CRACOW UNIVERSITY OF ECONOMICS

CSB Cracow School of Business MBA Postgraduate Studies

POLISHPROFESSIONALS IN SWITZERLAND

Modern Education – Preparing Leaders to Face Challenges of Industry 4.0

Piotr Sedlak, Ph.D., Cracow, 14th of June, 2018

IoT RPA AI

Industry 4.0 – automation

RPA - Robotic Process Automation

AI – Artificial Intelligence

Machine learning

Cognitive computing

IoT - Internet of Things

Cloud Computing

Big Data

INDUSTRY 4.0

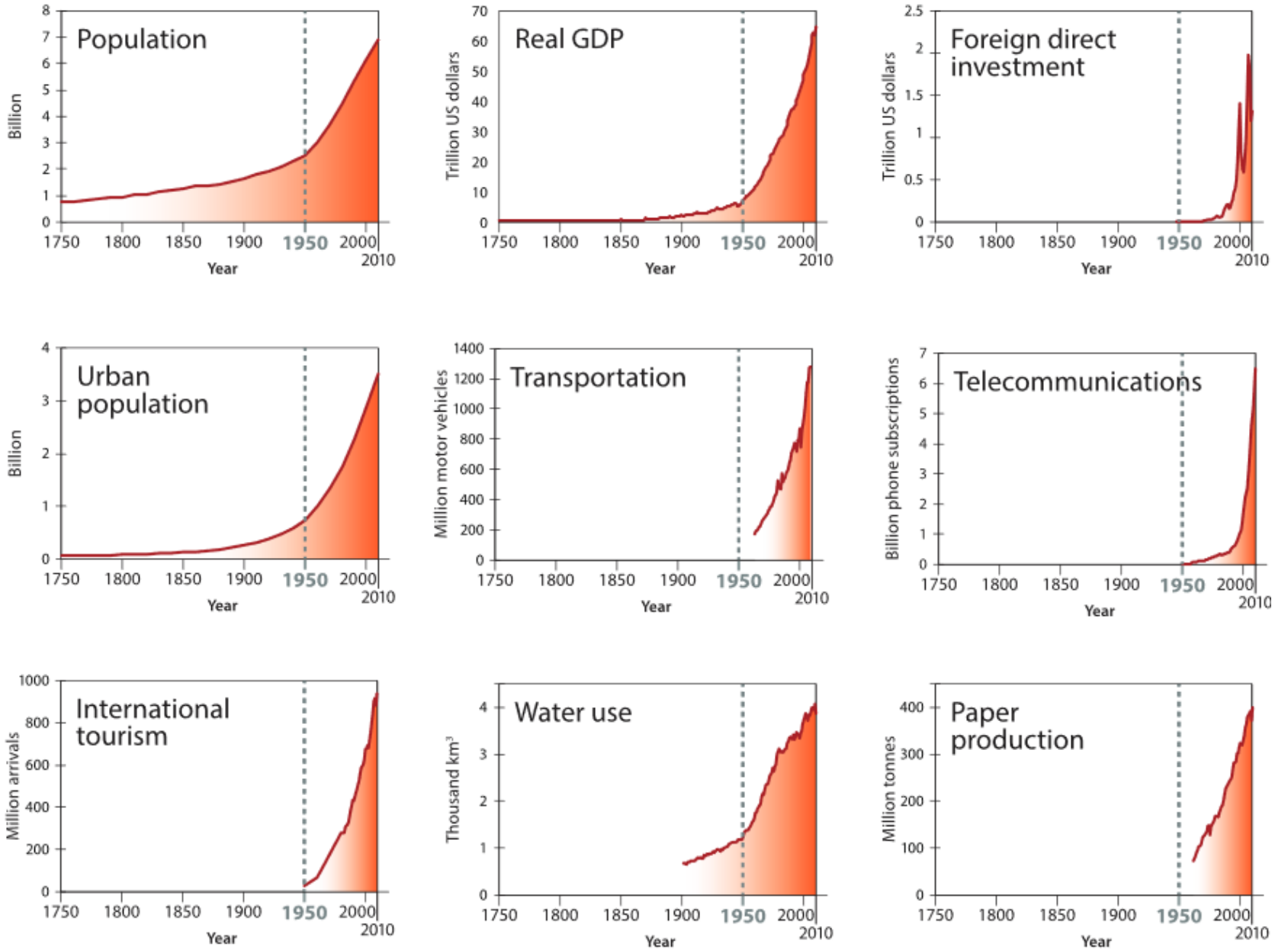
source: http://www.klimate.com.au/climate/wp-content/uploads/2017/05/Industry-4th.png, retrieved 06.2018

A factory or system to be considered Industry 4.0, must include:

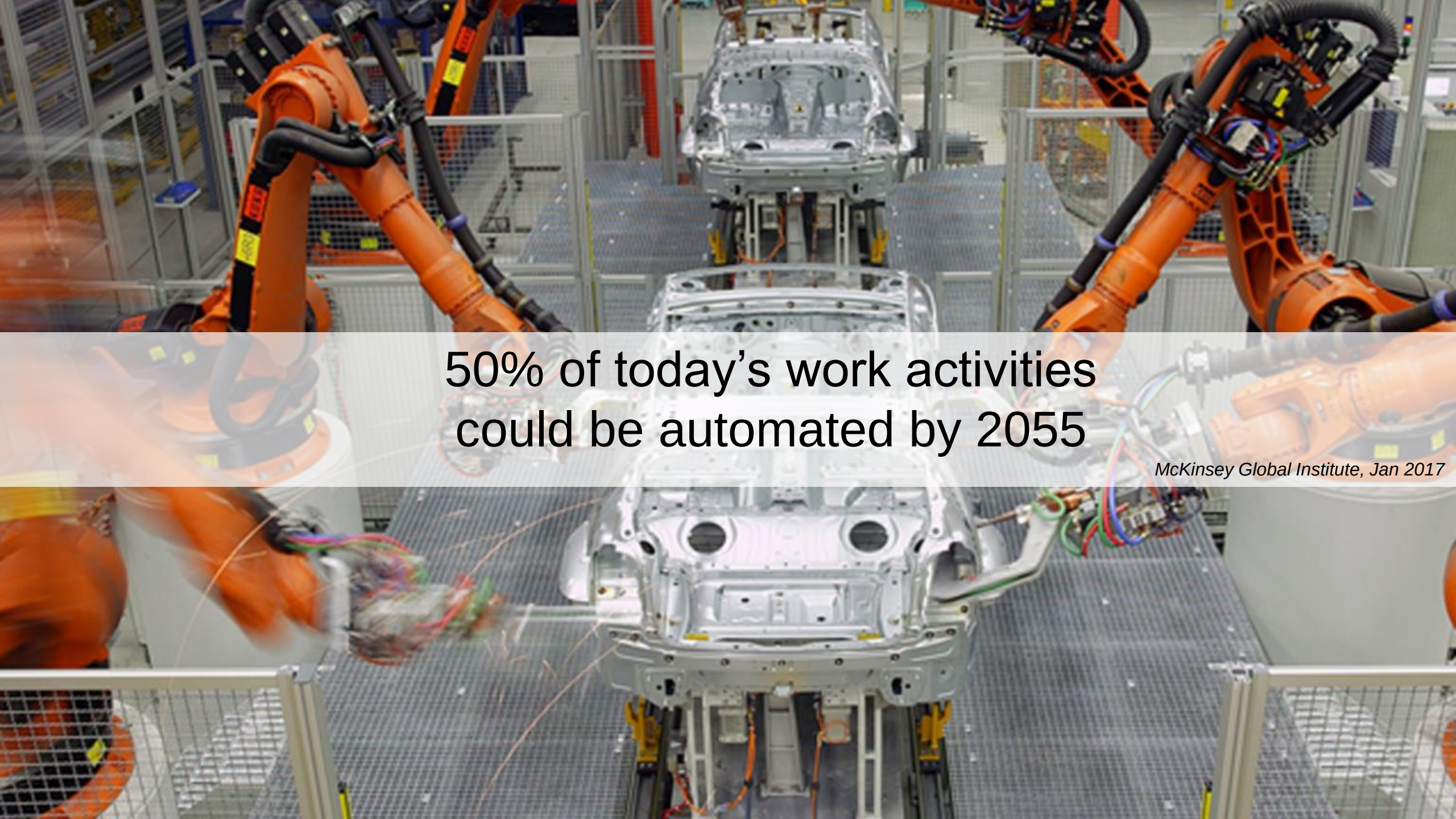
- **Interoperability** — machines and people communication
- **Information transparency** — a virtual copy of the physical world through sensor data
- **Technical assistance** —systems support humans in making decisions and solving problems
- **Decentralized decision-making** — the ability of cyber-physical systems to make simple decisions on their own and become as autonomous as possible

