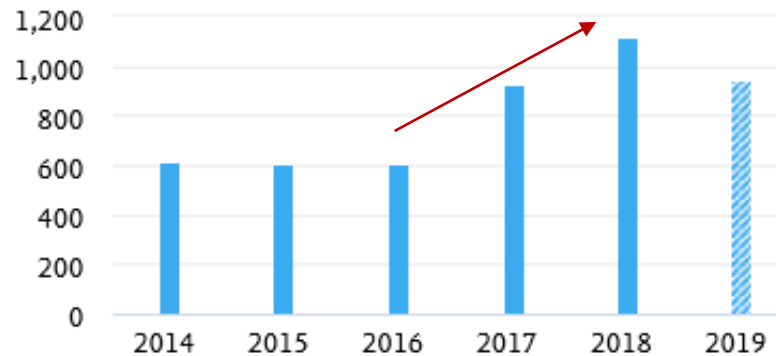
Outputs in Top Citation Percentiles

■ % of publications in top 10% most cited
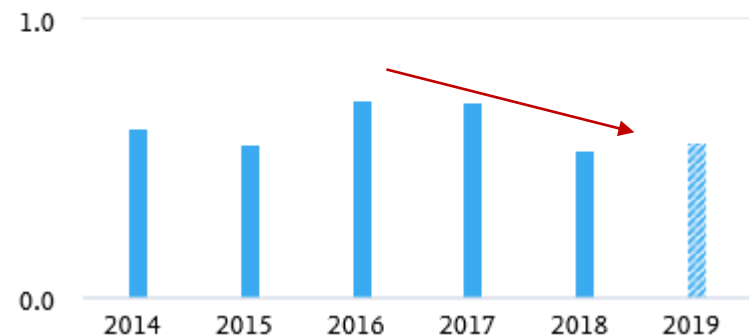■ % of publications in top 1% most cited

Publications in Top Journal Percentiles

■ % of publications in top 10% journals
■ % of publications in top 1% journals

Field-Weighted Citation Impact

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ELSEVIER   2014 to 2019 ⌄   no subject area filter selected   ⌄ ASJC   ◯ 🏛

How do we compare to others?

