

# **Digital Transformation: A Journey of Innovation**

## **Unveiling the Potential of AI in Recognition: Optimizing Benefits, Mitigating Risks**

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**(European Public Law Organization - EPLO)**

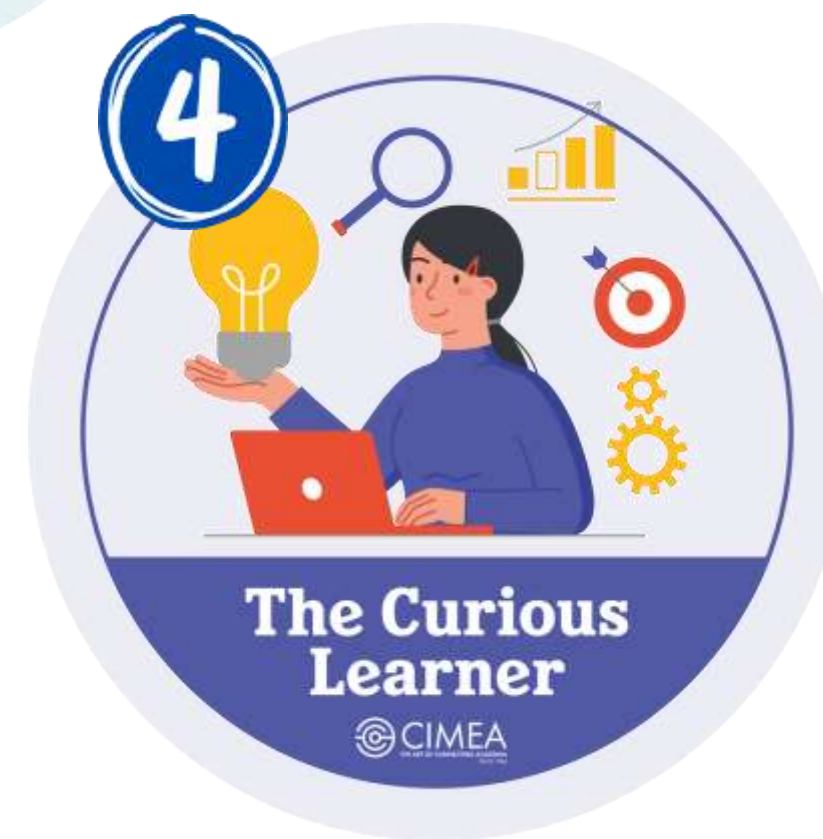
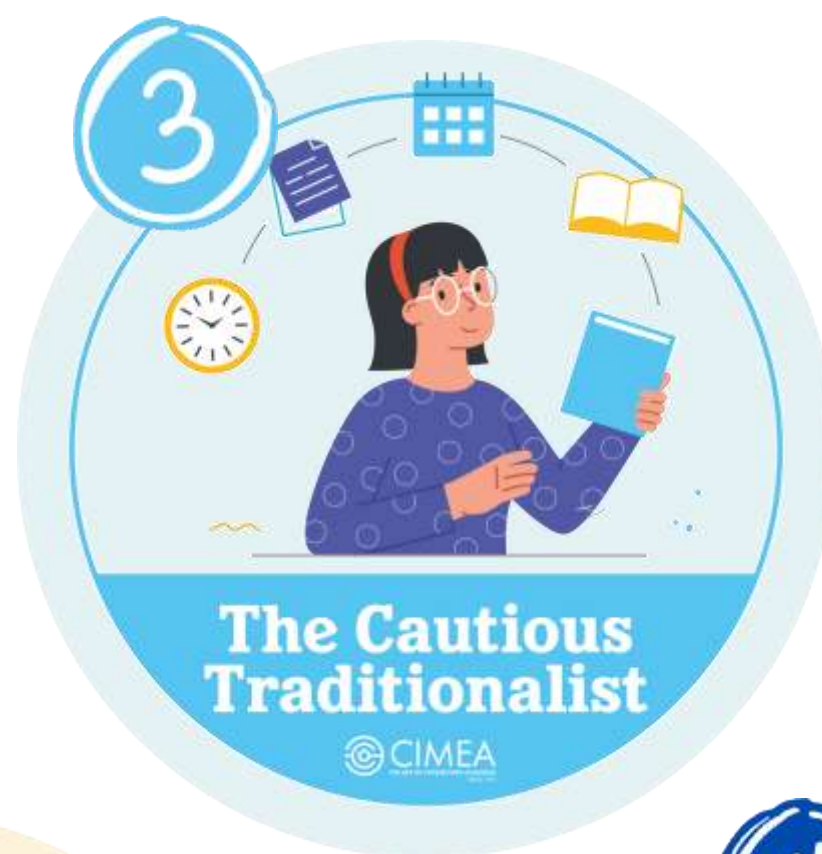


# **The Four Attitudes toward AI**

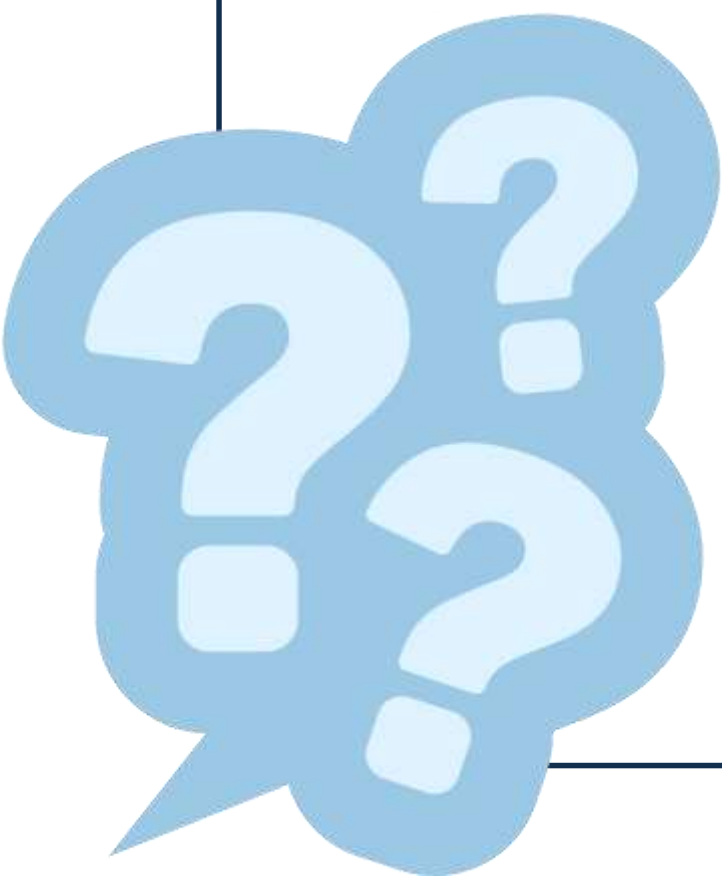
**WHICH ONE ARE YOU?**







**BUT THE SECRET IS...**





**... that in this journey of  
“transformation” we need  
everyone to innovate.**

**This is a real revolution, a change in perspective and outlook.  
To achieve this, a truly inclusive and democratic renewal is needed.**





## AI EDUCATION

# South Korea slows down on AI education

The South Korean government spent 1.2 trillion won (\$850m) on developing AI textbooks for schools, but the national programme has been rolled back after just four months, amid allegations of inaccurate texts, concerns about privacy, and increased workloads on staff and pupils.