Marr B., Forbes, https://www.forbes.com/sites/bernardmarr/2016/06/20/what-everyone-must-know-about-industry-4-0/#60cea3c8795f

Are we there already?



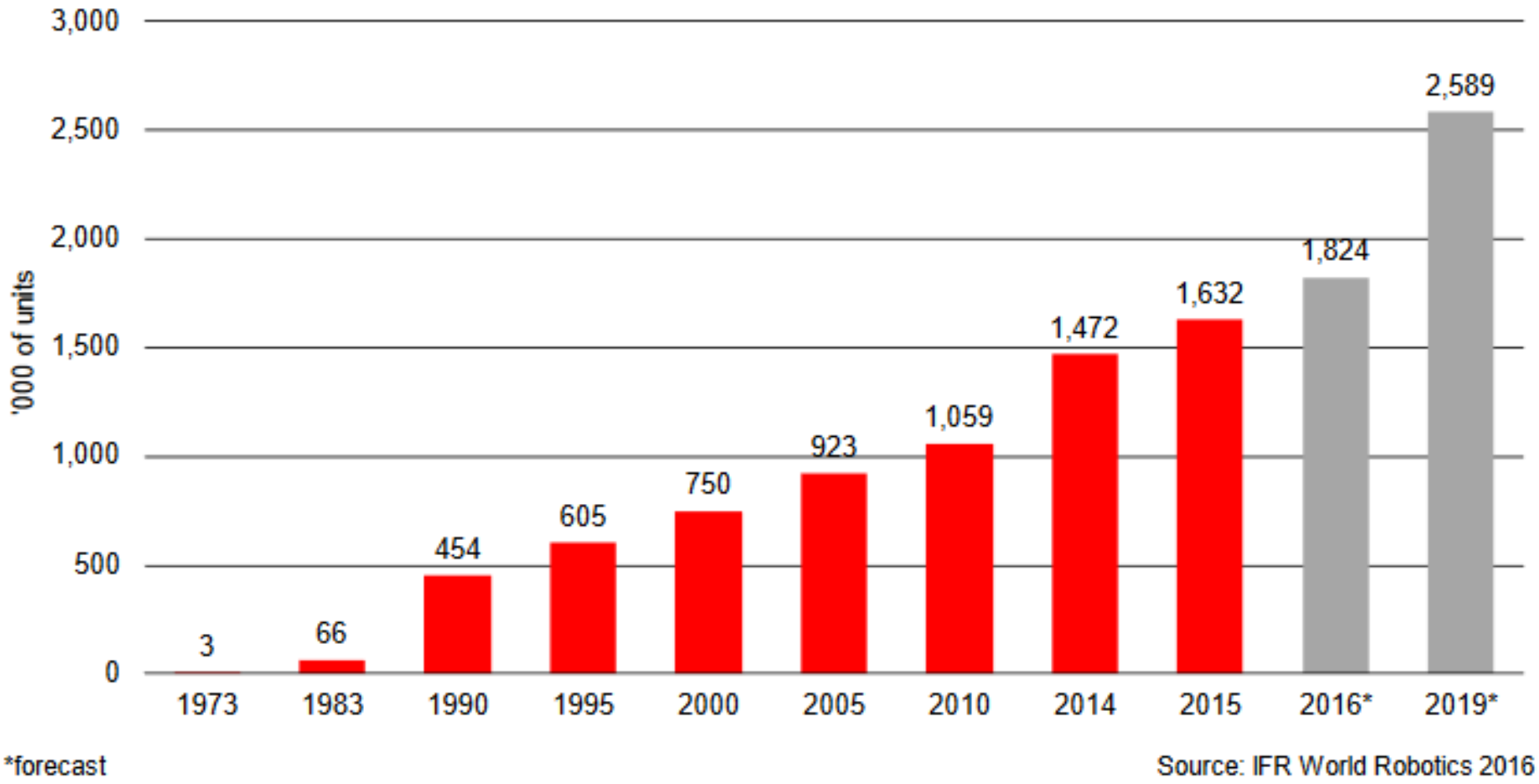
Steffen, W., Broadgate, W., Deutsch, L., Gaffney, O., & Ludwig, C. (2015).
The trajectory of the Anthropocene: The Great Acceleration. The Anthropocene Review, 2(1), 81–98.



