



Tempus Success Story: International Sharing of Best Practices Workshop

**Process of Developing an EU-Tempus Proposal and  
Implementing a Working Structure**

24th of June 2011, Moscow (The Russian Federation)

Prof. Dr. Dr. h.c. Ulli Arnold (Grantholder)



## **Development of the Tempus Proposal „Advanced M.Sc. Programme in Ecology for Volga-Caspian Basin“**

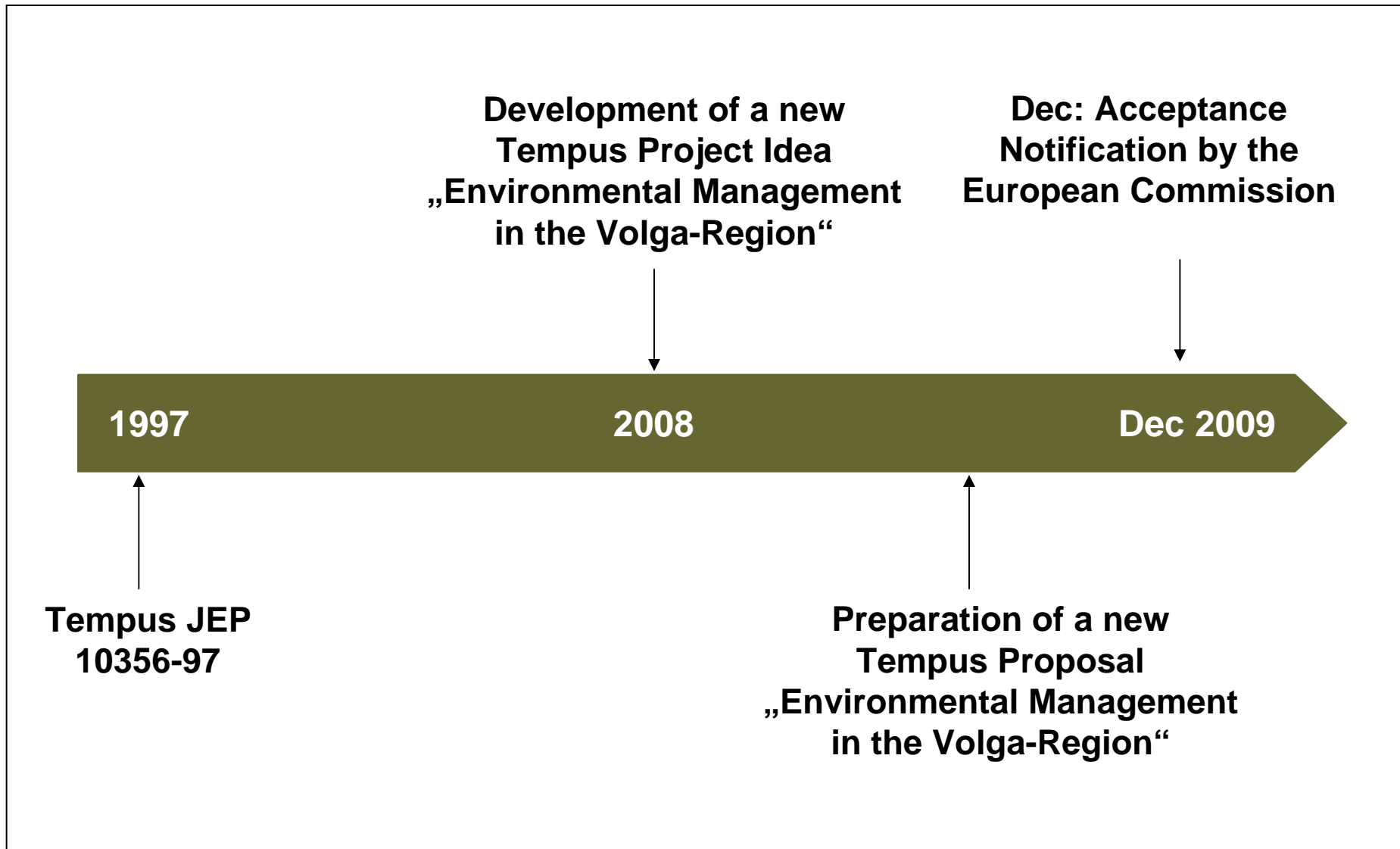
- Genesis of the Tempus Proposal „Advanced M.Sc. Program in Ecology for Volga-Caspian Basin“
- Networking consortium
- Strengths of the consortium partners
- Problem analysis
- Working Structure

