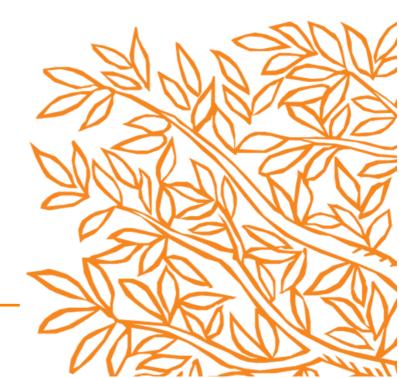


SciVal overview

Updated version, September 12th, 2023



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1. Introduction

Elsevier provides information and analytics that help institutions and professionals progress research, advance healthcare and improve performance for the benefit of humanity. We're committed to helping policymakers, research funders, research institutions and researchers to strategically plan and effectively invest to maximize research performance and impact.

To help generate insights to support their evidence-based decision making, SciVal provides access to the research performance of over 21,200 research institutions and their associated researchers from 234 nations worldwide.



Through unparalleled power and flexibility SciVal helps you:

- Generate insightful analytical reports based on the curated, comprehensive and authoritative data source that is Scopus using an array of simple and more sophisticated metrics
- Access to the research performance of research institutions and their associated researchers worldwide allowing you to perform simple analyses, take several metrics to create uniquely tailored analytical reports or analyze and benchmark
- Profile, analyze and benchmark global research activities through Topics, curated research areas such as the UN SDGs, user-defined research areas or Publications Sets
- Access an array of simple and more sophisticated metrics, including the bibliometrics used in THE WUR, THE Impact and QS WUR Rankings
- Analyze and scenario model based on any researcher or groups in the world, drawing upon full publication history (thanks to our Scopus Author Profiles!)

Content

SciVal is built on the strong foundation of Scopus data, the most comprehensive, expertly curated abstract and citation database of enriched and linked scholarly literature. Scopus records in SciVal include 60+ million records from 1996 onwards (in Benchmarking module)

SciVal covers data from over 25,000 serial titles from 7,000+ publishers worldwide, enabling access to more than 300 trillion metric values which are updated weekly.

Combined with funding data, patent data from PatentSight and media mentions from Newsflo, SciVal offers an array of simple and more sophisticated metrics which can be combined to evaluate research activities from multiple perspectives and so enhance evidence-based decision making.

Key benefits

SciVal provides insightful analyses to inform research strategy and enhance research success. Users across a research organization from the Vice Provost for Research, Deans and faculty members to the Director of Research Services can configure the analyses and visualizations in SciVal to help them answer questions across key research challenges such as:



- How can the data and analyses inform our strategic research planning and setting of our institution's objectives?
- What are our emerging, growing and niche areas of research expertise?
- How can the data and analyses help us understand and benchmark our position in University Rankings to inform our plans and manage our reputation?



- How can I identify expertise on and beyond campus to help with Team building efforts?
- How can I identify existing and potential collaboration partners, globally and across sectors?
- How can I identify key researchers in a specific Topic or field to develop and strengthen targeted funding bids?



- What metrics can I use to demonstrate my expertise and excellence in my grant applications?
- How can we identify the key researchers in a specific Topic or field to strengthen our funding bids?
- What corporations have been investing in research areas where we are particularly strong and could represent a funding opportunity?



- How can I showcase and benchmark my institutions expertise, outputs, impact, influence and overall contribution to specific fields such as the UN SDGs?
- How can we demonstrate and benchmark the impact or influence of our research teams in funding bids?
- What is the impact of our corporate collaborations?

1.1 Use cases and scenarios

SciVal provides a powerful and flexible management dashboard and advanced analytical capabilities to support the needs of different users.

