

Life-long Learning and Adaptability of Human Resources in Automotive Industry

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Automotive industry is one of the main industries in the world. In Central Europe it has evolved mainly with such automotive companies as: Toyota, PSA, VW, Opel, Ford, ŠkodaAuto and others. This situation has raised a demand for a great number of specialists in various fields like: mechanical engineering, electrical engineering, logistics, management and others. Therefore, a very high level of education and training of human resources is one of the top requirements of this industry.

The article deals with life-long learning in automotive industry and describes the creation and use of new methods and techniques for the learning processes in this field.

Project Characteristics

Nowadays, the automotive industry is considered to be an important accelerator of industrial production and national economy. It is really significant in case of the Slovak Republic because during the next years, thanks to the start of production in two newly built automobile factories together with another new plant which will be finished by the end of 2008, the situation will change. In 2009 Slovakia will become the leading country in automobile production according to the number of cars produced per one inhabitant, i.e. more than 1 million passenger cars will be produced in 4 automobile factories of the Slovak Republic each year.

Regions of Eastern Slovakia, which at present have an unemployment rate of 20%, are undergoing structural changes. The armament industry and delivery for former Warsaw Pact countries belong to the past. The project described in this paper is a response to this situation and encourages new trends to create job opportunities, mainly in automotive supplier sectors, service sector and SMEs. New jobs require

retraining, obtaining new skills and greater adaptability of human resources to the changes on the labour market.

All the factors mentioned above have led to the creation of a project, co-financed by the European Social Fund. The project is carried out by the Technical University of Košice, Slovakia within the European EQUAL Community Initiative.

The European Social Fund is one of four EU structural funds. It promotes employment, business aptitude, equality of opportunities and investment into human resources. The European EQUAL Community Initiative operates within the framework of European Employment Strategy making it one of the Community's initiatives to focus on elimination and alleviation of all forms of discrimination and inequality from the labour market. Moreover, it provides opportunities for development, verification and application of new integrated approaches, the results of which are to be incorporated into employment and inclusion policy formation of the Slovak Republic. Its main objective is to create conditions and provide the opportunity to seek, test and apply new innovative approaches in resolving the problems occurring while eliminating all forms of discrimination and inequality in the labour market. As a part of this initiative, all Member States have agreed on common thematic fields, on which they wish to co-operate and learn from one another.

The title of the project is "Life-Long Learning and Adaptability of Human Resources for Application in Automotive Industry". Technical University of Košice Slovakia and its Faculty of Mechanical Engineering is the project leader. One of the main objectives of the project is to encourage national and trans-national cooperation. There are three national partners: Molex Slovakia, VVÚ ZTS Košice Slovakia, UPSVaR (Office for Labour, Social Affairs and Family) Košice Slovakia and three organizations for trans-national cooperation: BTC Group Wales, Krajowa Agnecja Informacyjna INFO, Poland, SEIES - Sociedade de Estudos e Intervenção em Engenharia Social, CRL, Portugal.

On February the 14th 2006 a new Multimedia Learning EQUAL Centre, Computer EQUAL Classroom, Consulting EQUAL Office and Automotive Laboratory EQUAL were set up at the Technical University of Košice, Slovakia. The main target groups which will benefit from the project and its results are: graduate students, people over 50, employees endangered by structural changes (mainly technical profession), women after maternity leave and SMEs employees. These target groups use the centre for education in automotive industry throughout the learning courses.

The name of the project implies its main objective, which is development and implementation of System of Life-Long Learning and Adaptability of Human Resources for Application in Automotive Industry. Specific aims of the project are:

- adaptability of human resources undergoing structural changes in industry in regions of Eastern Slovakia,
- increase of employment rate for target groups in regions of Eastern Slovakia,
- implementation of System of Life-Long Learning for innovation together with High-Tech application of modern education technologies,
- improvement of IT skills.

The aims of the project are closely linked to the general EQUAL projects philosophy, mainly EQUAL action No.3.1 (Supporting the creation of an environment to stimulate better human resources and their adaptability in process structural changes and the formation of new technologies) which indicates such tasks as:

- creation of education programmes for the development and sustainable growth of human resources,
- building systems for life-long learning,
- creation of systems focused on renewal and completion of work qualifications and skills for unemployed people,
- formation of progressive and innovative approaches for effective use of High-Tech.

