











Streamlining Automatic Recognition within a University Alliance Challenges and Success Factors from the Perspective of ENHANCE

Julian Irlenkaeuser | TU Berlin | MODUS Conference „Recognition Culture in Higher Education“

j.irlenkaeuser@tu-berlin.de | www.enhanceuniversity.eu

-  1. ENHANCE Alliance – Short Introduction
-  2. The ENHANCE One Campus
-  3. European Education Pathways Program
-  4. Improving Recognition in ENHANCE+

-  1. ENHANCE Alliance – Short Introduction
-  2. The ENHANCE One Campus
-  3. European Education Pathways Program
-  4. Improving Recognition in ENHANCE+

1. ENHANCE Alliance – Short Introduction



European UNiversity of TechNology AlliaNCE

- 2nd generation alliance (funding period: 2020-23 / 2023-27)
- 10 leading European technical universities
- Foci: 1. Digitalization & AI, 2. Climate Action, 3. Sustainable Cities



Warsaw University
of Technology



UNIVERSITAT
POLITÈCNICA
DE VALÈNCIA



TU Delft

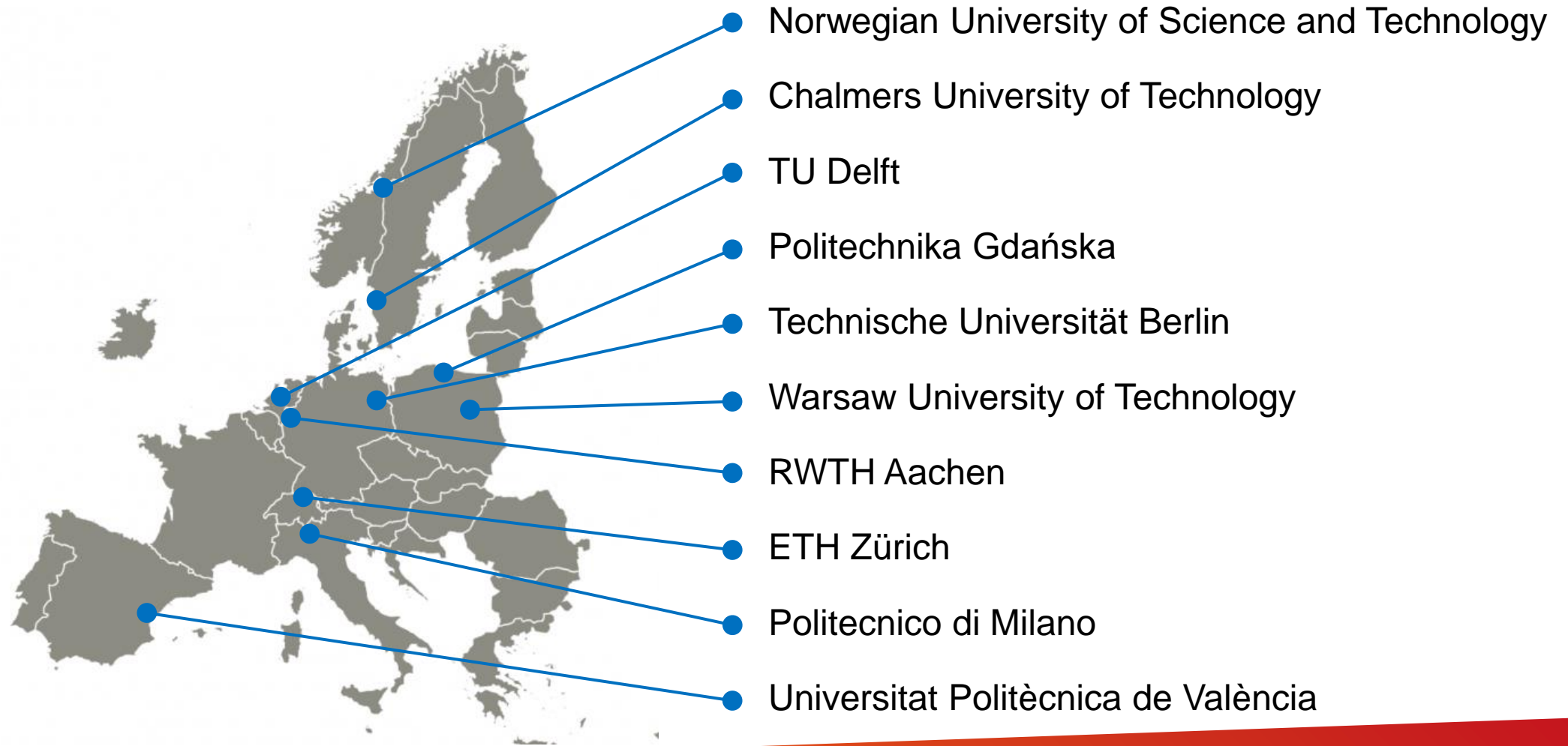
RWTH AACHEN
UNIVERSITY

NTNU
Norwegian University of
Science and Technology



ETH Zürich

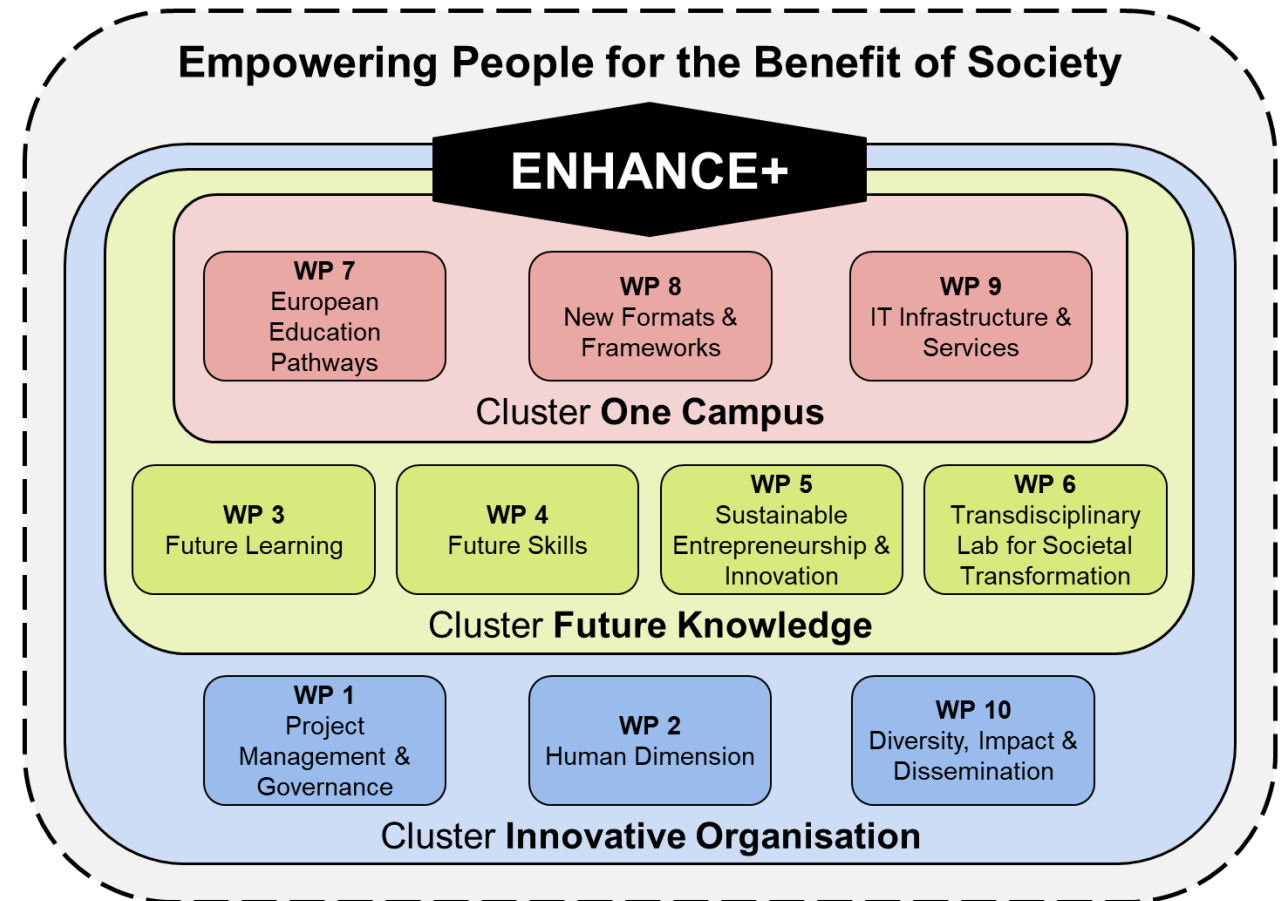
1. ENHANCE Alliance – Short Introduction







1. ENHANCE Alliance – Short Introduction



- 10 Work Packages (WP),
= one per partner
- Divided into three „clusters“
 1. One Campus
 2. Future Knowledge
 3. Innovative Organisation

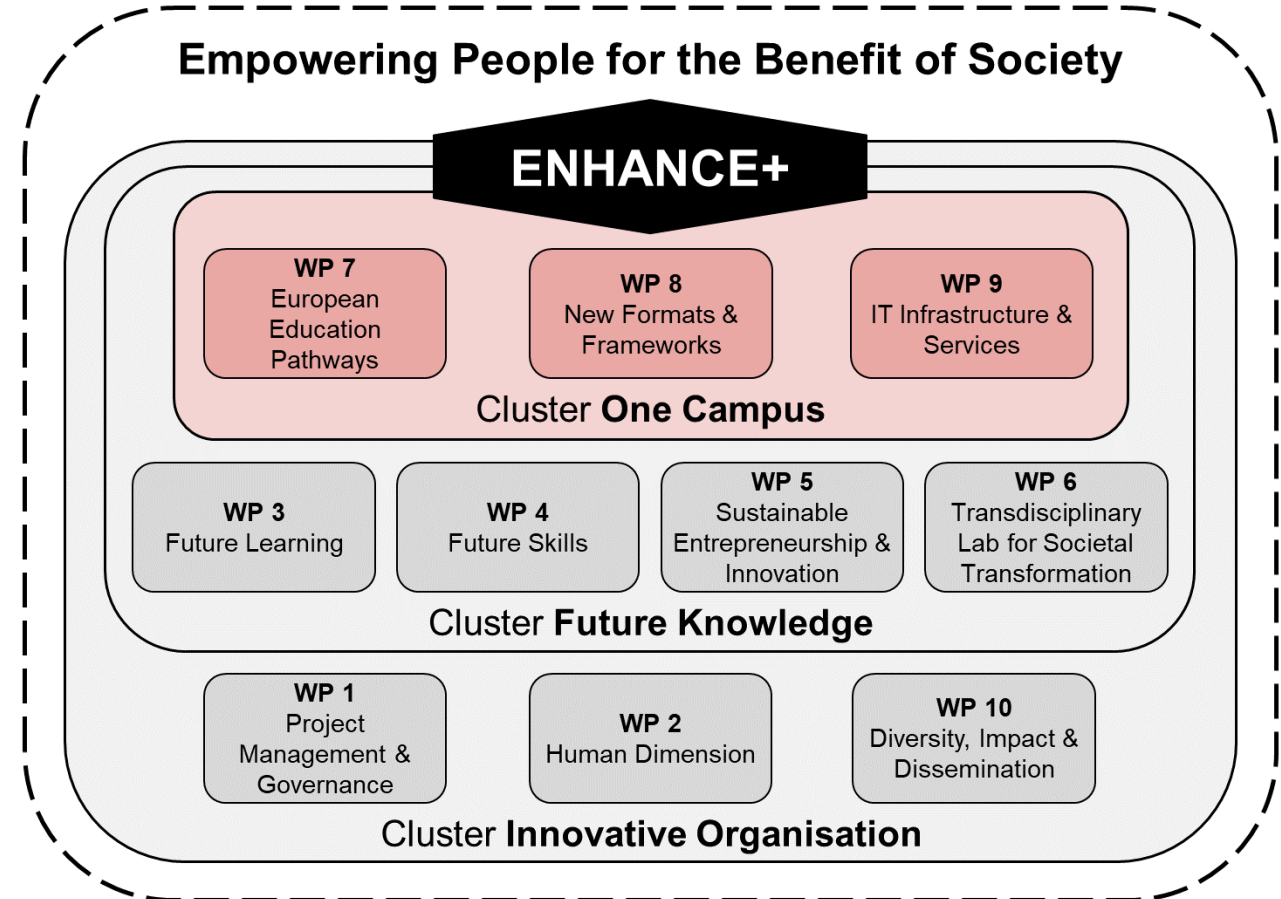


-  1. ENHANCE Alliance – Short Introduction
-  **2. The ENHANCE One Campus**
-  3. European Education Pathways Program
-  4. Improving Recognition in ENHANCE+

