

# EDUCATION, AUDIOVISUAL & CULTURE EXECUTIVE AGENCY

## ANNEX III

### Intermediate Report on implementation of the project (IR), Statement of the costs incurred and Request for Payment

#### T E M P U S IV Joint Project / Structural Measure

144856-TEMPUS-2008-RS-JPGR

(Agreement N.)

<u>INTERMEDIATE REPORT</u>	<u>DEADLINE</u>
<ul style="list-style-type: none"><li>• Report on implementation of the project</li><li>• Statement of the costs incurred and Request for Payment</li></ul>	When 70% of the 1 <sup>st</sup> pre-financing has been disbursed but <u>not later than</u> : - <b>15 January 2010</b> for 2 year projects - <b>15 July 2010</b> for 3 year projects

#### Structure of the Report

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**One original (with original signatures) and two copies are to be sent by the deadline by registered mail (date as per postmark) to:**

Klaus Haupt  
Head of Unit  
Education, Audiovisual & Culture Executive Agency  
EACEA P10 / Tempus  
BOUR 02/17  
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Please also send the electronic version to [eacea-tempus-project-management@ec.europa.eu](mailto:eacea-tempus-project-management@ec.europa.eu) when submitting the paper version of the report.

## DECLARATION

This declaration should be completed and signed by the following people:

1. the contact person at the beneficiary institution;
2. the person who is legally authorised to represent the beneficiary institution.

*We, the undersigned, certify that we have submitted all the required documentation, including the documents mentioned in the checklist.*

*Furthermore, we certify that the information given in this Intermediate report is correct to the best of our knowledge and complies with the requirements of the provisions of Articles I.5 and II.15 of the Grant Agreement.*

*We are aware that amendments to these documents will not be accepted after the date of submission.*

Name of the beneficiary institution: University of Belgrade, Faculty of Mechanical Engineering

Name of the contact person : *Milos Nedeljkovic*

Name of the legal representative: Branko Kovacevic

Position: Professor at the Faculty of Mechanical Engineering, University of Belgrade, former Dean

Position: Rector of the University of Belgrade

Place: Belgrade

Place: Belgrade

Date: 14.7.2010.

Date: 14.7.2010.

Signature: *Milos Nedeljkovic*

Signature: *Branko Kovacevic*

Dean of the Faculty of Mechanical Engineering

Stamp of the legal representative institution:

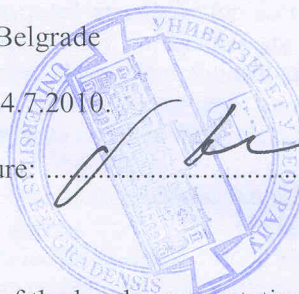
Prof.Dr. Milorad Milovancevic

(University stamp)

Signature: *Milorad Milovancevic*

Stamp of the beneficiary institution:

(Faculty stamp)



## REPORT ON IMPLEMENTATION OF THE PROJECT

Please provide an overview on **implementation of the project**, by following the instructions below.

### Overall achievements

Please provide a description of the activities carried out since the start of the project and describe to what extent, the results achieved since the beginning of the project, are contributing to the project objectives.

The overall objective of this project is to enhance the quality and relevance of higher education in engineering area in partner countries, in order to reach the integration of partner country universities into the European university system, with obvious result manifested by international accreditation of engineering studies.

Activities are being performed strictly following the essence of the project proposal, but not strictly with the time table plan. Due to considerable budget cutting and seven months delay (nearly half of the period for this report) in transfer of the first installment of the money, our project is late in some of the activities, but far ahead with some concrete results. We consume the project funds very carefully in order to reach the overall project objectives.

The following activities have been carried out up to now:

#### **1.1 Review of existing national and international quality assurance and enhancement systems for engineering education, January-April, 2009**

Within this activity, the Project Tempus Offices at beneficiary universities and the project web site (<http://tempus.mas.bg.ac.rs>) have been established. The project web site is linked with web pages of European Network for Accreditation of Engineering Education <http://www.enae.eu/> (ENAE), Council for Higher Education Accreditation <http://www.chea.org/>, ASIIN <http://www.asiin.de/>, ABET <http://www.abet.org/>, ECUK <http://www.engc.org.uk/> and contains actual information about national standards for accreditation and quality assurance in higher education. The project representatives from beneficiary universities are included as web site editors. They have collected all necessary information about national and international quality assurance and standards for enhancement of engineering education. Also, they have selected and transferred the collected information to their relevant faculty/university bodies and authorities who can help the project realization.

**German University in Cairo (GUC) approach:** To reach to the best Q.A practices, we selected to compare the criteria of ABET, ASSIN, ACQUIN, and Egyptian National QAA agency "NAQAAE" (GUC is already accredited by ACQUIN in other programs). In addition, the Tempus project team had further reading about the qualifications framework (EQF and German QF), Dublin descriptors, ECTS user guide (different versions), the Baldrige Award Excellence Model (Education), the publications of the QAA of England and the Australian publications of AUQA.

#### **Curricular reform and modernization of curricula**

Our comparison of the criteria of different accreditation agencies showed general agreement of the requirements (criteria), with *three main good practices (concepts)* that will be **considered in the next phase of the project when refining the curricula of the 2 study programs in preparation for ASIIN accreditation.**

The three concepts are: 1) the **program outcomes approach** - although all the above mentioned agencies have a uniform agreement on the concept of learning outcomes (competencies) for curriculum design (compared to the content oriented approach, teacher centred approach versus student centred approach), the terminology program outcomes was only mentioned explicitly in the ABET criteria with clear emphasis on the program outcomes assessment. A workshop held in the premises of the NAQAAE in Cairo at march 2010 confirmed this approach (the title of the workshop: "Difference between class room and program assessment" held by an ABET expert; Dr Gloria Rogersfor, 3 days). 2) The second good practice is the concept of **breaking down the learning outcomes** into more defined **measurable performance criteria**, with good illustrative examples for defining the intentionally vaguely constructed ABET criteria by a project funded by the American national science foundation. The concept was confirmed to be in agreement with ASIIN requirement, as approved by ASIIN representative in the workshop held in Cairo at 15/6/2010. During the workshop the attendees were trained by the ASIIN expert on breaking the outcomes to measurable performance criteria. 3) The third concept is the **assessment of the workload** by the examples of the Tuning project. All these concepts had been discussed in the presentations held in the workshop held in Egypt. Also, Bloom's taxonomy was discussed in the presentations which is very important for defining of the cognitive level of learning outcomes (it is basically an essential requirement for assessment and for designing of

the teaching methods). This is the taxonomy which is used in designing the courses at GUC.

### **1.2 Establishment of Committee for quality of engineering education, February-May, 2009**

In accordance with RS national accreditation standards from January 2007, the Committees for quality assurance are already established at all RS universities and faculties. These Committees, on faculty's or university's level, discuss actual issues concerning general quality assurance measures in order to reach national accreditation standards. At Serbian universities there is a Committee for quality assurance at Faculty of Mechanical Engineering, then a Committee for quality assurance at Faculty of Electrical Engineering and so on, but there is no Committee for quality assurance in engineering education at university level. Establishment of Committee for quality assurance of engineering education is proposed by this project in order to establish university body which 1) improves, promotes and implements quality assurance and enhancement mechanisms based on international and national accreditation standards in engineering education, as well as industry needs and overall EU projects, 2) promotes inter-, multi- and trans- disciplinary studies in order to reach contemporary EU qualifications frameworks in engineering education, 3) evaluates engineering curricula and, if necessary, suggests changes and improvements in order to reach harmonization with respective EU engineering curricula. The Committee should be composed of experts and representatives of academia (from different engineering branches), students, administrative staff, scientific associations and industry representatives. The Committee should examine globalization processes in engineering education including the life long learning education processes, support other quality assurance and enhancement bodies, work on improvement of internal processes and quality management, keep public relations and work on specific projects.

But, Committees for quality in engineering education, as new university bodies haven't been established yet. The reasons are:

1) There is a suggestion of National Tempus Office that active Tempus projects should collaborate among each other in order to reach synergetic effects. There are at least four Tempus projects in realization concerning quality assurance improvement at university level:

- 158999 "Strengthening Quality Assurance System within West Balkans HEIs in support of National and Regional Planning"
- 145677 "Internal Quality Assurance at Serbian Universities" (*all universities in RS are included*)
- 144856 "International Accreditation of Engineering Studies"
- 158926 "Governance and Management Reform in Higher Education in Serbia"

So, this project is very probably not the primary one for that purpose.

2) The budget for this project has been considerably cut.

3) Introduction of quality assurance and enhancement system based on **the best international practice** must be dominantly supported by university Committee for quality assurance.

That is why the Committees for quality of engineering education were established by project representatives as a service for faculty/university authorities and colleagues in realization of Tempus projects with complementary aims.

Nevertheless, persons who are leading the project actions are mainly members of faculty and university Committees for quality assurance. For example, representatives from the Faculty of Medicine, Faculty of Science and Faculty of Mechanical Engineering in the Committee for quality assurance at University of Kragujevac were closely included in this project activity. On 16<sup>th</sup> of October 2010 "The First Quality Assurance Conference in Higher Education" will be held at University of Kragujevac, with co-organization of the Committee for quality assurance in order to exhibit impact of the mentioned Tempus projects and disseminate knowledge about quality assurance in higher education.

**GUC approach:** Establishment of the Committee for quality of engineering education has been done. In addition to the adequate central quality system that already existed within the whole university, a recent quality management and accreditation committee (AQMC) was established at the university level with a representative unit in each faculty. A review for learning outcomes has already been achieved, but according to the Gantt chart a creation of an enhanced study program should be implemented during the same period, which is not practical because the learning outcomes were needed first in order to enhance the existing curriculum.

### **1.3 Proposal of quality assurance and enhancement system for engineering education, April 2009 – July 2010**

We are transferring knowledge and good practice from EU universities and consequently improve our quality assurance mechanisms. Some results were presented by Prof. Matijevic at TREND conference [www.trend.uns.ac.rs](http://www.trend.uns.ac.rs) from 1<sup>st</sup> to 4<sup>th</sup> March 2010, at Kopaonik, Serbia, within sessions with university, faculty and government representatives from Western Balkan Countries.

This activity is in progress yet. The book "Guidelines for quality assurance and enhancement in engineering

education” will be published in September 2010.

**GUC approach:** Although different agencies have apparent differences in their criteria for accreditation, they all agree on covering two essential requirements namely strategic planning and process approach.

In addition to accreditation criteria set by accreditation agencies (ASIIN and ACQUIN), GUC will also adopt models for continuous educational enhancement (EFQM model for organizational excellence (European model) and Baldrige award model).

Adopting one of these two models will in fact assist GUC in pursuing its goal to achieve a newly introduced system accreditation by the German accreditation council.

