



# Erasmus+ Strategic Partnership EPIC Project



# International Student Projects How to make it happen

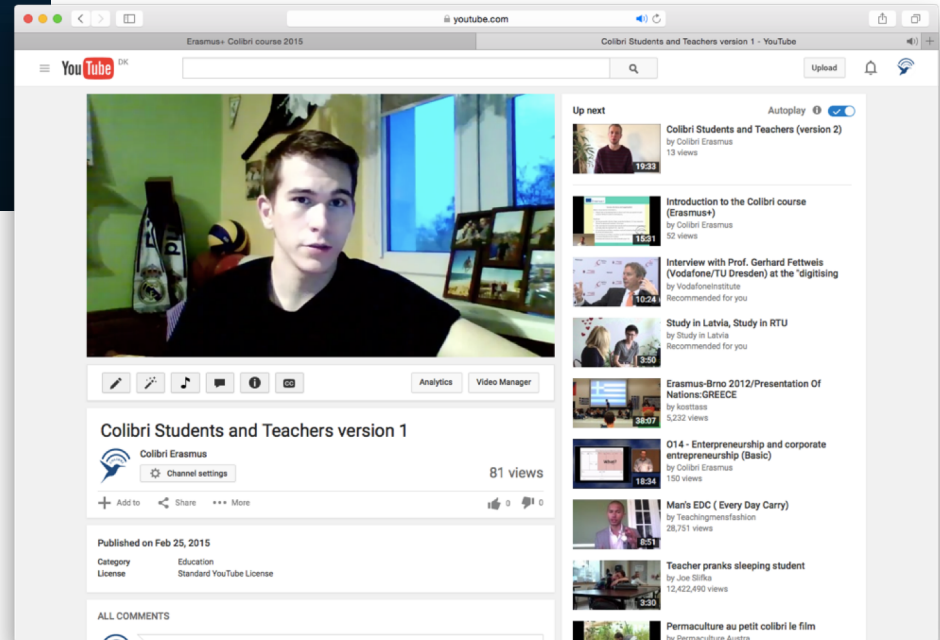
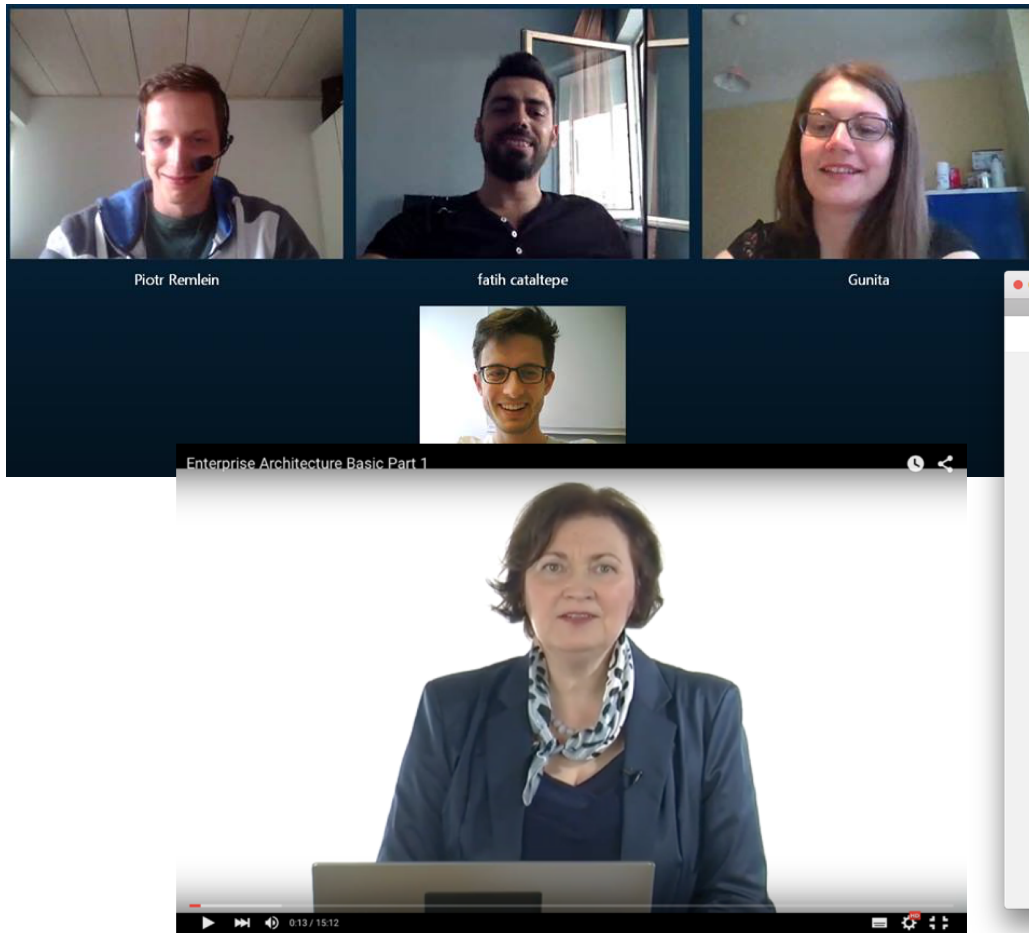
Jacob Vejlin Jensen, Jens Myrup Pedersen  
Aalborg University



