

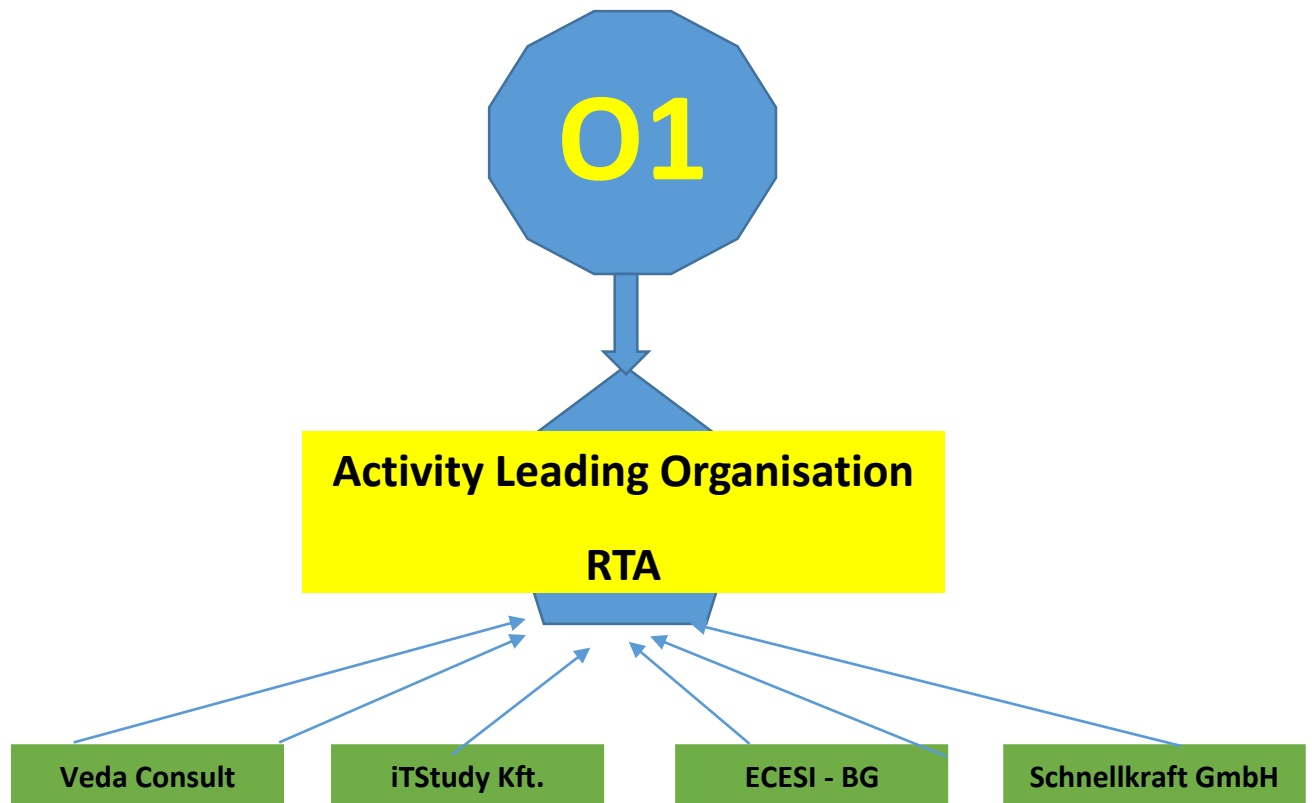
**Erasmus+ Strategic Partnership KA2
Nr. 2017-1- LV01-KA202- 035483**

**Report on
„Needs analysis of the improving the
professional skills in green construction”**

O1 - Final Report

**Erasmus+ Strategic Partnership KA2
Nr. 2017-1- LV01-KA202- 035483**





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1 Introduction

The centers for vocational training in the European Union countries achieve their educational aims in accordance with the state education standards for acquirement of qualification in various professions. The realization of this activity is based on the standards.

The idea of green or so-called stable construction has recently become more popular. This is a practice, based on our wish to be ecologically responsible and to ensure “green” future for the next generations. Green construction does not tolerate waste of materials, energy and natural resources. It encourages use of products and materials that can be recycled and also takes notice of technological solutions, guaranteeing correct exploitation of buildings and their occupants’ comfort. All this necessitates making current to the day syllabi for acquirement of knowledge and skills of trainees in green construction, as well as posing the acquired qualification in accordance with the demands of labor market and employers.

1.1 Aim of the Intellectual Outcome

The aim of the output O1 is to collective concept for the analysis of needs and competences in green skills teaching by traditional vocational training institutions in order to increase the skills and competencies of construction workers.

- Creating of questionnaires to determine the requirements of the construction industry for construction workers: competencies in green construction.
- Needs analysis in green skills teaching providing from the traditional vocational training institutions.
- Sending inquiry to about 100 construction workers and 20 construction companies in each partner country.
- Define the requirements of the construction industry for the necessary competencies of construction workers in the field of green building.
- Analysis of the needs of green skills teaching by traditional vocational training institutions.

2 Questionnaire survey

2.1 Objectives and tasks of the survey

Climate change and growing competition are among the major challenges facing the Member States of the European Union. The construction sector is gradually embracing the idea of building sustainable buildings as an investment linked to ecology and efficiency and part of the overall concept of sustainable development. Green Building combines a wide range of techniques and practices that aim to reduce and ultimately eliminate the impact of newly built buildings on the environment and human health.

There is a need to change the principles of existing patterns of consumption and production in the direction of greater sustainability in the longer term.

There is a need for change in people's thinking, as well as knowledge and skills in the field of "green building". New knowledge and skills are needed for the needs of green building.

The main objective of the survey is to establish the relevance of the curricula related to acquiring the knowledge and skills of the trained persons in green construction.



2.2 Preparation and conducting the survey

At the end of November 2017, the working group on the project discussed the issues that will be used in the surveys that will examine the opinion of employers and workers in the construction industry. These issues will be proposed for discussion at the Rezekne meeting.

At its second regular meeting the working group held a meeting with professional construction organizations, construction workers, representatives of vocational training centers, professors in the profession "Builder", representatives of the Labor Office of Gabrovo, the Chamber of Builders - Gabrovo. The questions from the surveys for employers and workers in the construction industry will be proposed for discussion to the project partners.

Researchers, analysts and pollsters were attracted. They interviewed various institutions related to the construction industry to select construction companies to participate in the survey. The task of the initiation of the survey was to summarize and to analyze the information received from the surveyed construction companies. In the survey, after preliminary conversations, 21 construction companies were selected to participate, of which:

52.4% are representatives of small enterprises up to 50 people,

23.8% of medium-sized enterprises,

23.8% have a median of up to 10 people.

The questionnaire for employers are seeking for answers to the question whether green technology is being applied.

At the third meeting of the working group in December, the final version of the surveys, which examined the opinion of the employers and workers in the construction industry, was decided. The way in which the survey will be conducted has been approved.

3 The questionnaire

The aim of the questionnaire was to prove, that there is a need to provide curriculum and learning content on the green construction in Hungary, as the standard curriculum in the construction sector does not include knowledge about these field, what is more-and-more important for the humans in order to protect the environment.

In the first phase of the project a survey was carried out in Hungary by involving representatives of the target groups, workers employed in the construction sector, mainly builders, and vocational students learning for builder profession.

For the realization of O1 production, 2 questionnaires were developed to collect data on the training needs of construction workers in Latvia, Bulgaria, Hungary and Germany.

One questionnaire was designed to collect data from construction workers in Latvia, Bulgaria, Hungary and Germany on their need to acquire competencies in the areas of green building.

The second questionnaire is aimed at collecting data from construction companies in Latvia, Bulgaria, Hungary and Germany on the need for workers with specific competencies in the fields of green building.

The questionnaires were translated into the national languages of the partner countries.

The questionnaire for construction workers consists of 21 questions designed to analyze of different aspects of the construction workers interviewed.

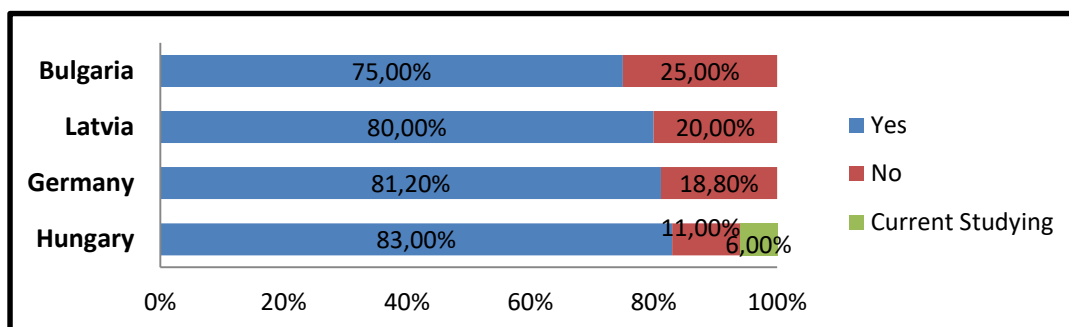
The questionnaire for construction companies consists of 28 questions designed to analyze of different aspects of the company interviewed.

