



# **BUILD UP SKILLS EVENTS**

**Leveraging the skills of building professionals to deliver on the European Green Deal – 09/12/2020**

**12th BUILD UP Skills European exchange meeting – 10/12/2020**





## BUILD UP SKILLS EVENTS

**Leveraging the skills of building  
professionals to deliver on the  
European Green Deal – 09/12/2020**

**12th BUILD UP Skills European  
exchange meeting – 10/12/2020**

# Contents

<b>Leveraging the skills of building professionals to deliver on the European Green Deal.....</b>	<b>3</b>
About this event.....	3
Programme.....	4
Opening and welcome .....	5
Policy panel discussion .....	6
Break-out session: Boosting demand for skilled building professionals .....	10
Session 1: Skilled professionals constructing and managing highly efficient buildings.....	10
Session 2: Skilled professionals delivering high-quality renovations.....	12
Highlights from the break-out session and discussion.....	15
Panel discussion and conclusions .....	18
<b>12th BUILD UP Skills European exchange meeting .....</b>	<b>19</b>
About this event.....	19
Programme.....	20
Introduction.....	21
Key messages .....	21
Blueprint for sectoral cooperation on skills in the construction sector: how to create synergies with BUILD UP Skills.....	25
Break out sessions .....	26
Group 1a: harvesting training resources within BUILD UP Skills and beyond .....	26
Group 1b: measures to boost the demand for skilled professionals – what are the specific challenges?.....	28
Group 2a: leveraging BIM for energy-efficient buildings.....	30
Group 2b: how do we go about alignment and recognition of learning outcomes? .....	33
Conclusions .....	35
<b>Annexes .....</b>	<b>39</b>
Annexe 1: speakers biographies .....	40
Annexe 2 : Poll results .....	50
Annexe 3 : Leveraging the skills of building professionals to deliver on the European Green Deal – Participants .....	73
Annexe 4 : 12th BUILD UP Skills European exchange meeting – Participants.....	79

# Leveraging the skills of building professionals to deliver on the European Green Deal – 9/12/2020

## About this event

This event organised with the Executive Agency for Small and Medium-sized Enterprises (EASME) aimed to provide an opportunity for an exchange of views between stakeholders and EU policymakers on the role of skilled building professionals in delivering the European Green Deal, in particular the so-called 'renovation wave' of public and private buildings.

A policy panel took stock of the progress achieved and efforts needed towards the 2030 targets.

Parallel sessions discussed the role of skilled professionals in constructing and managing highly efficient and more digitalised buildings and delivering high-quality renovations.

Panel discussions investigated the way forward, in particular how the contribution of skilled building professionals can be made more visible and valued by the market.

Due to the COVID-19 pandemic, the event was organised fully online as a web-streaming.

In total, 199 people registered for the event (see annexes). The main room (plenary) was reached by 237 viewers, session 1 ('Skilled professionals constructing and managing highly efficient buildings') was reached by 46 viewers and session 2 ('Skilled professionals delivering high quality renovations') by 79 viewers.

There were two reasons for this: first, some participants shared the links with other people, and secondly, some viewers had to reconnect.

# Programme

## Draft Programme

**09:00 – 09:15** **Opening and welcome from the Executive Agency for Small and Medium-sized Enterprises (EASME)**  
**Gordon SUTHERLAND**, Head of Sector – Buildings/Heating & Cooling, Executive Agency for Small and Medium-sized Enterprises (EASME)

---

**Policy panel discussion:**

**Anita DERJANECZ**, Managing Director, REHVA, Federation of European Heating, Ventilation and Air-conditioning Associations

**09:10 – 10:15** **Silvia REZESSY**, Policy Officer, Directorate-General for Energy  
**Roman HORVATH**, Policy Officer, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs ;  
**Josefina LINDBLOM**, Policy Officer, Directorate-General for Environment ;  
**Felix ROHN**, Policy Officer, Directorate-General for Employment, Social Affairs and Inclusion

---

**10:15 – 10:30** **Break – including projects' feature**

---

**10:30 – 11:30** **Break-out session: boosting demand for skilled building professionals**

---

**Session 1: Skilled professionals constructing and managing highly efficient buildings**

Speakers:

**Cédric DE MEEÛS**, Head of Public Affairs, LafargeHolcim

**Lara PAEMEN**, EMEA Director, International Facility Management Association (Europe), IFMA

*Followed by Q&A*

**Session 2: Skilled professionals delivering high quality renovations**

Speakers:

**Emmanuelle CAUSSE**, Secretary General, International Union of Property Owners, UIPI

**Richard BAYLISS**, Sustainability & Innovation Strategy, Construction Industry Training Board for England, Scotland and Wales, CITB

*Followed by Q&A*

---

**11:30 – 11:45** **Break – including projects' feature**

---

**11:45 – 12:30** **Highlights from the break-out session & discussion**

---

# Opening and welcome

## Gordon Sutherland, Head of Sector – Buildings/Heating & Cooling, Executive Agency for Small and Medium-sized Enterprises (EASME)



Mr Sutherland welcomed participants to this BUILD UP online event and gave a brief outline of the **BUILD UP Skills initiative**. The initiative emerged from the realisation that transforming Europe's building stock requires skilled professionals. Launched in 2011, it has received some EUR 45 million in European funding to date.

**A variety of skills are required for renovations, the construction of nearly zero-energy buildings (nZEBs) and the sector's transition towards digitalisation of the building stock.** Key target groups include building professionals, public authorities, building owners and tenants. Some 32 countries have already been involved, 64 projects have been finalised and 9 projects are ongoing.

The first phase of the initiative involved funding national projects, which gathered key stakeholders in the frame of national qualification platforms. The platforms worked on identifying skill gaps (status quo analysis) and developed national roadmaps. Based on these roadmaps, qualification and training schemes were developed, leading to more than 8 500 professionals being trained and 805 courses developed.

The initiative was upscaled under Horizon 2020, mainly through multi-country projects addressing professionals along the building value chain. **While manufacturing companies can develop innovative technologies and energy-efficient designs, investments will be lost if these cannot be properly implemented by qualified professionals in construction or renovation projects.**

Another key aspect is to boost the demand for skilled professionals and ensure they are visible and recognised on the market. Projects recently funded under BUILD UP Skills are focusing on trigger mechanisms, such as one-stop shops, subsidies, awareness campaigns and supporting public authorities with skills-based procurement.

**Phase 3: upscaling under Horizon 2020 (2014-2020)**

- Horizon 2020 Societal Challenge 3
- Mostly multi-country projects
- Addressing all professionals of the building value chain
- Emphasis on digital related skills (May 2019 [workshop](#))
- Boost demand for skilled professionals

**25 000** professionals to be trained and qualified in Europe

European Commission

# Policy panel discussion

**Anita Derjanecz, Managing Director, REHVA, Federation of European Heating, Ventilation and Air Conditioning Associations**



Ms Derjanecz delivered a keynote speech focusing on closing the performance gap by upskilling building professionals. Key challenges include ensuring that buildings are energy efficient, sustainable and connected. It should be remembered that buildings are there for people. **The renovation wave presents an excellent opportunity to focus on the entire life cycle of the construction process.**

The performance gap, which describes the difference between design and actual performance, is linked to skills. The reasons why performance gaps occur include the fact that different stakeholders are involved in fragmented processes, each with different competences. **There is often no continuity between construction and operation.**

Potential solutions include the incorporation of advanced technologies, the integration of complex systems and new digital skills. End-users should be involved in the design stage. One key challenge is that the construction value sector is highly fragmented, with independent life-cycle monitoring at different stages. Silos between education and policy-making must also be broken down.

The construction industry needs to be more attractive to young professionals and STEM students. Harmonised qualification and certification schemes would help in this respect. Digitalisation-related skills are also critical, for example in the installation of technologies such as heat pumps.





**Silvia Rezessy, Policy Officer, Directorate-General for Energy, European Commission**



In her overview of the policy development context, Ms Rezessy explained what her DG is doing to put building renovation in the spotlight. The need to move towards climate-neutral building stock has been recognised for some time, and the shortage of a skilled workforce was repeatedly raised as a major barrier in the stakeholder consultation process for the preparation of the Renovation Wave Strategy. The time to act is now as a labour force impacted by the COVID-19 crisis could be upskilled and reskilled for the construction sector. **The skills shortage underpins other structural problems in construction**, such as complexities in the renovation journey (planning works, sourcing and project management, etc.) which has resulted in a lack of trust in the benefits of building renovations.

The Renovation Wave Strategy seeks to harness political action towards building renovation, ensuring building stock is fit for a green digital society and can contribute towards a sustainable economic recovery. **The strategy encourages life-cycle thinking, circularity and respect for environmental and health standards.** It aims to unleash efforts at all levels of governance to renovate stock at a faster rate and to higher standards.

The European Commission will continue to work with Member States through the Skills Agenda, the Pact for Skills and through the relevant legal provisions in the Energy Efficiency Directive, the Renewable Energy Directive and the Energy Performance of Buildings Directive, all of which are currently under revision.

**Roman Horvath, Policy Officer, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, European Commission**



Mr Horvath provided a more global view of Commission initiatives designed to encourage sustainable growth and investment in the future. The construction sector is critical to many of the challenges facing Europe, and directly impacts the daily life of citizens. **Achieving carbon neutrality by 2050 will require sectoral transitions, and human capital will be critical in this.**

The Blueprint for sectoral cooperation on skills, a project running for four years and led by stakeholders, is an example of a Commission initiative to boost skills. It brings together businesses, trade unions, education providers and other stakeholders to map skill needs and to identify gaps. If training schemes are found to be insufficient, for example, then new ones can be proposed.

**European Commission President Ursula von der Leyen once noted that the best investment in our future is investment in our people.** Funds and tools must be used to meet this aspiration.



### Josefina Lindblom, Policy Officer, Directorate-General for Environment, European Commission

The importance of skills and training to the Renovation Wave Strategy was also highlighted by Ms Lindblom. **One challenge is that concepts, such as the building life cycle, can be interpreted differently.** A key aim therefore is to bring concepts like this into the mainstream. The Level(s) framework, which provides a set of common indicators and metrics for measuring the environmental performance of office and residential buildings, looks at issues such as life cycle and circularity.

Working together along the value chain is critical, in part because there are so many kinds of professionals involved in construction. Many issues could be improved through better collaboration, including reuse, recycling and all aspects of improving life-cycle performance. Architects, builders, craftsmen, recycling firms and product manufacturers must all be involved.

**There is also a need for education on the demand side, and training should be made available for public authorities.** Furthermore, Member States must move beyond energy auditors towards carbon auditors and consider the whole carbon life cycle.

### Felix Rohn, Policy Officer, Directorate-General for Employment, Social Affairs and Inclusion, European Commission

Mr Rohn discussed Commission policies designed to facilitate green and digital transitions. **While the COVID-19 pandemic has accelerated these transitions, it has also revealed limits to our preparedness for crises.** Many workers lack strong digital skills, which is why the updated Skills Agenda is so important. Construction is also one of the industrial ecosystems identified in the Commission's new industrial strategy.



Since the pandemic, the Skills Agenda has been redrafted to emphasise the need for resilience and recovery. It provides a framework for Member States to unlock the potential of the **Recovery Plan**. **Skills are critical to sustainable growth and social fairness**, and a key focus of the Agenda is skilling for a job throughout life.

The Skills Agenda is built around 12 flagship actions, the first of which – the Pact for Skills – provides the framework within which the other 11 actions can be implemented. Companies can join individually or as partners to form regional networks, to mobilise efforts to boost investment and skills.

## Panel discussion

In response to questions on sustainability, Ms Rezessy noted that **the Renovation Wave Strategy provides an integrated vision of building renovation that focuses on the 'energy efficiency first' principle, affordability, decarbonisation and the integration of renewables and, very importantly, life-cycle thinking and circularity and high environmental, health and architectural quality to tackle the twin challenge of green and digital transition.** It will deploy actions in the seven aforementioned areas. The Commission is also looking at legislation to see how it can be updated to fit today's challenges.

To achieve rapid upskilling, Mr Rohn said that the education and training sector (E&T) must work closely with labour market actors, such as social partners. **E&T needs to know from the labour market exactly what skills are needed.** E&T providers, however, must have some degree of autonomy to be able to react to labour market needs rapidly. While E&T is a Member State competence, E&T actors can nevertheless cooperate across borders to facilitate convergence of curricula and mobility for learners.



# Break-out session: Boosting demand for skilled building professionals

## Session 1: Skilled professionals constructing and managing highly efficient buildings

Amandine Lacourt, Project Adviser, EASME

Ms Lacourt opened the first break-out session, observing that the **European building sector is going through a double transition – decarbonisation, and digitalisation**. This is changing the way we design, construct and operate buildings. From 2021, all new buildings will have to be nearly-zero energy (NZEBs), which will require more and more qualified people. This session explored current challenges in upskilling along the value chain, focusing on two key actors – product manufacturers and building managers.