## **Implementation of the Working Structure**

- Project Impressions and Successful Activities



# Genesis of the Tempus Proposal „Advanced M.Sc. Program in Ecology for Volga-Caspian Basin“





# Tempus Tacis JEP 10356-97: Modern Economic Environment - Diffusion of Market Knowledge



**Creation of a new model of economic education through market-oriented curricula and related restructure of Saratov State Technical University's Economic Faculty**

## Outputs



- 1 New market-oriented curricula B.Sc. and M.Sc. degree programs in „Economics“
- 2 New specialisations
- 3 Restructure and development of fundamental new and existing courses of Economics
- 4 Cooperation between SSTU's academic staff and EU consortium partners
- 5 Education of SSTU's university teachers in economic areas (student mobility flows)
- 6 Dissemination Center of Excellence in Modern Market Knowledge

## Project Consortium



### **European Consortium Members:**

University of Stuttgart  
Maastricht University  
Lisbon University

### **Russian Consortium Members:**

Saratov State Technical University



## European Consortium Members

EU1: USTUTT

Prof. Arnold



EU2: UPC

Prof. Romera



Dr. Puiggermanal

EU3: WU

Prof. Wilkomirski



Dr. Suska-Malawska



EU4: Parma

Dr. Maestri



Dr. Malcevski



Expert:

Prof. Ribarovic



RU1: VSTU

Prof. Navrotsky



RU2: SSTU

Prof. Slepukhin



RU3: ASTU

Prof. Kurylyov



RU4: SamSTU

Prof. Yakubovich



RU5: KSTU

Prof. Mingaleev



## Russian Consortium Members



## European Consortium Members

EU1: USTUTT

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~~Prof. Yakubovich~~



RU5: KSTU

Prof. Mingaleev



## Russian Consortium Members



# Strengths of the Consortium Partners



## EU Partner

**Stuttgart,  
Prof. Arnold**

**Barcelona,  
Prof. Romera**

**Warsaw,  
Prof. Wilkomirski**

**Parma,  
Dr. Maestri**

**Split,  
Prof. Ribarovic**

## Selection Criteria

- reputation in the field of environmental management
- experiences in Tempus projects and other EU funded projects (e.g. 7th framework programme, Erasmus)
- international cooperations with other universities
- cooperations with enterprises
- geographical dispersion in the European Union → wide dissemination/impact

## RU Partner

**Volgograd,  
Prof. Navrotsky**

**Saratov,  
Prof. Slepukhin**

**Astrakhan,  
Prof. Kurylyov**

**Samara,  
Prof. Yakubovich**

**Kazan,  
Prof. Mingaleev**



## Modernizing the Russian Higher Education System

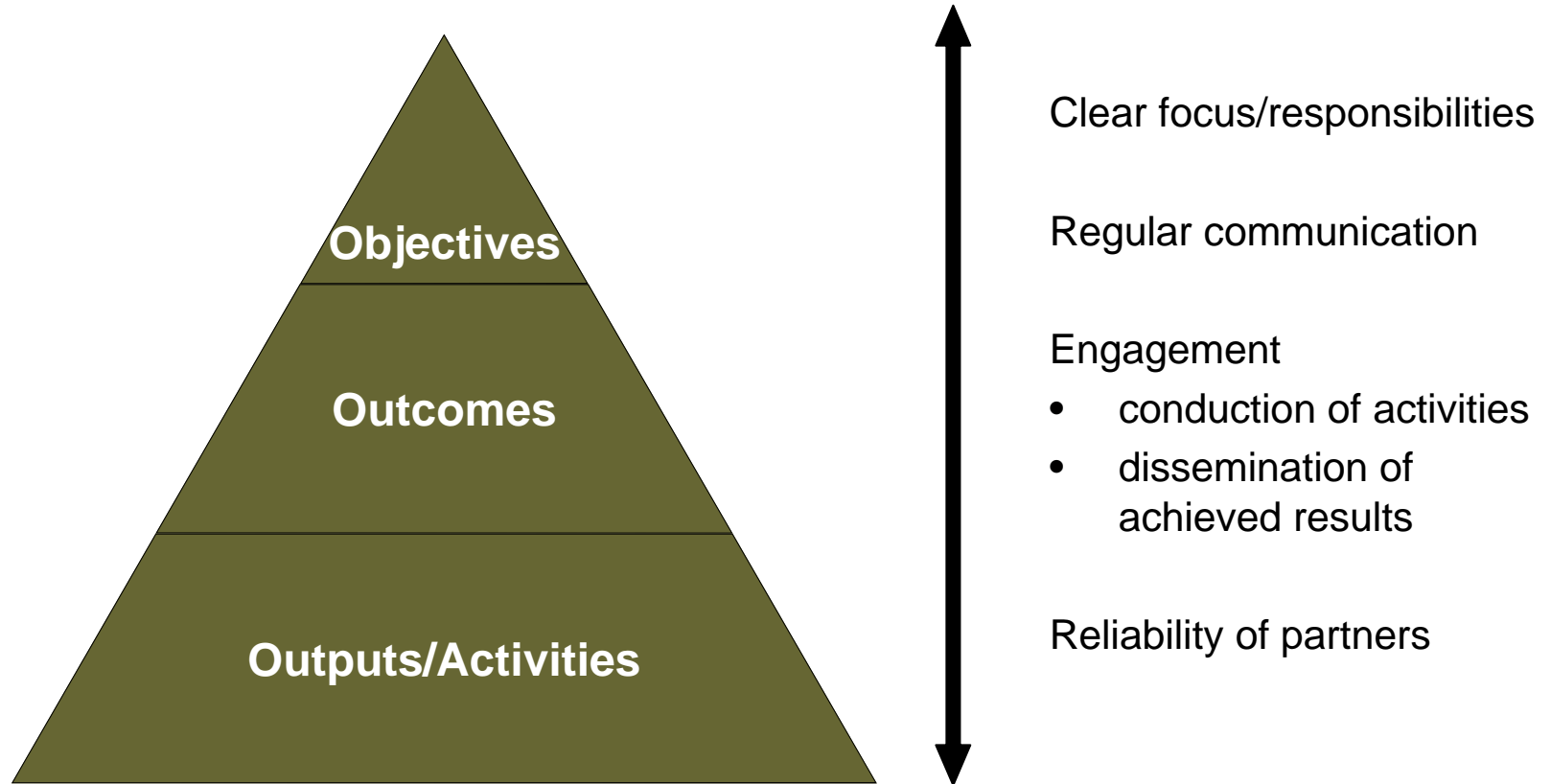
- federal law No. 232 (Oct. 24, 2007) 2-level B.Sc.-M.Sc. must be introduced since Sept. 1, 2010 in Russia
- universities must pay attention to experiences and demands of regional business
- new educational programmes should be based on achievements of the world science and engineering
- establishment of partnerships with EU area network

