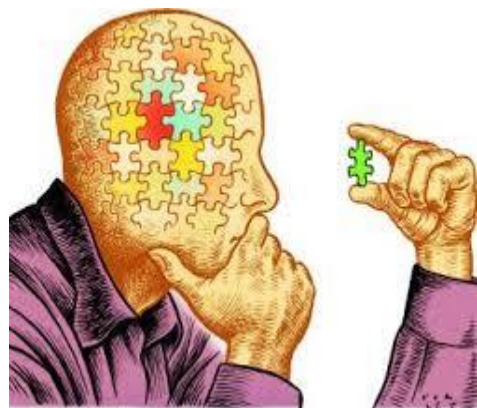




ΕΘΝΙΚΟ ΚΕΝΤΡΟ ΚΟΙΝΩΝΙΚΩΝ ΕΡΕΥΝΩΝ
NATIONAL CENTRE FOR SOCIAL RESEARCH



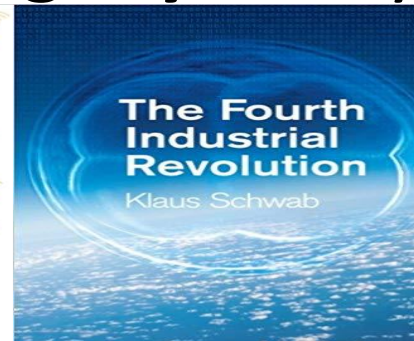
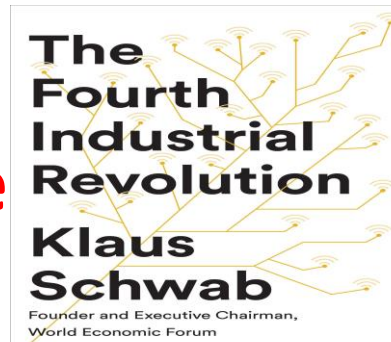
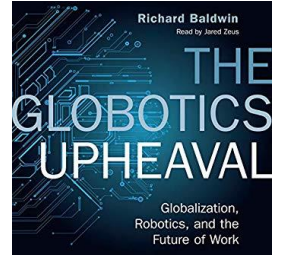
Is Greece Falling Behind in the E-Economy? Answers from WIP-GR



Charalambos Tsekeris
National Centre for Social Research
Athens, Greece

The global context of 21st century Digital Society

- A connected, complex and unpredictable world
 - **Industry 4.0** => Future of Democracy
 - **Globalization 4.0** => Future of Work
 - Shifts in economic structure and Governance
 - **COVID-19** has accelerated hyper-connectivity and the integration of new technologies affecting the human condition => 175 zettabytes in 2025
 - **COVID-19** has shown the **fragility** of key infrastructures
- Need for resilience**

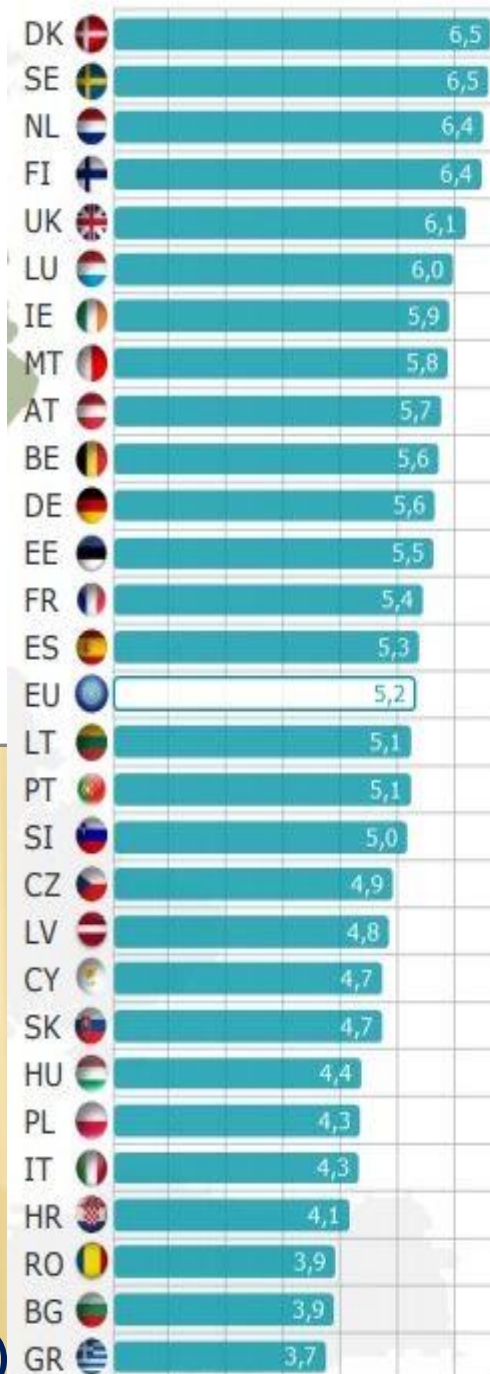
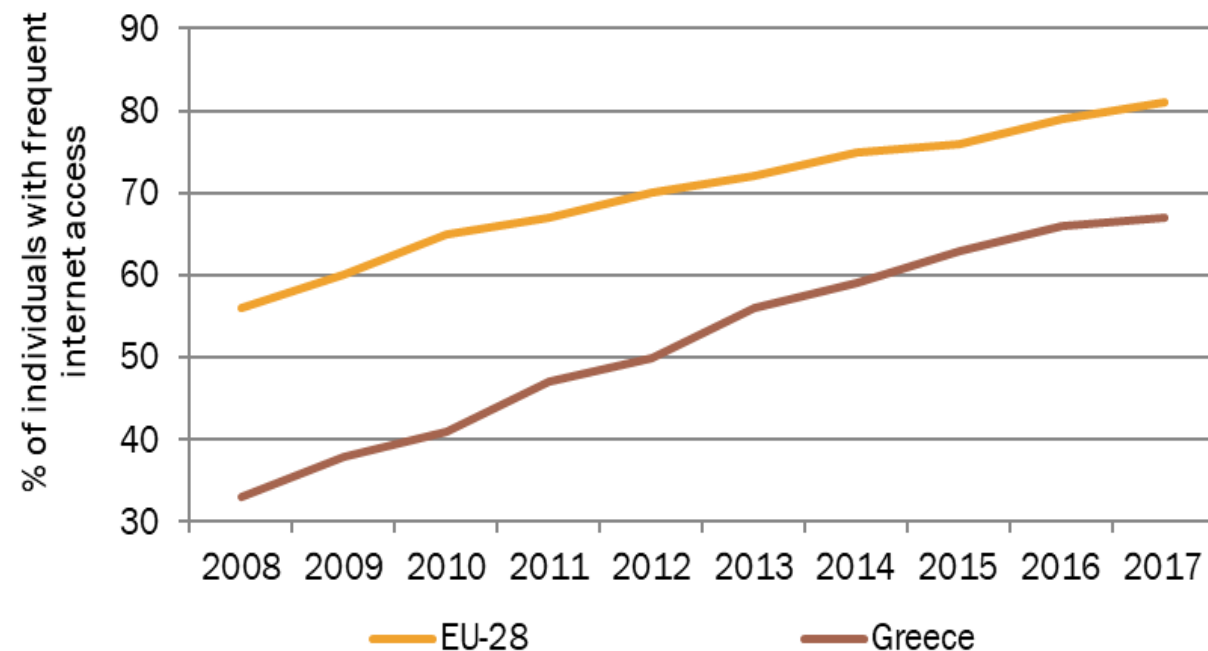


The European context

The **Digital Single Market** is a policy belonging to the European Single Market that covers digital marketing, E-commerce & telecommunications



Digital social cohesion 2008-2017



1. SEV DIGITAL MATURITY INDEX=>

**2. Inequality among
regions,
sectors, firms,
gender,
workers & generations**

**3. COVID19 CRISIS HAS INCREASED
SOCIOECONOMIC INEQUALITIES(OECD 2020)**

IMD 2020 DIGITAL COMPETITIVENESS RANKING: TECHNOLOGY, KNOWLEDGE, READINESS

Country / Economy	2020	Change	2019	Country / Economy	2020	Change	2019
USA	1	— (0)	1	Spain	33	▼ (-5)	28
Singapore	2	— (0)	2	Saudi Arabia	34	▲ (+5)	39
Denmark	3	▲ (+1)	4	Czech Republic	35	▲ (+2)	37
Sweden	4	▼ (-1)	3	Kazakhstan	36	▼ (-1)	35
Hong Kong SAR	5	▲ (+3)	8	Portugal	37	▼ (-3)	34
Switzerland	6	▼ (-1)	5	Latvia	38	▼ (-2)	36
Netherlands	7	▼ (-1)	6	Thailand	39	▲ (+1)	40
Korea Rep.	8	▲ (+2)	10	Cyprus	40	▲ (+14)	54
Norway	9	— (0)	9	Chile	41	▲ (+1)	42
Finland	10	▼ (-3)	7	Italy	42	▼ (-1)	41
Taiwan, China	11	▲ (+2)	13	Russia	43	▼ (-5)	38
Canada	12	▼ (-1)	11	Turkey	44	▲ (+8)	52
United Kingdom	13	▲ (+2)	15	Bulgaria	45	— (0)	45
UAE	14	▼ (-2)	12	Greece	46	▲ (+7)	53
Australia	15	▼ (-1)	14	Hungary	47	▼ (-4)	43
China	16	▲ (+6)	22	India	48	▼ (-4)	44
Austria	17	▲ (+3)	20	Romania	49	▼ (-3)	46
Germany	18	▼ (-1)	17	Slovak Republic	50	▼ (-3)	47
Israel	19	▼ (-3)	16	Brazil	51	▲ (+6)	57
Ireland	20	▼ (-1)	19	Croatia	52	▼ (-1)	51
Estonia	21	▲ (+8)	29	Jordan	53	▼ (-3)	50
New Zealand	22	▼ (-4)	18	Mexico	54	▼ (-5)	49
Iceland	23	▲ (+4)	27	Peru	55	▲ (+6)	61
France	24	— (0)	24	Indonesia	56	— (0)	56
Belgium	25	— (0)	25	Philippines	57	▼ (-2)	55
Malaysia	26	— (0)	26	Ukraine	58	▲ (+2)	60
Japan	27	▼ (-4)	23	Argentina	59	— (0)	59
Luxembourg	28	▼ (-7)	21	South Africa	60	▼ (-12)	48
Lithuania	29	▲ (+1)	30	Colombia	61	▼ (-3)	58
Qatar	30	▲ (+1)	31	Mongolia	62	— (0)	62
Slovenia	31	▲ (+1)	32	Venezuela	63	— (0)	63
Poland	32	▲ (+1)	33				



World Internet Project (founded in 1999)



Aims & Scope of World Internet Project

The World Internet Project (WIP) is a major, international, collaborative project looking at the social, political and economic impact of the Internet and other new technologies.



2020

The Internet in Greece

**World Internet Project
Final Report**



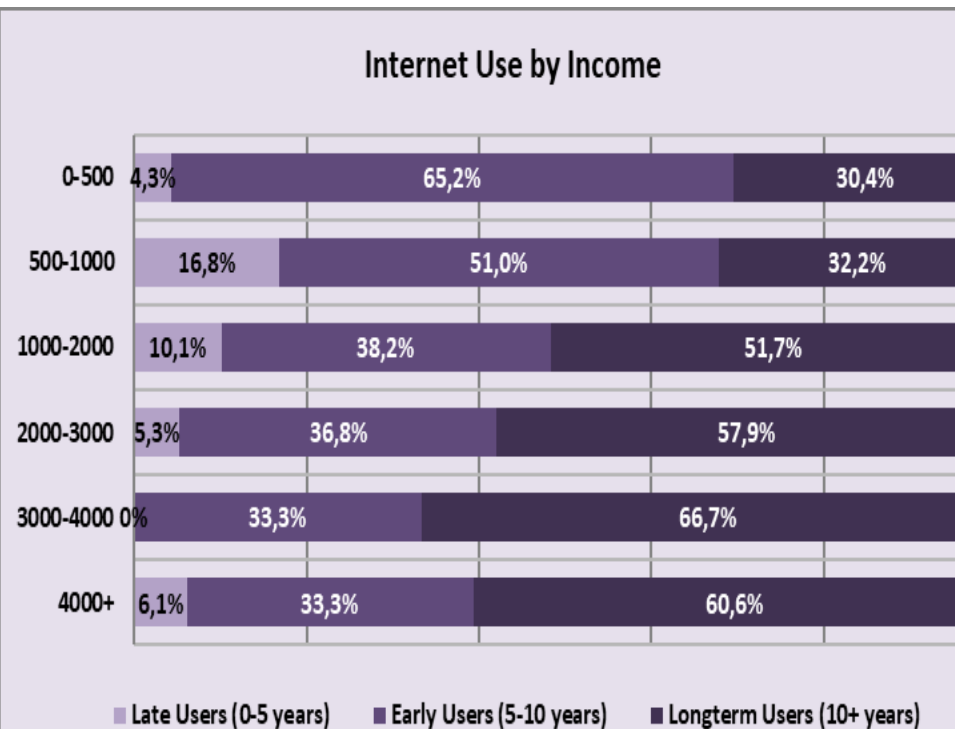
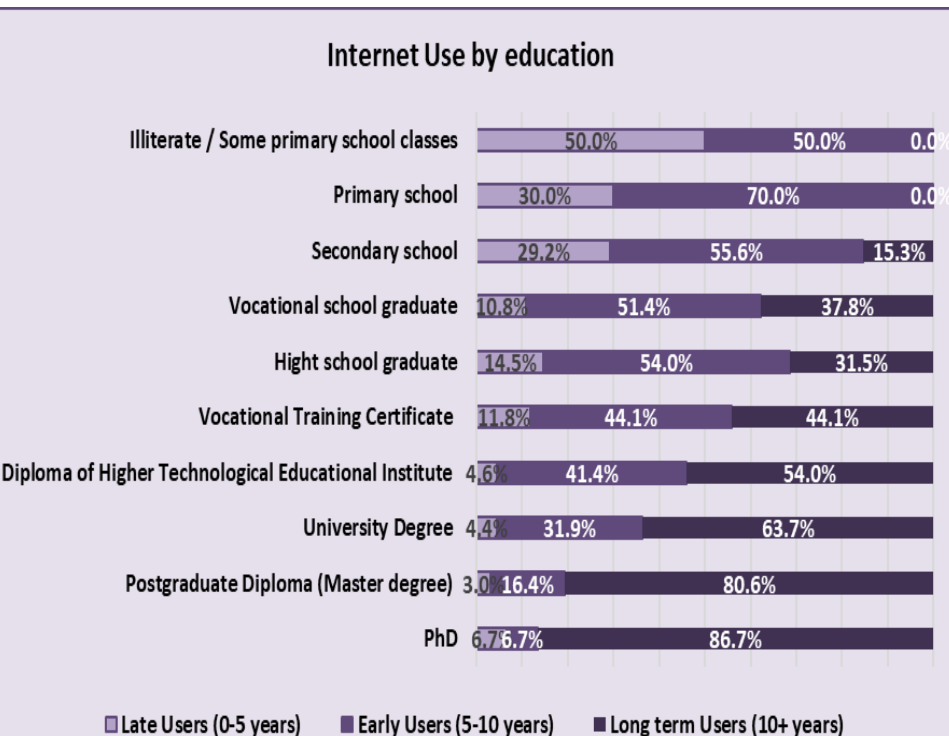
World Internet Project – Greece (2019)

