

Entrepreneurship  
Innovation  
Creativity  
Inspiration



# SP4CE





**Output O3, O4, O5**  
**Portal and Learning Rooms usage scenarios**

Activity leader: TUKE  
Date of delivery: 31.01.2017

## Contents

1. Executive Summary .....	5
2. SP4CE portal usage scenario – writing an IT project.....	6
2.1. Purpose of the case study .....	6
2.2. Implementation of SP4CE portal.....	6
2.3. Findings, recommendations and variations .....	8
2.4. Summary .....	9
3. Learning rooms usage scenario – support for regional development .....	10
3.1. Purpose of the case study .....	10
3.2. Implementation of SP4CE Learning Rooms .....	10
3.3. Findings, recommendations and variations .....	13
3.4. Summary .....	14
4. SP4CE Portal Usage Scenario – Workshops at the Gdańsk University of Technology.....	16
4.1. Purpose of the case study .....	16
4.2. Implementation of SP4CE Learning Rooms .....	16
4.3. Findings, recommendations and variations .....	21
4.4. Summary .....	22
5. SP4CE portal usage scenarios – business administration.....	23
5.1. Purpose of the case study .....	23
5.2. Implementation of SP4CE portal.....	23
5.3. Findings, recommendations and variations .....	25
5.4. Summary .....	26
6. Learning rooms usage scenario – business plan development .....	27
6.1. Purpose of the case study .....	27
6.2. Implementation of SP4CE Learning Rooms .....	27
6.3. Findings, recommendations and variations .....	29
6.4. Summary .....	30
7. SP4CE portal usage scenario - conference .....	32
7.1. Purpose of the case study .....	32
7.2. Implementation of SP4CE portal.....	32

7.3. Findings, recommendations and variations .....	34
7.4. Summary .....	35
8. Learning rooms usage scenario – job for a project manager .....	36
8.1. Purpose of the case study .....	36
8.2. Implementation of SP4CE Learning Rooms .....	36
8.3. Findings, recommendations and variations .....	38
8.4. Summary .....	39
9. SP4CE Portal usage scenario - Student Internships .....	41
9.1. Purpose of the case study .....	41
9.2. How the SP4CE portal is used.....	42
9.3. Findings, recommendations, variations .....	46
9.4. Summary .....	48

## **1. Executive Summary**

This deliverable contains a SP4CE Portal and Learning Rooms usage scenarios prepared by project partners based on real usage cases.

## 2. SP4CE portal usage scenario – writing an IT project

### 2.1. Purpose of the case study

Today, ICT increasingly penetrates into the various sectors of human life. There are present voices from the students and practice that provided education is not adequately linked to the practice. In order to enable universities to prepare students for practice, it is necessary to involve practice into education actively. In our case, one nice example is presented by cooperation with T-Systems company. T-Systems operates information and communication technology (ICT) systems for multinational corporations and public sector institutions. On this basis, T-Systems offers corporate and business customers integrated solutions for the networked future of business and society. T-Systems provides support to companies in all industries. At T-Systems are guided by three core values – innovation, simplicity and competence. Its solutions for customers is built on efficient and innovative technologies and on a clear understanding of customer needs.

This company actively participates on the educational process at our faculty (Faculty of Economics, TUKE) through practical lectures, exercises and specialized subjects concerned on using specialized software and the company's processes, via internships of our students directly in the company or via various student competitions and the labor supplies. Quite often form of cooperation is work on real projects, resp. participation on the different problems solution through bachelor's and master's thesis. Searching for students for such kind of work is not easy. At present, this process is carried out following: the company offers a problem/cooperation to faculty management. Then the teacher that is interested in such work is searched using faculty's mailing list. Afterwards the teacher tries to find the students. This process takes long time (app. few weeks) when neither knows whether it will be a demand from the students' side for such a project/cooperation. In many cases the result is, that companies stop propose such kind of cooperation to universities despite of interest from the side of universities. Despite the fact that on both sides of the process is interest in cooperation, collaboration often does not occur because, possible participants are not informed sufficiently and on time.

### 2.2. Implementation of SP4CE portal

SP4CE Portal (available at [sp4ce.eu](http://sp4ce.eu)) presents interesting solutions of above described problem. The portal itself contain online information about the project SP4CE itself, guides for particular target groups (coaches, mentors, students), interesting learning materials, contributions to the various conferences and from the point of view of the above-described problem solution special part – challenge/call: *"Send us your project proposal"*. Via this challenge can anyone call for the help. It is tool for looking for people interested in solving different kind of problems or for searching the partners for future cooperation operating in same of different areas. In the case of match of the challenge participants, administrator creates a Learning Room, specialized place, where can all together cooperate after signing up

to a system. This challenge process works on the principle developed within EACEA project “OpenInn2.0: A Knowledge Generating House and e-Assessment Model”, where the platform Knowledge Generating House was used to generate groups of investigators and innovative solutions to very specific problems.

### Who are the users?

- Coach – HR manager working at the T-Systems who defines challenge. The challenge contains information like Project proposal, Description, Example resources, Language a Deadline for achieving the solution/results.
- Mentor – university teacher, replies on the challenge, adds comments, proposes time schedule and possible group of students.
- Students – university students with interest in challenge topic

### How they can use portal?

- Read general information – all users have access to general information (about SP4CE project, different kind of guides, learning materials, conference papers, etc.).
- Search for partner among education institutes – via link: “*Send us your project proposal*” can anybody publish a challenge for searching new partners, problem solution.

### Resources

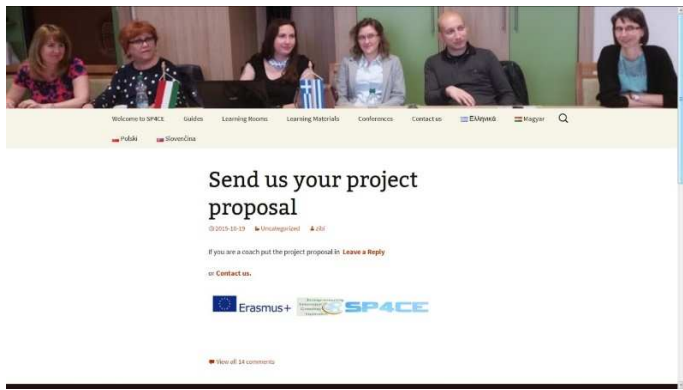
There is no need to any special software for using portal sp4ce.eu. The portal is accessible via any web-browser (eg. Google Chrome, Mozilla Firefox, IE, etc.).

### The Case

The T-Systems company is global company with large clientele, what means a number of project documents, therefore it searches for potential employees every year. The management of the company decided to prepare their future employees during their study in the project management field. HR department has to find suitable candidates for such cooperation.

### How it was realized?

- Using portal sp4ce.eu HR department representative publishes challenge (Fig. 20).

	<p>HR Consultant 2016-04-15 at 06:51</p>
	<p>Project proposal: How to write a good IT project.</p>
	<p>Description: T-Systems looking for motivated young people interested in project management to participate on project proposal development at our company. All resources needed for project proposal development will be provided.</p>
	<p>Language: English, Slovak</p>
	<p>Deadline: 20.09.2016</p>

*Fig. 1 Screenshot of sp4ce.eu portal and example of published challenge*

- The university teacher replies on the challenge.
- Via discussion tool at the portal company describes the requirement in more details and discussed it with teacher.
- Since both sides of communication agree on fact, that there is need for materials that cannot be published public, HR manager asks portal administrator to open a new Learning Room (LR) for newly formatted group.

### 2.3. Findings, recommendations and variations

How it develops partnership cooperation

Through publishing challenge, portal SP4CE presents a gateway for establishing cooperation. Subsequently is this call transformed into LR where the where the cooperation really can take place at several levels using various features of the SP4CE platform. The advantage of this open SP4CE portal is that to one challenge can reply users from different institutions, which further can work together also on other projects in other areas.

Possible risks

- Most significant risk should be lack of interest form users, i.e. despite the publication of the call, no one will respond and the challenger will have to use other ways of establishing cooperation.
- Another risk may be presented by huge interest in cooperation and following hard decision with whom to establish co-work together.



- Time limitations – in case that the challenger specify the time limit for achieving the reply or solution, it can happen that nobody will manage to log on to the call during expected time.

What not to do / be aware of the following

It is important to define the call very precisely with useful details to avoid misunderstandings. Very general call could meet with disinterest of other users.

