

3. LOGICAL FRAMEWORK MATRIX – LFM

<p>Wider Objective: <i>What is the overall broader objective, to which the project will contribute?</i></p> <ul style="list-style-type: none"> • To enhance the the competitiveness of the economy in the region trough improving the education in the field of industrial product development 	<p>Indicators of progress: <i>What are the key indicators related to the wider objective?</i></p> <ul style="list-style-type: none"> • Increase of innovative capacity of human resources in industrial product development • Increase of regional industry commpetivnes on a global level 	<p>How indicators will be measured: <i>What are the sources of information on these indicators?</i></p> <ul style="list-style-type: none"> • Number of new products • Number of patents • Analysis of market share 	
<p>Specific Project Objective/s: <i>What are the specific objectives, which the project shall achieve?</i></p> <ul style="list-style-type: none"> • Establishment of new curriculums in the field of Management in Product Development and Innovation Management, Development of Eco-products and modernisation of existing curriculums in industrial product development at master/specialist and doctoral level • Establishment of continuous education courses in the field of Industrial Product development • Harmonization and modernization of education in the field of Industrial Product Development through training of teachers at colleges of applied sciences 	<p>Indicators of progress: <i>What are the quantitative and qualitative indicators showing whether and to what extent the project's specific objectives are achieved?</i></p> <ul style="list-style-type: none"> • Acceptance and implementation of the new curriculums by PC universities till month 13. • Implementation of continuous education courses in the field of Industrial Product development till month 17. • Implementation of the colleges of applied sciences teachers training programme till month 20. 	<p>How indicators will be measured: <i>What are the sources of information that exist and can be collected? What are the methods required to get this information?</i></p> <ul style="list-style-type: none"> • Annual reports by involved Universities. • Number of enrolled students (projected 500) • Number of enrolled people into continuous education courses (projected – 100) • Number of enrolled teachers into training (projected – 50). 	<p>Assumptions & risks: <i>What are the factors and conditions not under the direct control of the project, which are necessary to achieve these objectives? What risks have to be considered?</i></p> <ul style="list-style-type: none"> • Political and economic stability in the region • Necessary institutional support of Universities and Ministries • Lack of interest in the targeted groups • Lack of interest in industrial enterprises • Adequate consortium relationships
<p>Outputs (tangible) and Outcomes (intangibile): 1. Please provide the list of concrete DELIVERABLES - outputs/outcomes (grouped in Workpackages), leading to the specific objective/s.:</p> <p>WP1 (DEV) Introducing of content and modernisation of curriculums in field of Management of Product Development and Innovations management, Eco-product development and Industrial Product Development</p> <p>1.1. Required competences and learning outcomes of curriculums in field of</p>	<p>Indicators of progress: <i>What are the indicators to measure whether and to what extent the project achieves the envisaged results and effects?</i></p> <ul style="list-style-type: none"> • Management in product development and innovations management curriculum in accordance with EU standards till month 13. • Eco-product development curriculum in accordance with EU standards till month 13. • Industrial Product Development 	<p>How indicators will be measured: <i>What are the sources of information on these indicators?</i></p> <ul style="list-style-type: none"> • Annual reports by involved Universities. • Number of new subjects introduced • Number of restructured subjects • Compliance with EU partners curriculums • Measurement of student success • Number of redefined lectures • Evaluation of student competences at end of the studies • Equipment inventory numbers 	<p>Assumptions & risks: <i>What external factors and conditions must be realised to obtain the expected outcomes and results on schedule?</i></p> <p>Assumptions:</p> <ul style="list-style-type: none"> • Support of University in restructuring of curriculum • Support and experiences/knowledge transfer from EU partners • Motivation of university staff for additional work • Support from government institutions

<p>Management of Product Development and Innovations management, Eco-product development and Industrial Product Development defined</p> <p>1.2. Report on comparative analysis of EU partners and PC curriculums in regard to quality standards and curriculum contents and structure</p> <p>1.3. New curriculum in field of Management of Product Development and Innovations management at master/specialist and doctoral level</p> <p>1.4. New curriculum in field of Eco-product development at master/specialist and doctoral level</p> <p>1.5. Modernized curriculum in field of Industrial Product Development at master and doctoral level</p> <p>WP2 (DEV) Implementation of new and improving of existing curriculums</p> <p>2.1. Training of PC university teachers for modernisation of pedagogical methodology by EU partners defined</p> <p>2.2. Transfer of knowledge and expertise of EU partners to PC university teachers in the field of Management of Product Development, Innovations management, Eco-product development and Industrial Product Development completed</p> <p>2.3. Equipment, software and literature installed/acquired</p> <p>2.4. New university textbooks and authorised lectures published</p> <p>2.5. Student practice programme defined</p> <p>2.6. Students enrolled into new and modernised accredited degree programs</p> <p>WP3 (DEV) Introduction of continuous education courses</p>	<p>curriculum in accordance with EU standards till month 13.