

Steering Committee meeting

20th April 2010. Banja Luka

Overall WBC-VMnet project achievements

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 Collaborative Training centres (CTC) were established in Kragujevac, Rijeka, Banja Luka and Podgorica
- ❖ CTC centres were equipped with 35 PC, 4 projectors, internet network, VM software (partially), CMM Werth machine, RP ALARIS 3D printer
- ❖ VMnet network was enlarged with 300 new members in the first year of the project implementation (total 780 members from WBC)
- ❖ Comprehensive TSNA analysis has been undertaken throughout the WBC region (800 questionnaires in the field)
- ❖ WBC Regional model for University-enterprise cooperation was developed successfully; Publication in English will be published in June 2010
- ❖ Public debate has been launched in the WBC region, which will last until 30th May 2010
- ❖ Project WEB site is regularly updated; Intraproject communication tool is available and efficient for project management
- ❖ Dissemination activities are ongoing, in accordance with AF

Project implementation timeframe

Ref.N°	Activities Title	M10 Y1	M11 Y1	M12 Y1	M1 Y2	M2 Y2	M3 Y2	
1.	Four Collaborative Training Centres (CTC) are established ...							
1.1	Found and equip four CTC and define Action plan							6m
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							
2.2	Bring new VMnet members and experts for multidisciplinary approach							
2.3	Update existing systematization knowledge e-base with new topics							4m
3.	Model for university-enterprise cooperation developed ...							
3.1	Analyze the EU models for cooperation in the knowledge triangle							5m
3.2	Develop, assess and adopt the new regional model of cooperation							5m
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)							2m
4.2	Selection and re-training of trainers and service providers							2m
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 ...							3m
5.2	Develop and redesign instructional material for e-learning							3m
5.3	Develop and conduct Industrial Fellowship Progr. (IFP) for graduates...							3m
5.4	Develop and conduct Practical Placement Programme for students							3m
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							
6.4	Organize three motivational seminars							
6.5	Organize three workshops							
6.6	Organize three brokerage events							
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

Key project results – Outcome 1

- ❖ Four regional Collaborative Training Centres (CTC) have been established at
 - University of Kragujevac, Mechanical Engineering Faculty, Serbia
 - University of Rijeka, Faculty of Engineering, Croatia
 - University of Banja Luka, Mechanical Engineering Faculty, BIH
 - University of Montenegro, Mechanical Engineering Faculty, Montenegro
- ❖ Each CTC provided at their faculties following
 - ✓ strategic point
 - ✓ adequate space for conferences, seminars and promotional activities
 - ✓ office for CTC staff
 - ✓ one classroom with 10 seats, equipped with furniture, internet connection, telephone/fax, (within WBC-VMnet project - 10PC, projector, VM software)
 - ✓ up-to-date equipped laboratories for practical demonstrations for students and graduates for IFP and PPP programme, as well as training and workshop participants

❖ Marketing activities is ongoing
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Key project results – Outcome 1



Key project results – Outcome 1



CTC Kragujevac

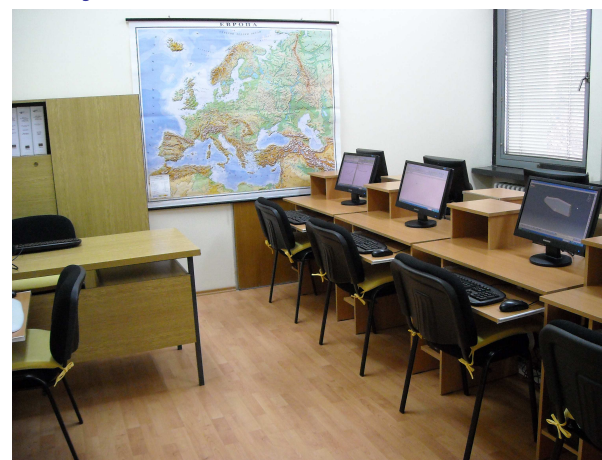


CTC Rijeka



CTC Podgorica

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CTC Banja Luka

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Key project results – Outcome 1

- Computer equipment
- 6 VM software (Catia, Delcam PowerMill, Simufact, Stampack, Vulcan, CAMPform)
- VR equipment (3D projector, VR data glove, Wintracker, WorldViz)
- Renishaw QC10 ballbar