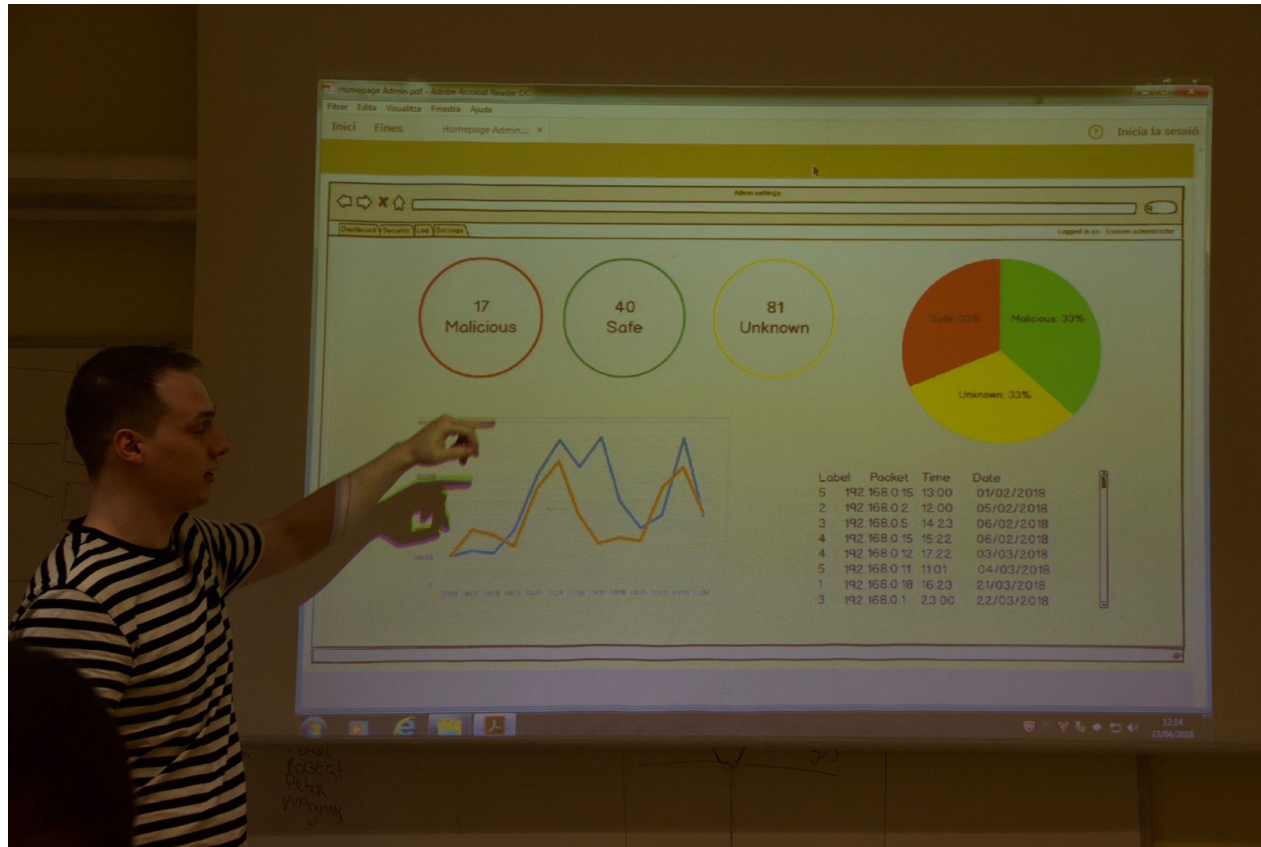
# What EPIC is all about...



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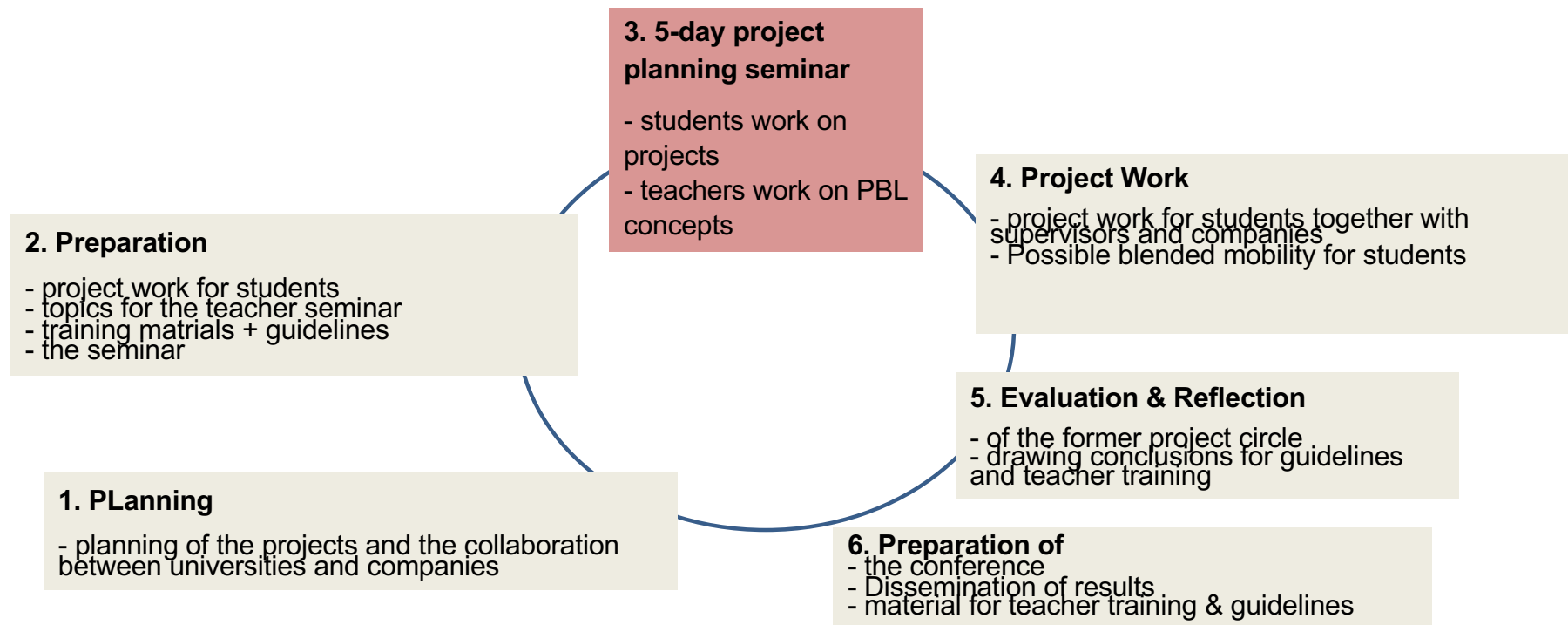
# EPIC Objectives

- Increasing employability through closer collaboration between students and industry
- Promoting the cooperation between industry & academia
- Preparation for students for both national and international job market
- Improving the quality of teaching methods
- Enhancing the international collaboration more scalable and sustainable
  - Providing the students with transversal competencies, especially focusing on problem solving skills, collaboration skills, entrepreneurial skills and skills within creativity and innovation
- OBS: Highly experimental setup – and you are part of it 😊