#### **1.4 Promotion of necessity of quality assurance and enhancement system based on the best international practice, April 2009 – March 2011**

Our activities started even before the kick-off meeting (April 3-4), but this activity is still in progress.

On Wednesday Feb.18th, National Tempus Office (shortened as NTO) organized a TEMPUS day on Faculty of Mechanical Engineering in Belgrade. The project has been presented to the audience of about 100 people. To dignify the meeting, welcome speeches have been addressed by H.E. Mr. Josep Loveras, Ambassador of European Commission delegation in Serbia, Mr. Bozidar Djelic, Vice-president of the Government in charge for European integration (and, at the same time, Minister for science and technological development), Prof Dr Zarko Obradovic, Minister of education, representatives of NTO and others.

Prof. Dr. Milos Nedeljkovic as a responsible Project leader and at the same time Government secretary in the Ministry for science and technological development, in every appropriate occasion within his official visits to RS universities and media, explains necessity of quality assurance and enhancement system based on the best international practice, and which is the essence of this project proved by accreditation.

Participation in this project is often used for faculty promotion in media by deans and vice deans in Belgrade, Kragujevac and Nis. Comparative advantage of engineering profession is its internationality by nature and because of that it is necessary to apply international standards in engineering education.

**GUC approach:** To implement the excellence model we need to have a culture of TQM, in which everyone is involved and committed, to continuous enhancement.

Our plan was delivered to the university level committee QMAC for approval and implementation with their support. Over the next period of the project, several workshops will be held.

#### **1.5 Implementation of quality assurance and enhancement system at beneficiary faculties, January 2010 – January 2012**

This activity is in progress.

Implementation of appropriate quality assurance system is a precondition for international accreditation of engineering studies. Committee for quality assurance can permanently propose new improvements, but faculty management is responsible for implementation of quality assurance and enhancement system.

Implemented quality assurance and enhancement procedures at beneficiary faculties/departments are printed as public document (on the web site).

**The most obvious proofs of the implementation are finalizations of accreditation processes and gettings of the appropriate certificates for University of Belgrade, Faculty of Mechanical Engineering for the study program in Naval Architecture Engineering (MSc level), and for German University in Cairo for the study program Engineering and Materials Science (BSc and MSc levels). Copies of the certificates are in the annex to this Report.**

#### **2.1 Review of current standards in engineering education and contemporary qualifications frameworks, June 2009-January 2010**

The activity has been performing according to the plan stated in the project proposal.



## **2.2 Creation of new flexible study program models in order to reach interdisciplinarity and new qualifications frameworks, July 2009 – November 2010**

Goal of the activities 2.1 and 2.2 is modernization of traditional engineering curricula, to provide lacking interdepartmental and interfaculty collaboration and flexible frameworks for new engineering curricula in order to reach new engineering qualifications and degrees.

But, after the first cycle of national accreditation, the most of RS accredited faculties and universities accepted accredited status in a less or more unchangeable situation as compared to the new national accreditation cycle. For example, at the Faculty of Mechanical Engineering in Kragujevac (FME-KG), the Faculty Council by Decision No 01-1/445-2 from 28/02/2008 adopted the interdisciplinary/interdepartmental study profile "Mechatronics" at Bachelor and Master study levels. The diploma supplement for both study profiles was defined (including titles: BSc in Mechanical Engineering – Mechatronics and MSc in ME – Mechatronics). The Faculty Council adopted further proposed improvements on 15/10/2009 in order to accommodate that both study profiles can start in current school year. But, the Dean of the Faculty has not signed this decision yet. We are still waiting for answers from university representatives about administrative accreditation issues concerning the implementation of the new study profiles. It is not clear whether it is necessary to wait for the new accreditation cycle in order to begin the realization of the new study profiles, no matter whether all accreditation criteria are satisfied. Having this experience, and bearing in mind realization of several Tempus projects, FME-KG adopted new study profiles which consist from existing subjects within different branches of engineering education at FME-KG and has submitted two new study programs for national accreditation. No less complicated procedure was used at the Faculty of Mechanical Engineering, University of Nis. At university level, situation for creating inter-faculties or university study programs is practically impossible because there is no administrative support and organization for integrated university study programs.

However, Faculty of Mechanical Engineering, University of Belgrade has established new system curricula building it as a part of quality assurance mechanisms. This solution is accredited by national Committee for accreditation and quality assurance. According to this solution, it is possible to introduce new elective subjects (but under strong quality assurance conditions) and link them within old or new study profile. Also, a few months ago, national Committee for accreditation and quality assurance opened possibility for establishment joint degree study programs among national faculties in its realization.

This activity is in progress.

### **Development of programs and courses at GUC**

Two study programs (namely design and production engineering and mechatronics engineering ) are currently under modification to conform with the ASIIN requirements, taking into consideration the modular structure and flexibility.

### **3.1 Selection, procurement and instalation of laboratory software and equipment, November 2009 – November 2011**

This activity is in progress. Necessary laboratory setups, measurement and computer equipment have been defined. The activity has been conducted according to the original project plan. Appropriate education laboratories are necessary for accreditation and quality assurance of any relevant engineering study program. Our fund for the equipment is extremely limited after budget cutting and we are in doubt if it is **necessary to apply for project budget restructuring**. Because of that we are slightly late in performing this activity. At the Faculty of Mechanical Engineering University of Belgrade, appropriate part of the equipment for mechatronics (experimental robots) has been bought from its own budget.

### **3.2 Library facilities and administrative/student services improvement, November 2009 – November 2011**

This activity is in progress. In the last year FME-KG employed one person in order to permanently improve ICT support for administrative/student services as well as for teaching services. They have developed Internet based software for support and control all more important processes in teaching and student administration. RFID system is implemented in order to establish evidence about student presence at lessons and classroom consume. Interactivity among students, teachers and faculty management is increasing. Moodle portal (web pages based on open source learning management system named Moodle) for each subject is established. Students can find all relevant data concerning their subjects and communicate among themselves and with teachers via organized Moodle portals. These results were presented at TREND conference [www.trend.uns.ac.rs](http://www.trend.uns.ac.rs) from 1<sup>st</sup> to 4<sup>th</sup> March 2010, within sessions

with university, faculty and government representatives from Western Balkan Countries. At RS government level software facilities for all government faculty/university libraries are improved. Library databases are connected among by Internet and access to new databases from libraries is enabled. There is collaboration among beneficiary faculties in order to reach contemporary ICT support for administrative/student/teaching services at these faculties.

### **3.3 Developing of partnership with enterprises through student practice organization, November 2009 – October 2011**

This activity is in progress. Up to now the activity has been conducted according to the original project plan. In September/October 2009 the typical agreement which includes all aspects of student practice organization is defined and it is offered to local firms to sign this agreement according to the new proposed quality procedures concerning with student practice organization at beneficiary faculties. This agreement covers different possibilities of student work in industry: student practice, laboratory work without engineering departments, student part time job, student projects and diploma thesis for industry, etc. The part of mentioned agreement is also the new proposed questionnaire for the companies which should provide feedback from industry about quality of engineering education and their needs in the future. It is very important that engineering education ensures industry focus, research focus, industrial placements and professional qualification confirmed by the degree. At the beginning of 2009/2010 school year, the vice deans have sent accompany letter, agreement and questionnaire to companies proposed by teaching staff and student organization. The first agreements were signed. Involving of students and teachers in real industry environment is necessary part of engineering education which also can enable graduates to take up employment corresponding to their qualification.

Student career and development office (SCAD) at GUC is already existing and is responsible for supporting students in their internships and training and it will be enhanced through the implementation of various project phases (student mobility)

### **4.1 Accreditation of at least two selected study program with ASIIN, July 2010 – January 2012**

According to the project time plan, this activity begins by July 2010, and it is expected that papers will be submitted on time to ASIIN. In the meantime, Faculty of Mechanical Engineering, University of Belgrade has already reached international accreditation in naval engineering, as well the GUC in Engineering and Materials Science. These results are the consequence of very good study programs, including teaching organization, quality of education laboratories, excellent teaching staff, and it is the result of administrative efforts to accomplish it, also bearing in mind the idea of this project.

#### **Development of programs and courses at GUC**

Two study programs (namely design and production engineering and mechatronics engineering ) are currently under modification to conform with the ASIIN requirements, taking into consideration the modular structure and flexibility.

**However, the EMS faculty of GUC has good experience in preparation of accreditation documents.** On March, 13th 2008, the application was sent for the accreditation of the Faculty of Engineering and Materials Science together with the documents, in order for the accreditation committee to decide on the accreditation of the B.Sc. and M.Sc. study programs. On 26th of October, the feedback was received of the first meeting of the peer group which took place at Stuttgart on 17th of October 2008 requesting further information to be able to have a broad view of the program. On 15th of December 2008, the reply on the feedback questions of the peer committee was sent. Based on this fact the nominated peers for the accreditation procedure of Bachelor and Master of Science study programs for Engineering and Materials Science Faculty have visited GUC for two days 1st and 2nd of February 2009. The delegation held meetings with the university authorities and another meeting with the faculty dean, department heads and staff members. In these meetings, they discussed and clarified the points they need about the study programs and also they met a sample of the students and visited the labs, examination office and all related departments. At the end of the visit, they were very satisfied and promised that they will deliver a positive report for the next ACQUIN meeting. In conclusion, in June 2009 the ACQUIN accreditation approval has been received for five years for both the Bachelor and Master of Science programs.

### **5.1 Consortium and TEMPUS meetings (future activities planned), January 2009 – January 2012**

### **5.2 Project coordination and project reports generation, January 2009 – January 2012**

Consortium meetings were held on schedule. The progress reports were discussed at the meetings.

### **6.1 Quality control and monitoring ensured, January 2009 – January 2012**

Semi-annual quality control reports were prepared by each RS University and GUC. Faculty and University official documents concerning the project realization were gathered.

### **7.1 Dissemination analyzing and actions planning, January 2009 – January 2012**

**Dissemination results** – 7 TV broadcasts, 5 university presentations, 2 newspaper articles, <http://tempus.mas.bg.ac.rs/doc-1.html>, academic collaboration among WBC faculties and universities, secondary school presentations which are given with intention of popularization of the studies of technical faculties, participation at TREND conference [www.trend.uns.ac.rs](http://www.trend.uns.ac.rs), within sessions with university, faculty and government representatives from Western Balkan Countries.

### **7.2 Sustainability analyzing and actions planning, January 2009 – January 2012**

All officially adopted documents which result from the project activities directly contribute and guarantee that the project results will be implemented and used for a long time after the project completion: 1) documentation about adopted teaching quality procedures at faculty and university levels, 2) documentation about new curricula, courses and syllabuses, 3) documentation about equipment procurement, 4) documentation about publishing activities.

### **Coherence with the workplan and comments on deviations and modifications**

Please write in this section the main changes which have occurred compared with the original project proposal. (More detailed information is requested in the relevant sections below).