CTC Kragujevac

- Computer equipment
- VM software (DEFORM...)
- Laboratory equipment
- **CAD/CAM software – ongoing procurement**

CTC Podgorica

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- Computer equipment
- 3 VM software (SolidWorks, SolidCAM, Stampack...)
- Laboratory equipment
- **VM software – ongoing procurement**

CTC Rijeka

- Computer equipment
- CAD software (CATIA, ProEngineer)
- RP equipment (3D printer)
- Laboratory equipment
- **VM software – ongoing procurement**

CTC Banja Luka

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Key project results – Outcome 1



Multisenzor CMM machine, WERTH Video-check IP250

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4 persons of CTC
Kragujevac are
trained (7 days)

CTC Kragujevac

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Key project results – Outcome 1



4 persons of CTC
Kragujevac are
trained (2 days)

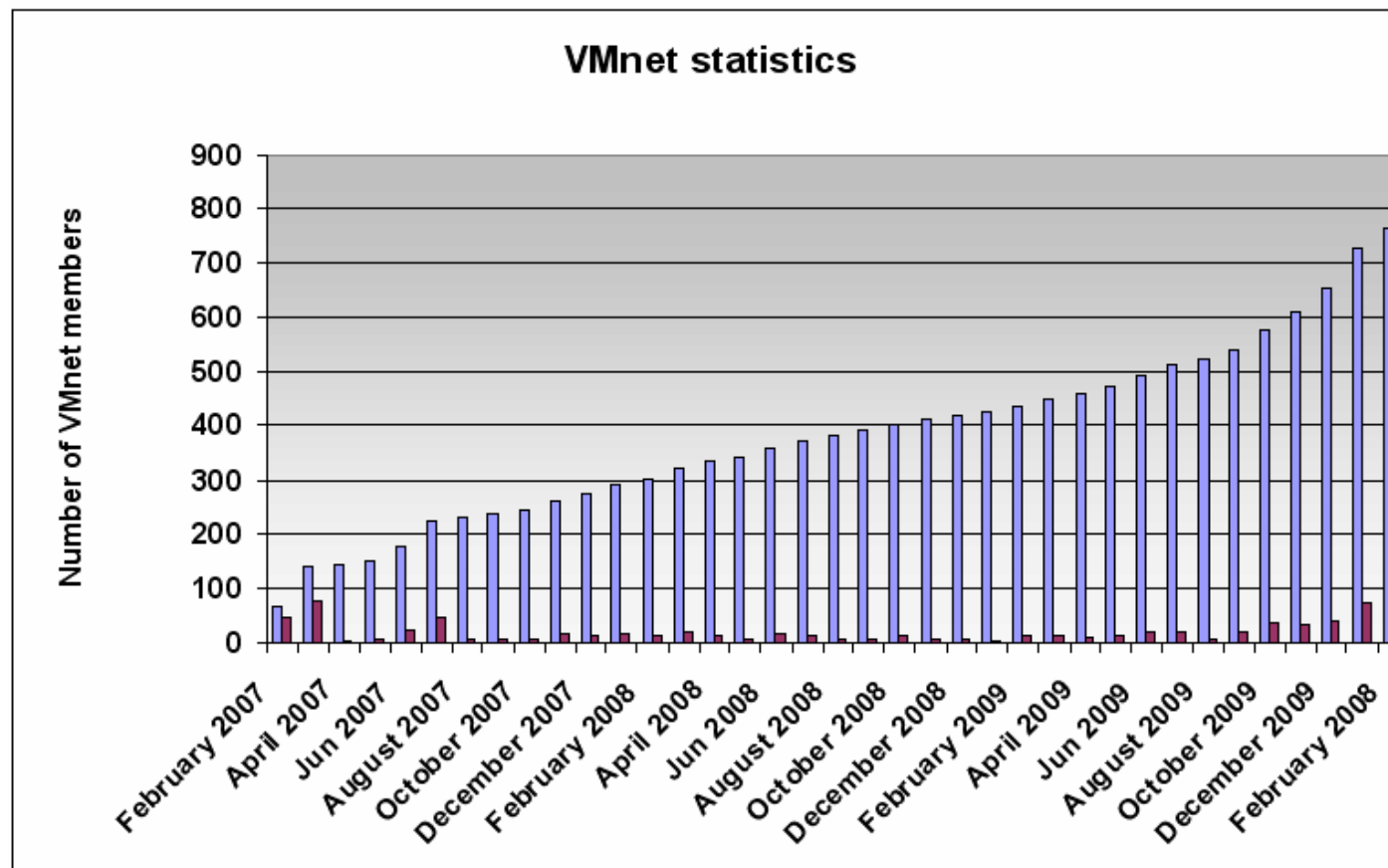
Rapid prototyping equipment - 3D printer OBJET Alaris 30 CTC Kragujevac