## 2.4. Summary

Guideline Summary			
Kind of education			
Non formal	Vocational	Secondary	University
			X
Identification of involved users roles			
Coach (company)	Mentor (teacher)	Students	
X	X	X	
Focus area			
Project management			
Main objectives and goals			
Company			
<ul style="list-style-type: none"><li>Find skilled and motivated new employees, potential partners for other projects</li></ul>			
Students			
<ul style="list-style-type: none"><li>Create a contact with company</li></ul>			

### 3. Learning rooms usage scenario – support for regional development

#### 3.1. Purpose of the case study

Using sp4ce.eu portal was published call for cooperation establishment in project management area. Both sides – T-Systems company and Faculty of Economics, TUKE (FoE, TUKE) – agreed on this co-work and its details. During discussions cooperation details they discovered that some of important materials cannot be published public, but they need some space just for registered users, where materials, new project proposals, company internal processes, etc. could be available in restricted way based on user role in the system.

#### 3.2. Implementation of SP4CE Learning Rooms

Platform SP4CE and its Learning Rooms (available at <http://sp4ce.moodle.pl/>) allows user registration and role assignment particular LRs (Fig. 21). For using this space, every user has to register into system. Range of features and tools depends on the role of the user within the particular LR. Possible roles are manager, course designer, teacher, student, guest and registered user. Based on the role user has available different group of sources, tools.



Fig. 2 Welcome screen of SP4CE Learning Rooms

Every SP4CE Learning Room is concerned on specific problem that company face and publishable sources to help students understand the problem itself. Teacher help coach to provide materials that are useful for students, to prepare place for discussion, interactive cooperation, new solution proposals and evaluation.

#### Who are the users?

- Coach – HR manager of T-Systems company, who provides materials that are useful for students, prepares place for discussion, interactive cooperation, new solution proposals and evaluation.
- Mentor – gives an introduction to the topic, to the main ideas and objectives needed to be achieved, help students to establish successful cooperation with coaches from

companies, help to coach to develop structure of the learning room using different available features.

- Students – in connection to coach and teacher try to find out solution to provided problem, work out assessments, prepare project proposals.

### How they can use LRs?

- Coach in cooperation with mentor (teacher) prepares LR structure. Within this phase they discuss LS available and useable features of LR, kinds of activities needed to be done by students (Assignments, Feedback, Chat, Forum, Workshop), resources (Book, File, Folder, Label, Page, URL), which will be used in LR. They agree on evaluation methods of final results, manner of its publishing and level of access.
- Mentor address students – on lectures, via e-mail or other way to register to the system and prepared LR.
- Students could study provided materials and other resources, communicate with mentor or coach, work on project proposals, search or ask for additional information.
- Coaches and teachers manage all specific tasks needed to be done during the problem solution. LR users team consists of members with their own specialism and expertise, knowledge related to the problem to be solved. Using this collaborative environment takes students out of their usual studying to co-work with other with different ideas and knowledge and at not least with people from real companies. Everybody can use own competencies and skills to reach the best result.
- Coaches and mentors could evaluate and mark the students' activity.

### Resources

To access the LR the registration to LRs system and access key is needed. Key is provided by face-to-face communication, via e-mail by the mentor. For work with LR itself no special software is needed, just user preferred web-browser (i.e. Google Chrome, Mozilla Firefox, IE a pod.). Maybe the solution of particular problems and tasks requires some specific software, but users have to be informed about it within LR. To prepare project proposal students need to use ordinary MS Office applications – MS Word, MS Excel, MS PowerPoint.

### The Case

The T-Systems company is global company with large clientele, what means a number of project documents, therefore it searches for potential employees every year. The management of the company decided to prepare their future employees during their study in the project management field. HR department has to find suitable candidates for such cooperation.

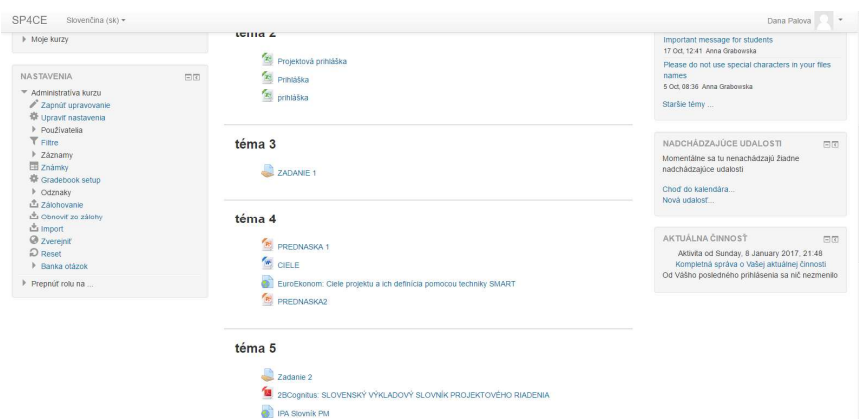
After agreement between HR department of the company and teacher from FoE TUKE, HR department representative asked SP4CE platform administrator to create a LR named “*Tvorba projektov pre podporu regionálneho rozvoja*” (Project proposal design for the support of

regional development). Finally, LR was used by 1 coach from T-Systems company, 1 mentor from FoE TUKE and 16 students.

The main objective of LR use was to raise the interest of students in their subject of study and at the same time the way to approach solving some existing problem in reality in a creative way, to develop contact with real company. The LR was concerned on all knowledge needed to know during the successful project proposal preparation.

### How it was realized?

- Coach and teacher prepares the structure of LR (Fig. 22) containing introductory presentations about main aims, objectives of the LR, resources important for project proposal development, best practices and information about activities and results required from the students. They fit it to company requirements in connection with pedagogical principles. At the same time, they describe how the creative approach should be involved and which types of software tools should be used in the particular project proposal development phases (app. 10 h.)



*Fig. 3 Screenshot of “Tvorba projektov pre podporu regionálneho rozvoja“ LR*

- Based on provided resources students start to work out their project proposals – they define the first draft of project proposal (name of the project, duration of the project, estimated budget, aim of the project, description of applicant, target group) (app. 20-24 h. – depends on the research of students in her/his surroundings for what could be designed a project proposal).
- During the whole project proposal development process, she/he should discuss his/her progress and ideas with the teacher, coach and other colleagues in the class. They could use on-line chat, discussion forums or instant messaging feature.
- Next students have to divide their proposal by sub-aims and particular activities of the project containing more detailed information (app. 20-24 h. – depends on the complexity of the project).

- During the whole project proposal development process, she/he should discuss his/her progress and ideas with the teacher, coach and other colleagues in the class. They used on-line chat, discussion forums or instant messaging feature.
- Students design the presentation of his/her project using electronic presentation concerned especially on project aims, sub-aims, justification of the project purpose, description of activities, outcomes, required budget and impact and sustainability (3-8 h. – depends on the ICT skills of the student).
- Students present the results in the common lesson, where during discussion other students should add comments and evaluate the work of others. These reactions are part of the final evaluation of the students' project by the coach and teacher.

### 3.3. Findings, recommendations and variations

#### Main findings

Using SP4CE LR environment, teacher plays the role of a mediator helping to company representative (coaches) to define the tasks to be solved and sources needed to get deeper understanding the problem. On the other hand, teacher helps students, via employing personalized learning approaches, collaborative learning and critical thinking methods, in developing solutions and communications with company representatives. Main positive aspect is that students use familiar environment that is familiar to them.

#### How it develops partnership cooperation

The students develop their view of the matter around them and their creative access to its solutions. They learn methods and tools they can apply in their daily life operations.

#### Possible risks

Development of project proposal took a longer time (particularly if the phases of project proposal development are spread across the whole semester – app. 4 months), because of the more complex objective of the task. Most of the work is done during homework; it should take app. 50 hours. In case of the need for study of the work with ICT tools, there is the possibility of studying these materials from home and have on-line/off-line support from the coach or teacher via LR.

#### What not to do / be aware of the following

Do not take a too complex project challenges to which the students do not have any relation. The lack of ideas can then lead to frustration and de-motivation. Sometimes it is difficult for the students to start, their minds are blocked in finding a problem and the proposition of some solutions, in such cases it often helps to give examples of how to proceed.

Due to the high complexity of the project it is necessary to describe all the phases and expectations of the product very precisely, to provide examples and active feedback on the students on going activity.

### 3.4. Summary

Guideline Summary			
Kind of education			
Non formal	Vocational	Secondary	University
			X
Identification of involved users roles			
Coach (company)	Mentor (teacher)	Students	
X	X	X	
Focus area			
Project management			
Main objectives and goals			
Company			
<ul style="list-style-type: none"><li>• Provide practical example and exercise of project management in real company conditions to the students</li><li>• Find skilled and motivated new employees</li><li>• Possibility to improve education process</li><li>• Access to different interesting, innovating and untraditional solutions of the problems that they have to face (and within company they are usually dealt by traditional approaches or they have lack of employers for this specific field, respectively</li><li>• Access to information about real knowledge and skills of students;</li><li>• Possibility to affect the content and style of education at educational institutions;</li></ul>			
Teachers			
<ul style="list-style-type: none"><li>• Access to contacts to people from external companies – possible future cooperation not only via SP4CE, but on projects, company education etc.;</li><li>• Reach overview to marketplace requirements – way how to connect education with practical life and improve the education content and style;</li><li>• Possibility to try e-learning methods, blended learning resp., what can be implemented into education at university;</li></ul>			
Students			
<ul style="list-style-type: none"><li>• Achieve practical skills in field of project managements</li><li>• Contact with reality – teamwork within real company team</li></ul>			

- Possibility to check collaboration work style with different kind of people (nation, specialization, etc.)

