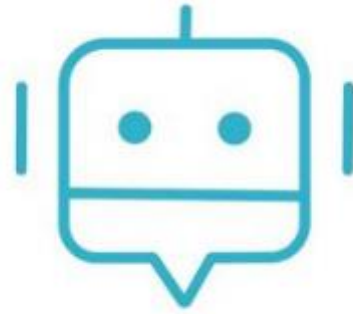




nPEAR Digital Publications Conference Proceedings (presentations)

*Unlocking the Potential
Augmented Reality Transforming Higher Education*





NEW PEER

AUGMENTED REALITY APPS



Co-funded by the
Erasmus+ Programme
of the European Union

N-pear basics

- New Peer Learning with Augmented Reality Apps
- Project Acronym: n-Pear
- Action Start Date: 1/11/21
- Action Duration (Months): 24
- Action End: 24 01/11/2023
- www.uatlantica.pt/project-new-peer-learning-with-augmented-reality-apps-n-pear/

Project goal

- The n-PEAR project aims to mainstream the adoption of educational AR apps by assembling a comprehensive overview of available offers, collecting best practices, creating guidelines for physical education educators and developing an online course to deliver these materials.

Main intellectual outputs

- 1. A toolkit for AR apps
- 2. Compendium of best practices (case studies in Portugal, Spain, Italy and Greece)
- 3. A Pedagogical strategy for AR and peer learning: A strategy for implementing AR in peer learning in physical education based on existing best practices in the educational use of AR, including an educational AR skills framework
- 4. A MOOC (massive open online course) aimed at unlimited participation and open access via the web, including elements of educational games
- 5. Audiovisual material for the toolkit and the MOOC
- 6. Academic publications (an AR for educators book containing all major results of the project and the nPEAR conference proceedings)



The nPEAR Conference

Unlocking the Potential

Augmented Reality Transforming Higher Education

Exploring the Potential of Augmented Reality in Higher Education
Mr. Alexandros Despotopoulos





Alexander Despotopoulos



Who we are and what we do

We are the nPEAR Project Team, representing organisations from Portugal, Greece, Spain, Latvia ...

Our project is supported by the European Commission, through the Erasmus+ project.

Throughout this project we are producing:

- ✓ Educational Material and Tools, mainly for use in Sports Higher Education.
- ✓ We support professors and academic staff in using AR in the class.
- ✓ An online course, to familiarize people with AR in higher education.
- ✓ Activities promoting AR in higher education, like today's conference.





NEW PEER
AUGMENTED REALITY APPS

Alexander Despotopoulos



Augmented Reality

Augmented Reality (AR) is a technology that blends digital information, such as images, videos, 3D models, or text, with the real world.

It enhances the user's perception of the physical environment by overlaying or embedding digital elements into it. This is typically achieved through the use of AR devices, such as smartphones, tablets, AR glasses, or headsets.

Question

Which of the following best describes Augmented Reality in education?

- a) A technology that replaces traditional classrooms with virtual ones.
- b) A technology that enhances the real-world environment with digital information and objects.
- c) A technology that helps students cheat on exams.
- d) A technology that connects students through social media.



Alexander Despotopoulos



We believe that AR can be fun.
What do you think?

https://youtu.be/GB_qT6rAPyY?si=uBQe_AWFZqAK32-1



Question

Which of the following best describes Augmented Reality in education?

- a) A technology that replaces traditional classrooms with virtual ones.
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- d) A technology that connects students through social media.



Alexander Despotopoulos



Again, can AR be fun?
Dimitris says YES!

ΝΟΥΣ ΕΚΔΟΣΗ 2^Η ΜΡ4





The nPEAR Conference

Unlocking the Potential | Augmented Reality Transforming Higher Education

Honorary distinction for **Dimitris Mpourdekas** contribution to the nPEAR project and the use of augmented reality in higher education.



TIME FOR ACTION !

COSMOTE CHRONOS APP





Alexander Despotopoulos



Co-funded by the
Erasmus+ Programme
of the European Union

The European Commission support does not constitute an endorsement of the contents which reflects the views only of the speakers / authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein or produced in the Conference.



2021-1-PT01-KA220-HED-000032018

**Final Conference
Unlocking the Potential
Augmented Reality Transforming Higher Education**

Erasmus+

Enriching lives, opening minds

EUROPEAN UNION



2021-1-PT01-KA220-HED-000032018

Erasmus+

Opening Doors to a World
of Knowledge and
Opportunity

Henrique Quintino, NA Portugal
Athens, 9 November 2023



Erasmus to Erasmus+: a brief history

Timeline

1973-1976: first Education Action Programme at European level is established ▾

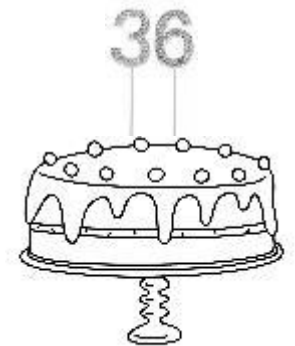
- 1973: A dedicated Directorate for Education and Training is set up
- 1976: a Resolution creating a first Action Programme in education at European level is adopted. One of its main aims was to “promote joint courses of study between universities and higher education institutions”

1976-1987: laying the foundations ▾

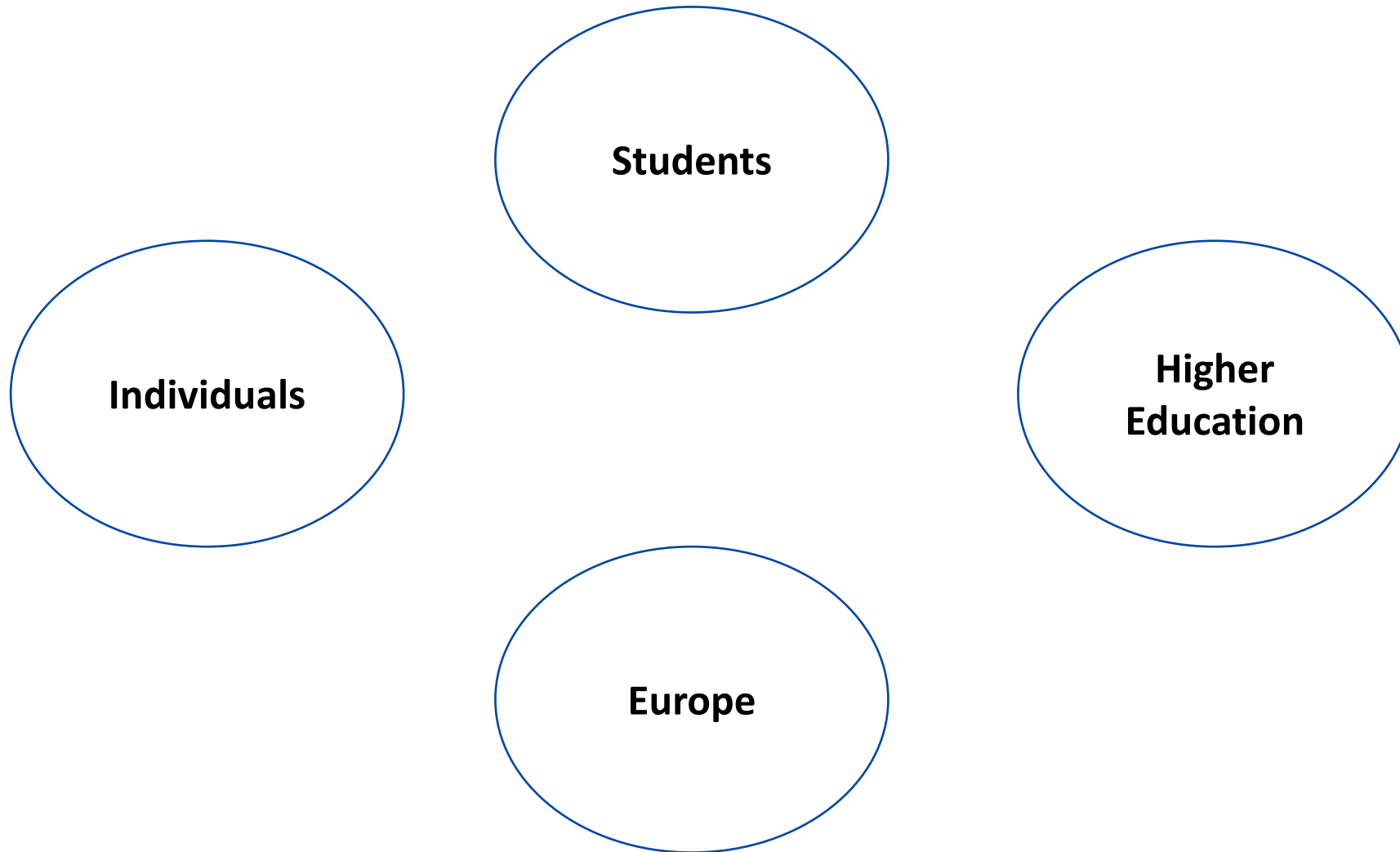
- Laying the pre-Erasmus foundations with the “Joint Study Programme” (JSP) scheme in higher education. More and more universities and students start to take part, helping to build mobility and interchange partnerships and joint curricula development.

