



FINNISH NATIONAL  
AGENCY FOR EDUCATION

# **WORKSHOP**

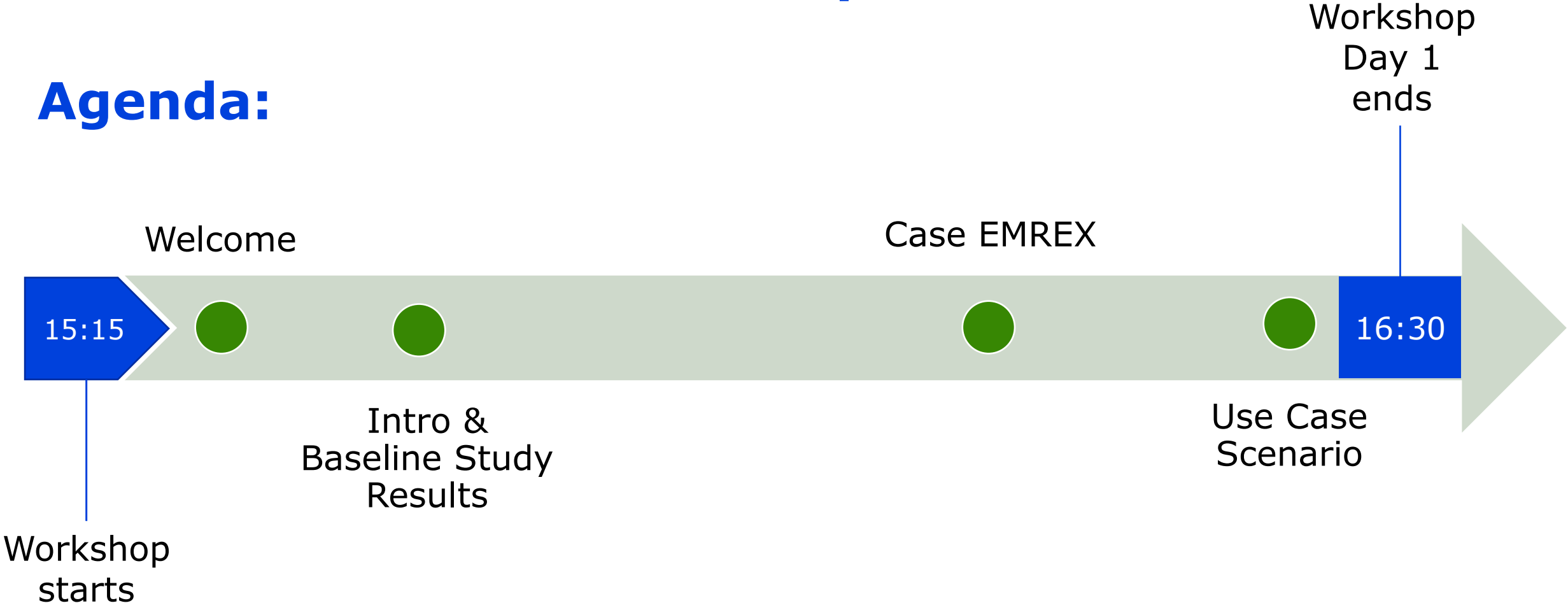
## **Studying in another Nordic-Baltic Country**

**30th November – DAY 1**



# Welcome to DAY 1 Workshop!

## Agenda:



# Workshop Goals

- Discuss the baseline study findings
- Build a common understanding of the use case scenario
- Start a concrete collaboration between Nordic and Baltic partners



# **Intro & Baseline Study Results**

A decorative graphic consisting of thick, wavy lines in green and blue. The lines curve and overlap, creating a dynamic, abstract shape that frames the central text.



FINNISH NATIONAL  
AGENCY FOR EDUCATION

# Studying in another Nordic-Baltic Country\*

Riikka Rissanen, Project Manager & Petteri Pulli, Adviser  
Finnish National Agency for Education

## **PROJECT INTRODUCTION**

\* also known as *Improved cross-border digital services for studying abroad in the Nordic and Baltic Countries* (CBDS-Study)



# Vision

“The Nordic region will become the most sustainable and integrated region in the world in 2030.”