4 Questionnaire results

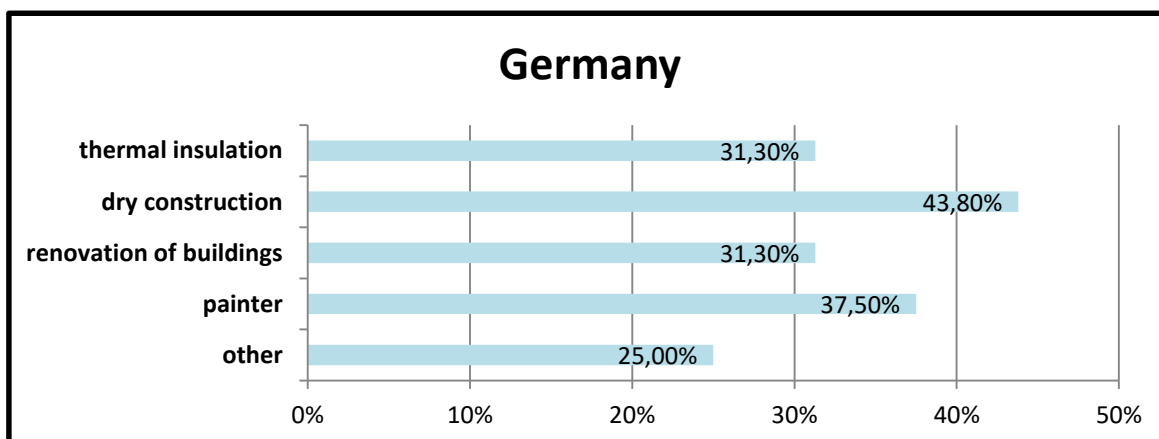
4.1. Questionnaire for construction workers

100 responses

1. Do you have a qualification class for your building profession?

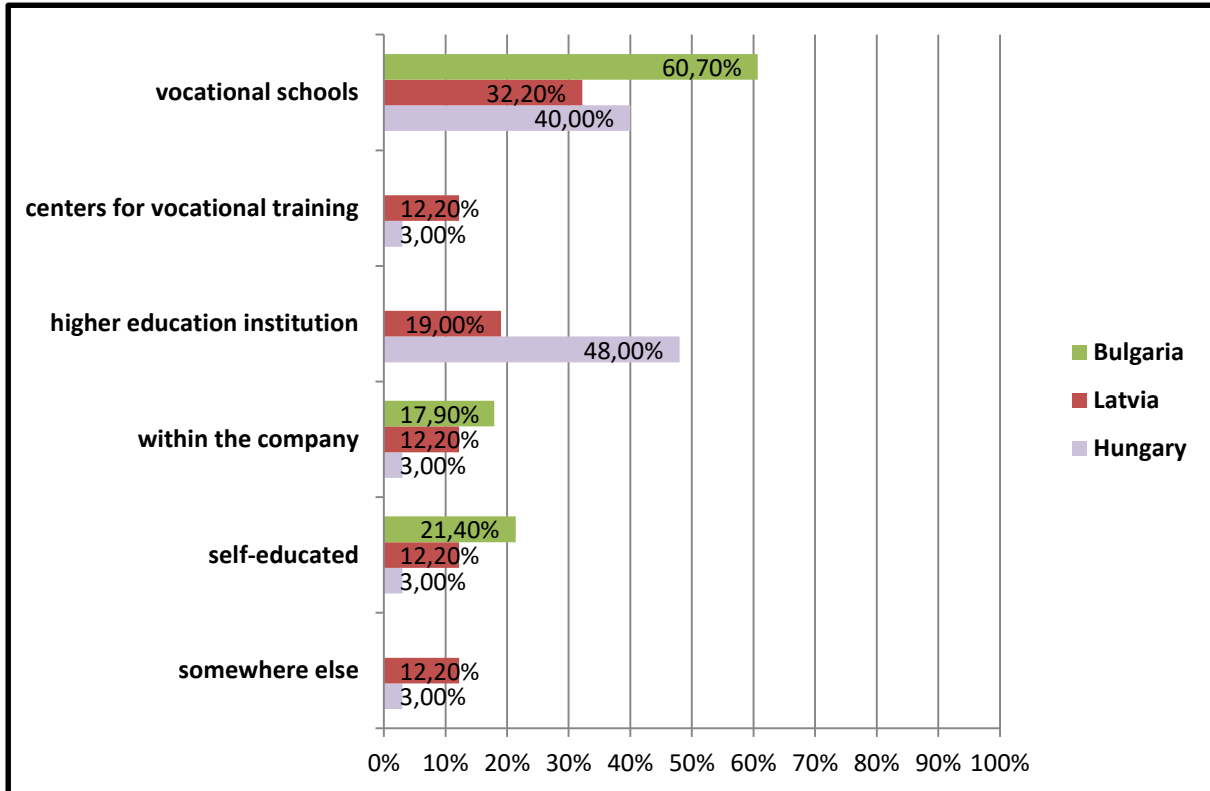


2. What are you currently working on?

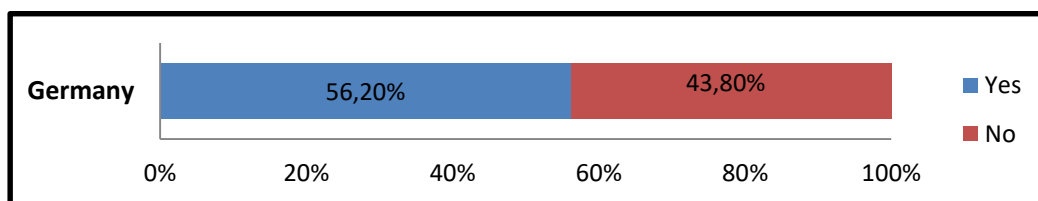


This Diagram shows that the highest fraction are the group of dry constructor. With 37.5% the painters are on place 2nd. On the 3rd range are the thermal insulation and the renovation of buildings. The lowest group is the section others with a result from 25%.

3. Where have you acquired that qualifications?

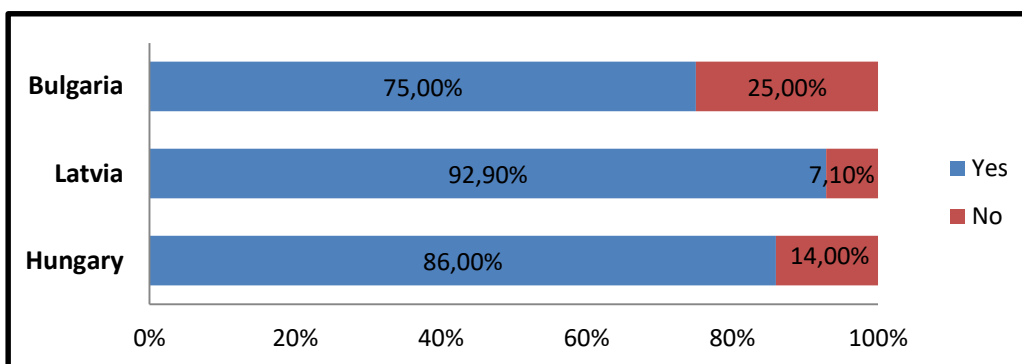


4. Do you think the level of your knowledge and competences corresponds to modern building technologies?

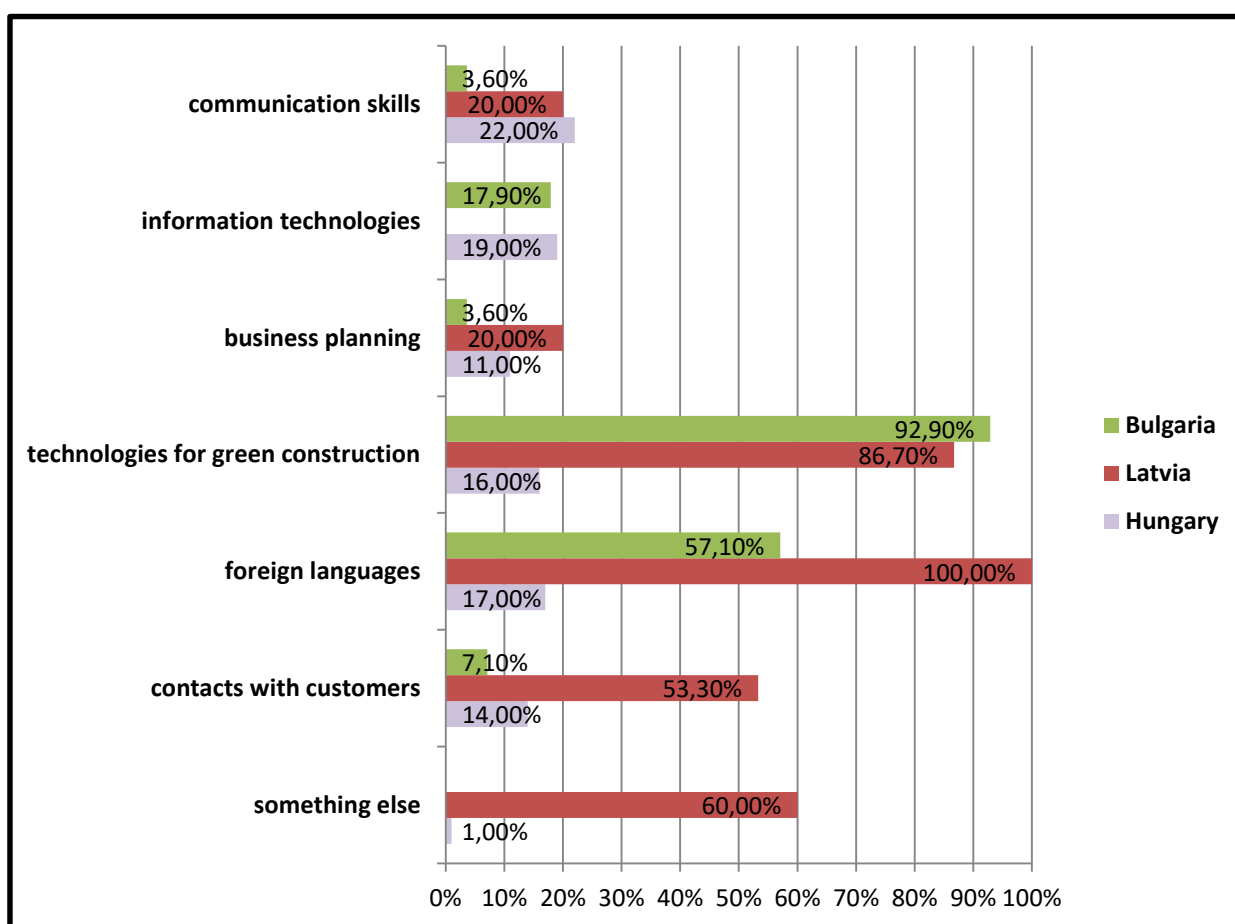


56.2% are in property of knowledge and competences to modern building technologies. But 43.8% haven't got knowledge and competences in this section. So there is many to move on.