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KMITL shows strong growth in publication output from 2016 – 2018 but likely slight decline in 2019 while Khon Kaen and Kastesart produce larger volumes of papers. SUTD shows strong growth!
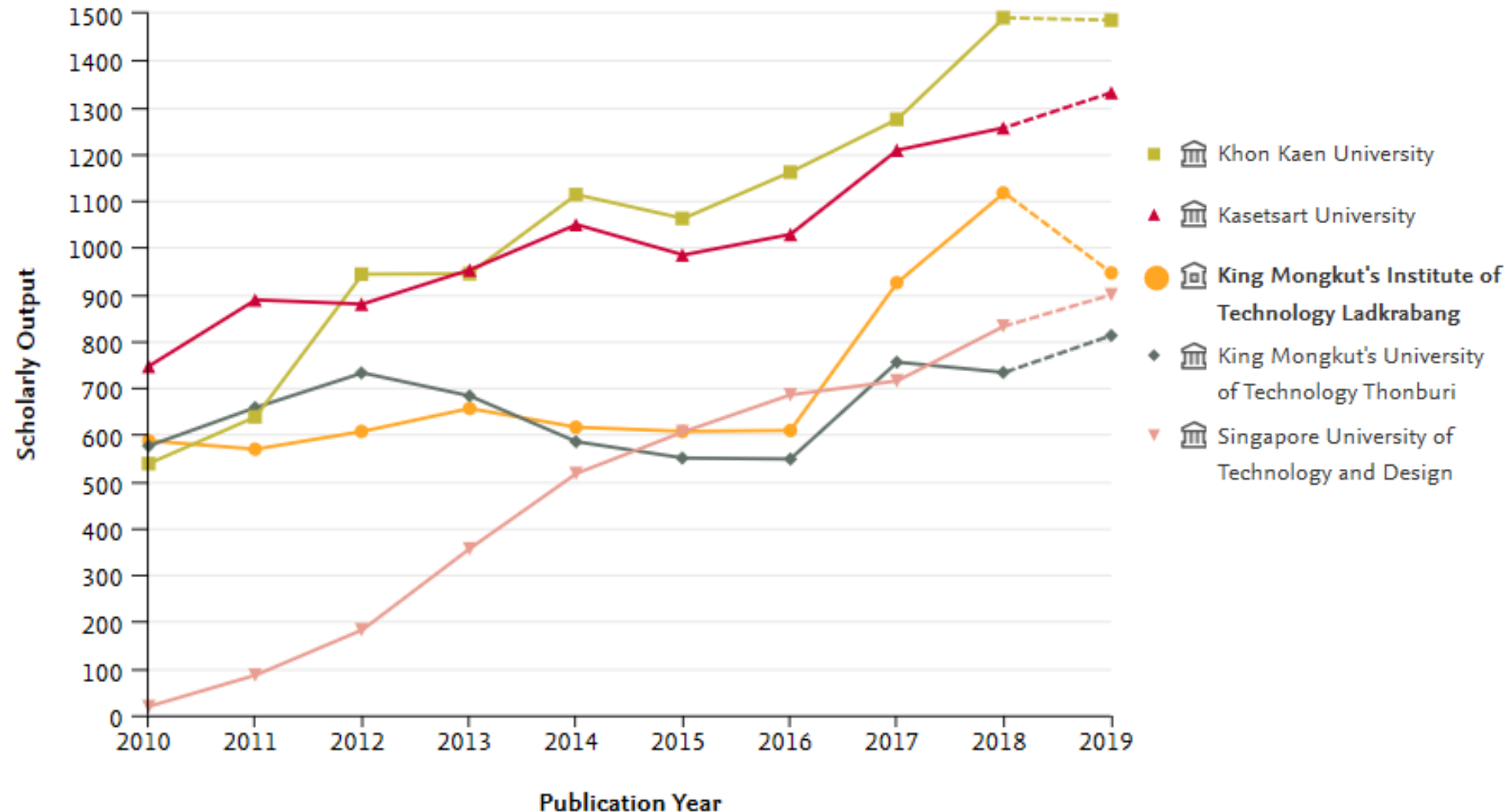
However when including only Articles and Reviews (i.e. excluding conference proceedings) KMITL is producing less output than most of the other chosen comparators.
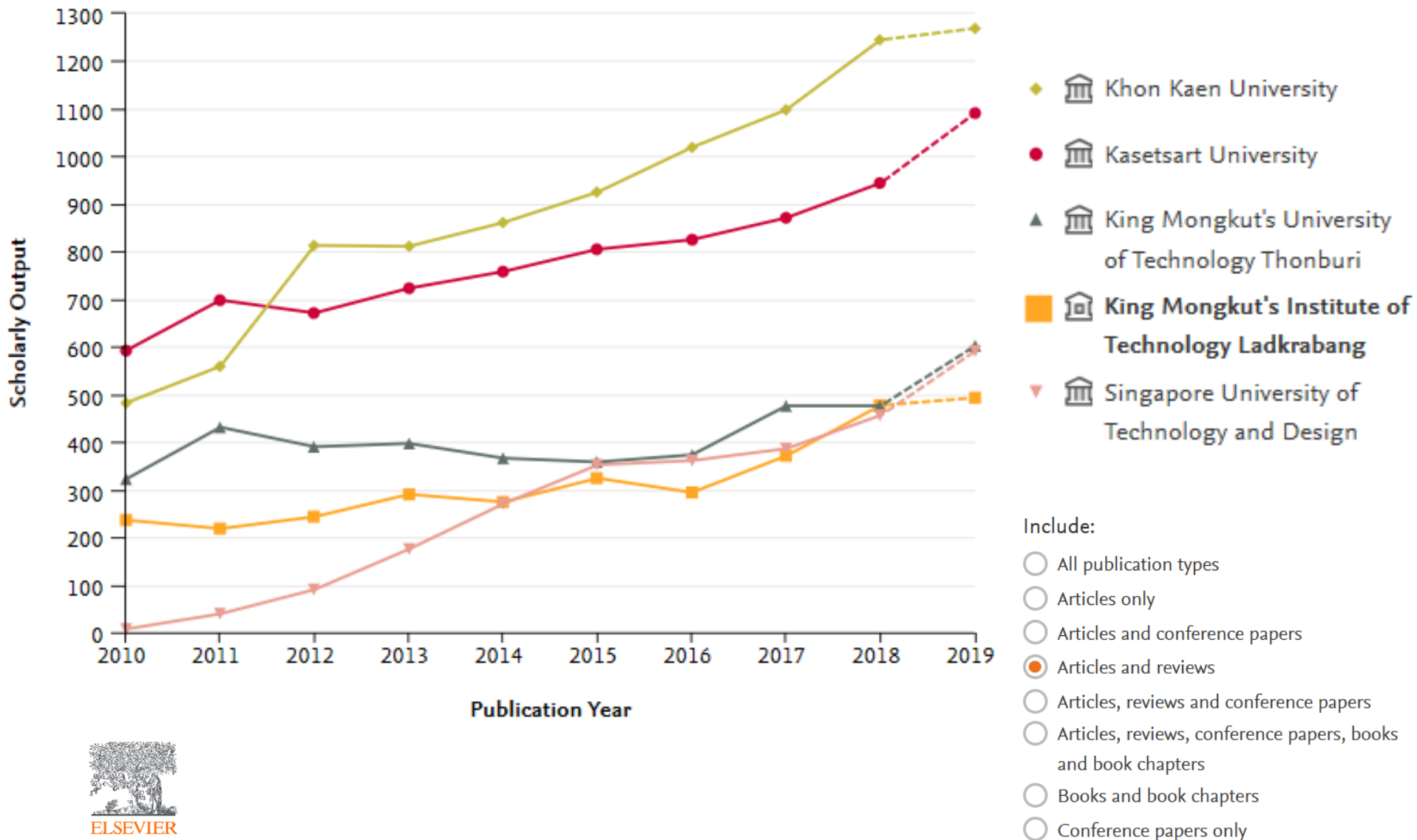