– *The Nordic Prime Ministers,  
The Ministers for Nordic Co-operation*

“The world’s smoothest cross-border mobility and daily life through digitalisation.”

– *Finland’s Presidency Project*



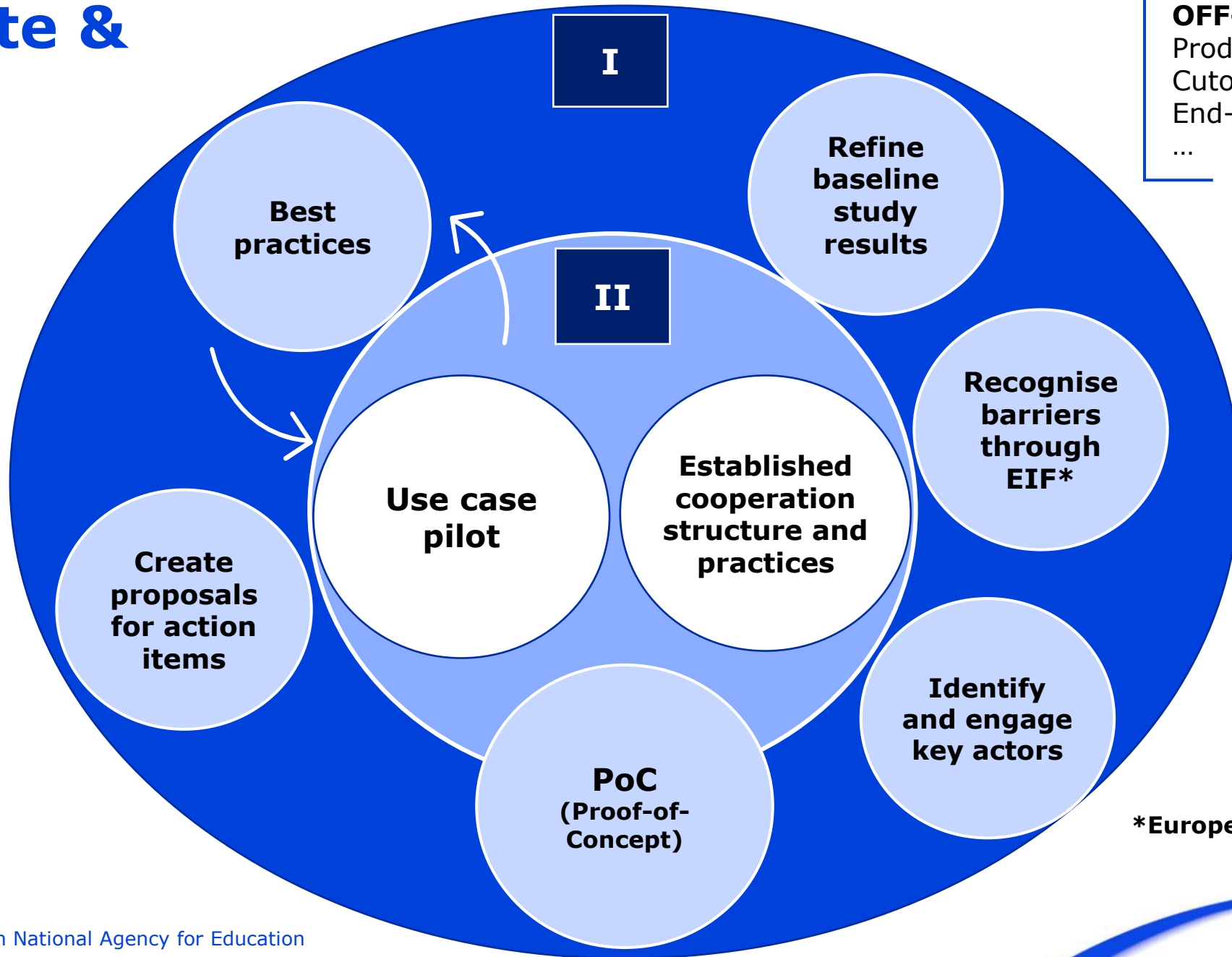
# The Studying in another Nordic-Baltic Country project aims during 2021-2024:

- To identify obstacles and create recommendations in the context of student data exchange
- To build a Proof of Concept and conduct a pilot solution
- To expand the existing networks, e.g. EMREX



# Goal State & Scope

- I** Goal State 1
- II** Goal State 2

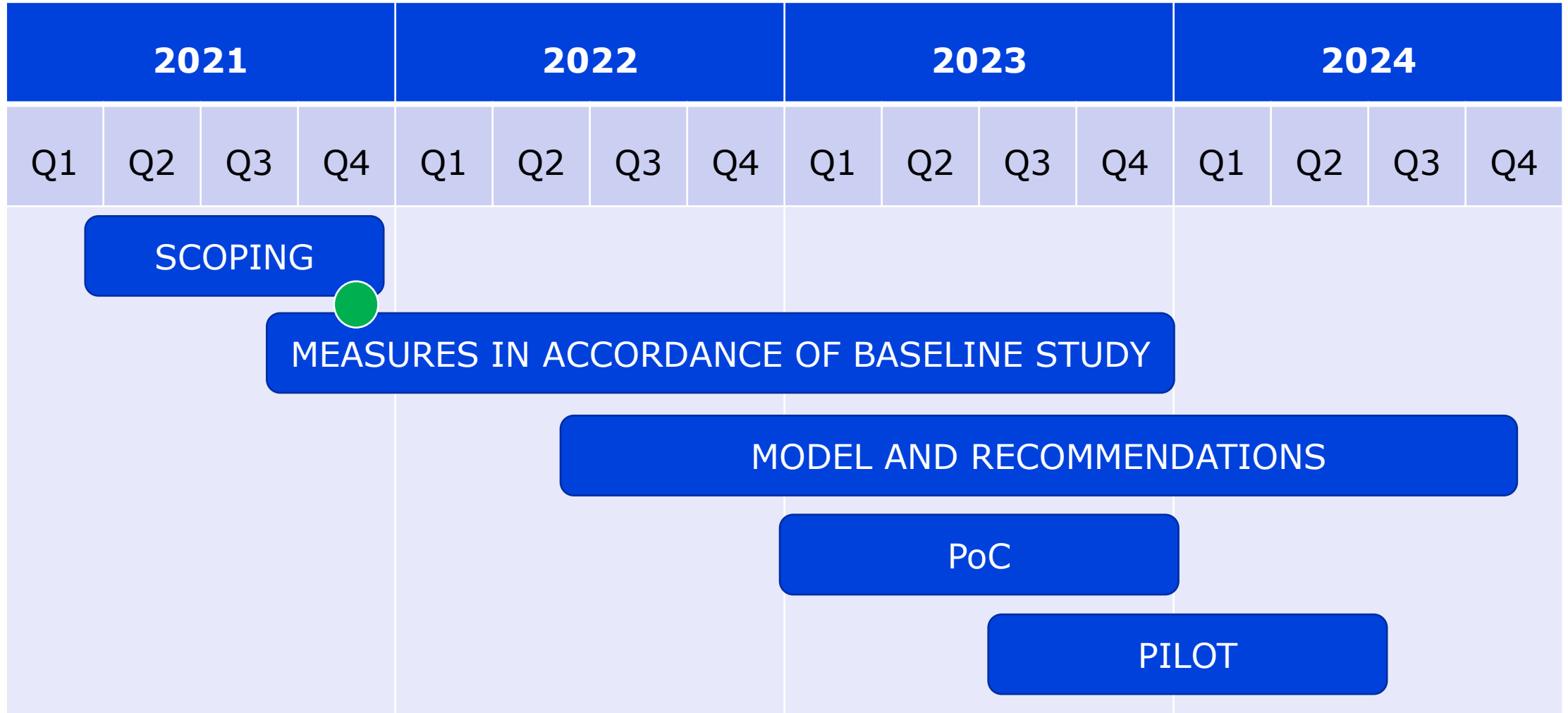


**OFF-SCOPE:**  
Production use  
Cutover  
End-user Training  
...

\*European Interoperability Framework



# Project Timeline



# Partners and Funding

The Studying in another Nordic-Baltic Country Project is administered by Finnish National Agency for Education in Finland and funded by The Nordic Council of Ministers.

