Thomson Reuters – InCites

Nixon, William J.; Lipitakis, Evangelia A. E. C.
2014

Dostupný z http://www.nusl.cz/ntk/nusl-175797

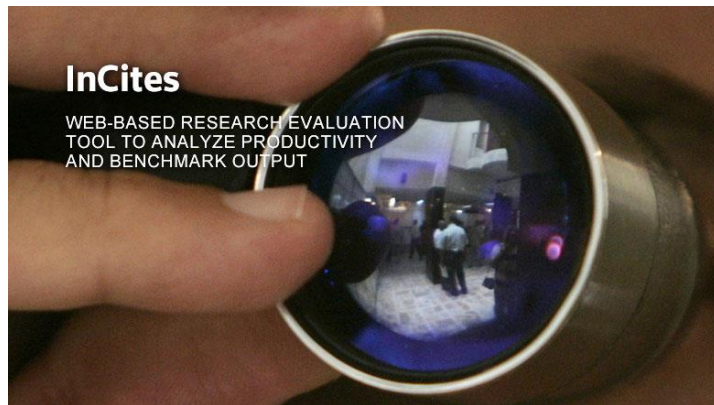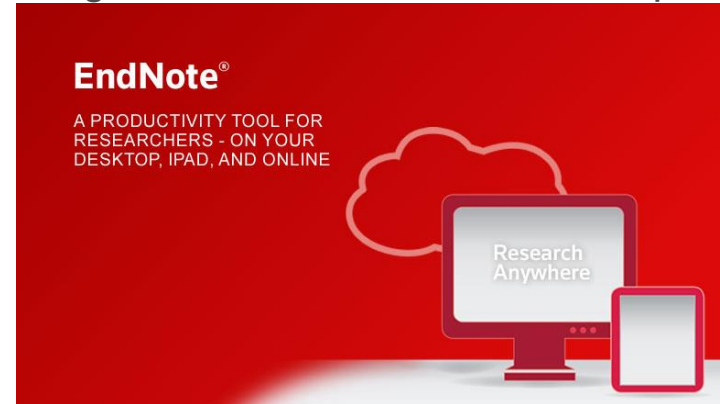**THE USE OF THOMSON REUTERS RESEARCH ANALYTIC RESOURCES IN ACADEMIC PERFORMANCE EVALUATION**

DR. EVANGELIA A.E.C. LIPITAKIS
OCTOBER 2014, PRAGUE

Thomson Reuters:
Solutions Portfolio to Seamlessly Support Research

Discover Scholarly Output

Organize References & Write Papers

Web of Science

THE WORLD'S MOST TRUSTED CITATION INDEX
COVERING THE LEADING SCHOLARLY LITERATURE

EndNote®

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RESEARCHERS - ON YOUR
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Research Anywhere

InCites

WEB-BASED RESEARCH EVALUATION
TOOL TO ANALYZE PRODUCTIVITY
AND BENCHMARK OUTPUT

CONVERIS

End-to-end research information
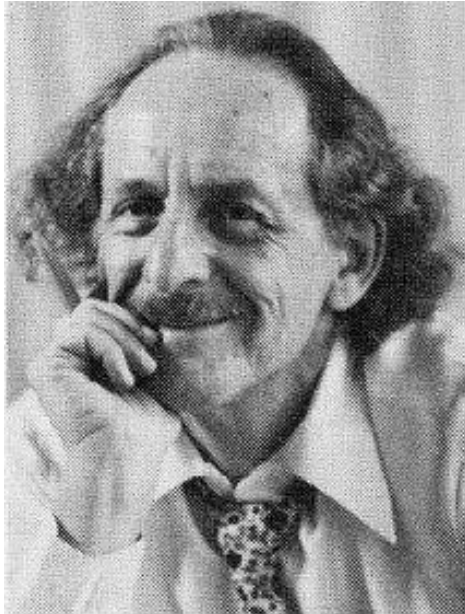management system

Benchmark & Analyze Performance

Manage & Report on Scholarly Activity

Eugene Garfield's "Association Of Ideas Index"-1955

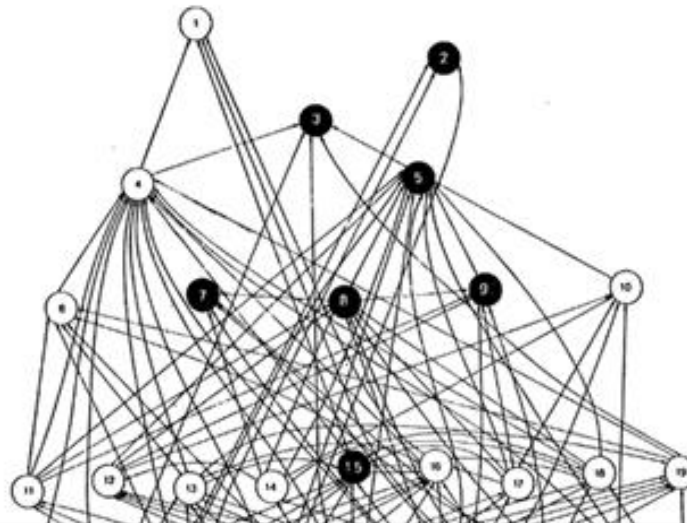Science, 122(3159), p.108-11, July 1955.

Citation Indexes for Science

A New Dimension in Documentation through Association of Ideas

Eugene Garfield

50th Anniversary Science Citation Index

Web of Science is the "web" presentation of journal citation indexes developed five decades ago by Dr. Eugene Garfield, founder of ISI (now Thomson Reuters SSR) and an icon in the realm of scholarly information

Web Of Science Online Citation Database

SELECTIVE......YET COMPREHENS

- **"Multidisciplinary" coverage**
  - enable to analyze the whole context of scientific research

- **"Multiyear" coverage**
  - enable to analyze the history and development of sciences

- **"Cover to Cover" policy**
  - enable to follow the flow of a topic regardless of communication type

- **"ALL Authors, ALL Addresses"**
  - enable to analyze by author name, by institution

- **"ALL Cited References"**
  - enable to perform analyses on literature that is not indexed

Selection Process For The Web Of Science Core Collection

Four Points of Evaluation

| Publishing Standards | Editorial Content | International Diversity | Citation Analysis |

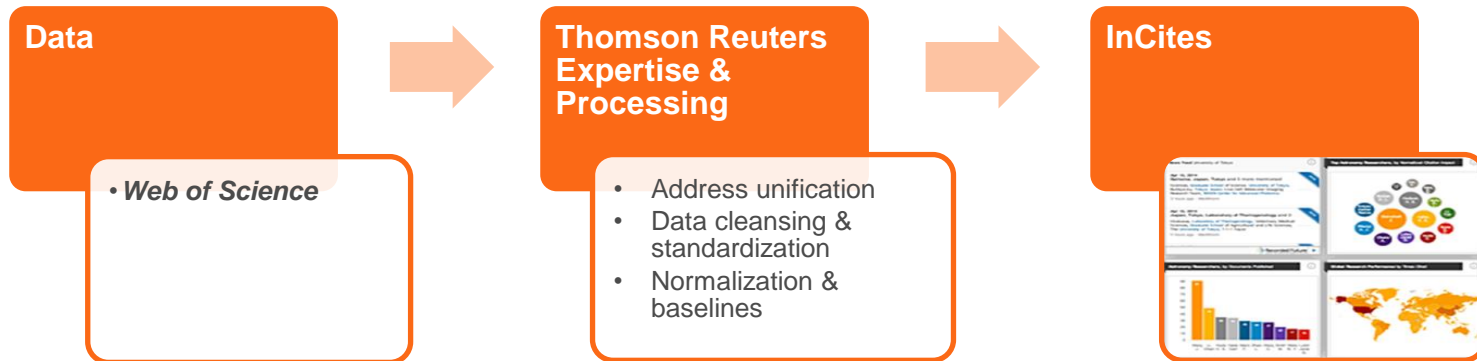| 12500 selected Journals | 12000 annual selected conferences | 53000 selected books |

Applications of Bibliometric Analysis

1. Quantification:

- Data reduction (extracting essential information)
- Data cleaning and data disambiguation

Data

- *Web of Science*

Thomson Reuters Expertise & Processing

- Address unification
- Data cleansing & standardization
- Normalization & baselines

InCites

- For more than four decades Thomson Reuters has provided a wide range of tools and services supporting research evaluation.

- Our specialist work with Web of Science data and ensure maximum standardization and unification before delivery to customers.

- Not just simple counts and averages, but real metrics founded on baselines for comparison and normalized statistics.