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Key project results – Outcome 2

- ❖ VMnet is enlarged with 300 new members from WBC region, in 2009

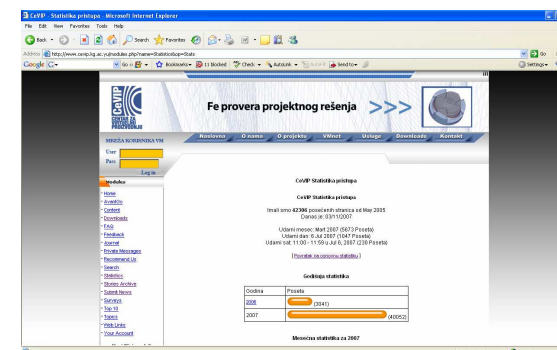


Key project results – Outcome 2

Registered VMnet members can :

- ✓ Access to database of systematized knowledge
- ✓ Be updated about important events via email
- ✓ Use services of CeVIP under more favorable conditions
- ✓ Have a priority in realization of CEVIP services
- ✓ Demand an expertise they need
- ✓ Get the early tips about matters they are interested in
- ✓ Be provided by number of electronic journals, by e-mail:

- **Woodworker's Journal eZine**
- **Aluplanet daily**
- **European Plastic Product Manufacturer**
- **The 9000 Store Newsletter**, Guide to ISO 9001
- **Tube Talk**, Fabricators & Manufacturers Association
- **Go Industry Online Auction**
- **ASM International Online**
- **Industrial Engineering News**
- **Fabricating Update**, Fabricators & Manufacturers Association
- **All Metals & Forge**
- **CAD Library new catalogs**
- **ThomasGlobal.com Newsletter**
- **European Toll & Mould Making Weekly Newsletter**



Key project results – Outcome 2

VMnet – Database of systematized knowledge



1. Production technologies

Tehnologije zapreminskog deformisanja
Osnove dubokog izvlacenja
Tehnologija injekcionog presovanja polimera
Obrada lima i alati

2. Development of new materials

Razvoj materijala i principi dobijanja

3. Formability and metalurgy

Obradivost limova
Razvoj i primena Al-Mg legura visoke čvrstoće

4. CAD/CAM/CAE technologies

CAD/CAM
Parametarsko modeliranje
Simulacija dinamičkih procesa u CAD software-u
Katalozi CAD modela
Istorija CAD-a
CATIA V5 - Uvod

5. VMtechnologies (FEM/FVM simulations)

Virtuelna proizvodnja odlivaka primenom CAE
tehnika
Tehnologije virtuelnog inženjeringa
Numeričke simulacije procesa. Ulazni podatci za FE
simulaciju
Integracija tehnologija virtuelnog inženjeringa

6. RP/RT/RE technologies

Brza izrada prototipova (Rapid prototyping)
Brza izrada alata (Rapid Tooling)
Reverzni inženjering (RE)
Korisni linkovi

