

Introduction to SciVal:
Methodologies for Comprehensive
Research Performance Analysis
and Benchmarking

**Scival Product overview** 

Sept,2024 Dr Yoottapong Klinthongchai Customer Success Manager, Elsevier, SEA y.Klinthongchai@elsevier.com



# Housekeeping

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- Please add your questions to the Q&A throughout the session
- We will review and address questions during the discussion section

 Recording and presentation will be sent to attendees after our session

Thank you for your engagement!





SciVal

**Scival Webinars** 

for Thailand



Dr Yoottapong Klinthongchai (Elsevier) Speaker



Lucia Schoombee, Senior Customer Success Consultant (SME), Elsevier

#### WEBINAR



Introduction to SciVal: Methodologies for Comprehensive Research Performance Analysis and Benchmarking

SciVal is a comprehensive tool designed to analyze research performance and to support strategic decision-making in academic and research institutions. To effectively utilize SciVal, it is crucial to understand the source of litted to the control to all the control to all the control to all the control to all the control that the control the control that the co

DATE: 30<sup>th</sup> September 2024 ■ TIME: 1.30 PM - 3.00 PM (TH time) ■ DURATION: 1.5 hrs

■ Dr Yoottapong Klinthongchai (Dr Win), Customer Success Manager, Elsevier ■ LANGUAGE: Thai இன்னியாகம்கி

#### WEBINAR 2



#### Topic:

Topic:

Comprehensive Overview of Metrics in SciVal

To effectively evaluate and interpret research performance, it is essential to understand the various metrics available in ScNai. This saction focuses on some of the most widely used indicators: Field-Weighted Citation Impact [FWCI], H-index, Top Citation Percentiles, and Journal Quartiles.

DATE: 14" October 2024 TIME: 1.30 PM - 2.30 PM (TH time) DURATION: 1 hr

■ Dr Yoottapong Klinthongchai (Dr Win), Customer Success Manager, Elsevier ■ LANGUAGE: Thai (ใช้ภาษาโทยในการแกรม)

#### 3



Understanding the Interpretation of Topics and Subject Areas in SciVal for Research Analysis

Prominence and how to use it to determine research speciality, expand collaboration as well as identify key journals which can help for you high quality of research.

DATE: 28" October 2024 # TIME: 130 PM - 250 PM (TH time) # DURATION: 1 hr

Dr Yoottapong Klinthongchai (Dr Win), Customer Success Manager, Elsevier LANGUAGE: Thai (ใช้ภาษาไทยในการอุบาม)

#### WEBINAR 4



#### Topic: Enhancing Your Research Report through Reporting and My SciVal

SciVal offers robust reporting capabilities to help institutions and researchers visualize and communicate research performance. This guide provides an overview of building custom reports, utilizing reporting templates, and managing entities effectively within SciVal.

DATE: 5th November 2024 TIME: 1.30 PM - 2.30 PM (TH time) DURATION: 1 hr

■ Lucia Schoombee, Senior Customer Success Consultant (SME), Elsevier ■ English (โซกาษาจังกฤษกับการขบาน)

#### WERINAR 5



#### SDG Alignment and University Ranking Analysis Using SciVal

Sustainable Development Goals (SDGd) are crucial for aligning research efforts with global sustainability tragets. ScMal effers tools to analyze research contributions to SDGs, compare institutions, and understand rankings. This guide delives into how SDG contributions are calculated, how to analyze and benchmark SDG-related research, and provides insights into the Rankings Tab.

DATE: 21th November 2024 TIME: 1.30 PM - 2.30 PM (TH time) DURATION: 1 hr

■ Lucia Schoombee, Senior Customer Success Consultant (SME), Elsevier ■ English (Վրդադեսության և հայաստանության և հայաստանո



# Agenda



- What SciVal is; what challenges it tries to address; what are the data sources; what are the main use cases; architecture (modules)
- Focusing on the parameters for analysis Entities, types of metrics, subject areas, topics, research areas
- Benchmark: In Compare, select comparators and select various metrics this will put the performance in context
- Q&A

# What SciVal is

What SciVal is; what challenges it tries to address; what are the data sources; what are the main use cases; architecture (modules)

# SciVal- Flexibility to build your insights into global research



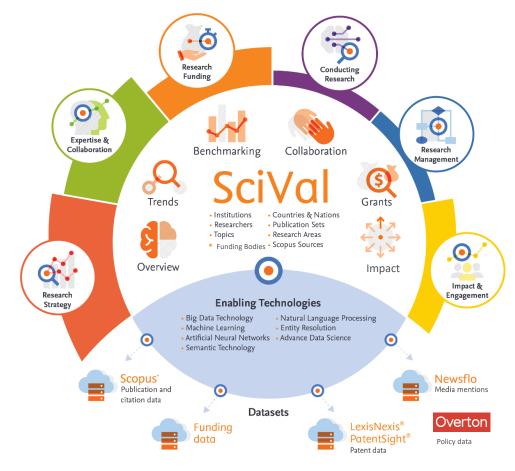
#### **Entities available to analyze**

- 24,000+ Institutions from over 230 nations
- 17+M Researchers
- ~ 96,000 Topics
- Research Areas
- Publication Sets
- Scopus Sources
- Funding Bodies

