BUILD UP Skills: European collaboration on improving the competence of the building workforce - Ventilation and airtightness aspects

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International Workshop on Ventilation and Airtightness in Buildings
Voluntary and Regulatory Frameworks to Improve Quality and Compliance
16 March 2015 – Lund, Sweden

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BUILD UP Skills mapping
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To QUALITY by QUALIFICATION
Competences in vent. & airtightness – How to?
BUILD UP Skills - Background

Main elements: multi-stakeholders platforms
- Need analysis for workers and skills, EE & RES
- Endorsed national roadmap to 2020+
- New / Upgraded qualification schemes

PILLAR I
National Qualification Platforms and Roadmaps
Call 2011

Projects: 10 (→Oct.13) +
+ 12 (→Sept.14) / 21 countries

Call 2012 - 2013

Targeted European Exchange Activities
organised by EACI / EASME

HORIZON 2020 – Construction Skills (EE-04-2014)
BUS evaluation → WP 2016-2017?

Mapping BUILD UP Skills projects

Mapping exercise during 6th EU Exchange Meeting – Brussels 12 Nov. 2014

1.1 Tradesman: Building fabric
1.2 Tradesman: Building services
1.3 Tradesman: Energy sources
2.1 Types of training
2.2 Training methodology
3.1 Training recognition
3.2 Certification and accreditation
4.1 Sources of finance
5.1 Stimulating demand
6.2 Exchange activities
### Mapping BUILD UP Skills projects

#### Ventilation & Airtightness (Envelope & Ducts)

| Activities | AE | BUS | BV | DE | ESS | FI | FR | H | IT | LT | LU | LV | MK | NL | NO | RO | SE | SK | SI | SE | \_ |
|------------|----|-----|----|----|-----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1.1 Tradesmen: Building fabric |   |     |    |    |     |    |    |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |
| Insulation |   |     |    |    |     |    |    |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |
| Windows, glazing, doors |   |     |    |    |     |    |    |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |
| External walls |   |     |    |    |     |    |    |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |
| Roofs |     |     |    |    |     |    |    |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |
| Internal finishes |   |     |    |    |     |    |    |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |
| All of the above |   |     |    |    |     |    |    |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |
| 1.2 Tradesmen: Building services | | | | | | | | | | | | | | | | | | | | | |
| Lighting | | | | | | | | | | | | | | | | | | | | | |
| Ventilation, air conditioning | | | | | | | | | | | | | | | | | | | | | |
| Electrics | | | | | | | | | | | | | | | | | | | | | |
| Control systems | | | | | | | | | | | | | | | | | | | | | |
| Plumbing | | | | | | | | | | | | | | | | | | | | | |
| Heating | | | | | | | | | | | | | | | | | | | | | |

**Horia Petran**  
Workshop Lund, Sweden – 16 March 2015

### Highlights BUILD UP Skills projects

#### Luxembourg's Building skills for 2020 targets LUXBUILD2020

- Accompanying measures such as **mind changing** campaigns - mobilize the companies in order to push their **interest and responsibility for better qualification** of their workforce,
- **Centre of excellence** for building crafts and a qualification framework → 2020 targets
- **Multi-step** qualification schemes for blue collar workers
- Training facilities and materials for **practical training** (upgrade)
- In-company tutoring and **training the trainers** and coaches/tutors
- Website - **repository** for the teaching tools

#### BUILD UP Skills Bulgaria II

- **National Centre of Excellence** for EE and RES in buildings - professional capacity of trainers
- Set of technological competences (training contents) - Civil & Electric (RES in buildings).
- **State Educational Requirements** - Review and update
- **10 new** training programs for selected professions + **cross-craft training**
<table>
<thead>
<tr>
<th>Highlights BUILD UP Skills projects</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>BUILD UP Skills CROSSCRAFT - Qualification scheme for across-the-crafts training of professionals in the construction (Austria)</strong></td>
<td><strong>BUILD UP Skills BRICKS - Building Refurbishment with Increased Competence, Knowledge and Skills (Italy)</strong></td>
</tr>
<tr>
<td>• Modular qualification scheme for professionals in the construction industry</td>
<td>• Start develop. national standards (UNI/CEI) for the different workers profiles based on EQF and produce the first draft standards</td>
</tr>
<tr>
<td>• Competences (imparted by the developed courses):</td>
<td>• Certification procedure with accredited bodies</td>
</tr>
<tr>
<td>• Understanding the importance of nearly zero energy building standards</td>
<td>• Produce learning content for VET systems</td>
</tr>
<tr>
<td>• Understanding of the interplay of the trades</td>
<td>• Promote/implement:</td>
</tr>
<tr>
<td>• Avoiding the most common faults and errors and their impact</td>
<td>• local good practices at national level</td>
</tr>
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<td></td>
<td>• training of trainers + their qualification</td>
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<td>• pilot studies - on site training of workers</td>
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<td>• quality label for the enterprises recruiting qualified workers</td>
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<td>• endorsement campaign and mutual recognition (Italian regions &amp; chambers of commerce, EU)</td>
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</tbody>
</table>

