Tempus IV programme

Study of the Achievements of Tempus IV Projects

on the Internationalisation of Higher Education in Central Asia

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Executive summary

The study was commissioned by the Education, Audiovisual and Culture Executive Agency (EACEA) in 2015 on behalf of the European Commission's Directorate-General for Education and Culture for the purpose of assessing the achievements of Tempus IV projects (2007-2013) in the internationalisation of Higher Education in the five Central Asian Republics of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

The purpose of the study is threefold: firstly, to review the projects' achievements in the area of internationalization, while assessing their sustainability; secondly, identify challenges and weaknesses; and, thirdly, to propose recommendations, which can inform the ERASMUS+ programme.

Nearly 100 questionnaires were received covering 50 projects out of a possible total of 74 from the five countries. Site visits took place in three of the five Central Asian republics: namely, Kazakhstan, Kyrgyzstan and Uzbekistan, with interviews with representatives of 47 of the projects and their stakeholders.

The survey results confirmed that the projects impacted on four aspects of international activity: policy/institutional level; curriculum development; mobility of staff and students; and research. The largest number of references were for impact in category 3: mobility, followed by curriculum, then policy/institutional-level. Within the categories, there are 20 discrete activity-areas where internationalization can occur. Ten projects were exemplar in achieving an impact in at least half the activity-areas. These projects satisfy the criteria in the study for ‘extended internationality’.

The most frequent examples of internationalization at institutional level were: setting up dedicated international departments; implementing ECTS and other Bologna tools and approaches; adapting the university mission to include internationalization; and adopting an international HR and international student recruitment plan. Several universities also confirmed a longlasting commitment to internationalization at institution-level by restructuring their senior management team and by including, for example, a new post of Vice-Rector for International Affairs, or one with a similar international remit.
A simple majority of all Tempus IV projects in Central Asia are concerned with curriculum development, mainly introducing new curricula adapted from international models and 'localized.' The most sustainable are those which are adopted because either they develop curricula which match the existing priorities of the relevant Ministry of Education and Science ('pull' effect), or innovative curricula which are later adopted by the Ministry ('push' effect) and are permanently funded after inclusion in the state-approved classified list of university subjects.

Accreditation for new courses by reputable international agencies, as well as international professional/vocational bodies, and foreign universities, is an important mark of successful internationalization. It is recognition not only of the quality of the programme, but also of the international content of the new programme.

Other features in the curriculum category include: dual or joint programmes of study; teaching through the medium of English; and new technology-enabled learning like blended-learning and online, or e-learning. Joint programmes of study with international partner institutions, containing obligatory study abroad, leading to dual or joint degrees, are the gold standard of successful internationalization in this category.

Staff mobility is most frequently cited by respondents as essential to internationalization. It takes many forms, both outgoing and incoming; e.g. staff training abroad, small group partnership-building visits and high-level fact-finding missions by groups of rectors. Incoming mobility is largely for teaching purposes on dual/joint study programmes, visiting lectures, or training and teaching in international Summer Schools. An increasing number of international staff are now taking up jobs in the Region’s universities.

Student mobility is more outgoing than incoming on Tempus IV, and includes, for example, short-term study visits abroad, including internships and training.
The main barriers facing large-scale student mobility is the insufficient command of English on the part of students and staff (including in European universities); a lack of opportunities abroad; and a mismatch between host and home credit transfer systems, which means that credits for studying abroad are only rarely recognized by home institutions.

Members of the research communities testify to the indirect benefits of Tempus IV and are vocal about the importance of it to increasing internationalization. Tempus IV has led to the supply of new lab equipment; visits abroad; joint international labs and co-publishing opportunities with international partners. Research activity resulting from Tempus IV has contributed to regional universities improving their position in the global university rankings, which are highly regarded by universities in Central Asia.

Some Tempus IV projects experienced more challenges and difficulties than successes. The cause of difficulty was usually due to: systemic differences; contextual barriers; project management problems or a combination of all three. Insufficiency in English is a challenge at all these levels.

Many of the projects’ outcomes were found to be sustainable if they acquired new sources of funding. If the MES formally approves and adopts new courses, or degree awards, they become sustainable.

At university-level, the reforms may become long-lasting if they lead to a restructuring of the university’s departments and senior team, leading to the foundation of a dedicated international department, a new international mission and/or a new senior post.

The main findings of the study are incorporated into fifteen recommendations at policy, programme and project levels.
1. Introduction

The overall objective of the Tempus programme (1990-2013) was to contribute to an area of cooperation in the field of higher education between the European Union and partner countries surrounding the EU and nearby (the Western Balkans, Eastern Europe and Central Asia, North Africa and the Middle East). The latest phase of the programme, Tempus IV, covered the period 2008-2013.

The specific objectives of the Tempus IV programme were to promote the reform and modernisation of higher education in the partner countries, enhance the quality and relevance of their higher education systems, build capacity to help them internationalise and create better links with the labour market, develop human resources, enhance mutual understanding between people and cultures and promote cooperation and networking within the regions covered by the programme.

Tempus IV was financed by three of the European Commission's external assistance instruments: the Instrument for Pre-accession Assistance (Western Balkans); the European Neighbourhood and Partnership Instrument (Eastern Europe, North Africa and the Middle East); and the Development and Cooperation Instrument (Central Asia). The Education, Audiovisual and Culture Executive Agency (EACEA) was responsible for the management of Tempus IV, under powers delegated by the European Commission.

Six different Calls for Proposals were published during this period and 550 projects selected, representing a budget of EUR 483 million. Each project received funding of between EUR €0.5 million and €1.5 million and lasted either 2 or 3 years. Tempus IV partnerships are made up of consortia including higher education institutions, businesses, ministries, NGOs, and other organisations working in the field higher education, from inside the EU and from the partner countries.

Given the success of the Tempus programme over the past 20 years, Tempus-like activities now continue to be financed by the Capacity-building in Higher Education action (CBHE) component of Erasmus+ programme for education,
training, youth and sport, which started in January 2014. These are now open to a wider range of countries throughout the world. International cooperation between the EU and Partner Countries outside the EU represents an important component of the Erasmus+ programme.

Now that the last Tempus IV projects are coming to an end in 2017, there is a clear need to assess the impact of Tempus IV projects and use the results to help further develop capacity-building activities in the Erasmus+ programme. The European Commission’s Directorate General for Education and Culture, with the support of EACEA, launched a series of thematic studies to look at the impact of the programme in key areas of reform and gather examples of good practice for the future. These are to help promote the Capacity Building in Higher Education action of Erasmus+ in all eligible countries, and provide an overview of what can be achieved with these kinds of projects, pit-falls to avoid and examples of best practice for inspiration.

One key reform area was chosen for each of the four Tempus regions:
Western Balkans: the development of student support services at universities;
Southern Mediterranean: university-business cooperation;
Eastern Europe: curriculum development at master level in the fields of engineering and environmental sciences/agriculture;

This study assesses the impact and achievements of Tempus IV projects on the internationalisation of Higher Education in the five Central Asian Republics of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

1.1. Background to the study
The background issues at each of the three levels (policy, programme and project) provide an important introduction to understanding the context for the study and the main findings.

1.1.1. Policy level issues
Tempus projects aim to provide support to strengthen the EU policy of cooperation with and within Central Asia and across borders with other partner-countries.
The EU cooperation programmes with the countries of Central Asia were funded under the Development and Cooperation Instrument (2007-13): 50 million Euros was allocated under Tempus IV. Between 2007 and 2012, the total amount of funding for the region as a whole increased from 5 million to 15 million Euros per year. (EACEA, 2013). Approximately 150 higher education institutions in the region have benefited from this funding (see also Annex 3b). The grant awarded to each project varied between 0.5 and 1.5 million Euros.

International cooperation between the EU and Partner Countries outside the EU represents an important component of EU policy in the field of higher education (HE), in particular in the newly launched Erasmus+ programme which brings together all the previous international cooperation programmes in higher education. Tempus-type cooperation continues in the "Capacity Building in Higher Education" (CBHE) component of Erasmus+.

Through cooperation at higher education level, Tempus IV also aimed to strengthen civil society, promote democracy, as well as enhancing mutual understanding and intercultural dialogue between the EU and its partners in Central Asia.

Tempus IV has promoted cooperation between higher education institutions in Europe and in the partner countries thereby encouraging the internationalization of the Region’s Higher Education Institutions (HEIs). The purpose behind this was to stimulate national higher education reforms and modernisation. State policies in Central Asia have also prioritized education reforms (see 2.2.1.1.), leading to a convergence of interests with the European Union’s objectives towards the region, especially with the adoption of international standards and quality assurance models. Despite some intra-regional variations in policy direction, there is common recognition that economic competitiveness is linked to the modernization of higher education, which, in turn, is linked to internationalization.

1.1.2. Programme-level issues

The Tempus programme was designed to open up institutions to international cooperation. This contributes to reforming and upgrading the higher education institutions and systems in the Tempus Partner Countries by introducing new ideas, systems, curricula and models from abroad, which are facilitated by international frameworks, such as the Bologna process.
At programme level, Tempus IV regional priorities are set by the European Commission while national priorities are set in each Partner Country. The impact of the programme is optimized when there is a convergence between the two sets of priorities. In this, the role of the National Tempus Offices (now National Erasmus+ Offices) is critical as they maintain a dialogue between the European Commission and national governments in order to maximise the impact on the higher education reform process and ensure the alignment between the two sets of priorities.

The programme may be considered “bottom-up” since the content and methodology of the projects are left to project beneficiaries to define (within the priorities set by the Call). On the other hand, it can also be described as "top-down" since the national priorities are established by the national authorities in each Partner Country.

1.1.3. Project-level issues

There are two types of projects which feature in Tempus IV (Annex 4):

- **Joint Projects**, which target higher education institutions and fund multilateral partnerships between EU and Partner Country institutions, to develop, modernise and disseminate new curricula, teaching methods and teaching materials. They also aim to enhance quality assurance mechanisms in institutions, modernise the governance and management of higher education institutions and strengthen their contribution to lifelong learning and the 'knowledge triangle' of 'education-research-innovation'.

- **Structural Measures**, which aim to reform higher education systems in the Partner Countries and to enhance their quality and relevance to the world of work and society at large. They promote further convergence with EU developments in the field of higher education. They focus on issues linked to the reform of governance in higher education institutions (qualification systems, quality assurance mechanisms, autonomy of institutions) and foster links between higher education, the world of work and other sectors of education.

1.2. Aims and objectives of the study

1.2.1. Aims

The aim of this study is to identify Tempus IV achievements in the Partner Countries so as to facilitate greater exploitation of good practices. The purpose is threefold: firstly, to
review the projects' achievements in the area of internationalization, while assessing their sustainability; secondly, identify challenges and weaknesses; and, thirdly, to make recommendations, which can inform European policy and practice and support new project proposals, including under the Erasmus+ Capacity Building action for higher education.

The study assesses the impact and sustainability of projects and identifies good practice and innovations which can be transferred to other Erasmus+ Partner Countries and regions. The study also considers barriers, weaknesses and pitfalls that projects need to address and solve.

### 1.2.2. The objectives of the study

In brief, the objectives of the study are to:

- review the main aspect of internationalisation within targeted Tempus IV projects;
- evaluate the impact and sustainability of the results achieved and relate these achievements with the socio-economic situation of each partner country concerned;
- identify the most recurrent barriers and weaknesses and possible spin-off effects;
- identify good practice examples to be used as case studies showing the positive impact of particular aspects of the project's design, management and organisation on the results achieved;
- make recommendations for future Capacity Building projects.

This work was undertaken by a survey and interview process which delivered case studies of successful internationalization. Whatever the outcome, however, each of the case studies in the report is instructive and provides valuable lessons to be learned about the future direction, purpose and potential barriers facing project proposals under Erasmus+.

### 1.3. The defining characteristics of internationalization

Tempus IV projects have had an impact on strengthening internationalization in the HE sector with varying degrees of success across the five countries of the Region.
It is important to note, however, that the Region is already international, largely due to its history and geography, standing, as it does, at the cross-roads of Europe and Asia, and traditionally subject to influences from Russia, Turkey, Iran, China and the Republic of Korea, in addition to Europe.

1.3.1. **International history of higher education in Central Asia**

Central Asia has been open to absorbing ideas and practices from other countries for centuries. Currently, there are a number of international universities, e.g. Kazakh-British University, the International Kazakh-Turkish University and many universities following the Slavic/Russian traditions. Western European universities, such as Westminster (London) and Turin Polytechnic have opened campuses.

There are already well-established academic connections, for example, with countries outside the EU, notable with the Russian Federation, other CIS countries and the Republic of Korea, where universities have been sending staff and students to learn English for many years. Universities have set up links with universities in China, India and Pakistan. Before Tempus was initiated, classes in universities were being delivered in a variety of languages, including Russian, Turkish, English and local languages. Most universities in Central Asia were already operating bilingually and sometimes tri-lingually before Tempus began.

Relatively recently, following independence, the region’s universities have experienced a sharp uplift in the demand for English, which remains unsatisfied. Nonetheless, in a very short space of time since 1990, English-medium study in Central Asian universities has increased, with support from Tempus IV, adding English as a teaching medium alongside Russian and the local languages which are Turkic or Farsi in origin. Tempus IV is not the cause of the rapid internationalization in Central Asian universities, but it has become a major facilitator to its advancement and is responsible for several of its success stories.

1.3.2. **The major characteristics of internationalization impact in this study**

Within the parameters of this study, internationalisation is a process defined as the movement of institutions from the actual status of "internationality", at the beginning of the project, towards a modified actual status of "extended internationality" at the end of the project and thereafter. The ten selected exemplar projects are, for example, those which have acquired a state of ‘extended internationality’ by achieving multiple impacts across different types of international activity in higher education (HE).
The results of the survey show that Tempus IV had an impact on four aspects of HE internationalization: 1. policy and institutional; 2. curriculum development; 3. mobility of staff and students; and 4. research. Projects which are the most successful, and more sustainable, tend to have achievements in at least half the 20 areas of international activity within the categories (see below for full listing).

In terms of policy reforms or institutional change related to internationalization, the main indicators include: incorporating internationalization into the University’s mission statement; adopting new international targets, such as international student or faculty recruitment; creating new leadership posts like Vice-Rector for International Development; or setting up new international departments to manage and take forward internationalization.

Category 2 includes seven areas of international activity impacting on the curriculum, including degree schemes, accreditation and the delivery of learning.

Category 3 contains the more obvious areas of international activity, such as student and staff mobility (e.g. exchanges, study abroad, visiting professorships and upskilling staff abroad and the resulting formation of new international partnerships and collaborations).

A frequent by-product of many Tempus projects is research, research publications and related activities, such as co-supervised PhD theses and setting up jointly-run international research laboratories.

The most effective projects are those that have had an impact in more than half the activities below:

**Category 1: Policy and institutional-level changes: See Table 1, Annex 3**

*Areas of highest impact (listed in order of frequency of mentions by project teams)*

1. Setting up new international offices/departments
2. Implementing Bologna principles, tools and frameworks (or similar international framework)
3. Acquiring follow-on funding or associated new projects
4. Revised international mission, or new internationalization strategy
5. Implementing new international HR & staff recruitment strategy
6. Creating a new leadership post (e.g. Vice Rector, International)
Category 2: Curriculum development and academic initiatives:
See Table 2, Annex 3
Areas of highest impact and achievement (listed in order of frequency of mentions by project teams)

7. Internationalizing mainstream curricula
8. Introducing English-medium teaching into degree courses
9. Acquiring accreditation, or standards, from international agencies
10. Implementing dual/double degrees/jointly taught programmes
11. Setting up international Summer Schools
12. Implementation of new learning technologies (e.g. cross-border e-learning)

Category 3: Mobility of students and staff:
See Table 3, Annex 3
Areas of highest impact (listed in order of frequency of mentions by project teams)

13. Setting up international staff/faculty mobility
14. Setting up international student mobility
15. Signing new international MoUs
16. Setting up internships abroad
17. Establishing a programme of visiting professors/lecturers
18. Signing new international MoUs
19. Establishing stronger partnerships with Russian HEIs
20. Setting up new academic initiatives with global (non-EU) partners (India, South Korea, etc.)

Category 4: Research activity:
See Table 4, Annex 3
International research collaborations, including joint research projects or publications, cross-border laboratories, co-supervised master’s and doctoral theses

The study also takes account of feedback from project teams on the most frequent challenges and barriers they have faced. The two most frequently cited are: language barriers (primarily due to insufficiency of English) by 40% of the total sample; and localization problems affecting 12% of all projects. The latter commonly arises as a result of discrepancies between local standards or regulatory procedures, and those of international partners (see Table 5, Annex 3).
1.4. Survey methodology

The method employed was a threefold approach: (i) desk research; (ii) quantitative analysis, on the basis of sampling by questionnaire; and (iii) qualitative evaluation, by interviewing a sample of projects in three countries. There was significant coverage of Tempus IV projects in Central Asia: over two-thirds of all projects in the Region participated at some point in the process, but sampling could only take place in three of the five countries due to time and budgetary constraints.

The data is presented in the form of the percentage of references to (or ‘mentions’ of) the different types of international activities (as listed in 1.3.2. above) for a given category. The largest number of mentions was in category 3: mobility; followed by curriculum, then policy/institution-level. Research also managed a high number of mentions: broadly the same as for introducing English-medium teaching and signing new MoUs with international institutions.

Details of the visits and a breakdown of the responses are in Annex 2 and the data collated from the survey and interview phases appear in Annex 3.

1.4.1. Desk research

The first stage of desk research involved data-gathering on the underlying transformation and modernization processes in the Higher Education systems of Central Asia (CA) prior to, and during, the period of Tempus IV (2007-2013). This scope of the desk research followed three phases:

Phase 1: Contextual Analysis – a review of background sources, reports, statistics and literature on the state of Higher Education during the relevant period in the five CA countries (Kazakhstan; Uzbekistan; Kyrgyzstan; Turkmenistan; Tajikistan) – see Annex 3.

Phase 2: Tempus Programme analysis: Review and analysis of data and information available from Tempus project proposals, reports and impact studies (e.g. by accessing earlier reports and findings studies for each CA country – see Annexes 1 and 3).

Phase 3: The Selection of Tempus IV Projects: This phase was the most critical of the Desk-Research Stage: it involved the selection of projects for closer scrutiny.

1.4.2. Questionnaire-based survey

The purpose of the questionnaire was to collate information from as broad a cross-section of Tempus IV partners based in Central Asia as possible.
The response-rate from this stage was high. There were 98 individual responses from institutions involved in 50 projects out of a total of 74, which means that over two-thirds of Tempus IV projects in Central Asia participated (see Annex 2). The survey revealed the 20 most frequently cited areas of international activity listed in 1.3.2.

### 1.4.3. Structured on-site interviews

After analysis of the responses to the questionnaires, it was possible to explore many of the key issues in greater detail during a series of interviews with partners and stakeholders. Site visits took place in three of the five Central Asian republics: namely, Kazakhstan, Kyrgyzstan and Uzbekistan, covering 47 projects (Annex 2). Due to the multiple participation across the region, this made it possible to gauge the responses to the same project from the perspective of different countries. Not unsurprisingly, partners in some countries felt certain projects were successful, whereas, in other countries, the same project was considered less successful.

The two types of interviews held were:

a) Structured interviews with the official, or formal, representatives of the national Ministry of Education and Science (MES) and with the National Tempus Offices (now National Erasmus+ Offices - hereinafter 'NEOs') in each country, and with key stakeholders, such as the EU Delegation (Kazakhstan) and the British Council (Kyrgyzstan).

b) Structured interviews with people working on the projects (staff and students) and a number of representatives from the key stakeholder groups relevant for the study (such as Higher Education Reform Experts (HERE), members of the business community) as well as the key institutional and academic leaders: e.g. Rectors, Vice-Rectors, Deans, International Officers and professors. This also meant making Skype calls to selected partners who were located outside the site visit areas.

### 1.5. Criteria for success and sustainability

In addition to the indicators at 1.3.2, other criteria considered for success in Tempus IV are:

- the impact can be felt **beyond the confines of one institution** and is evident, or **generalizable** to others;
- the outcomes are **sustainable**; that is, they have been, or could be, translated into official policy for Higher Education in the country; or they could initiate a
new university process, system or curriculum, compliant with the Bologna process, with the support of the Ministry and/or the national ‘lead’ university;

- the impact is genuinely innovative, marking a significant, long-lasting step in the process of internationalization of the institution, curriculum, university or Higher Education (HE) system;

There are additional prerequisites for success:

Firstly, the project outcomes should be incorporated into the ‘fabric’, or mainstream of the institution.

Secondly, potential barriers are pre-empted by intensive training, e.g. in English language, or by selection of appropriately qualified staff, before, or during, the project.

Thirdly, there needs to be recognition of the value of putting in place the common enabling mechanisms, tools and processes provided by regulatory frameworks, credit systems, accreditation models and quality processes (e.g. Bologna principles and tools) which underpin and facilitate internationalization.

1.6. Limits and barriers in the study

The major limitations in the study were time, space and budgetary constraints: there was only opportunity to visit three of the five countries (Kazakhstan, Kyrgyzstan and Uzbekistan) and, in each country, it was not possible to visit more than a sample of the partners.

Approximately 85% of the interviews were conducted in Russian. Amongst the beneficiaries, the ability to speak English was limited to only a few managers, professors and students. Participants were given the choice of completing their questionnaires in Russian or English: 90% were returned in Russian; 10% in English.
2. Impact of the projects

2.1. Overview

Tempus IV projects have had an impact at all three levels: policy, programme and project in four aspects of internationalization: firstly, on policy or at institutional level (2.2.1.); secondly, on curriculum and academic activity (2.2.2.); thirdly, on cross-border mobility of students and staff (2.2.3.); and fourthly, frequently indirect but nonetheless highly valued, on research and publications (2.2.4.).

From the survey results, ten projects which were revealed to have had an impact in at least half of the international activities in 1.3.2. (defined as ‘extended internationality’) were: Aida, Candi, Cibeles, DoQuP, Educa, SAMUz, gEngine, IEMAST, Perseus and TuCaHEA (see Annex 4).

2.2. Areas of impact

The scale of impact in each of these four aspects is calculated by the number of times a project has mentioned that it has achieved one of the twenty characteristics constituting the first three (see 2.1.).

2.2.1. Achievements at policy/institutional level (Table 1, Annex 3)

In this section, there is a review of various projects’ impact on (i) policy; and on (ii) universities’ international strategies: in detail,

- setting up permanent features of internationalization by creating new dedicated international departments (mentioned by a quarter of projects in this category);
- the impact of Bologna (or similar international frameworks) on internationalization (national and/or institutional) was mentioned by a quarter of projects sampled in this category;
- sustainability of reforms (arising from internationalization) and/or follow-on funding: the latter mentioned by a quarter of the projects in this category;
- change of university mission in order to be more international, or formally adopting an international, or internationalization, strategy (mentioned by one in eight in this category)
- adopting a new international HR strategy (one in 12 in this category)
- creating the new post of Vice-Rector of International Affairs (or similar international responsibility), mentioned by one in 25.
2.2.1.1. At policy level

In Turkmenistan, priority has been given to the development of international cooperation with universities and research institutes abroad, laying emphasis on the adoption of international standards, particularly in relation to professional education.

Uzbekistan has also placed great stress on improving quality and capacity building amongst university teaching staff. This notably includes strengthening training in the sciences and engineering in compliance with international standards. International universities round the world generally seek long-term partnerships and academic collaborations with other universities which share a similar approach to Quality Assurance.

