German Build up Skills (BUS) actions
Current activities and regional initiatives on „smart builders“
(Quaerlery2020 and Qualitrain)

Dublin, 2014-10-15
Rolf Richard Rebold
Agenda – Key Questions

Results of the German BUS Pillar I - Project „Qualergy2020“

Tasks ahead in the German BUS Pillar II - Project „Qualitrain“

Focus: Cross-trade CVET-Program („interfaces“ & „system thinking“)

Concepts for quality assurance on a regional level
QUALERGY 2020: Key Questions

20-20-20 Goals

Point of reference: Buildings

First Step: Status Quo Analysis and Gap Analysis:
- Which qualifications are needed?
- How many skilled workers are needed?
- How can the current situation of skilled workers be described?
- Which offers do we have in the fields of initial and continuing VET?
- Where are gaps to be found?

Second Step: Development of National Roadmap
Qualergy2020: Quantitative Results concerning workforce supply

- 26.6 billion of additional investment into refurbishment needed between 2014 and 2020
- 2014-2020: 90,000 additional skilled blue collar workers will be needed
- Till 2020 there won’t be any nationwide shortage, BUT
  - on regional level
  - concerning certain professions (electricians, metalworkers, installers and fitters....)
- After 2020 nationwide shortage expected
Qualergy2020: Development of Analytical Grid for the qualitative Questions

**Building Envelope**
- Building Shell
- Roof
- Facades
- Windows and Doors

**Infrastructure of Buildings**
- Interior Fitting
- Electrotechnology
- Heat Technology
- Ventilation and Air Conditioning

**Energy Supply**
- Geothermal Energy
- Biomass
- Solar Heat
- Photovoltaics
- Block Heat and Power Plant
- Wind Engine
Qualergy2020: Development of Analytical Grid for the qualitative Questions
## QUALERGY 2020: Refinement of the process and needed Qualifications

### Processes

<table>
<thead>
<tr>
<th>Advisory Services</th>
<th>Planning</th>
<th>Realisation</th>
<th>Approval</th>
<th>Maintenance and Repair</th>
<th>Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reception of customer wishes</td>
<td>Customer information</td>
<td>Considering conditions</td>
<td>Planning procedure</td>
<td>Coordination with other involved</td>
<td>Preparation of the site / choice of material</td>
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Qualergy2020: Development of Analytical Grid for the qualitative Questions

First Step: One Table for every profession

<table>
<thead>
<tr>
<th>Processes (construction and reconstruction of buildings)</th>
<th>Advisory Services</th>
<th>Planning</th>
<th>Realisation</th>
<th>Approval</th>
<th>Maintenance and Repair</th>
<th>Disposal</th>
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<tbody>
<tr>
<td>Building envelope</td>
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<td>Building shell</td>
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<td>Roof</td>
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<td>Facades</td>
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<td>Windows and doors</td>
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<td>Infrastructure of buildings</td>
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<tr>
<td>Interior fitting</td>
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<td>Electrotechnology</td>
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<td>Heat technology</td>
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<td>Ventilation and air conditioning</td>
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<td>Energy supply</td>
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<td>Geothermal energy</td>
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<td>Biomass</td>
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<td>Solar Heat</td>
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<td>Block heat and power plant</td>
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<td>Wind engine</td>
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</table>

**Question:** Which qualification bundles are covered by the profession concerning fields of technology and processes within the technologies?
Qualergy 2020: Qualitative Analyses

Second Step: Reorganisation of the tables
=> One Table for each field of Technology

Processes: Advisory Services – Planning – Realisation...

Grid indicates for every field of technology
- which occupation is involved?
- which occupation covers which of the different processes of the value chain?