Applications of Bibliometric Analysis

2. Measuring:
- What *can* and *what* should be measured?
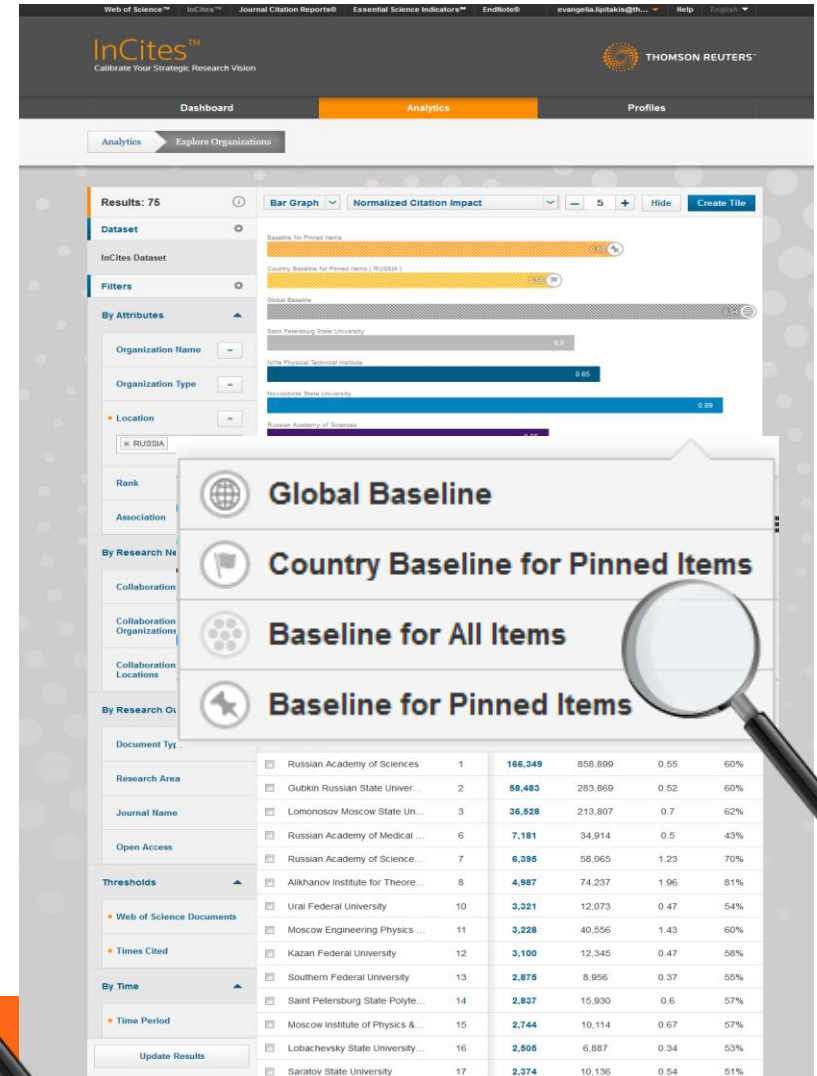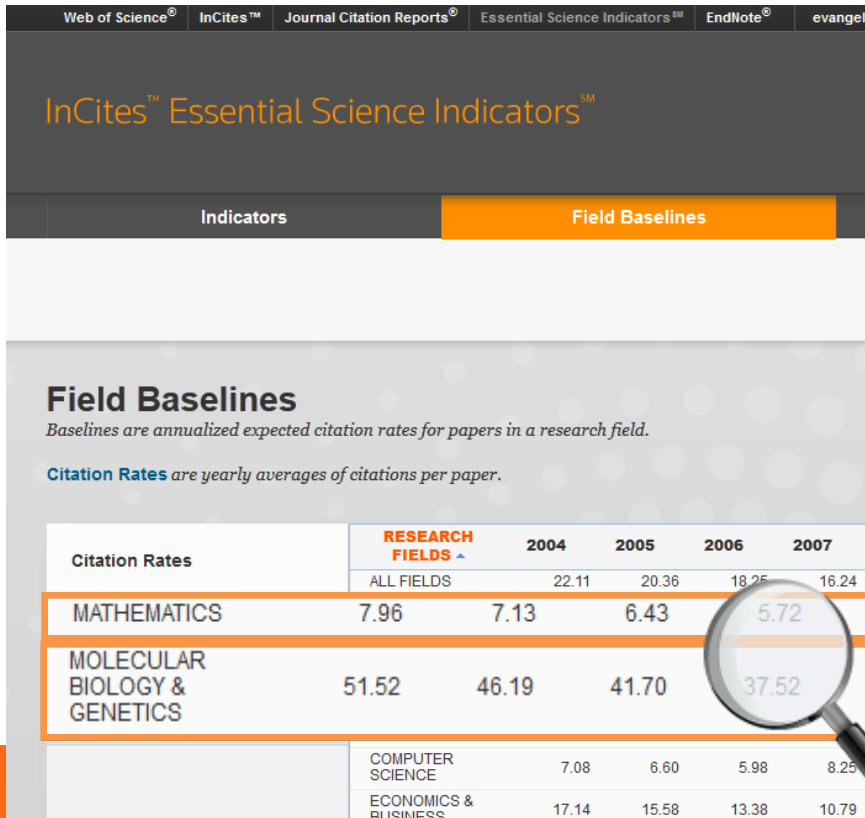- What are appropriate measures for the purpose?

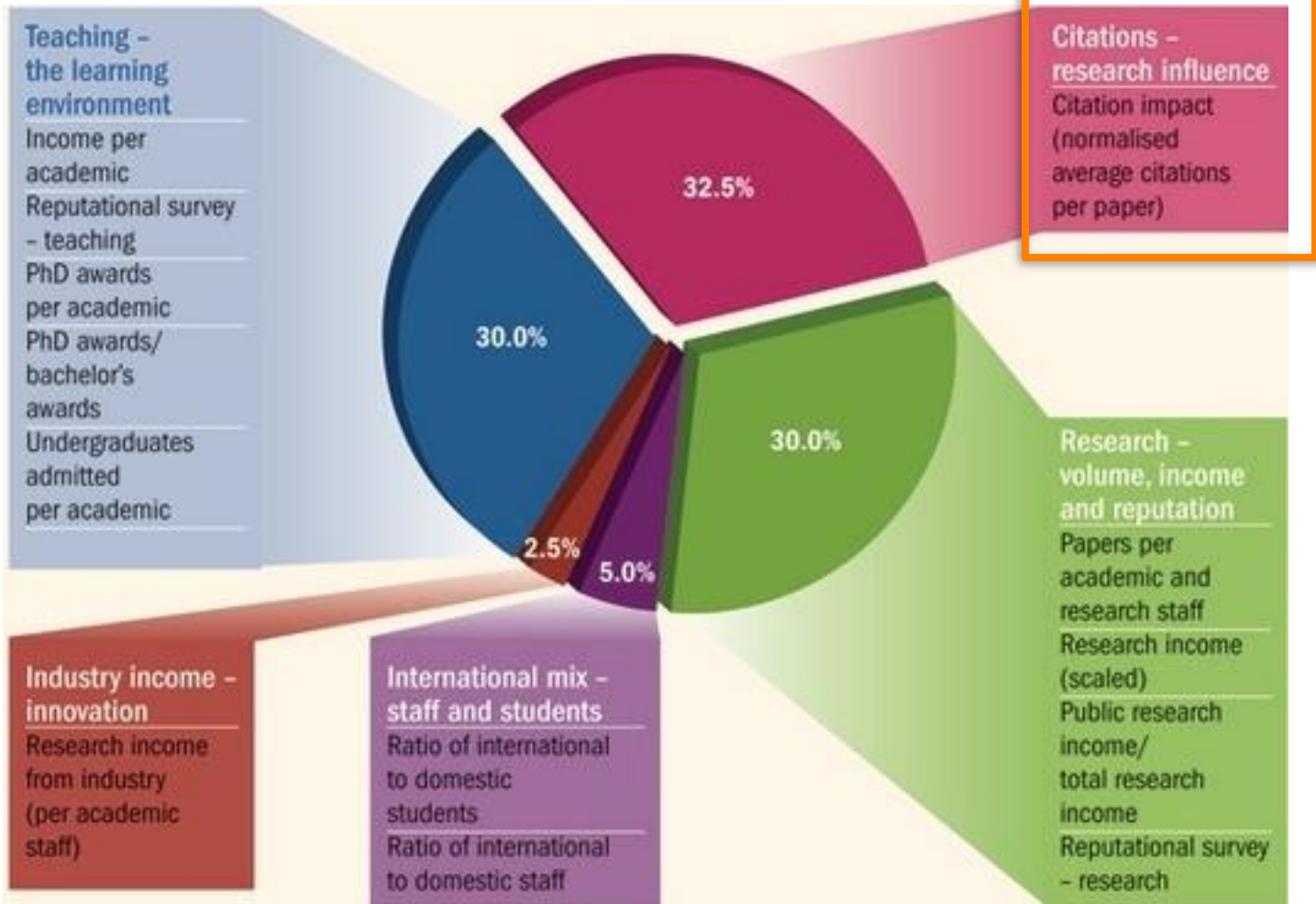| Productivity and Impact	• *Fractional Counting* • *% Open Access* • *Grants* •*Self-Citations*	• *Patents* • *h-index* • *Citation Impact*	•*Impact Relative to Country* •*Impact Relative to Area* •*Impact Relative to World*
Normalization	• *Normalized Citation Impact*	• *Normalized Citation Impact – Country Adjusted*	•*Journal Normalized Citation Impact*
Top Performance and Scientific Excellence	• *Hot Papers* • *Highly Cited Papers* • *ESI Most Cited* • *THE Ranked*	• *% Documents in 1%* • *% Documents in 10%* • *Average Percentiles* • *Average Quartiles*	• *Research Fronts* • *Co-citations* •*Bibliographic Coupling* • *Baselines*
Scientific Collaborations	• *International Collaborations*	• *% International Collaborations*	• *% Industry Collaborations*

