Work package WP3:

INTRODUCTION OF CONTINUOUS EDUCATION COURSES

PLAN FOR CONNECTING UNIVERSITIES WITH REGIONAL COMPANIES

2014.

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1.   INTRODUCTION – LIFELONG EDUCATION, IMPORTANCE OF COOPERATION BETWEEN UNIVERSITIES AND REGIONAL COMPANIES

Lifelong education, very important to spreading habits in the learning culture, for achieving goals of personal growth and development, but also for realizing social goals such as raising the general level of culture, democratizing social life, forming civilian institutions, conserving the environment, integrating and conserving marginal and endangered groups - cannot be left to the wonders of the market. That is why financial stimulation of the program for lifelong education and adequate regulation of institutional and organization statuses are also necessary. Budget financing of the education of adults is reduced to an endangering minimum. This can result in:

- complete suppression of a second chance at education which creates its own system of social discrimination, in which those who create revenue and allocate funds for education have no opportunity for later use of this education,

- endangering the achievement strategic social goals and choices which are realized by means of education (e.g. a convenient educational structure of the population, lowering unemployment, raising standards, etc.),

- complete diversions of institutions for adult education towards commercial educational programs, with which the necessary offer in adult education decreases.

The aforementioned should lead to stability of achieving important educational goals, which must not depend on the market situation and current donations, as well as enable deprived categories of the population to achieve their right to an education and stop development of exclusively commercial educational programs.

The development of human capital is of essence when regional development is in question since it represents the driving force of progress. Human resources can be defined as knowledge, skill, competence and other attributes reflected in every individual, which influence the economical, social and personal prosperity and can be viewed as the only input for creating and introducing a society based on knowledge. Human resources determine the competitiveness of a country or company. Developing human resources is the key to increasing the competitiveness of a country, region, local communities, companies etc.

For the greater part of most people's lives the paid job which they have gives them a feeling of independence, self-respect and prosperity and influences the overall quality of their life. Employment, the ability of gaining and keeping a workplace, is not only one of the basic dimensions of an active society, but also, a crucial condition for eliminating unemployment, therefore for improving the expertise and progress of society. Employment as well as an active society will depend on adequate up-to-date knowledge and skills needed for participation and aiding in the social and economical life. Through planned lifelong education employees

acquire new knowledge which enable rapid change in orientation towards new jobs, and a successful participation of their company in the relentless market competition.

The need for vocational training is derived from the fact that the change from regular education into a work environment requires (implies) additional training for completing specific jobs especially for the following reasons:

- insufficient professional competence in the process of regular education,

- change in work technology, in certain fields of work,

- non-compliance of the professional structure of qualified staff and the needs on the job market,

- prolonged employment which results in a decrease of acquired knowledge and working ability, ...

Lifelong education directly influences solving the unemployment problem as well as removing lack of skills and knowledge requested on the job market. Also it influences on the rise of mobility or the workforce, raising the level of competitiveness between companies and an increase in product and service quality.

Lifelong education unbreakably connects universities with regional companies. This is why one of the most important goals of this project is their inter-networking based on mutual interests.

By developing new technologies working and social interaction changes, so it is expected of people to continuously follow these changes and activities and an active participation in society. One must continuously learn in order to be able to follow these changes. Companies, in order to be competitive on the market, have a need for a trained and skilled workforce with which they can compete despite rapid scientific and technological changes. Many companies, in order to be competitive in the market, need a workforce and professional staff with new knowledge.

In order to face the mentioned problems companies need to be helped in order to have their staff improve their skills during their working life by the following:

- extending possibilities for a high quality continued training throughout their work life in compliance with technical and organizational changes in society and

- supporting educational content which helps people with insufficient or outdated knowledge.

Restructuring a company in global competition is a very important element of the adapting of society and therefore only sufficiently skilled and educated staff can support such efforts, which means that special attention should be focused on requalification and additional training.

Education and training from here on out must be oriented towards pragmatic goals of companies in the market economy, such as: adapting companies to market needs and changes, creating and freeing innovative potential of the staff, adapting to technological changes and changes in the values system and business culture n the direction of meeting the demands of the consumer, user and services.

