

# How SciVal supports data informed decisions for research and university rankings strategies

Daniela Grosche SciVal Product Manager Bangkok, 11 July 2024



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## Meet the SciVal team







SciVal

Agenda



SciVal's Ranking analyses capabilities

# Rankings roadmap



## Global perspective on relevance of International Rankings





#### Students & Parents

Criteria used when choosing a university



#### University Management

Evaluating and benchmarking institutions locally and internationally



#### **Policy Makers**

Evaluating universities globally



#### Corporates

Evaluating universities globally



*Funders* Evaluating universities globally



#### Government Evaluating universities globally

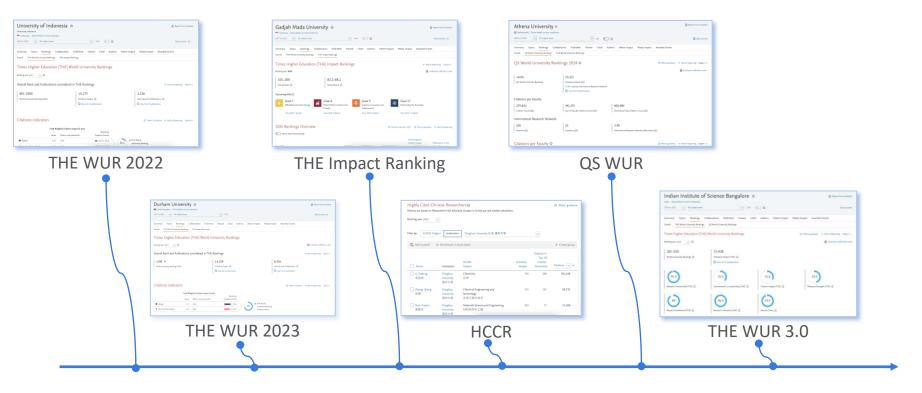
# Challenges for universities related to the bibliometric datasets used in rankings



- Data being used to calculate rankings is hard to get
- It is difficult to benchmark with peers across the bibliometric data and especially on the subject level, making it harder to action on it
- Management-level reports around university rankings are often based on approximations of the data being used and the resultant indicators and scores, limiting their strategic value
- Methodologies are complex

