



In a “trap” of imperatives

Serik Irsaliyev



Seven threats to the humanity

Is the goal of universities to teach
a graduate to confront them effectively?



(1) Nuclear threat

Do Higher Education Institutions provide the future leaders with competencies of global awareness, self-reflection, cooperation and problem-solving?

- (2) Terrorism
- (3) Conflicts
- (4) Migration

Do universities develop the competencies of humanism, rejection of violence, life planning and combating the security threats?





(5) Climate

How to “ecologize” university programs so that graduates can cope with the global environmental issues?

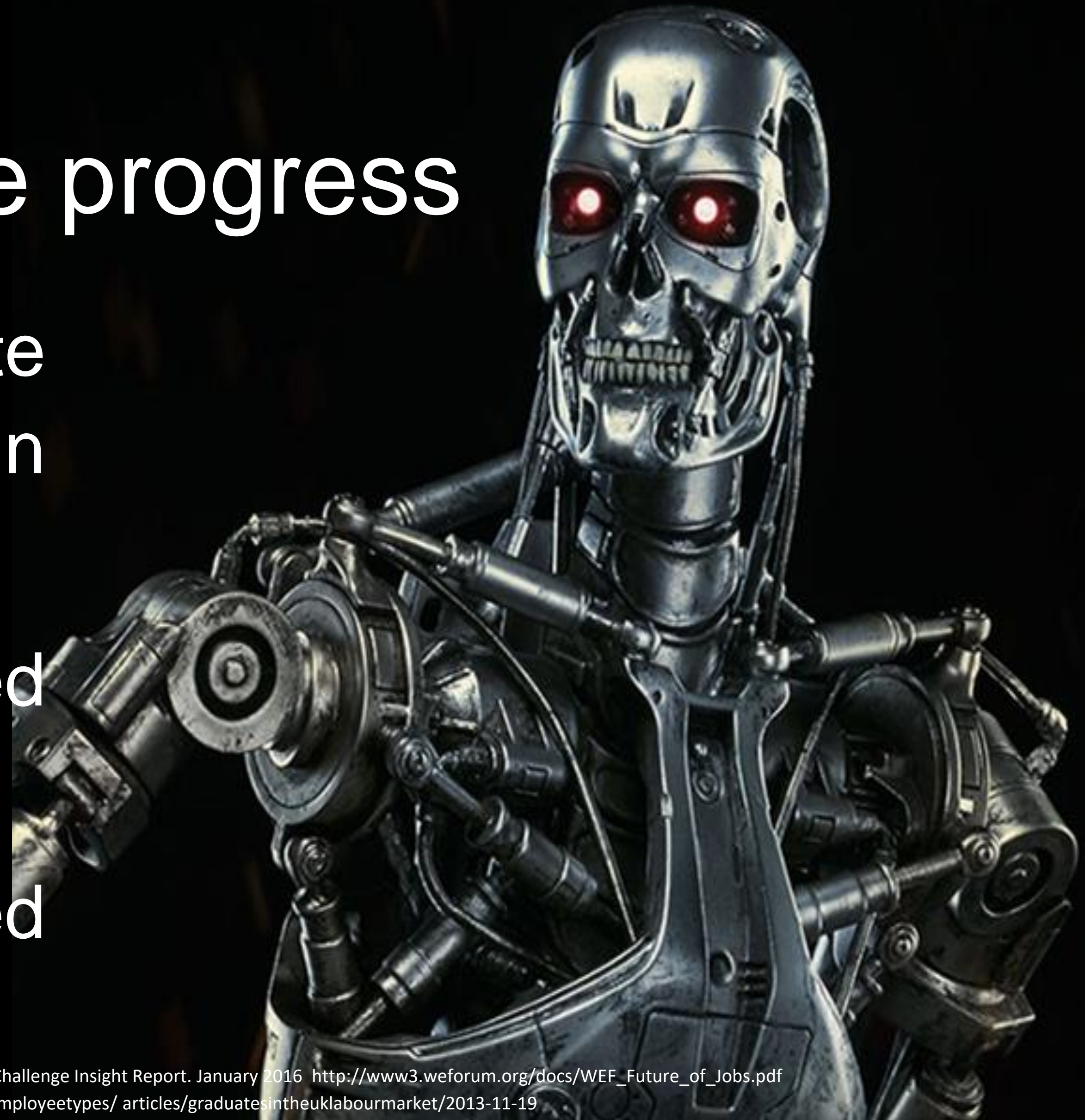
(6) Inequality

Which competencies can become the basis to reduce inequalities in the world?



(7) The "dark" side of the progress

- 50% of Undergraduate programs will become outdated in 5 years ¹
- 50% of graduates are employed outside of their fields ²
- Students must be trained quickly ³



¹World Economic Forum. The Future of Jobs. Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution. Global Challenge Insight Report. January 2016 http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf

² Graduates in the UK Labour Market: 2013 // <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/graduatesintheuklabourmarket/2013-11-19>

³Пожизненный урок. Д.Конанчук. Harvard Business Review <http://hbr-russia.ru/biznes-i-obshchestvo/fenomeny/a18851/>

Report of “gloomy” forecasts ¹

When	Where	Jobs, M		Source
		Disappear	Created	
2016	In the world		0,9 – 1,5	Metra Martech
2018	USA	13,9	3,1	Forrester
2020	In the world		1,0 - 2,0	Metra Martech
2020	In the world	1,8	2,3	Gartner
2020	15 countries	7,1	2,0	World Economic Forum
2021	In the world		1,9 – 3,5	The International Federation of Robotics
2021	USA	9,1		Forrester
2022	In the world	1 000,0		Thomas Frey
2025	USA	24,2	13,6	Forrester

¹<https://www.technologyreview.com/s/610005/every-study-we-could-find-on-what-automation-will-do-to-jobs-in-one-chart/>

Report of “gloomy” forecasts ¹

When	Where	Jobs(m) destroyed	Jobs created(m)	Reference
2025	USA	3,4		Science Alert
2027	USA	24,7	14,9	Forrester
2030	In the world	2 000,0		Thomas Frey
2030	In the world	400,0 - 800,0		McKinsey
2030	USA	58,12		PWC
2033	USA	67,9		Oxford University
2035	USA	80,0		Bank of England
2035	Great Britain	15,0		Bank of England
No Date	USA	13,6		OECD
No Date	Great Britain	13,7		IPPR

¹<https://www.technologyreview.com/s/610005/every-study-we-could-find-on-what-automation-will-do-to-jobs-in-one-chart/>

**THE FUTURE
OF EDUCATION
AND SKILLS**

Education 2030



**THE
FUTURE
WE WANT**



9 contextual factors
and 3 groups of skills
for school graduates

What's been
done
for universities?

WEF: Top 10 skills-2020 ¹

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

¹<https://www.weforum.org/agenda/2016/01/the-10-skills-you-need-to-thrive-in-the-fourth-industrial-revolution/>

Have these skills found a
reflection in the university
programs?

