



Steering Committee meeting

11th May 2011, Tivat

Overall WBC-VMnet project achievements and UKG results

Prof. Dr Vesna Mandic

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This project has been funded with support from the European Commission



Outline

- ❖ Overall achievements
- ❖ Project implementation timeframe
- ❖ Key project results, per Outcomes
- ❖ Conclusions



Overall achievements

- ❖ Four CTCs are functional in Kragujevac, Rijeka, Banja Luka and Podgorica (equiped, trained staff – 27 flows, 20 training days, 14 persons)
- ❖ VMnet network has 1090 members in total (during the project 654 new members)
- ❖ Comprehensive TSNA analysis in the WBC region (800 questionnaires)
- ❖ WBC Regional model for University-enterprise cooperation developed; Publication was published in June 2010 after public debate; in implementation phase...
- ❖ Project WEB site is regularly updated with all important results and news
- ❖ 6 new systematization of knowledge
- ❖ Practical Placement programme developed; in implementation phase...
- ❖ Industrial Fellowship programme developed
- ❖ Syllabuses and instructional materials for 16 vocational trainings developed;
- ❖ 8 trainings realized and 2 are ongoing...
- ❖ 12 info days have been organized – 393 participants in the WBC region
- ❖ 3 motivational seminars (111 participants), 2 two-day workshops (179 participants)

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Project implementation timeframe

Ref.N°	Activities Title	M10 Y2	M11 Y2	M12 Y2	M1 Y3	M2 Y3	M3 Y3	
1.	Four Collaborative Training Centres (CTC) are established ...							
1.1	Found and equip four CTC and define Action plan	F						
1.2	Re-training for staff							
1.3	Market and marketing activities							
2.	VMnet network is enlarged throughout the WBC region ...							
2.1	Develop collaborative web tools and communication strategy	F						
2.2	Bring new VMnet members and experts for multidisciplinary approach							
2.3	Update existing systematization knowledge e-base with new topics							
3.	Model for university-enterprise cooperation developed ...							
3.1	Analyze the EU models for cooperation in the knowledge triangle	F						
3.2	Develop, assess and adopt the new regional model of cooperation	F						
3.3	Set up joint structures of SMEs							
3.4	Case studies – benchmarking best practice							
4.	Training/service needs identified and trainers/service providers...							
4.1	Training/service needs analysis (TSNA)	F						
4.2	Selection and re-training of trainers and service providers							
4.3	Quality monitoring of training/services							
5.	Programme of vocational training, industrial fellowship and student practical placement developed and carry out ...							
5.1	Develop and delivery vocational trainings for SME, unemp.graduates ...							
5.2	Develop and redesign instructional material for e-learning							4m
5.3	Develop and conduct Industrial Fellowship Progr. (IFP) for graduates...				F			8m
5.4	Develop and conduct Practical Placement Programme for students			F				
6.	Dissemination							
6.1	Prepare Programme for public information, dissemin. and raising awareness							
6.2	Printing and publishing of brochures, leaflets and other material							
6.3	Information days and public appearances				F			
6.4	Organize three motivational seminars	F						
6.5	Organize three workshops							
6.6	Organize three brokerage events							1m
7.	Sustainability							
7.1	Institutional sustainability							
7.2	Financial sustainability							
8.	Quality control and monitoring							
8.1	Develop quality control and monitoring strategy							
8.2	Internal monitoring and interviews of target groups							
8.3	External monitoring and inter-Tempus coaching							
9.	Management of the project							
9.1	Overall project management and administration							
9.2	Local management on the level of WBC partners							
9.3	Local management on the level of EU partners							

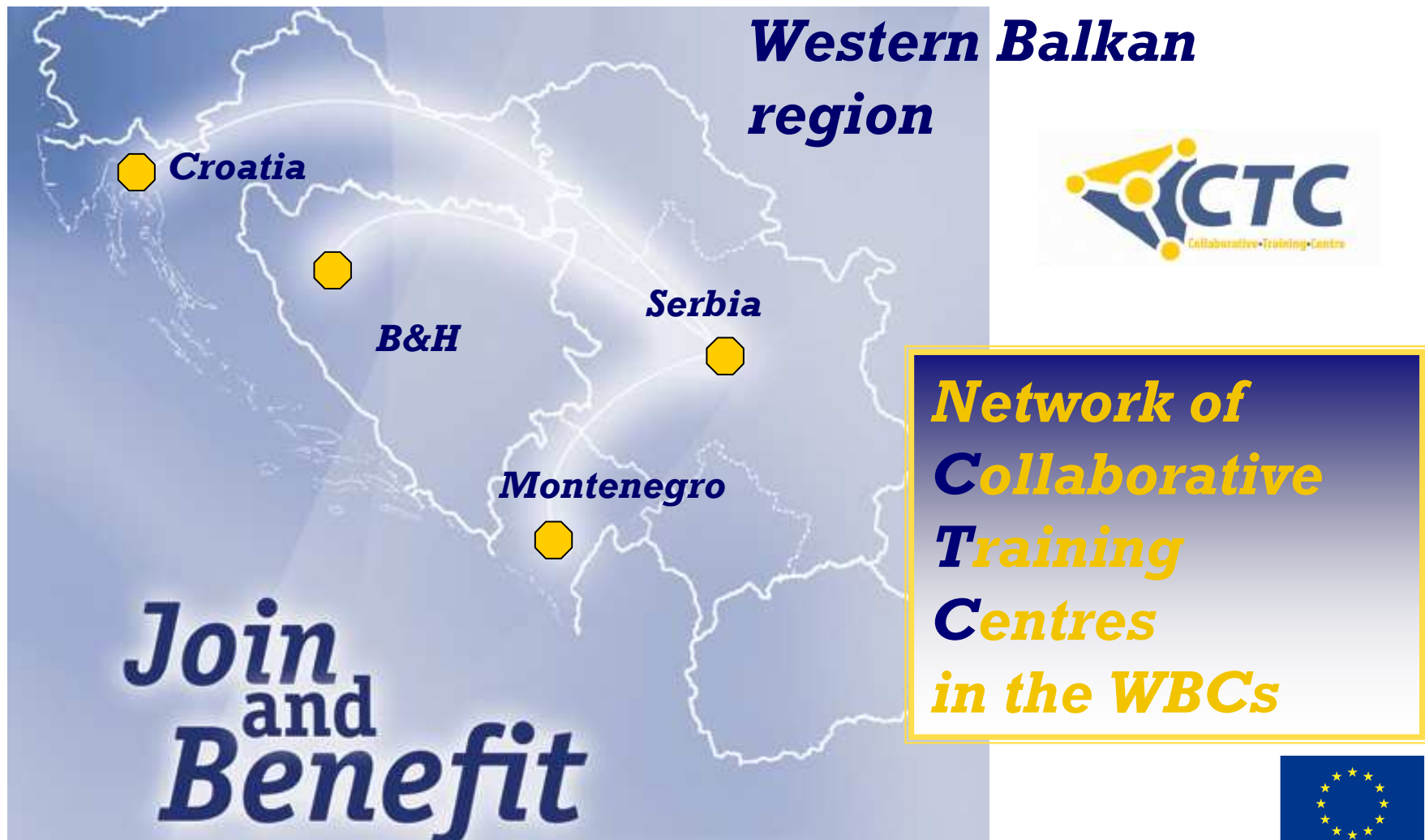
	Period of implementation
	In time
	Delay
	Delay, but not critical
F	Finished

eLearning
 IFP implementation
 PPP implementation (EU)

Brokerage event



Key project results – Outcome 1





Key project results – Outcome 1

List of Equipment provided within WBC-VMnet project:

CTC Kragujevac:

- [PC equipment](#) (1 server, 3 PCs, 2 laptops and 6 monitors)
- 1 Projector
- Intranet network system in CTC
- 1 Multisensor CMM laboratory machine for quality control - [WERTH Video-check IP250](#)
- 1 3D printer for Rapid Prototyping - [OBJET Alaris 30](#)
- 2 VM softwares - [Stampack](#) and [Vizard](#)

CTC Rijeka:

- [10 PCs](#)
- 1 Projector
- 2 VM software - [Simufact](#) and [3DQuickPress](#)

CTC Banja Luka:

- [10 PCs](#)
- 1 Projector
- 1 VM software - [Simufact](#)

CTC Podgorica:

- [10 PCs](#)
- 1 Projector
- 1 VM software - [ProEngineer](#)




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Key project results – Outcome 1

❖ CTC brochure







Vision
To become a strong cooperative center that will initiate, mediate and sustain mutually beneficial partnership between University, that is its members, students and graduates on one hand and enterprises and other partners that support SME sector on the other hand.

Mission
To develop efficient and effective mechanisms for cooperation between University and enterprises, through the projects' implementation, vocational trainings for enterprises and the unemployed, fellowship programs (Industrial Fellowship Programme - IFP) and student practice (Practical Placement Programme - PPP).


Activities

- Development and implementation of vocational trainings, seminars and workshops;
- Coordination of Industrial Fellowship Programme (IFP);
- Coordination of Practical Placement Programme (PPP);
- Rapid prototyping and reverse engineering applications in integrated product and process development;
- Virtual manufacturing applications by applying up-to-date FE/FV software;
 - CAD/CAM modelling of products and tools;
- Quality control and measuring (optical, laser and contact techniques);
 - Training of staff and external experts of CTC Centre;
 - Projects' implementation;
- Spreading the WBC VMnet network.

CTC offices in Kragujevac, Rijeka, Banja Luka and Podgorica

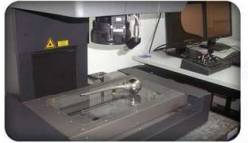






WE USE MODERN APPROACH



Resources

- Multisensor coordinate measuring machine - **WERTH Video-check IP250** (determination of 2D and 3D geometries of parts with very small features with integrated optical, laser and patented fiber contact techniques)
- 3D printer (Rapid Prototyping) - **OBJET Alaris 30** (based on PolyJet technology creates smooth surfaces with complex geometries, small moving elements and fine details of plastic prototypes)

Software:

CAD/CAM software (3D CAD modelling, CAM modelling with powerful new toolpaths and techniques, NC programming)

- SolidWorks
- ProEngineer
- CATIA
- Mastercam

CAE software (advanced FE/FV software for all bulk and sheet metal forming applications, independent from process temperature, machine used or material processed):

- Stampack
- Simufact

Software for tool design (design and optimization of progressive die from 3D solid model, as SolidWorks add-on)

- 3DQuickPress

Virtual reality software (software for design of interactive 3D content and rapid prototyping for virtual reality applications).

- Vizard

Network of Collaborative Training Centres in the Western Balkans Kragujevac, Rijeka, Banja Luka and Podgorica

Key project results – Outcome 1

- ❖ Four web sites of CTCs are developed, in involved WBC countries, in local languages



The screenshot shows the website for the Cooperative Training Center Kragujevac (CTC). The header includes logos for the European Commission TEMPUS, the University of Kragujevac, and the CTC logo with the slogan "Join and Benefit". The navigation menu includes: NASLOVNA, O CENTRU, RESURSI, USLUGE, OBUKE, PSP PROGRAM, ISP PROGRAM, GALERIJA, and KONTAKT. The main content area features a map of the Western Balkans with markers for Rijeka, Banja Luka, Kragujevac, and Podgorica. The text reads: "Mreža Kooperativnih trening centara u zemljama Zapadnog Balkana". Below the map, there is a section for "Kooperativni Trening Centar Kragujevac" with a date of "WEDNESDAY, 29 SEPTEMBER 2010 10:49". A news article snippet is visible, mentioning the CTC as one of the network centers established in the region.

