

Gathering21

Construction Innovations
for Future Generations

CitA



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FUTURE OF CONSTRUCTION

Energy and climate change
30% of global greenhouse gas emissions are attributable to buildings

Urbanization & housing crisis
200K

people are added daily to urban areas and need affordable and healthy housing

No. 1

consumer of global raw materials is the construction industry

Resource scarcity

\$1 tn Huge infrastructure gap
 annual investments are needed to close the global infrastructure gap

Demand shift to emerging countries
65%
 of the next decade's growth in construction will happen in emerging countries

Talent gap and ageing workforce
50%
 of general contractors are concerned about finding experienced crafts workers





BIM Energy Performance Alliance (BIM-EPA)

In 2018, an initiative involving former Horizon 2020 and Erasmus+ projects including BIMCert, BIMEET, BIMplement, BIMzeED, and NET-UBIEP, as well as additional vital players in the upskilling of the AEC sector in digitalisation and sustainability, came together to form the BIM Energy Performance Alliance (BIM-EPA)





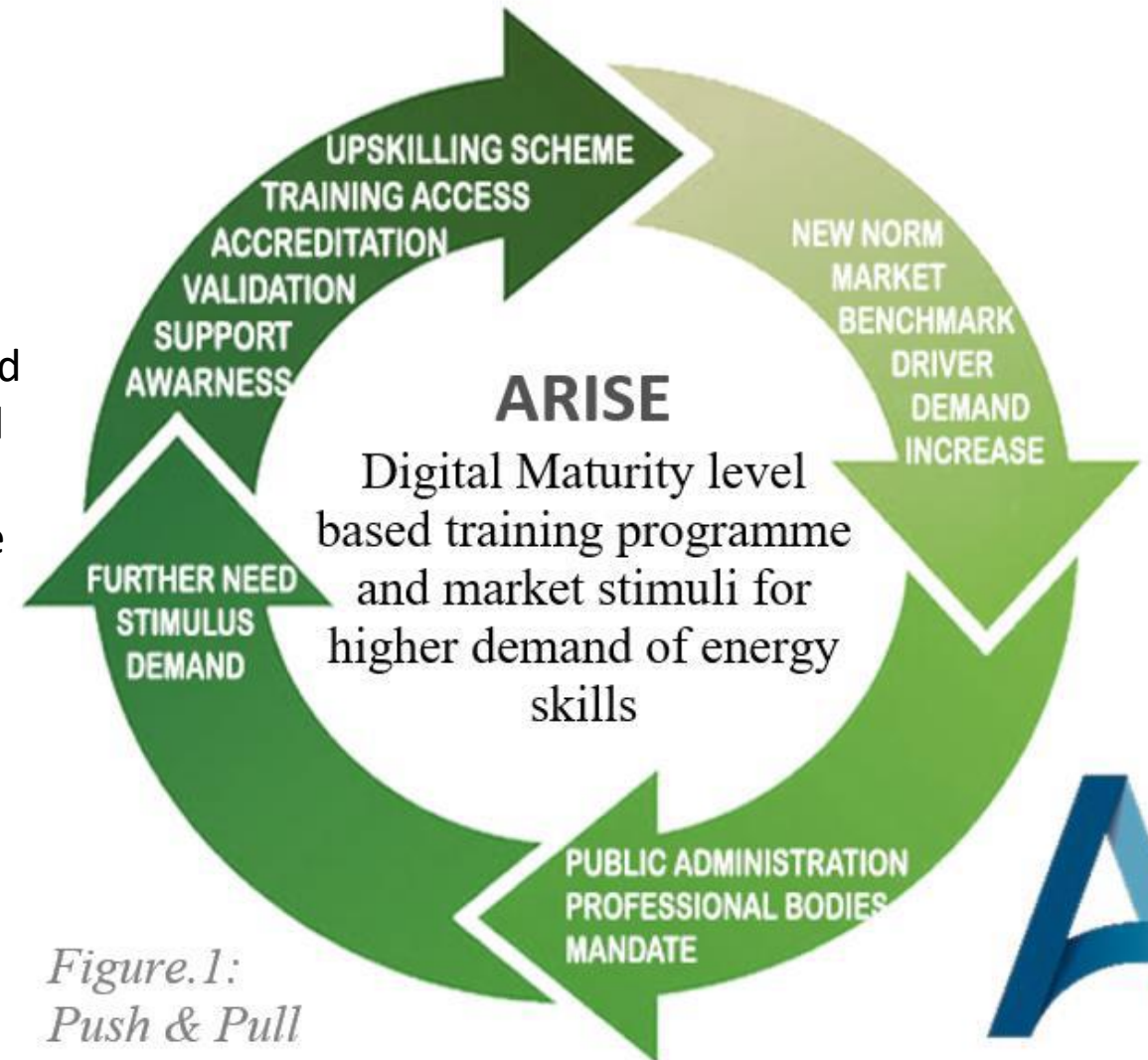
ARISE Partners





ARISE Goals

ARISE will drive the learning process by monetizing skills development and learning exchange with a digital system based on skills recognition rather than accreditation. The training and transaction system developed by the project will reward learners as they achieve competence at a certain level with the crypto currency for skills exchange - CERTcoin – the innovative currency of skills and learning of the construction sector embracing today’s digital transformation benefits.

