



**CONSTRUCT
SKILLS4LIFE**

Final Project Report

**Rebooting the National Platforms
for the development of construction
skills for all life cycle phases of
buildings in Hungary**



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The ConstructSkills4LIFE Project

Co-funded by the European Union under the LIFE programme, the aim of the **ConstructSkills4LIFE** project was to support the Hungarian construction sector by paving the way to upgrade the skillset of blue- and white-collar workers needed to reach the targets set by EU and national policies until 2030 concerning the **Hungarian building stock**.

The project emphasized a holistic approach focusing on a more intensified integration of digital technologies applicable in buildings,

improved process management and qualitative renovation practices, subsequently fostering stakeholder cooperation and entrepreneurship that results in a more sustainable built environment.

Building on the results of the implemented national BUILD UP SKILLS projects (BUSH, TRAINBUD, NEWCOM, TRAIN4SUSTAIN, BUSGoCircular) the Consortium revitalized the National Platform engaging relevant stakeholders from the construction industry, educational



institutions, policy makers, professional associations and market actors. The consortium conducted an up-to-date **Status Quo Analysis (SQA)** to have a clear picture of the current state of the Hungarian construction sector in relation to skill gaps of both blue- and white-collar workers, market demand and necessary measures to lead Hungary towards climate-neutrality. Based on the results of the SQA the Consortium and the Platform members jointly co-developed in form of participatory workshops **an upgraded Roadmap**

to provide an effective **strategy and recommendations** to tackle the challenges and foster development in the construction sector especially in clear energy transition, circular economy, digitalization and upskilling the sectors human capacity.

“

Building a sustainable future starts by equipping the workforce with the skills and knowledge to innovate responsibly. At ConstructSkills4LIFE, we believe that every construction project is an opportunity to create lasting positive change for our environment and communities. This is essential for Hungary to meet the 2030 EU climate and energy targets.

DOROTTYA HUJBER
Coordinator of the
ConstructSkills4LIFE project

”

Hungarian construction sector at a glance

The European Commission, recognizing the pivotal role of the construction industry in achieving climate neutrality and energy goals – set a **55-60% reduction in carbon dioxide emissions by 2030 and zero greenhouse gas emissions by 2050**. Hungary is currently facing a number of challenges in meeting this goal.

Approximately **70% of Hungary's building stock**, consisting of **4.2 million buildings**, requires **renovation**, and around **10%** of them are so **outdated** that new construction is necessary. Currently, buildings account for **40% of the total energy consumption in Hungary**, with heating and cooling contributing to about two-thirds of

that figure. Buildings are also the largest CO² emitters. Energy bills make up an increasing portion of households' and public institutions' budgets. Moreover, Hungary's heavy reliance on imported natural gas for heating purposes contributes to its significant import dependence, ranking among the highest in Europe. Given these circumstances and the substantial economic changes in the global landscape during the 21st century, **it is crucial for the Hungarian construction industry to enhance its productivity. This requires technological changes, digitalization, and the development of innovation skills within the workforce.**

How did ConstructSkills4LIFE contribute to the set out goals?

Participation of National platform members and other stakeholders

ConstructSkills4LIFE implemented a participatory approach as the foundation of its activities, aiming to facilitate successful professional dialogues with National Platform members and the inclusion of a wide range of stakeholders' inputs. Throughout the project, various methods were employed, including questionnaires, face-to-face interviews, expert group discussions, high-level consultations participatory roundtable discussions and conferences. These initiatives were specifically designed to ensure the direct and active engagement of all stakeholders as National Platform members.

The involved stakeholder organizations cover the following fields and areas:

- Regional and national authorities and policy makers: Involvement of Ministries, Chambers and other authorities responsible for educational institutions
- Educational institutions: vocational schools, higher education, universities, training providers covering level 1-8 of the Hungarian Qualification Framework (HuQF).
- Associations: covering different parts of the construction field (engineering, architecture, housing, etc.)
- Market actors: construction companies, dual educational partners, financiers



The Status Quo Analysis

ConstructSkills4LIFE first conducted a Status Quo Analysis - **Education and training of building professionals in Hungary**: *Status Quo Analysis on education and training of building professionals- skills needed to achieve the 2030 energy-efficiency and climate targets-* to assess whether blue- and white-collar professionals currently working in the construction industry, as well as those preparing to enter the job market, possess the necessary skills and knowledge to

meet Hungary's energy efficiency and decarbonization targets for 2030 and 2050. Additionally, by examining market demands and expert perspectives, the study aimed to identify occupations that are facing a substantial shortage of qualified professionals. In cooperation with the partners involved in the project and the experts invited by the ConstructSkills4LIFE project, the study assessed the changes that have taken place over the last decade.