## 4. SP4CE Portal Usage Scenario – Workshops at the Gdańsk University of Technology

### 4.1. Purpose of the case study

Organization of *SP4CE -The European Fusion 360 Designathon* workshops at the Gdańsk University of Technology

### 4.2. Implementation of SP4CE Learning Rooms

This case study concerns the European Design Marathon – Fusion 360 Designathon. Participants of this project, including certified Autodesk Fusion 360 instructors, staged two-day workshops at the Gdańsk University of Technology to promote interdisciplinary cooperation, combined with an Autodesk Fusion 360 operation basics training course.

The overall aim of this undertaking was to present the SP4CE project and to make the participants familiar with a cooperation tool, the Moodle platform, used by the project partners and participants, to carry out a training course focused on Autodesk Fusion 360 operation basics, and to take part in the European Design Marathon – *DesignNow The European Fusion 360 Designathon*.

PRO-MED, a company cooperating with vocational higher education institutions, has designed SP4CE prototype. Its operation is focused on:

- Promoting SP4CE project at international conferences
- Creating interdisciplinary project groups that run projects on the dedicated Moodle platform
- Developing Learning Rooms to facilitate work on multiple projects from across different fields of knowledge

Thanks to cooperation with the company PRO-MED sp. z o.o., the Autodesk Authorized Training Center of the Gdańsk University of Technology, and the Mathematics Teaching and Distance Learning Centre of the Gdańsk University of Technology, two-day SP4CE workshops were staged on 20-21 January 2017 at the Gdańsk University of Technology, dedicated to students, doctoral students, and university teachers of the Gdańsk University of Technology and the Medical University of Gdańsk.

### How the SP4CE portal is used

The portal <http://sp4ce.moodle.pl/> was used at each stage of preparatory works and during the workshops. 3 Learning Rooms were created.

A Learning Room for the organizers was initially set up. This is where basic information about the project was posted:

- workshops date and venue,
- workshops duration,
- mandatory number of participants,



- resources provided by Autodesk.

The organizers used the news forum and the discussion forum to plan activities and communication.

The screenshot shows the SP4CE Learning Room interface for organizers. At the top, there's a header with 'SP4CE' on the left and a user profile 'Ewa Kozłowska' on the right. Below the header, the main title is 'The European Fusion 360 Designathon on the 20th and 21st January 2017 - for organisers'. A breadcrumb trail shows 'Dashboard > Poland - PIAP, PRO-MED > Fusion 360 - for organisers'. On the left, there's a sidebar with sections: 'PEOPLE' (Participants), 'NAVIGATION' (Dashboard, Site home, Site pages, Current course, Fusion 360 - for organisers, Participants, Badges, What is all about & communication, Documents, My courses), and 'ADMINISTRATION'. The main content area is titled 'What is all about & communication' and lists links: 'About the European Fusion 360 Designathon on the 20th and 21st January 2017', 'News forum', 'Proposals for students' projects', and 'Fusion 360 in Udmery'. Below this is a 'Documents' section with links: 'Introducing the European Fusion 360 Designathon - 20 to 21 January 2017', 'Invitation to the European Fusion 360 Designathon on the 20th and 21st January 2017', 'Arrangements', 'Installation', 'Guides in Sway', and 'Design now - Fusion 360'. On the right, there's a sidebar with 'ONLINE USERS' (Ewa Kozłowska), 'SEARCH FORUMS', and 'LATEST NEWS' (Add a new topic..., Materiały szkoleniowe, Plan spotkania 20.01.2017, Informacja dla instruktorów, Zdjęcia organizatorów i uczestników, Dokumentacja).

Fig. 4 Learning Room of the Fusion 360 Designathon organizers

The second Learning Room was set up for workshop participants, featuring the necessary organizational information, a notice board, and discussion forum functionalities.

SP4CE Ewa Kozłowska

### The European Fusion 360 Designathon on the 20th and 21st January 2017 - for participants

Dashboard > Poland - PIAP, PRO-MED > Fusion 360 - for participants

**PEOPLE**

Participants

**NAVIGATION**

Dashboard

- Site home
- Site pages
- Current course
  - Fusion 360 - for participants
    - Participants
    - Badges
    - Workshop at Gdansk University of Technology
    - Supporting materials/links/etc.
- My courses

**ADMINISTRATION**

- Course administration
  - Turn editing on
  - Edit settings
- Users
  - Unenrol me from Fusion 360 - for participants
- Filters
- Reports
- Grades
- Gradebook setup
- Badges
- Backup
- Restore
- Import
- Reset
- Question bank

Switch role to...

**Workshop at Gdansk University of Technology**

- News forum
  - For All
    - I took part in Fusion 360 - day 1 (20.01.2017)
    - Are you planning to bring your laptop with you?
    - Have you got an account on Twitter?
  - For Participants - WZIE
  - For Participants - FTMS
  - For Participants - Mechaniczny
  - For Participants - EIA
  - For Participants - ETI
  - For Participants - GUMED
- Future of Making Things Presentation
- Download Fusion 360 from Autodesk Education Community
- Learn from experts
- Fusion 360 Design Academy Course
- Get free video training in Fusion 360™
- Basic Fusion Topic Based Training - Learn from experts
- Evaluation

**Supporting materials/links/etc.**

- Guide for Participants
- Fusion 360 Designathon - what is all about
- Fusion 360 on SP4CE Moodle in Cloud
- Fusion 360 on Udemy Online Learning Platform

**ONLINE USERS**

(last 5 minutes)

Ewa Kozłowska

**SEARCH FORUMS**

Go

Advanced search

**LATEST NEWS**

Add a new topic...

Do 30 stycznia 2017 można poprawić wybór

22 Jan, 17:15 Anna Grapowska

Let me know if you took part in the 1st day Fusion 360

20 Jan, 17:34 Anna Grapowska

Zapisy na jutrzejszy kurs

20 Jan, 14:11 Anna Grapowska

Oblacany link do prezentacji

20 Jan, 13:57 Anna Grapowska

Fusion 360 Designathon - when and where

18 Jan, 09:20 Anna Grapowska

Older topics ...

**RECENT ACTIVITY**

Activity since Monday, 3 April 2017, 12:15 AM

Full report of recent activity...

No recent activity

Fig. 5 Learning Room of the Fusion 360 Designathon participants

The same Learning Room was also used to monitor attendance and to collect statistical data about the workshop participants.

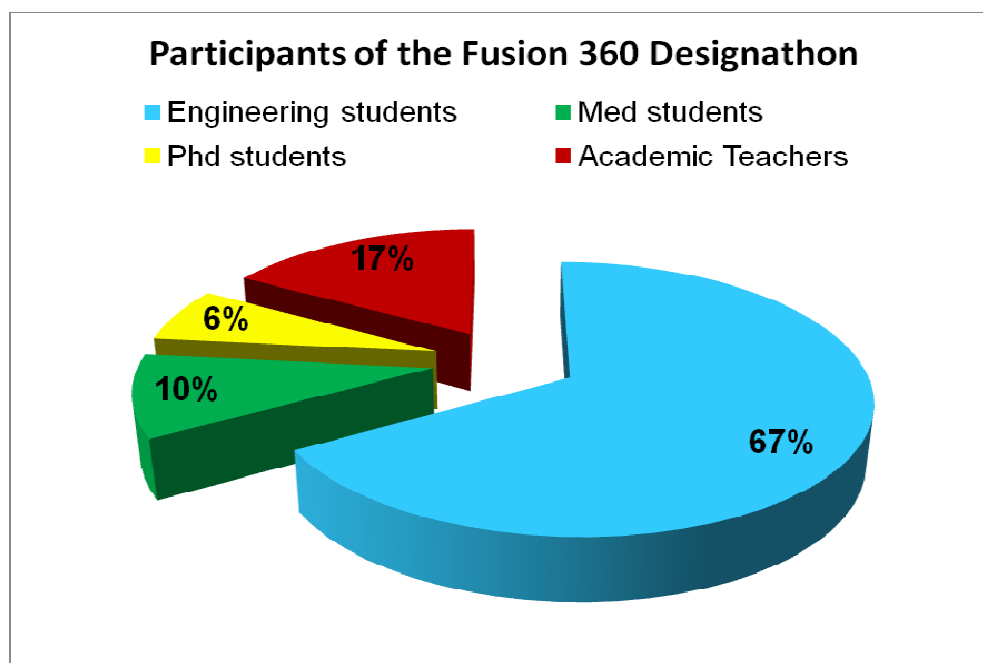


Fig. 6 Fusion 360 Designathon participants

The second day of workshops was staged in the third Learning Room. It was focused on the DesignNow marathon and team projects. Taking advantage of the functionalities of the Moodle platform, the workshops organizers divided the participants into groups and created separate discussion forums for each respective group.