## In 2021 we started a program to mitigate these challenges





2021 2022 2023

2024



# THE

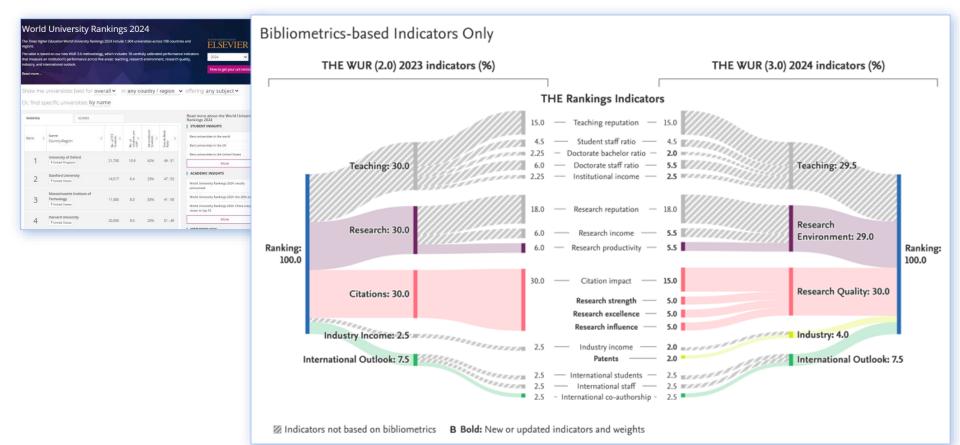
# World University Rankings

SciVal Rankings analysis

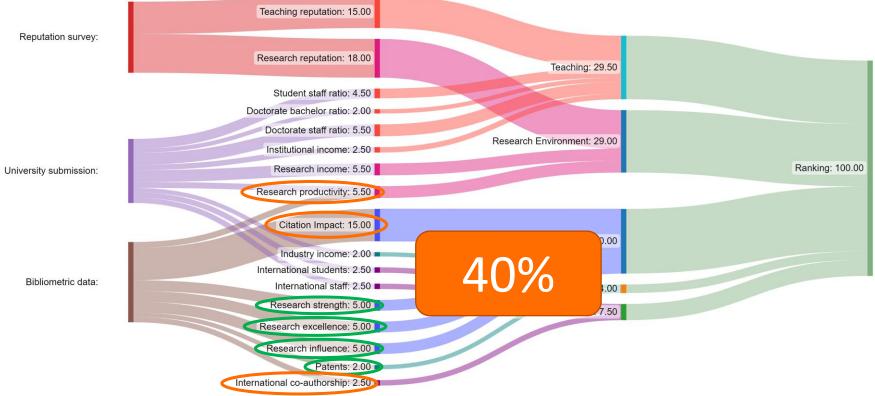


## The bibliometric dataset from Elsevier

#### 40% of the Overall ranking score (THE WUR)

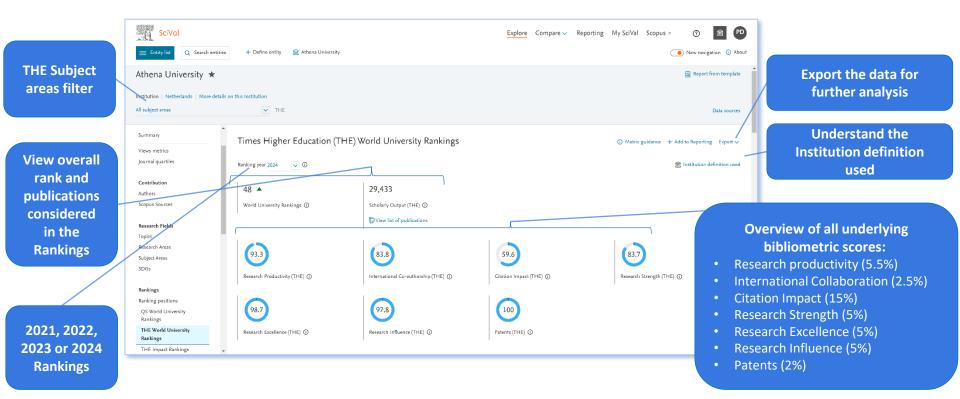


# THE WUR 3.0 Methodology



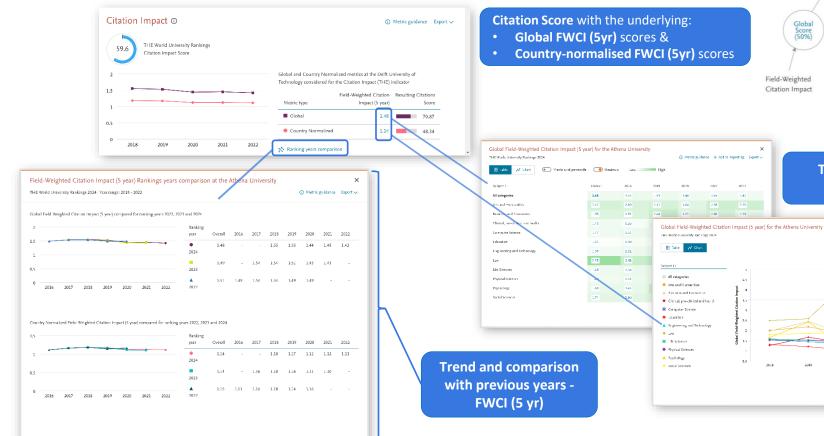


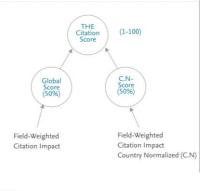
# Gain an overview of all bibliometric scores and publications considered – 40% of Overall ranking score