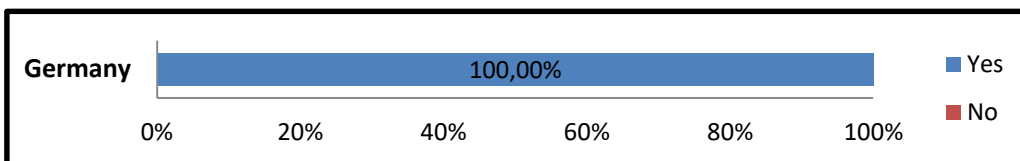
5. In your job, are there any other skills necessary, different from the specific skills for your profession?



5.1. If "Yes", please indicate which of the following skills, you can choose more than one answer:

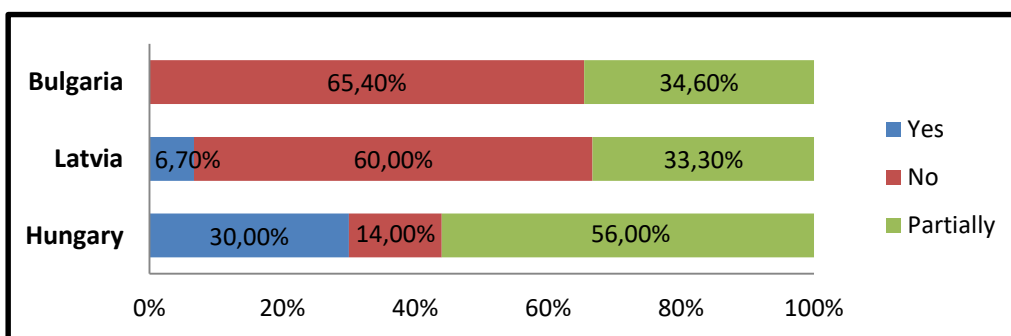


6. Would you like to increase your qualification in the field of Green Building?

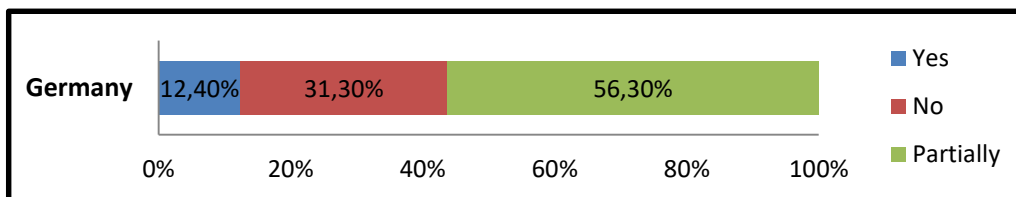


100% are interested to increase their qualifications in the fields of Green building. Such an interest is amazing to registered.

7. Are you familiar with the basic principles and requirements of "green" stuff?

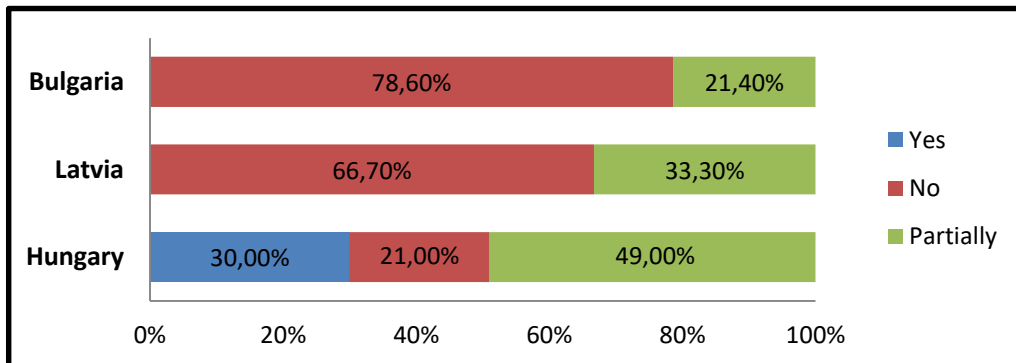


8. Are you familiar with the basic technologies used in Green Building?

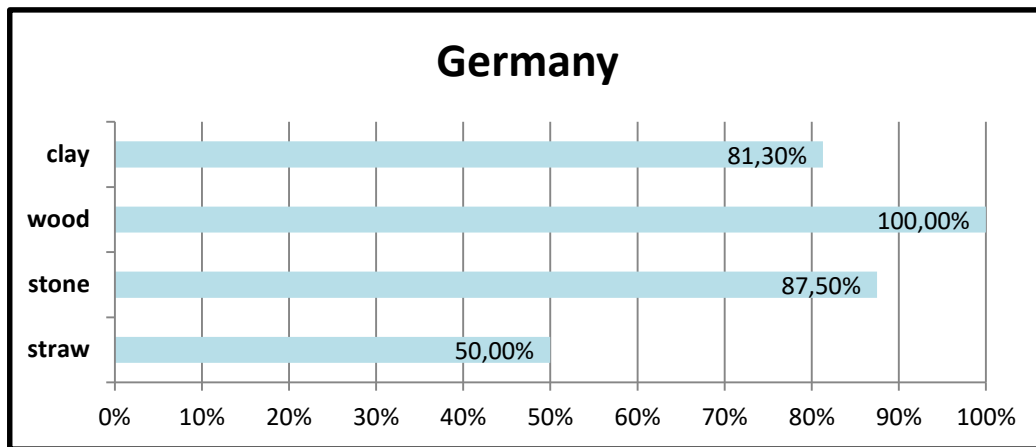


Only 12.4% are familiar with the basic technologies. So we have to change this, because Green Building is the future of building profession.

9. Does your company apply in its practice technologies of "green" construction?

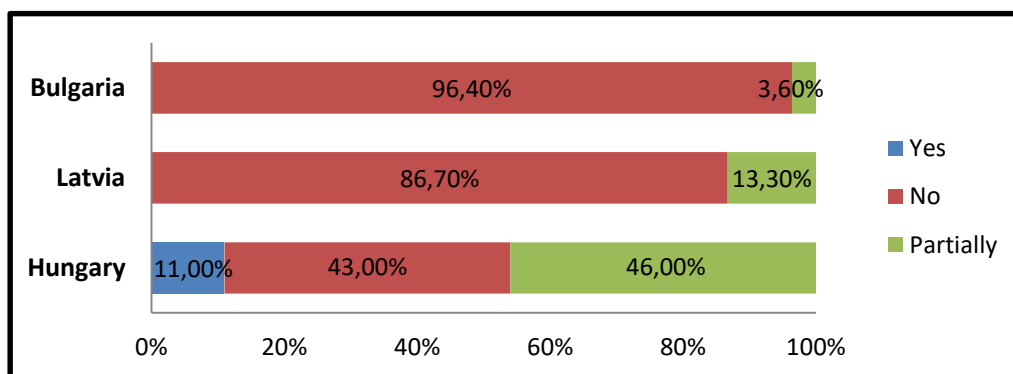


10. Do you use environmentally friendly building materials in your work?

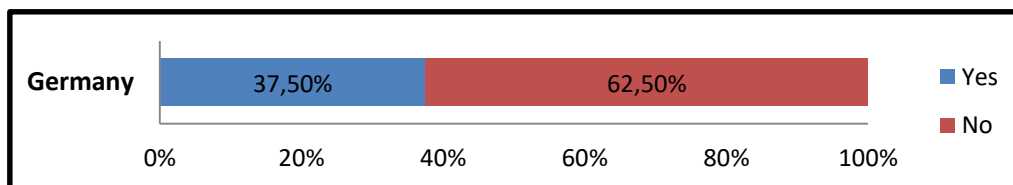


There is a 100% use from wood in the building process from our participants. There is also a high commitment from stone with 87.5%. Clay is on a high awareness level to 81.3% use it in their working process. Only 50% use straw. But there is to different the material with the groups. A painter has no possibility to use straw for build something.

11. Does your company carry out training in the technologies of green building?



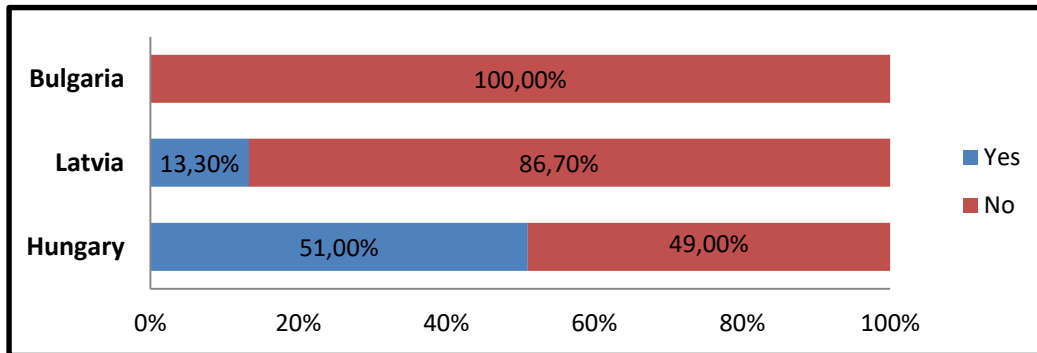
12. Do you want to go through green-related training in green building?