BENEFIT for BUS II: some interfaces between trades become evident
<table>
<thead>
<tr>
<th>Beratung</th>
<th>Planung</th>
<th>Realisierung</th>
<th>Abnahme/Übergabe</th>
<th>Wartung/Reparatur/Instandhaltung</th>
<th>Entsorgung</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ausbaufacharbeiter, SP</td>
<td>x</td>
<td>(Nr. 5)</td>
<td>x</td>
<td>(Nr. 5)</td>
<td>(Nr. 5, 6)</td>
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<tr>
<td>Zimmerer, ergänzend zu Ausbaufacharbeiter, SP</td>
<td>x</td>
<td>(Nr. 5)</td>
<td>x</td>
<td>(Nr. 5)</td>
<td>(Nr. 6, 7, 8)</td>
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<tr>
<td>Ausbaufacharbeiter, SP</td>
<td>x</td>
<td>(Nr. 7)</td>
<td>x</td>
<td>(Nr. 10)</td>
<td>(Nr. 5)</td>
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<tr>
<td>Fachbetreuer, ergänzend zu Ausbaufacharbeiter, SP</td>
<td>x</td>
<td>(Nr. 8)</td>
<td>x</td>
<td>(Nr. 8)</td>
<td>(Nr. 10)</td>
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<tr>
<td>Ausbaufacharbeiter, SP</td>
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<td>(Nr. 9)</td>
<td>x</td>
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<td>(Nr. 10)</td>
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<tr>
<td>Zimmerarbeiten (§ 11 Abs. 1)</td>
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<td>(Nr. 10)</td>
<td>x</td>
<td>(Nr. 10)</td>
<td>(Nr. 11)</td>
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<tr>
<td>Dachdecker, FB Dach-, und Abdichtungstechnik (§ 4 Abs. 1 Nr. 1)</td>
<td>x</td>
<td>(Nr. 11)</td>
<td>x</td>
<td>(Nr. 11)</td>
<td>(Nr. 12)</td>
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<tr>
<td>Dachdecker, FB Dach-, und Abdichtungstechnik (§ 4 Abs. 1 Nr. 2)</td>
<td>x</td>
<td>(Nr. 12)</td>
<td>x</td>
<td>(Nr. 12)</td>
<td>(Nr. 13)</td>
</tr>
<tr>
<td>Baustelleneinrichtung</td>
<td>x</td>
<td>(Nr. 13)</td>
<td>x</td>
<td>(Nr. 13)</td>
<td>(Nr. 14)</td>
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<tr>
<td>Fachprüfer (§ 4 Abs. 1 Nr. 4)</td>
<td>x</td>
<td>(Nr. 14)</td>
<td>x</td>
<td>(Nr. 14)</td>
<td>(Nr. 15)</td>
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<tr>
<td>Glasarbeiten (§ 5)</td>
<td>x</td>
<td>(Nr. 15)</td>
<td>x</td>
<td>(Nr. 15)</td>
<td>(Nr. 16)</td>
</tr>
<tr>
<td>Metallbauer (§ 3 Abs. 2 Abschnitt A Nr. 4)</td>
<td>x</td>
<td>(Nr. 16)</td>
<td>x</td>
<td>(Nr. 16)</td>
<td>(Nr. 17)</td>
</tr>
</tbody>
</table>

**Just for an impression...**

Wallpapering the offices with huge tables

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Qualergy 2020: Qualitative Results

• Necessary Skill sets are well-anchored in the apprenticeship frameworks and master craftsman examination regulations

• ’Gaps‘ in apprenticeship frameworks (intentionally: advisory, planning) are closed by master craftsman qualification

• Potential improvements concerning dovetailing the different trades and understanding the building as an integrated system

• 315 additional CVET-programs, BUT:
  • Number of participants too low and decreasing – incentives needed
  • Intransparency concerning training opportunities

• Dovetailing of systems for the early recognition of qualifications needed
Qualergy 2020: Roadmap

- Overcoming quantitative gaps
  - Open up unused potential - target group analysis
  - Increase attractiveness and image of professions
  - Increase holding quota
  - Promote mobility and integration

- Overcoming qualitative gaps
  - Improving the understanding of interfaces between trades and of the house as a system
  - Overcome skill shortages in single individual processes / ensure quality of the implementation of craft services

- Overcoming barriers
  - Raise incentives for participation in training
  - Ensure transparency of existing continuing VET opportunities
  - Establish a system of early qualification screening

- Total of 37 proposed measures
- Rating according to the criteria widespread effect, sustainability, acceptance in order to settle implementation priority
- 24 specific action bundles (accepted and endorsed by relevant organisations)
Qualitrain: Goals and Key facts

- BUILD UP Skills QUALITRAIN aims at the conception and implementation of large-scale qualification and training schemes as well as accompanying measures which ensure a sustainable system of lifelong qualification of blue-collar workers in the building sector.
- Duration: 32 months (Nov. 2013 – June 2016)
Qualitrain: Work packages

1. Management

2. System of early recognition of future qualification needs

3. Cross-trade CVET program

4. Train-the-Trainer seminar

5. Development of support structures for lifelong qualification

6. CVET consulting/CVET database for the building sector

7. Communication

8. EU-Exchange

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Qualitrain: Focus Cross-trade CVET program

1. Management

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Focus: Cross-Trade CVET-Program

① Analysis 1: Identification of „critical situations“ in the building sector concerning
  • Interfaces between trades
  • Interdependencies between fields of technology

  Process analysis (BUS I – Tables) ➔ Studies on construction damages ➔ Workshops & Interviews with Experts ➔ Survey

② Analysis 2: Comparison of gained knowledge on interfaces and system thinking with qualification in existing CVET programs

③ Selection of particularly relevant „critical situations“

④ Curricula development

⑤ Development of a teaching concept

⑤ Testing, evaluation and transfer
Focus: Cross-Trade CVET-Program

Results from the Workshop at the Kick-off of the Nationalen Plattform concerning relevant issues for a cross-trade CVET-program

1. Prevention of thermal bridges
2. Damages of the roof and the facade due to the installation of solar heat elements and photovoltaik elements
3. Interdependencies between building envelope and heating system
4. Airtightness of the building envelope
5. Smart Buildings / Smart Systems
6. Refurbishment of existing buildings: indoor insulation as alternative to insulation of the facade
7. Effectiveness of refurbishment measures depending on customers use of the building => necessary advisory services

....
Concepts for quality assurance on a regional level

- Networks of regional energy agencies, municipalities, municipal utilities, chambers of crafts, guilds etc.
- Recommendation lists as key idea
- Criteria for companies to be set on the list
  - Regular attendance of CVET-programs
  - Reference projects
- Creation of CVET-programs
Kontakt

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