Cédric de Meeûs, Head of Public Affairs, LafargeHolcim

Mr de Meeûs provided an industrial perspective of upskilling, noting that the sector is driven by the external environment. The transitions will not change the purpose of construction, which is to provide shelter, connect communities and deliver architectural landmarks. It is the 'how' that will change.

Key to this transition is collaboration along the value chain and the development of soft skills. Technical skills are necessary to use new materials, along with an understanding of the entire construction cycle. **A key obstacle to building a skilled workforce is the sector's lack of attractiveness. An EU-wide campaign is required to lift the image of the building sector, aimed in particular at the younger generation.** The message to convey is that this is a low-carbon, circular, digital and essential sector.

Other priorities include working with local authorities to increase skills in planning/housing and linking the public procurement agenda to skills and learning. The Skills Agenda should be embedded within public procurement, while better data on training would also help.

An example of value-chain fragmentation is the lack of demand for a carbon-neutral concrete product. The business case for this has yet to be made. **If the zero-carbon transition is to be successful, then life-cycle analysis needs to be part of public procurement.** It must also be understood that a diversity of skills is required along the value chain.



While the attractiveness of the sector is the most salient point when it comes to the skills shortage, the lack of clarity about future technologies and investments is also a constraint.

### Lara Paemen, EMEA Director, International Facility Management Association (Europe), IFMA



Ms Paemen explained that facility management is a diverse, complex profession which focuses on integrating people, places and processes within the built environment. It has evolved from a purely technical profession to a more strategic one. The **IFMA** has developed three internationally recognised credential programmes: Facility Management Professional, Sustainability Facility Professional, and Certified Facility Manager.

**While facility managers are responsible for 80 % of the total life-cycle costs of a building, their role is often neglected or forgotten.** There is little awareness of their impact within the built environment and what they can do for energy performance. At the same time, advanced technical knowledge is required as buildings become smarter. The danger is that a lack of skilled facility managers will result in buildings not being properly maintained.

**Facility management needs greater recognition as a career choice. Investment is needed in formalised training programmes.** Other recommendations include an online self-assessment tool with links to professional training, and the inclusion of skilled facility management professionals in public procurement. Whilst the profession is advanced in Member States such as the Netherlands, this is not the case in others. The sharing of best practices can help to better align competence levels.

## Panel discussion

Mr de Meeûs stressed the importance of better integrating the construction value chain. In this way, product manufacturers will become less like commodity providers and more like project partners. Ms Paemen said that **involving facility managers at the design stage would be helpful, as they are the ones who will have to manage buildings throughout their lifetime.** There needs to be greater recognition for facility managers.

Ms Lacourt mentioned the existence of pilot public procurement projects that are developing skills clauses. These projects will help to reveal what is feasible in this field and the results will feed back to policymakers.

**Mr de Meeûs stressed the importance of soft skills training along the value chain,** noting that while carbon pricing is a major issue for manufacturers, it might not be something that architects take into account. Training could be helpful in explaining the regulatory environment some sectors are facing.

## Session 2: Skilled professionals delivering high-quality renovations

### Luca Angelino, Project Adviser, EASME

Mr Angelino opened the second break-out session by noting that the Renovation Wave Strategy points out that the transition to carbon-neutral building stock requires a qualified workforce, including those equipped with digital and circular skills, and that new job profiles must emerge.

### Emmanuelle Causse, Secretary General, International Union of Property Owners, UIPI panel discussion

Mr Causse outlined the concerns of property owners when it comes to renovation. These include upfront financing, return on investment, disruption, the need for reliable experts, a lack of knowledge, and consumer acceptance. **These concerns reveal the skills required over and above technical skills.**

For example, professionals need broader knowledge about holistic renovation, financing tools, and digital and communication skills.

When it comes to choosing professionals, homeowners prioritise reliability and established trust. They also value quality and price, proximity, timing deadlines and technical competence. It is important to note that certification appears not to be a priority for most end-users. Factors that can influence the selection of professionals include legal obligations to hire a certified professional as well as incentives like grants and tax breaks.



In this context, one-stop shops that offer one point of contact are a practical solution for end-users. They provide technical knowledge, pair skills, coordinate renovation, manage administrative burdens and can offer quality control. Other practical solutions include renovation platforms and peer-to-peer reviews that connect with local skilled services.

Key recommendations for policymakers include continuing to support awareness-raising among final decision-makers, promoting collaboration between actors, and scaling up one-stop shops.



### Richard Bayliss, Sustainability and Innovation Strategy, Construction Industry Training Board for England, Scotland and Wales

Mr Bayliss said that the construction sector increasingly sees decarbonisation as a market opportunity, and that customers are becoming more aware of the need to transition. The first key challenge to the upskilling of professionals and to the creation of new job profiles in this transition is competition for talent with other sectors involved in the energy transition. Technical skills are needed, along with a broader range of skills and a change in culture. However, the sector suffers from low appeal and poor diversity.

A second challenge involves defining the skills required. Green jobs are increasing in importance, and career pathways need to be defined for retrofitters, installers, and those with knowledge of modern methods. Upskilling in digital skills and systems thinking is necessary across the construction sector. A final challenge involves sustaining training without immediate demand. This requires upfront investment and a planned approach to skills provision.

Policymakers must now focus on the future potential to drive demand for skills. Consistent messages will give industry confidence to invest in skills. Technical standards across the board are required for retrofitting work, with clear definitions of competences. Training capacity must be built balancing immediate and future needs.



## Panel discussion

In response to a question on training workers in specialised skills, Mr Bayliss highlighted the UK's Supply Chain Sustainability School. Technical training is complex and intensive.

Questions from the floor touched upon the type of skills gaps that must be filled for professionals to deliver and perform, as well as the need for communication and digital skills. Mr Angelino said that a key takeaway was the need for a full set of skills to enable professionals to deliver on their objectives.

**Key policy recommendations include consistent regulation and incentives around renovation from the public sector, especially at the local level, and the importance of technical standards for whole property retrofit work ensuring that these include clear and measurable definitions of the competencies required.** A planned approach to training is also needed, while platforms like one-stop shops can support clients. There was broad agreement on these recommendations, but also acceptance of the challenges surrounding their implementation.

Ms Causse noted that while there was a trend away from grants, some kind of grants and tax incentives will be needed to promote energy efficiency among end-users. Deeper renovations can have more of an impact. In response to a question on cross-trade skills, Mr Bayliss agreed that industry was too fragmented. **There should be a focus on encouraging supervisory skills and employing coordinators who can join up the dots.** This is also a question of cultural change. Both Ms Causse and Mr Angelino agreed on the need for a more holistic approach that integrates all services.



# Highlights from the break-out session and discussion

Ms Lacourt delivered conclusions from the first break-out session, which looked at the challenges of upskilling in construction and building management. **These multifaceted challenges require new technical skills as well as soft communication skills.** This point was highlighted by both session speakers.

**Whilst understanding the role of facility managers is defined differently across Europe, the profession is critical to realising a building's full potential.** Solutions include accreditation programmes and integrated training. Soft skills are necessary to ensure communication throughout the value chain.

Key recommendations included:

- ▶ An EU-wide campaign, aimed at the younger generation, to lift the image of the building and construction sector
- ▶ Creation of a public awareness campaign to make facility management a career of choice
- ▶ A programme with local authorities to increase skills in planning/housing departments, and linking public procurement to skills and learning
- ▶ Obligation to include skilled professionals when answering public tenders
- ▶ Better data on skills gaps at the EU level
- ▶ Invest in the deployment of formalised training programmes and online assessment tools.

Mr Angelino summarised the main discussion from the second break-out session, which focused on how to deliver the skills needed for renovation and how to boost the confidence of end-users. Key challenges include the fact that **supply-side demand for training remains low, which makes it difficult for the industry to justify investing in training.** Construction also faces competition for talent from other sectors.

Solutions include investing in skills now, despite the low demand. A transition mindset must be developed, and one-stop shops really can help. **The Commission can contribute by upscaling and piloting renovation projects.**

Key recommendations included:

- ▶ Establishing stable and consistent incentives and regulation for renovation at the local level
- ▶ Sponsoring the development of technical standards for whole property retrofit work, ensuring clear and measurable definitions
- ▶ A planned approach to skills provision, ensuring professionals develop comprehensive skills, including soft skills
- ▶ Developing awareness among final decision-makers about the importance of skills
- ▶ Facilitating partnerships between professional organisations and property owners, and scaling up one-stop shops
- ▶ Integrating services, trades, and competences.
- ▶ Participants were asked to rank these proposals through Slido (see annex 2).

For session 1, the participants considered the following policy recommendations as the most important:

- ▶ Programme with local authorities to increase skills in planning / housing departments and link the public procurement agenda to skills and learning -59%
- ▶ Invest in the deployment of formalized training programs to effectively bridge the gap in the building sector - 55%
- ▶ Improve data at EU level: skills maps, skill impact analysis, completion mechanisms, etc. - 52%
- ▶ EU-wide campaign to lift the image of the building & construction sector (aimed at the younger generation) – 52%
- ▶ Create an Online Self-Assessment Tool with links to professional training -34%
- ▶ Create a public awareness campaign to make Facility Management the career of choice -14%
- ▶ Make Facility Manager a chartered profession - 7%

For session 2, the participants considered the following policy recommendations as the most important :

- ▶ Raise awareness among final decision-makers about the importance of skills (50%)
- ▶ Establish stable and consistent incentives and regulation for renovation at a local level (47%)
- ▶ Scale-up one-stop-shops (47%)
- ▶ Sponsor the development of technical standards for whole property retrofit work and ensure that these include clear and measurable definitions of competencies needed (41%)
- ▶ Ensure professionals develop comprehensive skills, including soft skills (41%)
- ▶ Adopt a planned approach to skills provision to balance immediate with future needs (34%)
- ▶ Facilitate partnerships between intermediaries/representatives (e.g. professional organisations and property owners organisations) (22%)

## Panel discussion and conclusions

Mr Sutherland noted that the solutions and recommendations identified by stakeholders would now be reflected upon by policymakers. **Key takeaways included the added value of communication among different actors along the building value chain, the role of one-stop shops, the importance of skills-based procurement as well as the importance of formalised trainings and soft skills.**

Ms Lacourt said that the discussions confirmed we are on the right track. Mr Angelino stated that he expected ongoing projects to provide useful evidence of the impact of employing highly skilled professionals on energy efficiency in buildings and new instruments to boost demand. Mr Sutherland concluded by saying it would be worthwhile to update the skills roadmaps developed in the first phase of BUILD UP Skills and he noted that targeted Commission-supported training is available on issues such as heat pumps.

The BUILD UP Skills initiative can play a key role in delivering a decarbonised building sector. Ongoing discussions on the next **Multiannual Financial Framework (MFF)** will provide greater visibility on future funding opportunities. It is expected that market uptake activities previously funded under Horizon 2020 will continue under the new Clean Energy subprogramme within the EU's **LIFE programme**.



# 12th BUILD UP Skills European exchange meeting – 10/12/2020

## About this event

The 12<sup>th</sup> edition of the BUILD UP Skills European exchange meeting gathered together participants from EU-funded projects addressing the upskilling of building professionals.

These European exchange meetings have been held since the early days of the BUILD UP Skills initiative, which began in 2011. They aim to create a forum for exchange on common challenges and good practices in an effort to advance the skills agenda in the field of energy-efficient buildings.

Ninety-five people registered for the event (see annexes). The main room (plenary) was reached by 187 viewers, session 1 (corresponding to sessions 1a and 2a of the agenda) was reached by 120 viewers and session 2 (corresponding to sessions 1b and 2b of the agenda) by 115 viewers. There were two reasons for this: first, some participants shared the links with other people, and secondly, some viewers had to reconnect.