Activities are being performed strictly following the essence of the project proposal, but not strictly with the time table plan. Due to considerable budget cutting and seven months delay (nearly half of the period for this report) in transfer of the first installment of the money, our project is late in some of the activities, but far ahead with some concrete results. We consume the project funds very carefully in order to reach the overall project objectives.

### **Obstacles and shortcomings**

Please describe any obstacles and/or shortcomings experienced during the period covered by the report and the measures taken by the project team to address them.

The overall objective of this project is to enhance the quality and relevance of higher education in engineering area in partner countries and to reach the integration of partner country universities into the European university system by international accreditation of engineering studies.

All relevant university/faculty processes, as much as study programs relevance and quality, should be improved in order to reach international accreditation. It is obvious that our financial support is very limited and that beneficiary faculties/universities have different organization and overall start up potentials in order to reach international accreditation within project span. Faculty of Mechanical Engineering University in Belgrade has accredited system solutions by national body for accreditation and quality assurance, as an inherent part of internal quality assurance mechanisms, which enable flexibility and improvement in building inter- trans- and multi- disciplinary engineering profiles. But, other beneficiary faculties/universities do not have a similar approach yet. In this moment, they prefer inherited organization structures and mechanisms in decision making. Because of that they have not enough flexible study programs and they are late in building contemporary engineering profiles planned for international accreditation in this project. In this moment, Serbian universities are not integrated yet \*(university is a “confederation” of different faculties) and system solutions for introducing inter- and multi- disciplinary study programs are missing. This makes a lot of administrative misunderstanding. For example, Faculty of Mechanical Engineering in Kragujevac (FME-KG), by the Faculty Council by Decision No 01-1/445-2 from 28/02/2008 adopted the interdisciplinary/interdepartmental study profile “Mechatronics” at Bachelor and Master study levels. The diploma supplement for both study profiles was defined (including titles: BSc in Mechanical Engineering – Mechatronics and MSc in ME – Mechatronics). The Faculty Council adopted further proposed improvements on 15/10/2009 in order that both study profiles can start in current school year. But, the Dean of the Faculty has not signed this decision yet. We are still waiting for answers from university representatives about administrative accreditation issues concerning the implementation of the new study profiles. It is not clear whether it is necessary to wait for the new accreditation cycle in order to begin the realization of the new study profiles no matter whether all accreditation criteria are satisfied. Similar problems were motivated faculty management to promote decision that



new subject could not be introduced (the mentioned study profile in Mechatronics comprised existing subjects from different engineering study profiles at FME-KG). Because of this occasion, in last year FME-KG has nationally accredited a few new study profiles with existing subjects from different engineering study profiles from FME-KG or other faculty throughout joint study programs establishment. It was very important to explain that accredited situation will not change with the introduction of new possibilities for engineering education on FME-KG.

It is obvious that FME-BG has introduced the best solution and that it is like the solutions at German universities. Of course, this solution will be transferred on other faculties and it will be an excellent outcome of this project.

Also, our intention is to provide improvements on all beneficiary faculties/universities and to reach international accreditation for as much as possible new study programs. However, most probably it will need more time than we have for the project realization.

Activities are being performed strictly following the essence of the project proposal, but not strictly with the time table plan. Due to considerable budget cutting and seven months delay (nearly half of the period for this report) in transfer of the first installment of the money, our project is late in some of the activities, but far ahead with some concrete results. We consume the project funds very carefully in order to reach the overall project objectives.

### **Development of programmes and courses**

Please provide a description of the teaching/training programme(s) (undergraduate/postgraduate programmes, intensive courses, training modules to academic or non-academic staff, etc.) that the consortium is developing or of the introduction of the new programme(s) and the state-of-play of these developments at the time of submitting the report. If unforeseen changes in the original plans occurred, please describe the type of changes and the measures taken to address them. Please also indicate the activities you plan to carry out before the end of the project. If this section is not relevant for your project, please write 'Not Applicable'.

After the review of current standards in engineering education and contemporary qualifications frameworks (Activity 2.1), and in accordance to efforts within activity 2.2:

I. GUC has oriented its efforts onto development of two interdisciplinary study programs: I.1) Mechatronics Engineering, I.2) Design and Production Engineering.

II. FME-BG (Faculty of Mechanical Engineering, University of Belgrade) has developed and accredited Naval Engineering by international accreditation agency which is respective for Naval Engineering issues. Still, FME-BG plans to accredit more study programs with ASIIN. Also, FME-BG has built stimulating quality assurance system which enables flexibility and permanently improvements existing study programs with possibilities for introducing of new subjects and engineering profiles. This quality assurance system has reached national accreditation. FME-BG is interested for the development of contemporary interdisciplinary study programs, such as Mechatronics and so on. This project is a good opportunity for the improvement for as much as possible of engineering curricula in accordance with EU respective models.

III. FME-KG (Faculty of Mechanical Engineering in Kragujevac, University of Kragujevac), by the Faculty Council by Decision No 01-1/445-2 from 28/02/2008 adopted the interdisciplinary/interdepartmental study profile "Mechatronics" at Bachelor and Master study levels. The diploma supplement for both study profiles was defined (including titles: BSc in Mechanical Engineering – Mechatronics and MSc in ME – Mechatronics). The Faculty Council adopted further proposed improvements on 15/10/2009 in order that both study profiles can start in current school year. FME-KG needs additional improvements for Mechatronics Engineering, especially because the FIAT car factory established now in Kragujevac has the need for that. Also possible collaboration with regional and EU universities arises in building-up of independent Mechatronics study program. Also, FME-KG has interests for development and modernization of all existing study profiles at FME-KG and collaboration with other faculties inside and outside University of Kragujevac.

IV. FME-NIS (Faculty of Mechanical Engineering, University of Nis) has recently reached national accreditation for its study programs and now uses this opportunity for possible further improvements within this project.

### **Restructuring: university management and governance**

Please provide information on the institutional changes that the project is introducing in the Partner Country's consortium institutions, the state-of-play of project activities and any changes which occurred compared with the original plans. Please also indicate the activities you plan to carry out before the end of the project. Examples:

establishment of new units/faculties, establishment/upgrading of libraries, establishment/restructuring of international relation offices, introduction of reforms to university governance (i.e. decision process, autonomy, accountability). If this section is not relevant for your project, please write 'Not Applicable'.

This project offers an excellent opportunity for beneficiary universities/faculties to introduce more relevant quality assurance mechanisms by transferring knowledge, methods and good practice from EU respective engineering schools. In this situation faculties can introduce new offices and committees, but it is not necessary. It is possible to modernize standard organization scheme of engineering faculties by introducing new quality assurance system. For example, traditionally, Departments within engineering faculties in Serbia are developing separately its study profiles for engineering education. This system is expensive, not flexible and it does not look like the contemporary EU models. FME-BG has overcome this problem with new quality assurance system. Also, FME-KG has improved ICT facilities and formed ICT office for ICT support in administration, teaching and student service building. Collaboration among project partners will enable synergetic effects at the project end.

### **Staff (re-)training**

Please provide a description of the activities carried out in order to train the staff of the partner country participating institutions. Please also provide an outline of the selection criteria for the different groups of people who have participated in the implementation of these activities. Please describe any change in comparison with the original proposal and indicate the activities that you plan to carry out before the end of the project.

Immediately upon project acceptance and signing, project coordinators and deans of beneficiary faculties informed the faculty and university staff, explained the project goals and the most important activities that will be performed, and sent invitations for cooperation. Moreover, only the idea that a non-EU faculty can do enough within accepted project and be able to reach international accreditation as like as a respective EU faculty, was very useful for the promotion of the idea and project. At beneficiary faculties/universities, university/faculty staff awareness about quality assurance arouse and also the motivation of university staff to apply EU models and principles. A lot of meetings and TV broadcasts were performed and all of them were a part of retraining staff activity concerning wide span topics we have to do in order to reach international accreditation.

Our concrete activities started even before the kick-off meeting (April 3-4). On Wednesday Feb.18<sup>th</sup>, National Tempus Office in RS organized a Tempus day on Faculty of Mechanical Engineering in Belgrade. The project has been presented to the audience of about 100 people. To dignify the meeting, welcome speeches have been addressed by H.E. Mr Josep Loveras, Ambassador of European Commission delegation in Serbia, Mr. Bozidar Djelic, Vice-president of the Government in charge for European integration (and, at the same time, Minister for science and technological development), Prof Dr. Zarko Obradovic, Minister of education, representatives of NTO and others.

Prof. Dr. Milos Nedeljkovic as a responsible Project leader and at same time Government secretary in the Ministry for science and technological development, used every appropriate occasion within his official visits to RS universities and media, to explain the necessity of quality assurance and enhancement system based on the best international practice.

Especially, Committees for quality assurance at beneficiary faculties/universities have been informed about project goals and possibilities for personal participation in this project. Large number of interested teachers and collaborators responded positively with the intention to support the project activities. Project coordinators have informed and trained each interested person who had clear wish to contribute to project realization. Talks were made with faculties' managements who will contribute to project activities. Teams for project management were formed according to the project plan. The project involvement of the professors and collaborators who can significantly contribute to the project results and its sustainability was more intensive than for the other projects. Also, there is a suggestion of National Tempus Offices that active Tempus projects should collaborate in order to reach synergetic effects.

There are at least four Tempus projects in realization concerning with quality assurance improvement at university level: 1) 158999 "Strengthening Quality Assurance System within West Balkans HEIs in support of National and Regional Planning", 2) 145677 "Internal Quality Assurance at Serbian Universities" (*all universities in RS are included*), 3) 144856 "International Accreditation of Engineering Studies", 4) 158926 "Governance and Management Reform in Higher Education in Serbia"

Because of the fact that project budget was cut and this suggestion of NTO, we are now more oriented onto the main goal of this project: to reach international accreditation for selected study programs in engineering.

Nevertheless, persons who lead project actions are mainly members of faculty and university Committees for quality assurance. Also, representatives from non engineering faculties who belong to Committee for quality assurance at university level were closely included in this project concerning with knowledge dissemination actions.

Transfer of the knowledge and experience (organization, quality control implementation, making up to date and internationally harmonized study programmes and contents of the study courses, educational methods, upgrade of the laboratory support for subjects, teaching materials, selection of the reference literature for subjects, etc.), control and advisory role in the planned activities, are the essence of the role of the EU part of the consortium. Project representatives from beneficiary faculties have spent some time at participating EU universities in order to gathering of necessary knowledge. After their visits they held meetings for colleagues and students and presented their experiences.

Also, Internet based communication technologies were used as the cheapest and the simplest connection between beneficiary and EU partners. These resources are also very useful for consultations, discussions and insight in well developed educational materials of the EU partners as well as great help for the development of quality assurance mechanisms, contemporary engineering curricula, new subjects and the reform of existing ones.