The country must develop systems of stimulation and motivation of employers to increase funding for staff education and to make them more effective, and institutions for lifelong adult education should augment their educational offers. However in societies which are based on knowledge, education and teaching adults is not only in the country's interest, individuals or other special social groups. It is always a partner activity which is realized though mutual interest and responsibilities of the country, economy and the civilian sector, that is to say various factors such as: economical companies, professional associations, scientific research institutions, various government and nongovernment organizations and agencies, the private sector, families and individuals.

In all European countries the function of adult education is regulated by law, and most commonly though various laws (special laws on adult education, laws on institutions for adult education, laws on work and similar acts, and by regulation laws on primary, secondary, higher and high education include regulating rights on education of adults), which is not the case here.

The conditions in the product development sector in the industry on the territory of the West Balkans are at a very low level. A small percentage of human resources in Balkan countries' industries work on or handle development of new products. According to research results, the number of people engaged in the product development sector is around 10% of those employed in the industry, while that number in developed EU countries is around 40%. From the aforementioned it is clear that the increase in staff which are engaged in development and managing development is very important for the economy of West Balkan countries, in order for them to come closer to developed European countries. Also, lifelong education of engineers employed in product development is extremely important as well as those unemployed who are interested in this branch. In order to achieve this , it is necessary to tightly combine universities and regional economy subjects in partnering countries. It is necessary to build partnerships and common responsibilities of all actors (employers, universities, curriers of other types of education, countries, local communities, individuals etc.) to implement a quality timely lifelong education of adults.

Training stipulated by the TEMPUS project " IMPROVEMENT OF PRODUCT DEVELOPMENT STUDIES IN SERBIA AND BOSNIA AND HERZEGOVINA " will influence the development of human capital in the field of product development and enable trainees, especially adults, to under equal conditions of financial and other aid from employers and other interested institutions, depending on their own capabilities and personal needs, on one hand, the needs of the job market, on the other hand, to gain the knowledge and develop working skills and habits which can make them competent to keep their employment and achieve a greater working output.

2.	USERS OF PLANED TRAINING ON THE PROJECT

One of the most important activities of the project is holding training intended for engineers which work on product development, as well as unemployed individuals who are interested in this field.

The most use from a strong connection between universities and regional companies and held training will have:

- **Trainees in planned courses** (engineers who are working on product development, as well as unemployed individuals who are interested in this field);

- They will be able to achieve a level of knowledge and skill which will help them keep their current job, to enable them to retrain for a new vocation related to product development which is needed in a company in which they are employed and to compete jobs better and at a higher level.

- They will have the opportunity to choose from a wide variety of training in fields of product development for jobs which correspond to their interests and capabilities, and which are needed in the company in which they work or are interesting for starting their own business.

- They will solve their own existential problems of their own families, and along with it psycho-social problems which arise as a result of existential endangerment.

- They will lower the fear of endangerment from inadequate knowledge which they have, their position in the company, age, ...

- They will grow conscious of the responsibility of their own development and continuous improvement as a necessary condition of success in business.

- They will develop capabilities of communication and teamwork which is a prerequisite for successful performance and good interpersonal relations within the company.

- Newly gathered knowledge and skills will increase geographical and professional mobility of the workforce.

- Thanks to the acquired knowledge and skills unemployed individuals will have a greater chance of finding employment in the field of product development.

- **Employers;**

- They will acquire knowledge on the advantages, uses and capabilities of lifelong education from the aspect of raising the level of competitiveness of their company, increasing product and service quality, and increasing company profits.

- They will get new products and new development ideas developed by trainees of lifelong education and teams of students.

- They will receive quality training for free for a certain number of engineers which are in product development and management of product development.

- They will train employees for applying new technologies, as well as application of modern methods of management. This is especially important for companies which tie their business to cooperation with foreign companies, which today is a prerequisite for development and survival.

- **Partners in the project;**

- They will have the benefit of forming a base for training and improvement of staff, which to date does not exist in this region.

- **Associations which gather entrepreneurs and private subjects;**

- Since the associations include leaders of entrepreneurship in the country and the region, they will, with further educated engineers to offer new forms of business and economic organization of the country.

- **National employment services;**

- There will open up a new jobs and it will reduce the inflow of new unemployed due to their further education and the creation of new competencies.

- **Local community;**

- Benefit for the local community will be invaluable considering the development of human resources what is one of the pillars on which the vision of the development of each region is based.

