



In partnership with



30 September - 2 October 2015, The University of Melbourne, Australia



# The role of industry collaboration in driving research & education excellence

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1 Oct 2015

# Driving excellence in research & education. MEPhI industry-university collaboration.



Rosatom:

- Radiation & Nuclear Technologies & Engineering



Rostec:

- Machinery
- Electronics
- IT



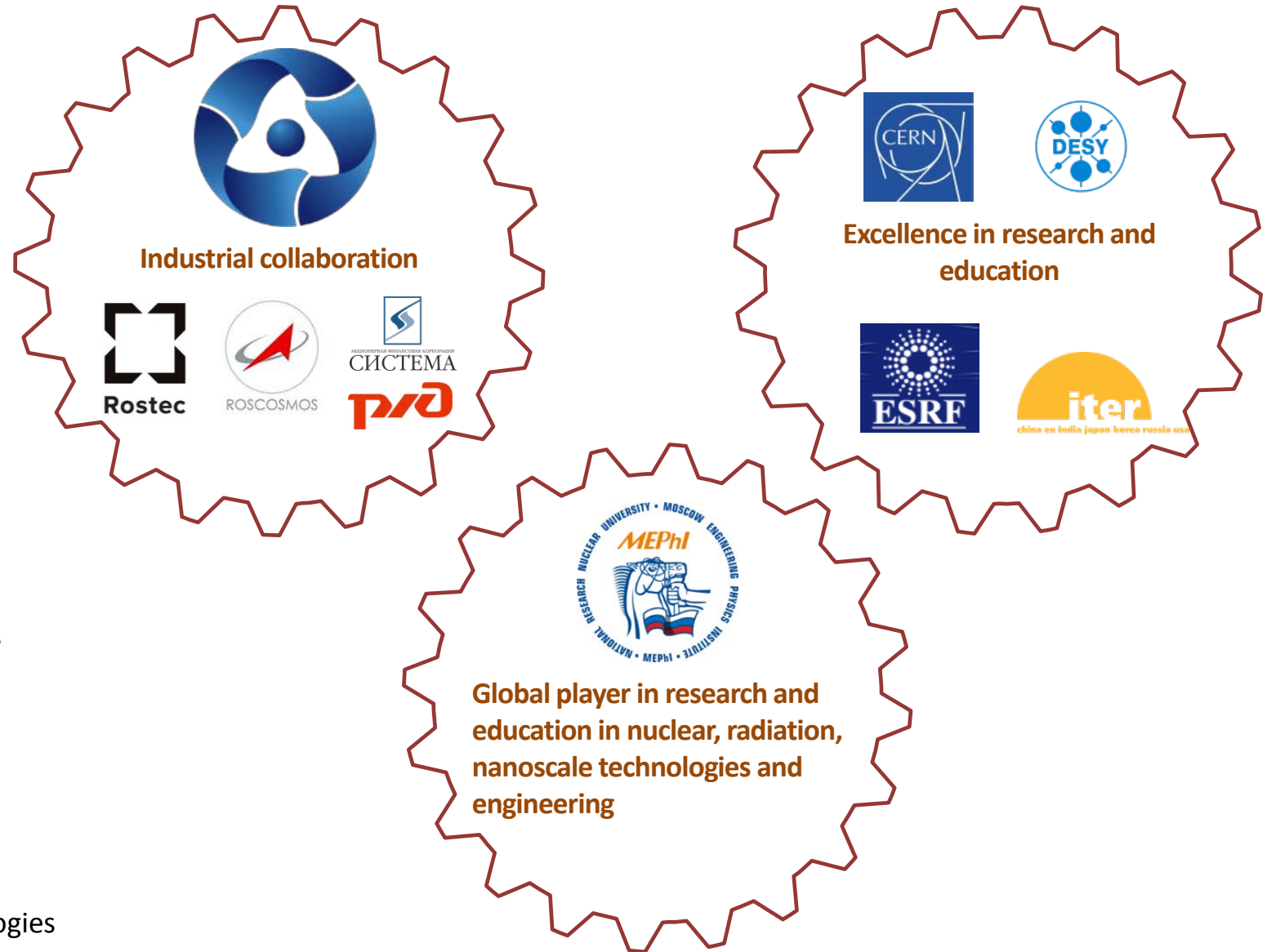
Roskosmos:

- Space Technologies
- Life Sciences

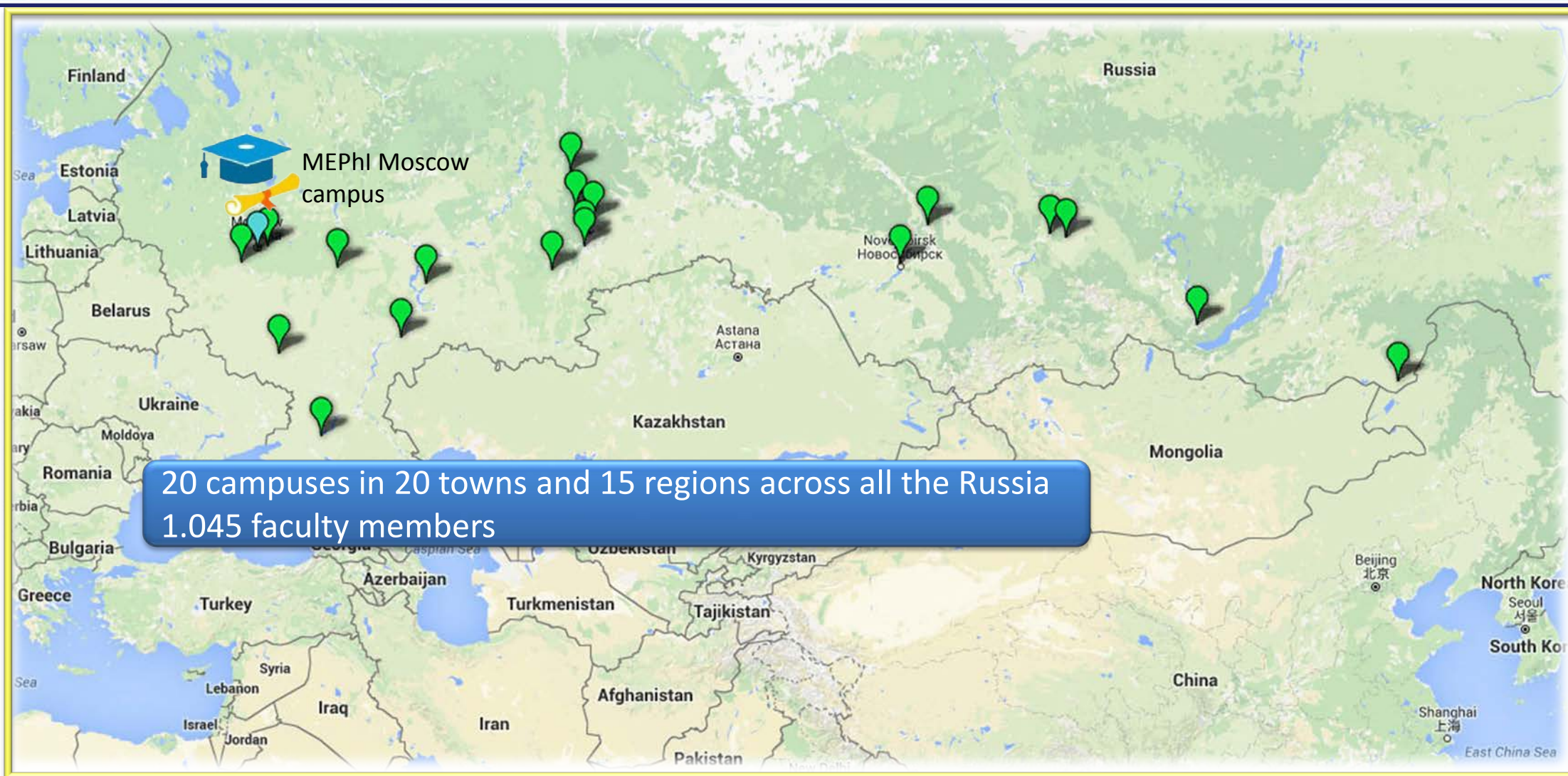


Russian Railways:

- Transport technologies



# Driving excellence in research & education. MEPhI at a glance.



MEPhI is 20 campuses university stretching through 6.000 kilometers from the West to the East of Russia with branches near industrial enterprises.