# Programme

<b>Part 1</b>	<b>09:00 – 09:15</b>	<b>Introduction</b> <b>Gordon SUTHERLAND, Head of Sector</b> – Buildings/Heating & Cooling, Executive Agency for Small and Medium-sized Enterprises		
	<b>09:15 – 10:45</b>	<b>Key messages:</b> <b>How to effectively communicate your project’s results: Gordon Sutherland, Head of sector</b> – Buildings/Heating & Cooling, Executive Agency for Small and Medium-sized Enterprises (EASME) <b>Projects delivering impact: how to define your impact monitoring and reporting strategy: Christof MARX, Senior Project Advisor EASME, 15 min + 10 min Q&amp;A;</b> <b>Horizon 2020 legal and financial management: Sylvia BORRI, Senior Project Advisor EASME, 15 min + 10 min Q&amp;A</b>		
	<b>10:45 – 11:00</b>	<b>Blueprint for sectoral cooperation on skills in the construction sector: how to create synergies with BUILD UP Skills</b> <i>Roman Horvath, Policy Officer, European Commission, Directorate General Internal Market, Industry, Entrepreneurship and SMEs</i>		
	<b>11:00 – 11:30</b>	<b>Break – featuring project pitches</b>		
	<b>11:30 – 12:30</b>	<table border="1"> <tr> <td> <b>Group 1a: harvesting training resources within BUILD UP Skills and beyond</b> <ul style="list-style-type: none"> <li>• Presentation by Jan Cromwijk, ISSO: the Build Up Skills Advisor App &amp; PROF/TRAC database</li> <li>• Interactive part</li> </ul> <i>Rapporteur:</i> <b>Amandine DE COSTER-LACOURT, EASME</b> </td> <td> <b>Group 1b: measures to boost the demand for skilled professionals – what are the specific challenges?</b> <ul style="list-style-type: none"> <li>• Presentation by Agnieszka KOWALSKA, ASM: INSTRUCT project</li> <li>• Interactive part</li> </ul> <i>Rapporteur:</i> <b>Luca ANGELINO, EASME</b> </td> </tr> </table>	<b>Group 1a: harvesting training resources within BUILD UP Skills and beyond</b> <ul style="list-style-type: none"> <li>• Presentation by Jan Cromwijk, ISSO: the Build Up Skills Advisor App &amp; PROF/TRAC database</li> <li>• Interactive part</li> </ul> <i>Rapporteur:</i> <b>Amandine DE COSTER-LACOURT, EASME</b>	<b>Group 1b: measures to boost the demand for skilled professionals – what are the specific challenges?</b> <ul style="list-style-type: none"> <li>• Presentation by Agnieszka KOWALSKA, ASM: INSTRUCT project</li> <li>• Interactive part</li> </ul> <i>Rapporteur:</i> <b>Luca ANGELINO, EASME</b>
<b>Group 1a: harvesting training resources within BUILD UP Skills and beyond</b> <ul style="list-style-type: none"> <li>• Presentation by Jan Cromwijk, ISSO: the Build Up Skills Advisor App &amp; PROF/TRAC database</li> <li>• Interactive part</li> </ul> <i>Rapporteur:</i> <b>Amandine DE COSTER-LACOURT, EASME</b>	<b>Group 1b: measures to boost the demand for skilled professionals – what are the specific challenges?</b> <ul style="list-style-type: none"> <li>• Presentation by Agnieszka KOWALSKA, ASM: INSTRUCT project</li> <li>• Interactive part</li> </ul> <i>Rapporteur:</i> <b>Luca ANGELINO, EASME</b>			
<b>Part 2</b>	<b>14:00 – 14:30</b>	<b>Break – featuring project pitches</b>		
	<b>14:30 – 15:30</b>	<table border="1"> <tr> <td> <b>Group 2a: leveraging BIM for energy efficient buildings</b> <ul style="list-style-type: none"> <li>• Presentation by Paul McCORMACK, Belfast Metropolitan College: BIMcert project and BIM Energy Performance Alliance</li> <li>• Interactive part</li> </ul> <i>Rapporteur:</i> <b>Amandine DE COSTER-LACOURT, EASME</b> </td> <td> <b>Group 2b: how do we go about alignment and recognition of learning outcomes?</b> <ul style="list-style-type: none"> <li>• Presentation by Georg TRNKA, Austrian Energy Agency: NEWCOM project</li> <li>• Interactive part</li> </ul> <i>Rapporteur:</i> <b>Rebecca KANELLEA, EASME</b> </td> </tr> </table>	<b>Group 2a: leveraging BIM for energy efficient buildings</b> <ul style="list-style-type: none"> <li>• Presentation by Paul McCORMACK, Belfast Metropolitan College: BIMcert project and BIM Energy Performance Alliance</li> <li>• Interactive part</li> </ul> <i>Rapporteur:</i> <b>Amandine DE COSTER-LACOURT, EASME</b>	<b>Group 2b: how do we go about alignment and recognition of learning outcomes?</b> <ul style="list-style-type: none"> <li>• Presentation by Georg TRNKA, Austrian Energy Agency: NEWCOM project</li> <li>• Interactive part</li> </ul> <i>Rapporteur:</i> <b>Rebecca KANELLEA, EASME</b>
	<b>Group 2a: leveraging BIM for energy efficient buildings</b> <ul style="list-style-type: none"> <li>• Presentation by Paul McCORMACK, Belfast Metropolitan College: BIMcert project and BIM Energy Performance Alliance</li> <li>• Interactive part</li> </ul> <i>Rapporteur:</i> <b>Amandine DE COSTER-LACOURT, EASME</b>	<b>Group 2b: how do we go about alignment and recognition of learning outcomes?</b> <ul style="list-style-type: none"> <li>• Presentation by Georg TRNKA, Austrian Energy Agency: NEWCOM project</li> <li>• Interactive part</li> </ul> <i>Rapporteur:</i> <b>Rebecca KANELLEA, EASME</b>		
	<b>15:30 – 16:00</b>	<b>Break – featuring project pitches</b>		
	<b>16:00 – 16:45</b>	<b>Rapporteurs presents the main conclusions from the groups</b> <i>Moderation: Amandine DE COSTER-LACOURT</i>		
<b>16:45 – 17:00</b>	<b>Conclusions - Gordon SUTHERLAND</b>			

# Introduction

## Gordon Sutherland, Head of Sector – Buildings/Heating & Cooling, Executive Agency for Small and Medium-sized Enterprises (EASME)

Mr Sutherland welcomed participants and expressed his satisfaction at being able once again to gather together the BUILD UP Skills community, although this time in a virtual format. The last exchange meeting took place in May 2019 in Barcelona, Spain.



He noted two key impending changes: first, with the new multiannual financial framework and the consequent reorganisation of funding programmes, the EASME Energy Efficiency Unit is expected to move to a new executive agency. Secondly, funding for energy efficiency in buildings will be channelled through two specific streams – the Horizon Europe programme and the LIFE programme (Clean Energy Transition subprogramme). These changes should not negatively affect ongoing and future BUILD UP Skills projects as a dedicated team of people will still be available to support them.

# Key messages

## How to effectively communicate your project's results: Gordon Sutherland

**Communication is essential for projects to achieve their objectives, to showcase their results and to inform policymakers at all levels of best practices to create a snowball effect from limited resources.**

A strategic approach is required for this which means having a communication plan and following a process. Projects must ask themselves what they want to achieve, set objectives, identify who they want to reach and tailor their message through specific channels.

Most people access information online. Therefore, project websites need to provide a clear structure, simple language and to be updated regularly. Social media platforms, such as LinkedIn, Facebook and Twitter, can be used to target different audiences. For example, LinkedIn can be used to create communities with trusted sources, while social media in general provides opportunities to interact with people.



Through all forms of media, it is critical to focus on impact and to remain relevant. People have limited time and are bombarded daily with information. Tweeting or posting during events can help you to focus on key content.

How to communicate your project:

- ▶ Think, plan and act strategically; focus on what you want to achieve.
- ▶ Define your target audience as you cannot reach everyone.
- ▶ Think about the issue, not the project, and link to hot social topics.
- ▶ Make it relevant to daily life by showing social impact.
- ▶ Be creative by vamping up visuals and use social media.
- ▶ Get into the media mindset, identify key media people.
- ▶ Think global but act local by using regional media and local connections.
- ▶ Build your brand to become a trusted source.

**Projects delivering impact: how to define your impact monitoring and reporting strategy: Christof Marx, Senior Project Advisor, EASME**



Mr Marx asked participants to identify the key challenges relating to measuring and quantifying impacts. These were identified as the ability to demonstrate what that impact is in a quantified manner; how to attribute impacts as being the direct result of project activities; and how to collect



relevant data. A large proportion of participants also said that they carry out surveys to measure impacts, while a good number agreed that skilled blue-collar workers can help to reduce a building's performance gap.

Challenges in monitoring and reporting include having available capacity and skills; having the right monitoring systems in place; and the time gap between implementation and evaluation. Evaluations are often seen as complex, as yet another task to be completed and requiring too many resources.

**Projects should aim to keep things simple, seek advice and help within the consortium or even externally, and see evaluations as not simply a task but a process that begins at the start of each project.** Most monitoring activities can be easily integrated into a project's normal work programme. It is important to clearly define the underlying logic of your project, by identifying needs and objectives, and describing how your actions are expected to lead to the intended results and impacts. This benefits consortia in planning their project and designing their monitoring and evaluations approach.

To do list:

- ▶ Identify and review main impacts
- ▶ Monitor and evaluate
- ▶ Document impacts in periodic report
- ▶ Justify your choice of baselines, benchmarks, assumptions, references and calculations
- ▶ Consider to what extent impacts are a result of your activities
- ▶ Review and revise your approach if necessary
- ▶ Take actions to exploit your results.

Certain indicators should be part of the reporting of all projects, including the number of training courses held, the people targeted, the numbers trained, and cost of the training.

Consortia should use a consistent approach for impact monitoring. Describing the project's intervention logic can help in structuring and defining that approach.

Time should be allocated for validation, and multiple feedback loops made available. Participants surveyed during trainings are more likely to respond. **Responses can help to identify whether training is being delivered efficiently and the likely scale of uptake and can lead to improvements and correct assumptions.**

Questions from participants in this session touched on projects unable to achieve desired impacts, guidelines on KPIs for monitoring, the cost of training, and assessing impacts.

Mr Marx agreed that not all projects are successful, but that evaluations are in those cases just as important, as they can help us understand why things did not work out. **Identifying problems in training can also lead to refinements, which is why feedback loops are an important feature of a good project plan.** KPIs can provide a common language for all projects. However, some KPIs are context-driven and inevitably differ between projects. Reflecting on the scope of a project can help assess whether a desired impact can be attributed to the work carried out.

### **Horizon 2020 legal and financial management: Sylvia Borri, Senior Financial Officer, EASME**

Ms Borri provided gave projects tips on how to fill in financial reports, which comprise two main documents – the use of resources (UoR) and the financial statement. The UoR includes a description of direct personnel costs (three types of staff costs), subcontracting costs and other direct costs (above 15 % of the direct personnel costs), while the financial statement provides the total amount per budget category.



There was a reminder that all reported costs must be actual, incurred during the period of the action and linked to the implementation of the action. In addition, the reported costs should be foreseen in the Grant Agreement. If this is not the case, a justification should be provided in both the use of resources and the technical report under the section 'deviations from Annex I & II'.

For all cost categories, beneficiaries have an obligation to keep records and adequate supporting documentation up to five years after the project has finished for possible checks, reviews, audits or investigations.

Projects with grant agreement queries can consult the [Multi-beneficiary General Model Grant Agreement](#), the [Funding and Tender Opportunities portal](#), as well as the [online manual on grant management](#).

# Blueprint for sectoral cooperation on skills in the construction sector: how to create synergies with BUILD UP Skills

**Roman Horvath, Policy Officer, Directorate-General Internal Market, Industry, Entrepreneurship and SMEs, European Commission**



Mr Horvath presented the Blueprint for Sectoral Cooperation on Skills in the construction sector, a people-centred initiative that focuses on a broad range of skills. Following the 2016 Skills Agenda for Europe, waves of sectors have developed blueprints.

**One of the focal points of the construction blueprint is support for vocational education and training, in particular apprenticeships.** This is seen as crucial to facilitating smooth school-to-work transitions and increasing the availability of a skilled workforce.

Blueprints bring VET providers and companies together to form partnerships, to develop sectoral strategies for skills intelligence and labour market-relevant skills development. For construction, this means developing a new generation of digitally aware multi-skilled workers. **Three priorities have been identified: digitalisation, energy efficiency and the circular economy.**

Activities include a recently finalised status quo report. The following activities are currently running:

- ▶ Innovative initiatives dealing with skills gaps, such as an interactive map
- ▶ An analysis of current training needs
- ▶ An analysis of available training (this is where the Blueprint and BUILD UP Skills initiatives can work together)
- ▶ Development of new training to fill identified gaps (modules available on the platform)
- ▶ Training to be tested through pilots, involving around 600 individuals
- ▶ WatchTower of skills needs in the construction industry; details of this still being discussed. This mechanism will investigate and follow skills needs in the future.

## Project pitches

The **TRAIN4SUSTAIN** H2020 project aims to raise acceptance of regional and national qualifications and skills on the EU construction market. This will be achieved through developing competence quality standards and a European Skills Registry.

The aim of the **nZEB ROADSHOW** H2020 project is to stimulate demand for skilled workers in the building sector by engaging directly with people. Mobile units and gamification techniques will demonstrate the benefits of energy efficiency across 15 large-scale events in central and eastern Europe.