2.2.1.2. Adopting international frameworks of quality and accreditation

It is a key feature of state policies in Central Asia that quality should be improved in Higher Education and that standards of quality and accreditation should be internationally recognized. The Tempus IV programme has played an important role in promoting the adoption of frameworks.

Case Study: DoQuP: Documentation for Quality Assurance (QA) of Study Programmes. 517340 SMGR

Project Purpose: Defining and implementing an on-line cross-border documentation system for the QA of study programmes in partner countries (Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan), consistent with the European Standards and Guidelines for internal quality assurance of higher education institutions.

Impact: The project led to easier international connections (partnerships and exchanges) by setting up a parallel degree award scheme in line with many international universities. Quality procedures were mapped across universities in Kazakhstan and Kyrgyzstan to derive a transferrable common set of documentation.

In addition to setting an internationally-recognized regulatory framework for Bachelor’s and Master’s degrees, DoQuP has proven invaluable to the introduction of new international award schemes, such as the PhD degree programme in both Kazakhstan and Kyrgyzstan replacing the earlier Soviet-style award of ‘aspirantura’ and ‘kandidat nauk’. The PhD is an internationally-recognized award and facilitates greater research collaboration (e.g. joint supervision).
L.N. Gumilev National Eurasian University in Kazakhstan, for example, restructured its International Relations course as a modular programme using Dublin descriptors and the European Qualification Framework. 85% of International Relations is now taught in English, which has, as a result, now received international accreditation from Akkreditierungsagentur für Studiengänge der Ingenieurwissenschaften, der Informatik, der Naturwissenschaften und der Mathematik (ASIIN).

The adoption of internationally recognized quality frameworks and accreditation systems (e.g. Bologna or other comparable systems) is a requirement for any partnership with a highly-rated university. This is because most partners in Tempus projects (whatever their country) welcome the ‘common language’ and common systems of Bologna protocols, such as ECTS or learning outcomes, to measure equivalence of study for students on exchange programmes. This promotes the move towards adopting the three-cycle degree scheme up to PhD (replacing the Aspirantura model).

On the basis of DoQuP, the Project CANQA modelled a system of internal Quality Assurance Management in line with the European Standards and Guidelines (ESG), leading to the adoption of the European Foundation for Quality Management (EFQM) principles – an internationally recognized quality system offering evaluation of academic programmes following ESG standards (see http://www.acsug.es/en/internacional/canqa).

Without the Quality Assurance methods adopted as part of CANQA, Karaganda Economic University in Kazakhstan would not have been able to acquire accreditation for its programmes from the Independent Kazakh Quality Assurance Agency (IQAA). This successfully led to 18 of its bachelor’s programmes and 13 of its master’s programmes receiving international accreditation. As a result, the University now has 98 international collaboration agreements operating in 14 countries: 13 MoUs directly arose from this project.

In Uzbekistan, the final document-resolution of the international conference ‘Upbringing of educated and intellectually advanced generation as the most important condition of sustainable development and modernisation of the country’ (Tashkent, February 2012) presented specific recommendations for international and donor organisations (operating in the field of education) which led to a coalescence of interests between Tempus and national priorities.

At a policy level, Tempus IV encourages greater cross-regional collaboration as a form of cross-regional internationalization. There is a tendency for the five countries in Central
Asia to partner with other countries of the region first because of a common history, similar institutions, common links through CIS and a shared language, Russian. Tempus IV supports this form of intra-regional collaboration and has promoted the concept of making Central Asia a Higher Education Area with a common framework of regulatory systems and tools that facilitate cross-border educational and economic development.

In the survey, some two-fifths of the project teams referred specifically to the importance of implementing Bologna (or similar systems) as a first step to achieving internationalization (Table 1, Annex 3).

**Case Study: TuCAHEA: Towards a Central Asian Higher Education Area: Tuning Structures and Building Quality Culture. 530786-SMHES**

**Project Purpose:** The main purpose of TuCAHEA was to develop an open education area in Central Asia.

**Impact:** The project enabled a set of procedures to be developed for various fields of study, including, History, Ecology, Law, Economics, in order to provide a uniform set of competences and assessment methods based on European qualification frameworks. The project has led to the approval of a common set of reference frameworks for subjects being taught at three levels (Bachelor’s; Master’s; PhD) across the five countries of Central Asia. For example, Tajikistan State University of Commerce developed competencies for students majoring in Business and Law which were included in the University’s academic programme. The University’s Methodology Board has started reviewing learning outcomes in its teaching programmes, new course catalogues have been designed and are under review by the University’s quality monitoring department. Tajikistan State University of Commerce signed an agreement with the University of Pisa to develop a two-way mobility project. A total of 6 students and 2 teachers of the University took part in a short-term (5 day) internship course, as well as students and lecturers of the University of Pisa. Over 25 students have already taken part in mobility programmes. One student has completed a course of study in Kyrgyzstan, and a PhD student from Turkmenistan has done so at Tajik State University of Commerce.
In general, there has been an increase in the number of those interested in studying at European universities. New agreements have been signed, aimed at developing mobility programmes, with universities in Kazakhstan, Kyrgyzstan, Belarus and Russia.
For the purposes of the project, a single regulatory framework of standards was uniformly applied by the partners. This facilitated intra-regional mobility.

Without adopting ECTS, or a similar international credit system, it is particularly difficult for institutions to internationalize (i.e. to set up, recognize and evaluate study
undertaken abroad on exchange or other mobility programmes). On the surface, this may seem less important when working with partners from other countries outside the EU (for CA, the most popular of which are countries of the former Soviet Union (CIS) and notably the Russian Federation). Each country maps courses against ECTS which is calibrated to their own credit systems. This credit-mapping process is also essential for students mobile to countries overseas, such as the USA, India and China.

<table>
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<tr>
<th>Case Study: CIBELES: ‘Curriculum Invoking Bologna-aligned Education Leading to reform in Environmental Studies. 511172-JEP</th>
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<tr>
<td><strong>Project Purpose:</strong> To introduce new programmes for training experts in Environmental Studies and related subjects.</td>
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<tr>
<td><strong>Impact:</strong> In Turkmenistan, there is a priority to train qualified experts well-versed in international research and specifically in natural resource management methods. By means of the Cibeles project, Turkmen Magtymguly State University has sought to develop this new direction of higher education in association with the Ministry of Education of Turkmenistan and introduced first steps towards the transition to BA/MA/PhD system and ECTS in Turkmenistan.</td>
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<td>At institutional level, the Sh. Ualikhanov Kokshetau State University in Kazakhstan, a partner in the same project, set up a Department of Academic Mobility, and reorganized an old department into the new Department of Multilingualism Development. It then converted the Department for Accreditation and Quality Management into the Board of Strategic Development, Accreditation, and Quality Management. Five staff members have made short-term academic trips to Germany, Spain, Tajikistan, Kyrgyzstan, and Uzbekistan.</td>
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<tr>
<td>At the departmental level, its university lecturers had training in the methodology of developing and updating academic programmes using a ‘competency approach’, taking into account employers’ recommendations, ECTS and the Dublin descriptors. This knowledge is being disseminated among the teachers of the HEIs across the country, as well as applied to developing curricula.</td>
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In the project AIDA (Awareness Raising, Interest Development, Desire Creation and Action Stimulation on the Bologna Process expansion in Central Asian countries and Russia, 145686-SMHES), Tashkent State Technical University in Uzbekistan, set up National Collaboration Groups – Tetragons, acting at national and international level in order to develop and implement the strategy of promoting the Bologna process, adapting it to each of the participant countries’ cultural identities and international best practices. The Project has involved educators, employers, Ministry representatives and students. The Profile of a ‘Bologna Process Specialist’ was developed and methodological guidelines
of how to operate the Bologna process were 'localized' from English into the Russian, Uzbek, Kazakh, and Kyrgyz languages.

The CIBELES Project participants studied European experience in higher education, extended their knowledge of different aspects of the Bologna process, and improved their professional level in preparing educational programmes for the three-cycle system of higher education.

Tempus has prompted a significant move towards implementing the Bologna process in practice across most of Central Asia. For example, in Tajikistan this has led to:

- The development of a long-term mobility plan for teaching and academic staff, students, postgraduates and young researchers;
- increased opportunities for the improvement of teacher qualifications by agreements with leading universities of the world;
- agreements and project-partnerships leading to increased research and intercultural cooperation;
- established and strengthened business relations with foreign international organisations and companies.

Tempus IV projects in Turkmenistan have provided support in redesigning the degree structure at certain universities, by introducing the two-cycle system of Bachelor - Master. Under Tempus IV, universities have also become better acquainted with ECTS on the basis of documentation, methods and templates provided by European partners.

**Case Study: QAPD: Enhancement of Quality Assurance System through Professional Development of Academic Leaders. 516996-SMGR**

**Project Purpose:** Initiating Quality Assurance reform in higher education in Uzbekistan

**Impact:** A policy was developed to enhance the quality of higher education in Uzbekistan. Tempus IV allowed universities to introduce a quality culture and quality policy in all participating universities. Samarkand Institute of Economics and Service (Uzbekistan) reported that the QAPD Project led to policy changes at national level, as well as institutional level.

The course 'Tour Operations' was improved and adjusted in accordance with European standards for training programmes based on the competences identified by external experts, the requirements of employers and the principles of blended learning. Teachers and students of the partner universities participated in training at London Metropolitan University, UK.
Within the project, teachers of the partner countries collaborated with the teachers of European countries in the development of ‘A Guide to Quality Assurance’, which provided a guide on how to establish links with European universities. The Institute has introduced a modular system of education and each member of staff created a module in their subject specialism. ‘Tour Operations’ is now being taught in accordance with European standards, which makes it eligible for dual/joint degree developments.

2.2.1.3. University institutional-level changes

At programme level, examples of aspect 1 impact are most commonly the founding of new international departments, or other changes to the departmental structure often linked to a new international strategy. In response to its participation in several Tempus IV projects, for example, the management of the Kazakh National University (Al-Farabi) developed a roadmap of internationalization as the basis for enhancing its competitiveness. The new post of Vice-Chair for Research, Innovations and International Links was introduced. The new Departments for the Strategy and Monitoring of International Research and Educational Activities and for International Academic Mobility were also introduced.

The new departments are often created to manage international partnerships, provide expert advice on the implementation of Bologna tools and approaches, including credit transfer, and/or deliver bid-writing for follow-on funding to sustain international developments. The commitment to internationalization is frequently set down in new or revised international mission statements. Some institutions have also introduced an international HR strategy for the recruitment of key staff from abroad.

Case Study: TuCAHEA: Towards a Central Asian Higher Education Area: Tuning Structures and Building Quality Culture 530786-SMHES

Project Purpose: To creation of a Central Asian Higher Education Area with common protocols and processes allowing for academic mobility and collaborations.

Impact: There are additional benefits to wider internationalization resulting from the project: for example, at an institutional level, the I. Arabaev Kyrgyz State University has opened an International Department and employed an International Officer, guided by consultants from the foreign partner universities. The International University of Kyrgyzstan introduced an internationalization strategy with immediate results. The University launched a joint programme of
study in Business Management with Arnhem Business School of the Netherlands and, beyond Europe, started negotiations with universities in India and Pakistan on setting up dual degrees. Its master’s degree students in International Business are now taught wholly in English as is a significant part of the Year 4 undergraduate programme is also in English.

Commitment from the top is usually essential, which is the case in the International University of Kyrgyzstan, and the bolder institutions wishing to sustain their international direction often create a new Vice-Rector’s post with responsibility for international affairs. Some have re-designated a senior post to include responsibility for drawing up and implementing the international strategy. A prerequisite to the successful implementation of many of these international policy changes, however, remains Bologna compliance. In conclusion, projects can lead to unprecedented restructuring of a university management system and positive changes in HR strategies.

2.2.1.4. International HR policies

In Uzbekistan, international co-operation under Tempus has been recognised as a major lever in achieving the objectives of the Uzbek National Programme for Personnel Training (NPPT). Projects in the field of university management, systems and training have contributed considerably to improving the quality of the educational process of HEIs in Uzbekistan, notably in the upgrading of lecturers’ qualifications. Seven of the university management projects funded under Tempus IV in Uzbekistan also led directly to the establishment of international relations departments in different regions of the country.

An unexpected by-product of several Tempus IV projects at institutional level has been the adoption of new international HR strategies, notably for the development of university leaders. International HR strategies are specifically mentioned by: Karaganda State University, Kazakhstan (Project Educa, 517504 JPCR); Al-Farabi Kazakh National University, Kazakhstan (Eramis, 159025 JPCR); Karaganda State Technical University (gEngine, 517170 JPCR); Almaty Institute of Energy and Communication (Masters in Engineering-Economist in Energy and Sustainable Development, 144747 JPCR); Kyrgyz State Technical University, Kyrgyzstan (Promis, 544319 JPCR), University of World Economy and Diplomacy, Uzbekistan (QAPD 516996 SMGR) and Kazakh-British Technical University, Kazakhstan (Cibeles, 511172 JEP).
Case Study: CIBELES: Curriculum Invoking Bologna-aligned Education Leading to reform in Environmental Studies. 511172-JPCR

Project Purpose: To transfer and develop vocational curricula in Environmental Studies from foreign universities.

Impact: The CIBELES Project led to a new HR policy for the recruitment of international staff and faculty. Over 20% of the staff of the Kazakh-British Technical University (KBTU) are international, not only lecturers, but also including council members. Either international specialists have to be recruited, or Kazakh citizens with a degree from a foreign university, in order to implement the ongoing internationalization. The process has also involved setting up new departments, including a Department of International Cooperation, and a new post of Vice Rector for International Links. Additionally, the University has appointed an International Advisory Council with representatives from international and national businesses.

It is often the case that a project in one field such as the Tempus IV project, STUDIK (516802-SMGR), concerned with democratization processes in student representation in Kazakh universities, can also lead to unexpected by-products in the field of HR development and structural changes designed to achieve internationalization.

Case Study: The Project STUDIK: Student governance and democratic participation in Kazakhstan. 516802-SMGR

Project Purpose: To democratize student unions and representation in Kazakhstan.

Impact: New rules have been developed regarding increasing international student recruitment as part of Studik, setting up compulsory foreign exchange programmes; increasing foreign trips for the faculty members; and the creation of bodies aimed at maintaining contacts with other countries. For example, the new post of Vice Rector for Research and International Links was created at Kostanay State University in Kazakhstan and the University established a Strategic Development Board with a new human resource strategy.

In Uzbekistan, Tempus IV projects have facilitated each of the following steps towards increasing internationalization:

- the establishment of joint higher education institutions (foreign campuses: e.g. Turin Polytechnic and Westminster University);
• the involvement of foreign lecturers and researchers in teaching programmes so that, by the end of Tempus IV, there were more than 97 academic staff from other countries teaching at Uzbek HEIs;
• collaborative research work;
• the organisation of international conferences on current issues in higher education, such as innovative technologies, resources and energy saving;
• introduction of European Quality Assurance systems
• acquiring European support for transferring lab equipment and multimedia technologies to Uzbek universities;
• incoming and outgoing student mobility.

Tempus has also been successful in increasing the number of Tajik students who study abroad. Tempus has been the largest international programme supporting higher education reform processes and laying the base for long-term inter-university cooperation, support for innovation in HE and strengthening relations between higher education institutions and the labour market. The Tajik Ministry of Education has negotiated with a number of other CIS countries and agreed quotas for Tajik students to allow them to study certain specialities abroad that are not offered by the Tajik HEIs.

In addition to these policies, regulatory and institutional changes resulting from Tempus IV, curriculum development projects, which are more numerous, have significantly impacted on the internationalization of the curriculum.

2.2.2. Achievements in curriculum development and academic initiatives (Table 2, Annex 3)

In this section, there were seven characteristics, or types, of internationalization impact which have resulted from Tempus IV projects. The highest number of mentions by the 50 projects in the questionnaire-based survey was for achievements in:

• internationalization of the curriculum (about a third of all mentions in this category)
• introducing English-medium teaching for mainstream courses (about one in six)
• new dual/double joint programmes or degrees (one in eight)
• international accreditation or recognition by international agencies (about one in ten)
• setting up international Summer Schools (about one in ten)
Study of the Achievements of Tempus IV Projects on the Internationalisation of Higher Education in Central Asia

- implementation of cross-border e-learning or new technologies (about one in fourteen).

2.2.2.1. Internationalizing the curriculum

In this study, a curriculum or programme of study is taken to be internationalized if it incorporates new content from abroad, often developed in partnership with international colleagues, which enables it to meet international standards or norms of acceptability: e.g. by international agencies, professional/vocational bodies or foreign universities. The new or adapted curriculum often leads to new forms of delivery: e.g. dual/joint programmes of study, and/or teaching in English, and/or blended with new technology (such as online) so that international students and staff can more easily participate. New modes of delivery also include International Summer Schools, which can be a taster for international recruitment and usually involve teaching by international staff.

2.2.2.2. Overview of curriculum impact

In Tempus IV, over half of all the Tempus IV projects in Central Asia are in curriculum development or related academic developments (EACEA, 2013). Under Tempus IV, it has been possible for more staff/faculty to work together in international consortia, revise existing courses, 'localize' new ones from abroad, develop new, innovative, or hybrid, courses and adapt them to local conditions with the help of their international partners. All Central Asian Ministries of Education and Science are committed to enhancing their professional/vocational education in line with international standards leading to addressing demands in the labour market for new kinds of employment, or specialist occupations.

Notwithstanding each project’s aims, the Tempus programme has been successful more broadly in fostering professional, academic and individual networks in Central Asia. Tempus IV projects in curriculum development and related academic activity produced the following achievements:

- Developed and localized new curricula (and academic awards) in association with international partners, often relevant to the needs of the region’s labour market and industries, enhancing students’ employability
- Increased adoption of English as a medium of study and the opportunity for students and staff to study English, empowering them to study, or train abroad.
- Increase in the number of double-degree and joint award programmes
offered by Central Asian universities in partnership with international universities
  ▪ International recognition for courses and internationally recognized quality assurance procedures, making courses more attractive to foreign students as well as stakeholders
  ▪ A learning-outcomes approach, making courses more acceptable for linking to foreign universities and credits, more ‘transferrability’
  ▪ New and innovative teaching methods and content introduced from abroad, including multidisciplinary awards.

The key criteria for sustainability in curriculum development and innovation are whether the MES has approved the listing, or classification, of the new subjects; and, secondly, whether there are funded student places; i.e. the MES has allocated a certain number of student places to the new award. Many of the curriculum projects were in vocational/professional areas, leading to new applied subjects and new types of jobs, e.g. environmental safety.

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**Case Study CIBELES: ‘Curriculum Invoking Bologna-aligned Education Leading to reform in Environmental Studies’. 511172-JPCR**

**Project Purpose:** To transfer and develop vocational curricula in Environmental Studies from foreign universities.

**Impact:** The project set up training and preparation for new types of personnel in line with international standards and criteria, such as environmental protection, safety and hygiene officers. Tempus IV has focused on introducing professional and occupational courses from abroad, including environmental science, environmental engineering, land agriculture and food technology. These new types of industry-related degree courses addressed a need in the Labour Market for specially trained safety officers and hygiene inspectors for compliance with international standards.

As a result of the project, the Kazakh Ministry decided to fund all future intakes of the new programmes started under CIBELES. Karaganda State University (KSU), Kazakhstan, introduced new industry-related interdisciplinary degrees, such as ‘Safety at Work’ (not previously available in Central Asia), adapted from Göttingen University. The process automatically led to the formal approval of European Standards of Safety, and their inclusion in the new curricula. These changes are sustainable: KSU currently has 30 funded places.
on new master’s programmes and 200 places on undergraduate programmes in these new vocational subjects.

Interviews with local university staff – and meetings with Ministries – suggest a growing demand for job-related curricula mapped against international occupational standards. Central Asian countries recognise they need to be more competitive on world markets. Policy priorities stress the need to innovate the technical and occupational curriculum; and train and develop technical and scientific staff.

### 2.2.2.3. English language medium teaching

As previously mentioned, increasing the English Language competence of staff and students in Central Asia is an essential prerequisite for internationalization. For example, most Tempus IV-based staff training takes place in English. Except for students studying across borders within CIS countries, most students from Central Asia undertaking study abroad or internships, do so in English. Both the implementation of Bologna reforms and acquisition of English Language competence are viewed as highly valuable tools, or ‘enabling mechanisms’ for the internationalization by respondents in the survey. English for Special Purposes (ESP) is essential for the many academics who wish to publish articles in globally-rated journals. Moreover, at institutional-level, most international accreditation agencies expect to conduct their reviews and assessments only in English.

Many of the universities engaged in curriculum development projects have successfully introduced English at various levels in their universities. The case studies show that introducing this kind of radical change allows for the recruitment of international staff, faculty and, of course, students. It also makes short-term teaching contracts in Central Asia more viable for international academics, who can teach in English. It enhances the opportunities for expanding the recruitment of international students from outside the CIS countries. There is evidence of increased English language training courses for staff in Central Asian universities.

Tempus IV has encouraged the switch to English-medium delivery, which most frequently occurs in the area of IT, Engineering and Sciences. For example, the National University of Uzbekistan now offers the following courses in English: *Scientific Computing, Data Visualization, Programming, Applied Mathematics in Natural Science and Technology*. Tashkent State Technical University, in the AIDA project, also revised its courses to give them an international focus. The Kazakh National University (KNU), in Kazakhstan, also now teaches a number of courses –
Study of the Achievements of Tempus IV Projects on the Internationalisation of Higher Education in Central Asia

Case Study: ESHA: Création de 4 "Ecoles Hôtelières Supérieures d’Application (The Creation of 4 Hotel Training Schools). 144790-JPCR

Project Purpose: The project aimed at establishing 4 hotel training schools (écoles hôtelières supérieures d’application), in each of the beneficiary regions for which 8 new curricula.

Impact: Adding multilingual education was the key innovation for courses in the field of Tourism and Marketing at Karaganda State University, Kazakhstan, which were developed and taught in line with international standards. The BA in Tourism has also received international accreditation from the independent agency, Accreditation, Certification and Quality Assurance Institute (ACQUIN). Karaganda State University, Kazakhstan, has also become an associated partner of the Erasmus Mundus consortium, European Master in Tourism Management (EMTM), which has led to the exchange of master's degree students with members of the international consortium. Master's degree programmes now have their new subjects taught only in the English language.

Case Study: EDUCA: Modernization and Development of Curricula on Pedagogy and Educational Management in the Central Asian Countries. 517504-JPCR

Project Purpose: the significant reform and modernization of the pedagogic educational system in three countries of Central Asian, including the development of new curricula, adapted from foreign partner universities, in order to introduce new international master’s degrees in the Management of Education in common for three countries: Kyrgyzstan, Kazakhstan and Tajikistan.

Impact: The Kazakh National Pedagogical University, Kazakhstan, introduced Management in Education and Management in Pre-School Education specializations within Bachelor’s and Master’s degree programmes and revised the curricula. A new subject of Professional English was introduced because the courses were to be taught in English. New multilingual learning groups were set up and the Technology of Educational Work was taught in English. There are also multilingual groups for students in Pedagogy and Psychology, Social Pedagogy, and Pre-School Education. International students are now recruited from Germany and Tajikistan; and lecturers are recruited from Lithuania, UK and Germany.
2.2.2.4. Joint programmes of study

Tempus IV has helped to increase the number of international joint programmes delivered in Central Asia. Many of these are with Russian universities which share a common language and history, such as Atyrau Institute of Oil and Gas in Kazakhstan, which offers a joint master’s with Ufa State Petroleum Technology University in Russia. The EDUCA Project developed syllabuses for new degree courses in the Management of Education which are being delivered concurrently across borders in three countries, Kazakhstan, Kyrgyzstan and Tajikistan. The CIBELES Project led to a joint programme between the Kazakh Marine Academy of KBTU and STC-Group from the Netherlands, funded by TOO Tengizshevroil in 2012.