The screenshot shows the Moodle Learning Room interface. At the top, there's a header with 'SP4CE' and 'Polski (pl)' on the left, and 'Ewa Kozłowska' with a profile picture on the right. Below the header, the main title 'Fusion for the Future - projects in groups' is displayed. A breadcrumb trail shows 'Moja strona domowa > Poland - PIAP, PRO-MED > F4F'. On the left sidebar, there are sections for 'OSOBY' (Uczestnicy), 'NAWIGACJA' (Moja strona domowa, Strona główna, Strony, Bieżący przedmiot, F4F, Uczestnicy, Odznaki, Models in Fusion 360 (done on 21.01.2017), Moje kursy), and 'ADMINISTRACJA'. The main content area is titled 'Models in Fusion 360 (done on 21.01.2017)' and features a gallery of four 3D car models. Below the gallery are links for 'News forum', 'Forum for students', 'Collection of students' models', and 'Some photos on Twitter'. On the right sidebar, there are sections for 'ZALOGOWANI UŻYTKOWNICY' (Ewa Kozłowska, Ostatnie 5 minut), 'SZUKAJ W FORACH' (Wyszukiwanie zaawansowane), and 'NAJNOWSZE WIADOMOŚCI' (Projekt, Jak wrzucić do Fusion360 gallery, Mam prośbę).

*Fig. 7 Learning Room for participants of the second day of Fusion 360 Designathon workshops*

Files with projects designed by individual groups were then uploaded to the Learning Room space on the Moodle platform.

## Who are the users?

Coach – representative of PRO-MED company, responsible for the organization of workshops

Mentor – Autodesk Fusion 360 instructor, instructor who conducts workshops

Student – attends workshops

## How to use the SP4CE Portal?

- A coach (tutor) sets up the structure of the Learning Room in collaboration with the teacher (mentor). At this stage, coach and mentor discuss the existing and useful features and tools of the Learning Room, types of activities assigned to students (project teams, chat, forum, and workshop) and resources (books, files, catalogues, tags, websites, online resources) used in the Learning Room. Also, they both agree how the final performance of the students should be evaluated, and establish access levels.
- Coach (tutor) introduces the participants to the Learning Room, participants then register in the system via e-mail or by another means, and the coach assigns access key to the Learning Room.
- Students may use the available resources and other materials, communicate with the coach, mentor and other students, work on the assigned tasks and/or projects, browse or ask for new information.
- All stakeholders have the opportunity to take the best advantage of their skills and abilities to get the best final performance.
- Coaches (tutors) and mentors can effectively manage all tasks assigned to students.
- Coaches and mentors can also evaluate individual student performance.

## Resources

Users must first register to the system to get an access key to access Learning Rooms. There is an online registration option, and the key can be sent via e-mail by the mentor or the system administrator. No special software is needed to be able to use all Learning Rooms features, except for an internet browser at the user's choosing (Google Chrome, Mozilla Firefox, and Microsoft Edge). Solving specific problems and tasks may require special software, but the users have to be notified in advance. Students may use MS Office – MS Word, MS Excel, and MS PowerPoint – when working on project proposals and/or reports.

### 4.3. Findings, recommendations and variations

The current system version offers all functionalities necessary to effectively support active learning. User roles are clearly distinguished. The system streamlines learning as it actively monitors the learning process and the dissemination of resources. Moreover, the learning process can be extensively personalized, which is a particularly valuable feature given the wide and varied fields of knowledge and expertise covered by PRO-MED operations.

#### Cooperation between partners

Participants who successfully completed the *European Fusion 360 Designathon* workshops were awarded a training completion certificate. Some of the trainees declared they were interested in other PRO-MED projects.

#### Possible risks

Risks associated with the assignment of tasks to workshop participants; inadequate training before entrusting tasks to trainees. Risks also include too many trainees taking part in the workshops, in which case it would be difficult to adopt an individual approach to trainees, or inadequate difficulty level of tasks versus skills and knowledge level of workshops participants.

#### What not to do / What to be aware of

Trainees should not be assigned too complicated / unclear tasks. In this manner, students are not given any tasks which are not within their field of competence. On the other hand, students may feel discouraged or overwhelmed by tasks which they find too difficult. It is also often the case that students find it difficult to begin working on the task, and the coach should actively motivate students and offer them full support, especially in the beginning, for example by presenting examples of solutions to similar problems.

It is important to post the necessary training resources and source materials that the students may use to deepen their knowledge at their own pace and on themes chosen by themselves.

#### 4.4. Summary

Recommendations			
Education type			
Non-formal education	Vocational education	Secondary school	University
			X
User roles			
Coach (business)	Mentor (teacher)	Student – participant of the workshops	
X	X	X	
Topics			
Training dedicated to Autodesk Fusion 360 operation basics			
Main purposes and tasks			
Company (PRO-MED)			
<ul style="list-style-type: none"><li>• Providing conference room and equipment used during the workshops</li><li>• Setting up Learning Rooms for organizers and participants</li><li>• Continuous exchange of organizational information</li><li>• Assigning resources on the SP4CE Platform</li><li>• Monitoring workshop attendance</li><li>• Checking tasks carried out by workshop participants</li></ul>			
Mentors (PRO-MED and ACSA PG)			
<ul style="list-style-type: none"><li>• Notification of plans to stage the workshops</li><li>• Identification of requirements in terms of workshop venue and computer equipment</li><li>• Running 2-day workshops</li><li>• Establishing cooperation conditions, verification methods, and record-keeping to document the acquired knowledge</li></ul>			
Students – participants of the workshops			
<ul style="list-style-type: none"><li>• Acquiring practical skills on the operation of Autodesk Fusion 360 software</li><li>• Participation in the DesignNow event</li><li>• Creating team projects on topics assigned by the workshop organizers</li><li>• Documenting the acquired practical skills</li></ul>			

## 5. SP4CE portal usage scenarios – business administration

### 5.1. Purpose of the case study

Today, ICT increasingly penetrates into the various sectors of human life. Many students share the opinion that the education provided is not adequately linked to the practice. In order to enable universities and vocational schools to prepare students for the labor market, it is necessary to actively involve practice into education. In our case, one nice example is presented by the cooperation among three parties: companies, consultants, students.

IDEC SA is a consulting company for businesses of all economic sectors, private or public. Among other services, IDEC provides guidance to people who want to start their own business and search for investment funding. On this basis, IDEC's consultants develop business plans for their customers.

IDEC also collaborates with several training organizations, providing consulting services concerning quality management and management and/or implementation of projects.

Quite often, IDEC acts as a mediator between training organizations and companies. The learning providers can exchange their research results and fresh minds of their students with real business world challenges for their students. On the other side, companies can use the research results from the students in their R&D processes and exploit the creativity of fresh young minds with the potential of thinking outside the box. In addition, the HR departments of companies can use the interaction with students in order to find the best candidate for a job position. Testing the applicants in company's real activities, employers can recognize the students' skills to transfer their theoretical knowledge into practice, while the students can find out if this particular job suits best his/her potentials.

Collaboration between these two communities involves a process of dynamic exchange of information and this usually happens through an online network.

### 5.2. Implementation of SP4CE portal

SP4CE Portal (available at [sp4ce.eu](http://sp4ce.eu)) presents interesting solutions of above described collaborative learning. The portal contains online information about the project SP4CE itself, guides for particular target groups (coaches, mentors, students), interesting learning materials, contributions to the various conferences and a special part – challenge/call: "*Send us your project proposal*". Via this challenge anyone can call for the help. It is a tool for looking for people interested in solving different kind of problems or for searching for partners for future cooperation operating in the same of different areas. When participants accept a challenge, the administrator creates a Learning Room, a specialized place, where all together can cooperate after signing up to a system. This challenge process works on the principle developed within EACEA project "*OpenInn2.0: A Knowledge Generating House and e-Assessment Model*",



where the platform Knowledge Generating House was used to generate groups of investigators and innovative solutions to very specific problems.