Over 300 trillion metric values

Data *updated weekly* 

Connected, robust, enriched datasets



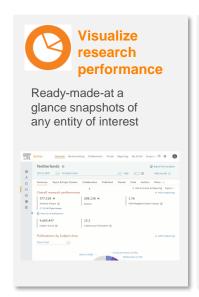


# SciVal



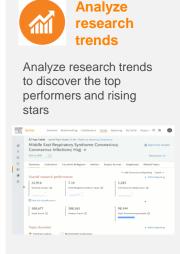
## Insightful analyses to inform research strategy and enhance research success

SciVal provides access to the research performance of over 24,000 research institutions and their associated researchers from more than 230 nations worldwide











# SciVal Impact

Advance your research programs with outcome and impact analytics from powerful analyses of research information.

# SciVal Impact



Helping research organizations understand and demonstrate the broader impact of their research on society with authoritative impact analytics



**University Leaders** 



- Identify the research outputs and researcher's influencing policy making
- Understand the health of their innovation pipeline and technological outcomes and impact through citation of research outputs in patents
- Demonstrate and communicate the broader impact of your research to key stakeholders with clear impact narratives and impact metrics



Deans and Heads of Department

- · Identify and understand the policy impact of their Faculty/Departments research activities
- Identify the research outputs and researcher's influencing policy making internally and externally
- Understand the health of their innovation pipeline and technological outcomes and impact through citation of research outputs in patents
- Enhance **promotion and tenure** applications and exercises



Faculty and Researchers

- Identify, understand and demonstrate the societal, technological and political impact of their research group
- Identify the research outputs being cited in policy documents and patents to help build impact narratives and showcase expertise
- Enhance promotion and tenure applications with impact narratives and metrics
- Enrich grant applications and impact case studies with clear impact narratives



**Research Services** 

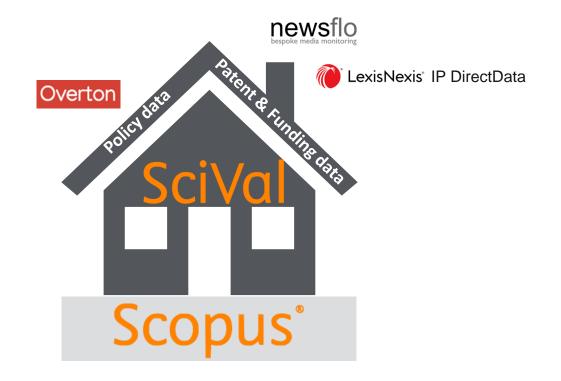
- · Enhance management-level reports with data and insights around broader research impact
- Expand support for promotion and tenure exercises and grant applications
- Identify research outputs and researchers having technological impact and/or societal and political impact through influencing policy making

### Which Data Sources Feed Into SciVal?



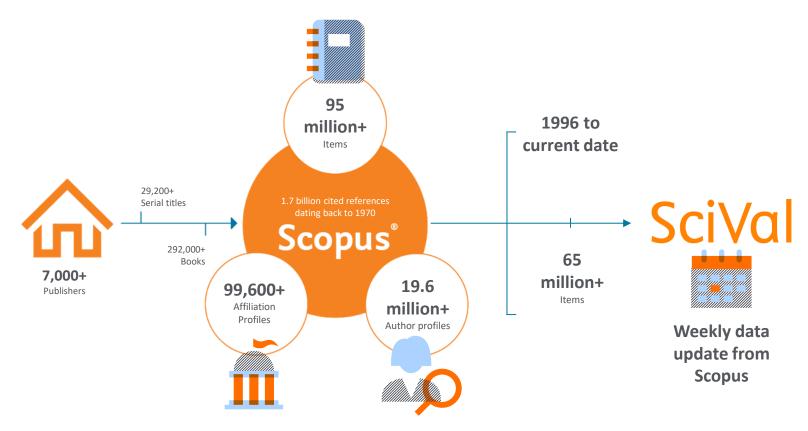
The **Data Sources** button in the Heading opens a side panel with more information about data sources and their respective update schedules.

SciVal receives a **Weekly Update** of new data from
Scopus. Other data types each
have a different update
schedule.



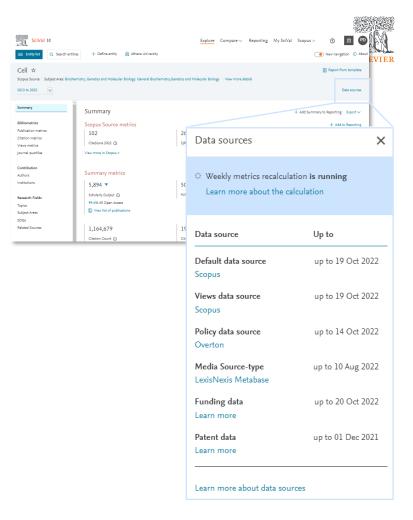
**Scopus** is a source-neutral abstract and citation database curated by independent subject matter experts.