Case Study ESHA: Création de 4 "Ecoles Hôtelières Supérieures d’Application (The Creation of 4 Hotel Training Schools). 144790-JPCR

Project Purpose: The establishment of 4 hotel training schools (écoles hôtelières supérieures d’application).

Impact: The main achievements were upgrading courses, making new international academic and research links, setting up staff/student exchanges with international partners and redefining graduate competencies. As a result of the Project, new subjects were introduced from abroad and the content of older ones revised. For example, new academic subjects – Planning and Organization in the Tourist Business, and Innovations in Tourism – were introduced following an internship programme in Slovenia.

Students may now study either within the country or abroad (that is, in France, Spain, Russia, Italy, Greece, Romania, Moldova or Bulgaria) and will obtain two diplomas – one with national and one with international accreditation. International summer schools were also organized in the above-mentioned subjects, whereby 10-20 students can annually put their skills to practice.

Case Study: GEM: Geoinformatics: Managing energy, Resources, Environment. 510978-JPCR

Project Purpose: To introduce new international master’s degrees in Geoinformatics, Geospatial Information Systems (GIS) and Energy Management.

Impact: Kazakh National University (named after Al-Farabi) in Kazakhstan (KazNU) introduced a new international interdisciplinary Master’s degree in Geoinformatics and Geospatial Information Systems (GIS) in 2012 at the Department of Geography, Land Regulation and Surveys. Courses were adapted from the Department of GIS and Geoinformatics of the University of Salzburg.
and included: Methods in Spatial Analysis, Geovisualization and Advanced Cartography and Remote Sensing and Image Processing. A number of subjects were taught in English by lecturers from partner universities – the Department of GIS and Geoinformatics of the University of Salzburg, the University of West Hungary, and VU University Amsterdam (Netherlands). An MoU has accordingly been signed with the University of Salzburg to empower and sustain the partnership.

2.2.2.5. **International standards of accreditation**

Universities, organizations and companies look for ways to communicate their commitment to excellence and having international accreditation is a mark of distinction, demonstrating that an institution is serious about setting, achieving and maintaining high standards in a given field. Courses which carry international accreditation are recognized around the world for good academic quality. Accreditation is also a recruiting tool for both international students and staff.

**Case Study: ERAMIS: European-Russian-Central Asian Network of Master’s degrees “Informatics as a Second Competence”. 159025-JPCR**

**Project Purpose:** to adapt and implement up-to-date programmes and courses in Information Technology in cooperation with international universities and compliant with international standards (e.g. ASIIN).

**Impact:** International accreditation was acquired for the *Information Systems and Informatics* programmes, using the German *Akkreditierungsagentur für Studiengänge der Ingenieurwissenschaften, der Informatik, der Naturwissenschaften und der Mathematik* (ASIIN) standards, at the Kazakh National University (Al-Farabi KazNU) and, as a result of international accreditation, a joint master’s degree in Informatics was created with an international component.

Setting up durable partnerships for dual and joint degrees requires the internationalization of curricula, the introduction of international quality standards and a peer-review, often by an international team of experts, to award the accreditation. Accreditation requires maintenance: it generally has to be renewed at least every five years. When an institution participates in international accreditation processes, it is committing to a process that stimulates continuous improvement. Earning and maintaining accreditation keeps an institution aware of, and engaged in, current best international practices.
Today it is common for universities and research institutions to partner or contract with other similar entities around the world. International accreditation can be used worldwide as a way to gauge the quality of a particular programme and provide assurance to diverse stakeholders, including future employers.

**Case Study: gEngine: Development and implementation of the Master’s Programme - Eco-Engineering - environmental processing and sustainable use of renewable recourses and bio-waste. 517170-JPCR**

**Purpose:** To introduce new international awards in energy saving technologies and renewable energy sources.

**Impact:** A Kazakh System of Credits was introduced into Karaganda State Technical University, Kazakhstan, compatible with ECTS, as part of this project, which was used as a mechanism for educational harmonization and in particular to benchmark academic mobility. The project contributed to the implementation of international principles of quality management. For example, the University passed international accreditation in Electrical Power Engineering from the international ASIIN agency (Germany) and a EUR-ACE Master certificate was received. Its PhD programme also successfully underwent accreditation by the Hispanic Academic Achievers Program (HAAP), an independent accreditation agency. The human resource strategy with an international component was directed at expanding the European Association for Quality Assurance in Higher Education (ENQA) international accreditation procedures at the University.

### 2.2.2.6. International summer schools

International summer schools have become a relatively common feature. They train staff in locations abroad, or they act as taster courses for different groups of international students. In many cases, they are short courses on a discrete aspect of the curriculum, often to learn a language, or to gain international experience.

**Case Study: QUADRIGA: Qualification Frameworks in Central Asia: Bologna-Based Principles and Regional Coordination. 530183 –SMHES**

**Project Purpose:** The main purpose was to develop national and sectoral qualification frameworks for higher education and initiate the development of a common framework for all qualification levels from basic vocational education to postgraduate professional education.

**Impact:** As part of QUADRIGA, the Kyrgyz State Technical University participated in 3 summer schools organized by the consortium at the University of Koblenz and
Landau (Germany). The summer schools and seminars addressed the quality of education, as well as the methodology of national and sectorial qualification frameworks. The national qualification frameworks (NQFs) of Kyrgyzstan are in line with the European meta-frameworks and the Bologna and lifelong education principles. A Memorandum on creating a network for developing qualification frameworks has been signed between 11 universities of three Central Asian countries. A Republican Centre of Qualification Development has been opened.

2.2.2.7. **New technology-based learning methods**

The use of e-platforms incorporating Moodle, or similar software, has given a boost to cross-border academic development in Central Asia. Teams can work together across borders and produce materials in common, joint curricula, joint programmes of study and deepen international partnerships.

**Case Study: Establishment of Blended Learning based specialist Bachelor’s program Energy Management in Kazakhstan and Turkmenistan. 511347-JPCR**

**Project Purpose:** To develop and introduce the new specialization of Energy Management.

**Impact:** Joint online courses were set up in Energy Management and Renewable Energy Sources with Fachhochschule des Mittelstands Bielefeld, and FH Joanneum. A Centre of Energy Conservation and Knowledge Dissemination was established, offering courses for training and retraining energy auditors and energy managers. Multilingual groups were opened, where 33% of the subjects are taught in English, and 10% are online lectures with foreign professors. A third of the subjects in the Energy Management programme are taught in a foreign language. Over 50 specialists have already been trained and awarded certificates. The Centre employs lecturers who have completed internships abroad.

Several Tempus IV projects have adopted educational software, such as Moodle, in order to develop materials for online learning. For example, Issyk-Kul State University in Kyrgyzstan developed a significant e-Learning Centre for the development of international online education, including the equipment for an e-learning studio and an e-learning classroom. Apart from training staff in making e-learning materials, the introduction of new learning technologies from abroad has also introduced international protocols into Central Asia for e-learning processes.
Case Study: CANDI: Teaching Competency and Infrastructure for e-Learning and Retraining. 158918-JPCR

Project Purpose: To introduce online learning methodology and technology for a range of subjects, previously taught only face-to-face.

Sustainable Outcomes: The Open University (UK) introduced Moodle software to the Central Asian university partners and trained staff on the methods of developing online courses. The Project produced online learning and retraining programmes in *Inorganic Chemistry, Analytical Chemistry, Technology of Inorganic Elements and Technology of High-Molecular Compounds*, developed jointly with the international partners. The International Kazakh-Turkish University signed a memorandum of cooperation with the University of Vienna and the University of Cyprus.

The University has passed institutional accreditation and has the status of an *international university*. It has established an annual student exchange with Turkey (with Gazi and Mugla Universities) and one master’s degree student completed a research internship at the Polytechnic University of Valencia. There have been staff internships at the University of Vienna, the technical University of Vienna (Austria), Open University (United Kingdom), the Technische Universität München (Germany). One German professor was approved as a Visiting Professor and gave lectures to students of the Biotechnology department of South Kazakhstan State University in 2011.

2.3. Mobility and cross-border partnerships (See Table 3, Annex 3)

2.3.1. Overview

Under this heading, seven specific features were identified in the survey as the major contributors to the internationalization of universities in Central Asia. In order of the volume of specific mentions in the questionnaires, they are:

Mobility issues
- Staff or faculty mobility (nearly one in four of respondents in this category)
- Signing new Memoranda of Understanding (nearly one in six)
- Student mobility (nearly one in six)
- Internships abroad (one in seven)
- Visiting professorships/lectureships (one in eight)
Cross-border partnerships

- Setting up academic links with global (non-EU) partners (one in ten)
- Setting up or consolidating academic ties with Russia (one in 12)

2.3.2. Regional perspective

Tempus IV has had a significant impact on mobility by increasing the number of incoming and outgoing staff, faculty and student visits. In the case of staff, this volume of activity is usually for the purposes of training, curriculum development, staff exchanges, team teaching on joint programmes of study, attending conferences/coria or giving papers and research collaborations.

The number of inter-institutional agreements for staff and student mobility has considerably increased during the Tempus IV period. More and more students are also studying at universities abroad (in Russia, Ukraine, Belarus, USA, Germany, France, Turkey, Malaysia, China...). Tempus is not the exclusive cause of this acceleration, but it is a major contributor.

Case Study: FLEPP: Foreign Languages Education for Professional Purposes. 544293-JPCR

Project Purpose: The project led to the introduction of changes and updates for the teaching of foreign languages.

Impact [Quotation]: "The project led to an increase in students going abroad for work on completion of their studies, and there is a wider range of opportunities for Kyrgyz citizens to continue their education abroad. The students have become more prepared for the international job market, which is often much wider than the national one, by learning foreign languages and experiencing the international educational climate and the general culture. It is in international universities that our students obtain various essential skills, such as teamwork, international negotiations, and making effective presentations."

2.3.3. Mobility of staff and students

There is now greater participation of students and staff in international networks, a greater number of foreign professors and lecturers visiting and, indeed, teaching in Central Asian universities. Internships are particularly sought. Universities recognize the
value of mobility for an individual’s career prospects. One of the most frequent criticisms from project teams is that there is not enough mobility.

Many Tempus IV projects have led to large number of local staff being trained abroad who go on to extol the benefits of international mobility to colleagues and students. In this section, nearly a quarter of Tempus IV projects made special mention of staff mobility in the survey.

<table>
<thead>
<tr>
<th>Case Study: gEngine Development and implementation of the Master’s Programme -“Eco-Engineering - environmental processing and sustainable use of renewable recourses and bio-waste”. 517170-JPCR</th>
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<tr>
<td><strong>Project Purpose:</strong> The development of international master’s programme in Environmental Studies</td>
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<td><strong>Impact:</strong> As part of the project, training seminars and master classes in Ecological Engineering were organized for master’s degree students and lecturers by the lecturers of the Riga Technical University. Students and lecturers also attended seminars and master classes at international partner universities in Germany, Latvia, Estonia, and Russia. 23 students and 12 lecturers of Karaganda State Technical University completed the training; 42 students participated in international academic mobility. The project activities were followed up in following years: In 2014-2015, 15 faculty members participated in staff exchange programmes. Eight faculty members attended training seminars and internships in Germany, Russia, Estonia, Latvia and Lithuania. The university recruits international students from the countries of CIS, Central Asia, and the Eurasian Economic Union. International lecturers come from Russia, Ukraine, Germany, Belarus, and the Baltic states.</td>
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One of the key advantages of staff mobility is acquiring knowledge from abroad in support of the national policy priorities. Staff from Central Asian universities are able to travel for training abroad, often focused on a specific industry, and develop new vocational/professional programmes for their own under- and post-graduates. There is significant demand for internships because of the value of this experience to future (or current – for staff) employment.

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<tr>
<th>Case Study: SWAN Towards Sustainable Water Resources Management in Central Asia. 158982-JPCR</th>
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<td><strong>Purpose of the Project:</strong> To develop Master's degree level academic programmes in &quot;Water Resources and Water Use&quot; with a pilot in 8 partner universities in Kazakhstan, Uzbekistan, Kyrgyzstan, and Tajikistan.</td>
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Impact: Water Resources Management Centers have been established under the SWAN project in each partner country - Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. One of the main objectives of each national Center is to train a new generation of specialists on sustainable water resource management in Central Asia and encourage cooperation in the region.

SWAN has led to the development of a curriculum in water resource management with a regional dimension and in line with the requirements of the Bologna process; the establishment of Water Resource Management Centre and a Regional Network; and an exchange programme for both students and teachers from partner countries to the EU. For example, a 2-week internship programme organized for 4 faculty members at KazNTU and KazNAU. The Project led to the organization of joint seminars and summer schools with the participation of international lecturers from the consortium universities. A 30-day internship was organized for 2 master's degree students at the University of Genoa (Italy).

In the interviews, it was frequently mentioned by staff and students that mobility on Tempus IV projects had raised awareness of new systems, new curricula, and new research opportunities. For example, a member of The Asanaliev Institute of Mining and Mining Technologies stated: “The biggest achievement in educational internationalization is seen to be the project (Tempus IV) financing obtained from the European Union, which enables students to take part in international student mobility programmes” (Source: The Asanaliev Institute of Mining and Mining Technologies at Kyrgyz State Technical University named after I.Razzakov, Project FLEPP 544293-JPCR).

Increased student and staff mobility is the most frequently mentioned request coming from all the face-to-face interviews held in Central Asia. This applies at all levels, ranging from University Presidents to students wishing to have greater access to study abroad experience. Some universities have been able to set up multi-level international partnerships leading to multifaceted outcomes which include international accreditation, international mobility (e.g. visiting professorships, student mobility outside the EU and vocational/professional internships) and the adoption of new learning technologies. Tempus has put academics and professionals from different faculties and departments in contact with their counterparts in other countries, who have often gone on to establish long-term academic and research collaborations. This has also helped break down institutional ‘silos’ in universities and promote knowledge sharing, as well as the transfer of information and know-how between departments and universities in different
countries. Many institutions have chosen to formalize their international partnership by signing Memoranda of Understanding.

**Case Study: ERAMIS: European-Russian-Central Asian Network of Master’s degrees “Informatics as a Second Competence” 159025-JPCR**

**Project Purpose:** To adapt and implement up-to-date programmes and courses in Information Technology in cooperation with international universities and compliant with international standards.

**Impact:** The expansion of mobility has been significant at KazNU. There have been visits by guest lecturers from international partner universities arising from ERAMIS. For example, a number of visits were organized for guest lecturers from Saratov social-economic university (Russia), Lublin University of Technology (Poland), the University of Alicante (Spain). Several PhD theses are now co-supervised by professors from Lublin University of Technology (Poland) and the University of Alicante (Spain).

The University, KazNU, adopted a new strategy of active recruitment of international students, and now collaborates with many Central Asian universities in the area of student mobility.

Tempus encouraged the involvement of enterprises in designing new vocational curricula, based on international examples. Local employers often sit on project steering committees and curriculum review panels and thus participate directly in the curriculum design process. Student mobility on vocational/professional award schemes is viewed as particularly important to the local and national economies in Central Asia. This is true for service industries such as Travel and Tourism, which have to internationalize in order to offer high-quality services to incoming customers.

**Case Study ESHA: Création de 4 "Écoles Hôtelières Supérieures d’Application (The Creation of 4 Hotel Schools of Advanced Standing). 144790-JPCR**

**The Purpose of the Project** was to develop new degree courses in Travel, Tourism and Hospitality, including student mobility.

**Impact:** The Marketing department of Karaganda State University set up mobility agreements with the University of Ljubljana (Slovenia) and Katowice University (Poland) whereby leading scholars from these universities give
lectures for students specializing in *Tourism, Marketing, and Social and Cultural Services* in Karaganda. Karaganda State University signed MoUs with three Russian universities and also Wyższa Szkola Menedżerska w Legnicy (Poland), Szent István University (Hungary), J.V. Goethe University Frankfurt am Main (Germany), National University of Singapore (Singapore), Uniwersytet Wrocławski (Poland), the Babeș-Bolyai University (Romania), Yonsei University (Korea), University of Ljubljana (Slovenia). The University’s professors have also obtained international grants from European Master in Tourism Management (EMTM) funded by Erasmus Mundus; and the number of research publications in the period in question grew by 12%-15%.

The role of internships for staff from Central Asia has been particularly beneficial providing invaluable opportunities for staff to acquire expert knowledge and professional experience of an industry or sector where new vocational courses are needed. The experience leads to the internationalization of the curriculum, as well as links with companies abroad.

### 2.3.4. Cross-border partnerships

Adding together the percentage of positive responses in the category of cross-border partnerships (including MoUs, extra-EU partnerships and links with Russia), over a third of respondents in the ‘mobility’ category referred to forming new international links and partnerships as a result of their Tempus IV projects.

**Case Study: SSDS: Student Support and Development Services 530154—JPGR**

**Project Purpose:** The project was focused on students and students’ services development. Innovative and modern services for students were introduced thanks to the knowledge obtained during exchange visits and based on European student services standards.

**Impact:** Teaching activities resulting from the project: three Kyrgyz partner universities were taught by Israeli partner universities (Sapir College and Ben-Gurion University) during study visits. An expert from Tallinn University was hired by Issyk-Kul State University to lecture on developing student services. Regarding international mobility, a project team of five people had 1-2 week exchange visits to European partner universities. The exchange visits enabled staff to transfer knowledge in terms of developing student services and creating new ones.
Notwithstanding the primary focus of most Tempus IV projects on curriculum development and/or international mobility, there have also been significant research benefits arising from a number of projects, such as ESHA. Nowadays, research is usually undertaken by international teams operating across borders. If the research is not being conducted on an international scale, all research nonetheless draws on publications and research results from different parts of the world.

2.4. Research outcomes

The often unforeseen research outcomes of Tempus IV projects include enhanced collaborative research activity, leading to higher grade publications (often co-authored with international experts), as well as access to lab equipment which is provided for teaching purposes but which can be used for research. There is also evidence of the setting up of international research groups and shared laboratories abroad and access to lab equipment in partner institutions. This impact is important in the context of establishing, supporting and expanding the Bologna third cycle of academic degree awards, namely, the PhD, as well as raising the status and ranking of universities.

2.4.1. Overview

During the interviews, members of the research communities in various universities revealed the extent to which they had benefited from the internationalization processes of Tempus IV. This was because enhancing the international dimension of research activity in a university is critical to improving its position in global university rankings. Put simply, universities are ranked in many global league tables based on the quality of research and evidence of internationalization in their institutions. For this reason, accelerating internationalization is important to university leaders and to the professorate, who can gain personally and professionally from research and publications undertaken with international partners, including in terms of co-publishing opportunities or collaboration in international research laboratories. Though not strictly the purpose of Tempus IV, many projects have benefited researchers by supplying invaluable, up-to-date equipment for their labs and by providing access to international online library resources, such as virtual libraries.
For the three-cycle degree scheme to be effective, and especially the adoption of the third stage (PhD), which is a Tempus IV objective in many projects, it is important that professors and researchers become equally engaged in the internationalization processes at the university. Only highly qualified academic staff are allowed to undertake PhD teaching and research supervision in universities. The engagement of the professorate of a university (and other members of the research community) in Tempus IV is a critical success factor in the sustainability of a project. The professoriate of a university is the main ‘influencer’ group and their support for a project can determine its long-term success as they chair many of the main committees. If a project achieves research outcomes, whether intended or not, the professoriate will generally get behind the reforms and changes because of the strategic benefits arising from research and publications as by-products of the project.

**Case Study: CANDI: Teaching Competency and Infrastructure for e-Learning and Retraining. 158918-JPCR**

**Project Purpose:** To introduce online learning methodology and technology for a range of subjects, previously taught only face-to-face.

**Impact:** A key result was that the Project led to the publication of 21 textbooks and study guides and 15 articles produced by staff at KTU. As a follow-up in 2014, a professor was accepted as a Visiting Professor from the Polytechnic University of Valencia to give a series of lectures.

The supply of equipment also provides a major boost to the development of universities, both in terms of enhancing teaching quality and potential research outputs. Between 1994 and 2013, Tempus projects provided approximately 25 million Euro's worth of equipment to universities in the region. Whereas such equipment was mainly intended for training/education activities, it also supported the upgrading of research labs. As researchers need access to the latest equipment to undertake research leading to new inventions and publications, it can be considered that, without the equipment made available for teaching, it would have been difficult in some cases for the researchers in Central Asian universities to undertake the high-quality experimentation and then produce the related research, articles necessary to progress up the world rankings.

Al-Farabi National Kazakh University is a leading university in the region and now globally recognized. It has been a partner in several Tempus IV projects and clearly benefited from Tempus IV in terms of enhancing its international standing and reputation. The University’s position in the QS global university rankings improved from 600 in 2011 to
275 in 2015 mainly during the course of Tempus IV. Correlation is not the same as causality, but feedback from academic staff at Al-Farabi made it clear that Tempus IV had been a major contributor to this rapid progression.

Examples of its rapid internationalization during this period include: the increase in international conference papers/presentations (over 200 in 2014-2015); a dormitory opened for international lecturers; and two joint research laboratories opened. For example, the University opened a joint Chemistry Laboratory with the University of Rostok in Germany and a Phytochemistry Laboratory at the Karachi International Center in Pakistan. The University has also obtained accreditation from the Foundation for International Business Administration Accreditation (FIBAA) and is collaborating with the following international organizations: United Nations, UNESCO, the Accreditation and Coordination of the English Language (ACELS), Hewlett Packard (HP), Samsung and the CIS Network University. New international research collaborations arising from Tempus IV projects have been formed with scholars from Britain, Finland, and Italy.

Tempus IV has not just supported the growth of laboratories. Without access to libraries, archives and help from trained librarians and information specialists, research activity would be severely limited in any university. The NMPLIS Project played a critical role in supporting teaching activities and research work by linking libraries in a virtual network accessible to universities across Uzbekistan and other countries in Central Asia, and by setting up new courses for the development of library professionals in line with international standards.

**Case Study: NMPLIS: ‘New Masters Programme on Library and Information Science’. 145021-JPCR**

**Project Purpose:** To set up new academic programmes at the Department of Library Management Systems at Tashkent University of Information Technologies (TUIT), including Bachelor's degree courses in Designing Automatic Library Systems, Corporate Electronic Libraries, and a new master's degree course in World Information Resources and Library and Information Studies.

**Impact:** TUIT is the only university in Uzbekistan to have two doctoral students now specializing in Library Science. As a result of the project, the number of publications and conference presentations given in English by TUIT staff has also increased significantly.
More importantly, the Project led to the development of a virtual university library network linking 67 university libraries in the region – a watershed in enhancing accessibility to library resources for research and teaching preparation purposes in Central Asia.

Internationalisation in HE is a long-term and complex process, to which Tempus IV has made a substantial contribution to this process. On the way, there have been a number of pitfalls and weaknesses which acted as obstacles to success.
3. Challenges and weaknesses (See Table 5, Annex 3)

3.1. Overview

Many Tempus IV projects experienced difficulties and did not fully succeed. These difficulties or challenges fall into three broad categories: firstly, systemic; secondly, contextual; and thirdly, project management. Some of the challenges appear at all levels, like the issue of proficiency in English.

