

Department of Indoor Environmental and Building Services Engineering Faculty of Civil Engineering Czech Technical University in Prague

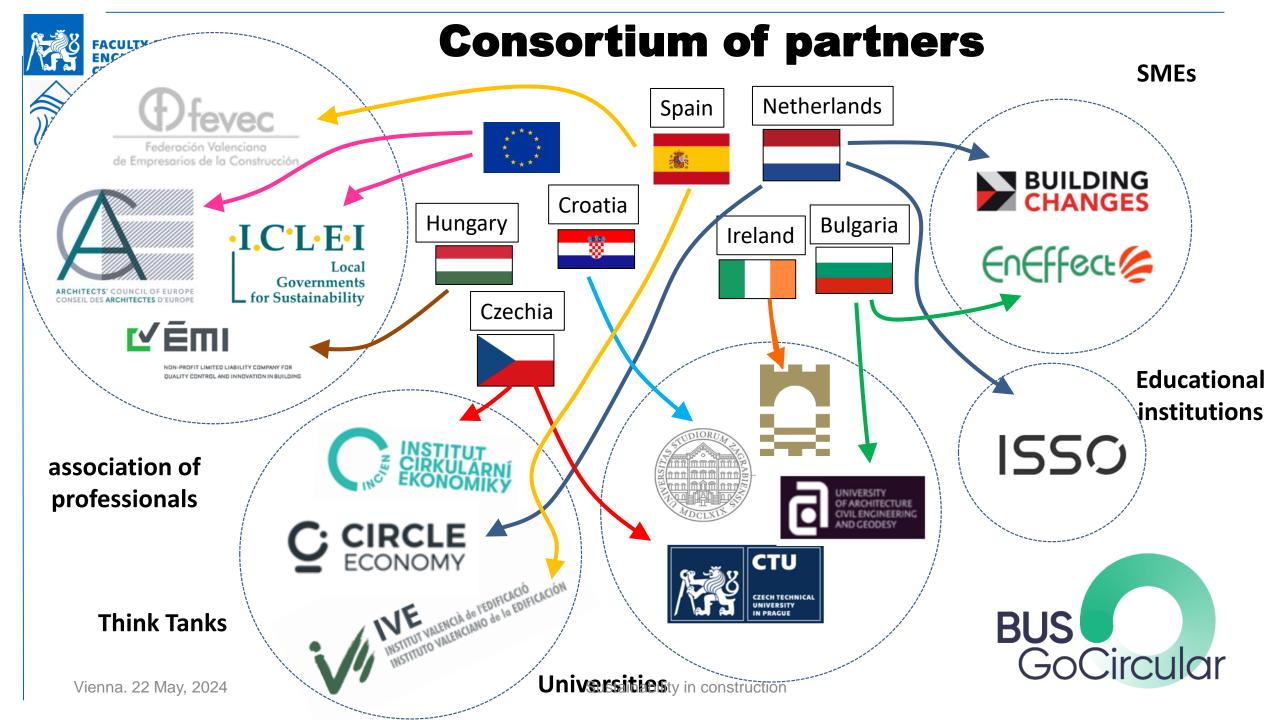
Stimulating demand for circular construction skills

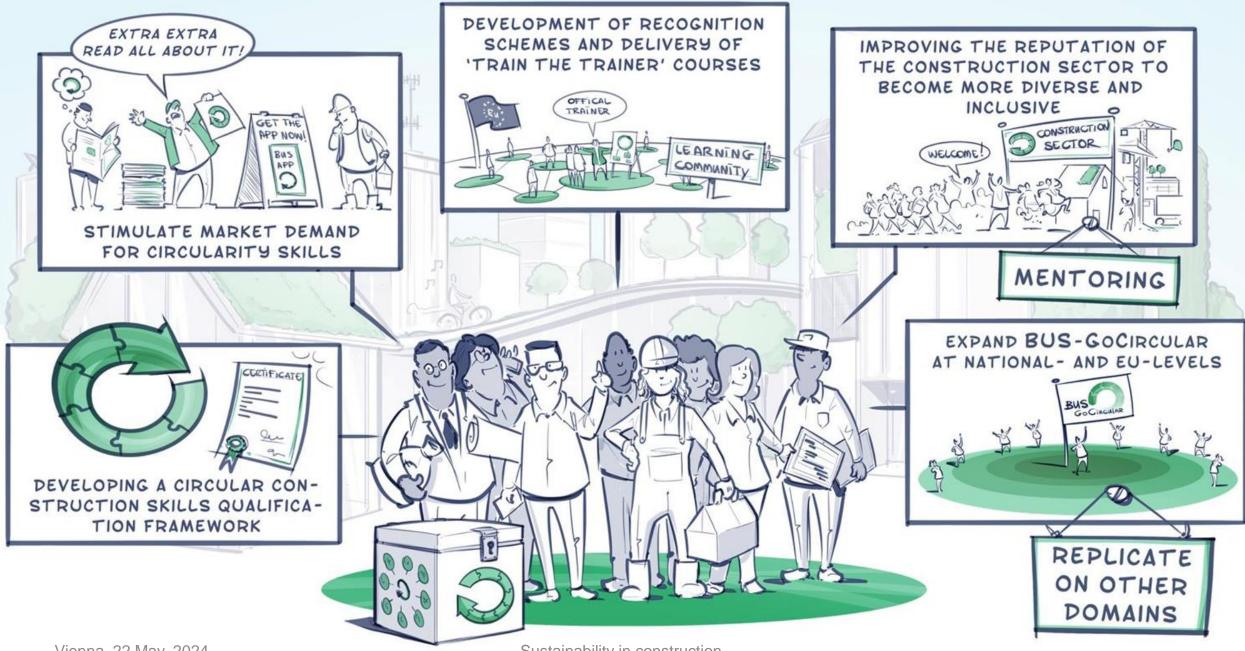
BUS-GoCircular project

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Vienna. 22 May, 2024







Key elements of a circular economy

Ξ 36



Prioritise regenerative resources

Preserve and extend what's already made

Use waste as a resource

Rethink the business model

Design for the future

Collaborate to create joint value

Incorporate digital technology

Strenghten and advance knowledge





CIRCUALR CONSTRUCTION SKILLS QUALIFICATION FRAMEWORK

Table 1: List of Tasks and subtasks, including corresponding ULO numbers and professions