### **Staff mobility**

Please provide an outline of the staff mobility scheme and the selection criteria used for the different groups of people that participate in mobility. Please describe the activities carried out so far, how mobility activities have been organised by home institutions and how mobility helped and/or will help achieve the project's objectives. Information about how the home institutions recognise the mobility should also be provided. If unforeseen changes in your original plan occurred, indicate the type of changes and the measures taken to address them. Please also indicate the activities that you plan to carry out before the end of the project.

The staff mobility scheme was precisely given in the description of project activities. Regarding selection criteria, those teachers and collaborators who can significantly contribute to the project activities and project sustainability were chosen as the main participants in the project. Each member of the project team or the group representative, upon completed stay, is obliged to perform public presentation at the level of faculty/university, as well as to do personal consultations with interested project members. At the faculty of Mechanical Engineering in Kragujevac this was accepted as a general rule, and Teachers' Council supported it as a significant factor for improvement of education and dissemination of project results. EU to Partner Country visits were also significant for staff (re)training and dissemination activities. In the previous period a smaller number of mobilities than planned was performed for the following reasons: 1) Financial support from the partner universities was late for administrative reasons 2) Project budget is cut and we would like reorganization of the budget in order to reach main project goals. 3) Problems with UK visas, 4) Period of summer holidays was not available for tempus activities, and thus made organisation more difficult. However, lower number of planned mobilities for this project period had no adverse effects on the planned project outcomes and will be compensated for in the remaining period of the project.

Realized staff mobility:

1. 2008-12-09 - Belgrade - Rectorate Meeting with NTO
2. 2009-02-18 - Belgrade - TEMPUS Info Day - FME (NTO)
3. 2009-03-19 - Brussels - Representatives Meeting
4. 2009-04-03 - Kick-off meeting in Belgrade (in parallel [The World University Presidents Summit](#) was also held in Belgrade, so participants joined rectors and Nobel prize winners for some happenings and cocktails). Prof.Gabi appeared in prime time news on National TV (see Photo Gallery)
5. 2009-06-17 - Belgrade - Lecture on Jupiter Conference
6. 2009-09-21 - Belgrade - Visit of Munich participant
7. 2009-10-29 - Belgrade - HRK
8. 2009-12-16 - Belgrade-TEMPUS Info Day - FON (NTO)
9. 2010-01-18 - Cairo - TEMPUS Info Day (NTO)
10. 2010-03-01 - Kopaonik, RS, TREND conference
11. 2010-04-26 - Munich and Karlsruhe - consortium meeting with seminars
12. 2010-06-15 - Cairo - consortium meeting with seminar

+ at least twenty of inter-Serbia travels, mostly within one day consultations

### **Student mobility**

Please provide an outline of the student mobility scheme and the selection criteria for the different groups of students that participate in mobility. Please describe the activities carried out so far, how mobility activities have been

organised by home institutions and how mobility helped and/or will help achieve the project's objectives. Information about how the home institutions recognise the mobility (credit transfer, double diploma, diploma supplement, etc.) should also be provided. If unforeseen changes in your original plan occurred, indicate the type of changes and the measures taken to address them. Please also indicate the activities that you plan to carry out before the end of the project. If this section is not relevant for your project, please write 'Not Applicable'.

Student mobility was not foreseen within this time span of the project.  
The participating students for the next period will be chosen with four criteria in mind: 1) Efficiency of studies (GPA, number of passed exams per year), 2) Area of interest, 3) Language skills and 4) Willingness to spend some time abroad.

#### **Academic co-ordination and administrative management**

Please describe how the division of labour is managed between the various consortium institutions, for both academic co-ordination and administrative management. Particular attention should be paid to the description of how this division of labour is managed in areas such as communication and the decision-making process used. Please also describe how day-to-day project activities are managed, indicating what kind of administrative support or other support you have received from the partner institutions. If you encountered difficulties related to the management of the project, please indicate the type of problems and the solutions found to address them.

Under the items III.5.3. QUALITY CONTROL AND MONITORING and III.5.4. MANAGEMENT OF THE PROJECT within the project proposal, the planned Project Management structure, academic co-ordination activities, and decision making process are explained in detail. Upgrading of the Project Management structure is performed by making the presidents of the university Committee for quality assurance, rectors, deans of the consortium universities, the obligatory members of the Local Committees. This was necessary within the first part of the project realization because of the curriculum development and quality assurance issues. Coordinators/Contact persons for each partner university are responsible for administrative management of this project. Also, administrative/financial services of partner universities have been helping the project realization as part of the project participation (co-financing).

**GUC:** According to the authority levels at the German University in Cairo, the work load among faculty members is distributed and coordinated by the faculty dean. The load is divided among three groups: a group for quality assurance concepts and implementation, another group for a curriculum development and a third group for industrial relationships. Financial and administrative work is also supported by the corresponding university departments.

#### **Equipment**

Please outline the equipment purchased, explain where the equipment has been installed, who will benefit from it and have access to it and plans for future maintenance. Please also describe the activities that you plan to carry out before the end of the project, in relation to the equipment purchased/installed. If unforeseen changes in your original plan occurred, indicate the type of changes and the measures taken to address them. If this entry is not relevant for your project, please write 'Not Applicable'.

The administrative procedure for purchase of selected part of equipment is in progress. Procurement of laboratory equipment is explained in detail under description of the 3.1-activity in the project proposal. Adequate educational laboratories are expensive, but necessary for contemporary engineering education. We have a difficulty that our financial support is very limited and, at the same time, laboratory work and very well organized educational laboratories are needed and are important part of any respective engineering study program.

#### **Dissemination**

Please describe what has been done to disseminate the results of the activities carried out to date, both within the framework of the project and outside the project. In particular, you should refer to the definition of tasks and the dissemination channels used to make the project results available to larger beneficiary groups. If a web site for the project has been created, please provide the address. If there have been any unexpected positive secondary effects from project activities, please describe them in this section. Please indicate any change which occurred in comparison with the original plans for dissemination and the activities you plan to carry out before the end of the project, to disseminate the project results.

Under the item III.5.1. DISSEMINATION of the project proposal, the planned dissemination activities are explained. The dissemination will include information exchange (using web publishing, popular lectures, media presentations,

etc.), information sessions and workshops where outputs of the project and possibilities of project actions will be presented.

Dissemination activities were performed as planned. Finished activities and dissemination results: 7 TV broadcasts, 5 university presentations, 2 newspaper articles, <http://tempus.mas.bg.ac.rs/doc-1.html>, academic collaboration among WBC faculties and universities, secondary school presentations for technical faculty studies popularization, participation at TREND conference [www.trend.uns.ac.rs](http://www.trend.uns.ac.rs). Also, each two months on one of the Serbian state universities, meetings named as "Community of Mechanical Engineers" are held and one of the subjects is the reform of the study programmes and quality assurance mechanisms, where the experiences on implementation of Tempus projects are exchanged.

**GUC:** Participation in Egypt Tempus day (January 18<sup>th</sup>, 2010) with a booth under the title of International accreditation of engineering studies, explaining the activities of the project, has been held in this well-attended conference. A booklet for all the tempus projects was published and distributed among attendees. Dissemination of knowledge within the different partners of the project was carried out through meetings held in Serbia, Germany, and Egypt. Also, five presentations were conducted during the partners visit to Cairo by the Egyptian partner.

### **Sustainability**

A project is 'sustainable' when it continues to deliver benefits to the project beneficiaries and/or other target groups for an extended period after the EU's financial assistance has ended. Sustainability may not be relevant for all aspects of a project; in each project some activities or results may be continued, while it may not be necessary to continue others. Sustainability is relevant for issues such as: academic/socio-economic/institutional support (describe the measures undertaken to formalise or institutionalise any links with local non-university partners, to obtain official accreditation of new curricula, etc.), involvement of consortium members (ownership/motivation), effective management and leadership, active participation of the target group, forecast of needs, availability of resources to continue, making the most of results achieved and a measurable medium/long term impact (long-lasting effects of project cooperation, as well as impact on partner institutions and target groups). Please explain which of your planned activities and results must be maintained to make your project sustainable. Describe which measures have been taken so far to realistically ensure the continuity of those activities and results beyond the original life-cycle of the project (even when the project is no longer financed by Tempus). Please indicate any changes which occurred in comparison with the original plans and the activities you plan to carry out before the end of the project in order to ensure sustainability.

All officially adopted documents which result from the project directly contribute and guarantee that the project results will be implemented and used for a long time after project completion: 1) documentation about adopted teaching quality procedures at faculty and university levels, 2) documentation about new curricula, courses and syllabuses, 3) documentation about equipment procurement, 4) documentation about publishing activities.

By international accreditation of any study program, the project sustainability becomes certain. Also, quality management system should be established to ensure active involvement of faculty members and top management representatives in the continuous development and modernization.

**GUC:** Quality management system has been established to ensure active involvement of faculty members in the continuous development and modernization of curriculum and its implementation. Top management representatives are also involved to support the implementation of the meetings outcomes.

### **Quality control and monitoring**

Please describe what monitoring activities the consortium carries out, in order to assess whether the project proceeds according to the workplan. Please describe the strategy for internal and external evaluation of project results and include measurable quality indicators for progress. In addition to the project results (courses, publications, new institutional structures, etc), you should also pay attention to the project management strategy. In particular, explain what instruments you use to ensure effective quality control (i.e. the Logframe approach, feedback questionnaires for evaluations or surveys, swot analysis, etc.) and who is involved in evaluation (i.e. committee(s), validation commission(s), accreditation board(s), etc.). For external evaluation, please mention the role of independent experts or peer reviewers providing a summary of their evaluation plan and report(s). Please indicate the activities carried out to date, any change which occurred in comparison with the original plans and the activities you plan to carry out before the end of the project.



Quality control and monitoring of project activities and results are performed continuously throughout the lifetime of the project. Quality control and monitoring are ensured according to the project proposal. Semi-annual quality control reports are prepared by each beneficiary university/faculty. All faculty's and university's official documents concerning with project realization are gathered.

Indicators of progress: 1) Establishment of Committee for quality of engineering education – done at GUC, at RS universities this Committee is embedded in established Committee for quality assurance at university level, 2) Improvements of quality assurance and enhancement system for engineering education, based on the best international practice, as well as on national accreditation standards, are proposed to all beneficiaries, and accepted at GUC, University of Belgrade (especially at FME-BG) and partly at University of Kragujevac and FME-KG, 3) New flexible study program model in order to reach interdisciplinarity and follow EU qualifications frameworks is created and implemented through internal quality assurance system at FME-BG, 4) Administrative/student services are improved; One published paper describes administrative/student service improvements based on ICT, 5) Laboratory equipment is selected and some laboratory facilities are to be installed – WebLab resources at FME-KG are in development: <http://www.mfkg.kg.ac.rs/web-lab/web-lab.html>, 6) Model of partnership with enterprises through student practice organization is developed, 7) All beneficiary faculties try to reach essential project goals and there is a good collaboration among all project partners. Consortium meetings held on schedule.