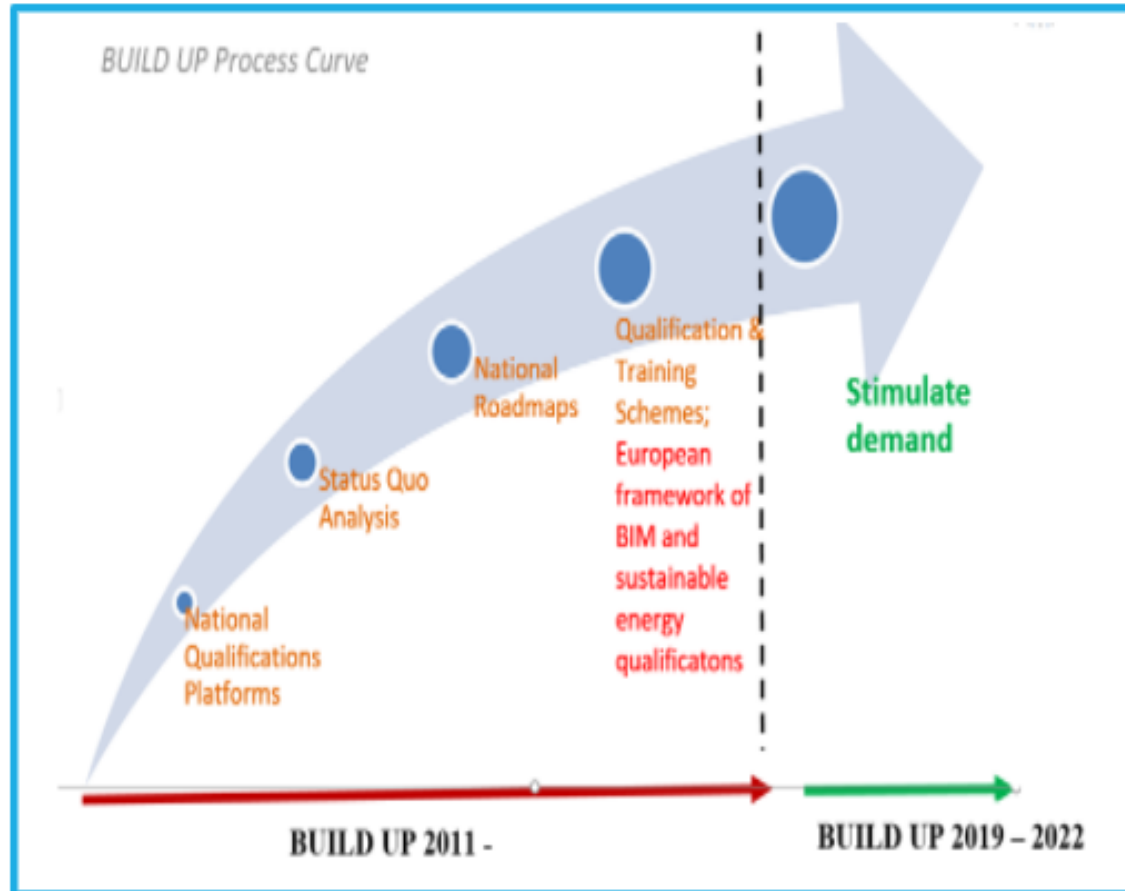


*Figure.1:
Push & Pull
Demand driver approach*





Stimulating Demand



- **STEP 1** - The harmonization of activities, performed with partners of previous EU projects, foreseeing different actions,
- **STEP 2** - the development and deployment of a digital delivery system for CPD type recognition pathways and training schemes.
- **STEP 3** - Develop an on-demand mobile-friendly training portal for digitization and sustainable energy in the construction sector to assist in direct action in the market, and to increase demand and delivery of upskilling,
- **STEP 4** - The creation of a "cryptocurrency" of skills and learning in the digital built environment-enabled by blockchain technology to ensure the trust of the CPD type digital awarding. CERT coin will 'monetize' the digital transformation of the construction sector. It is the digital asset designed to stimulate engagement and quantify skills development and learning.



ARISE Targets

ARISE's approach and proposal is to improve and increase the collaborative skills of practitioners at all levels regarding the use of BIM and other technologies.

An initial skills maturity level analysis will be used as a method to diagnose and reward skills development.

A Learning Record Store will be implemented to enable digital delivery of both training, assessment, and recognition.

