Technische Universität Braunschweig

PROJEKT HAUS

# Platforms for Information Technology

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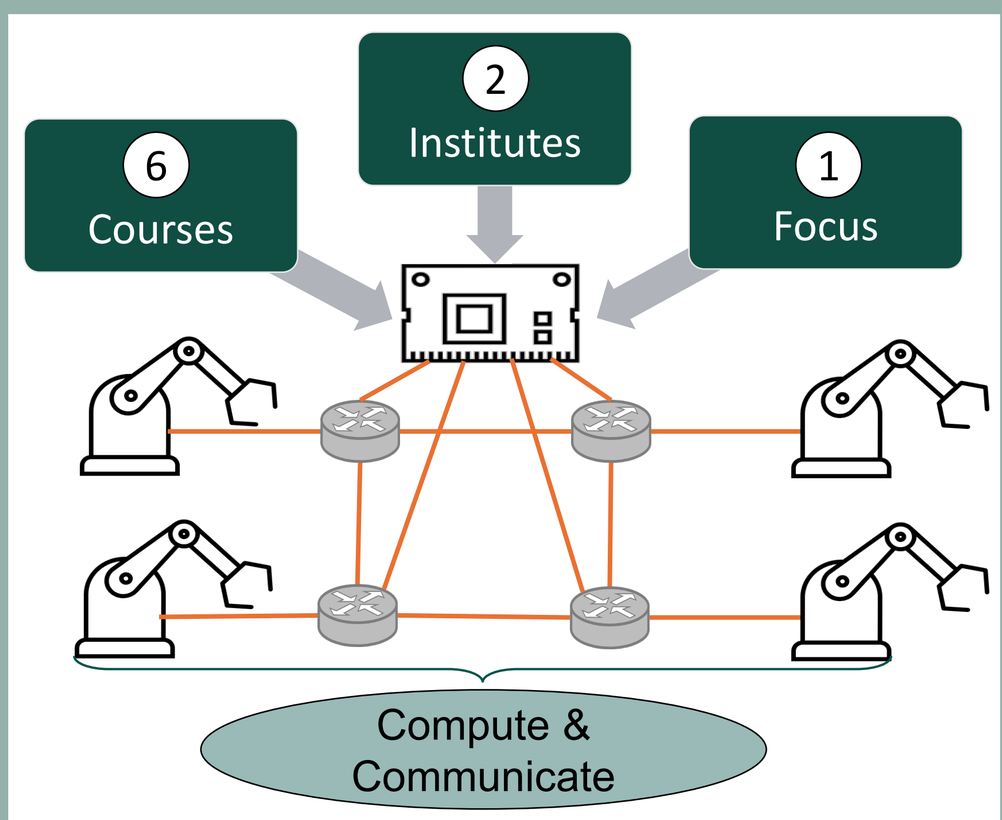
Stiftung Innovation in der Hochschullehre

International Teaching Lab

## Project Goals

### An interdisciplinary approach to education.

| Goal 1: Coherent Topics | Goal 2: Enhanced Remote Support |
|---|---|
| ▪ Integrated module cluster (30 ECTS, 1 semester)<br>▪ Focus on interfaces between platform components<br>▪ Designed for future engineers – with Big Picture<br>▪ No cyclic course dependencies | ▪ Flexible learning for international students<br>▪ Live streaming of courses<br>▪ Interactive Jupyter Notebooks<br>▪ StudyBuddy: LLM for self-study assistance |




## Work Packages & Milestones

**Research**
- ✓Identify needs of international students
- ✓Contacted existing TU BS StudyBuddy solutions
- ✓Get feedback from other modules which use Jupyter

**Initial Setup**
- ✓Aquired and installed streaming tools
- ✓Researched & implemented Demo-StudyBuddy with open-source tools
- ✓Extended Jupyter Notebooks

**Presentation & Deployment**
- ✓Some delays due to challenges (see on the right), but preparation for Winter Semester 2025
- ✓Outreach to ERASMUS partners (France)
- ✓Announced on websites

