



Some of the modules proposed:

Concept for EE  
Legal Aspects  
Marketing  
Offer and bill of quantities  
Facade Systems  
Glazing  
Installations  
Roofs  
Best practice

On the basis of the training modules, will be elaborated the best concept for software development. It will comprise of the modules with interactivity and simulation tool.

Some recommendations to training module development from the analysis:

- According to the results of survey, the self managed online training course (module) would be the best method of education;
- This could be supported by the interconnection with the experts in the field, which will help companies to negotiate and discuss their needs on-time;
- The ideal tool for e-learning we recommend to use is the intranet environment;
- The intranet environment should be programmed in a very simple manner, easy understandable and also easy to operate;
- Functionally, the intranet should have some evaluation tools, which could analyze the effectiveness of participant's training;

\* Relevant legislation that impact the construction business (carefully selected EU level standards).

Edition

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# EnEf project



**Project EnEf is aimed at improving the level of awareness about the energy efficiency in construction SMEs in Europe.**

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## The EnEf

project aims at improving Energy efficiency in buildings, filling the gaps of knowledge of entrepreneurs and managers from Construction sector on energy efficiency in buildings, providing training content, organized in modules structures.

### 1.1 The research aims defined:

- To ascertain whether responding companies are familiar with new energy efficient technologies;
- To determine whether the responding companies make use of emergent energy efficient technologies in their construction projects;
- To identify reasons why the responding companies do/do not make use of energy efficient products;
- To ascertain whether the responding companies are proactively preparing for the use of energy efficient products in their business;
- To compare SMEs from different EU nations on their use of energy efficiency products;
- To determine whether the individual respondent is interested in energy efficient products or services;
- To identify companies with an interest in training or participation in the project;
- To determine how any potential training should be delivered.

1. To ascertain whether responding companies are familiar with new energy efficient technologies – conclusions.
  - Most of the companies are familiar with new energy efficient technologies;
  - The companies showed a less preparation within the implementation of strategies in place to use more energy efficient products.
2. To determine whether the responding companies make use of emergent energy efficient technologies in their construction projects – conclusions.
  - All companies use some type of energy efficient technologies in their construction projects;
  - Companies are using mostly insulation (cavity or solid wall; floor; tanks; pipes; attic) and energy efficient glazing;
  - Also the most commonly used technologies are building materials and energy saving light bulbs.



Education and Culture DG

Lifelong Learning Programme



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## Training Contents

The Modules to be developed are targeting at self- training. The material can be used from people possessing construction degree or with experience in construction works and management. The managers will be able to use parts of the content for training of their staff or new employees for specific works. Case studies are going to be elaborated as supporting material.

Trainees have different level of education according European Qualifications Framework for Lifelong Learning. As a common reference for comparability of qualifications, it is focused on the learning outcomes acquired by non-formal and informal learning, through experience. Learning outcomes is defined by EQF as means statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competences.

According to the descriptors, defining 8 levels in the EQF, and indicating the learning outcomes relevant to the qualifications of the managers from Construction industry, drawing to the conclusion that their level corresponds to the level 5. They acquire high education in Engineering sciences, in particular Bachelor and Master degree on Construction of buildings and technical facilities, former 'Industrial and civil Engineering', Transport Construction, Water and Sewerage Construction, Hydro technical or hydro ameliorative construction.



## DRAFT STRUCTURE OF THE TRAINING CONTENT – MODULE BASED E-LEARNING



3. To identify reasons why the responding companies do/do not make use of energy efficient products – conclusions.

- The geothermal / biomass systems are much lower used by the responding companies as other energy efficient technologies;
- The reason of above mentioned might be a subject of less possible opportunities to use them, because of their environmental potential and capacity, and also various policies of use within the partner"s regions.

4. To ascertain whether the responding companies are proactively preparing for the use of energy efficient products in their business – conclusions.

- Most of the responding companies are proactively preparing to extend their use of energy efficient products in their business; this is confirmed by the company"s interests to be prepare for stronger energy efficiency standards.
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5. To compare SMEs from different EU nations on their use of energy efficiency products – conclusions.

- The variety on use of energy efficiency products by different EU regions is partly caused by the geographical location, climate conditions and also financial issues of population in these regions.

6. To determine whether the individual respondent is interested in energy efficient products or services – conclusions. - The responding companies are interested in energy efficient products or services.

7. To identify companies with an interest in training or participation in the project – conclusions. - Almost all responding companies are interested in training or participation in the project.

8. To determine how any potential training should be delivered – conclusions.

- Concerning the delivery method of a training course, the companies stated as most important the easy accessibility to learning material and access and exposure to industrial cases. - Besides those preferences are also equally preferred contact details of experts, problem based learning and exercises, and best practice tools and checklists, by the majority of SMEs surveyed.

### Life-long learning philosophy

The Commission Communication "Making a European Area of Lifelong Learning a Reality" and the subsequent Council Resolution of 27 June 2002 on lifelong learning identified the provision of 'the new basic skills' as a priority, and stressed that lifelong learning must cover learning from pre-school age to post-retirement age.

Lifelong learning is defined as all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social, and/or employment-related perspective. Whether formal or informal, and non-formal, learning is closely related with continuing education and continuing professional development, further training and updating basic skills.

Training modules to be developed under the current project are part of the further training opportunities of adults, in accordance with the LLL principle. At the same time training content takes into consideration the 'Europe 2020' Strategy for a smart, sustainable and inclusive growth for the coming decade. Priorities and objectives set there are strongly related to the Building renovation sector, in particular to the technology-enhanced learning, innovations implementation and transfer. Resource efficiency is part of the sustainable growth of the Construction industry and industrial and enterprises policy. Building sector has great potential for energy saving, because buildings produce 40 % of the emissions.

### Module's definition:

According to the definition of the **International labour organization** (ILO) the **module** is logical distribution of work within a position, profession or field of activity with a clear beginning and end, which can be divided into smaller parts<sup>1</sup>. Other definitions add to this are "logically accepted *part of the training* in the framework/within of the certain position – p. 101, Theoretical-methodological basics of the training on specialized subjects, Katya Stoyanova, 2007, Methodological guide. This is applicable to the vocational training

Modular training is considered as contemporary or modern training approach. It underlies the state educational requirements (SER) or standards for acquiring qualification on profession "Construction technician", Unit II – Content of the SES , art. 4, paragraph 3, it. 2 of the Regulation N 33/01.07.2010 of Ministry of Education, Youth and Science, Bulgaria.

– Section II, content of the every type obligatory professional/vocational training under paragraph 2 includes "Thematic areas, which formed the content of the subjects/modules".

