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Marine Industry Practical Education for Engineering

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Abstract. Practical Education for High level students it is a very important task for every University. Companies have to be involved in the students Practical Engineering Education, considering their know-how and economic support. A very modern and efficient Practical Education has been offered by Alewijnse Holding BV Company, Nijmegen Holland, for Computers, Automation, Electrical and Electronic faculty students in Galati Dunarea de Jos University and is presented in the paper.

1. Introduction

Practical Education for High level students it is a very important task for every University. Companies have to be involved in the students Practical Engineering Education, considering their know-how and economic support [1], [2], [3], [4]. A very modern and efficient Practical Education has been offered by Alewijnse Holding BV Company, Nijmegen Holland, for Computers, Automation, Electrical and Electronic faculty students in Galati Dunarea de Jos University and is presented in the paper.

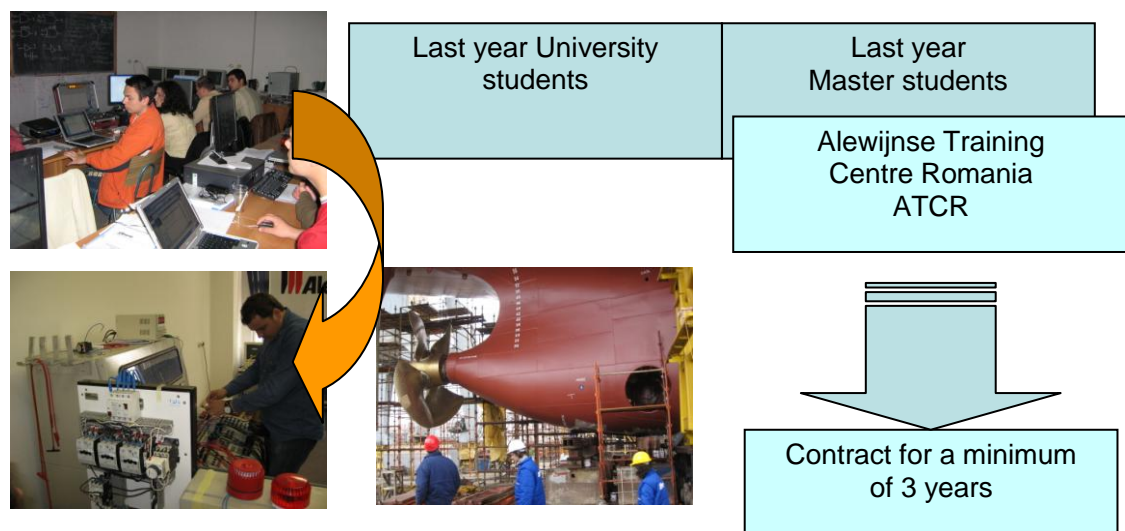


Fig. 1 Educational Plan - general tasks.

Alewijnse Training Centre Romania (ATCR), is a practical training centre located in Galati for young electrical domain students at university level, to train them in a combination of theory and practical aspects, so that they get employed at a level of designer or commissioning/service engineer.

Part of The Centre's activities are located inside the University. Education plan for ATCR is presented in Figure 1.

2. Motivation to give practical education to students

The industry in Romania is large and diverse. At least twelve shipyards, which are already privatized, are engaged in shipbuilding and repairs for both marine and inland waterways. Also pleasure yachts, gas and oil tankers and dredgers can be in the Romanian yards. As in other disciplines of electrical engineering, monitoring technological innovations become more and more difficult. Employees within the industry must be continuously trained to work with the new techniques as well as the need for higher-educated specialists growing.

In principle, within the Galati University, are sufficiently educated electrical engineering students. Problem is that the technical knowledge and above all the practical skills of these people are insufficiently responsive to the specific question of the companies. Given the growing demand for higher-trained electrical staff who have relevant knowledge, Alewijnse Holding has decided to launch a training in Galati. This training focuses on graduates and final year students of the University Dunarea de Jos in Galati. It is the intention to in one year students ready to steam to function as an engineer, service-engineer or commissioner.