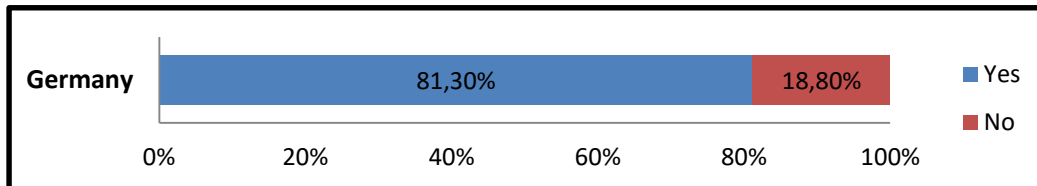
62.5% haven't visit some training in Green Building. So the target is to change the diagram to 62.5% they have visit trainings.



13. Do you have own theoretical and practical knowledge related to process: The materials used in "green" buildings?

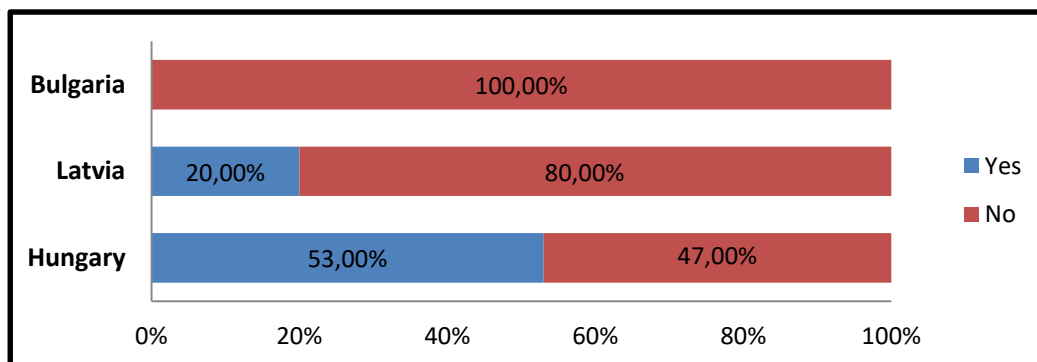


14. Do you think that improving your foreign language training will help you to improve your green skills (knowledge and skills)?

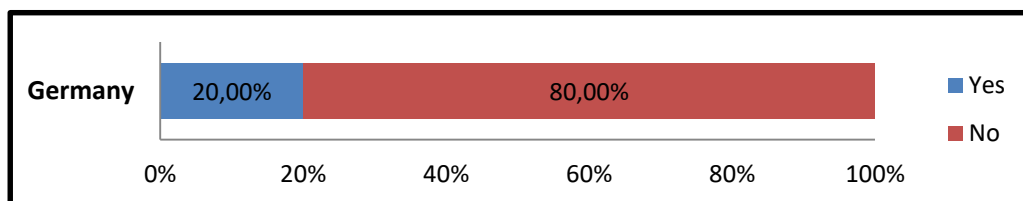


*To improve your foreign language training help you to improve your green skills.
81.3% of the participants are thinking in this way.*

15. Do you have own theoretical and practical knowledge related to process: Energy efficiency applied in "green" building?

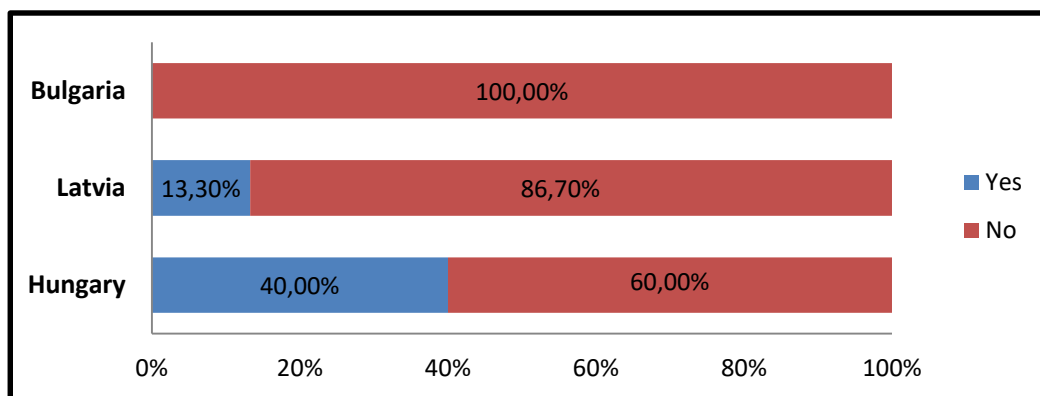


16. Do you want to get acquainted with the specific technologies involved in building the so-called passive houses?

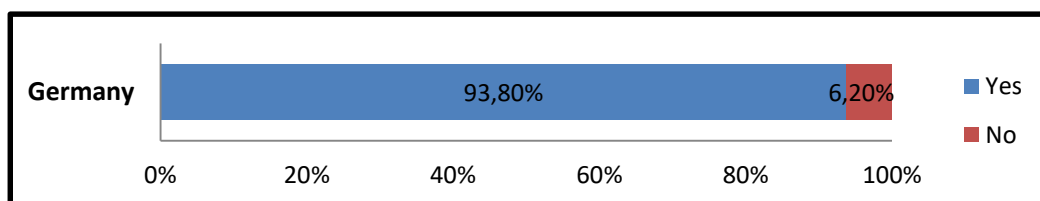


80% haven't any acquainted with the specific technologies as to build a passive house. There is a lot of potential to get a change. Only 20% are involved with passive houses.

17. Do you have own theoretical and practical knowledge related to process: Building and construction of the so-called "passive house"?



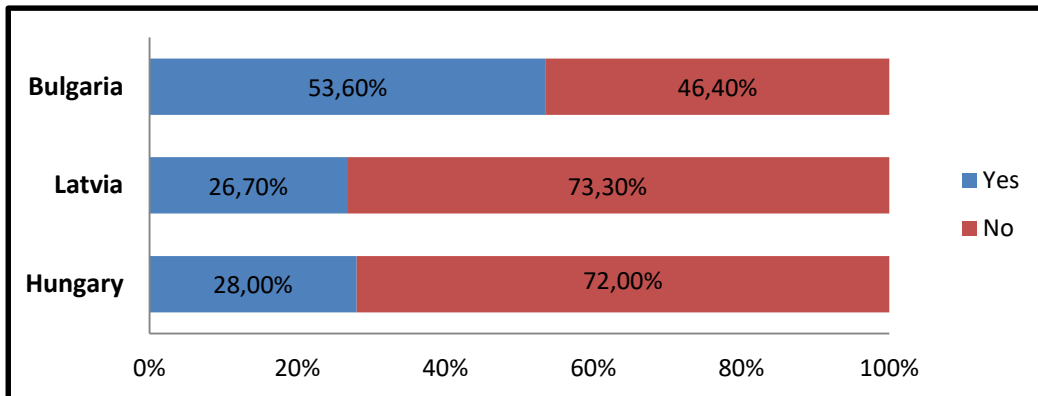
18. Do you think that in order to increase your qualification (knowledge, skills and competences) you need to go through green technology training?



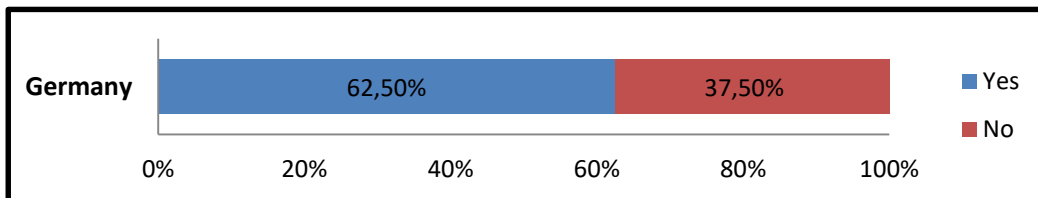
There is a high demand to increase the qualifications for green building. So you can see that 93.8% are interested in green building.



19. Do you have own theoretical and practical knowledge related to process: "Green" industry (the "green" economy)?

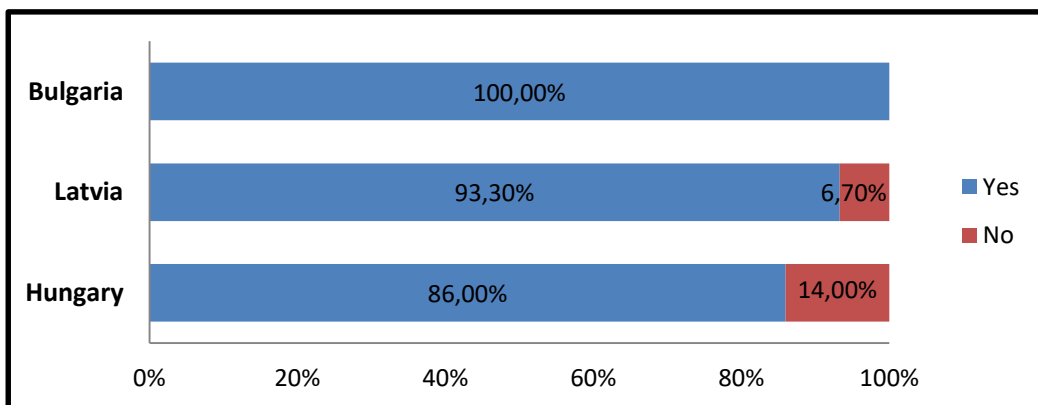


20. Is it necessary for the profession of a construction worker acquire knowledge in the field of the green economy?



There are a share from 62.5% of the members thinks that is necessary for the profession of construction worker. It is to be important in matters of the building development.