Top 5 professions, 2018 ¹

Renewable Energy Technician

Machine Trainer

AI Engineer

Video-Game Streamer

Caregiver

¹<https://hightech.fm/2018/01/09/jobs>

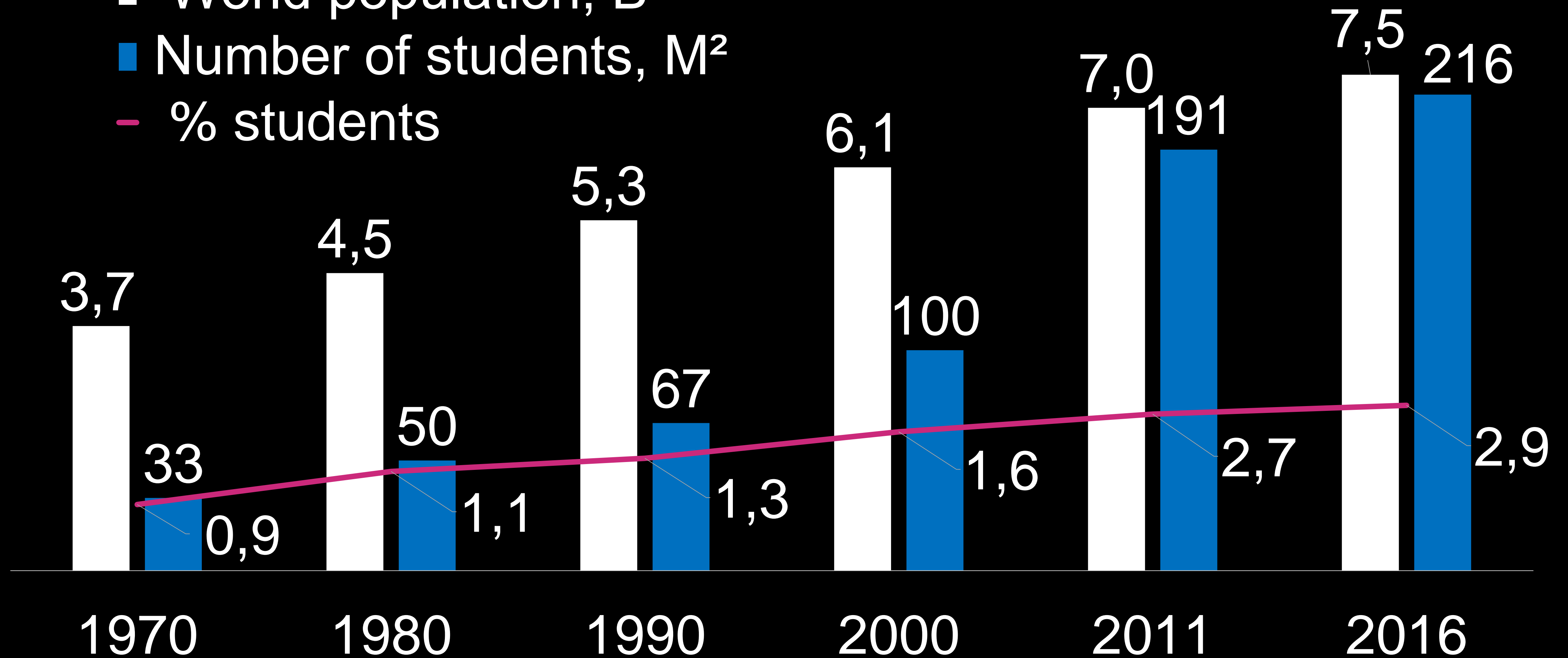
Which universities are preparing students for these professions?

Questions for universities

- What kind of a person should a university prepare so that he/she can cope with the global uncertainty of the consequences of rapid technological, economic, social and environmental changes?
- To what extent do Kazakhstani universities correspond to the best international practices in solving the first question?

1. Massification

- World population, B¹
- Number of students, M²
- % students



¹ <http://www.worldometers.info/world-population/world-population-by-year/>

² UIS.Stat. Education. Participation. Enrolment. Enrolment by level of education. Enrolment in tertiary education, all programmers, both sexes (number). <http://data.uis.unesco.org/Index.aspx>



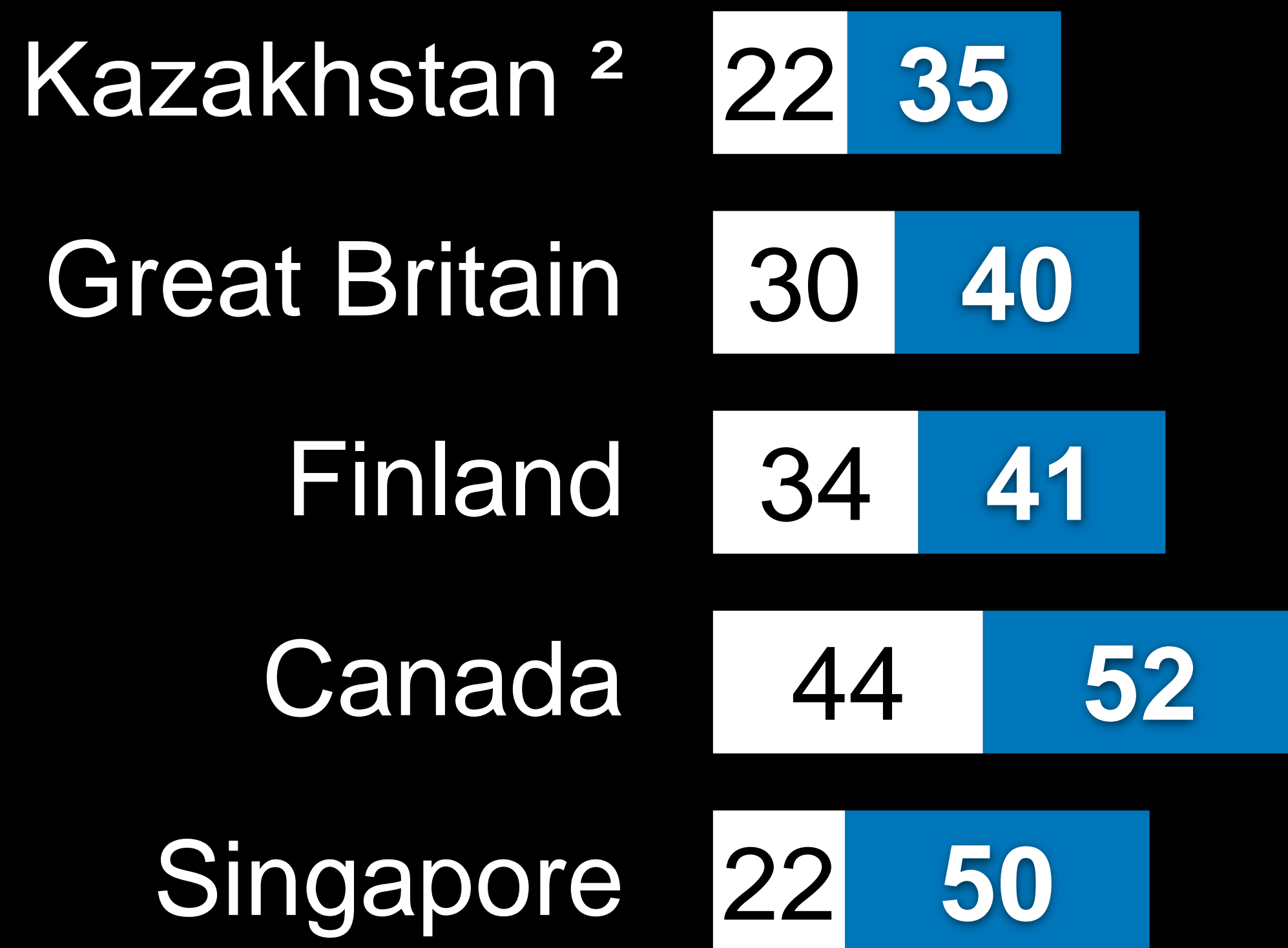
“So, today, I set a goal that in the next century, 50% of young people can enroll at the universities”