Applications of Bibliometric Analysis

3. Benchmarking

- Comparison (like with like)
- Putting data into context
- Consider limitations

Applications of Bibliometric Analysis

4. Presentation and interpretation

- Visualizations + interpretation of observations
- Linking bibliometric indicators to results of other methods

THE WORLD UNIVERSITY RANKINGS

POWERED BY
THOMSON REUTERS

Teaching –
the learning
environment
Income per
academic
Reputational survey
– teaching
PhD awards
per academic
PhD awards/
bachelor's
awards
Undergraduates
admitted
per academic

Citations –
research influence
Citation impact
(normalised
average citations
per paper)

32.5%

30.0%

30.0%

2.5%

5.0%

Research –
volume, income
and reputation
Papers per
academic and
research staff
Research income
(scaled)
Public research
income/
total research
income
Reputational survey
– research

Industry income –
innovation
Research income
from industry
(per academic
staff)

International mix –
staff and students
Ratio of international
to domestic
students
Ratio of international
to domestic staff

THOMSON REUTERS

The "SHANGHAI RANKING"

Indicators and Weights for ARWU

Criteria	Indicator	Code	Weight
Quality of Education	Alumni of an institution winning Nobel Prizes and Fields Medals	Alumni	10%
Quality of Faculty	Staff of an institution winning Nobel Prizes and Fields Medals	Award	20%
	Highly cited researchers in 21 broad subject categories	HiCi	20%
Research Output	Papers published in Nature and Science*	N&S	20%
	Papers indexed in Science Citation Index-expanded and Social Science Citation Index	PUB	20%
Per Capita Performance	Per capita academic performance of an institution	PCP	10%
Total			100%

CWTS Leiden Ranking

Data collection

The CWTS Leiden Ranking 2013 is based on data from the Web of Science bibliographic database produced by Thomson Reuters. The ranking includes the 500 universities worldwide with the largest publication output in the Web of Science database. Although the ranking is limited to universities, it does include organizations directly related to universities, in particular hospitals associated with universities. Changes in the organizational structures of universities up to 2012 have been taken into account.

CWTS Leiden Ranking 2013

Select field and region/country

Field:	All sciences ▼
Region:	Asia ▼
Country:	China ▼

Select indicators

Type of indicators:	Impact ▼ ⑦
Indicator used for ranking:	PP(top 10%) ▼ ⑦
Minimum number of publications:	◯————————— 100 500 1000 5000 10000

Rank	University	Country	P	PP(top 10%)	Stability interval
1	Nankai Univ	🇨🇳	3673	14.4%	
2	Hunan Univ	🇨🇳	1969	14.3%	
3	Hong Kong Univ Sci & Technol	🇨🇳	2797	13.5%	
4	Univ Sci & Technol China	🇨🇳	4914	13.3%	
5	City Univ Hong Kong	🇨🇳	3242	12.4%	

National Comparisons – Monitor your Productivity
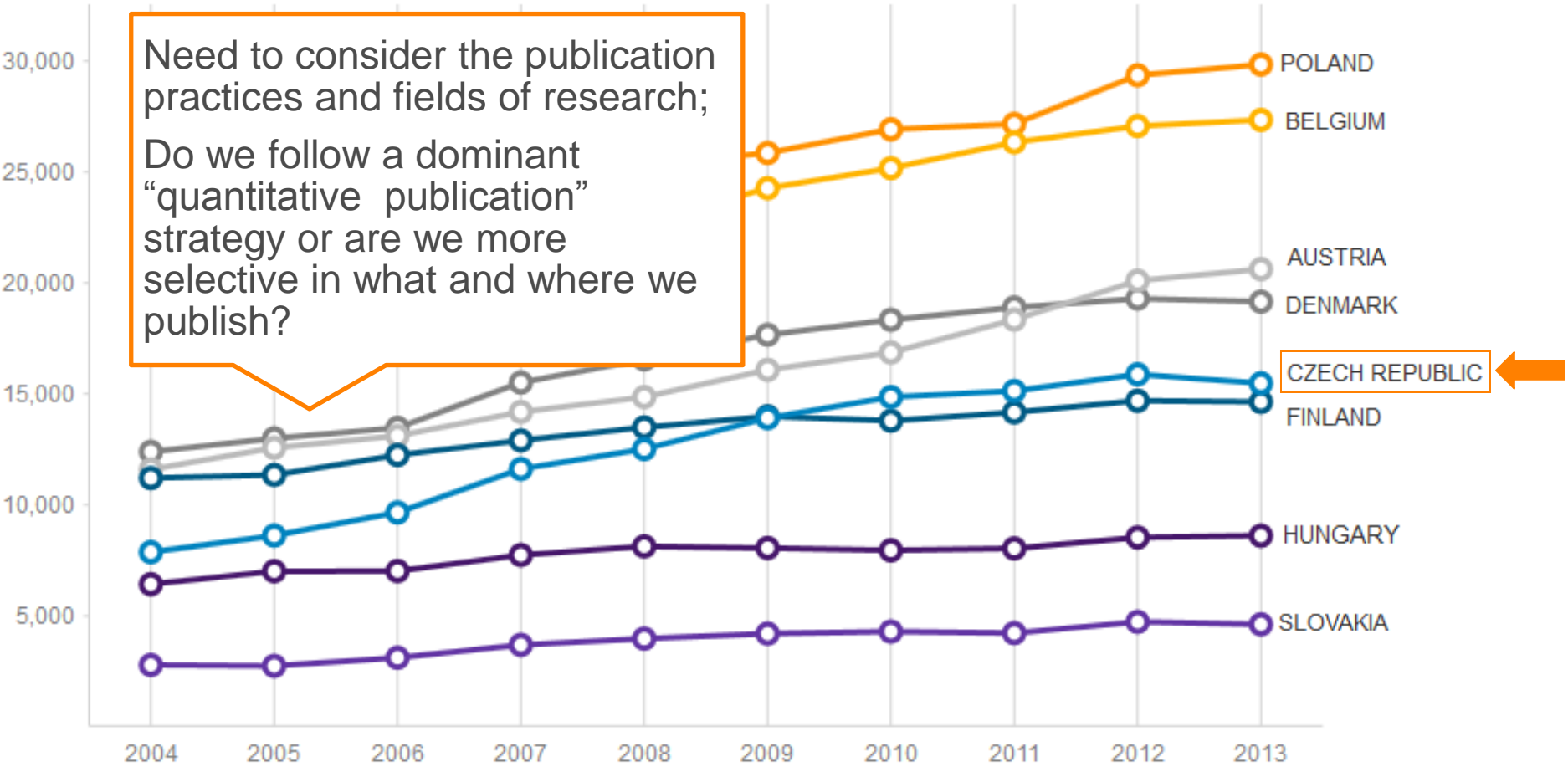
InCites - Country Comparison and Normalized Citation Impact

