

**Project name: Innovating Education of Talents  
in Chemistry for Business Success  
in SMEs' Innovations – InnoChem**

**Project output: Action Plan – Czech Republic 2017**

**Activity: O5-A2**

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## 1. Summary of main outputs - Road Maps

Based on Status Quo Analysis outputs the Road Maps was compiled, including areas where new activities should be set up or strengthened to date, leading to an overall innovation of education to ensure the development and competitiveness of the chemical industry in terms of human resources.

Five main areas have been defined and further broken down into the following themes:

- 1. Expanding communication with students and industry partners**
  - Management discussions with students and employees
  - Meeting of former graduates and employers with students of 4elements.
- 2. Study in practice – practice under study**
  - Communication with Industrial Partners - website
  - Communication with Industrial Partners and the Public - Facebook on faculties
  - Extension of foreign communication and cooperation between universities.
- 3. Innovation of the structure of education**
  - Modification of the structure of the faculty bachelor study - plan of study structure
  - Proposal to extend the structure of the study program
  - Inclusion of practice experience - solution proposals
  - Further training of industrial partners - final version of the program
- 4. Increasing the attractiveness of study**
  - Changing the faculty name
  - Experts from Practice - a lecture plan for the FTOP faculty
  - Offer excursions to industrial operations to review current status and updates
  - Promoting Chemistry among the young generation
- 5. National Qualification System**
  - Implementation of REACH Manager qualification
  - Revision of qualification Engineer Chemistry, Product Manager
  - Design of a new professional qualification Engineer Chemistry, Economist

## 2. Enhance communication with students and industry partners

### 2.1 Management discussions with students and employees

*Leading organization:* UCT Prague

*Sources of funding:* UCT Prague

*Time schedule:* 2020 - continuously, app. once a year

The event is primarily activity of student representatives of the UCT Senate, with the participation of not only bachelor, master and doctoral students but also academic staff, academic senate members and faculty management.

### 2.2 Meeting of former graduates and employers with students of 4elements

*Leading organization:* UCT Prague

*Sources of funding:* UCT Prague, Sponsorship donations, partly funded by projects and grants. Inclusion of soft skills lectures is conditional on finding an external source of funding e.g. from EU funds.

*Time schedule:* 2020 - continuously, twice a year (summer and winter meetings).

The event is activity of the FTOP faculty, UCT Prague, held twice a year with participation of practitioners and former graduates of the faculty. There are also lectures for employees and students from soft skills.

## 3. Study in practice – practice under study

### 3.1 Communication with industrial partners - website design

*Leading organization:* UCT Prague

*Cooperating organization:* Association of Chemical Industry of the Czech Republic (ACI CR) potential employers of students UCT Prague students, SusChem ČR.

*Sources of funding:* UCT Prague, External financing via EU funds

*Time schedule:* design website content for the school Year 2017/2018, updating continuously.

In the first phase, a newly designed web will be serving as communication portal between the students, academic community and future employers. The content should consist primarily of excursion offers, short-term jobs for students, as well as job vacancies. In the next phase - the creation of websites with involvement of all faculties and the extension of the original website is envisaged by other activities related to increasing cooperation between academia and

industrial partners. Updating content will depend primarily on the activity and interest of potential employers of UCT Prague graduates.

### **3.2 Communication with Industrial Partners and the Public - Facebook on faculties**

*Leading organization:* UCT Prague

*Cooperating organization:* ACI CR, potential employers of students UCT Prague students

*Sources of funding:* UCT Prague

*Time schedule:* 2017, continuously

Updating content will depend primarily on the activity and interest of prospective employers of UCT Prague graduates.

### **3.3 Extension of foreign communication and cooperation between universities**

*Leading organization:* UCT Prague

*Cooperating organization:* foreign universities and scientific workplaces

*Sources of funding:* UCT Prague partly, an external source of funding, such as EU funds, is necessary for the course of the action

*Time schedule:* 2020 – updating continuously.