\* Research influence is generated by an algorithm controlled by THE and so details are not available in SciVal

### Analyze the drivers behind the Citation Score 15% of the Overall ranking score





**Trends per THE** 

subject area

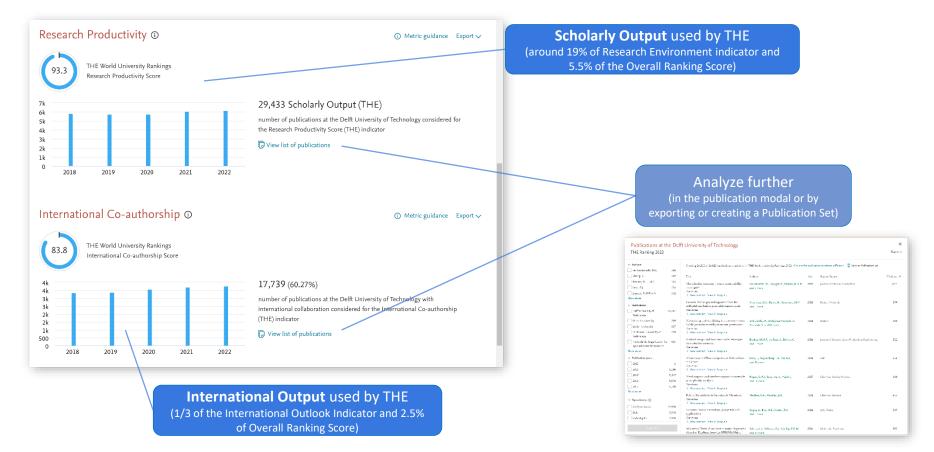
○ Metric guidance + Add to Reporting Export ∨

×

1.53

2.4

### Analyze other bibliometric drivers 25% of the Overall ranking score



### Analyze other bibliometric drivers 25% of the Overall ranking score



Land

×



# QS World University Rankings

SciVal Rankings analysis



## The bibliometric dataset from Elsevier

In partnership with **ELSEVIER** 

25% of the Overall ranking score (QS WUR)

Citations per Faculty – 20% International Research Network (IRN) – 5%



#### QS World University Rankings 2024: Top global universities

The 20th edition of the QS World University Rankings features 1,500 institutions across 104 locations and is the only ranking of its kind to emphasise employability and sustainability.

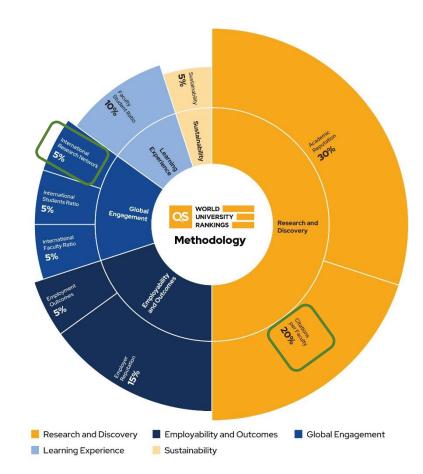
This year, we've implemented our largest-ever methodological enhancement, introducing three new metrics: Sustainability, Employment Outcomes and International Research Network. The results draw on ...