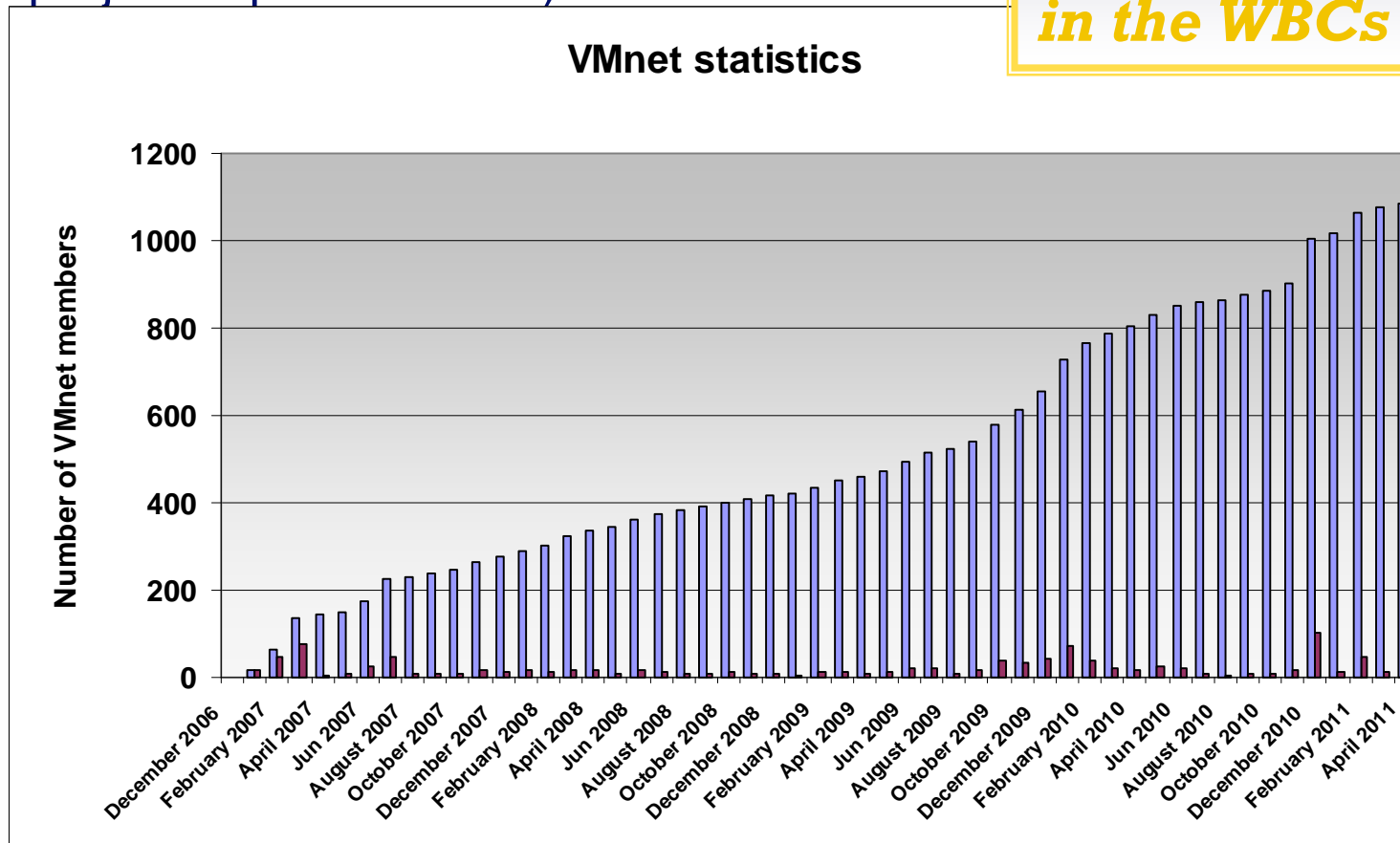
- ✓ www.wbc-vmnet.rs
- ✓ www.ctc.kg.ac.rs
- ✓ www.ctc.riteh.uniri.hr
- ✓ www.ctc.unibl.ba
- ✓ www.ctc.ac.me



Key project results – Outcome 2

❖ 1090 members in total, from WBC region, 654 durin the project implementation)

**Virtual
 Manufacturing
 Network - VMnet
 in the WBCs**



Key project results – Outcome 2

❖ VMnet is enlarged with 650 new members from WBC region, in 2009, 2010 and 2011, (1089 members in total)

Number of new VMnet members in 2009, 2010 and 2011		Planned number, WBC-Vmnet project	Balance
Provided by partner	Number of VMnet members		
UKG, Serbia	340	450	110
UP, Montenegro	96	150	54
UR, Croatia	133	150	17
UBL, Bosnia & Herzegovina	85	150	65
TOTAL	654	900	250

Key project results – Outcome 2

❖ 6 new systematization of knowledge, available for VMnet members, after login)

5. CAD/CAM/CAE tehnologije

Izrada strojnog dijela, od projektiranja do izrade proizvoda (UR)

Projektiranje procesa izrade vratila – primjer (UR)

Mašine, alati I metode mašiniranja (UBL)

9. Strateški management

Proizvodna strategija (U)

10. Kvalitet

Unapređivanje kvaliteta (U)

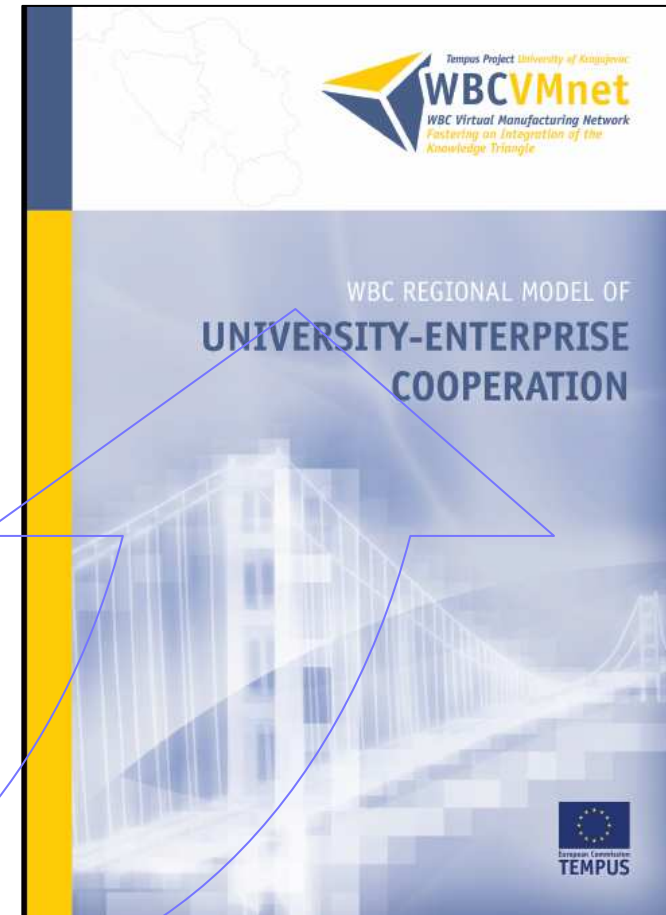
Merenje buke i vibracija (U)



Key project results – Outcome 3



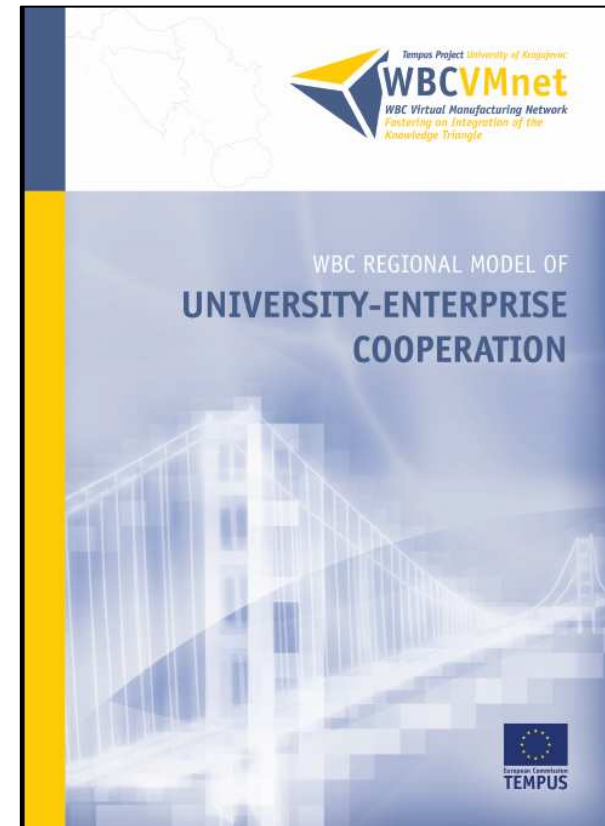
1. Science and Technology parks
2. WBC regional industrial clusters
3. University-enterprise consortia for joint projects
4. Collaborative training centres
5. Open Innovation Networks with SMEs
6. Practical placements for students
7. Industrial fellowship programme





Key project results – Outcome 3

1. Establishment **Science and Technology parks** in regional university centers;
2. Organization of **WBC regional industrial clusters**
3. Forming **University-enterprises consortia** for joint projects;
4. Establishment of **Collaborative-training and/or long-life learning centres**;
5. Setting up of **Open Innovation Networks with SME**;
6. **Practical placements** for students in industry;
7. **Industrial fellowship programme** for graduates and/or employees from enterprises





Key project results – Outcome 3

- ❖ CTC Kragujevac supports joint structure of SME, through offering trainings and services to existing clusters
 - www.embedded.rs,
 - www.ssc.rs,
 - <http://acserbia.org.rs/sr>) and the planned inclusion as a member.
- ❖ The initiative of establishing ICT cluster in Serbia was supported by CTC KG
- ❖ SCGM, partner on the project, joined the auto components cluster
- ❖ CTC Kragujevac has recognized as service provider for Serbian clusters, full description in Report “*Testing and certification in Serbia: demands from the software/ embedded and automotive industry sectors*”, produced within SECEP project “*Support to Enterprise Competitiveness and export Promotion*”
- ❖ New initiative within SEE programme related to cluster development (CTC KG is partner)

Key project results – Outcome 4

Selection and re-training
 of CTC staff and service providers

- ❖ **CEVIP, Serbia**, May 2010
 (1p UR, 1p UBL, 1p UP)
- ❖ **UL+C3M, Slovenia**, June 2010
 (4p UKG, 4p UR, 1p UBL, 1p UP)
- ❖ **IPU, Denmark**, August 2010
 (5p UKG, 1p UR, 1p UBL, 1p UP)
- ❖ **DIMEG, Italy**, September 2010
 (5p UKG, 1p UR, 1p UBL, 1p UP)

27 flows

Training provider	List of offered trainings	Duration (days)
DIMEG 5 days max.	Metal forming (integrated design)	1.0
	Geometrical metrology	1.0
	Concurrent engineering lab.	1.0
	New advances in micro-manufacturing	1.0
	Rapidprototyping and Reverse engineering	0.5
	Surface engineering	0.5
	Total days DIMEG	
IPU 5 days max.	Tribology (Bulk metal forming)	0.5
	Measurement of heat transfer coefficient	0.5
	Metrology (dimensional)	1.0
	Metrology (surface characterisation)	1.0
	Laser technology	1.0
	Micro technology	1.0
Total days IPU		5 days
UL 3 days max.	Thermomechanical testing of materials	0.5
	Microstructural changes	0.5
	Superplastic Al alloys	0.5
	Microscopy (SEM, optical)	0.5
	Industrial tours	1.0
Total at UL		3 days
C3M 2 days max.	Introduction to FEM (half day)	0.5
	Symbolic approach to FEM (half day)	0.5
	M5 modelling (half day)	1.0
Total at C3M		2 days
CEVIP 5 days max.	VM software (2 days)	2.0
	VE technologies - integration	0.5
	Rapid prototyping (OBJET, ALARIS 30)	1.0
	CMM Werth VideoCheck IP250	1.0
	Industrial tour	0.5
Total at CEVIP		5 days