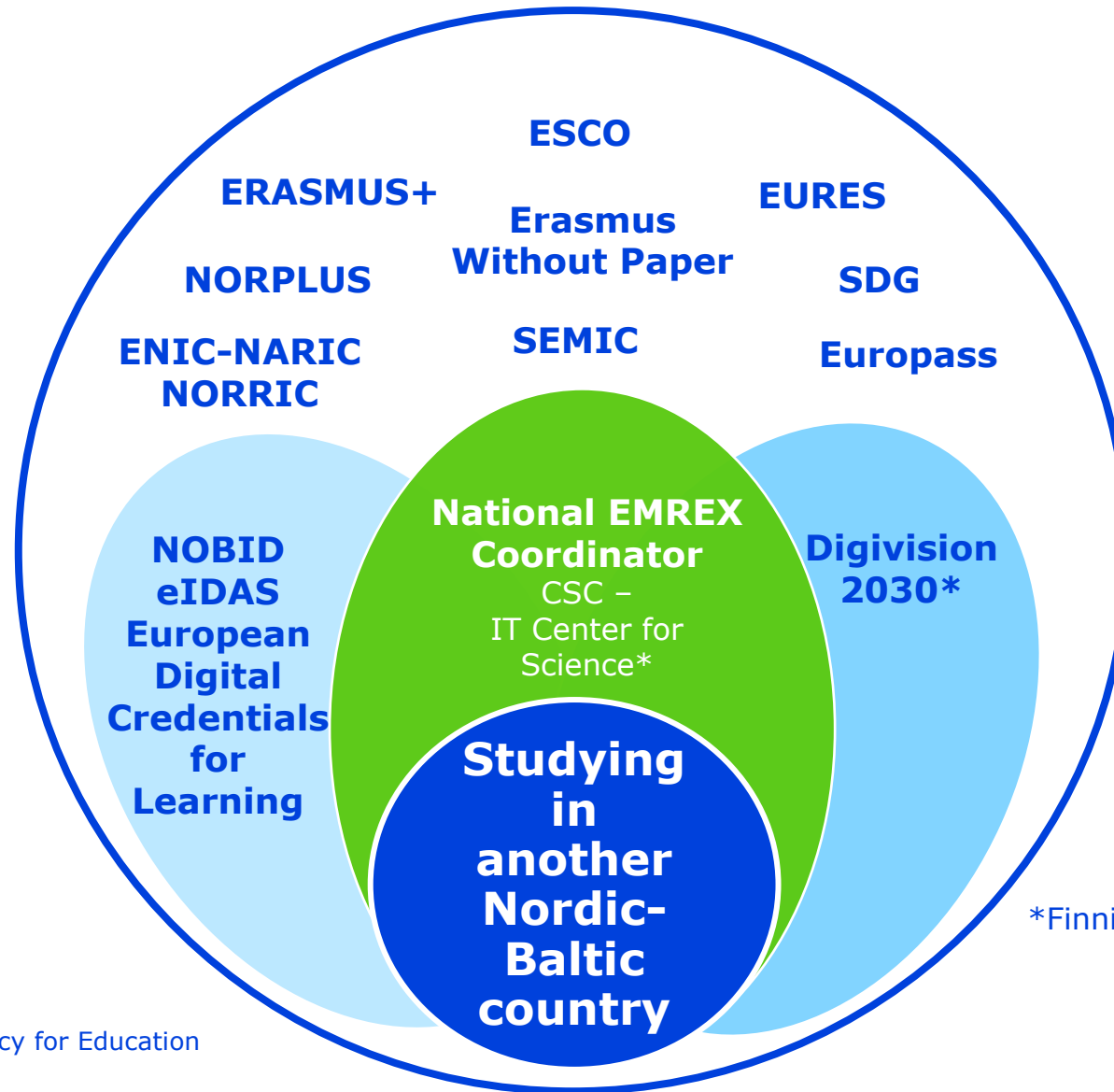


## The project partners are:

- Denmark
- Estonia
- Faroe Islands
- Finland
- Greenland
- Iceland
- Latvia
- Lithuania
- Norway
- Sweden
- Åland Islands



# Stakeholders and other related programmes & networks



\*Finnish stakeholders

**“Student data flows  
with a person  
whenever wanted  
and it is always  
accessible.”**

*– Studying in another  
Nordic-Baltic Country*





**Baseline Study Results**  
**European Interoperability Framework (EIF)**

# The baseline study answers to the following questions:

1. How the management of study records is organised in each country in scope?
2. Does digital cross-border exchange of study records exist between the countries in scope?
  - a. In what extent and between which countries?
  - b. How is the data exchanged?
- 3. What are the semantic, technical, organisational, and legal challenges in cross-border interoperability and digital exchange of study records?**



## Organizational

Organizational interoperability refers to the way in which public administrations align their business processes, responsibilities and expectations to achieve commonly agreed and mutually beneficial goals



## Technical

Technical interoperability factors cover the applications and infrastructures linking systems and services



## Semantic

Semantic interoperability ensures that the precise format and meaning of exchanged data and information is preserved and understood throughout exchanges between parties



## Legal

Legal interoperability is about ensuring that organizations operating under different legal frameworks, policies and strategies are able to work together

## Factors slowing, constraining, or preventing cross-border data access and exchange

- Differences in school systems between countries
- **Motivation for change and willingness to put money and effort into joint solutions varies between countries**
- Existing and outdated organizational processes and structures in countries do not support automated solutions cross-border data exchange