Read more



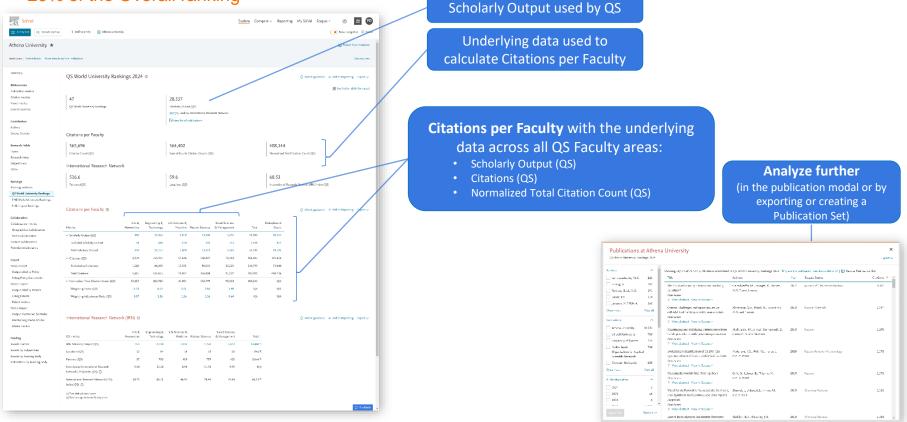


Filter	Clear All						Published on: 27 June 2023
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Year							
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Region	~			f Technology (MIT) Cambridge, United States	100		Shortlist
Country/Territory	^	2		Iniversity of Cambridge Cambridge, United Kingdom	99.2		Shortlist



# Analyze the bibliometric drivers behind Citations per Faculty, across all QS Faculty areas

#### 20% of the Overall ranking



#### Analyze the bibliometric drivers behind the International Research network (IRN) 5% of overall ranking

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Geographical collaboration	Horia	HamesiUs	Technology		Natural Sciences	≴ <i>Saragunut</i>	Total	Court					
Sector collaboration Current collaboration	✓ Schelarly Output (QS)	885	22,066	3,819	13,260	3,276	-15,366	28,557					
Potential collaborators	Schuled Scholarly Output	54	548	158	293	243	1,428	924					
	Total Scholarly Output	4.01	22,714	1,009	13,83	5,529	45,234	30,481					
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Scholarly Output used by QS

Underlying metrics used in calculating the International Research Network

#### Analyze further

(in the publication modal or by exporting or creating a Publication Set)

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#### Comprehend metrics calculation in the metrics guidance

			Explore Co	ompare 🗸 🛛 Rep	porting M	Metrics Guidance X
						Summary of calculation steps
International Research Net	work (IRN) 🛈				0	It is calculated using the following formula by dividing the distinct count of international Locations (L) listed in considered publications, by
QS metrics	Arts & Humanities	Engineering & Technology	Life Sciences & Medicine	Natural Sciences	Social Scien & Managem	the natural logarithm of the distinct count of international Partners (P) (higher education institutions) of those locations.
IRN Scholarly Output (QS)	191	3,140	4,630	2,921	1,2	·
Locations (QS)	21	70	83	70		$IRNIndex = \frac{L}{\ln(P)}$
Partners (QS)	51	598	721	583	2	
Non-Scaled International Research Network (IRN) Index (QS) 🛈	5.34	11.09	12.76	11.13	8	The IRN Index considers only sustained partnerships, determined as those which have resulted in 3 or more joint publications in the
International Research Network (IRN) Index (QS) ①	56.92	75.43	67.59	69.58	59	period considered. Only the relevant publication types are considered and QS affiliation cap is applied. IRN Index is normalized by QS five Faculty
[a] Total deduplicated count [b] Total average between Faculty areas						areas. Each faculty area value, taken singularly, is scaled and averaged. The total average value is again scaled to produce the final indicator score published from QS.

Metrics Guidance	×
Summary of calculation steps	
Scholarly Output	
Gross Scholarly Output	
Scopus® Scholarly Output of the previous five	
years of the ranking year.	
Affiliation definition exclusion	
Exclude certain affiliations such as UK Trusts and	- 1
oversea hospitals.	
Scopus ASJC Subject adjustments	- 1

#### If a journal is classified solely under Scopus ASJC Multidisciplinary Subject area (code 1000), then such papers don't feed into any of five faculty areas (which is not about paper exclusions, but rather ASJC to QS subject mapping). Still such papers counted in the various overall counts.