The challenges are:

- **Systemic**: e.g. centralization of Higher Education in the Region; different levels of compatibility between local and international standards; and lack of English language skills
- **Contextual**: e.g. variations in local and national stages of development; differences in educational processes (e.g. standards, curricula) across the region; variation in levels of compliance with the Bologna framework, tools and processes;
- **Project Management**: e.g. differences in accounting systems; lack of English.

The ultimate challenge is how to ensure sustainability of the project’s outcomes beyond the end of the project.

3.2. Centralized management system of higher education

Tempus projects need to take account of the priorities set by the Ministries of Education and Science (MES) in each country to optimize project results. New programmes of study, especially when offered as part of an existing undergraduate degree scheme, or new degree award, need MES approval if they are to receive funded student places.

3.2.1. Systemic challenges

There are different educational systems in operation in Europe and in Central Asia. Both the higher educational systems in Europe and in Central Asia operate effectively, but each in their own way and each subject to their own customs and procedures. The challenge facing the Tempus Programme is how to bring the two together and achieve harmonious reform. One in eight of the projects concerned with curriculum development met a barrier arising from a discrepancy between their proposed curricular innovation, being transferred from abroad and 'localized,' and the requirements of local standards or the local academic regulations. (Table 4, Annex 3A)

The Ministry of Education and Science (MES) in each of the five countries is the principal authority responsible for the licensing and evaluation of HEIs and their academic
Study of the Achievements of Tempus IV Projects on the Internationalisation of Higher Education in Central Asia

programmes, including the classification of degree programmes and subject-disciplines. Degree awards, the syllabuses and award titles have to be approved by the MES. Often, these are managed by the ‘lead’ state or technical universities in each country. In Kazakhstan, the curriculum has to be in line with the National Compulsory Standard of Education. The issue was raised by partners in the ISMU Project (516682-JPGR), who stated: “Significant obstacles to internationalisation are caused by the differences between national curricula and the European system”.

The same issue was reiterated by members of DeTEL: “The main challenge is the adjustment of the new MA programme to the State Standards. In my country, it is not possible to introduce a new curriculum within one or even two years, as State Educational Standards are adopted every 5 years. The new curricula should be thoroughly tested, piloted and then presented to the Ministry of Education with recommendations from top local experts after serious examination for compliance with governmental reform strategy.” (Source: DeTEL Project, 544161-JPCR, see p. 85)

These discrepancies could be successfully overcome. Universities can set their own content for the optional parts of the curriculum. Generally, around 50% of the total academic workload in all undergraduate programmes is mandatory and the other 50% is optional. The mandatory element decreases, however, as the degree cycle progresses towards the more advanced stages, such as doctorates. So it is less complicated to introduce new curricula at master’s level than at undergraduate level.

In other cases, projects managed to achieve a ‘push’ effect. This is exemplified in the case in the Project STUDIK (516802-SMGR), which set up democratically elected student unions in each of 12 Kazakh universities. The effect of the project went far beyond the confines of universities. Students from the project also organized a strong lobbying group, which persuaded members of the Kazakh national parliament to form a parliamentary youth committee to oversee their interests nationally. STUDIK is an excellent example of how Tempus IV influenced governance in universities, based on models transferred from universities in the Baltic States, which also led to reforms in youth representation at national level.

Similarly, the Project QUEECA (530306-SMGR page 90) is a further example of how ‘push’ works: “There are plans to develop (and submit to the MIEs) methodology recommendations in the field of engineering education quality (focused on introducing the quality assurance system and the methodology of developing framework standards
for the system of engineering academic program accreditation). Our main difficulty has been the time it took to obtain the approval of the new educational standard due to the lack of a legal framework for the transfer to a credit-based learning assessment system.”

### 3.3. Lack of English Language Skills

It has already been reported how the lack of English is a challenge for a number of Tempus projects. At policy level, there is a need to recognize that English is a vital tool, and facilitator, of internationalization. It is the *lingua franca* of international communication and discourse between international partners on most Tempus projects. Most teaching or developmental materials transferred from one country to another in Tempus projects are in English and, if not, have to be translated to be correctly understood. Apart from students from the CIS, international students coming to Central Asia expect to study in English and expect their lecturers to have excellent English skills. A number of universities have taken effective measures to address their insufficiency in English, such as in the FLEPP Project.

### 3.4. Contextual challenges

#### 3.4.1. Localization issues

One of the challenges facing Tempus project partners in Central Asia is to ensure that the proposed innovation from Europe, and/or from other countries, is appropriate for transfer to another country and can easily be adapted to local conditions. All Tempus IV projects face localization challenges, but there are cases where the project’s objectives are overly ambitious for the local conditions.

"Due to the fact that the Bologna system had not been adopted at the University yet, implementation of the revised academic programs was impossible. So a decision was made to develop experimental academic programs following new pathways approved by the Ministry of Education and Science". (Quotation: Source: Project-partner ‘Establishing a Blended Learning Program on Energy Management in Kazakhstan and Turkmenistan,’ page 81).

There can be a tendency on the part of some project teams to transfer an innovation, such as a new course, directly without localization, or recognition of the very different circumstances that obtain in the recipient country.
Case Study: PERSEUS: ‘Plan to establish Research-Science-Enterprise oriented Universities for the benefit of Society’. 145171-SMHES

Project Purpose: To establish Centres for Research, Development and Innovation (REDICs) and a range of associated training programmes to instigate and enhance the transfer of knowledge from universities to industry and the wider market-place.

The challenge: The idea behind the project was highly innovative, based on developing the ‘Third Mission’ (= engagement with society and industry) of universities in Central Asia. The project aimed to introduce a research commercialisation model (which had taken over a decade to develop in Europe) to Central Asian universities within a short time frame. However, local conditions were not conducive to such rapid change.

For example, partners were involved in merging several processes at the same time: e.g. (i) linking academic with non-academic partners; (ii) setting up a technology transfer centre; (iii) creating channels for technology transfer; (iv) embedding commercialization processes, such as protection of Intellectual Property Rights, in the universities; and (v) training local staff to undertake the above processes.

The lack of staff with operational experience in technology transfer led to different types of technology transfer centres (‘REDICs’) being formed with different purposes. The project was not a failure, but it became fragmented without a coherent cross-regional strategy.

Intra-regional projects like Perseus also represent 36% of the total number of projects awarded to the region under Tempus IV (EACEA, 2013). One of the misconceptions at programme level is the tendency to treat all five countries of the region as if they are at an identical stage of development with the same developmental pathways and priorities. This is often a mistake – which will be addressed later. However, it means that Perseus may not have been suited to all local conditions in the region. Indeed, it seemed to work in some countries better than others.

Despite the common history within the region, problems have arisen with intra-regional student mobility and curriculum development within Central Asia (a) because not all the countries apply Bologna to the same extent; and, (b) the academic programmes of intra-regional university partners do not always match with regard to: subjects, credits, numbers of hours, length of training, quality assessment, accreditation, research
methods and organization and the system of research work. This can act as a barrier for regional educational development.

Tempus IV supports the development of Central Asia as an independent Higher Education Area, parallel to the European Higher Education Area, with common systems in place to facilitate intra-regional academic mobility, partnerships and student exchange. This will also help to accommodate partnerships with other CIS countries, notably the Russian Federation, with which Central Asian institutions share 14 projects on Tempus IV.

The purpose of the project TuCAHEA was to help open up a common higher education area, allowing universities to adhere to a common set of protocols and standards: operate awards with a three-cycle higher education system; set up a regional credit transfer system; operate joint programmes of study; and offer mutual recognition of programmes, a common accreditation system and student and staff mobility across Central Asia.

This idea and the underpinning model was agreed and set out in a communiqué issued jointly by the Ministry representatives of the five countries, ‘Towards the Central Asian Higher Education Space’. This is intended to enable Higher Education (HE) systems and institutions in Central Asia to work closely together and to do so in future. The common educational area will improve mobility across the regional borders and enhance intra-Central Asian cooperation and knowledge transfer, as well as enhance access from students coming from CIS countries. The TuCAHEA project addresses one of the key challenges facing Tempus: how to consolidate the interchange and compatibility of HE systems across the region to enable regional growth. It is also an example of the successful coalescence of Tempus IV programme objectives with national policies.

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**Case Study: TUCAHEA: Towards a Central Asian Higher Education Area: Tuning Structures and Building Quality Culture. 530786-SMHES**

**Project Purpose:** To create a Higher Education Area of Central Asia

**Impact:** A cross-regional catalogue of subjects with a common list of learning outcomes and competencies agreed by the five countries has now been drawn up in the form of matrices for the various academic subjects (*History, Ecology, Law, Economics*, etc.). ECTS has been applied to the different levels of all programmes, making student mobility across Central Asia easier.

As a result, TuCAHEA has achieved the first steps towards creating a *Higher Education Area in Central Asia* with concrete examples of increases in both international mobility, internationalized curricula, the expanded use of English as
a medium of study and cross-border study across the five countries of Central Asia with additional international benefits for partners beyond the Region.

3.5. Project management challenges

3.5.1. Overview

The main project-level issues arise largely from three areas of project participation: systemic/administrative, cultural or communicative.

3.5.2. Administrative challenges

Respondents have mentioned various practical problems: the incompatibility of project management systems, including financial, accounting and budgetary management, between institutions in Central Asia and partner institutions. The differences in financial and accounting systems in Central Asia can lead to cross-border misunderstandings which may undermine the success of the project. Other problems arose with cross-border procurement and the transfer of equipment from one partner to another. Many universities had to adapt their procedures to have equipment delivered because of local regulations or requirements, which are not adapted to the direct purchase of equipment from a foreign country.

Only two Tempus IV projects have been coordinated by a Central Asian university (in Kazakhstan), which does little to help develop project management skills in the region. Several respondents complained about the complexity of European documentation, including reporting and financial regulations, which were incompatible with their own systems. This led to universities going to extra costs in setting up parallel administrative systems in each local university and in additional translation costs. Russian is not an official language of the European Union, which placed universities at a disadvantage because the majority of their administrators could not manage complex European documentation in English. There were several anecdotal stories provided by university staff during interviews of cases where the European funding had either not appeared, or been reduced due to currency fluctuations.

One criticism from respondents is that some projects are unwieldy due to the great number of partners and the diversity of the project partnership. This applied to several projects, including TuCaHEA and Perseus, which risked fragmentation into separate national groupings with the diffusion of a single objective into separate sets of local, disconnected outcomes.
Systemic and administrative complications are also mentioned by respondents as a barrier that can affect the volume, and clearly the recognition, of student mobility outside of CIS countries:

i. It can prove to be complicated to incorporate Study Abroad into regional degree schemes, largely due to the differences between the ECTS with local university regulations;

ii. It remains difficult for regional universities to transfer credits from students’ Study Abroad experiences in foreign countries, when or if Study Abroad credits from foreign universities do not always count towards degrees in Central Asia.

3.5.3. Communication barriers at project-level (see Table 5, Annex 3)

The widespread lack of English language capabilities as a strategic issue in Central Asia has been addressed above (3.2.2.). English is the primary working language of Tempus management meetings (except in regional meetings, when it is Russian). It is used for bid-writing and reporting, training senior managers and in international working groups. By comparison, Russian is used more widely amongst the senior, decision-making echelons of universities than amongst junior staff and students.

Insufficiency of English skills has caused difficulties at many different stages of projects. It is mentioned by 40% of survey respondents in 50 projects: e.g. ERAMIS, STUDIK and GENGINE, where this adversely affected student mobility; and NMPLIS, when staff had to undertake training in Scotland. Language barriers were also mentioned in questionnaires returned by CIBELES, FLEPP, IEMAST, LMPSM, LMTS, PERSEUS, QAMEL and HONOR.

3.6. Achieving sustainability

3.6.1. Overview

One of the major tests of the success of internationalization on the Tempus IV programme is project sustainability. There are many examples of measures that have been taken at different levels (international, national, institutional and departmental) to maintain the activities and the momentum of the good work achieved from Tempus IV projects. The following tests of sustainability can be applied:

- **International/National Level**: Is there follow-on funding in place, either from the national government, or from the European Union, or from other sources? Has Bologna been implemented?
• **International Level:** Is there evidence of accreditation of courses, or recognition of quality, by international agencies (e.g. requiring ongoing institutional commitments)?

• **Institutional Level:** Is there evidence of the formalization of the partnership, e.g. by agreements such as MoUs? Is the institution Bologna-compatible?

• **Institutional Level:** Is there evidence of permanent institutional change, e.g. changes in mission or job roles or profiles, or departmental restructuring, or the establishment of discrete centres (like cross-border research hubs)?

• **Departmental Level:** Is there evidence of the long-term activation of the results with tangible mechanisms in place, e.g. new degree programmes with funded student places; dual or joint degree programmes? Is there inclusion of study abroad on degrees for matriculation purposes? Is there a programme of jointly-run international Summer Schools? Are protocols/documentation in place for joint teaching and/or student exchanges?

3.6.2. **Measures of sustainability**

At policy level, the Ministry of Education will determine which project results are likely to be adopted and funded in the long-term. For example, academic subject-areas, which are not listed (‘classified’) by the Ministry, are less likely to receive a license to become an award, or to receive a budget with a set number of student places. An alternative route to sustainability is where the project is ‘sponsored’ (i.e. supported) by one of the ‘lead’ State universities, who then negotiate with the Ministry on its implementation. In the Project CIBELES, the Kyrgyz State Technical University, for example, received a license to offer an academic programme in Industrial Safety, which fitted with the Ministry’s priorities and was accordingly approved.

**Case Study: QUADRIGA Qualification Frameworks in Central Asia:**

**Bologna-Based Principles and Regional Coordination**

**530183 –SMHES**

**Project Purpose:** The main purpose of the QUADRIGA project was to develop national and sectorial qualification frameworks for higher education (NB the participants initiated the development of a common framework for all qualification levels, from basic vocational education to postgraduate professional education).

**Sustainability:** The following projects were developed and submitted to Ministry of Education and Science as a result: 1) The concepts of developing the
Study of the Achievements of Tempus IV Projects on the Internationalisation of Higher Education in Central Asia

NQFs in Kyrgyzstan; 2) the NQFs of Kyrgyzstan; 3) the methods of developing the NQFs in Kyrgyzstan; 4) the methods of developing SQFs in IT. They can be found on the University’s website www.kstu.kg. Both national and international experts took part in developing the projects, and there has been experience exchange with participants of similar projects (INARM, ARARAT). Three Project participants have been invited to work as international experts on similar projects in qualification systems.

The role of the Ministry is important to gaining sustainability, which can be optimized by the intervention of the National Tempus Office/ National Erasmus+ Office, which can work with the Ministry, as well as garner support from the local EU Delegation, or cultural offices like the Goethe Institut, or British Council. In effect, their role is to manage the ‘push-pull’ effect in the adoption of reforms. In the Project QAPD (516996-SMGR), for example, as a follow-up, the British Council, in collaboration with the Head Scientific-Methodological Centre of the Ministry of Higher Education of Uzbekistan and London Metropolitan University, designed a new CPD (Continuing Professional Development) course on Education Quality for management staff to build on the achievements of the project. The most valuable contribution of the Tempus QAPD Structural Project was the integration of project results into the programme of today’s retraining courses for administrative/academic staff of Uzbek HEIs at the Head Scientific-Methodological Centre under the Ministry.

Many of the more successful projects have achieved follow-on funding from a variety of sources, most of which involve competitive bidding. The range includes: World Bank, the German Academic Exchange Service (DAAD), British Council and EU programmes, including ERASMUS+ and Horizon2020. Following the Project CANQA, for example, Karaganda Economic University successfully submitted new ERASMUS+ applications which were approved as the projects, CACTLE and COMPLETE. Urgench State University also received follow-up grants for CANEM, CASEU and ECCUM, as a result of CIBELES.

Adherence to the Bologna Process facilitates internationalization; e.g. providing a method for implementing joint education projects, such as double-diploma education, mutual recognition of academic courses, international accreditation and credit transfer. Samarkand Agricultural Institute, Uzbekistan, has referred to how the results of SAMuZ were continued thanks to an Uzbek government grant for a follow-up research project entitled ‘An Economic Evaluation of the Ecological Impact of
Agriculture'. The Agricultural Institute was also a partner in the Erasmus Mundus MARCO XXI Project, which followed on from CIBELES.

A commitment to longer-term relationships at institutional level between given regional and international institutions should normally be underpinned by an agreement to work together, such as a Memorandum of Understanding, which regulates the collaboration for a given number of years and can also identify a budget. Several of the more successful Tempus projects also set up strong partnerships with a few key institutions, or with a few key individuals, some of whom have become members of the University's international Councils, thereby ensuring their commitment for years to come.

Sustainability is more likely where there are multiple follow-up activities at several levels.

**Case Study: DoQuP Documentation for Quality Assurance of Study Programmes. 517340 SMGR**

**Project Purpose:** To define and implement an on-line documentation system for the quality assurance of study programmes in partner countries (Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan), consistent with the European Standards and Guidelines for internal quality assurance of higher education institutions, which has found a generalised acceptance in the European context.

**Sustainability:** As a result of the project, the Technical University of Tajikistan set up a new internationalization strategy at the University. A new position was introduced in the Department of Academic Process and Education Quality Management, for coordinating the online project instruments in the departments of the University and its partner universities. Memoranda of Understanding have been signed with all Project participants, both local and international. An agreement has been signed by the Council of Rectors of Tajikistan universities, aimed at project result implementation. Additional grants were obtained from the European Union.

The key to success seems to be a triple track approach: formalization at national level and institutional level, and finding new sources of funding. In the category of Policy/Institutional-level (1.3.2.), a quarter of the projects mentioned some form of continuation (see Table 1, Annex 3). For example, I. Arabaev Kyrgyz State University reported that the results of TuCaHEA have continued thanks to financial grants from the World Bank.
New courses which also receive international accreditation are more likely to be sustainable. It reinforces institutional academic credibility, helps with student and staff recruitment, quality assurance and can attract further funding. In the DoQuP Project, programmes at the Eurasian National University were accredited by the international agencies, ACQUIN and ASIIN. The University went on to receive additional funding from ERASMUS+ and ERASMUS MUNDUS.

3.6.3. Summary of project-level features of sustainability

The following are indicators of sustainability in internationalisation:

- Incorporation of international targets into an internationalization strategy (e.g. with international student recruitment or international staff targets), linked to an internationally-recognized quality strategy, research strategy, course approvals strategy
- Establishment of new Units (e.g. International Office), or key senior management posts (e.g. Vice-Rector for International Relations) which support and embed internationalization processes in the long-term
- Incorporating obligatory study abroad on certain courses will ensure that international study is protected for many years ahead
- Hiring of foreign professors or international experts for short or long-term engagements and organizing staff exchanges or secondments, including consultancy contracts, are effective methods for sustaining internationalization in the institution
- Adopting international frameworks, protocols and processes (e.g. Bologna), either for credit transfer, or international accreditation systems, provides ‘a common language’ for interpreting and measuring academic or learning outcomes.
4. Conclusions

The achievements of Tempus IV projects in terms of their Internationalization impact can be categorized under four headings: (i) policy/institutional-level; (ii) curriculum development; (iii) mobility; and (iv) research. These, in turn, can be broken down into 20 types of activity areas, where new international academic initiatives, new courses and degrees, reforms, or structural changes have taken place.

4.1. Policy/Institutional-level

Tempus IV addresses the major challenges facing Central Asian universities; that is, (i) increasing the countries’ global standing and economic competitiveness; (ii) updating the curriculum, especially in science, technology, the green economy; (iii) addressing the challenge of societies in transition in the post-Soviet era (university governance, student democracy, etc.).

Higher education institutions are key players in the successful transition to a knowledge-based economy and society and they provide the training for new generations of leaders. They provide the pools of expertise and centres necessary for the development of the region’s human resources and economies. Many Tempus IV projects included training of the region’s university staff in universities abroad, which was generally successful and included training programmes for groups of university leaders (Rectors). The staff training included learning new systems (e.g. e-learning; e-libraries); training on processes (e.g. Bologna); updating curricular knowledge; management training; and training on the latest scientific and laboratory equipment. This enhanced university modernization in the region because the outcomes of the training were disseminated in the home country and impacted on institutional development.

The majority of Tempus IV projects focused on curriculum development, notably the updating of curriculum content, often in line with international standards, including professional/occupational or industry standards. This, in turn, has enhanced student employability by creating courses for new kinds of jobs where there is a clear economic or societal benefit (e.g. Safety Officer). Following Tempus IV, this process of updating and upgrading the curriculum with international help should continue, particularly in the priority subjects related to a country’s economic development. Furthermore, the more international recognition Central Asian universities acquire from international accreditation agencies, the better in terms of enhancing universities’ standing in the
world and the greater the support they deliver to their countries’ economic competitiveness.

The Tempus IV programme has contributed successfully to institution-building in higher education in Central Asia by means of a policy of promoting partnerships through internationalization. Over a quarter of respondents in the ‘policy and institutional-level’ section (see 1.3.2.) report achievements in this area. Primary amongst these at a strategic level has been evidence of the successful transfer of good practice from (mainly) European Union partners to regional partners in the implementation of Bologna. Although the terminology of Bologna (including ‘ECTS’, ‘PhD’, ‘learning outcomes’, etc.) is widely known in universities, experience of implementing these processes or acquiring international accreditation is less common. It is clear from this that the HEIs cannot easily adopt the principles without experiencing the practice. Moreover, without the practice, internationalization is more difficult to implement. Tempus IV has given institutions a practical grasp of Bologna principles whereas, before Tempus IV, many only had a limited theoretical knowledge of them.

Over 90% of the projects interviewed referred to Bologna and/or other international accreditation and quality frameworks which were transferred and adopted as beneficial to the process of university modernization. Tempus IV has also led to modernization of university infrastructures and management systems under high-quality international influence. For example, 50% of responses on Policy/Institution questions confirm this (i.e. introducing new university structures, new institutional HR strategies, new international strategies, a new senior post - e.g. Vice-Rector for International Affairs).

A quarter of respondents in this section also referred to adopting Bologna approaches as an achievement. Many other institutions did not mention it because they had been applying Bologna for several years. The converse applied: universities in countries where Bologna is less well-developed tended to complain of discrepancies between European systems and local processes causing barriers to study abroad and curriculum localization. Adopting a common set of processes, tools and even a common ‘language’ under Bologna has been instrumental in facilitating the core activities of internationalization, namely, student and staff mobility; curriculum development; and forming research/post-graduate partnerships, including PhD development. Speaking the common ‘language’ of Bologna has enhanced mutual understanding between the academic worlds of the European Union and Central Asia.
Intra-regional differences raise another issue: European policy aims to promote convergence with partner countries. Over a third of Tempus IV projects awarded to the region involve intra-regional partnerships. The TuCaHEA Project is a demonstration of how Tempus IV has facilitated the development of an ‘open education area’ within Central Asia. This is an important step forward by providing a common framework for the recognition of credits in several subjects and enhancing cross-regional study abroad. However, the project also revealed regional differences as well as commonalities.

Future European policy may not wish to treat Central Asia as a single, uniform region, but recognize the different stages of development and different national priorities now present in each country when setting policy directions. Only one country (Kazakhstan) has officially signed the Bologna agreement and four countries are at different stages of implementation of the principles.