"By 2020, the United States will increase the number of young people (25-34 years) with Higher Education from 40 to 60%"

Share of population ¹ with HE

■ 2005 ■ 2014



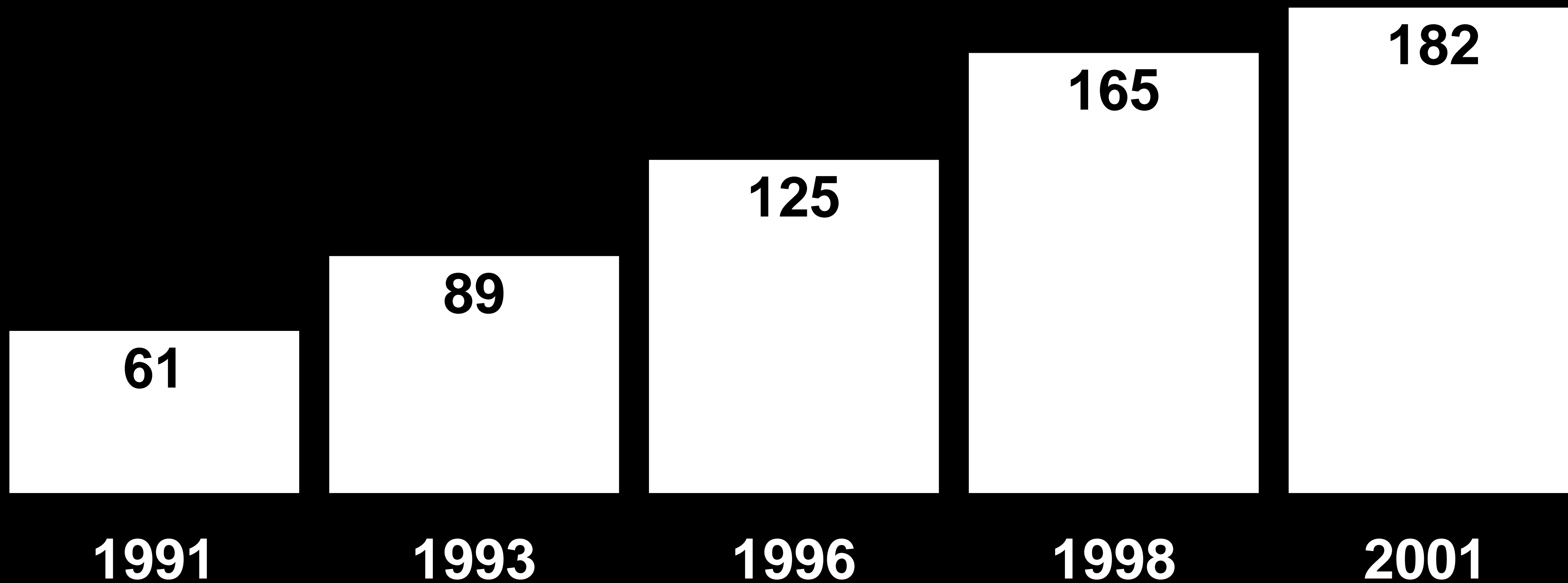
Country	Students per 1 million ³
India	88
USA	69
China	64
Russia	53
Turkey	77
Kazakhstan	28
World	69

¹<http://uis.unesco.org> ²Current World Population. <http://www.worldometers.info/world-population/>

²http://stat.gov.kz/faces/wcnav_externalId/homeNumbersEducation;jsessionid=0laN3s6e2HYs0xXVPzYKToEMi1mJLoxb_laXgy5_ro6cR76Fy2Pk!-30458637!-1382185950?lang=ru&_adf.ctrl-state=e02u61ks_4&_afLoop=3846899705657523#%40%3F_afLoop%3D3846899705657523%26lang%3Dru%26_adf.ctrl-state%3Dgpl0d40b_4

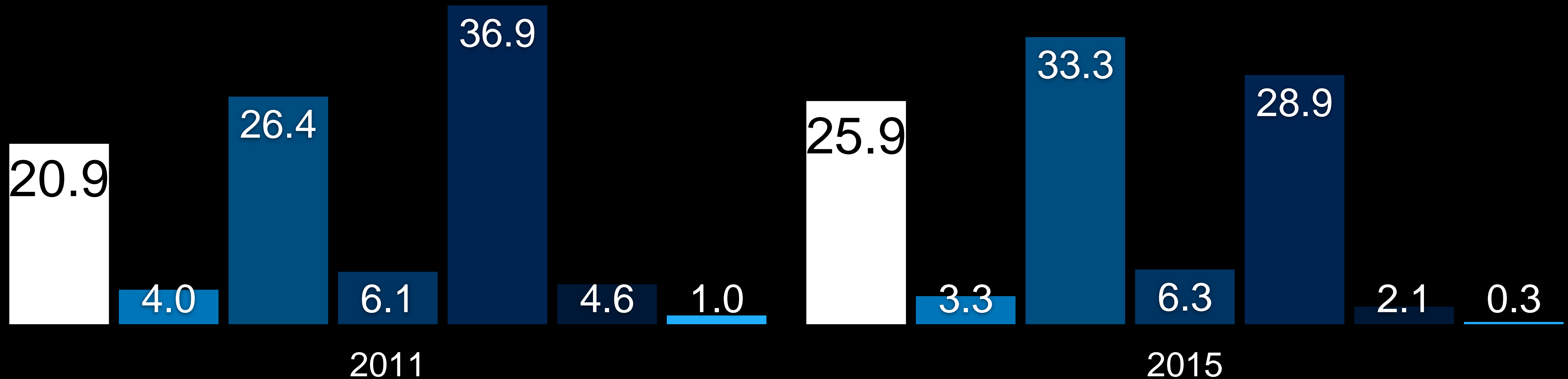
Данные Всемирного банка, <http://data.worldbank.org/indicator/SL.TLF.TERT.ZS>,
КС МНЭ РК <http://stat.gov.kz/>