When looking at all papers published in Q1 journals (CiteScore) SUTD has published most Q1 papers in 2019 followed by Khon Kaen and Kasetsart.
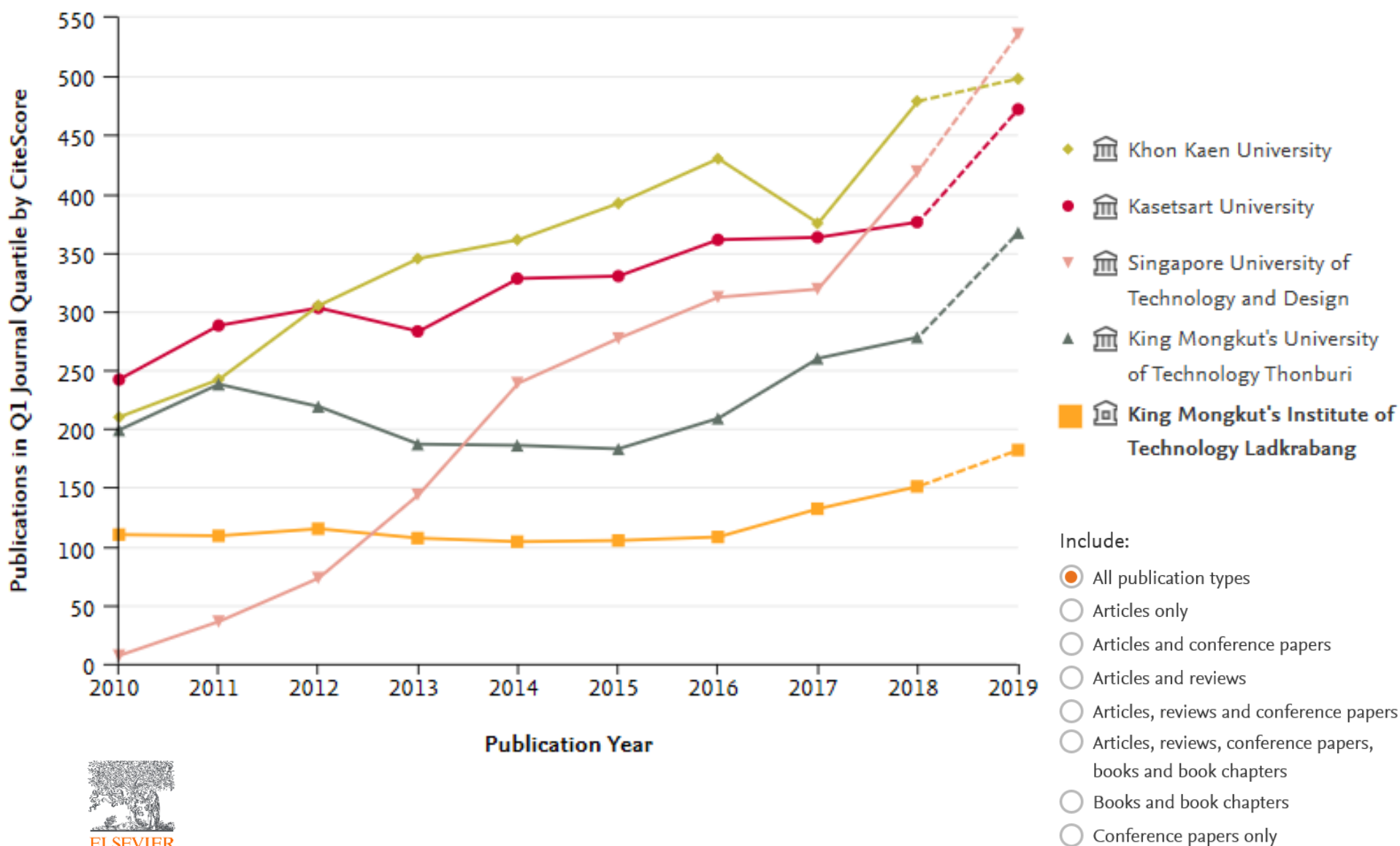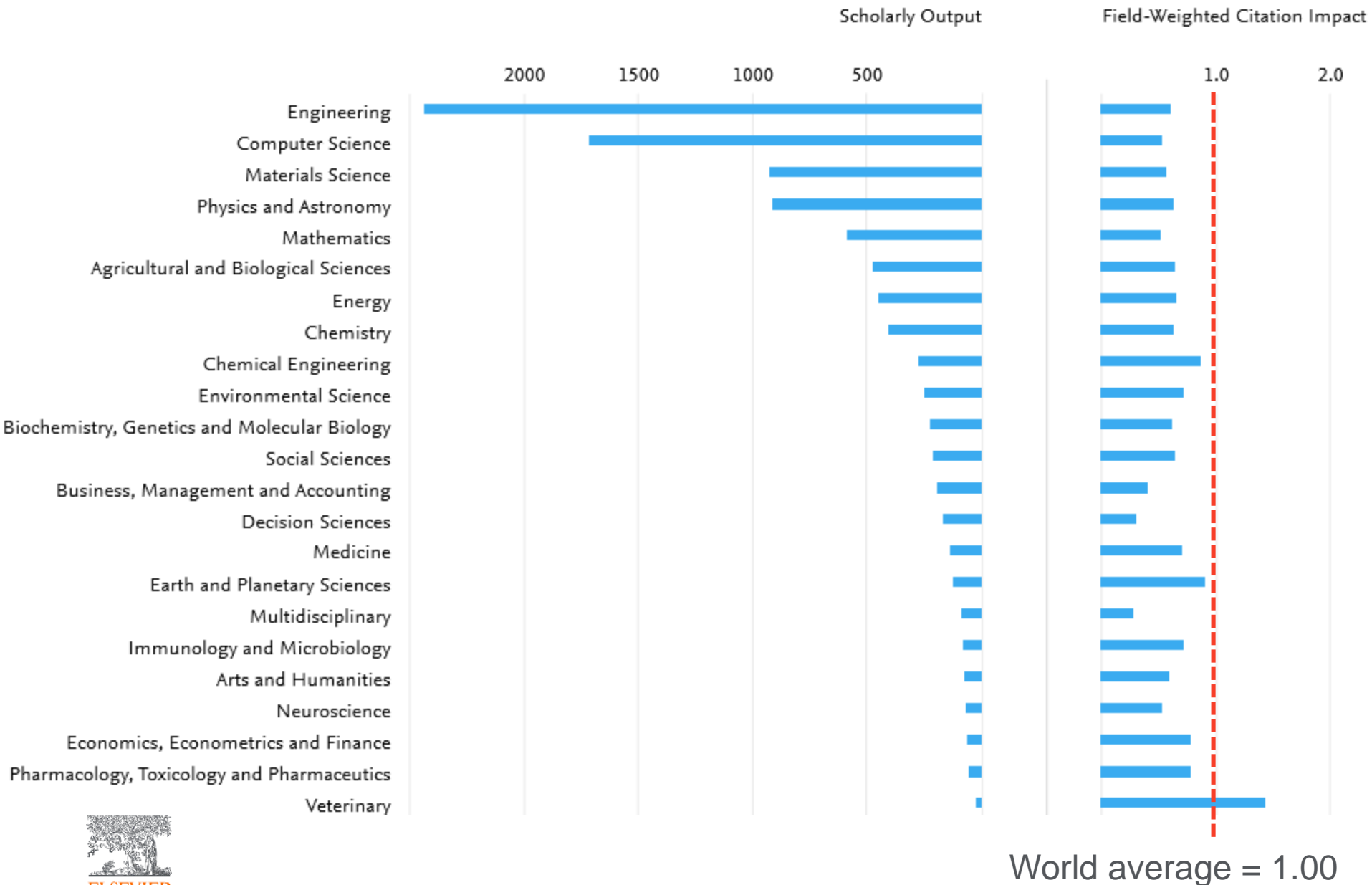
In terms of Field-Weighted Citation-Impact SUTD stands out producing very highly cited content that is cited far above world average (average = 1.00)
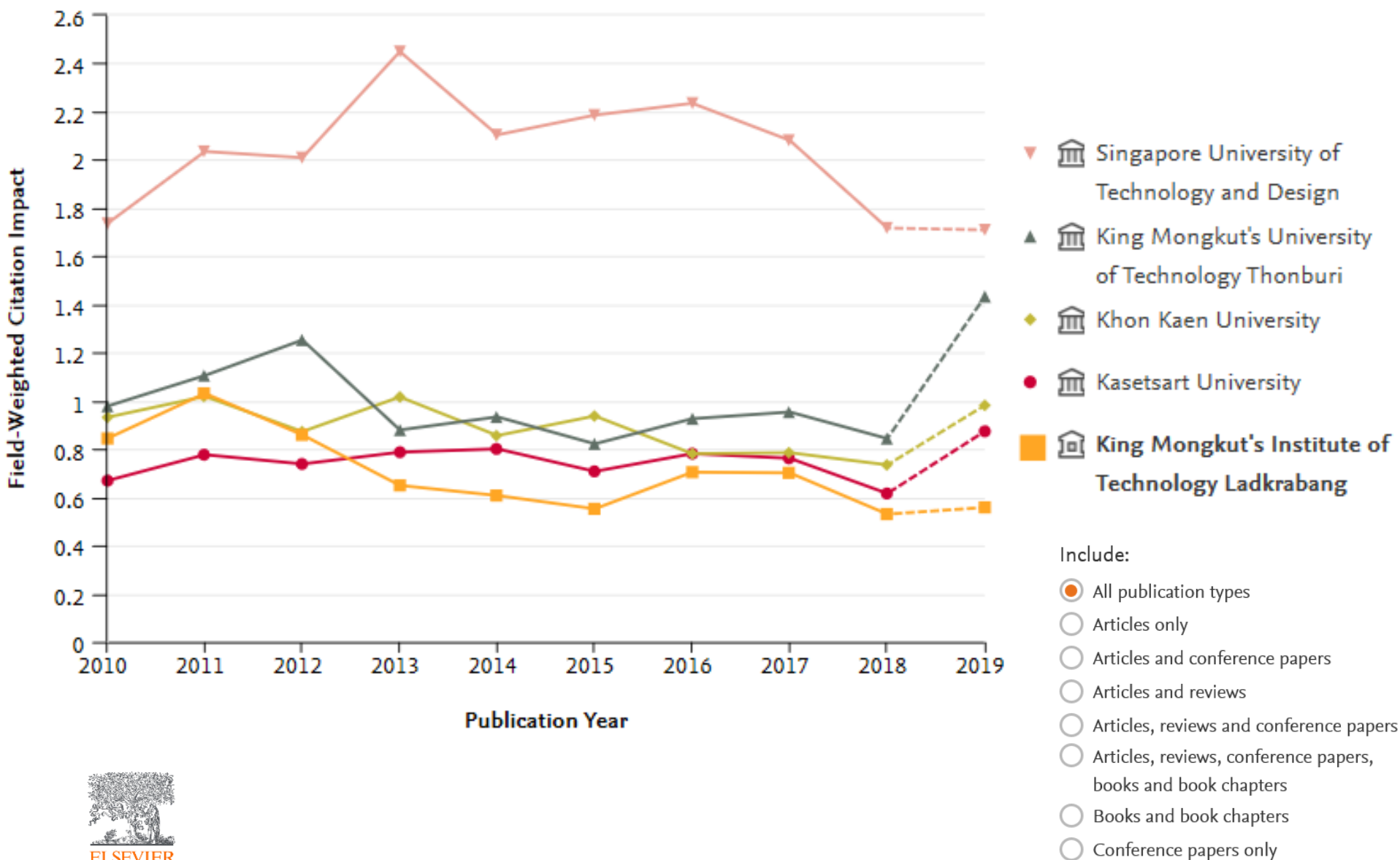
What are our Research Strengths and Weaknesses and who drives them?