- Senior leadership to inform strategic planning and decision making; analyze, track and
 evaluate research performance; understand their institution's research strengths; benchmark;
 assemble the right teams and help increase funding application and success rates.
- Research administrators, research development professionals and data analysts to
 create management-level reports; accelerate institutional and cross-institutional collaboration;
 support grants applications; find the right opportunities; demonstrate researchers' expertise and
 connect them with one another.
- Department heads to retain and recruit the best researchers; test scenarios, gain an objective
 view of department performance; benchmark; highlight success and accomplishments; help
 increase funding applications and success rates; identify pockets of well-funded research.
- Academic faculty and Researchers to find literature, raise visibility and highlight
 achievements; expand their networks; locate collaborators and mentors; identify high-momentum
 Topics which are more likely to receive funding; help increase funding applications and success
 rates; identify pockets of well-funded research; benchmark; highlight success and
 accomplishments.
- **Librarians** to deepen their understanding of research topics and sources, enabling them to better support the institution.
- Communication offices to stay current on core research activities; support effective outreach
 to publicize researchers and teams, their success and accomplishments; and channel media
 requests to appropriate subject experts.
- Technology transfer offices to promote research excellence to industry partners; identify
 faculty who can lead or support corporate initiatives; and match research expertise with industry
 needs.
- **Students** to find literature, possible mentors and study their expertise; and identify new journals and authors to follow and research topics to explore.

2. Data

Information provided by SciVal is drawn from the **Scopus** dataset, and patent-citation information from **5 of the world's largest patent offices**, which covers 27 million patents

2.1. Data sources for publications: Scopus

Scopus' records in SciVal include (as of September 12, 2023):

- More than 65 million records, going back to 1996 (accessible only in Benchmarking module)
- In other modules, you can analyze data for the following fixed periods:
- 3 complete years: e.g. 2020 to 2022
- 3 complete years plus current year: e.g. 2020 to 2023
- 3 complete years plus current year, plus articles in press for next year: e.g. 2020 to >2023
- 5 complete years: e.g. 2018 to 2022
- 5 complete years plus current year: e.g. 2018 to 2023
- 5 complete years plus current year, plus articles in press for next year: e.g. 2018 to >2023
- 10 complete years: e.g. 2013 to 2022

2.2. Data sources for patents:

- · WIPO (World Intellectual Property Organization) entity groups
- USPTO (United States Patent and Trademark Office)
- EPO (European Patent Office)
- JPO (Japan Patent Office)
- IPO (Intellectual Property Office), UK

2.3. Journal subject classifications

- ASJC All Subject Journal Classification from Scopus.
- FORD Field of Research and Development (FORD) Classification Used in the Frascati Manual
 of the Organisation for Economic Co-operation and Development (OECD).
- QS Quacquarelli Symonds Classification: This classification is used in QS World University Rankings. It covers 5 subject areas and 46 subjects.
- THE Times Higher Education Classification: This classification is used in the THE World University Rankings. It covers 11 subject areas mapped to ASJC.

2.4. Grant Data

SciVal includes data from 12 funding bodies listed below, from 2009 onwards. Grants are assigned to countries, institutions and subject areas. Benchmarking module contains information available about 553,000 individual awards with total value more than 236 billion US dollars. Overview module contains data for 2013-2018+ with 259,000 awards for 108 billion USD in total.

Funding Body	Country
National Institutes of Health (NIH)	United States
National Science Foundation (NSF)	United States
Engineering and Physical Sciences Research Council (EPSRC)	United Kingdom
Wellcome Trust (WT)	United Kingdom
Medical Research Council (MRC)	United Kingdom
Biotechnology and Biological Sciences Research Council (BBSRC)	United Kingdom
Natural Environment Research Council (NERC)	United Kingdom
Economic and Social Research Council (ESRC)	United Kingdom
Science and Technology Facilities Council (STFC)	United Kingdom
Arts and Humanities Research Council (AHRC)	United Kingdom
National Health and Medical Research Council (NHMRC)	Australia
Australian Research Council (ARC)	Australia
Seventh Framework Programme (FP7), Horizon 2020 Framework	European Union
Programme	
Natural Sciences and Engineering Research Council (NSERC), Canadian	Canada
Institutes of Health Research (CIHR), Canadian Institutes of Health	
Research (SSHRC) & Canada Foundation for Innovation (CFI)	
Japan Society for Promotion of Science (JSPS)	Japan
National Natural Science Foundation of China (NSFC)	China

2.5. Update frequency

Publication and metrics are updated approximately every two weeks to keep the data consistent with Scopus, and to provide up-to date information to track and monitor progress. Usage/views data from Scopus are updated monthly. Patent data are updated annually.