### Who are the users?

- Coaches – owners and/or managers of companies. They set the challenge and they provide information like project idea, description, available resources, and deadline for achieving the solution/results.
- Mentor – consultant, replies on the challenge, adds comments, provides tools, proposes time schedule.
- Students – University and VET students with interest in challenge topic.

### How they can use portal?

- Read general information – all users have access to general information (about SP4CE project, different kind of guides, learning materials, conference papers, etc.).
- Search for partner– via link: “*Send us your project proposal*” anybody can publish a challenge for searching new partners, problem solution.

### Resources

There is no need to any special software for using portal sp4ce.eu. The portal is accessible via any web-browser (eg. Google Chrome, Mozilla Firefox, IE, etc.).

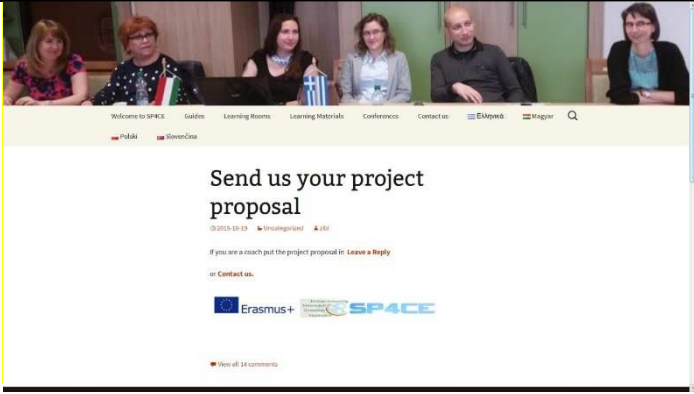
### The Case

IDEC is a consulting company with customers who want to develop their own business plans, in order to apply for investment funding. IDEC decided to involve students of Business Administration and guide them to prepare the business plans for some of its clients. This is a good opportunity for both the students to test themselves in real work tasks and for the companies to get in contact with young future employees and find potential candidates for work.

### How it was realized?

- Using portal sp4ce.eu, IDEC’s consultant publishes a challenge (Fig. ).



	<p><b>Project proposal: Business plan for investment funding</b></p> <p><b>Description:</b> IDEC looking for motivated young people interested in project management, to elaborate business plan for companies. All information and resources needed for the elaboration of the business plan will be provided.</p> <p><b>Language:</b> Greek</p>
---	---

*Fig. 8 Screenshot of sp4ce.eu portal and example of published challenge*

- The challenge is promoted to the training organizations with which IDEC collaborates.
- Via discussion tool at the portal, the consultant describes the requirement in more details and discusses it with companies.
- Since both sides of communication agree on fact, that there is need for materials that cannot be published public, the consultant asks the portal administrator to open a new Learning Room (LR) for newly formatted group.

### 5.3. Findings, recommendations and variations

#### How it develops partnership cooperation

Through publishing challenge, SP4CE portal presents a gateway for establishing cooperation. Subsequently this call is transformed into LR where the cooperation can really take place at several levels using various features of the SP4CE platform. The advantage of this open SP4CE portal is that users from different institutions can reply to one challenge and can work together further also on other projects in other areas.

#### Possible risks

- Most significant risk should be the lack of interest from users, i.e. despite the publication of the call, no one will respond and the challenger will have to use other ways of establishing cooperation.
- Another risk may arise by huge interest in cooperation and a hard decision would follow regarding with whom to establish collaboration.
- Time limitations – in case the challenger specifies a time limit for achieving the reply or solution, it can happen that nobody will manage to answer the call during the expected time.

What not to do / be aware of the following

It is important to define the call very precisely with useful details to avoid misunderstandings. A very general call could not be interesting for users.

#### 5.4. Summary

Guideline Summary			
Kind of education			
Non formal	Vocational	Secondary	University
	X		X
Identification of involved users roles			
Coach (company)	Mentor (teacher)	Students	
X	X	X	
Focus area			
Business plan			
Main objectives and goals			
Company			
<ul style="list-style-type: none"><li>Obtain a business plan to use for investment funding</li><li>Find skilled and motivated new employees</li></ul>			
Students			
<ul style="list-style-type: none"><li>Practice their knowledge and skills</li><li>Create a contact with company</li></ul>			

## 6. Learning rooms usage scenario – business plan development

### 6.1. Purpose of the case study

Using sp4ce.eu portal, a challenge was published for the development of business plans. Both sides – the consulting company and the companies who wish to develop their business plan– agreed on this co-work and its details. During discussions about the cooperation details, they discovered that some of the important materials cannot be published public, but they need some space just for registered users, where materials could be available in restricted way based on user role in the system.

### 6.2. Implementation of SP4CE Learning Rooms

Platform SP4CE and its Learning Rooms (available at <http://sp4ce.moodle.pl/>) allows user registration and role assignment for LR (Fig. 9). For using this space, every user has to register into the system. The available range of features and tools depends on the role of the user within the particular LR. Possible roles are manager, course designer, teacher, student, guest and registered user. Based on his/her role, the user has available different group of sources, tools.



Fig. 9 Welcome screen of SP4CE Learning Rooms

The SP4CE LR includes publishable information about all companies to help students understand the general context of each company. The consultant provides more detailed (confidential) information and materials that are useful for students to prepare the business plans.

### Who are the users?

- Coach – owner and/or manager of companies, who provides information, opens topics for discussion, evaluate the business plan.

- Mentor – consultant, gives all necessary information for the task, identifies the objectives needed to be achieved, help students to establish successful cooperation with coaches from companies, and develops structure of the learning room using different available features.
- Students – in connection to mentor try to find out solution to provided problem, work out assessments, and prepare business plans.

### How they can use LRs?

- Mentor (consultant) in cooperation with coach prepares LR structure. Within this phase they discuss LS the available and useable features of LR, the kinds of activities needed to be done by students (Assignments, Feedback, Chat, Forum, Workshop), the resources (Book, File, Folder, Label, Page, URL), which will be used in LR. They agree on evaluation methods of final results, manner of its publishing and level of access.
- Mentor addresses students, via e-mail or other way to register to the system and prepared LR.
- Students can study provided materials and other resources, communicate with mentor or coach, work on business plans, search or ask for additional information.
- Using this collaborative environment takes students out of their usual studying and gives them the opportunity to collaborate with other persons, with different ideas and knowledge, and people from real companies. Everybody can use their own competencies and skills to reach the best result.
- Coaches and mentors evaluate and mark the students' activity.

### Resources

To access the LR, the registration to LRs system and an access key are needed. Key is provided by face-to-face communication or via e-mail by the mentor. For entrance to LR itself, no special software is needed, just a web-browser (i.e. Google Chrome, Mozilla Firefox, IE a pod.). Maybe the solution of particular problems and tasks requires some specific software, but users have to be informed about it within LR. To prepare project proposal students need to use ordinary MS Office applications – MS Word, MS Excel, MS PowerPoint.

### The Case

IDEC is a consulting company with customers who want to develop their own business plans, in order to apply for investment funding. IDEC decided to involve students of Business Administration and guide them to prepare the business plans for some of its clients. This is a good opportunity for both the students to test themselves in real work tasks and for the companies to get in contact with young future employees and find potential candidates for work.

After agreement between the consulting company and the owners/managers of companies, IDEC's consultant asked SP4CE platform administrator to create a LR named “Επιχειρηματικά σχέδια για χρηματοδότηση επιχειρήσεων” (Business plans for investment funding). Finally, LR was used by 15 coaches from 15 companies, 1 mentor from IDEC and 15 students.

The main objective of LR use was to raise the interest of students in their subject of study and at the same time to approach problem solving of real work in a creative way and to develop contact with real company. The LR contained all information needed to know during the successful business plan preparation.

### How it was realized?

- Coach and mentor prepares the structure of LR.
- Based on provided resources students start to work out their business plans – they define the first draft of business plan (app. 20-24 h.).
- Next step, students have to further develop the business plan containing more detailed information (app. 20-24 h. – depends on the complexity of the business).
- During the whole business plan development process, she/he should discuss his/her progress and ideas with the mentor, the coach and other colleagues in the class. They could use on-line chat, discussion forums or instant messaging feature.
- Students present the results and other students could add comments and evaluate the work of others. These reactions are part of the final evaluation of the students' plan by the coach and the mentor.

### 6.3. Findings, recommendations and variations

#### Main findings

Using SP4CE LRs environment, consultant plays the role of a mediator helping the company's representative (coaches) to define the information needed on his behalf to give a broader image of its company and its potentials. On the other hand, the consultant helps students, via employing personalized learning approaches, collaborative learning and critical thinking methods, in developing solutions and communications with company representatives. Main positive aspect is that students use an environment that is familiar to them.