Red Line indicates the World Average Impact

Impact shows a constant upward trend, which is a good indication of improved research performance
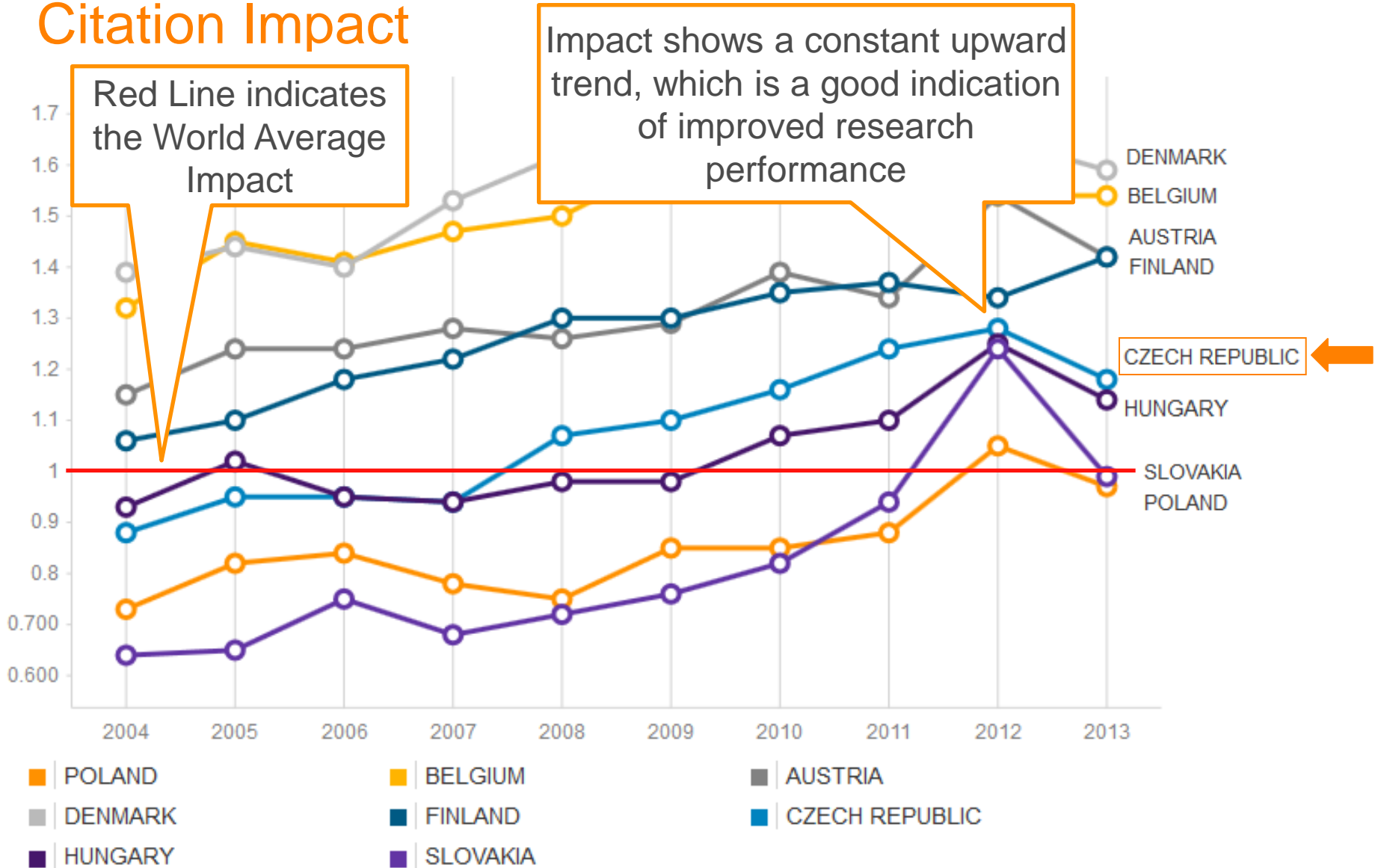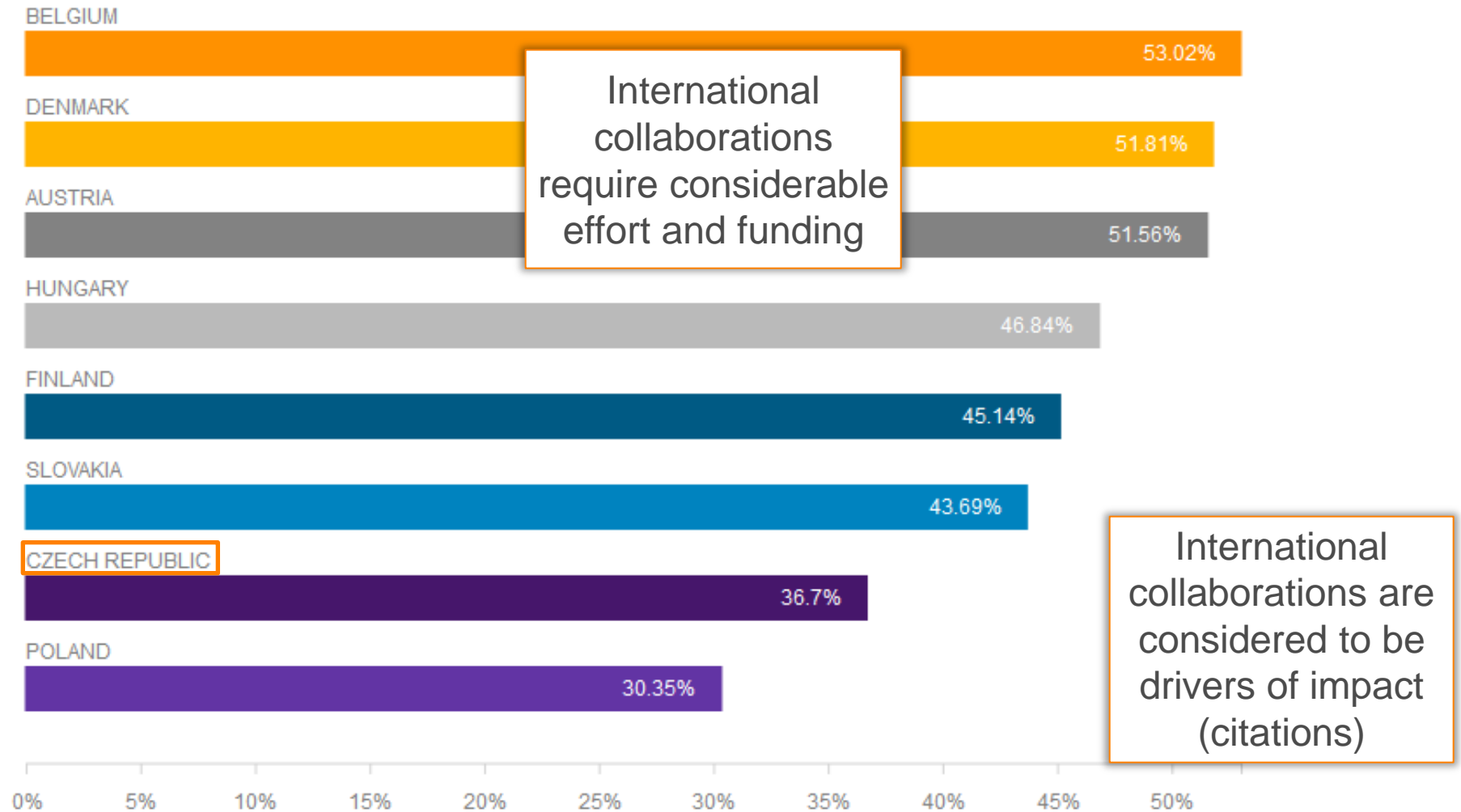
InCites – Monitor your International Collaboration

- International research collaboration has intensified and is often regarded as an indicator of quality and a way to develop and disseminate scientific knowledge

- Funding agencies such as the EC stimulate collaboration within the European Union by applying it as a funding criterion
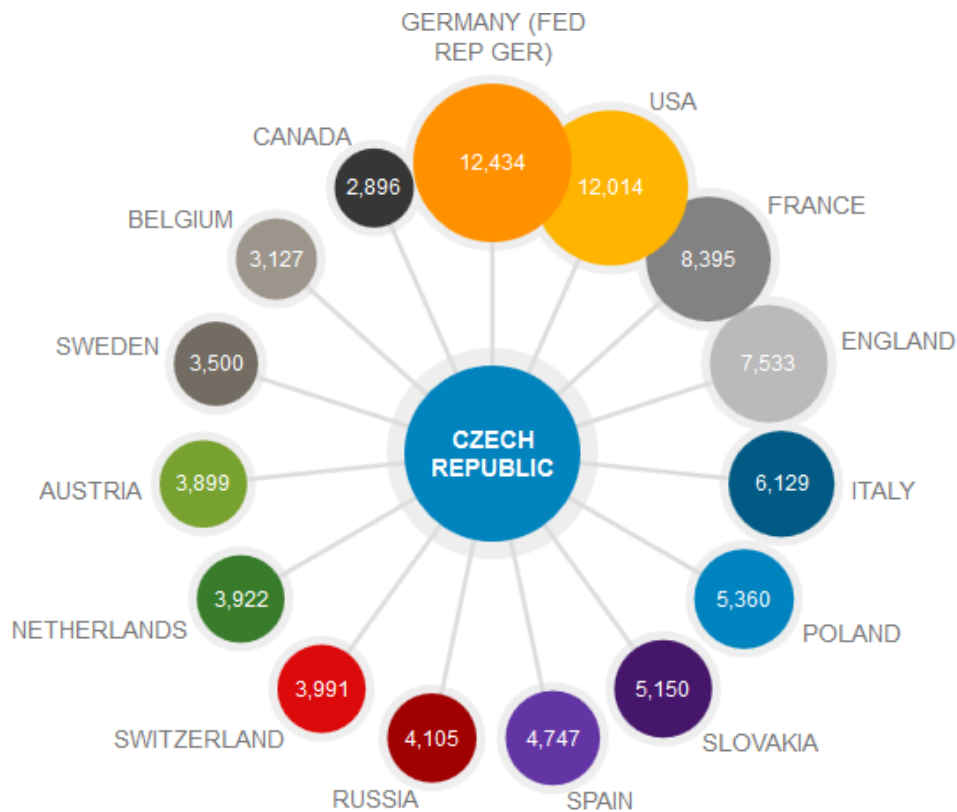
What is the return on international collaboration?