SciVal offers a broad range of simple as well as more sophisticated metrics, including Snowball metrics which have been robustly and clearly defined in collaboration with higher education institutions to ensure responsible, confident and appropriate use, http://www.snowballmetrics.com/.

2.6. Metrics

Economic Impact

- Academic-Corporate Collaboration
- Academic-Corporate Collaboration Impact
 Citing-Patents Count
 Patent-Cited Scholarly Output
 Patent-Citations Count
 Patent-Citations per Scholarly Output

Published metrics

- Scholarly Output
 Subject Area Count
 Scopus Source Title Count
- h-indices (h, h5, g, m)

Citation metrics

- Citation Count
- Field-Weighted Citation Impact
- Outputs in Top Percentiles
- Publications in Top Journal Percentiles
- Citations per Publication
 Cited Publications
 Number of Citing Countries
- Collaboration Impact
- Academic-Corporate-Collaboration Impact
 Citing-Patents Count
 Patent-Cited Scholarly Output
 Patent-Citations Count
 Patent-Citations per Scholarly Output

Collaboration metrics

- Collaboration
- Collaboration Impact
- Academic-Corporate Collaboration
- Academic-Corporate Collaboration Impact



Viewed / Usage metrics

- Views Count
- Views per Publication
- Field-Weighted Views Impact

Societal Impact / Media metrics (for print and online sources)

- Mass Media
- Media Exposure
- · Field-Weighted Mass Media

Awarded Grants

Awards Volume

3. Product Specification

SciVal offers integrated modules with transparency and consistency of data and metrics across the platform. Each module covers a theme which can live individually or combined with seamless navigation across the platform to support connected workflows.

3.1 Modules

Overview

Access comprehensive research performance summaries of any desired research entity; identify their unique research strengths and multidisciplinary research areas.

The Overview module provides a high-level overview of your institution's research performance based on publications, citations, and collaboration. You can also:

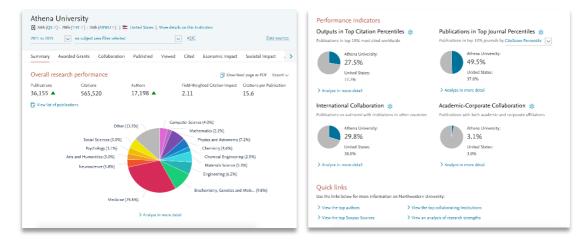
- Review the performance of over 14,000 research institutions and their associated researchers from 230 nations worldwide;
- Define your own Research Areas, Publication Sets, Groups of Researchers or Institutions, and review their performance;
- Filter data by a subject area, export it or add it to a report;
- Review the underlying list of publications behind every publication count.

Available tabs:

- Summary: research performance of your institution, author(s), publication set or topic at a glance;

Research Intelligence

- Topics & Topic Clusters: Comprehensive list of Topics where your Institution or author is active or most visible (Key Contributor). For each Topic you can see input indicators for prominence calculation – citation counts, views counts and average Citescore;
- Rankings: provides robust information and transparency around the bibliometrics used in the THE and QS World University Rankings and THE Impact Ranking, so you can understand, analyze and benchmark your institution's position based on these bibliometric drivers (data available for the ranked institutions).
- Collaboration: results of different types of collaboration of your institution (international, national, institutional, corporate); list of top 10 institutions you collaborate with;
- Published: Output statistics, outputs in Top Citation Percentiles, publications in Top
 Journal Percentiles, most cited publications; breakdown of publications by subject areas
 and subjects compared with respective average FWCI; publications in top journal
 quartiles/percentiles;
- Viewed: Views counts, FWVI;
- Cited: Citations statistics;
- Authors: Top 500 authors of your institution with comprehensive publications and citations statistics;
- Economic Impact: Patent-articles citations;
- Societal Impact: print and on-line media mentions;
- Awarded Grants: USD value and count of awards



Benchmarking

The Benchmarking module lets you evaluate the research performance of research entities in comparison to peers or any other entity.

You can choose from any of the available metrics, zoom in on a year range or subject area, and add analyses to reports. This enables you to compare your institution with others, benchmark its progress, and analyse developments in fields over time.