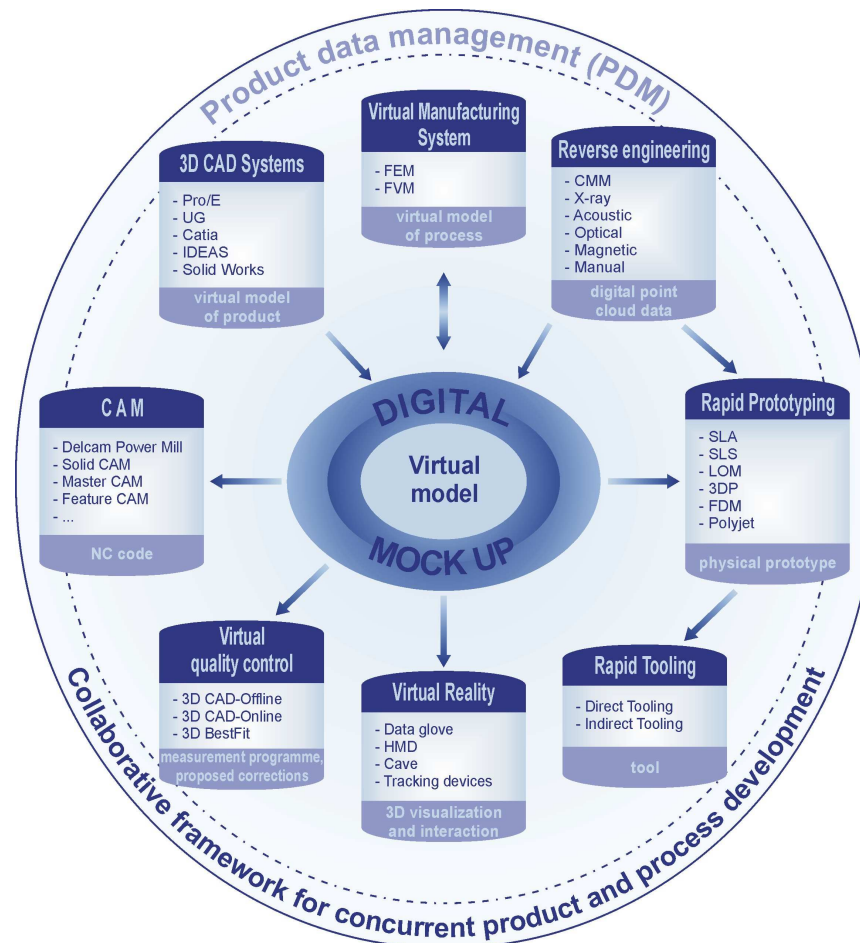
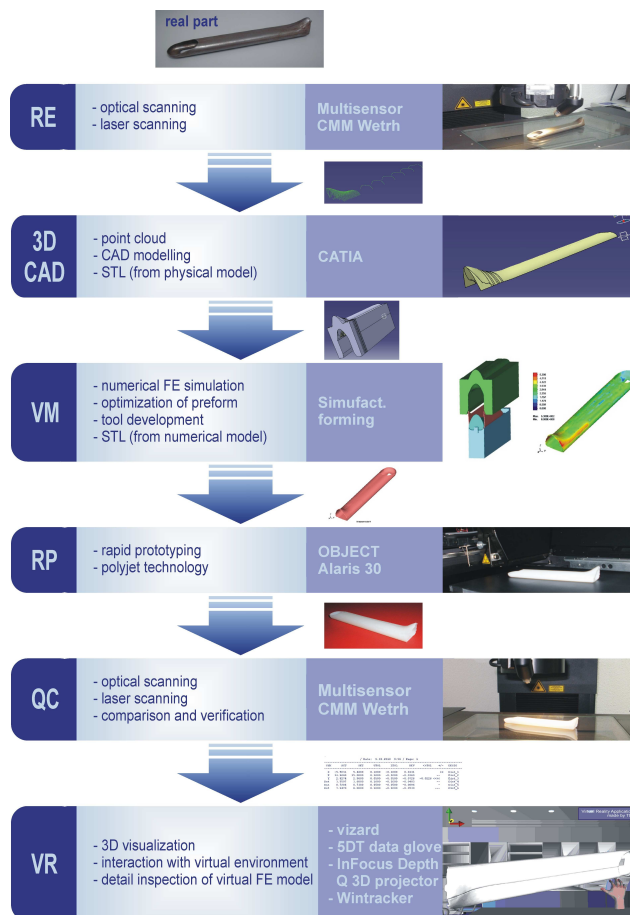
Key project results – Outcome 4





Key project results – Outcome 4 Case study UKG

Virtual product development and re-engineering within integrated VE system





Key project results – Outcome 5

Specialized vocational trainings (40 hours, 4ECTS):

CTC Kragujevac (6 trainings) – 63 certificates issued – 16 trainees now:

CAD/CAM modelling (31 certificates)

Tool design (20 certificates)

Modelling and optimization of production processes using the FE / FV simulation (9 trainees)

Project management

CAM modeling and generating NC code for 3 axis CNC milling machines (12 certificates)

Industrial metrology (7 trainees)

CTC Rijeka (6 trainings) - 20 trainees:

Simulation of machining processes and rapid prototyping techniques (SolidWorks, SolidCam)

Product design and development with CATIA

Process Quality Improvement Methods (10 trainees)

Fundamentals of project management (10 trainees)

Application of MS Project for planning and monitoring projects

Qualification program for new product/production system development

CTC Banja Luka (2 trainings) – 10 trainees:

Advanced CAD modeling using Solid Works (10 trainees)

NC programming and the basics of CAM modeling

CTC Podgorica (2 trainings) – 10 trainees:

CAD - ProEngineer (10 trainees)

Office informatics

Prof. Dr Vesna Mandić

10 planned
16 offered



Key project results – Outcome 5

CTC Kragujevac
 CAD/CAM modeliranje - CATIA

Svrha
 Savremene tehnologije kombiniraju zahtevne parametre rada i dobrih karakteristika CAD programera. Nesporedno je zato izuzetno pogodan za rad u akademskoj programi CAD, upravo iz te razmatraju moguća da moderniziraju moderne alate, alati koji su u skladu s potrebama dokumentacije. Prvenstvo dodeljuje se ovom kursu iz te pripremi da se može da istražuje u akademskoj formi bez obzira na vreme.

Opšti cilj
 Polaznici koji završavaju ovaj oblik bit će u mogućnosti da: - izaberu procesi korišćenja alata - izaberu procesi korišćenja alata - izaberu procesi korišćenja alata - izaberu procesi korišćenja alata

Oblasti
 1. Osnovna nastavnica (predmeti) osnovne kadrovanje CAD softvera, radna okruženja
 2. Korišćenje i upravljanje alatom
 3. Nastavni fond
 4. Korišćenje referencijalnih i parametričkih elemenata
 5. Izvođenje modela
 6. Modeliranje mehaničkih objekata, pristup i modeliranje objekata
 7. Organiziranje objekata
 8. Osnovna dokumentacija dokumentacije, generisanje projekata i crtežova
 9. Automatsko korišćenje, standardni naredni i napredni u crtežima
 10. Osnovna nastavnica programiranja CAD

Trajanje **Sifra kursa**
 40 časova CT-45-01

Korišćeni resursi
 Softver: CATIA

CTC Kragujevac
 Projektovanje alata

Svrha
 Osnovna nastavnica dodeljuje se ovom kursu iz te pripremi da se može da istražuje u akademskoj formi bez obzira na vreme. Nesporedno je zato izuzetno pogodan za rad u akademskoj programi CAD, upravo iz te razmatraju moguća da moderniziraju moderne alate, alati koji su u skladu s potrebama dokumentacije. Prvenstvo dodeljuje se ovom kursu iz te pripremi da se može da istražuje u akademskoj formi bez obzira na vreme.

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 9. Automatsko korišćenje, standardni naredni i napredni u crtežima
 10. Osnovna nastavnica programiranja CAD

Trajanje **Sifra kursa**
 40 časova CT-45-02

Korišćeni resursi
 Softver: CATIA

CTC Kragujevac
 Modeliranje i optimizacija proizvodnih procesa primenom FE/FV simulacija

Svrha
 Savremene tehnologije kombiniraju zahtevne parametre rada i dobrih karakteristika CAD programera. Nesporedno je zato izuzetno pogodan za rad u akademskoj programi CAD, upravo iz te razmatraju moguća da moderniziraju moderne alate, alati koji su u skladu s potrebama dokumentacije. Prvenstvo dodeljuje se ovom kursu iz te pripremi da se može da istražuje u akademskoj formi bez obzira na vreme.

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 7. Organiziranje objekata
 8. Osnovna dokumentacija dokumentacije, generisanje projekata i crtežova
 9. Automatsko korišćenje, standardni naredni i napredni u crtežima
 10. Osnovna nastavnica programiranja CAD

Trajanje **Sifra kursa**
 40 časova CT-45-03

Korišćeni resursi
 Softver: Simulacijski Softver

CTC Kragujevac
 Upravljanje projektom

Svrha
 Savremene tehnologije kombiniraju zahtevne parametre rada i dobrih karakteristika CAD programera. Nesporedno je zato izuzetno pogodan za rad u akademskoj programi CAD, upravo iz te razmatraju moguća da moderniziraju moderne alate, alati koji su u skladu s potrebama dokumentacije. Prvenstvo dodeljuje se ovom kursu iz te pripremi da se može da istražuje u akademskoj formi bez obzira na vreme.

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 Polaznici koji završavaju ovaj oblik bit će u mogućnosti da: - izaberu procesi korišćenja alata - izaberu procesi korišćenja alata - izaberu procesi korišćenja alata - izaberu procesi korišćenja alata

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 8. Osnovna dokumentacija dokumentacije, generisanje projekata i crtežova
 9. Automatsko korišćenje, standardni naredni i napredni u crtežima
 10. Osnovna nastavnica programiranja CAD

