

PANORAIMA

origin and motivation

Motivating factors

Technology not only factor in success of AI

- Technology has advanced rapidly last few years
- AI starting to move from Labs to Society
- The 'big questions' no longer (only) about technology...

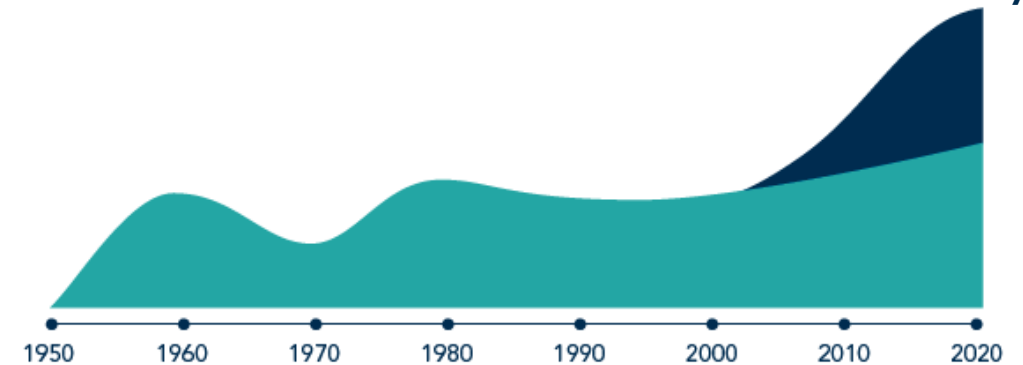
Social and legal more and more important

- EU (and others) are recognizing AI as 'transformational technology'
 - Comparable to the invention of steam power, electricity, and the digital computer
 - Lasting impact on society
- Regulation required to get it right

This has lead to the HCAIM masters' programme

AI in Labs

AI in Society



Source: NL Scientific Council for Government Policy, "Opgave AI", 11-11-2021

The screenshot shows the European Commission website. At the top, there is the European Commission logo and a search bar. Below the logo, the text 'Shaping Europe's digital future' is displayed. A navigation menu includes 'Home', 'Policies', 'News', 'Library', 'Funding', 'Calendar', and 'Consultations'. The main content area features the title 'Regulatory framework proposal on Artificial Intelligence' and a sub-header 'Regulatory framework proposal on Artificial Intelligence'. The text below states: 'The Commission is proposing the first ever legal framework on AI, which addresses the risks of AI and positions Europe to play a leading role globally.' A small copyright notice '© gorodenkoff - iStock Getty Images Plus' is visible in the bottom right corner of the screenshot.

Integrated

Unique combination of technology and human-centered aspects

- Ethical-Legal-Social aspects (ELSA, human-centered aspects) at the sideline of curriculae
- 2019 enquiry of 61 computer sciences studies shows
 - 36% (22) do not teach any ethics;
 - Of the remaining 39 studies; 39% (15) teach ethics in a stand-alone module, and, on average, for only 2-5 hours per semester (~2.5% of teaching time).

ELSA problems difficult to solve

- Not hard problems...
- ... but wicked problems



Based upon Rittel and Webber (1973)

'Last mile' AI engineering

Last mile of AI engineering (deployment) presents most problems

- Make or break
- Integration with organisation and society
- It may work in theory, but it never works (like that) in practice