1985-1987: development and negotiation of the “Erasmus” proposal ▾

- 1985: the Directorate for Education and Training presents its proposal to the Council and European Parliament
- The “Erasmus” programme is adopted by the Council on 15 June 1987, and officially launched on 1 July 1987



What's Erasmus+ about?



What is Erasmus+?

- The EU's Programme that support education, training, youth and sport
- Provides funding for programmes, projects and grants for mobilities
- Fosters the EU-EU and EU-International cooperation

Scope and objectives?

The programme's objective is pursued through three “Key Actions”:

- Key Action 1: Learning mobility of individuals
- Key Action 2: Cooperation among organisations and institutions
- Key Action 3: Support to policy development and cooperation

Other activities include “Jean Monnet” actions, which support teaching, learning, research and debates on European integration matters, such as on the EU’s future challenges and opportunities.

These [objectives are described in detail](#) in the programme guide.

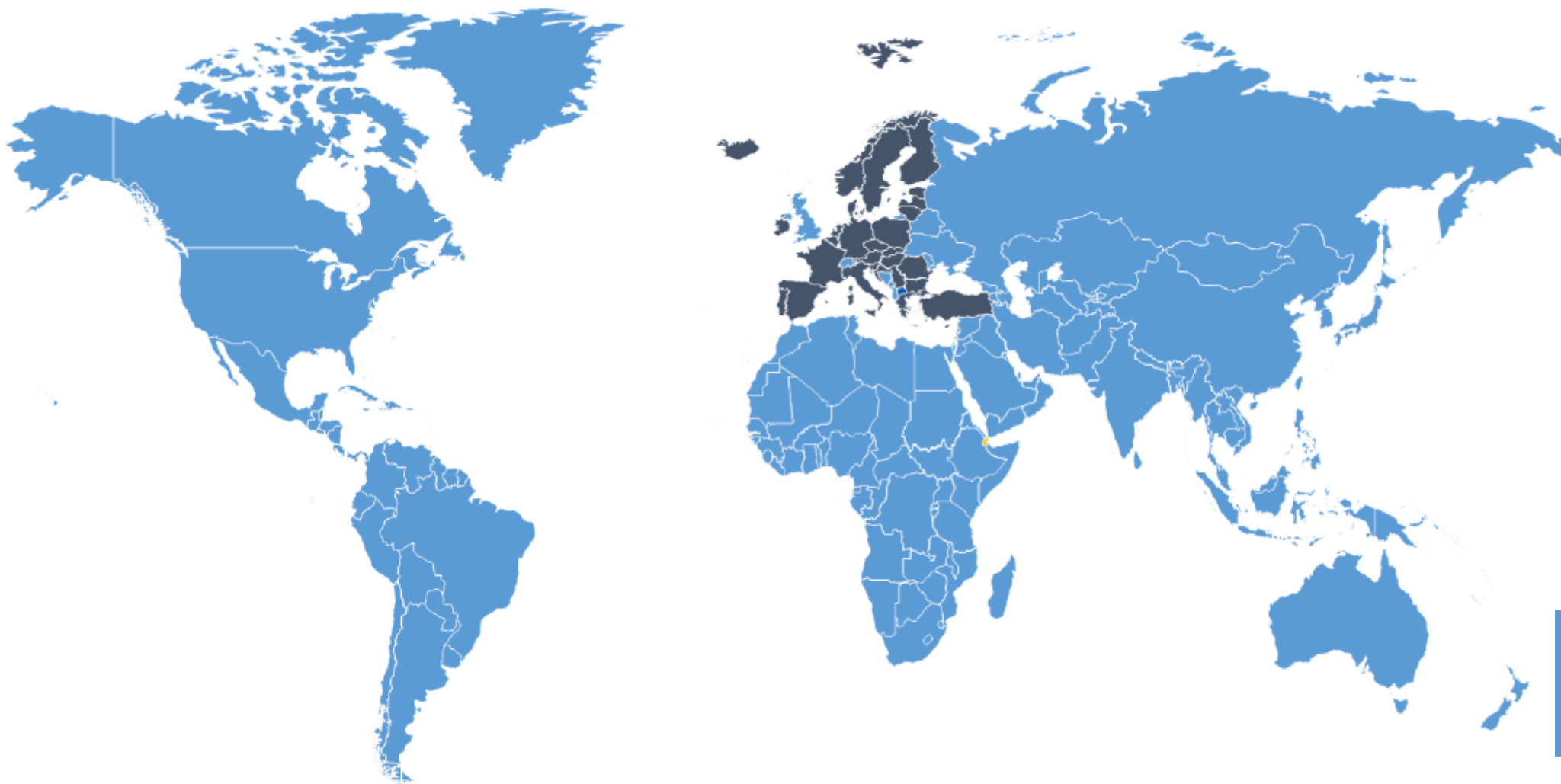
What's New? – HE Novelities

- ✓ **New Charter** for Higher Education (ECHE)
- ✓ Flexible mobility formats:
 - ✓ **Blended mobility**
 - ✓ **Blended intensive programmes**
 - ✓ More opportunities for **doctoral mobility**
- ✓ **International outgoing mobility**
- ✓ **Digital skills** training for staff
- ✓ **European Student Card** Initiative / **EWP**
- ✓ Revised **grant levels**
- ✓ **Top-ups** for inclusion and green travel
- ✓ Renewed **OLS**
- ✓ **Lump Sums methodology** for Partnership Cooperation

- ✓ Partnerships
- ✓ Opportunities



Eligible Countries



27 EU Member States

Third countries associated to the Programme

Norway
Iceland
Liechtenstein
North Macedonia
Turkey
Serbia

Third countries not associated to the Programme

International Cooperation

Programme Countries



EU Member States
+
Non-EU Programme Countries:

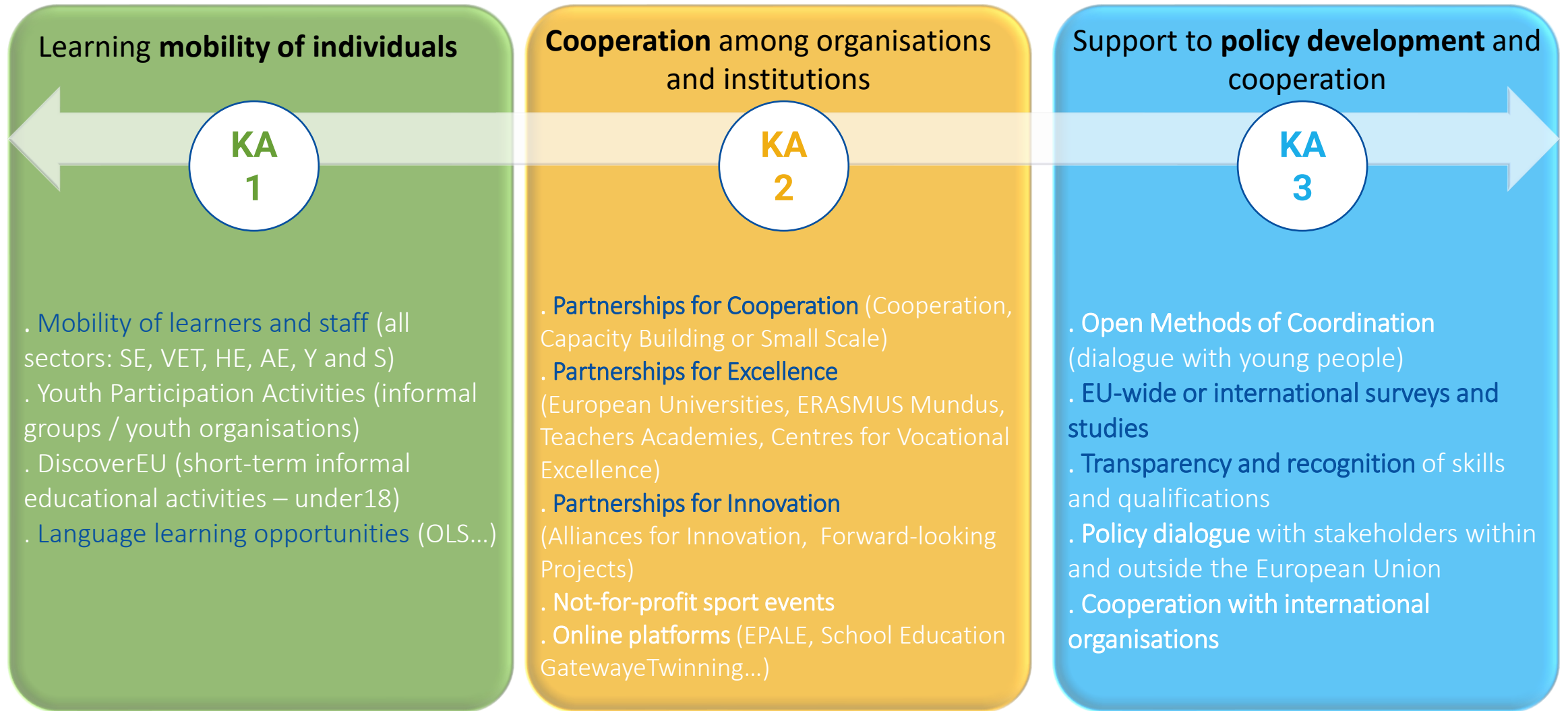
Iceland, Liechtenstein, Norway,
Republic of North Macedonia, Serbia,
Turkey