**BUILD UP Skills BRICKS - Building Refurbishment with Increased Competence, Knowledge and Skills (Italy)**

- Start development of national standards (UNI/CEI) for the different workers profiles based on EQF and produce the first draft standards
- Certification procedure with accredited bodies
- Produce learning content for VET systems
- Promote/implement:
  - local good practices at national level
  - training of trainers + their qualification
  - pilot studies - on site training of workers
  - quality label for the enterprises recruiting qualified workers
- endorsement campaign and mutual recognition (Italian regions & chambers of commerce, EU)

**BUILD UP Skills BEET - BUILD UP Skills - Builders’ Energy Efficiency Training (FYR Macedonia)**

- Focus: building envelope, glassing, roofing, energy infrastructure & HVAC systems
- Developing large scale training schemes:
  - by upgrading national education system with voluntary qualification schemes,
  - by ensuring recognition of skills obtained in non-formal/informal contexts
- Building capacity of trainers and training providers
- Designing incentives to boost the demand for qualified workers (incl. proposal for a paritarian fund for training – EEB)

**BUILD UP Skills QualiShell - National Qualification Scheme for Construction Workers to Ensure High Performance Building Envelopes (Romania)**

- Cont. involvement of relevant stakeholders (Romanian Qualification Platform) - support implementation of Qualification Roadmap
- National qualification schemes for:
  - Opaque building envelope insulation systems installers (ETICS installers)
  - Window system fitters (installers of thermal insulation carpentry and efficient glazing)
- Mechanisms for large-scale and long lasting implementation of the qualification scheme:
  - use of existing networks,
  - evaluation of competences acquired in non-formal and informal environments,
  - effective partnerships between education system and construction sector
Partnerships for education

Voluntary agreement for qualification (based on ‘natural drivers’) → **large scale + long lasting**

- **Needs:** consumables, equipment, locations for practice (on-site)
- **Offer:** training content, locations for theory, trainers

**Promotion of effective partnerships** between Education System and Construction Industry

- **Needs:** qualified workers (certified)
- **Offer:** on-site locations, equipment, OSH-safety

- **Needs:** high quality of their product installation, image
- **Offer:** consumables, technical specs, trainers (demo)

**Workforce in construction sector** (employees)
- **Clients / investors** (final beneficiary)

**Contractors** (employers / construction companies)

**Technology & Systems Producers / Suppliers** (building envelope)

**Towards Quality (works) by Qualification (people)**

- **Quality = conformance to requirements** (Crosby)
  - Relative to requirements (expectations):
    - Poor requirements → low quality,
    - Ambitious requirements → high quality

**QUALity CHeCK:**

- **By compliance & control:** (☑) reliable system - procedures
  - ‘Policeman’ at every ‘street corner’?
- **By developing skills and competences** — understanding concept (e.g. comfort, efficiency, nZEB) and technology
  - Development of **self-control** by qualification & **productivity**

- **Paradigm shift among builders:**
  - ‘What if I train them and they leave / ask more money?’
  - ‘What if I do not train them and they stay?’
**Competences in ventil. & airtightness – How to?**

- Pressure on sales targets → complaints → more time spent
- Investing in qualification pays back! → training fund (% sales)

**Certification of competences:**
- Basic competences related to ventilation systems installer,
- Add. competences → EE & RES (understanding concept),
- Add. competences embedded in other occupations (insulator, window fitter, roofer etc.) → cross-craft

**Recognition of competences:**
- **Who:** EDU system, industry (producers, builders) consumers,
- **How:** approved training or evaluation in authorized centres,

**Stimulating quality request → beneficiaries**

**Financing qualification schemes:**
- **Who:** employer, employee, external source (public/private),
- **How:** taxes for training, producers fund, quality labels etc.
ESCO Portal – facilitating dialogue LABOUR – EDU?

- ESCO = Multilingual classification of European Skills, Competences, Qualifications and Occupations.
- part of the Europe 2020 strategy.
- Project launched by EC in 2010 - open stakeholder consultation
- first version published on 23 October 2013
- will be completely revised until 2017

- Identifies and categorises skills, competences, qualifications and occupations relevant for the EU labour market and education and training:
  - relationships between different concepts
  - open IT format,
  - available for use free of charge (everyone)
  - can be accessed via the ESCO portal

ESCO_v0: occupations & skills ‘Ventilation’ ‘Airtightness’

<table>
<thead>
<tr>
<th>Occupations:</th>
<th>Skills / Competences:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plumbing, heating and ventilation instructor</td>
<td>• Heating, ventilation and air cond. (fitting)</td>
</tr>
<tr>
<td>Insulation installer (ventilation systems)</td>
<td>• Insulation (heating/ventilation/sanitation)</td>
</tr>
<tr>
<td>Piping insulator (heating, ventilation and air conditioning)</td>
<td>• Ventilation adjustment</td>
</tr>
<tr>
<td>Ventilation duct cleaner</td>
<td>• Ventilation cleaning</td>
</tr>
<tr>
<td>Sheet metal worker (ventilation systems)</td>
<td>• Ventilation fitting</td>
</tr>
<tr>
<td>Ventilation installer</td>
<td>• Ventilation insulation</td>
</tr>
<tr>
<td>Ventilation technician</td>
<td>• Ventilation sheet metal work</td>
</tr>
<tr>
<td></td>
<td>• Ventilation systems (maintenance)</td>
</tr>
</tbody>
</table>

Thank you!

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