Trajanje **Sifra kursa**
 20 časova CT-45-04

Korišćeni resursi
 Softver: Microsoft Project

Brochures for vocational trainings

Key project results – Outcome 5

- ❖ Syllabuses are available at the project web site, with CVs of lecturers

 www.wbcvmnet.rs info@wbcvmnet.rs tel.: +381 34 501 201 fax: +381 34 501 501			
Name	Modeling and optimization of production processes using the FE/FV simulation		
Code	CTC+IG-03		
ECTS	4		
Location	CTC Kragujevac, University of Kragujevac, Faculty of Mechanical Engineering, Serbie Jankić 6, 34000 Kragujevac, Serbia		
Trial name	Prof. Dr Vesna Mandić (v.m. in advertisement)		
Purpose	New market demands in terms of price and quality of products call for the implementation of more efficient ways to design products and tools, which involves application of new CAD-technologies, modeling and FE simulation. The research and analysis of processes, their virtualization through virtual models obtained from FE simulation is proven way to increase the efficiency of design and to increase the quality of the final product. Participants of this training will have the opportunity to learn and train themselves for the application of innovative VE technologies in product development, tools development and optimization of hybrid processes.		
Recommended entry level	2 nd level of professional qualification, mechanical engineering		
Special requirements	Basic knowledge of CAD modeling and design of tools		
Duration	40 hours		
General objectives	Trainees should be able to: <ul style="list-style-type: none"> explain the principles of concurrent engineering explain the importance of modeling and simulation in the design of products and processes use a modern software tools for FE/FV simulation process identify the relevant parameters for the optimization process provide quality input for the FE simulation of the process (flow curves, contact friction, thermal conditions...) interpret the results and transform them to the real processes explain ways to optimize products and processes through use of relevant parameters 		
Topics	1. Engineering design 2. Virtual engineering technologies and their integration 3. Importance and role of modeling and numerical simulation in engineering design 4. Role of virtual rapid prototyping of products, tools and processes in the concurrent engineering, practical demonstration 5. Finite element volume method 6. Input parameters for modeling and simulation process (preprocessing), exercise 7. Modeling of deformation processing, principles, examples, exercise 8. Interpretation of the results of modeling and simulation (post processing), exercise 9. Optimization process, the large function 10. Optimization of processes and tools, exercise		
Specific learning outcomes in topics	Topic 1: Engineering design Trainees should be able to: <ul style="list-style-type: none"> Describe the stages in the development cycle of products and processes, especially in the engineering design Apply the recommendations for successful engineering design Apply the principles of concurrent engineering design 	Number of hours	2
	Topic 2: Virtual engineering technologies and their integration Trainees should be able to: <ul style="list-style-type: none"> Description of contemporary trends in the application of innovative VE technologies Demonstrate the application and integration of different VE technologies in product development and related technological processes 	Number of hours	2
	Topic 3: Importance and role of modeling and numerical simulation in engineering design Trainees should be able to:	Number of hours	2
	<ul style="list-style-type: none"> Select the method of modeling processes and „jobs“ for numerical simulation Determining the relevant process parameters Highlight the advantages of modeling and simulation in engineering design 	Number of hours	4
	Topic 4: Role of virtual rapid prototyping of products, tools and processes in the concurrent engineering, practical demonstration Trainees should be able to: <ul style="list-style-type: none"> Select the method for making prototypes Select the method for reverse engineering Describe the principles of concurrent engineering 	Number of hours	2
	Topic 5: Finite element volume method Trainees should be able to: <ul style="list-style-type: none"> Understand the principles of finite element and finite volume methods Choose the type of FE analysis and finite element Interpret the results of FE/FV analysis 	Number of hours	8
	Topic 6: Input parameters for modeling and simulation process (preprocessing), exercise Trainees should be able to: <ul style="list-style-type: none"> Use CAD packages, a standard format for the transfer of geometry Define the relevant input for the FE process simulation Understand the concept of flow curves, a tool hardening, experimental demonstration Understand the conditions in the contact of tool and workpiece, mathematical description of the contact friction and determine the friction parameters Describe the thermal conditions of the process Successful use of FE/FV software post processor for the entry of input data 	Number of hours	8
	Topic 7: Modeling of deformation processing, principles, examples, exercise Trainees should be able to: <ul style="list-style-type: none"> Model different processes of deformation using FE/FV software Define relevant process parameters, which should be modified in the course of numerical analysis Successfully use VIM software for numerical simulation 	Number of hours	4
	Topic 8: Interpretation of the results of modeling and simulation (post processing), exercise Trainees should be able to: <ul style="list-style-type: none"> Interpret the results of FE/FV analysis process and transform them to the real processes Do a detailed analysis of the results of optimization and suggest corrective measures Successfully use post processor in FE/FV software for overview of results 	Number of hours	2
	Topic 9: Optimization process, the large function Trainees should be able to: <ul style="list-style-type: none"> Optimize designs of tool through numerical FE/FV simulation Identify critical parameters of the process, define a plan of numerical experiment Understand the concept of large function optimization, making the right choice 	Number of hours	8
	Topic 10: Optimization of processes and tools, exercise Trainees should be able to: <ul style="list-style-type: none"> Independently optimize processes of deformation using FE/FV simulations Conduct a conventional parameters of tools and process parameters to meet the target function optimization Find ways to use VIM technologies in design of environment 	Number of hours	8
Portfolio assessment	Trainer evaluates level of success in overcoming the training objectives, through assessment exercises and testing. Rating exercise: Exercise trainer defined on the basis of which can be implemented to assess the degree of learning outcomes. The exercises can be performed individually or in team, in groups of 2-5 trainees. Examination: Test is defined by trainer on basis of examination which can assess the cognitive skills and their application. For this purpose it is necessary to respond to a range of questions. Answers to questions are provided in writing and orally, in a conversation with		



Key project results – Outcome 5



Three meetings with NEA, CTC staff, trainers and potential candidates
(unemployed and engineers from enterprises)

This project has been funded with support from the European Commission

Key project results – Outcome 5

Predavač: Prof. dr Nenad Marjanović

Trajanje kursa: od 10. 11. 2010. do 11. 12. 2010. u Kragujevcu

A1/10 CAD-CAM modeliranje CATIA - Nezaposlena lica							
R. Broj	Ime i prezime	Grad/Mesto	Telefon	Mail	Broj dolaska	Ukupno časova	Izdat sertifikat
1	Danijele Radišić	Kragujevac	064/3820799	danielaradistic@yahoo.com	10	40	Ne
2	Dragana Todorović	Lapovo	065/6055224	ing.draganatodorovic@live.com	10	40	Ne
3	Jelena Milojević	Kragujevac	060/3152305	iecam86@yahoo.com	8	32	Ne
4	Zoran Vujović	Kragujevac	061/6773850	wujovic@gmail.com	8	32	Ne
5	Ivana Samčević	Kragujevac	064/6601300	ivakqs@yahoo.com	9	36	Ne
6	Nenad Ilić	Kragujevac	069/610047	ilic.nnd@gmail.com	10	40	Ne
7	Ivana Jeremić	Kragujevac	064/5808287	ivajeremic@yahoo.com	9	36	Ne
8	Slađana Marjanović	Kragujevac	064/3124364	sladjanamarianovic.kq@gmail.com	10	40	Ne
9	Dušan Jokić	Kragujevac	064/4089902	dusaniole@gmail.com	10	40	Ne

Predavač: Prof. dr Nenad Marjanović

Trajanje kursa: od 07. 12. 2010. do 14. 01. 2011. u Kragujevcu

A2/10 CAD-CAM modeliranje CATIA - Zaposlena lica							
R. Broj	Ime i prezime	Preduzeće	Telefon	Mail	Broj dolaska	Ukupno časova	Izdat sertifikat
1	Vladan Bugarčić	TPV Šumadija	060/2232948	v.bugarcic@tpv.si	10	40	Ne
2	Nenad Pavlović	Milanović Inženjering	064/1342637	pavlovic@miing.rs	10	40	Ne
3	Boban Simić	Milanović Inženjering	064/3610221	borac77@gmail.com	10	40	Ne
4	Zeljko Đukić	InMold	065/5400181	zeljko.djukic@inmold-ltd.com	10	40	Ne
5	Mladen Stanić	InMold	069/1205984	ing.stanic@gmail.com	10	40	Ne
6	Branislav Petrović	InMold	064/2445219	brankop69@gmail.com	9	36	Ne
7	Sreten Serdarević	InMold	064/2553900	serdarevicsreten@gmail.com	9	36	Ne
8	Branko Tanasković	InMold	064/1734623	branko.tanaskovic@gmail.com	8	32	Ne
9	Janko Veljović	Promotor-Irva	063/609037	marketing@promotor-irva.com	10	40	Ne
10	Aleksandra Raković	Zastava oružje, tehnologija	064/3233963	aleksandramika9@gmail.com	9	36	Ne
11	Marko Uračković	Grah automotive	065/9421516	marko.urakovic@grah-automotive.com	10	40	Ne
12	Vladan Blagojević	Grah automotive	064/6421493	vladan.blagojevic@grah-automotive.com	10	40	Ne

Predavač: Prof. dr Nenad Marjanović

Trajanje kursa: od 18. 12. 2010. do 15. 01. 2011. u Kragujevcu

A3/10 CAD-CAM modeliranje CATIA - Zaposlena lica							
R. Broj	Ime i prezime	Preduzeće	Telefon	Mail	Broj dolaska	Ukupno časova	Izdat sertifikat
1	Bojan Milutinov	Galeb Metal Pack	064/8494178	bojan.milutinov@galeb.com	3	20	Ne
2	Vladan Vasić	Galeb Metal Pack	064/8494126	vladan.vasic@galeb.com	3	20	Ne
3	Jovica Veselinov	InMold	064/9355257	jovica.veselinov@inmold-ltd.com	3	20	Ne
4	Goran Bralović	InMold	064/8848270	goran.bralovic@inmold-ltd.com	3	20	Ne
5	Darko Pavlović	InMold	064/8848208	darko.pavlovic@inmold-ltd.com	2	12	Ne
6	Nevena Blagojević	InMold	064/8848229	kontrola@inmold-ltd.com	3	20	Ne
7	Vladan Petrović	InMold	064/8848207	vladan.petrovic@inmold-ltd.com	2	12	Ne
8	Vladan Marković	InMold	064/1734623	branko.tanaskovic@gmail.com	2	16	Ne

This project has been funded with support from the European Commission





Key project results – Outcome 5



This project has been funded with support from the European Commission





Key project results – Outcome 5



Certificate



Key project results – Outcome 5

CTC Practical Placement Programme
 Collaborative Training Centre

In order to improve and acquire new knowledge of students, CTC centers have developed and coordinate a new Practical Placement Programme (PPP) which provides students the opportunity to gain practical experience in industry, in an area that relates to their academic studies, and to further develop their professional, technical and interpersonal skills.

Placement programs have the important role of creating a bridge between education and employment. They help students to optimize their education and subsequently work choice and to better position themselves in the work world. Then the objective of PPP is to facilitate the incorporation of students into the workforce while supplying them with professional experience and skills in addition to theoretical knowledge.

Benefits for students

- Acquisition of practical knowledge and skills in the field of studies, often connected with solving real problems at workplace;
- The student can see how the teaching material covered within subjects of studies is applied and how relevant it is to the real situations in the business, which increases learning motivation;
- Making business contacts and increasing chances for future employment through gathering additional references in CV, by working at real jobs;
- Developing business communication skills and team work;
- Access to career development opportunities and proper decision making as regards the choice of future occupation;
- Broader understanding of domestic and international business environments and communications required for career development and business development;
- Sometimes practical placement can be a source of additional revenue, if the company that provides practical placement wishes and is able to finance part of the student's realized activities; it is defined by the contract.

Benefits for enterprises

- Students bring new ideas and different interpretations of the current problems of enterprise, which are up to date with modern trends and new technologies they learn during studies;
- Making closer connections with universities, and strengthening of development capacities;
- Longer practices may serve well to the evaluation and selection of new employees;
- The practical placement is an opportunity to influence the improvement of student education and their better preparation for inclusion in the work process when employed;
- Student involvement in the ongoing projects and reinforcing the team with fresh personnel;
- Employees involved in realization of practical placement strengthen their monitoring skills;
- Costs of training employees are reduced when employing graduates who have gone through the practical placement of that enterprise;
- Raising the reputation and publicity of enterprises through support and sponsorship of practical placement.

CTC Practical Placement Programme
 Collaborative Training Centre

Practical placement implementation procedure

1. Planning

Database of enterprises	Matching student and enterprises	Workplace requirements	Negotiation and contracting
PPP coordinator, Representative of academic institution	PPP coordinator, Industrial mentor, Representative of enterprise	PPP coordinator, Representative of enterprise	Representative of academic institution, Representative of enterprise <i>annex 4.6*</i>

2. Execution

Application form	Referral/Confirmation form	PP Work programme	Diary on PP
Student <i>annex 4.4*</i>	Academic mentor and Industrial mentor <i>annex 4.5*</i>	Academic mentor, Industrial mentor and Student <i>annex 4.12*</i>	Student <i>annex 4.14*</i>

3. Monitoring and reporting

Industrial mentor's monitoring report	Academic mentor's monitoring report	Final report on PP	Accident report
Industrial mentor <i>annex 4.8*</i>	Academic mentor <i>annex 4.9*</i>	Student <i>annex 4.11*</i>	PPP coordinator, Industrial mentor <i>annex 4.7*</i>

4. Evaluation

Student's evaluation	Academic mentor's evaluation	Final mark
Student <i>annex 4.11*</i>	Academic mentor <i>annex 4.10*</i>	Academic mentor

Detail description and supporting documents in form of annexes are available on CTC web sites

Contacts

<p>Prof. Dr Vesna Mandić Coordinator of CTC Kragujevac Sestre Janjic 6 34000 Kragujevac Tel. +381 34 501 201 Fax. +381 34 501 901 E-mail. ctc@kg.ac.rs URL. www.ctc.kg.ac.rs</p>	<p>Prof. Dr Zinko Babić Coordinator of CTC Banja Luka Vojvode Stepe Stepanovića 71 78000 Banja Luka Tel. +387 51 462 321 Fax. +387 51 465 085 E-mail. ctc@unibl.rs URL. www.ctc.unibl.rs</p>	<p>Prof. Dr Zoran Jurković Coordinator of CTC Rijeka Vukovarska 58 51000 Rijeka Tel. +385 51 651 466 Fax. +385 51 651 468 E-mail. ctc@irnh.hr URL. www.ctc.irnh.uniri.hr</p>	<p>Prof. Dr Mileta Janjić Coordinator of CTC Podgorica Džordža Vasilingtona bb 81000 Podgorica Tel. +382 78 107 285 Fax. +382 20 245 116 E-mail. ctc@ac.me URL. www.ctc.ac.me</p>
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Digitally signed by Vesna Mandic

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WBCVMnet
 WBC Virtual Manufacturing Network
 Fostering an Integration of the Knowledge Triangle

Prof. Dr Vesna Mandic

This project has been funded with support from the European Commission



Key project results – Outcome 5



CTC Industrial Fellowship Programme
 Collaborative Training Centres

Purpose and aims of IFP

IFP program is intended for the establishment of sustainable partnership between universities and industry through hosting industrial fellows (graduates and engineers from industry) in research and academic centers, with the aim to realize advanced targeted trainings of industrial fellows and joint research according to the needs of industrial sponsor.