## Break out sessions

### Group 1a: harvesting training

### resources within BUILD UP

### Skills and beyond

#### Amandine De Coster-Lacourt, EASME

Ms Lacourt indicated that this session would look at ways of pooling training resources to increase the impact of what is being done and to look to the future.

#### Presentation by Jan Cromwijk, ISSO, the Netherlands

Mr Cromwijk focused on tools that can be mobilised through examples of H2020 projects. For example, the **PROF/TRAC** project has mapped the skills needed and skill levels required for nZEBs and developed a ranking system to pinpoint, along the value chain, the nature and level of skill needed.



From this, training providers can develop and deliver the multidisciplinary programmes needed to ensure quality. For example, an architect needs to know the basics about grid and energy management. **The key is interdisciplinary skills. A training-material repository has been developed which can be added to.**

The **BUILD UP Skills Advisor app** contains some 70 e-learning modules for basic skills (for example, on heat pumps) and focuses on practical learning designed to appeal to crafts-people. Workers can learn from picture-based errors. Similarly, the **TripleA-reno** project provides a gamification platform that gives workers the opportunity to upload pictures of their work to get feedback.

The **NEWCOM** project focuses on task-based qualifications, delivered via a platform that provides an overview of all the tasks along the construction value chain. **A key lesson has been that the work contained in a task-based qualification is 98 % relevant across all of Europe.** This creates opportunities for mutual recognition – while there are differences across regulations and products, these are not apparent when it comes to tasks. Proof of qualifications generated by the system can also be checked by customers.

Questions touched upon image quality control and skills cards. Mr Cromwijk replied that the use of AI recognition technologies is something to be discussed in the future. It might also be possible to connect to augmented reality and virtual reality technologies on-site, enabling workers to assess quality simply by looking at an installation. Different workers have different ways of finding errors. Nonetheless, image referral is a positive use of digital technologies. The initial focus has been on developing mobile-phone-enabled technology because this is what workers carry with them on-site.

A challenge with issuing skills cards is that everyone wants to provide their own. Focus should be placed on achieving cooperation on the qualifications behind the skills cards to ensure the cards are comparable.

In response to a question on app compatibility with circular economy issues and facilities management, Mr Cromwijk said that this was indeed a long-term strategy. Circular skills are critical to achieving the energy transition, which is also about materials, the environment and digitalisation. While the PROF/TRAC project provides materials dedicated to trainers, the BUILD UP Skills Advisor app is more focused on enabling people to build up their own skills. Materials are free and readily available.

Questions from participants touched on collaboration between solutions to address skills gaps, and language translation and dissemination. Cromwijk agreed that the more cooperation there is, the better. **However, someone must be responsible to facilitate this cooperation.** This is a key strength of the BIM Energy Performance Alliance (BIM-EPA). This alliance is a good example of collaboration facilitated by Belfast Metropolitan College.

Key takeaways include the value of European exchange, cooperation, and the use of storytelling methodologies. Technical working group documents from previous BUILD UP Skills exchange meetings can be very useful as steering guides, both inside and outside of projects.

Translation and dissemination are an ongoing struggle. In the Netherlands, most training materials are prepared in Dutch in Word so that editors can translate, edit and add new information as required. Since many fundamental skills do not differ from country to country, there is less value in developing training materials separately.

## Group1b: measures to boost the demand for skilled professionals – what are the specific challenges?

Luca Angelino – Project Adviser, EASME

Mr Angelino said that a focus of the third phase of the BUILD UP Skills initiative has been to boost demand for skills. In this context, the INSTRUCT project and others have sought to boost demand by exploring and piloting measures in different areas. The session focus was on evidence corroborating the link between employing skilled professionals with improved energy performance of buildings, and on policy instruments.



Agnieszka Kowalska, ASM: INSTRUCT Project Coordinator

Ms Kowalska provided an overview of the INSTRUCT project, which aims to stimulate demand for sustainable energy skills in the construction sector. **Expected project outputs include research data that correlate skills and building quality, adaptation of existing and new tools to facilitate mutual recognition, and support for public authorities in developing new legislative frameworks.** More specifically, solutions, actions and measures will include:

- ▶ Sustainable energy skills passports/registers – guides for developing energy skills passports
- ▶ Support for new legislative frameworks and public procurement practices – guides for new legislative frameworks and procurement methods for demanding energy skills in projects
- ▶ Initiatives for promoting skilled construction among home- and building owners
- ▶ New partnerships with producers and retailers
- ▶ An INSTRUCT platform and database – a repository of a broad range of training courses.

To carry out impact assessments, certain measurable KPIs have been identified. These include energy savings, renewable production triggered by the project, certification schemes that evolve, mutual recognition in energy skills, and collaborations and legislative changes that have been triggered. Cooperation with sister projects has been achieved through joint webinars, teleconferences and communication, enhancing the exchange of know-how, joint dissemination, and result replication.

### Ioan Petri, INSTRUCT project

Mr Petri discussed how INSTRUCT seeks to address the lack of demand for a skilled workforce when it comes to energy efficiency. The project examined the current state of awareness, the level of demand, the state of training programmes and the extent to which values are shared along the value chain.

Experts and stakeholders can access information and interact via an online portal which contains best-practice use cases, training and networking capabilities.

The results of the **BIMEET project**, which analysed gaps in education and training, were also examined. Tasks and skills were mapped to help identify correlations, clusters and trends relating to training needs. Awareness of skills was collected from different data types and sources, ranging from academic literature to social media.

Key takeaways from this analysis were:

- ▶ The importance of socio-organisational aspects in construction skills
- ▶ The need to adopt a continuous improvement approach to changes in energy training implementation
- ▶ The fact that correlations are dynamic and will change to reflect the evolution of roles and skills
- ▶ **The importance of adopting modern communication technologies and delivering energy education in construction.**

## Tarja Makelainen, INSTRUCT project

Ms Makelainen discussed policy-steering instruments which can be divided into regulatory, normative, fiscal, voluntary, and informative tools.

**A key regulatory finding was that demand for qualified skilled construction workers included in national building codes can be a powerful instrument.** Normative tools include guidelines and city strategies for using public procurement, while fiscal and financial tools tend to focus less on skills. Interesting examples of voluntary instruments include building owner-driven standards for high performance in buildings. Trade associations are often good at providing general information.

In response to a question on EU-level approaches to regulatory instruments, Ms Makelainen noted that procurement practices are different across countries. This is why a bottom-up approach that considers local contexts first, and can then be scaled up, is desirable.

## Project pitches

The **HP4ALL** H2020 project aims to enhance, develop and promote skills for highly optimised heat-pump installations within residential and non-residential buildings. It will look at skill competencies and demand with the aim of replicating pilot projects at the national and EU level.

The **CraftEdu** H2020 project is setting up national qualification and training schemes for craftsmen in Czechia, and developing the further offer of training courses in Slovakia, Austria and Bulgaria. Training courses and a database of trainers have been developed.

# Group 2a: leveraging BIM for energy-efficient buildings

## Amandine De Coster-Lacourt, EASME

Ms Lacourt noted that a priority for the BUILD UP Skills community is how BIM can be use into practice, including as an information vehicle for professionals involved in a given project. A poll of participants revealed that most assessed their country's level of BIM maturity at between 2 and 3 on a scale of 5. Complexity and a lack of available training were identified as the main barriers to wider BIM uptake.



## Presentation by Paul McCormack, Belfast Metropolitan College: BIMcert project and BIM Energy Performance Alliance (BIM-EPA)

Mr McCormack discussed the work of the BIMcert project and the wider BIM Energy Performance Alliance (BIM-EPA). In terms of digital leverage, **digital infrastructure is about delivering energy-efficiency skills in a decentralised manner to the workplace**. Key challenges include mobilising the workforce and overcoming digital dissonance.



In the environment, BIM and other digital tools can help the construction sector to reduce its carbon footprint by informing and empowering the workforce. Renewables are only part of the solution; achieving energy efficiency requires the application of skills all along the value chain.

Public- and private-sector involvement in this roadmap is required to educate the workforce. Key challenges include the lack of a widely recognised international scheme and poor uptake by industry. Nonetheless, bricks and mortar have entered the digital age and environmental and digital transitions can be opportunities for change.

The BIMcert project is about empowering staff and encouraging cultural change with tools targeting different parts of the value chain. The construction sector is increasingly seeing the benefits of a digital workforce. **BIMcert aims to reduce the existing gap between theoretical digital opportunities and realities on-site by mobilising the sector and inspiring demand.**

This project is built on the premise that every user is unique. This means that users follow a non-linear self-selected pathway, achieving bite-size micro-accreditation. Currently, some 50 modules are available on the learning platform and can be easily accessed via a number of electronic devices, including from a mobile phone interface, which fits seamlessly into on-site working practices. Users can stop and start the app when they need to, with modules accessible 24/7.

Good collaboration with other projects and modules is enabled by BIM-EPA, which currently involves five projects and 100 partners across 24 EU countries. These projects share resources and a repository of digital tools, modules, learning and accreditation pathways. Activities such as those provided by the BIM-EPA help to level the BIM knowledge and digital transformation playing field.

Focus of BIM-EPA's work:

- ▶ A digital skills individual learning account (ILA) for workers
- ▶ Energy targets, energy savings across the entire built environment
- ▶ Dissemination and communication, comprehensively across Europe

- ▶ Recognition, accreditation and certification as levers to stimulate engagement
- ▶ Exploitation of results to increase energy efficiencies in construction
- ▶ Future collaborative opportunities to create an EU level playing field
- ▶ To be inclusive and to reach out to all, especially the hidden market of SMEs, the public sector, private owners, and users.

An interesting BIMcert innovation is the blockchain-backed CERTcoin, a cryptocurrency monetising the skills and learning exchange for the construction sector. CERTcoin is accumulated via gamification task-focused learning modules and exchanged for micro credentials, with the aim of encouraging upskilling and providing workers with industry recognition. digiCONEX AEU wide hub-and-spoke model, a virtual centre of excellence for the built environment, is the catalyst currently being developed to encourage both the government and industry to work together to create a more innovative sector and to share knowledge and best practice.

In conclusion, digital technologies can provide knowledge in a manner and format that empowers workers across the entire built environment supply chain. They can help the construction sector to move from old practices towards skills for the modern age. The BIMcert platform delivers open-source knowledge to both trainees and trainers. The next step is to implement all BIM and digital transformation tools on one platform to provide a single gateway for the entire construction sector across Europe. Key to achieving success and increasing energy efficiencies across the built environment is to use digital transformational tools that will enable users to take the knowledge secured and utilise it in an informed way – translating ‘tasted knowledge’ (sapida scientia) into wisdom.

Questions related to accessing courses and the issue of countries where BIM is not mandatory. McCormack replied that **BIM is an enabler to make the sector more competitive and energy efficient through a more informed workforce**. This applies to all countries. The more people who use BIMcert, the more feedback is received. Courses are open access and CERTcoin aims to deliver instantaneous accreditation which is recognised across borders. Open BIM software is used.

# Group 2b: how do we go about alignment and recognition of learning outcomes?

## Rebecca Kanellea, EASME

Ms Kanellea briefly introduced the **NEWCOM** project and the importance of mutual recognition of skills and qualifications, which was the focus of this session.

## Presentation by Georg Trnka, Austrian Energy Agency: NEWCOM project

In his presentation of the NEWCOM project, Mr Trnka focused on raising demand for nZEB competences for professionals. **The project emerged from a recognised need to set up qualification schemes for certain skills, and the demand for mutual recognition of these qualifications among Member States.** Without raising market demand for qualified professionals, the transition towards decarbonisation will not succeed.

The project identified the following barriers to qualified professionals:

- ▶ Insufficient quality assurance in field of construction on this specific issue
- ▶ Lack of interest on the part of construction companies
- ▶ Lack of interest from professionals; further education is not considered to be attractive and workers often need a push
- ▶ Lack of demand from building owners who drive demand



- ▶ Declining demand for personal certification in the field of building services engineering and the passive house standard. Fewer craftspeople are attending courses because of a lack of demand
- ▶ A lack of cross-craft further training courses throughout the EU. Cooperation between trades is becoming rare because of time and resources.

The project achieved two key results, the first being the development of new training schemes. **These schemes provide clear competence descriptions for the basis of units of learning outcomes (ULOs) in three fields:** flat roofing and waterproofing; comfort ventilation; and quality assurance. Clear competence descriptions enable mutual recognition of skills and qualifications.

These training schemes have been implemented specifically by train-the-trainer trainings (focusing on the three disciplines described above) in the partner countries (over 150 trainers have been trained).

The second key result has been the development of the NEWCOM competence database. This resource enables competences in these three training schemes to be compared, enabling the Europe-wide comparability of acquired skills.