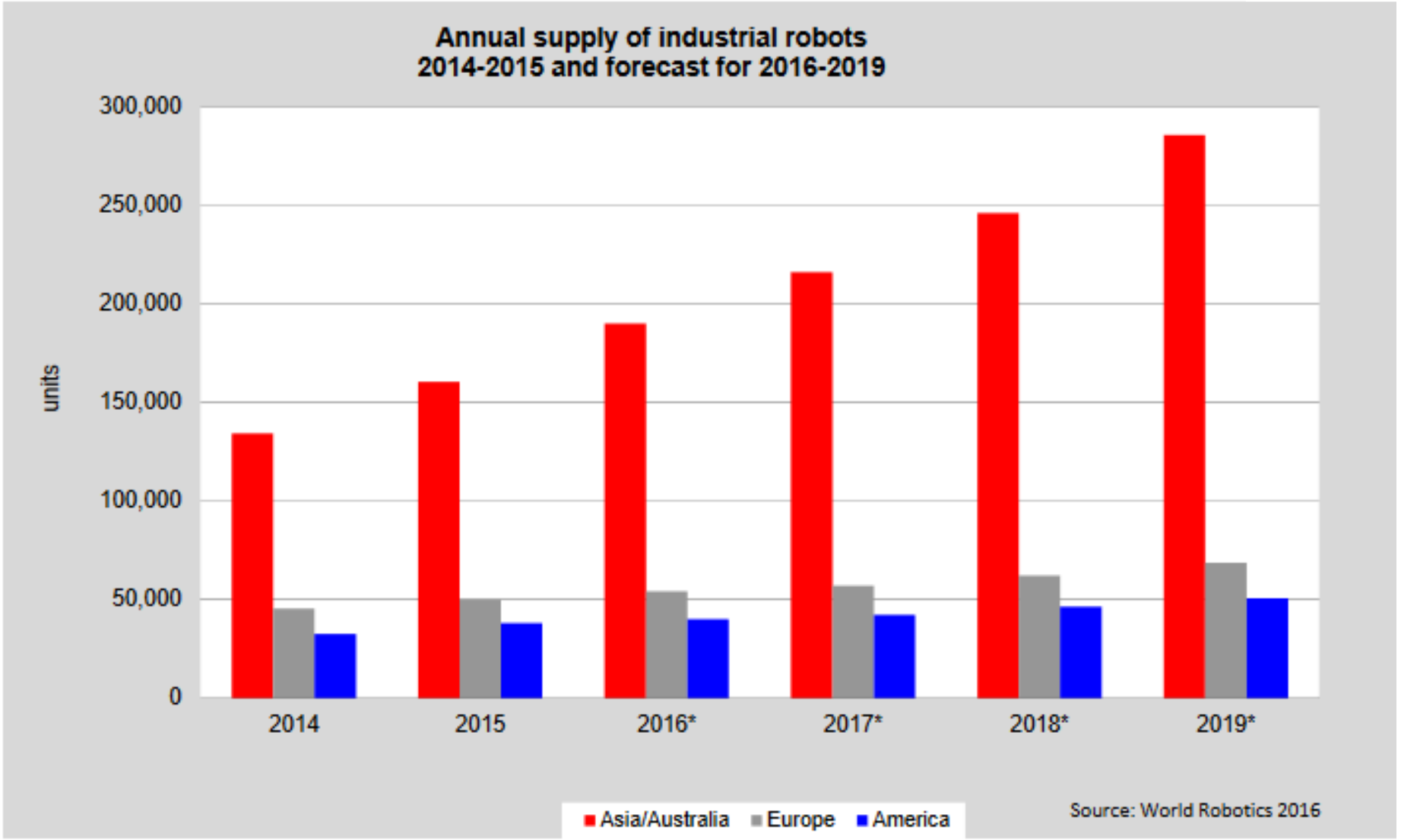
50% of today's work activities could be automated by 2055

McKinsey Global Institute, Jan 2017

Worldwide estimated operational stock of industrial robots

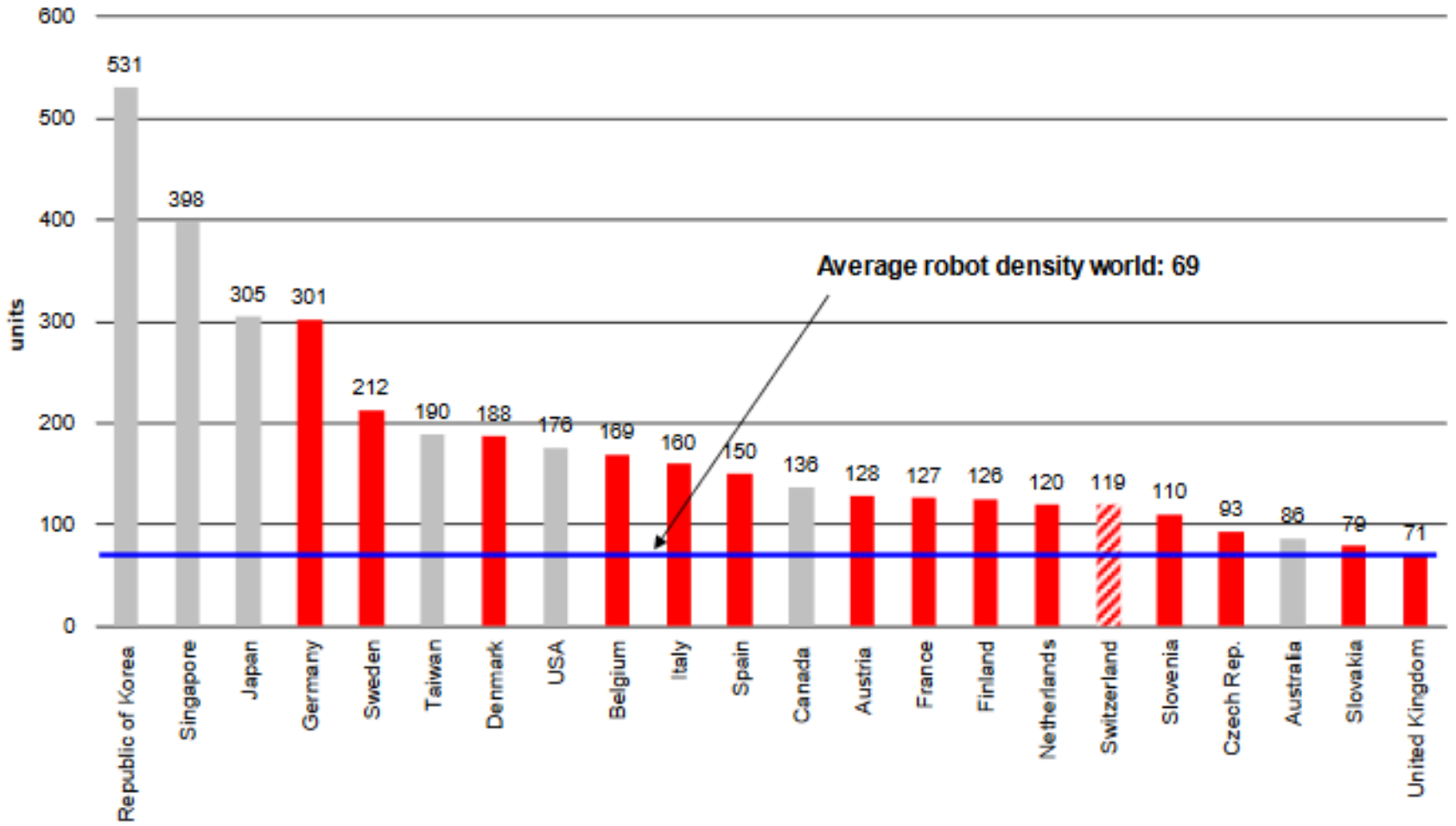


source: https://ifr.org/img/uploads/Presentation_market_overviewWorld_Robotics_29_9_2016.pdf



Source: https://ifr.org/img/uploads/Executive_Summary_WR_Industrial_Robots_20161.pdf

Figure 2.9 Number of multipurpose industrial robots (all types) per 10,000 employees in the manufacturing industry (ISIC rev.4: C) 2015

