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Interreg
Central Baltic

Labour market: future trends and today's reality

Raul Eamets

Faculty of Social scienses

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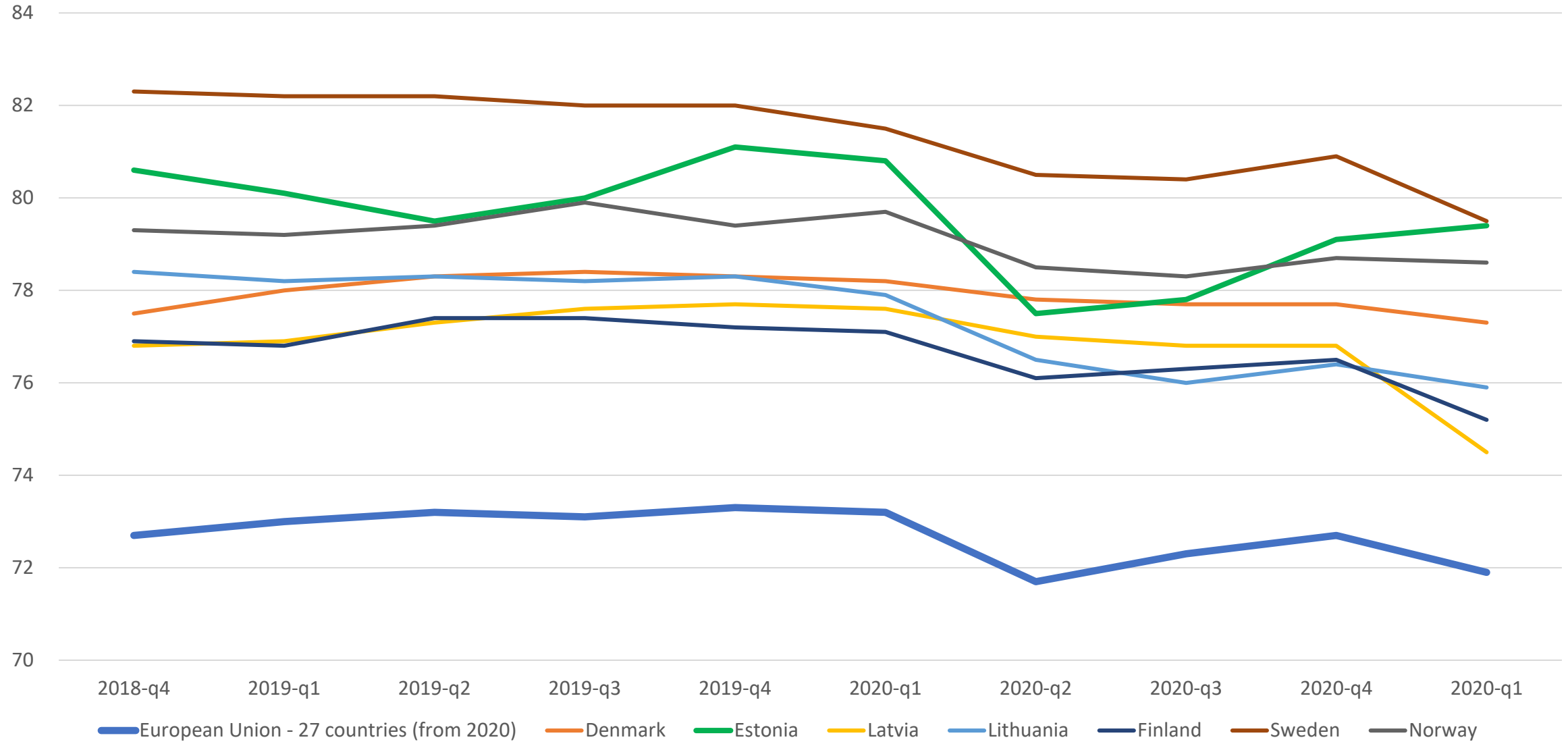
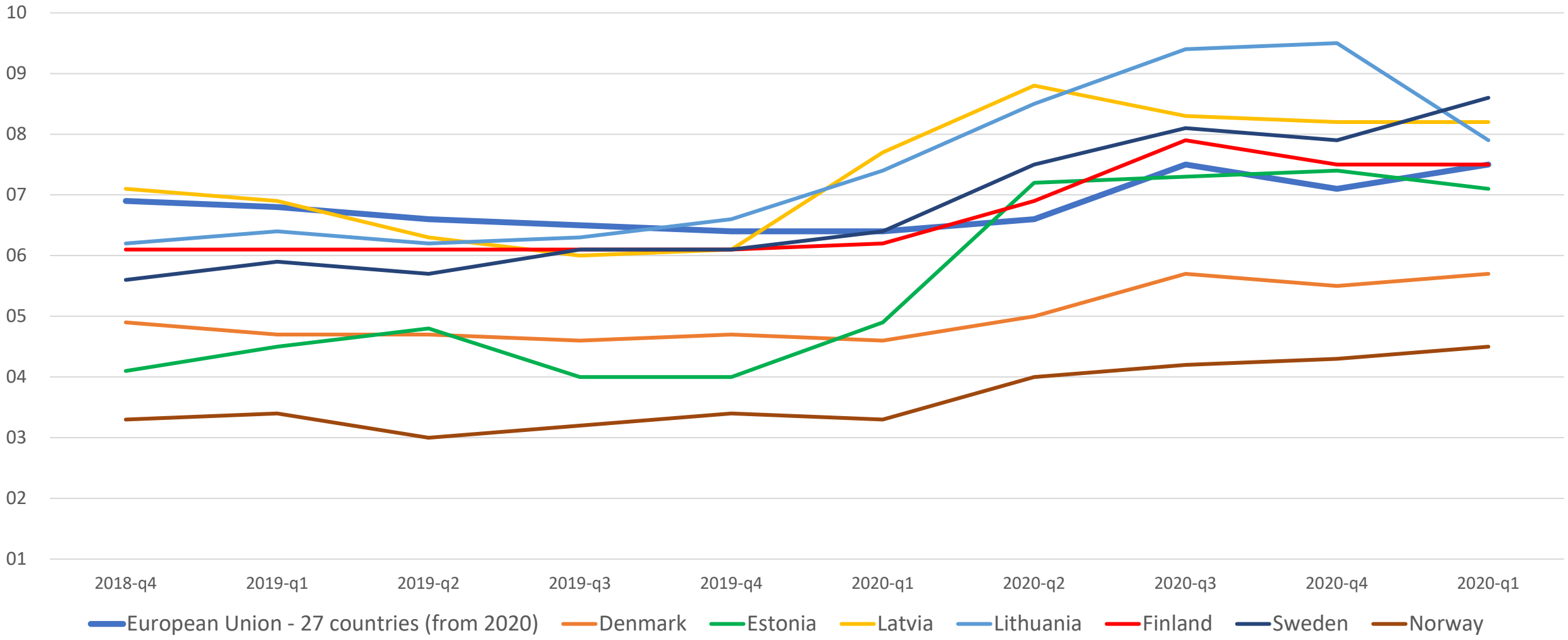
Covid 19 and labour market