Partner Countries

**All other countries
throughout the
world**



Key Action



Jean Monnet Actions

Partnerships for Cooperation KA2

Cooperation Partnerships aim at:

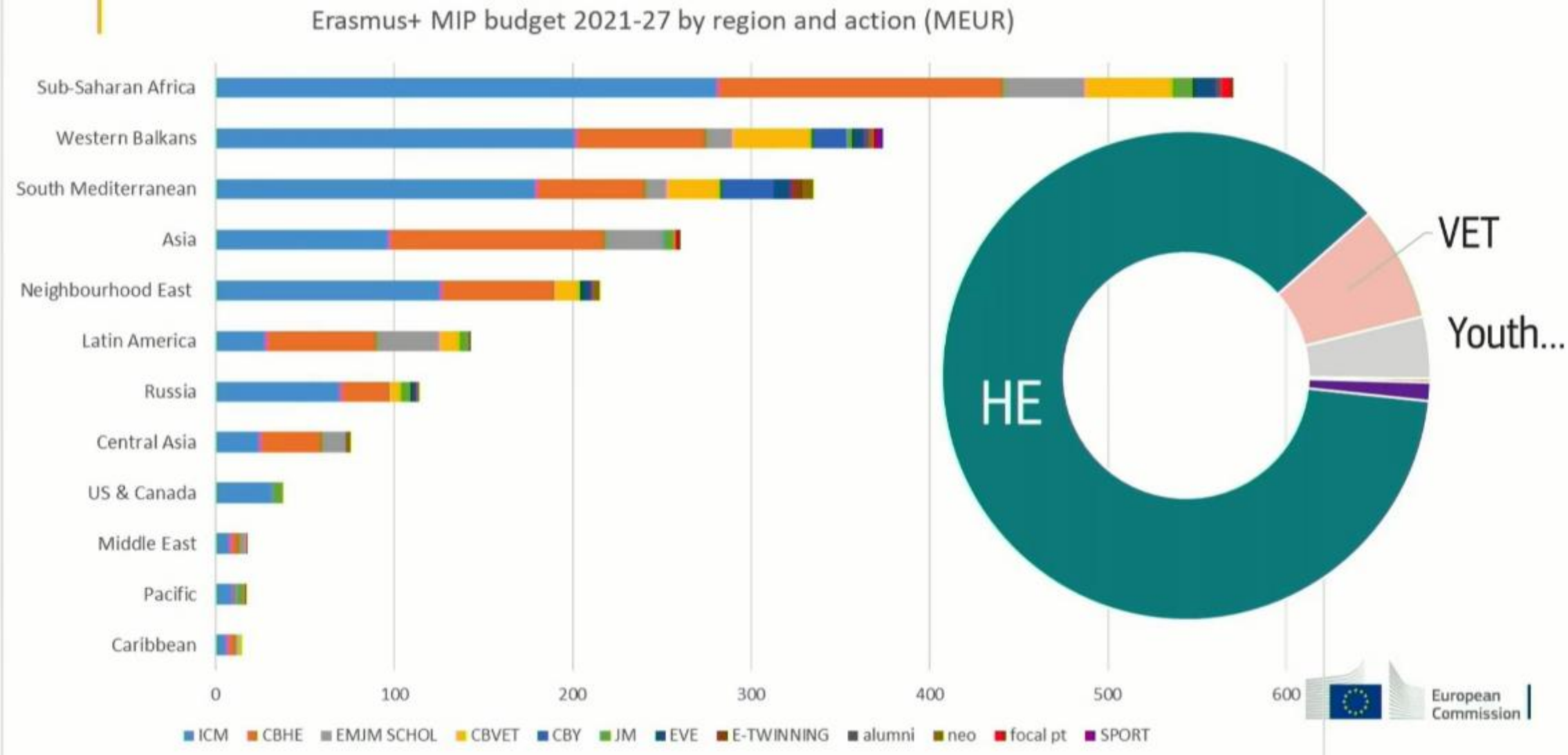
- ✓ ☐ **Increasing quality in the work**, activities and practices **of organisations and institutions** involved, **opening up to new actors**, not naturally included within one sector;
- ✓ ☐ **Building capacity** of organisations to **work transnationally** and **across sectors**;
- ✓ ☐ Addressing **common needs and priorities** in the fields of education, training, youth and sport;
- ✓ ☐ **Enabling transformation and change** (at individual, organisational or sectoral level), **leading to improvements and new approaches**, in proportion to the context of each organisation.
- ✓ ☐ Must involve **minimum three organisations** from three **different EU Member States** or third countries associated to the Programme.

Opportunities

International dimension



Erasmus+ International Budget, per regions



Opportunities International Dimension of E+

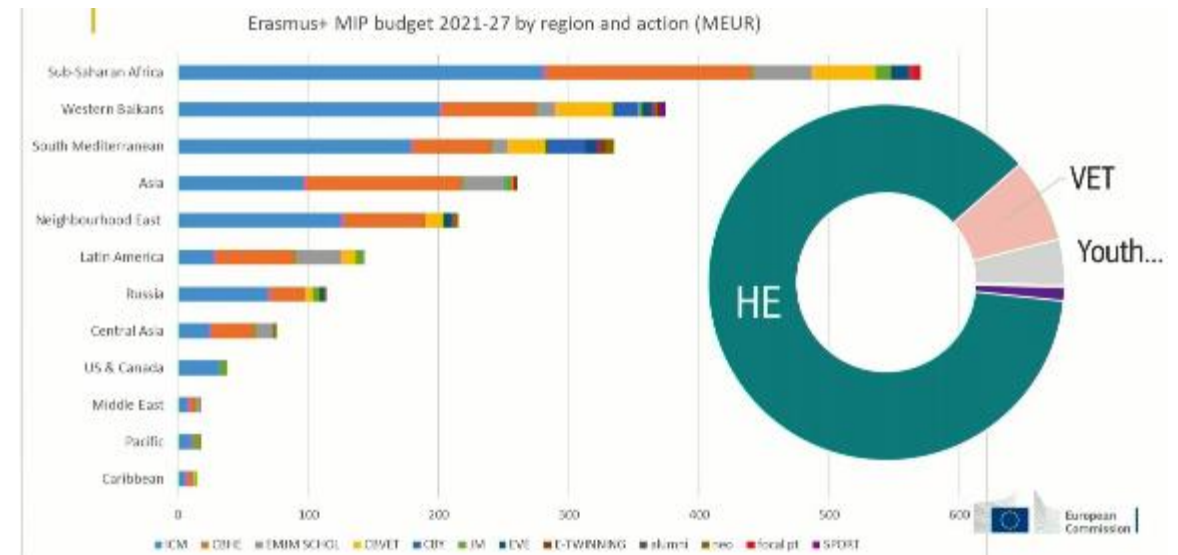
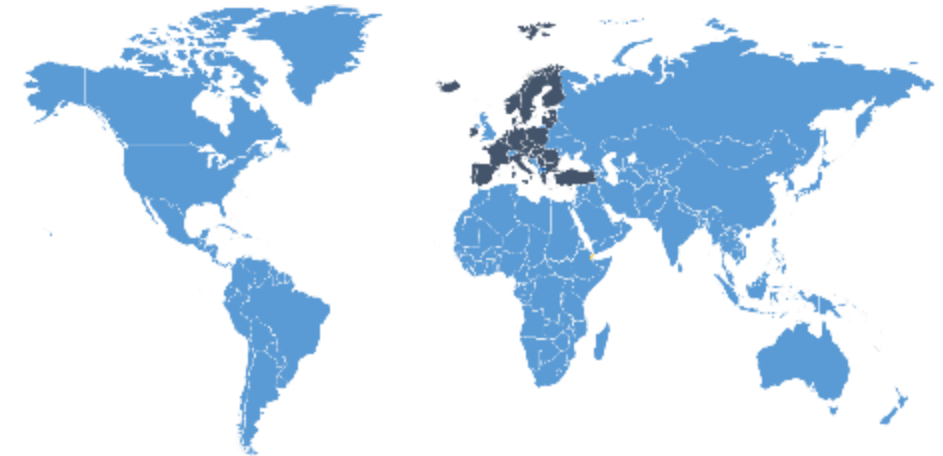
Higher Education Institutions from non-associated third countries

