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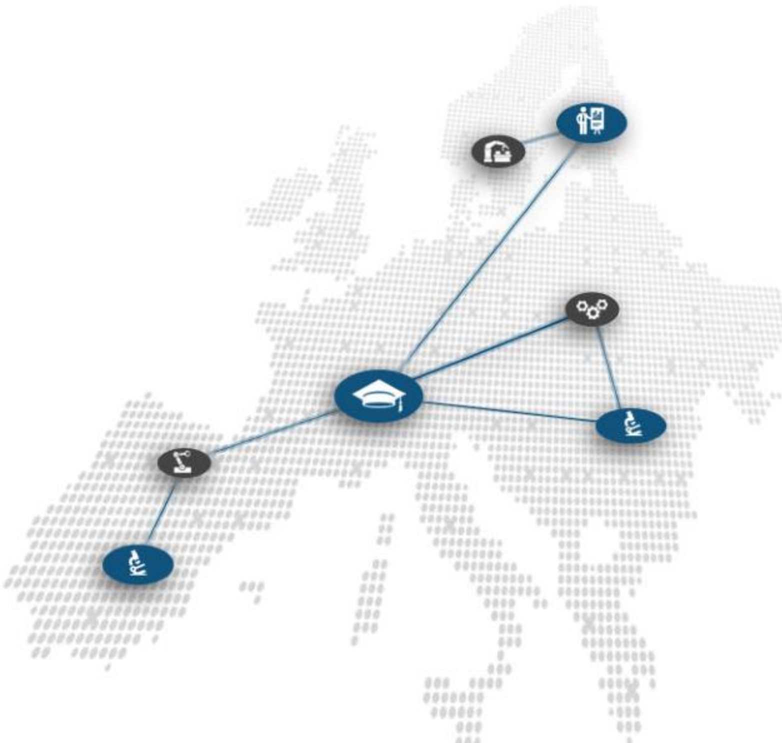
HEIBus



New Flexible Mentoring Cooperation Model for HEI's and Companies

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Topics

- Introduction
- Flexible Mentoring cooperation model for HEI's and companies
- Implementation at Technical University of Cluj-Napoca

  - the new model
- Conclusions

The Work Packages in HEIBus

HEIBus — **Smart HEI-Business Collaboration for skills and competitiveness**

WP1
Management

WP2
Best practices of HEI-company cooperation

WP3
Multi-disciplinary Real Life Problem Solving

WP4
Expert Level Real Life Problem Solving

WP5
Flexible Student Mentoring by Companies Model

WP6
Quality Assurance

WP7
Evaluation

WP8
Dissemination and Exploitation

Flexible Student Mentoring by Companies

The Flexible Student Mentoring by Companies Model aims:

- to create a flexible framework that allows students to increase their competencies by collaborating with companies

- to offer flexible methods in order to prepare the students in accordance with the needs that exist in the companies

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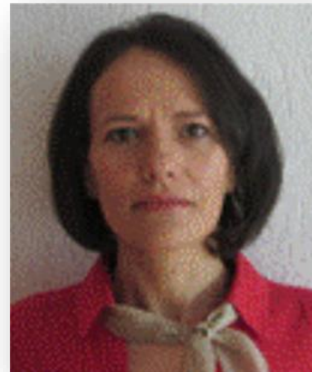
Flexible Student Mentoring by Companies