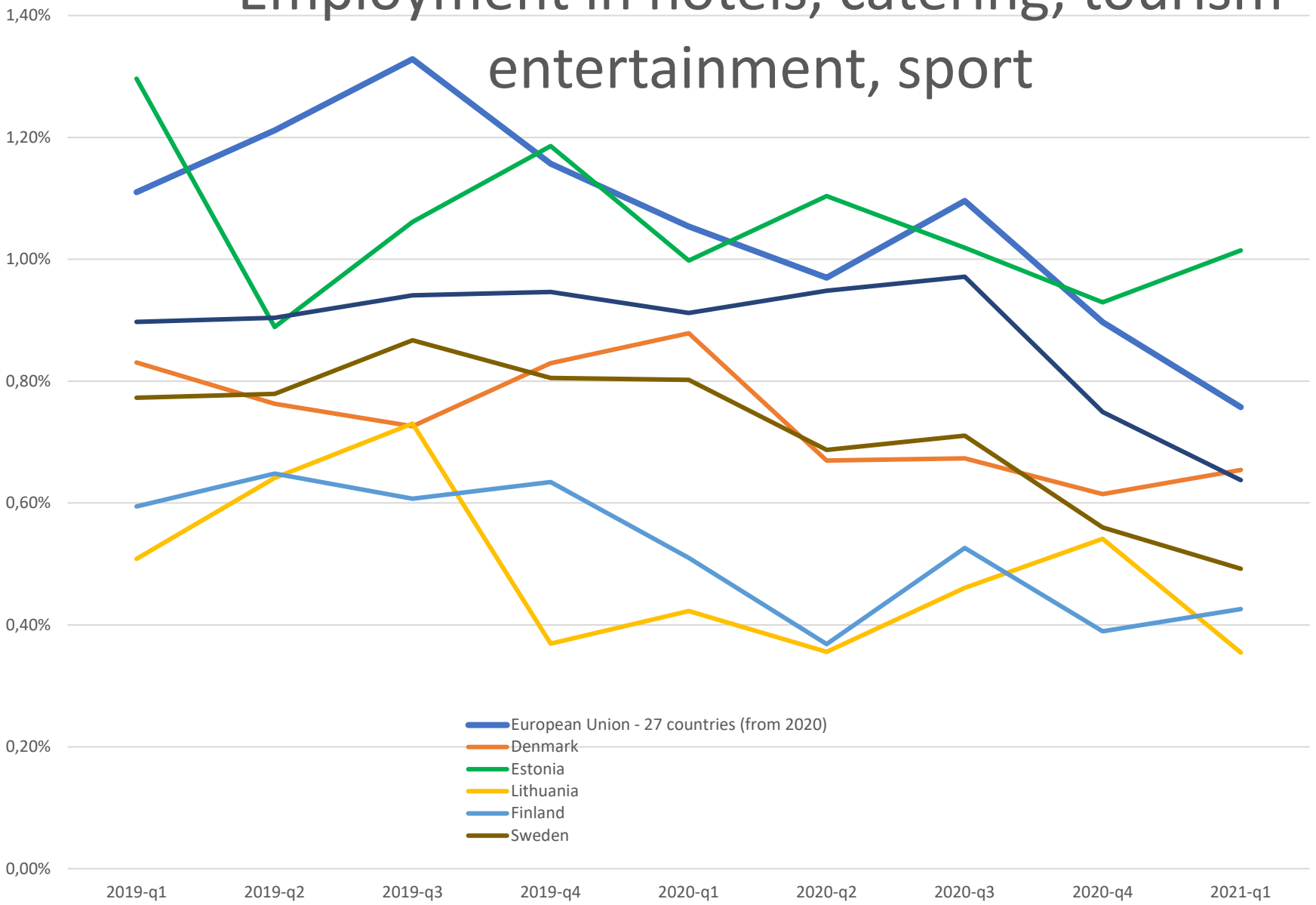
Employment, 20 to 64 years



Unemployment rate age 20-64



Employment in hotels, catering, tourism entertainment, sport



NACE
I55
I56
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R93

Employment in IT sector

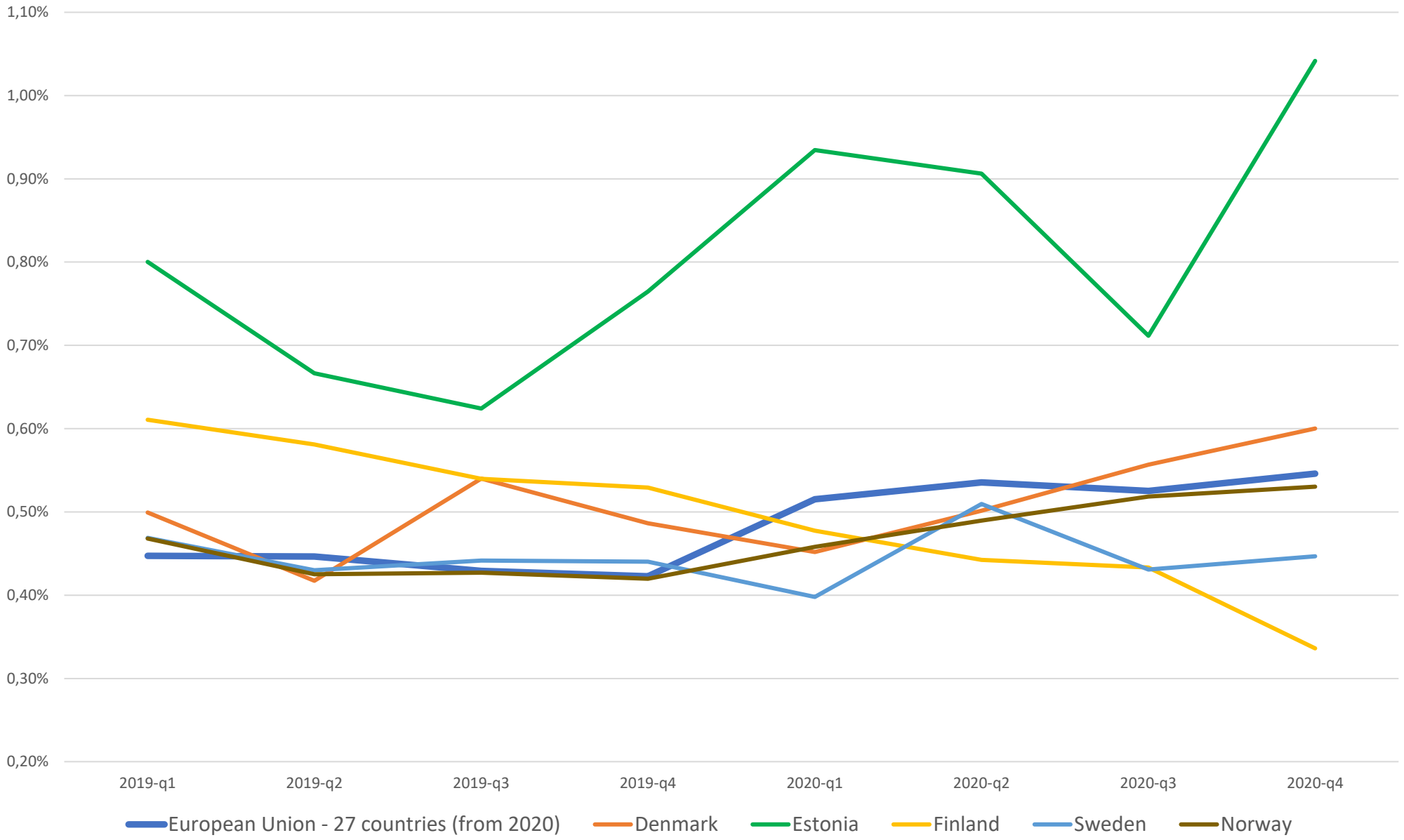


Table 3: Sectors most and least affected by the crisis (NACE Rev. 2), Q2 2019–Q2 2020, EU27

Sector	Change (Q2 2019–Q2 2020)		Q2 2020
	Employment (%)	Weekly hours worked	Employed but not working (%)
Most affected			
Accommodation	-22.9	-5.4	50.9
Food and beverage service activities	-17.9	-2.9	47.4
Gambling and betting activities	-10.5	-1.3	49.3
Sports activities and amusement and recreation	-5.4	-2.2	42.6
Air transport	-9.3	-6.8	44.8
Travel agency and tour operator activities	-19.9	-7.2	39.5
Other personal service activities	6.5	-1.7	35.3
Manufacture of leather and related products	-9.2	-0.7	31.3
Creative, arts and entertainment activities	-7.0	-3.6	34.4
Manufacture of textiles	-1.3	-2.3	24.8
Least affected			
Telecommunications	20.6	-0.5	4.4
Computer programming, consultancy and related activities	18.5	-0.4	1.1
Insurance, reinsurance and pension funding	17.5	-0.8	2.8
Manufacture of basic pharmaceutical products	15.1	-0.2	2.3
Programming and broadcasting activities	12.5	-1.3	3.7
Information service activities	11.7	0.1	1.1
All sectors	**-2.4**	**-0.9**	**17.0**

Note: *NACE Rev. 2, Statistical Classification of Economic Activities in the European Community revision 2.*
Source: *Authors' own calculations, based on EU-LFS data*

Global trends

Global megatrends

- **Rapid urbanization**
- **Climate change and resource scarcity**
- **Shift in global economic power**
- **Demographic and social change**
- **Technological breakthroughs**
- **Next-generation fake news.**
- **Transformation of higher education.**

https://www.atkearney.com/documents/236833/1506894/Global+Trends+2018–2023+–+Competition%2C+Disruption%2C+and+Deception.pdf/154e6c69-d1a1-3391-d92d-37534e53dbc9