2. The ENHANCE One Campus



- **Cluster One Campus:**
 - European Education Pathways (WP7)
 - New Formats & Frameworks (WP8)
 - IT Infrastructure & Services (WP9)
- **Main Goal:**
Closely connecting all partners towards a „transnational campus“.
- **Measures:**
 - New educational formats
 - Better administrative frameworks
 - Improved IT services



2. The ENHANCE One Campus



ENHANCE ONE CAMPUS

Work Package:

WP7 - European Education Pathways



Main Objective:

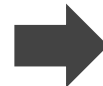
Give students the opportunity to **design their study path** based on **curricular courses** offered by several member universities.

WP8 – New Formats & Frameworks



Enrich the One Campus with a diverse catalogue of **short-term educational offers**, including a minimum of 30 joint **micro-credentials**.

WP9 – IT Infrastructure & Services



Provide **effective IT solutions** for the European Education Pathways and micro-credential offers, and to **drive the digital transformation** of the European Education Area.

2. The ENHANCE One Campus



**ENHANCE
ONE CAMPUS**

Work Package:

WP7 - European Education Pathways



Addresses (automatic) recognition...

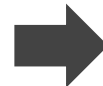
...of curricular courses.

WP8 – New Formats & Frameworks



...of extra-curricular courses.

WP9 – IT Infrastructure & Services

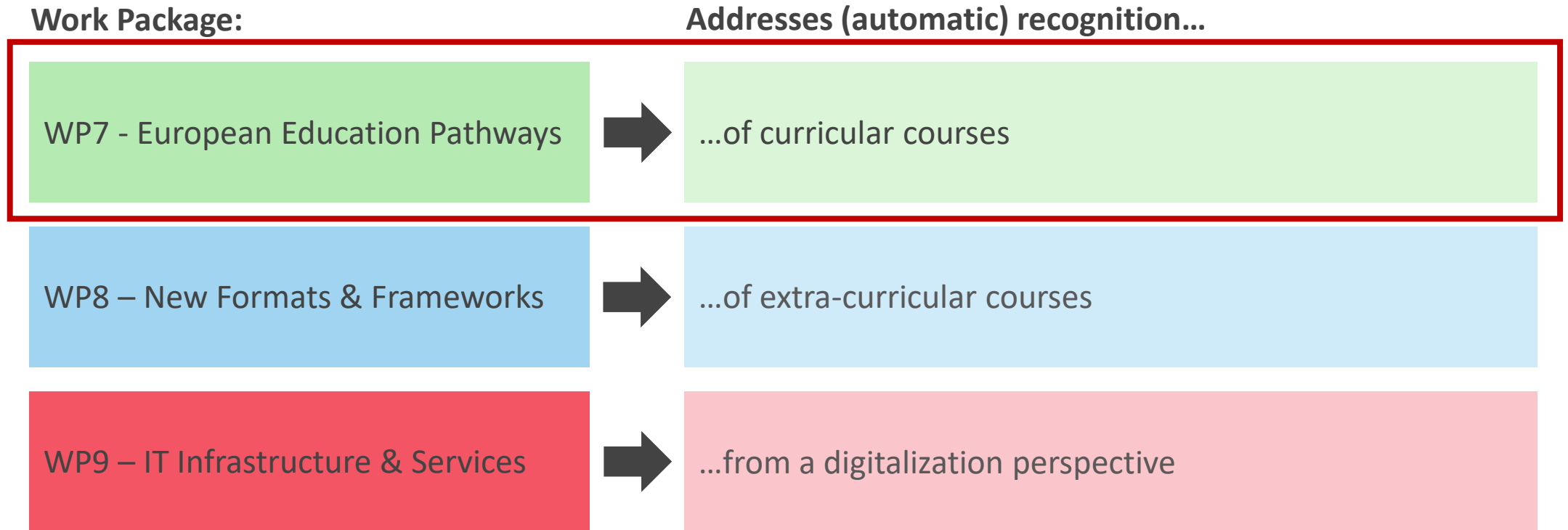






...from a digitalization perspective.

2. The ENHANCE One Campus



**ENHANCE
ONE CAMPUS**



-  1. ENHANCE Alliance – Short Introduction
-  2. The ENHANCE One Campus
-  **3. European Education Pathways Program**
-  4. Improving Recognition in ENHANCE+

3. European Education Pathways Program – Overview



Computer
Science

Mechanical
Engineering

Energy
Engineering

Urban
Planning

- 4 pilot study fields
- Common course catalogue with >1.000 courses
- Combination of physical, virtual, and short-term mobility
- **Main goal: internationalization of involved pilot degree programs via mutual integration of curricular courses**
- Long-term vision: combination with European Degree Label

3. European Education Pathways Program – Workflow (Original Vision)



Education Dashboard (= Central Node)