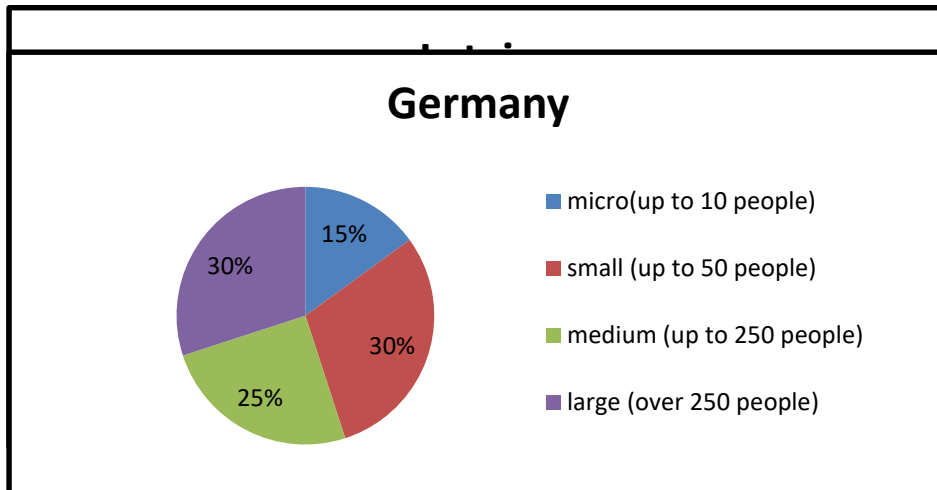
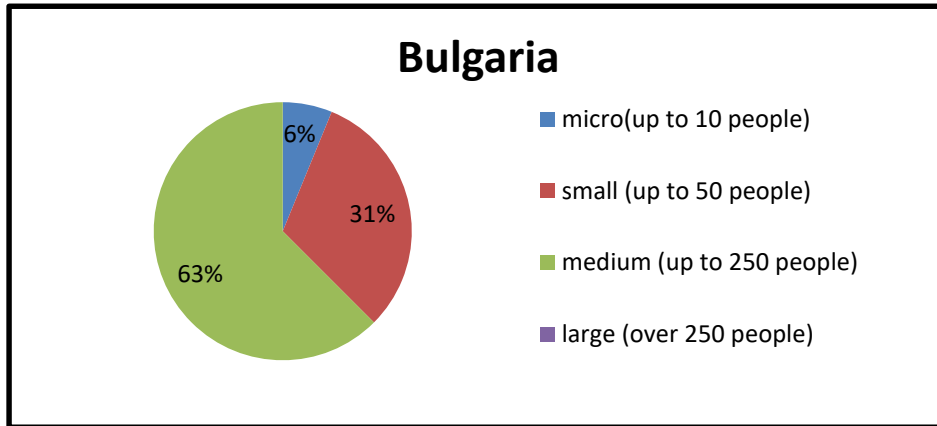
21. Would you like acquire knowledge and skills in the field of "green" construction?



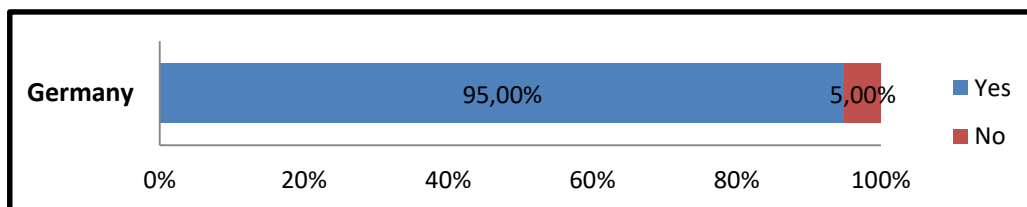
4.2. Questionnaire for construction companies

20 responses

1. What is the average staff number of the enterprise/ company?



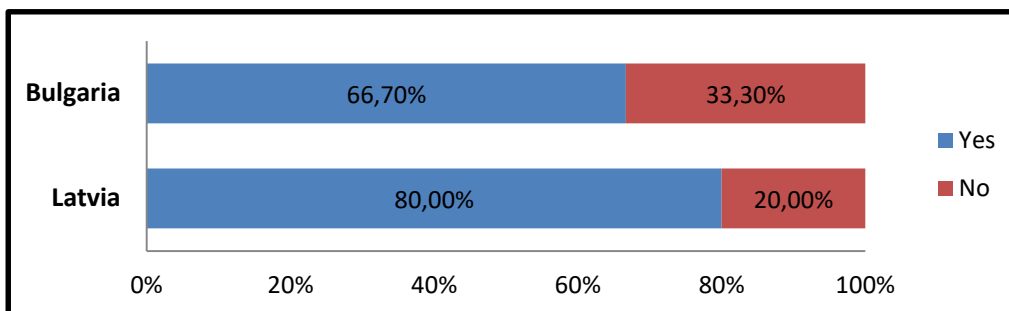
2. Do you apply in your Company innovations related to green technology in construction?



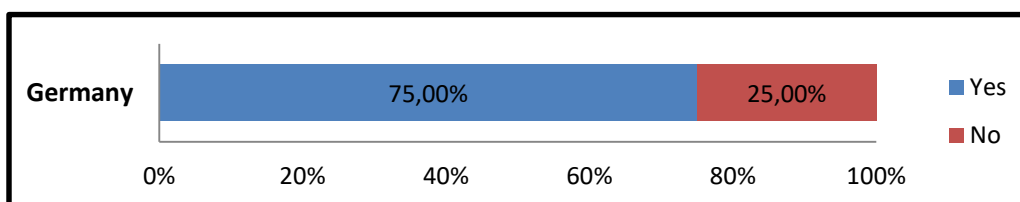
95% advertise for green technology construction. In matters of the inquiry from the workers only 12.5% are familiar with the basic technologies used in green building. So the workers have to be trained in this task.



3. Are there criteria "Requirements for professional training" when you select personnel for your company?

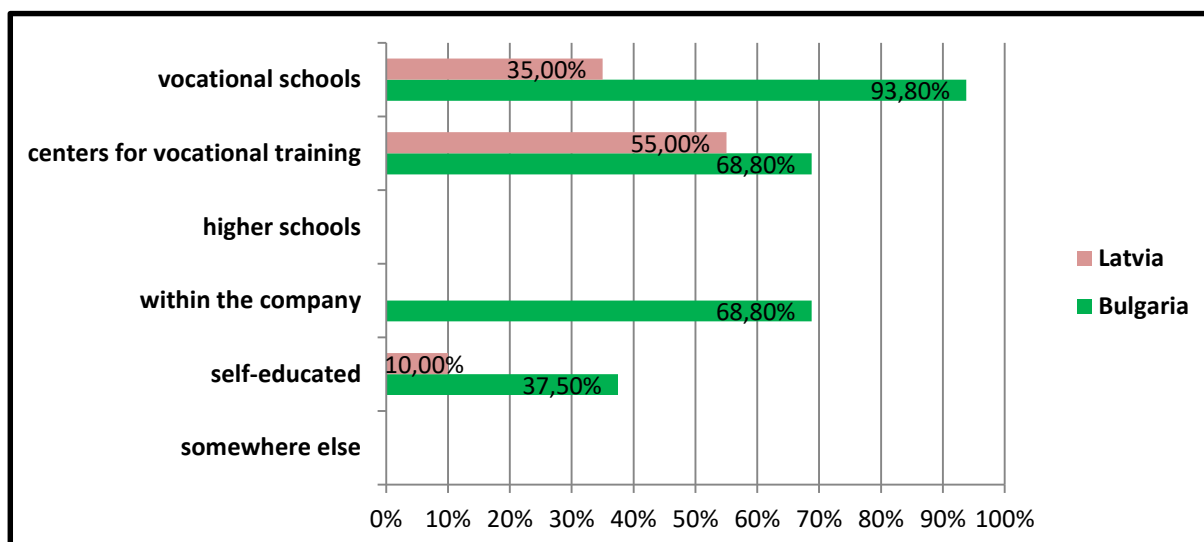


4. Do your building workers have knowledge and skills in the field of environmental construction?

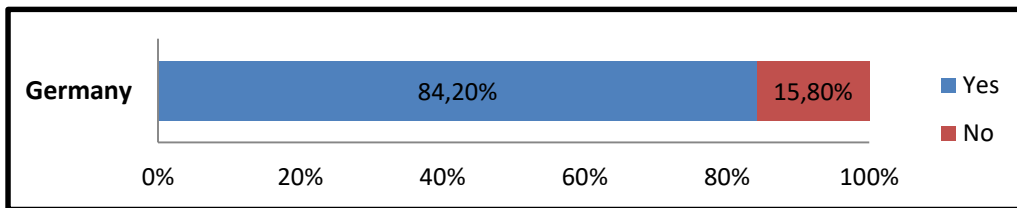


75% of the firms are in property of knowledge and skills in the field of environmental construction.