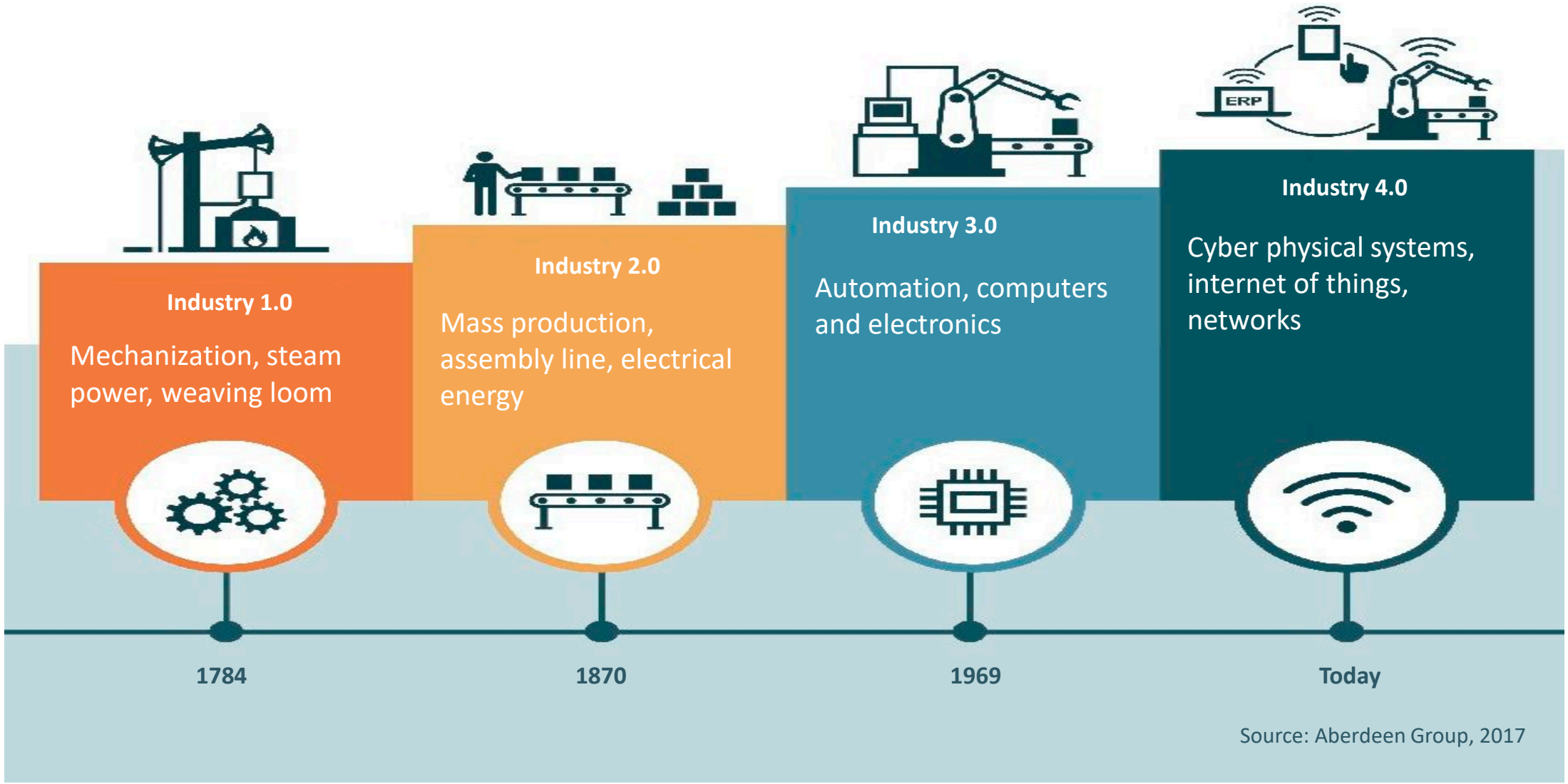
Global trends (labour market)

- Demographic change, especially an ageing population.
- Growing diversity, increasing representation of gender and ethnic groups in the labour force.
- Growing household income uncertainty and regional inequalities.
- Growing desire for a better work-life balance.
- Changing work environments shaped by Information and communications technology (ICT), outsourcing, internationalisation and the need for greater flexibility. New forms of employment. Shorter life cycle of firms

Global trends (technology)

- Converging technologies and cross-disciplinary skills, particularly the combination of biotechnology, information and communications technology, nanotechnology and cognitive science.
- Digitalisation of production: automated and additive manufacturing processes.
- ICT development and the age of big data, the power of digital devices and the potential to capture and use vast amounts of data. Big data use in public governance and management
- Internet of things
- Changed economic perspectives due to globalisation and technological change, particularly volatility and uncertainty in the period post the 2008 crash. Increasing geopolitical risks

These developments are not new



Source: Aberdeen Group, 2017

Global trends (business and politics)

- New business ecosystems leading companies to be increasingly defined as ‘network orchestrators.’ Amazon, Facebook, Microsoft, Google, Apple
- Growing scarcity of natural resources and degradation of ecosystems: finite environmental resources leading to higher extraction costs and environmental decline.
- Decreasing scope for political action due to constrained public finances, as well as greater levels of social transfers for the aging population, limits resources for education and skills initiatives.
- Shift to Asia, growing economic power and influence of countries in the East.