Home University

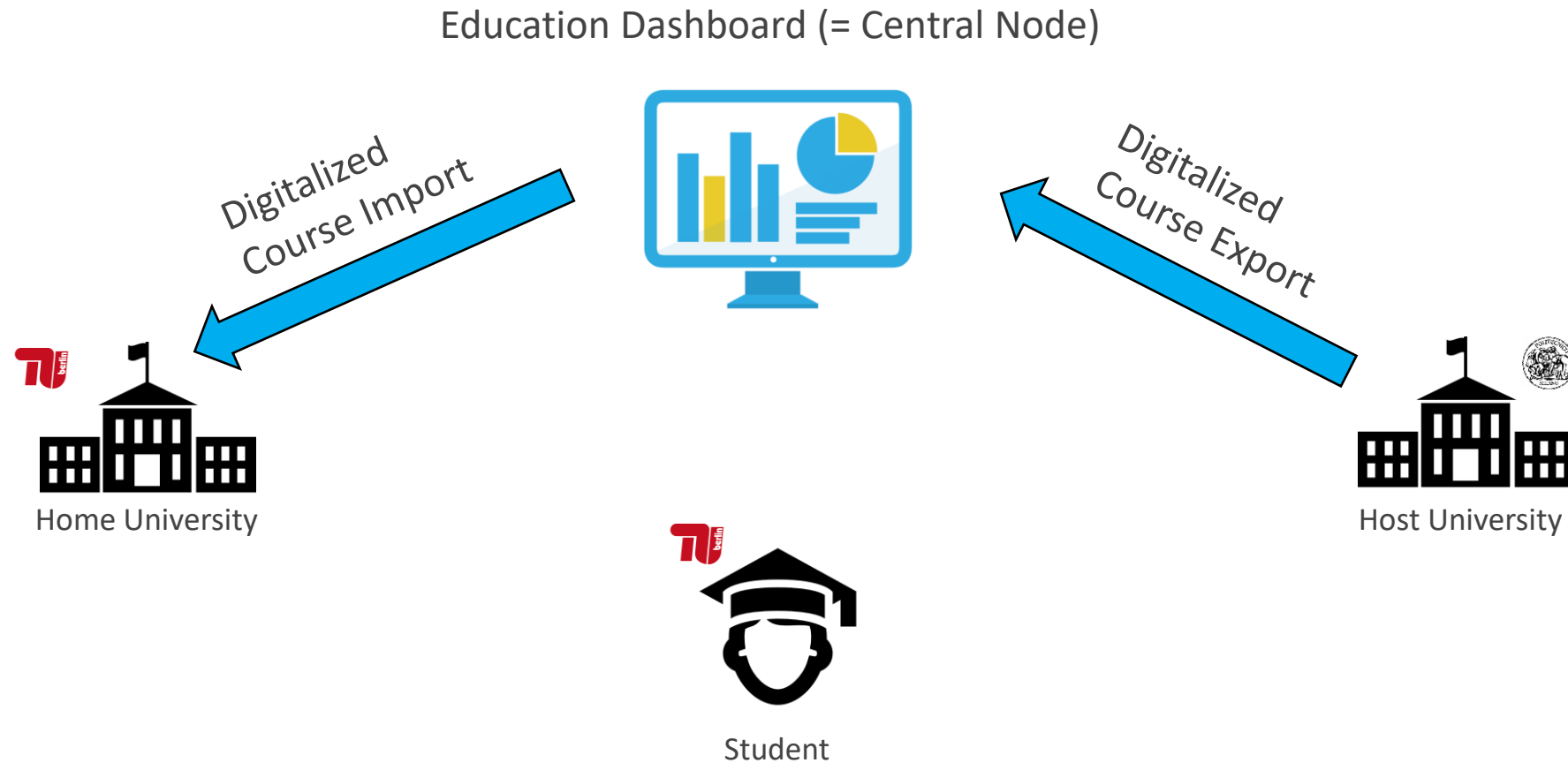


Host University

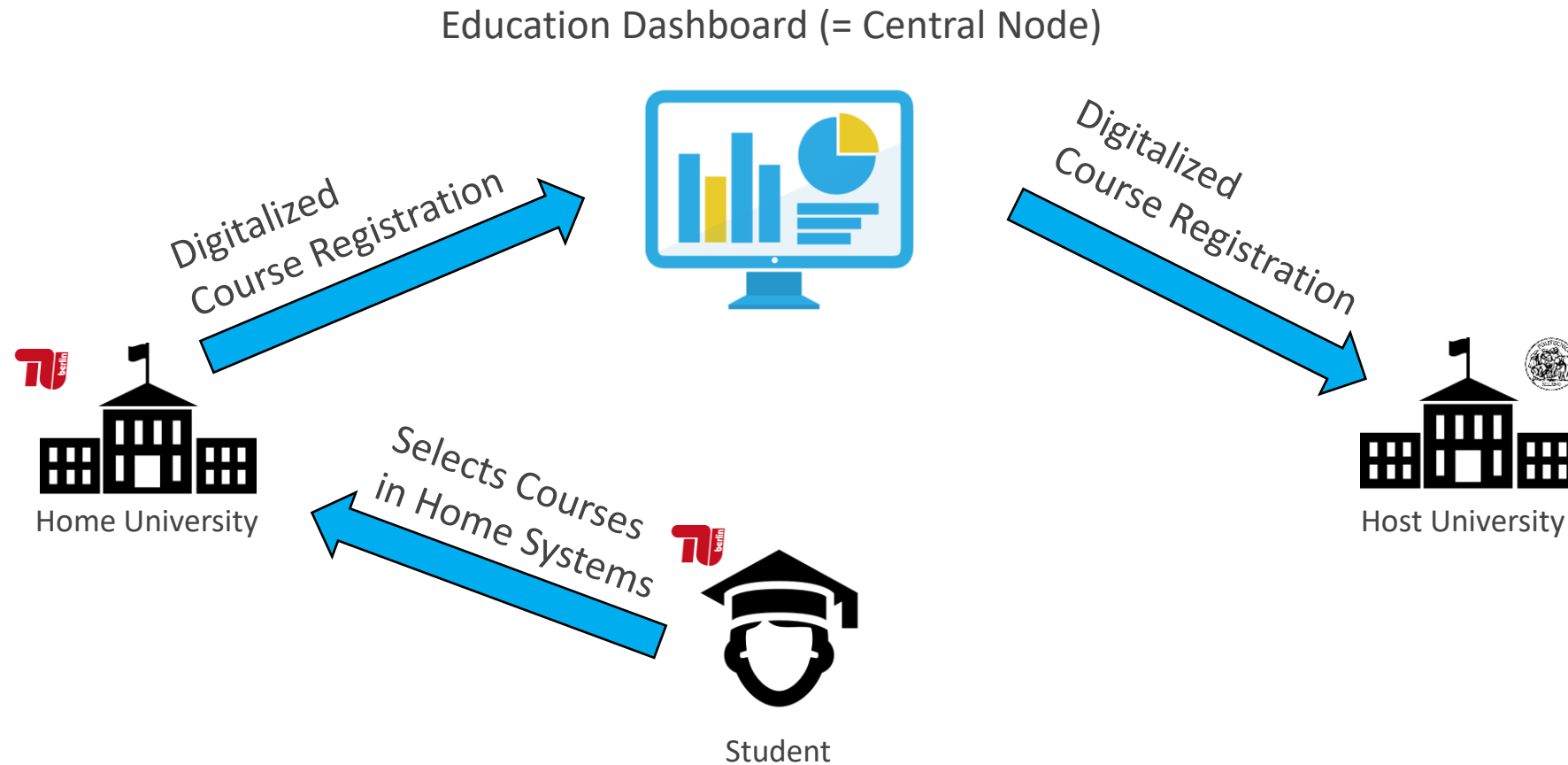


Student

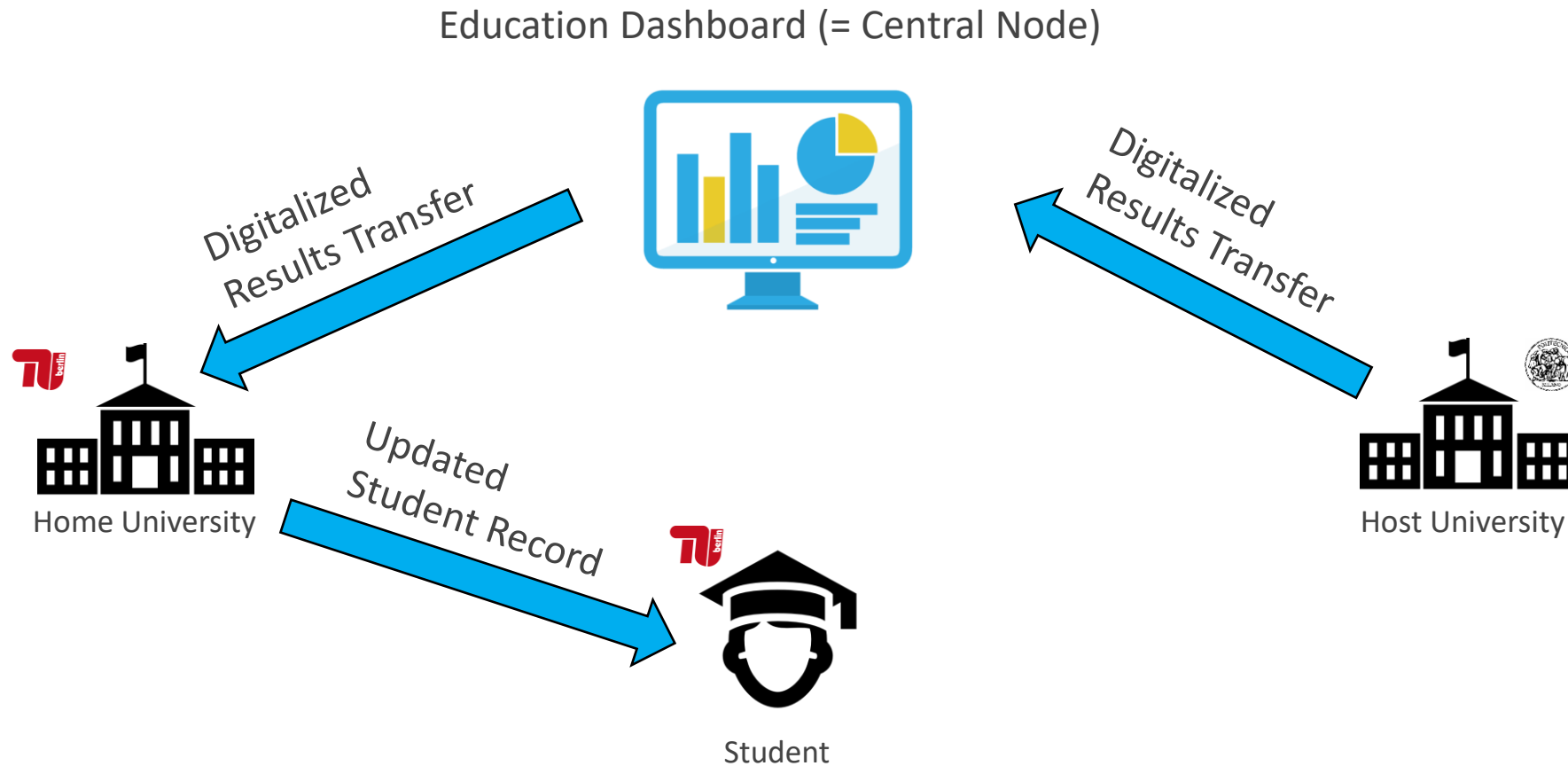
3. European Education Pathways Program – Workflow (Original Vision)



3. European Education Pathways Program – Workflow (Original Vision)



3. European Education Pathways Program – Workflow (Original Vision)



3. European Education Pathways Program – Some Challenges



- A digitalized data exchange is far more challenging than the original vision suggests.
- A short-term mutual full integration of courses fails due to both technical and regulatory restrictions (→ long-term goal).
- Academic recognition of credit mobility is handled quite differently among European HEIs.

3. European Education Pathways Program – Workflow (Current Reality)



Course Catalogue (≠ Central Node)