The project PERSEUS, for example, has demonstrated how there are different degrees of absorptive capacity for the same innovation in each of the different countries of the region. From a policy perspective, cross-regional projects could be further promoted in order to widen the partnerships to countries outside of Central Asia.

### 4.2. Programme-level

The key finding at programme-level is that the most successful projects are those which have achieved an impact in at least half of the 20 categories set down in 1.3.2. and embedded their reforms within new internationally-focused structures, systems and curricula. Ten projects from a survey of 50 achieved at least 50% of the paradigm of ‘extended internationality’. They have provided many of the case studies featured above distinguished by multiple-level internationalization.

In brief, Tempus IV projects have developed and localized new curricula (and academic awards) in association with international partners relevant to the needs of the region’s labour market and industries, enhancing students’ employability. A key focus in this process is the development of new inter- and multi-disciplinary courses which are more in line with a modern economy’s needs, leading to enhanced student employability. Internationalization has increased the adoption of English as a medium of study on the new awards, led to an increasing volume of training in English for both students and staff, which gives them greater access to study abroad schemes, internships and staff training abroad.
Evidence of sustainability is in the increasing number of double-degree and joint award programmes offered by Central Asian universities in partnership with international universities, usually underpinned by Memoranda of Understanding. As part of this process, they increasingly acquired recognition for their courses from international accreditation agencies and adopted internationally recognized quality assurance standards in order to make their courses more attractive to foreign students, partners and stakeholders. To acquire international recognition, they adopted a learning-outcomes approach, making courses more accessible to international students and more acceptable to foreign universities, which required study credits modelled on ECTS to be transferrable.

Seven specific features of mobility were identified in the ‘Mobility section’ of the survey (1.3.2.) as key features of the internationalization of universities in Central Asia. In order of the volume of specific mentions in the questionnaires, they are: staff or faculty mobility (nearly one in four of respondents in this category), student mobility (nearly one in six), signing new Memoranda of Understanding with international bodies/universities (nearly one in six); Internships abroad (one in seven) and visiting professorships/lectureships (one in eight).

One in ten projects declared in the Mobility Section that they had set up links and/or programmes in countries outside Europe and the CIS. However, the major criticism of the programme from interview feedback was the small number of opportunities for students. Most student mobility was limited to small groups of students going abroad for short periods of time. There needs to be an increase in the number of dual/joint degrees, where study abroad for a semester or year is an academic requirement. Furthermore, the demand from students for industry-related internships is unmet within Tempus IV. Indeed, more focus is needed on developing internationalized vocational/professional curricula, accredited by international industry bodies, in line with economic priorities in Central Asia.

The programme should also focus on ensuring sustainability (see 3.5.) by building multiple components of internationalization into programme requirements: e.g. staff training abroad + student mobility + dual degree + extra-European partnerships + Memorandum of Understanding. That is, multiple internationalization tracks involving curriculum innovation linked to mobility, curriculum development and especially involving partners outside Europe and outside the CIS.
One in 20 of the survey respondents pointed to the research benefits arising from Tempus IV projects. Though not an objective of the programme, respondents expressed enthusiasm for the major benefits Tempus IV had unexpectedly brought to research, including, for example, the establishment of joint laboratories, international research teams and co-publishing. All of these had enhanced the universities’ academic standing. This is an important by-product of Tempus IV. There is a strong connectivity between research and publications activity, the commitment of the university’s professoriate to internationalization and the implementation of the Bologna third cycle of degrees (PhDs). This connectivity is a major driver of university change and needs to be made more explicit as a programme outcome. Research activity is of great importance to individual academic faculty members, as well as institutions wishing to enhance their standing in the world rankings system.

4.3. Project-level

The project level issues revolve around (i) practicalities of project management, team balance, profile and membership; and (ii) choice of project aims and content.

4.3.1. Project management issues

Few project teams reported project management problems which led to failure or under-performance, but when issues arose they generally concerned payment transfer and budgetary problems; reporting and documentary problems; balance of the project team (membership issues); and communication problems, internal team communication and language barriers.

The more successful projects were those which were:

- Committed to training their staff, e.g. in applying international accreditation and quality systems, including Bologna reforms
- Linked up with partner institutions which had similar profiles and missions (e.g. technical universities working with technical universities)
- Managed by an experienced international project manager from a ‘solid’ reputable university.

For example, few foreign partners understand the hierarchy of the ‘National State University’ system in Central Asia and the prominent role of the ‘lead’ state university (like the Kazkh National State University) in determining and introducing new curricula in key subject areas. It is also a mistake to treat universities as if they are all at the same stage of development. How ‘international’ is the University? Is there an International Office, a Vice-Rector for International Links (see 4.3.), a commitment to setting up double or dual degrees? (see 4.1.).
Respondents criticised projects which had too many members (the optimal was 7-15), from too diverse many countries (optimal was 5-8) with too many diverse systems in operation (e.g. standards, quality). Only two Tempus projects were managed by a Central Asian university, which could have been increased if training were available.

The major barrier experienced at project level was lack of English, mentioned by 40% of the 50 projects replying to the questionnaire. The more successful projects took action to remedy this deficiency by setting up English Language training for staff and students.

4.3.2. Project purpose

The most successful Tempus IV projects cover a range of activities at different levels. The range of project objectives can be broad: e.g. involving international teams working together on academic and curricula development; promoting cross-border exchanges and student mobility between partners; the acquisition of management systems and skills from abroad, and changes to support and embed university autonomy and governance reforms. However, projects need to be more aware of the differences in change management models between educational systems in Europe and Central Asia. The higher educational systems in Europe and Central Asia operate differently and each is subject to different customs and procedures.

In Kazakhstan, for example, the priority for 2015-2017 is enhancing ‘Applied Science’. For this reason they need hi-spec equipment and high level knowledge transfer from Europe. However, there are differing levels of compatibility between national standards and international standards, which need to be matched together. The ERAMIS and ESHA projects are good examples of what can be achieved in terms of mapping and curriculum development, but this represents only a tiny sample of job profiles.

The challenge facing the Tempus projects is how to bring the national and international standards together and achieve harmonious reform. This is not necessarily achieved by the wholesale transfer of a curriculum from Europe to Central Asia, however attractive this might be. A key feature of successful project implementation is localization: namely, where projects have adopted an idea from a partner country in Europe, but adapted it to local circumstances, it is more likely to be sustainable. In the latter, the adoption and adaptation of a foreign curriculum, or programme, has led to enhanced longer-term internationalization strategies, such as dual study programmes, visiting professorships, or the recruitment of international faculty and staff. Sometimes,
feedback from projects suggests that partners have met an incompatibility between the proposed new curriculum and local standards or subject requirements.

The more successful Tempus IV projects have also had an impact on national educational policy, as well as on a university’s infrastructure, international strategy or professional/vocational curriculum. This inter-relationship between the strategic and institutional is characterized by the ‘push-pull’ effect; certain projects have ‘pushed’ reforms into acceptance by their national Ministry; others have developed an initiative that responds to the National Ministry’s priorities (‘pull’ effect).

Project teams which sought to introduce an innovation but without using a common regulatory or benchmarking framework like Bologna were less successful. Given the possible range of activities open to project teams, future teams should make it clear what common standards, quality assurance or regulatory systems or frameworks will be put in place to underpin the proposed reform.
5. Recommendations

The recommendations reinforce the Measures of Sustainability (3.4.1.-3.4.3.) and address issues raised in the conclusion.

5.1. Policy/Institutional-level recommendations

- **Recommendation 1:** Ensure compatibility with internationally recognized processes and protocols, including the Bologna Process.

  **Comment:** It is important that the underlying frameworks are in place to optimize project impact: e.g. international systems of quality or accreditation; credit accumulation and transfer, outcome-based learning, the three-cycle degree system (i.e. with PhDs)

- **Recommendation 2:** Ensure there is an alignment, or at least compatibility, between the aims of projects and regional governments’ priorities.

  **Comment:** The success and sustainability of Tempus projects depends on an alignment of interests between regional governments’ priorities and the objectives of the projects in Central Asia. This may require either a ‘push’ or ‘pull’ strategy to be developed.

5.2. Programme-level recommendations

- **Recommendation 1:** Ensure Language Skills of partners are adequate.

  **Comment:** Language barriers (lack of English) are so prevalent in the projects that this needs to be addressed at programme level: e.g. minimum standards of English may be required for training abroad. This applies to European university partners in cases where the quality of their English-medium teaching is poor so incomprehensible to students and staff from Central Asia.

- **Recommendation 2:** Regional project partners should ensure at least one English-speaking administrator is trained in the implementation of Bologna and related processes.

  **Comment:** Projects lack experienced project administrators and managers in Central Asian universities.
- **Recommendation 3**: Ensure there are procedures in place for the efficient transfer/export of equipment to Central Asia

**Comment**: Project teams report a number of practical problems arising from the transfer of equipment.

- **Recommendation 4**: Recognize, and allow for, the integration of research outputs as valuable deliverables in Tempus programmes.

**Comment**: Research activity leading to outputs is like a glue that binds together institutions to individuals’ academic careers.

- **Recommendation 5**: Expand engagement with stakeholders from industry and commerce to support greater industry-business engagement in the region.

**Comment**: Links between the universities and industry is less than optimal. Tempus could support closer links.

- **Recommendation 6**: Establish programme-level links with international accreditation agencies.

**Comment**: The key to upgrading programmes, attracting foreign students and high-quality partners is international recognition. This could be a strategic development which is built into the programme.

- **Recommendation 7**: Give emphasis to expanding partnerships in countries outside the CIS countries.

**Comment**: Central Asian countries wish to enhance their global standing – this requires making contact with countries outside Europe and CIS countries.

- **Recommendation 8**: Expand number and profile of European partners available for, and interested in, partnering with Central Asian universities.

**Comment**: Survey respondents have indicated that the pool of European partners is too small for the scope of new demands for specialist qualifications, given the widening scope of economic demands (e.g. for specialist vocational training).
5.3. Project-level recommendations

- **Recommendation 1**: Ensure the Partnership is balanced, with an experienced coordinator and shared complementary mission and skills.

  **Comment**: The features of each prospective partner must be carefully considered, including status and profile of each prospective university partner (e.g. research-led or vocational and/or world-ranked). The Coordinator should have the capability to understand and follow EU regulations and requirements regarding project administration, particularly finances and procurement.

- **Recommendation 2**: Ensure that the courses, curricula, innovations or systems, that are being transferred, can be adapted and localized.

  **Comment**: Sometimes the proposed innovation, or new course, successfully operating in Europe, or elsewhere, is not yet 'localizable' in respect of local conditions. There is also the issue of popularity: certain master’s programmes, transferred from Europe, were found not to be popular with students in Central Asia and funded places could not be filled.

- **Recommendation 3**: Give special emphasis to developing vocational/professional curricula, related to employability and economic competitiveness.

  **Comment 1**: Interviews with local university staff – and meetings with Ministries – suggest a growing demand for job-related curricula. National priorities stress the need to update the technical and occupational curriculum; and train and develop the technical and scientific staff.

  **Comment 2**: Ways need to be found of setting up stronger Business-Higher Education partnerships and expanding the role of commercial and industrial stakeholders in Tempus (Erasmus+) projects.

- **Recommendation 4**: Give emphasis to facilitating and expanding student mobility, including internships and industrial placements abroad.

  **Comment**: There is great enthusiasm in Central Asian universities for increasing international mobility. Staff mobility is relatively strong on Tempus IV, but there is a demand for much greater student mobility, which will mean taking measures to address
language barriers and the addition of study abroad as a course requirement. Student mobility should include a greater emphasis on internships abroad since the Central Asian Ministries are keen for students to acquire direct professional experience of working abroad and how European working practices operate.

- **Recommendation 5:** Give special emphasis to setting up dual/joint degrees/programmes.

**Comment:** The development of dual/joint programmes leads to automatic study abroad for students and automatic recognition of degrees.
Annex 1: Bibliography


## Annex 2: Visit and interview data

### Table 1. Questionnaire responses by country

<table>
<thead>
<tr>
<th>Country</th>
<th>Completed questionnaires (individually and/or collectively completed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kazakhstan</td>
<td>40</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>25</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>23</td>
</tr>
<tr>
<td>Tajikistan</td>
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</tr>
<tr>
<td>Turkmenistan</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>97</strong></td>
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</table>

*Note: (1737 pages)*

### Table 2: Summary of visits and interviews (November–December 2015)

<table>
<thead>
<tr>
<th>Country</th>
<th>Start date 2015</th>
<th>End date 2015</th>
<th>Cities visited</th>
<th>No. of Universities interviewed</th>
<th>No. of Stakeholder interviews</th>
<th>No. of Tempus IV Projects covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kazakhstan</td>
<td>8 Nov.</td>
<td>15 Nov.</td>
<td>3</td>
<td>13</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>16 Nov.</td>
<td>20 Nov.</td>
<td>3</td>
<td>16</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>Uzbekistan</td>
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<td>08 Dec.</td>
<td>4</td>
<td>13</td>
<td>4</td>
<td>09</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>10</strong></td>
<td><strong>42</strong></td>
<td><strong>10</strong></td>
<td><strong>47</strong></td>
<td><strong>47</strong></td>
<td><strong>47</strong></td>
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</tbody>
</table>
Annex 3A: Survey results

Table 1 - New Policy, Management or Infrastructure

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementing Bologna principles</td>
<td>25%</td>
</tr>
<tr>
<td>Follow-on projects and funding</td>
<td>25%</td>
</tr>
<tr>
<td>Create post Vice Rector (International)</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>12%</td>
</tr>
</tbody>
</table>
Table 2 - Curriculum Developments and Academic Initiatives

- Internationalizing mainstream curricula: 35%
- Introducing English-medium teaching into degree courses: 20%
- Implementing dual/double degrees/jointly taught programmes: 14%
- International accreditation: 13%
- Setting up international summer schools: 10%
- Implementation of new learning technologies (e.g. Cross-border e-learning): 8%
Table 3 - Mobility and Cross-Border Partnerships

- International staff/faculty mobility (23%)
- International student mobility (17%)
- Signing new international MoUs (17%)
- Setting up internships abroad (17%)
- Programme of Visiting professors/lecturers (14%)
- Establishing stronger partnerships with Russian HEIs (13%)

Table 4 - Barriers

- Language & communication barriers (40%)
- Contradiction with national standards (12%)

Table 5 - Breakdown of Achievement Categories

- Mobility 37
- Curriculum 31
- Policy 26
- Research 6
Annex 3B: Statistical information on Tempus IV in Central Asia


Table 1: Number of Tempus Projects in which one, or several institutions in the CA Countries have been involved*

<table>
<thead>
<tr>
<th>Country</th>
<th>Tempus IV</th>
<th>Total since 1994</th>
</tr>
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<tbody>
<tr>
<td>Kazakhstan</td>
<td>42</td>
<td>71</td>
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<tr>
<td>Kyrgyzstan</td>
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<td>55</td>
</tr>
<tr>
<td>Tajikistan</td>
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<td>42</td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>12</td>
<td>35</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>30</td>
<td>81</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>74</strong></td>
<td><strong>220</strong></td>
</tr>
</tbody>
</table>

* The 'number of projects' comprises of cooperation projects between HEIs (excluding Pre-JEPs and Compact Projects).

**Country figures cannot be added, as several countries can be involved in the same project.

Table 2. Statistics for Kazakhstan
Number of projects in which one or several institutions in the country have been involved (as coordinator, contractor or partner)

<table>
<thead>
<tr>
<th>Project type</th>
<th>TEMPUS IV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
</tr>
<tr>
<td>Joint Projects</td>
<td>7</td>
</tr>
<tr>
<td>Structural Measures</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td><strong>10</strong></td>
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</tbody>
</table>
Table 3. Statistics for Kyrgyzstan

Number of projects in which one or several institutions in the country have been involved (as coordinator, contractor or partner)

<table>
<thead>
<tr>
<th>Project type</th>
<th>TEMPUS IV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
<tr>
<td>Joint Projects</td>
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</tr>
<tr>
<td>Structural Measures</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
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</tbody>
</table>

Table 4. Statistics for Tajikistan

Number of projects in which one or several institutions in the country have been involved (as coordinator, contractor or partner)

<table>
<thead>
<tr>
<th>Project type</th>
<th>TEMPUS IV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
</tr>
<tr>
<td>Joint Projects</td>
<td>0</td>
</tr>
<tr>
<td>Structural Measures</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
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</table>

Table 5. Statistics for Turkmenistan

Number of projects in which one or several institutions in the country have been involved (as coordinator, contractor or partner)

<table>
<thead>
<tr>
<th>Project type</th>
<th>TEMPUS IV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
</tr>
<tr>
<td>Joint Projects</td>
<td>1</td>
</tr>
<tr>
<td>Structural Measures</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
</tr>
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</table>

Table 6. Statistics for Uzbekistan

Number of projects in which one or several institutions in Uzbekistan have been involved (as coordinator, contractor or partner)

<table>
<thead>
<tr>
<th>Project type</th>
<th>TEMPUS IV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
</tr>
<tr>
<td>Joint Projects</td>
<td>1</td>
</tr>
<tr>
<td>Structural Measures</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
</tr>
</tbody>
</table>
Table 7. Budget comparisons between Tempus III with Tempus IV

<table>
<thead>
<tr>
<th>Total amount (Million of Euros)</th>
<th>Tempus III</th>
<th>Tempus IV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,5</td>
<td>1,9</td>
</tr>
</tbody>
</table>

* Including a bi-lateral allocation for Uzbekistan (5m €)
### Annex 4: List of TEMPUS IV projects

<table>
<thead>
<tr>
<th>Reference</th>
<th>144790-TEMPUS-1-2008-1-RU-TEMPUS-JPCR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title</strong></td>
<td>&quot;Création de 4 &quot; Ecoles Hôtelières Supérieures d’Application (ESHA) &quot;\n(&quot;Creating of four Higher hospitality management schools&quot;)</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Russia, Moldova and Kazakhstan joined the four European countries, France, Portugal, United Kingdom and Greece in order to create a training program in the fields of hotels and catering. This arrangement called &quot;Ecoles Hôtelières Supérieures d’Application (ESHA)&quot; brought together the following resources: - training institutions, university, secondary school, high school, - partner companies, hotels and restaurants associations - Ministries, Education and Tourism organisations. Within this system, the students gained work experience in one of the eight key professions in the hospitality and catering industry. Four &quot;Ecoles Hôtelières Supérieures d’Application (ESHA)&quot; were created in four regions: Yekaterinburg (Russia), Abakan (Russia), Chisinau (Moldova), Kokchetau (Kazakhstan). Each region scatters the project in two other regions of the country. Each region consists of three universities consortium, a secondary school, a high school, the Ministry of Education, the Ministry of Tourism, a representative of the hospitality industry and a representative of the catering industry. These four consortium were coordinated by an international committee involving the leaders of each of the regions and the European experts; the project involved 41 partners in total. The action plan was constituted over three years and four phases: - establishment of a general methodological framework, analysing the hospitality and catering sectors' needs in terms of human resources development - teacher training, creation of eight curriculum - establishment and testing of four &quot;Ecoles Hôtelières Supérieures d’Application (ESHA)&quot; - methodological guide transfer to 8 other universities. Website was created in order to present the project, methodology used and its result.</td>
</tr>
<tr>
<td><strong>Coordinator</strong></td>
<td>GROUPEMENT D'INTERET PUBLIC - FORMATION ET INSERTION PROFESSIONNELLE DE L'ACADEMIE DE GRENOBLE 5, rue Roland Garros EYBENS 38320, France</td>
</tr>
<tr>
<td><strong>Contractor</strong></td>
<td>GROUPEMENT D'INTERET PUBLIC - FORMATION ET INSERTION PROFESSIONNELLE DE L'ACADEMIE DE GRENOBLE place Bir Hakeim, 7 GRENOBLE 38021, France</td>
</tr>
<tr>
<td><strong>Partners</strong></td>
<td>Académie d'études économiques de la Moldavie (MU1), Moldova Association des Hôtelsiers de la Ville D'EKATERINBURG, Russian Federation Association Khakasse du Tourisme, Russian Federation Cahul State University &quot;B.P.HASDEU&quot;, Moldova Collège Economie et Commerce, Russian Federation Collège Humanitaire et Technique de Chtchouchinsk, Kazakhstan Comité d'Etat du Tourisme de la République de Khakassie, Russian Federation</td>
</tr>
</tbody>
</table>
Study of the Achievements of Tempus IV Projects
on the Internationalisation of Higher Education in Central Asia

<table>
<thead>
<tr>
<th>Federation</th>
<th>Compagnie Gérante Euro-Asiatique, Russian Federation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Firme Touristique Yassaou, Kazakhstan</td>
</tr>
<tr>
<td></td>
<td>GIP FIPAG Académie de Grenoble (EE), France</td>
</tr>
<tr>
<td></td>
<td>Gymnase N5 &quot;TANDAU&quot;, Kazakhstan</td>
</tr>
<tr>
<td></td>
<td>Hotel Borus, Russian Federation</td>
</tr>
<tr>
<td></td>
<td>Hotel Flowers, Moldova</td>
</tr>
<tr>
<td></td>
<td>Hôtel Restaurant sibérie, Russian Federation</td>
</tr>
<tr>
<td></td>
<td>Compagnie Gérante Euro-Asiatique, Russian Federation</td>
</tr>
<tr>
<td></td>
<td>Firme Touristique Yassaou, Kazakhstan</td>
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<td></td>
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<tr>
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<td>Gymnase N5 &quot;TANDAU&quot;, Kazakhstan</td>
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<td></td>
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</tr>
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<tr>
<td></td>
<td>Compagnie Gérante Euro-Asiatique, Russian Federation</td>
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<td>Gymnase N5 &quot;TANDAU&quot;, Kazakhstan</td>
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<td>Hotel Borus, Russian Federation</td>
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<tr>
<td></td>
<td>Hotel Flowers, Moldova</td>
</tr>
<tr>
<td></td>
<td>Hôtel Restaurant sibérie, Russian Federation</td>
</tr>
</tbody>
</table>

| Original Project Budget | 1,541,471 |
| Maximum Grant Awarded   | 1,367,251 |
| Contract Duration       | 36 months |
| Approved Project budget | 1,442,251 |
### Reference: 145021-TEMPUS-1-2008-1-UK-TEMPUS-JPCR

**Title:** New Master Programme in Library and Information Science

**Description:**
- Library and information and archives studies were modernised; development of these curricula have benefited university administration research and teaching
- 15 staff from Armenia, Georgia and Uzbekistan have undertaken masters degrees at EU Universities and staff from the EU Universities have taught masters courses in the partner countries' universities; in preparation English language courses were included
- Library and Archive students have undergone placements in EU universities
- The infrastructure in institutions in the partner countries was strengthened to provide modern technology including virtual learning environments and institutional repositories

**Coordinator:** Middlesex University  
The Burroughs  
London NW4 4BT, United Kingdom

**Contractor:** Middlesex University  
The Burroughs  
London NW4 4BT, United Kingdom

**Partners:**
- Fundamental Scientific Library NAS RA, Armenia  
- Georgian Library Association, Georgia  
- Ilia State University, Georgia  
- International Scientific Educational Centre NAS RA, Armenia  
- Rezekne Higher Education Institution, Latvia  
- Tashkent Institute of Culture, Uzbekistan  
- Tashkent University of Information Technology, Uzbekistan  
- The Robert Gordon University, United Kingdom  
- University of Barcelona, España  
- University of Parma, Italia

**Original Project Budget:** 694.412

**Maximum Grant Awarded:** 617.787

**Contract Duration:** 36 months

**Approved Project Budget:** 660.087

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### Reference: 145171-TEMPUS-1-2008-1-ES-TEMPUS-SMHES

**Title:** Plan to Establish Research-Science-Enterprise oriented Universities for the benefit of Society

**Description:**
- The establishment of a structured liaison between higher education institutions and enterprises with the support of the state authorities
- The dissemination of European regional experience studies and preparation of documents necessary for enhancing the interaction between University- Enterprises and developing learning regions, with the support of the National States in Central Asia.
- The development of Research, Development and Innovation Centers
in each local institution with concrete research and innovation action plans.
The elaboration of a Transnational Research Database that serves to prepare future regional research projects throughout the integration of a regional network of specialized Research Development and Innovation units in Central Asia.
The introduction of combined research activities between enterprises and universities and the participation of representatives from the industry in educational activities.
An interactive website for the scientific community and the regional social actors is an active competence centre for both knowledge and know-how providers and users.