US technology giants dominate, but Chinese “unicorns” are ascending

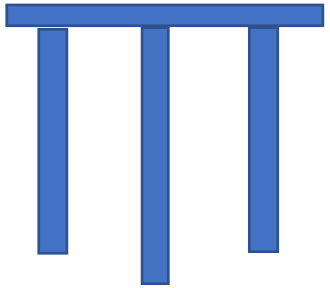
World’s largest technology companies

Rank	Country	Company	Valuation ($ billion)
1	United States	**Apple**	915
2	United States	**Amazon**	828
3	United States	**Alphabet**	781
4	United States	**Microsoft**	771
5	United States	**Facebook**	556
6	China	**Alibaba**	484
7	China	**Tencent**	477
8	United States	**Netflix**	173
9	China	**Ant Financial**	150
10	United States	**Salesforce**	102
11	United States	**Booking Holdings**	100
12	United States	**PayPal**	100
13	China	**Baidu**	89
14	United States	**Uber**	72
15	China	**JD.com**	56
16	China	**Didi Chuxing**	56
17	China	**Xiaomi**	54
18	United States	**eBay**	37
19	United States	**Airbnb**	31
20	China	**Meituan-Dianping**	30
20	China	**Toutiao**	30

Note: Global technology “unicorns” are privately held start-ups valued at more than $1 billion.
Market valuations are constantly changing. These valuations are current as of July 2018.
Because there is a tie for 20th place, two companies are listed.
Sources: Mary Meeker, World Economic Forum; A.T. Kearney analysis

Changes in skills and labour force

- Technological changes and progress means that IT knowledge is needed in all fields and specialities;
- Cooperation and networks: workplace becomes more virtual, increasing need for good virtual team managers;
- Convergence and innovation comes from interdisciplinary areas, T competences
- Personal responsibility for skills and knowledges increasing, distance learning, MOOC-s



Changes in skills and labour force

- Increasing polarization of labour force: high skilled labour with high negotiation power versus numerus low skilled labour for simple jobs, increasing inequity;
- Multy-generational workplace. How to deliver and organize obligation and responsibility within the team where three generations are presented
- Key word is: general or key competencies

Future skills

- Sensemaking
- Social intelligence
- Novel adaptive thinking
- Cross cultural competences
- Computational thinking
- New media literacy
- Transdicsiplinarity
- Design mindset
- Cognitive load management
- Virtual collaboration

Determine the deeper meaning or significance of what is being expressed

Connect to others in a deep and direct way, to sense and stimulate reactions and desired interactions, empathy

Proficient at thinking and coming up with solutions and responses beyond that which is rote or rule-based

Operate in different cultural settings

Translate vast amounts of data into abstract concepts and to understand data based reasoning

Critically assess and develop content using new media forms, and to leverage for persuasive communication

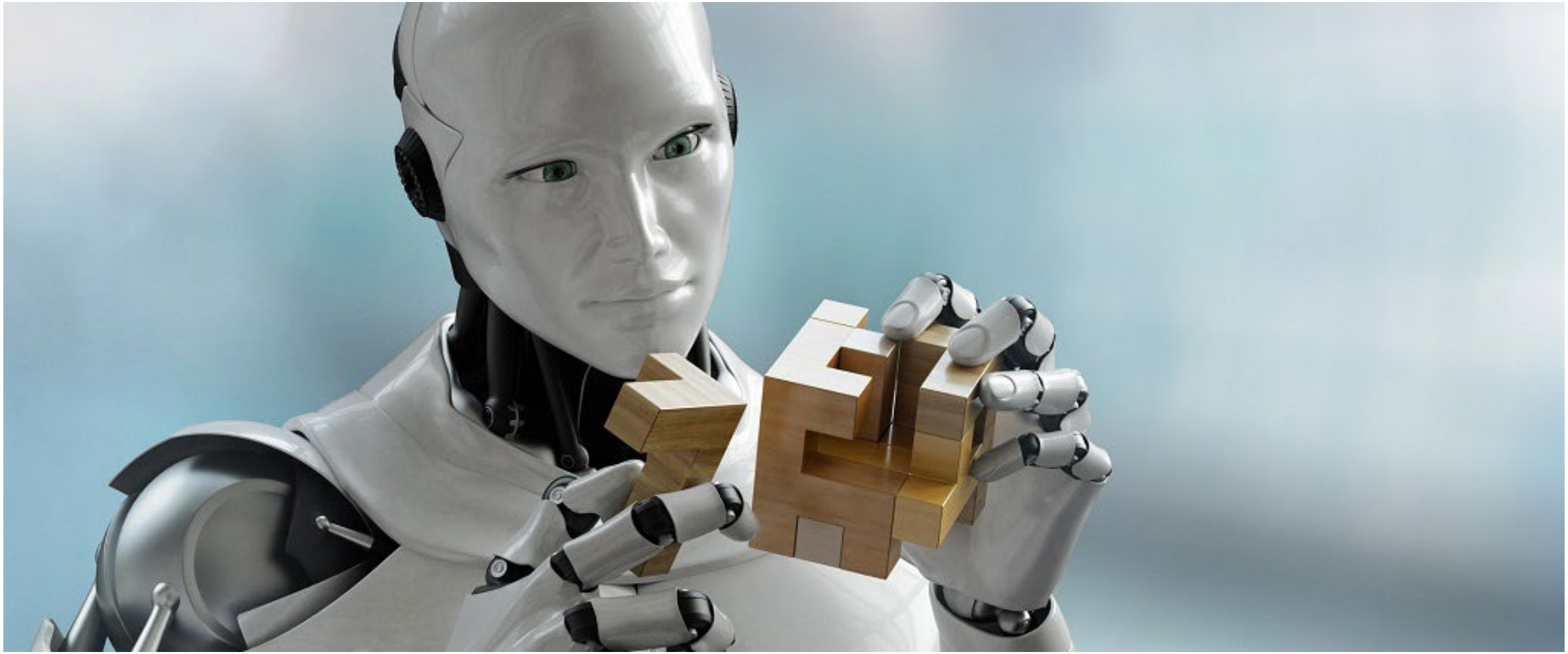
Understand concepts and have knowledge across multiple disciplines