5. Where were the employees trained in your company (enterprise)?

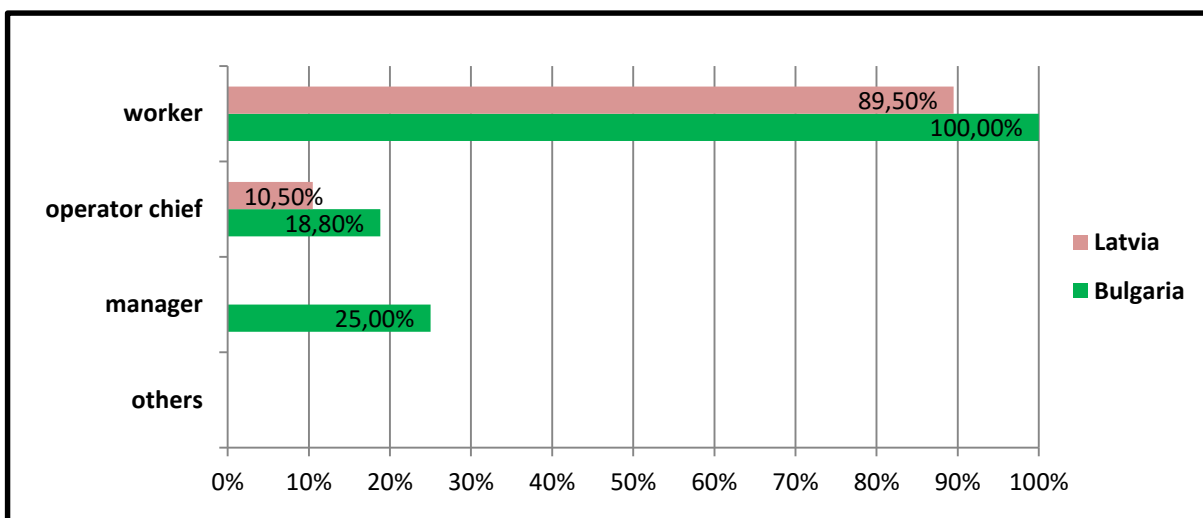


6. Do you plan to train your construction workers in the field of green building?

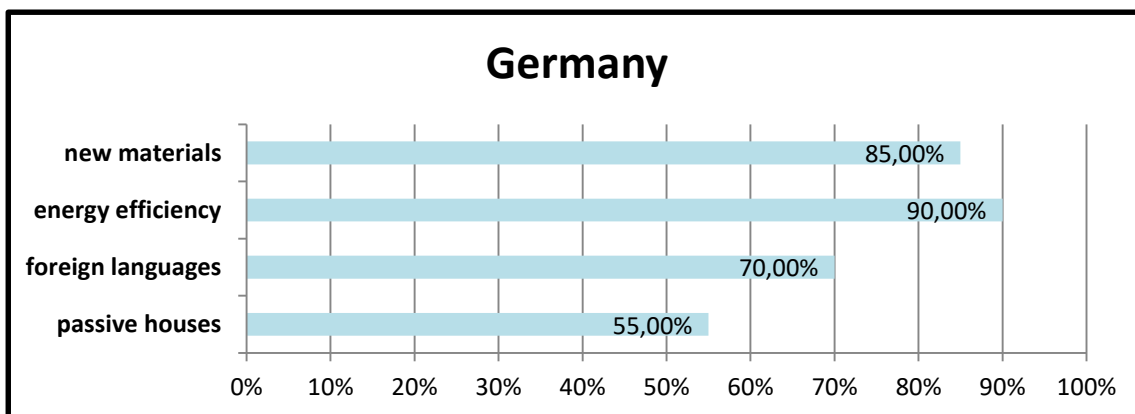


84.2% of the companies plan to train their construction workers in green building.

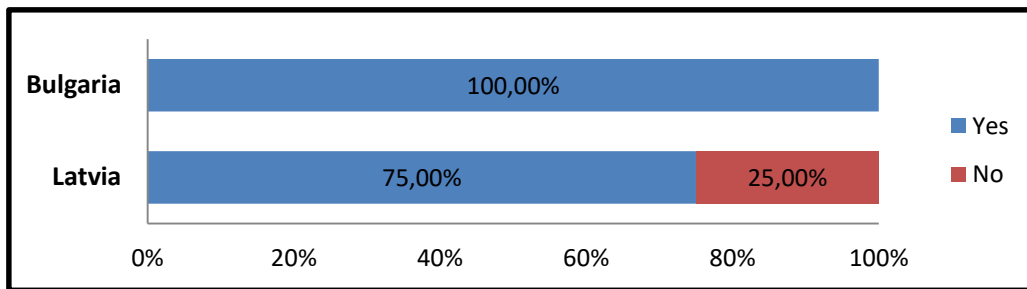
7. What posts in your company are people with professional qualification - expert assessment employed for?



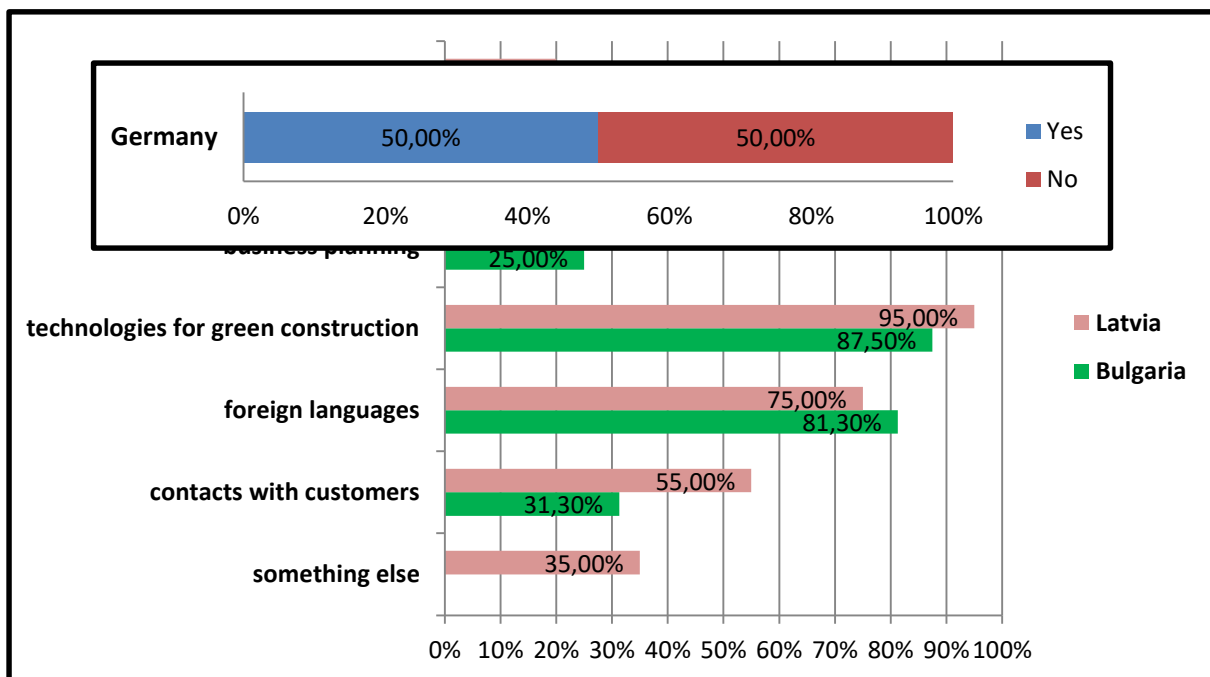
8. In what areas of green construction would you like your construction workers to be trained?



9. Do your employees have to possess other skills, apart from the specific ones to practice the profession?



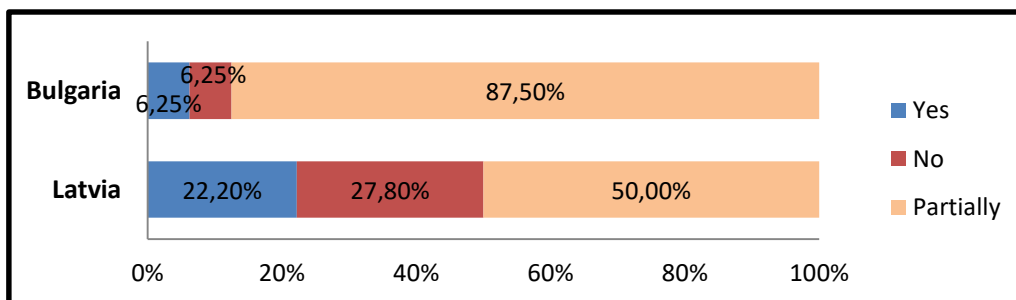
9.1. If yes, please, point out which ones (more than one item is possible):



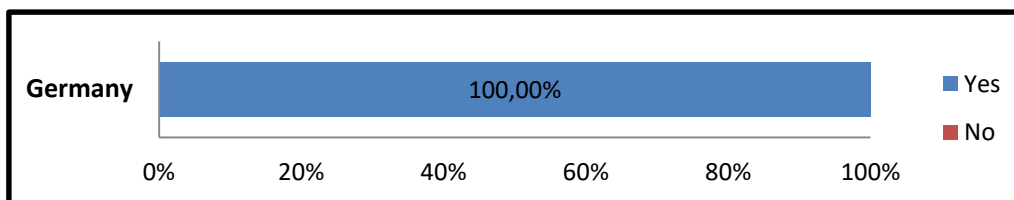
10. Have your construction workers participated in Green Skills training in recent years?

This diagram shows balance in referring to the Green Skill training.