Flexible IFP duration, organized several times during the year, enables the hiring of industrial fellow on development and innovation projects of mutual interest for academic and industrial partner. The IFP program is an excellent opportunity for technology transfer and involvement of young people in innovative projects that contribute to the exchange of experience, ideas, knowledge, and increase of innovative potential and competitiveness of enterprises.

The Industrial Fellowship Programme should focus on those sectors that have strategic importance for the WBC region, such as:

- manufacturing and production;
- micromanufacturing;
- nanotechnologies;
- energy and energy saving;
- advanced biotechnologies;
- ICT and embedded systems;
- other new and emerging sectors.

The main goals for the Industrial Fellowship programme will be:

- to establish and support research projects in strategic industrial sectors;
- to develop innovative solutions to industrial and societal challenges;
- to provide academics with the opportunity to learn about interesting and relevant problems and applications for future research directions;
- to transfer academic knowledge to industry;
- to facilitate long-term career success of highly qualified knowledge workers in academic organizations and industry;
- to encourage creation of R&D jobs in industry.

Join and Benefit!

Motivation

Several main reasons can motivate the industry to increase university-industry cooperation (including IFP). They are:

- access to manpower, including well-trained graduates and knowledgeable faculty;
- access to basic and applied research results from which new products and processes will evolve;
- solutions to specific problems or professional expertise, not usually found in an individual enterprise;
- access to university facilities, not available in the enterprise, for example some specific software tool or modern equipment;
- assistance in continuing education and training;
- obtaining prestige or enhancing the enterprise's image; and
- being good local citizens or fostering good community relations.

On the other hand, the reasons for universities to be interested in IFP are:

- industry provides a new source of money for university;
- industrially sponsored research provides student with exposure to real world research problems;
- industrially sponsored research provides university researchers a chance to work on an intellectually challenging research programs;
- some government funds are available for applied research, based upon a joint effort and cooperation between university and industry.



CTC Industrial Fellowship Programme
 Collaborative Training Centres

Benefits for industrial fellows

An industrial fellowship is particularly valuable for graduates. The main benefits the fellows will experience can be summarized as follows:

- to be provided by an interesting working experience, developing an important contact with the university research environment;
- to enhance his/her own creative thinking, problem-solving, project management and team-building skills;
- to enhance his/her own ability to communicate with academy in order to identify solutions for problems and issues of interest;
- to be provided by a customized learning experience based on skills, talents, and developmental needs;
- to work in a collaborative environment with both academics and industrial people, forming long-term contacts and networks for future collaborations;
- to access to academic services (on-line databases, software, laboratory equipment, academic network) and the possibility of attending ongoing courses and seminars;
- to have the possibility of publishing papers and patent applications with the research team at the University.

Benefits for the R&D institution

Thanks to the activation of an industrial fellowship program, the hosting R&D institutions can:

- have fellows that will act for the knowledge and technology transfer from university to sponsor enterprises and provide excellent communication channels between them;
- provide a pipeline of up-to-date, experienced practitioners for innovation of internal audit products, tools, and services;
- reduce investment in overall staffing since the labor costs (salary and consumables) for fellows accepted into the program will be assumed by the sponsoring enterprise for the duration of the fellowship assignment;
- align the strategic directions of research to the real needs of industry;
- application and verification of fundamental research results through joint development and innovation projects with the sponsoring company within the IFP;
- development of a consortium for new projects (national and international).

Benefits for the sponsor enterprise

Sponsoring enterprises can gain great benefits from participation in Industrial Fellowship Programs. In particular the IFP:

- brings out technical expertise, research, and innovation from university experts (professors and researchers) to the industry;
- helps technological transfer from university to industry;
- fosters sustained competitive advantages through applying innovation;
- encourages to apply the scientific approach to industrial activities;
- promotes the development of new skills useful for the industry;
- gets opportunity to reduce rates at selected research facilities used in IFP;
- allows professional growth and reward opportunities for high-potential staff, integrating career goals with fellowship opportunities;
- creates an important communication channel with the university and R&D centres, helping knowledge transfer even in technological fields external to the specific research activity;
- generates customized assignments that are mutually beneficial to the employee, the organization, and the university;
- strengthens external relations;
- provides opportunities to impact the future research direction.

Contacts

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Key project results – Outcome 6

Realized dissemination events:

1. Motivational seminar, Kragujevac, Serbia, 25.12.2009, **30** participants,
2. Motivational seminar, Rijeka, Croatia, 16.02.2010, **42** participants
3. Motivational seminar, Banja Luka, BIH, 24.04.2010, **39** participants

1. Info day, Kragujevac, Serbia, 15.04.2010, **50** participants,
2. Info day, Belgrade, Serbia, 13.05.2010, **20** participants,
3. Info day, Banja Luka, BIH, 17.05.2010, **34** participants,
4. Info day, Rijeka, Croatia, 18.06.2010, **42** participants,
5. Info day, Ulcinj, Montenegro, 24.06.2010, **27** participants,
6. Info day, Novi Sad, Serbia, 24.06.2010, **29** participants,
7. Info day, Zagreb, Croatia, 30.06.2010, **40** participants,
8. Info day, Gornji Milanovac, Serbia, 28.10.2010, **32** participants,
9. Info day, Niš, Serbia, 2-4.11.2010, **20** participants,
10. Info day, Kragujevac, Serbia, 24.11.2010, **17** participants,
11. Info day, Pljevlja, Crna Gora, 23.12.2010, **49** participants
12. Info day, Kragujevac, Serbia, 26.01.2011, **33** participants



1. Workshop, Kragujevac, Srbija, 29-30.11.2010, **89** učesnika.
2. Workshop, Rijeka, Hrvatska, 27-28. januar 2011, **90** participants



Key project results – Outcome 6



683 participants

Prof. Dr Vesna Mandic

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Key project results – Outcome 6

- ❖ Main dissemination tools are project web site and 4 local CTC web sites, in all WBC countries, in local languages



The screenshot shows the website interface with a navigation menu on the left and a main content area. The main content area features a map of the Western Balkans with markers for Rijeka, Banja Luka, Kragujevac, and Podgorica. Below the map is a news article titled "Kooperativni Treening Centar Kragujevac" dated Wednesday, 29 September 2010 10:49. The article text reads: "Kooperativni trening centar Kragujevac (CTC) je jedan iz mreže CTC centara osnovan u zapadnog Balkana, u okviru Tempus projekta WBC-VMnet kao organizaciona jedinica Univerziteta u Kragujevcu. Sgledavajući značaj i potrebu saradnje Univerziteta sa preduzećima, osnovni strateški cilj centra je da koordinira i poboljša saradnju, da omogući transfer znanja i tehnologija, da studentima i diplomiranim pruži mogućnost sticanja praktičnog znanja."

- ✓ www.wbc-vmnet.rs
- ✓ www.ctc.kg.ac.rs
- ✓ www.ctc.riteh.uniri.hr
- ✓ www.ctc.unibl.ba
- ✓ www.ctc.ac.me



Key project results – Outcome 6

Tempus Project Representatives Meeting, 6 and 7 December 2010, Antwerp

For 2010 Projects selected under the Third Call for Proposals of Tempus IV

1. Presentation on Regulations for sound contract management
2. Presentation on Monitoring
3. Presentation on National Tempus Offices and High Education Reform Experts
4. Presentation on Tempus communication tools/ Future events
5. Presentation on Tempus studies
6. Presentation from the Workshops on Reporting on activities and outcomes
7. Presentation from the Workshops on Financial reporting
8. Presentation on the State of Play of the Bologna in the EU and neighboring countries
9. Managing a Tempus project in a Partner Country: Presentation of two university case studies
 - 9a. Prof. Vesna Mandic, University of Kragujevac (Serbia)
 - 9b. Dr. Hoda Soussa, Ain Shams University (Egypt)

http://eacea.ec.europa.eu/tempus/events/meeting_proj_repr_6-7_12_10.php

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Key project results – Outcome 6

Tempus Project Representatives Meeting, 6 and 7 December 2010, Antwerp
For 2010 Projects selected under the Third Call for Proposals of Tempus IV



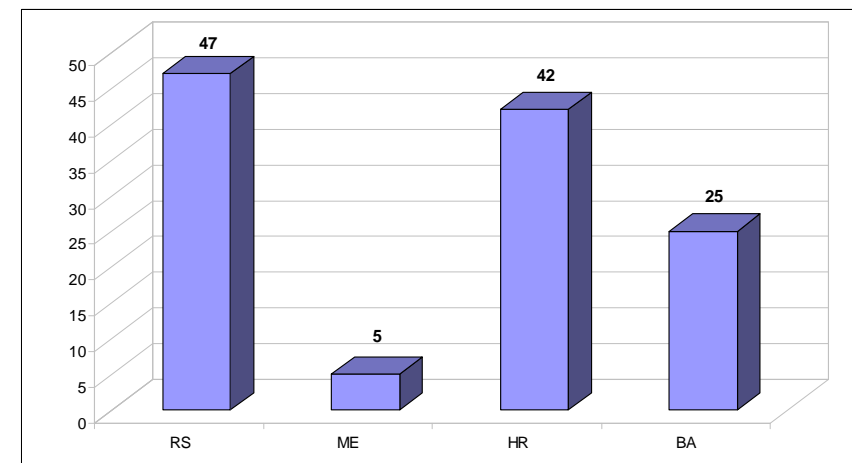
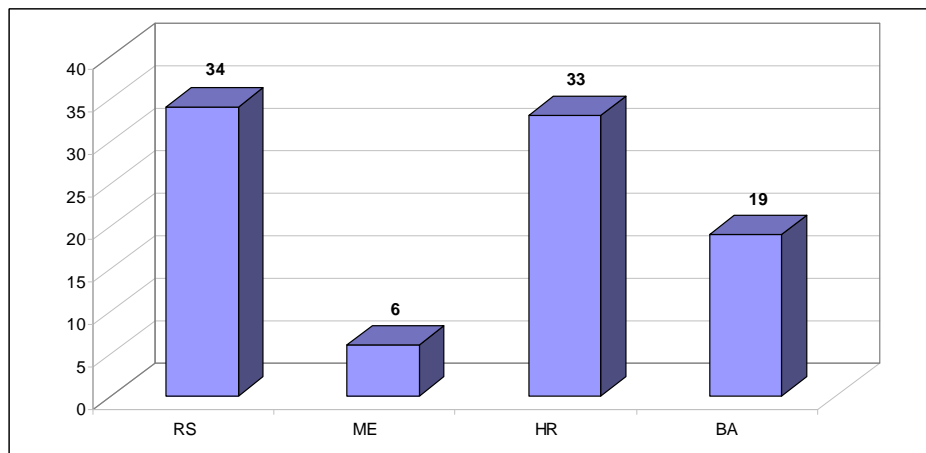
This project has been funded with support from the European Commission



Statistical data - trainings:

Country Code:	RS	ME	HR	BA
Number Male	22	5	18	14
Number Female	12	1	15	5

Country Code:	RS	ME	HR	BA
Number Male	33	5	22	23
Number Female	14	0	20	2



Number of trained academic staff from PC

Number of trained non-academic staff from PC

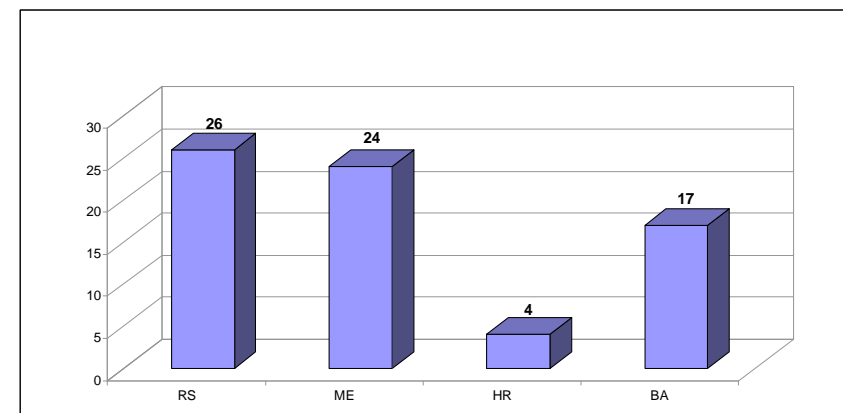
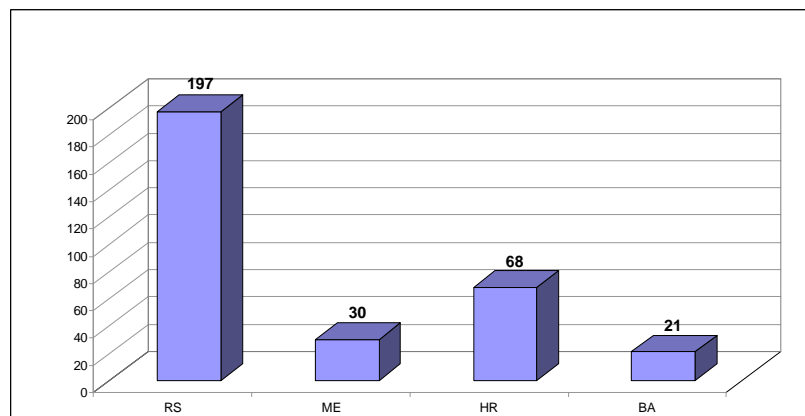




Statistical data - trainings:

Country Code:	RS	ME	HR	BA
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Number Female	52	8	24	3

Country Code:	RS	ME	HR	BA
Number Male	20	15	3	16
Number Female	6	9	1	1

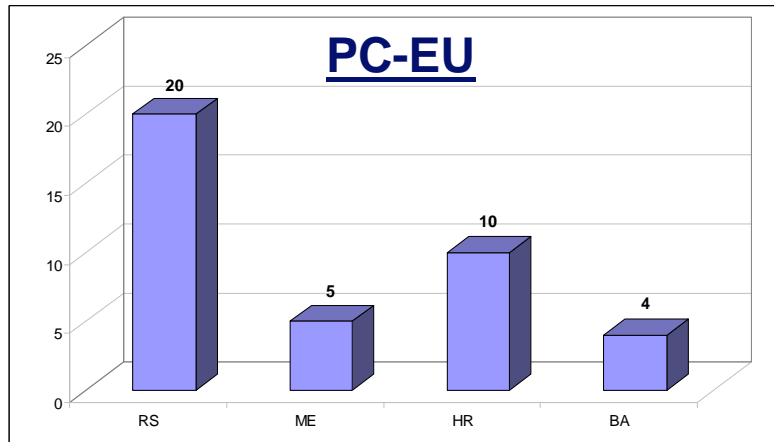


Number of trained non-university staff from PC

Number of trained students from PC

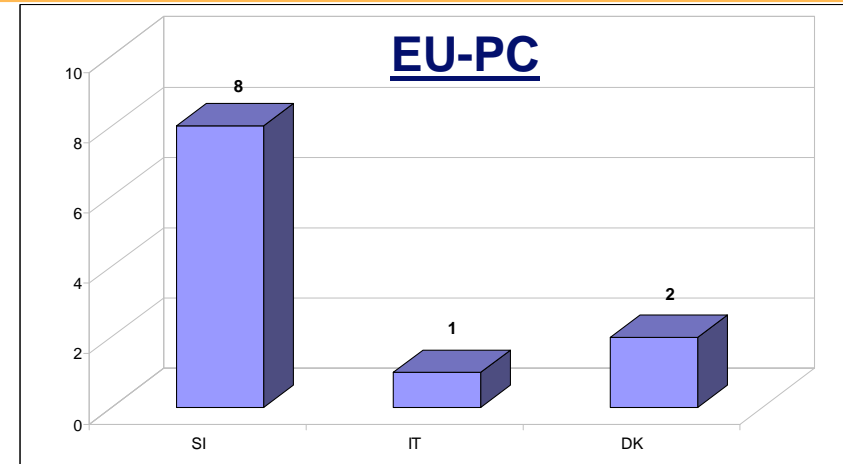


Statistical data - mobility:

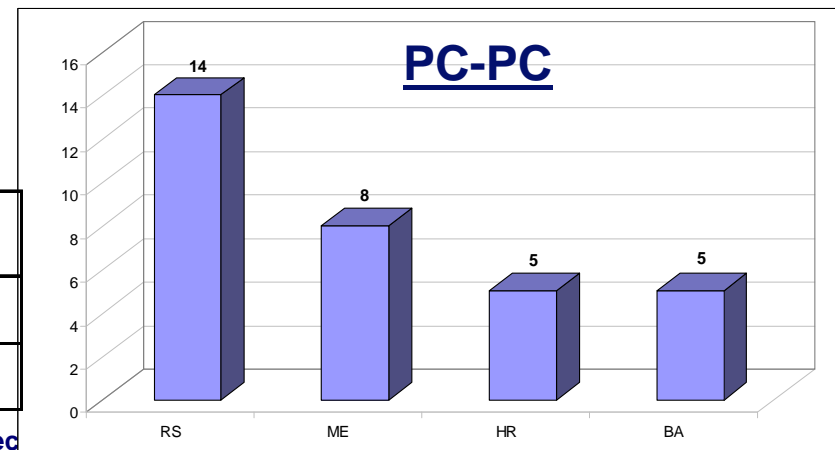


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Number Female	5	0	0	0

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Number Male	11	8	5	5
Number Female	3	0	0	0



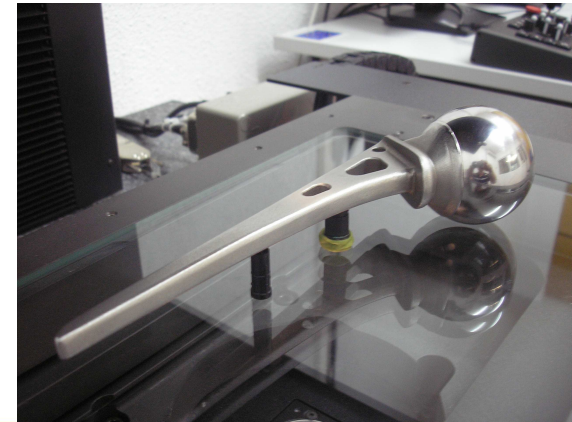
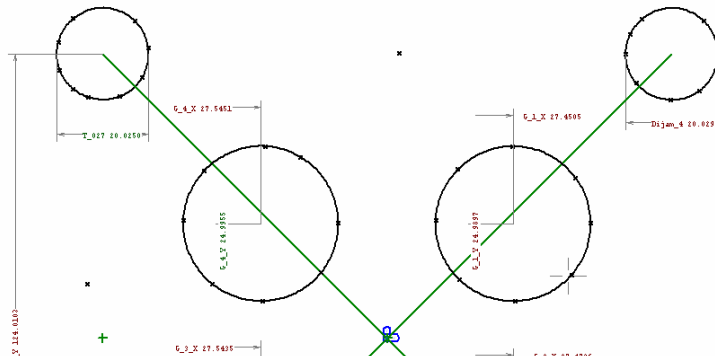
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Number Female	0	0	0



This project



Key project results – Outcome 7



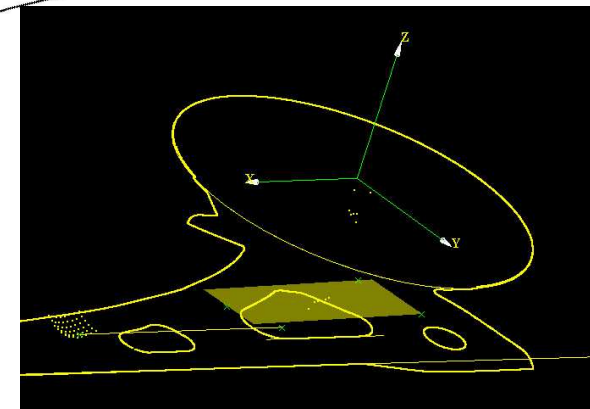
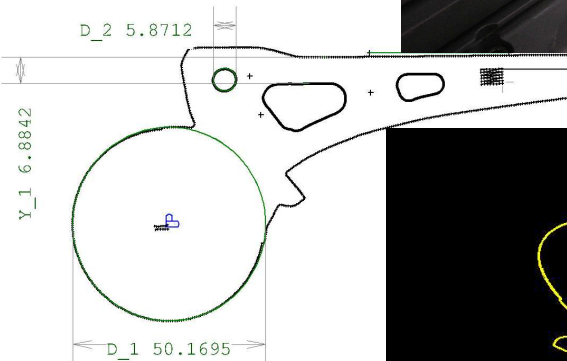
I Z V E S T A J O M E R E N J U

Univerzitet u Kragujevcu
 Kooperativni trening cent
 Jovana Cvijica bb
 34000 Kragujevac
 Tel.: +381 34 501 201
 Fax.: +381 34 501 901

Korisnik : SCGM Kragujevac Datum :16.06.2010
 Deo : F50 (Cavity plate) Vreme :09:58:30
 Broj dela : MT0107
 Ime programa : -
 Operator : Vladan Lukovic
 Komentar : -

/ Date: 16.06.2010 9:58 / Page: 1

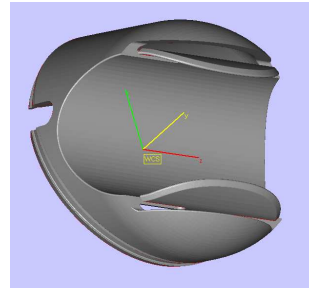
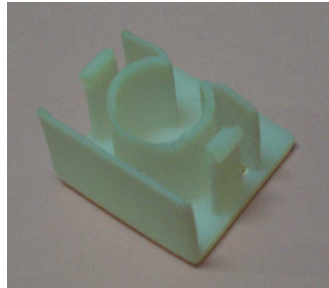
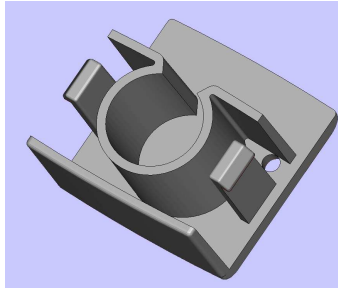
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Dst	124.0103	124.0000	0.0100	-0.0100	0.0103	0.0003	>>>>	Osno_Y
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Y	-25.0128	25.0000	0.0100	-0.0100	0.0128	0.0028	>>>>	G_2_Y
X	-27.5435	27.5000	0.0100	-0.0100	0.0435	0.0335	>>>>	G_3_X



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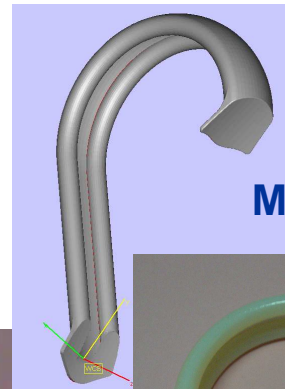
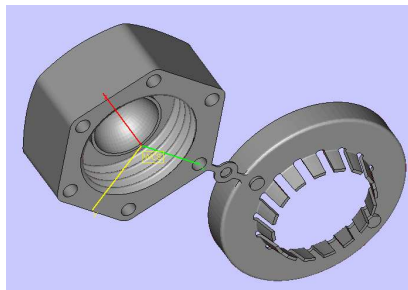


Key project results – Outcome 7

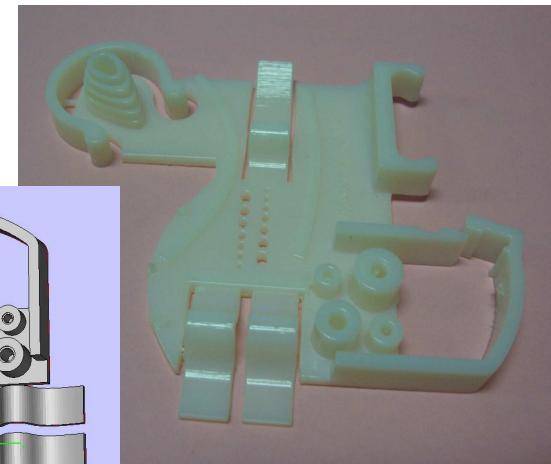


Topy company

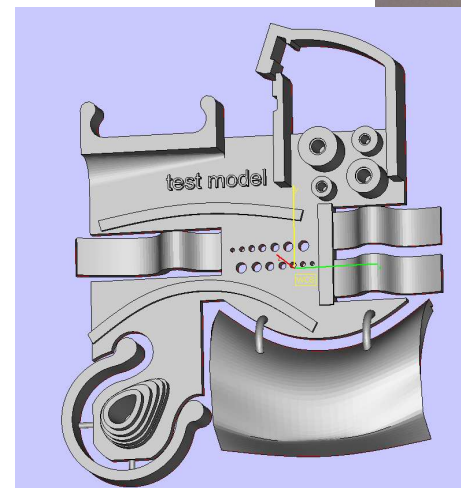
SCGM d.o.o.