## Data updates - Size matters

- SciVal is updated weekly with Scopus citation data
- Other data sources are updated at a different frequency
  - Find out the latest data cut via the Data sources link (on all modules)
- SciVal recalculates all metrics using the new citation data. We refer to it as a 'weekly'
- The 'weekly' data processing starts on Friday afternoon and ends on Monday (East Coast time)
- When the 'weekly' is running, new large entities you create (over 10k publications) are calculated when it finishes
- When the 'weekly' is not running, large entities you create take up to 6 hours to calculate
- The 'Data source' link shows when the next 'weekly' will start or if it is in progress

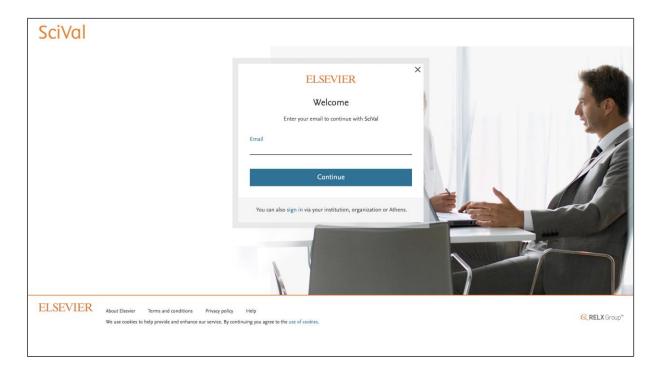


# **Entities**

Focusing on the parameters for analysis - **Entities**, types of metrics, subject areas, topics, research areas



# Accessing SciVal at www.scival.com

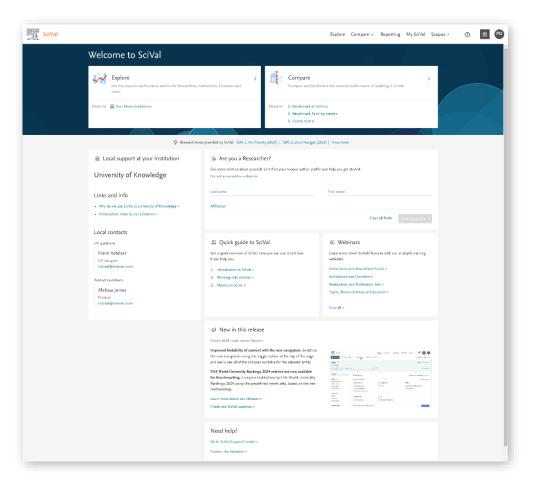


If you haven't previously registered for Scopus or ScienceDirect then please go to **Register Now.** 

# SciVal Homepage?

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- Add details of local support at your Institution
- Connect your profile
- Access a Quick guide to SciVal
- Access the latest SciVal Webinars
- "New in this Release" >> see details of the latest release
- SciVal Development Roadmap >> see what's coming up for SciVal
- Access help



## **Entities**









#### **Institutions and Groups**

•Includes all research outputs where an author is listed as affiliated to that particular institution

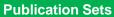
## Institutions and Groups



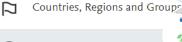
#### Researchers and Research Groups

•Includes all research outputs for a particular researcher, irrespective of affiliation





•A customized set of publications from an authors or authors. Can also be imported using DOI, PMID or EID



Researchers and Groups

#### **Countries and Groups**



#### Research Areas

•A publication set defined by keywords, Scopus journal categories, by a set of journals or by Topics



#### **Scopus Sources**

All sources covered by Scopus



• Journals, Book series, Conference proceedings and Trade Journals

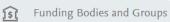


Research Areas are a live search (max 200k docs) – updated weekly









## What is an entity?

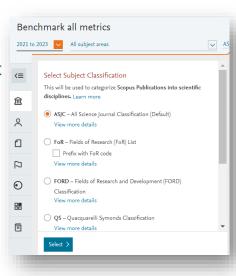
- Anything you want!
- From 1 paper to the whole world of content from Scopus (1996 to present)
- Predefined
  - e.g. Institutions (groups), Researchers (groups), Topics, Research Areas etc.
- User defined
  - e.g. Research Areas, Groups of Researchers. Publication Sets etc.
- Publication sets are a fixed list of documents (50k upload and 200k max)

# Subjects & Research fields



In SciVal, you can choose from the following Subject Classifications:

- ASJC All Science Journal Classification: 27 subject areas and 300+ subject categories.
- **FoR** Fields of Research (FoR) List: Part of the 2020 Australian and New Zealand Standard Research Classification (ANZSRC). Each FoR subject area is mapped to one or more Scopus sources.
- QS Quacquarelli Symonds Classification: This classification is used in QS World University Rankings. It covers 5 subject areas and 51 subjects. Each QS subject area is mapped to one or more ASJC.
- THE Times Higher Education Classification: This classification is used in the THE World University Rankings. It covers 11 subject areas mapped to ASJC. Each subject area is mapped to one or more ASJC.
- SDGs Sustainable Development Goals Classification Download the subject classification definition, Subject areas and mappings:
   https://service.elsevier.com/app/answers/detail/a\_id/21717/supporthub/scival/kw/classification/





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- SciVal includes all publication types in Scopus
- Filter options:
  - All publication types
  - Articles only
  - Articles and conference papers
  - Articles and reviews
  - Articles, reviews and conference papers
  - Articles, reviews, conference papers, books and book chapters
  - Books and book chapters
  - Conference papers only