11. Are you familiar with the basic principles and requirements of "green" stuff?

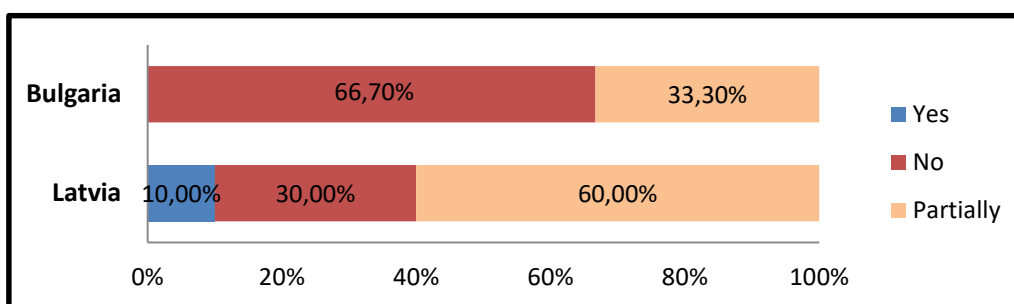


12. Is it necessary for your workers to go through a training module related to applying new materials to green building?

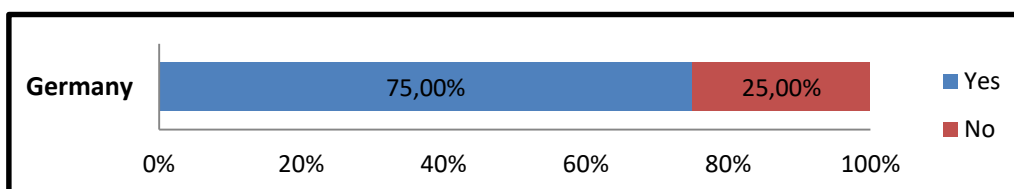


100% thinks that it is necessary to go through a training module.

13. Does your company apply technologies of "green" construction in its practice?



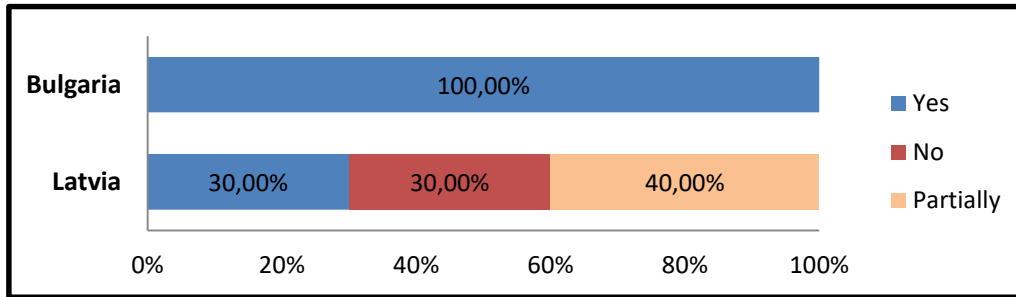
14. Does your company work with foreign suppliers of materials and technologies for green building?



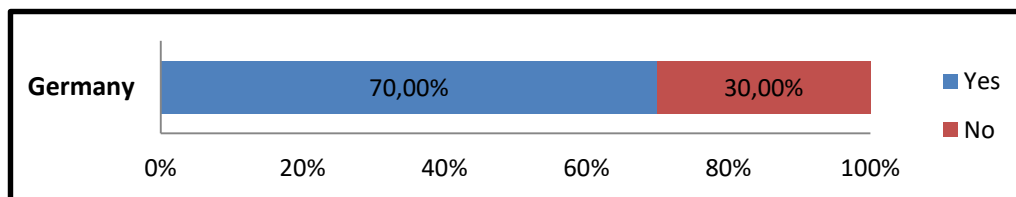
75% works with foreign suppliers. Only a quarter works with local suppliers.



15. Are you interested to learn about "Green" Building technologies?

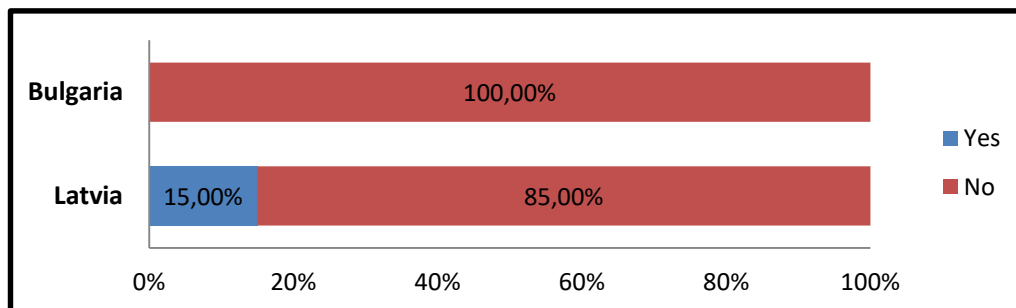


16. Do your construction workers need to increase their specialized foreign language competencies in the field of green building?

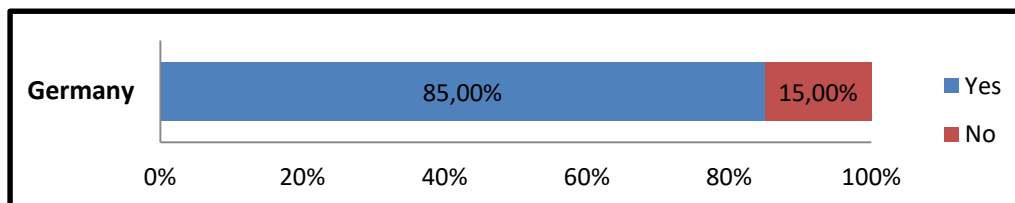


70% would like to train their personal in the specialized foreign language in the field of green building.

17. Do the persons you employ possess theoretical or practical knowledge related to the materials used in "green" buildings?



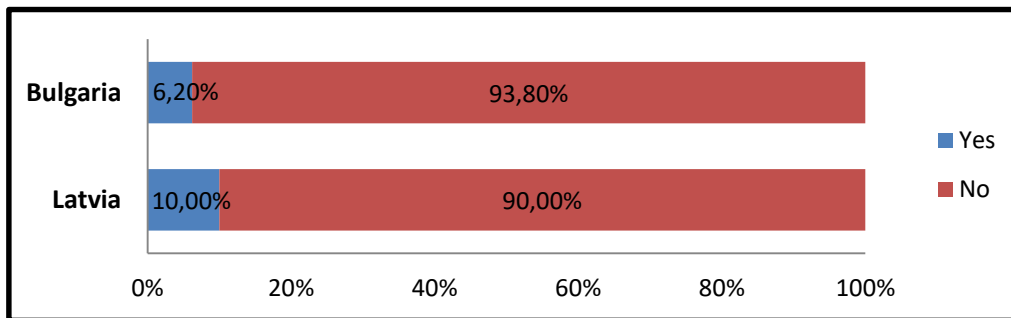
18. Would you include your construction workers in green building technology training?



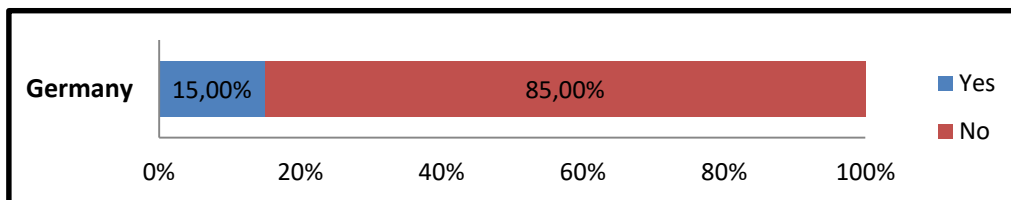
There is a high demand for green building technology training.



19. Do the persons you employ possess theoretical or practical knowledge related to the energy efficiency applied in "green" buildings?

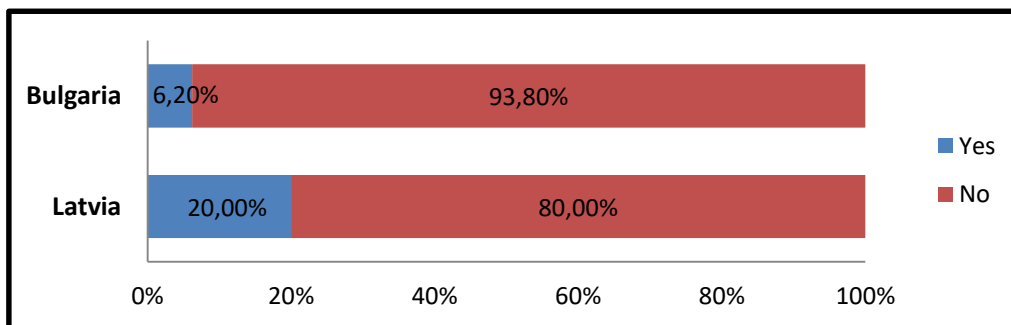


20. Are your workers aware of the technologies associated with building „passive houses“?

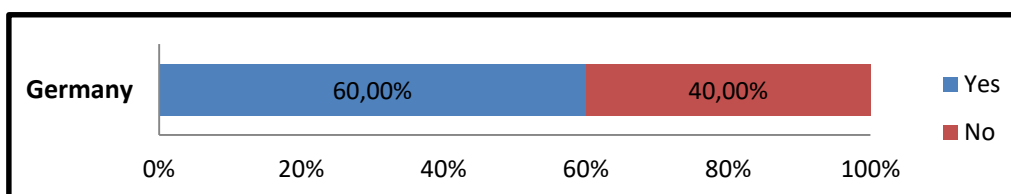


85% of the workers haven't got enough knowledge to built a passive house.

21. Do the persons you employ possess theoretical or practical knowledge related to the building and construction of the so-called "passive house"?



