PROF / TRAC:
PROFessional multi-disciplinary TRAining and Continuing development in skills for nZEB principles

BUILD UP WEBINAR

EU level training and qualification scheme as a solution to upskill practicing professionals

21-11-2017

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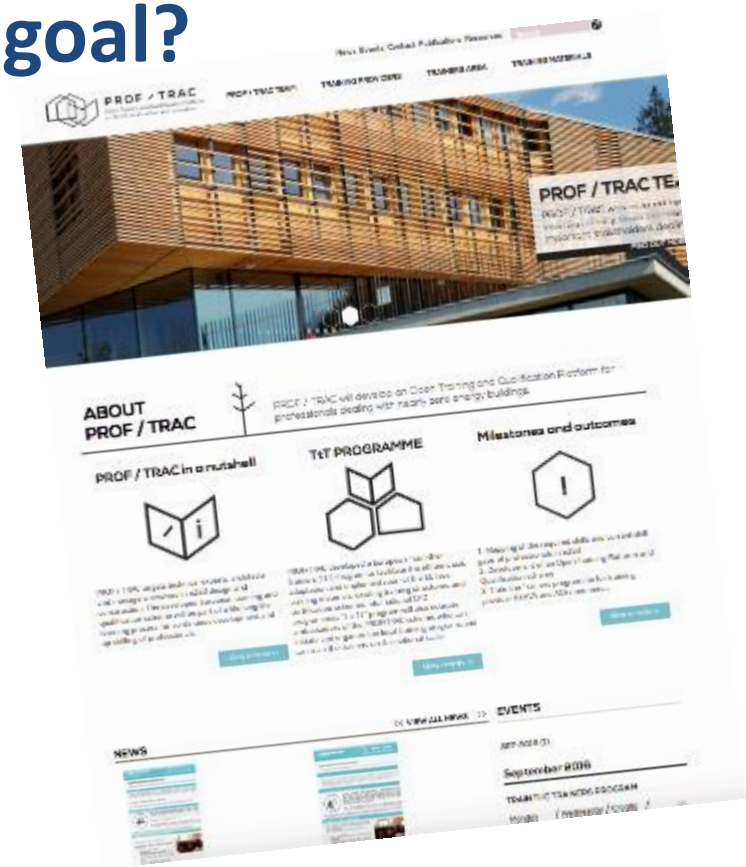
What is the PROF/TRAC overall goal?

- Develop and maintain an **Open Education Platform for Continuing Professional Development** for professionals in the building sector.

- This platform **addresses technical experts, engineers, architects and building managers** > middle and senior professionals

- The developed **European qualification scheme** as part of a life-long learning process for continuing development and up-skilling of professionals.



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Outcomes:

Development of a roadmap to train nZEB professionals

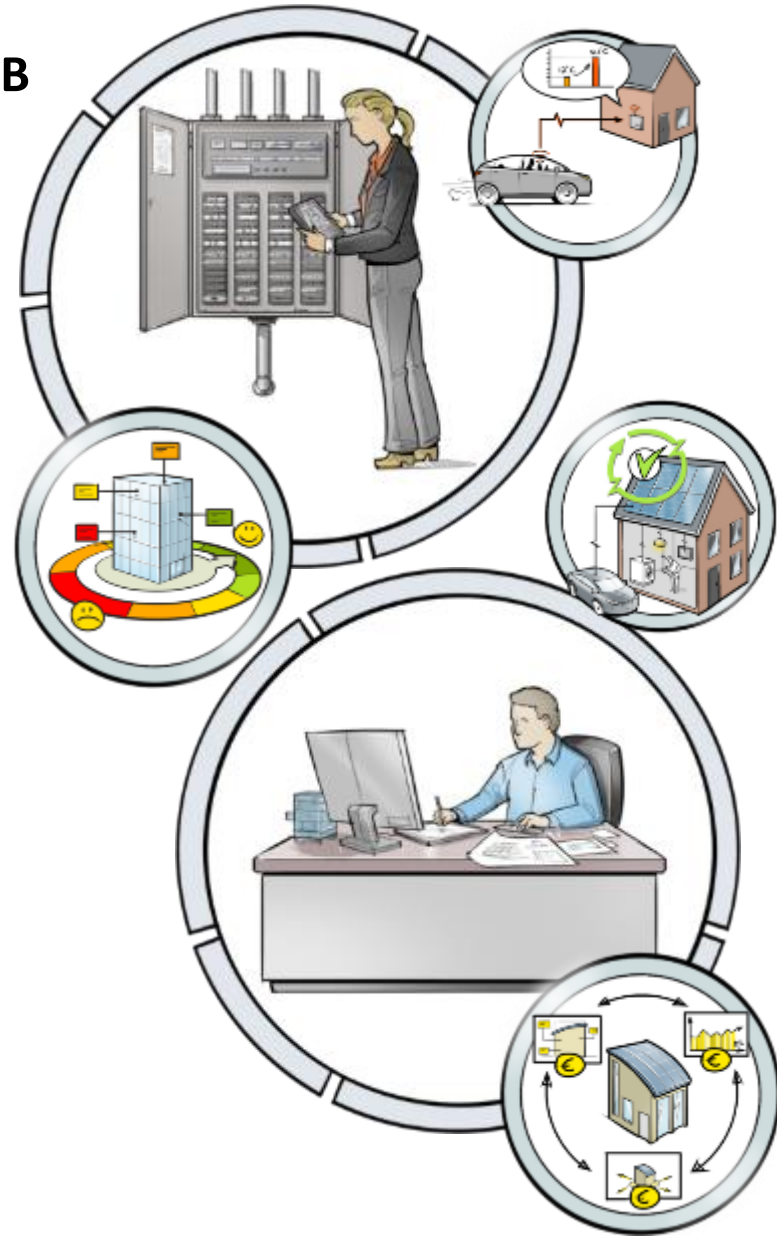
Mapping of the skills and current skill gaps in nZEB

First step:

- Adapting methodologies of national BUILD UP Skills actions
- Methodology available for any new comer training provider on www.proftrac.eu/publications/reports
- Done in 7 member states

Second step:

- Roadmaps have been developed on a national and EU-wide level focussing on successful national implementation of nZEB trainings for professionals.
- The EU roadmap does the same for the EU, focussing on similarities or corresponding outcomes of the member states



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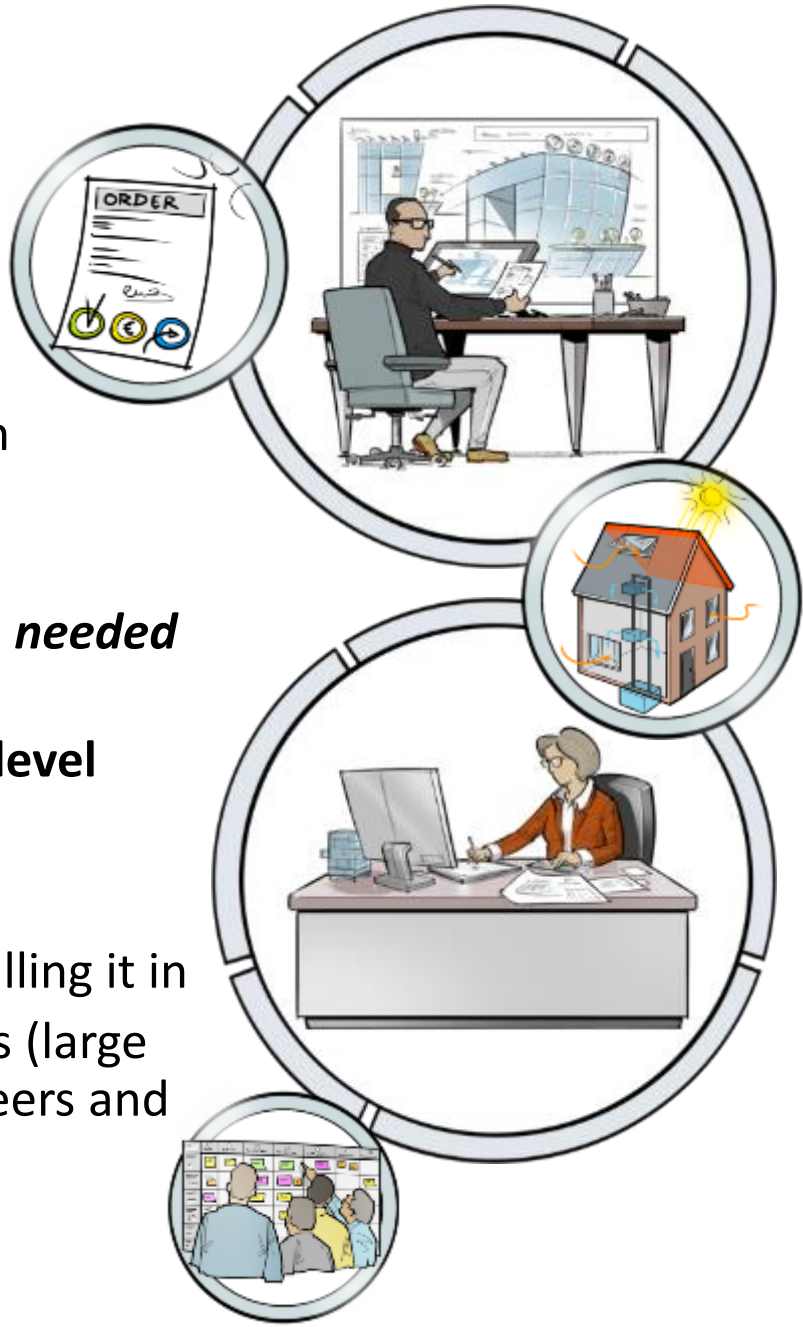
Methodology skills mapping