## Teachers are overwhelmed, parents are skeptical

Parents and teachers **grew more critical** of the project. They raised concerns about rising screen time, data privacy issues, and the risk of students becoming too dependent on digital devices.

## South Korea's AI Literacy Plan: A Product Failure?

Korea eyes AI future, but classrooms struggle to prepare generation meant to lead

- South Korea's AI textbook program was meant to personalize learning, reduce inequality, and lighten teachers' workload.
- The initiative was rolled back following complaints about inaccuracies, data privacy risks, and increased workload.
- The program suffered from a lack of testing, hurried implementation, and a change of government.

## AITRENDS

# South Korea Axes \$850M AI Textbook Program After 4 Months of Issues

South Korea has ended its AI-powered digital textbooks program after just four months, following complaints of factual inaccuracies, privacy issues, and increased workloads. The \$850 million initiative, launched in March 2025, now serves as a cautionary tale on the risks of hasty AI adoption in education.

## INNOVATION

# AI-powered textbooks fail to make the grade in South Korea

South Korea's AI learning program was rolled back after just four months following a backlash from teachers, students, and parents, underlining the challenges in embedding the technology in education.

# South Korea Is Quietly Pulling the Plug on Its AI Textbooks

Limited support and technical difficulties may end up shelving the AI textbook program in South Korea.



# Context of Reference

## Globalization

Higher education systems worldwide are undergoing profound changes driven by globalization and digitalization. CIMEA, the Italian ENIC-NARIC center, plays a pivotal role in recognizing foreign qualifications to facilitate international academic mobility.

## Digitalization

The volume and complexity of credential evaluations continue to increase, demanding innovative approaches to ensure efficient and fair outcomes. Credential recognition is pivotal to academic mobility, access to education and employment.

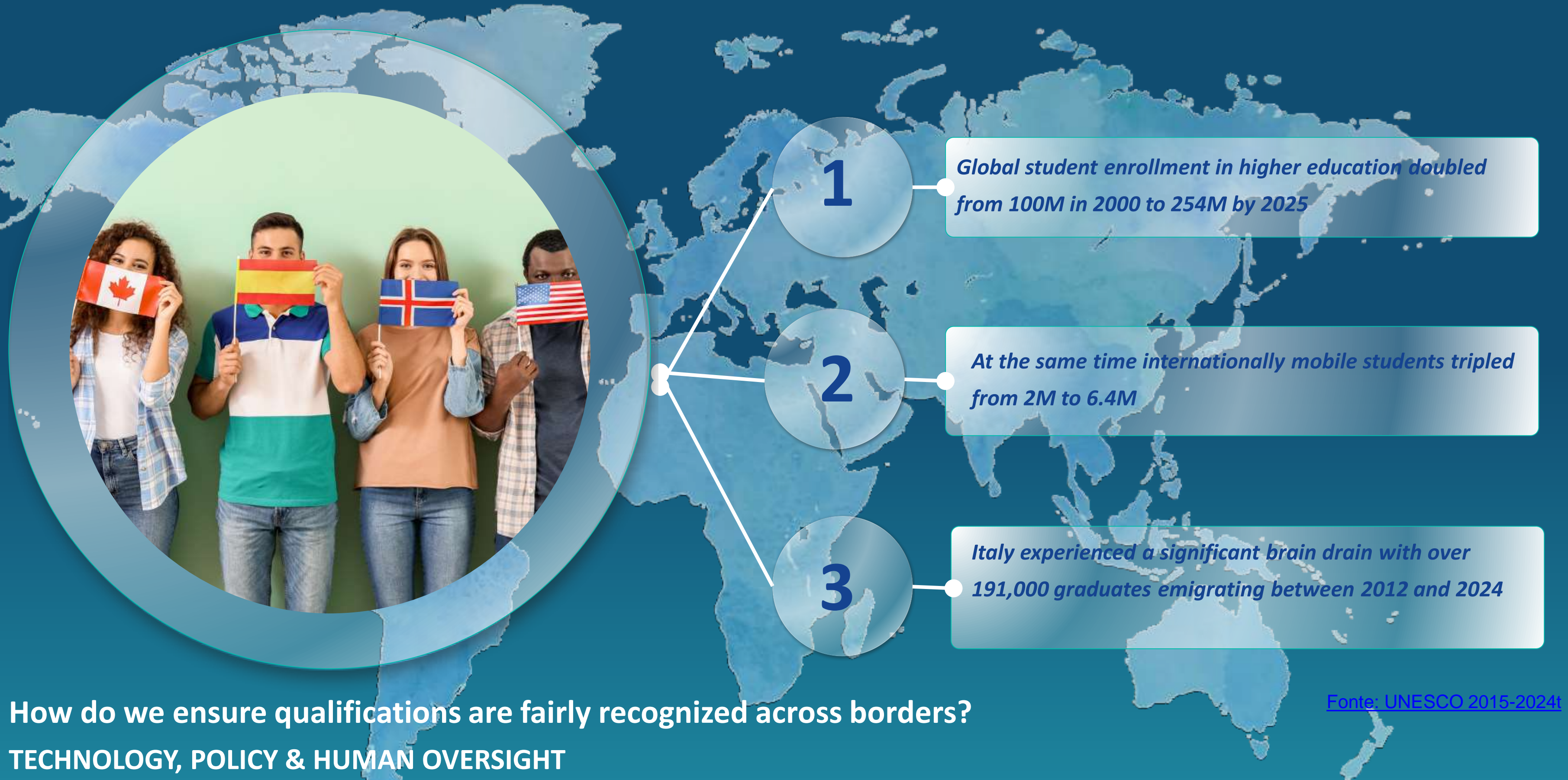
## Global Recognition Convention

The UNESCO Global Convention on the Recognition of Qualifications in Higher Education sets guidelines for transparent and consistent recognition of qualifications. Adherence to these standards ensures that credential evaluation practices meet global expectations, promoting fair and reliable recognition processes across borders.





# The Growing Importance of Academic Recognition





# Digital Transformation in Higher Education: Regulatory Framework



AI Act - European Union

Council of Europe  
Framework Convention  
on Artificial Intelligence  
and Human Rights,  
Democracy and the Rule  
of Law



Council of Europe Compass  
for AI and Education

UNESCO  
frameworks for AI  
in Education and  
Research

Guidance for generative AI  
in education and research



GDPR

Artificial Intelligence and  
Education, a critical view  
through the lens of  
human rights, democracy  
and the rule of law.





# AI Act (Regulation (EU) 2024/1689)



(...) AI systems used in education or vocational training, in particular for **determining access or admission**, for assigning persons to educational and vocational training institutions or programmes at all levels, for evaluating learning outcomes of persons, for assessing the appropriate level of education for an individual and materially influencing the level of education and training that individuals will receive or will be able to access or for monitoring and detecting prohibited behaviour of students during tests **should be classified as high-risk AI systems, since they may determine the educational and professional course of a person's life and therefore may affect that person's ability to secure a livelihood.**

When improperly designed and used, such systems may be particularly intrusive and may violate the right to education and training as well as the right not to be discriminated (...).

🏛️ (AI Act, Whereas 56)



# The Role of The Recognition Community

## «AI use in qualifications recognition: five key factors»

- Human-centred evaluation
- Robust process and data governance
- Research and innovation
- AI literacy and training
- Networking and cooperation

Source: <https://www.universityworldnews.com/post.php?story=20250109122353833>



## 32nd ENIC NARIC Annual Joint meeting

May 25-27, 2025 | Tirana, Albania



Plenary and workshop at ENIC-NARIC joint meeting, and 2 Erasmus+ co-funded projects



# Questions

## AI Integration

What are the principal challenges associated with implementing AI in the recognition of qualifications?