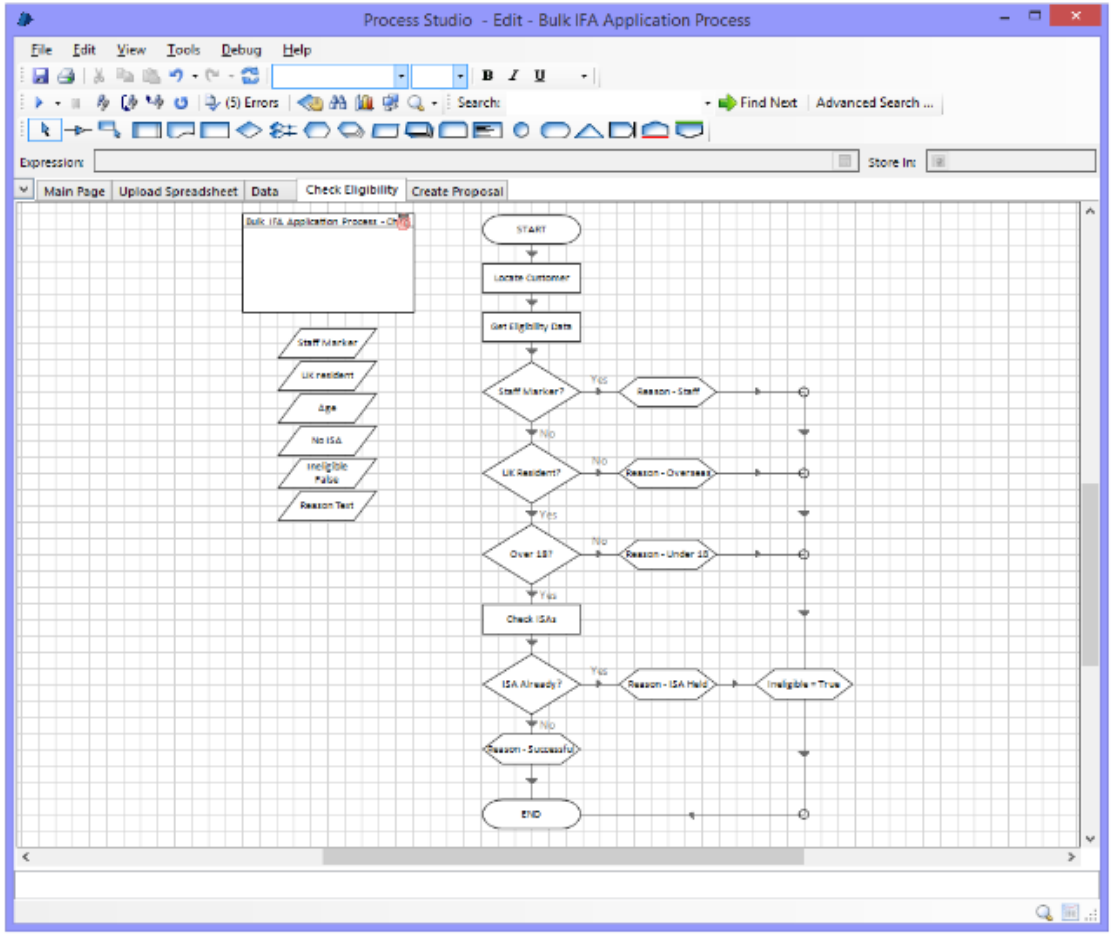


Source: https://ifr.org/img/uploads/Executive_Summary_WR_Industrial_Robots_20161.pdf

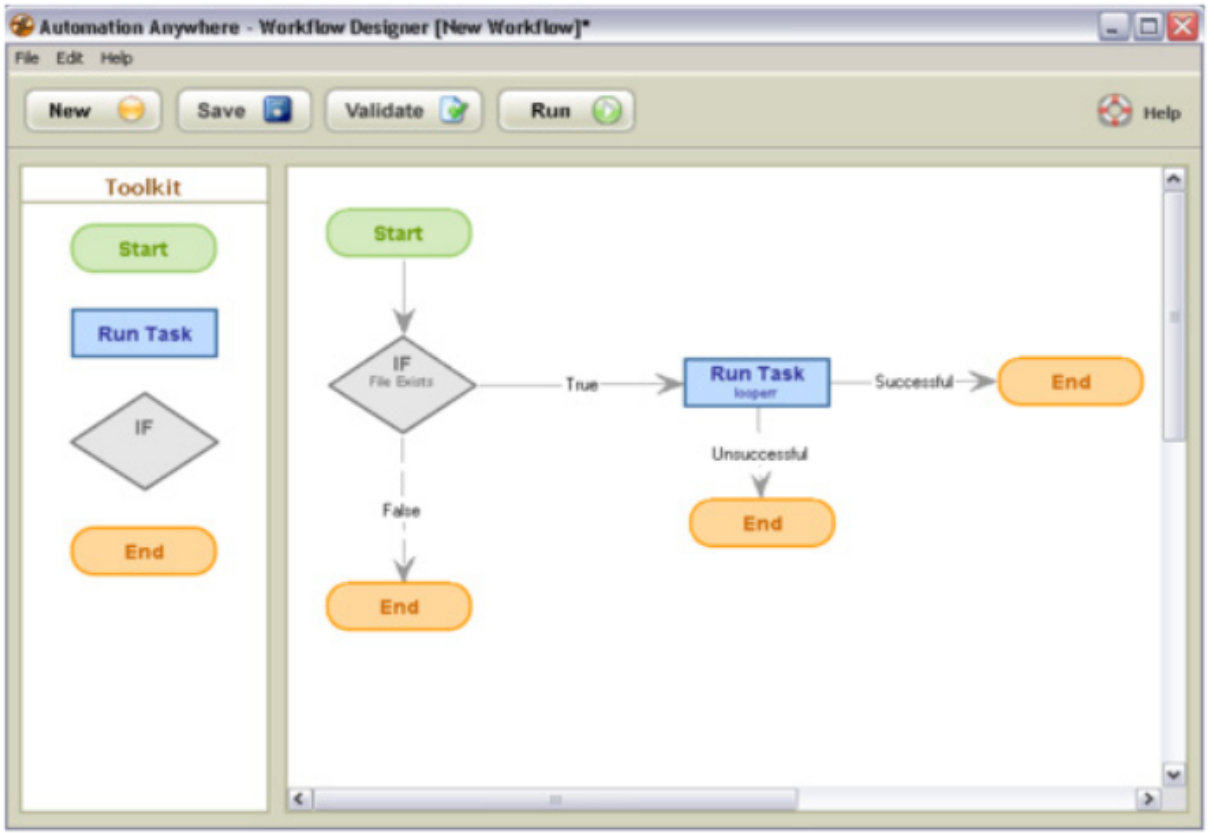
Robots are not only physical machines…

Robotic Process Automation

Figure 2: User Interfaces for RPA Software



Blue Prism screenshot for development environment



Automation Anywhere screenshot for development environment

source Lacity, M. C., & Willcocks, L. P. (2016). Robotic Process Automation at Telefónica O2, *2016*(March), 21–36.

„Google, make me a haircut appointment on Tuesday between 10 and noon”