Throughout the project over:



250

Questionnaire responses



3

Expert Groups



30

Interviews



3

Ministerial consultations



15+

Bilateral discussions



2

Conferences



4+1

Participatory workshops

.... took place.



90+

organizations



40+

endorsement letters



160+

attendees at events

.... reached.

The study encompasses three main objectives:



To provide an in-depth analysis of the wider context surrounding energy-efficient building renovations and construction, including near-zero energy buildings.



To identify skill gaps, evaluate challenges within the construction sector, draw conclusions, and propose initial recommendations.



To facilitate professional dialogue and foster partnerships, ensuring a comprehensive discussion among experts regarding the study's findings and identified gaps. This serves as the foundation for co-developing a National Roadmap.



Currently, the number of new entrants stands at 12,600. Based on expert projections, it is anticipated that 70% of these new entrants will be involved in housing renovation, equating to approximately 8,800 individuals.

Consequently, the disparity between the required and current number of graduates represents an additional demand of 4,800 professionals per year.

Regarding qualitative considerations the SQA found that higher education and VET schools need improvements in reaching required competence levels of professionals to meet 2030 targets:

Blue collar (Hungarian Qualification Framework 3-5 level): Adequate in renewable energy. Needs improvement in building

rehabilitation, historic building energy modernization, and nearly-zero energy buildings (nZEB) especially for electricians, HVAC technicians and automation technicians. Significant development and further training needed in circularity, digitalization (BIM), and smart solutions for all professionals. White collar (Hungarian Qualification Framework 6-7 level): Adequate in renewable energy, nearly-zero energy buildings, and digitalization (BIM). Needs improvement in building rehabilitation, historic building energy modernization, circularity, life cycle analysis, building rating systems, and smart buildings/cities. Main target professions for further training: electrical and energetics engineers.

The main conclusions of the Status Quo Analysis

Currently, the biggest obstacles to construction activities are the lack of orders and high inflation, followed by a **shortage of professionals and modern machinery**. In Hungary, the most needed occupations are carpenters, electricians, bricklayers, and building mechanics but there is also a need for more architects, mechanical engineers, and electrical engineers. This shortage is expected to worsen, as **retirements are projected to outnumber new entrants** into the construction labor

market by about 20,000 people in the coming years¹.

To achieve the strategic **target of 3% annual renovation** of residential buildings **by 2030**, an estimated **136,000 additional professionals** will be required over the next decade to engage in building renovation. This translates to approximately **13,600 new entrants to the workforce each year**, accounting for both recruitment and the continued employment of retired individuals.

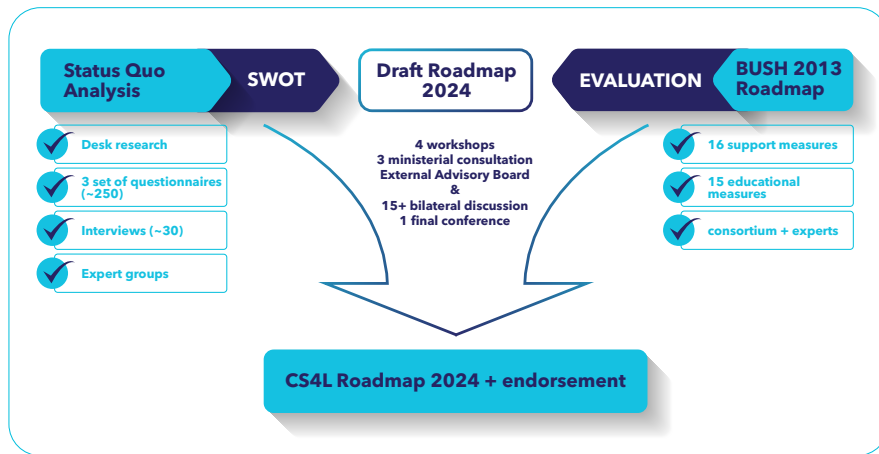
¹<https://evosz.hu/>



Drafting the National Roadmap



From SQA to Roadmap



Based on the results of the Status Quo Analysis, the consortium with the help of the expert groups **jointly developed an updated national Roadmap for 2030** to provide an effective **strategy and recommendations** for the identified challenges and foster development in the construction sector especially in clear energy transition, circular economy, digitalization and reskilling and upskilling of professionals. The Roadmap development was coordinated by the

ConstructSkills4LIFE consortium, and the measures described in the document were developed by partners in consultation with professional stakeholders participating in the National Platform through workshops and bilateral discussions. The priority actions of the project and the planned timeframe for their implementation were shared in consultations with the competent authorities and key stakeholders.