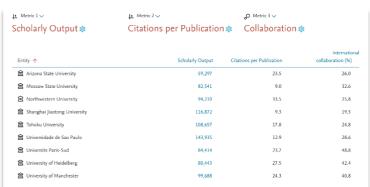
 Perform in-depth analysis of your organization or research group to inform your specific objectives by selecting any subject area and combination of metrics;

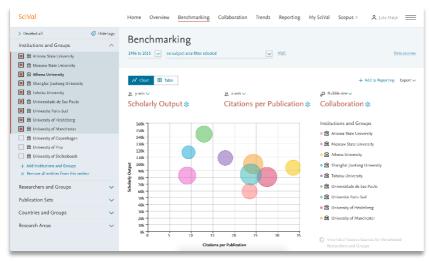
Research Intelligence

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- Exclude self-citations, choose selected content types of interest such articles, reviews, books or conference proceedings, to gain a more nuanced picture;
- Data is available from 1996 to present, including articles in press for next year
 Export data from the table view or charts to work with offline







Collaboration

The Collaboration module allows you to explore and evaluate current and potential research collaborations of institutions globally. Start with a worldwide view of the collaboration landscape and then zoom in to individual collaborating institutions and researchers anywhere in the world.

For each institution you can see comprehensive details: number and names of people involved from each side, FWCI for each institution and for publications that were co-authored, as well as potential collaboartors.

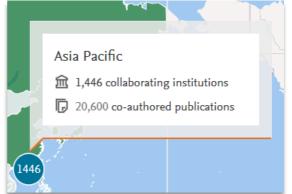
You can use this module to:

- Identify new opportunities for collaborative partnerships
- · See which institutions and researchers your institution are currently collaborating with
- Filter data by a specific subject area, such as chemistry or biomedical sciences or even by specific subject like organic chemistry or spectroscopy

Export data and review the underlying list of publications behind every publication count







Trends

The Trends module allows you to comprehensively evaluate fields of interest through Topics, Topic Clusters, bespoke Research Areas and Publication Sets. The module utilises citation and usage data, to help you discover key researchers or potential rising stars for example.

Study documents that form a Topic and find semantically related Topics. Usage information complements citation data to give a more complete picture of the research fields of interest.

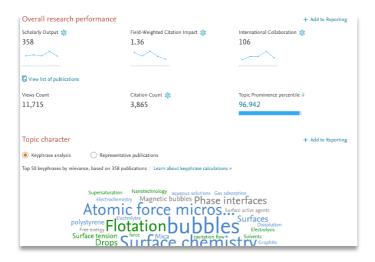
- Define a topic / area of interest or pick a pre-defined one provided within SciVal.
- View the overall performance of the field of interest, then dig deeper into the activity and impact of the institutions, countries, authors and journals involved and infom your research strategy or decisions accordingly.
- Analyse individual or group contributions to the subtopics within the Research Area through a keyphrase analysis.
- Use citation and publication data as well as usage data from Scopus to complement your

analysis.

 Review the underlying list of publications behind every publication count and export tables and graph.

Available tabs:

- Summary: Key performance indicators for the Topic: output & citations dynamics for the last
 5+ years, list of publications included, key terms cloud, top 5 researchers, Institutions,
 Countries and Sources.
- Institutions: Top 100 organizations that are most active within the Topic.
- Countries: List of countries that are active within selected topic
- Authors: Top 500 researchers that are active within selected topic. List can be filtered by region/country and ranked either by scholarly output, or FWCI or other metric.
- Scopus Sources: top 100 journals or conferences or other sources that actively publish
- Keyphrases: semantic analysis of publications that highlights key terms, methods and phrases that are relevant for the Topic.
- Related Topics (Topic analysis only): Top 50 semantically related Topics, with 6-year publication dynamics and prominence indicator.
- Topics (Topic Cluster analysis only): Explore the Topics which make up the Topic Cluster of interest further.