Lecturer Ciprian Lapusan

Lecturer Simona Noveanu



Lecturer Violeta Firescu

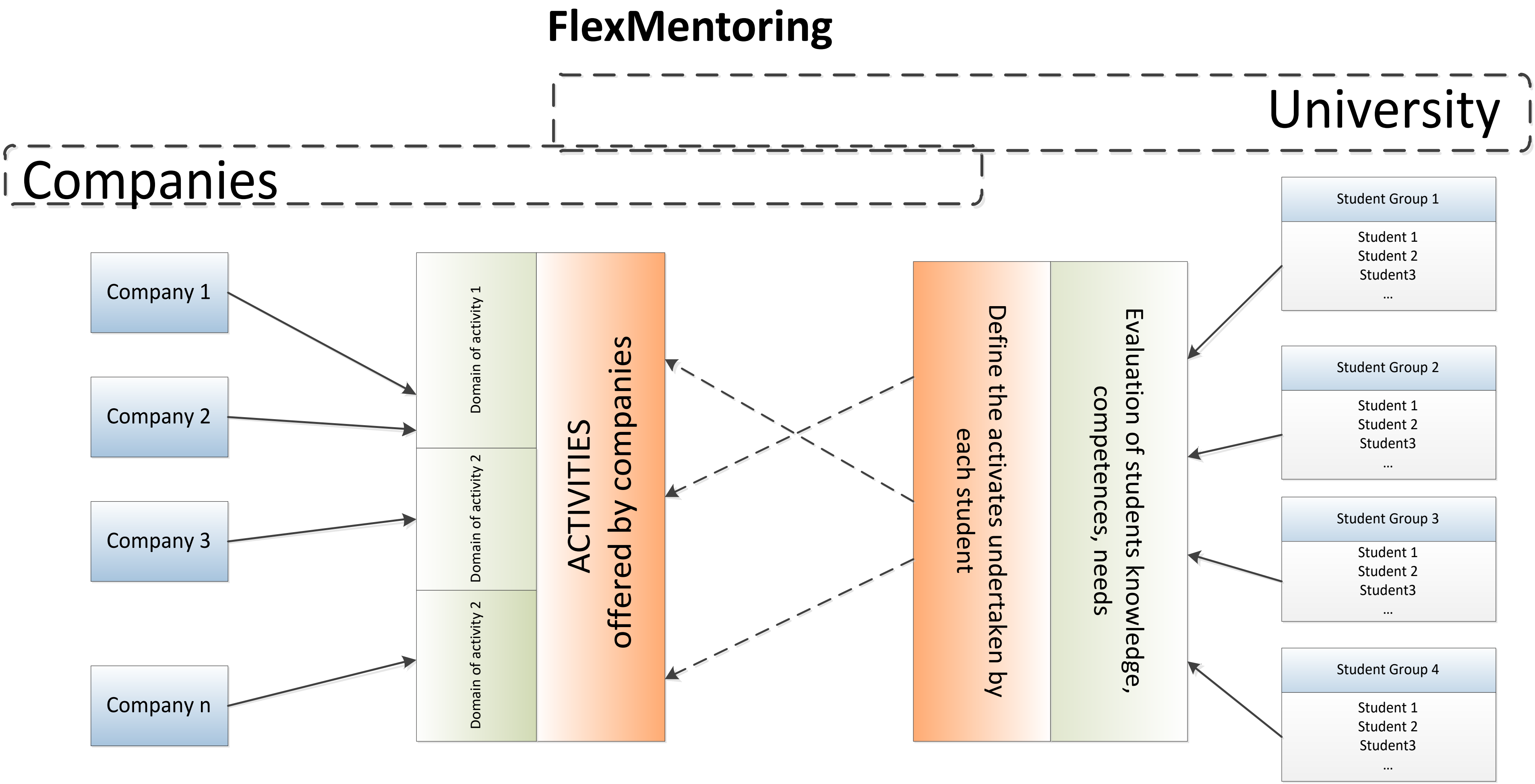
Professor Dan Mandru

Lecturer Calin Rusu

Lecturer Sorin Besoiu

Lecturer Ciprian Rad

Flexible Student Mentoring by Companies - Model



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How to implement the Flexible Mentoring

The companies:

- Choose activities for students;
- Establish the number of the students and the time frame;
- Define the tasks for each member of the team;
- Evaluate which competence levels are necessary for each student on the team;
- Expect results for each project/ activity;
- Assign a mentor/training person.

The students:

- Define their profile for future: Self-evaluating the current skills and defining future objectives;
- Plan activities that will follow the goals previously set;
- Participate in activities within the company's program;
- Give feedback at the end of each project.

What the companies offer

The activities that the companies offer:

- Practical training
- Summer jobs
- Tailored lectures
- Workshops
- Company visits
- Company presentation
- Summer school
- Project solving
- Others

How to choose the students' activities

Evaluation of students' competences	
Holland test	SWOT analysis

The student registration was voluntary.

How students find their vocation

Evaluation of students' competences

Holland Code Career Test

What does it measure?

- **Realistic** - Building, fixing, working outdoors
- **Investigative** - Thinking, researching, experimenting
- **Artistic** - Creating, designing, expressing
- **Social** - Helping, teaching, encouraging
- **Enterprising** - Persuading, leading, selling
- **Conventional** - Organizing, categorizing, recording

What do their results mean?

- **Primary interest areas** and what they say about them.
- Get more insight into **their main work interests**

How students can choose their priorities

Priority of students' career

SWOT analysis

- What do you do well?
- What internal resources do you have?

- What factors are under your control?
- What are the areas that have to be improved?

- What opportunities exist in your environment that you can benefit from?

- Who are your potential competitors?
- What factors beyond your control could place your evolution at risk?

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Cooperation between mentor and students

Evaluating competences and setting priorities for the students

First level of study	Second level of study	Third level of study

The mentor together with the students identifies:

- the students’ skills
- their priorities and what motivates them
- the activities which develop their professional and soft skills

Flexible Student Mentoring by Companies

Feedback questionnaire → Analysis → Report

- The results of **the pilot method are analyzed** after each pilot project
- The surveys are analyzed, and they will **improve the method** in case of need
- A comparative study will be generated to **see** the differences between the student groups involved in **FlexMentoring** and the student groups in normal HEI setting.