## Ecological and Environmental Management

- continued worsening of environment state (air/water pollution, removal of waste,...)
- growing importance of interdisciplinary environmental management at Russian companies/ organizations
- Volga-Caspian Region: waste treatment is urgently needed









# Working General: Objectives of the Project



- Objective 1: To modernize curriculum for M. Sc. Courses in ecology on basis of the 3-cycle course system and on basis of the EU ECTS model to achieve course recognition within the consortium
- Objective 2: to upgrade RU educational methodic (teaching methods and material) in ongoing (self)modernization according to the European experience
- Objective 3: to overcome fragmentation of EU-RU HEI & RU HEI and enterprises through international collaboration between the consortium and enterprises by training highly qualified specialists for the interdisciplinary system of ecological management of the Volga-Caspian basin, i.e. students (employability) & employees of industrial enterprises

- ⇒ Bologna-Process
- ⇒ Methodology: Interdisciplinarity, eLearning, ...
- ⇒ Employability
- ⇒ International Cooperation
- ⇒ Dissemination
- ⇒ Quality Control and Monitoring



# Working Structure: Outcomes of the Project



- Outcome 1:** **Detailed analysis of specific Russian higher education institution situation and project expert team building**  
Working Team, Survey, Brochure
- Outcome 2:** **Development of the M. Sc. Program in Environmental Management**  
Curricula Development, Seminars, National Legislation
- Outcome 3:** **Teachers' skills, teaching materials and teaching methods upgrading**  
Teachers' skills, Facilities, Brochure, Teachers' Seminar
- Outcome 4:** **Course Teaching for Master students**
- Outcome 5:** **Dissemination**  
Web-portal, Workshops, International Conference
- Outcome 6:** **Sustainability**  
Accreditation, Cooperation Agreements, Alumni Association
- Outcome 7:** **Quality Control and Monitoring**  
University Control, Inter-Tempus coaching, External evaluation
- Outcome 8:** **Management of the Project**  
Coordination Meeting, Reports, Representative Meeting Brussels



# Implementation of Working Structure: Outcome 1



- **Conference:**  
Modernization of educational programs in Technical Universities in the Volga Region: Contribution of TEMPUS
- **Workshops:**  
Discussions and development of the brochure

- Part 1 EU experience in teaching Waste
- Part 2 Usage of advanced IT in teaching
- Part 3 Local situation in teaching project related subjects
- Part 5 Prospects for introduction of an environmental management M.Sc. at 5 RU universities