Metalac



Mitres



Vlatakom



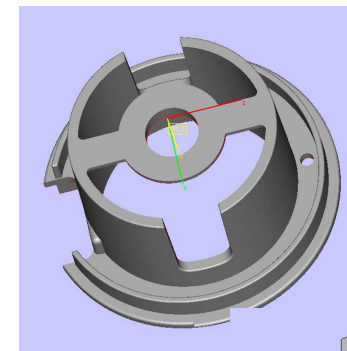
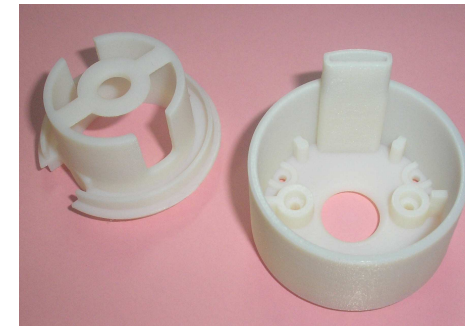
European Commission
TEMPUS

This project has been funded with support from the European Commission

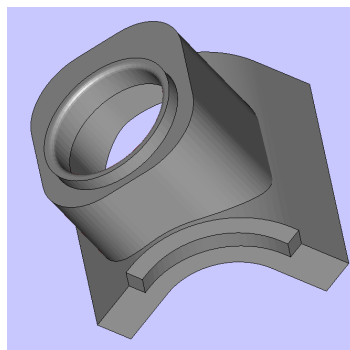
Key project results – Outcome 7



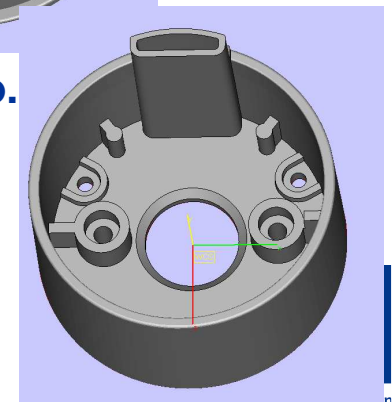
MikroElektronika d.o.o.



Prizma d.o.o.



Prizma d.o.o.





Key project results – Outcome 8

- ❖ Three internal monitoring visits to UR, Elcon Geratebau and UBL, by Project Coordinator, have been realized in February and April 2010,
- ❖ Five external monitoring visits were performed by national TEMPUS offices:
 - UR - Rijeka, February 2010
 - UKG – Kragujevac, January 2010
 - UBL – Banja Luka, May 2010
 - UP – Podgorica, October 2010
 - UKG – Kragujevac, January 2011
- ❖ Two external monitoring visits (UR, UKG) by Prof. Jasmina Caloska
- ❖ Each partner had their own internal quality control activities (financial control, quality control of trainings and services...)
- ❖ Positive feedback about monitoring visits obtained by EACEA



Key project results – Outcome 9

- ❖ 1st, 2nd and 3rd instalments transferred to all partners who sent PP reports and spent more than 70% of previous instalment
- ❖ Project Coordinator was in charge of overall project management on the level of Consortium
- ❖ Communication channels have been established
- ❖ UKG has updated (on monthly base) financial tables, cash flow,
- ❖ All supporting documents are properly stored (their own and obtained from partners)
- ❖ Intermediate report was approved by **EACEA**
- ❖ The second pre-payment from EACEA received in November 2010 (30% of planned project budget – defined by Grant Agreement)
- ❖ The last payment will be after acceptance of Final Report

Key project results – Outcome 9

❖ 7 partners sent 1st Partner Report until November 2009

1st Partners' reports assesment and acceptance		UP	UR	UBL	UPD	UL	REDASP	IPU	C3M	SCGM	ELCON Geratebau	TRIBEST
Partnership agreement signed		x	x	x	x	x	x	x	x	x	x	
Technical Report:	Technical report delivered in time	x	x	x			x		x		x	
	Technical report is quality completed (1 - poor, 5 - excelent)	4	4	4			5		3		2	
	Do described activities in technical report corespond to sent deliverables, as well as incurred staff and travel costs within finnacial report?	Yes	Yes	Yes			Yes		Partially			
	Expected indicators are achieved (1 - insufficient, 5 - completely)	3	4	2		2	4		2		2	
Financial Report:	Financial report is completed and signed by legal representative	x	x	x		x	x		x		x	
	Cash flow staf table		x	x		x	x		x			
	Cash flow travel table	x	x	x		x			x		x	
Supporting documents delivered as copies:	Convention form for staff costs, signed by legal representative		x			x	x		x			
	IRG report on travel, signed by traveler	x	x	x		x			x		x	
	Travel invoices - copies, calculations by accountant	x	x								x	
	Invoices of purchased equipment, copies		x									
	Are there overspends (OS) or underspends (US) of TEMPUS budget?	US	US	US		US	US		US		US	
	Cofinancing are provided								x			

Key project results – Outcome 9

- ❖ 11 partners sent 2nd Partner Report until June 2010

2nd Partners' reports assesment and acceptance		UP	UR	UBL	UPD	UL	REDASP	IPU	C3M	SCGM	ELCON Geratebau	TRIBEST	METALIK
Partnership agreement signed		x	x	x	x	x	x	x	x	x	x	x	x
Technical Report:	Technical report delivered in time	x	x	x	x	x	x		x		x	x	
	Technical report is quality completed (1 - poor, 5 - excelent)	4	4	4	4	4	4		4		4	2	
	Do described activities in technical report corespond to sent deliverables, as well as incurred staff and travel costs within finniacial report?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes	
	Expected indicators are achieved (1 - insufficient, 5 - completely)	4	4	4	4	3	4		3		4	3	
Financial Report:	Financial report is completed and signed by legal representative	x	x	x	x	x	x	x	x	x	x	x	x
	Cash flow staff table	x	x	x	x	x	x		x	x	x	x	x
	Cash flow travel table	x	x	x	x	x	x		x	x	x	x	x
Supporting documents delivered as copies:	Convention form for staff costs, signed by legal representative	x	x	x	x	x	x	x	x	x	x	x	x
	IRG report on travel, signed by traveler	x	x	x	x	x	x	x	x	x	x	x	x
	Travel invoices - copies, calculations by accountant	x	x	x		x	x	x	x	x	x		x
	Invoices of purchased equipment, copies	x	x	x	/	/	/	/	/	/	/	/	/
	Are there overspends (OS) or underspends (US) of TEMPUS budget?	US	US	US	US	US	US	OS	US	US	US	US	US
Cofinancing are provided	x	x	x	x				x	x	x			x

Key project results – Outcome 9

❖ 5 partners sent 3rd Partner Report until November 2010

3rd Partners' reports assesment and acceptance		UP	UR	UBL	UPD	UL	REDASP	IPU	C3M	SCGM	ELCON Geratebau	TRIBEST
Partnership agreement signed		x	x	x	x	x	x	x	x	x	x	x
Technical Report:	Technical report delivered in time	x	x				x					
	Technical report is quality completed (1 - poor, 5 - excelent)	4	5				4					
	Do described activities in technical report corespond to sent deliverables, as well as incurred staff and travel costs within finnacial report?	Yes	Yes				Yes					
	Expected indicators are achieved (1 - insufficient, 5 - completely)	4	4				4					
Financial Report:	Financial report is completed and signed by legal representative	x	x	x			x	x				
	Cash flow staf table	x	x	x			x	x				
	Cash flow travel table	x	x	x			x	x				
Supporting documents delivered as copies:	Convention form for staff costs, signed by legal representative	x	x	/			x	x				
	IRG report on travel, signed by traveler	x	x	x			x	x				
	Travel invoices - copies, calculations by accountant		x	x				x				
	Invoices of purchased equipment, copies		x	x			/	/				
	Are there overspends (OS) or underspends (US) of TEMPUS budget?	US	US	US			US	OS				
	Cofinancing are provided	x						x				

