




## E-LEARNING APPROACH IN HIGHER EDUCATION IN CADASTRE AND CADASTRAL LEGISLATION

Prof. Dr. Eng. Gheorghe Badea<sup>1</sup>  
Assoc. Prof. Dr. Eng. Ana-Cornelia Badea<sup>1</sup>  
<sup>1</sup> Technical University of Civil Engineering, Faculty of Geodesy, Romania




THE WORLD CADASTRE SUMMIT

CONGRESS & EXHIBITION  
April 20-24, 2015  
Istanbul, TURKEY





## The Topic...

- E-learning training methods are **more intuitive and attractive** and allow the simulation of phenomena, actions, interactions to help a deeper understanding of certain elements.
- In Romania, most of these initiatives have been taken by European funds, as higher education institutions should be made to the financial terms.
- It is known that there are cases where **the results** of these projects, although extremely useful, **could fail to survive over time**.



THE WORLD CADASTRE SUMMIT

CONGRESS & EXHIBITION  
April 20-24, 2015  
Istanbul, TURKEY



[ 2 ]

## What we did?



- Faculty of Geodesy of the Technical University of Civil Engineering Bucharest implemented an online platform in a project financed with **European funds**, in the idea of making a transition to a **blended-learning education system**.
- A **strategic project** was developed in partnership covering four development regions of Romania.



## Case study...

### ... educational project in the field of geodesy

- Modernization of the curricula in the field of geodesy;
- Development of courses with digital animation;
- Development of the e-learning project;
- Creating the infrastructure project;
- Loading courses on the e-learning platform;
- Training teachers and students in activities related to the platform;
- Development of collaborative activities between students from partner universities.



## Partners

- 4 Romanian Universities – who have “Land Surveying and Cadastre” Specialization
- 1 IT Company – for development of the e-Learning platform



Our project covered four regions of Romania:

- Bucharest-Ilfov
- West
- North-East
- Center



## Levels of implementation through the project

- BSc level:
  - **Land Surveying and Cadastre** Specialization



## Levels of implementation AFTER the project - sustainability

- **BSc level** – specializations:
  - Land Surveying and Cadastre
  - Cadastre and Property Management
  - Geodesy and Geoinformatics
- **MSc level** – specializations:
  - Spatial Planning and GIS for Sustainable Development
  - Geomatics
  - Informational Systems in Cadastre and Real Estate Registration



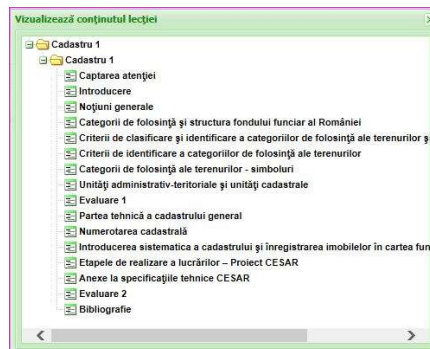
[www.geodesy-instruct.ro](http://www.geodesy-instruct.ro)

TS 5.2 "Cadastral Profession and  
Education Across the World"