- Autonomous information management inside countries, responsibility is spread and uncertain
- **Different levels of digital maturity**
- **Different systems, data models, formats, solutions, database structures**
- Digital **data does not exist** or is not in machine-readable format
- No technical knowledge
- Lack of understanding other Nordic and Baltic languages
- Lack of translations
- **Lack of shared vocabulary**
- Lack of agreed formats and standards
- **Lack of descriptive data**
- **Different concepts and meanings**
- **Regulations that limit data transfer**
- **Regulations that define ownership of the data**
- Need for changes in legislations
- Different recognition of qualifications

Country / Region	Machine-readable data (Upper Secondary)	Machine-readable data (HEI)	Descriptive information in English (Upper Secondary)	Descriptive information in English (HEI)
Denmark	Yes	Unclear	No	Yes
Estonia	Yes	Yes	No	Yes
Faroe Islands	Unclear	Unclear	Unclear	Yes
Finland	Yes	Yes	No	Partially
Greenland	Unclear	Unclear	No	Unclear
Iceland	Yes	No	No	Yes
Latvia	Yes	Partially	No	Partially
Lithuania	Yes	Yes	Partially	Partially
Norway	Yes	Yes	Partially	Yes
Sweden	Yes	Yes	Partially	Yes
Åland	Yes	Yes	No	No





**Case EMREX**  
Max Laihonen



CSC

ICT Solutions for  
Brilliant Minds



# EMREX transfers

Max Laihonen / CSC – IT Centre for Science Ltd



# What is EMREX?

- EMREX is a decentralized system used for transferring study credits internationally.
- Data providers in The Netherlands, Greece, Croatia, Norway, Poland, Sweden, Germany and Finland.
- Utilizes the [ELMO XML schema](#)
- (Three) system components: EMREX Client EMC, Data access point EMP, (and EMREG)
  - EMC: Application that allows students to fetch their results from EMP. Often integrated into result services, like student information system.
  - EMP: Data provider. System that has access to student information database and provides the information for EMC.
  - (EMREG: Centralized system that provides a list of EMPs for EMCs. Will be merged into EWP Registry service XML.)