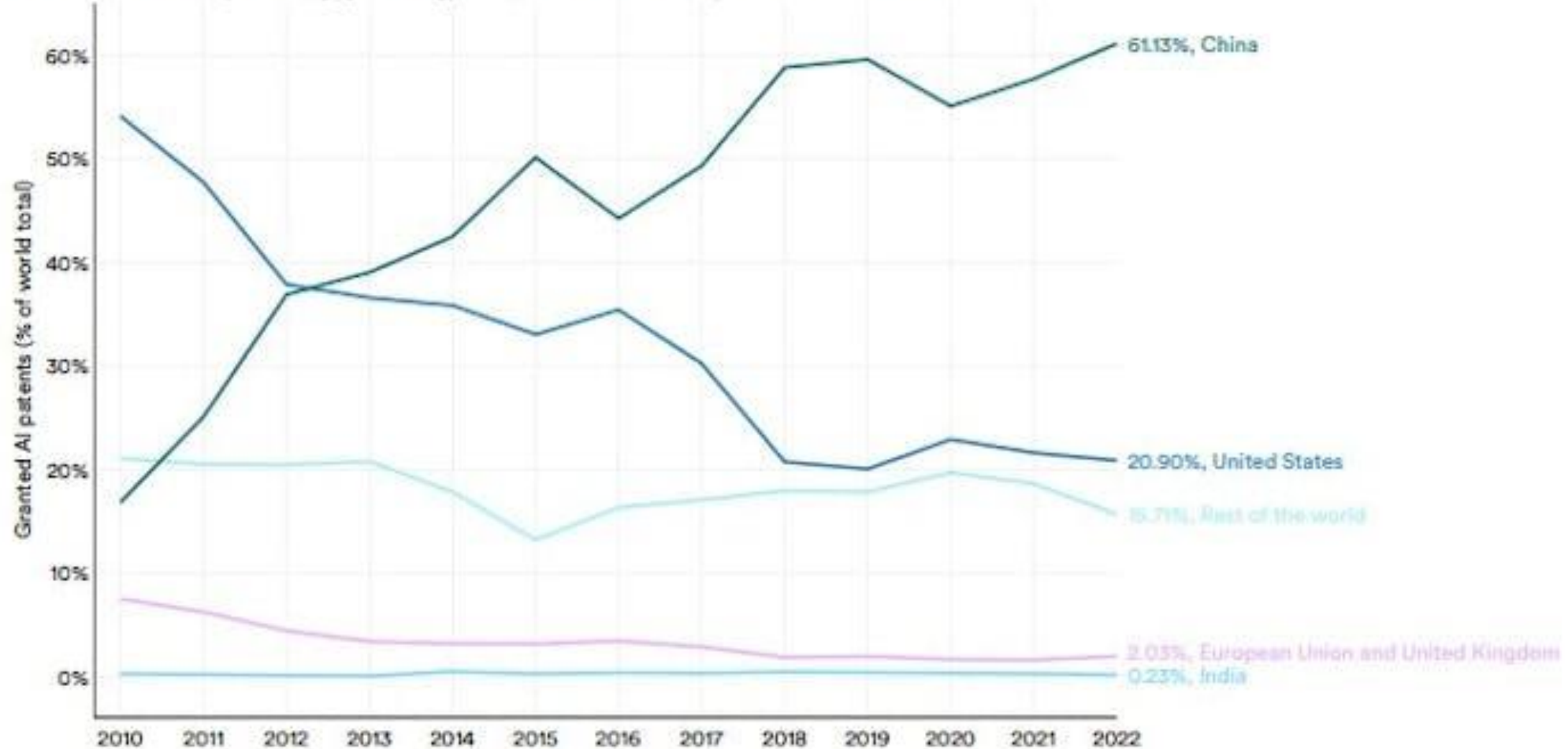
Very few AI curriculae deal with the
'last mile'