How can these risks be mitigated safeguarding transparency, reliability, and integrity of recognition procedures?



## Regulatory Compliance

How can we ensure that digital innovations remain compliant with regulatory standards and uphold principles of fairness?

How can the ethics-by-design paradigm be operationalized to ensure a human-rights-centered approach in credential recognition?



## Fraud Detection and Prevention

What's the role of forensic methods in digital recognition of academic qualifications and how could AI be used to prevent educational fraud?



## Organizational Changes

What structural and organizational changes were required to implement these transformations?  
What technologies were integrated into the evaluation framework, and how have they influenced operational workflows?



## Community of Practice and Common Standards

What insights can be drawn from ENIC-NARICs experience in managing change and digital transformation in academic credential recognition?





# Digital Transformation at CIMEA: Leading Change Through Structured, Human-Centric Digital Strategies

CIMEA, the Information Centre on Academic Mobility and Equivalence, has undergone a profound digital transformation since 2018, revolutionizing credential evaluation processes for international academic qualifications.

Established in 1984, CIMEA serves as Italian ENIC-NARIC center and Italy's principal institution for structured dissemination of information on academic qualification recognition, facilitating international mobility by promoting understanding of both Italian and foreign educational frameworks.





# Goals for CIMEA's Digital Transformation

Compliance with  
International  
Standards



User-centricity



One-Stop  
Shop



Data Privacy  
& Security



Inter-operability



Information  
architecture



Consistency



Efficiency



Staff  
Management



Few questions to start with:

- Can AI support access to Higher Education?
- What is the potential impact of AI in access and admission process?
- Can, and to what extent, AI facilitate faster and fairer recognition of qualifications by supporting and automating routine tasks, or does its use pose more risks than opportunities, and more costs than benefits?



# The Evolution of the Species



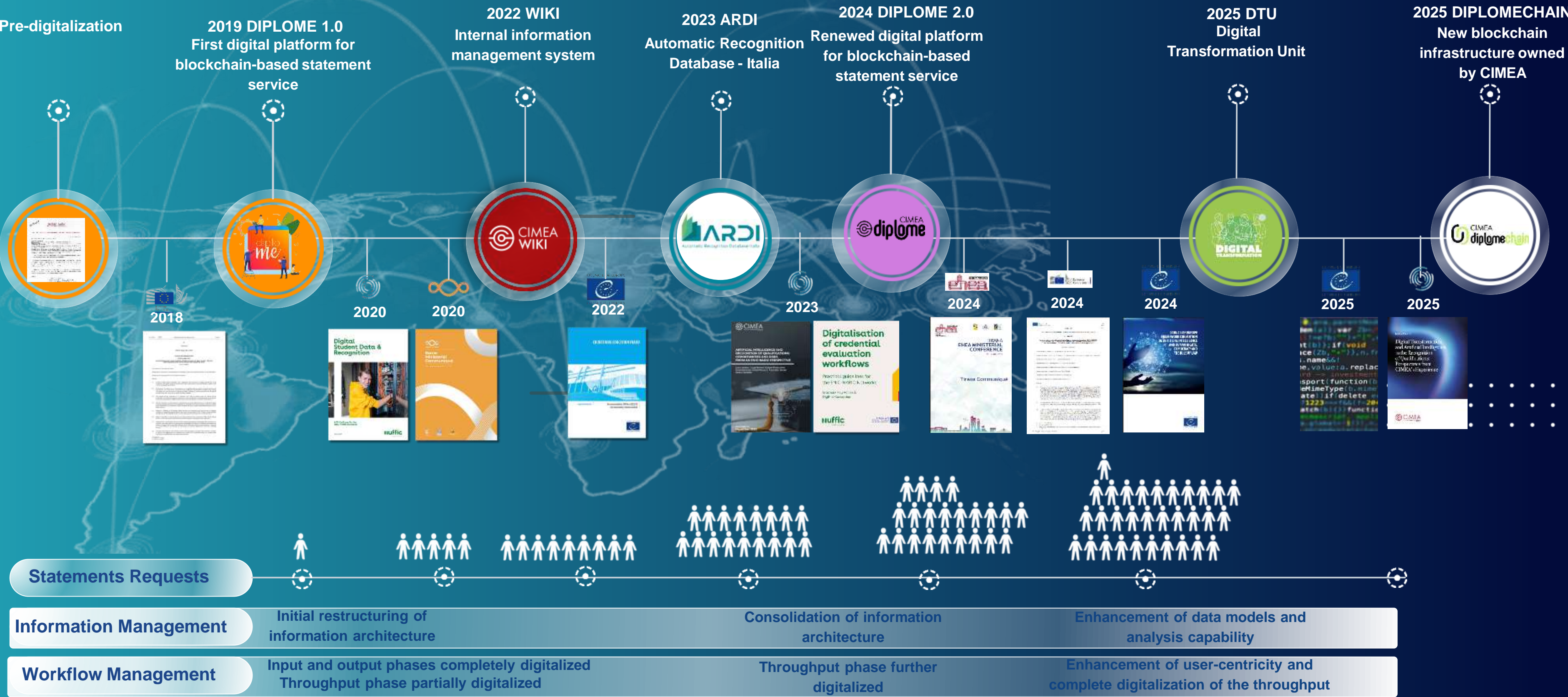
The Unaware Forager    The Analog Archivist    The cooperative Typist    The Digital Pioneer    The Digital Savvy    The Collaborative Innovator



Up to 1970s	1980s- early 1990s	Mid-late 1990s- Early 2000s	Late 2000s-2010s	Late 2010s-2020s	2025 onwards
The Prehistoric Era Limited Recognition and mobility	The Ancient Age Analog Bureaucracy	The Medieval Era Digital Introduction	The Digital Renaissance Digital Transition	The Modern Era Digital Transformation	The Future: Human-AI Collaboration?
<ul style="list-style-type: none"><li>• International Student Mobility is still limited, and Higher Education still not yet experienced massification.</li><li>• The vision for recognition was already there: 5 CoE first generation recognition Convention in place.</li></ul>	<ul style="list-style-type: none"><li>• Recognition of qualifications begins to grow, but it is heavily reliant on paper-based processes and slow, demanding bureaucratic procedures such as nostrification and legalization.</li><li>• New first recognition generation convention are adopted by CoE and UNESCO</li><li>• 3 networks of national information centres are active and start to cooperate: NEICs (CoE), NIB (UNESCO), NARICs (EU)</li></ul>	<ul style="list-style-type: none"><li>• The introduction of personal computers and birth of the web. Informatization start, but paper-based processes and traditional procedures remain strong.</li><li>• The 1997 Lisbon Recognition Convention (first 'second generation' convention) introduces groundbreaking principles for mutual recognition and the right to a fair recognition, paving the way for modern approaches. Recognition starts becoming more accessible but remains tied to analog methods. Two recognition networks start to work jointly together: ENIC and NARIC networks.</li></ul>	<ul style="list-style-type: none"><li>• Widespread adoption of technology revolutionizes communication and the rethinking on how to carry out traditional activities. Paper use is reduced, but it still dominates verification processes. Emails become the norm for communication between institutions and authorities, but recognition procedures often require physical submissions or reliance on paper-based qualifications. A full transition to digital methods is yet to be achieved. Intergovernmental processes start in Europe, supporting cooperation also in the recognition field.</li></ul>	<ul style="list-style-type: none"><li>• Profound shift brought about by digital transformation. Institutions, countries, and stakeholders embrace digitally verifiable documents, secure digital sharing, and comprehensive databases, increasing the need for greater global collaboration, standards and principles. -The rise of technologies such as blockchain and automated systems (especially during COVID-19 pandemic) impact and transform also recognition procedures.</li><li>• Second generation regional recognition conventions and the global convention are adopted, building on the LRC.</li></ul>	<p>The future of qualification recognition may lie in the collaboration between humans and AI. Automated systems assist credential evaluators, reducing human error, increasing efficiency, and contributing to fair and faster recognition. AI-powered tools can support in detecting fraud and verify qualifications seamlessly. But what are the risks and opportunities in a human rights perspective?</p>