#### Document-type exclusion

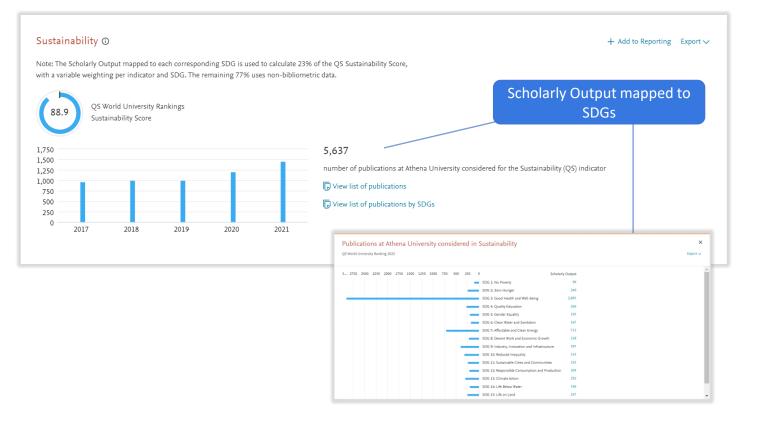
Exclude some types of documents from the considered Scholarly Output.

Apply Institution Cap per QS faculty/subject area Exclude Scholarly Outputs with more than a

#### July 2024

# Coming to SciVal soon...Sustainability

#### 5% of overall ranking



# Benchmark with peers and analyze trends

Analyses and information to understand performance and inform plans

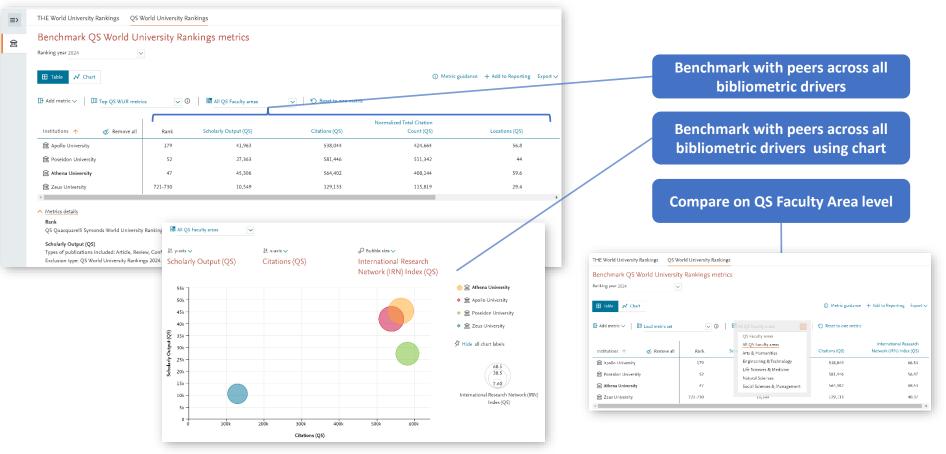
Benchmark with peers across all QS bibliometric drivers and QS Faculty Area level for the 2024 and 2025 Rankings without the need to generate proxies and manually curate the bibliometric datasets

- Analyze, benchmark and produce **peer comparison reports** across all bibliometric drivers directly in Compare
- Benchmark **at the QS Faculty Area level** for deeper understanding of your university's position and to inform faculty and department level plans
- Analyze the trends in the bibliometric drivers to enrich your understanding and inform plans accordingly



# Benchmark with peers and analyze trends

Analyses and information to understand performance and inform plans



# Benchmark publication strategies against peers

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# Benchmark publication strategies against peers