- The pandemic is a huge accelerator for digital reform in Greece.
- COVID-19 highlights the importance of digital infrastructure and digital human & social capital for an inclusive & resilient recovery.
- WIP-GR Report first conclusions (written in 2019) anticipated the coronavirus disruption of the Greek digital landscape:

“...Greece appears as a *digitally immature, unready and vulnerable society*, with strong internal antinomies, which are in tandem with internet’s radical ambivalence in general...”
(forthcoming in Hellenic Observatory Discussion Papers Series)

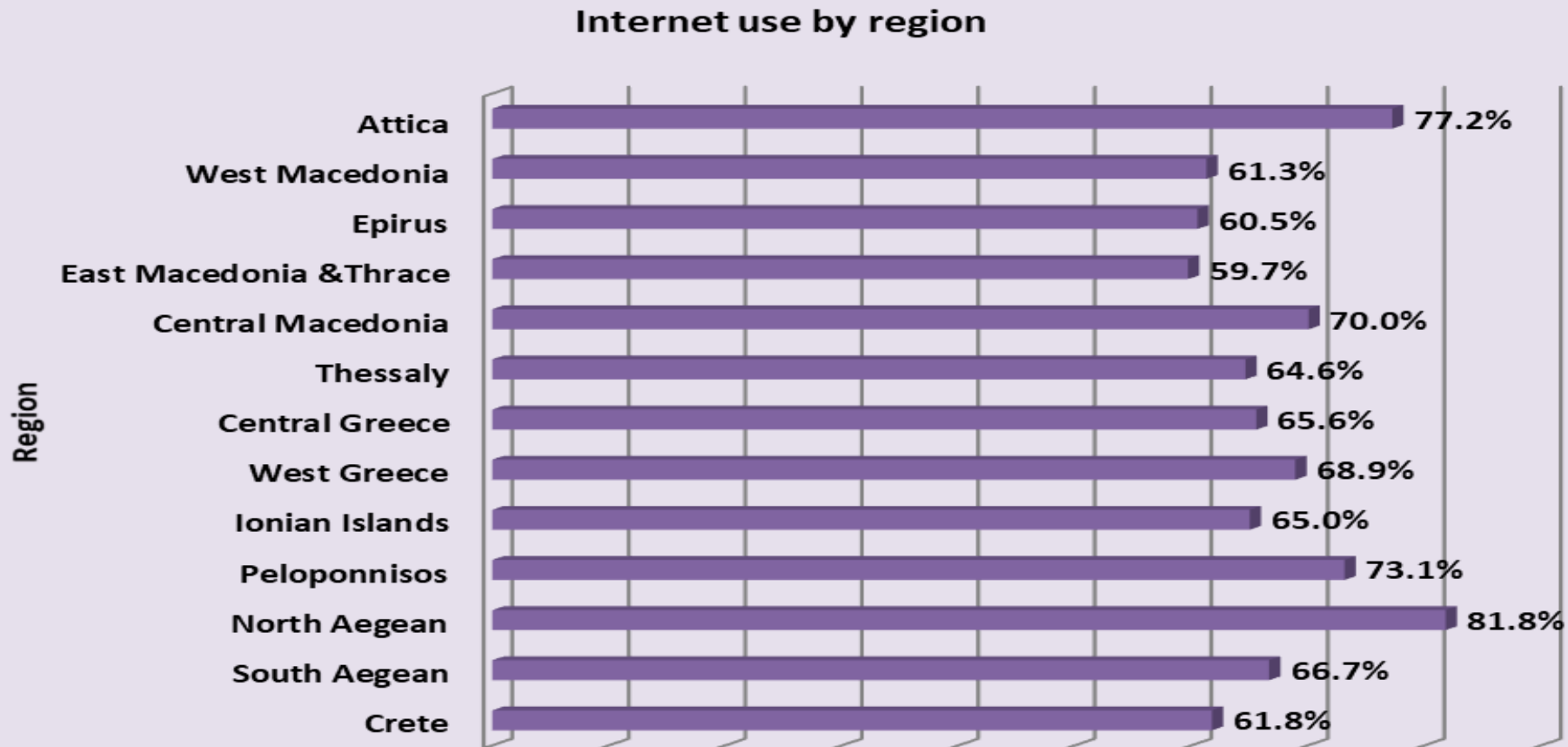
World Internet Project – Greece (2019)

- The internet is mostly used by the **younger, employed and better-educated population, of higher income.**
- Internet use is increasing, although the Greek internet use rate still falls below the EU average (85%). **Over 70% of the population** (aged 15+) report themselves as internet users. The non-users refrain from internet use mainly because they are not interested, or not convinced, about internet's usefulness; or they are afraid of (or confused by) technology; or they lack technical skills.
- **Non-users: 29%; 70% of them dynamic non-users; Digital gap still exists!**



World Internet Project – Greece (2019)

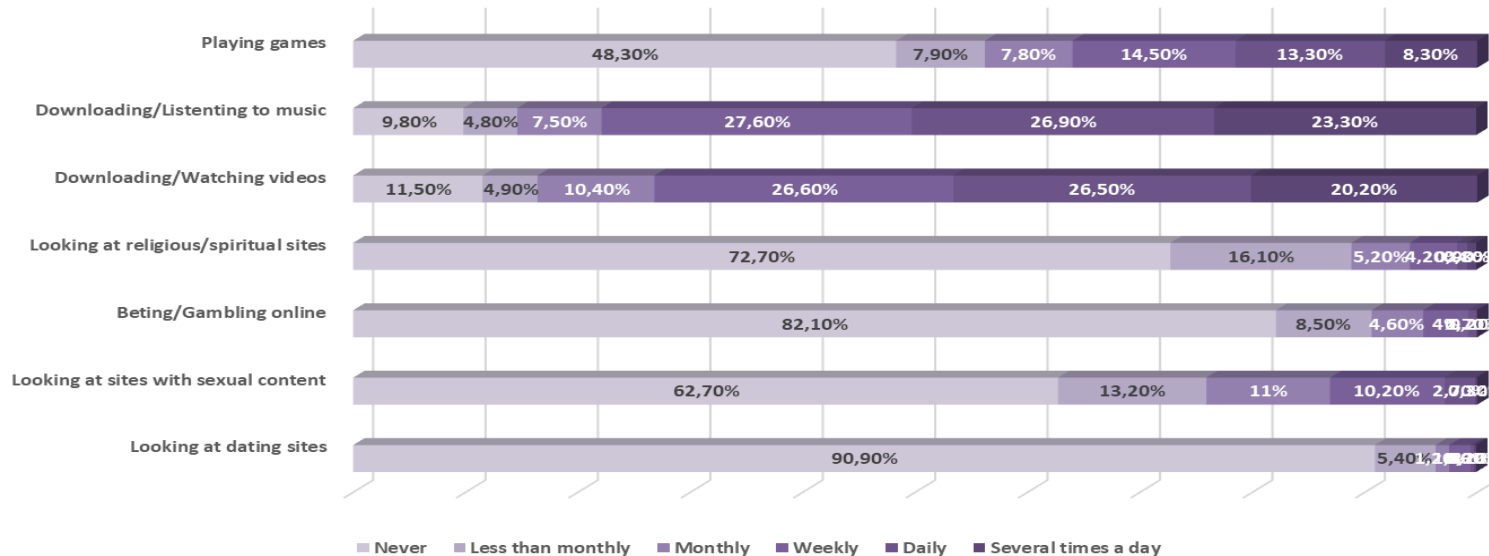
- A **divide in internet use** is noticed between **urban and rural areas**, as urban residents use the internet significantly more than rural residents. In particular, **Attica** has the highest percentage of long-term internet users (56.2%), while regions with high tourism activity, such as **Crete** (45.2%) and **South Aegean** (57.1%), also exhibit high percentages of long-term users.



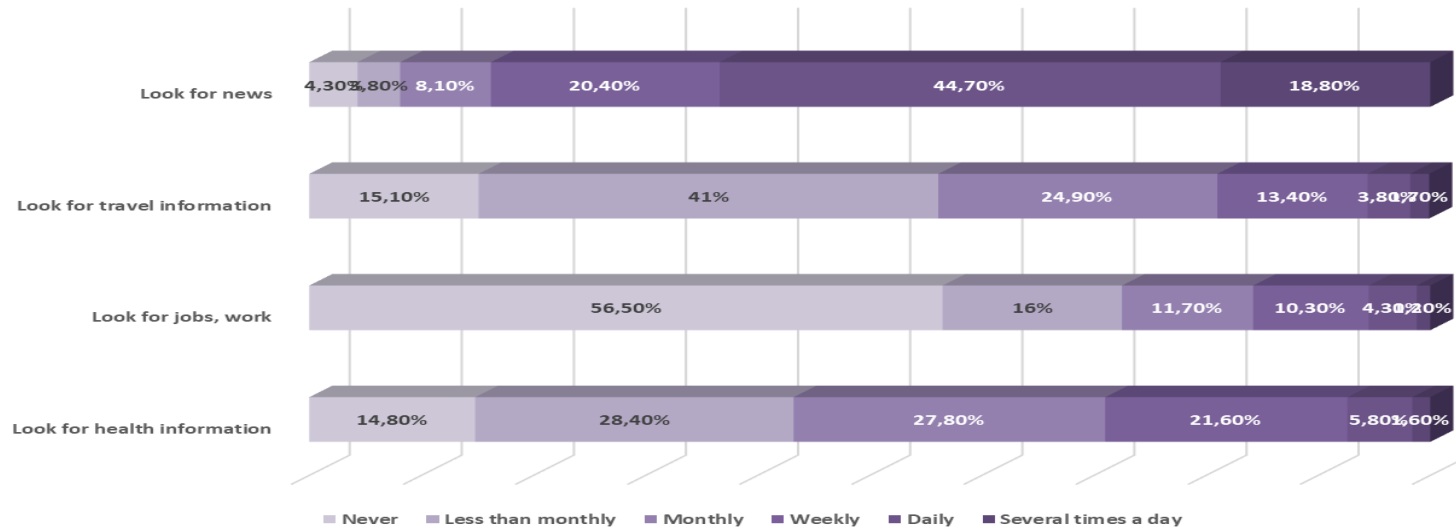
World Internet Project – Online activities

Communication; Information; Entertainment; Learning

Using the internet for entertainment
(Users)



Using the internet for information
(Users)

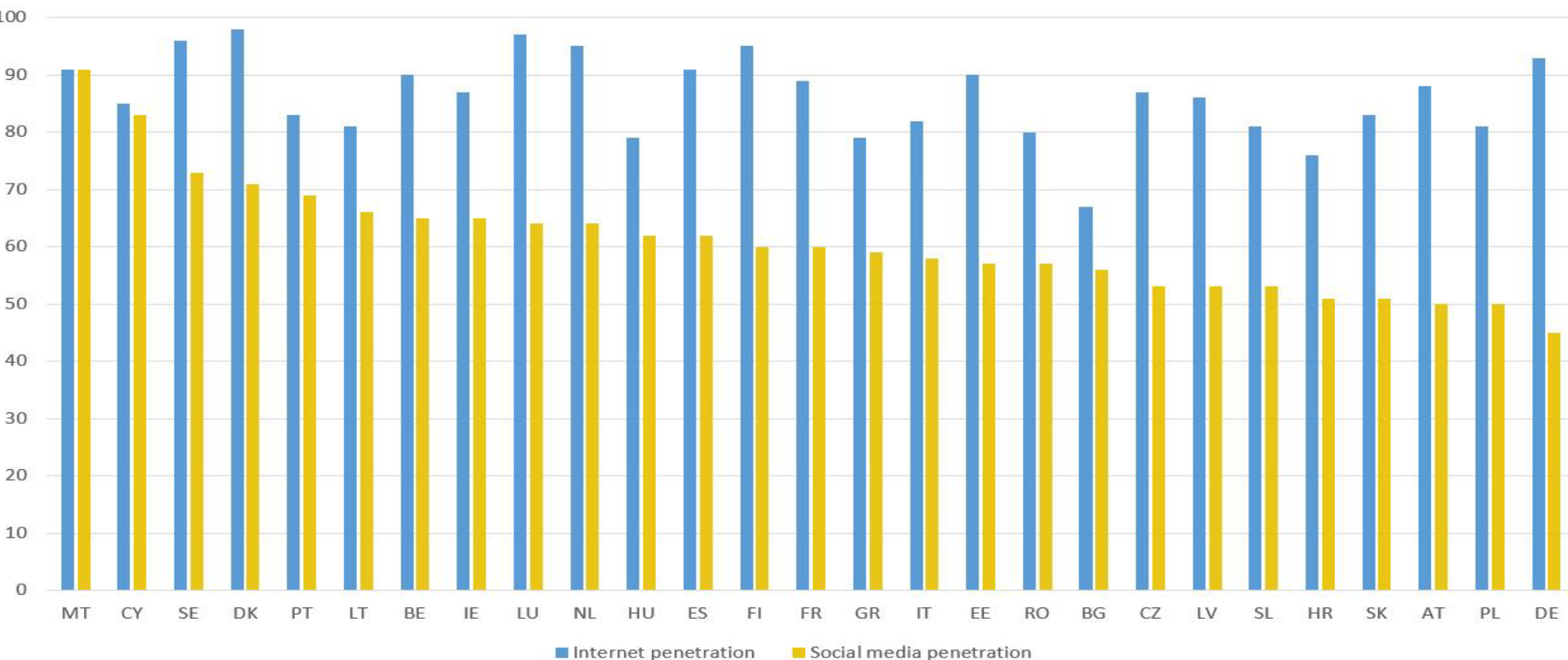
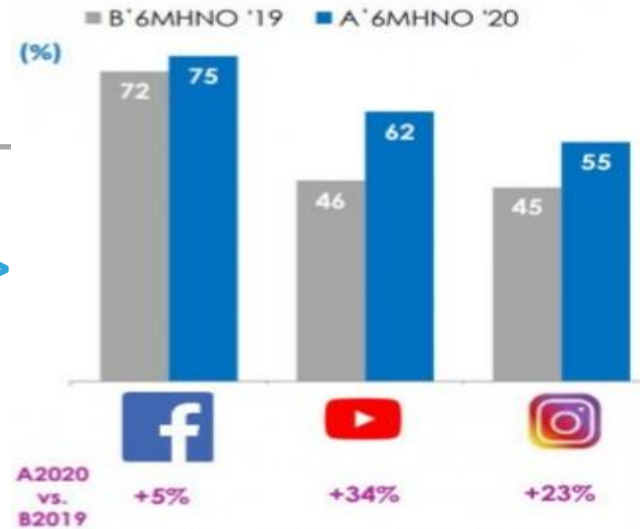