- Authorship Type
- Percentage / Total value
- Include Self-Citation
- H-index, G-index, M-index
- + Amount / Count
- CiteScore, SJR, SNIP
- Quartiles, percentiles

Additional examples of filtering

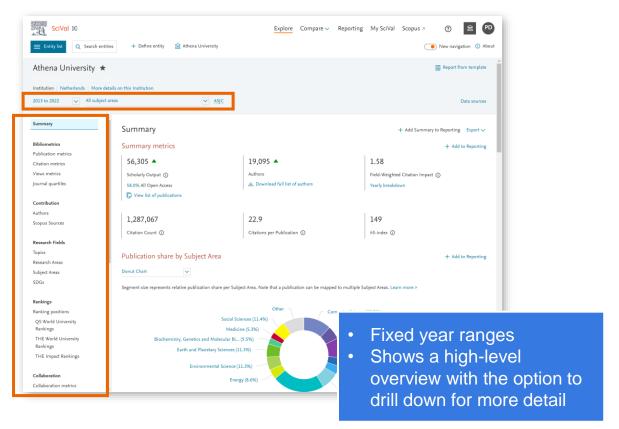
The array of metrics through SciVal

Metric theme	Metric sub-theme	Metrics in SciVal		
A. Inputs / Allocated resource (1)	Competitive project funding	Awards Value     Annualised Awards Value     Awards Count     Median Amount	Funding per Topic     Resulting publications     Awardee role	
	Talent	Author Profile Research Indicators		
B. Outputs (4)	Productivity of research outputs	Scholarly Output     Number, Type and Growth, Open Access     Subject Area Count		
	Visibility of communication channels	Publications in Top Journal Percentiles     CiteScore		
C. Impact in academia (4)	Research influence	<ul> <li>Citations Count</li> <li>Field-Weighted Citation Impact</li> <li>Outputs in Top Citations Percentiles</li> <li>Citations per publication</li> <li>Cited publications</li> <li>h-indices</li> </ul>	Research Field/Topic Prominence THE Citation Score Number of citing countries Views Count Outputs in Top Views Percentiles Views per Publication Field-Weighted Views Impact	
D. Process (3)	Academic network	Collaboration (International, National, Institute, single author)     Collaboration Impact		
	Reproducibility	Open access     Publications with Research data		
E. Outcomes & Impact beyond academia (5)	Technological & Economic impact, Knowledge & Tech transfer	Academic-Corporate Collaboration     Academic-Corporate Collaboration Impact	<ul> <li>Patents Count</li> <li>Scholarly Output cited by Patents</li> <li>Patent Citations Count</li> <li>Patent-Citations per Scholarly Output</li> </ul>	
	Societal and political impact, Public Governance, Knowledge transfer	<ul><li>Scholarly Output cited by Policy</li><li>Citing Policy Documents</li><li>Citing Policy Bodies</li></ul>	<ul><li>Policy Citations</li><li>Citing Policy Body Countries</li><li>United Nations SDGs Relative Activity</li></ul>	
	Societal and Public Opinion impact	Mass Media     Media Exposure		

## **Overview Module**



#### Develop, advance and monitor your research programs and strategy



# Understand and visualize research performance

The **Overview module** provides high-level overviews of research performance for you and your peers globally.

- Profile and evaluate the performance of institutions, researchers or research groups
- Understand performance and research strengths in specific Research Areas, Publications Sets or Topics
- Explore your collaborations and identify potential new partners
- Analyze and understand the actual bibliometrics used in the THE and QS World University Rankings as well as the THE Impact Rankings

# Field-Weighted Citation Impact (FWCI)



- Field-Weighted Citation Impact shows how well cited this document is when compared to similar documents.
- The FWCl is the ratio. A value greater than 1.00 means the document is more cited than expected according to the average.
- It takes into account:
- The <u>year</u> of publication three-year window
- Document type, and
- The disciplines associated with its source.

#### **FWCI (Field Weighted Citation Impact)**

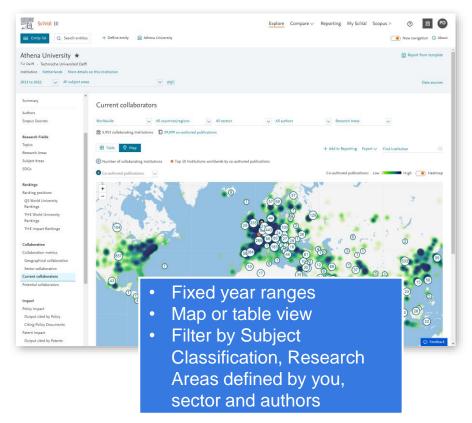
The number of citations per literature divided by its world average **Calculated by year, discipline, and literature type**.

The world average is one, and in the case of your institution with FWCI of 1.15, it means that on average your institution's co-authored publications are cited 15% higher than that of the world.