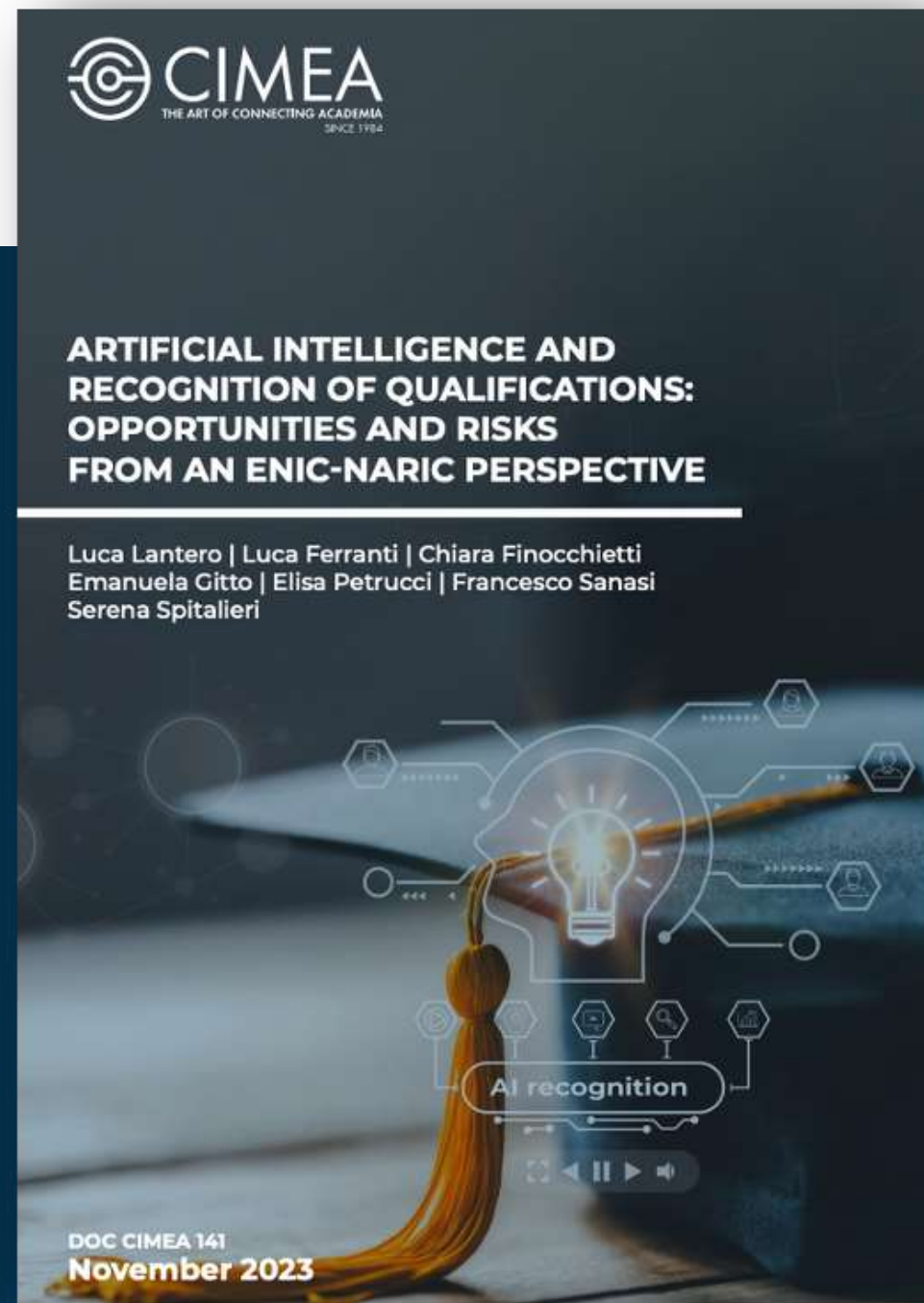


# CIMEA Digital Transformation Pathway





# ARTIFICIAL INTELLIGENCE



Source: [CIMEA](#)