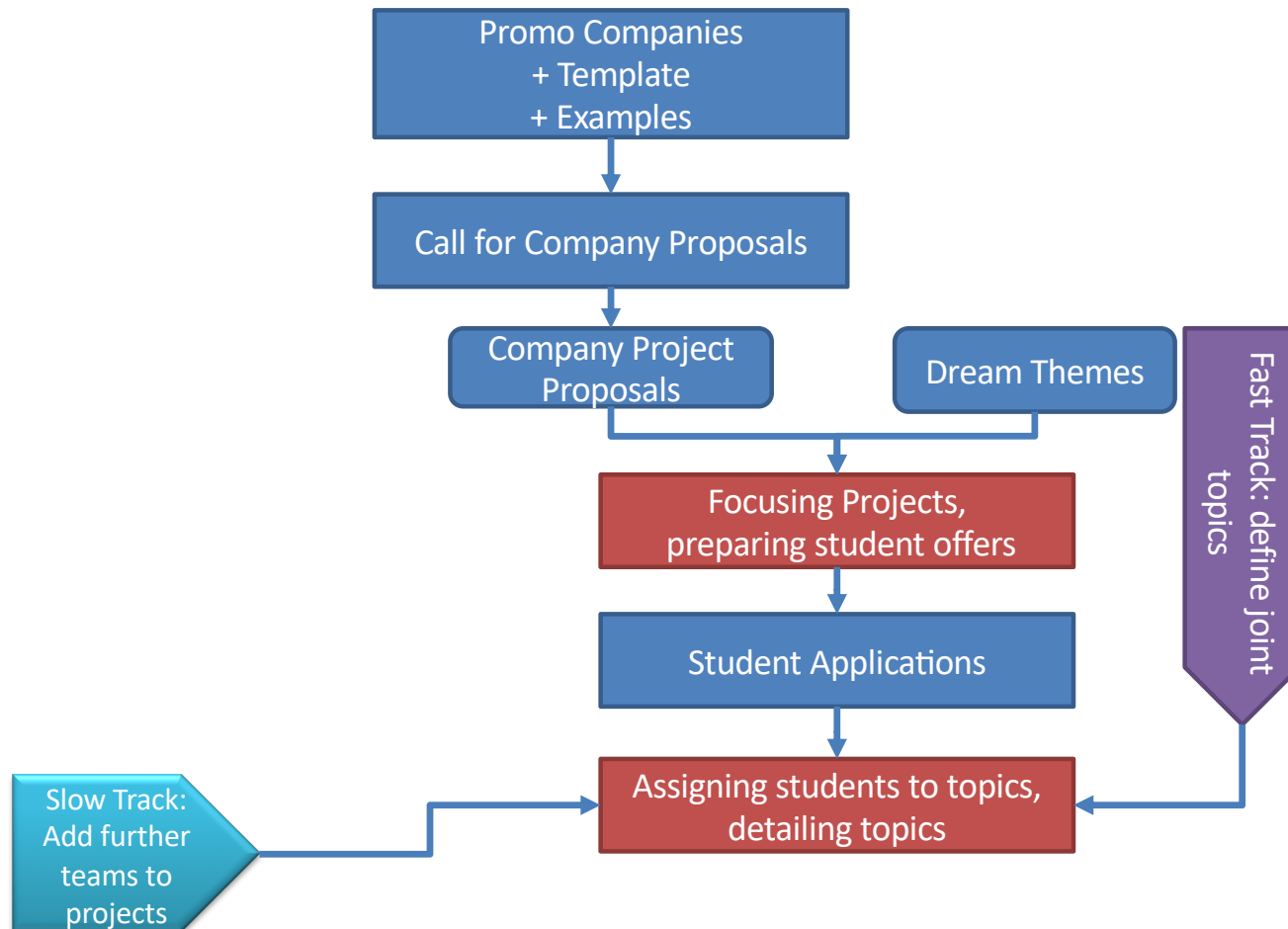
# Project Partners

- Aalborg Universitet (AAU) - Denmark
- Rīgas Tehniskā universitāte (RTU) - Latvia
- Technische Universität Hamburg-Harburg (TUHH) - Germany
- Universitat Politècnica de Catalunya (UPC) - Spain
- Universitetet i Stavanger (UiS) - Norway
- Uniwersytet Technologiczno-Przyrodniczy (UTP) - Poland
- Saxion University of Applied Sciences (SAX) - Netherlands
- Abdullah Gul University (AGU) - Turkey
- atene KOM - Germany

# EPIC: Yearly Cycle



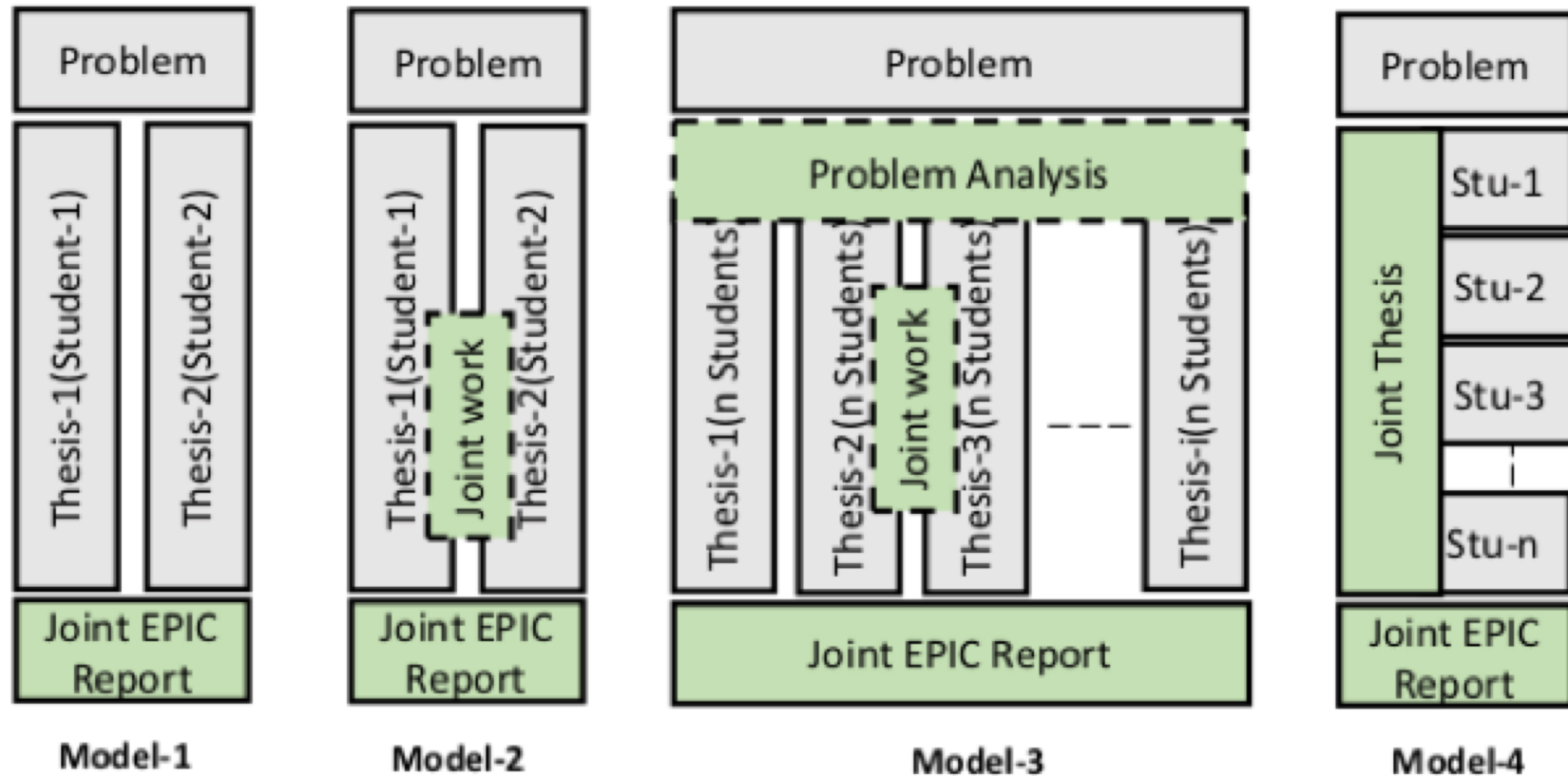
# Joint student projects – how to set up



