



REPUBLIC OF CROATIA
Ministry of Science
and Education



Croatian Presidency of the
Council of the European Union

e-IRG Workshop

Future skills in the new European Research Area
State Secretary Tome Antičić, Ph. D.



10 largest companies in the world, by market valuation

amazon



Microsoft



Google

JPMorganChase

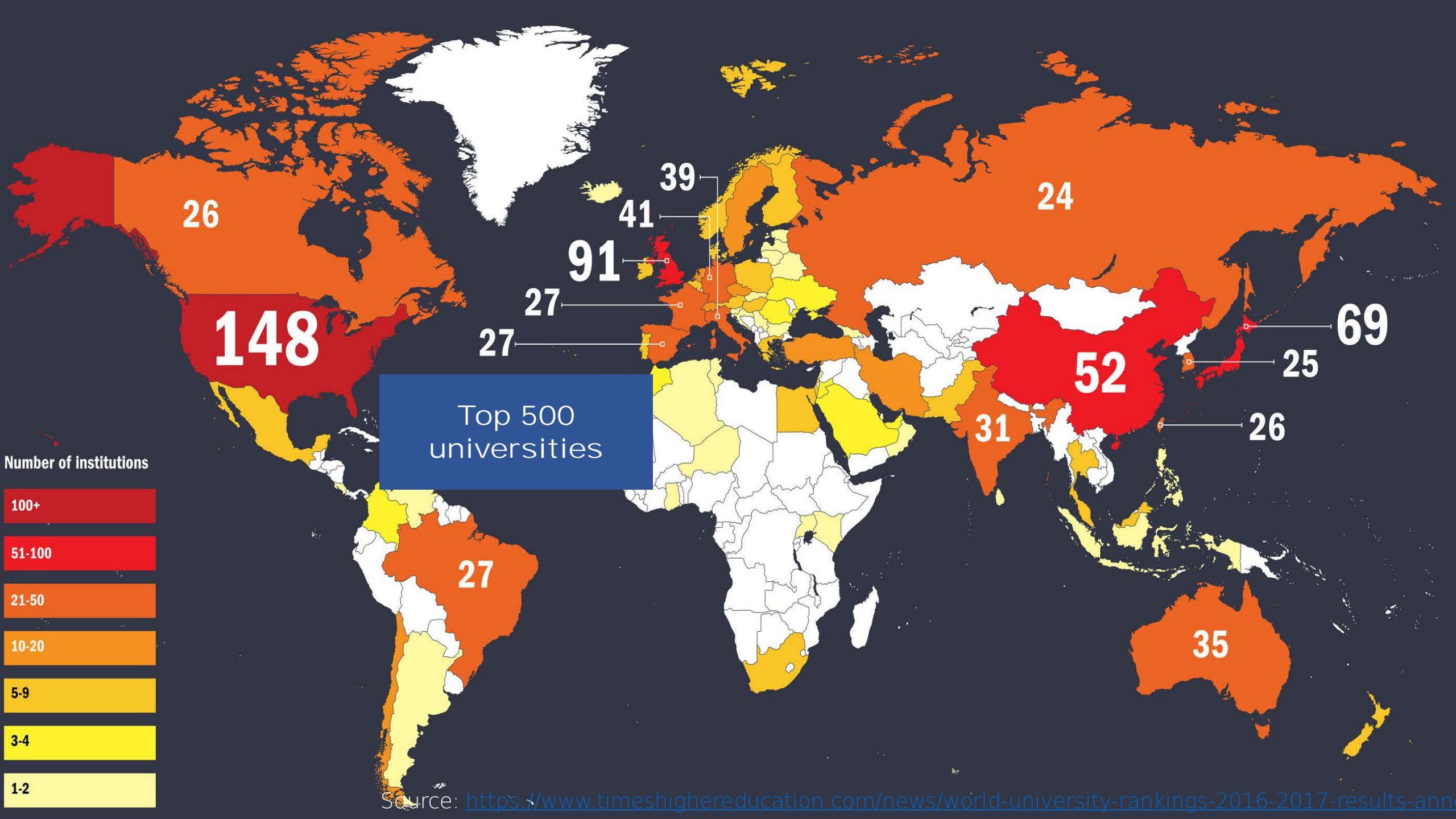


BERKSHIRE
HATHAWAY



Tencent 腾讯

- Most of these are new, high-tech companies
- None from EU
- Future skills, future jobs