As it is several times mentioned, the project activities are performed in strong connection with the essence of the project proposal activities description, but not strictly with the time plan. Because of budget cutting and late funds, we consume the project funds very carefully in order to reach overall the project objectives.

### **Gender balance**

Please explain to what extent the principle of equal opportunities has been taken into account in the project implementation (i.e. gender analysis carried out, presence of women in decision-making bodies, balanced percentage share of women among the teachers or the enrolled students, etc.). Describe how the project helped to promote gender balance and to identify and address factors influencing gender discrimination.

This project could not explicitly help gender balance promotion. Established quality assurance mechanisms do not touch this issue. It is interesting that there is much better balance between women/men among teaching than student population at all beneficiary engineering faculties.

### **Any other comment**

Please provide in this entry, any relevant information you think might be useful for the assessment of your project's implementation (i.e. synergies with other projects, any support from external environment, networking with professional bodies, etc.).

There is a suggestion of RS National Tempus Office that all active Tempus projects should collaborate in order to reach synergetic effects. There are at least four Tempus projects in realization dealing with quality assurance improvement: 1) 158999 "Strengthening Quality Assurance System within West Balkans HEIs in support of National and Regional Planning", 2) 145677 "Internal Quality Assurance at Serbian Universities" (*all universities in RS are included*), 3) 144856 "International Accreditation of Engineering Studies", 4) 158926 "Governance and Management Reform in Higher Education in Serbia". To meet the suggestion, on 16. October 2010 "The First Quality Assurance Conference in Higher Education" will be held in organization of University of Kragujevac and Committee for quality assurance. It is expected that impact of the mentioned Tempus projects will be exhibited and that dissemination of knowledge about quality assurance in higher education will be strong.

Concerning the quality assurance development in this project, it represents only one important part in order to reach the relevance for international accreditation. Beneficiary faculties also have to reach relevance of engineering studies. Appropriate education laboratories are necessary for accreditation and quality assurance of any relevant engineering study program. Our fund for equipment is extremely limited after budget cutting and we are in doubt to apply for project budget restructuring. Because of that we are slightly late in performing this activity.

Also, we have to provide coherency of three group project results: a group for quality assurance concepts and implementation, another group for curriculum development (including education laboratory development) and a third group for industrial relationships. Synergetic results of mentioned three group project results should be international accreditation of selected study program.

## Statistics and Indicators

This section aims to gather statistical data and indicators of performance for the period covered by this Intermediate Report

### Main targets

YES NO N/A

#### Teacher training

Please indicate whether your project has links, targets or objectives related to teacher training

X		
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#### VET

Please indicate whether your project has links, targets or objectives related to Vocational Education and Training

	X	
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#### Qualification levels addressed by the project

Please indicate whether your project has links, targets or objectives related to programmes at :

- Bachelor level
- Master level
- Doctorate level

X		
X		
		X

### Training and mobilities

*Enter the code of the partner country concerned in the first lines and figures in the second and third:*

#### Training of partner country staff and students

*(Country of origin)*

#### Number of academic staff from the partner country's Higher Education Institutions trained/retrained

Please indicate the number of teaching staff (professors, assistants with teaching tasks, etc.) trained and/or retrained to the date of the report submission:

	RS	EG	Country Code:	Country Code:	Country Code:
Number Male	95	75			
Number Female	65	30			

#### Number of non-academic staff from the partner country's Higher Education Institutions trained/retrained

Please indicate the number University administrative staff (librarians, staff from the International Office, IT specialists, etc.) trained to the date of report submission:

	RS	EG	Country Code:	Country Code:	Country Code:
Number Male	10	3			
Number Female	10	7			

#### Number of staff from the partner country's non Higher Education Institutions trained/retrained

Please indicate the number of staff of non HEI (enterprises, NGOs, Chambers of Commerce, Government, local administration, etc.) trained to the date of report submission:

	RS	EG	Country Code:	Country Code:	Country Code:
Number Male	25	15			
Number Female	5	0			

#### Number of students from the partner countries who have attended programmes/courses developed in the framework of the project

Please indicate the number of students from the partner countries that have been trained and/or retrained in the programmes/courses developed by the project to the date of report submission:

	RS	EG	Country Code:	Country Code:	Country Code:
Number Male	700	800			
Number Female	300	200			

#### Staff mobility

*(Country of origin)*

#### Number of partner country - EU mobility flows of more than 2 weeks

Please indicate the number of partner country staff mobility flows from the partner country to the European Union to the date of report submission:

	RS	EG	Country Code:	Country Code:	Country Code:
Number Male	0	0			
Number Female	0	0			

**Number of EU - partner country mobility flows of more than 2 weeks**

Please indicate the number of European staff mobility flows from the European Union to the partner country to the date of report submission:

(Host country)

	RS	EG	Country Code:	Country Code:	Country Code:
Number Male	<u>0</u>	<u>0</u>			
Number Female	<u>0</u>	<u>0</u>			

**Number of partner country – partner country mobility flows of more than 2 weeks**

Please indicate the number of partner country staff mobility flows within the same co-beneficiary partner country or between two partner countries to the date of report submission:

(Country of origin)

	RS	EG	Country Code:	Country Code:	Country Code:
Number Male	<u>0</u>	<u>0</u>			
Number Female	<u>0</u>	<u>0</u>			

**Student mobility**

**Number of partner country - EU mobility flows of more than 2 weeks**

Please indicate the number of partner country student mobility flows from the partner country to the European Union to the date of report submission:

(Country of origin)

	RS	EG	Country Code:	Country Code:	Country Code:
Number Male	<u>0</u>	<u>0</u>			
Number Female	<u>0</u>	<u>0</u>			

**Number of EU - partner country mobility flows of more than 2 weeks**

Please indicate the number of European student mobility flows from the European Union to the partner country to the date of report submission:

(Host country)

	RS	EG	Country Code:	Country Code:	Country Code:
Number Male	<u>0</u>	<u>0</u>			
Number Female	<u>0</u>	<u>0</u>			

**Number of partner country – partner country mobility flows**

Please indicate the number of partner country student mobility flows within the same co-beneficiary partner country or between two partner countries to the date of report submission:

(Country of origin)

	RS	EG	Country Code:	Country Code:	Country Code:
Number Male	<u>0</u>	<u>0</u>			
Number Female	<u>0</u>	<u>0</u>			

**Links to European Higher Education policies**

**Diploma supplement**

Please indicate whether the project contributes to the introduction of diploma supplements in the Partner Country university/ies. For information on the diploma supplement please see:  
[http://europa.eu/comm/education/policies/rec\\_qual/recognition/diploma\\_en.html](http://europa.eu/comm/education/policies/rec_qual/recognition/diploma_en.html)

YES	NO	N/A
<b>X</b>		

**Adoption of a system based on three main cycles, undergraduate (Bachelor), postgraduate (Master) and Doctorate**

Please indicate whether your project contributes to the achievement of the adoption of a system based on three main cycles.

<b>X</b>		
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**Introduction of double/multiple or joint degrees**

Please indicate whether in the framework of your project the institutions involved plan to develop/issue double/multiple or joint degrees. A> IT IS NOT PROJECT OBLIGATION, BUT IT IS POSSIBLE PROJECT RESULT.

		<b>X</b>
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**Establishment of an ECTS system**

Please indicate whether your project contributes to the introduction and/or development of the European Credit Transfer System at the consortium partner university(ies). For information on ECTS:  
[http://europa.eu/comm/education/programmes/socrates/ects/index\\_en.html](http://europa.eu/comm/education/programmes/socrates/ects/index_en.html)

<b>X</b>		
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**Promotion of quality assurance procedures at institutional or national level**

X		
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Please indicate whether the project contributes to the enhancement of the Partner Country university/ies' quality assurance strategies. For information on the 'Standards and guidelines for quality assurance in the European higher education area' : [http://www.bologna-bergen2005.no/Docs/00-Main\\_doc/050221\\_ENQA\\_report.pdf](http://www.bologna-bergen2005.no/Docs/00-Main_doc/050221_ENQA_report.pdf)

**Qualification frameworks**

X		
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Please indicate whether the project contributes to developing of national qualifications frameworks and implementation at university level. For information on the European Qualification Framework, please see: [http://ec.europa.eu/education/lifelong-learning-policy/doc44\\_en.htm](http://ec.europa.eu/education/lifelong-learning-policy/doc44_en.htm)

**Lifelong learning policies and approaches**

	X	
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Please indicate whether your project contributes to developing lifelong learning approaches  
For information on Life Long Learning European policy: [http://ec.europa.eu/education/lifelong-learning-policy/doc28\\_en.htm](http://ec.europa.eu/education/lifelong-learning-policy/doc28_en.htm)

**Modular curriculum structure**

X		
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Please indicate whether your project contributes to the promotion of modular curriculum structure.

**New teaching and learning methods**

X		
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Please indicate whether the project contributes to the development of new teaching/learning methods at the Partner Country university/ies.

**E-Learning**

X		
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Please indicate whether the project contributes to the development of an e-learning strategy at the Partner Country university/ies.

**University/Enterprise cooperation**

X		
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Please indicate whether the project plans to encourage co-operation between the Partner Country university/ies and the private sector.

**Links between the labour market and degree programmes**

X		
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Please indicate whether the new/restructured curriculum/curricula responds directly to the needs of the local and national labour market through internships, intensive training in the field, etc.