Grants

SciVal Grants provides funding landscape data and insights to maximize your funding potential. Through access to comprehensive intelligence on the external funding landscape across research fields SciVal Grants supports strategic planning and helps advance funding strategies. From understanding funding trends in priority research fields to identifying key contributors and funding bodies investing in your areas of interest, quantitative insights can help you advance your funding

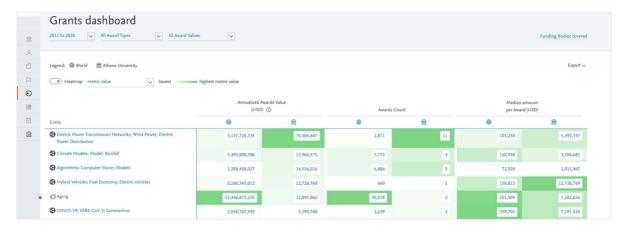
strategies and research programs.

SciVal Grants provides access to and enables:

- Analysis of funding landscapes through awarded grants information from a curated list of Funding Bodies
- Funding insights in fields of research you define, be they areas of strength, related or adjacent fields
 - Customized research fields can represent a research group, department or school/faculty
- Access to the funding profiles of peer Institutions to investigate:
 - relative funding success with key funding bodies
 - o funding success in your priority research fields

This helps you:

- 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



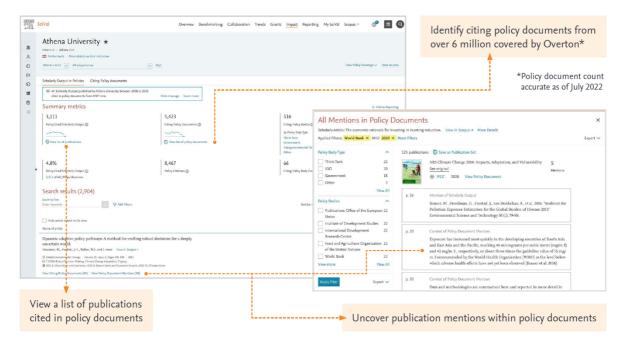
Impact

The SciVal Impact module helps you demonstrate the broader impact of your research on society with impact data, metrics and insights. SciVal Impact links policy documents in Overton, the world's largest searchable index of policy documents, guidelines, think tanks and working papers with policy documents from 150 countries, to authoritative Scopus data to uncover citations of research in policy documents. By providing access to the research outputs being cited in policy documents, as well as the underlying mentions, the Impact module helps research organizations:

- Identify and understand the broader impact of their research programs
- Collect evidence to showcase and communicate the broader impact of their research on society by providing Policy Citations uncovering the mentions of their research in policy

documents.

- Enhance Recruitment, Promotion and tenure processes, grant applications and development impact case studies for national assessments.
- Enhance strategic planning processes by providing metrics, insights and benchmarks around the broader impact of their research on society.



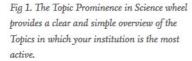
3.2 Identify prominent research Topics

You are now able to run a **comprehensive portfolio analysis** to see which Topics your institution is currently active in, and which Topics have high momentum, which is a potential indicator of areas more likely to be well-funded (https://www.sciencedirect.com/science/article/pii/S1751157717302110). It will provide insight into which researchers are active in those Topics, which Topics your peers and competitors are active in and the related Topics of which you should be aware.

Topics are ranked by Prominence, an indicator of the momentum of a particular field.

The development of Topic Prominence in Science is based upon extensive research and customer feedback. Unlike other research analytics solutions, which only analyze for example, top-cited articles, we take the entire world of research as captured through Scopus into account. Our ground-breaking, new technology takes into consideration 95% of the articles available in Scopus and clusters them into nearly **96,000 global, unique research topics** based on citation patterns.





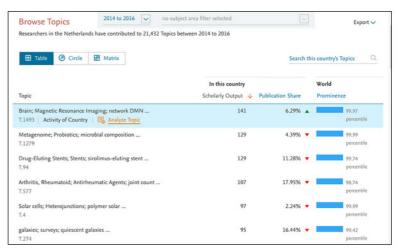


Fig 2. Each Topic is uniquely labeled with a 'T' number which describes a particular research area. You are able to sort it by Scholarly Output, publication share and see the overall World Prominence of a particular Topic.

3.3 Pre-defined and self-defined entities

SciVal provides comprehensive access to the pre-defined research performance of over 14,000 research institutions and their associated researchers from 230 nations worldwide.