## Collaboration Module



#### Advance your research programs with insights into global expertise across sectors and fields



# Enhance team building and build outstanding collaborations

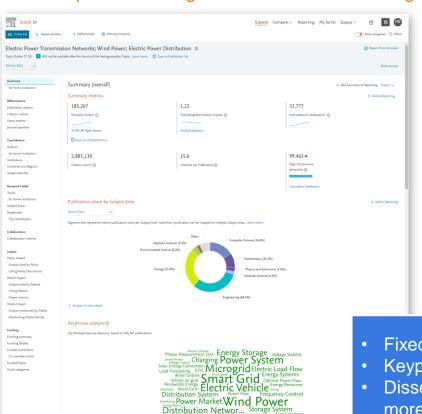
The **Collaboration module** helps you evaluate your existing research collaborations and identify potential new partners.

- Explore interactive maps and tables to evaluate existing partnerships
- Filter by subjects, Research Areas defined by you, sectors or authors
- Identify new opportunities for collaboration partnerships globally
- Enhance team building efforts by uncovering research expertise on and beyond campus

## **Trends Module**



#### Gain a deep understanding of research fields and leading experts globally



Demand Response
Distributed Power Generation

AAA relevance of Impulsate | declining A AA growing (2011-2022)

#### Monitor trends in research

Evaluate Topics, Research Areas and Publication Sets in detail

The **Trends module** enables you to gain a deep understanding of Research fields and leading experts globally.

- Analyze the developments in fields of interest through graphs, tables, charts and keyphrase analyses.
- Define your own topic / field of interest or use a predefined one from SciVal
- Identify the key institutions and researchers contributing to a research field globally
- **Investigate individuals or groups contributions** to fields through an array of metrics and analyses.
- Fixed year ranges
- Keyphrase analysis
- Dissect a Topic to learn more about it



# **Demonstrations**



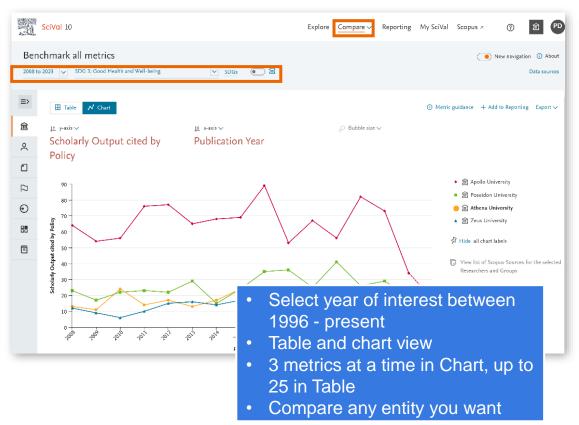
# Benchmarking

**Benchmark**: In Compare, select comparators and select various metrics – this will put the performance in context



# ELSEVIER

#### Benchmark your progress



#### **Evaluate, benchmark and monitor progress**

The **Benchmarking module** enables you to evaluate your research performance in comparison to others in your region, country and the world.

- Compare your research performance to peer groups and institutions over time
- · Analyze and benchmark collaboration partners
- Profile developments in fields over time
- Choose from an array of research metrics, zoom in on a year range or subject area and build insightful reports.
- Benchmark with peers and analyze trends across the research metrics used in university rankings
- Benchmark and understand your contribution to the UN SDGs

# Full metric guidance in product



< Back to metrics

This metric is useful to...

SciVal Metric: Citations per Publication
Citations per Publication in SciVal Indicates the

average citation impact of each of an entity's

publications; how many citations have this entity's publications received on average?

SciVal often displays Citations per Publication in a

This metric should be used with care when...

. Benchmarking the average influence of the

profiles, such as Institutions with sizeable

account for disciplinary differences

set that have been cited

Useful partner metrics are..

Read the full FAQ #

publications of entities with distinct disciplinary

a. It is advised to apply the Research Area filter to

focus on one field that is common between all

the entities, or to select Field-Weighted Citation

Impact (if the entity is large enough) which will

. One or a few publications with a very high number

material. Use the Cited Publications metric to

. Entities are small and there may be gaps in their

· A single missing publication from a small data

set (i.e a Researcher) may have a significant

be artificially inflating Citations per Publication.

Deselect the "Include self-citations" option to see

negative impact on apparent visibility.

output within the Scopus coverage:

of citations can conceal a sizeable body of uncited

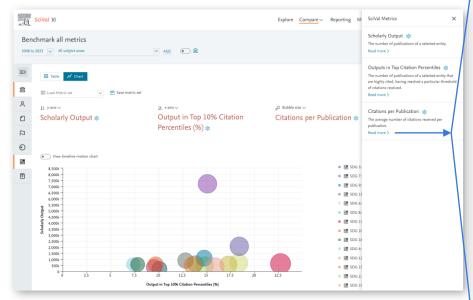
investigate the proportion of publications in a data

chart or table with years. These years are always the

years in which items were published, and do not refer to the years in which citations were received.

SciVal now brings rich information about each metric directly into the page you're looking at within all modules.

- Click the info icon or metrics guidance link
  - Detailed information displayed in panel on right
  - Information pulled directly from the Support Center
- Understanding metrics
  - Strengths and weaknesses in context
- Selection and interpretation of metrics
  - What affects their values, besides performance?