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How much Czech Republic is collaborating internationally?

BELGIUM — 53.02%
DENMARK — 51.81%
AUSTRIA — 51.56%
HUNGARY — 46.84%
FINLAND — 45.14%
SLOVAKIA — 43.69%
CZECH REPUBLIC — 36.7%
POLAND — 30.35%

International collaborations require considerable effort and funding

International collaborations are considered to be drivers of impact (citations)
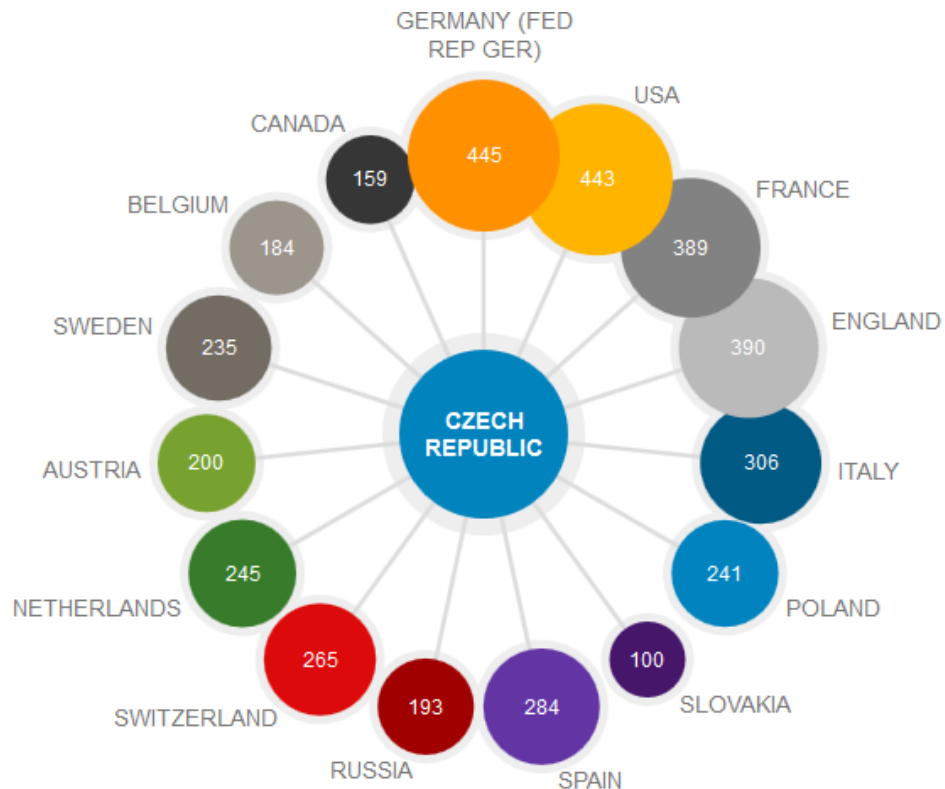
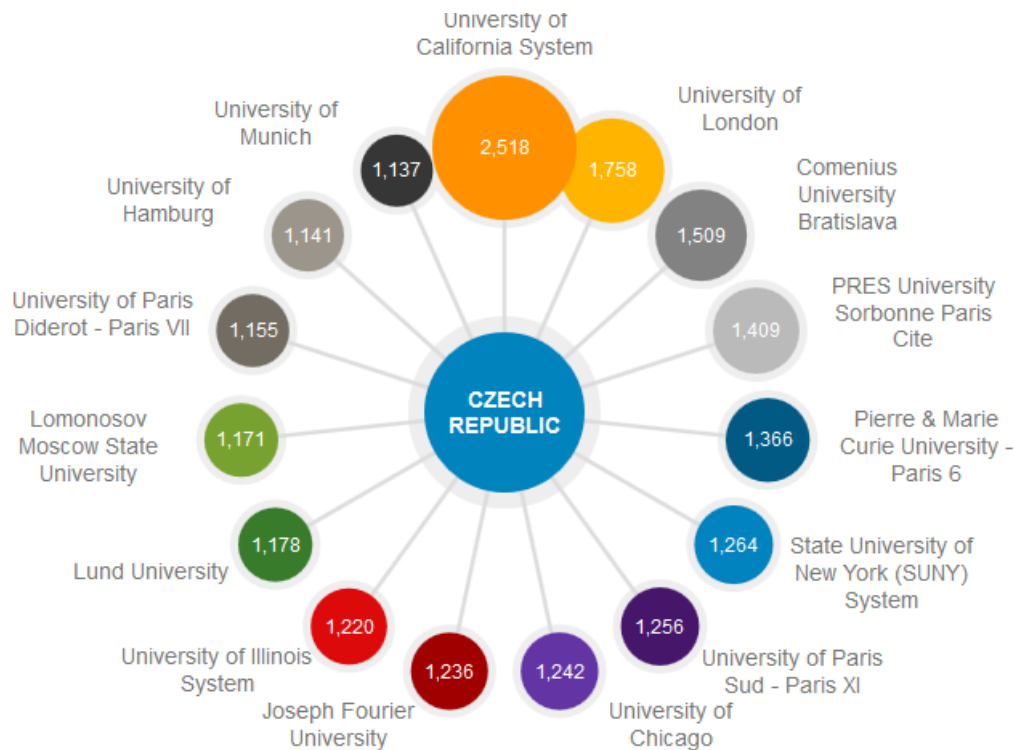THOMSON REUTERS

International Collaborations - Countries

With which countries Czech Republic has produced most collaborations (#of documents)?

With which countries Czech Republic has produced most Highly Cited Papers?
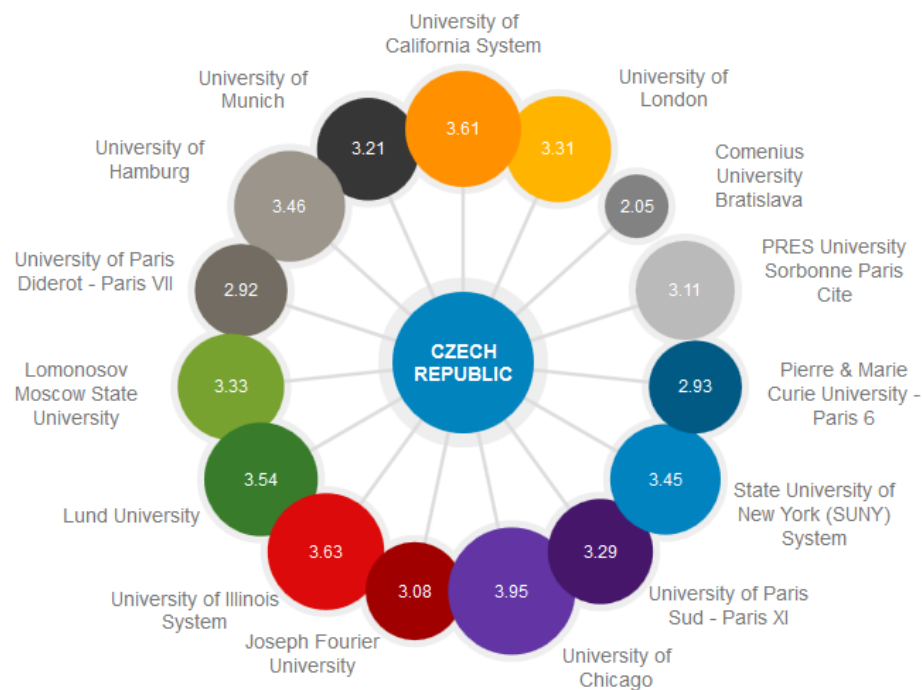
International Collaborations - Institutions

With which institutions Czech Republic has produced most collaborations (#of documents)?

With which institutions Czech Republic has produced the most successful collaborations (NCI)?