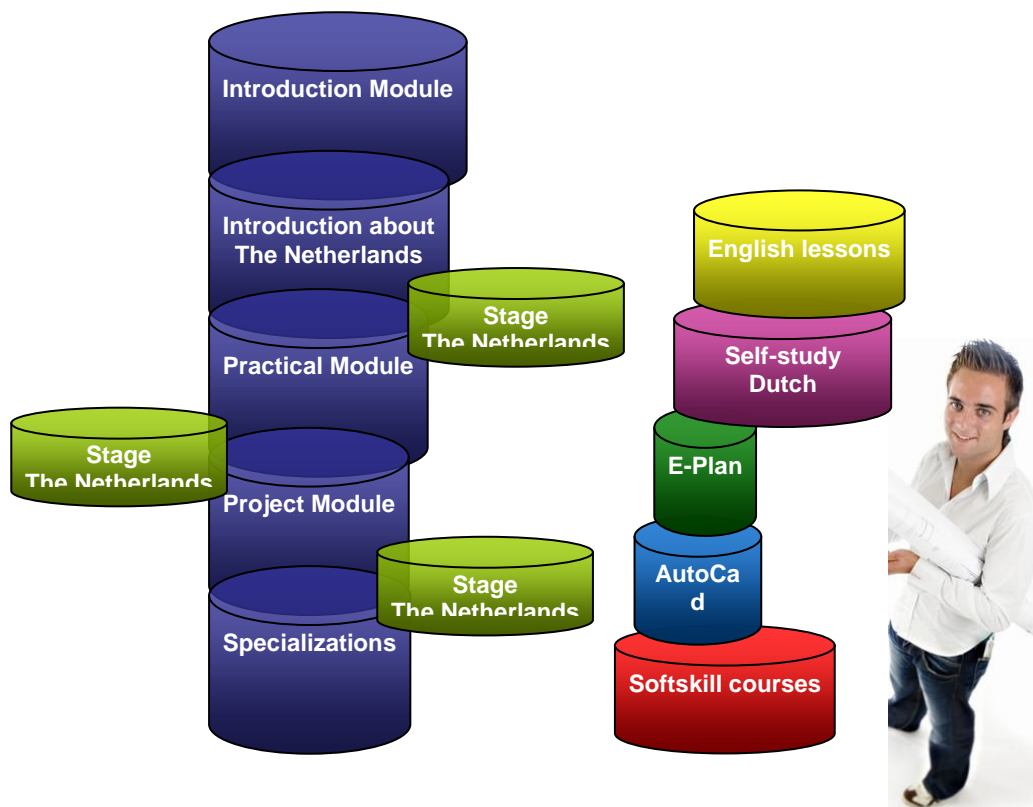


Fig. 2 Educational Plan – educational steps.

The accession of Romania to the European Union offers opportunities for economic growth. Many companies are expected in the coming years substantial investments in new technologies to consult better suited to the European market. The lagging behind of training in relation to these new technologies is at present a major bottleneck in the labour market. Problem is that the knowledge and skills of this potential staff unsuited to the competence in business, that rapid growth is desirable. This requires a strong catching up, both in terms of the initial vocational education as the training of workers. Steps for the educational plan for ATCR are presented in Figure 2.

3. Results of the training

The education plan for ATCR starts with introduction in Romania and The Netherlands (Figure 3). These activities involve the following tasks:

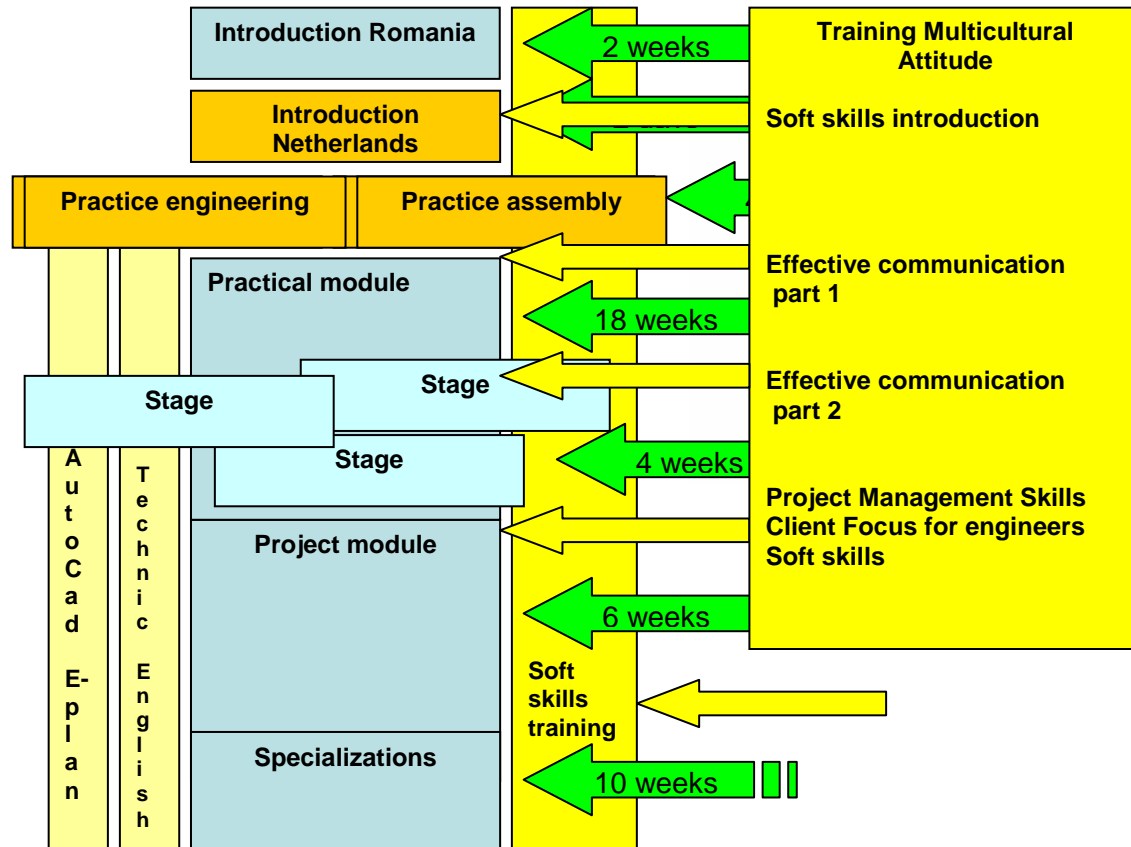


Fig. 3 Practical education plan.

- Explanation of the education content
- Basic knowledge
- Training Multicultural Attitude (training company)
- Traveling information
- Traveling and checking in in the hotel
- Welcome by the business unit manager
- Introduce to the employees from the business unit
- Presentation of products and services
- Guided tour through the switchboard department
- Hand over work clothes and tools
- Excursion to project ('s)

The group of 24 students are separated in 2 groups. Each group will be one week in university and one week in the Practical Centre. ATCR students technical skills developed in the project are

developed on three directions: University theoretical module; Industry Holland and/or Romania Galati practical stage; Practical Centre activity. According with ATCR students preferences, table 1 presents their need for work in the first place (option1), second place (option 2), third place (option3, 4, 5).

Table 1 Optional preferences.

| Preference | Marin | | | Industrial | | | Utility | | |
|---------------------|----------|----------|----------------|------------|----------|----------------|----------|----------|----------------|
| | Option 1 | Option 2 | Option 3, 4, 5 | Option 1 | Option 2 | Option 3, 4, 5 | Option 1 | Option 2 | Option 3, 4, 5 |
| Automatics | 6 | - | 4 | - | 7 | 4 | - | - | 8 |
| Informatics | - | - | 4 | 2 | - | 1 | - | 2 | - |
| Design/ Engineering | 6 | 2 | 6 | 1 | 6 | 3 | 2 | 2 | 3 |
| Commissioning | 2 | - | 5 | 1 | 2 | 3 | - | 1 | 2 |
| Service | - | - | 4 | - | - | 4 | - | - | 3 |

4. Conclusions

The purpose of the activities undertaken by Alewijnse Holding in Galati will be launched in the first instance in the short and medium term can address the need for qualified young electrical engineering students. At the same time Alewijnse wants that through the development and implementation of structural activities to contribute of the sustainable development of the technical and vocational education in Galati immediate vicinity and thus to stimulate the regional economy.

It goes without saying that initiatives such as the creation of a practical school by Alewijnse in Galati, when will contribute to a better connection to the labour market. It may however be expected that the activities of the ATCR in collaboration with educational institutions in the region, the companies operating in the shipping installation domain, but also in other disciplines, benefits will go. The ATCR in this context can be seen as a great stimulus for the development of the electrical training in the region. This development gave to young people from the region much better skills and even they can develop an international oriented career. This development at the moment, for example, appeared in the ICT sector. The ATCR is not just a means to the need for skilled labour from short term to be completed. Even more can the initiative be seen as an engine for the necessary renewal of the technical vocational education in the region Braila-Galati.

References

- [1] W. H. El, Maraghy. Future Trends in Engineering Education and Research"; Advances in Sustainable Manufacturing: Proceedings of the 8th Global Conference on Sustainable Manufacturing, Springer Berlin Heidelberg, 2011, 11–16.
- [2] Confederation of British Industry. Engineering our future: stepping up, STEM London, England: CBI, 2014.
- [3]] Vicente Ferreira de Lucena, Jose Pinheiro de Queiroz Neto. Gift young future engineers: An extra-curricular initiative for updating computer and electrical engineering students courses; In Proceedings of the 2011 Frontiers in Education Conference (FIE '11). IEEE Computer Society, Washington, DC, USA, 2011, S1G-1-1-S1G-6.
- [4] M. Powell. Effective work experience: an exploratory study of strategies and lessons from the United Kingdom's engineering education sector"; Journal of Vocational Education & Training, Volume 53, 2001, 421–441.
- [5] M. K. Schuurman, R. N. Pangborn, R. D. McClintic. The influence of workplace experience during college on early post graduation careers of undergraduate engineering students; WEPAN/NAMEPA Third Joint National Conference Proceedings: Leveraging Our Best Practices: Hitting the Parity Jackpot, 2005.