#### How it develops partnership cooperation

The students develop their ideas and apply their creativity to offer solutions. They learn methods and tools that they can apply in their daily life.

#### Possible risks

Development of business plans take a longer time than expected, because of the more complex objective of the task. Most of the work is done during homework; it should take app.

50 hours. There is the possibility of studying these materials from home and have on-line/off-line support from the mentor via LR.

### What not to do / be aware of the following

Do not take a too complex challenge to which the students have no relation. The lack of ideas can then lead to frustration and de-motivation. Sometimes it is difficult for the students to start, their minds are blocked in finding the proposition of some solutions, in such cases it often helps to give examples of how to proceed.

It is necessary to describe all the phases and expectations of the expected outcome very precisely, to provide examples and give active feedback to the students.

### 6.4. Summary

Guideline Summary			
Kind of education			
Non formal	Vocational	Secondary	University
	X		X
Identification of involved users roles			
Coach (company)	Mentor (consultant)	Students	
X	X	X	
Focus area			
Business plan			
Main objectives and goals			
Company			
<ul style="list-style-type: none"><li>Find skilled and motivated new employees</li><li>Access to different interesting, innovating and untraditional solutions of the problems that they have to face (and within company they are usually dealt by traditional approaches or they have lack of employers for this specific field, respectively)</li><li>Access to information about real knowledge and skills of students;</li></ul>			
Consultants			
<ul style="list-style-type: none"><li>Provide practical example and exercise in real company conditions to the students</li><li>Possibility to affect the content and style of education at educational institutions;</li><li>Possibility to improve education process</li></ul>			
Students			
<ul style="list-style-type: none"><li>Achieve practical skills in field of project management</li></ul>			

- Contact with reality – teamwork within real company team
- Possibility to check collaboration work style with different kind of people (nation, specialization, etc.)

## **7. SP4CE portal usage scenario - conference**

### **7.1. Purpose of the case study**

Today, ICT increasingly penetrates into the various sectors of human life. There are present voices from the students and practice that provided education is not adequately linked to the practice. In order to enable universities to prepare students for practice, it is necessary to involve practice into education actively. In our case, an example is presented through the advertisement of XXII. Multimedia in Education conference, which we usually visit every year to present our projects and results and to get information about other education professionals' projects.

### **7.2. Implementation of SP4CE portal**

SP4CE Portal (available at [sp4ce.eu](http://sp4ce.eu)) presents interesting solutions of above described problem. The portal itself contain online information about the project SP4CE itself, guides for particular target groups (coaches, mentors, students), interesting learning materials, contributions to the various conferences and from the point of view of the above-described problem solution special part – challenge/call: "*Send us your project proposal*". Via this challenge can anyone call for the help. It is tool for looking for people interested in solving different kind of problems or for searching the partners for future cooperation operating in same of different areas. In the case of match of the challenge participants, administrator creates a Learning Room, specialized place, where can all together cooperate after signing up to a system. This challenge process works on the principle developed within EACEA project "*OpenInn2.0: A Knowledge Generating House and e-Assessment Model*", where the platform Knowledge Generating House was used to generate groups of investigators and innovative solutions to very specific problems. There is another special menu points on the portal, named Learning Rooms, Learning Materials and Conferences.

#### **Who are the users?**

- Project managers – they share information and dissemination events with the interested parties
- Teachers and researchers – they are interested in the projects outcomes
- Students – they will use the project outcomes, they are the main beneficiaries of the project

#### **How they can use portal?**

- Read general information – all users have access to general information (about SP4CE project, different kind of guides, learning materials, conference papers, etc.).
- Search for partner among education institutes – via link: "*Send us your project proposal*" can anybody publish a challenge for searching new partners, problem solution.



- Get information about upcoming and past conferences via link: <http://sp4ce.eu/en/conferences>

### Resources

There is no need to any special software for using portal sp4ce.eu. The portal is accessible via any web-browser (eg. Google Chrome, Mozilla Firefox, IE, etc.).

### The Case

A conference (XXII. Multimedia In Education - Keszthely) was introduced through the portal, which aims to foster the exchange of experiences and meeting of professionals in the different fields of education, research and development. We wanted to invite our partners to join the conference to present them our projects (SP4CE, RELM, Remo and Plentis) and to the professionals of the educational field: teachers, researchers and PhD students.

### How it was realized?

- Using portal sp4ce.eu we have published the conference (Fig. ).

	<p>Trebag Ltd. 2016 May</p> <p>Advertisement of XXII. Multimedia in Education Conference</p> <p>Description: A conference (XXII. Multimedia In Education - Keszthely) was introduced through the portal, which aims to foster the exchange of experiences and meeting of professionals in the different fields of education, research and development.</p> <p>Language: Hungarian</p> <p>Deadline: 02.06.2016</p>
--	---

Fig. 10 Screenshot of sp4ce.eu portal and example of published conference

- Interested professionals have come to the conference



*Fig. 11 Photos from the conference*

### 7.3. Findings, recommendations and variations

#### How it develops partnership cooperation

Through publishing challenge, portal SP4CE presents a gateway for establishing cooperation. The advantage of this open SP4CE portal is that to one advertised conference can ask users from different institutions to join, which further can work together also on other projects in other areas.

#### Possible risks

- Most significant risk should be lack of interest from users, i.e. despite the publication of the conference call, no one will respond and the challenger will have to use other ways of establishing cooperation.

- Another risk may be presented by huge interest in cooperation and following hard decision with whom to establish co-work together.
- Time limitations – in case that the challenger specify the time limit for achieving the reply or solution, it can happen that nobody will manage to join the conference during expected time.

### What not to do / be aware of the following

It is important to define the call very precisely with useful details to avoid misunderstandings. Very general call could meet with disinterest of other users.

### 7.4. Summary

Guideline Summary			
Kind of education			
Non formal	Vocational	Secondary	University
			X
Identification of involved users roles			
Coach (company)	Mentor (teacher)	Students	
X	X	X	
Focus area			
Project management			
Main objectives and goals			
Teachers			
<ul style="list-style-type: none"><li>To know new tools to educate students</li></ul>			
Students			
<ul style="list-style-type: none"><li>Know new education tools through the presented projects</li></ul>			

## 8. Learning rooms usage scenario – job for a project manager

### 8.1. Purpose of the case study

Using sp4ce.eu portal a job offer (project manager) at Trebag Ltd. was published.

### 8.2. Implementation of SP4CE Learning Rooms

Platform SP4CE and its Learning Rooms (available at <http://sp4ce.moodle.pl/>) allows user registration and role assignment particular LR (Fig. ). For using this space, every user has to register into system. Range of features and tools depends on the role of the user within the particular LR. Possible roles are manager, course designer, teacher, student, guest and registered user. Based on the role user has available different group of sources, tools.



Fig. 12 Welcome screen of SP4CE Learning Rooms

Every SP4CE LR is concerned on specific problem that company face and publishable sources to help students understand the problem itself. Teacher help coach to provide materials that are useful for students, to prepare place for discussion, interactive cooperation, new solution proposals and evaluation.

### Who are the users?

- Coach – HR manager of Trebag Ltd., who provides job calls and prepares learning rooms for discussion, interactive cooperation, new solution proposals of the interested job-seekers
- Mentor – Project manager of Trebag LTD who give an introduction to the available topics, to the main ideas and objectives needed to be achieved, help job-seekers to establish successful cooperation with the coach, help to coach to develop structure of the learning room using different available features.
- Students – job-seekers who are interested in the activities listed in the learning rooms and would like to find out solution to provided problem, work out assessments, and prepare project proposals.

## How they can use LRs?

- Coach in cooperation with mentor (teacher) prepares LR structure. Within this phase they discuss LS available and useable features of LR, kinds of activities needed to be done by students (Assignments, Feedback, Chat, Forum, Workshop), resources (Book, File, Folder, Label, Page, URL), which will be used in LR. They agree on evaluation methods of final results, manner of its publishing and level of access.
- Mentor address students –via job portals and via company portal, via personal network or other way to register to the system and prepared LR.
- Students (job-seekers) could study provided materials and other resources, communicate with mentor or coach, work on project proposals, search or ask for additional information.
- Coaches and teachers manage all specific tasks needed to be done during the problem solution. LR users team consists of members with their own specialism and expertise, knowledge related to the problem to be solved. Everybody can use own competencies and skills to reach the best result.
- Coaches and mentors could evaluate and mark the students' activity and choose the best candidate from the applicants.

## Resources

To access the LR the registration to LRs system and access key is needed. Key is provided by face-to-face communication, via e-mail by the mentor. For work with LR itself no special software is needed, just user preferred web-browser (i.e. Google Chrome, Mozilla Firefox, IE a pod.). Maybe the solution of particular problems and tasks requires some specific software, but users have to be informed about it within LR. To prepare project proposal students need to use ordinary MS Office applications – MS Word, MS Excel, MS PowerPoint.