</p> <ul style="list-style-type: none"> • New pedagogical methodology introduced into teaching process till month 30. • New teaching material introduced into teaching process till month 25. • New equipment, software and literature available till month 11. • Student practice programme till month 8. • Accreditation of introduced/restructured curriculums. • Continuous education courses in accordance with industry and labour market demands till month 17. • Training course for teachers at colleges of applied sciences till month 20. • Modernised curriculums at colleges of applied sciences • Launching of the project web portal till month 3. • Publishing of project dissemination materials. • Project workshops. • Project conference. • Marketing plan. • Project meetings. 	<ul style="list-style-type: none"> • Number of textbooks and authorised lectures published • Questionnaires about practice realisation • Feedback from the industry about students' performance during practice • Number of accredited degree programs • Number of enrolled students • Number of agreements with industry partners about training of their human resources • Number of continuous education courses participants from industry • Number of continuous education courses participants from the labour market • Number of teachers trained • Number of restructured subjects at colleges of applied sciences • Number of visits to the project web portal. • Number of published leaflets, flyers, brochures • Number of published papers related to project realisation (8 papers) • Number of organised workshops (3 workshops) • Number of conference participants (150 participants) • Number of educational and job fairs visited (10 fairs) • Number of applications to National employment services for continuous education courses (4 project proposals) • Number of applications to Ministry of education for training of teachers (4 project proposals) • Amount of financing obtained through programs established by National employment services and Ministry of education 	<ul style="list-style-type: none"> • Interest of industry to support restructured curriculum • Motivation of university staff for additional training • Availability of educational staff • Adequate language skills of educational staff • Interest of students for continuous education courses • Interest of academic staff for continuous education courses • Availability of educational staff for continuous education courses • Appropriate selection of students for continuous education courses and their motivation • Interest of colleges of applied sciences in restructuring of curriculum • Competences and motivation of academic and non-academic staff at colleges of applied sciences for training in Industrial Product Development • Enough capacity for quality control and monitoring • Accurate & reliable feedback reports about project realization, on time and good structured for purpose of quality control and monitoring • Availability and motivation of academic staff and other partners for complete and honest reporting • Peer review in reasonable time • Proactive approach in project implementation planning • Defined management structure • Knowledge and experience in leading projects • Risk recognizing and prevention
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<p>3.1. Required competences and learning outcomes of continuous education courses defined</p> <p>3.2. Curriculums of continuous education courses</p> <p>3.3. Continuous education courses material prepared</p> <p>3.4. Participants enrolled into continuous education courses</p> <p>WP4 (DEV) Development and introduction of training in Industrial Product Development of teachers at colleges of applied sciences</p> <p>4.1. Report on analysis of state and contents of Industrial Product Development at colleges of applied sciences</p> <p>4.2. Training courses content defined</p> <p>4.3. Training course materials prepared</p> <p>4.4. Participants enrolled into training</p> <p>4.5. Restructured subjects at colleges of applied sciences</p> <p>WP5 (QPLN) Quality control and monitoring</p> <p>5.1. Report on peer review of new and modernised curriculums, continuous education and training courses and pedagogical methodology</p> <p>5.2. Report on self-evaluation of created/modernised educational programs</p> <p>5.3. Report on inter project coaching</p> <p>5.4. Action plan for quality assurance</p> <p>WP6 (DISS) Dissemination</p> <p>6.1. Project web portal launched and maintained</p> <p>6.2. Project promotional material published</p> <p>6.3. Papers at regional educational conferences and forums published</p>		<ul style="list-style-type: none"> • Questioners about marketing visibility • Minutes from the meetings (6 meetings) 	<ul style="list-style-type: none"> • Active participation of all consortium members and project staff competence <p>Risks:</p> <ul style="list-style-type: none"> • The inertia and conservatism of the existing structures and academic staff • Distrust and fear of new ideas • Lack of interest in the targeted groups • Low level of awareness of University staff • Lack of support from EU partners • Lack of interest of educational staff for their training • Inadequate language skills in foreign languages of educational staff • Lack of commitment of partners • Lack of interest of academic staff for continuous education courses • Lack of support from industrial enterprises and labour market organizations • Lack of interest in students for continuous educational courses • The inertia of the existing structures and academic staff at colleges of applied sciences • Distrust and fear of new ideas among academic staff at colleges of applied sciences • Weakness in project reporting • Misunderstanding of quality control procedures • Unsatisfactory industrial growth and development in the partner countries • Unstable macroeconomic condition • Lack of motivation among enterprises • Crises on job market
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<p>6.4. Dissemination workshops for project stakeholders organised</p> <p>6.5. Project conference</p> <p>6.6. Participation at educational and job fairs</p> <p>WP7 (EXP) Sustainability</p> <p>7.1. Accredited/re-accredited new and modernised degree programs</p> <p>7.2. Memorandum on network with regional industrial enterprises creation</p> <p>7.3. Application for continuous courses financing at National employment services</p> <p>7.4. Application for training of teachers at colleges of applied sciences financing at Ministries of education</p> <p>7.5. Marketing plans for active students and labour market</p> <p>WP8 (MNGT) Project management</p> <p>8.1. Work packages management teams established</p> <p>8.2. Manual for project management defined</p> <p>8.3. Inner project consortium semi-annual meetings</p> <p>8.4. Project consortium annual meetings</p>			