GOOGLE

Mashable

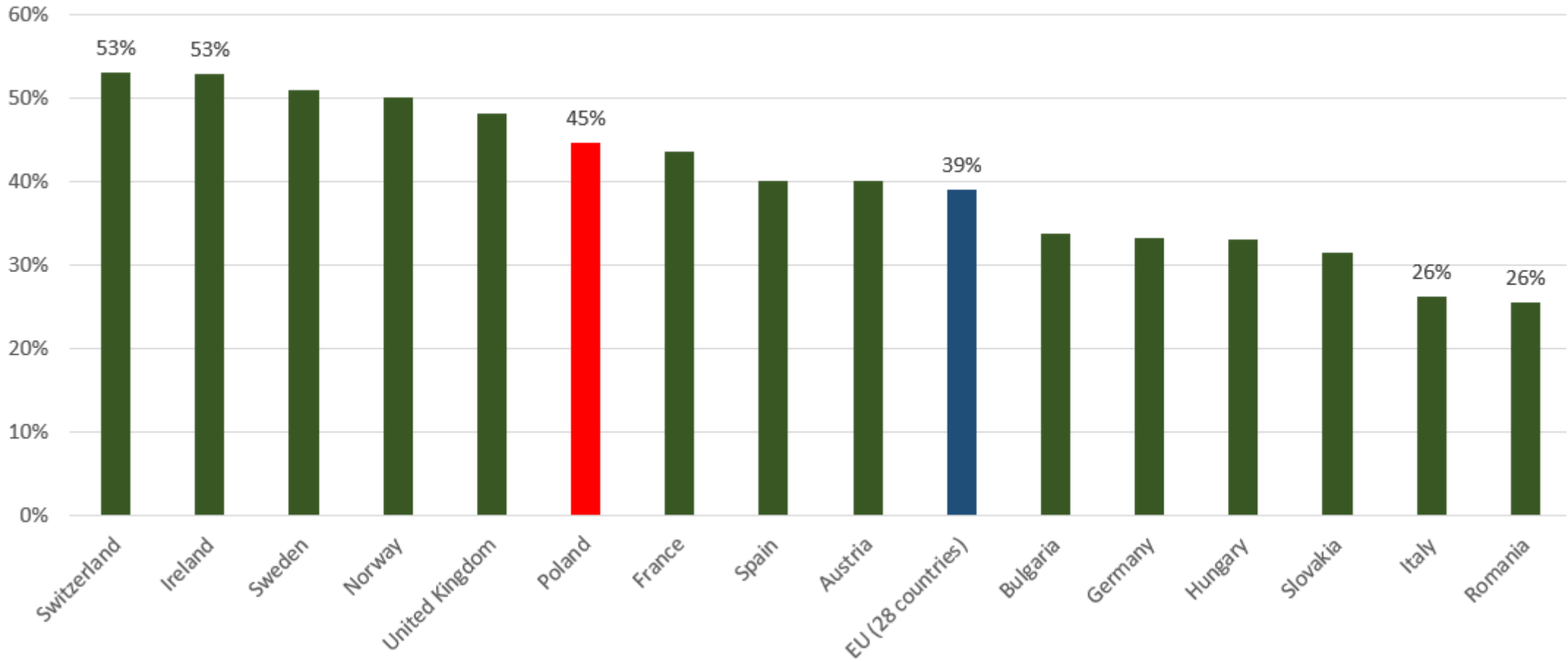
Are we ready?
The example of Poland.

In academic year **2016/2017** there were:
1,35 M students, 57% woman

900 000 in stationary programs (Monday –Friday)
450 000 in nonstationary program (weekends)

source: https://www.studenckamarka.pl/serwis.php?s=73&pok=1909, retrieved 03.2018

% of people with tertiary education (age 30-34)

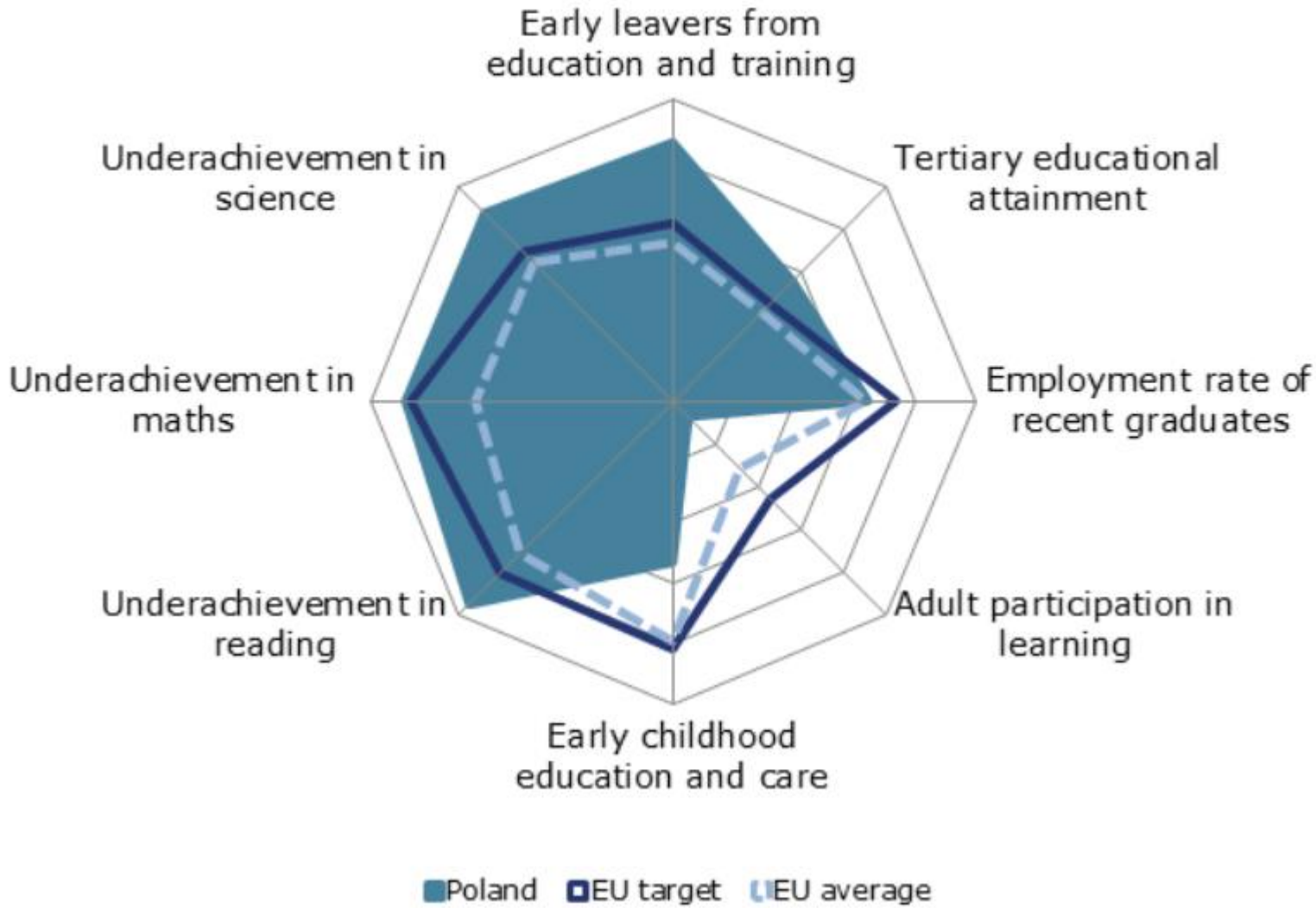


source: Piotr Sedlak, based on EUROSTAT, http://appsso.eurostat.ec.europa.eu, data for 2016

		Poland		EU average	
		2012	2015	2012	2015
ET 2020 benchmarks					
Early leavers from education and training (age 18-24)		5.7%	5.3%	12.7%	11.0%
Tertiary educational attainment (age 30-34)		39.1%	43.4%	36.0%	38.7%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		78.4% [11]	87.1% [14]	93.2% [11]	94.3% [14]
Proportion of 15 year-olds with underachievement in:	Reading	10.6%	:	17.8%	:
	Maths	14.4%	:	22.1%	:
	Science	9.0%	:	16.6%	:
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)		73.3%	77.4%	75.9%	76.9%
Adult participation in lifelong learning (age 25-64)		4.5%	3.5%	9.2%	10.7%
Public expenditure on education as a percentage of GDP		5.4%	5.3% [14]	5.0%	4.9% [14,p]