The project of the Technical University of Košice is divided into 7 basic parts corresponding to following activities: project management, development of Systems for Adaptability of Human Resources and Life-Long Learning, development of learning modules, establishment of learning centre, realization of pilot learning courses, trans-national partnership, publicity and dissemination of the results.

Those activities are divided into small steps and operations in order to increase the effectiveness of the project. The project team includes specialists of the automotive industry, university teachers, industry specialists from partnering organizations, external lecturers, financial managers, students, technical workers and representatives of trans-national partners.

First results of the project are:

- development of the System for Adaptability of Human Resources and Life-long Learning,
- development of learning modules for target groups,
- establishment of the new EQUAL learning centre and laboratory for action learning and training,
- initiation of a trans-national cooperation,
- realization of a learning course *Adaptation on the changes and new technologies* for two target groups: 110 hours for 21 participants and 60 hours for 15 participants,
- preparations for the course *Craft profile with focus on the automotive industry*, course length: approx. 200 hours,
- preparations for the course *Innovation potential for application in the automotive industry*, course length: approx. 300 hours.

The learning courses are focused on the latest trends in the world automotive industry. Selected learning modules are: *Organization of Automotive Industry, Supplier Systems, Rapid Prototyping, Creating Automobiles, Design of Production Systems, Automobile Recycling, Environment, Management of Human Resources, Development Trends in Automotive Industry, Innovation Thinking* and others.

Course participants receive a lot of information regarding automotive science and also special information, multimedia automotive CD-ROM, modern learning processes with multimedia techniques, videos, image learning and automotive internet web pages. They can work with original automobile parts (for example: assembly of motor, body-in-white, brakes, seat system) and create by hand new automotive prototypes (head lamp, steering-wheel and others) in the Automotive Laboratory.

Trans-national Partnership

The first trans-national meeting, organized by the Welsh Partners was held in May 2006. We discussed the trans-national cooperation, the presentation of national projects and the main activities and objectives. We have looked for common activities and objectives for each of the four national projects and formed a close connection for collecting valuable results for the target groups. Every national project has its

specific objectives and the main objective of the trans-national cooperation is to exchange and share best practices and skills, to create e-communities, communities of practice as well as new ways of learning and online mentoring.

One of the aims of the national project is trans-national cooperation called „Collaborative Learning“. The main activities are:

1. exchange of partner practice and application of partners' results through e-communication,
2. e-magazine (internet magazine) in English for publishing partnership results,
3. selected e-learning modules for application by partners, yearly partner seminars in Slovakia for exchange of skills and knowledge.

Results from the trans-national cooperation and gathered know-how will be implemented into the project activities mainly into courses for the continuous improvement of the laboratory stands and learning centres. We think that it will a great addition to our project. The basic added values of Slovak project are: methodology of learning process, teaching method for IT skills development, research problems of employment in terms of education and age, multinational/multicultural e-communities, guidelines for implementing best practices and international approaches in Easter Slovakia region.

Some evaluation indicators that may be considered include:

- attainment of goals of the partnership and the delivery of outcomes,
- potential impact of the trans-national work on national or European policy or practice,
- potential impact on development of IT skills training methods, mentoring methods and e-communities and practice guidelines,
- effectiveness of the organisation of the trans-national partnership,
- publicity achieved for the trans-national activities.

Conclusion

The Technical University of Košice project is a good example of creating life-long learning adaptability of human resources on structural changes and new technologies. Participants are using innovative methods and techniques in learning processes such as: Action Learning, Training, Laboratory Learning, Video and PC

learning, E-learning, Image Learning, using of Best Practices, Project Based Learning etc.

Expected results of the project are:

- activities on retraining courses and seminars and adaptability programmes,
- support for innovative thinking about human resources,
- adaptability of human resources to structural changes – support for creation of new jobs,
- sustainable growth of working skills and qualifications of target groups based on IT,
- creation of new specific models of education based on IT,
- transfer of know-how between partners,
- support for target groups - looking for job opportunities.

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