DATAWEEK

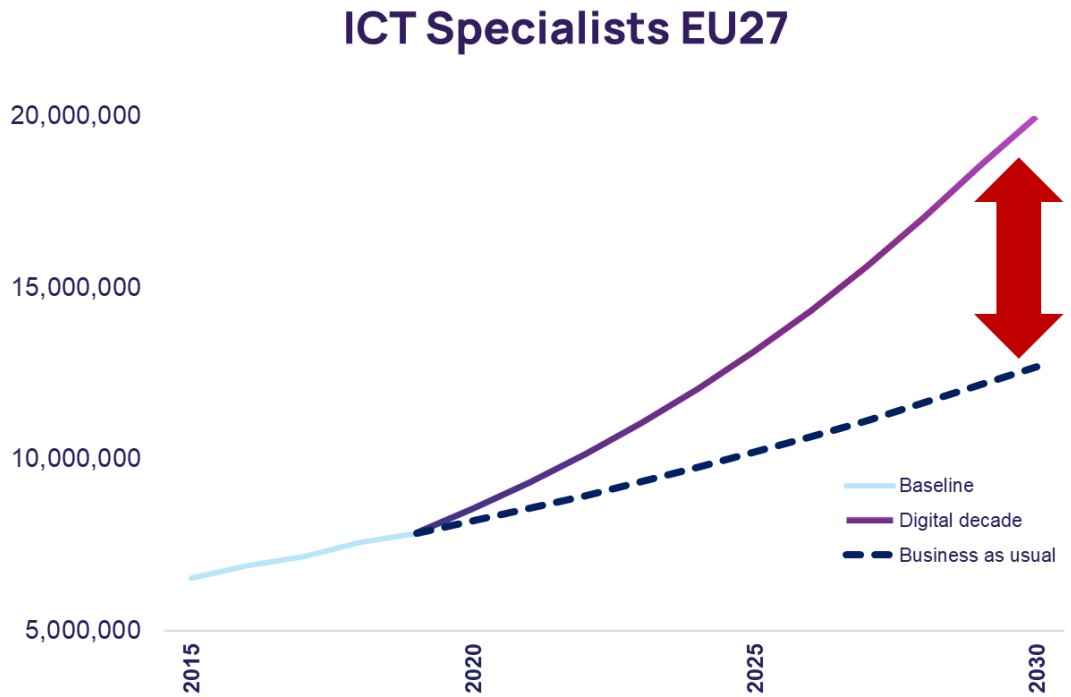
JOIN.LEARN.SHARE.GET VALUE

Deep Tech Specialists gap

How can we all contribute to fill it?

EUHUBS4DATA

BDV BIG DATA VALUE ASSOCIATION



Three problems:

- Skilling (Data Scientist)
- Reskilling (Economist to Data Scientist)
- Upskilling (Computer Scientist to Data Scientist)

Who is the owner of the problem? Universities or Industry?
Who are the other actors? Who is providing solutions?

Other actors

Tech providers

Online learning platforms

PORINI
A DGS COMPANY

Service/Solution providers

accenture
Apprenticeship Program

In-House Training

What is the role of the Universities?

Can they help?

Universities can help?

Universities design, manufacture and deliver trucks.

But we also need now motorcycles. And urgently! Can we use part of our truck-factory to manufacture the motorcycles?

Should we do as in war?

Main trends in the public sector offering

- On average, European institutions are **slow at changing their curricula** and when they do, the approach remains **very traditional** and **not adapted to the dynamism of the labour market needs**, except for the **good practice cases of programmes combining public and private sector**.
- There is a **very limited and fragmented offer** of new specialised Master's programmes in Key Enabling Technologies (KETs) in European universities.
- European universities on average **are not very responsive to the need of re-skilling and upskilling** the adult population.

How come? Why?

- **Humboldt model of higher education**
  - Research-based university (no professional-based or oriented)
  - Academic freedom: independence of the university from outside governmental and economic constraints
- **Not flexible (regulations, big inertia, long term planning):**
  - Long term contracts for professors (tenured)
  - Working schedule does not include weekends
  - Mainly F2F education
  - Non professional but research requirements for candidates (PhD.)
  - Degree approvals follow a very long and a highly administrative path (take years)
  - Closed budget

The University should be a major actor, but how?

Keep this

Create this in partnership with the industry

An example

KEYS:

- One year “Private Degree” (not officially recognised, not valid to access a PhD program)
- 70% of teachers come from the industry
- 30% of faculty are “encouraged” to participate earning a bonus for their participation
- Schedule adapted to professionals
- **Some industries cover the fees of their own employees**

Universities can offer shorter “private” courses…

Another example: joining efforts at a big scale

AUTONOMOUS SYSTEMS
The skills you need to drive the transition to autonomous systems.

CLOUD AND NETWORK INFRASTRUCTURES
The knowledge and skills you need to lead the cloudification of networks.

CYBER SECURITY
Get cyber-smart and future-proof your career for an autonomous world.

DATA SCIENCE
Data is the currency of the digital economy. Get the analytical skills you need to cash in.

EMBEDDED SYSTEMS
The skills - and confidence - you need to compete in the booming field of embedded systems.

FINTECH
The financial world is changing fast. Equip yourself with skills you need to drive this transformational change.

HUMAN COMPUTER INTERACTION AND DESIGN
Design the intuitive user interfaces that define how we interact with our smart devices.

eit Digital MASTER SCHOOL

15
TOP TECHNICAL UNIVERSITIES

9
CHOICES OF COUNTRIES TO STUDY IN

200+
INDUSTRY PARTNERS IN OUR ECOSYSTEM

95%
GRADUATES EMPLOYED WITHIN 6 MONTHS AFTER GRADUATION*

93%
ALUMNI WORK IN THE SAME OR RELATED FIELD OF THEIR STUDIES*

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Another example: joining efforts at a big scale

KEYS:

- Official degrees (grant access to a PhD program)
- Organization, coordination and mobility funded by EIT Digital (very big budget)
- Degrees are mostly created re-using and mixing existing courses, no need to hire new teachers
- Industry collaboration providing industrial cases and mentors (and a bit of funding). Teachers are faculty, no professionals.
- Students pay a fee similar to any other official degree

Another example: joining efforts at a big scale

SCALE-UP PROBLEM: New degrees (Emotional AI, Quantum Computing, Space tech, Digital Mining, Digital Manufacturing, etc.)?

- No more available courses to re-use (1-2 at most?)
- No possibility to hire more teachers (closed budget covering to the existing degrees)
- No possibility of recycling university teachers

Q1: what part of the gap should be covered by these actors?

- Skilling (Data Scientist)
- Reskilling (Economist to Data Scientist)
- Upskilling (Software Engineer to Data Scientist)

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Q2: who should pay for it?

- Students
- The technology providers
- The final customer (Industry with the lack of skilled HR)
- The EC/Governments

Q3: What part should be covered by the Universities?

- Skilling (Data Scientist)
- Reskilling (Economist to Data Scientist)
- Upskilling (Software Engineer to Data Scientist)

Q4: Should it be alone or hand to hand with the industry?

Q5: How an industry with that problem can help within the rigid university's framework and closed budget? What kind of resources it may offer?

MÁSTER EN CONSULTORÍA
UPM + AEC

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