KMITL top subject areas in terms of publication volume are Engineering and Computer Science. KMITL shows above average FWCI in Veterinary Sci.

Scholarly Output | Field-Weighted Citation Impact

World average = 1.00

KMITL pockets of research excellence include Mechanical Engineering, Industrial and Manufacturing Engineering, Horticulture etc.

Subject Area	Subcategory	Scholarly Output	Field-weighted Citation Impact
Engineering	Mechanical Engineering	284	0.82
Engineering	Industrial and Manufacturing Engineering	156	0.86
Chemical Engineering	General Chemical Engineering	134	0.92
Computer Science	Computer Science (miscellaneous)	124	0.83
Earth and Planetary Sciences	General Earth and Planetary Sciences	74	0.96
Medicine	Health Informatics	57	0.82
Biochemistry, Genetics and Molecular Biology	Biochemistry	54	1.09
Engineering	Civil and Structural Engineering	51	0.89
Economics, Econometrics and Finance	Economics and Econometrics	51	0.80
Agricultural and Biological Sciences	Horticulture	43	1.77
Chemical Engineering	Process Chemistry and Technology	43	0.82
Chemical Engineering	Fluid Flow and Transfer Processes	40	1.25
Agricultural and Biological Sciences	Animal Science and Zoology	38	1.00
Energy	Fuel Technology	37	1.32
Immunology and Microbiology	Microbiology	36	0.83
Engineering	Aerospace Engineering	32	0.95
Materials Science	Metals and Alloys	32	0.83
Social Sciences	Transportation	30	0.85
Engineering	Building and Construction	27	1.07
Agricultural and Biological Sciences	Aquatic Science	26	1.62
Agricultural and Biological Sciences	Soil Science	25	1.00
Pharmacology, Toxicology and Pharmaceutics	Pharmaceutical Science	25	0.85
Environmental Science	Environmental Chemistry	24	1.12
Biochemistry, Genetics and Molecular Biology	Molecular Biology	23	1.37
Earth and Planetary Sciences	Atmospheric Science	23	1.15

KMITL strength in Mechanical Engineering is driven by these researchers

	Name	Scholarly Output ↓	Field-Weighted Citation Im... ⌄	h-index
1.	Kinnares, Vijit	26	0.65	14
2.	Eiad-Ua, Apiluck	12	0.16	5
3.	Jedsadaratanachai, Withada	11	0.55	8
4.	Sakdanuphab, Rachsak	11	0.64	6
5.	Sakulkalavek, Aparporn	10	0.63	6
6.	Vittayakorn, Naratip	9	1.19	20
7.	Onlaor, Korakot	8	0.44	6
8.	Charusrojthanadech, Nunthawath	7	0.42	2
9.	Pecharapa, Wisanu	7	0.22	12
10.	Tunhoo, Benchapol	7	0.50	7

King Mongkut's Institute of Technology Ladkrabang

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ELSEVIER   2014 to 2019 ⌄   Mechanical Engineering   ⌄ ASJC ⊙ 🏛

Which Prominent research topics are we very active in ?

KMITL is active in many of the world's 1% most Prominent topics, ranging across many disciplines

Top 1% of worldwide Topics by Prominence

	COMP	Computer Science
	MATH	Mathematics
	PHYS	Physics and Astronomy
	CHEM	Chemistry
	CENG	Chemical Engineering
	MATE	Materials Science
	ENGI	Engineering
	ENER	Energy
	ENVI	Environmental Science
	EART	Earth and Planetary Sciences
	AGRI	Agricultural and Biological Sciences
	BIOC	Biochemistry, Genetics and Molecular Biology
	IMMU	Immunology and Microbiology
	VETE	Veterinary
	MEDI	Medicine
	PHAR	Pharmacology, Toxicology and Pharmaceutics
	HEAL	Health Professions
	NURS	Nursing
	DENT	Dentistry
	NEUR	Neuroscience
	ARTS	Arts and Humanities
	PSYC	Psychology
	SOCI	Social Sciences
	BUSI	Business, Management and Accounting
	ECON	Economics, Econometrics and Finance
	DECI	Decision Sciences
	MULT	Multidisciplinary

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KMITL produces highly cited research in prominent topics such as Heat transfer; Tubes; Tape inserts and Operational amplifiers; Capacitive load

		At this Institution	
Topic	Scholarly Output ⬇	Publication Share	Field-Weighted Citation Impact
Amplifiers (electronic); SPICE; Quadrature oscillator T.171	182	15.14% ▼	0.78
Heat transfer; Tubes (components); Tape inserts T.6311	63	5.72% ▼	1.64
Magnetic recording; Bits; Inter-track interference T.14089	50	12.47% ▲	0.46
Heat transfer; Reynolds number; Relative roughness T.2640	48	4.52% ▼	0.63
Optical resonators; Solitons; Soliton pulses T.25739	39	19.21% ▼	0.72
Operational amplifiers; Amplifiers (electronic); Capacitive load T.3792	25	2.76% ▼	1.67