Number of HE Institutions in Kazakhstan



Graduate unemployment

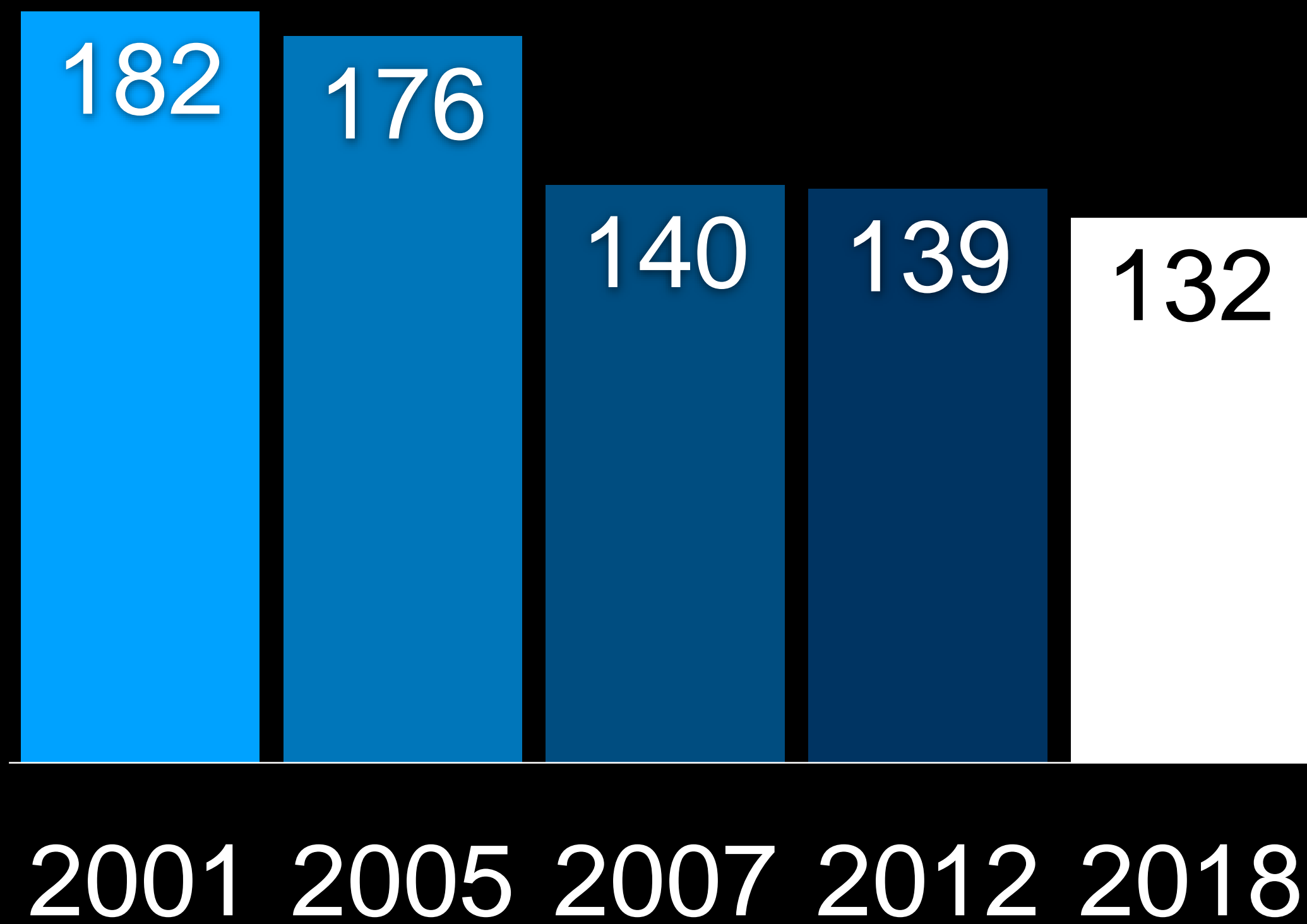
Unemployment rate (%) by the levels of education



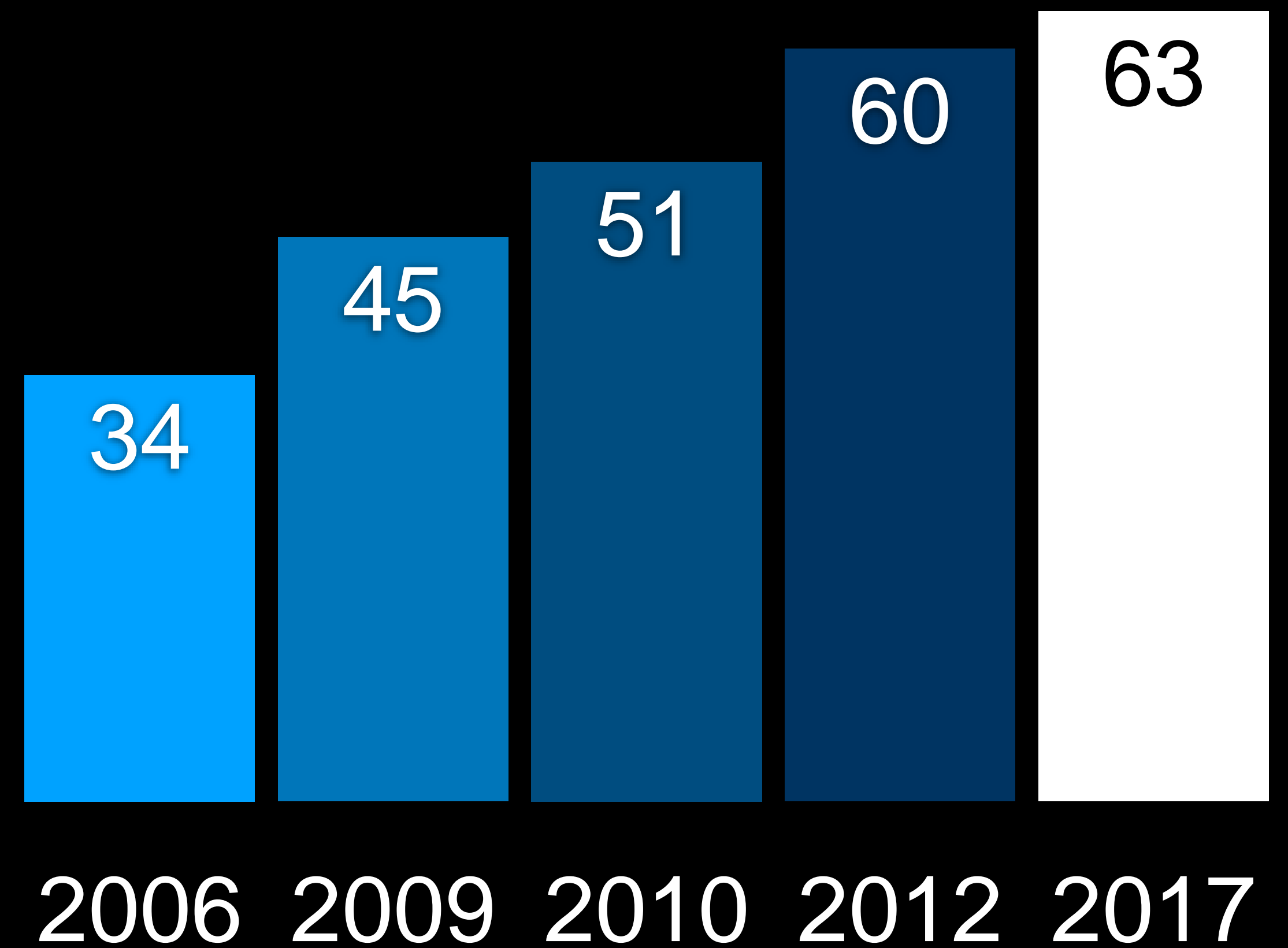
- Higher Education
- Secondary Professional Education
- General Secondary Education
- Elementary General Education