<table>
<thead>
<tr>
<th>Coordinator</th>
<th>Universidad Santiago de Compostela Colexio San Xerome. Pza.Obradoiro, s/n Santiago de Compostela 15782, España</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor</td>
<td>Universidad Santiago de Compostela Colexio San Xerome. Pza.Obradoiro, s/n Santiago de Compostela 15782, España</td>
</tr>
</tbody>
</table>
| Partners          | Al-farabi Kazakh National University, Kazakhstan  
|                   | Almaty Technological University, Kazakhstan  
|                   | Andijan Economy University, Uzbekistan  
|                   | Bishkek Business Club, Kyrgyzstan  
|                   | Bukhara State University, Uzbekistan  
|                   | Clinical and Neuralinguistic Research Group - Clien, Belgium  
|                   | Institute for Integration of International Programs under Kyrgyz Nati’Issykul State University, Kyrgyzstan  
|                   | Jalal-Abad University of Economics and Entrepreneurship, Kyrgyzstan  
|                   | Karshi Economics and Engineering Institute, Uzbekistan  
|                   | Khorog State University, Tajikistan  
|                   | Khujand Branch of Technological Institute (KBTUT), Tajikistan  
|                   | Khujand Branch of Technological University, Tajikistan  
|                   | Kulob State University, Tajikistan  
|                   | Kulyab Branch of Technological University, Tajikistan  
|                   | Kyrgyz Economic University, Kyrgyzstan  
|                   | Lapin Yliopisto/ University of Laplands, Suomi / Finland Masaryk University of Brno, Czech Republic  
|                   | Ministry of Economical Development and Trade of the Kyrgyz Republic  
|                   | Ministry of Education and Science of the Kyrgyz Republic, Kyrgyzstan  
|                   | Ministry of Education and Science of the Republic of Kazakhstan, Kazakhstan  
|                   | Ministry of Higher and Secondary Specialized Education, Uzbekistan  
|                   | Otto von Guericke Universiteit van Magdeburg, Germany  
|                   | Samarkand Institute for Economy and Services, Uzbekistan  
|                   | Sauleteko Slenis Viesoji Istaiga, Lithuania  
|                   | Socied. Para a Promoc. Iniciativas Empresar. Innovadoras. s.l. (uninova)  
|                   | South Kazakhstan Auezov State University, Kazakhstan  
|                   | Tajik State University for Commerce, Tajikistan  
|                   | Tajik State University for Commerce, Tajikistan  
|                   | Tajik Technical University, Tajikistan  
|                   | TALAS STATE UNIVERSITY, Kyrgyzstan  
|                   | Tashkent State University of Economics, Uzbekistan  
|                   | Teachex Academy, Kyrgyzstan |
Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

Urgench State University, Uzbekistan
Vilnius University, Lithuania
West Kazakhstan State University amid after Mahambet Utemissov, Kazakhstan
Kaza Westminster University of Tashkent, Uzbekistan
Karaganda Economical University by Kazpotrebsoyuz, Kazakhstan

<table>
<thead>
<tr>
<th>Original Project Budget</th>
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<tr>
<td>Maximum Grant Awarded</td>
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<td>Contract Duration</td>
<td>36 months</td>
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<tr>
<td>Approved Project budget</td>
<td>772.500</td>
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Reference 145686-TEMPUS-1-2008-1-FR-TEMPUS-SMHES

Title Awareness raising, Interest development, Desire creation and Action stimulation on the Bologna Process Stimulation

Description The project AIDA was aimed at development of the National action groups of Bologna Practitioners - Tetragons - in the Partner Countries (KZ, KG, UZ, RU). These action Groups have joined together the four main groups of BP stakeholders - Academia, Market, Government, Students - to work out and implement the best strategy of Bologna Promotion in their home countries in accordance with their cultural specificity and in reference with successful European practices.

Bologna Process has stimulated development of global academic space in Europe and its extension further to Russian and central Asia. Thanks to Bologna, up to date, there are a number of achievements in academic sector in the Partner Countries (PC), however, often these results remain neglected on the societal level, which obviously decrease the effect of the Bologna intervention. Therefore collaboration of all groups of the BP stakeholders - academia, students, market, government - was necessary to ensure the desirable Bologna impact. Involvement of the PC employers to Bologna Partitioning, for example, has allowed their better understanding of the reform of higher education and, as a result has raised their capacity of understanding new BA/ MA qualifications and decrease their skepticism about LLL, e-learning and distance learning programmes. Obviously, involvement employers to the Bologna process has led to solid and multiply beneficial university-enterprise links.

Involvement of students in Bologna Process has facilitated modernization of the system of HE in the PC through establishment of trust between the student and teacher's populations and via development of motivation to self-education, academic mobility and life-long-learning.

Close cooperation between the named stakeholders and governmental structures guaranteed institutional and national support to Bologna Reform and ensured high quality of the bologna related actions undertaken both on the academic and societal levels.

Considering all stated above, growing actuality of the ideas of the Bologna declaration sharpened necessity of formulation of the certain, nation-based and culturally determined strategies of cooperation on Bologna Promotion in states of Central Asia and Russia and of formation of the human resource - Action Groups of the Bologna Practitioners capable for realization of the relevant strategies.

The project AIDA allowed satisfying the stated needs:

1. Firstly, through development of the BP practitioner's human
Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

resources in Central Asia and Russia (culturally fluent, active, initiative professionals of BP promotion in the societies).  
2. Secondly, through formation of consortiums (Tetragons) of BP practitioners out of four main BP stakeholders: Market, Government, Academia, Students; and development of 5-year strategies of their future collaboration.  
3. Thirdly, thorough creation of infrastructure for long-term effective societal intervention of these consortiums - Tetragons (equipping with technical and methodological tools National Tetragons’ Offices in the Partner Countries).

Coordinator 
UNIVERSITE PIERRE MENDES FRANCE GRENOBLE 2  
1281 avenue centrale  
GRENOBLE 38040, France

Contractor 
University Pierre Mendes France  
151 Rue des Universités, Domaine Universitaire B.P.47  
Grenoble 38040 Cedex 09, France

Partners 
Atakench", Kyrgyzstan  
AUEG, France  
Ponyme, France  
Federal Agency of Education, Ministry of Educational and Science of Russia, Russian Federation  
Issykkul State University after K. Tynystanov, Kyrgyzstan  
JSS "KOSTANAY MINERALS", Kazakhstan  
“KAMOLOT” Uzbekistan  
Kostanai Social-Technical University after Zulkarnai Aldamzhair, Kazakhstan  
Ministry of Education and Science of Kyrgyz Republic, Kyrgyzstan  
Ministry of Education of the Republic of Kazakhstan, Kazakhstan  
Ministry of Higher and Secondary Specialized Education, Uzbekistan  
OJSC "Uzmetkombinat", Uzbekistan  
Regional Body Youth Council "ZHAS OTAN", Kazakhstan  
Student Trade Union at ISU, Kyrgyzstan  
Student Union Ustu, Russian Federation  
Tashkent State technical University Uzbekistan  
Union of Industrialists and Entrepreneurs of Sverdlovsk Region, Russia  
Università degli Studi dell’Aquila, Italy  
Ural State Technical University-UPI, Russian Federation  
Wroclaw University of Environmental and Life Sciences, Poland

Original Project Budget 910.871  
Maximum Grant Awarded 791.093  
Contract Duration 24 months  
Approved Project budget 833.093

Reference 158918-TEMPUS-1-2009-1-AT-TEMPUS-JPCR

Title Teaching Competency and Infrastructure for e-Learning and Retraining

Description The disintegration of the Soviet Union has severely affected the education systems of its successor states Kazakhstan and Uzbekistan in Central Asia. The economic collapse of the new independent states resulted in dramatic underfinancing of universities, and thus in lack of...
teaching staff, lack of young scientists, lack of infrastructure, and lack of computerization. e-Learning and Retraining is the natural answer to many of the pressing problems in university education and the development of a modern knowledge-based economy. Consequently, the principal goal of CANDI was the establishment of a sustainable e-Learning infrastructure which matches the specific needs, problems and requirements of these two countries. In particular, CANDI supported both eLearning for university education and Retraining of industrial staff.

The CANDI project achieved this ambitious goal by a close strategic collaboration with European partner universities. The European partners provided the starting impetus for a sustainable e-Learning framework in Kazakhstan and Uzbekistan. To achieve sustainability, CANDI has foreseen multiple instruments to ensure active participation of young university staff.

CANDI has big European and Central Asian players as well as smaller Central Asian institutions which are natural targets for e-Learning. Four of the current partners have also very successfully collaborated in the previous TEMPUS project CoCUZ (CD JEP-25221-2004) which established a Master program in Computational Science in Uzbekistan. CANDI was planned as a three year project, where local competence in e-Learning is built up in several stages. Year 1 focused on a needs analysis and the development of the first simple e-Learning platform along with first e-Learning courses. In parallel, CANDI will train local young scientists to use and develop the platform. Based on the demonstrators and field experience available at the start of Year 2, the consortium engaged industry and universities to define a roadmap of the platform features and course contents to be developed in the pilot phase of Years 2 and 3. Throughout Years 1 to 3, CANDI implemented eLearning prototypes (with respect to both course content and e-Learning platform development) based on the input by European researchers.

Technically, CANDI primarily used free open-source teaching platforms such as Moodle or TUD's Digital Classroom for e-Learning. The CANDI platform supported multiple languages (EN, UZB, KAZ, RUS), and allowed for bidirectional flow of knowledge between partner institutions. Due to the large differences in network quality over the countries, CANDI supported a broad mix of e-Learning paradigms ranging from online courses with streaming video and video conferencing all the way to offline media such as DVDs.

CANDI has put major emphasis on sustainability through the inclusion and activation of young university staff through training in platform development, course content development, English language, and soft skills; young university staff was given ample opportunities to interact with their European peers both in Europe and Central Asia. In addition, CANDI worked closely with university administration and governments to ensure long-term support of the project results.

<table>
<thead>
<tr>
<th>Coordinator</th>
<th>University of Vienna</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Waehringer Strasse 38</td>
</tr>
<tr>
<td></td>
<td>VIENNA 1090, Austria</td>
</tr>
<tr>
<td>Contractor</td>
<td>UNIVERSITY OF VIENNA</td>
</tr>
<tr>
<td></td>
<td>Dr. Karl Lueger Ring 1</td>
</tr>
<tr>
<td></td>
<td>VIENNA 1010, Austria</td>
</tr>
<tr>
<td>Partners</td>
<td>Al-Farabi Kazakh National University, Kazakhstan</td>
</tr>
<tr>
<td></td>
<td>National University of Uzbekistan named after Mirzo Ulugbek, Uzbekistan</td>
</tr>
<tr>
<td></td>
<td>Tashkent Chemical-Technology Institute, Uzbekistan</td>
</tr>
<tr>
<td>Project</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>Technische Universität München, Germany</td>
<td>The open University, United Kingdom</td>
</tr>
<tr>
<td>Urgench State University, Uzbekistan</td>
<td>Vienna University of Technology (TU Wien), Ausreia</td>
</tr>
<tr>
<td>Yassawi Kazakh-Turkish International University, Kazakhstan</td>
<td></td>
</tr>
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</table>

<table>
<thead>
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</tr>
</thead>
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<td>Contract Duration</td>
<td>36 months</td>
</tr>
<tr>
<td>Approved Project budget</td>
<td>960.454</td>
</tr>
</tbody>
</table>

**Reference** 158982-TEMPUS-1-2009-1-ES-TEMPUS-JPCR

**Title** Towards Sustainable Water Resources Management in Central Asia

**Description** This Action sought to enhance human and institutional capacity in water resources management and strategies in Central Asia. Specifically, it implemented a Masters Programme in Water Resources Management and created national Resource Centres in Water Resources Management in each target country. Bringing together key universities in the region, this Action enhanced scientific cooperation in water resources management. It contributes to the Bologna process by developing curriculum in line with its requirements. The Action also provided opportunities for curriculum building on water management as well as staff training, enhancing Central Asian partners' capacity to provide quality education.

The Masters and the Centres provided trained professionals to provide relevant answers and solutions to challenges faced by Central Asia in water management. The innovative aspect of this project was the regional approach, allowing for economies of scale in expertise and resources as well as a shared and balanced understanding of the issue - contributing towards consensus building in the region.

**Coordinator** UNIVERSITY OF ALICANTE
Campus San Vicente del Raspeig, Ap 99
ALICANTE E-03080, España

**Contractor** UNIVERSITY OF ALICANTE
Campus San Vicente del Raspeig, Ap 99
ALICANTE E-03080, España

**Partners**
- Kazakh National Technical University Named after K.I. Satbayev, Kazakhstan
- Karshi Engineering-Economics Institute, Uzbekistan
- Kyrgyz National University Named after J. Balasagyn, Kyrgyzstan
- Kyrgyz State Technical University Named After Isaak Razzakov, Kyrgyzstan
- Ministry of Agriculture of the Republic of Kazakhstan, Kazakhstan
- Ministry of Agriculture, Water Resources and Processing Industry of the Kyrgyz Republic
- Ministry of Education and Science of the Kyrgyz Republic, Kyrgyzstan
- Ministry of Education and Science of the Republic of Kazakhstan, Kazakhstan
- Ministry of Higher and Secondary Specialised Education Uzbekistan, Uzbekistan
Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

| Ministry of Land Melioration and Water Resources of the Republic of Tajikistan, Tajikistan |
| Slovak University of Technology in Bratislava, Slovakia |
| Tajik Technical University Named after Akademican m.s. osimi, Tajikistan |
| Tashkent Institute of Irrigation and Melioration, Uzbekistan |
| Technological University of Tajikistan, Tajikistan |
| Universita degli Studi di Genova, Italia |
| University of Alicante, Spain |
| Warsaw University of Life sciences (WULS - SGGW), Poland |

| Original Project Budget | 792,200 |
| Maximum Grant Awarded | 693,020 |
| Contract Duration | 36 months |
| Approved Project budget | 770,850 |

| Reference | 159025-TEMPUS-1-2009-1-FR-TEMPUS-JPCR |
| Title | Réseau Europe-Russie-Asie Centrale de Masters "Informatique Seconde Compétence" (ERAMIS) (European-Russian-Central Asian network of Masters "Computer Science as Secondary Competence" (ERAMIS)) |
| Description | The proposed project consisted in developing the Information Society through the creation of the European-Russian-Central Asian network for Masters "Informatics Secondary Competence" between four Russian, three Kazakh, two Kyrgyz universities and five universities of the European Union. Based on the Master "Double competence in Computer Science and Social Science" which was created as a part of Tempus III project at the Kyrgyzstan National University of (UNEK), a new program was developed to accommodate this Master to the computer science application to the exact sciences and engineering sciences. The Master "Computer Science as Second Competence" included two directions: "Computers Science for Humanities and Social Science" and "Computer Science for Exact Sciences and Engineering Sciences". The existing program was adapted to Russian and Kazakh needs. The Master was implemented in the Universities of the four major industrial regions of Russia and three important regions of Kazakhstan. These universities expressed a particular interest to create a training which would give both, the fundamental theoretical bases in Computer Science (algorithmic, programming, systems and networks architecture) and the practice of modern tools needed in the areas of databases, information systems, multimedia technologies (internet, web) and processing of structured electronic documents (XML technologies). Masters' "Computer Science as Secondary Competence" created in the Kyrgyz, Russian and Kazakh universities were structured in a network named "ERAMIS". This network allowed expanding the knowledge and experiencing the exchange between the different partners of the Eurasian continent. "ERAMIS" network aimed at developing the necessary conditions for creation curriculum allowing the students to obtain a double degree for the same period of study at the universities in the network. For this purpose the necessary specific requirements for the double degree were developed in the... |
Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

| Coordinator | UNIVERSITE PIERRE MENDES FRANCE GRENOBLE 2  
|            | 1251 Avenue Centrale  
|            | GRENOBLE B.P. 47 F- 38040,France |
| Contractor | UNIVERSITE PIERRE MENDES FRANCE GRENOBLE II  
|            | 151 rue des Universités - BP 47  
|            | GRENOBLE CEDEX 9 38040,France |
| Partners   | Al-ferabi kazakh National University, Kazakhstan  
|           | Astrakhan State University (ASU), Russian Federation  
|           | Beuth Hochschule Fuer Technik Berlin, Germany  
|           | Innovative University of Eurasia, Kazakhstan  
|           | ISP AKNET, Kyrgyzstan  
|           | Kazan Technical University, Russian Federation  
|           | Kyrgyz State Technical University named after Isaak Razzakov, Kyrgyzstan  
|           | Lublin University of Technology, Poland  
|           | Savonia University of Applied Sciences, Suomi / Finland  
|           | SOFIT - Information Systems, Russian Federation  
|           | Systemotekhnika, Kazakhstan  
|           | Universidad de Alicante, España  
|           | Université d’Etat Technique de Karaganda, Kazakhstan  
|           | Université Nationale de Kirghizistan (Nommée Balassaguin), Kyrgyzstan  
|           | University of Social and Economic Sciences, Russian Federation  
|           | Voronezh State University, Russian Federation |
| Original Project Budget | 1.198.400 |
| Maximum Grant Awarded | 1.017.530 |
| Contract Duration | 36 months |
| Approved Project budget | 1.122.430 |

Reference | 510978-TEMPUS-1-2010-1-AT-TEMPUS-JPCR |
Title | Geoinformatics: Managing Energy, Resources, Environment |
Description | The main objective of the project was the development and implementation of a new university program in 'Geospatial Management' to be offered on the second level (Masters) at seven participating Central Asian Universities. The objective was realized based on an analysis of qualification demand and definition of prerequisites, and through an interdisciplinary curriculum joining spatial sciences with resource, environmental and in particular energy systems management.

Training of academic faculty as teachers of the curriculum was paralleled by the development of a syllabus referencing online learning media, so that the program could be delivered at all universities by blended learning. This was one important element in the overall quality management strategy, requiring strong cooperation between European and Central Asian universities in order to overcome current problems in academic quality and integrity.

In addition, call for the design and installation of eLearning/blended learning study labs in the participating departments was planned. This equipment facilitated the joint use of qualified faculty, the leveraging
of common resources available online, and collaborative projects plus additional interaction among students and faculty. Several measures ensured the long term sustainability of the new study program. First, teachers as well as students were supported in improving their English language skills. Secondly, close cooperation with the resources (energy) industry ensured the applicability of skills and knowledge and the employability of graduates. Thirdly, the development of (online facilitated) communities involving stakeholders enhanced quality and sustainability. Overall, the program in ‘Geospatial Management’ not only qualified a new generation of highly employable students at the intersection of geosciences, energy systems, resource and environmental management, but also contributed to structural and societal development.

Coordinator
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Contractor
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Partners
European Geography Association for Students and Young Geograph, Nederland
Kazakh National University by Al- Faraby, Kazakhstan
Korkyt Ata Kyzylorda State University, Kazakhstan
Kyrgyz State Univ. of Construction, Transport & Architecture, Kyrgyzstan
Ministry of Education and Science Kazakhstan, Kazakhstan
Ministry of Education and Science of the Kyrgyz Republic, Kyrgyzstan
Ministry of Education Tajikistan, Tajikistan
Ministry of Industry, Power and Fuel Resources of Kyrgyz Repub, Kyrgyzstan
Nyugat-Magyarországi Egyetem, Hungary
Osh engine generating station, Kyrgyzstan
Osh Enterprise of High Voltage Station, Kyrgyzstan
Osh Technological University named after M.M. Adyshev, Kyrgyzstan
State enterprise Kyrgyzgilkommunsoyus, Kyrgyzstan
Tajik Agrarian University, Tajikistan
Tajik State Pedagogical University named after Sadriddin Ayni, Tajikistan
University of Central Asia, Kyrgyzstan
Vrije Universiteit Amsterdam, Nederland

Original Project Budget 987.623,88
Maximum Grant Awarded 835.023,76
Contract Duration 36 months
Approved Project budget 927.804,76

Reference 511172-TEMPUS-1-2010-1-DE-TEMPUS-JPCR

Title Curriculum Invoking Bologna-aligned Education Leading to reform in Environmental Studies

Description The project proposal aimed at professionalizing Higher Education and
Achievements of Tempus IV projects in the internationalization of higher education in Central Asia particularly environmental studies within three areas of specialisation through the implementation of the Bologna Process at all three levels, BA-MA and PhD. It fostered as well the cooperation between EU and Central Asia in the field of environmental studies and prepared future managers and specialists in Central Asia in order to protect in a more effective way their environment. The specific project objectives thus were:
to implement the full Bologna process in environmental studies in at least three countries of Central Asia and Georgia with full info-kit towards Bologna implementation for Uzbekistan and Turkmenistan.
to reform curricula in three distinctive areas at BA level (forestry, industrial safety and water and soil environmental science)
to create a Master in environmental protection
to create 21 new doctoral schools in those three specialisation areas in Central Asia and Georgia
to improve the training skills of 120 teachers
to form 480 BA students and 150 MA students during the pilot project in first year of new courses
to improve the employability of the students
to prepare joint master and phd diplomas between EU and Central Asian partners in the field of environmental studies
to prepare 5 centers of accreditation in ISO 14000

| Coordinator | Georg-August-Universität Göttingen Von-Siebold-Str. 4,4 Göttingen 37075, Deutschland |
| Contractor | Georg-August-Universität Göttingen Von-Siebold-Str. 4,4 Göttingen 37075, Deutschland |
| Partners | Academician E.A. Buketov Karaganda State University, Kazakhstan Bukhara State University, Uzbekistan Carl von Ossezski - Universität Oldenburg, Deutschland Chamber of Ecoauditors, Kyrgyzstan Chimikiotechnologichen I Metalurgichen Universitet, Bulgaria Ghent Universiteit, Belgium Iakob Gogebashvilis Saxelobis Tselavis Sakhelmtsifo Universitet, Georgia Ilia State University, Georgia Issykkul State University named after K. Tynystanov, Kyrgyzstan Kazakh-British Technical University, Kazakhstan Khorog State University named after Moyonsho Nazarshoev Tajikistan Kokchetau State University named after Shokan Ualikhanov, Kazakhstan Kostanai State Akhmet Baitursynov University, Kazakhstan Kyrgyz National Agrarian University named after K.I. Skryabin, Kyrgyzstan Kyrgyz State Technical University named after I. Razzakov, Kyrgyzstan Ministry of Education and Science of Kyrgyz Republic, Kyrgyzstan Ministry of Education & Science of the Republic of Kazakhstan, Kazakhstan Ministry of Higher Education Tajikistan, Tajikistan National Attestation Commission of Kyrgyz Republic, Kyrgyzstan Nyugat-Magyarorszagi Egyetem, Hungary Osh Technological University named after M.M. Adyshev, Kyrgyzstan |
Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

Physical-Technical Institute of Academy of Sciences of UZ, Uzbekistan
Politecnico di Torino, Italia
Samarkand Agricultural Institute Uzbekistan
Solar Plus Ltd., Uzbekistan
S. Seifullin Kazakh Agro Technical University, Kazakhstan
State Agency on Environment Protection and Forestry, Kyrgyzstan
Szkola Gówna Gospodarstwa Wiejskiego, Poland
Tajik Agrarian University, Tajikistan
Tajik National University, Tajikistan
Talas State University, Kyrgyzstan
Tashkent Chemical-Technology Institute, Uzbekistan
TeachEx Academy for Teaching Excellence in Higher Education, Kyrgyzstan
The Kulob Branch of Technological University of Tajikistan, Tajikistan
Turkmen Agricultural University named after S. A. Niyazov, Turkmenistan
Turkmen State University named after Magtymguly, Turkmenistan
Universidad de Alicante, España
Università de l’Aquila, Italia
Università di Udine, Italia
Urgench State University, Uzbekistan
Vrije Universiteit Brussel, Belgium

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Reference 511347-TEMPUS-1-2010-1-DE-TEMPUS-JPCR

Title Development and introduction of a Blended Learning based bachelor’s study programme in «Energy Management» in Kazakhstan and Turkmenistan/ Etablierung eines Blended-Learning basierten Bachelor-Studiengangs „Energiemanagement“ in Kasachstan und Turkmenistan

Description World energy demand will rise according to recent estimates by the year 2030 by 70%. In Kazakhstan and Turkmenistan, despite the high incidence of fossil fuels, issues such as energy shortages, rising energy prices, climate change and energy-efficient use of resources are more crucial than ever. In Kazakhstan and Turkmenistan the awareness on efficient energy production and use is rising. The energy demand in these regions increases due to economic growth each year by approximately 6%. To get this problem under control, the establishment of energy management in companies and organizations is extremely relevant. This requires first and foremost qualified professionals who have the necessary technical know-how, business knowledge and transferable skills. As a global objective the project aimed at providing sustainable and research based support to the regions to foster energy efficient and entrepreneurial thinking and action among specialists and executives. Moreover the partners were introduced to different models of co-operation between national administration, companies and universities in the areas of energy efficiency and management.
As part of the project a BA programme in "Energy Management" was designed at the partner universities in cooperation with the European universities. It was tested and then integrated into the existing study programme of partner universities in Turkmenistan and Kazakhstan. This motivated the companies to change their philosophy and triggered an efficient use of energy resources. Another general objective was to increase the awareness of companies involved in energy management in the corporate culture as well as authorities confronted with the issue. Different models of cooperation between universities, business and politics were introduced and measures to promote energy-efficient thinking discussed.