Amplifiers (electronic); SPICE; Quadrature oscillator

At the King Mongkut's Institute of Technology Ladkrabang | Analyze Topic in detail

| 2014 to 2019 | ⌄ | no subject area filter selected | ⌄ | ASJC | ⬤ 🏛 |

Most active Institutions in this Topic

+ Add to Reporting   Export ⌄   Shortcuts ⌄

Top 10 Institutions worldwide in this Topic, by number of publications |

Institution	Scholarly Output ↓	Field-Weighted Citation Im... ⌄
1. 🇹🇭 🏛 King Mongkut's Institute of Technology Ladkrabang	182 ▼	0.78
2. 🇨🇿 Brno University of Technology	148	1.42
3. 🇮🇳 Jaypee University of Information Technology	53 ▲	1.65
4. 🇮🇳 Delhi Technological University	47 ▲	0.68
5. 🇮🇳 Jamia Millia Islamia	43 ▼	1.18
6. 🇮🇳 Dr. A.P.J. Abdul Kalam Technical University	40 ▲	0.77
7. 🇮🇳 Indian Institute of Technology, Dhanbad	39 ▲	0.71
8. 🇹🇷 Pamukkale University	39 ▲	1.11
9. 🇮🇳 Guru Gobind Singh Indraprastha University	35 ▲	0.68
10. 🇹🇭 Rajamangala University of Technology Isan	35 ▲	0.91