- Incomplete Higher Education
- Elementary Professional Education
- Basic General Education

Number of HE Institutions in Kazakhstan



Kazakhstan by HE enrollment, GCI WEF



How can Kazakhstan and similar countries avoid these traps?

International universities, branches and campuses¹

76 countries

250 international campuses

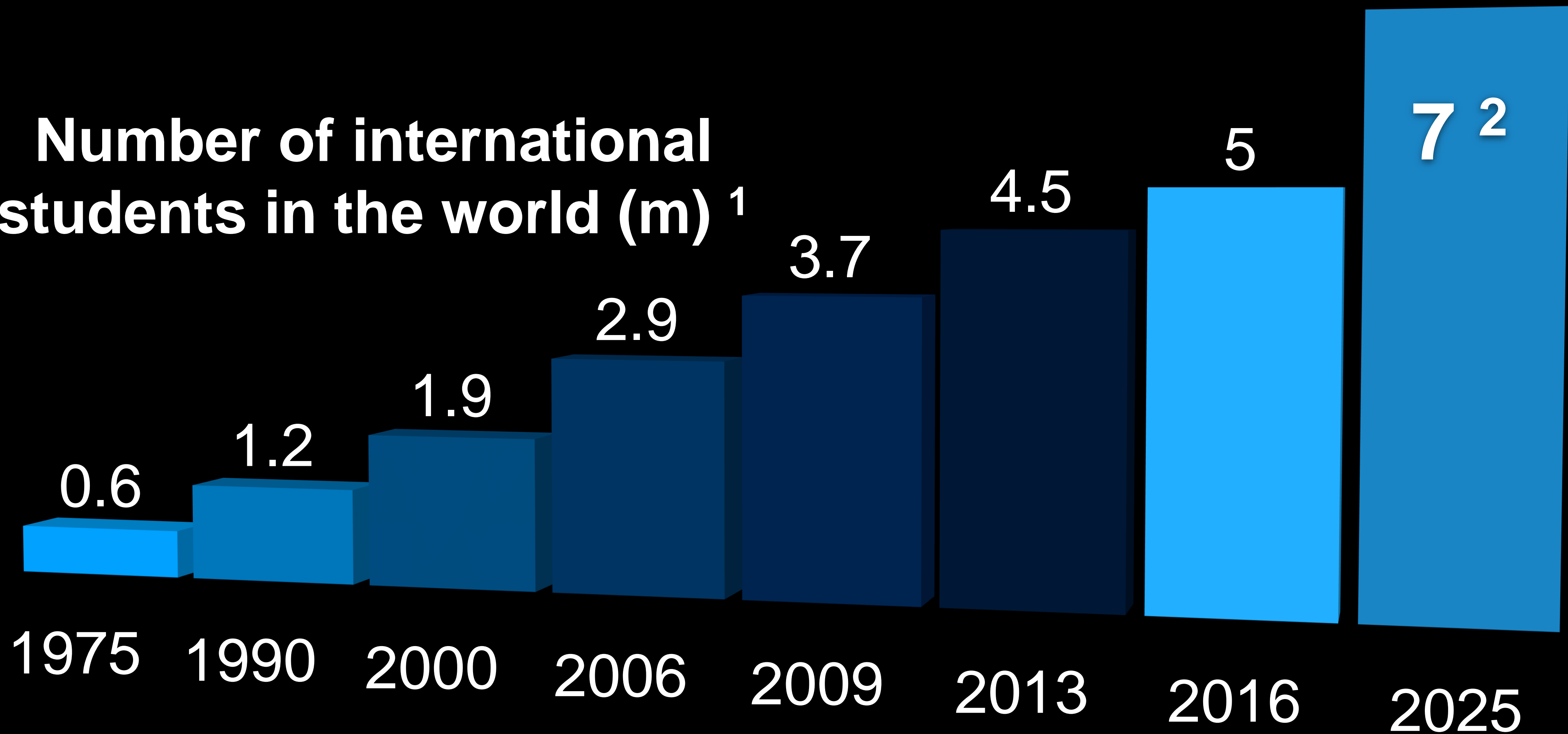
(2000 – 84)

180k students

¹Richard Garrett, Kevin Kinser, Rachael Merola. International Branch Campuses: Trends and Developments, 2016.