THOMSON REUTERS

Industry Collaborations – Impact of publications

Roche Holding — 6,118
GlaxoSmithKline — 3,156
Amgen — 1,830
Novartis — 2,747
Sanofi-Aventis — 1,732
Pfizer — 2,930
AstraZeneca — 2,918
Johnson & Johnson — 2,370
Eli Lilly & Company — 3,240
Biogen Idec — 2,033
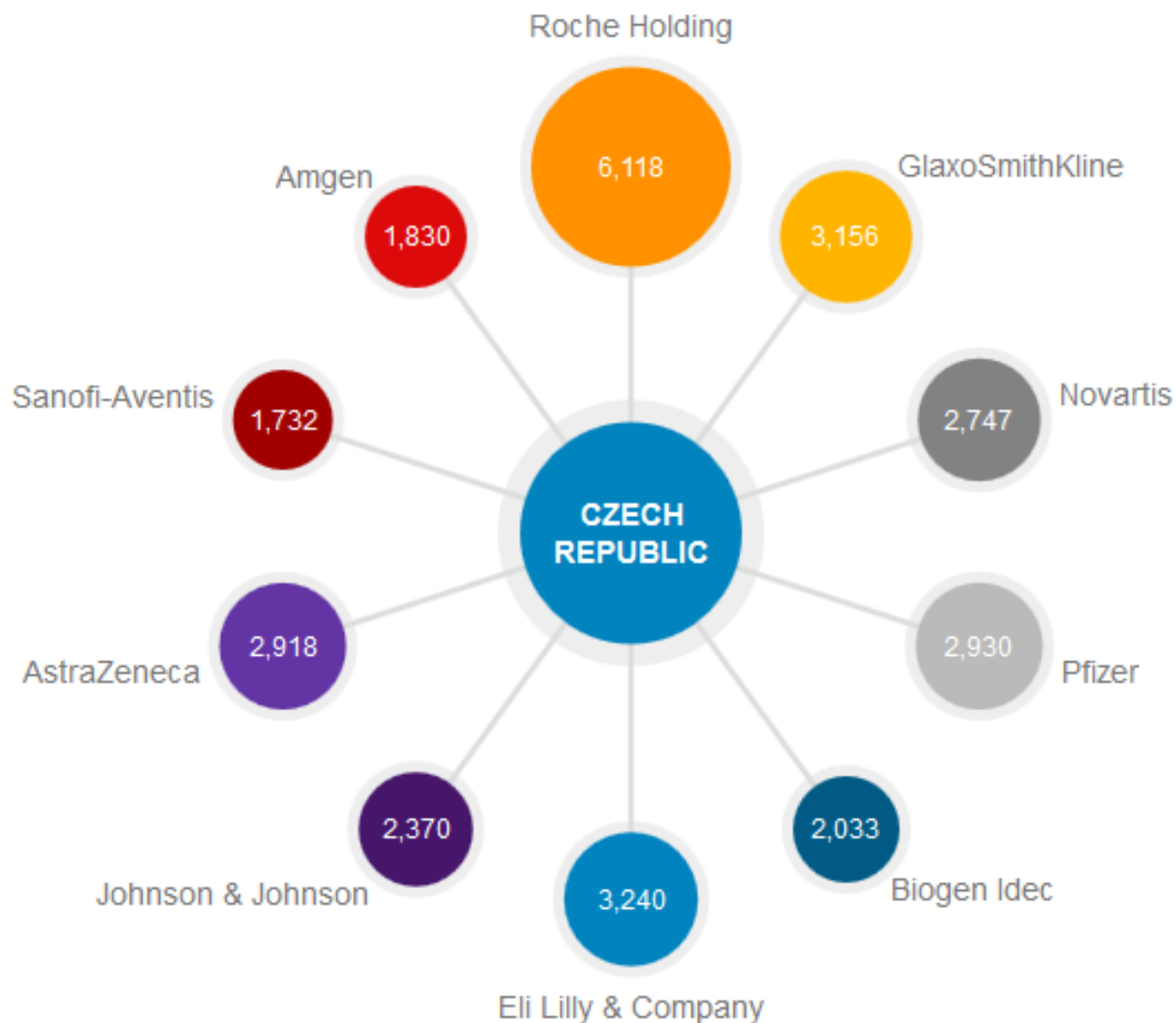
CZECH REPUBLIC

How impactful are Czech Republic publications in collaboration with the industry?

In which disciplines are Czech Republic researchers most active?

MATERIALS SCIENCE, MULTIDISCIPLINARY
6,378

BIOCHEMISTRY & MOLECULAR BIOLOGY
5,557

CHEMISTRY, PHYSICAL
4,576

CHEMISTRY, MULTIDISCIPL
4,341

CHEMISTRY, ANALYTICAL
3,534

PHYSICS, MULTIDISCIPLINARY
3,112

PLANT SCIENCES
3,636

ONCOLOGY
3,568

ASTRONOMY & ASTROPHYSICS
2,637

GENETICS & HEREDITY
1,946
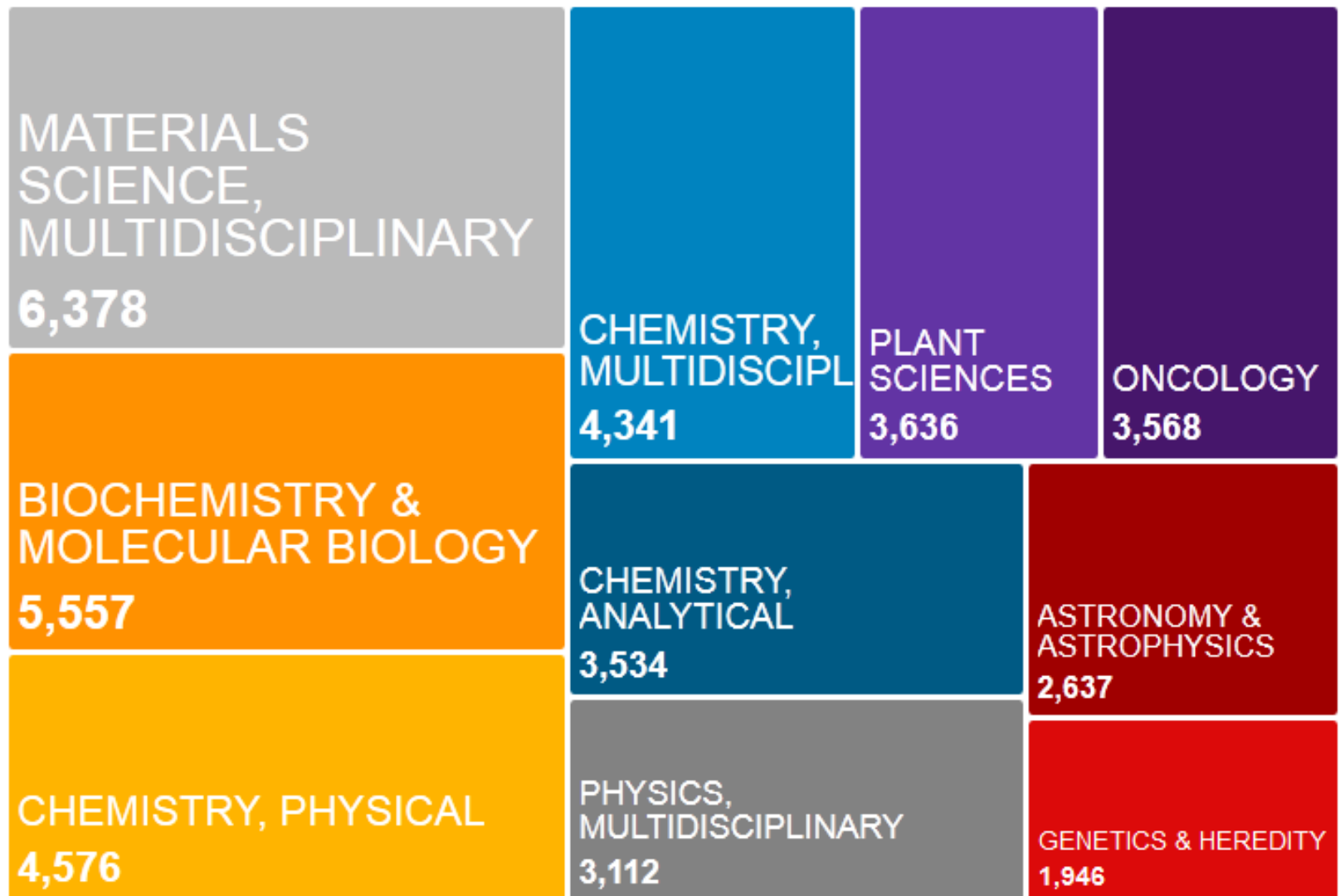
How much Czech Republic researchers collaborate in the disciplines they are most active?