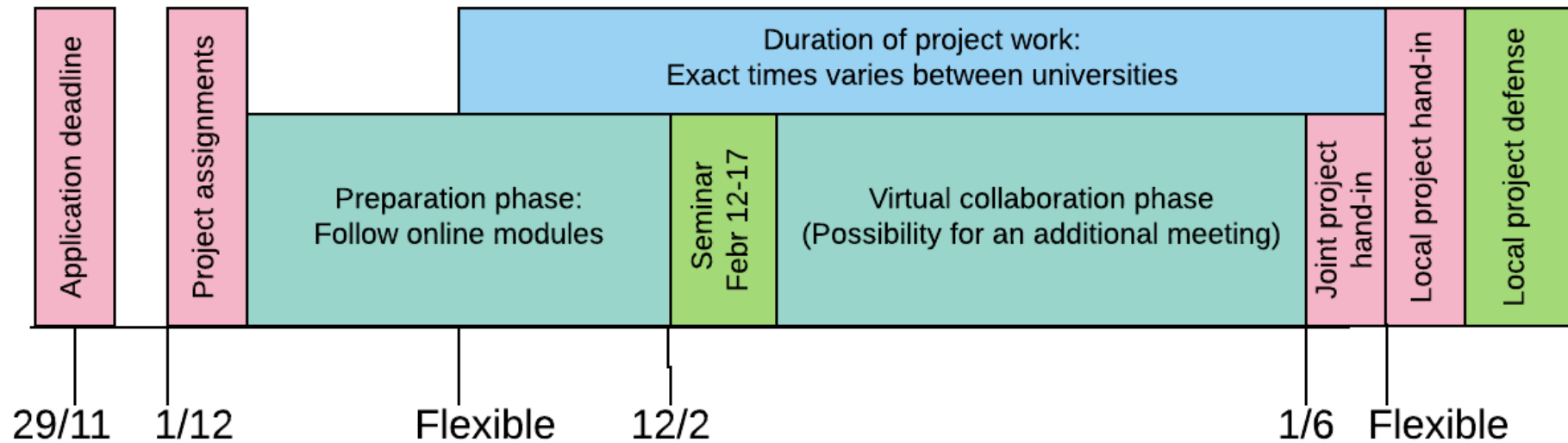
Seminar in Riga – 12<sup>th</sup> to 16<sup>th</sup> of Feb, 2018



# Joint student projects – four models



# Joint student projects – the timeline



# Student Projects – Year 1

- Each project should involve **students from at least two different countries** and universities
- Students must submit their own project **documentation** to their **home university**, and the **examination and grading** takes place according to home university guidelines
- **EPIC certificate** is issued for joint work
- For each project, there is a **main/coordinating supervisor** as well as a **supervisor from each of the universities** with participating students

Research area	Leading University	Students involved
E-Commerce (food logistic)	UIS	3
Facility Management	UTP	3
Logistic	TUHH	2
Honeyjar (malware studies)	AAU	9
Mobile app for funding research	Atene	2
Security for IoTs	RTU	3
Energy Dash Board	Saxion	3



# Erasmus+ Strategic Partnership EPIC Project



## International collaboration *From a students perspective*

By Jacob Vejlin Jensen



Talaia  
NETWORKS

TUHH



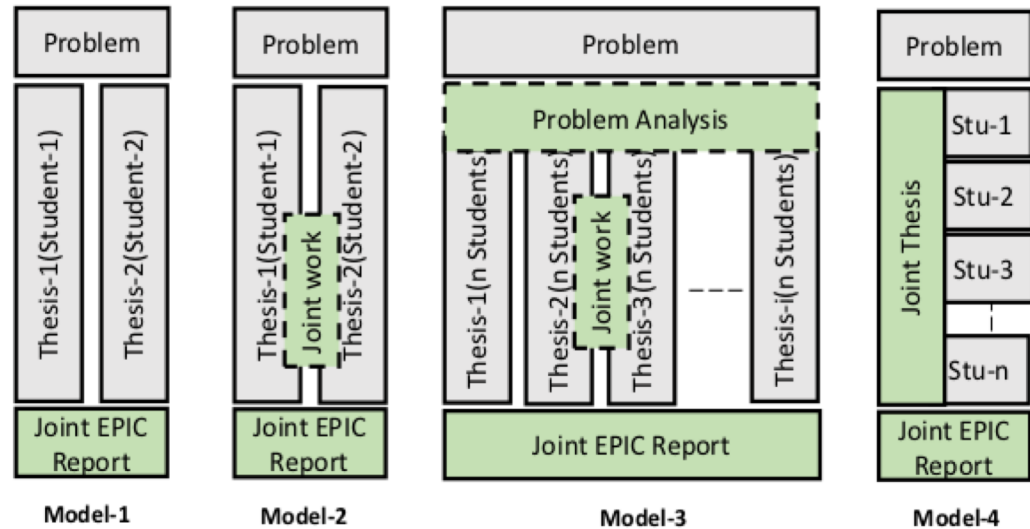
# Why am I here?