1. **PROF/TRAC Consortium defined:**
   - Professions
   - Skills levels
   - Relevant nZEB Technologies on Energy Management / Production / Reduction
   - Interdisciplinary skills, such as communications, economics
2. **National experts mapped the *current* and *needed* skills on nZEB**
3. **Outcome is a skills gap, at a certain skills level**

>> Lessons Learned:

- Results depend very much on expert filling it in
- Different skills for different professions (large difference between architects / engineers and building managers)



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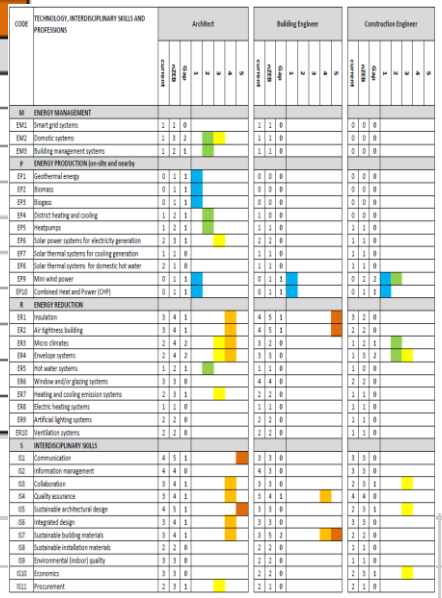
Example of results of skills mapping

Professional

Skills

Skills gap from level 2 to 3

CODE	TECHNOLOGY, INTERDISCIPLINARY SKILLS AND PROFESSIONS	Mechanical Engineer								Building aut. Engineer							
		current	nZEB	Gap	1	2	3	4	5	current	nZEB	Gap	1	2	3	4	5
M	ENERGY MANAGEMENT																
EM1	Smart grid systems	2	2	0							4	1					
EM2	Domotic systems	2	2	0							5	1					
EM3	Building management systems	2	3	1						4	5	1					
P	ENERGY PRODUCTION (on-site and nearby																
EP1	Geothermal energy	3	3	0						2	3	1					
EP2	Biomass	2	2	0						1	2	1					
EP3	Biogass	2	2	0						1	2	1					
EP4	District heating and cooling	3	4	1						2	3	1					
EP5	Heatpumps	3	5	2						3	3	0					
EP6	Solar power systems for electricity generation	3	2	0						3	3	0					
EP7	Solar thermal systems for cooling generation	2	4	2						2	2	0					
EP8	Solar thermal systems for domestic hot water	3	4	1						2	2	0					
EP9	Mini wind power	2	1	0						2	2	0					
EP10	Combined Heat and Power (CHP)	3	3	0						3	2	0					



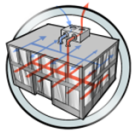
Skills levels can be estimated from level 0 to 5, and will automatically be coloured.