ASTRONOMY & ASTROPHYSICS
66.89%

PHYSICS, MULTIDISCIPLINARY
63.98%

GENETICS & HEREDITY
62.74%

CHEMISTRY, PHYSICAL
57.36%

BIOCHEMISTRY & MOLECULAR BIOLOGY
46.99%

MATERIALS SCIENCE, MULTIDISCIPL
46%

PLANT SCIENCES
45.68%

ONCOLOGY
40.5%

CHEMISTRY, MULTIDISCIP
37.34%

CHEMISTRY, ANALYTICAL
34.41%
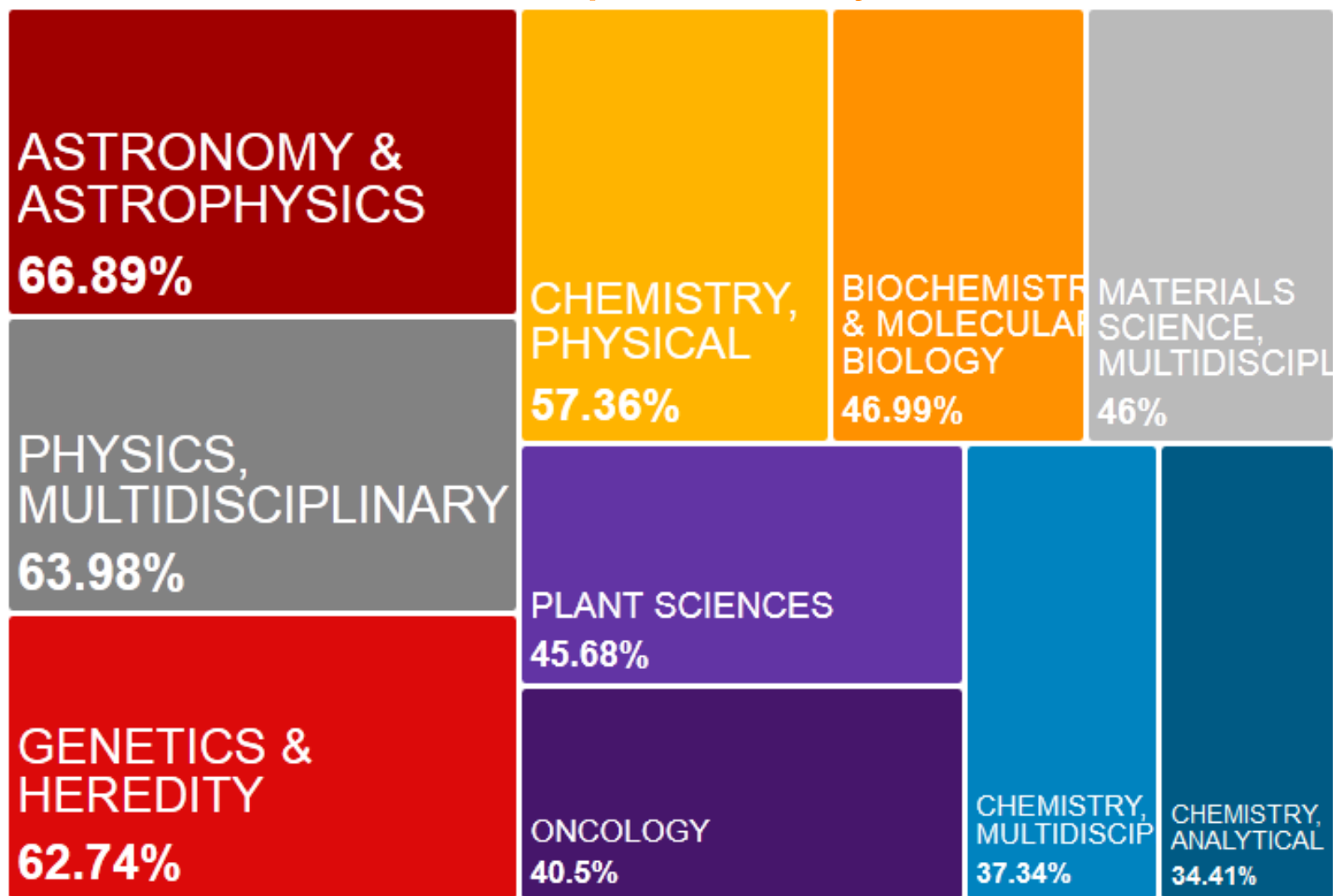
Assess your journal strategy in all disciplines with journal ranking indicators
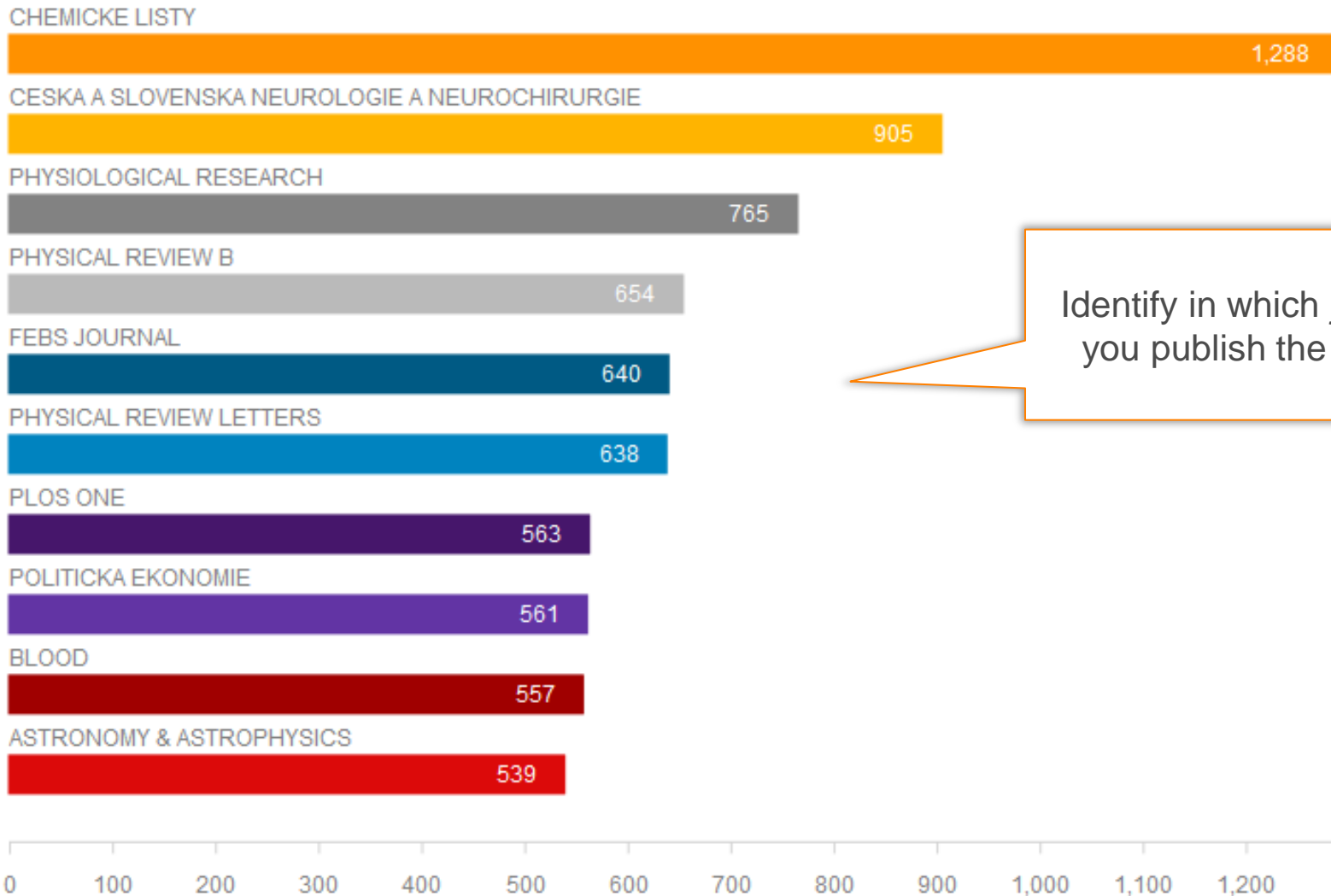
Institutional Comparisons – Monitor your Productivity