In response to a question on course length, Mr Trnka noted that trainers can tailor the modular courses to specific user needs. For example, the quality assurance course is run over between three to four days in Austria, while in other countries fewer modules can be selected, which leads to shorter training periods. These modular courses can also fit into existing training structures. A professional card can then be issued based on acquired skills by using the developed NEWCOM competence database.

The NEWCOM project is linked to the BUILD UP Skills Advisor app which was developed in 2015 to provide workers with job-specific advice and upskilling opportunities. This interface can now be used as an access point to a worker's acquired skills and competences. **A key lesson has been the importance of harmonising competence descriptions, based on ULOs, to enable professional activities to be defined and understood across borders and disciplines.**

Indeed, one of most important aspects of the project has been mutual recognition. Professionals can be found on the database by both companies and end-users, and national pilot versions are currently online. Promoting skills on the job market will help to raise demand for qualified professionals.

In response to a question on face-to-face trainings, Mr Trnka said that while the COVID-19 pandemic has forced more train-the-trainer sessions online, face-to-face on-site trainings remain critically important. A point was also raised about the need to train end-users, to raise market demand and to highlight the importance of energy efficiency and meeting zero-emission standards.

A key objective of the NEWCOM competence database is to harmonise ULOs across countries. While users have the possibility of adding other trainings to their competence profiles, these trainings would have to be based on ULOs and offer the same levels of comparability. Linking competences with task-based approaches is central to the NEWCOM approach.

## Project pitches

**Construye2020** is an H2020 project focused on designing training schemes and training actions that address specific identified skills gaps. These schemes will not only cover short-term needs, but also form the basis for professional certificates. A training roadmap and recommendations for construction SMEs have been developed.

The **PRO-Heritage** H2020 project aims to protect heritage building skills. Experiences will be shared among the project's European partners. The objective is to keep cultural heritage in shape, make sure buildings are accessible and adequate for current and future generations, protect traditional competencies, and certify craftspeople in recognition of their skills.

## Rapporteurs presented the main conclusions from the groups:

### Amandine De Coster-Lacourt, EASME

Ms Lacourt summarised the discussions in Group1a: *harvesting training resources within BUILD UP Skills and beyond*. Project examples were presented, including PROF/TRAC, which has developed a skills-mapping methodology and a maturity-based ranking system for professionals involved in nZEBs, underpinned by the corresponding tasks and qualifications. The project also delivered a training material repository. Other projects highlighted included the BUILD UP Skills Advisor app, which contains 70 training modules. This has been further developed in the TripleA-reno project with the addition of self-check protocols, whereby workers can upload pictures of their work and receive feedback. The NEWCOM project task-based qualification found that most construction tasks for a given profession are similar all over Europe, which is a stepping-stone for mutual recognition. NEWCOM also worked on personal recognition of the acquired skills.

**Key discussion points included further feature upgrades, such as how AI could be used and how uploaded pictures might aid energy management, possibly in connection with BIM.** Feedback loops were identified as critical. More thought should also be given to integrating circularity. Skills cards/passports are important but difficult to manage, so different systems will often co-exist as part of an ecosystem. There is more potential for cooperation on defining qualifications.

A poll revealed that participants in the session would be ready to contribute to the PROF/TRAC database. **The feedback was clear that task-based qualifications are a good mechanism to support mutual recognition.** The need to update existing training materials was identified, while the outcomes of the former BUILD UP Skills technical working groups were acknowledged as being very useful.

## Luca Angelino – Project Adviser, EASME

Mr Angelino summed up the discussions in Group 1b: measures to boost the demand for skilled professionals – what are the specific challenges? Different approaches, lessons learned and measures to boost demand for skilled professionals were debated, and synergies for collaboration identified. **Practical solutions taken from the INSTRUCT project included energy skills recognition, initiatives targeting homeowners and guides for establishing energy skills passports.** There is ongoing collaboration with sister projects, and more projects are invited to join the dialogue.

A key focus of the discussions was on how to increase awareness and recognition of highly skilled professionals, as well as energy and legislative changes. The social aspects of construction skills, and the need for skills to evolve to meet new challenges, were also highlighted. Good practices do exist, and some building codes at the national level define the skills required. Certain building permits require specific profiles.

**Whilst having an EU framework for this would be useful, participants agreed that a bottom-up approach might be more impactful, given the different national contexts.** Interest was expressed in having dedicated exchanges on specific categories, and in developing partnerships.

## Amandine De Coster-Lacourt, EASME

Ms Lacourt summarised discussions from Group 2a: *leveraging BIM for energy-efficient buildings*. It is not always sufficiently clear for professionals how BIM can be used as a powerful tool for energy efficiency or how it can facilitate the flow of information along the value chain and create upskilling pathways. **A participant poll on BIM maturity highlighted the availability of training as a key barrier to uptake.**

Experiences from the BIMcert project were discussed. Key lessons are that every learner is unique, and that task-based, bite-sized modules supported by micro-accreditation facilitate autonomous, non-linear learning. **The BIM-EPA, established by four BUILD UP Skills projects and gathering more than 100 partners across 24 countries, was a positive development for the sector. It also shows that projects are ready to go beyond their contractual obligations to try to find pragmatic solutions.**

A digital library of tools and a pan-European skills currency are being developed to support upskilling transactions along the value chain. The goal is to make learners more autonomous. Digital badging (receiving instantaneous digital recognition rather than waiting for official documentation) was recognised as a softer way of demonstrating acquired skills. Issues raised included how far these tools can be applied while BIM is not mandatory across all countries, and the importance of using open BIM.

## Rebecca Kanellea, EASME

Ms Kanellea summarised discussions from Group 2b: how do we go about alignment and recognition of learning outcomes? **A lack of company interest in increasing competences and engaging in further training, along with a lack of demand for sustainable buildings, were identified as key barriers to quality building.** Cooperation between trades must also improve.

Results from the NEWCOM project were discussed. These include developing new training schemes, building a competence database and linking skills acquired to a professional card. These results can be expanded to nearly every field of work in every European country. A harmonised competence platform enables cross-border comparability and provides easy access to trainings and qualifications. The labour market can present skills in a more accessible way, increasing the visibility of competences to end-users. **A participant poll found that raising awareness among end consumers was deemed to be the most critical issue when upskilling building professionals.**

## Gordon Sutherland, Head of Sector – Buildings/Heating & Cooling, Executive Agency for Small and Medium-sized Enterprises (EASME)

Mr Sutherland said it was critical moving forward and that what has been built up is maintained. Alliances such as BIM-EPA can facilitate this. Key concepts discussed during this event include the need for soft skills, collaborative approaches, cross-craft understanding, integrated energy strategies and sustainable construction embedded in both the design and construction phases. Cooperation between the construction and VET sectors is also critical.

**A participant poll revealed that skills recognition and skills certification are thematic areas that should be prioritised in the next European exchange meeting.** It was agreed that events like this can help to create links and build bridges. Stakeholders were encouraged to identify funding areas that could enable the building sector to deliver on innovative training.



## Takeaways

Ms Lacourt identified the need to learn from each other, to look at specific country examples and to move towards a more European approach as key takeaways. An added value of this conference has been to see concrete examples of tools, mechanisms and services.

Mr Angelino welcomed the clear appetite to learn and exchange, to monitor impacts and to find new ways of working. There is a need to accurately measure change on the ground and to disseminate information. While at an early stage, there is already ongoing collaboration, which is encouraging.

Ms Kanellea identified the need for the pan-European exchange of best practices. Even virtually, it is possible to conduct such exchanges. New innovative ways must be found to ensure that exchanges on issues like mutual recognition and boosting demand for upskilling continue.

Mr Sutherland recognised the impressive success and dedication of BUILD UP Skills projects, which have been run by people with ideas and vision. **An identifiable BUILD UP Skills community has emerged to support the transition to a skilled workforce, capable of delivering sustainable decarbonised building stock for Europe.**



# Annexes

# Annex 1: Speakers biographies

## Gordon Sutherland

**Head of the Buildings and Heating/Cooling team, Horizon 2020 Energy Unit of the European Commission's Executive Agency for Small and Medium-sized Enterprises**



*Gordon Sutherland is head of the Buildings and Heating/Cooling team in the Horizon 2020 Energy Unit of the European Commission's Executive Agency for Small and Medium-sized Enterprises.*

*He is an Energy and Environmental Engineer with over 30 years' experience in the building sector.*

*Before joining the Commission services he worked in the private sector as an energy auditor of buildings, as well as on the design and installation of heating and cooling systems, and in the public-private research sphere on the energy performance of buildings and construction materials.*

# Anita Derjanecz

**Managing Director,  
REHVA**



*Anita Derjanecz is Managing Director of REHVA, the Federation of European HVAC Associations that joins societies of building services engineers from 26 countries.*

*As director, she oversees the training and certification related initiatives within REHVA and has been involved in two H2020 construction skills projects featured as good examples by EASME (PROF/TRAC & CEN-CE) that develop training and qualifications schemes for white collar professionals dealing with nearly zero energy buildings and building performance related European standards.*

*Anita has a background in European studies specialized on European energy, research and innovation policy and has work experience in the fields of strategic programming, programme management, as well as innovation support, technology transfer and international project development.*

*Before joining REHVA, she was director of a regional innovation agency and had of its representation office in Brussels. She has an executive master's degree in international association management.*

# Silvia Rezessy

**Policy officer,  
DG Energy**



*Silvia Rezessy is a policy officer at the European Commission, working in the domain of energy performance of buildings at DG Energy.*

*She has more than 13 years of experience in the field of energy policy and research, including energy efficiency and energy market analysis.*

*She has also worked in the field of agricultural policy.*

*Silvia has completed her PhD studies in environmental sciences and policy at the Central European University with a focus on energy efficiency policy and in particular energy efficiency and energy saving obligations and has published extensively in academic journals.*

# Roman Horváth

**Policy officer,  
DG Grow**



*Roman Horváth is a policy officer at the DG Internal Market, Industry, Entrepreneurship and SMEs of the European Commission. He is part of the sustainable construction team; he deals with skills, qualifications and employment issues in the construction sector.*

*Roman holds master's degrees in construction engineering and business management. After a short university career at the Slovak University of Technology he was working eight years at the Ministry of Transport of the Slovak Republic, dealing with EU affairs and EU funded infrastructural projects. In 2007 he joined the European Commission and*

*in 2014 he became part of its sustainable construction team.*

# Josefina Lindblom

**Policy Officer,  
DG Environment**



*Josefina Lindblom is working at the European Commission for DG Environment, in the unit of Sustainable Production, Products and Consumption.*

*She has been responsible for the work on “sustainable buildings” since 2011 and has among other things managed the recent developments of Level(s), a common framework for the assessment of the environmental performance of buildings.*

*This work is at the heart of the work of the European Commission to bring the building sector into the circular economy.*

*She has previously worked in DG Research with specific support to SMEs and in DG Joint Research Centre, where she took part in research studies related to improved environmental performance of industry and how to design policy in this respect.*

*She has a Ph.D. in Chemical Engineering Design from Chalmers Technical University of Gothenburg, Sweden, partly conducted at the Institute for Paper Science and Technology in Atlanta, the US.*

# Felix Rohn

**Policy officer,  
DG Employment, Social  
Affairs and Inclusion**



*Felix Rohn's professional start made him explore the markets of Central and Eastern Europe as they emerged in the early '90.*

*Equipped with this experience, he then worked in a project team for the monitoring and assessment of the EU Phare Programme, which paved the way to the EU enlargement in 2004.*

*In 1998 he became a civil servant in the European Commission where he worked in the policy fields 'enterprise', 'higher education', 'vocational education & training' before he changed to 'skills and qualifications' where he is working today.*

*In DG Enterprise he drafted the first EU funding guide for the tourism sector; in DG Education & Culture he worked for the Tempus programme in Eastern Europe, and for the Leonardo da Vinci programme, where he coordinated the work of the National Agencies.*

*Today in charge of the 'Blueprint for sectoral cooperation on skills' he is the interface between his 'skills and qualifications' Unit in DG Employment and sectoral units in other DGs in the Commission.*

# Cédric de Meeûs

**Vice-President,  
Group Public Affairs &  
Government Relations,  
LafargeHolcim**



*Cedric is an Environmental Engineer with over 20 years of experience in senior positions in the environmental management, infrastructure, waste and construction materials industries.*

*Cédric specializes in the integration of political and regulatory intelligence in the business decision-making process.*

*He works across a wide range of topics, with main focus on energy & climate, circular economy & resources, sustainable construction and the sustainable development agenda.*

*Cédric is a recognized expert on the international climate and circular economy agenda, specifically in relation to the construction, cement and waste sectors.*

*Cedric is currently responsible for LafargeHolcim's public affairs and governmental relations function.*



# Lara Paemen

**European Director,  
IFMA**



*Lara has taken up the role of European Director of IFMA (International Facility Management Association) in 2017. In this role, she is the link between IFMA's HQ in the US and IFMA's European Chapters and responsible for creating and rolling out the strategic plan.*