EU is running behind

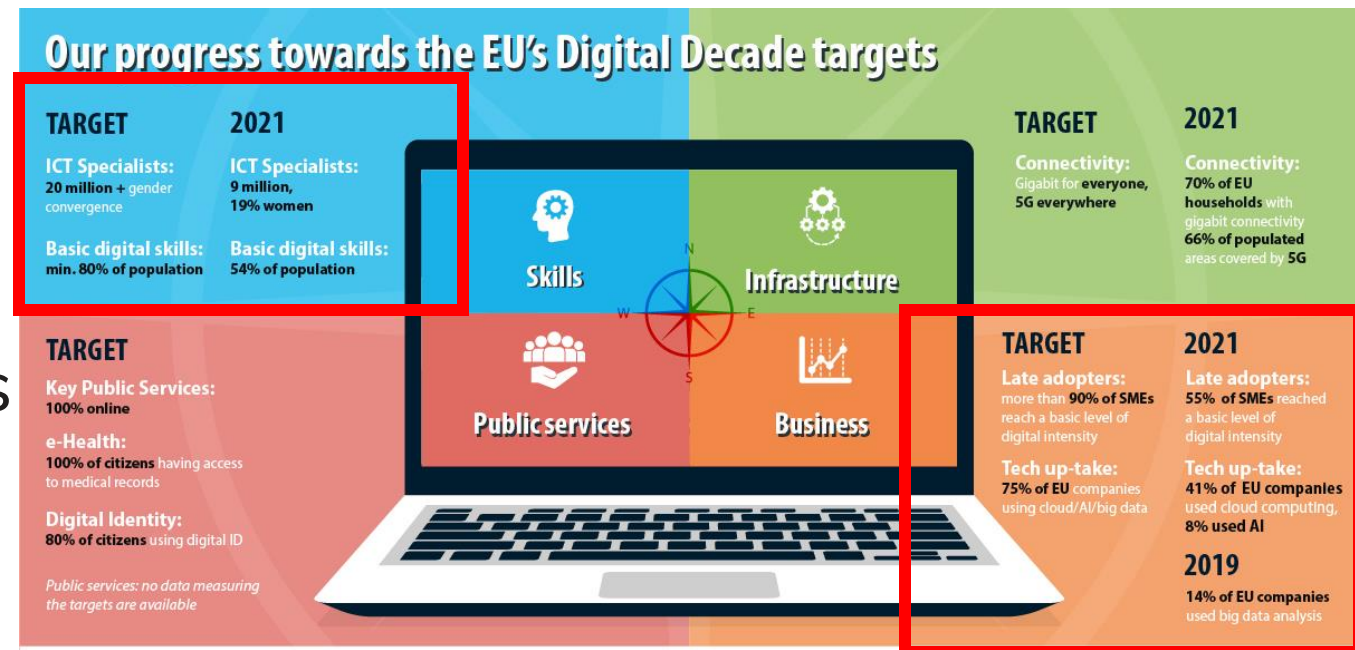
Granted AI patents (% of world total) by geographic area, 2010–22

Source: Center for Security and Emerging Technology, 2023 | Chart: 2024 AI Index report