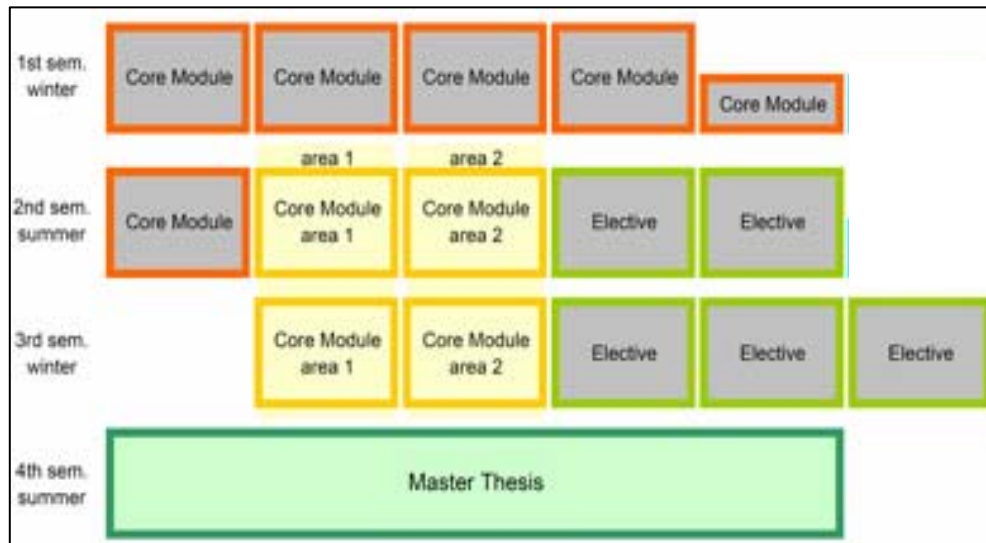


# Implementation of Working Structure: M.Sc. Programme, Outcome 2



## Basis for the M.Sc. Programme:

### WASTE Air Quality Control, Solid Waste and Waste Water Process Engineering at University of Stuttgart



**Module 1.** Environmental science (RU2)

**Module 2.** Economic analysis and ecological management (RU5)

**Module 3.** Information Technology in environmental management (RU3)

**Module 4.** Environmental pollution and quality control (RU1)

**Module 5.** Technologies and methods of environmental protection (RU4)





# Implementation of Working Structure: Selected Trainings, Outcome 2 and 3



## Barcelona Training Session:

- Academic system of UPC
- technologies and methodological approaches in teaching at UPC
- Implementation of the principles and of the Bologna process

## Stuttgart Training Session:

- WASTE study program in Stuttgart
- Environmental Issues of the Ministry of the Environment Baden-Württemberg
- Environmental challenges of German and international enterprises
- Inter-Tempus coaching with project managers at University of Hohenheim

## Warsaw Training Session:

- visit of the experimental station „Mazur Lake“
- focus: recycling of different wastes
- adaption of 2-level system at University of Warsaw



# Implementation of Working Structure: Dissemination Strategy, Outcome 5



The image shows a screenshot of the TEMPUS project website on the left and a newspaper clipping from AMEV Messenger on the right. The website displays the project description for 'Advanced M.Sc. Program in Ecology for the Volga-Caspian basin'. The newspaper clipping, titled 'SPOTLIGHT', reports on a coordination meeting held in Saratov in November 2010, attended by representatives from various partner universities and the project coordinator.

**Stuttgart:** Publication in a German well-known newspaper (“Stuttgarter Zeitung”) and university newsletter; regular inter-Tempus coaching with university of Hohenheim

**Parma:** Integrating a Tempus session during the “PHYTOTECNOLOGIES – 7th International conference”, (26-29th of September 2010)

**Saratov:** Publication of Tempus project’s events on website of the university; article publication in university brochure

**Astrakhan:** article publication in Astrakhan educational journal; presentation at the First International Caspian educational forum in October, 2010; presentations at administrative bodies of the Astrakhan region and in the Astrakhan Chamber of Commerce and Industry; presentation to auditors from DQS (Germany) – the body on certification of quality management systems – in the course of ASTU re-certification in December, 2010.

**Samara:** Regular publications about in the university’s newsletter.



# Implementation of Working Structure: Project Management, Outcome 8



## 1st Coordination Meeting, Saratov:

- opening of the project
- discussion of financial rules
- discussion of detailed activity plan for coming months



## 2nd Coordination Meeting, Barcelona:

- focused on project current activities and first results
- introduction of the project quality control and monitoring



## 3rd Coordination Meeting, Samara

- focused on results of the project implementation and budget issues during 1st project year
- activities of 2nd project year (dissemination, quality control, sustainability)
- preparation of the Progress Report.