*She is also a member of IFMA's European Advisory Board and organizes IFMA's Annual World Workplace Europe conference. In 2019 her responsibilities were extended to the EMEA region. Lara is based in Belgium.*

*Before joining IFMA, she acquired 15+ years of experience as a Strategic Workplace Consultant and Change manager at MCS, AOS/Colliers and for several international FM consultancy firms working on missions in Belgium, The Netherlands, France, Spain, UK, and Serbia.*

# Emmanuelle Causse

**General Secretary,  
International Union  
of Property**



*Emmanuelle Causse is the General Secretary of the International Union of Property Owners (UIPI), a pan-European not-for-profit umbrella association bringing together 30 national property owners' organisations in 28 countries across Europe.*

*As representative toward EU institutions, Emmanuelle's task is to ensure that European homeowners and private landlords' interests are given weight in the development of EU policies. Throughout her years at UIPI, Emmanuelle gained a strong expertise in housing, financial and built environment related matters. She is the voice of real estate investors and end*

*users in numerous EU expert groups on these issues.*

# Richard Bayliss

**Lead for Sustainability and Innovation at the Construction Industry Training Board**



*Dr Richard Bayliss is the Lead for Sustainability and Innovation at the Construction Industry Training Board, a policy role focussed on the impact of industry change on the construction sector's skills development needs.*

*He is a member of the UK Green Construction Board and has led a range of projects addressing sustainability skills for the UK construction sector.*

*Richard has held a number of roles at CITB focussed on future skills after joining the organisation initially as Heritage Manager in 2006.*

*Richard has previously worked in structural engineering and began his career in higher education; researching and teaching on the archaeology of buildings while managing a series of international research projects and explorations.*

## **Annex 2: Poll results**



# **BuildUpSkills 9/12 Policy Panel**

09 - 10 Dec 2020

Poll results

## Table of contents

- How many countries have developed a Build Up Skills roadmap?
- Which sector are you representing?
- Please select 3 of the following policy recommendations (Session 1):
- Please select 3 of the following policy recommendations (Session 2):
- In three words, what are the most important insights you take away from this meeting?

---

### How many countries have developed a Build Up Skills roadmap?

0 3 3

15



28



30



---

### Which sector are you representing? (1/2)

0 3 9

Architecture



Civil engineering



Mechanical, Electrical & Plumbing engineering



Construction management



Building/facility management



Construction products manufacturing



---

**Which sector are you representing?**  
(2/2)

0 3 9

Energy services



Training/education



Policy/public authorities



Other



---

**Please select 3 of the following policy recommendations (Session 1):**  
(1/2)

0 2 9

EU-wide campaign to lift the image of the building & construction sector (aimed at the younger generation)



Create a public awareness campaign to make Facility Management the career of choice



Programme with local authorities to increase skills in planning / housing departments and link the public procurement agenda to skills and learning



Improve data at EU level: skills maps, skill impact analysis, completion mechanisms, etc.



---

**Please select 3 of the following policy recommendations (Session 1):**  
(2/2)

0 2 9

---

Make Facility Manager a chartered profession

7 %

Invest in the deployment of formalized training programs to effectively bridge the gap in the building sector

55 %

Create an Online Self-Assessment Tool with links to professional training

34 %

---

**Please select 3 of the following policy recommendations (Session 2):**  
(1/2)

0 3 2

---

Establish stable and consistent incentives and regulation for renovation at a local level

47 %

Sponsor the development of technical standards for whole property retrofit work and ensure that these include clear and measurable definitions of competencies needed

41 %

Adopt a planned approach to skills provision to balance immediate with future needs

34 %

Ensure professionals develop comprehensive skills, including soft skills

41 %

**Please select 3 of the following policy recommendations (Session 2):**  
(2/2)

0 3 2

Raise awareness among final decision-makers about the importance of skills



Facilitate partnerships between intermediaries/representatives (e.g. professional organisations and property owners organisations)



Scale-up one-stop-shops



**In three words, what are the most important insights you take away from this meeting?**

0 3 1





# BuildUpSkills 9/12 Breakout Session 1

09 - 10 Dec 2020

Poll results

## Table of contents

- In your country of activity, which professional group(s) do you think is/are most in need of training on energy efficiency?

### In your country of activity, which professional group(s) do you think is/are most in need of training on energy efficiency?

0 1 3

(1/2)

On-site workers



Architects



Designers



Engineers



HVAC installers



### In your country of activity, which professional group(s) do you think is/are most in need of training on energy efficiency?

0 1 3

(2/2)

Building/Facility managers



Manufacturers of construction products



Don't know



Other



# BuildUpSkills 9/12 Breakout Session 2

09 - 10 Dec 2020

Poll results

## Table of contents

- In your country of activity, what type of skills are especially required to make professionals become ambassadors of high-quality deep renovation towards end-users?
- Do you agree that the recommendations presented in this session could be sufficient to boost demand for skilled professionals and increase confidence of end-users about high-quality renovation?

---

### In your country of activity, what type of skills are especially required to make professionals become ambassadors of high-quality deep renovation towards end-users?

0 1 5

Technical skills



Knowledge of regulation, financial tools and incentives



Digital skills



Social and communication skills



Other



---

**Do you agree that the recommendations presented in this session could be sufficient to boost demand for skilled professionals and increase confidence of end-users about high-quality renovation?**

0 1 0

(1/2)

- 
- - on-line training is not a solution for on-site workers. they just cannot stand to take a whole day course on line :( - digital skills, such as use of BIM model on the construction site (I mean USE, not design) can really participate in a much better cross trade and cross-level collaboration
  - Yes
  - At least we should start with these demanding ones
  - Renovation is not complicated insulation windows airtightness ventilation heating systems renewables lets just do it and fund it 50% grant low interest loans
  - Yes BUT - the challenge is implementation. Completely agree with Richard that matching supply and demand of upskilling is a major challenge; we need to incentive & drive this upskilling

---

**Do you agree that the recommendations presented in this session could be sufficient to boost demand for skilled professionals and increase confidence of end-users about high-quality renovation?**

0 1 0

(2/2)

- 
- yes...
  - Yes. Prior diagnosis of the buildings characteristics and condition would be also needed.
  - Yes it is sufficient
  - I agree, well presented
  - Yes!

# BuildUpSkills 9/12 Breakout Session 2

09 - 10 Dec 2020

Poll results

## Table of contents

- In your country of activity, what type of skills are especially required to make professionals become ambassadors of high-quality deep renovation towards end-users?
- Do you agree that the recommendations presented in this session could be sufficient to boost demand for skilled professionals and increase confidence of end-users about high-quality renovation?

---

### **In your country of activity, what type of skills are especially required to make professionals become ambassadors of high-quality deep renovation towards end-users?**

0 1 5

---

Technical skills



Knowledge of regulation, financial tools and incentives



Digital skills



Social and communication skills



Other



---

**Do you agree that the recommendations presented in this session could be sufficient to boost demand for skilled professionals and increase confidence of end-users about high-quality renovation?**

0 1 0

(1/2)

- - on-line training is not a solution for on-site workers. they just cannot stand to take a whole day course on line :( - digital skills, such as use of BIM model on the construction site (I mean USE, not design) can really participate in a much better cross trade and cross-level collaboration
- Yes
- At least we should start with these demanding ones
- Renovation is not complicated insulation windows airtightness ventilation heating systems renewables lets just do it and fund it 50% grant low interest loans
- Yes BUT - the challenge is implementation. Completely agree with Richard that matching supply and demand of upskilling is a major challenge; we need to incentive & drive this upskilling

---

**Do you agree that the recommendations presented in this session could be sufficient to boost demand for skilled professionals and increase confidence of end-users about high-quality renovation?**

0 1 0

(2/2)

- yes...
- Yes. Prior diagnosis of the buildings characteristics and condition would be also needed.
- Yes it is sufficient
- I agree, well presented
- Yes!



# BuildUpSkills 10/12 Session 1a + 2a

10 - 10 Dec 2020

Poll results

## Table of contents

- Which sectors are you representing?
- Do you have training content that you want to share in the EU repository of PROF/TRAC? If yes, then please refer to <http://proftrac.eu/nc/training-material/upload-training-material.html>
- Do you have trainings and e-learning you want to share in the EU repository of the BUS-app? If yes, then please contact [j.cromwijk@isso.nl](mailto:j.cromwijk@isso.nl)
- Do you think the harmonized task-based unit of learning outcomes are usable for mutual recognition?
- Have you thought about using / do you want to use existing BUILD UP Skills functionality for use in your project?
- What kind of cooperation do you appreciate the most?
- How can we 'best' work together as a learning community?
- On a scale of 1 (lowest) to 5 (highest) how do you assess the BIM maturity in your country?
- What are the main barriers for a wider BIM uptake in the building value chain?

---

### Which sectors are you representing? (1/2)

0 1 8

---

#### Architecture



#### Civil engineering



#### Mechanical, Electrical & Plumbing engineering



#### Construction management



#### Building/facility management



#### Construction products manufacturing



**Which sectors are you representing?**  
(2/2)

0 1 8

Energy services

 0 %

Training/education

 33 %

Policy/public authorities

 28 %

Other

 11 %

**Do you have training content that you want to share in the EU repository of PROF/TRAC? If yes, then please refer to <http://proftrac.eu/nc/training-material/upload-training-material.html>**

0 1 8

Yes

 11 %

Maybe

 67 %

No

 22 %

**Do you have trainings and e-learning you want to share in the EU repository of the BUS-app? If yes, then please contact [j.cromwijk@isso.nl](mailto:j.cromwijk@isso.nl)**

0 1 5

Yes

 13 %

Maybe

 67 %

No

 20 %

---

**Do you think the harmonized task-based unit of learning outcomes are usable for mutual recognition?**

0 2 1

Yes



Maybe



No



---

**Have you thought about using / do you want to use existing BUILD UP Skills functionality for use in your project?**

0 1 8

(1/2)

Yes, course catalogue



Yes, learning from building errors



Yes, Unit of Learning Outcomes database



Yes, personal recognitions & find your recognized professional/worker



Yes, but with new functionality that we want to co-create



---

**Have you thought about using / do you want to use existing BUILD UP Skills functionality for use in your project?**

0 1 8

(2/2)

---

No, we will use our own tooling



---

**What kind of cooperation do you appreciate the most?**

0 1 8

---

On specific themes such as BIM-EPA and the Construction Skills projects collaboration?



On qualifications, learning outcomes and mutual recognition



On tooling for and experience sharing around digitization of learning



---

**How can we 'best' work together as a learning community?**

0 1 7

---

On request – self organized as self-steering teams



Facilitated as part of future EU Exchange



As action that comes back each edition of Sustainable places

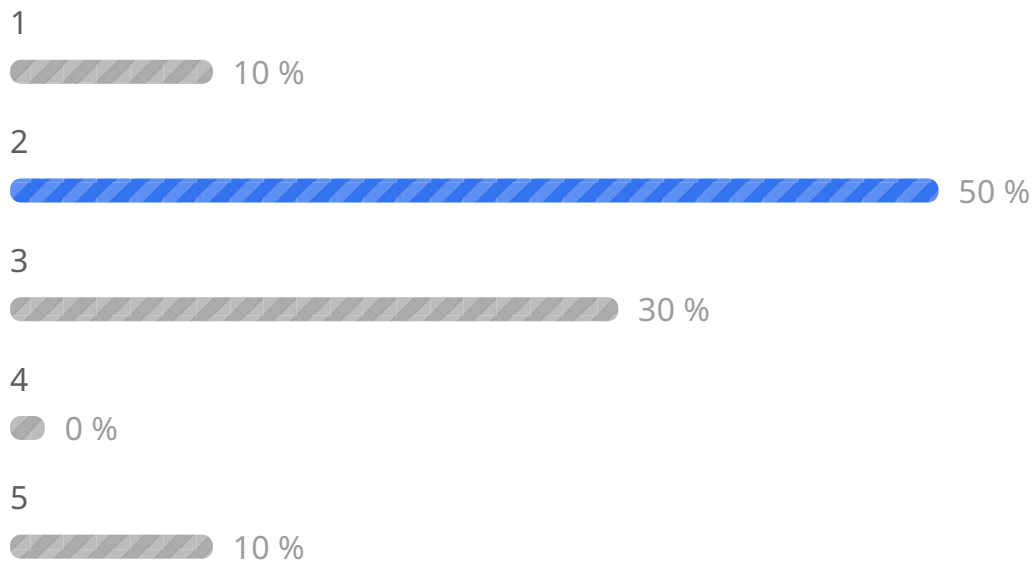


Other



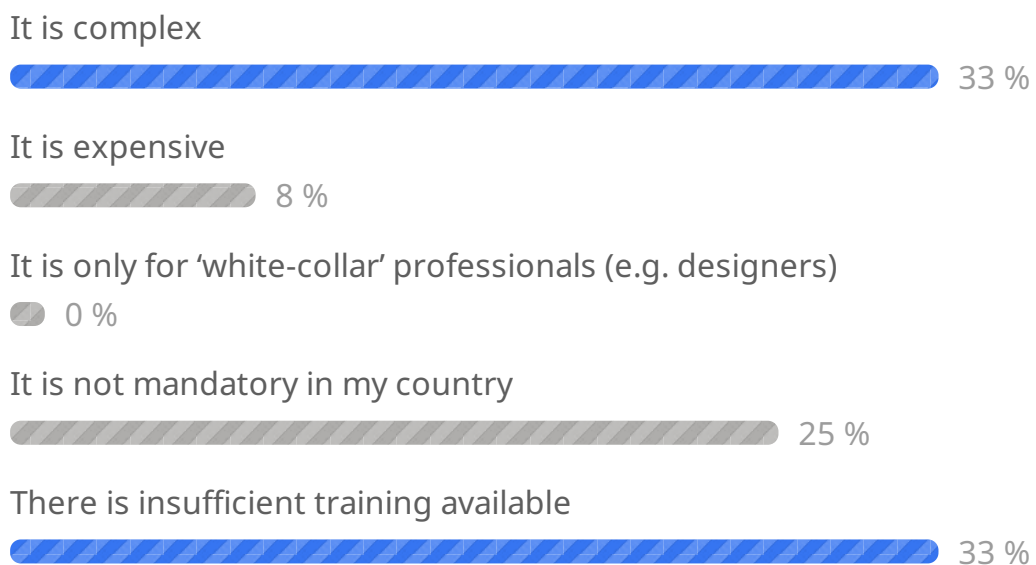
**On a scale of 1 (lowest) to 5 (highest) how to you assess the BIM maturity in your country?**