#	Task	Subtask	ULO Nr.	Profession(s)
1	Prioritise	e regenerative and efficient use of resources	81	
1.1		Design with bio-based, non-toxic and/or non-critical materials	1, 2, 3, 4	AM, UP, AR, CE, ME, EE, C, MS
1.2		Replace energy sources with less impactful alternatives	8	AR, EL, EE, PM, MS
		Apply suitable energy efficiency measures to the building design	9	AR, EL, EE
1.3		(taking into account building purpose and climate)		

ULO Nr.	Competence	Skills	Knowledge
	Design with bio-based materials as an	Select bio-based materials for the construction	Types of bio-based materials in construction
	alternative for conventional construction	project at hand	such as hemp, seaweed, cork, bamboo,
	materials	Consider the purpose of the building and the	sustainably sourced wood, agricultural residues
		context of the entire building solution, as well as	Advantages and disadvantages of biobased
		construction requirements	materials
		When biobased materials are not an option, select	Seven functional requirements of building walls
		low impact materials	Alternative forms of concrete
		Integrate use of the Material Circularity Indicator	
		(make sure it is not higher than X)	
		Ensure use of materials that have little to no	
		volatile organic cତିମ୍ନା୭୦୦୩୬୯୮(VOC) କାମାର୍ଟ୍ଟୋଡମନ	



Train the Trainers and Mentoring

- Train the trainers programme guide
- Mentoring programme guide
- Train the trainers (TtT) courses 3 at EU level, local TtTs in 5 countries
- Mentorings 30 in total (2 at EU level)







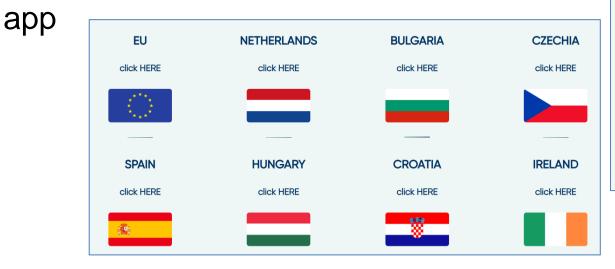


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Training materials

- Training materials for trainers
- National training packs (in national languages)
- EU training pack
- Circularity game
- Ozone game in BUILD UP Skills advisor



Materials for training of trainers: the following modules are intended as a bank of free training material that can be used and edited by trainers

- 1. Introduction to the Circular Economy (PDF click here)
- 2. Design and Implementation of Circular Practices (PDF click here)
- 3. Bio Based Material Use (PDF click here)
- 4. Retrofits, Upgrades, Repair and Maintenance (PDF click here)
- 5. Water in Design and Construction (PDF click here)
- 6. Energy in Design and Construction (PDF click here)
- 7. Digitalisation (PDF click here)
- 8. Material Impact Measurement and Reduction (PDF click here)
- 9. Waste in Design and Construction (PDF click here)
- 10. Deconstruction (PDF click here)
- 11. Circular Economy Principles Across the Value Chain (PDF click here)





Resources for the public sector

- Stimulating demand for circular construction skills - a guide for public authorities
- Training material for public procurers
- EU training pack

0	Introduction	Prevent construction waste by design	4	0
01	Offer internal training to your staff	Maintain, retrofit and refurbish	5	0
2	Engage your contractors	Include training clauses in tenders	6	0
0 3	Procure selective demolition and deconstruction services	Include circularity skills to recruit the design team for an urban project	7	0

Local policy levers to promote circular construction skills

1. Set targets in a circular economy strategy

2. Procure and own circular buildings

Provide internal training for practitioners and policymakers
Procure selective demolition, and deconstruction services
Prevent construction waste by design
Maintain, retrofit and refurbish
Include training clauses in tenders

3. Act as an economic developer

- 4. Provide financial incentives
 - Provide direct financial support

Provide financial and tax incentives

- Use European funding to invest in skills
- 5. Raise awareness and build capacity
- 6. Facilitate and promote networking
- 7. Plan for the long-term

Recommendations for local governments to promote circular construction skills







Application of the results

Final Executive Publishable Report – overview of results and their application

- Tools for training centers
- Tools for SMEs
- Tools for architects
- Tools for public authorities
- National implementations



Overview results the BUS-GoCircular results. The next page contains a summary for each result, followed by how they can be applied by SMEs, architects, training centres and public authorities Qualification Framework Fraining resource Framework for circular intervention Train the Trainer Skill need-analysis programme guide Circular construction skills Mentoring qualification framewor programme guide Free training material for Resources for the trainers: public secto National training packs Guidance EU training pack Training materials Circularity Games by **Circle Econom** Ozone game in BUS app





Thank you for your attention

Pavla Dvořáková

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