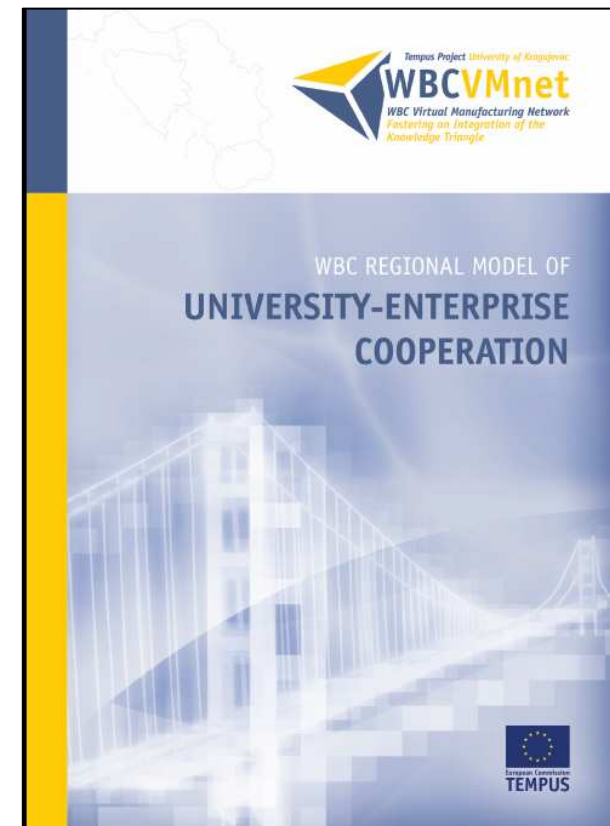
7. VR technologies

Virtuelna realnost, vizuelizacija i tehnike simulacije
Uređaji za virtuelnu realnost

149 documents
3047 downloads
until June 2009

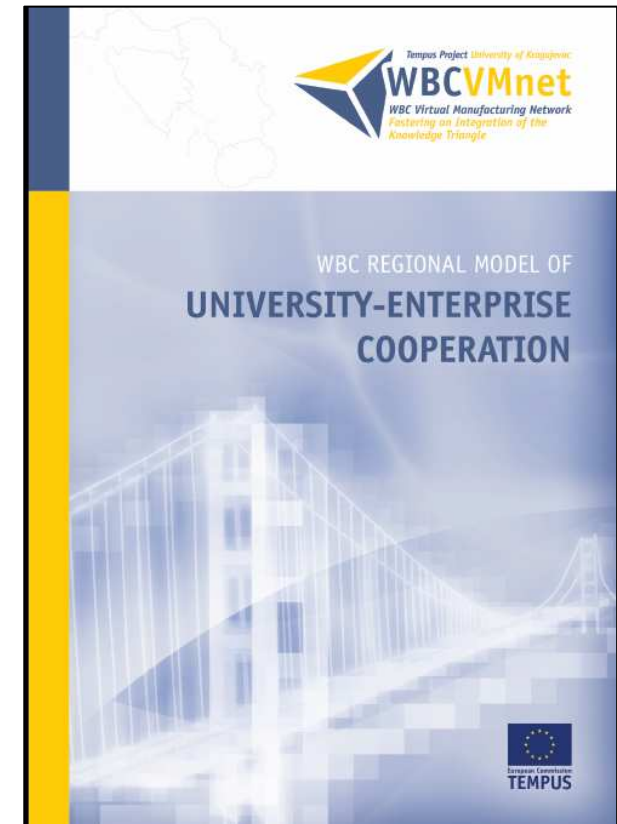
Key project results – Outcome 3

- ❖ New WBC regional model for university-enterprise cooperation has been developed by partners (UoK, DIMEG, REDASP, UR, UBL, UP, IPU, Ind.exp2)
- ❖ Public debate on proposed model was launched in April 2010
- ❖ The achievement of national and regional consensus on the proposed model, and its further implementation in the Western Balkans is of vital importance.
- ❖ During the public debate, which will last until 30 May 2010, the model will be additionally improved by the proposals and suggestions of key actors in a knowledge triangle.
- ❖ Printed publications will include the changes and additions received during the public debate and agreed upon at the regional level.



Key project results – Outcome 3

- ❖ The publication called „**WBC Regional model of university-enterprise cooperation**“ has been prepared, by 7 members of working team
- ❖ The structure of the publication includes:
 - EU legislation, incentives and achievements in the areas of cooperation between universities and enterprises,
 - The current situation in the WBC region, the available resources, perceived needs and constraints
 - Examples of the EU best practice, through case studies carried out with 15 EU universities
 - Proposed model, ie. the set of recommendations for the modernization of the universities in the region, and its getting closer to the needs of society and economy, that is the cooperation with enterprises