- **Resource ministries;**

- At the state level the number of unemployed working age population will reduced. It would greatly relieve the state pension fund for social cases.

- **Donors;**

- There will be a techno - economic links previously under-skilled and economically disadvantaged groups.

3.   DEFINING THE FIELD OF TRAINING, REQUIRED COMPETENCIES AND LEARNING OUTCOMES

Before defining the structure and content of training which will be held during the realization of the project and in the following period it is essential to perform detailed research of the needs for certain vocations, knowledge and skills. Research should be based on written documents and data from relevant institutions, through consultations with salesmen and their associations (regional chambers of commerce), through consulting with national employment services, through questionnaires and direct requests of employers.

In the framework of package 1 named " Introducing of content and modernisation of curriculums in field of Management of Product Development and Innovations management, Eco-product development and Industrial Product Development " employees and employers have been surveyed in a certain number of companies in partnering countries. One of the questions in the survey was "Which knowledge should engineers which are in product development (basic knowledge and knowledge which should be innovated/gained over time) have?". Considering that there was a large number of carefully selected participants, results of the survey can be considered relevant for defining necessary competencies and results of learning which need to primarily be defined, and then be prepared and put into action. Based on the survey results, consulting with renowned partnering institutions from EU countries and experiences of partners on the project, the names of potential fields of training and expected competencies and outcomes are defined. Of course, all of this needs to be additionally augmented and adapted for the needs of the market.

Expected outcomes of grouping according to their fields are:

- **Projecting and design** (understanding principles of calculating mechanical parts under static and dynamic loads, proper forming of mechanical parts from a technological aspect, knowledge of rational design principles, ability to independently complete simple design tasks),

- **Product development** (understanding the basic terms in the field of development, successfully defining a development project, designing a technical system in areas of functionality, physical effects and shape, shaping a constructive solution and verifying it from the aspect of its basic functionality, mastering a certain number of methods which are used in developing a product, using a methodological approach with solving tasks and problems in development of products, knowing the benefits of collaborative and competitive engineering, choosing the optimal, competitive in the market and attractive solution based on various solutions, knowing simulation projecting and revisable

engineering, knowledge of reliability and lack of rapid prototyping technologies as opposed to conventional technologies, the ability to chose the best and most profitable RP technology based on the requirements and characteristics of the product),

- **Mechatronics** (knowledge of basic elements of control systems, the ability to model complex mechatronic systems, the ability to identify and set influencing parameters of complex mechatronic systems),

- **Product testing** (knowledge of the theory and technology of product testing, the ability to independently complete product testing),

- **Quality management** (knowledge of methods and technology of quality improvement, use of standards and models for quality assurance, projecting processes for quality improvement, the ability to select ideas for mechanical system development),

- **Modelling and simulation** (the ability to model and simulate operations of various dynamic mechanical systems, creating equivalent computer models, knowing the basics of finite element analysis, the ability to utilize finite element analysis to solve real problems),

- **CAD/CAM/CAE** (knowledge of the utilization of computers in the product lifecycle, modelling parts, assemblies and creating technical documentation using computers, managing product appearance, ability to create complex skeleton, wire, surface and solid product models, knowing basic benefits of virtual engineering, knowing the capabilities of CAM technologies, ability to exchange engineering models between various software systems, the ability to calculate stress and deformation states of modelled parts),

- **Reliability** (possessing theoretical and practical knowledge in a large number of methods of reliability theory whose use gives the best results in the development phase of mechanical systems, the ability to chose an optimal solution to increase the quality of designed products),

- **Project management** (the ability to apply methods and techniques in managing projects, understanding processes and software tools for project management and logistic systems in the economy),

- **Managing human resources** (the ability of independent inclusion in human resources management processes, independent evaluation of all relative factors which can influence human resources management),

- **Economy basics** (knowledge of cost theory, investments, monetary costs and engineering choices, independent problem solving from engineering economy, ability to project engineering activities from

an economical aspect, ability to improve processes and increase efficiency and effectiveness of a company as a system),

- **Business finances** (having the theoretical-analytical and applied knowledge in the field of business finances, understanding modern company finances, effective completion of specific tasks in business finances),

- **Marketing** (basic knowledge and skills in the field of marketing, knowledge of methods and techniques used in marketing),

- **Eco design,**

- **Team and team work,**

- **Profitability analysis,**

- **Innovation management,**

- **Creative potential and capabilities of elaboration,**

- **Patent rights and protection of intellectual property,**

- **Economy law,**

- **Foreign languages.**

4.   DEFINING THE STRUCTURE AND CONTENT OF THE TRAINING CURRICULUM

Within the project training of engineers from the industry who are in the field of product development as well as unemployed engineers interested in this field will be held. Training will be offered according to evident need and interest, which are identified from various partners experiences , preliminary research and specific requests.