26

148

27

27

27

91

41

39

24

31

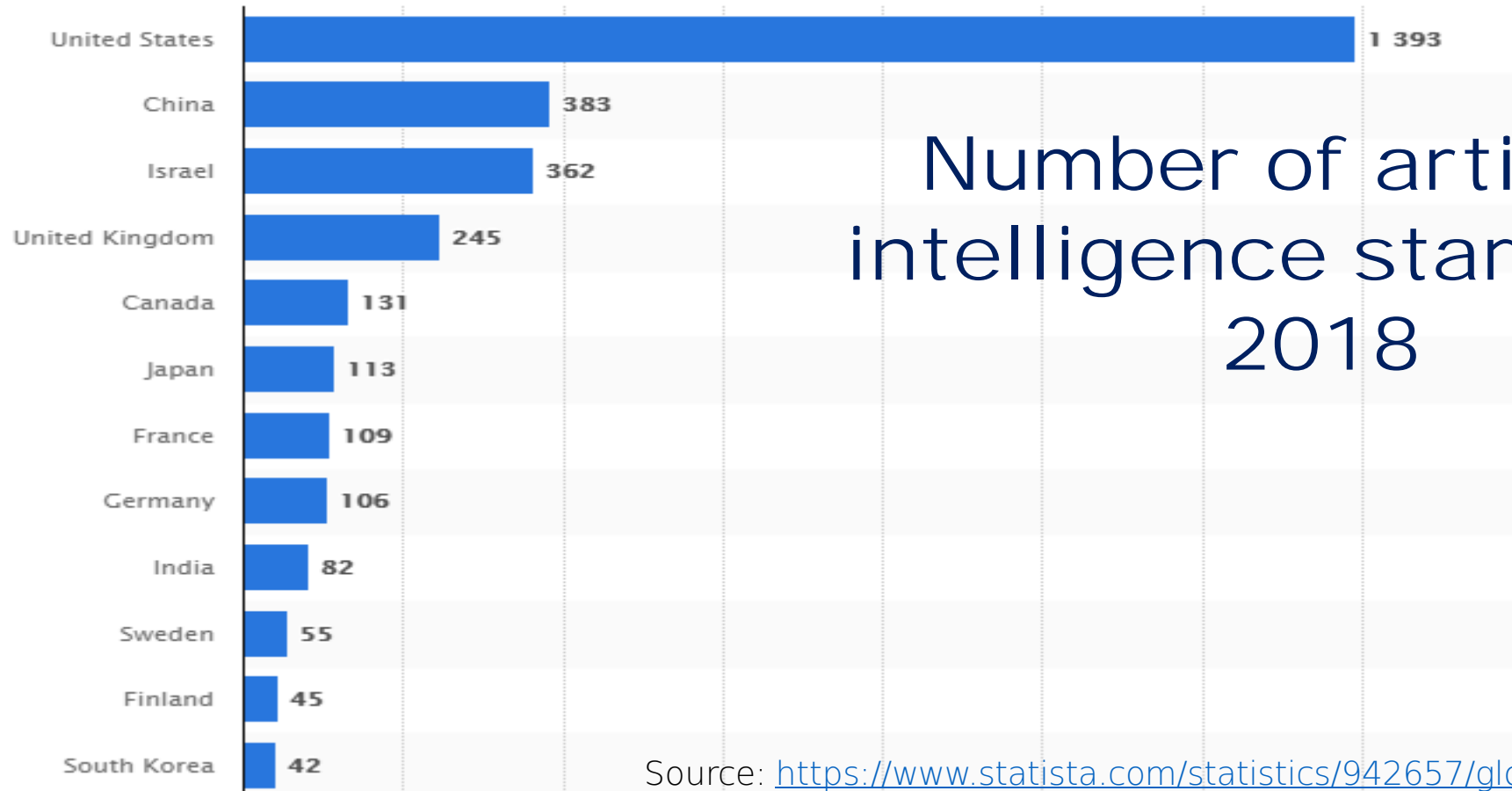
35

52

26

25

69



Source: <https://www.statista.com/statistics/942657/global-ai-startups-by-country/>

Reasons?