Key project results – Outcome 4 800 questionnaires in the field throughout WBC

TSNA analysis in Serbia							
No	Performed by partner	Place	QD-01-TSNA general QD	QD-02-TSNA manager QD	QD-03-TSNA employed QD	QD-03-TSNA unemployed QD	TOTAL QD
1	UKG	Serbia	13	14	49		76
2	REDASP	Serbia	21	19	22		62
3	SCGM	Serbia	1	1	10		12
4	NEA	Serbia	15	16	14	160	205
						TOTAL	355
TSNA analysis in Croatia							
No	Performed by partner	Place	QD-01-TSNA general QD	QD-02-TSNA manager QD	QD-03-TSNA employed QD	QD-04-TSNA unemployed QD	TOTAL QD
1	UR	Croatia	30	30	40		100
2	Elcon Geretebau	Croatia	1	1	5		7
3	NEA	Croatia				51	51
						TOTAL	158
TSNA analysis in Montenegro							
No	Performed by partner	Place	QD-01-TSNA general QD	QD-02-TSNA manager QD	QD-03-TSNA employed QD	QD-03-TSNA unemployed QD	TOTAL QD
1	UP	Montenegro	7	7	40	90	144
2	METALIK	Montenegro	11	11	17	0	39
4	NEA	Montenegro	0	0	0	0	0
						TOTAL	183
TSNA analysis in Bosnia & Herzegovina							
No	Performed by partner	Place	QD-01-TSNA general QD	QD-02-TSNA manager QD	QD-03-TSNA employed QD	QD-03-TSNA unemployed QD	TOTAL QD
1	UBL	Bosnia&Herzegovina	18	18	38		74
2	TRIBEST	Bosnia&Herzegovina	1	1	3		5
4	NEA	Bosnia&Herzegovina				24	24
						TOTAL	103

❖ REDASP and UKG have developed methodology for comprehensive TSNA analysis in the WBC region

❖ 4 types of questionnaires were designed

❖ WBC partners identified enterprises` and unemployees` needs for vocational trainings and RD services.

REPORTS are available at web site.

Key project results – Outcome 5

- ❖ Based on TSNA analysis and discussion with enterprises during Motivational seminars in Serbia and Croatia, the UoK team decided to develop the following trainings:
 1. **CAD/CAM modelling** (CATIA, Delcam PowerMill) – 40 hours
 2. **Tool design** (Sheet metal forming – progression tool, injection moulding of plastic, forging, extrusion ... – 40 hours
 3. **Simulation and optimization of forming processes** (CAE, FE/FV) – 20 hours
 4. **Project management** (principles, software support) – 20 hours
- ❖ List of trainings for other CTCs are in preparatory
- ❖ At least 10 new trainings will be offered by CTCs in WBC, from September 2010
- ❖ Development of Specialized trainings refers to enterprise activity and Informational seminars - on ENTERPRISE REQUEST (minimum 10 participants)

Key project results – Outcome 6

- ❖ Project web site are regularly updated by UKG, with intraproject communication tool for partners
- ❖ Two Motivational seminars were held in Serbia (in December 2009) and Croatia (in February 2010) – 75 participants from 58 enterprises

	Srbija	Hrvatska
Generalna ocena seminara	4,79	4,38
Korisnost stečenog znanja	4,37	4,05
Znanje i stručnost predavača	4,79	4,33
Način prezentovanja tema	4,72	
Prostorije u kojima se izvodio seminar	4,51	4,60
Organizacija semina	4,68	4,48
Značaj tema seminara	4,69	4,33
UKUPNA OCENA SEMINARA	4,79	4,36



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TEMPUS

Key project results – Outcome 8

- ❖ Two internal monitoring visits to UR and Elcon Geratebau, by Project Coordinator, have been realized in February 2010,
- ❖ Two external monitoring visits to UR (in February 2010) and UoK (in January 2009) were performed by national TEMPUS offices
- ❖ Each partner had their own internal quality control activities
- ❖ UoK had 3 Intertempus coaching meetings with DELFIS and KNOWTS project teams



Key project results – Outcome 9

- ❖ Partnership agreement have been signed by UKG with all partners
- ❖ The first instalments transferred to all partners, and the second to REDASP only, since other partners did not spend more than 70% of I instalment or did not send 1st PP report
- ❖ Project Coordinator was in charge of overall project management on the level of Consortium
- ❖ Communication channels have been established
- ❖ UoK has updated (on monthly base) financial tables, cash flow,
- ❖ All supporting documents are properly stored (their own and obtained from partners)

Key project results – Outcome 9

- ❖ 8 partners sent 1st Partner Report in October 2010
- ❖ PST and QAPT team did evaluation of reports - results are shown in table below

1st 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		
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				



Thank you for your attention