Represent and develop tasks and work processes for desired outcomes

Discriminate and filter information for importance, and to understand how to maximize cognitive functioning using variety of tools and techniques

Work productively, drive engagement, and demonstrate presence as a member of a virtual team

How AI will affect labour markets?



Man versus robot

- Man – dreaming, forgets, makes mistakes, lazy (innovations), limited resources to perceive the environment
- Machine – oriented to results, robots do not make human mistakes (they make robot's mistakes), they are not able to invent, they have much better censors than humans.

- The major difference is related to empathy, adjustment abilities, culture and self-awareness.
- Robots do not have common society, collective thinking and historical memory

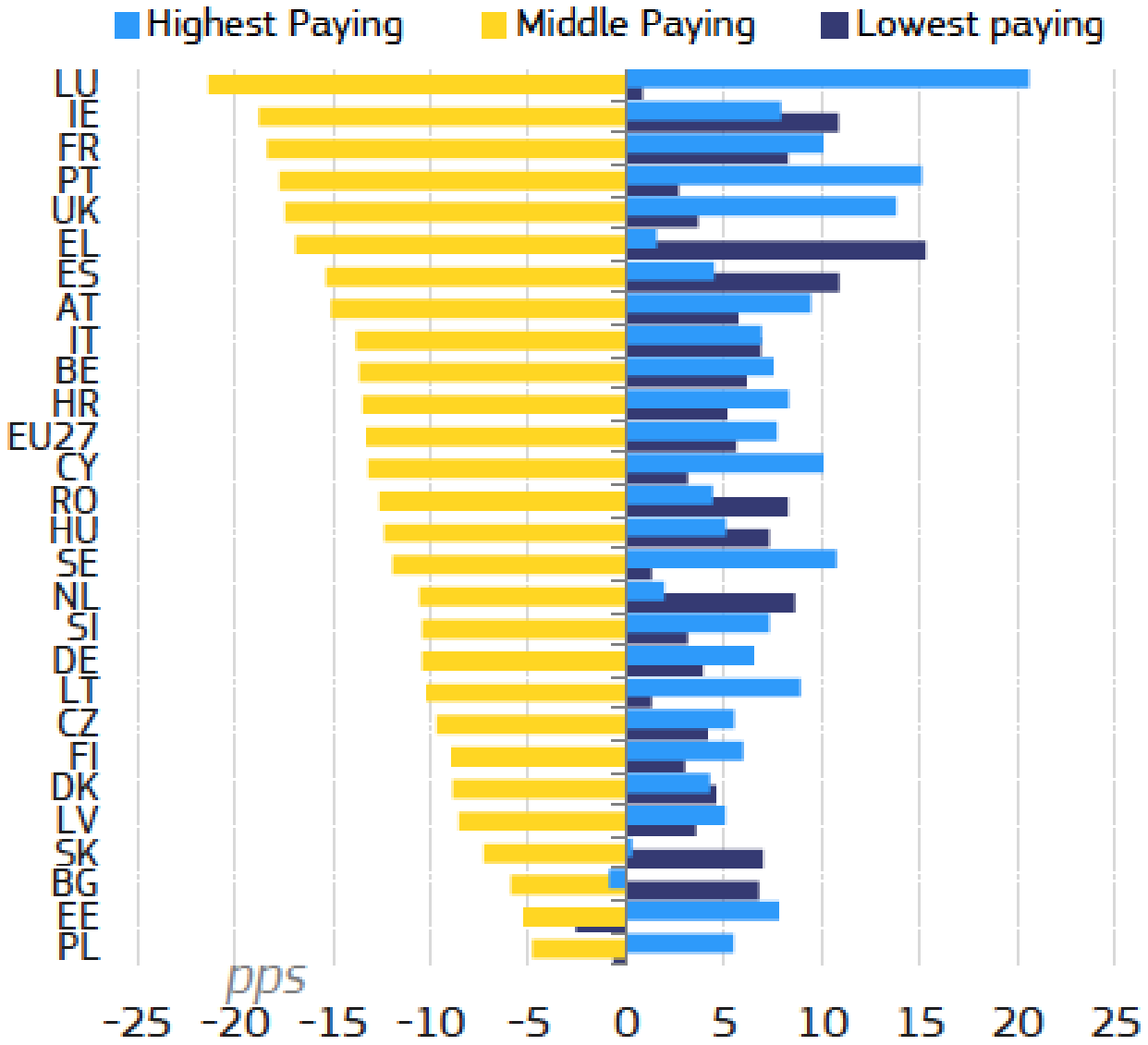
Real threats from robots in the near future: bad man will use them against other humans.