<p>Activities: <i>What are the key activities to be carried out (<u>grouped in Workpackages</u>) and in what sequence in order to produce the expected results?</i></p> <p>WP1 (DEV) Introducing of content and modernisation of curriculums in field of Management of Product Development and Innovations management, Eco-product development and Industrial Product Development</p> <p>1.1. Definition of required competences and learning outcomes of curriculums in field of Management of Product</p>	<p>Inputs: <i>What inputs are required to implement these activities, e.g. staff time, equipment, mobilities, publications etc.?</i></p> <ul style="list-style-type: none"> • 398 days staff time CAT.1 • 1511 days staff time CAT.2 • 325 days staff time CAT.3 • 433 days staff time CAT.4 • 33 PC to EU • 34 EU to PC • 217 PC to PC • 4 EU to EU • 4 x smart board • 1 x web server/HPC cluster 		<p>Assumptions, risks and pre-conditions: <i>What pre-conditions are required before the project starts? What conditions outside the project's direct control have to be present for the implementation of the planned activities?</i></p> <ul style="list-style-type: none"> • Motivation of university staff for additional work • Support from government institutions • Interest of industry to support project • Motivation of university staff for additional training • Availability of educational staff • Availability of students

<p>Development and Innovations management, Eco-product development and Industrial Product Development</p> <p>1.2. Comparative analysis of EU partners and PC curriculums in regard to quality standards and curriculum contents and structure</p> <p>1.3. Development of structure and content of curriculum in field of Management of Product Development and Innovations management at master/specialist and doctoral level</p> <p>1.4. Development of structure and content of curriculum in field of Eco-product development at master/specialist and doctoral level</p> <p>1.5. Modernisation of structure and content of curriculum in field of Industrial Product Development at master and doctoral level</p> <p>WP2 (DEV) Implementation of new and improving of existing curriculums</p> <p>2.1. Training of PC university teachers for modernisation of pedagogical methodology by EU partners</p> <p>2.2. Transfer of knowledge and expertise of EU partners to PC university teachers in the field of Management of Product Development, Innovations management, Eco-product development and Industrial Product Development</p> <p>2.3. Procurement of equipment, software and literature</p> <p>2.4. Preparing and publishing of new university textbooks and authorised lectures</p> <p>2.5. Development of the student practice</p>	<ul style="list-style-type: none"> • 10 x thin client • 5 x A4 printer • 2 x 3D printer • 4 x friction and force laboratory kit • 22 x laptop computer • 11 x PC workstation • 7 x video projector • 4 x LCD TV • 1 x software for virtualization • 300 x MatLAB and Simulink software • 1 x CAD software • 10 x books/journals • 171875 published A4 pages • 17990 pcs. of published material • Other costs • Overhead 		<ul style="list-style-type: none"> • Availability of unemployed personnel • Adequate language skills of educational staff and project partners
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<p>programme</p> <p>2.6. Enrolment of students into new and modernised accredited degree programs</p> <p>WP3 (DEV) Introduction of continuous education courses</p> <p>3.1. Development of business and marketing plan for creating of network with regional industrial enterprises</p> <p>3.2. Development of structure and content of curriculums of continuous education courses</p> <p>3.3. Preparing of continuous education courses material</p> <p>3.4. Enrolment of participants into continuous education courses</p> <p>WP4 (DEV) Development and introduction of training in Industrial Product Development of colleges of applied sciences</p> <p>4.1. Analysis of state and contents of Industrial Product Development at colleges of applied sciences</p> <p>4.2. Definition of training courses content based on preformed analysis</p> <p>4.3. Preparing of training course materials</p> <p>4.4. Enrolment of training participants</p> <p>4.5. Restructuring of subjects by trained teachers at colleges of applied sciences</p> <p>WP5 (QPLN) Quality control and monitoring</p> <p>5.1. Peer review of new and modernised curriculums, continuous education and training courses and pedagogical methodology</p> <p>5.2. Self-evaluation of created/ modernised educational programs</p> <p>5.3. Inter project coaching</p> <p>5.4. Implementation of action plan for quality assurance</p>			
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<p>WP6 (DISS) Dissemination</p> <ul style="list-style-type: none"> 6.1. Development and maintenance of project web portal 6.2. Preparation of project promotional publications 6.3. Publishing of papers at regional educational conferences and forums 6.4. Organisation of dissemination workshops for project stakeholders 6.5. Organisation of project conference 6.6. Preparation of presentation at educational and job fairs. <p>WP7 (EXP) Sustainability</p> <ul style="list-style-type: none"> 7.1. Preparing of accreditation/re-accreditation of new and modernised degree programs 7.2. Establishing of network with regional industrial enterprises 7.3. Preparation of application for continuous courses financing at National employment services 7.4. Preparation of application for training of teachers at colleges of applied sciences financing at Ministries of education 7.5. Definition of the marketing plans for active students and labour market <p>WP8 (MNGT) Project management</p> <ul style="list-style-type: none"> 8.1. Definition work packages management teams 8.2. Definition of manual for project management 8.3. Organisation of inner project consortium semi-annual meetings 8.4. Organisation of annual project consortium meetings 			
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