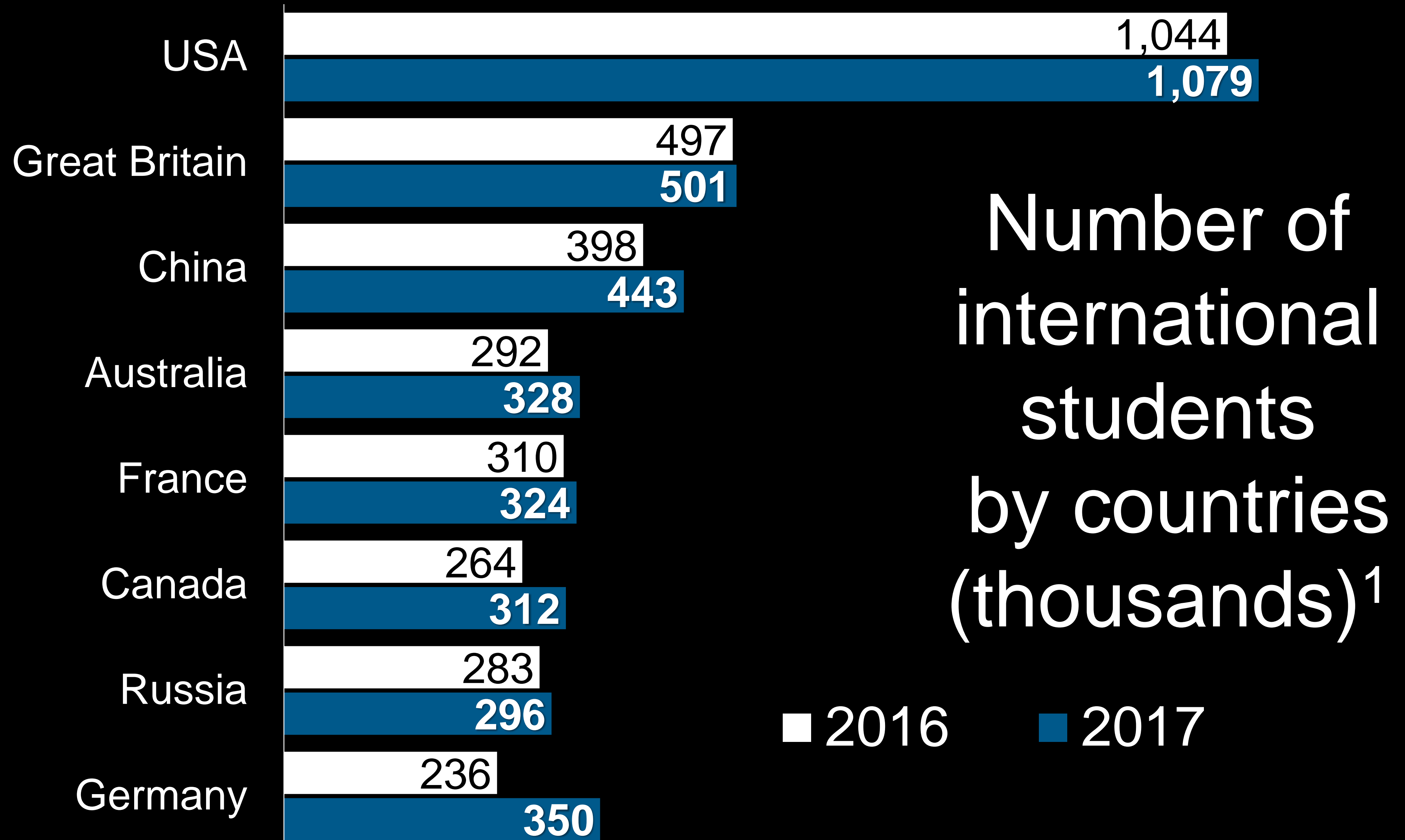
2. Internationalization

Number of international students in the world (m) ¹



¹ J.A. Douglass, R. Edelstein: The Global Market for International Students: American Perspectives, 2015

² The state of international student mobility in 2015. // <http://monitor.icef.com/2015/11/the-state-of-international-student-mobility-in-2015/>



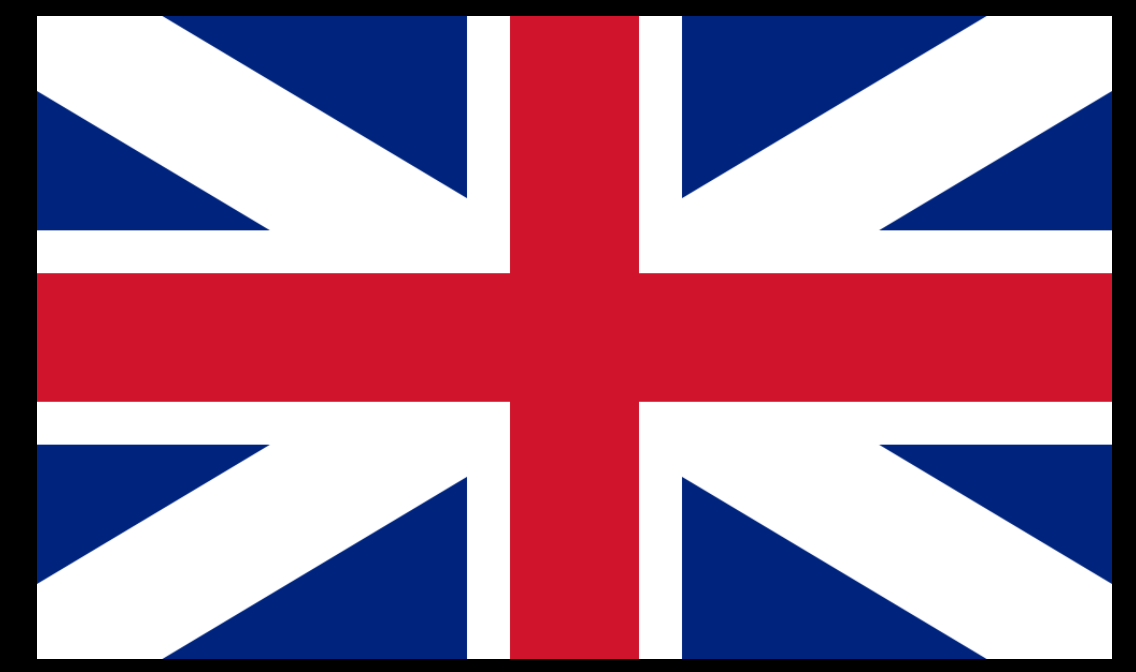
International students – profitable business