- Lack of a sufficiently motivating environment for excellence in R&I system, not enough systemic support for grass-root initiatives and university/research-industry cooperation
- Insufficiently flexible labour policies that hinder the formation and expansion of high-tech start-ups
- Too much emphasis on protecting existing technological companies and research initiatives
- EU is losing the fight for talents to US, China, Canada etc.
- Misbalance of research quality in EU: wasted talents/lack of mobility/internal brain drain
- ...



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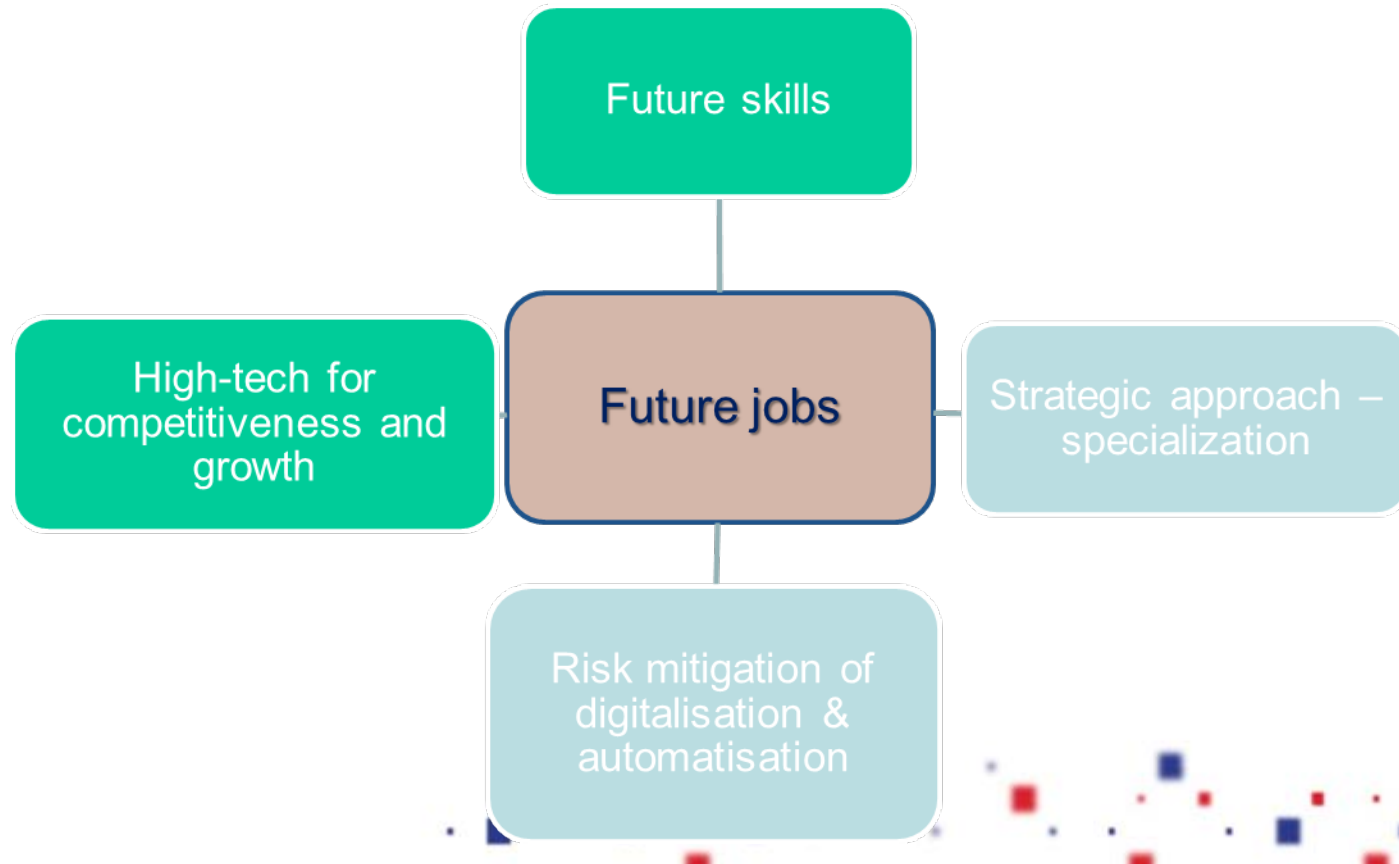
The future is uncertain.