# MEPhI - Rosatom.

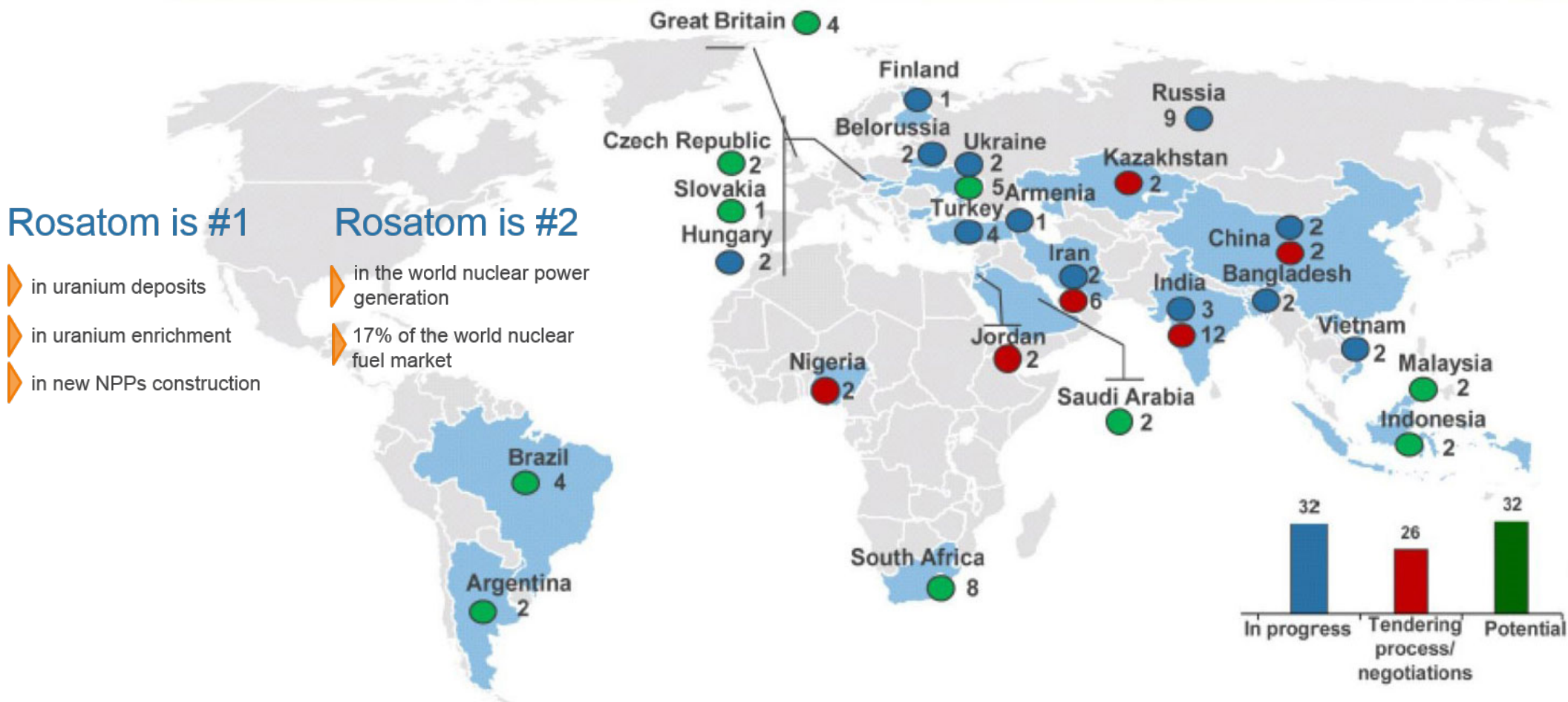
## Global collaboration in nuclear and radiation technologies

Rosatom is #1

- ▶ in uranium deposits
- ▶ in uranium enrichment
- ▶ in new NPPs construction

Rosatom is #2

- ▶ in the world nuclear power generation
- ▶ 17% of the world nuclear fuel market



30 nuclear power blocks in 12 countries are under construction

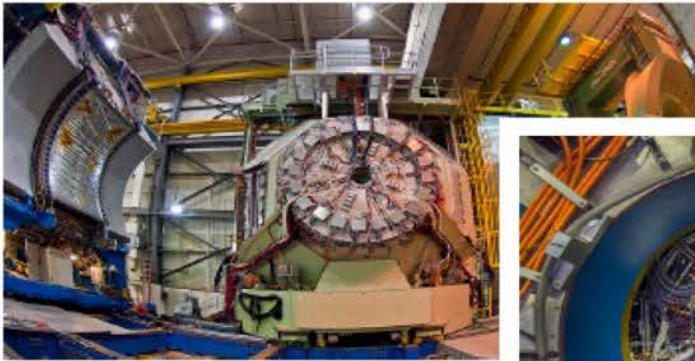


Approved and prospective contracts (\$300B)