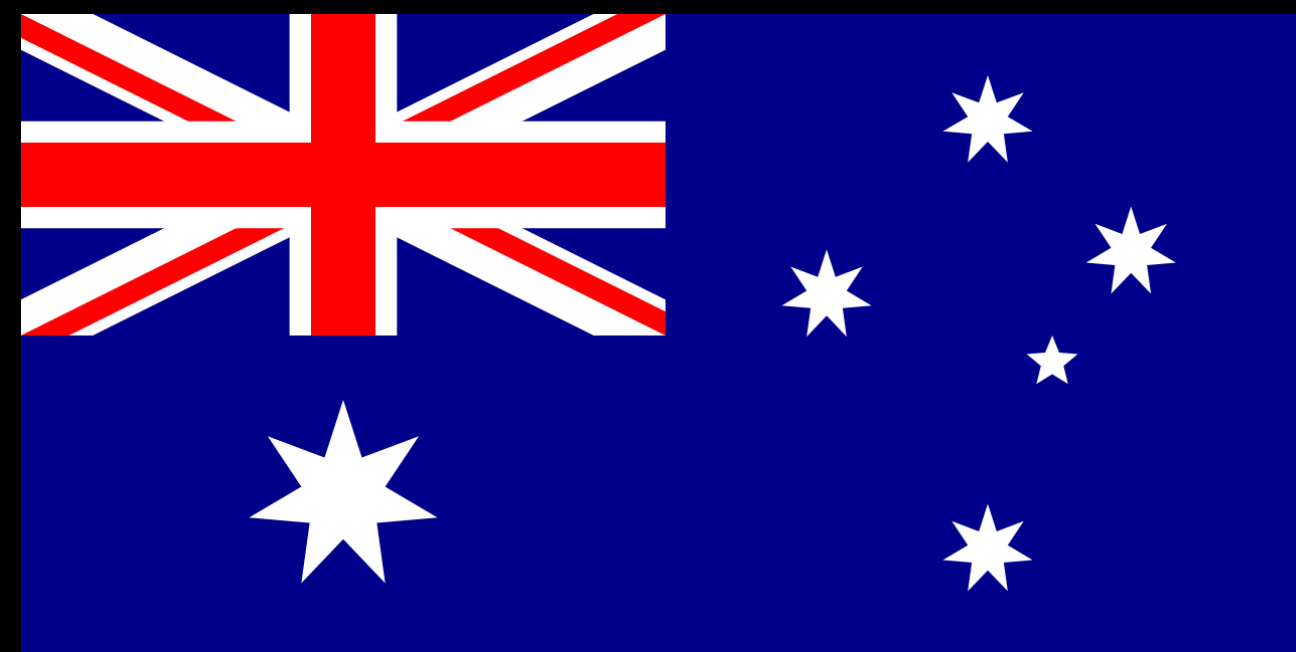
\$37B - 450K jobs¹



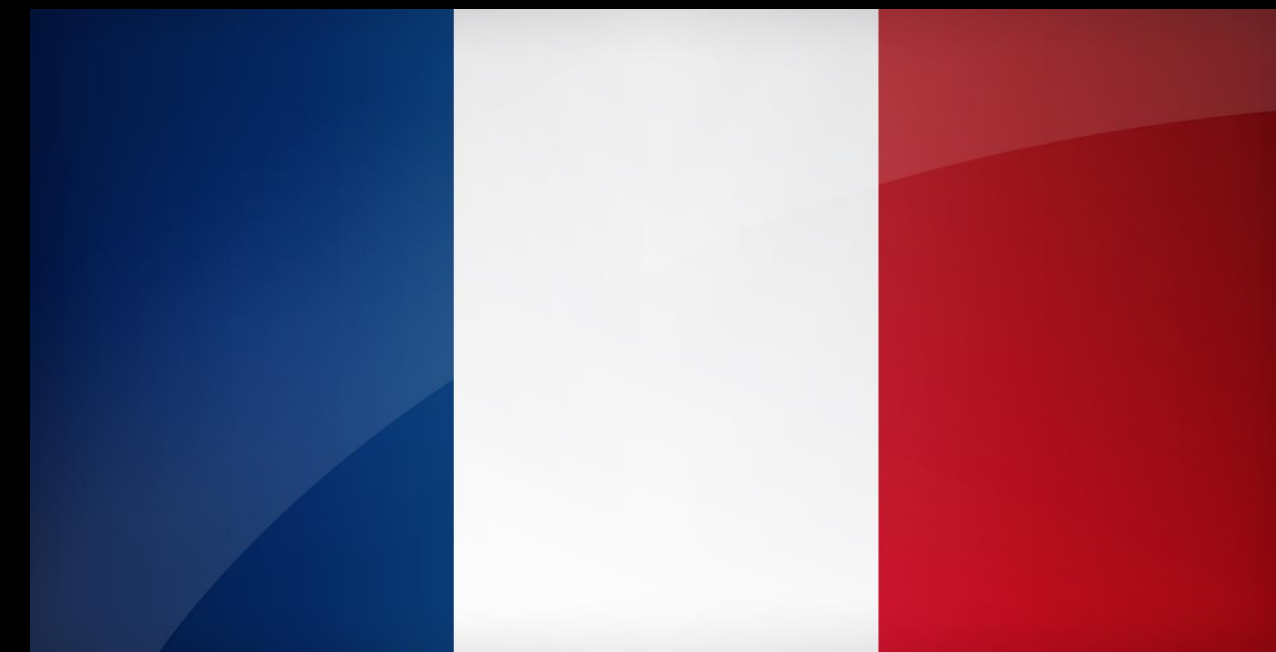
\$9B - 123K jobs²



£13.8B - 207K jobs³



\$18.8B⁴



1.5X times profit⁵

¹NAFSA International Student Economic Value Tool // http://www.nafsa.org/Policy_and_Advocacy/Policy_Resources/Policy_Trends_and_Data/NAFSA_International_Student_Economic_Value_Tool

²Economic Impact of International Education in Canada – 2016 Update. Global Affairs Canada - Roslyn Kunin & Associates, Inc. - July 2016 // <http://www.international.gc.ca/education/report-rapport/impact-2016/index.aspx?lang=eng>

³NAFSA International Student Economic Value Tool // http://www.nafsa.org/Policy_and_Advocacy/Policy_Resources/Policy_Trends_and_Data/NAFSA_International_Student_Economic_Value_Tool

The value of international education to Australia. Australian Government. Prepared by Deloitte Access Economics. 2015. // <https://internationaleducation.gov.au/research/research-papers/Documents/ValueInternationalEd.pdf>

<https://thepienews.com/news/international-students-contribute-e1-6bn-french-economy/>

Race for talents: who attracts more and faster?