SCAN ME

## Challenges

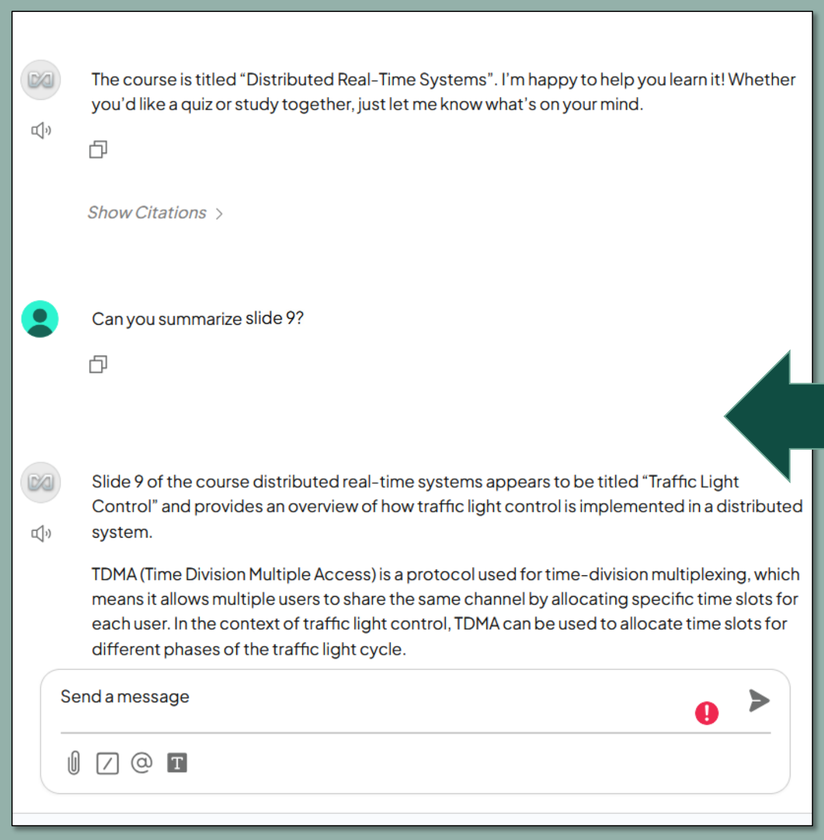
### StudyBuddy

**Privacy & Copyright Concerns**
- Public LLMs unsuitable
- Alternatives: Llama 3, GWDG, OpenGPT-x, GITZ
- Currently: Discussion with IT User Board

**Behavioral Complexity**
- Required Inference Parameter Tuning
- Generic solution wanted

### Jupyter

- Which type of task is suitable for Jupyter Notebooks?
- How to integrate it in the current setup of Lecture/Exercise?
- How to enable the students to easily access it?

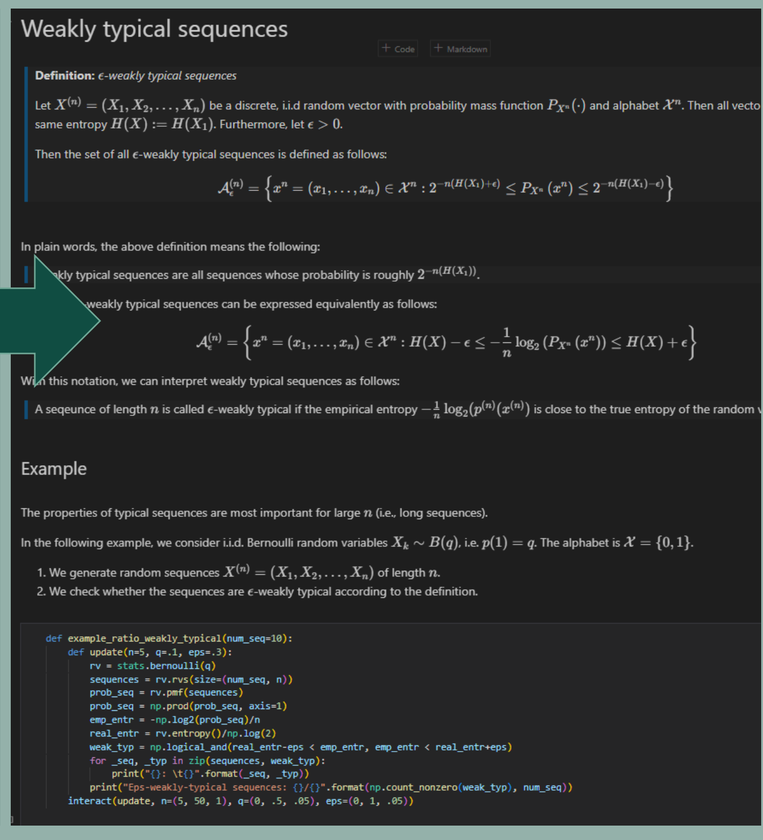



## Reflection & Evaluation

### The module fosters interdisciplinary learning with a coherent topic for future engineers.

- Remote learning through streaming and Jupyter Notebooks
- StudyBuddy – Teaching resources for Retrieval-Augmented Generation
- <u>Future Steps:</u>
  - Further development & deployment of StudyBuddy with partners*
  - Further extending of materials
  - Continuing exchange of institutes

*Bijan Khosrawi-Rad & Patrick Hiske (Service Information Systems), Fabian Runge (Media Lab)

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