# How does the research performance of our faculties look?

Looking at 3 KMITL faculties as an example, we see Faculty of Engineering produces highest volume of papers
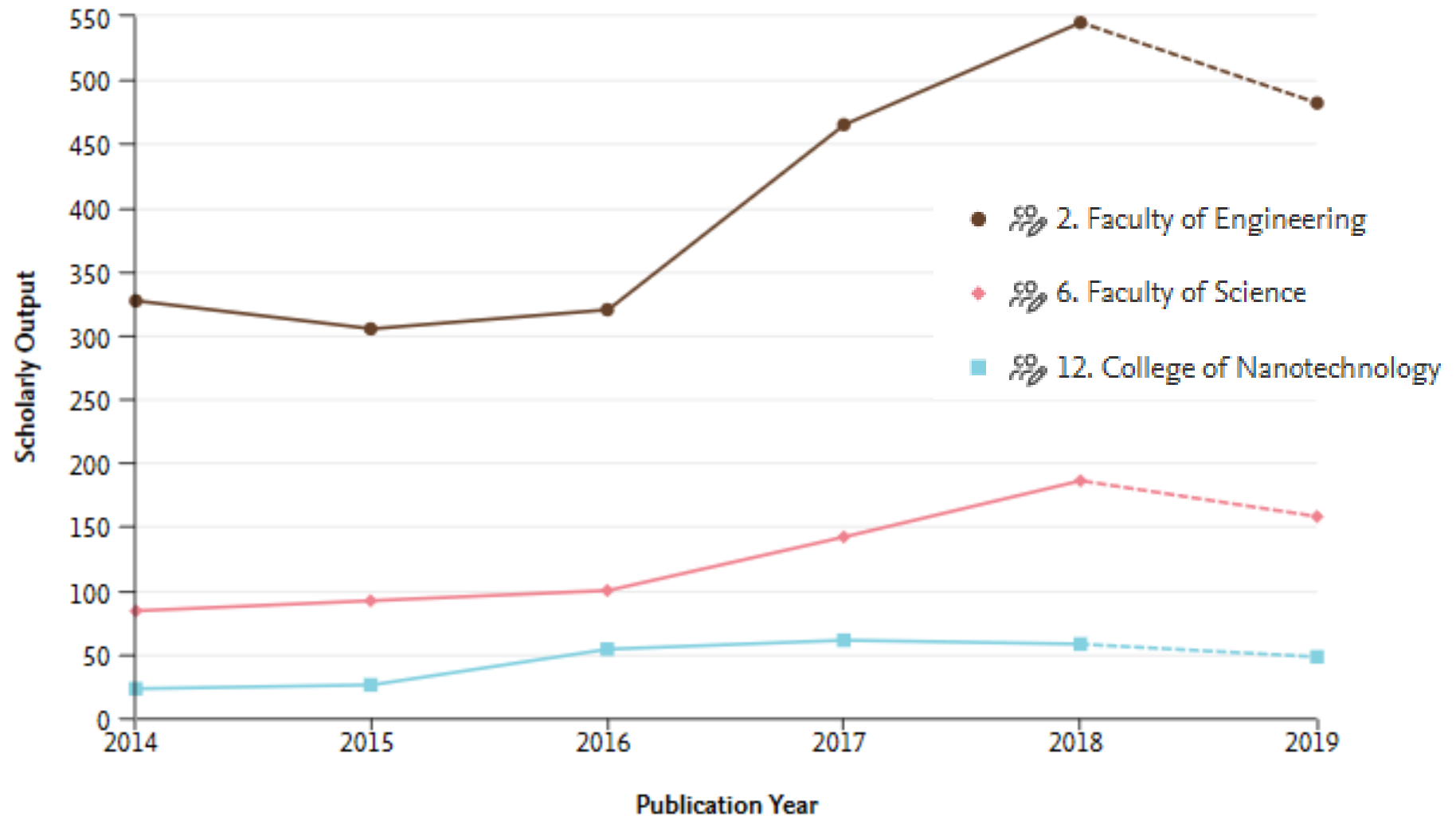
In 2017 Faculty of Science published almost as many papers in top Quartile journals as the Faculty of Engineering
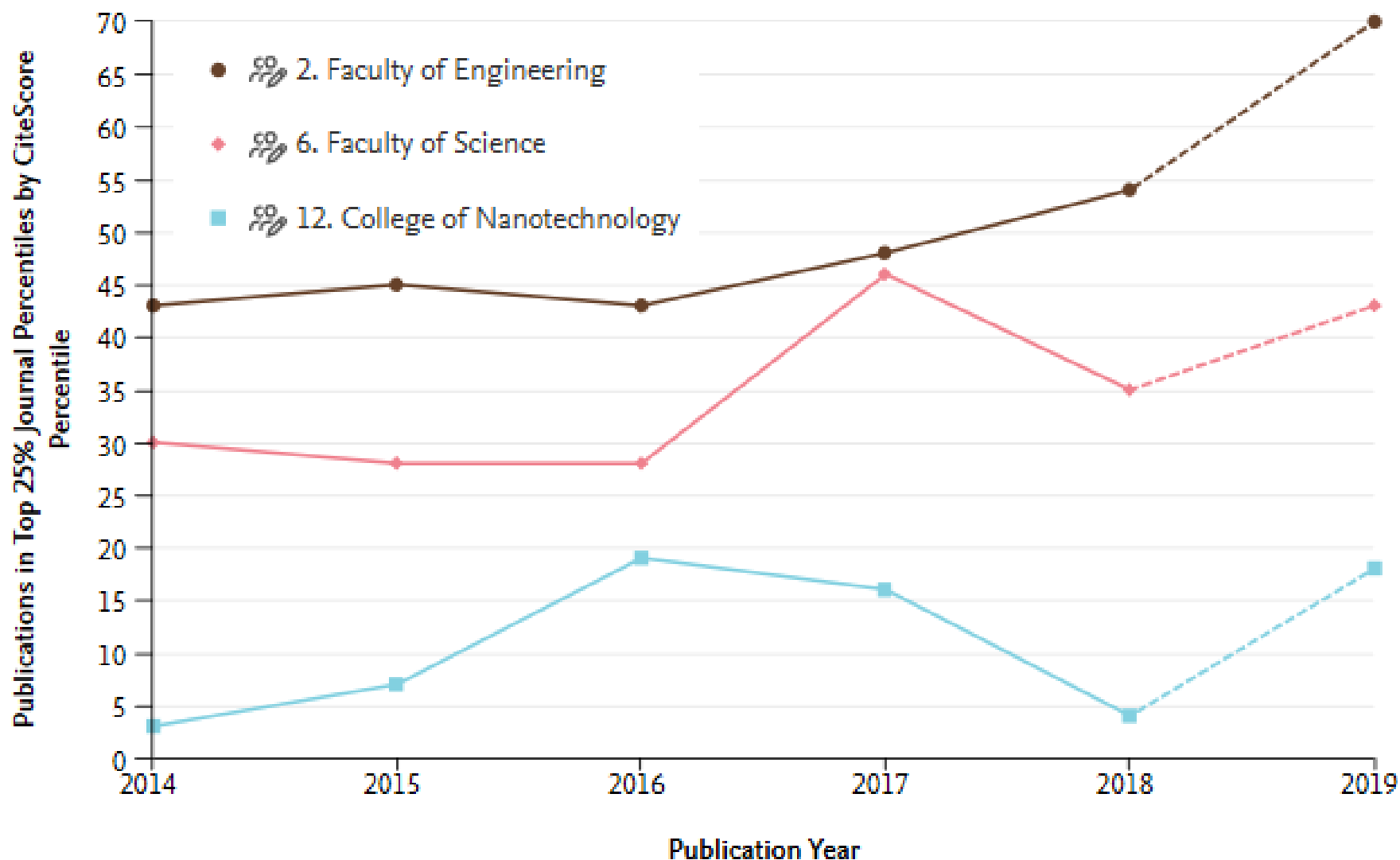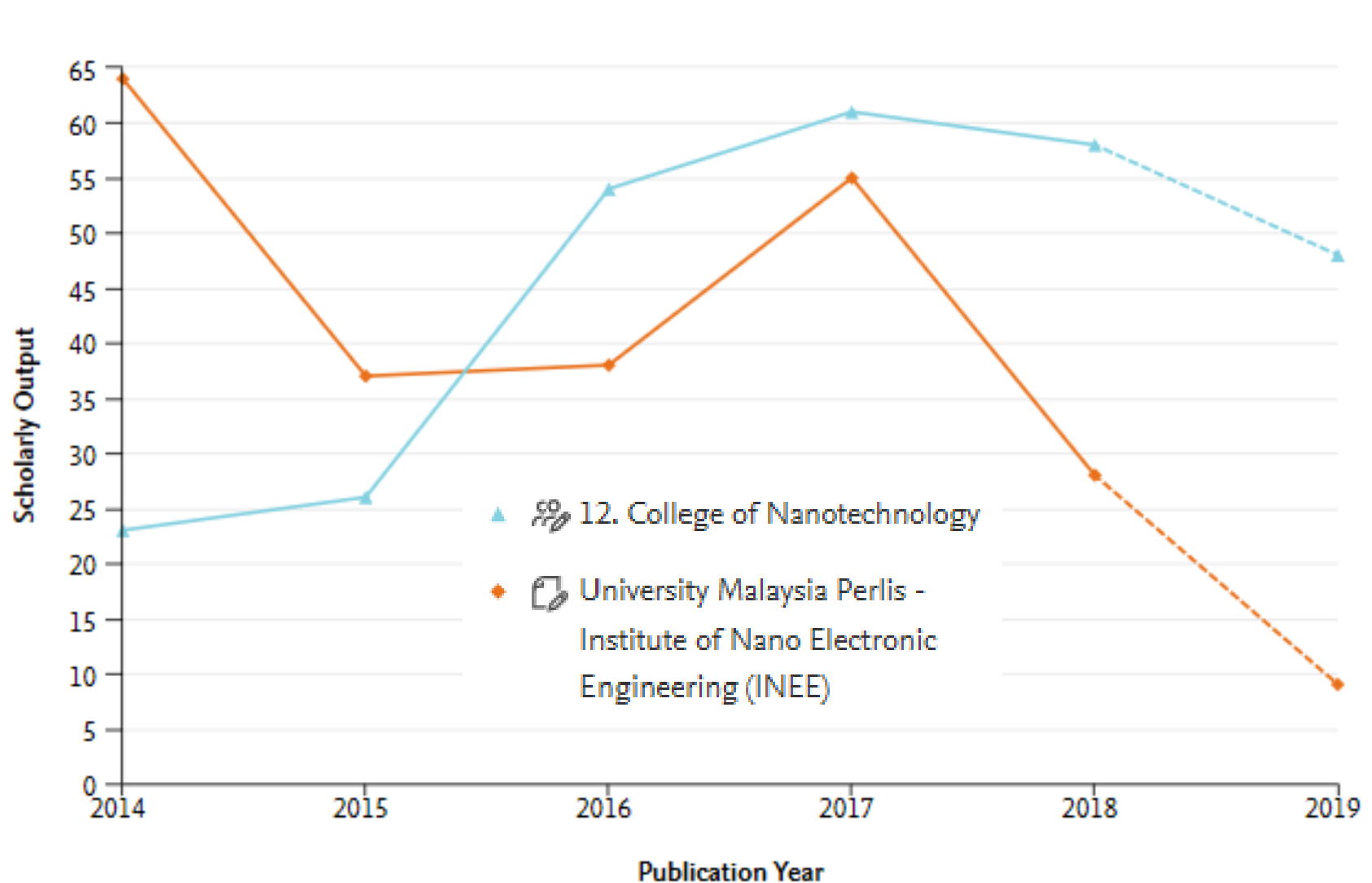
In terms of Field-Weighted Citation-Impact the College of Nanotechnology shows fluctuations and rising trend between 2016 and 2018
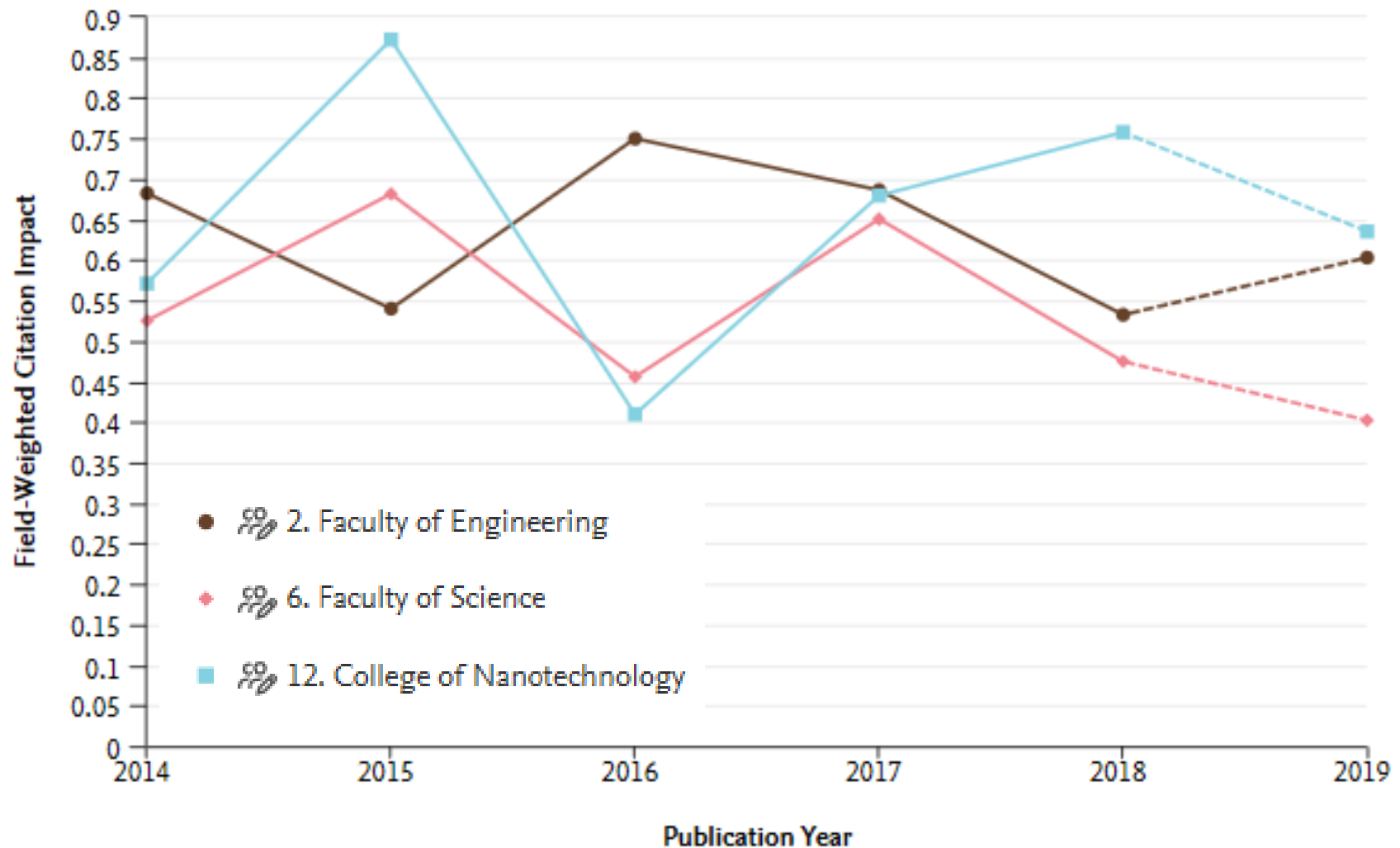
How does our College of Nanotechnology compare to University Malaysia Perlis, Institute of Nano Electronic Engineering?