- International Credit Mobility (ICM)
- Erasmus Mundus Joint Masters
- Capacity Building for Higher Education
- Jean Monnet Activities

Opportunities International Dimension of E+ International Credit Mobility (ICM)

The HEI or Consortium applies to:

- Mobility of students and Staff
- Outgoing and incoming
- In one or several regions



Opportunities International Dimension of E+ Erasmus Mundus Joint Masters

- **Erasmus Mundus Joint Masters are high-level and integrated study programmes, at master level.**
- **Any higher education institution (HEI) established in an eligible country can submit an application.**
- The applicant applies on behalf of a partnership that includes other HEIs.
- (The **proposal must present a fully developed and accredited joint study programme**, ready to run and to be advertised worldwide, if selected.)

Capacity Building for Higher Education

The aim of these projects is to **support eligible third countries not associated to the Programme to**

- **modernise, internationalise and increase access to higher education**
- address the challenges facing their higher education institutions and systems
- **increase cooperation** with the EU
- voluntarily converge with EU development in higher education, and
- promote **people to people contacts, intercultural awareness, and understanding.**

How it works

Please consult [the respective page on the Programme Guide](#)

Opportunities International Dimension of E+ **Jean Monnet Activities**

- stimulating teaching and research on the European Union
- Support teaching, learning, research and debates on various aspects of the European Union.
- actions for HEI, schools and VET institutions

stimulating teaching and research on the European Union

Partnerships

Opportunities

✓ Calls for proposals



An annual cycle – typically:

- Launch November 2022
- Deadline February/March 2023
- Selection July-Sept 2023
- Contracts Q3-4 2023

Thank you
Σας ευχαριστώ



Please contact us at:

ka1superior@erasmusmais.pt

ka2superior@erasmusmais.pt

www.erasmusmais.pt | www.erasmusmais.eu

Rua Ivone Silva, N.º 6, 1.º Dto. – 1050-124 Lisboa | Portugal

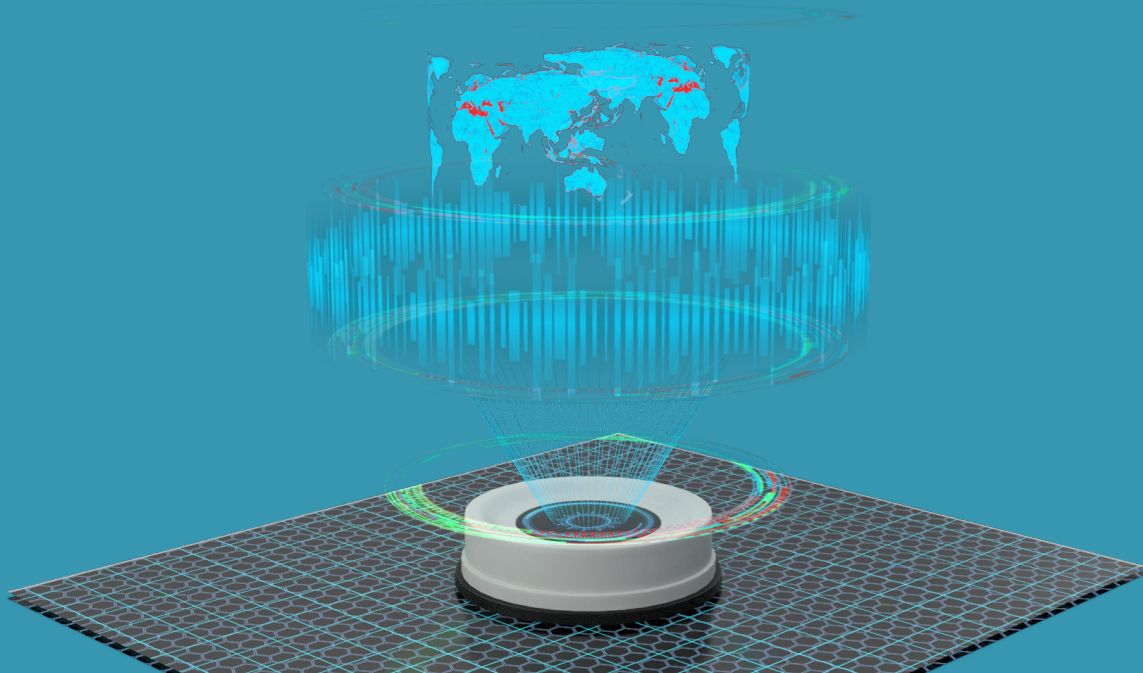
T: +351 210 101 900 | F: +351 210 101 910



Unlocking the Potential Augmented Reality Transforming Higher Education

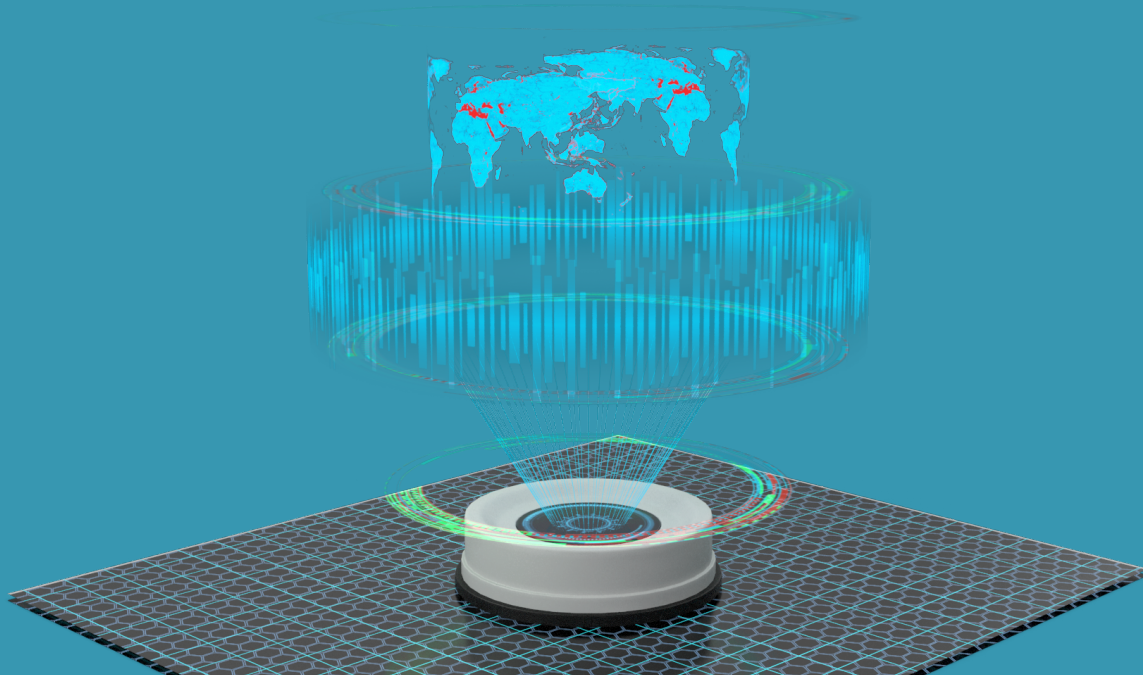
| *Conference* |
Augmented Reality in Education

November 9, 2023 | Athens, Greece



*The Future of Education
with Technology: From
Unconscious Models to
Conscious Reasoning
with Augmented
Reality in Higher
Education*

Unlocking the Potential Augmented Reality Transforming Higher Education



*The Future of Education
with Technology: From
Unconscious Models to
Conscious Reasoning
with Augmented
Reality in Higher
Education*

Our Vision

Our vision for the future of education should be rooted in the belief that education is a powerful tool for personal growth, societal progress, and individual empowerment.