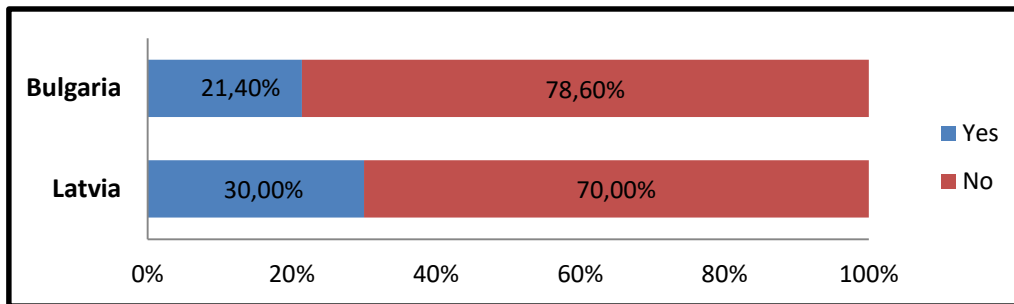
22. Do your construction workers need to have knowledge and competencies in the Green Economy?



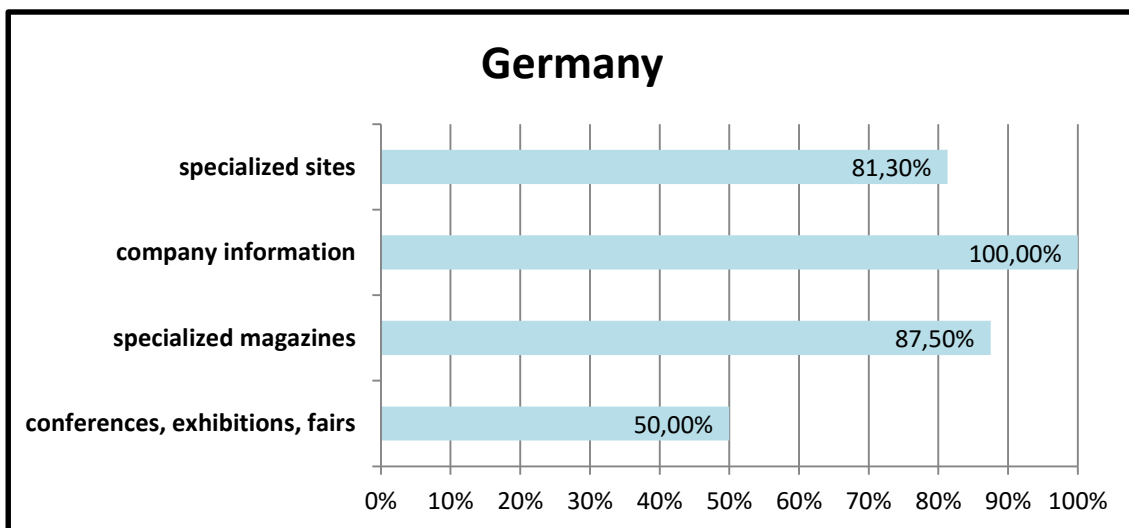
60% think that it is preferable to have knowledge and competencies in the green economy.



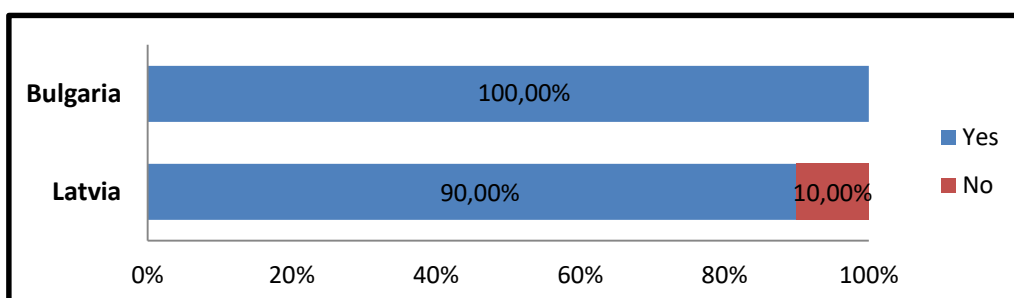
23. Do the persons you employ possess theoretical or practical knowledge related to the "Green" industry (the 'green' economy)?



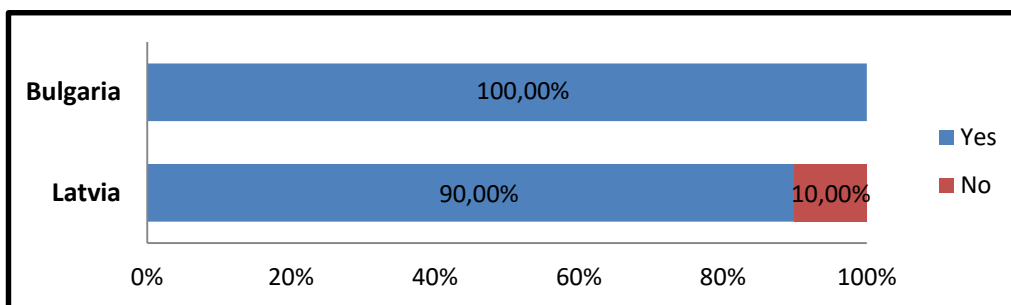
24. From what sources do you get information about the developments in the field of green building?



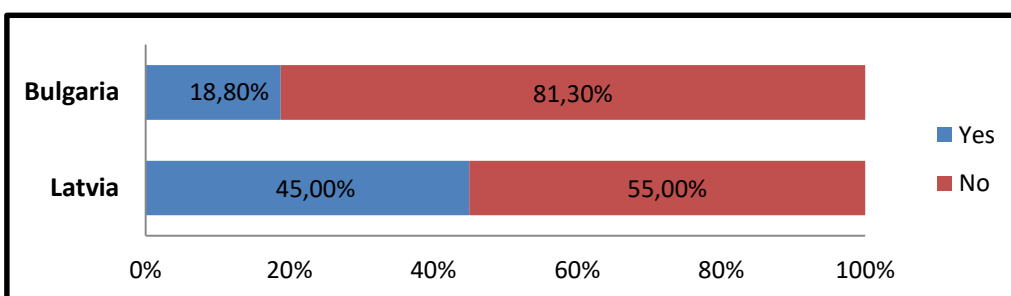
25. Would you like training in the basic modules in "green" construction: The materials used in "green" building:



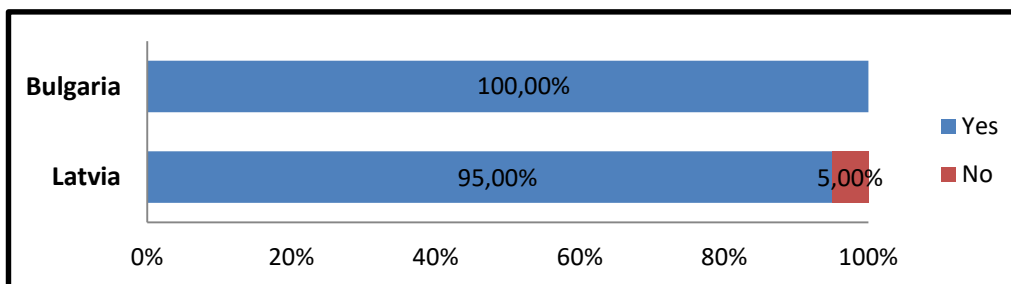
26. Would you like training in the basic modules in "green" construction: The energy efficiency applied in "green" building:



27. Would you like training in the basic modules in "green" construction: The "green" industry (the 'green' economy):



28. Would you like training in the basic modules in "green" construction: The building and construction of the so-called "passive house":



5 Conclusions

The transition to low-energy, environmentally friendly construction is unthinkable without measures to increase the skills of the construction industry.

In addition to adapting curricula for initial vocational training, lifelong vocational training plans should be introduced, as almost all construction workers will be engaged (albeit at different levels) in the coming years in continuous vocational training activities under the so-called "Green skills" on the site itself or through specialized training programs.

It can be concluded that the knowledge about the application of innovative environmental solutions in buildings is insufficient both in the public educational system and in the vocational training centers.

Based on the survey inquiries, the following topics were identified related to the extension of the qualification and the improvement of the skills of the green construction sector and the working construction workers:

- Knowledge, skills to choose and use environmental materials;
- Environmental technologies;
- General knowledge and skills for building passive buildings;
- Foreign Language training in the field of Green Technology;
- Green economy.

6 PROJECT BASICS

- Acronym: Green construction
- Grant agreement no.: Nr. 2017-1- LV01-KA202- 035483
- Title: IMPROVING THE PROFESSIONAL SKILLS IN GREEN CONSTRUCTIONS THROUGH ONLINE TRAINING
- Duration: 1 September 2017 – 31 August 2019
- Action type: KA2
- Programme: ERASMUS+
- Participating countries: Latvia, Bulgaria, Germany, Hungary



OBJECTIVES

The project proposal aims through the creation of transnational partnerships to develop training product with innovative multimedia modules to meet the identified needs of the European construction sector of green skills of low-qualified workers and young people who have a choice of profession. The project team will study and analyse the existing trainings in the field of energy-efficient construction in partner countries it takes the identified needs of the European construction sector, into account, and it will develop, test and validate the modules for continuing professional education, in the field of green construction.

Coordinator: **Rezekne Academy of Technologies**

Contact: Prof. Lybomir Lazov, E-mail: lyubomir.lazov@rta.lv

TARGET GROUPS

- **Primary target group: VET teachers**
- **Secondary target group: VET students**

PARTNERS

- Rezekne Academy of Technologies, Latvia
- Veda Consult, Bulgaria
- Schnellkraft Personalmanagement GmbH, Germany
- European Center for Education, Science and Innovation, Bulgaria
- iTStudy Hungary Számítástechnikai Oktató- és Kutatóközpont Kft., Hungary

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