SciVal 10		Explore Compa	re 🗸 Reporting	My SciVal Scopus 🤊	0 🖴	0				
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Contribution Authors	Worldwide V All countries/regions V					1				
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Countries and Regions Scopus Sources	Top 100 Scopus Sources in this Publication Set, by Scholarly Output.				<ul> <li>Heatmap</li> </ul>					
acopus aources	💉 Compare over time 🐻 Add to panel 🔠 Create Research Area 🛷 Tag	I ~								
Research Fields Topics	Scopus Source	Scholarly Output	Field-Weighted Citation Impact 🗸	CiteScore 2023 🗸 🗸	SNIP 2023 🗸					
Subject Areas Keyphrases	50. Environmental Chemistry Letters	29	1.24	32.0	2.90					
Top contributors	94. Journal of Hazardous Materials	17	5.04	25.4	2.08	-				_
	89. Bioresource Technology	17	2.07	SciVal	10		Explore Compa	are 🗸 Reporting	My SciVal Scopus ↗	
Collaboration	76. Journal of Cleaner Production	20	3.43	📃 🔍 QS Wor	d University Rankings	2025 - Publications at Marie Curie University, Engineering & Technology				
Collaboration metrics	22. Chemosphere	54	3.88							
		39	2.92	Summary At Home Institution	on	Scopus Sources				
				Contribution		Worldwide				
				Authors		田 Table		Q	Metric guidance + Add	to Rep
				Countries and Regi	ions	Top 100 Scopus Sources in this Publication Set, by Scholarly Output.				
				scopus sources	_	🔊 Compare over time 🛛 Add to panel 🔠 Create Research Area	♂ Tag ∨			
				Research Fields Topics	- 1	Scopus Source	Scholarly Output	Field-Weighted Citation Impact 🗸	CiteScore 2023 🗸 🗸	
				Subject Areas		24. Environmental Chemistry Letters	18	4.69	32.0	
				Keyphrases		7. Renewable and Sustainable Energy Reviews	37	3.43	31.2	
				Top contributors		85. IEEE Journal on Selected Areas in Communications	9	7.52	30.0	
				Collaboration		78. Angewandte Chemie - International Edition	9	2.67	26.6	
				Collaboration metr	ics	95. Journal of Hazardous Materials	8	3.11	25.4	
						50. Composites Part B: Engineering	13	1.95		



# **THE Impact Rankings**

SciVal Rankings analysis



## UN SDGs in SciVal and THE Impact Rankings

- 2023 SDG queries are used in the THE Impact Rankings methodology
- **16 of the <u>17 SDGs</u>** are available to analyze on SciVal as a subject classification or predefined Research Areas.
- Queries were **created by our data science teams** working with experts to create representations of each SDG to enable detailed analysis.
- We are open and transparent about our methodologies.
  - → The queries and documentation supporting the 2023 search query methodology are <u>freely available in Digital Commons Data</u>
  - → The queries and documentation supporting the **2020** search query methodology remain <u>freely available in Digital Commons Data</u>
- We continue to <u>collaborate and gather feedback with customers</u> and the community to help improve the queries in the future
- We have both the 2020 and 2021 SDGs in SciVal so customers can compare the differences between the 2 sets of mappings

1 ™ ₽₩₽₽₩	2 ZERO KINGER	3 GOOD HEALTH AND WELL-BEING	4 EDUCATION	
Goal 1: End poverty in all its forms everywhere	Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Goal 3: Ensure healthy lives and promote well-being for all at all ages	Goal 4: Ensure inclusive and quality education for all and promote lifelong learning	Goal 5: Achieve gender equality and em all women and e
6 CLEAN WATER AND SANITATION	7 GLAN INFORMATICAND	8 DECENT WORK AND ECONOMIC GROWTH	9 PRESTRY, INFORMATION AND INPRASTRUCTURE	10 REDUCED INFOLIALITIES
Goal 6: Ensure access to water and sanitation for all	Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all	Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all	Goal 9: Build resilient Infrastructure, promote sustainable Industrialization and foster innovation	Goal 10: Reduce inequal within and amo countries
	12 RESPONSIBLE CONSIMPTION AND PRODUCTION	13 action	14 BELOW WATER	15 UFE ON LAND
Goal 11: Make cities inclusive, safe, resilient and sustainable	Goal 12: Ensure sustainable consumption and production patterns	Goal 13: Take urgent action to combat climate change and its impacts	Goal 14: Conserve and sustainably use the oceans, seas and marine resources	Goal 15: Sustainably mai forests, combat desertification, and reverse land degradation, hal biodiversity loss
16 PEACE JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS		TAINABLE G	
Goal 16: Promote just, peaceful and inclusive societies	Goal 17: Revitalize the global partnership for sustainable development			