For independent verification, these recognitions can be registered with blockchain technology resulting in an Interactive Learning Business Account (ILBA)

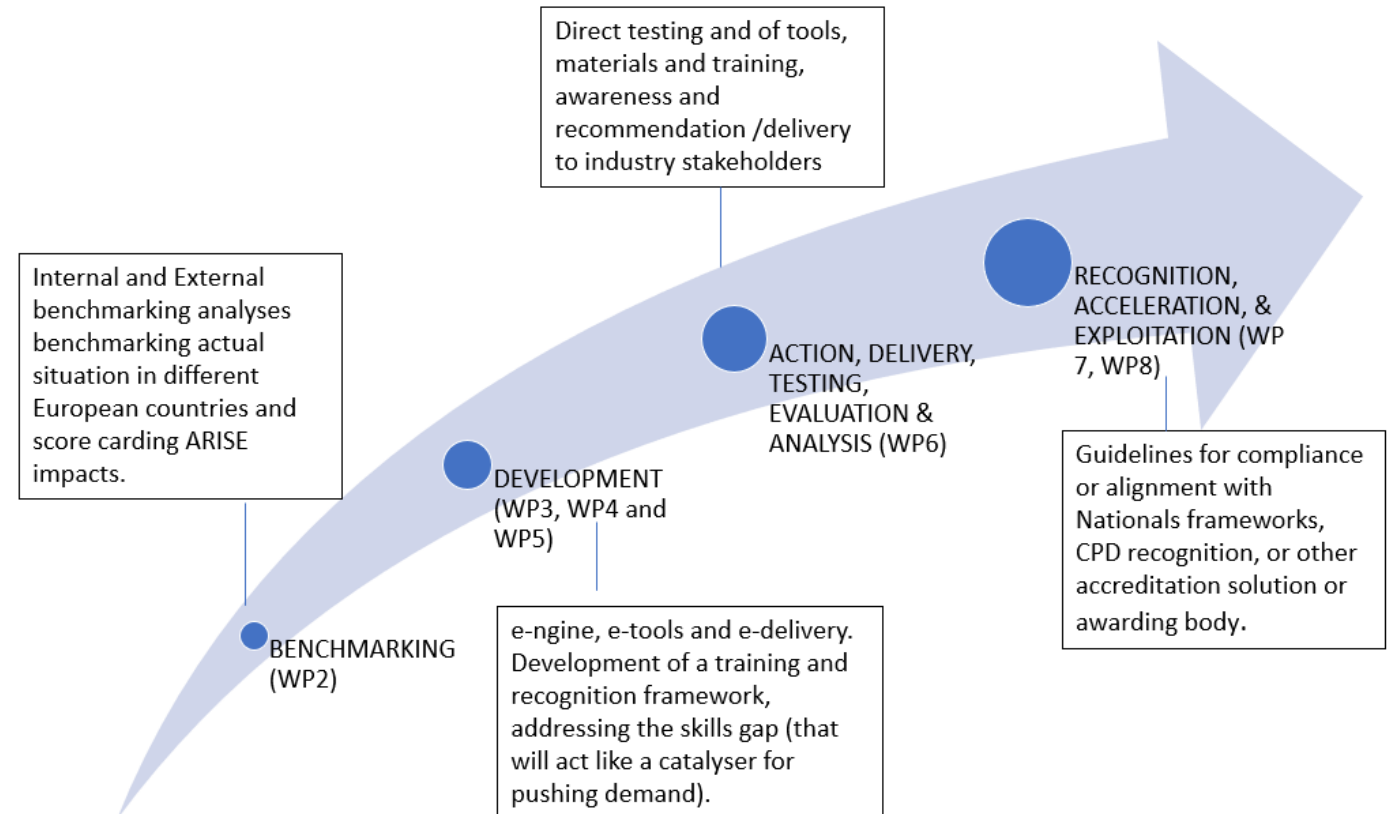
Completing modules allows a CERTcoin to be claimed/given, which underpins maturity and builds up a portal for users to promote their successes. Data traceability with unique digital IDs for each user, integrated into Blockchain, will protect individual digital experiences.





1. Facilitate mutual recognition of energy skills and qualifications in the construction sector.
2. Develop maturity level-based digitalisation, including classifications for energy skills.
3. Underpin national, regional, and local initiatives to raise awareness of the benefits of sustainable energy skills.
4. Provide support and training to public authorities to potentially develop new legislative frameworks and digital processes.
5. Establish cross-sectoral partnerships and collaborations to raise awareness and demand for good energy practice in construction/renovation.
6. Start initiatives to reinforce the links between skills/education and energy performance.

ARISE Methodology





Challenges

- Potential low number of participants in program trials.
- Range of applicability and recognition achieved.
- Lack of government mandates across Europe for a common standard in certified skills.



awakening | relevant | innovative | scalable | equitable





Summary

- ARISE utilises a circular economy approach specifically utilising digital skills stimulation and delivery across the entire building life cycle and assets to decarbonise the complete energy cycle.
- ARISE represents a multi faceted approach to tackle the carbon footprint of the construction sector.
- It is a pioneering training scheme and a powerful socio-economic cross-sectional influencer, affecting the multiple sectors of education, industry, market and policy by delivering a dynamic training and market uptake model.”