The main methodological steps for the preparation of the Roadmap:

- Development of the SQA report:
 - Literature search
 - Questionnaires and interviews
 - Expert group discussions
 - SWOT analysis
- Discuss the measures with the National Platform through **four workshops**
- Analysis and evaluation of the results of the Roadmap developed by the BUILD UP Skills Hungary (BUSH) project in 2013



In order to achieve the energy-efficiency and climate goals related to buildings set by the European Union and Hungary by 2030, the presence of a sufficient number of qualified professionals in the construction industry is essential. However, there are currently several challenges impeding this progress.

ConstructSkills4LIFE Status Quo Analysis





Workshop III.

The third workshop titled „Towards Climate Neutrality with a Focus on Adult Education,” was organized by the Hungarian Coordinating Association for Building Engineering at Hungarian Chamber of Engineers premises. It presented the opportunities, challenges, and highlighted necessary steps for adult education.



Workshop IV.

The fourth workshop Titled „Towards Climate Neutrality with a Focus on Vocational Training,” was organized by the Békéscsaba Center of Vocational Training. Representatives of vocational education and

training related to construction sectors showcased advancements from recent years and examined the necessary steps to ensure the availability of skilled professionals to meet the 2030 targets.



Final Roadmap Key measures

When defining the key areas of the **Roadmap 2030- Developing Construction Skills to Enhance the Sustainability of the Built Environment**, the project took into

account the societal needs and expectations, as well as the necessary developments, transformations, and restructuring of the construction industry.

“The primary objective is to achieve human-centered construction, operation, and demolition-recycling; promote innovative technical solutions; and unify digital transition, novel business models and construction processes.”

ConstructSkills4LIFE project National Roadmap

An additional workshop was organised together with the Association of the Hungarian building insulation, roofing, tinsmith, and carpentry trades. These events played a crucial role in shaping the ConstructSkills4LIFE Roadmap by

integrating suggestions from the National Platform’s collaboration and gaining widespread professional support. The Roadmap was showcased to stakeholders at the closing conference held in June 2024.

Based on these priorities, the ConstructSkills4LIFE Roadmap has defined **seven main technical areas**, which were integrated into the developed key measures (as shown in the diagram below), focusing on the following main technical areas:

- Energy Efficiency and Renewables,
- Life Cycle Approach,
- Focus on the Occupants,
- Smart Buildings
- Industrialization, Quality Workplace, Qualified Workforce,

• Nature-Based Solutions,
• Digital Construction.
Alongside acquiring knowledge and skills related to technology, educational and organizational areas are equally important. These revolve around **four main elements**:

- Digital Construction,
- Education,
- Training Outcomes, Microcredits, Lifelong Learning,
- Drivers and Outlook.

Based on the experiences of the project consortium their extensive professional network, the project was able to make a broad assessment of skill development tasks planned until 2030 and beyond.

As a result, a **comprehensive package of proposed measures were generated**, which not only addressed directly the content gaps in skill development but also extended to other necessary measures related to their outcomes.

The Roadmap distinguished **4 main groups of key measures**. These are:

A | Key measures for strategic and sector policies:

Proposed measures deal with the national legal environment, requirements and registration systems affecting the construction industry and its practitioners.