Home University

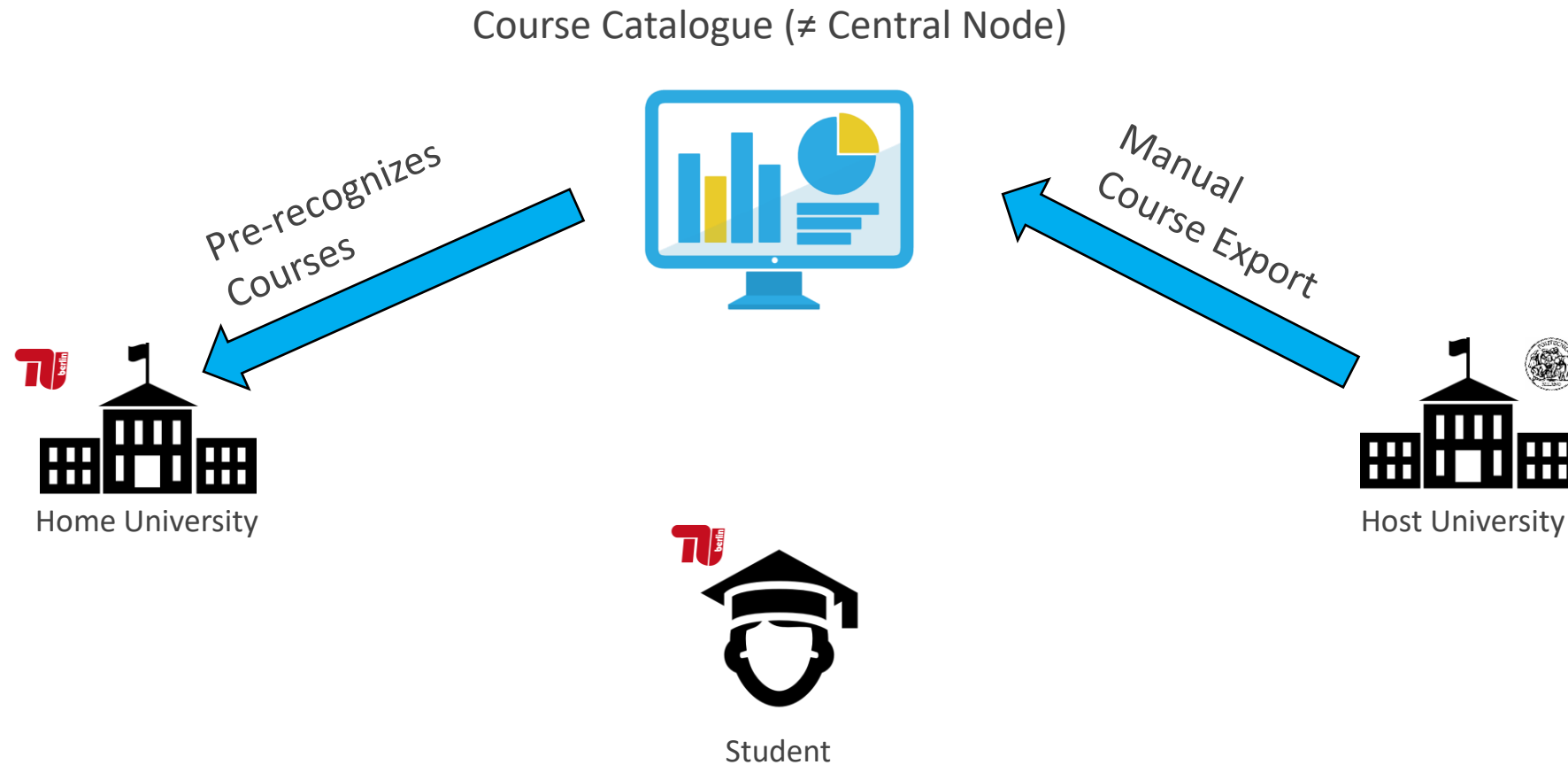


Host University

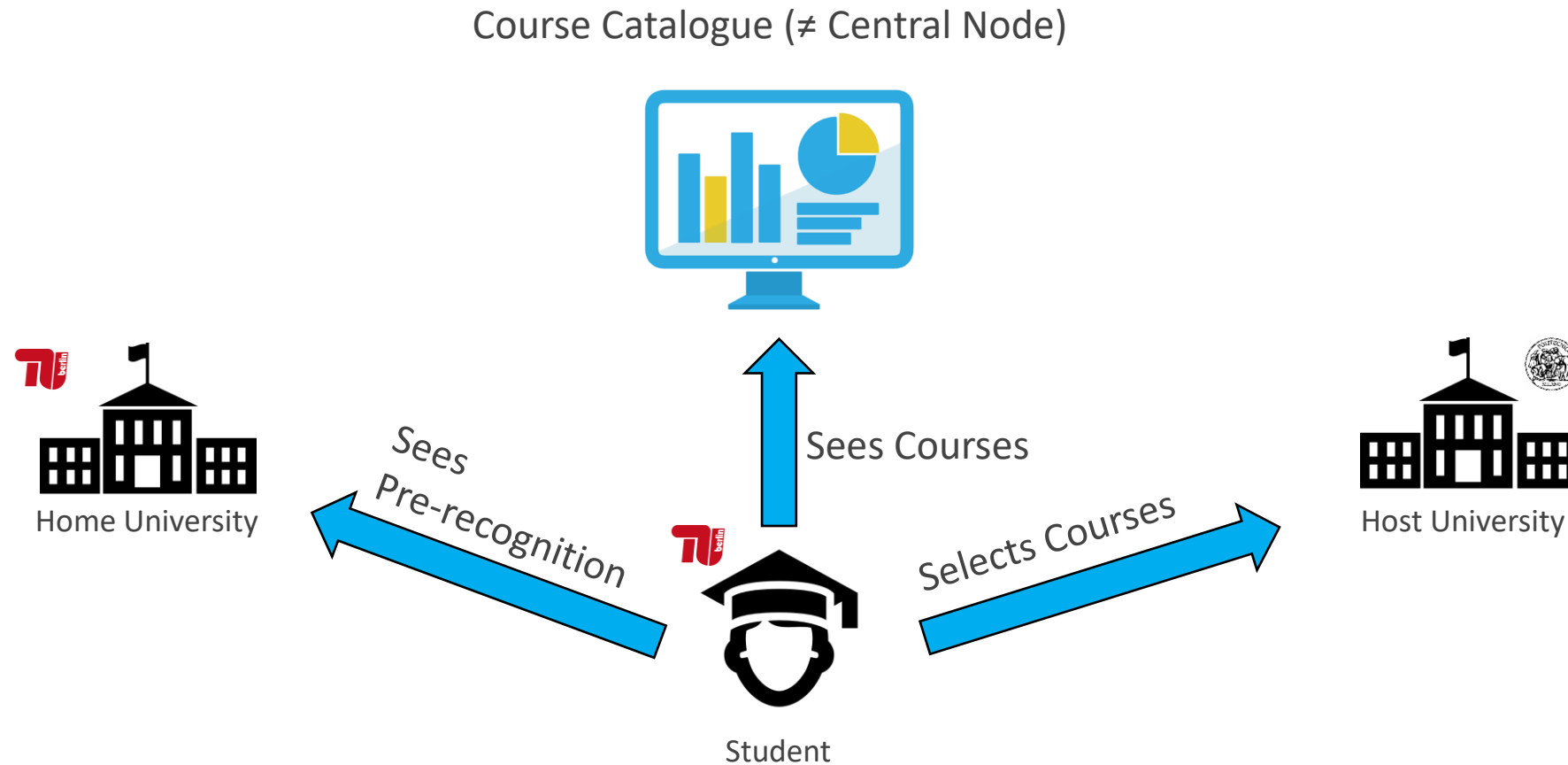


Student

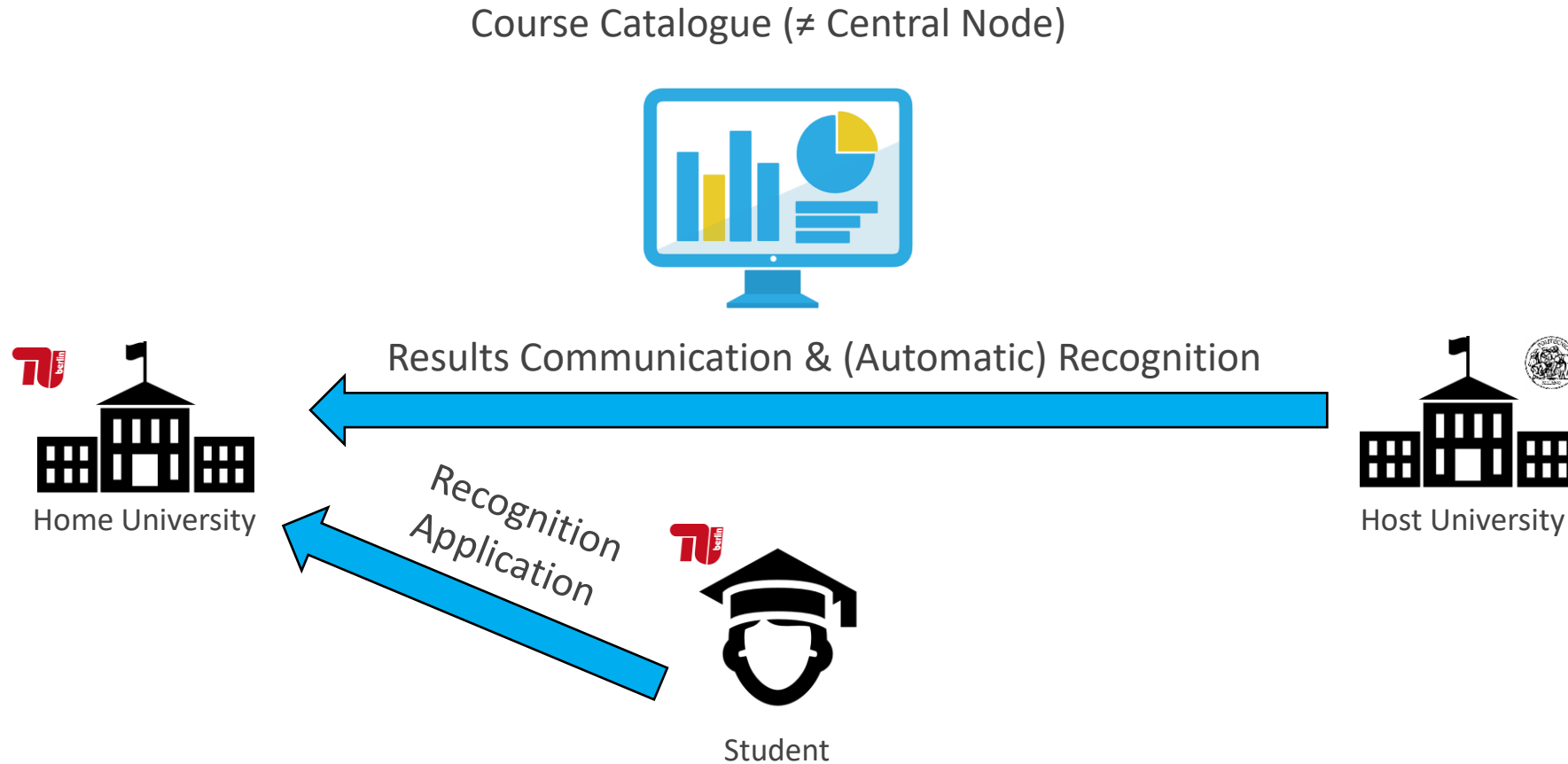
3. European Education Pathways Program – Workflow (Current Reality)



3. European Education Pathways Program – Workflow (Current Reality)



3. European Education Pathways Program – Workflow (Current Reality)



3. European Education Pathways Program – Course Catalogue



educationpathways.enhanceuniversity.eu//

2022/2023

2023/2024

Pilot Study field None All

Computer Science

Energy Engineering

Mechanical Engineering BSc

Mechanical Engineering MSc

Urban Planning

Home University None All

Chalmers University of Technology

Norwegian University of Science and Technology

Politecnico di Milano

RWTH Aachen

Technische Universität Berlin

Universitat Politècnica de València

Warsaw University of Technology

Selected Destination None All

Chalmers University of Technology

Norwegian University of Science and Technology

Politecnico di Milano