- 2<sup>nd</sup> Semester project in collaboration with EPIC
- HoneyJar Group (9 students, 4 countries, 4 universities)
- Industrial partner (Talaia Networks)
- Computer Engineering, Data Science and Business & IT
- Malware analysis, machine learning, law, business, product development, team management...



# EPIC - HoneyJar group

- Group model-3
- Complex subject
- Ambitious end goal (Unrealistic?..)
  - How we consider failure matters
- Product oriented
- Real world perspective



# EPIC – Structure of collaboration

## **Introductory seminar in Riga**

- Meeting all EPIC participants and educators
- Workshops in: Entrepreneurship, Innovation, team management and communication tools and more...
- Kick-off group work (Guidelines for online collaboration)

## **Online collaboration phase**

- Primary part of workload
- Continuous and frequent communication
- Concept development

## **Development meet-up in Barcelona**

- Discussion of preliminary conclusions
- Planning of project ending

## **Online collaboration phase**

- Final part of work

# Online collaboration

- Many options = Information overflow
- Continuous communication
- Premade arrangements for structure of online tools
- Must be combined with physical meetups
- Conflict is inevitable

## GitHub

- File sharing and software development
- Version tracking
- Writing of dissertations
- Shared notes & literature

## Trello

- Working assignments
- SCRUM structure
- Only assigned tasks
- Work overview

## DISCORD

- Weekly online meetings
- Structured agenda
- Chat for academic discussion
- Chat for general purpose



# Collaborating in diverse groups

- Academic backgrounds
- Cultural backgrounds
- Importance of educating in PBL and Group Management
- Resemblance to the labour-market
  - Diversity, Cross-academic disciplines, problem centred work, online communication, compromise...
- Industrial partner
  - Company from relevant field
  - Close collaboration and sparring across students and industry

# Academia and Industry

- Balance expectations
- How do students create value for a company?
- How do companies create value for students?

# What did we learn?

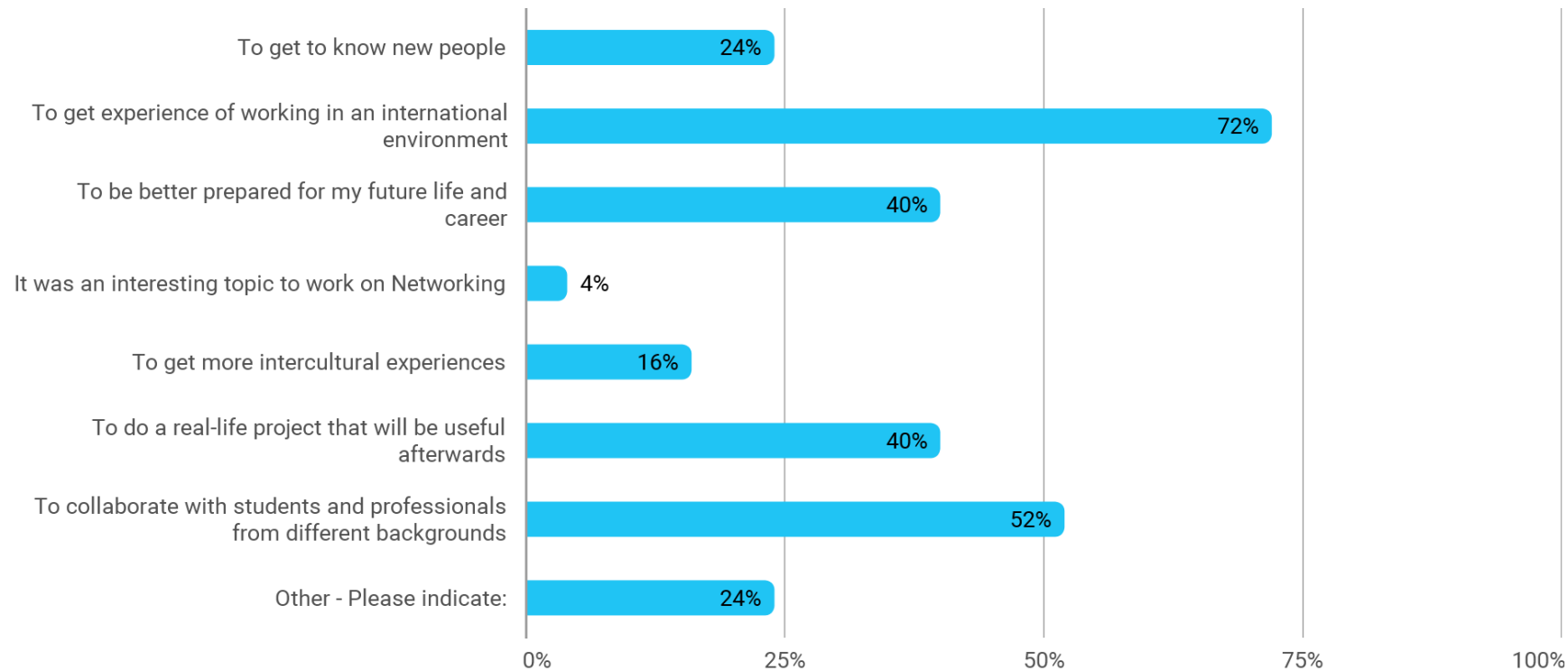
- Cross-disciplinary collaboration is difficult – But rewarding.
- Important to receive education in Problem Based Learning, Project work, Team management and online collaboration
- Flexibility is important!
- In collaborations between academia and industry, it's important to balance expectations in advance of work
- The global digitised world, is a world of international projects.

# Final words...

- State regulations counterworking global digitisation...
- Cultural and academic diversity benefits us all...
- Cross disciplinary international collaborations are motivating for students and unlocks potential...