B | Key measures related to training programs:

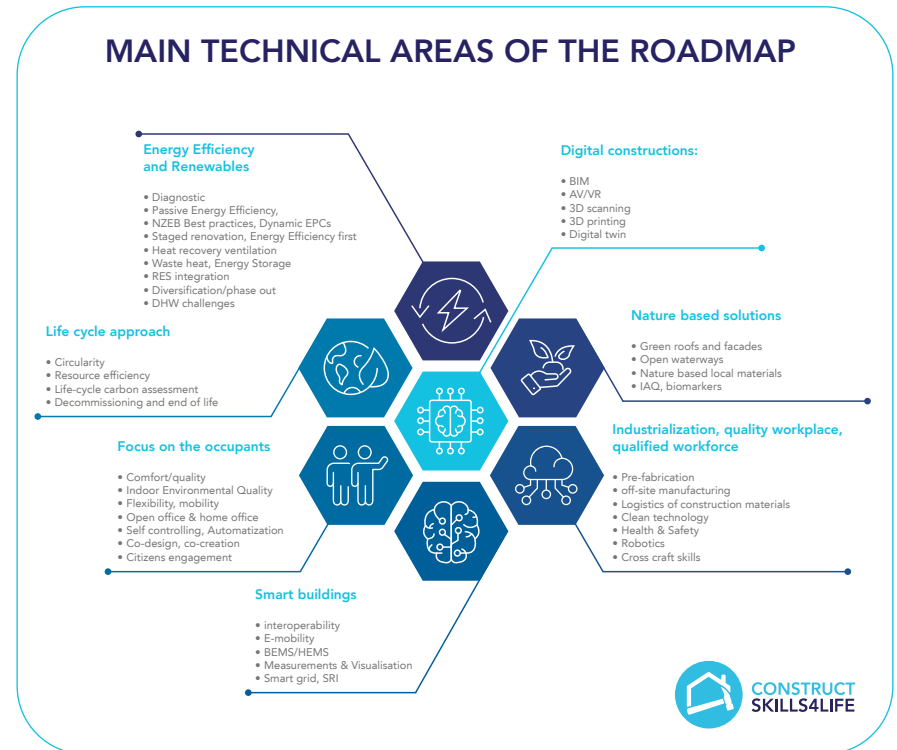
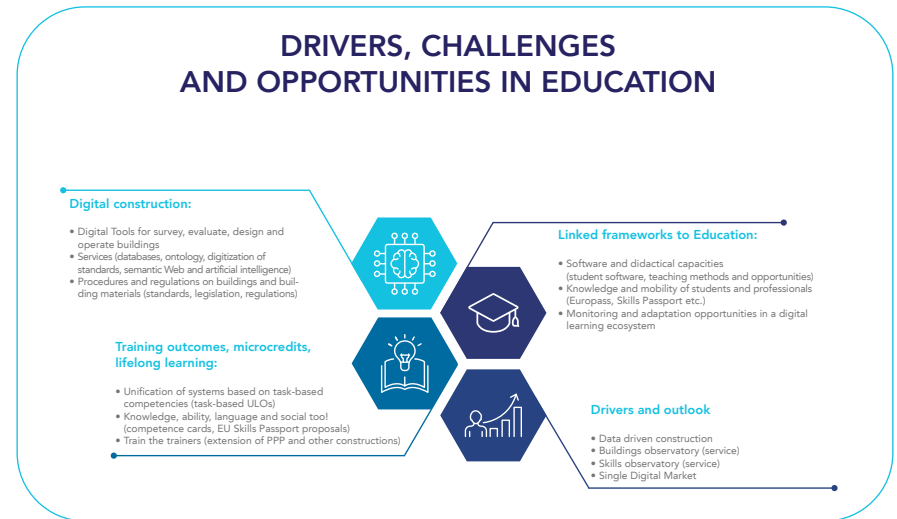
This is the main focus of the project, which includes measures related to the training and education issues of blue- and white-collar professionals, students and their teachers.

C | Key measures related to human resources:

It discusses the possibilities of motivating people. It aims to encourage both young people who are about to choose a career and professionals seeking further training. It also includes women's participation and measures for the possible retraining of workers in certain fossil-fuel-related industries.

D | Key measures in the economic and financial domain:

Includes financing issues complementing training programmes.



A significant objective in defining the measures was to align with the programs and objectives of the European Union.

The proposed measures can be found in the Roadmap in detail. A summary is presented below.