**Links with other EU education programmes**

	X	
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Please indicate whether your project is directly linked to other EU education Programmes (other than Tempus) such as Erasmus Mundus or the Life Long Learning Programme. For information on the EU educational programmes, please see: [http://ec.europa.eu/education/index\\_en.htm](http://ec.europa.eu/education/index_en.htm)

**If yes, please indicate with which EU educational programme your project is linked:**





### Table of achieved/planned Outcomes

<b><u>Title and reference number of the outcome:</u></b>	1. Quality assurance and enhancement system for engineering education
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<b><u>Indicators of achievement and or/performance as indicated in the project proposal</u></b>	Committee for quality of engineering education is established. New quality procedures are adopted and old ones are updated
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**Activities carried out to date to achieve this outcome:**

Activity N°	Activity Title	Start date	End date	Place	Description of the activity carried out	Specific and measurable indicators of achievement
1.1.	Review of existing national and international quality assurance and enhancement systems for engineering education	January, 2009.	April, 2009.	University of Belgrade, University of Kragujevac, University of Nis, GUC	1) to collect all necessary information about national and international quality assurance and enhancement systems for engineering education 2) exchange of all relevant information between the consortium members 3) preparation of project staff for the next activity	Information, materials and elaborates about international quality assurance. The Project Tempus Offices at beneficiary universities and the project web site are established.
1.2.	Establishment of Committee for quality of engineering education	February, 2009.	May, 2009.	University of Belgrade, University of Kragujevac, University of Nis, GUC	To establish Committee for quality of engineering education. It is done at GUC, and in RS Committee for quality of engineering education is established by project representatives as a service for faculty/university authorities and colleagues in realization Tempus projects with complementary aims. In RS, Committees for quality assurance on university level are established, and they encompass quality of engineering education issues, also.	Committee for quality of engineering education at GUC. Committee for quality of engineering education is encompassed by Committee for quality assurance on university level in RS.
1.3.	Proposal of quality assurance and enhancement system for engineering education,	April, 2009.	July, 2010.	University of Belgrade, University of Kragujevac, University of Nis, GUC	To propose improvements existing quality assurance system on faculty and university level. Some results are presented by Prof. Matijevic at TREND <a href="http://www.trend.uns.ac.rs">www.trend.uns.ac.rs</a> from 1st to 4th March 2010, within sessions with university, faculty and government representatives from Western Balkan Countries. In addition to accreditation criteria set by accreditation agencies (ASIIN and ACQUIN) GUC will also adopt models for continuous educational enhancement (EFQM model for organizational excellence (European model) and Baldrige award model). Adopting one of these two models will in fact assist GUC in pursuing its goal to	Adopted quality control rules at faculty and university level. The book "Guidelines for quality assurance and enhancement in engineering education" will be published in September 2010

					achieve newly introduced system accreditation by the German accreditation council.	
1.4.	Promotion of necessity of quality assurance and enhancement system based on the best international practice	April, 2009.	March, 2011	University of Belgrade, University of Kragujevac, University of Nis, GUC	To promote necessity of quality assurance and enhancement system based on the best international practice. Namely, participation in this project are often used for faculty promotion in media by deans and vice deans in Belgrade, Kragujevac and Nis. Comparative advantage of engineering profession is internationality and because of that it is necessary to apply international standards in engineering education	Up to now, the project has been presented to the audience of about 1000 people.
1.5.	Implementation of quality assurance and enhancement system at beneficiary faculties	January, 2010	January, 2012	University of Belgrade, University of Kragujevac, University of Nis, GUC	Implemented quality assurance and enhancement procedures at beneficiary faculties/departments are printed as public document (on the web site). FME-BG is adopted a few essential procedures for this project realization.	Adoption of new quality control mechanisms at faculty and university level.

**Activities to be carried out to achieve this outcome (before the end of the project)**

Activity N°	Activity Title	Start date	End date	Place	Description of the activity to be carried out	Specific and measurable indicators of progress
1.4.	Promotion of necessity of quality assurance and enhancement system based on the best international practice	April, 2009.	March, 2011	University of Belgrade, University of Kragujevac, University of Nis, GUC	To promote necessity of quality assurance and enhancement system based on the best international practice. Over the next period of the project, several workshops will be held.	To implement the excellence model we need to have a culture of TQM in which everyone is involved and committed, to continuous enhancement. Different occasions for promotion will be organized.
1.5.	Implementation of quality assurance and enhancement system at beneficiary faculties	January, 2010	January, 2012	University of Belgrade, University of Kragujevac, University of Nis, GUC	Implementation of appropriate quality assurance system is a precondition for international accreditation of engineering studies. Committee for quality assurance can permanently propose new improvements, but faculty management is responsible for implementation of quality assurance and enhancement system.	Adoption of new quality control mechanisms at faculty and university level.

**Changes that have occurred in this outcome since the original proposal:**

No essential changes.

### Table of achieved/planned Outcomes

<b><u>Title and reference number of the outcome:</u></b>	2. New flexible study program models in order to reach interdisciplinarity and new qualifications frameworks
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<b><u>Indicators of achievement and or/performance as indicated in the project proposal</u></b>	New possibilities within traditional study programs. Recognition of new professional qualifications. New interdisciplinary study programs
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#### Activities carried out to date to achieve this outcome:

Activity N°	Activity Title	Start date	End date	Place	Description of the activity carried out	Specific and measurable indicators of achievement
2.1.	Review of current standards in engineering education and contemporary qualifications frameworks	June, 2009	January, 2010	University of Belgrade, University of Kragujevac, University of Nis, GUC	1) to collect all necessary information about contemporary engineering education 2) exchange of all relevant information between the consortium members 3) preparation of project staff for the next activity	Information, materials and elaborates about contemporary engineering education
2.2.	Creation of new flexible study program models in order to reach interdisciplinarity and new qualifications frameworks	July, 2009	November, 2010	University of Belgrade, University of Kragujevac, University of Nis, GUC	To provide lacking interdepartmental and interfaculty collaboration and flexible frameworks for new engineering curricula in order to reach new engineering qualifications and degrees. Faculty of Mechanical Engineering, University of Belgrade has established new system curricula building as a part of quality assurance mechanisms. This solution is accredited by national Committee for accreditation and quality assurance.	New possibilities within traditional study programs..

#### Activities to be carried out to achieve this outcome (before the end of the project)

Activity N°	Activity Title	Start date	End date	Place	Description of the activity to be carried out	Specific and measurable indicators of progress
2.2.	Creation of new flexible study program models in order to reach interdisciplinarity and new qualifications frameworks	July, 2009	November, 2010	University of Belgrade, University of Kragujevac, University of	To provide lacking interdepartmental and interfaculty collaboration and flexible frameworks for new engineering curricula in order to reach new engineering qualifications and degrees. At GUC: Two study programs (namely Design and	New flexible study program models in order to reach interdisciplinarity and new qualifications frameworks. New possibilities within traditional

				Nis, GUC	production engineering and Mechatronics engineering ) are currently under modification to conform with the ASIIN requirements, taking into consideration the modular structure and flexibility. Faculties in RS should follow FME-BG model.	study programs. Recognition of new professional qualifications. New interdisciplinary study programs
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**Changes that have occurred in this outcome since the original proposal:**

No changes.
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*Please add as many tables as necessary.*

**Table of achieved/planned Outcomes**

<b><u>Title and reference number of the outcome:</u></b>	3. New laboratory, library, learning and teaching facilities as well as administrative/student services improvement
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<b><u>Indicators of achievement and or/performance as indicated in the project proposal</u></b>	New laboratory facilities installed. Legal software use. Library and student services are updated. Local international offices establishment as a part of student services. Partnership with enterprises through student practice organization is developed.
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**Activities carried out to date to achieve this outcome:**

Activity N°	Activity Title	Start date	End date	Place	Description of the activity carried out	Specific and measurable indicators of achievement
3.1.	Selection, procurement and installation of lab. software and equipment	November, 2009	November, 2011	University of Belgrade, University of Kragujevac, University of Nis, GUC	Laboratory equipment is selected and some laboratory facilities are installing – Web Lab resources at FME-KG are developing: <a href="http://www.mfkg.kg.ac.rs/web-lab/web-lab.html">http://www.mfkg.kg.ac.rs/web-lab/web-lab.html</a> .	New laboratory facilities
3.2.	Library facilities and administrative/student services improvement	November, 2009	November, 2011	University of Belgrade, University of	Administrative/student services are improved; One published paper describes administrative/student service improvements based on ICT	Library and student services are updated.

				Kragujevac, University of Nis, GUC		
3.3.	Developing of partnership with enterprises through student practice organization	November, 2009	November, 2011	University of Belgrade, University of Kragujevac, University of Nis, GUC	Model of partnership with enterprises through student practice organization are developed	Agreemnts among faculties and firms about partnership activities and student practice organization

**Activities to be carried out to achieve this outcome (before the end of the project)**

Activity N°	Activity Title	Start date	End date	Place	Description of the activity to be carried out	Specific and measurable indicators of progress
3.1.	Selection, procurement and installation of lab. software and equipment	November, 2009	November, 2011	University of Belgrade, University of Kragujevac, University of Nis, GUC	Engineering education laboratories are improved and established.	New laboratory facilities installed. Legal software use.
3.2.	Library facilities and administrative/student services improvement	November, 2009	November, 2011	University of Belgrade, University of Kragujevac, University of Nis, GUC	To reach administrative/student/teaching services improvement by collaboration among beneficiary faculties. Local international offices establishment as a part of student services.	Library and student services are updated. Local international offices establishment as a part of student services.
3.3.	Developing of partnership with enterprises through student practice organization	November, 2009	November, 2011	University of Belgrade, University of Kragujevac, University of Nis, GUC	Partnership with enterprises through student practice organization is developed.	Agreemnts among faculties and firms about partnership activities and student practice organization.

**Changes that have occurred in this outcome since the original proposal:**

No essential changes.

*Please add as many tables as necessary.*



### Table of achieved/planned Outcomes

<b><u>Title and reference number of the outcome:</u></b>	4. Pilot project of international accreditation of engineering studies
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<b><u>Indicators of achievement and or/performance as indicated in the project proposal</u></b>	Self-assessment reeports. Accreditation certificate by ASIIN.
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**Activities carried out to date to achieve this outcome:**

Activity N°	Activity Title	Start date	End date	Place	Description of the activity carried out	Specific and measurable indicators of achievement
4.1.	Accreditation of at least two selected study program with ASIIN	July, 2010.	January, 2012	University of Belgrade, University of Kragujevac, University of Nis, GUC	According to the project time plan, this activity beginning by July 2010, but the Faculty of Mechanical Engineering, University of Belgrade has already reached international accreditation in Naval Engineering. It is result of good study program including teaching organization, quality of education laboratories, excellent teaching staff, and it is result of administrative efforts to do it concerning this project idea.	Accreditation certificate

**Activities to be carried out to achieve this outcome (before the end of the project)**

Activity N°	Activity Title	Start date	End date	Place	Description of the activity to be carried out	Specific and measurable indicators of progress
4.1.	Accreditation of at least two selected study program with ASIIN	July, 2010.	January, 2012	University of Belgrade, University of Kragujevac, University of Nis, GUC	To reach international accreditation for selected engineering study programs.  GUC: Two study programs (namely Design and Production Engineering and Mechatronics Engineering ) are currently under modification to conform with the ASIIN requirements, taking into consideration the modular structure and flexibility	Self-assessment reeports. Accreditation certificate by ASIIN.