## Keeping human oversight and human decision making

### DIMENSIONS

Equity

Recognition workflow

Learning outcomes

European frameworks and regulations

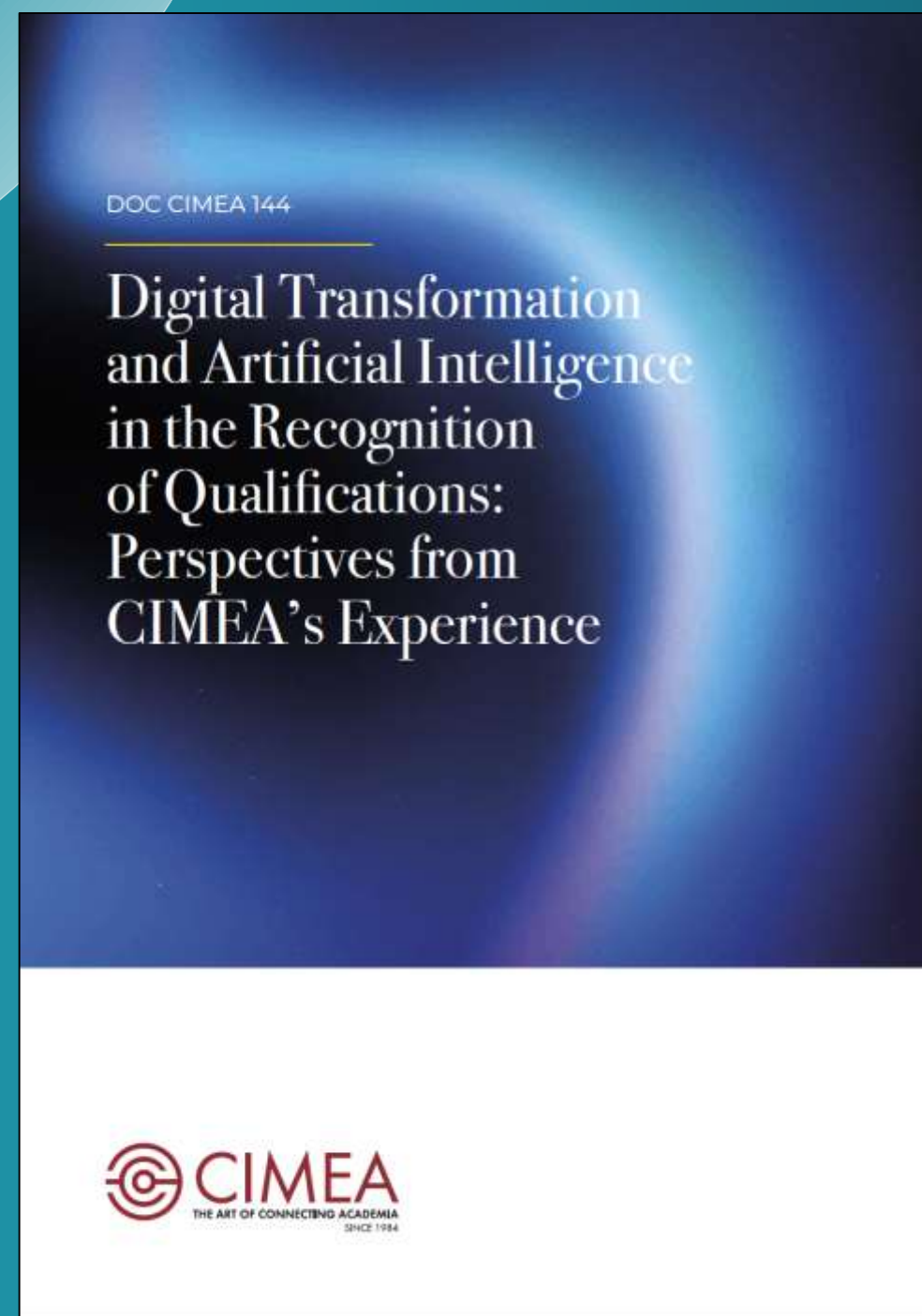
International academic mobility

5

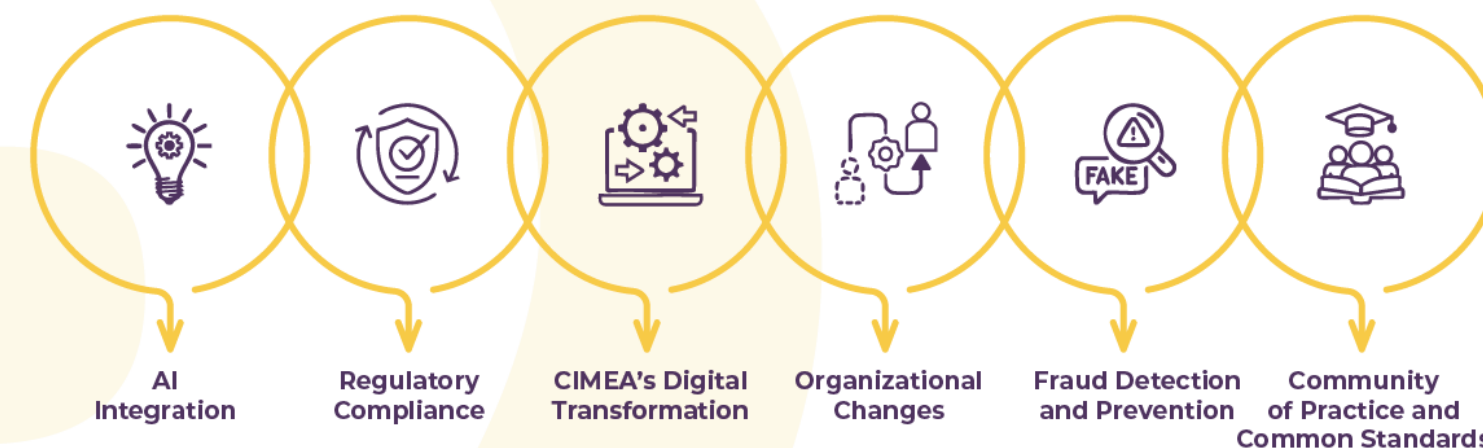
- The risk of unequal access to data, and of assessment that are not fair.
- Can we trust learning outcomes in the era of AI? And can AI support the assessment of learning outcomes?
- Can AI support academic mobility by contributing to remove some obstacles (e.g. linguistic barriers?)



# Digital Transformation and Artificial Intelligence in the Recognition of Qualifications: Perspectives from the CIMEA experience



In pursuit of these objectives, this research seeks to address the following research questions:



## ■ How has digital transformation reshaped the recognition processes of academic qualifications within CIMEA?

- What structural and organizational changes were required to implement these transformations?
- What technologies were integrated into the evaluation framework and how have they influenced operational workflows?

## ■ What are the principal challenges associated with implementing artificial intelligence in the recognition of academic qualifications?

- What legal, forensic and ethical risks arise from the deployment of AI in this domain?
- How can these risks be mitigated while safeguarding the transparency, reliability and integrity of recognition procedures?

## ■ How can the *ethics-by-design* paradigm be operationalized to ensure a human-rights-centered approach in credential recognition?

- In what ways can a rights-based framework safeguard personal data and mitigate risks of bias, discrimination, or procedural inaccuracies?
- What oversight mechanisms are necessary to uphold the rights and interests of individuals within digital systems?

## ■ What is the role of forensic methodologies in the digital recognition of academic qualifications?

- How can forensic techniques contribute to fraud prevention and reinforce the credibility of digitally authenticated credentials?
- What best practices can be adopted to ensure the robustness and security of digital recognition procedures?

## ■ What insights can be drawn from CIMEA's experience in managing change and implementing digital transformation in academic credential recognition?

- How can this experience support exchange of practices with other higher education institutions and recognition centre?
- What operational strategies and frameworks can be adapted or optimized to facilitate digitalization in similar institutional contexts?



# **From Digitization to Digital Transformation...**

**Digital transformation** in recognition of qualifications represents **not only a technological upgrade but a comprehensive organizational and cultural reconfiguration.**

It is not only an issue regarding converting paper-based statements to electronic ones; it involves **rethinking entire workflows to improve efficiency and reduce redundancies.**