Augmented Reality (AR):

An in-depth exploration of AR technology, its core principles, and its applications in education.

AR enables the overlay of digital content onto the real world, creating interactive and engaging learning environments

Unconscious Learning Models:

Traditional education often relies on passive information absorption, which can lead to unconscious or rote learning

Conscious Reasoning:

How AR can facilitate higher-order thinking skills, problem-solving, and active engagement in the learning process.



Critical Thinking

Our vision for the future of education is one of empowerment, inclusivity, adaptability, and a commitment to preparing individuals to thrive in a complex, interconnected world. Education should be a lifelong journey that equips learners with the knowledge, skills, and values they need to contribute positively to society and lead fulfilling lives.



Historical Evolution of Education

A brief overview of the evolution of education from traditional lecture-style classrooms to modern e-learning platforms, setting the stage for the need for innovation.



The Limitations of Unconscious Learning:

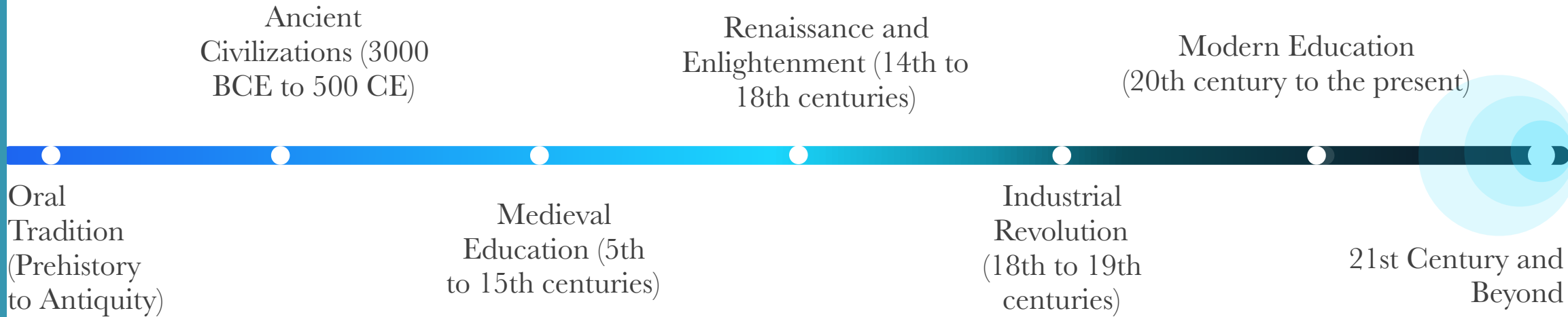
An analysis of the drawbacks of passive learning models, such as rote memorization and limited student engagement.



Augmented Reality in Education

An exploration of AR technology, including its core features, current applications in education, and the pedagogical benefits it offers.

Historical Evolution of Education



- Transformative potential of Augmented Reality in higher education -

This technology has the capacity to empower learners to develop critical thinking skills, conscious reasoning, and problem-solving abilities, ultimately equipping them to thrive in the complex challenges of the 21st century.

The future of education is not only about acquiring knowledge but also about cultivating a deeper understanding of the world, and AR is at the forefront of this evolution

Enhancing Learning with AR

A deep dive into how AR can facilitate conscious reasoning, active learning, and problem

Challenges and Ethical Considerations

Discussing the challenges, such as accessibility and ethical concerns, associated with integrating AR in education and proposing strategies to address these issues.

The Future of Education

Speculation on the future of education with AR as a driving force, including potential advancements, research directions, and innovative learning models.

What is Unconscious Learning?

Unconscious learning, also known as implicit learning, is a type of learning that occurs without the learner's conscious awareness or deliberate intention. In unconscious learning, individuals acquire new information, skills, or knowledge through exposure to stimuli or experiences, but they may not be aware of the learning process itself.

This type of learning is often contrasted with conscious or explicit learning, where individuals actively and consciously engage in the learning process and are fully aware of what they are learning.



Automaticity



Lack of Awareness



Inference and Pattern Recognition



Non-Declarative Knowledge

Examples of unconscious learning include:



Language Acquisition

Motor Skills

Social Norms

Implicit Bias

The Limitations of Unconscious Learning

Limited Control

Lack of Explicit Knowledge

Difficulty in Transfer

Limited for Complex Concepts

Inefficiency for Some Tasks

Difficulty in Correcting Errors

Lack of Metacognition

Limited for Conceptual Learning

Relying on Serendipity

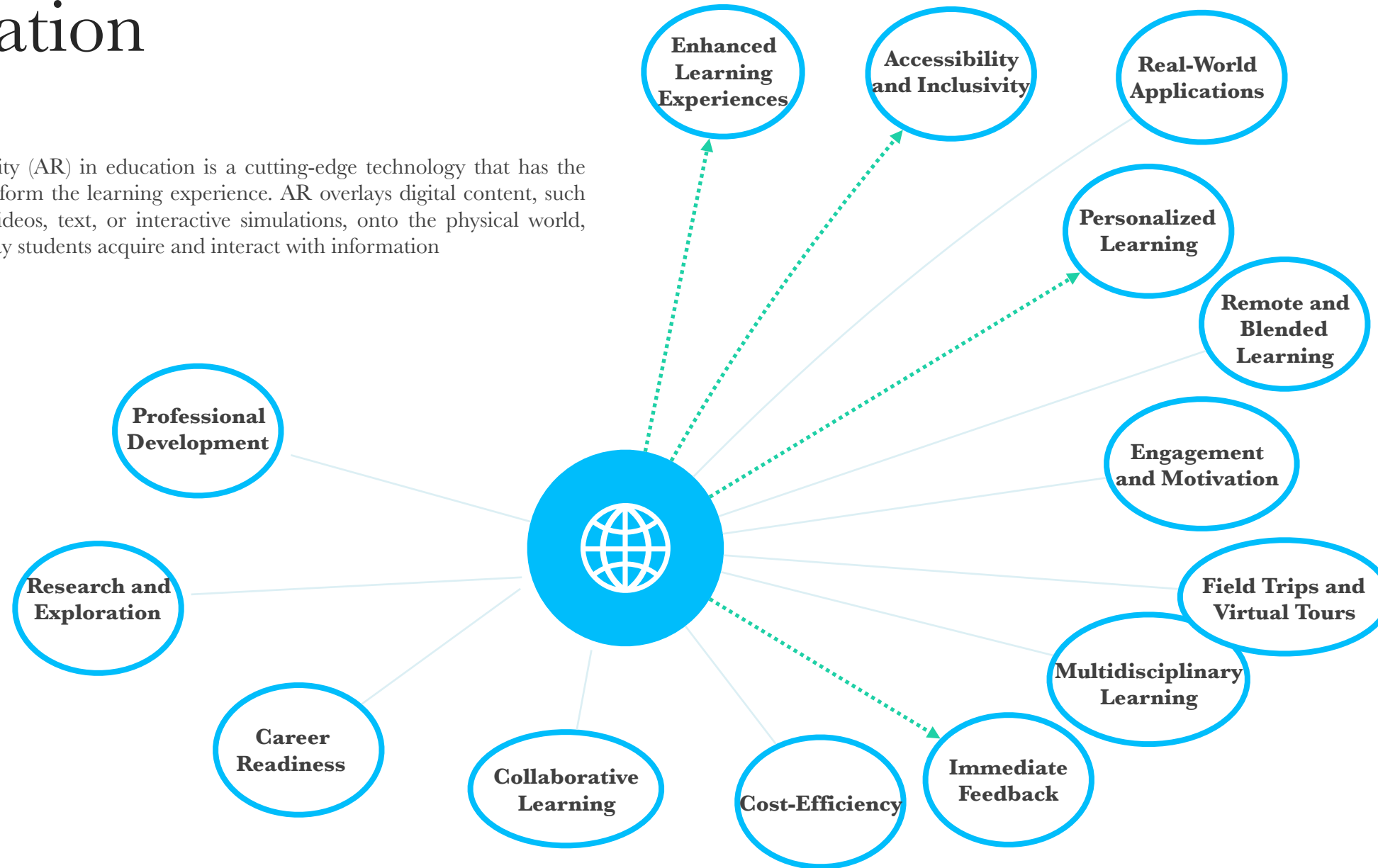
Ethical Considerations



Augmented Reality in Education

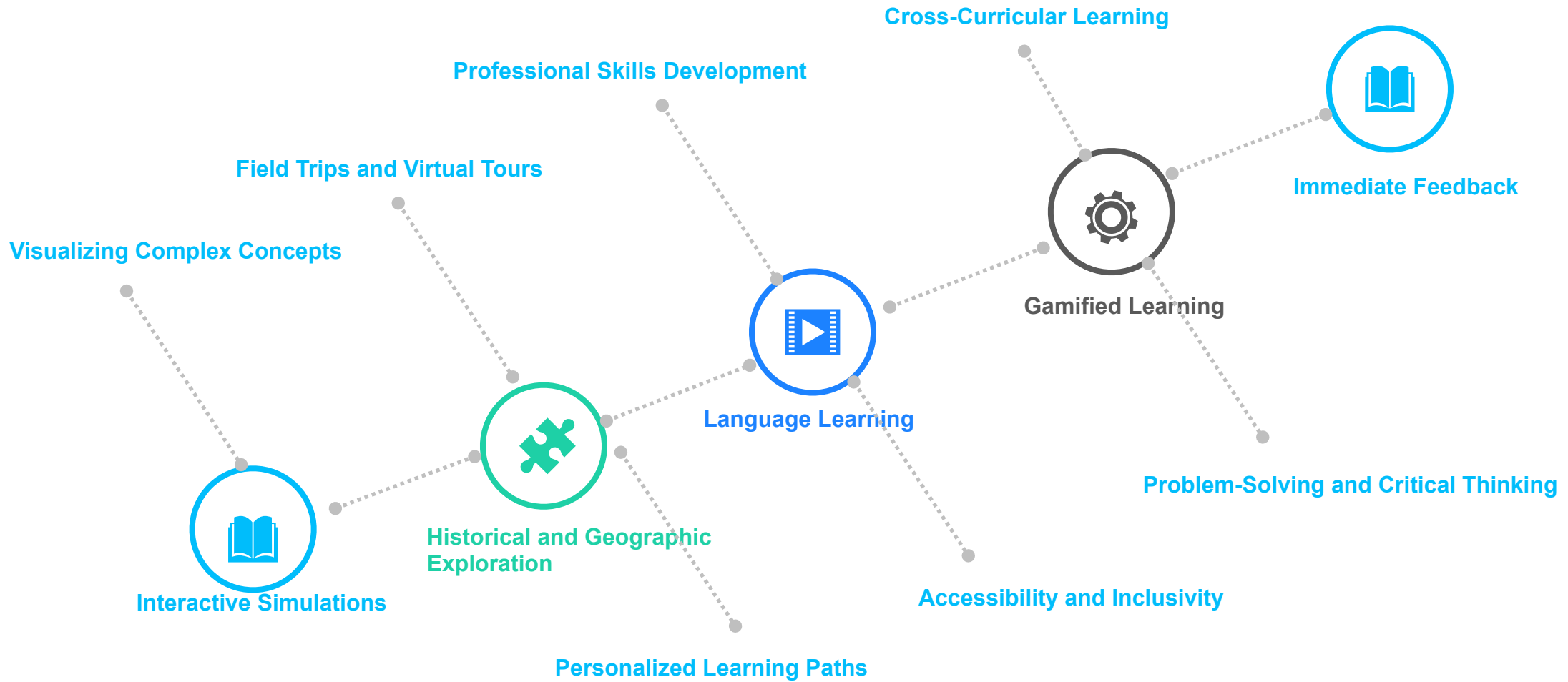
Summary

Augmented Reality (AR) in education is a cutting-edge technology that has the potential to transform the learning experience. AR overlays digital content, such as 3D models, videos, text, or interactive simulations, onto the physical world, enhancing the way students acquire and interact with information



Enhancing Learning with AR

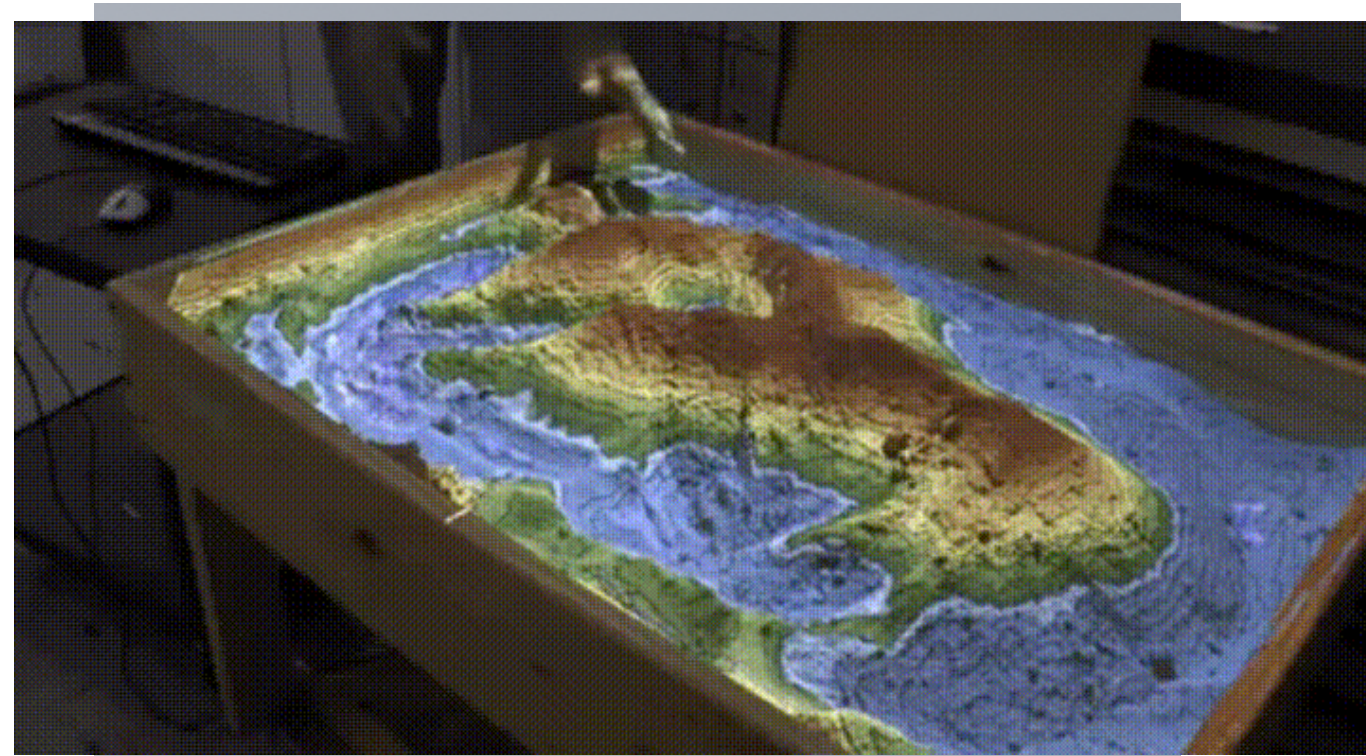
involves leveraging this technology to improve educational experiences and outcomes. AR has the potential to make learning more engaging, interactive, and effective.



What is AR Games | Challenges ?

While Augmented Reality (AR) has the potential to revolutionize education, it also presents several challenges and ethical considerations that must be addressed when integrating AR into learning environments.

