Professional diversity in virtual project teams

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**MeRIT workshop 2021 – Megaprojects Research
Interdisciplinary Team**

Turku

- Located in Southwestern Finland
- The oldest city in Finland
- Three universities
- 193 000 residents
- 40 000 HE students

Turku University of Applied Sciences

- an innovative and multidisciplinary university
- 10 000 students
- 90 degree programmes leading to a Bachelor's or Master's degree

Faculty of Engineering and Business

- 6,800 students
- 28 Bachelor's Degree Programmes
- 18 Master's Degree Programmes

Faculty of Health and Well-being

- 2600 students
- 19 Bachelor's Degree Programmes
- 11 Master's Degree Programmes

Arts Academy

- 800 students
- 14 Bachelor's Degree Programmes
- 5 Master's Degree Programmes

Global Gateway – Agile and sustainable competitiveness

Turku UAS has altogether 28 research groups in three faculties

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Global Gateway Focus areas

- Digitally and sustainably efficient organizational processes
- Agile development and innovation of business ecosystems
- Responsible supply chain management, corporate networks and procurement
- Intelligent mobility and logistics solutions
- Managing and developing customer service paths
- Communication and cultural competence in internationalising companies
- Operation and communication in virtual teams
- Multicultural work communities
- Integration of immigrants into working life

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Our Erasmus+ projects

- **CoMoViWo** (Communication in Mobile and Virtual Work) 2014 – 2017, Turku UAS

- **FAB** (Formative Assessment Benchmarking) 2015 – 2017, Warsaw University

- **Viedex** (Virtual Education Experience in an Extended Nordic Context) 2016 – 2019, Gävle University

- **CATAPULT** (Computer Assisted Training and Platforms to Upskill LSP teachers) 2018 – 2021, Sorbonne University

- **MuPIC** (Multidisciplinary Projects in an International Context) 2018 – 2021, University of West Bohemia

- **TOO4TO** (Sustainable Management: Tools for Tomorrow) 2020 – 2023, Gdansk University of Technology
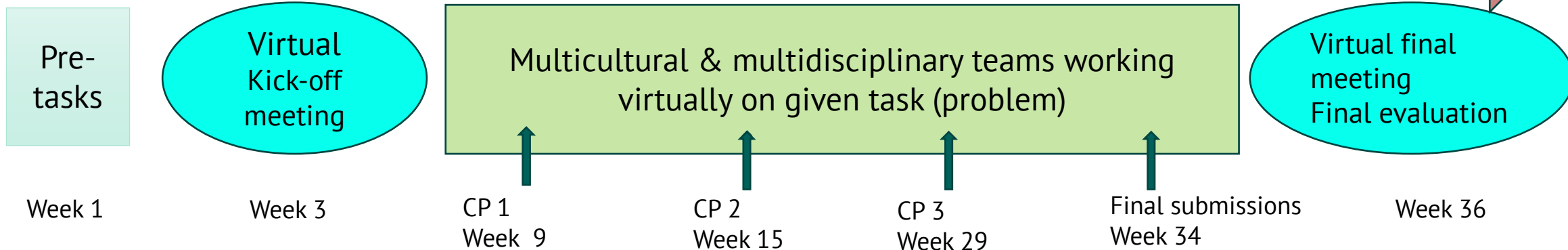
MuPIC

Focus on managing and working in virtual, multidisciplinary and international project teams

- Coordinated by University of West Bohemia, Czech Republic

- Partners:
  - Turku University of Applied Sciences, Finland
  - Université de Mons, Belgium
  - Florida Universitària, Spain

Multidisciplinary Projects
in an International Context

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Case study: Professional diversity in virtual project teams

Multidisciplinary International Project (5 ECTS)

OUTPUT

1. **Business development assignment (Teamwork)**
2. **Diary reflection assignments (Individual)**

Pre-tasks

Virtual Kick-off meeting

Multicultural & multidisciplinary teams working virtually on given task (problem)

Virtual final meeting Final evaluation

Week 1

Week 3

CP 1 Week 9

CP 2 Week 15

CP 3 Week 29

Final submissions Week 34

Week 36

LEARNING

English as lingua franca & understanding cultures

Virtual communication in multicultural teams

Engineering, Business & Marketing
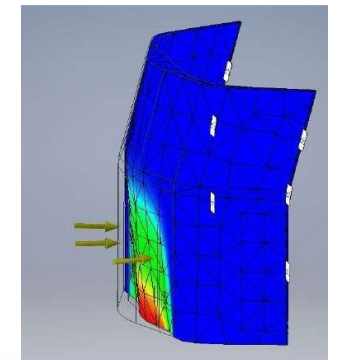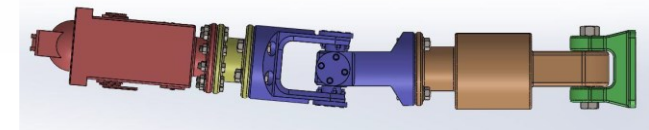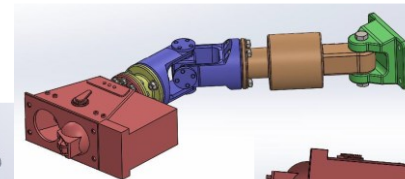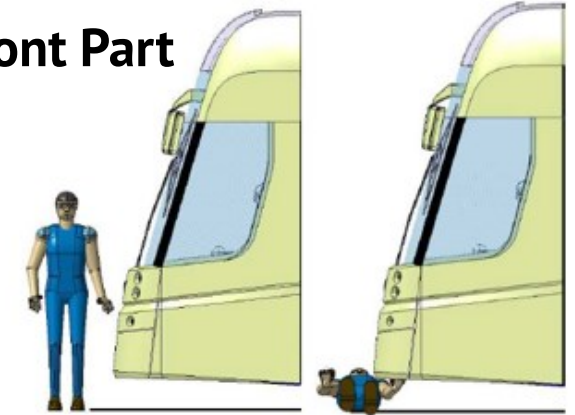
Project management F2F & virtually