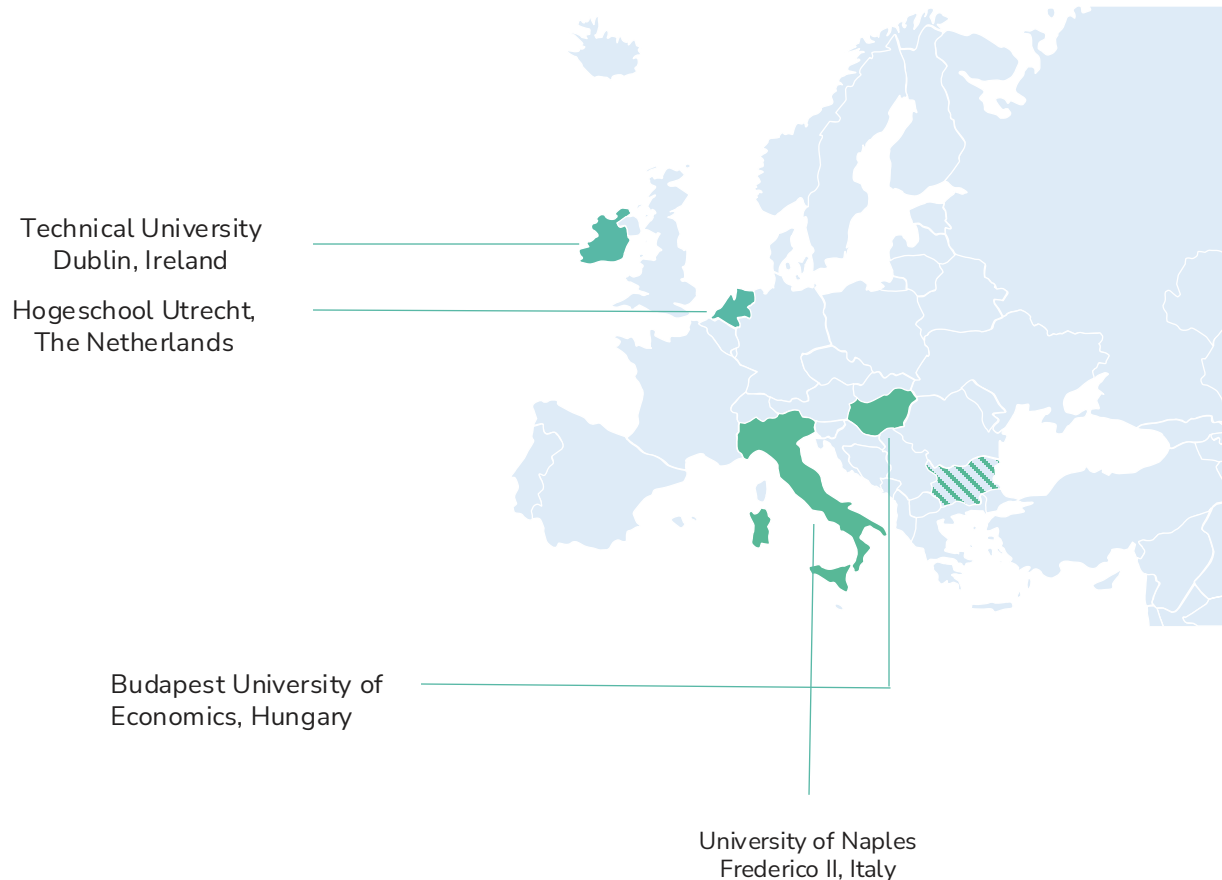


Motivating factors II

- Digital challenge for EU
 - EU requires 20 million ICT experts by 2030
- Experts in **non-ICT domains** need to obtain digital skills
 - Clear knowledge in working of AI
 - Able to develop and apply AI technology...
 - ... in a responsible way
- New digitally skilled experts needed...
- ... and existing experts need to be upskilled