- Besides the countries and institutions in SciVal, you can also define your own institution based on Scopus affiliation information, groups of institutions and groups of countries.
- Several groups of institutions and countries are made available such as US states, EU28,
 German Bundesländer, Russell group, 5-100 Universities in Russia and more.
- Self-defined research entities can also be created to replicate your faculty structure, research teams and groups; by grouping publications and researchers across the world.

3.4 Research Areas

SciVal offers the flexibility to allow users to create their own bespoke research areas representing their definition of a field of research. It can represent a strategic priority, an emerging area of research, or any other topic of interest using the components below:

- Search terms
- Institutions and groups of institutions
- Countries and groups of countries
- Journals and journal categories

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Research Areas will be made available across the platform to monitor and track performance, benchmark and analyse relative strengths and weaknesses, and to explore new and potential collaboration opportunities and can be fully analyzed in the SciVal Trends module.

3.5 Profile Refinement Services

To create precise, current and reliable publication lists for each author profile in SciVal, Elsevier offers an optional paid service that employs both automatic and manual data review by our dedicated Research Intelligence Profiles Team.

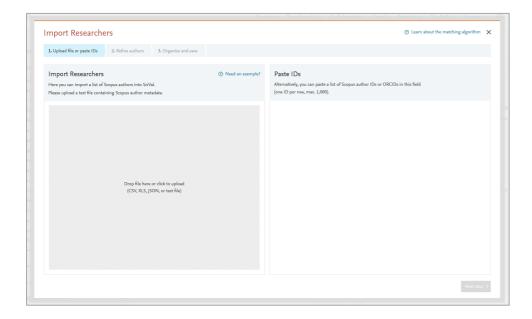
Required Fields:

- First Name
- Middle Initial (blank, if none)
- Last Name
- Cluster assignment (name of cluster(s) in which Researcher should be displayed)

3.6 Easily create groups of Researchers in SciVal

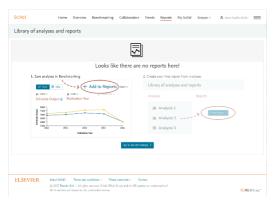
SciVal gives you the flexibility to analyze any Researcher or group of Researchers from any institution, allowing you to create for bespoke groups or your institution's current hierarchy with a few steps. You can then analyze and evaluate the researchers and groups against each other to inform decision-making and strategy development.

The creation of departmental structures in SciVal can also be done through a direct import from <u>Pure</u>, by pulling data in from other systems or by creating your own organizational hierarchy via a master spreadsheet.



3.7 Reporting

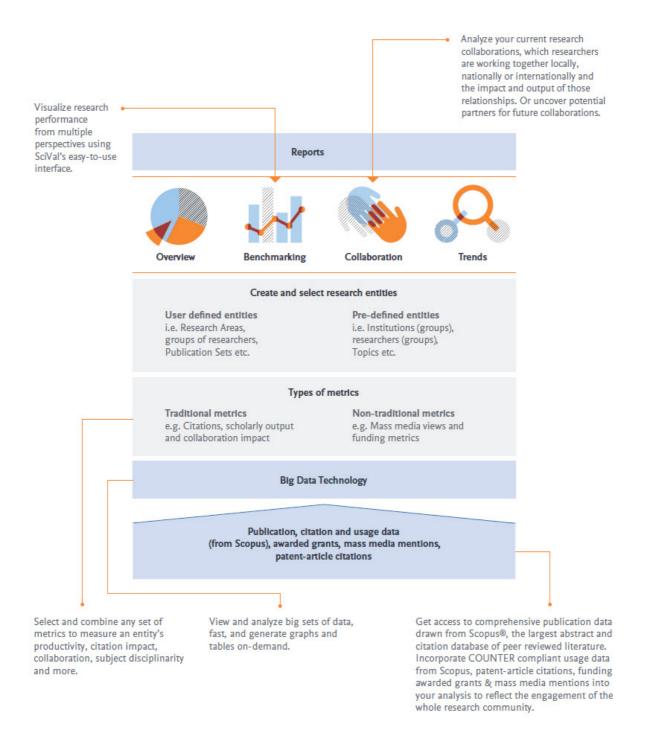
The Reports section in SciVal allows you to create rich Reports specifically tailored to support your institution's distinct research strategy. Select entities, metrics and Research Areas in the Benchmarking and Overview modules to save as Analyses and use in your custom-made Reports. Alternatively, you can quickly gain a balanced overview of Researchers, Institutions and Topics by using one of the reporting templates as a starting point.