**Changes that have occurred in this outcome since the original proposal:**

No changes.
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*Please add as many tables as necessary.*

### Table of achieved/planned Outcomes

<b><u>Title and reference number of the outcome:</u></b>	5. Management of the project
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<b><u>Indicators of achievement and or/performance as indicated in the project proposal</u></b>	Consortium meetings held on schedule
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**Activities carried out to date to achieve this outcome:**

Activity N°	Activity Title	Start date	End date	Place	Description of the activity carried out	Specific and measurable indicators of achievement
5.1.	Consortium and TEMPUS meetings (future activities planned)	January, 2009	January, 2012	At academic project partners	Consortium meetings held on schedule. The progress reports were discussed at the meetings.	Consortium meetings held on schedule
5.2.	Project coordination and project reports generation	January, 2009	January, 2012	At academic project partners	Consortium meetings held on schedule. The progress reports were discussed at the meetings.	Project coordination and project reports generation

**Activities to be carried out to achieve this outcome (before the end of the project)**

Activity N°	Activity Title	Start date	End date	Place	Description of the activity to be carried out	Specific and measurable indicators of progress
5.1.	Consortium and TEMPUS meetings (future activities planned)	January, 2009	January, 2012	At academic project partners	Meetings of consortium members should be planed ordinary twice in every project year with possibility for extraordinary meeting if it is necessary.	Consortium meetings held on schedule
5.2.	Project coordination and project reports generation	January, 2009	January, 2012	At academic project partners	The progress reports will be prepared by each consortium member institution semi-annually, and presented at consortium members meeting. The progress reports will be discussed at the meeting.	Project coordination and project reports generation

**Changes that have occurred in this outcome since the original proposal:**

No changes.
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### Table of achieved/planned Outcomes

<b><u>Title and reference number of the outcome:</u></b>	6. Quality control and monitoring
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<b><u>Indicators of achievement and or/performance as indicated in the project proposal</u></b>	<ul style="list-style-type: none"> <li>• Establishment of Committee for quality of engineering education</li> <li>• Rulebook of the Committee for quality of engineering education will be published</li> <li>• Proposal of quality assurance and enhancement system for engineering education (based on the best international practice as well as national accreditation standards)</li> <li>• The book “Guidelines for quality assurance and enhancement in engineering education” will be published</li> <li>• New quality assurance and enhancement system at beneficiary faculties is established</li> <li>• New flexible study program models in order to reach interdisciplinarity and follow EU qualifications frameworks are created</li> <li>• Laboratory facilities installed</li> <li>• Administrative/student services are improved. Administrative staff retrained.</li> <li>• Model of partnership with enterprises through student practice organization are developed</li> <li>• Documentation for international accreditation of study programs is prepared</li> <li>• Certificate about accreditation of study programs by ASIIN</li> <li>• Consortium meetings held on schedule</li> <li>• Students’ involvement in decision making and teaching processes. Students’ satisfaction with conducted reform processes.</li> <li>• Reports on performed activities and achieved results.</li> </ul>
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#### Activities carried out to date to achieve this outcome:

Activity N°	Activity Title	Start date	End date	Place	Description of the activity carried out	Specific and measurable indicators of achievement
6.1.	Quality control and monitoring ensured	January, 2009	January, 2012	University of Belgrade, University of Kragujevac, University of Nis, GUC	Quality control and monitoring of project activities and results are performed continuously throughout the lifetime of the project.	Quality control and monitoring ensured. Semi-annual quality control reports are prepared by each beneficiary university. Faculty and university official documents concerning with project realization are gathered.

#### Activities to be carried out to achieve this outcome (before the end of the project)

Activity	Activity	Start	End	Place	Description of the activity to be carried out	Specific and measurable
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N°	Title	date	date			indicators of progress
6.1.	Quality control and monitoring ensured	January, 2009	January, 2012	University of Belgrade, University of Kragujevac, University of Nis, GUC	Quality control and monitoring of project activities and results will be performed continuously throughout the lifetime of the project.	Quality control and monitoring ensured

**Changes that have occurred in this outcome since the original proposal:**

No changes.

**Table of achieved/planned Outcomes**

<b><u>Title and reference number of the outcome:</u></b>	7. Dissemination and sustainability
<b><u>Indicators of achievement and or/performance as indicated in the project proposal</u></b>	Workshop organized, Adoption of proposed reform processes.

**Activities carried out to date to achieve this outcome:**

Activity N°	Activity Title	Start date	End date	Place	Description of the activity carried out	Specific and measurable indicators of achievement
7.1.	Dissemination analyzing and actions planning	January, 2009	January, 2012	RS, EG	Some dissemination results – 7 TV broadcasts, 5 university presentations, 2 newspaper articles, <a href="http://tempus.mas.bg.ac.rs/doc-1.html">http://tempus.mas.bg.ac.rs/doc-1.html</a> , academic collaboration among WBC faculties and universities, secondary school presentations which are given with intention technical faculty popularization, participation at TREND <a href="http://www.trend.uns.ac.rs">www.trend.uns.ac.rs</a> from 1st to 4th March 2010, within sessions with university, faculty and government representatives from Western Balkan Countries. Participation in Egypt Tempus day (January 18 <sup>th</sup> , 2010) with a booth under the title of international accreditation of	The dissemination has included information exchange (using web publishing, marketing presentations, etc.), information sessions and workshops where outputs of the project are presented.

					engineering studies explaining the activities of the project has been held in this well-attended conference. A booklet for all the tempus projects was published and distributed among attendees. Dissemination of knowledge within the different partners of the project was carried out through meetings held in Serbia, Germany, and Egypt. Also, five presentations were conducted during the partners visit to Cairo by the Egyptian partner.	
7.2.	Sustainability analyzing and actions planning	January, 2009	January, 2012	University of Belgrade, University of Kragujevac, University of Nis, GUC	Sustainability analyzing and actions planning	All officially adopted documents which result from the project directly contribute and guarantee that the project results will be implemented and used for a long time after project completion: 1) documentation about adopted teaching quality procedures at faculty and university levels, 2) documentation about new curricula, courses and syllabuses, 3) documentation about equipment procurement, 4) documentation about publishing activities.

**Activities to be carried out to achieve this outcome (before the end of the project)**

Activity N°	Activity Title	Start date	End date	Place	Description of the activity to be carried out	Specific and measurable indicators of progress
7.1.	Dissemination analyzing and actions planning	January, 2009	January, 2012	RS, EG	A few workshops will be organized *(2 by ASIIN). Informing and introducing of relevant stakeholders with new opportunities of revised studies and new study programmes will be performed	The dissemination will include information exchange (using web publishing, marketing presentations, etc.), information sessions and workshops where outputs of the project will be presented.
7.2.	Sustainability analyzing and actions planning	January, 2009	January, 2012	University of Belgrade, University of Kragujevac, University of Nis, GUC	Sustainability analyzing and actions planning Quality management system has been established to ensure active involvement of faculty members in the continuous development and modernization of curriculums and its implementation. Top management representatives are also involved to support the implementation of the project	All officially adopted documents which result from the project directly contribute and guarantee that the project results will be implemented and used for long time after the project is over.

					outcomes.	
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**Changes that have occurred in this outcome since the original proposal:**

No changes.

*Please add as many tables as necessary.*

## Summary Report for Publication

### Project title

144856-TEMPUS-2008-RS-JPGR – International Accreditation of Engineering Studies

### Objectives

The goal of this project is to provide students at beneficiary universities with a forward-looking, promising, internationally-recognised and academically-founded education and training in engineering area by development of quality assurance and enhancement mechanisms based on the best international practices and by necessary reform measures. At least two study programmes at different faculties with similar structural characteristics will be accredited by relevant European Accreditation Agency (like ASIIN). Accredited study profile will be more competitive in the increasingly-contested education market. The planned structural reform will comprise: 1) Introduction of quality assurance system based on the best practice of recognized European engineering schools; 2) Improvement of laboratory, library, learning and teaching facilities (to procure missing legal software, laboratory scale models, textbooks, blended learning facilities, etc.); 3) Local International Offices establishment; 4) Local Student Office improvement by development of information system facilities; 5) Student practice organization through development of partnership with enterprises; 6) Indispensable curriculum corrections, and 7) New teaching staff employment \*(if necessary). Interdisciplinary study programs at Mechanical Engineering faculties will be more in focus within this project.

### Outcomes

1. Quality assurance and enhancement system for engineering education 2. New flexible study program models in order to reach interdisciplinarity and new qualifications frameworks, 3. New laboratory, library, learning and teaching facilities as well as administrative/student services improvement, 4. Pilot project of accreditation of at least two selected study programmes with ASIIN, 5. Management of the project, 6. Quality control and monitoring, 7. Dissemination and sustainability

### Activities

1.1. Review of existing national and international quality assurance and enhancement systems for engineering education, Jan-Apr, 2009  
1.2. Establishment of Committee for quality of engineering education, Feb-May, 2009  
1.3. Proposal of quality assurance and enhancement system for engineering education, Apr.2009-Jul.2010  
1.4. Promotion of necessity of quality assurance and enhancement system based on the best international practice, Apr.2009-Mar.2011  
1.5. Implementation of quality assurance and enhancement system at beneficiary faculties, Jan.2010-Jan.2012  
2.1. Review of current standards in engineering education and contemporary qualifications frameworks, Jun.2009-Jan.2010  
2.2. Creation of new flexible study program models in order to reach interdisciplinarity and new qualifications frameworks, Jul.2009-Nov.2010  
3.1. Selection, procurement and installation of lab. software and equipment, Nov.2009-Nov.2011  
3.2. Library facilities and administrative/student services improvement, Nov.2009-Nov.2011  
3.3. Developing of partnership with enterprises through student practice organization, Nov.2009-Nov.2011  
4.1. Accreditation of at least two selected study program with ASIIN, Jul.2010-Jan.2012  
5.1. Consortium and TEMPUS meetings (future activities planned), Jan.2009-Jan.2012  
5.2. Project coordination and project reports generation, Jan.2009-Jan.2012  
6.1. Quality control and monitoring ensured, Jan.2009-Jan.2012  
7.1. Dissemination analyzing and actions planning, Jan.2009-Jan.2012  
7.2. Sustainability analyzing and actions planning, Jan.2009-Jan.2012



### **Progress to date**

The overall objective of this project is to enhance the quality and relevance of higher education in engineering area in partner countries and to reach the integration of partner country universities into the European university system by international accreditation of engineering studies.

Activities are being performed strictly following the essence of the project proposal, but not strictly with the time table plan. Due to considerable budget cutting and seven months delay (nearly half of the period for this report) in transfer of the first installment of the money, our project is late in some of the activities, but far ahead with some concrete results. We consume the project funds very carefully in order to reach the overall project objectives.

The essential part of the project are the necessary improvements at beneficiary universities concerning all relevant faculty/university processes and relevant engineering study programs with all of its characteristics, in order to reach a new and relevant quality in engineering education verified by international accreditation of these study programs.

According to the project time plan, the international accreditation activity begins by July 2010, and it is expected that papers will be submitted on time to ASIIN. In the meantime, Faculty of Mechanical Engineering, University of Belgrade has already reached international accreditation in naval engineering, as well as the GUC in Engineering and Materials Science. These results are the consequence of very good study programs, including teaching organization, quality of education laboratories, excellent teaching staff, and it is the result of administrative efforts to accomplish it, also bearing in mind the idea of this project.