# Usage measured from data access point

## Overview 2020

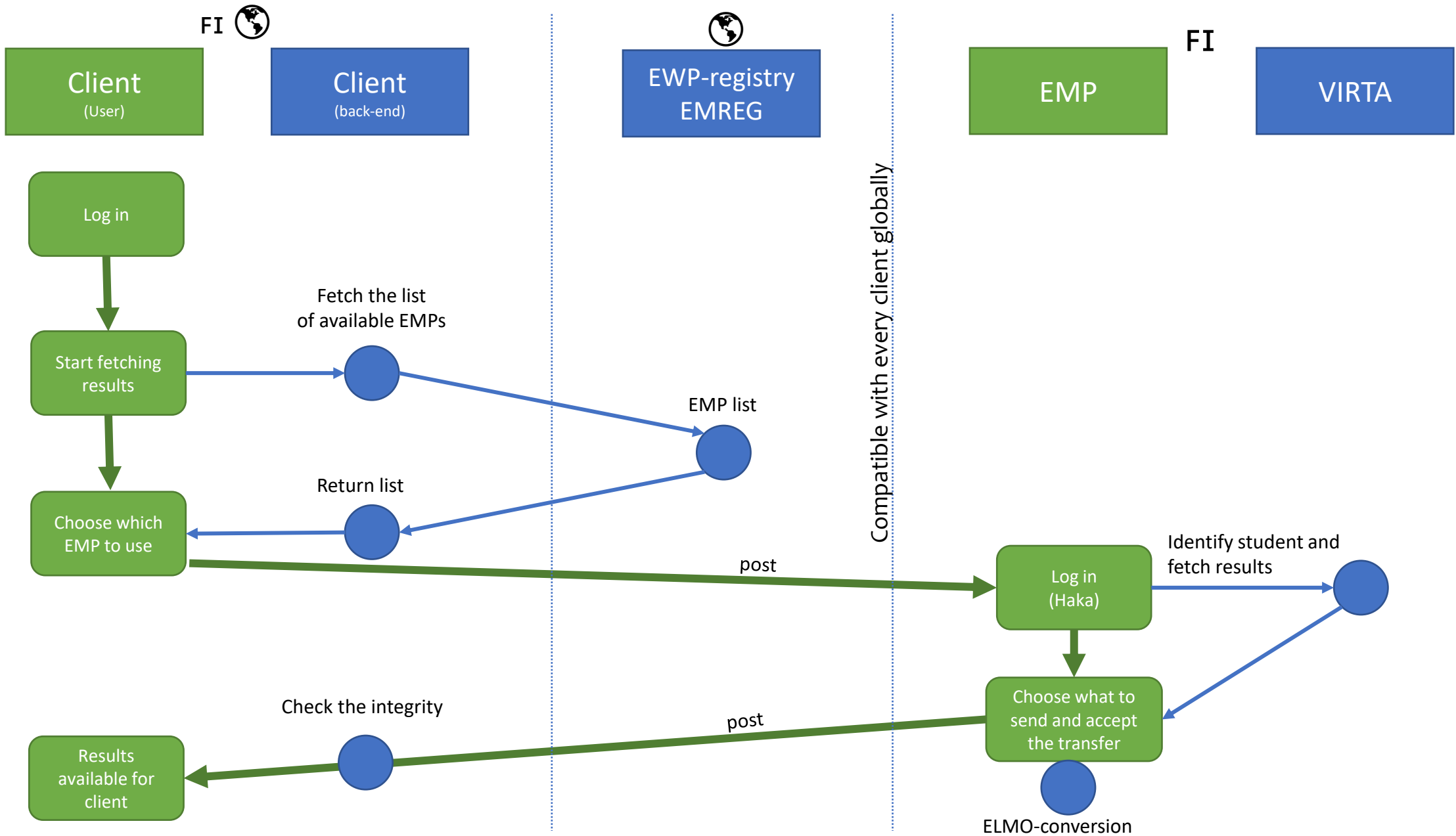
	<b>CRO</b>	<b>NL</b>	<b>NO</b>	<b>PL</b>	<b>SE</b>	<b>Total</b>
<b>Number of connections</b>	<b>2358</b>	<b>479</b>	<b>57242</b>	<b>90</b>	<b>1387</b>	<b>61556</b>
<b>Change from 2019</b>	<b>93%</b>	<b>1228%</b>	<b>199%</b>	<b>74%</b>	<b>205%</b>	<b>192%</b>