<p>Politecnico di Milano - Italy COMPUTER SCIENCE AND ENGINEERING - MSc</p> <p>5 ECTS</p> <p>ADVANCED ALGORITHMS AND PARALLEL PROGRAMMING</p> <p>TEACHING LANGUAGE English</p> <p>TEACHING PERIOD Fall</p> <p>PARTICIPATION Onsite Recording ⓘ</p> <p>Computer Science</p> <p>VIEW DETAILS</p>	<p>Politecnico di Milano - Italy COMPUTER SCIENCE AND ENGINEERING - MSc</p> <p>5 ECTS</p> <p>ADVANCED COMPUTER ARCHITECTURES</p> <p>TEACHING LANGUAGE English</p> <p>TEACHING PERIOD Spring</p> <p>PARTICIPATION Onsite Recording ⓘ</p> <p>Computer Science</p> <p>VIEW DETAILS</p>	<p>Politecnico di Milano - Italy COMPUTER SCIENCE AND ENGINEERING - MSc</p> <p>5 ECTS</p> <p>ADVANCED USER INTERFACES</p> <p>TEACHING LANGUAGE English</p> <p>TEACHING PERIOD Fall</p> <p>PARTICIPATION Onsite Remoting ⓘ</p> <p>Computer Science</p> <p>VIEW DETAILS</p>
<p>Politecnico di Milano - Italy COMPUTER SCIENCE AND ENGINEERING - MSc</p> <p>5 ECTS</p> <p>ECONOMICS AND COMPUTATION</p>	<p>Politecnico di Milano - Italy COMPUTER SCIENCE AND ENGINEERING - MSc</p> <p>10 ECTS</p> <p>ALGORITHMS AND PARALLEL COMPUTING</p>	<p>Politecnico di Milano - Italy COMPUTER SCIENCE AND ENGINEERING - MSc</p> <p>5 ECTS</p> <p>ARTIFICIAL NEURAL NETWORKS AND DEEP LEARNING</p>