## The Case

The main objective of LR use was to raise the interest of job seekers on Trebag's activities and to try to find the most proactive and creative candidate and to know them and their way of thinking. We wanted to know if they have any original ideas on the ongoing projects or any ideas for a proposal.

## How it was realized?

- Coach prepares the structure of LR (Fig.) containing presentations about main projects, objectives of the LR, best practices and information about activities. They fit it to company requirements in connection with pedagogical principles.



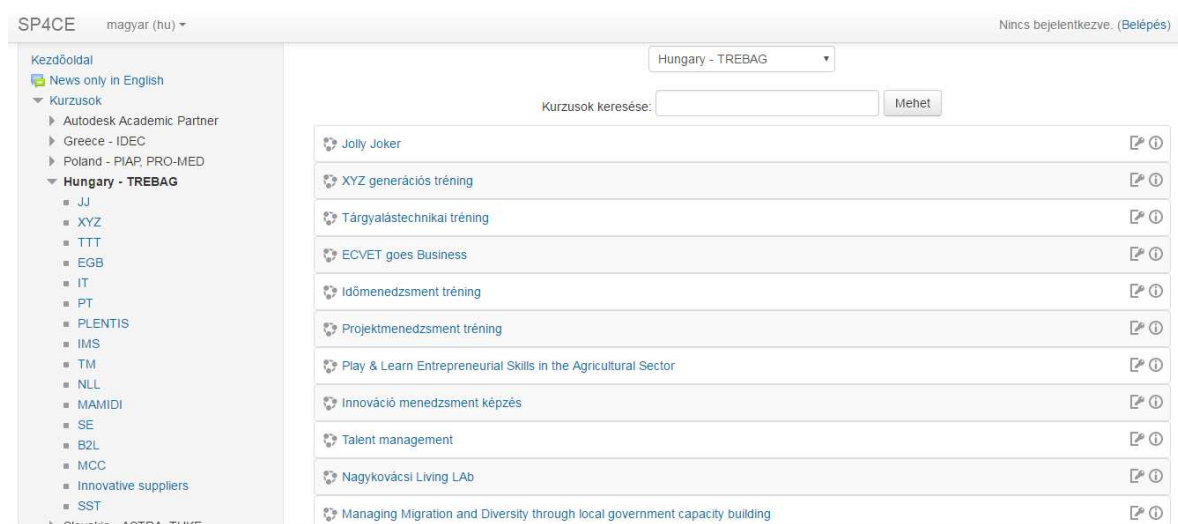


Fig. 13 Screenshot of the LRs

- Based on provided resources job seekers start to work out their suggestions and comments



Fig. 14 Screenshot of the LRs

- During the whole recruiting process, she/he should discuss his/her progress and ideas with the teacher, coach and other candidates in the class. They could use on-line chat, discussion forums or instant messaging feature.

### 8.3. Findings, recommendations and variations

#### Main findings

Using SP4CE LRs environment, teacher plays the role of a mediator helping to company representative (coaches) to define the tasks to be solved and sources needed to get deeper understanding the problem. On the other hand, teacher helps students, via employing

personalized learning approaches, collaborative learning and critical thinking methods, in developing solutions and communications with company representatives.

### How it develops partnership cooperation

The students develop their view of the matter around them and their creative access to its solutions. They learn methods and tools they can apply in their daily life operations.

### Possible risks

Sharing ideas take some time, because of the more complex objective of the task. In case of the need for study of the work with ICT tools, there is the possibility of studying these materials from home and have on-line/off-line support from the coach or teacher via LR. The intellectual property rights of the ideas are not clear after the application period.

### What not to do / be aware of the following

Do not take a too complex project challenges to which the students do not have any relation. Due to the high complexity of the project it is necessary to describe all the phases and expectations of the product very precisely, to provide examples and active feedback on the students on going activity.

## 8.4. Summary

Guideline Summary			
Kind of education			
Non formal	Vocational	Secondary	University
			X
Identification of involved users roles			
Coach (company)	Mentor (teacher)	Students	
X	X	X	
Focus area			
Recruitment			
Main objectives and goals			
Company			
<ul style="list-style-type: none"><li>• Provide practical example and exercise of its activities in real company conditions to the students</li><li>• Find skilled and motivated new employees</li><li>• Possibility to improve recruiting process</li><li>• Access to information about real knowledge and skills of students;</li></ul>			
Teachers			

- Access to contacts to people – possible future cooperation not only via SP4CE, but on projects, company education etc.;
- Reach overview to marketplace requirements – way how to improve the education content and style;
- Possibility to try e-learning methods, blended learning resp., what can be implemented into education at university;

#### Students

- Possibility to express their ideas and opinions and to find a new job
- Contact with reality – teamwork within real company team
- Possibility to check collaboration work style with different kind of people (nation, specialization, etc.)



## 9. SP4CE Portal usage scenario - Student Internships

### 9.1. Purpose of the case study

The purpose of this case study is to present the SP4CE portal use scenario, featuring various aspects of how students' internships were organized at the Industrial Research Institute for Automation and Measurements PIAP.

The Industrial Research Institute for Automation and Measurements PIAP is a scientific center running industrial research and development projects.

The expertise of PIAP is focused on:

- automation and robotization of production processes,
- automation of interoperational transportation,
- quality control systems featuring vision technology,
- mobile robots for specific applications,
- industrial measurement systems,
- specialist control and measurement equipment,
- automobile recycling,
- implementation of multinational projects.

PIAP offers internship opportunities to around 20 students annually. As a rule, PIAP interns are students of technical universities. Some internships are organized within the framework of IAESTE (The International Association for the Exchange of Students for Technical Experience <http://www.iaeste.org/>). These are interns from abroad; in this case, language barriers and cultural differences must be skillfully handled. Students from domestic universities are often internships in fields related to their semester or final dissertations.

PIAP also cooperates with students' scientific clubs operating at universities. Members of students' scientific clubs are often offered internship opportunities.

According to the internal regulations and local laws, student internships must be organized in a highly formalized manner. Interns are required to attend an OHS training addressing the risks and hazards that may emerge during the internship. Each inter is assigned a tutor, who has the necessary skills to supervise and monitor the course of the internship. PIAP signs a formal agreement with each intern, defining in detail the rights and obligations of each contracting party. The legal aspects are particularly important whenever interns are involved in creating intellectual property.

PIAP internships are 2 weeks to 5 months long. PIAP seeks to involve interns in the day-to-day operations and activities taking place at the Institute, so that interns have the change to acquire practical skills.

## 9.2. How the SP4CE portal is used

The SP4CE portal can be used in communication between the coach and the intern(s). This process may also involve other stakeholders engaged in the organization and monitoring of internships, such as project managers or workshop leaders. Within the system, the interns may be provided with access to OHS knowledge and resources, internal regulations of PIAP that the interns are bound to comply with, workflows and manuals, and other knowledge relevant for the internship.

Moreover, the Learning Rooms functionality is where additional tasks for interns can be added.

The intern tasks must be tailored to the knowledge and skills of interns and internship duration. They should be preferably practical and closely related to the current activities carried out at PIAP.

Intern performance can be then evaluated in the system. Another SP4CE system functionality is to create users responsible for evaluation of tasks other than the coach or mentor, however, this task should be entrusted to competent individual(s). Evaluations of intern performance will be included in the Internship File.

The system also offers internship monitoring and reporting options, which makes it much easier to compile internship reports (Internship File).

Separate Learning Rooms should be set up for internship purposes. If there is any team work involved, interns who use the same Learning Room can work on the same project together.

SP4CE English (en) ▾ Marcin Słowikowski ▾

## SP4CE Learning Rooms

**NAVIGATION**

- Dashboard
- Site home
- Site pages
- My courses

**CALENDAR**

February 2017

Mon	Tue	Wed	Thu	Fri	Sat	Sun
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

**ADMINISTRATION**

**My courses**

**XVI Forum Edukacyjne Małych i Średnich Przedsiębiorstw, WCCE 2017**

Teacher: Anna Grabowska  
Teacher: Wojciech Grabowski  
Teacher: Ewa Kozłowska  
Teacher: Marcin Słowikowski  
Teacher: Jacek Zieliński

**Status:** Open/Otwarty

**Tasks/Zadania:**

- Opracowanie prezentacji na XVI Forum Edukacyjne Małych i Średnich Przedsiębiorstw
- Writing article(s) for WCCE 2017

**Language/Język:** no forced/do wyboru

**Guidelines for consultants/enterprises**

Teacher: Olga Anagnostaki  
Teacher: Anna Grabowska

**Status:** Open

**REQUEST**

**Request your Learning Room**

Requests for new Learning Rooms (Courses) should be send by a local Administrator.