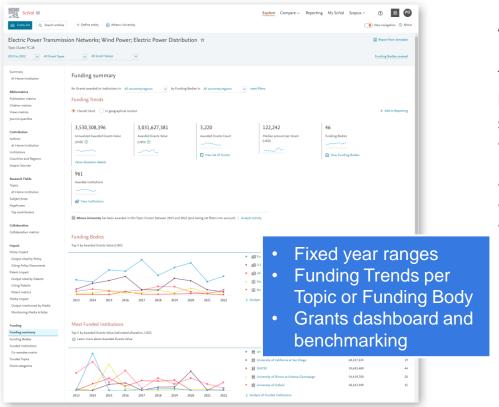
# **Demonstrations**



# Grants Module – US only



#### Funding landscape intelligence to support strategic planning and advance funding strategies



#### **Advance funding strategies**

The **Grants module** provides quantitative funding landscape insights to help advance funding strategies.

- Discover funding trends in priority areas and identify funding bodies active in these areas
- Identify the leading researchers and funding recipients
- Profile and understand peer strategies
- Explore adjacent fields attracting funding as potential areas for growth

# Policy documents

Overton

- Policy documents from Overton
- 485k policy documents
- 1,500 bodies
- 3.2 million output
- Available in the Impact Module
- Available across all entities
- 1996 onwards
- Updated weekly
- Full list of policies available

#### Example: Stellenbosch University, 2017 to 2022

1,029	1,933	295	
Policy Cited Scholarly Output ①	Citing Policy Documents ①	Citing Policy Bodies (i)	
View list of publications		by Policy Body Type Government 138 Think Tank 105 Intergovernmental Organization 50	
		Other	2
5.4%	2,742	51	
Policy Cited Scholarly Output (i) 1,029 of 19,208 publications	Policy Citations ①	Citing Policy Body Countries ①	

SciVal Impact Module

# Coverage of policies



- Policy data in SciVal is licensed from Overton weekly updates
- Overton is the world's largest searchable index of policy documents, guidelines, think tank publications and working papers
- Policy docs from 150 countries (see map)
- SciVal receives all policy docs with DOIs that map to Scopus
- 485k policy docs citing 2.5M unique scholarly outputs in SciVal

**1 - 29** (51)

**9** 30 - 139 (30)

9 145 - 354 (25)

9 360 - 1620 (23)

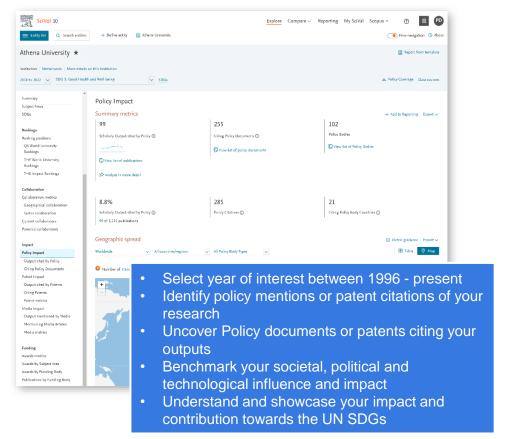
1662 - 136070 (23)



# Impact Module



#### Demonstrate the broader impact of your research on society with impact data, metrics and insights



#### Demonstrate your broader research impact

The **Impact module** enables you to uncover and highlight your societal, political and technological impact at the organization, research group and individual level.

- Identify policy mentions and patent citations to develop clear impact narratives for funding bids and case studies
- Discover research outputs and researchers influencing policy making or driving innovation who could represent collaboration opportunities
- Strengthen promotion and tenure applications with quantitative evidence of your research impact beyond citations
- Showcase your broader impact to the public, potential donors, governments and funding bodies
- Understand and showcase your impact in fields contributing to achieving the UN SDGs

# Report

How to create a simple **Report** in SciVal e.g. High-level template report

# Reporting



#### Update stakeholders, track progress and create, manage and organize your information

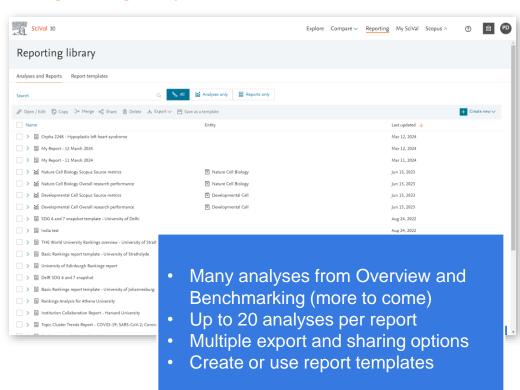
#### Reporting

Create <u>tailored reports</u> to update stakeholders, track progress and inform management decisions

The comprehensive reporting functionality in SciVal allows you to produce and share reports tailored to your organization's needs.

- Create analyses across all six of the SciVal modules
- Combine and edit your analyses
- Select and adapt a variety of predefined reporting templates from SciVal and customers
- Save your most used reports as templates
- Share reports with other SciVal users in your Institution

The reporting functionality ensures you can analyze and construct and model scenarios for entities such as researchers, research groups or Research Areas of interest.