YET, GREECE 6,070,000 **FACEBOOK** SUBSCRIBERS
 JAN 2020, SOURCE: INTERNETWORLDSTATS.COM

FOCUS BARI & YOUNGOV JOINT RESEARCH
 COVID19 DISRUPTION IN GREECE APRIL 2020 =>

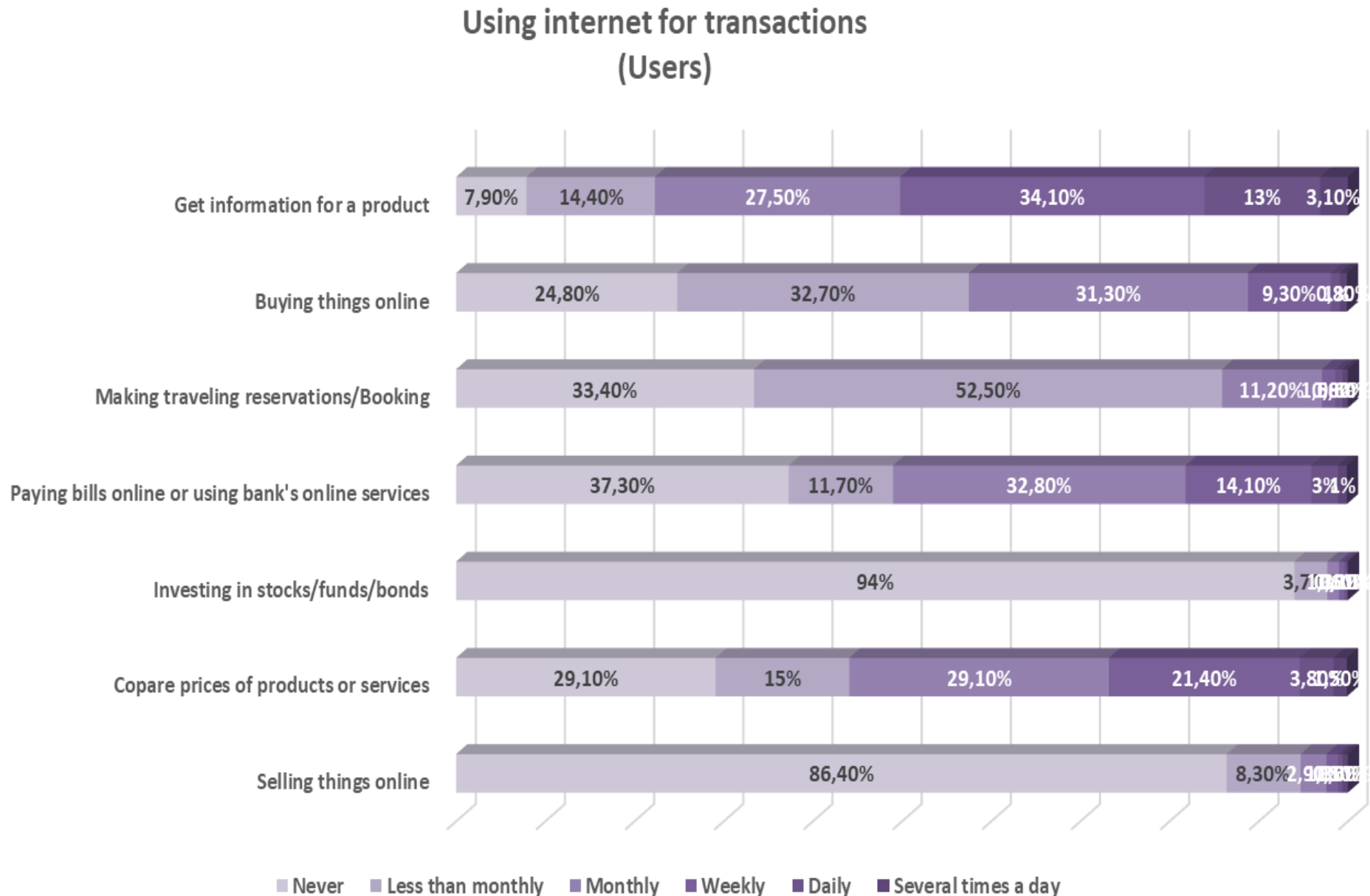
INTERNET AND SOCIAL MEDIA **PENETRATION**
 ACROSS EU 27 (JAN 2020)

Internet & social media penetration across EU 27 (January 2020)
 Source: <https://datareportal.com/>



World Internet Project – Online activities

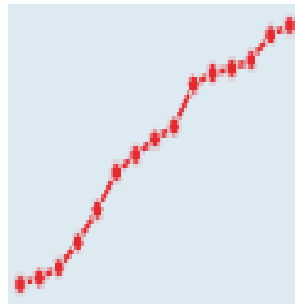
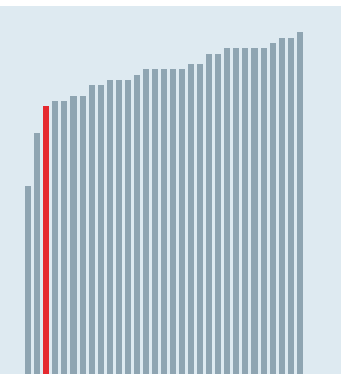
Transactions: info; online buying/selling; e-booking; e-bills



LOW DIVERSITY OF ONLINE ACTIVITIES (OECD 2019) →

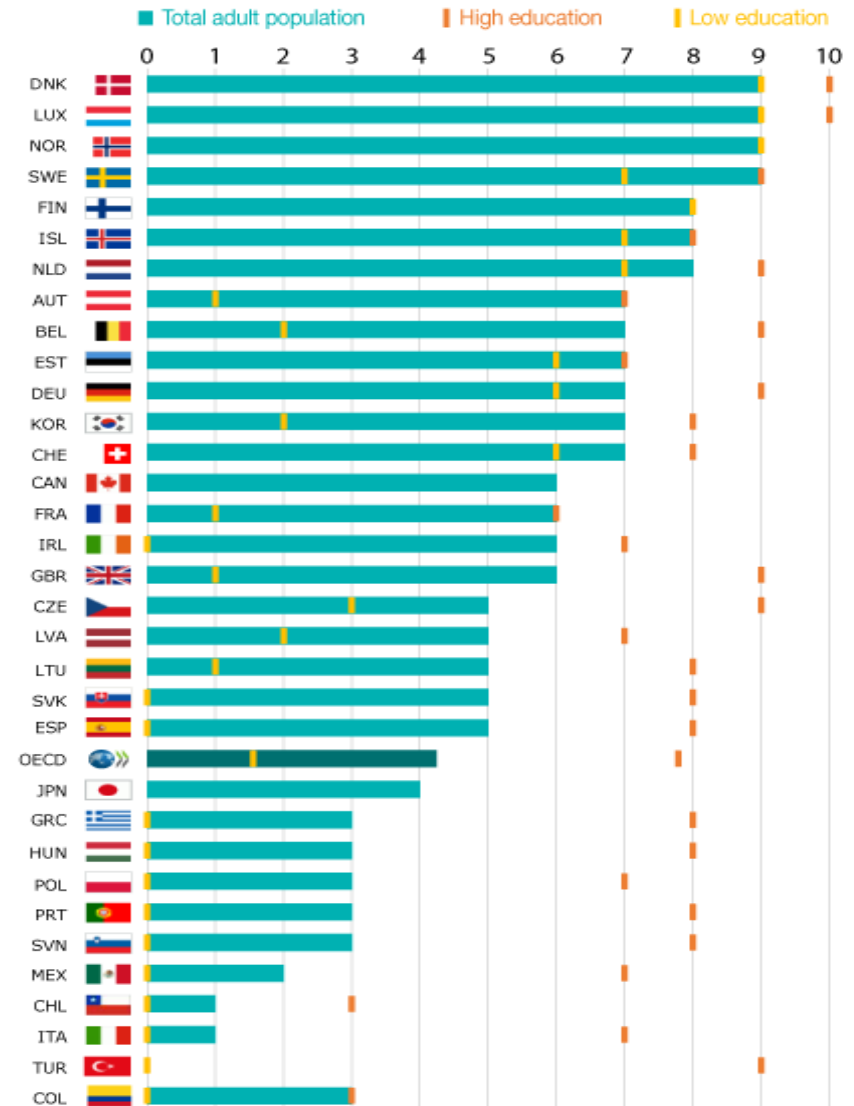
INTERNET ACCESS

=>



Number of online activities, 2017 or latest available

Number of online activities used by more than 50% of people



Number of online activities out of 10 possible online activities. For the full list of activities, please see Figure 2.3 "Variety of uses of the Internet"

Source: Based on OECD ICT Access and Usage by Households and Individuals (database), <http://oe.cd/hhind>.

OECD (2019), How's Life in the Digital Age?

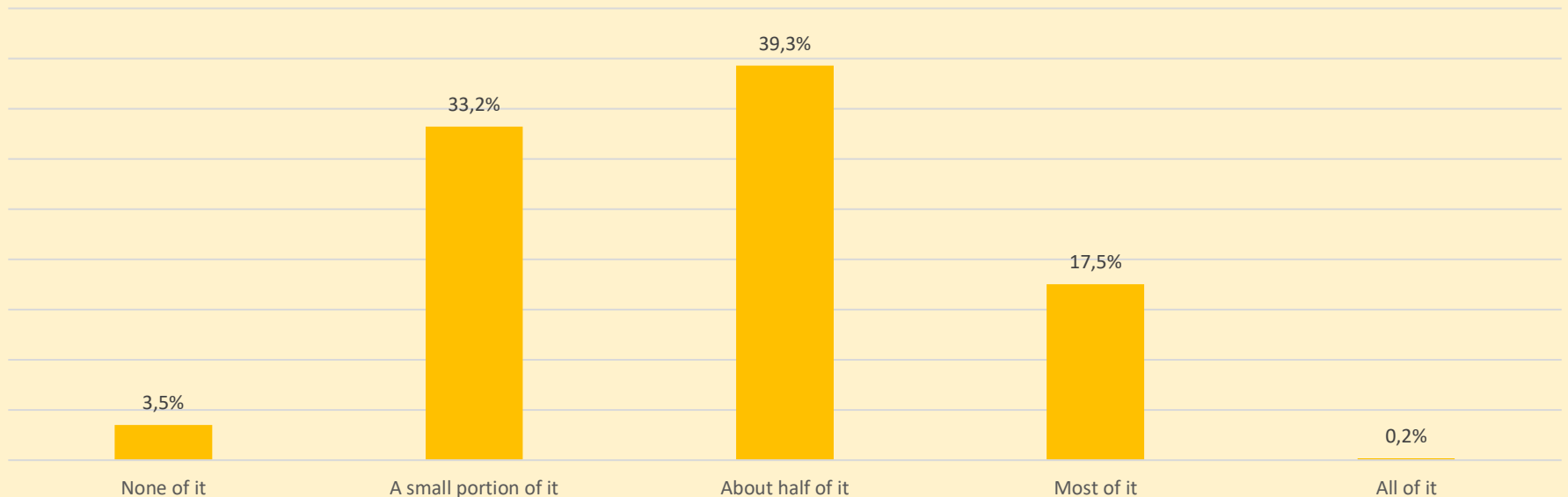
<https://doi.org/10.1787/9789264311800-en>

World Internet Project – Greece (2019)

Low diversity of internet uses with **weak demand** for internet services

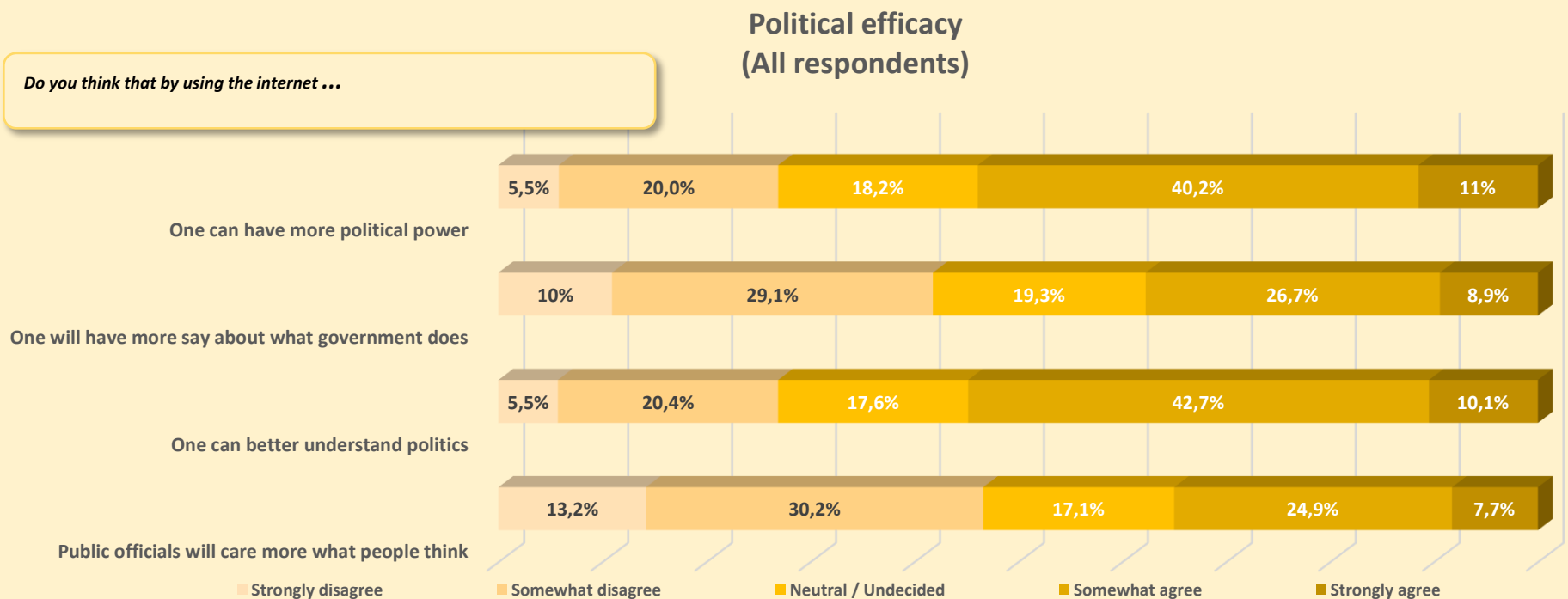
- The internet users possess a relatively higher social capital stock in comparison to the non-users. Nevertheless, **bonding social capital**, within the digital world, is much stronger than bridging or linking social capital.
- Greek users are highly sceptical regarding the **reliability** of information on the internet.