**ONLINE USERS**

(last 5 minutes)

Marcin Słowikowski

Fig 15 System view available at <http://sp4ce.moodle.pl/> for logged in users. Request your Learning Room option is available on the right

SP4CE English (en) ▾ Marcin Słowikowski ▾

**NAVIGATION**

- Dashboard
- Site home
- Site pages
- My courses
- Courses
  - Greece - IDEC
  - Poland - PIAP, PRO-MED
    - eTEE 2017
    - SP4CE Workshop
    - F4F
    - Fusion 360 - for participants
    - Fusion 360 - for organisers
    - CTS
    - ChirSz-T-Kłopotowski
    - Kłopotowski
    - JAVATech
    - 3DCHIR
    - HISEPIC
    - UTW - projekt
    - Ramie-MES

Course categories:  
Poland - PIAP, PRO-MED ▾

Search courses:  Go

Page: (Previous) 1 2 3 (Next)

- Guidelines for consultants/enterprises
- Radiologia stomatologiczna
- Cinema for Active Ageing
- 5th Annual MoodleMoot Virtual Conference 2016
- Systemy CAD/CAM/CAE w kształceniu inżyniera
- Opracowanie szkolenia/warsztatu/seminarium "Pierwsze kroki z Fusion 360".
- Networking with De Montford University
- Is Georgia in Europe?
- Praktyka w PIAP

Fig. 16 List of existing learning rooms

Example of the use of SP4CE Platform – a Learning Room set up and resources uploaded for an intern

### **Who are the users?**

Coach – a person at PIAP who takes care of the student

Mentor – a person from alma mater / delegating organization

Students – PIAP interns

Other options – project managers or workshop leaders who are engaged in the internship and in intern activities; individuals responsible for accessing intern performance.

### **How to use the SP4CE Portal?**

- A coach (tutor) sets up the structure of the Learning Room in collaboration with the teacher. At this stage, coach and teacher discuss the existing and useful features of the Learning Room, types of activities assigned to students (Assignments, Suggestions, Chat, forum, workshop) and resources (books, files, catalogues, tags, websites) used in the Learning Room. Also, they both agree how the final performance of the students will be evaluated, and establish specific access levels.
- Coach (tutor) introduces the interns to the Learning Room, interns then registered in the system via e-mail or by another means, and the coach assigns access keys to the Learning Room.
- Students may use the available resources and other materials, communicate with the coach, teacher and other students, work on the assigned tasks and/or projects, browse or ask for new information.
- Coaches (tutors) and teachers may manage all tasks assigned to students. All stakeholders have the opportunity to take the best advantage of their skills and abilities to get the best final performance.
- Coaches and teachers can evaluate student performance.

### **Resources**

Users must first register and get an access key to access Learning Rooms. There is an online registration option, and the key can be sent via e-mail by the mentor or system administrator. No special software is needed to be able to use all Learning Rooms features, except for an internet browser at the user's choosing (Google Chrome, Mozilla Firefox, Microsoft Edge). Solving specific problems and tasks may require special software, but the users have to be notified about it in advance. Students may use MS Office – MS Word, MS Excel, MS PowerPoint – when working on project proposals and/or reports.

### **The Case**



*This project has been funded with support from the European Commission under the ERASMUS+ Programme. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*

The system was used for the organization of an internship for a student of the Medical Engineering Department at the Gdańsk University of Technology. The student was also an employee of a company which delegated him/her to attend an internship at PIAP. An internship program was drafted based on an analysis of the intern profile and a discussion with the current intern's employer; the necessary resources were allocated in the system; persons responsible were appointed in charge of making rehabilitation equipment available for internship-related purposes. Electronic resources were made assigned (refer to the print screen below).

## Praktyka w PIAP

Dashboard ► Courses ► Poland - PIAP, PRO-MED ► Praktyki

**NAVIGATION**

- Dashboard
- Site home
- Site pages
- Current course
  - Praktyki**
    - Participants
    - Badges
    - Komunikacja
    - Karta praktyki
    - Materiały
- My courses

**Komunikacja**

- Forum aktualności
- Forum

**Karta praktyki**

- Karta praktyk

**Materiały**

- PIAP - struktura organizacyjna

---

**Renus**

- Renus - artykuł PAR
- RENUS - 1
- RENUS - 2

---

**RoboMatic**

- Desk Research Guideline & Template
- Robotyka w Polsce

---

**RobWeld**

- RobWeld Super-MIG®
- KUKA System Software 8.3 (ENG)
- KUKA System Software 8.3 (PL)

**SEARCH FORUMS**



Advanced search ?

---

**LATEST NEWS**

możliwości  
12 Jul, 13:10 Wojciech Grabowski  
Older topics ...

---

**UPCOMING EVENTS**

There are no upcoming events

Go to calendar...  
New event...

---

**RECENT ACTIVITY**

Activity since Tuesday, 7 February 2017, 9:43 AM  
Full report of recent activity...  
No recent activity

Fig. 17 Example of the use of SP4CE Platform– a Learning Room set up and resources uploaded for an intern

## How was it implemented?



This project has been funded with support from the European Commission under the ERASMUS+ Programme. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

- Coach and teacher design the structure of the Learning Room (Fig. 3); featuring the Internship File, background information about the accepting institution, and a dedicated section for resources that the user may need to fulfill the assigned tasks.
- Based on the available resources, students begin work on their solutions to specific problems and/or implementation of practical tasks – they come up with the first draft project of a solution.
- In the course of the internship, students may discuss tasks, ideas, and progress with the teacher, coach, and other interns. Users may use online chat, forums, and other communication methods available in the system.
- Students fill in the Internship File on an ongoing basis, which is reviewed by the mentor and is necessary to confirm completion of the internship.
- Students upload their projects and tasks to the Learning Room space. The intern performance is then evaluated by the coach and the mentor.

### **9.3. Findings, recommendations, variations**

The current system version offers all functionalities necessary to effectively support active learning. User roles are clearly distinguished. The system streamlines learning as it actively monitors the learning process. Moreover, the learning process can be extensively personalized, which is a particularly valuable feature given the wide and varied fields of knowledge covered in the course of PIAP internships.

#### **Cooperation between partners**

In the course of the internship, the majority of information was shared by electronic means using the SP4CE system. All parties involved had access to the system, and the internship itself was tailored to the needs of the intern, PIAP, and the delegating organization.

It should be stressed that, after the internship has been completed, PIAP continued cooperation with the intern and the employer delegated the intern to perform other tasks.

#### **Possible risks**

There are risks associated with the assignment of tasks to the intern. More specifically, this may raise some concern if the intern's background knowledge and his/her expectations require access to resources that PIAP is unable or unauthorized to share. Conclusively, it should be emphasized that PIAP resources and the feasibility of internships as such are firmly linked with scope of activities conducted by PIAP for external and internal recipients.

#### **What not to do / What to be aware of**

Students should not be assigned too complex / unclear tasks to solve, especially at the beginning of the internship, before the coach learns the intern better. In this manner, students are not given any tasks which are not within their field of competence. Also, the coach should keep in touch with the mentor who has a more in-depth knowledge about the student's capabilities.

On the other hand, a student may feel discouraged or overwhelmed by tasks which he/she finds too difficult. It is also often the case that students find it difficult to begin working on the task, and the coach should actively motivate students and offer them full support, especially in the beginning, for example by presenting examples of solutions to similar problems.

## 9.4. Summary

Recommendations			
Education type			
Non-fnformal education	Vocational education	Secondary school	University
	X		X
User roles			
Coach (business)	Mentor (teacher)	Students – interns	
X	X	X	
Topics			
Medical equipment (rehabilitation) designed by PIAP			
Main purposes and tasks			
PIAP			
<ul style="list-style-type: none"><li>• Providing medical equipment for internship-related purposes</li><li>• Trainings for interns (OHS, training on the practical use of equipment)</li><li>• Assigning tasks to an intern</li><li>• Assigning a tutor</li><li>• Assigning resources on the SP4CE Platform</li><li>• Checking tasks carried out by interns</li></ul>			
Mentors (PRO-MED and PG)			
<ul style="list-style-type: none"><li>• Delegation of interns</li><li>• Identification of interns’ training needs</li><li>• Establishing cooperation conditions, verification methods, and record-keeping to document the acquired knowledge</li></ul>			
Student – intern			
<ul style="list-style-type: none"><li>• Acquiring practical skills on the operation of rehabilitation equipment</li><li>• Performing practical tasks which are a part of everyday business activities of a research company</li><li>• Cooperation on the implementation and organization of multinational projects</li><li>• Documenting the acquired practical skills</li></ul>			