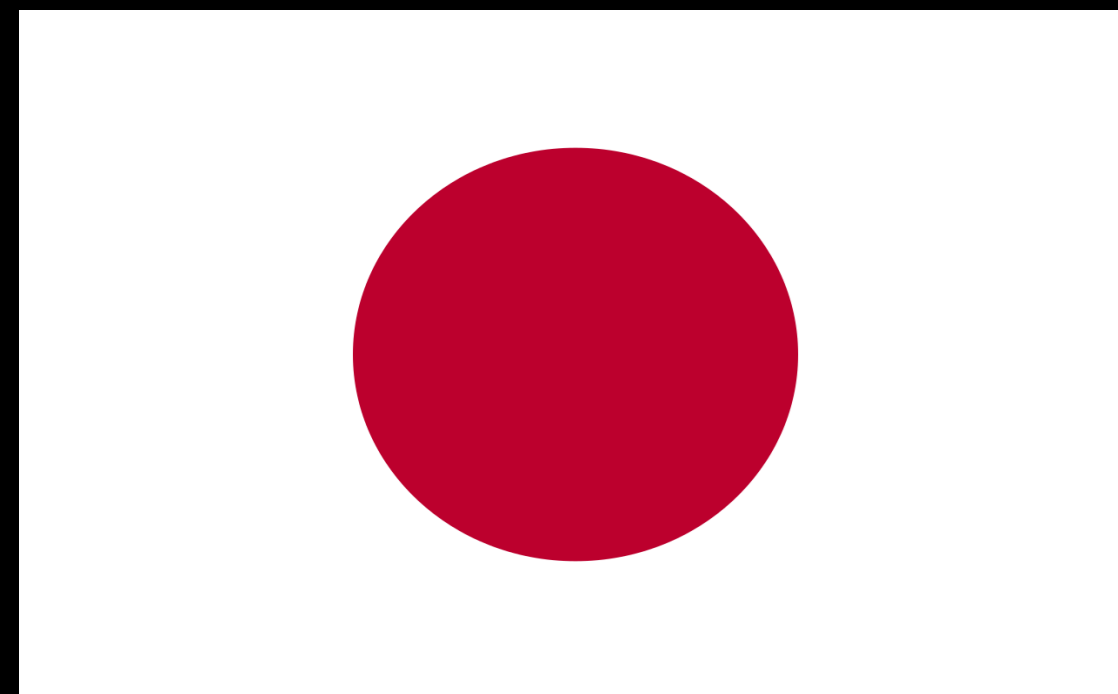
2025 - 710к



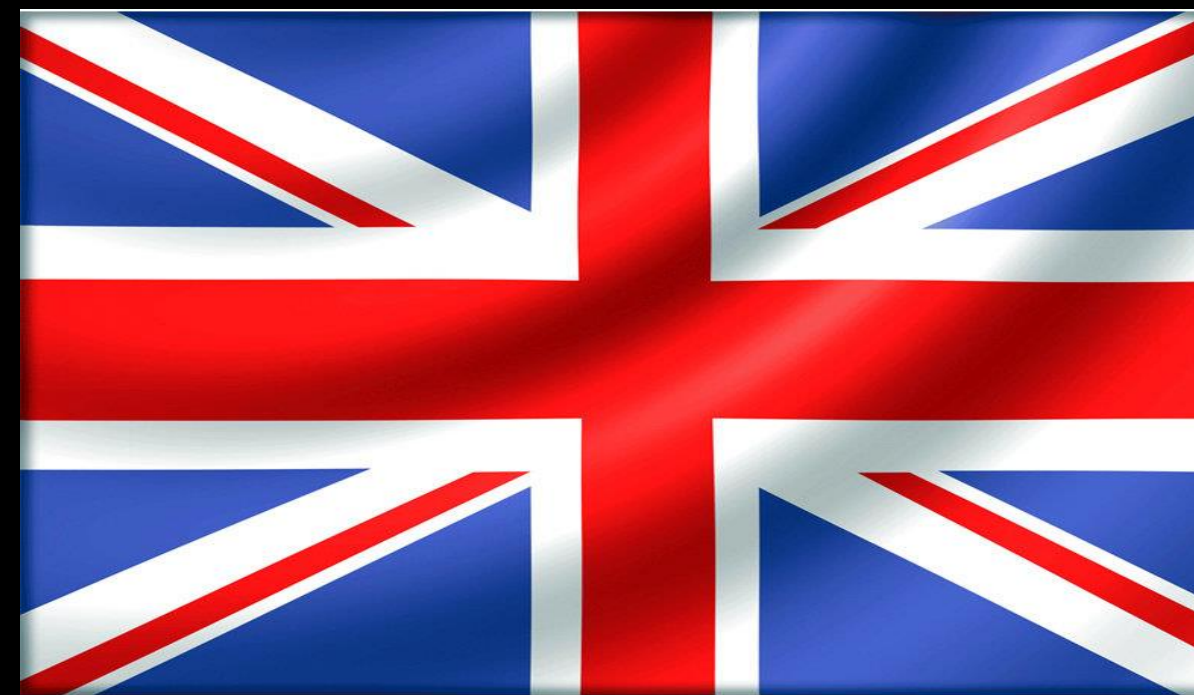
2020 - 500к



2020 - 350к



2020 - 300к

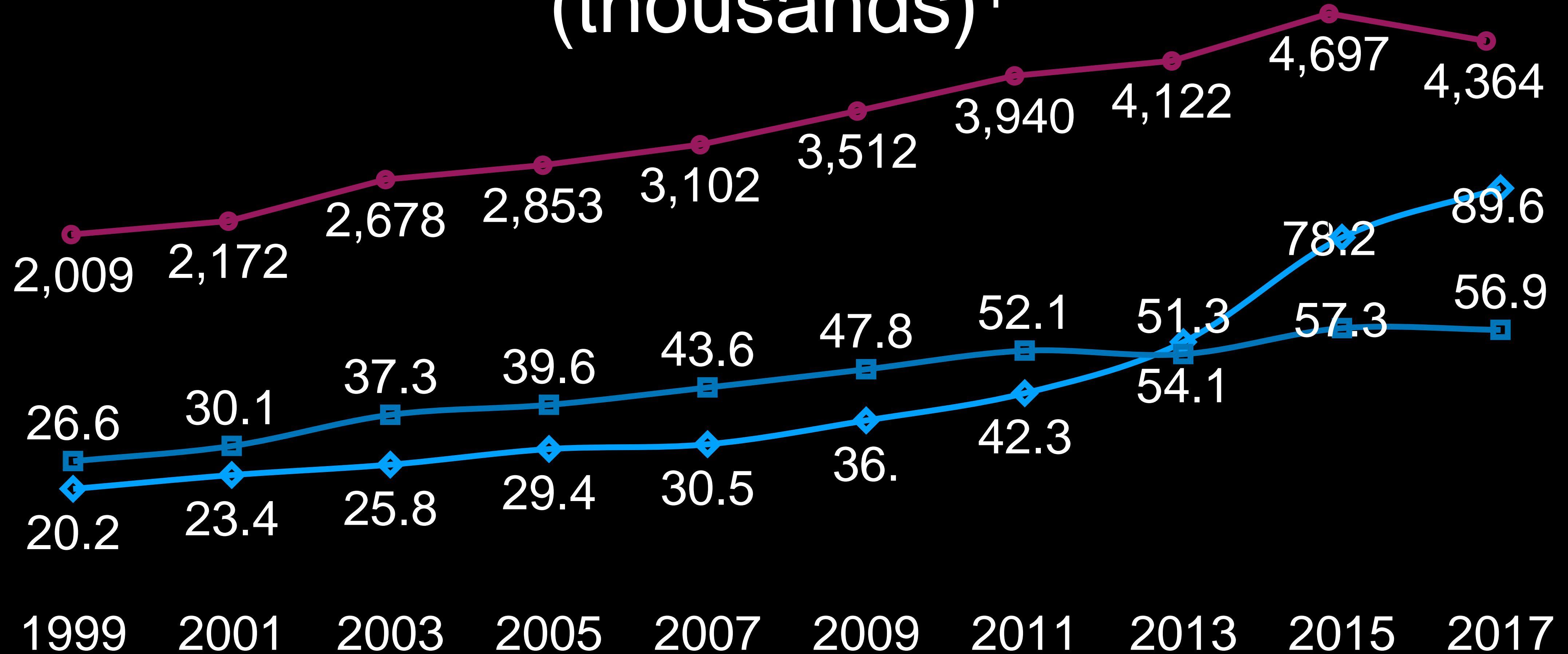


2030 - 600к



350к

Number of students studying abroad (thousands)¹



¹Education. Outbound internationally mobile students by host regions <http://data.uis.unesco.org/index.aspx?queryid=169>

Is this good for us?

2 scenarios

Well organized
force with international
knowledge and experience
to enter 30 most
developed countries in the
world

“Brain drain”,
loss of civic identity,
values and patriotism,
undermine country's image by
unworthy behavior

How to avoid this scenario?

3. Digitalization

 35M students¹

 Udemy 30M students²

 40M students³

ЛЕКТОРИУМ 105K students⁴

Digital Study Trends Survey

McGraw-Hill Education

- 94% students better remember the new information when applying digital technology.
- 72% natural science students: digital technologies have a positive impact on learning STEM subjects
- 53% USA students: prefer lessons with the digital technologies

Will the digitalization help
to escape the “traps”?

But: 52% of the registered for online-
courses never use textbooks bought
during the courses

Will the digitalization
help to avoid “traps”?

Thank you