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Partners
A SIIN Consulting GmbH, Deutschland
FH Joanneum, Austria
Ingenieur-Ökonomische Universität namens M. Dulanow, Kazakhstan
Kasachische Agrotechnische Universität namens S. Seifulin, Kazakhstan
Kaunas Universität of Technology, Lithuania
Kreis Kostanaj, Kazakhstan
Kreis Lippe, Germany
Turkmenisches Institut für Energie und Industrie, Turkmenistan
Turkmenisches staatliches institut für architektur und bauwesen, Turkmenistan

Original Project Budget 887,496,52
Maximum Grant Awarded 745,421,52
Contract Duration 36 months
Approved Project budget 828,646,52

Reference 516802-TEMPUS-1-2011-1-KZ-TEMPUS-SMGR

Title Students self-governance & Democratic Involvement in Kazakhstan

Description STUDIK project aimed at development and strengthening student self-governance and democratic involvement at Kazakh universities. The approach included four specific objectives:

1. Increase knowledge on state-of-the-art of student self-governance in Kazakhstan and EU countries to build bridges for transferring EU experience and enable models to be implemented;
2. Create and improve a general understanding and acceptance for student involvement in university processes by students, high-ranking university and ministerial officials;
3. Create motivation mechanisms and strengthen capacity of students to organise themselves in student boards and upgrade their impact at Kazakh universities and society at large;
4. Create suitable legal and institutional frame for student self-governance at Kazakh universities

Listed objectives were substantiated by following outcomes:

(a) As is comparative analysis
(b) Definition of target groups/stakeholders
Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

<table>
<thead>
<tr>
<th>(c) Installation &amp; development of infrastructure</th>
<th>(d) Workshops &amp; Promotion of Student Self-Governance</th>
<th>(e) Set-up of legal conditions for student self-governance</th>
<th>(f) Implementation of student self-governance in Kazakhstan</th>
</tr>
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</table>

Entire STUDIK project was complemented by dissemination activities following a defined communication strategy which aimed at the highest possible degree of visibility of the project and the TEMPUS program in general.

A cornerstone of STUDIK project was a dedicated work package, which included activities aiming at quality ensuring by internal and external monitoring. This allowed a continuously high quality during the entire implementation phase. The project was managed using state-of-the-art PM tools such as dedicated risk management, a permanent update of the stakeholders’ matrix as well as professional tools for planning and monitoring of the basic target elements time, budget and quality.

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Dresden 01062, Germany

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Helmholtzstrasse, 10  
Dresden 01062, Germany

**Partners**
Alliance of students Almaty, Kazakhstan  
Altynsarin Arkalyk State Pedagogical Institute, Kazakhstan  
Auezov South-Kazakhstan State University, Kazakhstan  
Caspian State University of Technologies and Engineering, Kazakhstan  
East-Kazakhstan State Technical University, Kazakhstan  
Information Systems Management Institute, Latvia  
Kazakh Ablai Khan University of International Relations, Kazakhstan  
Kazakh Financial-Economic Academy, Kazakhstan  
Kostanay State University named after A. Baityrsynov, Kazakhstan  
Kyzyl-Orda State University named after Korkyt Ata, Kazakhstan  
Lithuanian University of Agriculture, Lithuania  
L.N. Gumilyov Eurasian National University, Kazakhstan  
Ministry of Education and Science of RK, Kazakhstan  
Students’ Representation of Lithuanian University of Agriculture, Lithuania  
Students Self Government of ISMA, Latvia  
Students Senate of Kazakhstan, Kazakhstan  
Taraz Innovative Humanitarian University, Kazakhstan  
University of International Business, Kazakhstan  
University of Natural Resources and Applied Life Sciences, Austria  
West-Kazakhstan Agrotechnical University, Kazakhstan  
Youth Congress of Kazakhstan, Kazakhstan

<p>| Original Project Budget | 1.401.332 |
| Maximum Grant Awarded | 1.082.274 |
| Contract Duration | 36 months |
| Approved Project budget | 1.202.527 |</p>
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<td>Title</td>
<td>Enhancement of Quality Assurance System through Professional Development of Academic Leaders</td>
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<tr>
<td>Description</td>
<td>The QAPD project established a network and working group for educational reform in Uzbekistan to help strengthen and structure academic and quality assurance processes at both local and national levels. This project ensured the long-term integration of quality assurance practices according to the Bologna Process and international standards within the Partner Country. Running in parallel with the QA processes enhancement, the QAPD project guided and facilitated the professional development of a cadre of academic leaders (4 from each participating Higher Education Institutions) through a two-year cycle of curriculum design, planning, delivery and evaluation, informed by European and national frameworks and standards and using curriculum development as a vehicle for quality enhancement. The cadre of academic leaders engaged in professionally-focused activities, designed to develop high-level educational design skills, supported through an integrated programme of residential workshops and events, and by distance learning provision accessed through a virtual learning environment (VLE) and dedicated online resources. LondonMet together with all partners involved designed and delivered the professional development programme, organised and run the residential events, created online resources and created and managed the VLE (in consultation with the partners and the participants). The EU partner organisations provided the subject-based and/or pedagogical advice and support as mentors/supervisors to the participants. In collaboration with the participating institutions, LondonMet also facilitated the work involved in the enhancement of Uzbek national Quality Assurance system. The combination of activities were designed to establish a cadre of expertise, and also to enable that cadre to build communities of academic practice at sector, national and international levels.</td>
</tr>
<tr>
<td>Coordinator</td>
<td>London Metropolitan University Holloway Road, 166 London N7 8DB, United Kingdom</td>
</tr>
<tr>
<td>Contractor</td>
<td>London Metropolitan University Holloway Road, 166 London N7 8DB, United Kingdom</td>
</tr>
<tr>
<td>Partners</td>
<td>British Council, United Kingdom Bukhara State University, Uzbekistan Karshi State University, Uzbekistan Ministry of Higher and Secondary Specialised Education, Uzbekistan Samarkand Foreign Languages Institute, Uzbekistan Samarkand Institute of Economics and Service, Uzbekistan University of Peloponnese, Elas Vytautas Magnus University, Lithuania</td>
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<table>
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<tr>
<th>Title</th>
<th>Development and implementation of the Master Programme - &quot;Eco-Engineering&quot; processing and sustainable use of renewable resources and bio waste</th>
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</thead>
</table>

| Description | The issues of environmental safety and “green” energy processing are being highly politicised and officially belong to prior economic and social development policies in Kazakhstan and Russia. However, the current economic realities and relevant educational infrastructure do not allow effective realization of these policies. Mostly, it is not the lack of financial resources or political will, but more the lack of relevant specialists; educational background, practical experience that keeps countries from implementing of the environmental policy and relevant foreign companies from direct investments in this area. In response to the challenges and to great potential in “green” energy processing of the participating regions from Kazakhstan and Russia the project aimed at development and implementation of the inter-disciplinary Master Programme “Eco-Engineering - environmental process and energy engineering based on renewable resources and bio-waste”. Project's wider objectives were: 1) Strengthening educational competitiveness and international involvement of Partner Universities through bringing them on international standards in accordance with Bologna process in fields of environmental safety and efficient processing of “green” energy 2) Promoting inter-regional cooperation of the participating regions on academic, political and business level in relevant Project's specific objectives were: 1) Launching of developed Master Programme in partner Universities by the 2nd project year; 2) ca. 7-12 students with sufficient background and language skills from each partner university will enter the programme; 3) Bringing relevant academic content in accordance to EU standards & Bologna process; 4) Ensure practice related knowledge transfer and cross-country experience- exchange; 5) Ensuring efficient utilization of already gained experiences from relevant projects; 6) Rising of political & public awareness of the problems addressed; Secure project's durability, transferability |

<table>
<thead>
<tr>
<th>Coordinator</th>
<th>Hochschule Wismar, University of Applied Sciences Philipp-Müller Str., 14 Wismar 23966, Deutschland</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Hochschule Wismar, University of Applied Sciences Philipp-Müller Str., 14 Wismar 23966, Deutschland</th>
</tr>
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<table>
<thead>
<tr>
<th>Partners</th>
<th>Energy Partner LLP, Kazakhstan Karaganda State Technical University, Kazakhstan Kazan State Technical University named after A.N.Tupolev, Russian Federation Ministry of Education and Science of Republic of Kazakhstan, Kazakhstan Republican State Enterprise (RSE) Rudnyi Industrial</th>
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Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

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Reference: 517313-TEMPUS-1-2011-1-IT-TEMPUS-JPCR

Title: Environment protection through development and application of sustainable Agriculture Technologies

Description: The general aim of the project was to establish in KZ, KG, UZ, TJ an advanced integrated three level system BA-MA-PhD in environmental friendly agricultural technologies based on specially designed methodologies according to the best European practices. The reason of the selected topic for the proposed project lays on the CA territorial characteristics, the fast change of the society according to a wide democratization of institutions, the lack of entrepreneurial farmers' skills, the need to look at a globalised market, improve the quality of life of rural villages and at the same time preserve the soil, the traditional cultivations and the local identities.

In order to meet the specified constraints and needs, through several connected actions aiming to affect knowledge, behaviour and mentality of teachers, students and staff as well as rules and laws related to HE organisation, the project implemented the Bologna process in the selected area of study by reforming curricula in 3 areas of specialization at BA level (Agro-ecology, Agricultural Technology and Engineering) and creating a MA curriculum in Agroecology, through:

1. Existing curricula analysis and reform in accordance with ECTS
2. Elaboration of 5 new courses and updating of 5 courses
3. Preparation of teaching materials in english/russian (also for LD)
4. Improvement of 60 teachers' skills by means training at EU universities partner
5. Improvement of language skills of 120 teachers
6. Language training for 500 students and short mobility of 40 students to EU
7. Enrollment of 400 BA students and 100 MA students in the new courses in the second project year
8. Creation of 4 doctoral schools in the selected areas
9. Development of measures for the validation of a joint MA and PhD degrees between EU and CA
10. Development of appropriate quality assurance policies and procedures according to EQS

Well targeted dissemination activities in order to involve decision-makers and societal actors

Coordinator: Università degli Studi dell’Aquila
via G. Falcone, 25
### Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

**L'Aquila 67100, Italia**

**Contractor**
Università degli Studi dell’Aquila  
via G. Falcone, 25  
L’Aquila 67100, Italia

**Partners**

- Andijan Agricultural Institute, Uzbekistan
- Eesti Maaülikool, Estonia
- Innovative University of Eurasia, Kazakhstan
- Kazakhstan Student Alliance, Kazakhstan
- Khujand State University, Tajikistan
- Kokshetau State University named after Shokan Ualikhanov, Kazakhstan
- Kyrgyz National Agrarian University, Kyrgyzstan
- Kyrgyz National University, Kyrgyzstan
- Ministry of Education and Science of Kyrgyz Republic, Kyrgyzstan
- Ministry of Education and Science of Republic of Kazakhstan, Kazakhstan
- Ministry of Education of the Republic of Tajikistan, Tajikistan
- Public Association "Ecological Centre of ECO-KOKSHE", Kazakhstan
- Samarkand Agricultural Institute, Uzbekistan
- S. Seifullin Kazakh Agro Technical University, Kazakhstan
- Tajik Agrarian University named after Shirinsho Shotemur, Tajikistan
- Tajik Technical University named after academician M. S. Osimi, Tajikistan
- University of Azores, Portugal
- University of Szeged Faculty of Agriculture, Hungary
- Wroclaw University of Environmental and Life Sciences, Poland

<table>
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<tr>
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**Reference**

517340-TEMPUS-1-2011-1-IT-TEMPUS-SMGR

**Title**

Documentation for Quality Assurance of Study Programmes

**Description**

A clear documentation of learning objectives, educational process, learning context, learning outcomes and management system is an essential and necessary aspect of the QA of SPs. The project aimed to define and to implement an on-line documentation system for the QA of SPs in the PCs, consistent with the European Standards and Guidelines for QA. This aim was pursued through the cooperation of all the project partners, national authorities included.

A first outcome of the project was the identification of information and data for QA of SPs in PCs. To this end national standards for QA, or “quality requirements”, of SPs were identified and analysed, also in order to verify and promote their compliance with the European Standards and Guidelines.

Information and data associated to each quality requirement and related management process necessary to “measure” the quality of SPs were identified and procedures for their collection and documentation were defined. Then the necessary University facilities for the collection and documentation of the identified information...
and data were organised and the software for their on-line management was designed and produced. Implementation of procedures and facilities and of software constitute the final outcome and output of the project.

Dissemination was primarily aimed at informing and involving all the Higher Education Institutions of the PCs of the project objectives, activities and results, and will based on following two main actions: dissemination through Internet and distribution of material on the project activities and results; organisation of events on the project activities and results.

To ensure the project sustainability the adoption of the on-line documentation system to be implemented as national reference documentation system by the competent national authorities was pursued. Internal and external quality monitoring and control ensured the project quality.

| Coordinator | UNIVERSITA' DEGLI STUDI DI GENOVA VIA BENSA, 1 GENOVA 16124, Italia |
| Contract | UNIVERSITA' DEGLI STUDI DI GENOVA VIA BALBI, 5, null GENOVA 16126, Italia |
| Original Project Budget | 1.280.606 |
| Maximum Grant Awarded | 1.089.600 |
| Contract Duration | 36 months |
Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

Approved Project budget | 1.210.708

| Reference | 517346-TEMPUS-1-2011-1-SE-TEMPUS-JPCR |
| Title     | Establishing Modern Master-level Studies in Industrial Ecology |
| Description | The project was designed to create a base for preparing engineers capable of working on technological design of industrial and urban systems, industrial processes and consumer products taking into account environmental problems and given social and economic restrictions in Azerbaijan, Belarus, Kazakhstan and Ukraine. To meet this wider objective, the project team: introduced innovative Bologna-compliant modular, problem-oriented Master Program in Industrial Ecology at eight Universities in Azerbaijan, Belarus, Kazakhstan and Ukraine by September 2013; increased capacity in the area of Industrial Ecology, modern teaching methods as well as quality assurance mechanisms at partner Universities through training at EU Universities; improved and encouraged the international integration of partner countries' students through mobility to EU Universities and participation in International Seminars; promoted and strengthened institutional capacities of partner Universities to provide guidance to industries and local/regional authorities; ensured visibility of new Master Programme at eight partner Universities and their Industrial Ecology Centres; ensured continuity of the Master Program and long-term support of the project outcomes at Partner Universities beyond Tempus Programme funding. The project was finalized with four Conferences “Engineering Education for Sustainable Development” in Azerbaijan, Kazakhstan, Belarus and Ukraine. The Conferences disseminated the results of the project and started discussions concerning the new role and responsibilities of modern engineering Universities. |
| Coordinator | Kungliga Tekniska Högskolan Teknikringen, 34 Stockholm 10044, Sweden |
| Contractor | Kungliga Tekniska Högskolan Valhallavägen, 79 Stockholm 10044, Sweden |
| Partners | Association of power efficient engineering of Ukraine, Ukraine Baku City Department of Ecology and Natural Resources, Azerbaijan Baranovichi State University, Belarus Belarussian National Technical University, Belarus Caspi State University of Technology and Engineering, Kazakhstan Chernihiv State Technological University, Ukraine Delft University of Technology, Nederland Enterprise, Institute of Oil and Gas (Ministry of Education), Kazakhstan Institute for Nature Management, National Academy of Sciences, Belarus Kazakh National Technical University, Kazakhstan "Kazphosphate" LLC, Kazakhstan Mogilev State University of Food Technologies, Belarus |
# Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

<table>
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<tr>
<th>National Aviation Academy, Azerbaijan</th>
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<tbody>
<tr>
<td>National Technical University &quot;Kiev Polytechnic Institute&quot;, Ukraine</td>
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<tr>
<td>National Agency for Higher Education, Sverige Qafqaz University, Azerbaijan</td>
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## Reference

**Reference** | 517504-TEMPUS-1-2011-1-ES-TEMPUS-JPCR
---|---
**Title** | Modernization and development of curricula on pedagogy and educational management in the Central Asian countries
**Description** | The project aimed at the significant reformation and modernization of the pedagogic education system in three countries of Central Asia in terms of its orientation to the best practices of European education area, national specifics and priorities of their home countries and with the purpose to provide the countries with the highly-qualified specialists in pedagogy and also in administrating educational institutions with new competence.

One of the particular project goals was not only modernizing existing pedagogic education but also introducing new curricula on educational management in Master and PhD levels. More specifically within the EDUCA project «Modernization and development of curricula on pedagogy and educational management in the Central Asian countries» university partners from Central Asia developed and modernized the existing curricula on “Pedagogy” and develop a new curriculum on “Educational Management” based on ECTS that meet international best practices and national specifics, based on the experience of European and Central Asian universities.

The project resulted in the significant modernization of the pedagogic education and establishment of the relevant system for training managers for education system in Central Asian countries. As a result of the project in the partner countries of Central Asia a new system of training teachers, based on the multilevel system with different possibilities of constructing the paths for the career development, including the scientific, academic and managerial was formed.

**Coordinator** | OTTO-VON-GUERICKE-UNIVERSITAT MAGDEBURG Zschokkestr. 32 MAGDEBURG D-39104 Germany

**Contractor** | OTTO-VON-GUERICKE-UNIVERSITÄT MAGDEBURG Universitätsplatz 2 Magdeburg 39106 Germany

**Partners**
- Arabaev Kyrgyz State University, Kyrgyzstan
- Center for progressive education technologies, Tajikistan
- Compostela Group of Universities, España
- E.A. Buketov Karaganda State University, Kazakhstan
- Education Network Association, Kyrgyzstan
- Issyk-Kul State University named after Kasym Tynystanov, Kyrgyzstan
- Kazakh National Pedagogical University named after Abai, Kazakhstan
Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

Khujand State University named after B. Gafurov, Tajikistan  
Korkyt Ata Kyzyldorda State University, Kazakhstan  
Kulob State University by name Abuabdulloh Rudaki, Tajikistan  
Lithuanian University of Educational Sciences, Lithuania  
Ministry of Education and Science of Kyrgyz Republic, Kyrgyzstan  
Ministry of Education and Science of Republic of Kazakhstan, Kazakhstan  
Ministry of Education of the Republic of Tajikistan, Tajikistan  
Naryn State University named after S. Saamatov, Kyrgyzstan  
Osh State University, Kyrgyzstan  
Shakarim State University of Semey, Kazakhstan  
Tajik State Pedagogical University named after Sadriddin Aini, Tajikistan  
University College Cork, Ireland  
University of Alicante, España  
University of Cumbria, United Kingdom

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Reference  
530183-TEMPUS-1-2012-1-DE-TEMPUS-SMHES

Title  
Qualification Frameworks in Central Asia: Bologna-based Principles and Regional Coordination

Description  
The aim of the project was to implement Qualification Framework ideas in the Central Asian counties. It was planned to improve their educational systems by further development of existing requirements to educational standards in particular fields on the base on new European approaches and the Tuning Programme. During the project realization, a Concept of General Regulations of education standards was elaborated. Later it was adapted to the national conditions; General Regulations for each partner country were formulated and formally approved by corresponding national Ministry of Education after consultations with local enterprises. National Committees on Qualification Frameworks in each of the partner countries were established; the Committees will form a Regional CA Network, which will be responsible for experience exchange and standards' coordination.

Retraining in the EU universities, for university and ministry staff, involved into curriculum development processes, was planned; especially important was “training trainers”. Teachers, retrained at EU universities, prepared special courses, devoted to qualification framework issues, and by this way spread accepted knowledge within colleagues in CA countries.

On the base of the approved National General Regulations and modernized learning outcomes, national standards for informatics curricula was designed by retrained teacher. They were used as samples for reform of the standards of other disciplines.