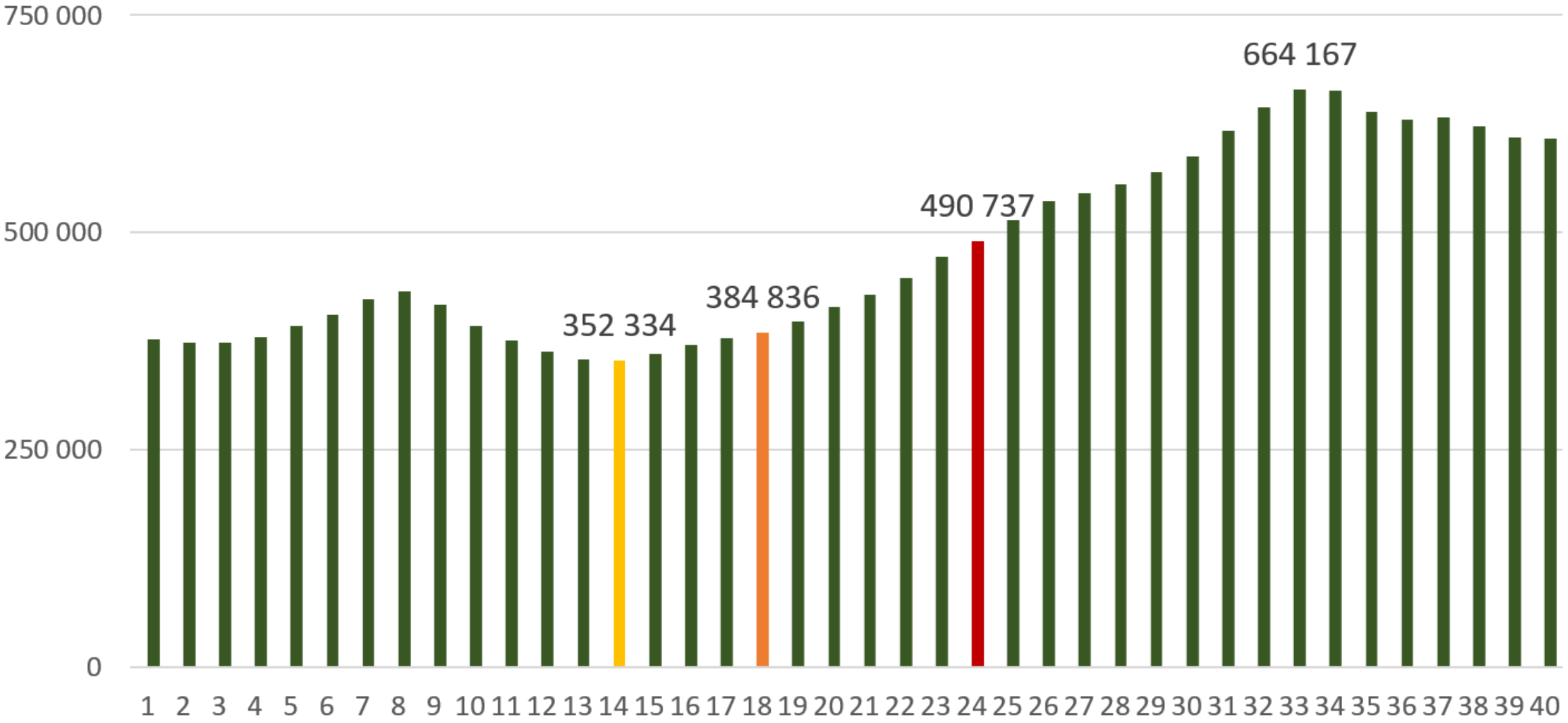
source: Education and Training Monitor 2016 Poland; https://ec.europa.eu/education/sites/education/files/monitor2016-pl_en.pdf

Position in relation to strongest (outer ring) and weakest performers (centre)



source: Education and Training Monitor 2016 Poland; https://ec.europa.eu/education/sites/education/files/monitor2016-pl_en.pdf