- The **future of the labor market**, which is influenced by factors which individuals and countries cannot control, is particularly difficult to predict.
- Although people are becoming better qualified, some may not find jobs in line with their expectations and qualifications in the short term
- as much as half of existing jobs can be at least partially automated by adapting existing technology (McKinsley Global Institute, 2017).
- However, realistic assumptions can be made to provide insights on what the future, including the future labor market, may look like
- Decisions made today will shape that future and forecasts can, therefore, be particularly valuable in helping to decide the right thing to do.





Future jobs - one of two priorities of the Croatian presidency



- OECD: “it is essential to prepare young people for the **jobs of the future** by having the **right type of skills** to succeed in a constantly changing and technology-filled work environment”.
- **Research and development** is a key factor in creating the jobs of the future and the basis of the productivity and competitiveness of the European economy



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Mate Rimac (1988 -)

*Rimac concept One electric car by Rimac Automobili
introduced in 2011 included company's 24 patented innovations*

- A shining light in the EU inadequate response to the rapid shift to electric vehicles.



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Croatian ERC 2019 calls grantees

Iva Tolić
Coordinator of Synergy grant
(10 mil EUR)



Jadranka Šepić
Starting grant
(0,8 mil EUR)

Jasenka Gudelj
Consolidator grant
(2,1 mil EUR)

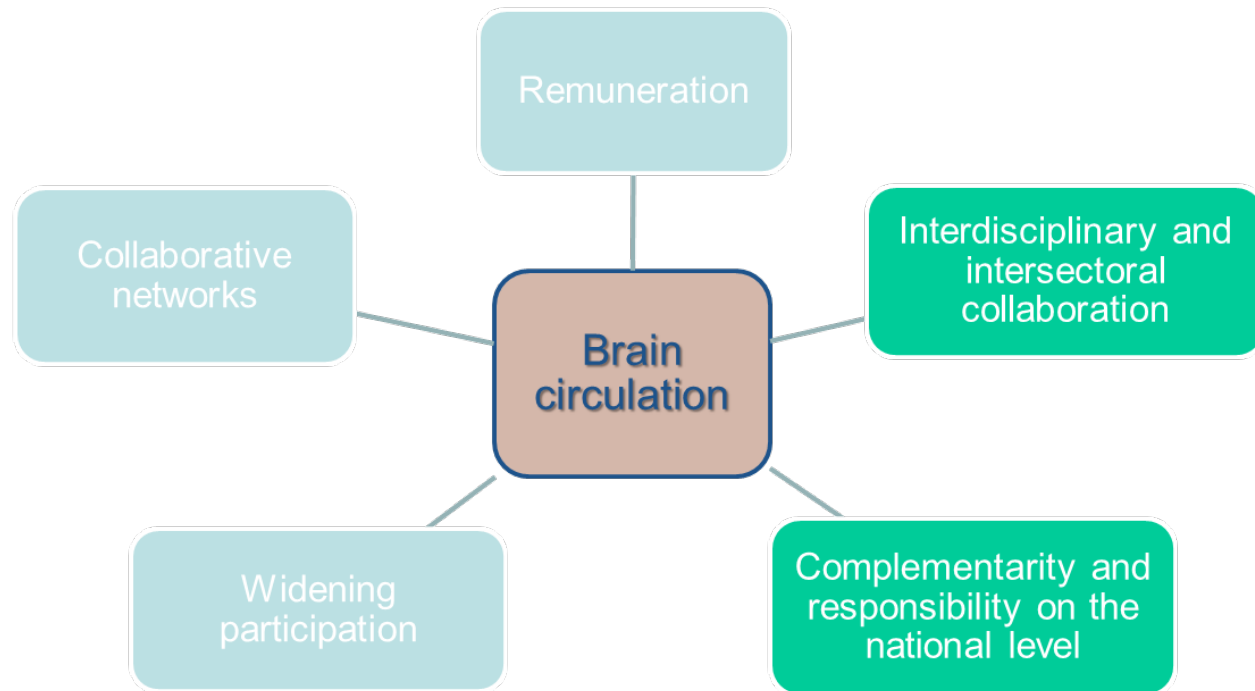


- Supporting ERC grantees
– creators of jobs of the future.