# My SciVal

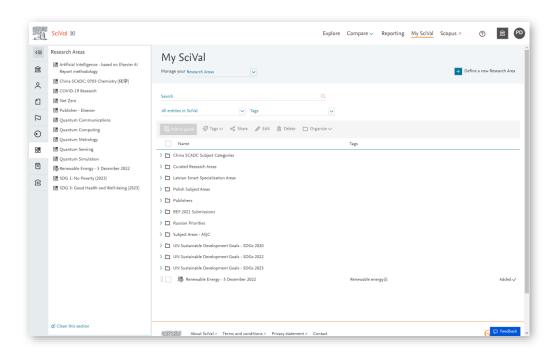


#### Update stakeholders, track progress and create, manage and organize your information

#### My SciVal

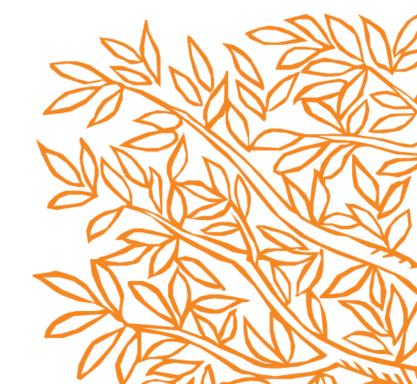
Use My SciVal to create, manage and organize your information

- Create, manage and organize your entities to make finding, sharing and analyzing them in SciVal straightforward.
- Build a group of researchers you want to evaluate and monitor
- Edit Research Areas by adding search terms of applying filters
- Add and modify tags such as department or project names to manage entities with ease
- Share entities with other SciVal users
- Download information about all Topics & Topic Clusters in a single spreadsheet





# SciVal Recent Enhancements in 2024



## 2024

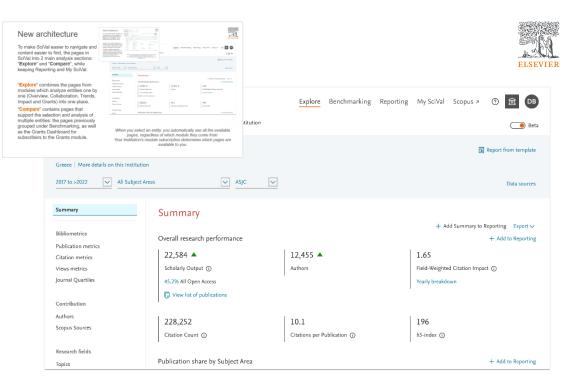
There have been two releases so far in 2024

#### New architecture

To make SciVal easier to navigate and content easier to find, the pages in SciVal into 2 main analysis sections: "Explore" and "Compare", while keeping Reporting and My SciVal.

"Explore" combines the pages from modules which analyze entities one by one (Overview, Collaboration, Trends, Impact and Grants) into one place.

"Compare" contains pages that support the selection and analysis of multiple entities: the pages previously grouped under Benchmarking, as well as the Grants Dashboard for subscribers to the Grants module.



When you select an entity, you automatically see all the available pages, regardless of which module they come from.

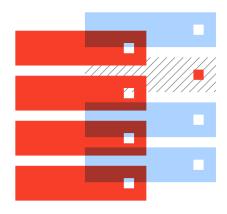
Your Institution's module subscription determines which pages are available to you.

## Big data pipeline migration in progress



#### 2024+

- Flexible year ranges
- Multi-select for Subject areas in Benchmarking and Impact
- More Subject classifications
- Flexible content type selection
- Larger entities with real-time computation
- Faster pre-computation
- Daily processing available throughout the week



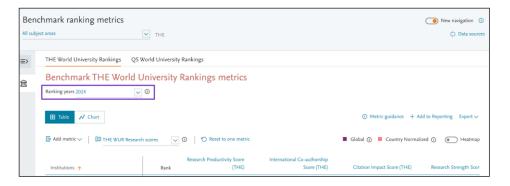
## 2024 Rankings

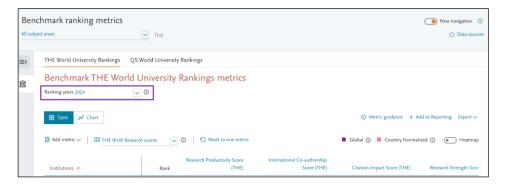
ELSEVIER

THE World University Rankings 2024 metrics are now available for Benchmarking (rankings metrics)

Compare Institutions using metrics from the THE World University Rankings 2024 (announced on September 27, 2023) in Benchmarking.

Create a comparison effortlessly using predefined metric sets, then export and generate reports with just a few clicks.





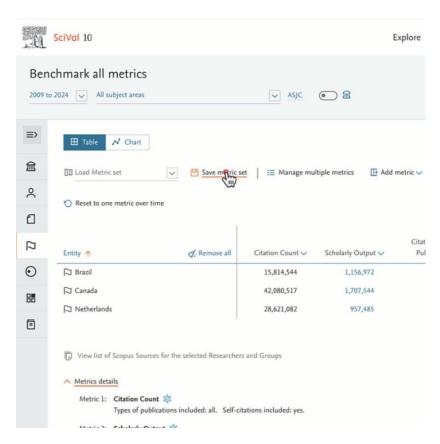
#### **Metric Sets**



Once you have populated your Benchmark (all metrics) analyses with the required metrics, you can now save the set as a template analysis to easily load next time you need it, removing the need to configure from scratch.

The 'Save metric set' button is available on the main analyses page, as well as in the multiple metrics management screen.

You can manage your metric sets in Settings, 'Metric Sets' tab.