What are the advantages of the Flexible Student Mentoring by Companies

Companies

- Select of specialized members in the team;
- Increase the partnerships in Research and Development;
- Get involved in education for their needs;
- Obtain results through the activities that took place;
- Promote the company;

Students

- Develop their technical competencies by participating in real life activities from industry and get in touch with engineers;
- Develop their soft competencies: communication, adaptability, team work etc.
- Learn to use the instruments for their evaluation;

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How is implement this model

Implementation of Flexible Mentoring model at TUC-N

An **information sheet** has been created in order to inform about our activities in HEIBus project.

The **companies selected for Flexible Mentoring** model:

- For a long period (ProTehnic and Automates)
- For specific activities (Continental, National Workforce Agency, Bosch , etc.)

Implementation of Flexible Mentoring model at TUC-N

The companies defined the following activities:

- Dedicated courses by companies
- Dedicated applications by companies
- Company visit/practical activities: “A day in the company”
- Bachelor projects (with the expected results for each project)
- Workshops (with focus on the necessary skills) in the mechanical engineering field and mechatronics.

Implementation of Flexible Mentoring model at TUC-N

The mentor has chosen the student groups for different levels:

- IV th year of study
- III th year of study
- I st year of study

The mentor has established with companies what competence level is necessary for the type of activities that they offer

Implementation of Flexible Mentoring model at TUC-N

The results for IV th year of study were:

Evaluation of students' competences

Holland Code Career Test

What are the results?

- **Realistic** - 9
- **Investigative** - 3
- **Artistic** - 1
- **Social** - 1
- **Enterprising** - 2
- **Conventional** - 1

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Implementation of Flexible Mentoring model at TUC-N

Evaluation of students' competences

SWOT analysis

STRENGHTS (+)

- Theoretical knowledges
- Basic design

WEAKNESSES (-)

- Not familiar with the company's software

OPPORTUNITIES

- Courses in advance designing
- Finite Element Analysis
- Practical activities

THREATS

- Not enough time
- Many colleague are better than me
- Not enjoying the field

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Implementation of Flexible Mentoring model at TUC-N

The mentor has chosen the student groups and has defined together with the students their priorities and opportunities:

IVth year of study

What field of expertise will the students choose?		What does the company offer and require?
Design engineering (SW, Catia) Entrepreneurial Analysis	Finite Elements Analysis Kinematic Analysis	Designing department Analysis laboratories Testing department

A group of 15 students has been selected from IVth year of study, mechanical engineering students.

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Implementation of Flexible Mentoring model at TUC-N

The mentor has chosen the student groups and has defined their priorities:

IIIth year of study		
What field of expertise will the students choose?		What does the company offer and require?
Metrology Entrepreneurial Analysis	Technology methods Engineering Design	Quality department Testing department

A group of 31 students has been selected from IIIth year of study.

Implementation of Flexible Mentoring model at TUC-N

The mentor has chosen the student groups and this activity is still going on:

Ist year of study		
What field of expertise will the students choose?		What does the company offer and require?
In progress	In progress	A day in the company Lecture about the necessary skills in the real life

A group of 37 students has been selected from Ist year of study.

Implementation of Flexible Mentoring model at TUC-N

Activities of the companies that involved our students

- 06 November 2017, courses "Design Engineering - Knowledge-Based Engineering", (ProTehnic)
- 14 November – 20 December 2017, "A day in the company", (ProTehnic, Continental)
- 20 November 2017 – 30 May 2018, Bachelor projects, (ProTehnic, Automates)
- 14 December 2017, Workshop "Skills in the mechanical engineering field" (National Workforce Agency)

Implementation of Flexible Mentoring model at TUC-N

Activities of the companies that involved our students

- March – June 2018, internship -1 day/week, (Automates)
- 09 May 2018 Workshop “Career days”, (Bosch, Continental, Blue Projects, Saint Gobain, Leoni Wiring Systems, etc.)
- 25 October 2018 Workshop “Necessary skills in the real life in the engineering field”, (Continental).

Implementation of Flexible Mentoring model at TUC-N

Activities in progress

- October 2018 - June 2019, "Improving the skills in designing with CatiaV5" (ProTehnic)
- February – July 2019 A set of tailored lectures (Bosch)
- October – December 2018, "A day in the company" (ProTehnic, Automates, Continental, etc.)
- October 2018 – June 2019, Bachelor projects, (ProTehnic, Automates).

Conclusions - Flexible Mentoring model at TUC-N

The students:

- Learned to identify their changing needs, values, aspirations
- Established what was the most important to them
- Found information about career and training opportunities
- Improved their professional and soft skills.

The companies:

- Involved in education from their needs
- Promoted of the company
- Developed the relationship with possible employees
- Increased the professional and soft skills for possible employees.

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HEIBus Project

Thank you!

www.heibus.eu

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