0 1 0



**What are the main barriers for a wider BIM uptake in the building value chain?**

0 1 2



# BuildUpSkills 10/12 Session 1b + 2b

10 - 10 Dec 2020

Poll results

## Table of contents

- Which sectors are you representing?
- Do you have knowledge of any other projects that are collecting evidences about the correlation between skilled workforce and increased energy performance of buildings ?
- Have you worked in your project on policy steering instruments?
- What do we need the most to support the upskilling of building professionals in combination with an increased demand for personal recognition of skills?

---

### Which sectors are you representing? (1/2)

0 1 3

Architecture

 8 %

Civil engineering

 0 %

Mechanical, Electrical & Plumbing engineering

 0 %

Construction management

 0 %

Building/facility management

 0 %

Construction products manufacturing

 0 %



---

**Which sectors are you representing?**  
(2/2)

0 1 3

Energy services

 0 %

Training/education

 46 %

Policy/public authorities

 8 %

Other

 38 %

---

**Do you have knowledge of any other projects that are collecting evidences about the correlation between skilled workforce and increased energy performance of buildings ?**

0 1 1

Yes

 64 %

No

 36 %

---

**Have you worked in your project on policy steering instruments?**

0 0 5

Yes

 60 %

No

 40 %

---

**What do we need the most to support the upskilling of building professionals in combination with an increased demand for personal recognition of skills?**

0 1 3

(1/2)

---

Awareness raising of end consumers concerning the link between quality of execution, low operating costs and good living comfort of nZEBs



62 %

Encouragement of architects and engineers to work only with companies employing highly skilled craftspeople



8 %

Enhancement of controls and evaluations on executed works at the building site



15 %

---

**What do we need the most to support the upskilling of building professionals in combination with an increased demand for personal recognition of skills?**

0 1 3

(2/2)

---

Establishment of a credible system for proof and presentation of gained competences throughout Europe



15 %

## Annex 3:

# Leveraging the skills of building professionals to deliver on the European Green Deal – Participants

Family name(s)	First name(s)	Institution / organisation	Country of institution / organisation
Achilleos	Maria	Cyprus Energy Agency	Cyprus
Altmann	Naghmeh	Austrian Energy Agency	Austria
Andolfatto	Jeromine	Fire Safe Europe	Belgium
Androutopoulos	Andreas	CRES	Greece
Angelino	Luca	EASME	Belgium
Arinaga	Matteus	Flemish Energy Agency	Belgium
Arizankovska	Jadranka	Economic Chamber of Macedonia	North Macedonia
Arras	Luca	Frontex	Poland
Ateca Amestoy	Victoria	University of the Basque Country & Spanish Association of Cultural Heritage Managers	Spain
Azzolini	Gabriella	ENEA	Italy
Bairampa	Evdokia	Geonardo Environmental Technologies	Hungary
Barreto	Leonardo	Austrian Energy Agency	Austria
Bayliss	Richard	Construction Industry Training Board	United Kingdom
Beckett	Gayle	CITB NI	United Kingdom
Behan	Avril	Technological University Dublin	Ireland
Beirão	Diogo	ADENE - Agência para a Energia	Portugal
Betta	Elisa	politecnico di torino	Italy
Bineau	Maxime	BUILD UP	Belgium
Borgaro	Paola	iiSBE Italia R&D	Italy
Braun	Bettina	ESN	Belgium
BUCUR	Lumi Angelica	ALB Conseil	France
Byandov	Vladimir	Zenith pools	Bulgaria
Caerels	Jan	Techlink	Belgium
Calveti	Diego	FEUP	Portugal
Causse	Emmanuelle	International Union of Property Owners	Belgium
Cava	Andrea	Everis	Belgium
Ceccagnoli	Cristiana	TIM	Italy
Chisholm	Erik	Erik Chisholm Engineering	France

Colasuonno	Luca	ENEA	Italy
Conlan	Frank	Centre for Irish Studies, NUI Galway	Ireland
Çorbaxhi	Everest	BIM A+	Portugal
Corbella	Mara	IIPLE	Italy
Costanzo	Vincenzo	University of Catania	Italy
Cromwijk	Jan	ISSO	Netherlands
Daly	Patrick	TU Dublin	Ireland
Danailova	Antoniya	EVN BULGARIA	Bulgaria
D'Angelo	Fabrizio	EESC	Belgium
de Meeûs	Cedric	LafargeHolcim	Belgium
De Rosso	Larissa	ACE	Belgium
de Vrind	Rob	Sustainable Vocational Education and Training Netherlands	Netherlands
de Zorzi	Stefania	lest	Italy
Della Camera	Ludovica	BBRI	Belgium
Derjanecz	Anita	REHVA - Federation of European HVAC Associations	Belgium
Deverell	Paul	Future2	Czechia
de Gracia	Miguel	Fundacion Laboral Construcción	Spain
Djordjevic	Djordje	Construction Cluster DUNDJER	Serbia
D'Oca	Simona	Huygen Engineers and Consultants	Netherlands
Doktor	Frantisek	ViaEuropa Competence Centre	Slovakia
Dziergwa	Alexandre	REHVA	Belgium
Esparza Arbona	Maria Jose	IVE - Valencia Institute of Building	Spain
Ethuin	Perrine	Modern Building Alliance	Belgium
Fernandez	Federica	IEMEST	Italy
Figueira	Maria Francisca	International Union of Property Owners (UIPI)	Belgium
Gamero Salinas	Juan Carlos	School of Architecture University of Navarra	Spain
García Delgado	Carlos	CTA	Spain
Georgiou	George Elias	University of Cyprus	Cyprus
Georgieva	Nina	Bulgarian Construction Chamber	Bulgaria
Goblon	Andro	Construction Cluster of Slovenia (Slovenski gradbeni grozd)	Slovenia
Godonou	Patrice	Svenskt Trä	Sweden
Gómez	Alejandro	València Clima i Energia	Spain
Goodwin Brown	Esther	Circle economy	Netherlands
Griffiths	Janet	CEPI	Belgium
Gutiérrez	Belén	UIPI	Belgium
Gutierrez Dewar	Sofia	Fundae	Spain
Gyuris	Peter	Geonardo	Hungary
Hanly	Orna	TU Dublin	Ireland
Heijnk	Dominik	European Heating Industry (EHI)	Belgium

Horvat	Diana	Ministry of Physical Planning, Construction and State Assets	Croatia
Horvath	Roman	European Commission	Belgium
HOUTMAN	Anne	SciencesPo	France
Hoyne	Seamus	Limerick institute of Technology	Ireland
Hugony	Francesca	ENEA	Italy
Hujber	Dorottya	ÉMI Nonprofit Kft	Hungary
Huvelin	Jean	COBATY International	Belgium
Ivanov	Risto	ZBK Krecacija Skopje	North Macedonia
Jag	Eco	ecoSmart Building	Australia
Jakob	Dr. Uli	Dr. Jakob energy research GmbH & Co. KG	Germany
Jammet	Marion	Irish Green Building Council	Ireland
Jiménez	Pilar	PALANCA ABOGADOS Y MEDIACIÓN®	Spain
Jiménez-Pulido	Cristina	UPM	Spain
Jonauskis	Mantas	Regional Innovation Management Centre	Lithuania
Jordan	Albert	Department of Environment, Climate & Communications IE	Ireland
Kacel	Seda	Independent Researcher	Turkey
Kaduma	Lot Akut	BIM A+	Portugal
Kalamees	Targo	Tallinn University of Technology	Estonia
Kanellea	Rebecca	EASME	Belgium
Karásek	Jiří	SEVEN	Czechia
Katsiki	Antigoni	Firestone Building Products	Belgium
Kekic	Sophie	European Cooperation Centre	Belgium
Kelemen	Viola	ÉMI Nonprofit Llc.	Hungary
Keresztes	Réka	Geonardo	Hungary
Klimova	Olena	KNESS	Ukraine
Kolichev	Dimitar	Orgalim	Belgium
Koukounis	Andria	EY Law	Cyprus
Kowalska	Agnieszka	ASM Market Research and Analysis Centre Ltd	Poland
Krezlik	Adrian	FAUP	Portugal
Kuhl	Alexis	European Panel Federation	Belgium
Lacourt	Amandine	EASME	
Lestoquoy	Maxime	Maison de l'Emploi Lille	France
Likar	Dijana	IECE Skopje	North Macedonia
Lindblom	Josefina	European Commission	Belgium
Lisowska	Malgorzata	University of Iceland	Iceland
Lițiu	Andrei Vladimir	REHVA	Belgium
Liu	Pam	Morgan Stanley	United Kingdom
Lodigiani	Giorgio	Key Note learner and speaker	Italy
Maggiore	Eleonora	TREVI	Belgium
Maktabifard	Mohaddeseh	R2M Solution	France

Malamatenios	Charalampos	Centre for Renewable Energy Sources & Saving (CRES)	Greece
Maraj	Altin	Polytechnic University of Tirana	Albania
Marinelli	Marta	French Ministry of Ecological Transition	France
Marinov	Marin	MOVE.BG Foundation	Bulgaria
Mármol	Marta	Inercia Digital S.L	Spain
Martínez	Víctor	Sant Cugat city Council	Spain
Martinez Cocera	Jose Antonio	UPV	Spain
Massari	Valeria	Moverim Consulting	Italy
Mêda Magalhães	Pedro	Instituto da Construção	Portugal
Mikolajczyk	Agnieszka	ASM Research and Analysis Center	Poland
Milovanovic	Bojan	University of Zagreb, Faculty of Civil Engineering	Croatia
Miracle	Immaculada	INES CEA	France
Misceo	Monica	ENEA	Italy
Momsen	Helle	Dk Perm Rep	Denmark
Moro	Andrea	iiSBE Italia	Italy
Mustafaoğlu	Mustafa Sinan	Istanbul Technical University	Turkey
Nahod	Maja-Marija	Ministry of Physical Planning, construction and State Assets	Croatia
Neilson	Barry	CITB NI	United Kingdom
Obajtek	Pierre	Architects' Council of Europe	Belgium
O'Brien	Elisabeth	LIT	Ireland
Olivier	Myriam	ASTUS-Construction	France
Op t Veld	Peter	Huygen Engineers & Consultants	Netherlands
Ortega	Leticia	Valencia Institute of Building	Spain
Ortiz	Meritxell	Generalitat de Catalunya	Spain
Paemen	Lara	IFMA (International Facility Management Association)	Belgium
Paez Perez	Camilo	BATir ULB	Belgium
Palladino	Domenico	ENEA	Italy
Pallantzas	Dimitris	Hellenic Passive House Institute	Greece
Pallares	Laura	Na	Belgium
Panchevski	Igor	Kreacija	North Macedonia
Panelli	Meropi	European Commission	Belgium
Pantelis	Spyridon	REHVA	Belgium
Peev	Evgeniy	iKEN Ltd.	Bulgaria
Pérez Arnal	Ignasi	BIM Academy	Spain
Pérez Cortines	Rafael	Daikin Europe NV	Belgium
Perez Prat	Juan B	Consultores CIT SL	Spain
Petrakkas	Marios	Cyprus Energy Agency	Cyprus
Petran	Horia	NIRD URBAN-INCERC / Cluster Pro-nZEB	Romania
Pfister	Laurent	Internal provider for European Commission	Belgium