Perceived Reliability of Online Information
(Users)

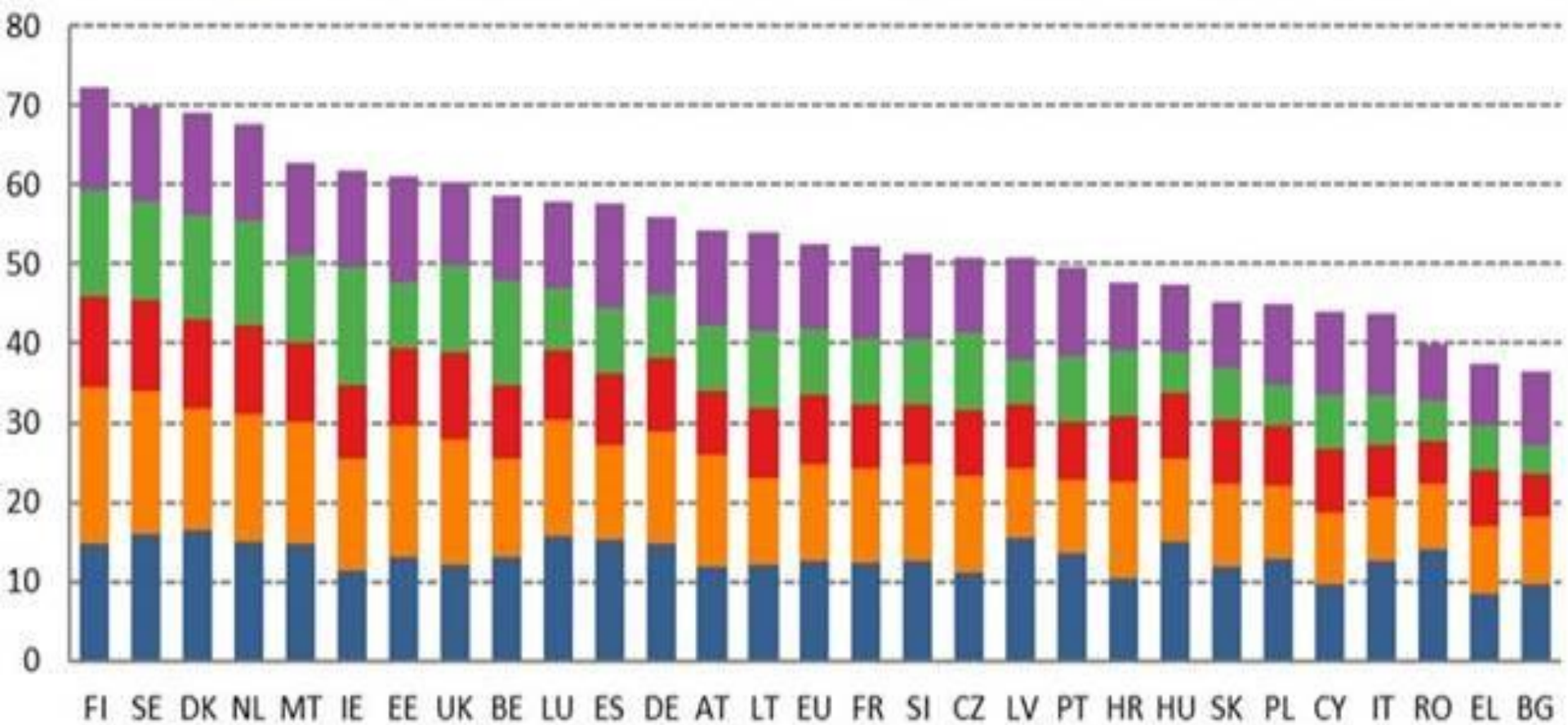


World Internet Project – Greece (2019)

- Most respondents (users) state that they have **nothing to hide** but, at the same time, the majority is actively protecting their privacy online, expressing **strong concerns about privacy violations by corporations and the government**.
- The majority of them **do not expect that online participation will actually increase their ability to influence government decisions, or that public officials will be more interested in their opinions**.



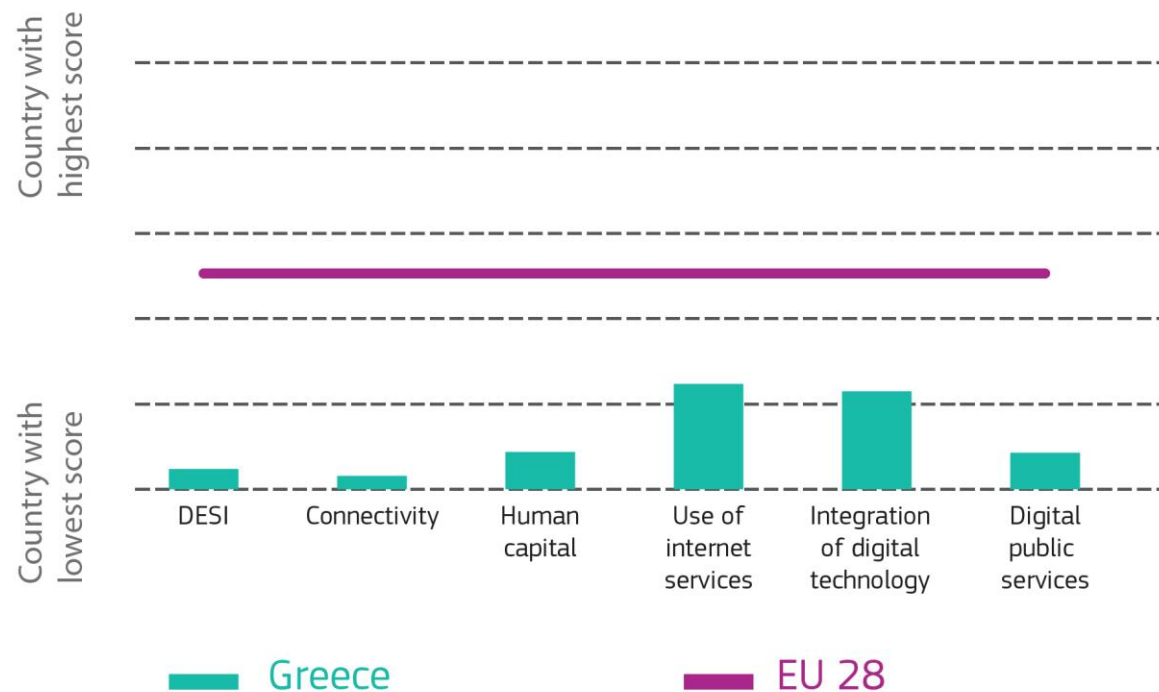
1 Connectivity 2 Human capital 3 Use of internet services 4 Integration of digital technology 5 Digital public services





GREECE

DESI ranking 27 - DESI score 37.3



Digital public services indicators have started to close the gap with EU peers, but remain among the weakest in the EU

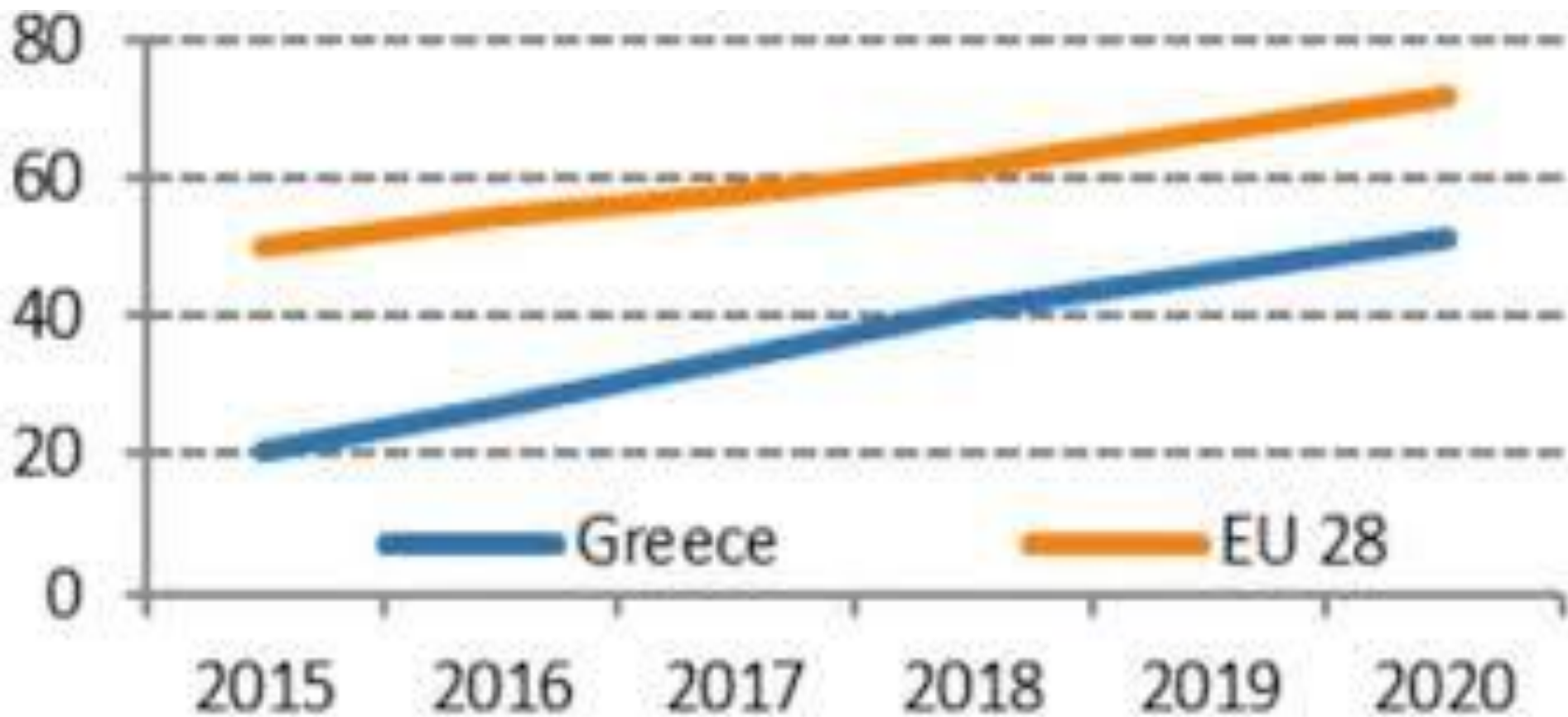


Table 2.5 Countries in Europe with the highest EGDl values

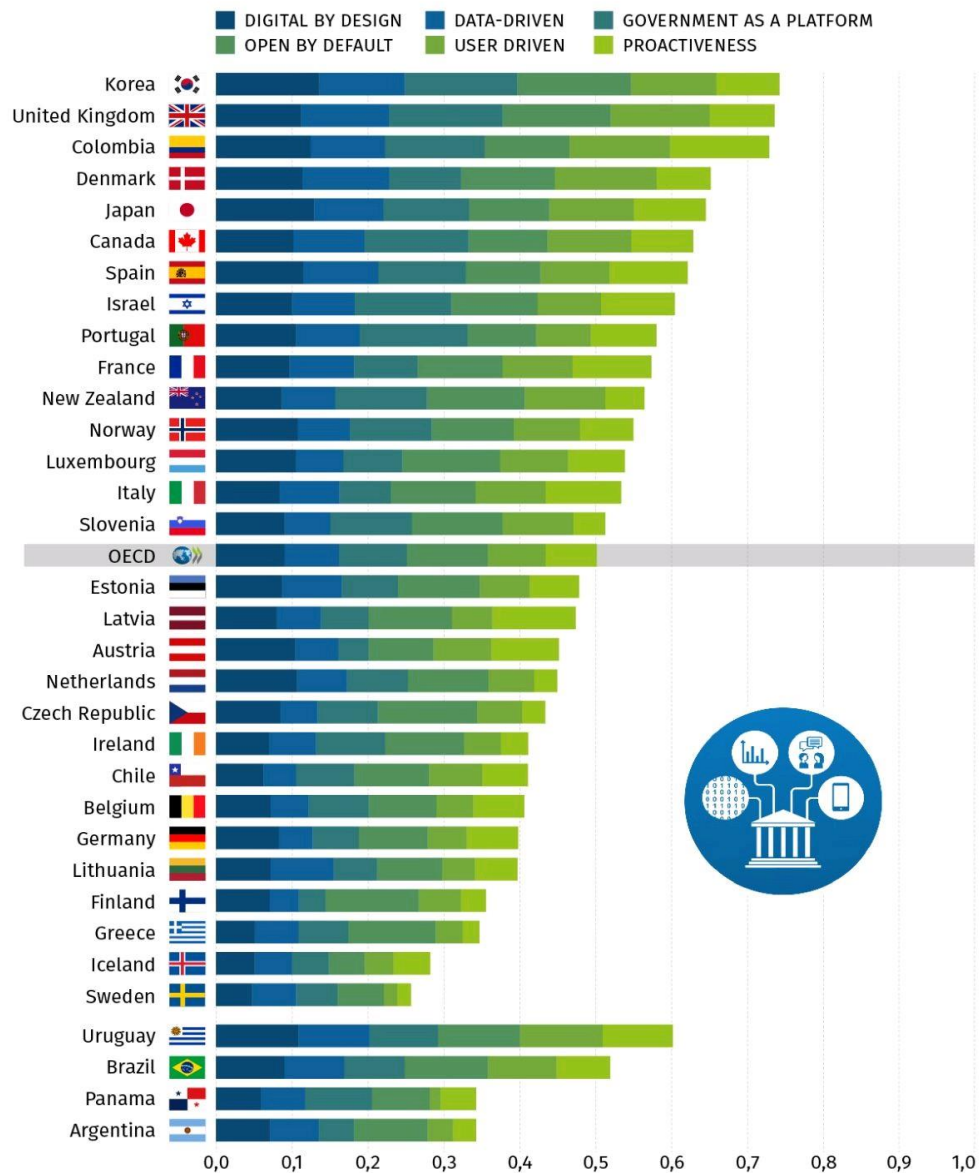
Country	Rating class	EGDI Rank	Sub-Region	EU Group	OSI value	HCI value	TII value	EGDI (2020)	EGDI (2018)
Denmark	VH	1	Northern Europe	Yes	0.9706	0.9588	0.9979	0.9758	0.915
Estonia	VH	3	Northern Europe	Yes	0.9941	0.9266	0.9212	0.9473	0.8486
Finland	VH	4	Northern Europe	Yes	0.9706	0.9549	0.9101	0.9452	0.8815
Sweden	VH	6	Northern Europe	Yes	0.9000	0.9471	0.9625	0.9365	0.8882
United Kingdom of Great Britain and Northern Ireland	VH	7	Northern Europe	No (**)	0.9588	0.9292	0.9195	0.9358	0.8999
Netherlands	VH	10	Western Europe	Yes	0.9059	0.9349	0.9276	0.9228	0.8757
Iceland	VH	12	Northern Europe	No	0.7941	0.9525	0.9838	0.9101	0.8316
Norway	VH	13	Northern Europe	No	0.8765	0.9392	0.9034	0.9064	0.8557
Austria	V3	15	Western Europe	Yes	0.9471	0.9032	0.8240	0.8914	0.8301
Switzerland	V3	16	Western Europe	No	0.8294	0.8946	0.9482	0.8907	0.852
Spain	V3	17	Southern Europe	Yes	0.8882	0.8989	0.8531	0.8801	0.8415
France	V3	19	Western Europe	Yes	0.8824	0.8612	0.8719	0.8718	0.879
Lithuania	V3	20	Northern Europe	Yes	0.8529	0.9218	0.8249	0.8665	0.7534
Malta	V3	22	Southern Europe	Yes	0.8118	0.8290	0.9232	0.8547	0.8011
Slovenia	V3	23	Southern Europe	Yes	0.8529	0.9256	0.7853	0.8546	0.7714
Poland	V3	24	Eastern Europe	Yes	0.8588	0.9001	0.8005	0.8531	0.7926
Germany	V3	25	Western Europe	Yes	0.7353	0.9362	0.8856	0.8524	0.8765
Ireland	V3	27	Northern Europe	Yes	0.7706	0.9494	0.8100	0.8433	0.8287
Liechtenstein	V2	31	Western Europe	No	0.6588	0.8489	1.0000	0.8359	0.8204
Luxembourg	V2	33	Western Europe	Yes	0.7647	0.8097	0.9072	0.8272	0.8334
Portugal	V2	35	Southern Europe	Yes	0.8353	0.8463	0.7948	0.8255	0.8031
Russian Federation	V2	36	Eastern Europe	No	0.8176	0.8833	0.7723	0.8244	0.7969
Italy	V2	37	Southern Europe	Yes	0.8294	0.8466	0.7932	0.8231	0.8209
Czech Republic*	V2	39	Eastern Europe	Yes	0.7235	0.9030	0.8140	0.8135	0.7084
Belarus	V2	40	Eastern Europe	No	0.7059	0.8912	0.8281	0.8084	0.7641
Belgium	V2	41	Western Europe	Yes	0.6588	0.9521	0.8033	0.8047	0.808
Greece	V2	42	Southern Europe	Yes	0.7059	0.8905	0.8100	0.8021	0.7833
Bulgaria*	V1	44	Eastern Europe	Yes	0.7706	0.8408	0.7826	0.7980	0.7177
Slovakia*	V1	48	Eastern Europe	Yes	0.7176	0.8286	0.7988	0.7817	0.7155
Latvia*	V1	49	Northern Europe	Yes	0.5824	0.9172	0.8399	0.7798	0.6996
Croatia*	V1	51	Southern Europe	Yes	0.7529	0.8414	0.7293	0.7745	0.7018
Hungary*	V1	52	Eastern Europe	Yes	0.7471	0.8509	0.7255	0.7745	0.7265
Romania*	V1	55	Eastern Europe	Yes	0.7235	0.7995	0.7586	0.7605	0.6671

* Countries that moved from the high to the very high EGDl group in 2020.