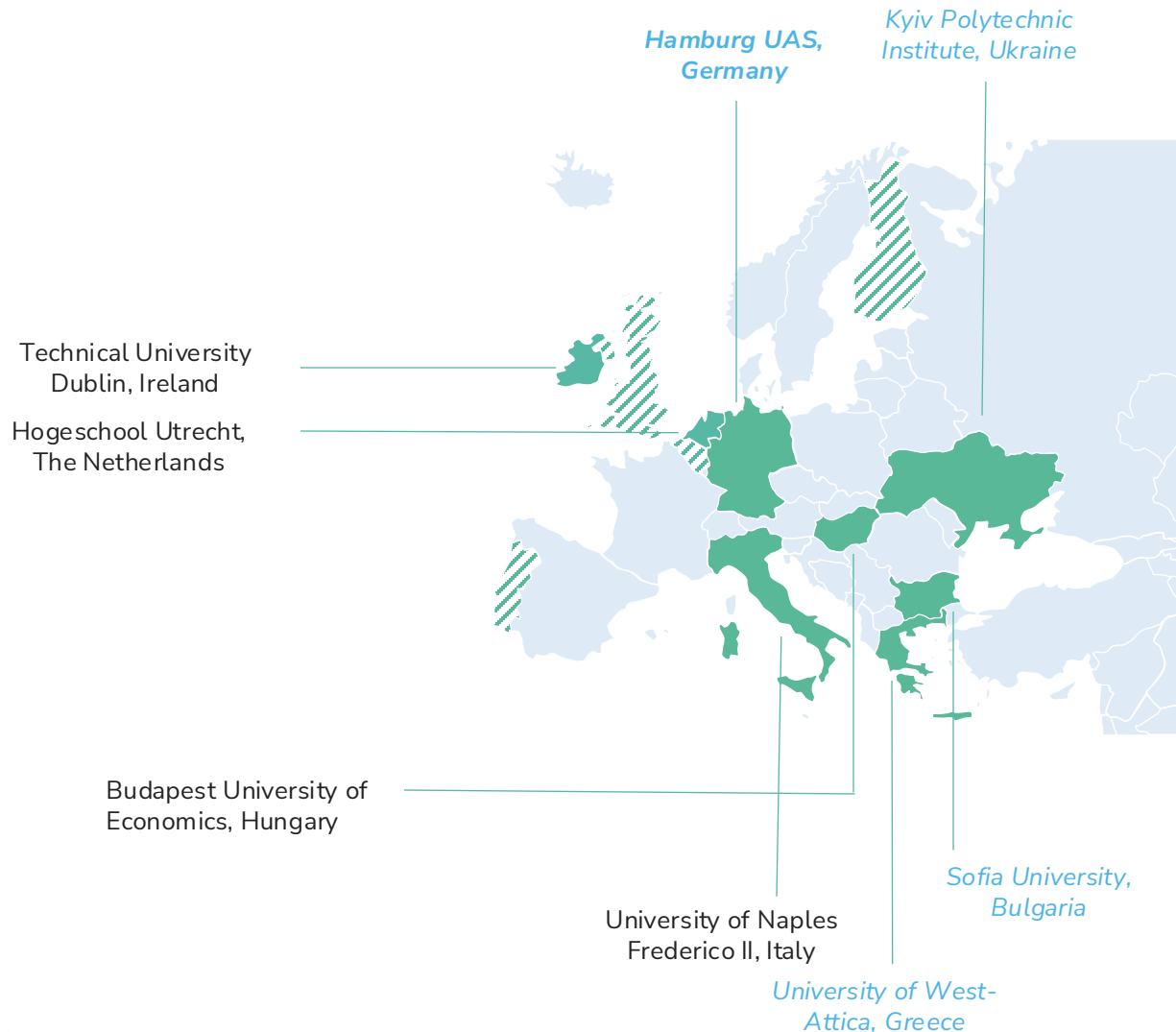
From HCAIM to PANORAIMA



- Gives rise to new AI-master's programme
- Large focus ethics and responsible innovation
 - About 50% of master programme focussed on (applied) ethics
 - Integration between technology and ethics!
- Started in September 2022

HCAIM is a collaboration between four universities, three SMEs and three Centres of Excellence

From HCAIM to PANORAIMA



HCAIM is extended with a new European Project: PANORAIMA

Four new universities:

- Hamburg Hochschule für Angewandte Wissenschaften, DE
- University of West-Attica, Greece
- Sofia University, Bulgaria
- Igor Shikorsky Kyiv Polytechnic Institute, Ukraine

And a new Centre of Excellence:

- Italian National Agency for New Technologies, Energy, and Sustainable Energy

And a new SME:

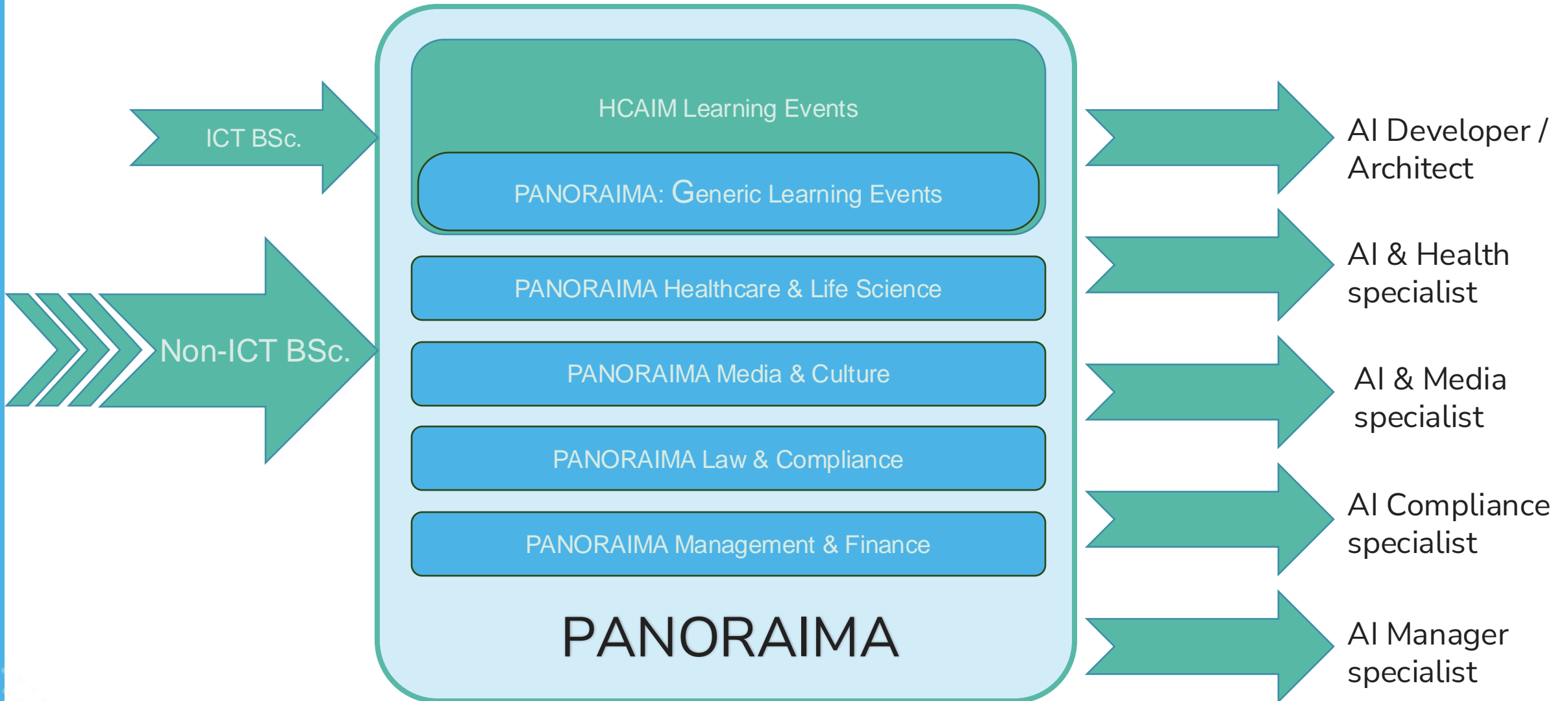
- QTICS, Hungary

Start expected in September 2026 (pilot)

Aims:

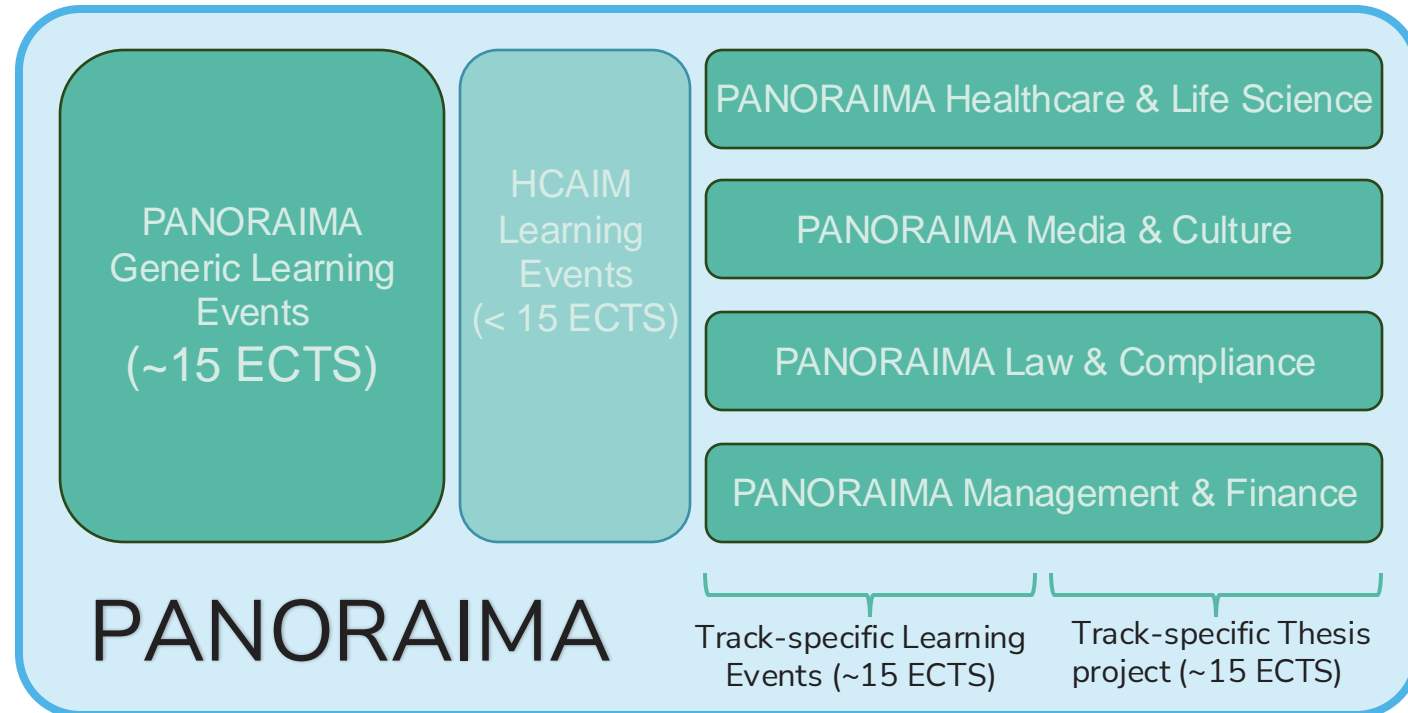
- Extending HCAI beyond Computer Science
- Spreading 'the word'
- Open Learning materials