Starting conditions are:

- Training will be held modularly,

- Module programs will be defined based on researched needs, experiences competent teachers and based on relevant foreign courses,

- Training programs will be defined by curriculums,

- Training will be held by methods of active learning and according to predefined standards,

- Training according to defined modules will be entrusted to teachers or teacher teams,

- Classes will be held mostly by teachers from University of Kragujevac, University of Novi Sad and University in Mostar. Also guest professors can be engaged in the courses from other universities in partnering countries (within the same country),

- All teachers are obligated to allow trainees to obtain defined results of learning, give a chance to prove that the goals have been reached, grade trainees according to anticipated criteria, keep track of attendance, progress of trainee achievements and report on it to an authorised member the implementation team,

- Teachers will be obligated to use techniques of learning through work,

- All teachers will receive instructions to complete all necessary preparations,

- Training will consist of theoretical and practical segments, the accent will be on solving specific practical problems which will be defined by employers in cooperation with teachers,

- The relation between specific segments of training will depend on suggested themes and will be predefined,

- Every suggested course will, depending on its type and content, have its own specificities,

- For developing and implementing new training a modern all-inclusive approach will be used with defined detailed content, methods of execution, assiduous training output etc. Besides that potential implementers of training will be defined,

- Methods of training will be adapted to existing levels of knowledge and individual capabilities of trainees, interests, work and life experience,

- Trainings will have a high grad of time flexibility, especially for engineers from the industry.

Methodology of training execution

Methodology of training execution will be based on modern principles of active learning. Methods of active learning have benefits compared to traditional methods because: trainees are not treated as students, but as complete persons, ideas and interests of trainees are valued, learning is appending to previous knowledge and

experiences of trainees, the approach is flexible and adaptive to the current teaching conditions, inner motivation is developed in trainees and dominating in practical, working activities. Method of active learning among adults is especially since it values their individual characteristics (formed personalities), encourages and develops motivation for learning which is usually missing with these trainees, trains them for practical work and it is compatible with all jobs which are done in the workplace.

Template for defining training structure and content

Module title	Gives indication of module content. In case of issuing certificates, this title will appear on the acknowledgement/ certificate
Module code	Every module has its individual code
Level	Level cam be basic, intermediate, advanced or 1., 2., 3. etc.
Purpose	That is a general statement in which the basic principles of the module are contained. It contains a resume of what the trainee is expected to achieve in a successfully completed module and an explanation in which expertise and educational context the module is created.
Suggested level of enlistment	Prerequisites of the level of education and knowledge of trainees can be suggested.
Special conditions	Special conditions can be given, but are not mandatory.
General goals	General statements on changes which will ensue in trainees. It is necessary to state an overview of key competencies (knowledge, skills, attitude) which will be developed in trainees.
Fields	Represent a division in the syllabus, and with it the outcome of learning, which helps in the learning process, training and evaluation. Fields are numbered chronologically.
Specific learning outputs	Specific learning outcomes represent a tool with which we achieve general goals. These results represent specific data on knowledge skills and attitudes which trainees will be able to demonstrate as a result of experiences gained in the learning process. They should be states as - **"The trainee should be able to..."** Specific outcomes of learning should be: - be directly in correlation with general module goals,