Pińkowska	Natalia	Evercam	Ireland
Pinto de Andrade	Daniela	IST	Portugal
Pistochini	patrizia	ENEA	Italy
Popescu	Andrei	Cluster PRO-nZEB	Romania
Pouliovalis	Yannis	ESN	Belgium
Quintana	Irene	CDI CONSULTANTS	Spain
Rama	Bard	AIA Eur	France
Renner	Gisela	GIH / Federal Association of Energy Consultants	Germany
Rezessy	Silvia	DG ENER	Belgium
Rodríguez	Esther	Fundación Laboral de la Construcción	Spain
Rohn	Felix	European Commission	Belgium
Rosado	Raquel	Delab	Portugal
Ryan	Alice	Irish Green Building Council	Ireland
Sahl	Reinhold	Burghauptmannschaft Österreich	Austria
SANDULESCU	GHEORGHE MINCU	INMA + IPA SA	Romania
Santos	Carlos	Dbiz8	Portugal
Schmatzberger	Senta	BPIE	Germany
Setznagel	Ronald	17&4 Organisationsberatung GmbH	Austria
Shnapp	Sophie	SSPICE LTD	United Kingdom
Sibileau	Hélène	EuroACE - Energy Efficient Buildings	Belgium
Sigchos Jiménez	Fernando	European Builders Confederation EBC	EU
Sikorowska	Magdalena	European Federation of Building and Woodworkers	Belgium
Southernwood	Joanna	International Energy Research Centre	Ireland
Stefanica	Dan	European Heat Pump Association (EHPA)	Belgium
Strelec	Jiri	Meesenburg	EU
Stroumpoulis	Antonis	SustChem S.A.	Greece
Sutherland	Gordon	EASME	Belgium
Tavecchio	Walter	EMME.VU.CI.	Italy
Tavlaki	Elena	SIGNOSIS	Belgium
Tenorio	José A.	CSIC. Eduardo Torroja Institute for Construction Sciences	Spain
Tisov	Ana	Huygen	Netherlands
Trnka	Georg	Austrian Energy Agency	Austria
Tzanev	Dragomir	EnEffect, Center for Energy Efficiency	Bulgaria
Vanbecelaere	Jozefien	European Heat Pump Association	Belgium
Vazquez Marti	Rafael	ATECYR	Spain
Vermaut	Jasper	REHVA	Belgium

Vespa	Fernando	European Builders Confederation (EBC)	Belgium
Vetrsek	Jure	IRI UL	Slovenia
Vilutiene	Tatjana	Vilnius Gediminas Technical University	Lithuania
Wildiers	Zoé	European Commission - EASME	Belgium
Wimmer	Markus	Burghauptmannschaft Österreich	Austria
Zanghirella	Fabio	ENEA	Italy
Zidar	Margareta	EIHP	Croatia



## Annex 4:

# 12th BUILD UP Skills European exchange meeting – Participants

Family name(s)	First name(s)	Institution / organisation	Country of institution / organisation	Project
Achilleos	Maria	Cyprus Energy Agency	Cyprus	-
Airaksinen	Miimu	Suomen Rakennusinsinöörien Liitto RIL ry	Finland	INSTRUCT
Altmann	Naghmeh	Austrian Energy Agency	Austria	NEWCOM
Andreev	Stanislav	EnEffect	Bulgaria	EFFECT4buildings
Angelino	Luca	EASME	Belgium	
Arizankovska	Jadranka	Economic Chamber of Macedonia	North Macedonia	"TRAINEE - Toward market-based skills for sustainable Energy Efficient construction, 785005 — TRAINEE — H2020-EE-2016-2017/ H2020-EE-2017-CSA-PPI"
Bayliss	Richard	Construction Industry Training Board	United Kingdom	Building Skills for Net Zero (not EU-funded)
Beckett	Gayle	CITB NI	United Kingdom	BIMcert
Behan	Avril	Technological University Dublin	Ireland	BIMCert
Bineau	Maxime	European Service Network S.A.	Belgium	BUILD UP
Borgaro	Paola	iiSBE Italia R&D	Italy	Train4Sustain
Borri	Sylvia	EASME	Belgium	
Braun	Bettina	ESN	Belgium	ESN
Chordá Sancho	José V	Universitat de València	Spain	None. General stakeholder
Corbella	Mara	IIPLE	Italy	TRAIN4SUSTAIN Project from the H2020 financing programme
Cromwijk	Jan	ISSO	Netherlands	BUSLeague
Daly	Patrick	TU Dublin	Ireland	Drive 0
de Vrind	Rob	Sustainable Vocational Education and Training Netherlands	Netherlands	Buidupskills
DG	Miguel	Fundacion Laboral Construcción	Spain	Build up; construye 2020+; Blueprint

D'Oca	Simona	Huygen Engineers and Consultants	Netherlands	"TripleA-reno re-MODULEES U-CERT NRG2peers"
Doktor	Frantisek	ViaEuropa Competence Centre	Slovakia	CraftEdu
Esparza Arbona	Maria Jose	IVE - Valencia Institute of Buildings	Spain	BUSLeague, BIMplement
Figueira	Maria Francisca	International Union of Property Owners (UIPI)	Belgium	Save the Homes
Fletcher	Anthony	ESN	Belgium	
Garcia Delgado	Carlos	CTA	Spain	HP4ALL
García-Pérez	Rosa	Universitat de València	Spain	SEREDIPE
Georghiou	George Elias	University of Cyprus	Cyprus	No particular project but involved in Hybuild, DELTA, DRIMPAC etc
Gutierrez	Sofia	Fundae	Spain	Construye2020+
Gyuris	Peter	Geonardo	Hungary	H2020 TRAIN4SUSTAIN
Hamilton	Andrew			
Harty	James	KEA	Denmark	ARISE
Horvath	Roman	European Commission	Belgium	none
Hoyne	Seamus	Limerick Institute of Technology	Ireland	HP4ALL
Hujber	Dorottya	ÉMI Nonprofit Kft	Hungary	NEWCOM
Ivanov	Risto	ZBK Kreacija Skopje	North Macedonia	TRAINEE - TowaRd market-based skills for sustAINable Energy Efficient construction
Jaeger	Andreas	ICLEI European Secretariat	Germany	An informal City Interest Group focusing on building energy renovation in 2021.
Jakob	Dr. Uli	Dr. Jakob energy research GmbH & Co. KG	Germany	Train4Sustain
Jammet	Marion	Irish Green Building Council	Ireland	Busleague
Jonauskis	Mantas	Regional Innovation Management Centre	Lithuania	BIMplement
Kalamees	Targo	Tallinn University of Technology	Estonia	"DRIVEO Track4Serial"
Kanellea	Rebecca	EASME	Belgium	
Karásek	Jiří	SEVEN	Czechia	CraftEdu
Karra	Soulla	Cyprus Energy Agency	Cyprus	"Bricks of Skills [Erasmus +] We qualify[Build Up skills]"

Kelemen	Viola	ÉMI Nonprofit Llc.	Hungary	"BUILD UP Skills Hungary BUILD UP Skills TRAINBUD"
Kowalska	Agnieszka	ASM Market Research and Analysis Centre Ltd	Poland	"INSTRUCT - Evidence-based market and policy instruments Implementation across EU to increase the demand for eEnergy Skills across conSTRUCTION sector value chain"
Lacourt	Amandine	EASME	Belgium	
Likar	Dijana	IECE Skopje	North Macedonia	BIMcert
Little	Joseph	Dublin School of Architecture, TU Dublin	Ireland	"www.drive0.eu <a href="https://www.tudublin.ie/study/postgraduate/courses/building-performance-energy-eff-in-design/">https://www.tudublin.ie/study/postgraduate/courses/building-performance-energy-eff-in-design/</a> "
Mack	Nico	Luxembourg Institute of Science and Technology	Luxembourg	H2020 Instruct
Majtner	Tomas	Association of Building Entrepreneurs (ABE)	Czechia	H2020 CraftEdu 785036
Mäkeläinen	Tarja	VTT Technical Research Centre of Finland	Finland	"INSTRUCT BIMEET"
Malamatenios	Charalampos	CRES	Greece	"BUS-GR BUS UPSWING"
Martínez	Víctor	Sant Cugat City Council	Spain	Save the Homes
Marx	Christof	EASME	Belgium	
McCormack	Paul	Belfast Met	United Kingdom	BIMcert BIM-EPA
Mikolajczyk	Agnieszka	ASM Research and Analysis Center	Poland	INSTRUCT
Milovanovic	Bojan	University of Zagreb, Faculty of Civil Engineering	Croatia	"The NZEB Roadshow (Horizon 2020) BIMzeED (Erasmus+)"
Moreno	Anna	IBIMI	Italy	net-UBIEP
Novotny	Karin	UBW Unternehmensberatung Wagenhofer GmbH	Austria	PRO-Heritage
O'Brien	Elisabeth	LIT	Ireland	"BIMzeED (Erasmus+) Construction Blueprint (Erasmus+) BUSLeague (H2020)"
Olivier	Myriam	ASTUS-Construction	France	BIMplement

Op t Veld	Peter	Huygen Engineers & Consultants	Netherlands	PROF/TRAC, BIMplement, TripleA-reno, Save the Homes, re-MODULEES, U-CERT, NRG2peers
Paez Perez	Camilo	BATir ULB	Belgium	Build Up platform
Pallantzas	Dimitris	Hellenic Passive House Institute	Greece	HPHI's part of RINNO - nZEB Roadshow
Panchevski	Igor	KREACIJA	North Macedonia	TRAINEE
Pérez Arnal	Ignasi	BIM Academy	Spain	TRAINEE
Petrakkas	Marios	Cyprus Energy Agency	Cyprus	WE-Qualify
Petran	Horia	INCD URBAN-INCERC / Pro-nZEB Cluster	Romania	BUILD UP Skills Romania & QualiShell, The nZEB Roadshow
Petri	Ioan	Cardiff University	United Kingdom	INSTRUCT
Rodríguez	Esther	Fundación Laboral de la Construcción	Spain	Construye 2020+ A new boost for green jobs, growth and sustainability (Horizon 2020_785019)
Sahl	Reinhold	Burghauptmannschaft Österreich	Austria	ProHeritage
Šarka	Vaidotas	Lithuanian Builders Association	Lithuania	"H2020 NETUBIEP H2020 BIMplement"
Šarkienė	Edita	Vilnius Gediminas Technical University (VILNIUS-TECH)	Lithuania	H2020 Net-UBIEP
Setznagel	Ronald	17&4 Organisationsberatung GmbH	Austria	CraftEdu, NEWCOM, RenoBooster
Sijanec Zavrl	Marjana	Building and Civil Engineering Institute ZRMK	Slovenia	LIFE IP Care4Climate
Sileni	Luisa	IIPLE	Italy	Train4Sustain GA n.894514
Spaziani Testa	Claudio	Copenhagen School of Design and Technology	Denmark	Horizon 2020 - ARISE
Stefanica	Dan	European Heat Pump Association (EHPA)	Belgium	"HEAT PUMPS SKILLS FOR NZEB CONSTRUCTION - HP4All (Heat Pumps for All) Cordis link: <a href="https://cordis.europa.eu/project/id/891775">https://cordis.europa.eu/project/id/891775</a> "

Stojanovska-Georgievska	Lihnida	University Ss Cyril and Methodius, Skopje	North Macedonia	"785005 — TRAINEE — H2020-EE-2016-2017/ H2020-EE-2017-CSA-PPI 'TowaRd market-based skills for sustAINable Energy Efficient construction — TRAINEE'"
Sutherland	Gordon	EASME	Belgium	
Tisov	Ana	Huygen	Netherlands	Drive 0, Save the Homes, BIMplement
Trnka	Georg	Austrian Energy Agency	Austria	NEWCOM project
Tzanev	Dragomir	EnEffect, Center for Energy Efficiency	Bulgaria	nZEB Roadshow
Vilutiene	Tatjana	Vilnius Gediminas Technical University	Lithuania	Net-UBIEP
Vlachos	Savvas	Cyprus Energy Agency	Cyprus	WE QUALIFY
Wagenhofer	Gerald	UBW GmbH	Austria	PRO-Heritage
Wimmer	Markus	Burghauptmannschaft Österreich	Austria	ProHeritage
Zambrana	David	CIRCE	Spain	RINNO
Zheleva	Maria	Bulgarian Construction Chamber	Bulgaria	The nZEB Roadshow