Proposed measures of the National Roadmap

Introducing innovative elements into training	
B.5	Organising and supporting competitions at all levels
B.5.1	Organising and supporting professional implementation excellence competitions at HuQF level 3-5
B.5.2	Organising and supporting of competitions at HuQF level 6-7
B.6	Introduction of interdisciplinary programs and more flexible courses
Life Long Learning	
B.7	Training of trainers
B.7.1	Training of trainers at HuQF level 3-5
B.7.2	Training of trainers at HuQF level 6-7
B.8	Non-marketing communication training
B.9	Occasional professional development courses HuQF level 3-8
Human resources measures (C)	
C.1	Awareness raising
C.2	Motivating further and postgraduate courses
C.3	Measures to promote women's participation
C.4	Promoting career guidance for young people HuQF 1-6
C.5	Demographic overview of workers in fossil fuel industry, assessment of skills and planning their integration into the construction industry
C.6	Involvement of construction companies in career guidance tasks
Economic and financial measures (D)	
D.1	Financing trainings in adult education and training
D.2	International Mobility Programme for teachers and trainers

Policy and strategic measures (A)	
A.1	Development of the Hungarian Construction Industry Sustainable Requirements System
A.2	Stabilisation of the legislative environment
A.3	Definition of compulsory qualifications
A.4	Graduate Career Tracking System for the construction sector
A.5	Review of the entitlement system
A.6	Inventory of the built environment
A.7	Development of construction careers
A.8	Complex registration system in the construction industry
A.9	Skills and competence development website
Measures for training programmes (B)	
Quantity and quality of expertise at all levels	
B.1	Revision of the curriculum (training and learning outcome requirements) at all levels
B.1.1	Revision of the curriculum at HuQF level 3-5
B.1.2	Revision of the curriculum at HuQF level 6-7
B.2	Development of (further) training programmes for sustainability in the construction sector at all levels
B.2.1	Development of (further) training programs at HuQF level 3-5
B.2.2	Development of (further) training programs at HuQF level 6-7
B.3	Training of building operators and the public
B.4	Promoting the digital construction industry

Conclusion and next steps

The Roadmap is addressed to all actors and organisations that have the potential to contribute to overcoming the obstacles and skills gaps identified. The consortium members and other relevant organizations involved in the education and training of construction professionals formulated proposals to support the Roadmap in accordance with their role and opportunities in the construction sector ecosystem. Endorsement letters have been provided by approx. 40 organisations including the Ministry of Construction and Transport as well as the Ministry for National Economy. The project partners together with the endorsing organisations are committed to continuing their collaboration beyond the closure of the project, driven by their shared belief in the necessity of sustaining the results achieved. The ConstructSkills4LIFE project is aiming to trigger further impacts therefore continuous cooperation of the partners is envisioned seeking

opportunities to implement the proposed measures of the Roadmap. Continuous dialogue with the stakeholders and flexible adaptation to new challenges are also essential. The work done by the ConstructSkills4LIFE project is an important milestone on the way to achieving the Hungarian energy and climate goals in the building sector by 2030 and beyond. Collective further steps need to be made to reach our goals and the goals set by the European BUILD UP Skills Initiative.



As we look to the future, our commitment to a more sustainable Hungarian construction sector is unwavering. We hope that with the commitment of our stakeholders, the ConstructSkills4LIFE National Roadmap report and its proposed key measures will greatly support in shaping this future and in reaching Hungary's climate and energy targets by 2030.

Consortium of ConstructSkills4LIFE project



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ÉMI Llc for Quality Control and Innovation in Building is Hungary's largest complex building and construction materials industry approval, testing, inspection, certification body. It creates a bridge and enables active cooperation between the construction industry, building material manufacturers from large industry to SMEs through municipalities and private clients and the national policy makers.

www.emi.hu

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The Budapest University of Technology and Economics was founded in 1782 and is one of the major Technical Universities in the region with 8 faculties and 76 departments, Department of Building Constructions is determinant in the contemporary Hungarian architecture.

www.epszerk.bme.hu

Role: Status Quo Analysis



Geonardo Ltd. is an innovation and technology company active in the energy, environment and sustainable development fields. Geonardo provides research, innovation and consultancy services and cutting-edge solutions in the renewable energy, resource efficiency, climate change and natural resources sectors

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Békéscsaba Center of Vocational Training was established through the merger of 8 Békés County's long-standing vocational institutions. It provides education and training in form of technicum and vocational school for students and adult learners.



Hungarian Coordinating Association for Building Engineering is a national umbrella associations involving foundations, university faculties and VET related organisations in the field of building engineering services, It represent the interest of its over 40 members.

www.megksz.hu

Role: Roadmap

Further information

More details on BUILD UP Skills can be found at <https://build-up.ec.europa.eu/en/bup-skills>

More details on the LIFE CET programme can be found at https://cinea.ec.europa.eu/programmes/life_en



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