development



## Analyze the drivers behind research metrics used in the THE Impact rankings 27% of the SDG Scores

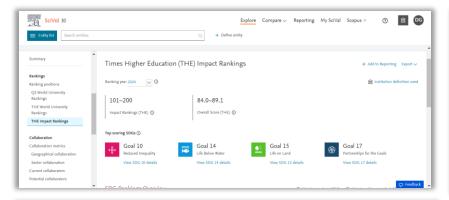
Analyze, understand and generate insights based on the actual research metrics used in 27% of the THE Impact Rankings, rather than proxies developed in-house

- Overview of the major research metrics used per SDG in the Impact rankings
  - Collated in a single page for SDGs a university participates in alongside the overall rank and score
- Visualize trends and complete in-depth analyses with research metrics for each publication year
- Analyze the underlying publications to identify leading researchers and collaboration opportunities, removing manual curation steps



# Analyze the drivers behind actual research metrics used in the THE Impact rankings

#### 27% of the SDG Scores

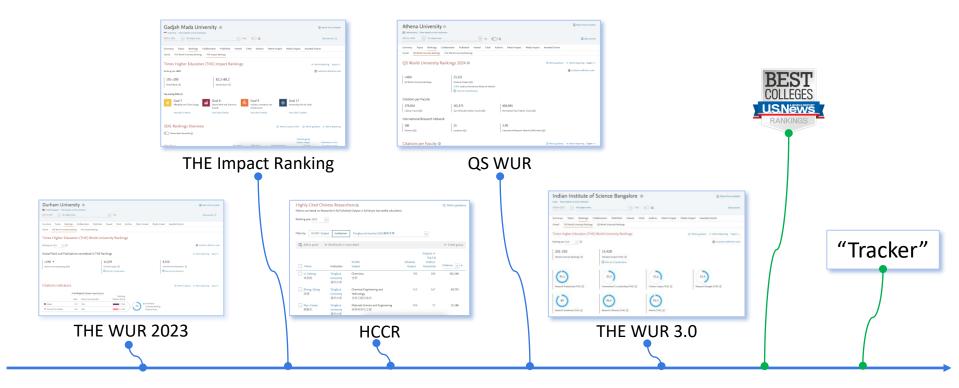


Metric Rank Percentile ①					
Metric Rank Percentile () DG 2024 ↑	SDG Rank (THE)	SDG Score (THE)	Scholarly Output (THE)	Field-Weighted Citation Impact 5 year (THE) ↓	Output in Top 10% Journals (THE)
SDG 8: Decent Work and Economic Growth	=95	74.1	252		105
SDG 9: Industry, Innovation and Infrastructure	201-300	65.2-76.9	483		
SDG 10: Reduced Inequality	=43	81.3	355	1.59	128
SDG 11: Sustainable Cities and Communities	101-200	71.5-78.3	265	2.00	106
SDG 12: Responsible Consumption and Production	=90	81.9	236	2.18	127
SDG 14: Life Below Water	19	86.0	224	1.75	106
SDG 15: Life on Land	9	92.4	305	1.72	137
SDG 17: Partnerships for the Goals	201-300	80.1-84.7	6,377	-	