# Driving excellence in research.

## MEPhI in international research collaborations

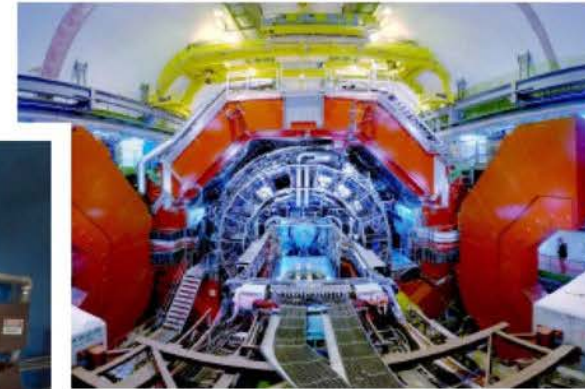
MEPhI is the participant of major international collaborations on installations of mega-science: ATLAS, ALICE, CMS at CERN; FAIR, XFEL at DASY (Germany); ITER (France); ICECUBE, PAMELA (Italy), STAR and PHENIX (USA); T2K (Japan); SHIP, NSW (CERN), LZ (USA), BELLE (Japan)



PHENIX, BROOKHAVEN NATIONAL LABORATORY



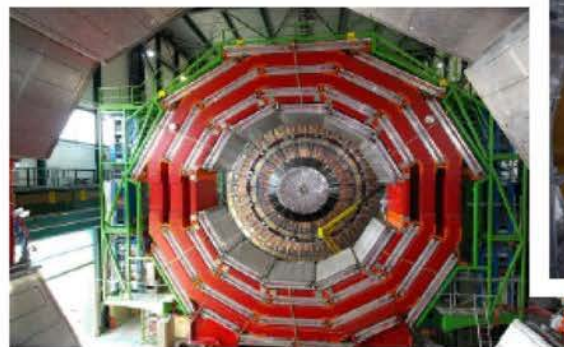
STAR, BROOKHAVEN NATIONAL LABORATORY



ALICE, CERN



ICECUBE



CMS, CERN



ATLAS, CERN

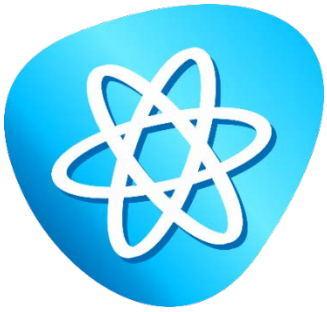
# Driving excellence in education. University-Industry collaborations



University labs outside the campus at enterprises

Industry employees participate in university education

# Driving excellence in research – exclusion of collaborative publications? – normalization?



## World average in Physics

Publications	2.82 mln.
Citations	17.4 mln.
Citations/Paper	6.16

## ATLAS Collaboration, CERN

Publications	1.865
Citations	22.588
Citations/Paper	22.11
Authors	3.000
Organizations	151



## World average in Life Sciences

Publications	3.68 mln.
Citations	22.1 mln.
Citations/Paper	6

## Cancer genome atlas research network

Publications	27
Citations	7.703
Citations/Paper	285
Authors	100+
Organizations	62

**Result:** highly cited publications from these collaborations are excluded from THE and QS rankings

# Driving excellence in research: Wrong score

	Citations	Faculty	Citations/Faculty Ratio	QS Score
National Research Nuclear University MEPhI	16.819	1.123	14.98	2.2
Moscow Institute of Physics and Technology	5.191	1.100	4.72	2.3
Moscow State Institute of International Relations	66	1.325	0.05	5.7

Normalization might lead to anomalous results



False mirror:

Is 0.05 more than 14.98?

Surprise – 300 times better citation gives a score which is 2.6 times smaller.



# Suggestions



## Stable Methodology

- Due to conservative structure of higher education the methodology should be as stable as possible (some cosmetic changes are welcome, not the big ones)



## Counting collaborative publications

- For large collaborations (over 1000 co-authors) to reduce the number of citations by factor 2 or 3 instead of total exclusion publications of such collaboration



## Developing industry collaboration

- Increasing weighting in industry income to 5% (industry income are underestimated in THE)

# See you in Moscow soon!

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19-20 November  
Presentation of THE Ranking