(**) Seceded from the EU

How are countries progressing towards digital government?

OECD
Digital Government
Index 2019



Note: Data are not available for Australia, Hungary, Mexico, Poland, Slovakia, Switzerland, Turkey and the United States of America.
Source: OECD Digital Government Index 2019 – Policy Paper

1. The **digitisation of the public services** has been accelerated with the launch of the governmental portal **gov.gr** (Ministry of Digital Governance) providing more than **500 e-services**.
2. The Ministry of Digital Governance **helped teleworking of critical public services** to 10,000 employees and provided a platform for all public bodies to conduct secure and high-quality **teleconferences**.

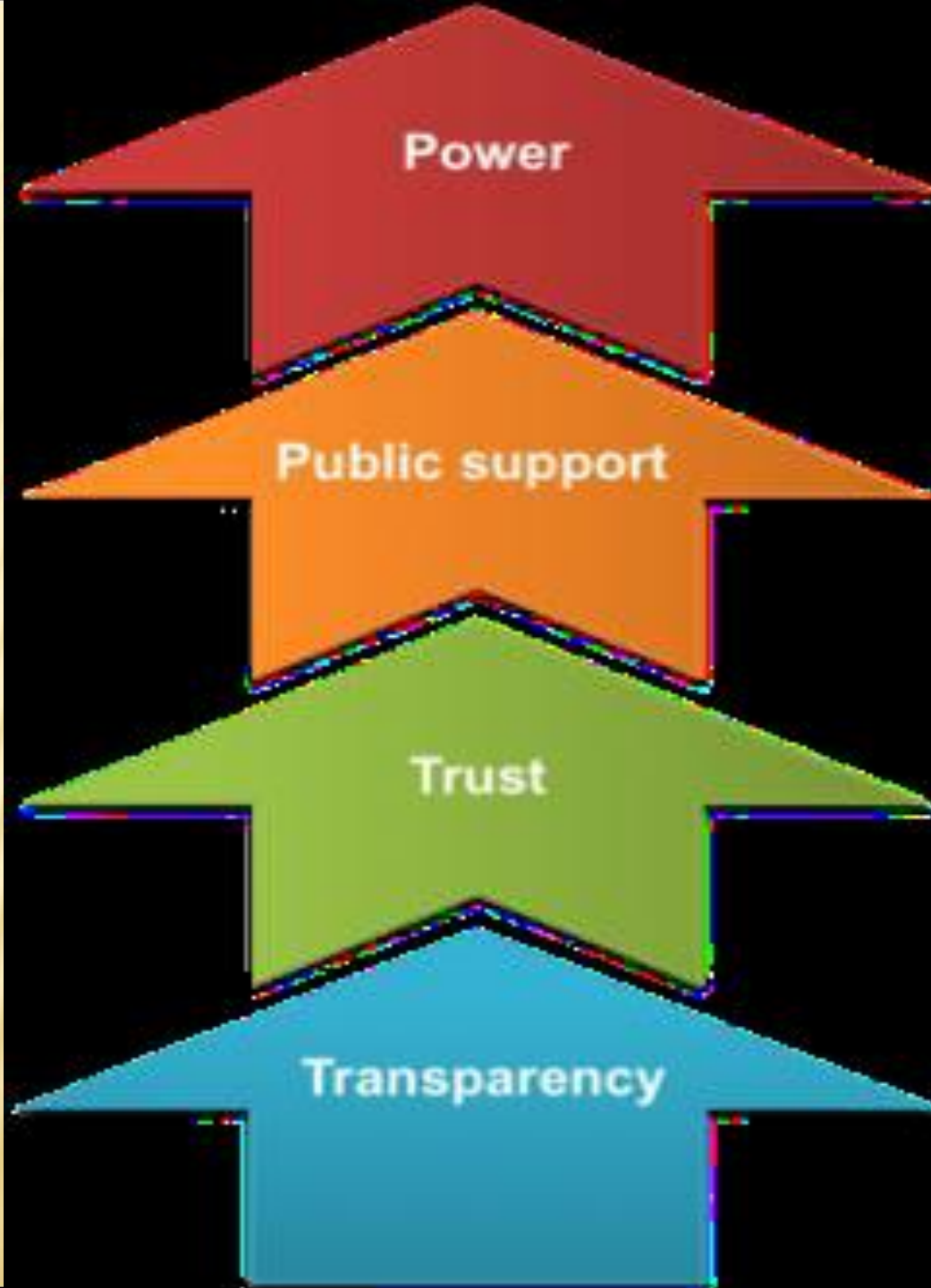


govgr BETA

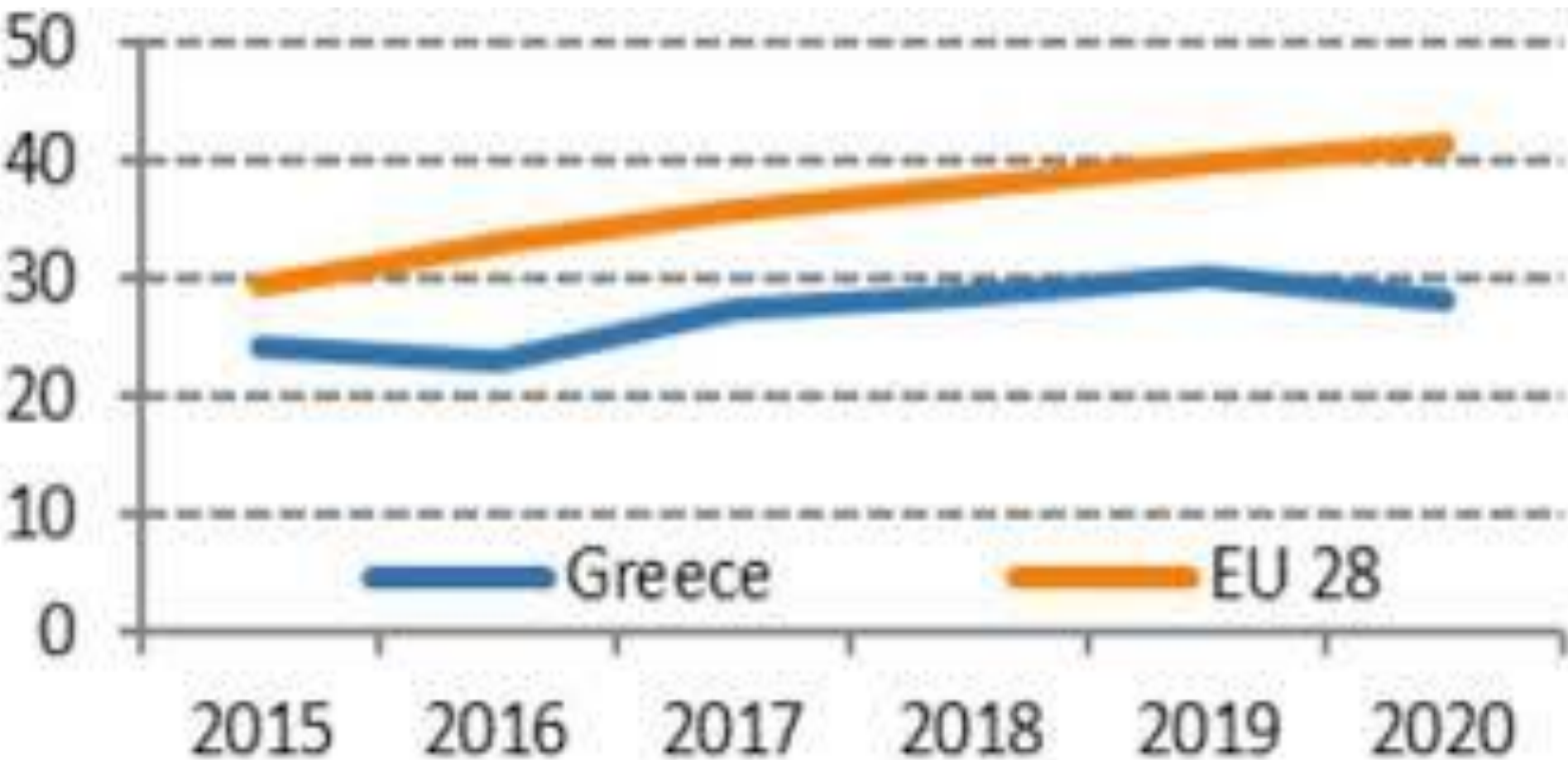


ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
Υπουργείο Μετανάστευσης & Ασύλου

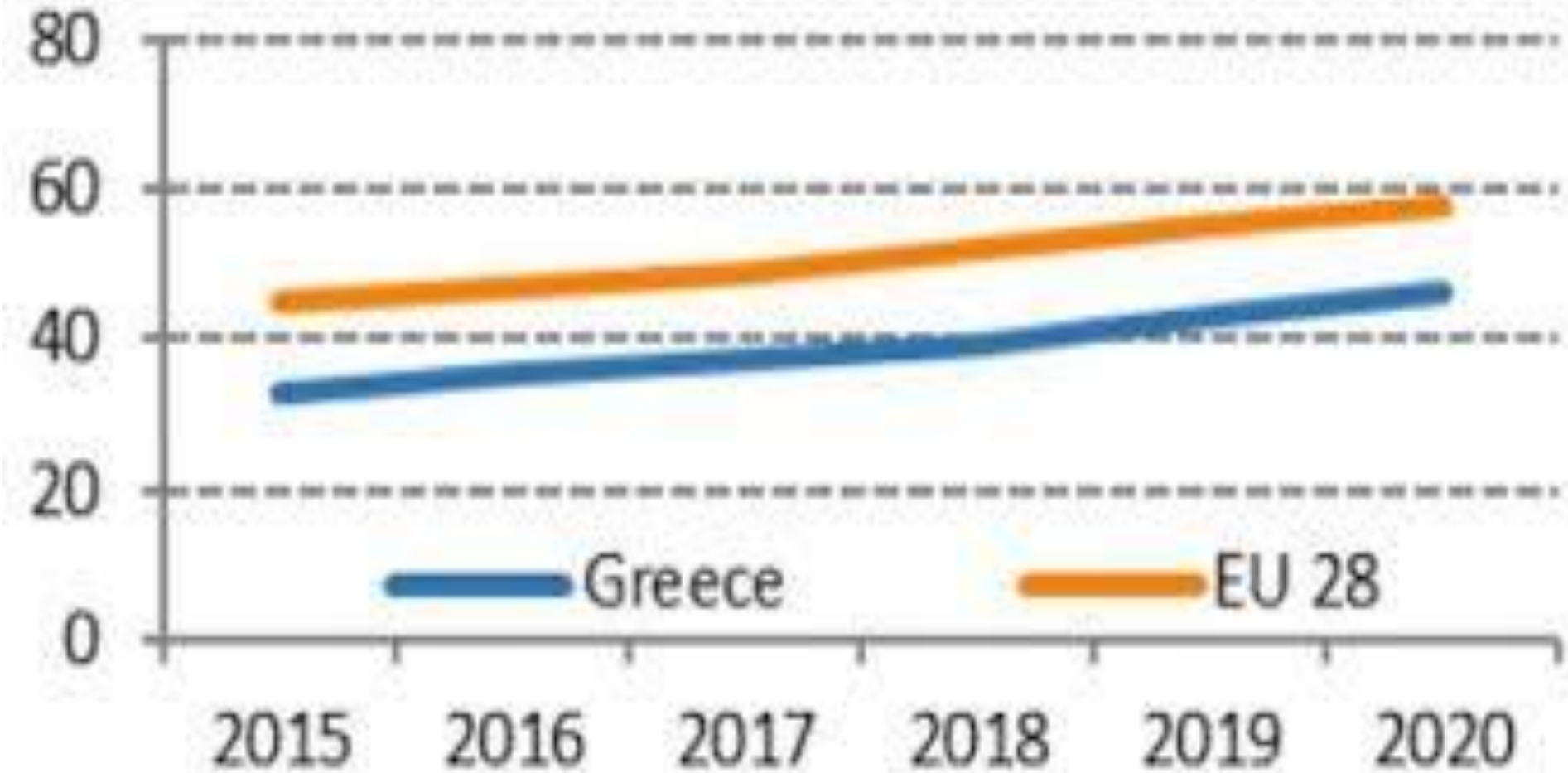
Applications
migration.gov.gr



but...Greek businesses ranked **24th** in the EU regarding the **integration of digital technology**, compared to **22nd a year ago**: the use of cloud services (by only 7% of firms versus 18% in the EU) and SMEs selling online (only 9% of total SMEs versus 18% in the EU) are still **Greek businesses' weakest digital dimensions**.



Overall **use of internet services** in Greece remains below the EU average, continuing to rank **25th** in the EU



Greece converged to the EU average on **digital skills** (human capital dimension), albeit it continues to rank only **25th** in the EU. Need to confront **phobic & defensive cultural attitudes** toward technology & innovation. Greece has been a digital laggard also because of its **model of productivity**.



**Digital Skills and
Jobs Coalition**

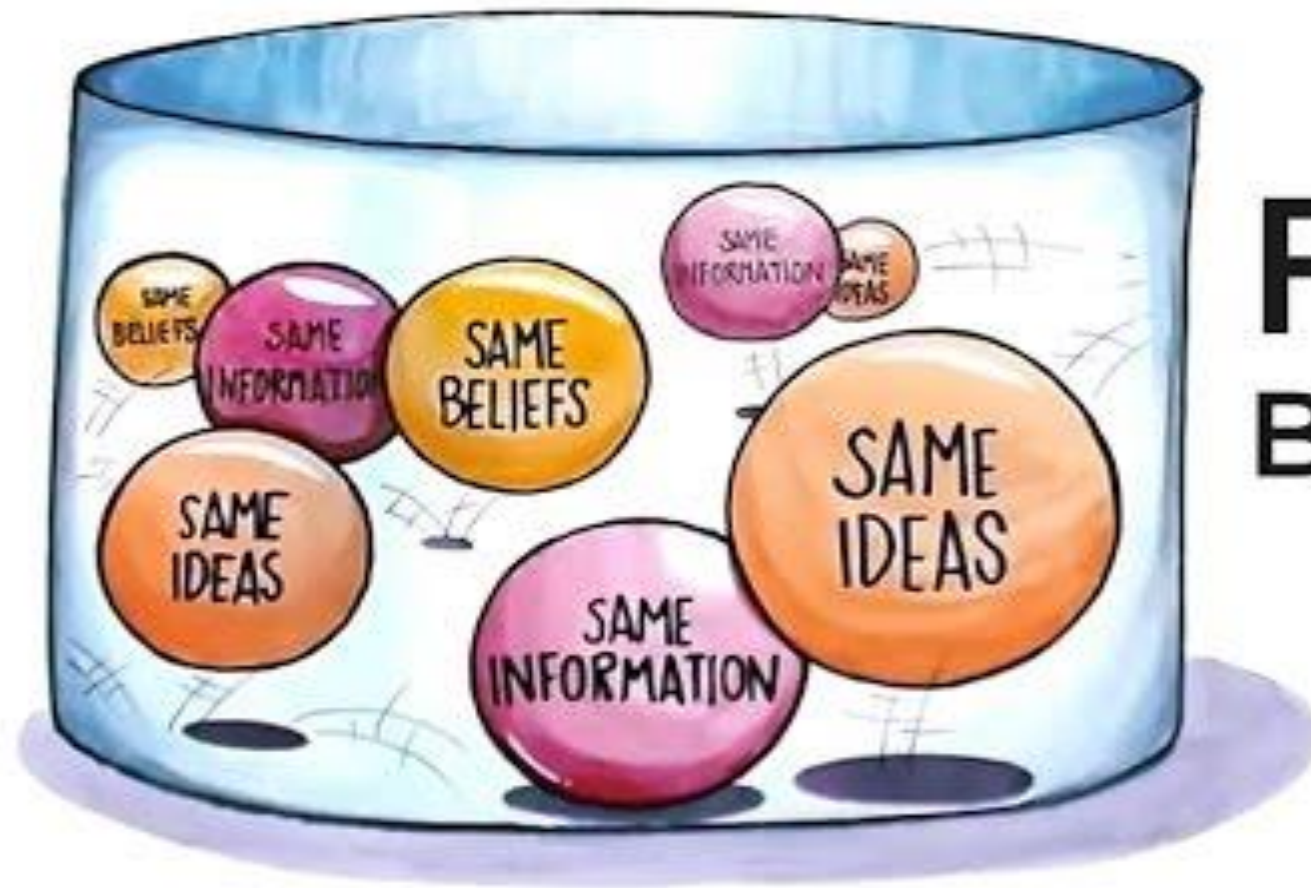
**GREEK
DIGITAL**
Skills & Jobs Coalition



Ψηφιακή Ακαδημία Πολιτών

Αναπτύξτε τις ψηφιακές σας δεξιότητες διαδικτυακά!