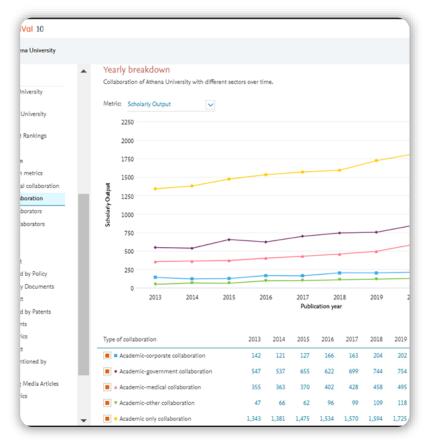


#### Sector collaboration

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It is now possible to analyze and explore the output and impact of academic collaborations with authors across <u>all sectors</u> (corporate, medical, government, other sector, or academic only) on the sector collaboration page.

The chart and table provide a yearly breakdown of the different cross-sector collaborations, illustrating growth or decline over time, as well as providing a direct comparison of the Scholarly Output and selected metrics.



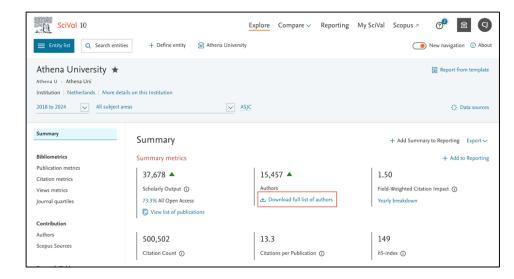
### List of authors



We've added an option to download a full list of authors for any institution in SciVal when you go to the Summary tab.

We've also made the option more obvious in the Authors, export option.

The spreadsheet not only contains a full list of the authors from the institution from the past 10 years, but also metrics such as the first and last publication years (so you get an idea on the Researcher's career stage and experience), along with the full h-index and other metrics.



## Getting help and SciVal Homepage

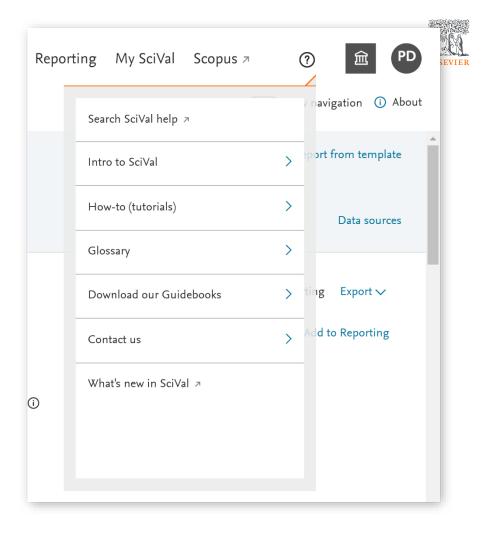
## Getting help

The spine menu will provide a line to help documentation

https://service.elsevier.com/app/home/supp orthub/scival/

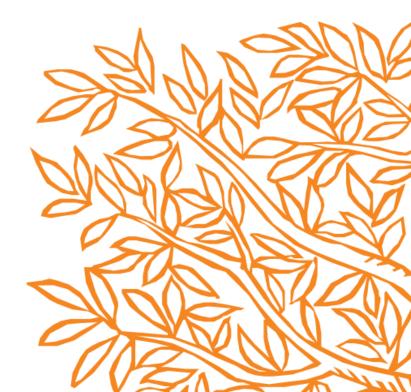
 Contact me if you have any problems and I will answer the question or find someone who can help you.

Dr. Win (y.Klinthongchai@elsevier.com)





# Q&A

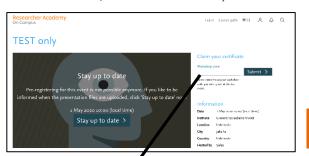








1. Use this link/QR code to claim your certificate:





https://bit.ly/Thailand-1Scival2024

2. Once you fill in the survey, use the following code to claim your certificate

### **YPPYNX**





#### Note:

If you have not registered with Elsevier ID, you will be prompted to do so. Please do register yourself using institutional/personal email address.





# Thank you

#### Dr Yoottapong Klinthongchai (Dr Win)

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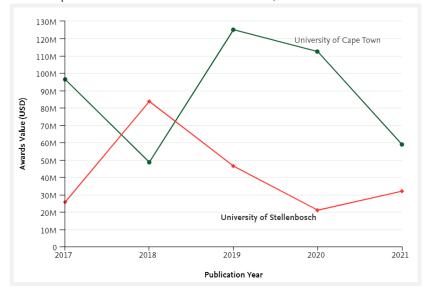


- SciVal covers 20 funding bodies
- Data relates to Counts & Value of previous awarded grants
- From 2009 to present, updated weekly
- Assigned to institutions based on the PI
- Always USD
- Available for Institutions and Country

#### Examples:

- Wellcome Trust (WT)
- National Institutes of Health (NIH)
- National Science Foundation (NSF)
- Horizon 2020 Framework Programme
- Australian Research Council (ARC)
- National Health and Medical Research Council (NHMRC)

#### Example: SU vs UCT Awarded Grants, 2017 to 2022



SciVal Benchmarking (Awarded Grants)