	- be expressed in such a way as to represent doable and measurable learning results, - be clearly written, - every result should be described with a single verb, for its action. Use active verbs (define , name, show, summarize, compile, calculate, build, measure, use...),
Evaluation portfolio	During the learning process the trainee creates a portfolio with documents on results of specific outcomes, work, grades. EVALUATION Evaluation is the process of attaining proof of certain achievements. The primary purpose is to establish the level at which specific outcomes have been achieved. Chosen techniques of evaluation should: - correspond to the skill type, which are listed in specific outcomes, - evaluate a wider range of learning results, - measure relative importance; a greater importance is given to practical skills, - establish a good balance between work during training and final evaluation. For every technique of evaluation the following should be provided: *Method:* evaluation determined by the institution with outside moderation of the contracting authority. *Evaluation of impact:* % of total evaluation which are given to individual techniques within the module. For written examination it is necessary to indicate: Provided time; type of questions; points for individual questions. For the portfolio - to name all data which will be contained in the portfolio. For projects it is necessary to indicate: all needed information
Performance criteria	These are criteria according to which achievements which can be evaluated are graded. Performance criteria should refer to specific learning outcomes which every student demonstrates.
Grades	All modules are graded as: • Passing 50% - 64%

	• Successful 65% - 79 %
	• Extraordinary 80 % - 100 %
Individual function for evaluation	Internal evaluators fill and sign documents before outside evaluation.
Modular equation with summed results	When two evaluation sheets exist for each individual, then the summary of both, should be completed by an internal evaluator

5.   WRITING TEACHING MATERIALS

For every course chosen teachers are expected to prepare written educational material, as well as a multimedia presentation. Educational material will serve as referent material for trainees in their work and will encourage constant improvement and renewal of attained knowledge and skills.

For every training printed educational material is planned, which will be a starting point in courses and fields in which there is sufficient interest for special publications. Educational materials will be separately prepared in electronic-multimedia formats. Electronic versions of educational material should be published on the project's website.

6.   COST OF TRAINING

For the duration of the project, training of attendants from the industry and unemployed individuals (according to records of the National employment service) are free. It is anticipated for this training to cover around 100 attendants.

In the case that certain courses create greater interest amongst the trainees from the projected number, which is expected, as well as for courses which will be held after the completion of the project, trainees (or employers) will pay for attending this training. In the forming of the cost of training, the following expences should be considered:

- Preparation of educational material,

- Choices of attendants,

- Holding courses,

- Holding final examination.

For trainees of high quality, interested in continuous education courses, but not able to pay the cost of training, it will be try to offer some scholarship.

7.   LOCATION AND TRAINING SCHEDULE

The project registration provides that courses take place at the University of Kragujevac, University of Novi Sad, University in Mostar. It is planned that the greatest number of courses be carried out using existing resources of universities. Universities need to provide space, technical conditions and necessary equipment (unless the hears of universities and employers reach a different agreement). The practical part of training can be organized in one of the regional companies. To that extent special agreements will be formed with every company which will hold practical aspects of training.

Some parts of the courses maybe will be arranged as self-study modules. Due to self-study modules, a higest grade of flexibility especially for employed engineers is given.

Courses are planned up to the second year of the project's realization.

8.   SELECTION OF PARTICIPANTS

The project registration provides that courses take place at the University of Kragujevac, University of Novi Sad, University in Mostar. Participants need to be mechanical engineers from regional companies (which are interested in cooperating with universities) employed in product development or persons engaged in product development management. Also, participants can also be unemployed individuals who are interested in working in this field.

Choice of participants is an especially important activity for organising courses and seeking cooperation of all partners on the project, and above all else universities (teachers), regional companies and national employment services. Calling a selecting candidates should be primarily done by teachers in direct cooperation with heads of interested companies and representatives of national employment services. During the selection of participants an analysis of their individual characteristics should be performed, as well as their interests for available courses. Also, it is necessary to organise meetings with potential participants where they would be introduced to the course program, rights and obligations as well as the teachers themselves.

9.   MONITORING AND EVALUATION

Monitoring and evaluation will be performed through formal processes of tracking and documenting all planned activities.

Monitoring and evaluation is expected for all suggested courses. This activity will be tracked with corresponding documentation. Based on achieved results correctional measures will be undertaken.

Training monitoring process will be performed by training providers, company representatives and the participants themselves. Monitoring of the training process will be performed by the following indicators:

- Monitoring starting organizational activities and involvement of participants,

- Monitoring of regular attendance (daily, weekly)

- Monitoring participant progress - insight into daily learning, activities of participants, evaluations,...

- Monitoring of module and complete program length - (notes on held classes by module and entire program),

- Monitoring method and techniques (evaluation questionnaire for participants),

- Monitoring use of equipment for courses and educational materials,

- Monitoring methods and techniques of participant evaluation (building portfolios, insight into participant diaries).