Need for **critical** digital skills



**Filter
Bubbles**

Chapter 3

Challenge to attention and cognitive control



The attention economy

Digital environments optimized to monopolize and commodify human attention and online behaviours.

Choice architectures

Strategic design of online environments and user interfaces that aims to affect people's choices and steer their behaviour. Persuasive and manipulative choice architectures steer people's online behaviour in the service of commercial interests (e.g., "dark patterns", privacy-intruding default settings).

Chapter 4

Challenge to decision autonomy and informed choice



Chapter 5

Challenge to decision autonomy and control over information environment



Algorithmic content curation

AI-powered algorithmic tools that filter and mediate information online (e.g., targeted advertising, personalized recommender systems, algorithmic filtering in search engines, personalized curation of news feeds on social media).

Misinformation and disinformation

Online content (e.g., news items, videos, posts) that is not based on factual knowledge or evidence, and that misleads the public by instilling inaccurate beliefs and/or undermining trust in the media.

Chapter 6

Challenge to reasoning, discernment of truth, and civility of the public conversation



Digital Challenges

HUMAN AGE SERIES



A Skills Revolution:

FROM CONSUMERS OF WORK
TO BUILDERS OF TALENT



Reskilling needs

50% of all employees will need reskilling by 2025.

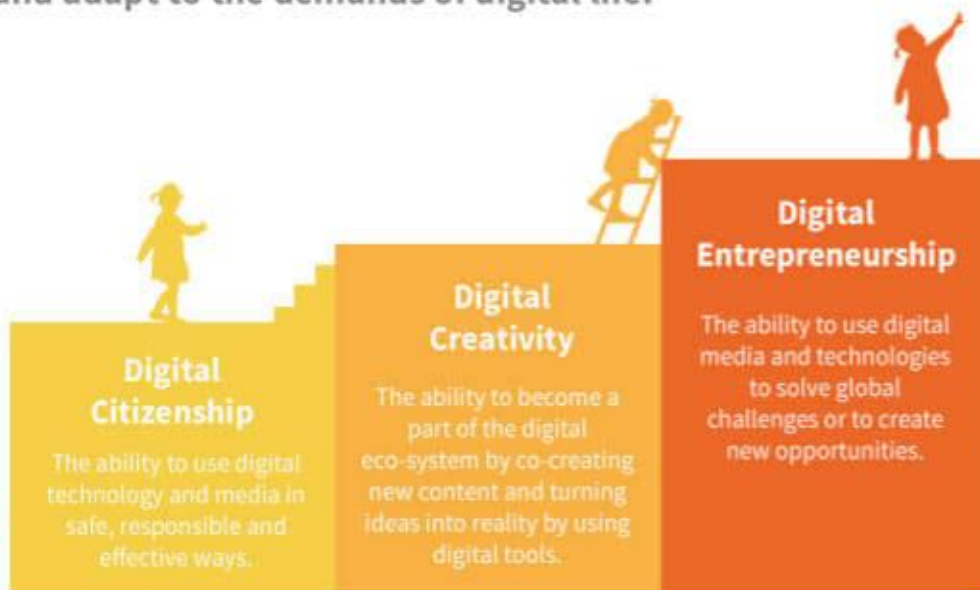
The infographic features a large blue '50%' with a man in a white shirt and tie standing inside the '0'. To the right, a list of programming symbols is shown: `< - ' - >`, `= - / - " - / = -`, `( - / - ) = - " -`, `< - - / = " - / - " = ' - >`, `- - ' - ( ) = - - ' -`, `= ( ) -`, `// =`, and `( - ) = = = - " }`. A blue dotted line leads from the '0' to the text 'of all employees will need reskilling by 2025.' at the bottom.

**of all employees will need
reskilling by 2025.**

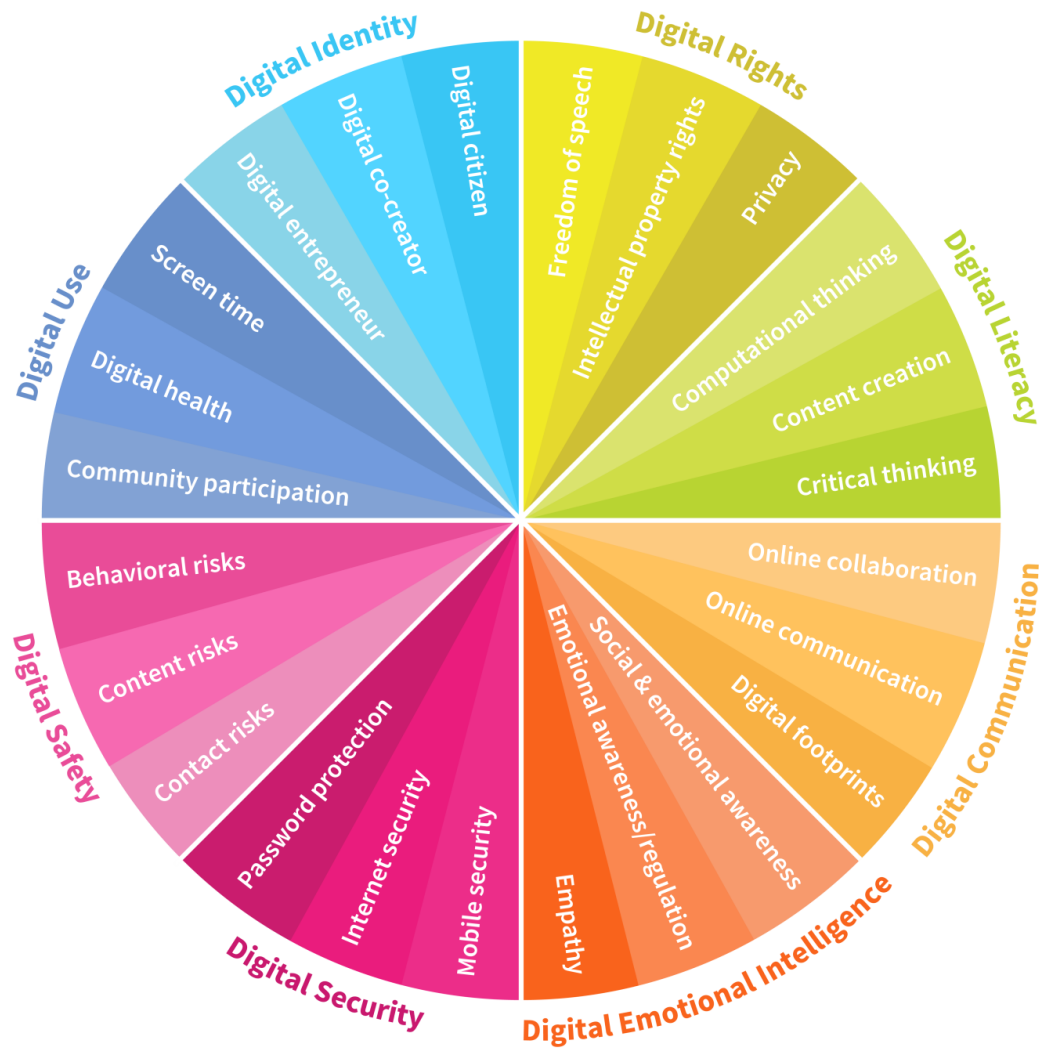
Source: Future of Jobs Report 2020, World Economic Forum.



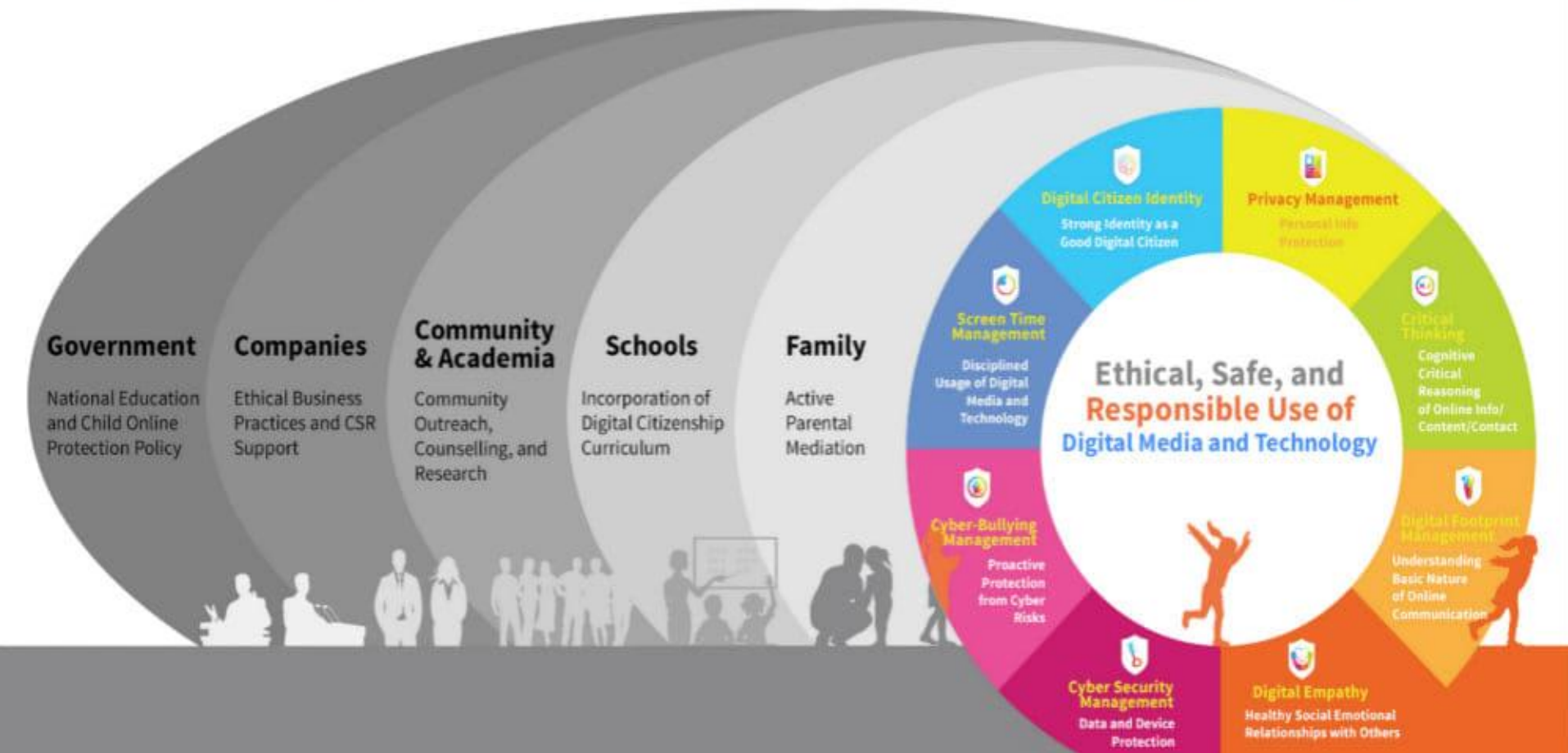
Digital Intelligence (DQ) is the sum of social, emotional, and cognitive abilities that enable individuals to face the challenges of and adapt to the demands of digital life.