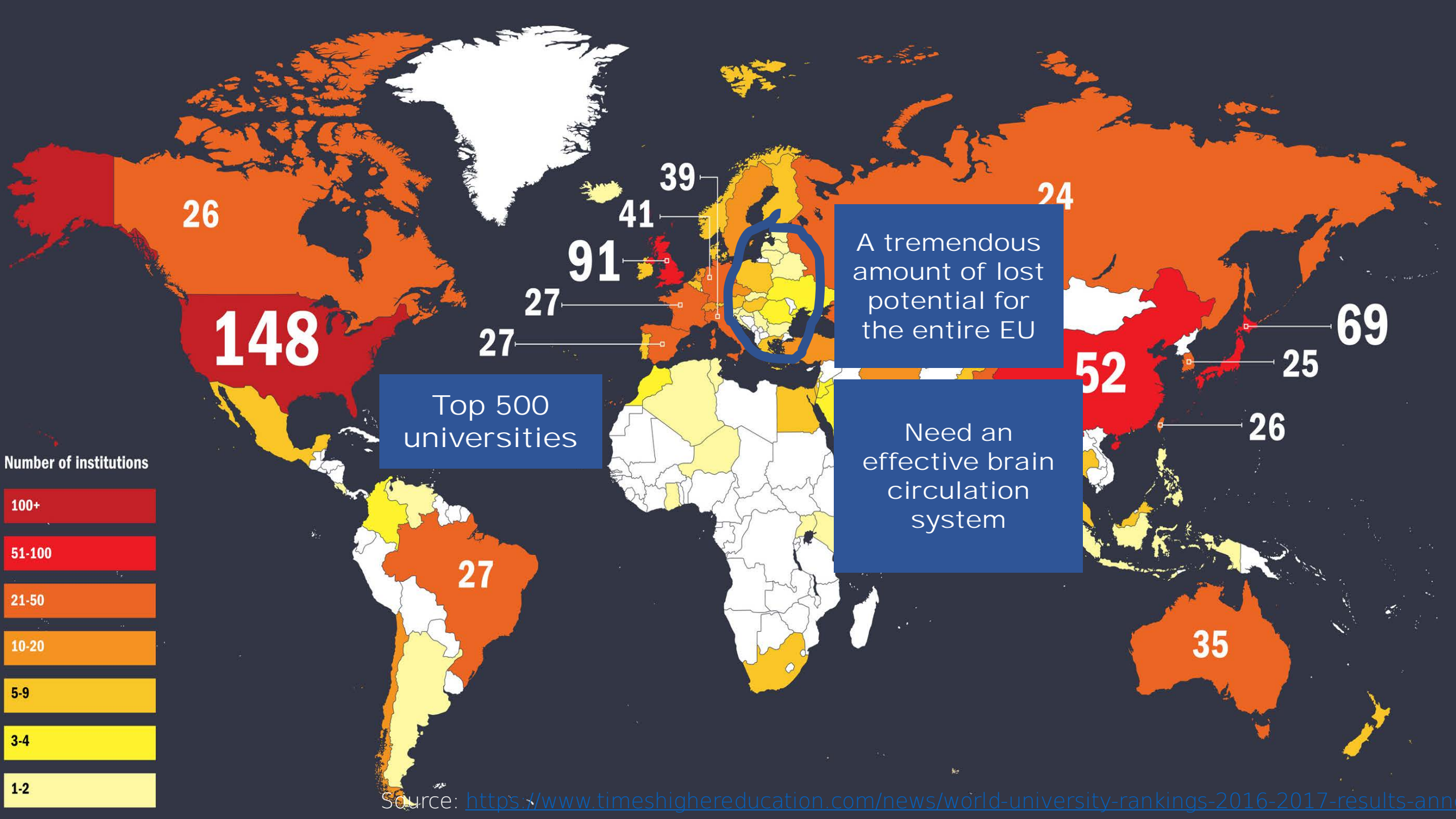




Brain circulation - one of two priorities of the Croatian presidency



- Brain circulation has become one of the most important factors that influence the economic development and competitiveness since learning, research, innovation creation and collaboration with other countries is essential for the country's development
- An **open labour market** encouraging free and balanced circulation of researchers has been at the core of ERA from an early stage of its implementation.
- The Presidency believes that it should remain **one of the cornerstones** of ERA post-2020, which is why we put it high on the





ERA: what kind of change needs to take place?

- Strong **commitment of all member states** for a higher percentage of investment in R&I
- Poorly performing countries in R&I that implement **structural changes in their research and higher education system** should be supported by additional investments of large research projects – through structural funds -synergies