The course of this activity will depend on finding an external source of funding, especially for financing the travel costs of traineeships, workshops and negotiations on joint activities of the partners.

## **4. Innovation of the education structure**

### **4.1 Modification of the structure of the faculty bachelor study - plan of study structure**

*Leading organization:* UCT Prague

*Sources of funding:* UCT Prague

*Time schedule:* 2018

### **4.2 Proposal to extend the structure of the study program**

*Leading organization:* UCT Prague

*Sources of funding:* UCT Prague

*Time schedule:* 2018

### **4.3 Inclusion of practice experience - solution proposals**

*Leading organization:* UCT Prague

*Cooperating organization:* ACI CR

*Sources of funding:* industry partners of UCT Prague and ACI CR, SusChem ČR

*Time schedule:* 2017 – 2020

The problem is very complex and its solution is given by inclusion of professional practices in the study plans as a part of teaching and evaluation of students by the educational institutions on one hand and a mandatory provision of necessary capacities for the implementation of the practice by industrial enterprises and institutions, while ensuring the legal requirements (labor code, SHE) on the other hand.

### **4.4 Further training of industrial partners - final version of the program**

*Leading organization:* UCT Prague, ACI CR

*Sources of funding:* UCT Prague

*Time schedule:* 2017

The final plan of the educational program of the Institute of Energy will be updated according to the specific requirements of the enterprises cooperating with the Institute and offered to other faculty's industrial partners.

## **5. Increasing the attractiveness of the study**

### **5.1 Changing the faculty name**

*Leading organization:* UCT Prague

*Sources of funding:* UCT Prague

*Time schedule:* 2017

This activity has already taken place, but the name of the faculty and its institutes has a great impact on the attractiveness of studies in these disciplines, and will continue to follow trends in the current scientific direction.

### **5.2 Experts from Practice - a lecture plan for the FTOP faculty**

*Leading organization:* UCT Prague

*Cooperating organization:* foreign universities and scientific workplaces, ACI CR, industry partners of UCT Prague

*Sources of funding:* UCT Prague

*Time schedule:* 2018, updating continuously

The purpose of this activity is to prepare a lecture plan of various disciplines aimed at increasing the level and competitiveness of graduates as well as academic staff of UCT Prague. For the next step, which is the organization of lecture blocks or seminars, it is essential to find an external source of funding.

### **5.3 Offer excursions to industrial operations to review current status and updates**

*Leading organization:* UCT Prague, ACI CR

*Cooperating organization:* industry partners of UCT Prague a ACI CR, SusChem ČR

*Sources of funding:* UCT Prague, ACI CR, EU funds

*Time schedule:* 2017/2018, updating continuously

In order to apply this activity, it will also be necessary to cooperate with industrial partners and their interest in future graduates of technical schools and interest in cooperation on their education.

### **5.4 Promoting Chemistry among the young generation**

*Leading organization:* ACI CR, UCT Prague, SusChem ČR

*Cooperating organization:* educational institutions CZ, industry

*Sources of funding:* UCT Prague, ACI CR, educational institutions CZ, industry, ministries, ESF

*Time schedule:* 2020 – continuously

The promotion of chemistry among younger generation is currently being or will be strengthened in the most attractive form through competitions for elementary school pupils and students of secondary chemical vocational schools and grammar schools. Organizational and financial support from the MEYS or the EU funds can be used for the implementation of the competitions, with the main sources of funding being continued by the industry and educational institutions.

## **6. National Qualifications System**

### **6.1 Implementation of REACH Manager qualification**

*Leading organization:* ReachSpektrum s.r.o.

*Cooperating organization:* ACI CR, UCT Prague, FChT University of Pardubice

*Sources of funding:* ReachSpektrum s.r.o.

*Time schedule:* 2017/2018

Professional qualifications REACH manager is currently included in the National Qualifications Framework as an approved qualification. An authorized person will conduct authorized tests of qualified candidates. Candidates will be able to gain a necessary knowledge to pass the exam at educational institutions and through specialized seminars at specialized companies.

