### ConstructSkills4LIFE facts

<table>
<thead>
<tr>
<th><strong>Title</strong></th>
<th>Rebooting the National Platforms for the development of construction skills for all life cycle phases of buildings in Hungary</th>
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<tbody>
<tr>
<td><strong>Lead beneficiary</strong></td>
<td>National building R&amp;D&amp;I institute: ÉMI Nonprofit Ltd. Quality Control &amp; Innovation in Buildings</td>
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<tr>
<td><strong>Duration</strong></td>
<td>01.10.2022-31.03.2024</td>
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</tbody>
</table>
| **Partners involved** | **Educational technology**: Geonardo Environmental Technologies Ltd. (GEO)  
**University**: Budapest University of Technology and Economics (BME)  
**Industrial Association**: Hungarian Coordinating Association of Building Engineering (MÉgKSZ)  
**Vocational Center**: Békéscsaba Center of Vocational Training (BSZC) |
Stakeholder groups

- educational institutions
- national authorities, policy makers
- associations
- NGOs
- chambers
- manufacturer, design & construction companies

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Project implementation

1. Digitalization
2. Education & workforce
3. Building technology

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From SQA to Roadmap

Status Quo Analysis
- Desk research
- 3 set of questionnaires (~250)
- Interviews (~30)
- Expert groups

Draft Roadmap’24
- 4 workshops
- 2 ministerial and 15+ bilateral discussion
- 1 conference

CS4L Roadmap’24
- + endorsement

BUSH’13 Roadmap
- 16 support measures
- 15 educational measures
- consortium + experts
Main technical areas of the Roadmap:
Construction in transition and development

- Energy Efficiency and Renewables
  - Diagnostic
  - Passive Energy Efficiency
  - NZEB Best practices, Dynamic EPCs
  - Staged renovation, Energy Efficiency first
  - Heat recovery ventilation
  - Waste heat, Energy Storage
  - VRH integration
  - Diversification/phase out
  - DHW challenges

- Life cycle approach
  - Circularity
  - Resource efficiency
  - Life-cycle carbon assessment
  - Decommissioning and end of life

- Focus on the occupants
  - Comfort/quality
  - Indoor Environmental Quality
  - Flexibility, mobility
  - Open office & home office
  - Self controlling, Automation
  - Co design, co creation
  - Citizens engagement

- Smart buildings
  - Interoperability
  - E-mobility
  - BEMS/HEMS
  - Measurements & Visualisation
  - Smart grid, SRI

- Digital constructions:
  - BIM
  - AVVR
  - 3D scanning
  - 3D printing
  - Digital twin

- Nature based solutions
  - Green roofs and facades
  - Open waterways
  - Nature based local materials
  - IAC, biomarkers

- Industrialization, quality workplace, qualified workforce
  - Pre fabrication
  - off-site manufacturing
  - Logistics of construction materials
  - Clean technology
  - Health & Safety
  - Robotics
  - Cross craft skills

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Drivers, challenges and opportunities in education

Digital construction:
- Digital Tools for survey, evaluate, design and operate buildings
- Services (databases, ontology, digitization of standards, semantic Web and artificial intelligence)
- Procedures and regulations on buildings and building materials (standards, legislation, regulations)

Training outcomes, microcredits, lifelong learning:
- Unification of systems based on task-based competencies (task-based ULOs)
- Knowledge, ability, language and social tool (competence cards, EU Skills Passport proposals)
- Train the trainers (extension of PPP and other constructions)

Linked frameworks to Education:
- Software and didactical capacities (student software, teaching methods and opportunities)
- Knowledge and mobility of students and professionals (Europass, Skills Passport etc.)
- Monitoring and adaptation opportunities in a digital learning ecosystem

Drivers and outlook
- Data driven construction
- Buildings observatory (service)
- Skills observatory (service)
- Single Digital Market
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Successful conference and two workshops
THANK YOU ON BEHALF OF THE CONSORTIUM

CONTACT:

Dorottya Hujber
ÉMI Nonprofit Ltd.
dhujber@emi.hu
www.emi.hu

Sára Hrabovszky-Horváth
BME
hrabovszky-horvath.sara@epk.bme.hu

Attila Zoltán
MÉgKSZ
attila.zoltan@t-online.hu
www.megksz.hu

Péter Gyuris
Geonardo
peter.gyuris@geonardo.com
www.geonardo.com

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