Key project results – Outcome 9

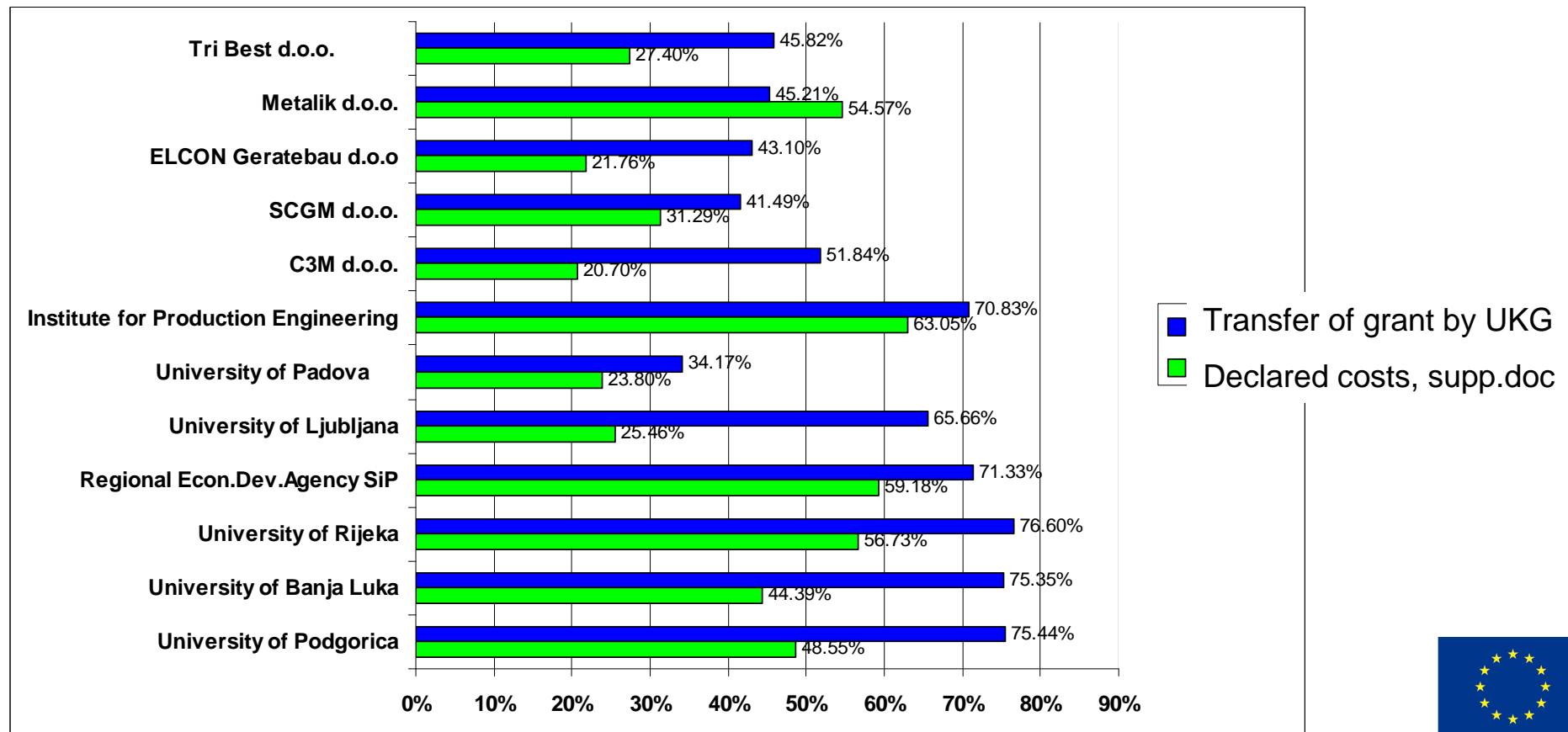
Ref. No	Partners	Country code	Budget (€)	1st reporting period			2nd reporting period			3rd reporting period		
				Transfer of I instalment	Accepted with supporting doc.		Transfer of II instalment	Accepted with supporting doc.		Transfer of III instalment	Accepted with supporting doc.	
					Date	Costs		Date	Costs		Date	Costs
2	University of Podgorica	ME	45,248.00	16,530.65	29.10.2009	434.00	9,581.18	20.05.2010	12,462.59	8,022.46	21.10.2010	9,071.57
3	University of Banja Luka	BA	44,354.00	16,338.00			9,464.93	15.06.2010	11,058.42	7,616.87	30.10.2010	8,628.86
10	University of Rijeka	HR	45,148.00	16,962.42	14.10.2009	7,390.73	10,195.43	20.05.2010	6,458.24	7,423.55	18.10.2010	11,763.32
4	Regional Econ.Dev.Agency SiP	RS	15,568.00	4,887.60	14.10.2009	3,126.00	4,095.69	06.05.2010	4,216.54	2,121.94	30.09.2010	1,871.31
6	University of Ljubljana	SI	20,427.00	4,663.21	23.10.2009	2,671.75	5,732.79	18.05.2010	2,529.75	3,016.60		
7	University of Padova	ME	44,458.00	15,192.93				10.05.2010	10,580.31			
8	Institute for Production Engineering	DK	42,866.00	12,225.30			18,136.80	03.09.2010	27,025.09			
9	C3M d.o.o.	SI	38,124.00	7,263.31	28.10.2009	5,216.87	4,241.61	18.05.2010	2,673.22	8,258.80		
5	SCGM d.o.o.	RS	5,587.00	2,318.00				16.06.2010	1,748.00			
11	ELCON Geratebau d.o.o	HR	4,856.00	648.75	14.10.2009	378.80	719.00	19.05.2010	678.00	725.00		
12	Metalik d.o.o.	ME	4,779.00	860.50			1,300.00	21.05.2010	2,608.00			
13	Tri Best d.o.o.	BA	4,450.00	805.00	15.09.2009	1,219.50				1,234.00		
TOTAL			315,865.00	98,695.67		20,437.65	63,467.43		82,038.16	38,419.22		31,335.06

Ref. No	Partners	Country code	Budget (€)	Actual state (until 31st March 2011)				Stay costs kick-off by UKG, 434 €	TEMPUS balance+co-financing (D-N-S-Q)	Accepted costs in percent of budget	Transfer of grant in percent of budget
				Total transfer I+II+III	Co-financing I+II+III	Total accepted costs	Balance (transfer-accepted)				
2	University of Podgorica	ME	45,248.00	34134.29	1931.73	21968.16	14097.86	434	8747.98	48.55%	75.44%
3	University of Banja Luka	BA	44,354.00	33419.8	953	19687.28	14685.52	434	9547.2	44.39%	75.35%
10	University of Rijeka	HR	45,148.00	34581.4	2070.2	25612.29	11039.31	434	8062.4	56.73%	76.60%
4	Regional Econ.Dev.Agency SiP	RS	15,568.00	11105.23		9213.85	1891.38		4462.77	59.18%	71.33%
6	University of Ljubljana	SI	20,427.00	13412.6		5201.5	8211.1	434	6580.4	25.46%	65.66%
7	University of Padova	ME	44,458.00	15192.93	760.2	10580.31	5372.82		28504.87	23.80%	34.17%
8	Institute for Production Engineering	DK	42,866.00	30362.1	2278.38	27025.09	5615.39		10225.52	63.05%	70.83%
9	C3M d.o.o.	SI	38,124.00	19763.72	1990	7890.09	13863.63	434	15936.28	20.70%	51.84%
5	SCGM d.o.o.	RS	5,587.00	2318	485	1748	1055		2784	31.29%	41.49%
11	ELCON Geratebau d.o.o	HR	4,856.00	2092.75		1056.8	1035.95		2763.25	21.76%	43.10%
12	Metalik d.o.o.	ME	4,779.00	2160.5	325	2608	-122.5	434	1859.5	54.57%	45.21%
13	Tri Best d.o.o.	BA	4,450.00	2039		1219.5	819.5	434	1977	27.40%	45.82%
TOTAL			315,865.00	200582.32	10793.51	133810.9	77564.96	3038	101451.17		



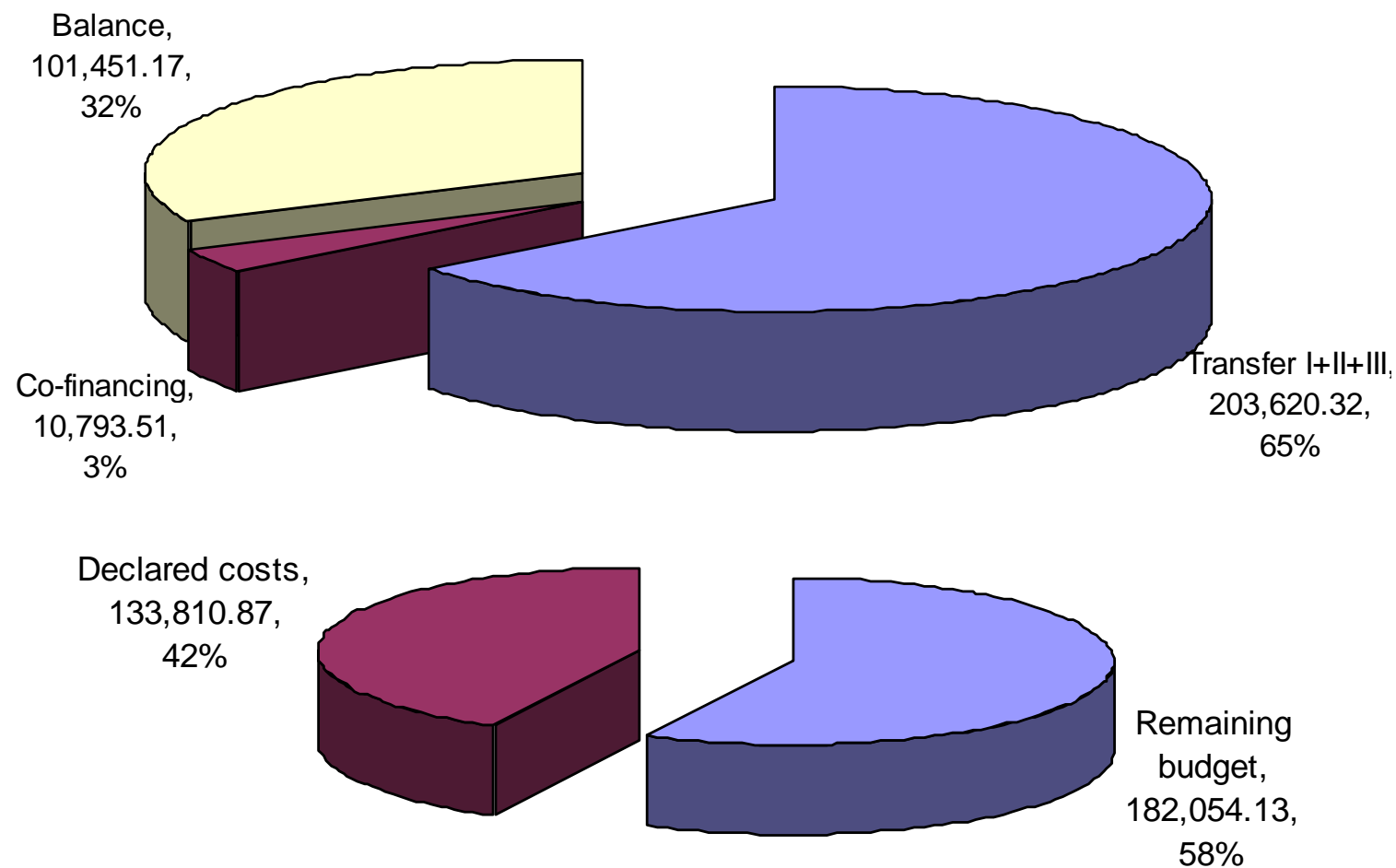
Key project results – Outcome 9

Percentage of transferred TEMPUS grants vs. planned partners' budgets, and declared costs, accompanied with supporting documents





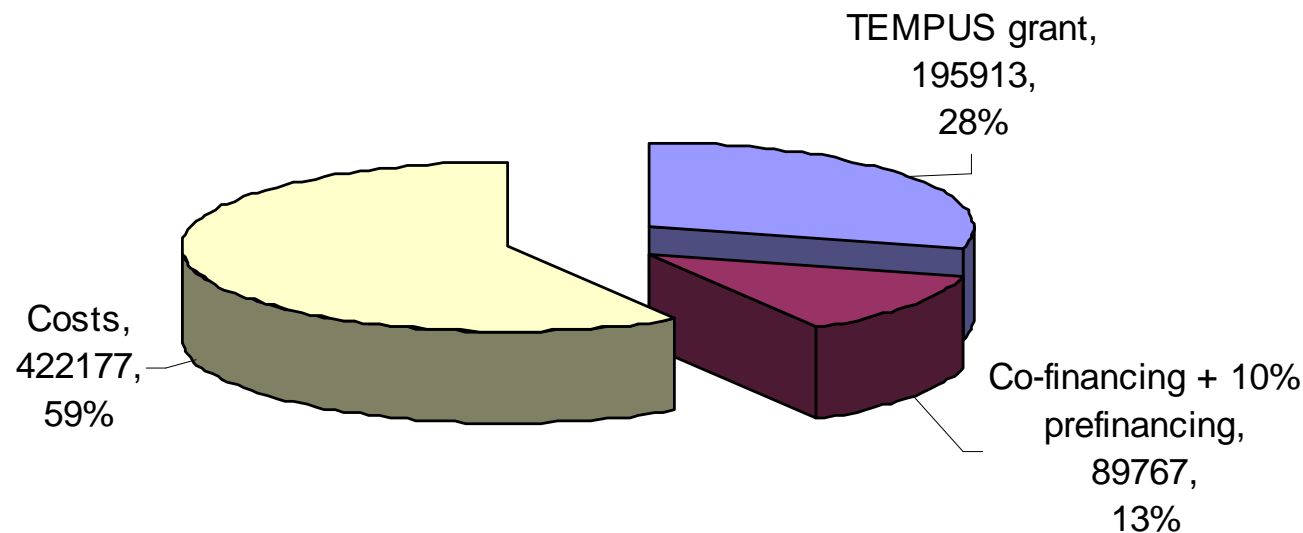
Key project results – Outcome 9





Key project results – Outcome 9

- ❖ Consolidated budget statistics (PP + UKG) has following distribution: 59% declared costs with completed supporting documents, 28% unspent TEMPUS grant, 13% of co-financing and pre-payment by PP and UKG
- ❖ Coordinator and Site managers should envisage co-financing and 10% of prefinancing in this final year of the project implementation





Thank you for your attention