No. of people in certain age in PL

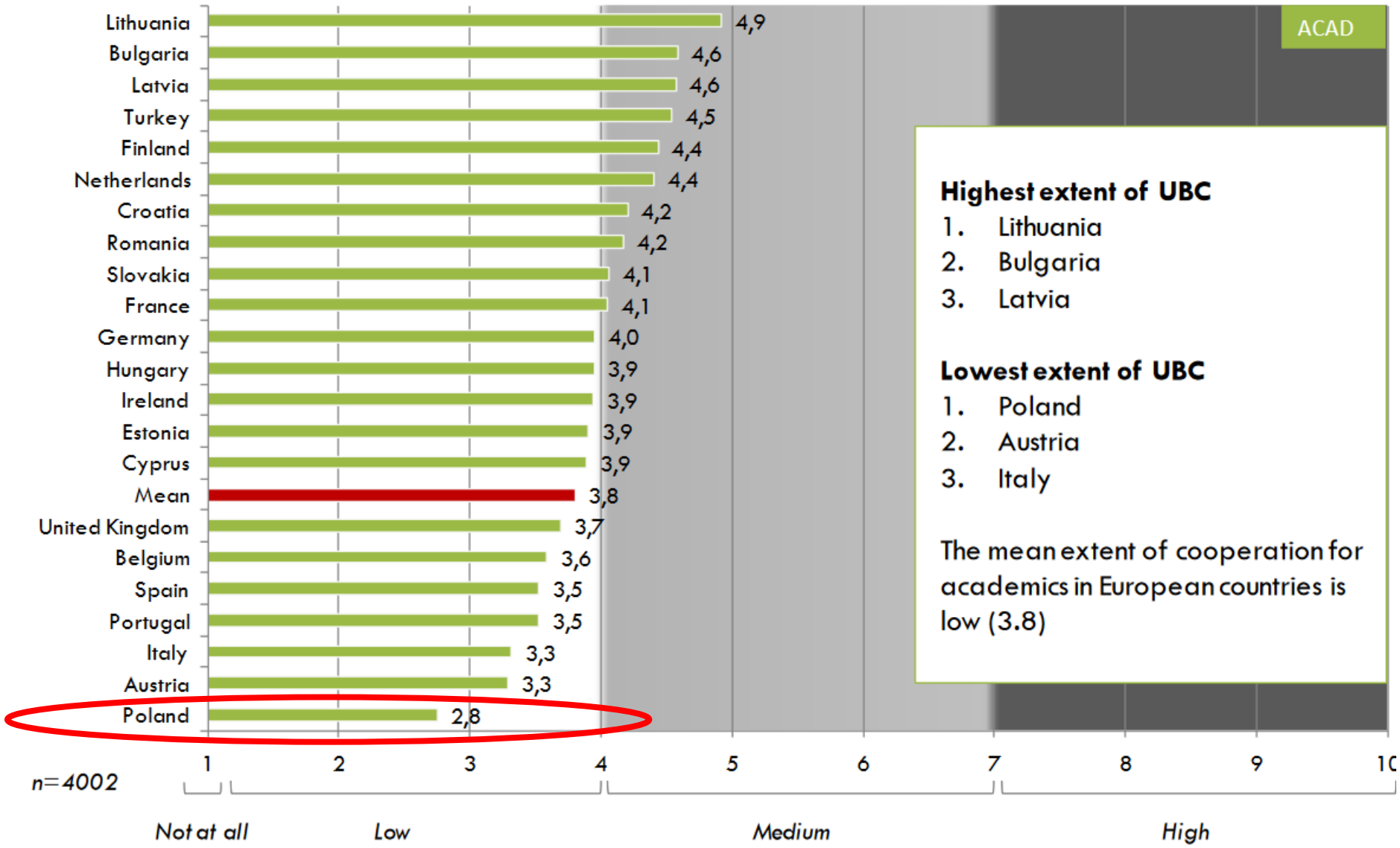


source: Piotr Sedlak, based on GUS, http://swaid.stat.gov.pl/, data for 06.2017

The revolution takes place outside universities

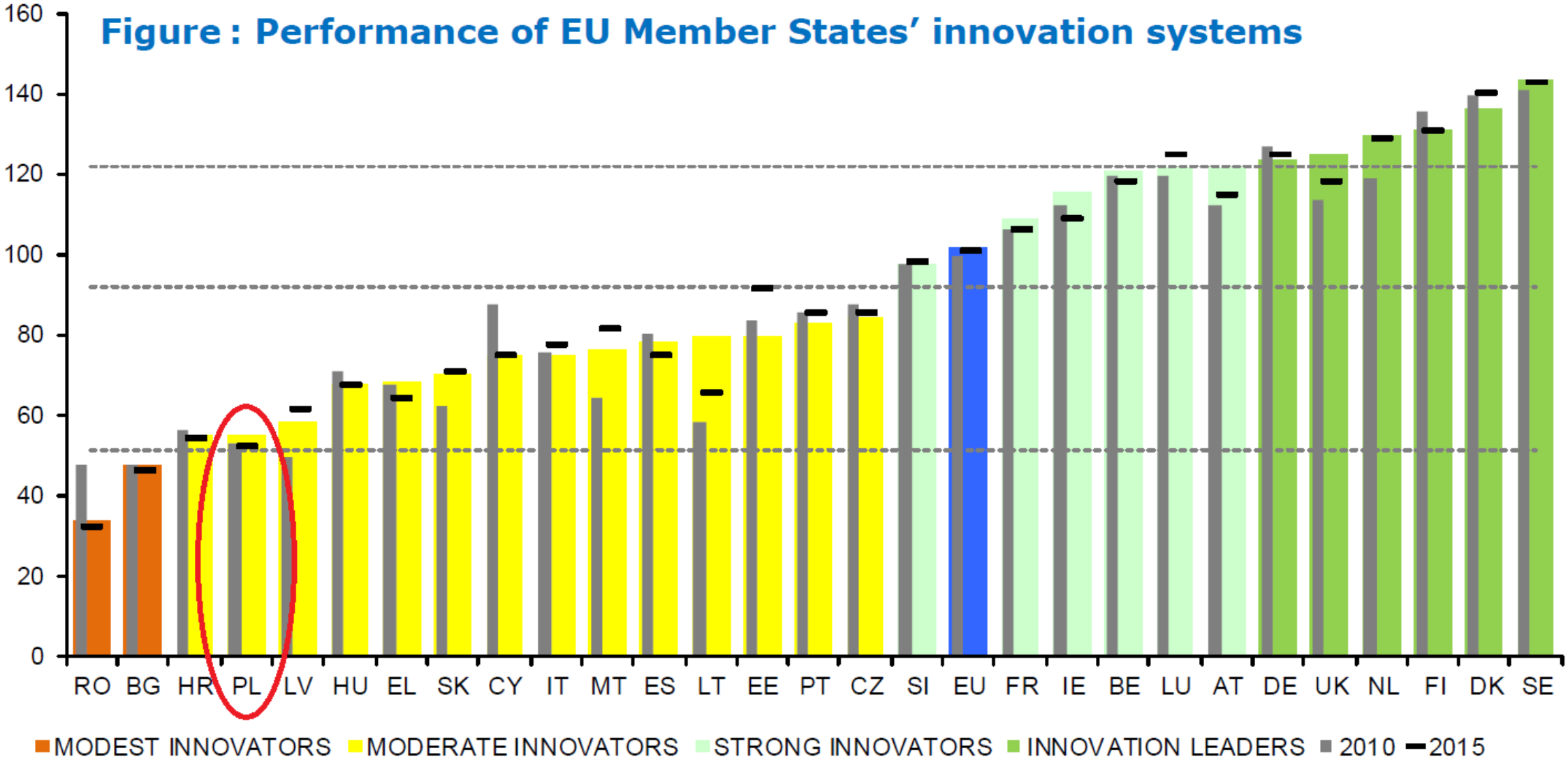
University Business Collaboration

Academics were asked to indicate to what extent they cooperate with business (mean of academic representatives in the country). A minimum of 30 responses were required.



Source: *The State of University-business Cooperation*, Science-to-Business Marketing research Centre, UIIN; 2011

Figure : Performance of EU Member States' innovation systems



European Innovation Scoreboard 2017

Who are we?

Cracow University of Economics

Year of foundation: 1925
No of students: 20 000

Faculty of Economics and International Relations
Faculty of Public Economy and Administration
Faculty of Finance and Law
Faculty of Commodity Science
Faculty of Management

Most popular programs (UEK)

Marketing and market communication (6,4 person per place)
International Logistics (4,6 person per place)
Finance (4,4 person per place)
IT (3,5 person per place)
Law (3 person per place)

…
International relations (<1 person per place)
Innovation in business (<1 person per place)
Sociology (<1 person per place)

Can we chase job market demands during bechalor and master studies?

2 years to develop program,
2-5 years until first graduates,

Being ready on the example of Cracow Business School and International MBA program