Community-Based Values



Building an Ethical Digital Ecosystem as a Collective Responsibility

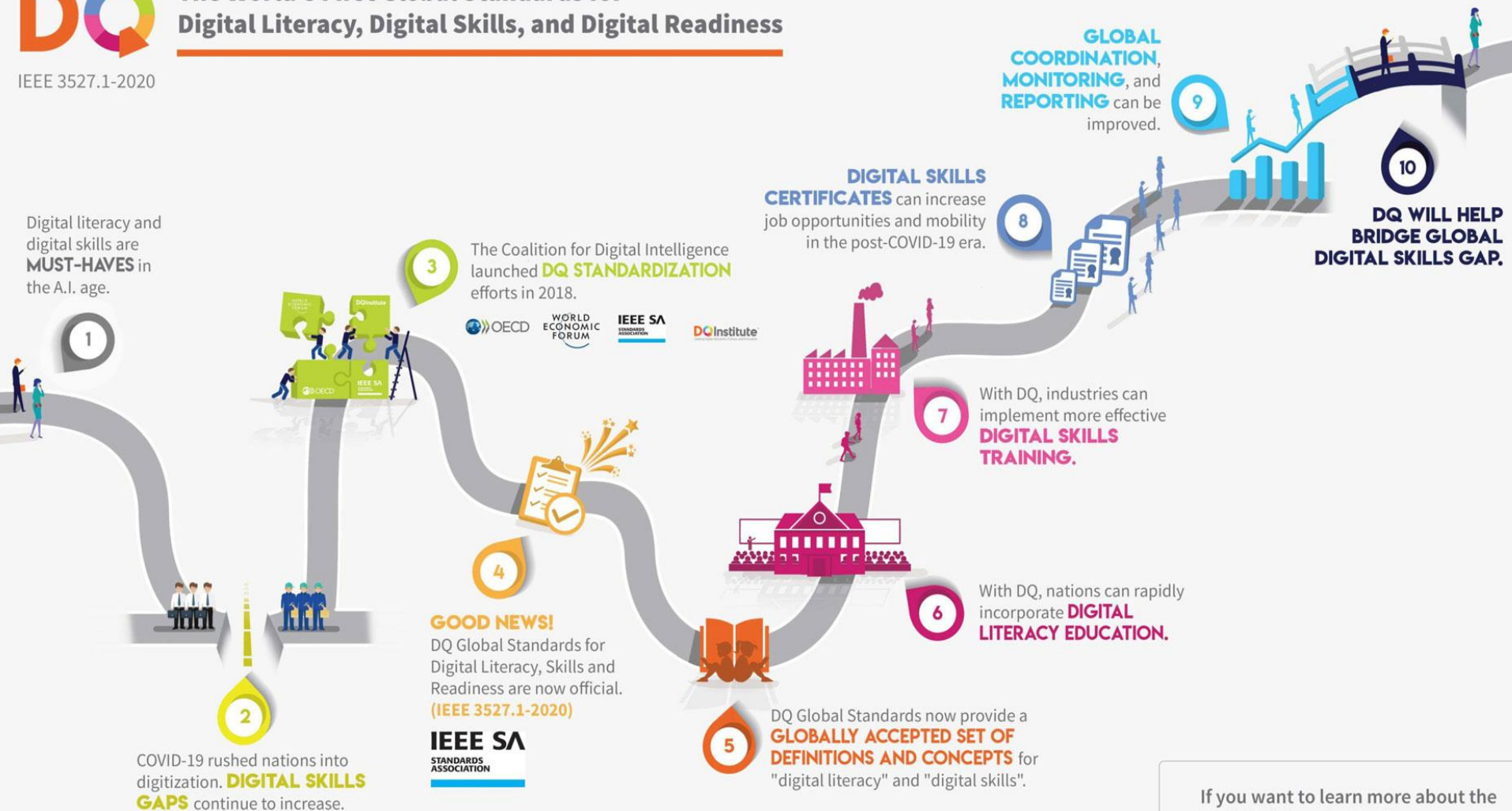




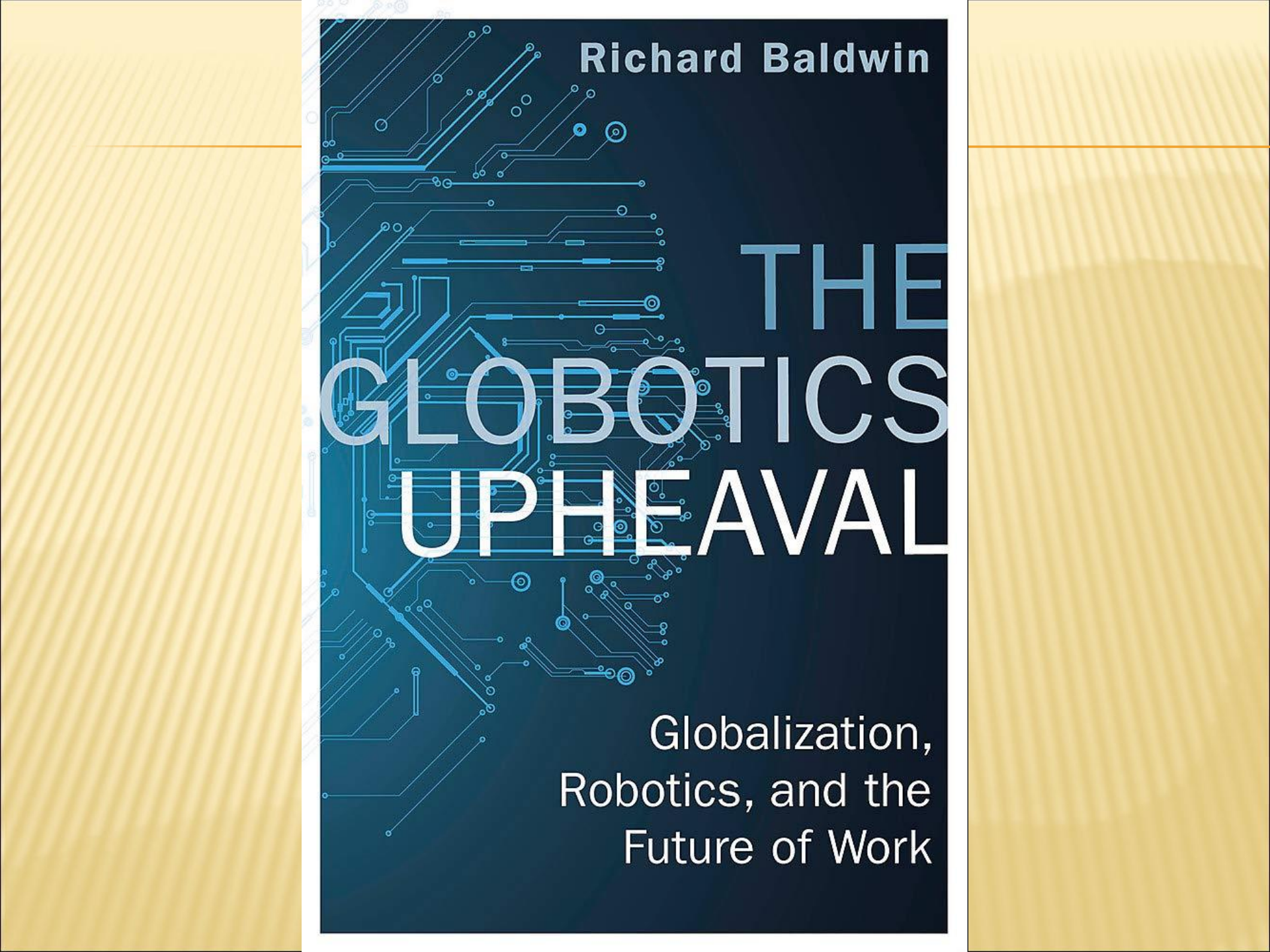
The World's First Global Standards for Digital Literacy, Digital Skills, and Digital Readiness

IEEE 3527.1-2020

Digital literacy and digital skills are **MUST-HAVES** in the A.I. age.



If you want to learn more about the DQ Global Standards, please contact us at contact@dqinstitute.org.



Richard Baldwin

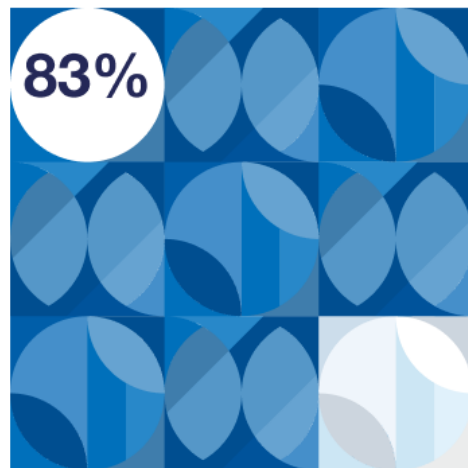
THE GLOBOTICS UPHEAVAL

Globalization,
Robotics, and the
Future of Work

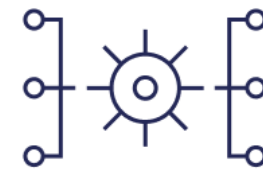
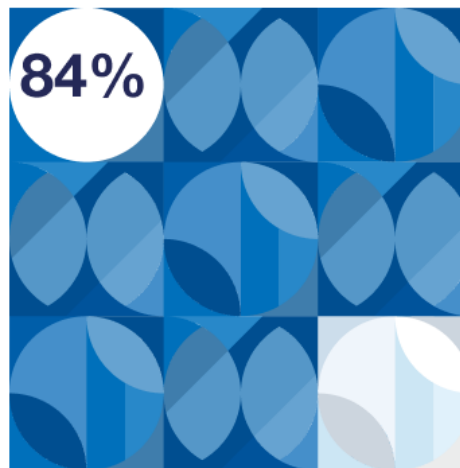
COVID-19 is pushing companies



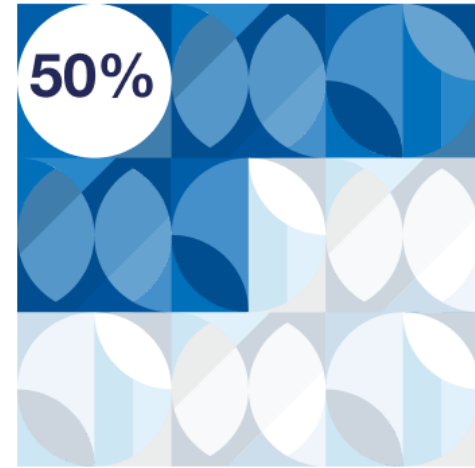
to scale
remote work



to accelerate
digitalization

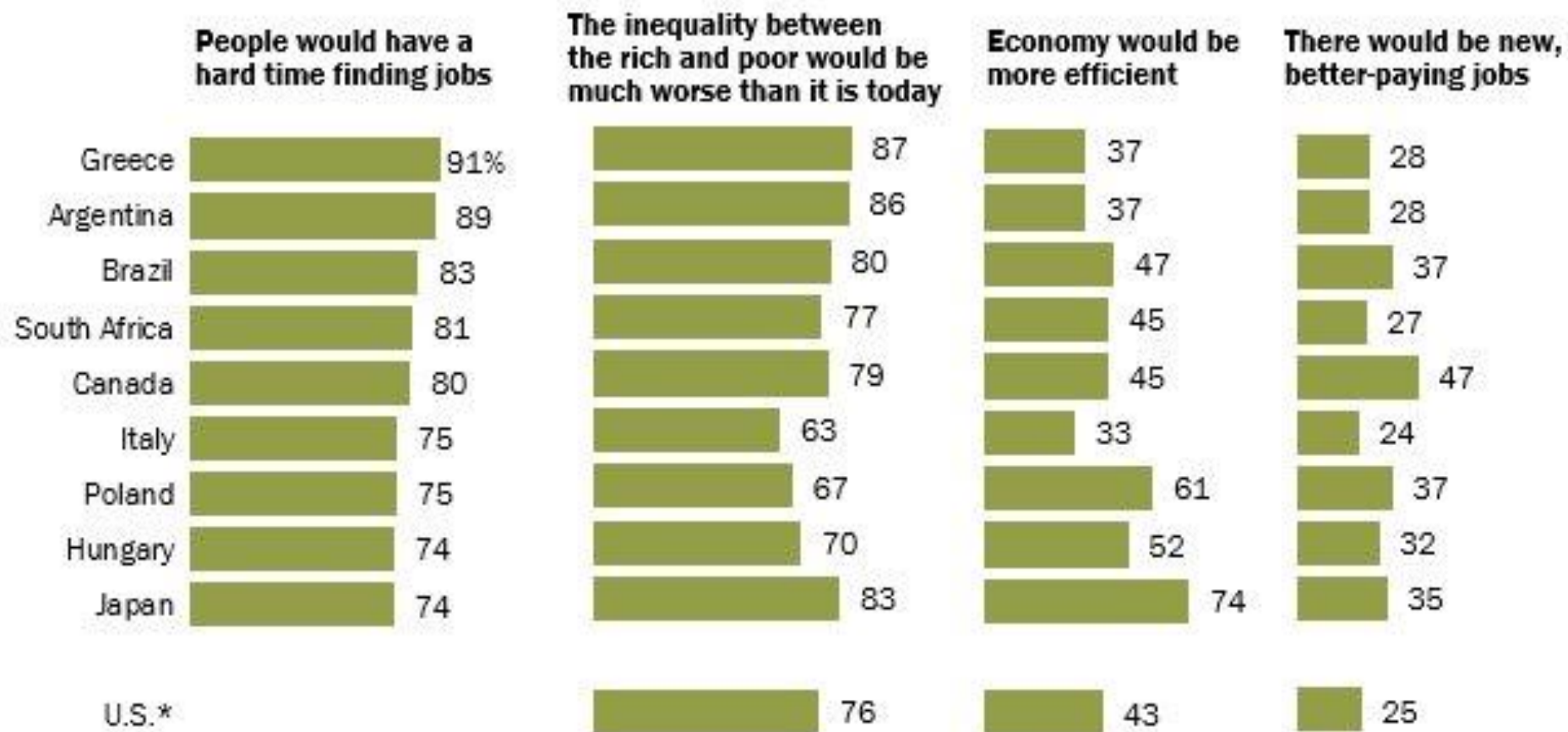


to accelerate
automation



Publics more convinced of the downsides than potential upsides of job automation

% of adults who think it is likely that ___ if robots and computers were able to do much of the work currently being done by humans



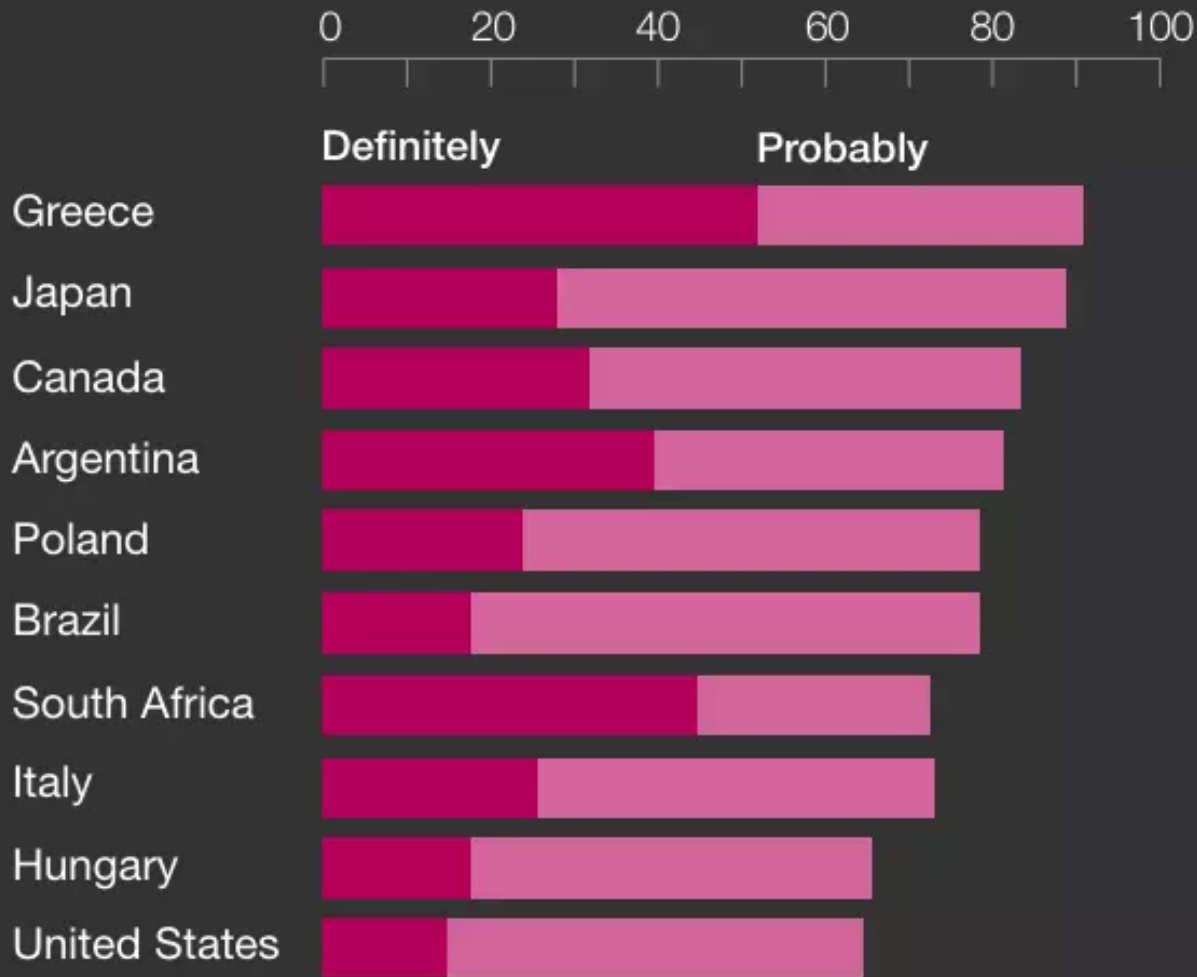
Note: U.S. data from Pew Research survey conducted May 1-15, 2017. No U.S. data for "people will have a hard time finding jobs." In the U.S., the efficiency question referred to "economy as a whole" and the jobs question read "economy will create new, better-paying jobs."