Czech Academy of Sciences — 20,982
Charles University Prague — 20,759
Masaryk University Brno — 7,010
Czech Technical University Prague — 5,701
Palacky University Olomouc — 4,677
Brno University of Technology — 4,055
Technical University Ostrava — 2,963
Institute of Chemical Technology Prague — 2,827
University of South Bohemia Ceske Budejovice — 2,477
Czech University of Life Sciences Prague — 2,132
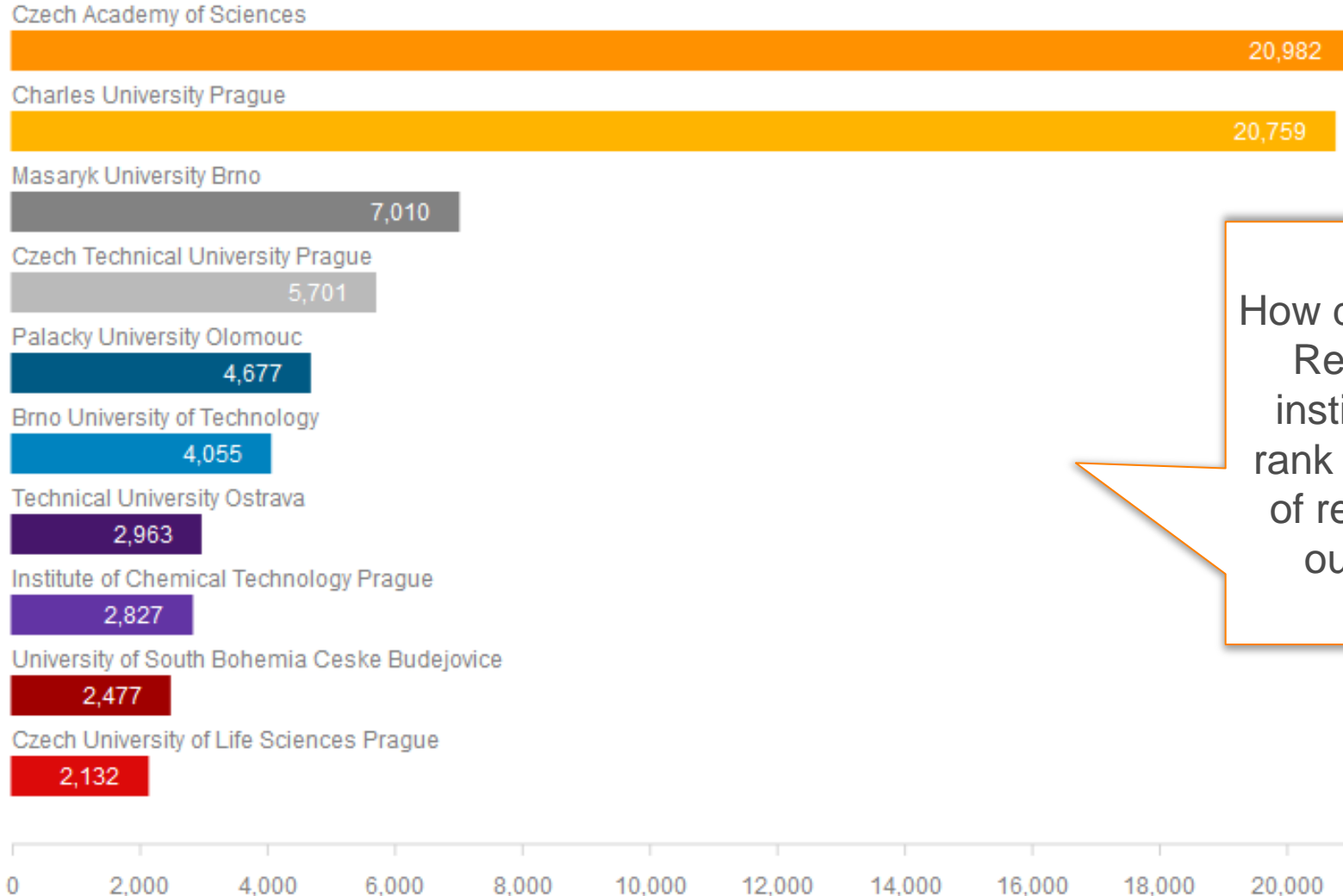
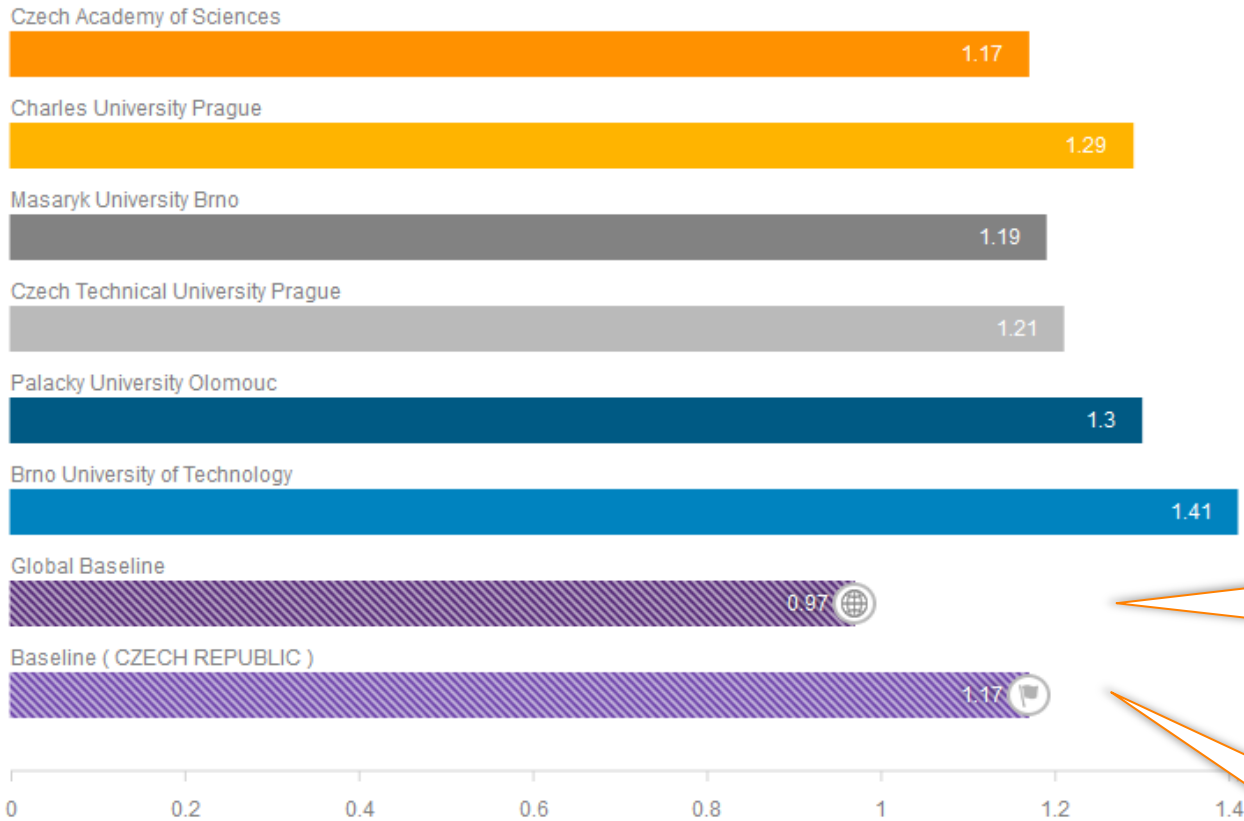How do Czech Republic institutions rank in terms of research output?

Institutional Comparisons –Normalized Citation Impact for 2008-2012

Czech Academy of Sciences — 1.17

Charles University Prague — 1.29

Masaryk University Brno — 1.19

Czech Technical University Prague — 1.21

Palacky University Olomouc — 1.3

Brno University of Technology — 1.41

Global Baseline — 0.97

Baseline (CZECH REPUBLIC) — 1.17

How do Czech Republic institutions rank in terms of performance in the fields they publish (NCI)?

How does your institution compare with the Global Average ?

How does your institution compare with the National Country Average ?

At any time you can drill down to article level metrics analysis

Article Title	Authors	Source	Volume	Issue	Pages	Publication Date	Times Cited	Journal Expected Citations	Category Expected Citations	Journal Normalized Citation Impact	Normalized Citation Impact	Percentile in Subject Area	Journal Impact Factor
Phase III Trial of Cisplatin Plus Gemcitabine With Either Placebo or Bevacizumab As First-Line Therapy for Nonsquamous Non-Small-Cell Lung Cancer: AVAIL	GORBOUNOVA, VERA; RAMLAU, RODRYG; RECK, MARTIN; VON PAWEL, JOACHIM; ZATLOUKAL, PETR	JOURNAL OF CLINICAL ONCOLOGY	27	36	1227-1234	2009	565	68.9	19.17	8.2	29.47	0.08	17.88

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Masaryk University Brno
University of West Bohemia Pilsen
IPN Methodology Project

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THANK YOU!

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