esearch metric							Sut	stain	able D	evelop	ment	Goals (!	GDG)				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17 [1
Scholarly Output (THE)	•	•	•	٠	•	•	•	•	•	•	•	•	•	•	•	•	•
Field-Weighted Citation Impact - 5 Year (THE)	•	•				•	•			•	•	•	•	•	•	•	
Output in Top 10% Journals (THE)		•		•	•	٠	•	•		•	•	•	•	•	•	•	
Views Count (THE)			٠	•													
Female Co-authorship (THE) [2]					•												
Co-authorship with Low or Lower-middle Income Countries $\left(THE\right)^{[2]}$	•																•
Patent-Citations (THE)									•								
Clinical Citations (THE)																	

		metric o	details fo	r SDG 1	: No Po	verty						① Metric guidance	× Export ∽
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0						FWCI (5Y)	1.23	1.12	1.65	2.70	0.96		
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0.3 0.2 0.1	autho	rship wi	th Low o	or Lower	r-middle	Income Countrie 0.250 The ratio of the universitys associated with a university View list of publications	Scholarly Out	put where or			intry	+ Add to Re	porting
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	2018		Publication yea		2022	<ul> <li>Co-authorship ratio</li> </ul>	0.27	3 0.200	0.269	0.290	0.222		
			Publication yea	r									*

## Our university ranking program continues

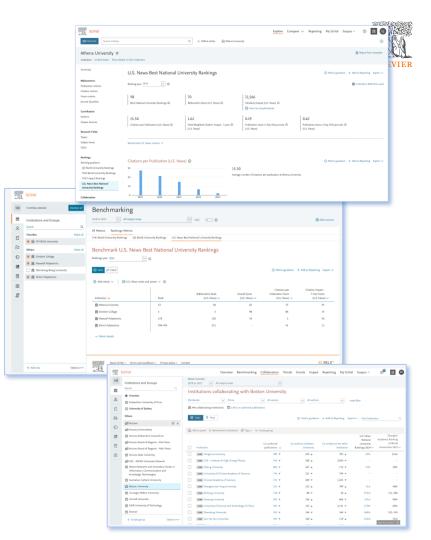




# **US News Rankings**

Best National University Rankings (Best Colleges)

- Scopus and SciVal data is used for the Best National University Rankings (Best Colleges rankings) methodology.
- The data contributes 4% to overall ranking.
- Expected to launch in SciVal in September.
- Best Graduate School rankings
  - Best Engineering Schools also use Scopus and SciVal based bibliometrics.
  - The data contributes 10% to overall ranking.
  - Rankings announced on 18th June by USNews.



# Rankings Metric Tracker - MVP



E World University Rankings 2024			+ Add	te Reporting Export 🗸
cker data are quarterly updated. Latest upcated as of 3 January, 2021.				
			Metric Rar	k Percentile
etric	"HE WUR 2024	Tracker 2025 (Q4)	THE WUR 2024	Trocker 2025 (Q4)
holzriy Output (THE)	15,000	18,900	82nd	61th 🔻
ternational Co-authorship (THC)	1,000	1,500	95th	98th 🔻
VCI 5 Year - Global	1.42	1.45	75th	75th
VCI 5 Year - Country Normalized (THE)	1.42	1.48	75th	75th
se ling Citation Score - Global (THE)	61.42	63.42		
sulling Cilation Score - Country Normalized (THE)	52.42	53.42		
tation Impact Score (THE)	52.42	\$3.42		
th percentile FWCL5 Year (THE)	1.42	1.42	68th	75th 🔺
utput in Top 1096 Citation percentile by Global FWCI 5 Year (THE)	2,837	2,900	stth	52nd 🔺

- Get a recent view on Rankings metrics to prepare for upcoming Rankings and set expectation and communication accordingly.
- Analyse the trend of the metrics with underlying publication and benchmark with peers.
- Augument the data to create an accurate model.
- Score Simulation and modelling

- Feature Scope
  - University grouping and Clustering





• Tipping point (THE and QS)





# Thank you