Final data which needs to be obtained by monitoring course processes are the following:

- How many participants have successfully completed the training, their improvement (teacher evaluation),

- What is the reason for eventual failure,

- Are the participants satisfied with the quality of the course execution.

From the participants the following data will be collected:

- Satisfaction with the trainers work,

- Usefulness of each module,

- Work schedule, organization, ...

Evaluation method will be achieved through talks with participants, users and teachers and through questionnaires, and the evaluation will be based on a scale of 1-5.

The evaluation process of the course involves quantitative assessment of training objective achievements. Each module will be separately evaluated. The results of the evaluation will be noted in project documentation. Content and usefulness of each module will be evaluated individually and participants through evaluation questionnaires. This evaluation will be conducted at the end of the realisation of the courses. Participants will evaluate the training at the end in a questionnaire. The subject of evaluation will be: the level of achievement of the objectives for each module, progress of the participant, fulfilment of participant expectations, success in

implementing projected methods of training by teachers and especially the acceptance of future learning. Evaluation of the practical part of the training participants will be done though an evaluation questionnaire and employers through a report on the implementation of training.

As for the evaluation of students, the final grade is an average grade for each candidate in every specific activity. Decisive role in the knowledge test which will be performed continuously during the training process, will have an assessment of the candidate's independent work.

Even after the completion of the course participant activities will be tracked by activities in their workplace in order to realistically perceive the effects of newly acquired knowledge to the participants, as well as the companies and employers. This activity will obtain information about the benefits, advantages and disadvantages of the training, in order to take corrective actions for the new participants of similar or identical training.

10.   RIGHTS AND OBLIGATIONS OF PARTNERING UNIVERSITIES

In order to adapt to demands of the modern labour market and educating quality and flexible staff, it is necessary to have a strong connection between universities and regional companies. It is necessary to build their partnership and shared responsibilities on implementing quality higher education and lifelong learning for adults.

To build a strong network of universities and companies, based on the interests of both parties, universities should:

- Be initiators and the development strength of this collaboration,

- Contact representatives of regional companies and submit to them a letter of intent and plans and program of future cooperation,

- Introduce teachers and associates promptly to opening contact with companies, their product lines, human and technological resources, development programs,

- Ensure visits of interested teachers and associates to regional companies,

- Informing teachers and associates about possible signed agreements of technical cooperation, provide contact details and provide complete logistic support to teachers and associates interested in cooperation with companies,

- During regular class periods allow for student visits of regional companies,

- Constantly work on improving the quality of accredited study programs and align them with the needs of the labour market,

- Support the system of active learning and practical training organized in cooperation with the companies with whom they cooperate,

- Allow students to define their final exam topics in cooperation with companies,

- Reform technical practice programs. To get rid of traditional habits and provide students , in cooperation with companies, real engineering activities,

- Together with companies create a plan that will contain all the elements of practical field placement and production work.

- Together with companies define the competencies expected of students, required knowledge, etc...

- Familiarize students prior to practical field placement with the methodology of work and rights and obligations they have in the time of attending their practical field placement.

When it comes to lifelong education of employed and unemployed engineers, universities should:

- Promote and constantly develop lifelong education systems of employed and unemployed engineers,

- Affirm and constantly perfect new methods of adult education,

- Apply techniques of learning by doing,

- Constantly enrich their educational offer,

- Perform detailed research of the labour market for specific occupations, skills and knowledge,

- Organize motivational seminars for employers,

- Prepare and implement surveys of employed and unemployed persons in the target group,

- Provide teachers and assistants to hold the courses,

- Define the names of courses, required competencies and learning outcomes, structure and content of the training curriculum,

- Write educational materials designed for the participants and structured to build on their prior knowledge,

- Within the trainings devote considerable space to solving practical problems,

- Present employed and unemployed engineers with plans for the curriculum of their training,

- In cooperation with company representatives and National employment services make a selection of participants

- Provide space, technical requirements and the necessary equipment, unless the representatives of the company have agreed otherwise,

- Carry out planed training, enable participants to achieve defined learning outcomes, evaluate participants, keep records of attendance and progress and inform authorities.