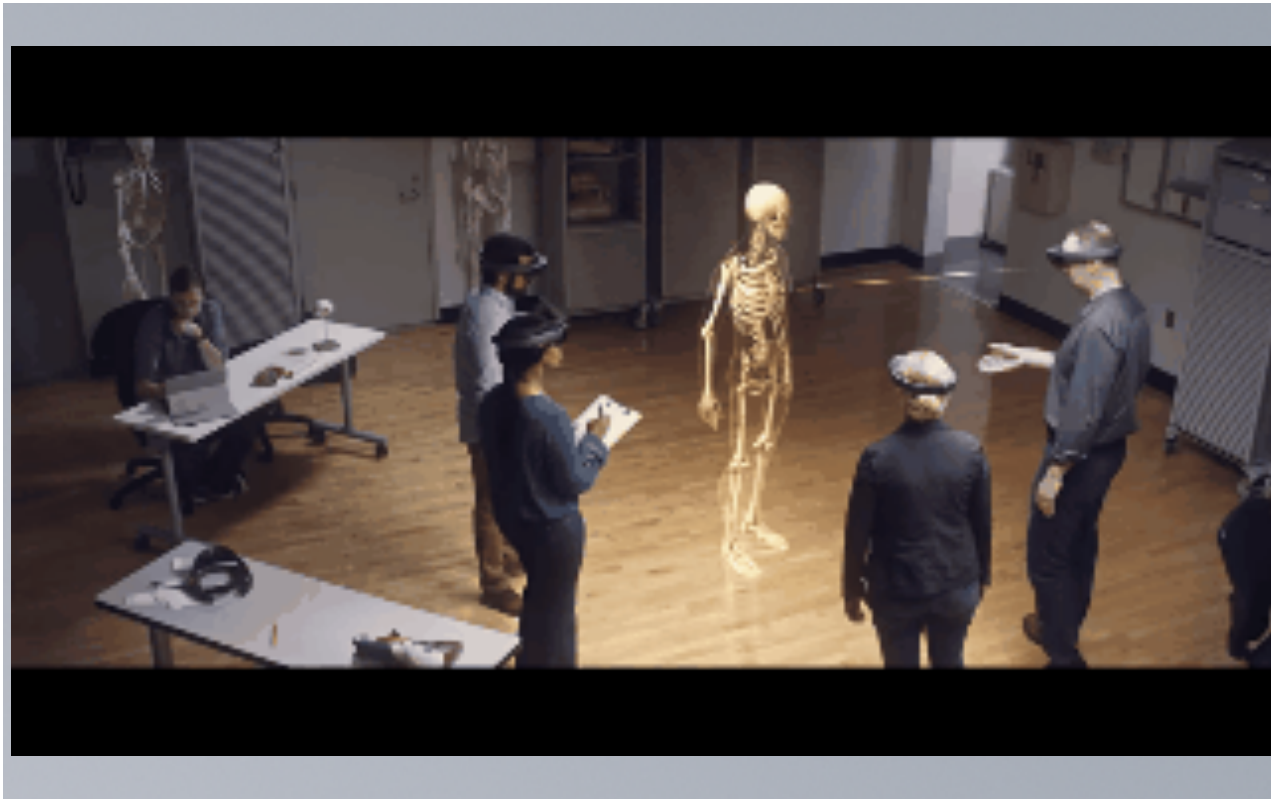
- Cost and Accessibility
- Privacy and Data Security
- Ethical Content
- Accessibility for All
- Distraction and Overuse
- Digital Divide
- Information Overload
- Student Data Ownership
- Ethical Use of Biometrics
- Security Risks
- Impact on Human Interaction





The Future of Education

The future of education is undergoing significant transformation, driven by various factors, including technological advancements, changing societal needs, and shifts in pedagogical approaches. The future of education will be dynamic, with the ability to adapt to the needs of students and the demands of a changing world. It will be marked by a shift from traditional, one-size-fits-all approaches to more personalized, inclusive, and technology-enhanced learning experiences.





The Future of Education

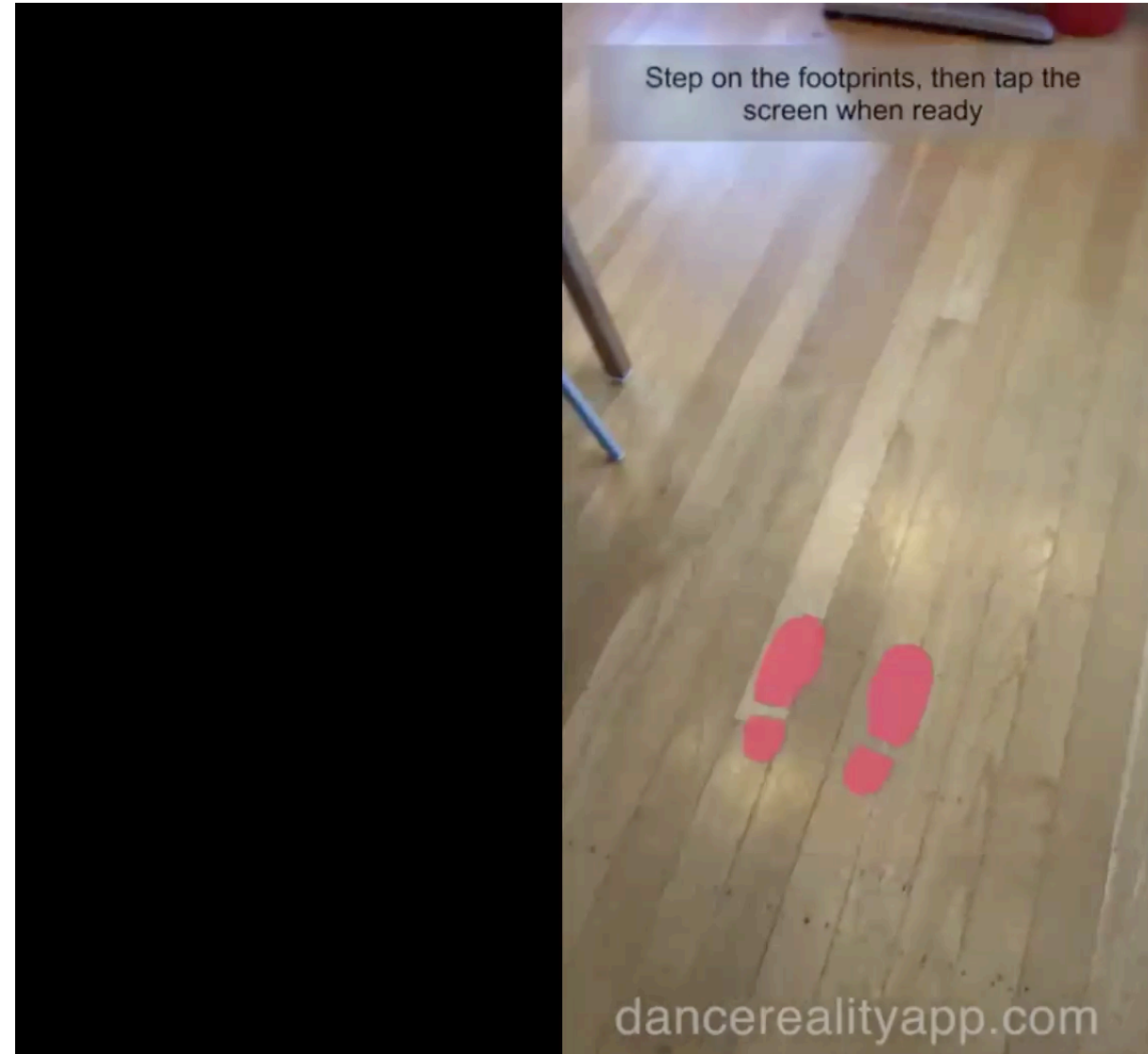
Preparing students for the challenges and opportunities of the 21st century will remain at the forefront of educational goals.





Thanks For Watching

www.carlarsilva.pt | carlasilva@uatlantica.pt



AI ACT

The title 'AI ACT' is displayed in large, bold, black, sans-serif capital letters. The letter 'A' is partially obscured by a futuristic, glowing blue eye graphic. The eye is composed of a grid of lines and contains a small globe of the Earth in its center. The overall aesthetic is high-tech and digital.

The eu road to

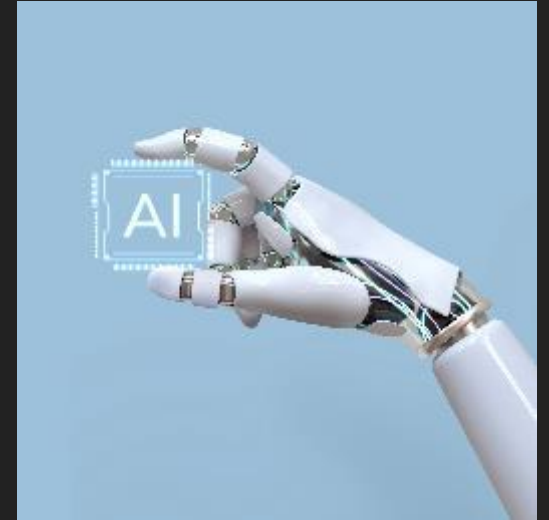
Dimitris Tzanidakis

There is a clear trend

- ▶ Governments around the world are making significant efforts to harness the benefits and mitigate the potential risks of what sounded like science fiction just ten years ago: Artificial Intelligence.
- ▶ The reason? AI is fundamentally changing our economies and our social, political, and personal lives: how we communicate, produce, consume, learn, work, and innovate.