SUPPORT

Representatives from industrial partner companies

Team coaches available in Team's meeting and by requests

Experts available

Multidisciplinary, multicultural virtual student teams

Team	Study field	Nationality	Language skills (A1-C2)
Team a	1 Marketing 2 Management 1 Engineering 1 Art	1 Czech 1 Belgian 2 Finnish 1 Spanish	B1-C2
Team b	1 Marketing 1 Management 2 Engineering 1 Art	1 Spanish 1 Finnish 1 Belgian 2 Czech	A2-C1
Team c	1 Marketing 1 Management 2 Engineering 1 Art	1 Spanish 1 Finnish 1 Belgian 2 Czech	A1-C2
Team d	1 Marketing 1 Management 2 Engineering 1 Art	2 Czech 2 Spanish 1 Finnish	A2-C1
Team e	2 Marketing 1 Management 1 Engineering	2 Finnish 1 Spanish 1 Czech	B2-C2
Team f	1 Marketing 1 Management 2 Engineering 1 Art	1 Spanish 1 Finnish 2 Belgian 1 Czech	A2-B2
Team g	1 Marketing 1 Management 2 Engineering 1 Art	1 Finnish 2 Belgian 1 Czech 1 Spanish	B1-C1
Team dh	2 Marketing 1 Management 2 Engineering	1 Belgian 2 Spanish 1 Czech 1 Finnish	A2-C1

Task for the student teams

Assignment example:
Safety for the Tramway Vehicle Front Part

Multidisciplinary Projects
in an International Context

Source: Mupic1/Team1

ŠKODA

ŠKODA TRANSPORTATION a.s.

Need for the study

- Members of various project teams will **increasingly innovate virtually** in multidisciplinary and multicultural teams Based on the earlier research it is known that professional knowledge resources that are diverse affect innovation outcomes

- However, **findings have been** reporting both positive and negative effects

- Diverse professional knowledge of the members **add value to innovation** outcomes and has a **positive influence on team performance**

- Different disciplinary backgrounds may lead to situations where **applying knowledge in work and communication can be problematic**

Purpose of the study

- The purpose of the study to was **determine the basic factors that will facilitate successful teamwork in multidisciplinary virtual teams** in the context of real-life projects in Higher education institutions (HEI).

- We understand team success as teams achieving the two critical functions: **team performance** leading to project task results and **team development**.

- This study will use **Whelan's group development stages** as the framework for analysing teams' development considering both team and individual level experiences

Methodolody and data collection

- Thematic and sentiment analysis was conducted to identify factors affecting teamwork in multidisciplinary VTs

- Data was gathered during two Mupic pilot courses from
  - every team's final project reports (n = 7) and
  - from the students' individual reflection diaries (n= 37) returned four times during the project

Team level

Positive experiences

- Learning from other disciplines
- Learning how to communicate

Challenges:
- time management
- **social isolation**
- professional diversity (language, ways of working)

Individual level

Positive experiences

- Learning from other disciplines
- Learning how to communicate
- **Team members individual autonomy in field specific decisions**

Challenges:
- **Professional segments and social isolation**
- Poor communication
- To get team members to focus also on development on generic skills

- Most of the negative statements in the reflections at 2nd checkpoint.
- Team members with an engineer role had more negative experiences than those with a business role.
- Overall, all roles have had more positive than negative experiences.

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Maturity of the teams

Why some of the teams did not experience they reached the level 4 within 8 months?

- Challenges (language skills, professional knowledge) at the second checkpoint unsolved?

- Strong task orientation?

Maturity of the team is an individual experience!

Whelan state in team maturity reached, teams' opinion

TEAM	stages
Team a	1-2
Team b	2-3
Team c	4
Team d	3
Team e	4
Team f	2-3
Team g	3-4
Team h	3-4

Lessons learned by the teachers & coaches

Trust in multidisciplinary teams

- Give students time for **social and informal discussions** especially at the beginning of the team forming

- Emphasize the importance of **psychological safety** for knowledge creation (for example asking for help)

- Ask the students to agree on **team rules** before they start to work on the task

Learning in multidisciplinary teams

- Allow the students to form **professional subgroups** to avoid isolation and support collaborative learning.

- Assess the learning process with the help of **both team level and individual level reflections.**

- Allow space for free reflections but include also guiding questions related to learning and especially to the development of soft skills. The importance of the reflections and the technique needed to write them should be clarified at the beginning of the course.

Communication in multidisciplinary teams

- Discuss the importance of conflicts and handling them with the teams before the project task begins

- Support the team leader to handle difficult situations during the project

- Ensure that the teams have created a project communication plan with the stakeholders (incl. teachers and industrial partners)

- Motivate the industrial partners to engage themselves in this learning process of the students

Lessons learned from international projects

- Build team spirit and establish common ground at the beginning
- Combine virtual and f2f meetings
- React promptly to messages
- Agree on the deadlines
- Differences in organisational/national cultures add complexity
- Use to do –lists with deadlines and responsibilities

- Same rules in all Erasmus+ projects, but National Agencies interpret them very differently

Grazie!