The output of INEE shows sharp declines since 2017 and KMITL college of Nanotechnology surpassed INEE output levels in 2015 already

Which "hot" topics does our college of Nanotechnology publish in?

12. College of Nanotechnology
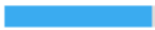
270 ▲
Scholarly Output ❄ ⓘ

25 ▲
Researchers

0.64
Field-Weighted Citation Impact ❄ ⓘ

	By this Group of Researchers		Worldwide
Topic	Scholarly Output	Field-Weighted Citation Impact	Prominence percentile
Zinc oxide; Nanorods; Seed layers ... T.54	7	0.10	97.954
Zinc oxide; Optical films; Optical transmittance ... T.229	7	0.10	98.145
Nanoparticles; Plants; Seedling growth ... T.8585	7	0.59	99.695
Cadmium telluride; Cadmium alloys; Zinc telluride ... T.1250	6	2.15	86.143
Data storage equipment; Nonvolatile storage; Transistor memory ... T.6746	6	1.07	97.679

Which universities does the Faculty of Engineering collaborate with most?

2. Faculty of Engineering

Top collaborating Institutions

by number of publications co-authored with 2. Faculty of Engineering

	Institution	Co-authored publications ↓	Citations received for co-authored publications	Field-Weighted Cita... ⌄
1.	🏛 King Mongkut's Institute of Technology Ladkrabang	2,444 ▲	6,129	0.63
2.	King Mongkut's University of Technology North Bangkok	102 ▲	157	0.36
3.	Chulalongkorn University	72 ▼	464	0.97
4.	Mahanakorn University of Technology	72 ▲	477	1.15
5.	National Science and Technology Development Agency Thailand	72 ▲	128	0.53
6.	Srinakharinwirot University	49 ▲	220	0.69
7.	Kasetsart University	47	440	1.17
8.	Brno University of Technology	46 ▼	249	1.32
9.	Tokai University	45 ▲	70	0.55
10.	Rajamangala University of Technology Isan	37 ▲	58	0.90

3. SciVal intro

Overview

Get a high-level overview of the research performance of your Institution, other Institutions, Countries and Groups of Researchers.

Go to Overview >

Benchmarking

Compare and benchmark your Institution to other Institutions, Researchers and Groups of Researchers using a variety of metrics.

Go to Benchmarking >

Collaboration

Explore the collaboration network of both your Institution and other Institutions.

Go to Collaboration >

Trends

Get the current scientific trends to determine a new research strategy, find collaboration opportunities and rising stars.