## **6.2 Revision of qualification Engineer Chemistry Product Manager**

*Leading organization:* Sectoral Council for Chemistry under the National Qualifications Framework

*Cooperating organization:* ACI CR, UCT Prague

*Sources of funding:* National Institute for Education

*Time schedule:* 2017/2018

Professional qualifications have undergone revisions made by the Sectoral Chemistry Council, and the comments of authorizing bodies are currently being processed.

## **6.3 Design of a new professional qualification Engineer Chemistry Economist**

*Leading organization:* Sectoral Council for Chemistry under the National Qualifications Framework

*Cooperating organization:* ACI CR, UCT Prague, SusChem ČR

*Sources of funding:* Chamber of Commerce of the Czech Republic, National Institute for Education

*Time schedule:* 2017 – 2019

The proposal for the a professional qualification focus is currently commended by the Ministry of Industry and Trade (MIT), the Ministry of Labor and Social Affairs (MLSA) and the Ministry of Education, Youth and Sport (MEYS). After an approval of the focus, the draft of the content of the professional qualification will be elaborated.



## 7. Schedule of activities

Activity	Leading organization	Cooperating organization	Sources of funding	Time schedule	Notes
<b>Extending communication with students and industry partners</b>					
Management discussions with students and employees	UCT Prague		UCT Prague	2020	continuously, app. once a year
Meeting of former graduates and employers with students of 4elements.	UCT Prague		UCT Prague	2020	continuously, app. twice a year (summer, winter)
			Donations		
			Potential future EU funds		
<b>Study in practice – practice under study</b>					
Communication with Industrial Partners - website	UCT Prague	ACI CR	UCT Prague	2017/2018	Content proposal, updating continuously
		Industry partners	Potential future EU funds		
		SusChem ČR			
Communication with Industrial Partners and the Public - Facebook on faculties	UCT Prague	ACI CR	UCT Prague	2017	updating continuously
		Industry partners			
Extension of foreign communication and cooperation between universities.	UCT Prague	foreign universities and scientific workplaces	UCT Prague	2020	continuously
			Potential future EU funds		
<b>Innovation of the structure of education</b>					
Modification of the structure of the faculty bachelor study - plan of study structure	UCT Prague		UCT Prague	2018	
Proposal to extend the structure of the study program	UCT Prague		UCT Prague	2018	
Inclusion of practice experience - solution proposals	UCT Prague	ACI CR	Industry partners	2017-2020	
			SusChem ČR		
Further training of industrial partners - final version of the program	UCT Prague		UCT Prague	2017	
	SCHP ČR				

Increasing the attractiveness of study						
Changing the faculty name	UCT Prague		UCT Prague	2017		
Experts from Practice - a lecture plan for the FTOP faculty	UCT Prague	foreign universities and scientific workplaces	UCT Prague	2018	updating continuously	
		ACI CR				
		Industry partners				
Offer excursions to industrial operations to review current status and updates	UCT Prague	Industry partners	UCT Prague	2017/2018	updating continuously	
	ACI CR	SusChem ČR	ACI CR			
Promoting Chemistry among the young generation	ACI CR	Industry partners	UCT Prague	2020	updating continuously	
	UCT Prague		ACI CR			
	SusChem ČR		Educational institutions CR			
			Potential future EU funds			
			MŠMT, ESF			
		Industry partners				
National Qualification System						
Implementation of REACH Manager qualification	ReachSpektrum s.r.o.	ACI CR	ReachSpektrum s.r.o.	2017/2018		
		UCT Prague				
		FChT University of Pardubice				
Revision of qualification Engineer Chemistry, Product Manager	Sectoral Council under the NQF	ACI CR	National Institute for education	2017/2018		
		UCT Prague				
Design of a new professional qualification Engineer Chemistry, Economist	Sectoral Council under the NQF	ACI CR	National Institute for education	2017-2019		
		UCT Prague	Chamber of Commerce of the Czech Republic			
		SusChem ČR				