4 Technology that supports SciVal

Using advanced data analytics and super-computer technology, SciVal can process large amounts of data to generate powerful analyses and visualisations on demand. The intuitive interface allows you to instantly analyse over 50 million publication records from more than 22,000 journals of 5,000+ publishers worldwide. With access to more than 280 trillion metric values, SciVal is able to quickly provide context to analyses and to generate powerful data visualizations to inform your decision making processes.



Integrated modular platform	Visualize research performance from multiple perspectives using SciVal's intuitive interface.
Create and analyze research entities	Test scenarios by modeling Research Areas or groups such as newly evolving interdisciplinary Research Areas, groups of researchers to apply for a large-scale grant program, or potential departmental reorganizations.
Select simple or sophisticated metrics	Select and combine any set of metrics to monitor research entities performance or select a reporting template to gain a balanced overview quickly.
Big Data Technology	View and analyze large datasets, quickly, and generate visualizations and tables on-demand.
Scopus publications and citation data	Get access to comprehensive publication data drawn from Scopus, the largest abstract and citation database of peer reviewed publications.
Scopus usage data	Incorporate COUNTER compliant usage data from Scopus into your analysis to reflect the engagement of the research community.
Patent article citations data	Get a proxy for innovation and knowledge transfer with patent-article citations – i.e. specific references in patents to published research – from five of the world's largest patent offices (WIPO (World Intellectual Property Organization), USPTO (United States Patent and Trademark Office), EPO (European Patent Office), JPO (Japan Patent Office) & IPO (Intellectual Property Office, UK)

5 Access methods

A Username and password is required to access SciVal. An institution can select from two types of access methods to register their users:

- IP range access
 - Any user can register from www.scival.com within the institution's IP range or access
 SciVal using ScienceDirect and/or Scopus username/password
 - Access to SciVal is limited within the institution's IP range
- Username/password access
 - o Elsevier will issue bulk registrations URLs to the institution's administrator
 - Users can register themselves or associate their ScienceDirect/Scopus username and password using the bulk registration URLs
 - o Registered users can access SciVal anywhere (not restricted by IP range)

SciVal also has an API in order to help you integrate its data into your own systems. More info available here: https://dev.elsevier.com/scival_apis.html

6 Browser requirements and settings

Supported browsers

We strive to fully support the latest full versions of Mozilla® Firefox® and Google Chrome™ on Microsoft Windows and Mac OS X. The following versions were tested for the current SciVal release:

- Firefox version 97.x
- Chrome version 98.x

SciVal also fully supports the following browsers running on Microsoft® Windows operating systems:

Microsoft Internet Explorer version 11

SciVal also fully supports the following browsers running on Mac OS X:

Safari 15

Note that:

- Other operating systems and browsers may also be able to access Elsevier products;
 however, the Elsevier E-Helpdesk cannot provide expert advice or technical support to solve problems you may encounter when using these systems.
- Beta or test versions of browsers are not supported.
- Mobile browsers are not supported.

7 Elsevier's Support Team

To ensure a smooth and successful roll-out, Elsevier will support your university by providing a professional team that will be dedicated to your implementation and training needs:

- Account Manager:
- Research Intelligence Solutions Sales Manager:
- Research Intelligence Customer Consultant:
- Other Customer Consultants are available upon request depending on user requirements

Training

In addition to setting up the proposed services, the team will coordinate with you to schedule training for the University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca users, which will be delivered online and face-to-face, onsite, depending on COVID-related limitations.

Ongoing support

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Our Customer Consultants are generally available during office hours to support your users with dedicated requests via phone or e-mail, also a person in charge (curator) will be assigned once the agreement is signed.

Educational and Promotional Materials

We will also provide you with a variety of materials that will not only assist you with getting the most out of SciVal but will also help you market it to your constituents and encourage usage.