Go to Trends >

Reporting

Create rich Reports specifically tailored to support your institution's distinct research strategy.

Go to Reporting >

Metrics in SciVal

Productivity metrics
Scholarly Output
h-indices (*h*, *g*, *m*)

Citation Impact metrics
Citation Count
Citations per Publication
Cited Publications
h-indices (*h*, *g*, *m*)
Field-Weighted Citation Impact
Publications in Top Percentiles
Publications in Top Journal Percentiles
Collaboration Impact (geographical)
Academic-Corporate Collaboration Impact

Societal Impact metrics
Mass Media Mentions
Media Exposure
Field-Weighted Mass Media

Input metrics
Awarded Grants

Collaboration metrics
Authorship Count
Number of Citing Countries
Collaboration (geographical)
Academic-Corporate Collaboration

Disciplinarity metrics
Journal count
Journal category count

Views metrics
Views
Views per publication
Field-Weighed Views Impact

Economic Impact metrics
Citing Patents
Patent-Cited Scholarly Output
Patent-Citations Count
Patent-Citations per Scholarly Output

Journal Metrics
CiteScore
SJR
SNIP
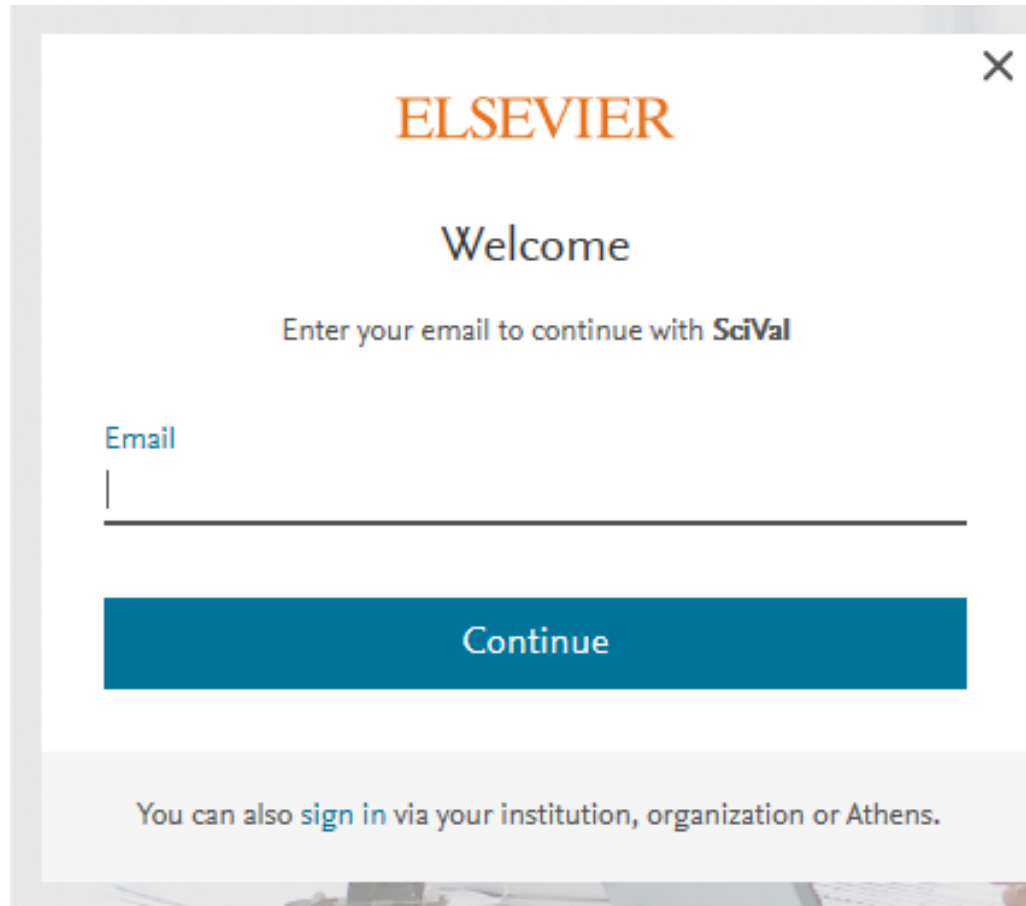
4. Scenario based hands on

To access SciVal

Go to www.scival.com

Scenario 1

Context

The VP of Research wants to know what KMITL's key research strengths are in terms of subject area strengths. Your boss wants you to provide a simple report that shows the key strengths for a recent 5 – year period,

The task in SciVal

Use Overview Module. Select KMITL. Use the year range 2014-2019. View published →

By subject area

Answer the following specifically:

1. Identify the top 3 subject strengths of KMITL for the 2014-2019 period, based on a combination of publications and field-weighted citation impact.

2. Identify 2 weaknesses in which KMITL should improve.

3. What is your rationale?

Scenario 2

Context

Your have identified Engineering as an important field for KMITL. Your team has been tasks to identify which Engineering related disciplines, KMITL is strong in and which researchers are driving that strength

The task in SciVal

Use Overview Module. Select KMITL. Use the year range 2014-2019. Use subject filter to select *Engineering*. Now go to Publications → By subject areas, and view the results in Table view. To find top researchers, select the discipline you have identified in the subject filter, and view the "authors" tab in the menu.

Answer the following specifically:

1. Name an Engineering related discipline in which KMITL shows above world average Field-Weighted Citation Impact.

2. Who are the top KMITL researchers in this discipline?

Scenario 3

Context

The Dean of the Faculty of Engineering wants to see data that shows which "hot" topics the faculty researchers are publishing in and to identify potential collaborators to boost strength in these topics.

The task in SciVal

Alexander will share the "Faculty of Engineering" group with each of you. You will receive an email with a link to activate access to the group. Once you have access, go to Overview, select Researchers and Groups in left menu and select Faculty of Engineering. View Topics and Clusters. To analyze a specific topic, you can select it and analyze it in Overview.

Answer the following specifically:

1. Which Topics that have high "topic prominence percentile" does KMITL Faculty of Engineering publish in?

2. Can you see who the top world authors are in this topic?

Scenario 4

Context

Your management want a report of 5 different metrics for KMITL compared to KMUTT, Khon Kaen, and Kasetsart

The task in SciVal

Use Benchmarking Module. Setup the following 5 metrics for the period 2016-2019

1.   Scholarly output (articles and reviews only)

2.   Number of papers in Top 10% journal percentile using CiteScore (articles and reviews)

3.   Number if citations (articles and reviews)

4.   Number of papers in Top 10% citation percentile (field-weighted) (articles and reviews)

5.   Field-Weighted Citation Impact (articles and reviews)

Save the output as a REPORT in SciVal

5. Q&A

Questions?

Thank you

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