### **Future developments**

The beneficiary faculties will improve all necessary processes which enable successfully international accreditation of selected study programs. GUC has already selected two study programs: 1) Design and Production Engineering, and 2) Mechatronics Engineering. These study programs are currently under modification to conform to the ASIIN requirements, taking into consideration the modular structure and flexibility. RS beneficiary faculties will do the best in order to accredit as much as possible of their study programs by ASIIN. Interdisciplinary engineering study programs are to be in more of the focus of this project.

### **Other remarks**

This project gives a great opportunity to the management of beneficiary faculties and universities to include all staff by motivated question "What do we have to do in order to join our faculty/university to the family of recognized EU engineering schools by international accreditation process?"

Relevant engineering education is the most important item for the economic development of beneficiary countries. But for relevant engineering education a few issues are very important: excellent teaching staff, relevant engineering curricula, well equipped and organized laboratories for contemporary engineering education, partnership with industry, good internal organization, etc. A legal software use and building-up of educational laboratory which is very expensive are to be remarked. At the same time, these are necessary for the relevant engineering education. The budget for this project has been cut by over 21% as compared to application and we are now trying to find other financial resources in order to reach our project aims. Because of that we need more time to realize our project aims in full capacity of our efforts. We do not have any doubt that promised (minimal) realization of project aims will be done, but our intention was and is to promote and accredit as much as possible of study programs at all beneficiary faculties. That is why that we plan to suggest project budget restructuring in order to enable more funds for education laboratory building.

## STATEMENT OF THE COSTS INCURRED

Tempus project N°144856-TEMPUS-2008-RS-JPGR

- Column "1. Project Costs" and Column "3. Project Finance": please input the estimated budget of the project as indicated in Annex II of your Grant Agreement or in subsequent amendments to Annex II.
- Columns under "2. Project Expenditure to date": please indicate the expenditure made to date (paid directly from the Tempus grant and/or co-financed). The declared amounts must represent AMOUNTS ACTUALLY PAID (meaning that a disbursement has been made) and NOT committed amounts.
- "Bank interest" is to be declared if it represents a significant amount, and must be included in the Final Report (Re. Article II.16.4 of the Grant Agreement).

		1. PROJECT COSTS € Estimated budget of the project (Annex II)
I	Staff costs (incl. replacement costs)	234,596.00
II	Travel costs and Costs of Stay	160,838.00
III	Equipment	145,500.00
IV	Printing and publishing	54,700.00
V	Other costs	35,500.00
VI	Indirect costs <sup>1</sup>	43,977.00

<b>TOTAL ELIGIBLE COSTS<sup>2</sup> (A.4)</b>	<b>675,111.00</b>
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2. PROJECT EXPENDITURE TO DATE €		
Declared Paid from Tempus	Declared Co-financed	TOTAL Declared
24,094.00	10,104.00	34,200.00
50,400.00	0.00	50,400.00
0.00	15,000.00	15,000.00
4,000.00	1,000.00	5,000.00
5,000.00	0.00	5,000.00
5,000.00		5,000.00
<b>Total</b>	<b>Total</b>	<b>TOTAL</b>
<b>88,494.00</b>	<b>26,104.00</b>	<b>114,600.00</b>

		3. PROJECT FINANCE €
A	Co-financing	31,876.00
B+C	Total from the Tempus grant	643,235.00

<b>TOTAL PROJECT FINANCE (A.4)</b>	<b>675,111.00</b>
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<b>Bank interest</b>	<b>0</b>
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## REQUEST FOR PAYMENT

In accordance with Articles I.4 and II.15 of the Grant Agreement of this project, I hereby confirm that (please tick the appropriate box):

I have already spent 70% of the first installment of pre-financing, and thus request the second installment of pre-financing to the following bank account: *IBAN* \_\_\_\_\_

I have not yet spent 70% of the first installment of pre-financing, and thus do not request the second installment of pre-financing. 1<sup>st</sup> installment 60% of 643,235.00 = 385,941.00, 70% of that is 270,158.70.

Date and signature of the legal representative of the beneficiary institution:

Date: 14.7.2010.

*Miriam Hegerová*

Signature: \_\_\_\_\_



<sup>1</sup> Indirect costs may not be co-financed (Art. 8.2 Annex IV, Guidelines for the use of the grant).



## CHECKLIST

### WHAT INFORMATION NEEDS TO BE SENT?

- Declaration, duly signed by the contact person and the legal representative – Annex III/2
- Report on implementation of the project – Annex III/3-5
- Statistics and Indicators – Annex III/6-8
- Table of achieved/planned outcomes – Annex III/9-10
- Summary Report for Publication – Annex III/11
- Statement of the costs incurred and Request for Payment – Annex III/12
- Acknowledgement of receipt – Annex III/13

## DECLARATION

This declaration should be completed and signed by the following people:

1. the contact person at the beneficiary institution;
2. the person who is legally authorised to represent the beneficiary institution.

*We, the undersigned, certify that we have submitted all the required documentation, including the documents mentioned in the checklist.*

*Furthermore, we certify that the information given in this Intermediate report is correct to the best of our knowledge and complies with the requirements of the provisions of Articles I.5 and II.15 of the Grant Agreement.*

*We are aware that amendments to these documents will not be accepted after the date of submission.*

Name of the beneficiary institution: German University in Cairo, Faculty of Engineering and Materials Science

Name of the contact person : *Ibrahim Mansour*

Position: Dean of the Faculty of Engineering and Materials Science, German University in Cairo  
Place: Cairo, Egypt

Date: 14.7.2010.

Signature: *Ibrahim Mansour*

the beneficiary institution:

(Faculty stamp)

Name of the legal representative: Mahmoud Abdelkader

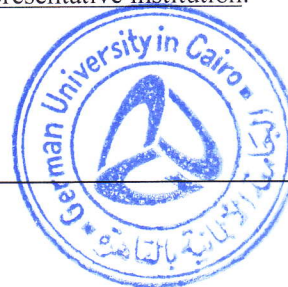
Position: President of the German University in Cairo  
Place: Cairo, Egypt

Date: 14.7.2010.

Signature: *Mahmoud Abdelkader*

Stamp of the legal representative institution:

(University stamp)







# International Accreditation of Engineering Studies

144856-TEMPUS-2008-RS-JPGR ETF-JP-00348-2008

TEMPUS DAY Cairo, 18. January, 2010.

## Overall Project Goals

The overall objective of this project is to enhance the quality and relevance of higher education in engineering area in partner countries and to reach the integration of partner country universities into the European university system by international accreditation of engineering studies.

## Essential outcomes:

1. Internal quality assurance and enhancement mechanisms based on the best international practice
2. A new model of flexible curriculum structure taking into account emerging interdisciplinary engineering areas and enabling the recognition of new professional qualifications
3. Improvement of laboratory, library, learning and teaching facilities as well as development of partnership with enterprises
4. Improvement of administrative/student services including logistic support for university internationalization
5. International accreditation of at least two study programs with the German ASIIN as a relevant European Accreditation Agency

## Consortium Members

1. University of Belgrade
2. The Ministry of Education and Sports of the Republic Serbia
3. University of Kragujevac
4. German University in Cairo
5. University of Nis
6. ASIIN Consult GmbH
7. Imperial College London
8. Technische Universität München
9. Universitat Politècnica de Catalunya
10. University Karlsruhe (TH)
11. Robotina d.o.o.
12. Mihajlo Pupin Institute
13. Informatika
14. Ivdam Process Control d.o.o.

## Activities performed so far:

- First discussion on TEMPUS Call results and consequently on the Project organized at University of Belgrade on December 9th, 2008.
- Info Day organized by Serbian National TEMPUS Office on February 18th, 2009, on University of Belgrade, Faculty of Mechanical Engineering.
- TEMPUS representatives meeting held in Brussels on March 19th and 20th.
- Consortium meeting 1 with kick-off seminar, April 2-5, 2009, Belgrade,

## Some of forthcoming activities:

- Due to the lag in financing, no visits have been performed yet, so several study visits to EG and EU partners are to be done soon. Consortium meetings are to be held at the same time.
- Review of current standards in engineering education (EE) and contemporary qualifications frameworks.
- Quality assurance (QA) and enhancement system for EE – Establishment of Committee for QA of EE and Promotion of necessity of QA and enhancement system based on the best international practice.
- Selection, procurement and installation of laboratory software and equipment.

## Three Firm Results

1. Governance reform where EU established standards for institution quality assurance and excellence are to be introduced in at least one partner country institution and the results will be approved by international accreditation of such an organized institution

2. Curricular reform (Modernisation of curricula in at least two study programs) in partner countries in such a way that these programs pass international accreditation.

At least two study programmes at different partner country faculties will be accredited by relevant European Accreditation Agency (ASIIN) as a result of performed reform activities.

3. Development of partnerships with enterprises, especially concerning EU standards for student internships and mobility, which is extremely important for engineering studies.

- ✓ **International accreditation of selected study programs is anticipated by this project.**
- ✓ **Accredited study profile will be more competitive in the increasingly-contested education market**

ACCREDITATION, CERTIFICATION AND  
QUALITY ASSURANCE INSTITUTE

**ACQUIN**

AWARDS ON BEHALF OF THE ACCREDITATION COUNCIL

THE SEAL OF APPROVAL

Stiftung zur Akkreditierung von Studiengängen in Deutschland

**Akkreditierungsrat** ■■

FOR THE DEGREE PROGRAMME

***ENGINEERING AND MATERIALS SCIENCE***

***- MASTER OF SCIENCE -***

AT THE GERMAN UNIVERSITY IN CAIRO

**THE ACCREDITATION IS VALID UNTIL SEPTEMBER 30, 2014**

*BAYREUTH, JUNE 23, 2009*



PROF. DR.-ING GERD ZIMMERMANN  
CHAIRMAN OF THE BOARD



ACCREDITATION, CERTIFICATION AND  
QUALITY ASSURANCE INSTITUTE

**ACQUIN**

AWARDS ON BEHALF OF THE ACCREDITATION COUNCIL

THE SEAL OF APPROVAL

Stiftung zur Akkreditierung von Studiengängen in Deutschland

**Akkreditierungsrat** ■■

FOR THE DEGREE PROGRAMME

***ENGINEERING AND MATERIALS SCIENCE***

***- BACHELOR OF SCIENCE -***

AT THE GERMAN UNIVERSITY IN CAIRO

**THE ACCREDITATION IS VALID UNTIL SEPTEMBER 30, 2014**

*BAYREUTH, JUNE 23, 2009*



PROF. DR.-ING GERD ZIMMERMANN  
CHAIRMAN OF THE BOARD



THE ROYAL INSTITUTION  
OF NAVAL ARCHITECTS

**This is to certify**

that the

**M Eng in Mechanical Engineering  
Dipl. Ing. in Serbian  
Spec. module: Naval Architecture**

at

**UNIVERSITY of BELGRADE**

has been accredited by the

**Royal Institution of Naval Architects**

and satisfies the academic requirements for

Corporate membership of the Institution

Chief Executive  
The Royal Institution of Naval Architects

2009 – 2013