# Digital Transformation: Theoretical Framework for Change Management and Knowledge Management



## Role of Leadership and Team Empowerment



## Human Centricity and Co-creation

Participatory Design and User Involvement



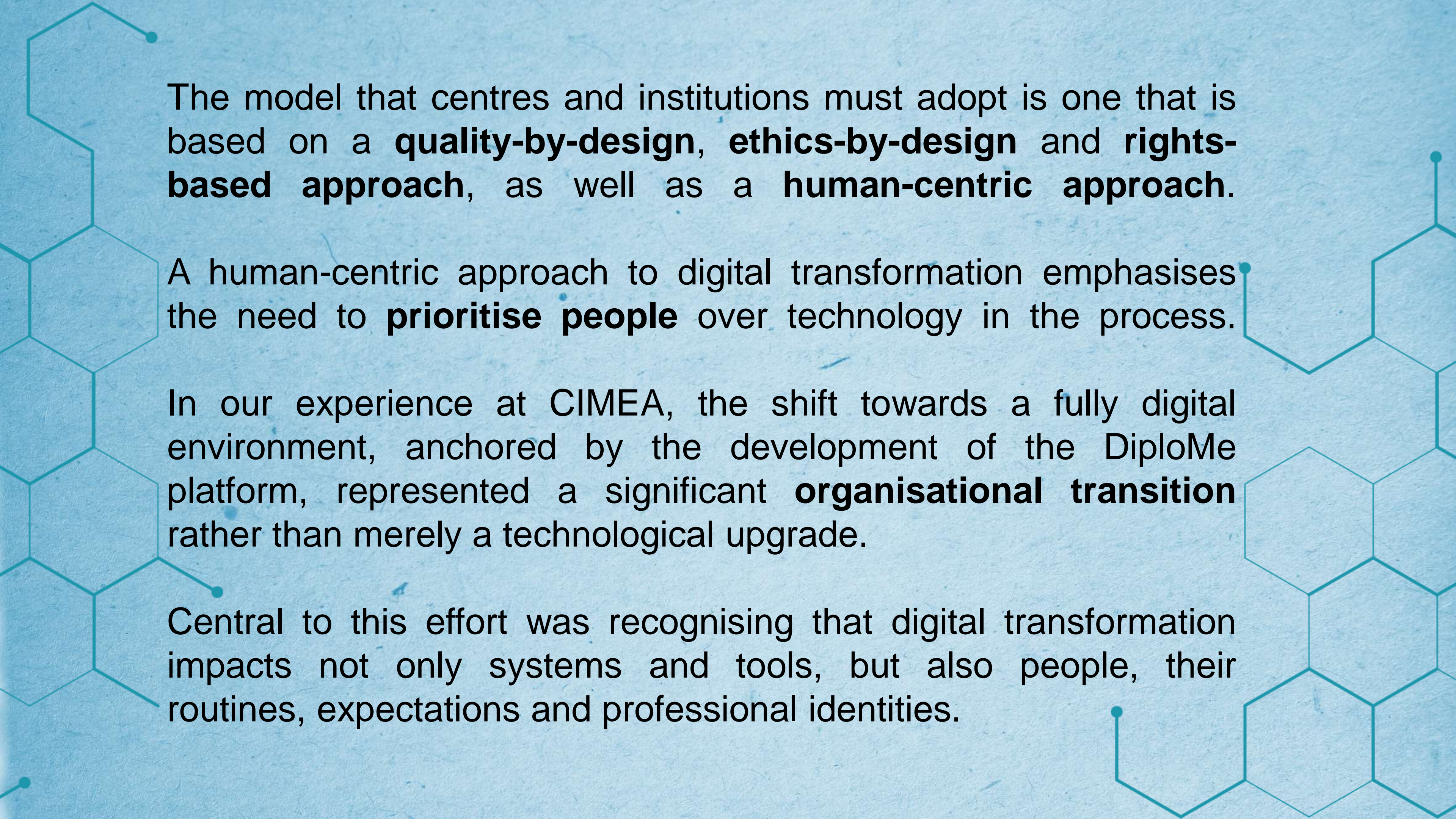
## Organisational Learning

Building Capacity for Future Change through communities of practice, and continuous learning and training opportunities for staff.



## Comprehensive Digital Maturity and Data Governance





The model that centres and institutions must adopt is one that is based on a **quality-by-design**, **ethics-by-design** and **rights-based approach**, as well as a **human-centric approach**.

A human-centric approach to digital transformation emphasises the need to **prioritise people** over technology in the process.

In our experience at CIMEA, the shift towards a fully digital environment, anchored by the development of the DiploMe platform, represented a significant **organisational transition** rather than merely a technological upgrade.

Central to this effort was recognising that digital transformation impacts not only systems and tools, but also people, their routines, expectations and professional identities.



# What's Next: AI Agentics AI



## AI agents and Workflow Automation

- Enable **autonomous, adaptive, iterative** decision-making
- Move beyond predefined rules and supervised models

## Potential in Qualification Recognition

- Automated case handling: retrieve data, validate docs, compare qualifications
- Dynamic fraud detection: learn and adapt to new forgery patterns
- Interoperability: align global frameworks and automate equivalency mapping

## Key Considerations

- Governance to balance automation with ethics and law
- Human oversight must remain central
- Avoid systemic bias in recognition processes



# The risks of AI integration: Understanding the Ethical Challenges

## Algorithmic Bias

AI systems trained on datasets that disproportionately reflect qualifications from certain countries may produce biased decisions that disadvantage underrepresented regions, deepening the "digital and AI divide."

## Data Availability and Access

Many institutions face difficulties digitizing records due to high costs and logistical complexities, limiting their ability to benefit from AI advancements and further entrenching inequalities.

## Privacy and Data Protection

AI systems process vast amounts of personal information, raising concerns about data breaches, unauthorized access, and ethical management of sensitive information.

## Human Judgment

AI struggles to account for contextual factors that influence assessment of educational credentials, particularly with non-traditional education systems or experiential learning components.



# The Digital and AI Divide



## Resource Disparities

AI systems require extensive data archives and advanced computing infrastructure primarily concentrated in technologically advanced countries. Many institutions in developing regions lack the financial and technical resources to implement AI tools effectively.



## Data Availability Challenges

The effectiveness of AI systems depends on access to comprehensive, structured datasets. Many regions face difficulties in digitizing educational records due to high costs, logistical complexities, and lack of standardized formats.



## Monopolistic Knowledge Control

The risk of AI technologies is that a few dominant corporations may control our "interface with knowledge," exercising monopolistic powers that advantage certain cultural perspectives while marginalizing others.