11.   REGIONAL COMPANIES

Every national economy and its long term development depends almost entirely on the quality of its human resources. Use of these resources and investing in raising their quality are the primary factors of development. Modern trends in globalization, associations and partnerships changing the balance of power of individual factors in the economy. Height of wages of factory workers is playing a minor role in the global competition and more significance is attributed to productivity, quality, design, usability, innovation and marketing. It's a smaller share of raw materials, and an increasing share of knowledge in industrial production.

The specificity of the countries in transition, in terms of education, is that the structural changes much faster and more painfully than those in European countries, so it is necessary to quickly, through additional training and retraining, change the structure of existing knowledge and skills.

Based on the aforementioned it is easy to conclude that the production companies are heading towards a direct and intensive cooperation with universities in the region and in that way they can adapt to the rigorous demands of the modern market. The most important domain of cooperation between companies and universities is certainly ongoing training of employees. Education and training in the company must be based on the real needs of the company and the current deficits of knowledge and conduct of employees in relation to the objectives and strategy of the business.

For the purposes of having a solid and functional connection with universities ,it is recommended that manufacturing company representatives should:

- Openly and directly approach representatives of universities with a clear proposal, plans and motives of possible future cooperation,

- Present their capabilities, development potentials, needs and intentions

- Determine the company's representative who will be the contact point for cooperation with universities,

- Provide a schedule for study visits of interested teachers, staff and students,

- Sign (if interested) a Business contract of technical cooperation with selected universities,

- Encourage an active learning system and assist in the organization and delivery of practical training in the vocational subjects,

- Engage actively in the definition and development of student's final papers,

- Make direct contact with teachers who participate in the implementation of vocational practice at all levels of study,

- Participate in the modernization program structure and content of vocational practice in order to provide better and more efficient training of engineering personnel,

- Provide adequate working conditions and the real tasks to perform high-quality vocational practice in their company,

- Together with representatives of universities make a schedule of professional practice, define the expected level of competence and knowledge required,

- Before the start of the program vocational practice students learn about the rights, duties and safety at work,

- The first day of vocational practice students learn about the work to be performed and the organization of work,

- Provide a sufficient number of "mentors"

- The term performance of vocational practice coordinate with other school obligations of students,

- Provide quality and vocational practice uninterrupted participation of students in the program, which is defined by joint engagement of representatives of universities and companies,

- Practical training is conducted by qualified persons,

- Students are provided with a lunch break with a hot meal in the same way as employees,

- Assist students in the realization of specific tasks,

- Keep attendance of students,

- Account for the psychological and physical abilities of students in selecting work which they are to perform,

- Provide students prescribed protective equipment,

- Students require regular attendance, conscientious performance of duties, compliance with regulations on safety and the application of protective equipment and other obligations related to programs vocational practice.

When it comes to continuing education for employees, it is recommended that companies should:

- Increase investments intended for the education of employees,

- Investing in education as an investment that will in the near future will be multiply returned,

- Taking an active part in motivational seminars to be organized by representatives of universities,

- Provide conditions for surveys of employees,

- By specific activities and engagements support system of learning by doing,

- Assist representatives of universities in researching the needs of individual knowledge and skills, as well as in defining the required competencies and learning outcomes

- Assist representatives of the University in writing of the structure and content of training curricula,

- Set requirements for implementers of training, and not under pressure from various educational offers to accept and invest the time and money for what is not in the function of the job,

- Together with representatives of the university make a selection of potential participants,

- Selects candidates for training while respecting the principle of consent and the need for a certain type of skill or knowledge,

- Define realistic design tasks to be training students to solve. In return, the company will have new products and new development ideas developed by teams of students and students of continuing education courses,

- Delegate representatives to actively participate in the implementation of the practical part of training.

12.   PLAN OF MARKETING ACTIVITIES INTENDED FOR PROMOTING COOPERATION BETWEEN UNIVERSITIES AND COMPANIES

Promotion of cooperation between universities and regional companies will be conducted with the aim of have as many users, especially employers, to point out the possibilities, advantages and benefits of this type of networking of these institutions. Promotional activities will be conducted throughout the project and will provide the preconditions and to continue even after the completion of the project. In order to ensure quality and sustainable cooperation between universities and enterprises, it is necessary to undertake a series of marketing activities such as:

- Creating a brand,
- Creation of promotional materials (print and electronic),
- Organization of motivational seminars for employers in the region,
- Organizing promotional public appearances in the electronic and printed media in order to promote continuing education in the field of product development,
- Direct contact between representatives of universities and companies
- Direct contact with customers and potential customers,
- Constant promotion of results of established cooperation,
- Duly updating the web presentation of the project that includes all the necessary information, promotional brochures, announcements, ...
- Active involvement of all partners and participants of trainings. For the realization experts in certain fields would be active from partnering organisations.