Explanation of the levels 0 - 5:

0	Not applicable / no knowledge and skills required
1	Has little knowledge and skills with respect to the relevant field / technology
2	Understands basic knowledge and has practical skills within the field, is able to solve problems by
3	Has comprehensive, factual and theoretical knowledge, is capable of solving problems within the field
4	Has advanced knowledge involving a critical understanding of theories and principles and skills, required
5	Has specialised knowledge and problem-solving skills, partly at the forefront of knowledge in the field, in

Development of a European qualification scheme

- a **qualification scheme** is elaborated
- for the **targeted professions** using the **integrated, multidisciplinary approach** of the IEE IDES-EDU and other relevant projects

Technology Nr.			
EP5	**Planning and design of heat pump installations**		energy production for heating, cooling and potable hot water, making use of an energy source with low temperature and bringing it to a higher temperature.

Project phase	General description and subtasks	Workfield						
		Architecture	Mechanical Engineering	Electrical Engineering	Structural energeering	Construction management	Financing and procurement	Building management
General	**General knowledge of heat pumps, design and application**	**1**	**4**	**2**	**1**	**1**	**1**	**1**
	Understands the basic working and application of heat pumps, is able to explain and discuss.	x	x	x	x	x	x	x
	Is aware of types of available heat sources for use with heat pumps, understands the influence of source temperature on energy efficiency.		x	x				
Pre design	**Performance of a feasibility study**	**2**	**5**	**3**	**1**	**1**	**1**	**-**
	Can make an inventory of available heat sources and identify possibilities or restraints		x					
	Can estimate the heat loss of the building, to perform feasibility study of heat pumps		x					
	Inventory of possible heat pumps and available sources (e.g. outdoor air, exhaust air, soil, rivers)		x					

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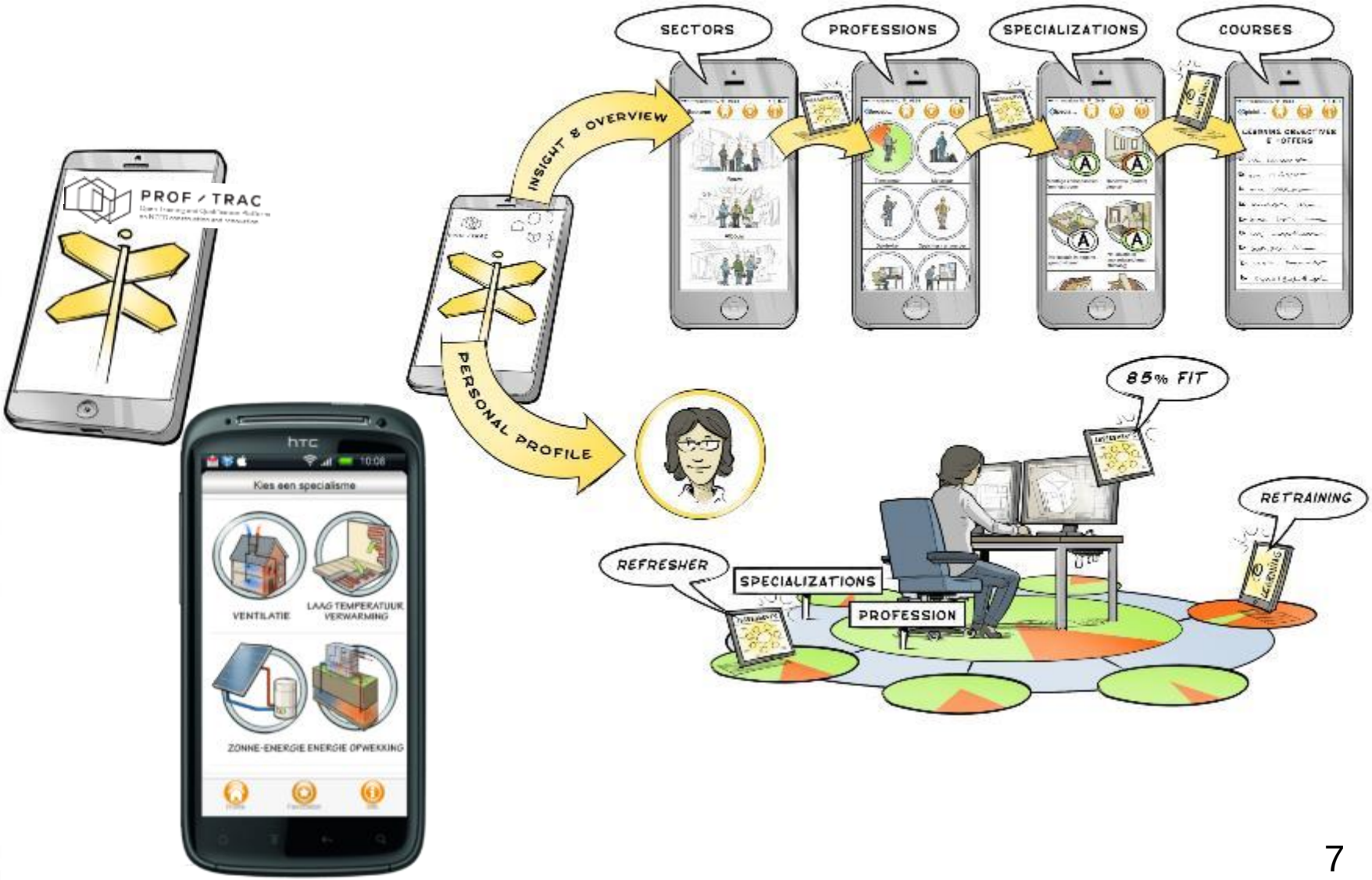
The BUILD UP Skills advisor app