# Opportunities in the integration of AI:

## Fraud Detection Through AI

### **Document Analysis**

AI scans submitted documents for potential anomalies

### **Pattern Recognition**

System compares with official databases to identify discrepancies

### **Alert Generation**

Suspicious elements flagged for human review

### **Human Oversight**

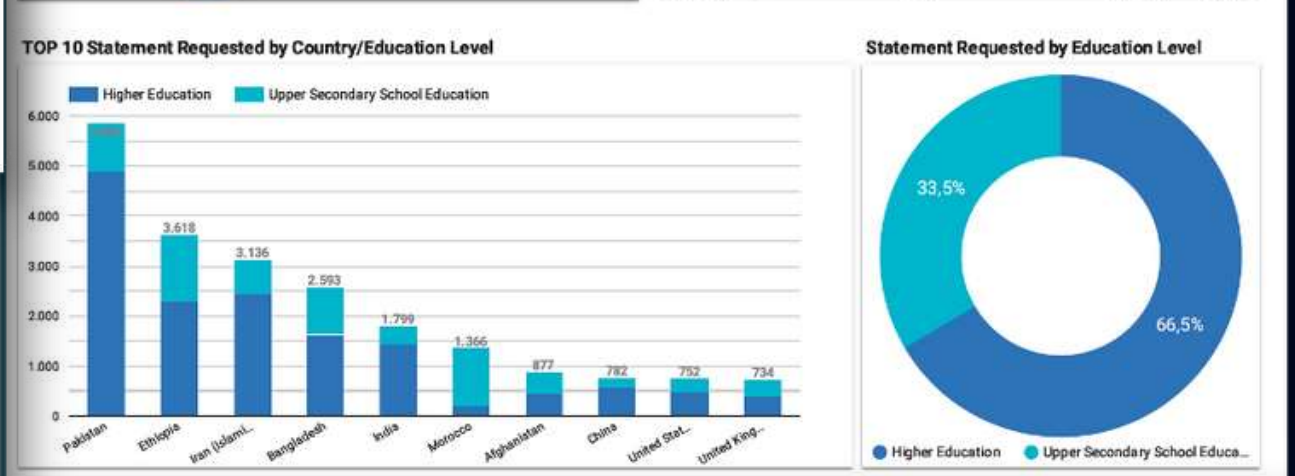
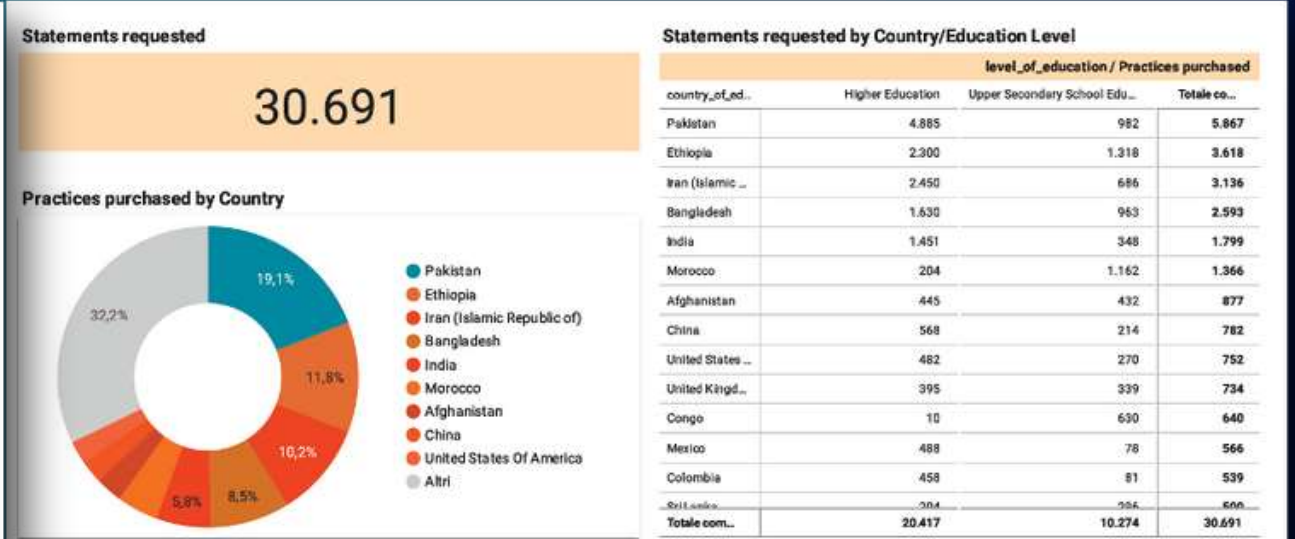
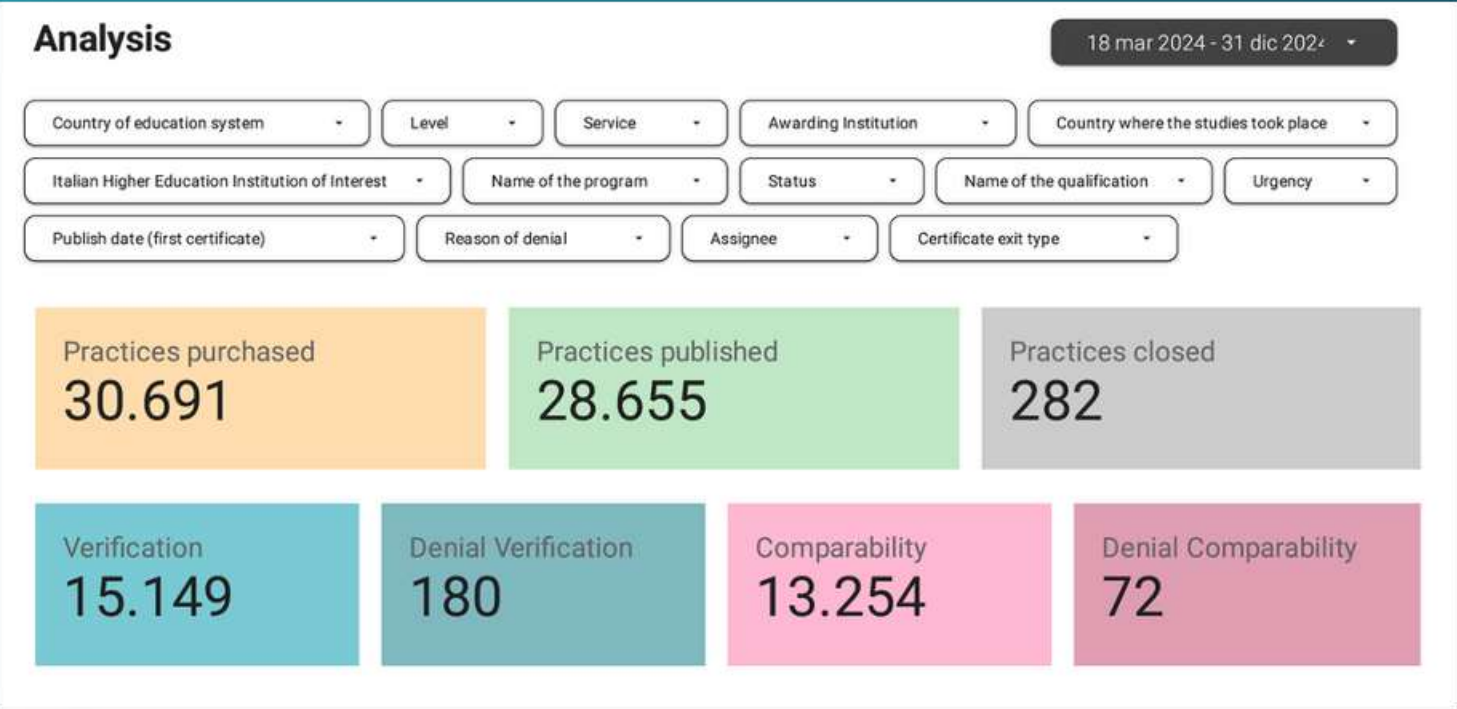
Final assessment made by credential evaluators



# Predictive Demand Modeling

## CIMEA Diplome BI

CIMEA can leverage historical data to predict seasonal demand trends, providing crucial insights for more effective resource planning. By understanding these patterns, the organization can anticipate busy periods and optimize staffing accordingly. Time series models, such as Recurrent Neural Networks (RNNs) or Transformer models, can identify trends, seasonality, and autocorrelation within the data, enabling accurate forecasting of future demand.