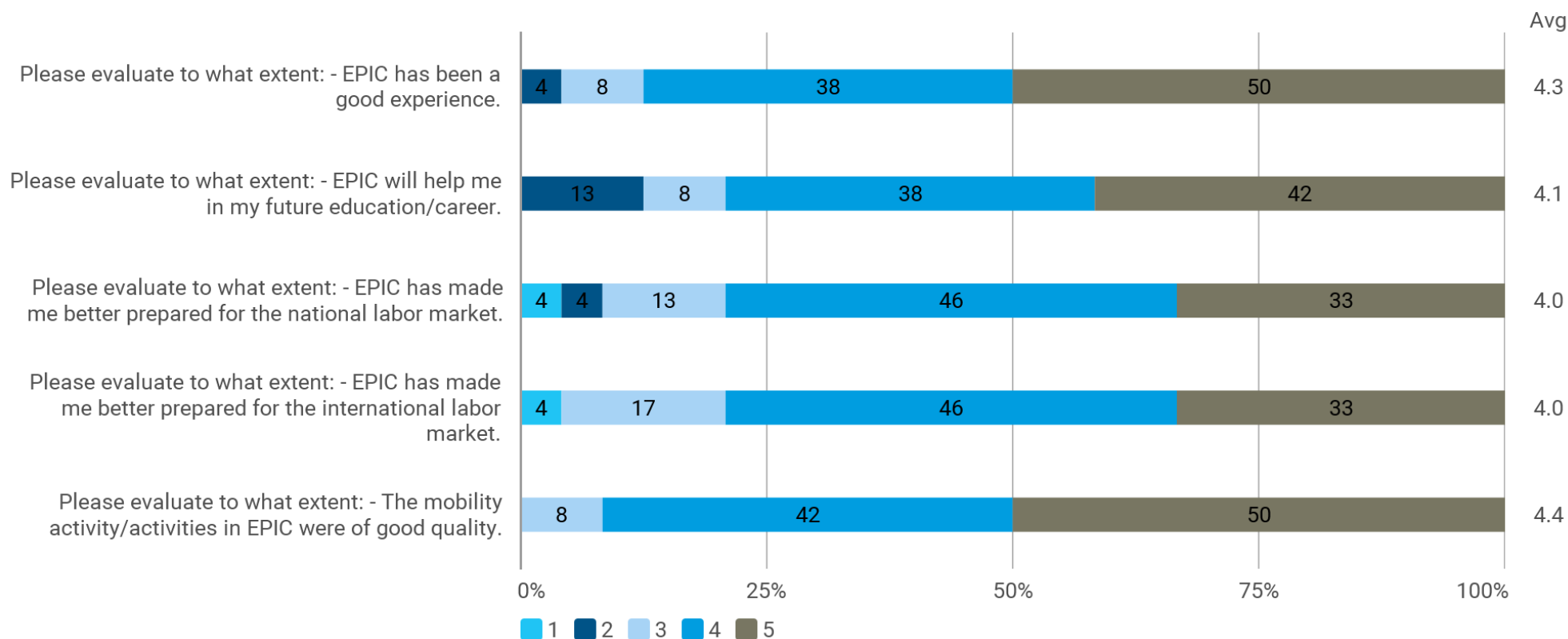
# Why students choose to join EPIC?

Please choose the most important (up to three) reasons for joining EPIC



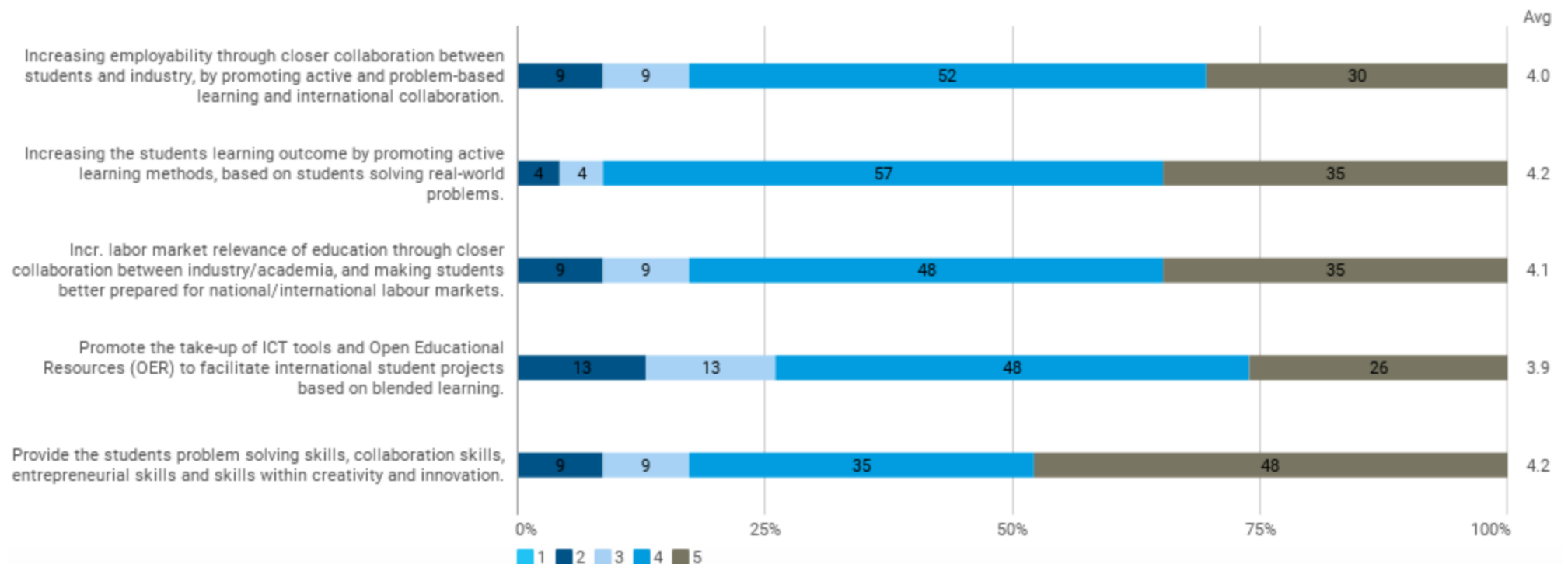
# Results – the experience (students)

1=“Not at all”, 5=“Very much”