Routine jobs at greatest risk of substitution

	Routine job	Non-routine job
Manual	Substituted by robots (Industrial assembly work) Medium-paid	Remains (Care work) Low-paid
Cognitive	Substituted by computers (Clerical work) Medium-paid	Remains (Managers, experts) High-paid

The proportion of middle wage workers is shrinking everywhere.

High, middle and low-paying jobs in the EU - change from 2002 to 2016 in pps.



Source: DG EMPL calculations based on EU LFS

Jobs that robots will not take over

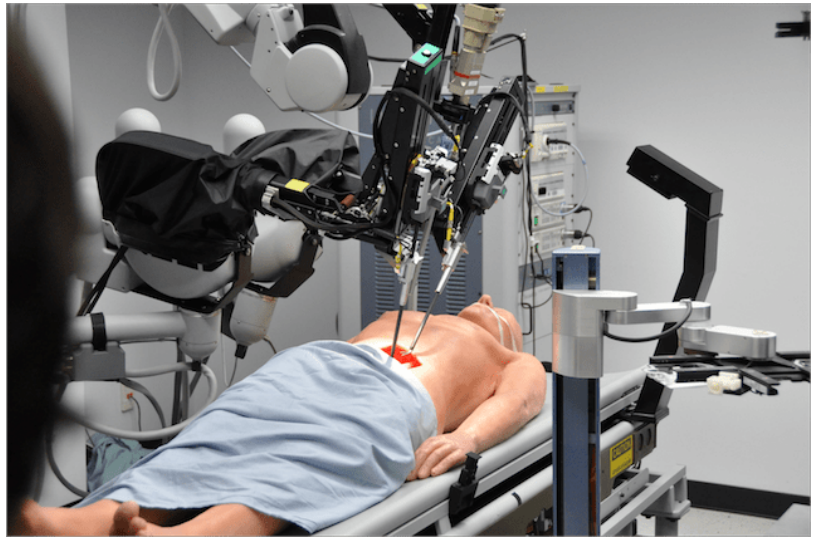
Teachers
Police
Managers
Conductors
Personal services
Actors
Professors
Judges
Prosecuters
Psychologists
etc

Jobs which most probably disappear

- Translators
- Data analyses (simple ones), accountants, bank tellers, loan analysts
- Drivers

Jobs which most probably disappear

- Different type of brokers, mediators (platform economy)
- Assembly line workers
- Cleaning workers etc
- Routine surgery



Conclusion

- We can predict many things as many new technologies are already in place, we simply to not use them massively. We can prolong today's time series and see what will happen.
- During next 15-20 years we will see creation of completely new technologies which will create new type of jobs (today we have no idea).
- There will be always low cost jobs (e.g. in personal services), what robots will not take over.
- Flexibility and uncertainty in labour market will increase drastically

Thank you!