INTERNATIONAL MBA PROGRAM

POSTGRADUATE STUDIES
MBA STUDIES
CSB

St. Gallen
Business School

Obecnie realizujemy
12 EDYCJĘ
Programu International MBA

Wykształciliśmy już
217 ABSOLWENTÓW
Programu International MBA

57% KADRY NAUKOWEJ
stanowią wykładowcy zagraniczni

Absolwenci Programu pochodzą
Z 17 KRAJÓW
z całego świata

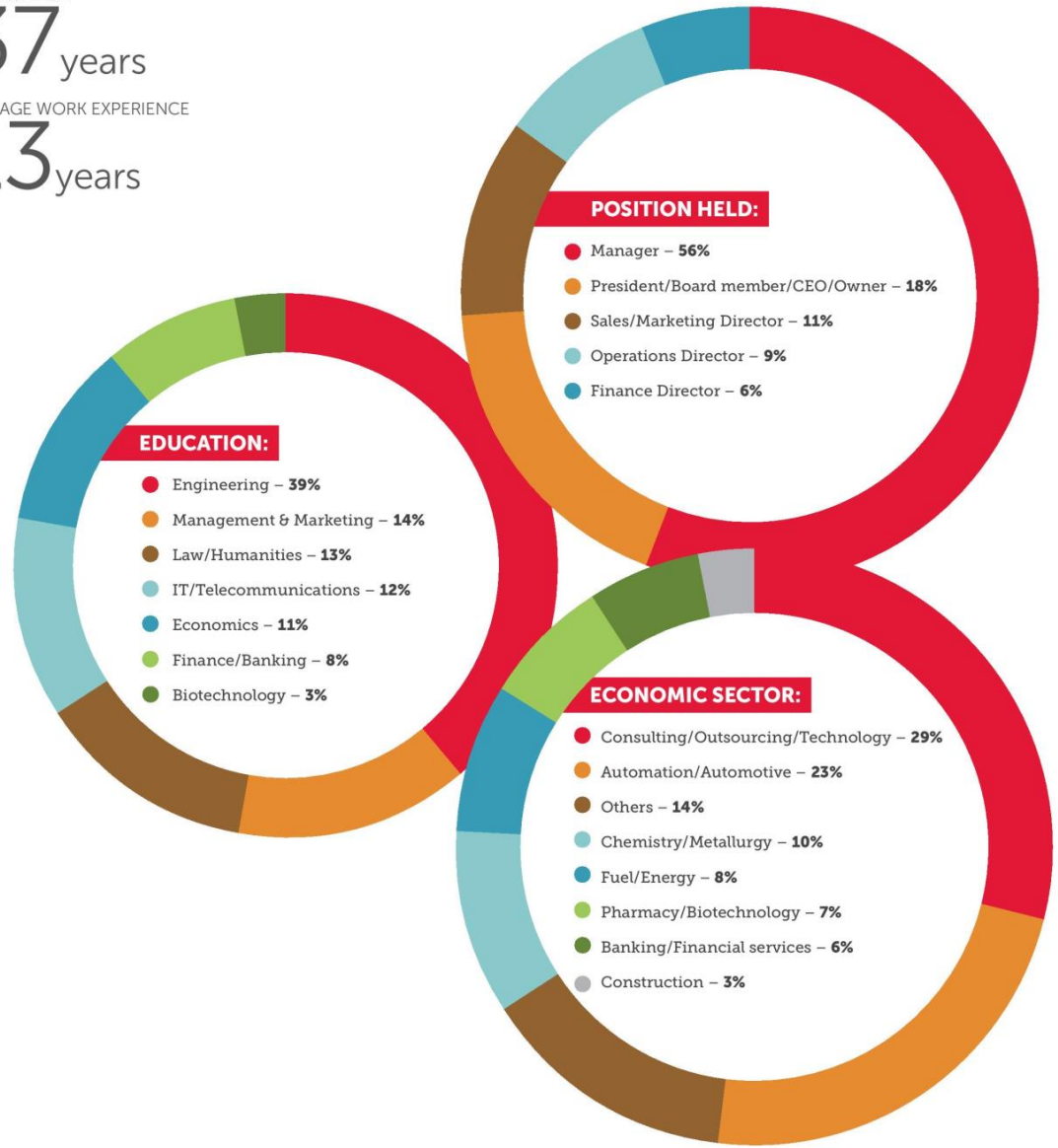
INTERNATIONAL MBA PROGRAM
STUDENT PROFILE

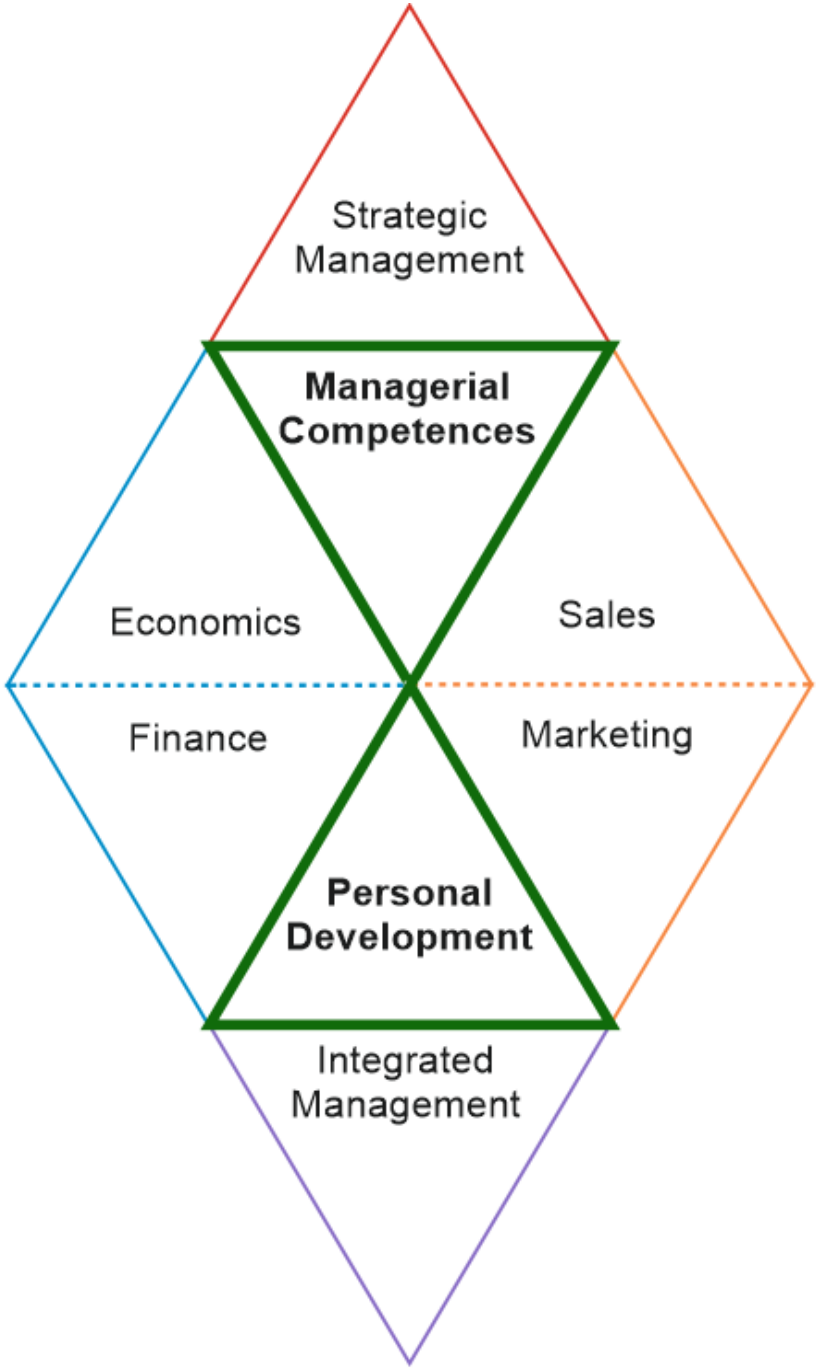
POSTGRADUATE STUDIES
MBA STUDIES
CSB

St. Gallen
Business School

AVERAGE AGE
37 years

AVERAGE WORK EXPERIENCE
13 years





POSTGRADUATE STUDIES MBA STUDIES CSB

St. Gallen Business School

The program structure is based on **6** modules:

- Economic and Finance,
- Sales and Marketing,
- Strategic Management,
- Integrated Management,
- Personal Development,
- Managerial Competences.

- 100% of faculty members are business practitioners
- our program changes few times a year
- class is evaluated by students and visited by supervisor; one of the question is how content meets job demands

- 3 parties involved in adapting program: students, lecturer, school

Can anybody be ready for what’s next?

Learning:

- improves memory and attention
- boosts creativity and innovation
- heightens the ability to monitor the environment
- enhances decision-making skills
- improves the ability to task-switch

Craik 2010, Sorace 2007, Costa 2014, Keysar 2012

Networking

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MBA – is about knowledge exchange

Summary and remarks

- We are on a verge of the most rapid and deep industrial revolution.
- We will not be unemployed.
- Role of education is teaching universal skills, how to adapt and learn, rather than only knowledge about technology.
- Emotions and human interaction will be more important.

Join MBA programs and become ready!