9



## Main Chapters in Cadastre Course



10



## Basic Cadastral Features - Interactive and Animated





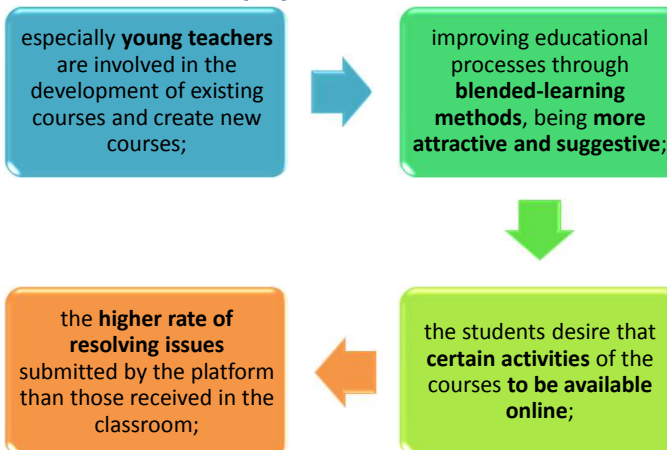
## Statistics on Users

Statistici despre conectările utilizatorilor

Nume întreg	Numele componentei	Număr total...	Timp total p...	Mail
Badea Ana-Cornelia	Profesori	3306	1,657:00:23	badeacadas...
Badea Gheorghe	Profesori	2958	1,086:08:08	badeacadas...
Onu Cristian	Profesori	1284	469:32:30	crisi_onu@...
Bofu Constantin	Profesori	1166	428:50:21	constantinb...
Benedic Codrut George	B An 1 Geomatica2014	1119	204:51:05	codrutbened...
Negrila Aurel Florentin	Profesori	1044	280:41:56	negrilaa@ya...
Tomescu Mihai Marian	B An 1 PSGISDD 2014	932	307:33:14	tomescu.ma...
Mihai Oana Maria	B An 2 SICPI 2014	902	171:26:29	ony_sweete...
Cinci Tudorel Silviu	Profesori	827	196:54:49	tudorelsilviu...
Dragan Daniela	B Abs 2013	696	443:55:25	danadanutz...

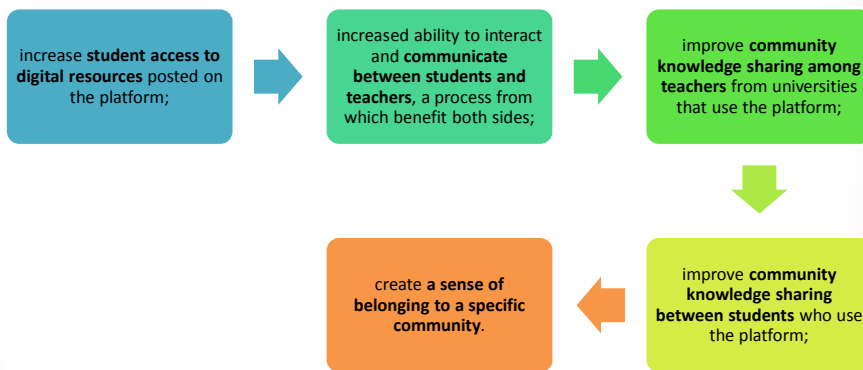


## Educational opportunities identified (1)





## Educational opportunities identified (2)



## The identified risks...(1)

- **limited involvement of teachers** with conservative conceptions or unwilling to digitally transmit some information they teach in the classroom classically;
- **limited involvement in the development of new digital content or in updating** existing ones, due to the large volume of work required;
- the possibility that universities **no longer cope financially** to update software or hardware equipments;

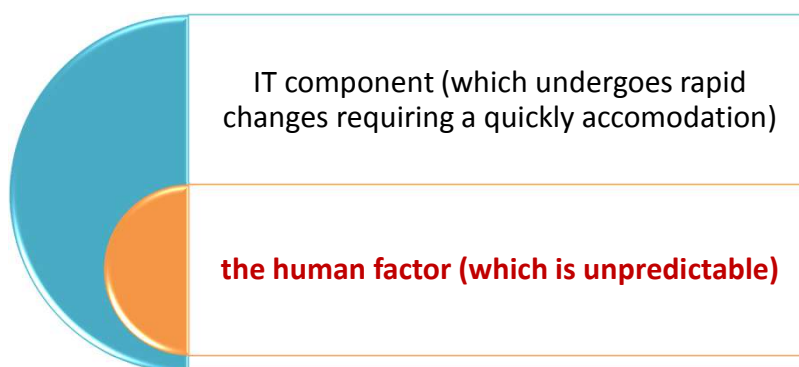


## The identified **risks**...(2)

- **senior and top management** should not be actively involved;
- **stop working partnership asset**;
- IT partner not to provide **maintenance after completion implementation period** of the project.



## **Sensitive areas** in projects - involving modern learning methods



## A sustainable project means to be...

The diagram illustrates the components of a sustainable project. At the center is a light blue circle labeled "Sustainable Project". Surrounding it are six overlapping circles, each representing a different aspect of sustainability: "Social" (top, light blue), "Equitable" (top-right, light green), "Economic" (right, light green), "Viable" (bottom, light green), "Environment" (bottom-left, yellow), and "Bearable" (left, orange).