Coordinator  
Koblenz-Landau University  
Universitaetsstrasse, 1  
Koblenz 56016, Germany
Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

| Contractor | Koblenz-Landau University  
Universitaetsstrasse, 1  
Koblenz 56016, Germany |
|---|---|
| Partners | Association of Educational Establishments “Education Network”, Kyrgyzstan  
D. Serikbayev East-Kazakhstan State technical University, Kazakhstan  
Institute of Management, Economics and Strategic Research, Kazakhstan  
Karaganda State Industrial University, Kazakhstan  
Khorog State University, Tajikistan  
Khujand State University, Tajikistan  
K. Tynystanov Issykkul State University, Kyrgyzstan  
Kulob State University, Tajikistan  
Kyrgyz State Technical University, Kyrgyzstan  
Maria Curie-Skłodowska University, Poland  
Ministry of Education and Science of Kazakhstan Republic, Kazakhstan  
Ministry of Education and Science of Kyrgyz Republic, Kyrgyzstan  
Ministry of Education of Republic of Tajikistan, Tajikistan  
Osh Technological University, Kyrgyzstan  
Quality Assurance Netherlands Universities, Nederland  
State Committee on TV and Broadcasting of Sogd Region Tajikistan  
Talas State University, Kyrgyzstan  
Universidad de Cordoba, España  
University of Algarve, Portugal  
World University Service - Austrian Committee, Austria |
| Reference | 530326-TEMPUS-1-2012-1-IT-TEMPUS-SMGR |
| Title | Quality of Engineering Education in Central Asia |
| Description | QUEECA aimed at setting up and implementing a system of QA of Engineering Education (EE) in CA countries, finalized to the pre-professional accredit. of eng. programmes (i.e. accredit. of educational programmes as entry route to the eng. profession). The accredited programmes satisfy the same prerequisites for the award of the EUR-ACE quality label, i.e. the EUR-ACE Framework Standards (EAFS) and the European Standards and Guidelines for Quality Assurance in Higher Education. This was achieved by the creation of a network of National QA/accreditation Agencies (and a Regional Federation) able to accredit engineering programmes and authorized by ENAEE to award the EUR-ACE quality label, through the following steps:  
1. Create a National EE Society where it did not exist (in Kazakhstan, strengthen the existing KazSEE) and a CA Federation of EE Societies, partnered with SEFI and IFEES.  
2. Adapt the EAFS and formulate analogous CA Standards (CAEAS) in Russian and English.  
3. Create Accredit. Centers in each CA country (with a Regional coordination); train the relevant “accreditors”.  
4. Run a series of Trial Accreditations with intern. teams to test the draft CAEAS and the local accreditors. |

| Original Project Budget | 679.862 |
| Maximum Grant Awarded | 679.862 |
| Contract Duration | 36 months |
| Approved Project budget | 611.172 |
5. Taking into account the Trial Accreditations results, formulate the final version of CAEAS.
6. Conduct a first run of pilot accredit. of eng. prgms and award the first EUR-ACE labels in CA.
7. Formulate a self-supporting financial plan for carrying out accredit. after the project closure.

Synergies were sought with the current TEMPUS project ECDEAST and the LLP Network EUGENE. ENAEE members (RAEE, ASIIN, SEFI) that already accredit engineering programmes in CA may award EUR-ACE labels to be included in the system set-up by QUEECA. QUEECA involved 4 out of 5 TEMPUS countries in CA.

| Coordinator | UNIVERSITY DEGLI STUDI DI FIRENZE  
| Via di S. Marta, 3  
| Firenze 50139, Italia |
| Contractor | UNIVERSITY DEGLI STUDI DI FIRENZE  
| Via di S. Marta, 3  
| Firenze 50139, Italia |
| Partners | Ag. Certif. qualita` e Accreditam.eur-ace Corsi di Studi ing., Italia  
| Aktoe State University after K. Zhubanov, Kazakhstan  
| Al-Farabi Kazakh National University, Kazakhstan  
| ASIIN Consult GmbH, Germany  
| CA Network for Quality Assurance at Educ. Network Association, Kyrgyzstan  
| D. Serikbayev East-Kazakhstan State Technical University, Kazakhstan  
| European Network for Accreditation of Engineering Education, Belgium  
| Instituto Superior de Engenharia de Lisboa, Portugal  
| Karaganda State Technical University, Kazakhstan  
| Kazakhstan Society for Engineering Education, Kazakhstan  
| Kyrgyz State Technical University Named after I. Razzakov, Kyrgyzstan  
| Kyrgyz State Univ. of Construct., Transp. and Arch. N. Isanov, Kyrgyzstan  
| M. Azuev South Kazakhstan State University, Kazakhstan  
| Metallurgical Institute of Tajikistan, Tajikistan  
| Middlesex University, United Kingdom  
| Ministry of education and science of Kazakhstan Republic, Kazakhstan  
| Ministry of Education and Science of Kyrgyz Republic, Kyrgyzstan  
| Ruhr University Bochum, Germany  
| Sapienza University of Rome, Italia  
| Société Européenne pour la Formation des Ingénieurs, Belgium  
| State Inspection on Licens. and Attest. of Educ. Instit., Kyrgyzstan  
| Tajik Technical University named after academician M. S. Osimi, Tajikistan  
| Tashkent State Technical University named after A. R. Beruni, Uzbekistan  
| Tashkent University of Information Technologies, Uzbekistan  
| The Ministry of Education of the Republic of Tajikistan, Tajikistan  
| The Ministry of Higher Education of the Republic of Uzbekistan, Uzbekistan  
| Università degli Studi di Genova, Italia |

| Original Project Budget | 1,294,015 |
| Maximum Grant Awarded | 1,105,793 |
| Contract Duration | 36 months |
| Approved Project Budget | 1,228,659 |
## Reference

| Reference | 530666-TEMPUS-1-2012-1-LT-TEMPUS-JPCR |

## Title

| Title | Master program in environmental science and sustainable development with focus on water management for Uzbekistan higher education |

## Description

| Description | The UZWATER project developed a base for universities in Uzbekistan to address the difficult environmental situation in the country, especially for water scarcity and environmental protection, by master level education. The eight universities in the project established centers for studying environmental protection and sustainable development, each one with their specific profile, to address local and regional needs in cooperation with Uzbekistan civil society. Universities of different directions and profile, technical, agricultural and classical, and universities in all regions of the country, including the disaster area in the Aral Sea region, take part. The universities have:
- offered a Master Program, compliant with the Bologna process, to give students competence, skills and professional capacity to work with environmental and sustainability issues in both private and public sectors.
- gave students competence to address and solve practical problems.
- used modern teaching methods using a web platform and information and communications technologies, and distance methods for best results.
- worked on problems of water scarcity, water use efficiency, river basin management, water conflicts and diplomacy, and water use in arid areas, and established one national centre on sustainable water management.
- offered all sectors of the Uzbekistan society to study sustainable development, and established one national center for Education for Sustainable Development ESD.
- invited stakeholders in Uzbekistan society to use the environmental and sustainability study centers as a service to solve their problems, take part in continuing education, and started applied protects with master level students. The UZWATER project organized several outreach events and a final conference to disseminate results of project, reach out to all Central Asian republics, stimulate international cooperation, and start discussions on the new role and responsibilities of modern universities. |

## Coordinator

| Coordinator | Kaunas University of Technology
Radvilenu pl., 19
Kaunas LT-44029, Lithuania |

## Contractor

| Contractor | Kaunas University of Technology
K. Donelaičio g., 73
Kaunas LT-44029, Lithuania |

## Partners

| Partners | Bukhara State University, Uzbekistan
Karakalpak State University, Uzbekistan
National University of Uzbekistan, Uzbekistan
Royal Institute of Technology, Sweden
Samarkand Agriculture Institute, Uzbekistan
Samarkand State Architectural and Civil Engineering Institute, Uzbekistan
Samarkand State University, Uzbekistan
Swedish Aral Sea Society, Sweden
Tashkent Technical University, Uzbekistan
University of Latvia, Latvia
Uppsala University, Sweden
Urgench State University, Uzbekistan |
### Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

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**Reference**

530786-TEMPUS-1-2012-1-NL-TEMPUS-SMHES

**Title**

Towards a Central Asian Higher Education Area: Tuning Structures and Building Quality Culture

**Description**

The broad aim of TuCAHEA was to contribute to building a CA Higher Education Area, aligned with the EHEA, able to take into account and valorise the specific needs and potentials of the Region and of the partner countries, thus responding to the needs of the higher education community and society at large. The project was organised as a CA Tuning Process based on the methodology developed worldwide by academics in collaboration with students, graduates, administrators, employers and ministries. TuCAHEA aimed to extend the use of competence-based quality tools for planning and delivery of HE programmes, enhance regional HE systems, create a platform for sharing knowledge and elaborating quality tools across the region and in each country. It encouraged legislation to create regional cohesion in alignment with the EHEA, it established pilot Tuning Subject Area Groups able to formulate Guidelines and Reference Points for key sectors, it trained ministerial, academic and independent experts in the use of competence-based tools, it fostered student mobility within and outside the region and tested and perfected the quality and recognition tools necessary for mobility; it established information/dissemination centers in both capitals and other areas of the partner countries.

The principal outcomes were to extend knowledge of the worldwide Tuning process, involving the CA Area directly in its broad international context; to enhance knowledge of existing quality and recognition tools as a basis for further elaboration; to carry out broad consultations on both generic and subject specific competences, to produce a number of Tuning Subject Area reports; to produce competence-learning out-comes based descriptions of degree programmes using the Degree Profile template developed by Tuning and the ENIC-NARIC Network, and more generally to creating a basis for a Central Asian Higher Education Area, developing premises for a CA Qualifications Framework and Credit System.

**Coordinator**

University of Groningen  
Oude Kijk in ‘t Jatstraat, 26  
Groningen 9712 EK, Nederland

**Contractor**

University of Groningen  
Broerstraat, 5  
Groningen 9712 CP, Nederland

**Partners**

Academician Y.A. Buketov Karaganda State University, Kazakhstan  
Andijan State University, Uzbekistan  
Association of Educational Establishments “Education Network”, Kyrgyzstan
Avicenna Tajik State Medical University, Tajikistan
Bishkek Academy of Finance and Economics, Kyrgyzstan
Ghent University, Belgium
1. Arabaev Kyrgyz State University, Kyrgyzstan
International Information Technologies University, Kazakhstan
International University of Kyrgyzstan, Kyrgyzstan
Issyk kul State University named after K. Tynystanov, Kyrgyzstan
Jalal-Abad State University, Kyrgyzstan
Karakalpak State University, Uzbekistan
Kazakh Economic University named after Turar Ryskulov, Kazakhstan
Kazakh Leading Academy of Architecture and Civil Engineering, Kazakhstan
Korkyt Ata Kyrgyz University, Kyrgyzstan
Kulob State University by Name Abubakurov Rudaki, Tajikistan
Kyrgyz National Agrarian University named after K.I. Skryabin, Kyrgyzstan
Kyrgyz National University, Kyrgyzstan
Kyrgyzstan-Turkey Manas University, Kyrgyzstan
Linköping University, Sweden
M. Auezov South Kazakhstan State University, Kazakhstan
Ministry of Education and Science of the Kyrgyz Republic, Kyrgyzstan
Ministry of Education of the Republic of Tajikistan, Tajikistan
Namangan Institute of Engineering and Technology, Uzbekistan
Namangan State University, Uzbekistan
Naryn State University, Kyrgyzstan
Samarkand State Institute of Foreign Languages, Uzbekistan
Tajik Agrarian University named after Shirins ho Shotemur, Tajikistan
Tajik State University of Commerce, Tajikistan
Tajik Technical University named after academician M. S. Osimi, Tajikistan
Talas State University, Kyrgyzstan
Tashkent Institute of Textile and Light Industry, Uzbekistan
Tashkent State Pedagogical University, Uzbekistan
The Branch of Lomonosov Moscow State University in Dushanbe, Tajikistan
The Ministry of Education and Science of Kazakhstan, Kazakhstan
The Ministry of Education of Turkmenistan, Turkmenistan
The Ministry of Higher & Secondary-Specialized Education of RU, Uzbekistan
Turkmen State Institute of Culture, Turkmenistan
Turkmen State Institute of Economics and Management, Turkmenistan
Turkmenistan National Ministry of Education, Turkmenistan
Università degli Studi di Milano, Italy
University of Deusto, Spain
University of Ljubljana, Slovenia
University of Pisa, Italy
University of Termez, Uzbekistan
Uppsala University, Sweden

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Reference | 530808-TEMPUS-1-2012-1-HU-TEMPUS-JPCR
Title | Geoinformatics: enabling sustainable development in Uzbekistan
Description | The main objective of the project was the development and implementation of a new university program in Geoinformatics to be offered on the second level (Masters) at Uzbek partner universities. The
goal of the project was to ensure that Uzbek partner universities have the capacity to offer a Master program in Geoinformatics that meets Bologna process, international academic quality standards, job market needs and support Uzbekistan in sustainable development. The project aimed to develop two cycle education in geoinformatics which implies modernization and development of a new Master program. At the beginning of the program a needs-analyses was accomplished and the further curriculum development was based on the result of the analyses. The overall course definition was discussed by all the partners, and the general rules and templates were set for an elaborated description. The curriculum and syllabus development was followed by development of the learning materials by the Uzbek partners. The testing and reviewing of the modules ensured meeting the standards and the needs of the stakeholders. Meanwhile a teacher training process guaranteed the quality and sustainability of the master program. In the partner institutions the installation of GIS laboratories and the acquisition of geodetic and GIS equipment provided the Uzbek partners with up to date teaching environment. Part of the equipment was jointly used in order to build the basement of network among students and faculties. After its accreditation the master course started; this program qualified a new generation of highly employable students in Geoinformatics and also contributed to structural and societal development.

Coordinator
University of West Hungary
Pirosalma, 1-3
Székesfehérvár 8000, Hungary

Contractor
University of West Hungary
Bajcsy-Zsilinszky, 4.
Sopron 9400, Hungary

Partners
Karakalpak State University, Uzbekistan
Kungliga Tekniska Högskolan, Sweden
Ministry of Higher and Secondary Specialized Education Uzbekistan
National Center of Geodesy and Cartography, Uzbekistan
National University of Uzbekistan named after Mirzo Ulug’bek, Uzbekistan
Paris-Lodron Universität Salzburg, Austria
State Unitary Enterprise "Geoinformkadastr", Uzbekistan
Tashkent Architecture Building Institute Uzbekistan
Tashkent Institute of Irrigation and Melioration, Uzbekistan
University of Greenwich, United Kingdom

Original Project Budget 1.009.411
Maximum Grant Awarded 847.668
Contract Duration 36 months
Approved Project budget 942.991
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<td>Title</td>
<td>Developing the Teaching of European Languages: Modernising Language Teaching through the development of blended Masters Programmes</td>
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<td>Description</td>
<td>The goal of the Project was to contribute to modernization and internationalization of the societies in the partner countries (PC-s) through curriculum reform to enhance capacities of HEI-s and secondary schools for teaching European languages. The Wider Objective was implemented through accomplishing the following Specific Project Objectives (SPO): 1. Develop a new model for teacher education. 2. Create a pool of retrained teacher educators who will train new trainers in a cascade model. 3. Develop and introduce a new 2-year masters programme for both pre- and in-service teachers of French, German and English; 4. Design an e-learning capacity for school teachers to improve access to teaching/learning resources; 5. Create potential for internationalization through an on-line network of trainers. The project focused on improving the learning and teaching of European languages in PC-s by adopting a cascade model of teacher education for longterm sustainability. The cascade model enabled larger groups of school teachers to be trained in a relatively short time period with minimal resources and allowed schools to prepare learners for the requirements of HEIs in the framework of the on-going reforms of education in the PC-s aimed at internationalization. The main output was the implementation of new blended learning masters programme which introduced innovative learner-centred methodologies tuned to the EU standards but with special attention to the needs of the local context where appropriate. The project was based on collaborative development and initial delivery of the MA with a gradual handover to trainers in PC-s, making delivery fully sustainable beyond the life of the project.</td>
</tr>
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</table>
| Coordinator       | Aston University  
Aston Triangle,  
Birmingham B47ET, United Kingdom |
| Contractor        | Aston University  
Aston Triangle,  
Birmingham B47ET, United Kingdom |
| Partners          | Department of Education and Science, Russian Federation  
Freiburg University of Education, Germany  
Kyiv National Linguistic University, Ukraine  
Mykolayiv National University, Ukraine  
Samarkand State Pedagogical Institute of Foreign Languages Uzbekistan  
Tyumen State University, Russian Federation  
Université de Caen Basse-Normandie, France  
Uzbekistan State University of World Languages Uzbekistan  
Voronezh State University, Russian Federation  
Yaroslavl State Pedagogical University, Russian Federation |
| Original Project Budget | 1.381.947 |
| Maximum Grant Awarded | 1.190.619 |
| Contract Duration  | 36 months |
Approved Project budget | 1.323.248

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<td>Title</td>
<td>Sustainable Agrarian Management Studies for Uzbekistan</td>
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| Description | The wider objective of SAMUz was to promote the relevance and quality of agricultural higher education in Uzbekistan by i) reacting to the changed needs of the labour market after transition, ii) becoming adaptive to globally changing conditions and the necessity of sustainable development, and iii) delivering ecologically and economically sustainable agrarian management studies at farm, sector and political level. As a consequence, SAMUz contributed to the improvement of rural welfare in Uzbekistan.

The specific project objective was the establishment of a modernised and Bologna aligned three level higher education system in the area of farm management and agricultural economics through i) adjusted and newly developed curricula on BA and MA level and a newly created PhD school, ii) improved teaching competences and materials, iii) enhanced university-business cooperation, and iv) implemented quality assurance policies and procedures according to European Quality Standards at all Uzbek Agricultural Universities by the end of the project.

The principle outcomes were:

WP1 (DEV1): Curricula development of revised BA course "Farm management" and new MA course "Agrarian Management" at all agricultural universities in UZ
WP2 (DEV2): Creation of cross-university PhD school "Agrarian policy and economics"
WP3 (DEV3): Up-date of "hard and soft ware" at developed study courses (i.e. teaching materials, technical infrastructure for PhD school, e-learning environment, improved teaching competences)
WP4 (DEV4): Set-up of quality assurance scheme for education
WP5 (EXP): Sustainability of modernised education (i.e. pilot phase, accreditation of revised BA and new MA at leading agricultural university and transfer to other agricultural universities in UZ)
WP6 (QPLN): Quality control & evaluation of project
WP7 (DISS): Dissemination of results
WP8 (MNGT): Project management and administration

Coordinator | Justus Liebig Universität Giessen
Senckenbergstr., 3
Giessen 35390, Germany

Contractor | Justus Liebig Universität Giessen
Ludwigstr., 23
Giessen 35390, Germany

Partners | Andijan Agricultural Institute, Uzbekistan
Aristotle University of Thessaloniki, Greece
Farm "Asilbek Alibek", Uzbekistan
Farmers council of Urgut region, Uzbekistan
Martin Luther Universität Halle-Wittenberg, Germany
Ministry of Higher and Secondary Specialized Education, Uzbekistan
Samarkand Agricultural Institute, Uzbekistan
Tashkent Institute of Irrigation and Melioration, Uzbekistan
Tashkent State Agrarian University, Uzbekistan
Termez State University, Uzbekistan
Universidade de Santiago de Compostela, Spain
University of Applied Sciences Weihenstephan-Triesdorf, Germany
Writtle College, United Kingdom

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Reference 544293-TEMPUS-1-2013-1-AZ-TEMPUS-JPCR

Title Foreign Languages Education for Professional Purposes

Description The project's wider objective was to increase specialized Universities' capacity in meeting the evolving market needs and governmental strategies of development, as well as in coping with new challenges of education, by modernizing their language teaching capacity; to help graduates of specialized Universities to increase their employability through obtaining viable language skills. The specific objectives of the project were: 1) to help specialized Universities to restructure their language curricula; 2) to train and/or retrain foreign language teachers at specialized Universities; 3) to help specialized Universities build their teaching and technical resources; 4) to disseminate the results and to train groups of professionals and disadvantaged groups within the Life-Long-Learning segment of the project. The main outcomes of the project was modernized language curricula and language teaching methodologies (in particular, in respect to English and German for special purposes) at specialized Universities in AZ, KG and TJ; language teaching resources developed on the basis of advanced experience; language teaching personnel trained or retrained; restructured language departments and established experimental language chairs; new language resource centers equipped with learning resources and modern technology; language courses organized for professional communities and disadvantaged groups; organization of conferences; round tables and workshops for dissemination and sustainability purposes; development of web resources; and involvement of Governments, youth organizations, potential employers and other stakeholders in the reform process.

Coordinator Azerbaijan University of Languages
Rashid Behbudov St., 134
Baku AZ-1014, Azerbaijan

Contractor Azerbaijan University of Languages
Rashid Behbudov St., 134
Baku AZ-1014, Azerbaijan

Partners Avicenna Tajik State Medical University, Tajikistan
Azerbaijan Medical University, Azerbaijan
Azerbaijan State Agricultural University, Azerbaijan
Azerbaijan State Oil Academy, Azerbaijan
Azerbaijan Student Youth Organizations' Union, Azerbaijan
Baku State University, Azerbaijan
Institute of Economy and Trade of TSU of Commerce, Tajikistan
International University of Kyrgyzstan, Kyrgyzstan
Issykkul State University named after K. Tynystanov, Kyrgyzstan
Achievements of Tempus IV projects in the internationalization of higher education in Central Asia

Khujand State University, Tajikistan
Kyrgyz National Agrarian University named after K. I. Skryabin, Kyrgyzstan
Kyrgyz Russian Slavonic University, Kyrgyzstan
Kyrgyz State Medical Academy, Kyrgyzstan
Kyrgyz State Technical University named after I. Razzakov, Kyrgyzstan
Linnaeus University, Sverige
Ministry of Education and Science of the Kyrgyz Republic, Kyrgyzstan
Ministry of Education of Azerbaijan, Azerbaijan
Ministry of Education of the Republic of Tajikistan, Tajikistan
National Aviation Academy of Azerbaijan, Azerbaijan
Pädagogische Hochschule Freiburg - University of Education, Deutschland
Tajik Agrarian University named after Sh. Shotemur, Tajikistan
Tajik State University of Law, Business and Politics, Tajikistan
Tajik Technical University, Tajikistan
Tallin University, Estonia
Università degli studi "G. D'Annunzio" di Chieti-Pescara, Italia
University of Essex, United Kingdom
University of Glasgow, United Kingdom

Original Project Budget 1.393.235
Maximum Grant Awarded 1.142.902
Contract Duration 36 months
Approved Project budget 1.312.835

Reference 544319-TEMPUS-1-2013-1-FR-TEMPUS-JPCR

Title Réseau Professionnel de Masters "Informatique Seconde Compétence" (Professional Network of Masters "Computer Science as Secondary Competence")

Description Tempus project PROMIS was a continuation of another Tempus project ERAMIS, which has created the network of the Masters "Computer Science as Secondary Competence" in four Russian, three Kazakh and two Kyrgyz universities. PROMIS aim was to expand this network in Central Asia and make it an excellence network, significantly strengthening the professional character of the Masters and the university-industry sectors relations. These Masters were created in Uzbekistan, Tajikistan and Turkmenistan (two masters per country), and two new Masters were created in the areas not yet involved in ERAMIS project - cities of Astana in Kazakhstan and Osh in Kyrgyzstan.

In order to strengthen the university-industry sectors relations, following the example of the European companies' project partners, the local businesses were involved in the Masters organization at an early stage (participation in steering committee of the training, implementing the education conducted by company employees, internships).

The "reverse teaching", focusing rather at the practical approach of the student-teacher interaction while the theoretical part of teaching is acquired by the students themselves, will be partially integrated in the 1st year of the Master in order to adapt to the special status of student-employees. Similarly, the alternation will be strongly encouraged in the 2nd year of the Master: student worked part-time
in a company and professional experience acquired in the 2nd year was the basis for the Master's thesis. The training quality and the network cohesion was significantly enhanced: double / multiple degrees were created, educational content was harmonised, on-line courses were made accessible to all, courses were developed in English and language skills were improved as well as the student mobility between the network Masters was promoted.

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| Original Project Budget | 1,572,120 |
| Maximum Grant Awarded | 1,238,726 |
| Contract Duration | 36 months |
| Approved Project budget | 1,376,448 |
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