 - **Widening participation grants** for potential for excellence, more extensive Seal of excellence – supporting the best in each country
 -
- System of **brain circulation** and mobility of researchers, linked to Research infrastructures, future European Universities,...
- Promotion of excellence in the research and higher education systems (European Universities Initiative,...), and flexibility of research across EU





CEDEFOP SKILLS FORECAST 2018

Key facts: Croatia

1 583 000

Employment in 2030

-0.03%
Decline from
2016 to 2030

% Employment growth 2016-2030



FASTEST GROWING SECTORS

Growth per year 2016-30

Business & other services

1.3%



Non-marketed services

1.2%



HIGHEST DEMAND OCCUPATIONS

Total job openings 2016-30

86 600

Teaching professionals

67 500

Personal service workers

62 200

Legal, social and cultural professionals

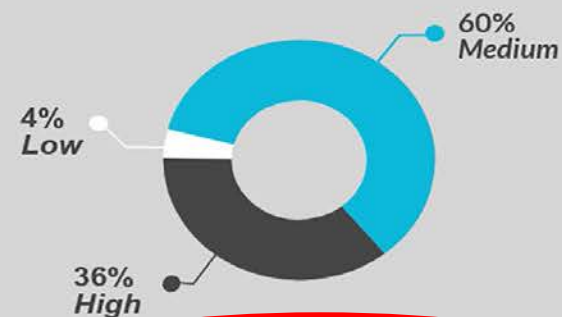
1 053 500

Total job openings, 2016-30



■ Replacement needs (100%) ■ New job openings (0%)

Total job openings by qualification level:



EU

Overview



Top growing sector
Business & other services



Top demand occupation
Business & administration associate professionals

6%
Increase in
employment since
2016

92% of the new job openings
will relate to high-skilled occupations



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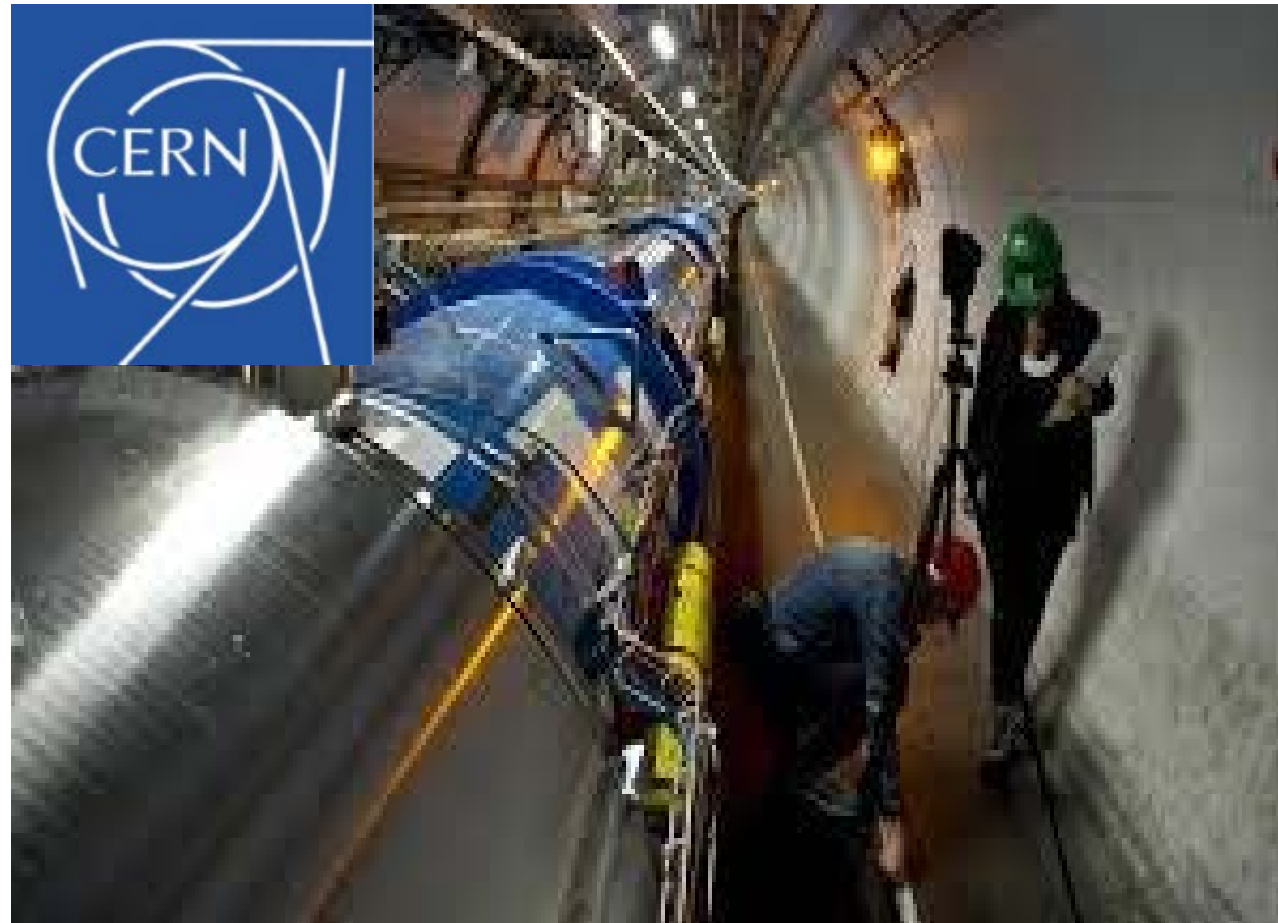


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Republika
Hrvatska

THE EUROPEAN
SPACE AGENCY



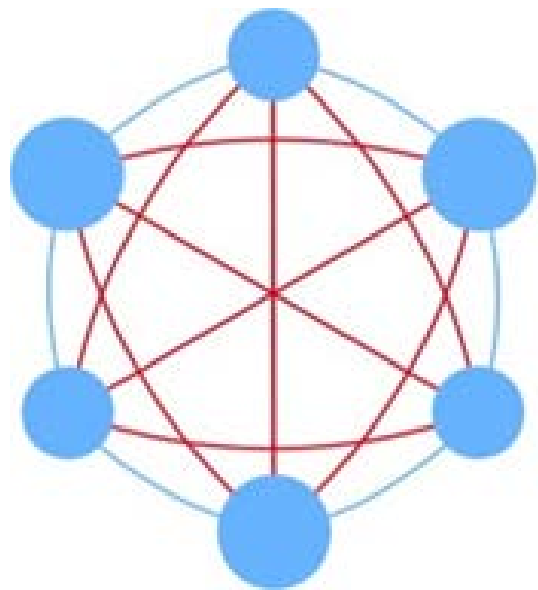


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CROATIAN SCIENCE & EDUCATION CLOUD **HR-ZOO**

- HR-ZOO: building new core components of the national e-infrastructure:
 - data centers/computer rooms at major Croatian universities
 - HPC & HTC systems
 - Cloud systems and services for general purpose computing
 - Storage resources
 - New high-speed backbone of the national academic and research network
 - Team of experts / e-science engineers to support efficient usage of HR-ZOO resources
- HR-ZOO is a key prerequisite for a competitive Croatian research and higher education area, as well as a key instrument of participation and integration into the European Research Area and the European Higher Education Area.





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