What is PANORAIMA?



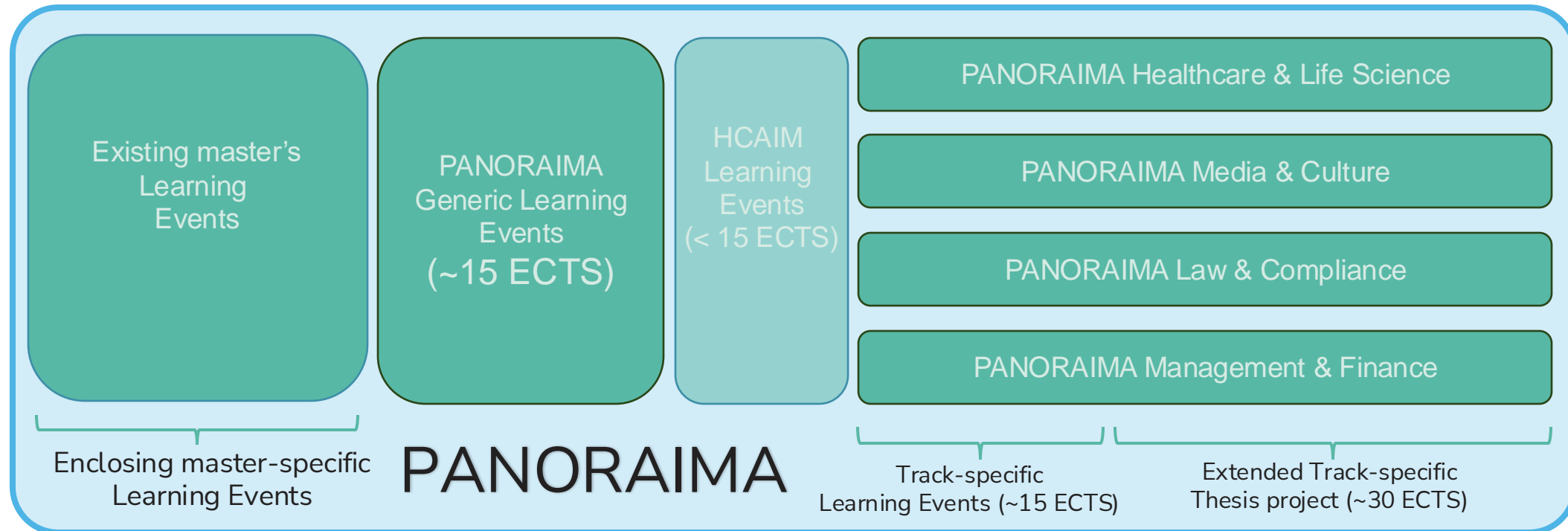
The PANORAIMA Master

Short version (~60 ECTS)



The PANORAIMA Master

Long version (>90 ECTS)



Conclusion

- PANORAIMA extends the principles of HCAIM to non-ICT domains
- Aims to equip non-ICT'ers with the knowledge how to use human-centered AI
 - Equip ICT'ers with the knowledge how to use human-centered AI in specific domains (e.g., Health, Finance, Compliance)
- Profile definitions start in 2025, market analysis in 2025, programme development in late 2025-2026
- First (pilot) run of developed specialisation tracks start in September 2026
- Full availability (incl. online modules) from September 2027