3. European Education Pathways Program – Pre-emptive Recognition



HOST UNIVERSITY	COURSE NAME	COURSE CODE	ECTS	DEGREE	TEACHING PERIOD	LANGUAGE	STUDY AREA 1	STUDY AREA 2
POLIMI	Advanced Algorithms and Parallel Programming	095946	5	MSc	Fall	English	Data and Software Engineering	Foundations of Computing
POLIMI	Advanced Computer Architectures	088949	5	MSc	Spring	English	Foundations of Computing	Embedded Systems and Computer Architectures
POLIMI	Advanced User Interfaces	097685	5	MSc	Fall	English	Digital Media and Human-Computer Interaction	<i>free elective</i>
POLIMI	Algorithms and Parallel Computing	052496	10	MSc	Fall	English	Data and Software Engineering	<i>free elective</i>
POLIMI	Artificial Neural Networks and Deep Learning	054307	5	MSc	Fall	English	Digital Media and Human-Computer Interaction	Cognitive Systems
POLIMI	Business Information Systems 1	091023	5	MSc	Spring	English	Distributed Systems and Networks	<i>free elective</i>
POLIMI	Code Transformation and Optimization	090957	5	MSc	Fall	English	<i>free elective</i>	<i>free elective</i>
POLIMI	Computer Graphics	090958	5	MSc	Spring	English	Digital Media and Human-Computer Interaction	<i>free elective</i>
POLIMI	Computer Security	055633	5	MSc	Spring	English	Distributed Systems and Networks	<i>free elective</i>
POLIMI	Computing Infrastructures	095898	5	MSc	Spring	English	Embedded Systems and Computer Architectures	<i>free elective</i>
POLIMI	Cryptography and Architectures for Computer Security	095947	5	MSc	Spring	English	Data and Software Engineering	<i>free elective</i>
POLIMI	Data Bases 2	089183	5	MSc	Fall	English	Data and Software Engineering	<i>free elective</i>
POLIMI	Data Management For The Web	094743	5	MSc	Fall	English	Data and Software Engineering	<i>free elective</i>

3. European Education Pathways Program – Some Solutions



- ✓ Make use of already existing tools and follow-up on ongoing EU initiatives. **Avoid parallel processes and don't try to reinvent the wheel!**
- ✓ **Pre-emptive and simplified recognition** instead of a full mutual integration of courses (long-term goal).
- ✓ EUNs as a means and tool to **improve recognition processes and frameworks** through
 - a) best-practice sharing, and
 - b) driving for internal change.

1. ENHANCE Alliance – Short Introduction
2. The ENHANCE One Campus
3. European Education Pathways Program
4. Improving Recognition in ENHANCE+

4. Improving Recognition in ENHANCE+



Improving automatic recognition on three dimensions:

1) Culture, 2) Regulations, 3) Practice.



1. We will **analyze existing attitudes towards recognition** and compile information on the **implementation of the Lisbon Recognition Convention**.
2. We will use the results to inform our **campaign on improved recognition** and **create a network of expertise** on the subject.
3. We will **provide assessments** on how each university can improve automatic recognition within specific rules and regulations. This **set of recommendations** will be agreed upon by all partners.

4. Improving Recognition in ENHANCE+



Achievements during the first project period:



- ✓ Partners have started internal discussions on process improvement.
- ✓ A better understanding of existing differences has been reached.
- ✓ An initial survey on recognition cultures & practices was compiled.

ENHANCE RECOGNITION DATABASE

A fact sheet collection on credit recognition cultures and practices within the ENHANCE Alliance

CONTENTS

INTRODUCTION	2
EUROPEAN POLICY BACKGROUND	3
RATIONALE AND SCOPE OF THE WORKING PAPER.....	3
METHODOLOGY.....	4
CREDIT RECOGNITION WITHIN ENHANCE MEMBER UNIVERSITIES	4
FACT SHEET NO. 1: CHALMERS UNIVERSITY OF TECHNOLOGY	5
FACT SHEET NO. 2: NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY.....	5
FACT SHEET NO. 3: POLITECNICO DI MILANO.....	6
FACT SHEET NO. 4: RHEINISCH-WESTFÄLISCHE TECHNISCHE HOCHSCHULE AACHEN.....	7
FACT SHEET NO. 5: TECHNISCHE UNIVERSITÄT BERLIN.....	9
FACT SHEET NO. 6: UNIVERSITAT POLITÈCNICA DE VALÈNCIA.....	11
FACT SHEET NO. 7: WARSZAW UNIVERSITY OF TECHNOLOGY.....	14
SUMMARY AND RECOMMENDATIONS	15
CURRENT RECOGNITION PRACTICES WITHIN ENHANCE: IDENTIFIED CHALLENGES	15
POLICY RECOMMENDATIONS: MEASURES TO IMPROVE ACADEMIC RECOGNITION	16
REFERENCES	17

CONTACT

Julian Irlenkäuser julian.irlenaeuser@enhanceuniversity.eu

Visit us at www.enhanceuniversity.eu

Follow us on [Twitter](#), [Instagram](#), [LinkedIn](#) and [Facebook](#).

ENHANCE RECOGNITION DATABASE

A fact sheet collection on credit recognition cultures and practices within the ENHANCE Alliance

Some factors that have impact on efficient and student-friendly recognition processes:

- Level of centralization
- Level of approval
- Level of trust
- Level of digitalization
- Level of flexibility of the curriculum design
- Level of flexibility of the recognition process
- Level of competence of the credit evaluator

Thank you for your attention!

Julian Irlenkaeuser (Mobility Officer)

Technische Universität Berlin

- j.irlenkaeuser@tu-berlin.de
- julian.irlenkaeuser@enhanceuniversity.eu