Source: Spring 2018 Global Attitudes Survey. Q81a-d.

THERE'S WIDESPREAD BELIEF THAT ROBOTS WILL TAKE THE JOBS OF HUMANS (MCKINSEY & COMPANY 2020)

Likelihood that in the next 50 years robots and computers will do much of the work currently done by humans

% of respondents



SOURCE: OECD, 2018, JOB CREATION AND LOCAL ECONOMIC DEVELOPMENT



Digital human capital + Digital social capital + Digital institutional capital = Sustainable digital future

RECOMMENDATIONS

- ✗ Further **simplification** of administrative procedures by ensuring **interoperability** amongst all administrative platforms
- ✗ Public administration must **open** all anonymous data
- ✗ **Public & private sectors collaboration** in upgrading & exploiting further digital infrastructure and technology; **competition-enhancing policies**
- ✗ **More Digital Innovation Hubs** covering all e-economy sectors (only 9 Hubs fully operational so far); **blockchain & cryptocurrency research**
- ✗ **National plan for investments in Industry 4.0** (see agreement with Microsoft)
- ✗ Local government must leverage **smart city technologies**
- ✗ Adaptation of current **innovation model of manufacturing**
- ✗ **Media multiliteracies & factchecking; Technoethics & regulation**
- ✗ **Framework of digital policies; digital trust; digital inclusion & cohesion**

Innovation & responsibility



eIDAS: BUILDING TRUST IN OUR ONLINE ENVIRONMENT

To safeguard cross border internet shopping.



To protect an individual's privacy by only releasing required trusted identity information (such as proof of age).



To protect the identity of participants in blockchain data storage systems.



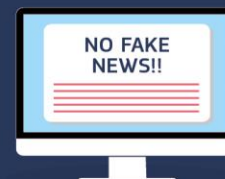
To prove the exact time the transaction was made.



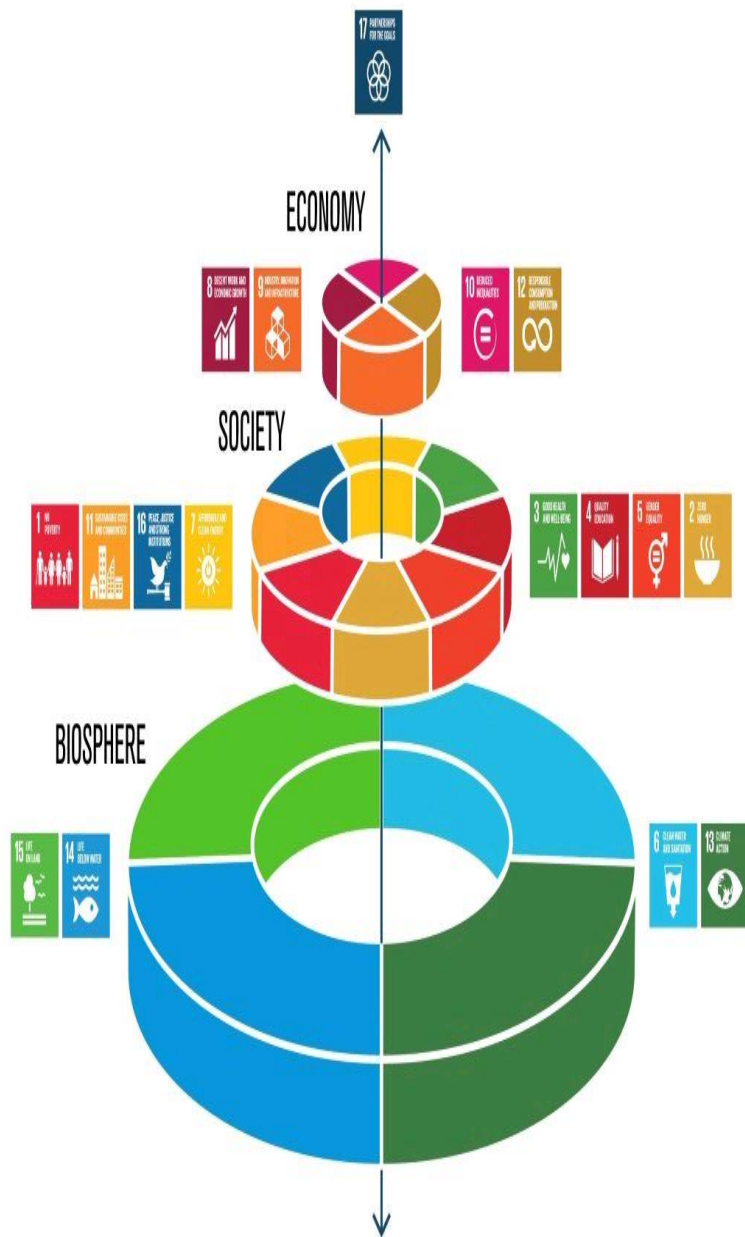
To protect medical records and keep patient identities confidential.



To help fight against fake news.

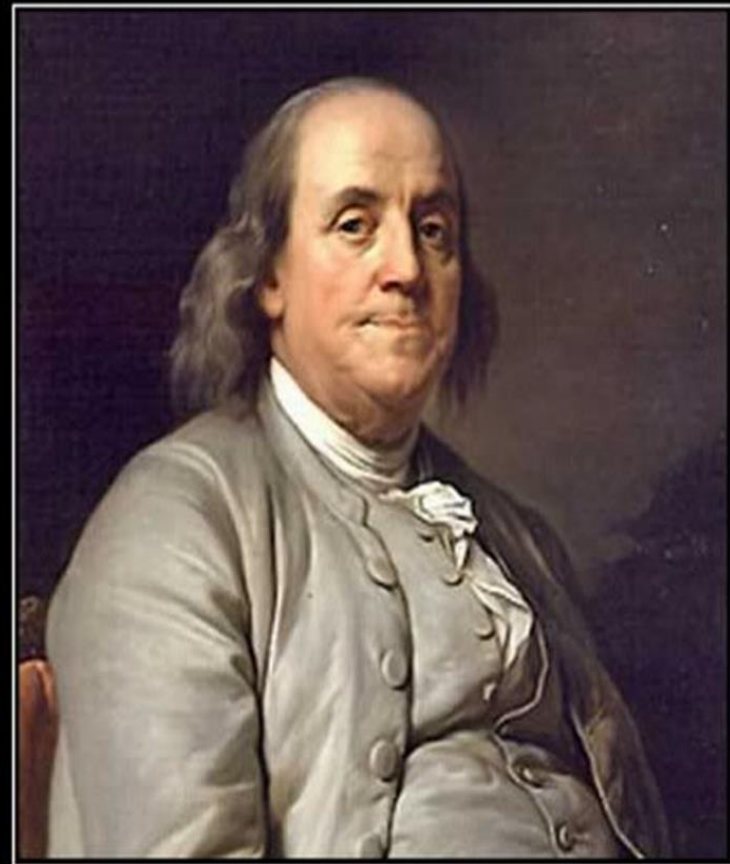


E-ECONOMY MUST MEET UN SUSTAINABLE DEVELOPMENT GOALS



Foresight is the ability to plan for the future. It is a mix of mindset and methodology: a view of the future and the practice of looking forward.

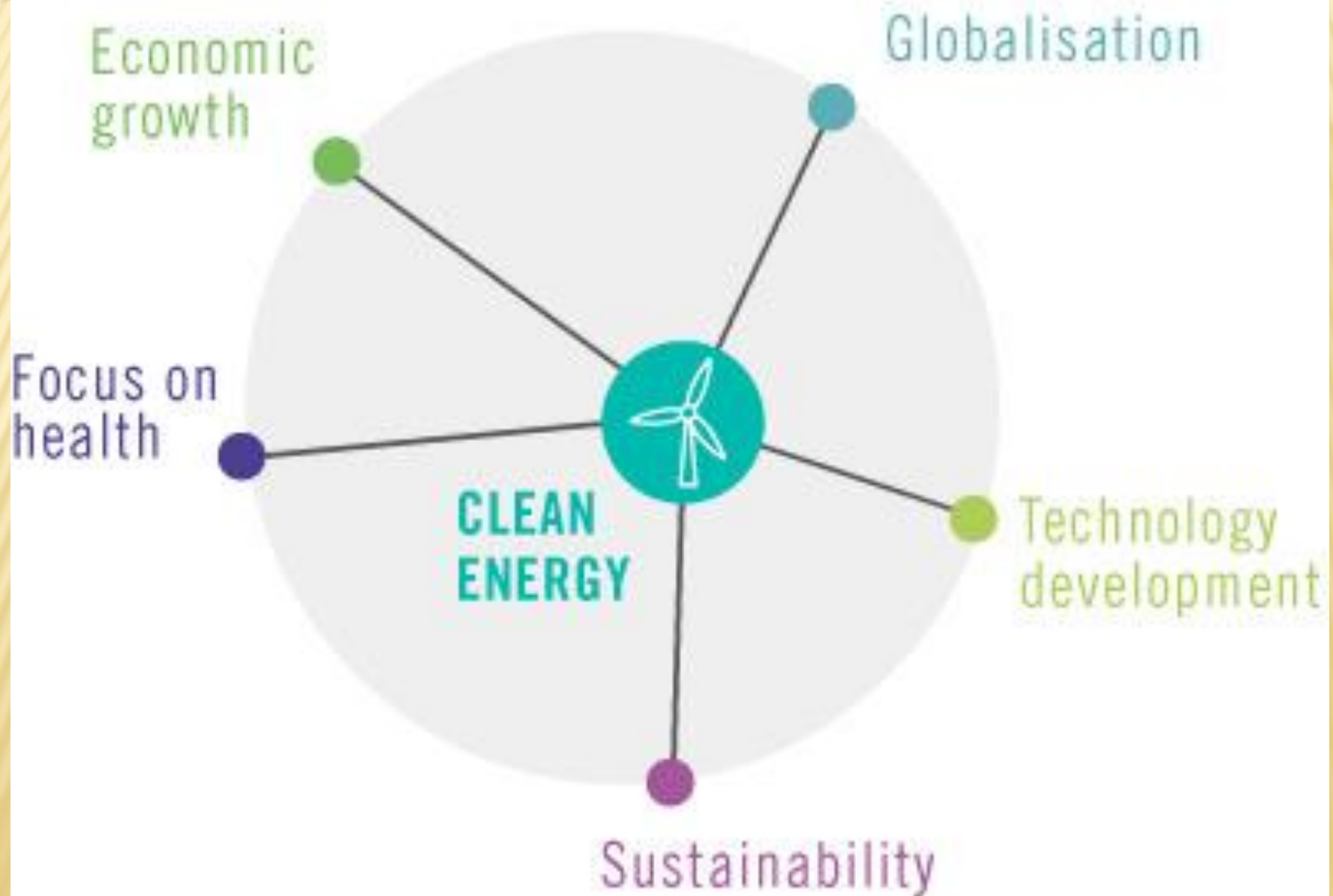
Stanford's Playbook for Strategic Foresight and Innovation (2013)



FORESIGHT

"By failing to prepare, you are preparing to fail."
-Benjamin Franklin

E-ECONOMY AS MEGA-TREND: POSITIVE (ANTI-FRAGILITY) VS. NEGATIVE (POLARISATION & CYBERTHEATS)

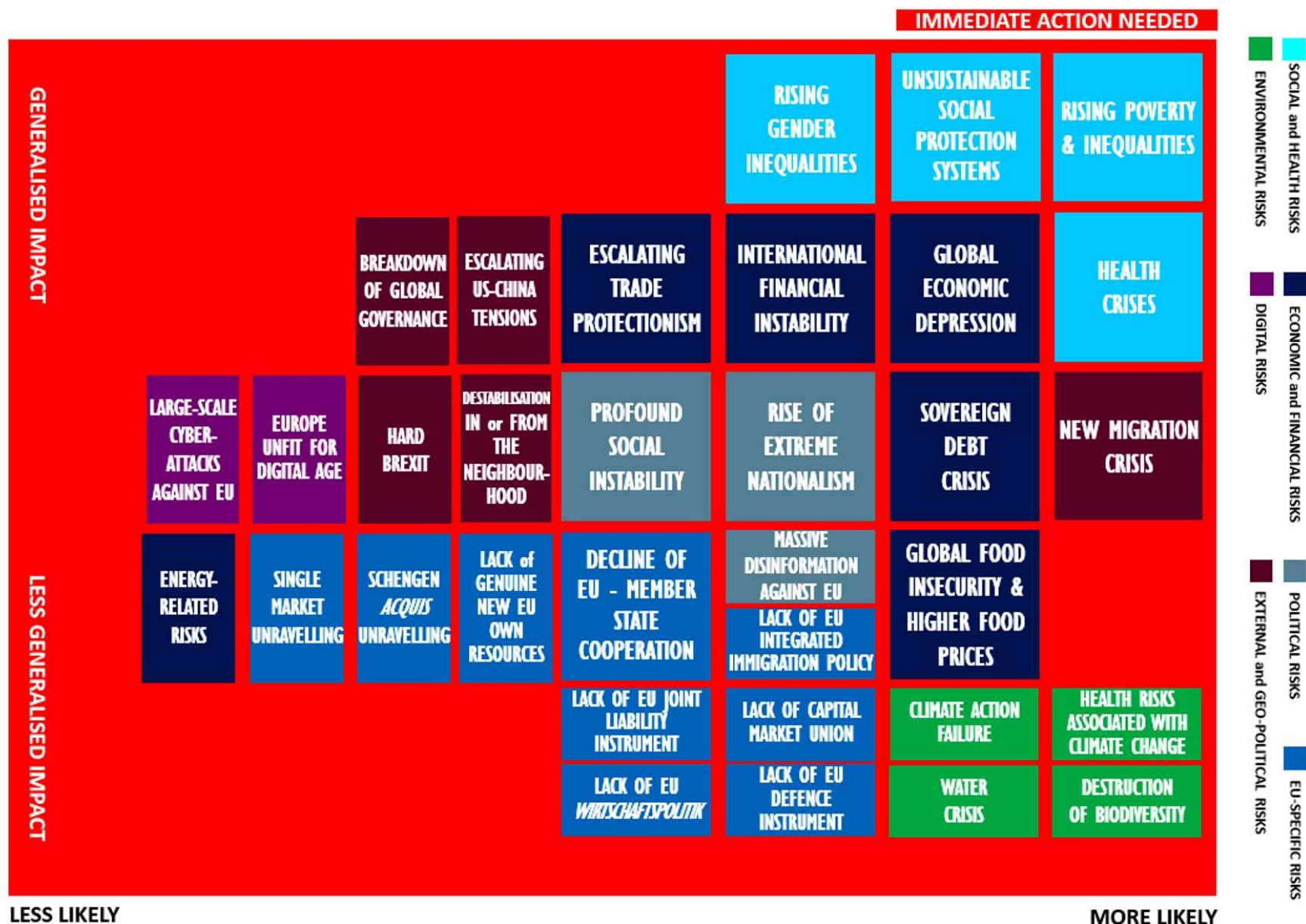




2020 Strategic Foresight Report

CHARTING THE COURSE TOWARDS A MORE RESILIENT EUROPE

MAPPING of STRUCTURAL RISKS facing the EU





EU

Recovery plan for Europe
Plan de relance pour l'Europe
Herstelplan voor Europa



**WE NEED TWINNING OF THE
DIGITAL & GREEN TRANSITIONS
& COOPERATION BETWEEN
STAKEHOLDERS OF THE
INDUSTRY & THE STATE TO
TACKLE INDUSTRY4.0
CHALLENGES**