# Organizational Learning: Towards Digital and AI Literacy at Institutional and Systemic Level





# Analytical Framework for a New Digital Culture: People, Processes and Purpose



Human-Centric  
Transformation



Participatory Design and  
User Involvement



Role of Leadership and  
Team Empowerment



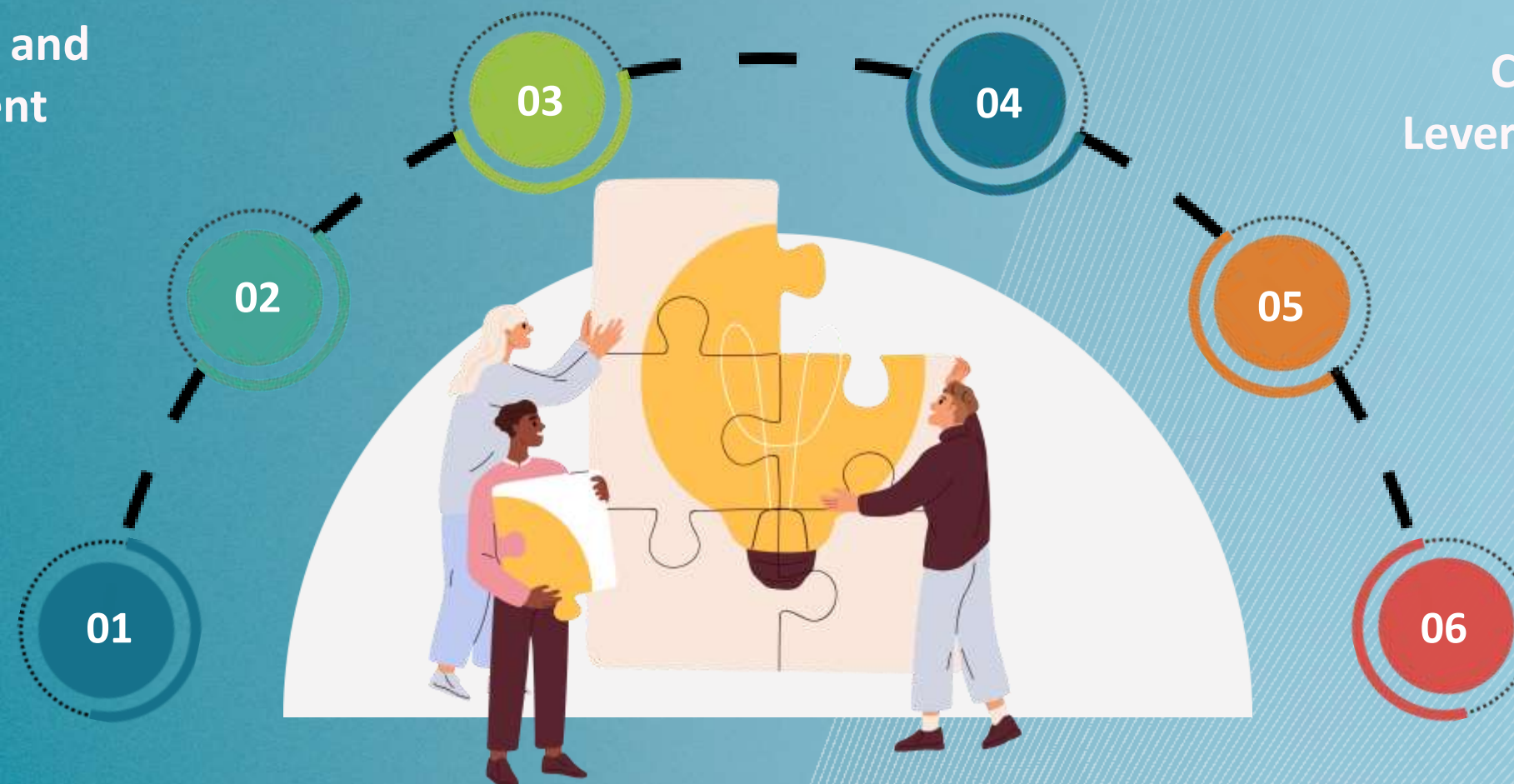
Change as a Strategic  
Lever: from Resistance to  
Empowerment



Upskilling & Transversal  
Competencies (Creativity,  
Collaboration, Critical  
Thinking, Problem Solving)



Organizational Agility &  
Digital Literacy





# Strategic Recommendations for AI Integration

## Multidisciplinary Teams and Co-Development

The co-development of AI systems by interdisciplinary teams: technology experts, credential evaluators and policymakers.

## Ethical Implementation

The prioritization of data ethics and personal data protection, ensuring that AI development respects legal frameworks and upholds institutional integrity.

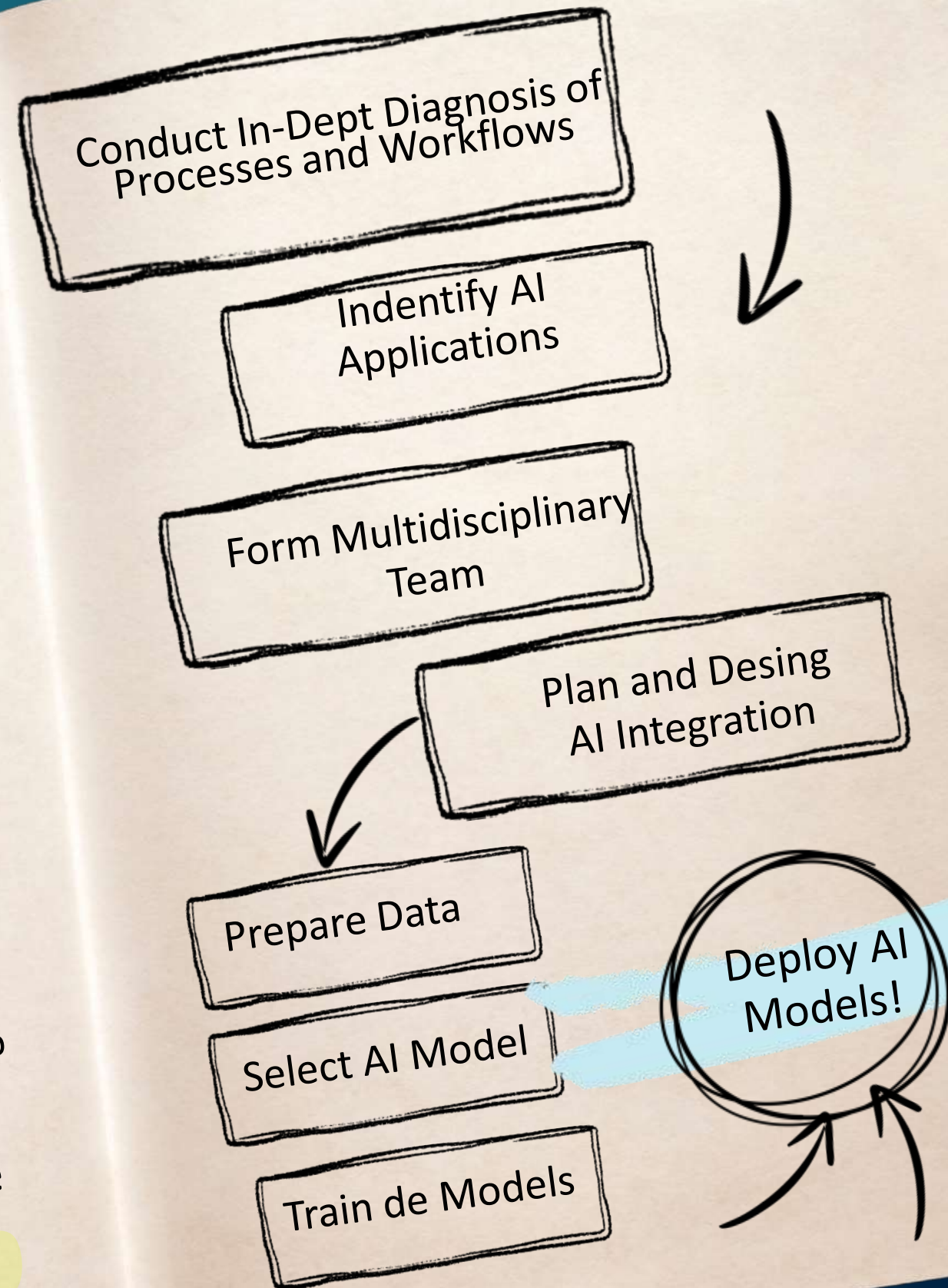
## User-Centricity

The adoption of user-centric design principles, enabling iterative testing, continuous feedback and adaptive improvements.

## Change Management

A proactive change management strategy, addressing potential resistance, redefining job roles and embedding a culture of innovation.

## Data Governance and Sustainable Interoperability





The background is a solid teal color. On the left side, there is a large, intricate white line drawing. It consists of many thin, overlapping lines that form a swirling, circular shape, resembling a stylized flower or a complex knot. The lines are dense and create a sense of depth and movement. The overall composition is clean and modern.

**Thank You for  
Your Attention!**