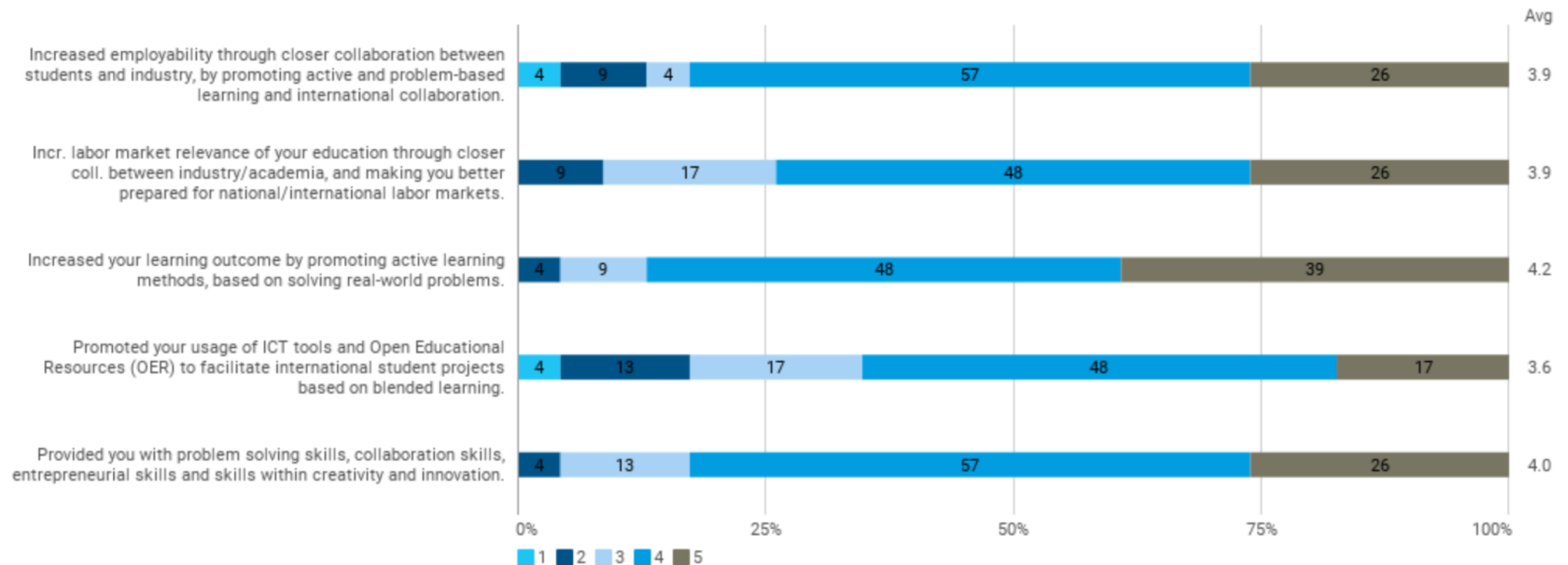
# Results – overall (students)

- Please evaluated to what extent the methods used in EPIC support the following (1=“Not at all”, 5=“Very much”)



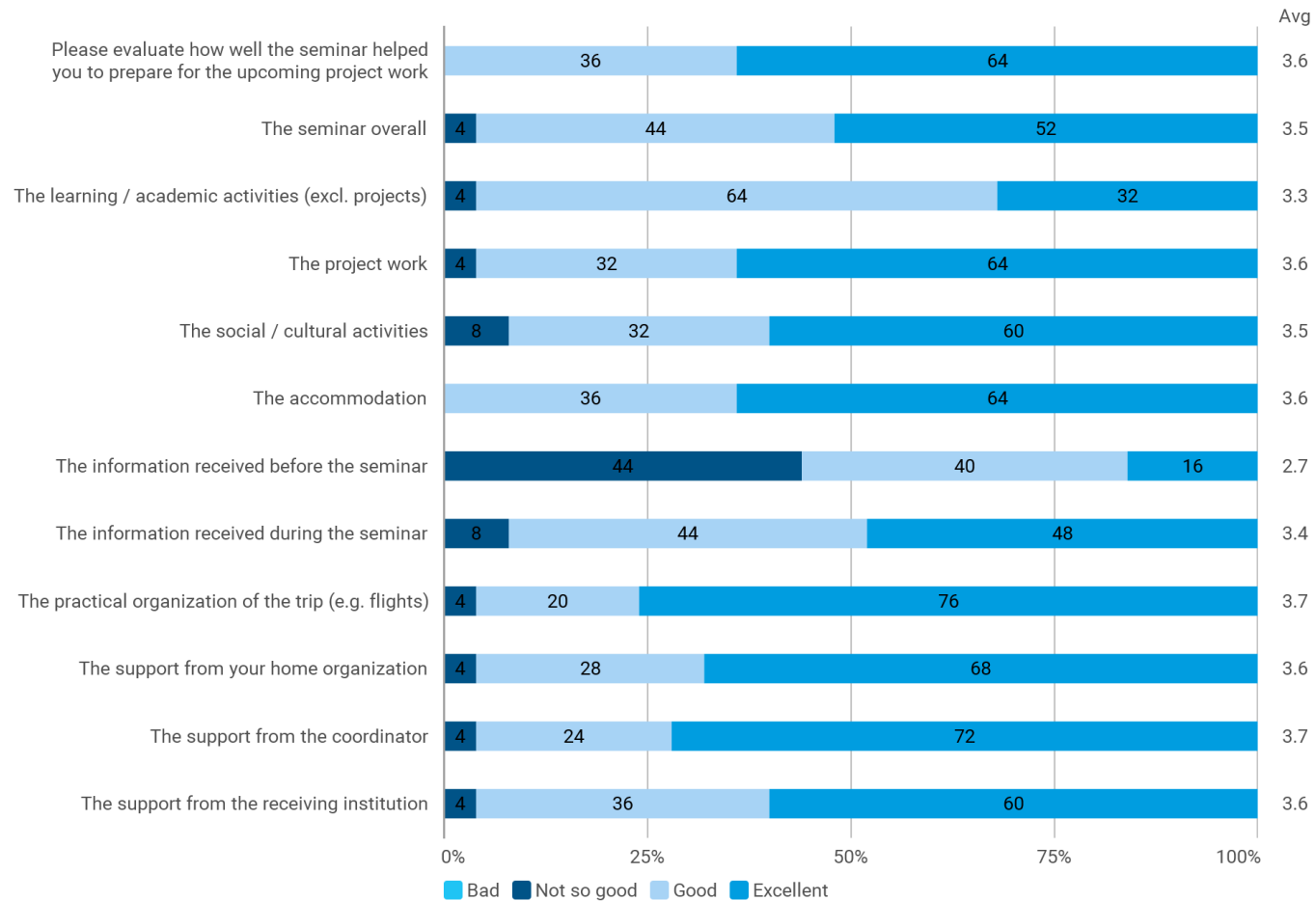
# Results – personal (students)