Activities to promote cooperation between universities and enterprises will be synchronized and complementary to the aim of maximizing the anticipated effects.

Motivational seminars

Motivational seminars will be organized primarily for employers. The plan is to hold at least 3 motivational seminar with 100 participants. Seminars would be held at different times and in different places to adjust to potential customers. It is anticipated that the seminars are held and organized by the partners include: University of Kragujevac, University of Novi Sad, University of Mostar, with the active participation of other partners in the project.

Prior to organizing motivational seminars, it is necessary to:

- Define a list of potential participants,
- Undertake the preparation of teachers,
- Prepare relevant presentations (multimedia), short written material for participants and invitations in order to get participants interested in an adequate manner,
- Prepare a questionnaire for participants motivational seminars.

Motivational sessions will be held through presentations of competent experts in various aspects of continuing education, with a positive user experience in this field, discussion and implementation of the relevant survey. The presentations will be followed by multimedia presentations and short, attractive written material should as much as possible arouse interest in participants. The manner of conducting motivational seminars should arouse interest as much as possible in the participants and stimulate them to actively participate in the work. Active participation will provide more information on the needs, requirements and benefits of cooperation between universities and companies.

In the motivational seminar, participants should be presented, with particular attention, with:

- The importance and possibilities of the cooperation between universities and enterprises,

- Relevance of the topics

- International experiences.

In the event of inability to organize motivational seminars, it necessary to inform employers directly or in another manner.

Promotional public appearances

It is necessary to organize as many appearances in local and regional media, in education and employment fairs, professional conferences and other appropriate occasions. Participants in these appearances should be one by representatives of universities and companies, with project partners, beneficiaries and other interested parties. For the realization of these activities it is necessary to provide media coverage. It is planned to also use commercial and non-commercial slots. Promotion would especially be done in printed media. Promotional public appearances will run on modern marketing principles. Promotional public appearances will be thoroughly prepared, synchronized and performed with the aim of maximizing the effects.

Continuous promotional public appearances, in addition to the general objectives of promotion, should ensure the acceptance of the importance of regional connectivity of universities and companies from the general public.

13.   ACTIVITIES FOR SECURING SUSTAINABILITY OF COOPERATION BETWEEN UNIVERSITIES AND COMPANIES

For the duration of the project, the main source of funding will come from budget funds of the project and partners. Upon project completion it is necessary to provide a stable source of funding.

Bearing in mind the accumulated economic, political and social problems that the government needs to address, as well as the inertia of the whole system, it is unrealistic to expect the country to completely solve the system of financing for continuing education. On the other hand, the three-year duration of this project, is not long enough for employers and entrepreneurs to be fully persuaded to the necessity of the lifelong learning and training system, which indicates that from that side is not possible to provide substantial funds crucial for sustainability.

It is necessary to find a method to ensure the sustainability of the whole project, i.e. lifelong learning - the central lever of the unbreakable connection between universities and companies. It is a constant activity of this project and all its partners.

Most important activity in terms of ensuring the sustainability are the introduction of new training and training for participation in new projects in the field of human resource development.

Constant activity in researching needs for specific knowledge on which to define new training are necessary. Data should be collected from the documents relating to the development strategy of the partner countries, from the records of employment agencies in relation to occupations, through direct contact with employers and employers' associations, through direct requests from employers and through surveys. Consultation with employers and their associations to identify the need for personnel to company activities, with the aim of improving the business and adapt to market conditions should also be organized.

Based on the results of previous activities and defined needs, new courses will develop in the field of product development to raise the professional level of employees. Content and delivery methods for new courses will be defined, as well as potential implementers.

It is necessary to constantly work on the professional development of teachers and adaptation of programs, methods, organizations and individual training of adults (abilities, needs, interests, life and work experience, etc.)..

Establishing cooperation between the large number of institutions of adult education is of paramount importance to ensure sustainability. Coordination should be done through the coordination of activities, mutual assistance, coordination training, etc..