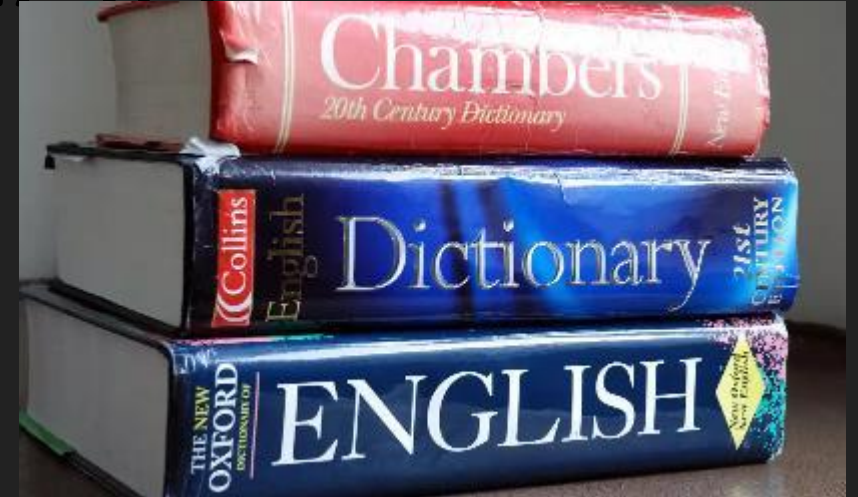
AI IS EVERYWHERE

- ▶ In our smartphones and smart watches.
- ▶ We have it at home, in our connected objects.
- ▶ It is in our smart cars.
- ▶ It tell us where to go and how to get there faster.
- ▶ What news to watch today, what to pay attention to, or what to buy; and whether we are eligible for loans, social aid, or job opportunities



WORLD OF THE YEAR

- ▶ “AI” has been named the most notable word of 2023 by the dictionary publisher Collins.
- ▶ AI was chosen because it “has accelerated at such a fast pace and become the dominant conversation of 2023”, the publisher said.
- ▶ The use of the word (strictly an initialism) has quadrupled over the past year.



AI promises to do a lot more

- ▶ Optimise our energy grids and energy use; enable personalised medicine; accelerate financial transactions; and even change fashion and art
- ▶ AI can contribute up to \$15 trillion to the global economy by 2030.
- ▶ However, AI comes with social, legal, and ethical challenges

AI needs to
be regulated!



booo
get off!

That was your
last chance.



Claiming an Athlete Criminal

- ▶ A leading facial-recognition technology recognised three-time Super Bowl champion Duron Harmon of the New England Patriots, Boston Bruins forward Brad Marchand, and 25 other New England proficient athletes as criminals.
- ▶ Amazon's Rekognition solution mistakenly matched the athletes to a database of mugshots in a test arranged by the Massachusetts part of the American Civil Liberties Union (ACLU). Almost one-in-six players were wrongly distinguished.
- ▶ The misclassifications were a shame for Amazon, as it promoted Rekognition to police offices for use in their investigations.
- ▶ This technology is one such example of AI gone bad and was proved flawed, and was not encouraged to be used by the government officials without protections.

ARTIFICIAL
INTELLIGENCE

EU AI ACT

A Risk-Based Policy Approach for Excellence and Trust in AI

Definition

- ▶ The Artificial Intelligence Act (AIA) is a risk-based approach to regulating the applications of AI technology.
- ▶ It constitutes the first European Union law on AI
- ▶ AI uses will face more or less restrictions and requirements depending on the risks they generate.
- ▶ Its scope encompasses all sectors (except for military), and to all types of artificial intelligence.
- ▶ The European Commission published the AI Act proposal on 21 April 2021.

SNAPSHOT OF THE AI ACT IN THE PARLIAMENT

Artificial Intelligence Act (Proposal for a regulation)

Joint committee procedure: IMCO – LIBE (Brando Benifei - Dragos Tudorache)

Draft joint report was published in April. Deadline for AMs: 1 Jun 2022. Vote in Committees: 26/27 Oct 2022. Vote in Plenary: Nov/Dec 2022 (tbc - possible early 2023).

- JURI rule 57+: shared competence on the entire text. Exclusive competences on Art 13 (transparency and provision of information to users; Art 14 (human oversight); Art 53 (transparency obligations for certain AI systems); Art 69 (Codes of conduct)
- ITRE rule 57: exclusive competences on Art 15 (Accuracy, robustness and cybersecurity), Art 55 (Measures for small-scale providers and users). Shared competences: Art 3(1), Art 4 and Annex I (definition of an “artificial intelligence system”), Art 10 paragraphs 1-4 (Data and data governance), and Art 42 (Presumption of conformity with certain requirements)
- CULT rule 57: shared competence on Art 6 (Classification rules for high-risk AI systems)

ITRE voted on its AI Act opinion on 14 June 2022, [approved](#) with 61 votes in favour and 2 against.

The ai act In a nutshell



▶ What does it focus on?

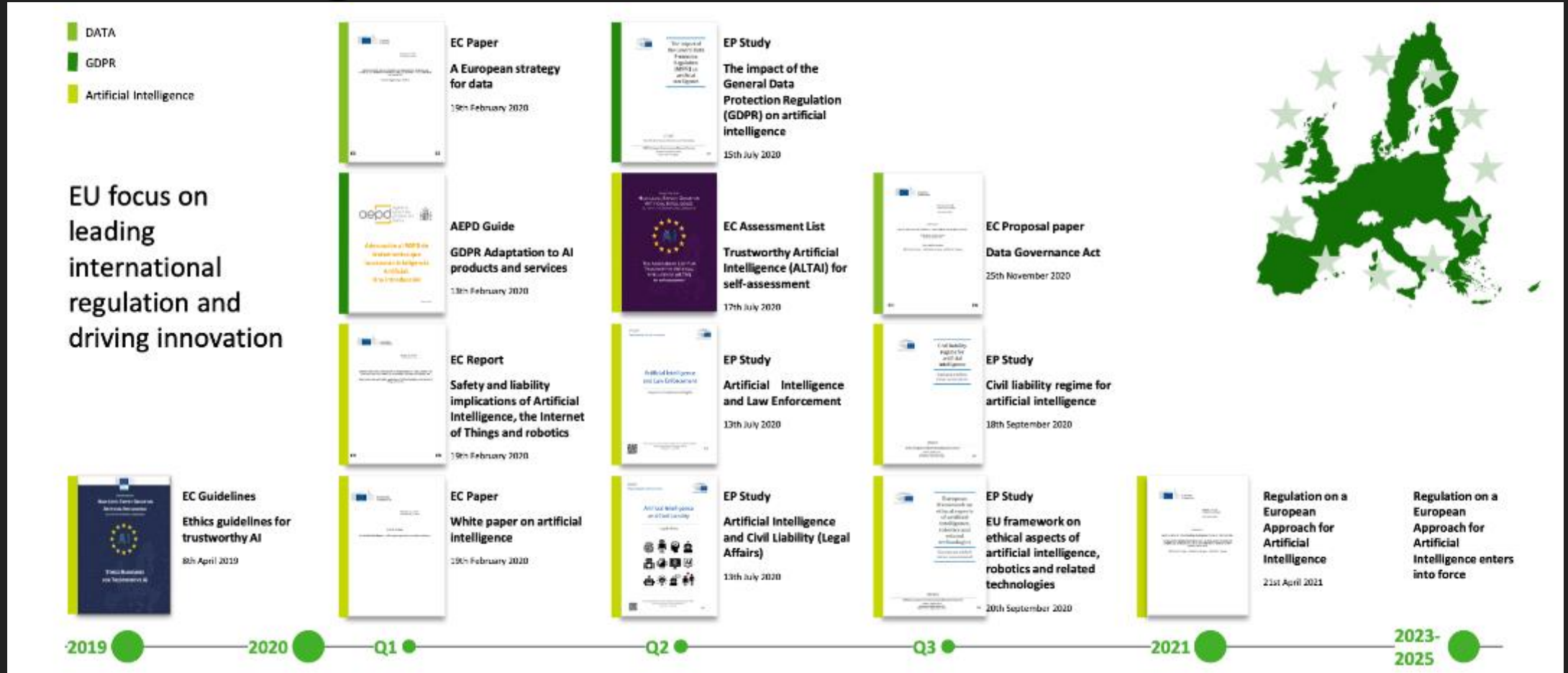
- ▶ Risk-based approach
- ▶ Classification of AI systems
- ▶ Human centered



▶ What does it apply to?

- ▶ Providers
- ▶ Users
- ▶ Importers and Distributors of AI
- ▶ Systems inside of the EU

a proposal 2 year in the making



HAVE YOU FIGURED
OUT HOW AI WILL
IMPACT OUR
BUSINESS?

WORKING
ON IT.



How will AI impact
our business?



There are many ways
that AI can impact



TOM
FISH
BURNE

European level

European Commission to act
as Secretariat

▶ Artificial Intelligence
Board



▶ Expert Group*



National level

National Competent
Authority/ies





DIMITRIS TZANIDAKIS



dimitris.tzanidakis@gmail.com



Dimitris Tzanidakis



linktr.ee/dtzanidakis