- Please evaluate to what extent your participation in EPIC has helped you to... (1="Not at all", 5="Very much")

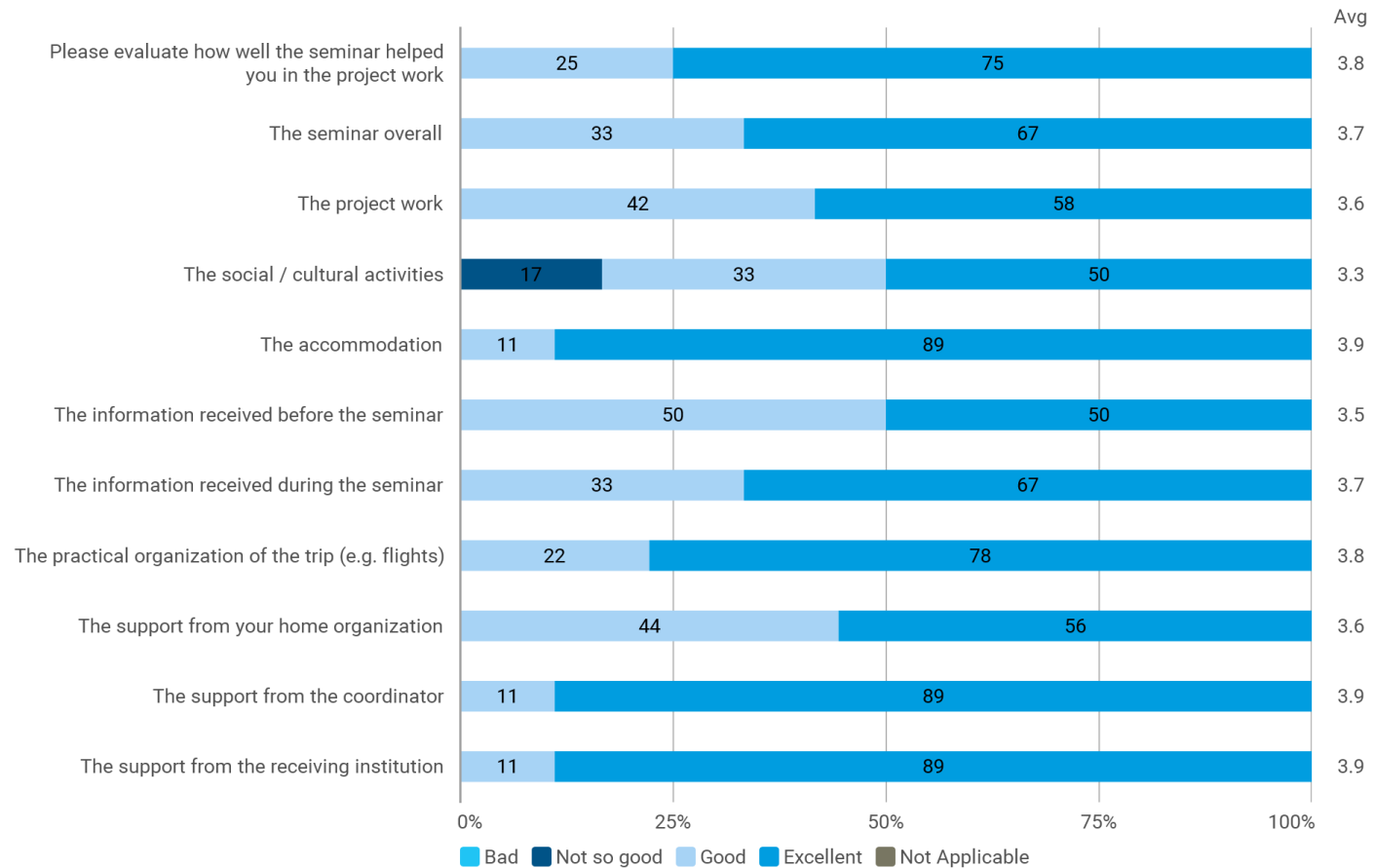




# Seminar: Good, but... (students)



# Additional blended seminar (students)



# What the students say....

- Initiatives like this are a great way for students to explore different cultures and work with people you would've otherwise never worked with. Thank you.
- EPIC on a whole was a great experience, I had developed an eye for industrial problem solving. The only suggestion from my side is that, please make sure that the industry is willing to assist the project completely and also make sure a clear project proposal is identified before taking up the projects.
- I am happy to partake in this project, I had the exposure to finally apply what I learnt in school. This is the best experience since I started studying in Europe. However, there should be more commitment from organisation student works with , these companies should provide as much as possible information to the students and the student should be added to the companies' in house research team.

# Some challenges

- Highly experimental project – no one has ever done this before....
- Different formal requirements for work (different learning objectives)
- What's in it for me? What is the added value of collaboration
  - COLIBRI: Very high value in joint projects
- Different timing of different projects. And different extends.
- Different traditions for group work, collaboration, supervision, ...
- Virtual collaboration is challenging (and we know the seminar is the key)

# Points for year 2

- More ways of setting up student projects – especially more integrated projects.
- How can we involve the companies more actively? More structure?
- Better introduction from the beginning – to students and projects.
- Maybe more precise guidelines for supervisors?
- Use of peer evaluations – how to make it useful for the students in different settings?
- How to make the teacher training materials more useful? (videos?)
- The blended training seminars received excellent reviews!
- Should we require all supervisors to be present during the seminar?
- Group sizes?
- More focus on ICT tools?
- Keep on mixing “more and less experienced” teaching staff.
- Improving the design of the seminar (and maybe especially the framing?)

# Questions for discussion

1. How do we maximize the value generated from international collaborations between academia and industry?
  2. How can we make more such collaborative projects happen? How can we overcome the barriers?
  3. How do we increase internationalisation in (Danish) Engineering Education in a 2018 context?
- <https://goo.gl/2xNDVo>