Outcomes:

PROF/TRAC Database – Online

http://proftrac.eu/training-materials.html

TRAINING MATERIAL REPOSITORY

On this page you can find all relevant training materials on NZEB. Use the filter form on the left to narrow the results.

Topic
Select topic

Type of project
Select one...

Building use
Select one...

Type of material
Select one...

Language
Select one...

Filter result ››

Relevant report	Topic	Project	
The Comfort Houses: Measurements And Analysis Of The Indoor Environment And Energy Consumption In 8 Passive Houses 2008-2011	Energy reduction	ZEB	More details
Energineutralt Byggeri – Definition og fremtidig rolle i samfundet	Energy management	ZEB	More details
Energineutralt Byggeri - Designprincipper og byggede eksempler for enfamiliehuse	Energy management	ZEB	More details
Energineutralt Byggeri – Tekniske løsninger	Energy management	ZEB	More details
Zero Energy Buildings - DESIGN PRINCIPLES AND BUILT EXAMPLES	Energy management	ZEB	More details
Survey Findings Report	Awareness of energy efficiency	TRB	More details
Final conclusions report	Awareness of energy efficiency	TRB	More details

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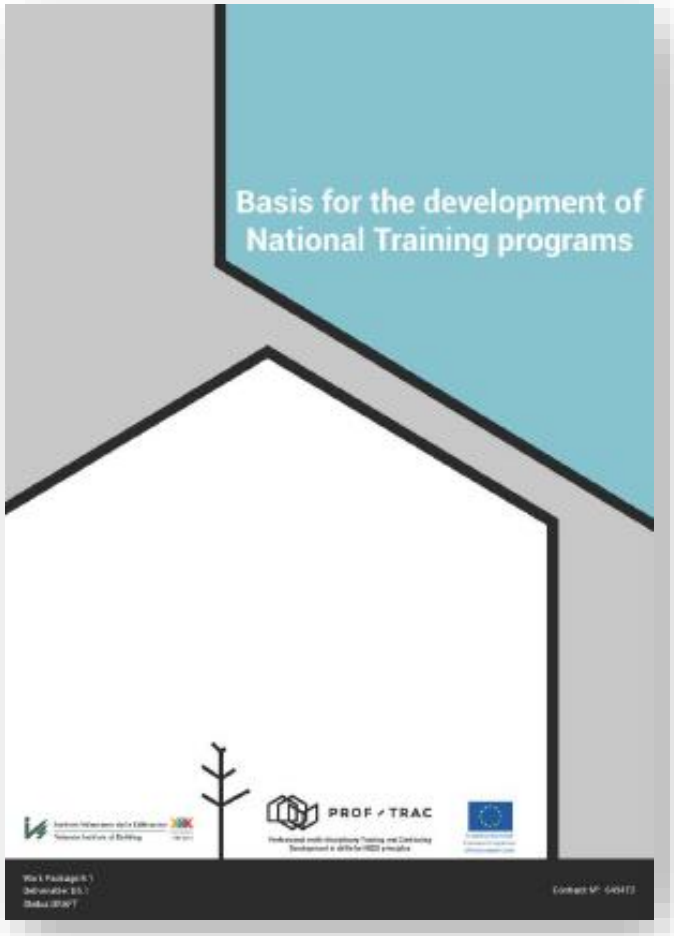
Outcomes:

PROF/TRAC Educational guide

- Basis for the development of national training programs
- Available for training providers to be used as a support to design the pilot courses
- Available:

www.proftrac.eu/publications/reports



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Training methods:

PROF/TRAC Train the Trainer sessions

- Core of the PROF/TRAC training method is the **organisation of** a European, central **Train-the-Trainers program**.
- Goal of the Train-the-Trainers (TtT) program is to **create 'ambassadors' for the PROF-TRAC project**
- These trained experts will initiate and organise the national training programs and can train the trainers on national scale.
- **Three Train-the-Trainers courses have been organized** as interactive face-to-face trainings on central places.

- Next training rounds will be done by **webinars** to make these trainings very efficient and easily accessible for new teachers. All the stages will be supported by the Open Training Platform.

  https://www.youtube.com/watch?v=0kmP7DnRFj8

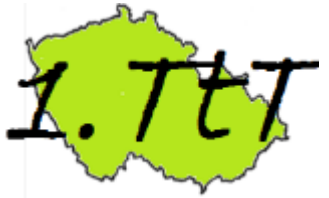
Preliminairy conclusions after 3 TtT face-fo-face sessions and 1 as webinar in progress:

- A Train-the-Trainer approach seems to be quite effective to enlarge the impact and to create a snowball effect

Training methods:

PROF/TRAC Train the Trainer sessions

Number of trained trainers:



1st TtT session: 22
(7 female, 15 male)

2nd TtT session: 26
(13 female, 13 male)

3rd TtT session: 12
(2 female, 10 male)

4th TtT session: 76
(webinar)

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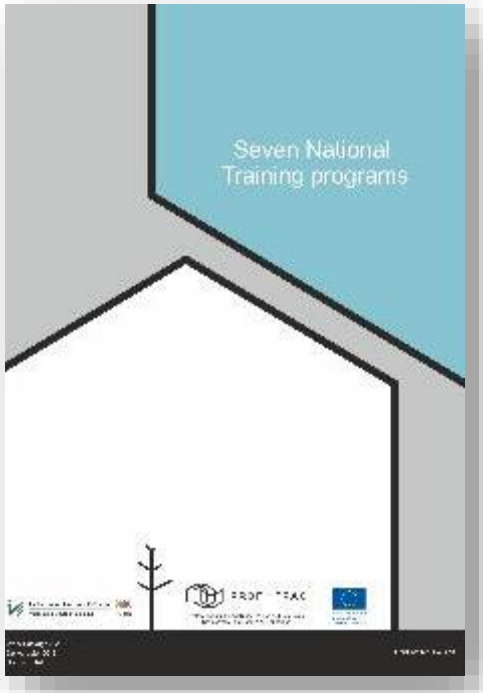
Outcomes:

PROF/TRAC Seven national training programs
Denmark, The Netherlands, Spain, Italy, Czech Republic, Slovenia and Croatia

National courses are tailor-made, as an outcome of the skills mapping and preparation during the TtT sessions
Methods: mix of e-learning (preparations, some cases as threshold level) and interactive group working, assignments
First round as pilots executed
Second round of courses now running



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Conclusions

- Although the task and challenge is massive (upskilling of more than 3 million workers in the construction sector….) the BUS and Construction Skills actions are not ‘a stitch in time’
- A Train-the-Trainer approach, in combination with local training providers, can create a snowball effect
- Collaboration with European organisations like (in PROF/TRAC) REHVA, Architect Council of Europe, Housing Europe is very effective for endorsement and a further European roll out; their national members can act as training providers
- Architectural professions and the (HVAC) engineer branch seem to be covered quite well, managers of housing companies still need attention (for example sustainable procurement, occupant engagement etc.)
- Trainings should also take end-user related issues into account, especially for NZE / deep renovations

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Thank you for your attention!

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THIS PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION'S H2020 FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION UNDER GRANT AGREEMENT NO 649473

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