THE WORLD CADASTRE SUMMIT CONGRESS & EXHIBITION  
April 20-24, 2015  
Istanbul, TURKEY

21

## Project sustainability – main perspectives

The diagram shows a staircase with five steps, each representing a perspective on project sustainability. The steps are: "Transferability" (bottom-left, blue), "Integrated Approach" (middle-left, green), "Financial Sustainability" (middle, green), "Human Resources Sustainability" (middle-right, yellow-green), and "Technical Sustainability" (top-right, orange).

THE WORLD CADASTRE SUMMIT CONGRESS & EXHIBITION  
April 20-24, 2015  
Istanbul, TURKEY

22

## Sustainability in terms of human resources involved

the trained specialists - project implementation team must to ensure:

the functionality of the technical platform;

provide the necessary knowledge to work on the platform to the the teachers and students;

the platform development;

completing the existing disciplines with new materials posted on the online platform;

introduction of online resources for new disciplines;

training new users of the platform - with the trainers created in the project:

teachers – in the purpose of the designing and use of teaching materials;

students - in order to create the possibility for new students to become users of the platform.



## Transferability

- Transferability - the project aims to promote wider outcomes, by supporting the future development of educational processes of the institutions involved in many ways:
  - **by replication in other institutions** through direct promotional activities by material / information dissemination portal, forum and project website,
  - **the study and dissemination of good practice sessions**, finally proposed model can be taken, improved and developed.



## Integrated approach

- Integrated approach - the educational project will be aimed at further an **impact of policies and educational strategies**, given that the final will propose a validated model, an **innovative process of an improvement knowledge transmission**, based on the use of the **e-learning in teaching - learning – assessment**, model to be taken over and extended to other segments of the higher education system.



## Equal opportunities – assuring gender mainstreaming

...one of the European Union's founding values...



## Equality in education?!

Equality between women and men in education involves to provide **equal conditions** regarding:

access of women and men at all levels of education and training,

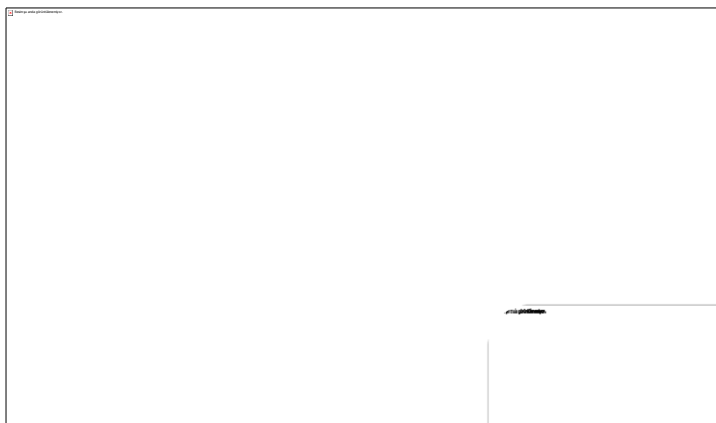
apprenticeship employment,

training,

generally continuing education.

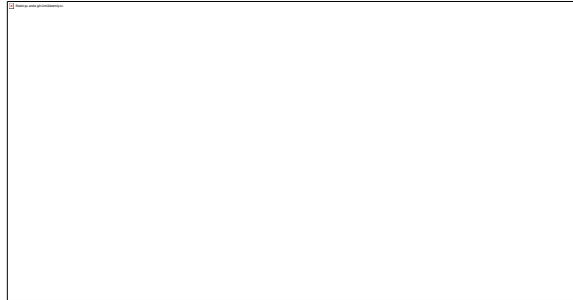


## Comparative study of the involved teachers – 4 universities





## Comparative study of the involved students – 4 universities



## In conclusion...

- Can be said that any project, no matter how professionally managed, **is subject** to the **risks of the post implementation period.**
- One of the key factors to remain functional and for a continuous improvement of the result is **the involvement of senior and top management of the partner institutions.**



## So...

- any sustainability strategy must carefully manage the **human resources element**.
- Preferably, in such educational projects, could be better to design new initiatives to come to improve what has just been done, possibly by **developing new projects**.



*Thank you for your kind attention!*

*badeacadastru@yahoo.com  
badeacadastru@gmail.com*