## Example: EMREX EMP in Finland

- Finnish EMP uses the national [VIRTA student information database](#) to provide the information. VIRTA updates regularly (~ daily) from Finnish HEIs.
- Student is in control of their data. They see everything that will be transferred and approve it themselves.
- Most data users will be Finnish HEIs, but usage is not limited/approved in any other way than by the student themselves.

# Using the Finnish EMP

Student sees and acts, back-end functionality





Emrex Test Service requires authentication. Required personal data is transferred automatically to the service after authentication.

HAAGA-HELIA University of Applied Sciences ▼

Remember selection for this web browser session.

**SELECT**

### Login to Emrex National Contact Point

**Username**

**Password**

Don't Remember Login

Clear prior granting of permission for release of your information to this service.

**Login**

- > Need Help?
- > Privacy Statement

Emrex National Contact Point

Choose what to  
send ..

2 courses selected (10 credits)

Send chosen credits

<input type="checkbox"/>	Name	Credits	Organization	Evaluation	Registration date
<input type="checkbox"/>	Terveystenhoitaja (AMK)	240	Centria-ammattikorkeakoulu		2018-05-31
<input checked="" type="checkbox"/>	Asiakaslähtöinen hoitotyö	5	Centria-ammattikorkeakoulu	3	2015-04-17
<input type="checkbox"/>	Asiakkuusosaaminen hoitotyössä	5	Centria-ammattikorkeakoulu	3	2017-05-08
<input type="checkbox"/>	Avopalvelu hoitotyö	10	Centria-ammattikorkeakoulu	3	2017-05-29
<input checked="" type="checkbox"/>	Harjoittelu hoitotyö	5	Centria-ammattikorkeakoulu	HYV	2014-11-18
<input type="checkbox"/>	Harjoittelu hoitotyön perusteet	10	Centria-ammattikorkeakoulu	HYV	2015-03-30
<input type="checkbox"/>	Harjoittelu ikääntyneiden hoitotyö	10	Centria-ammattikorkeakoulu	HYV	2016-11-21




..and accept the transfer

post



## Finnish National Contact Point

 Kaisa Keränen | Logout  
Suomeksi | På svenska

[← Back](#)

### Personal information:

**Given names:** Kaisa Barbara

**Family name:** Keränen

**Personal Identity Code:** 180766-2213

**National Learner ID:** 1.2.246.562.24.17488477125

**Day of Birth:** 18.07.1966

**Gender:** Female

### Exportable achievements:

1 degree, 2 modules, 39 courses = 240 credits

Name	Credits	Organization	Evaluation	Registration date
Terveystieteiden (AMK)	240	Centria-ammattikorkeakoulu		2018-05-31
Asiakaslähtöinen hoitotyö	5	Centria-ammattikorkeakoulu	3	2015-04-17
Asiakkuusosaaminen hoitotyössä	5	Centria-ammattikorkeakoulu	3	2017-05-08
Avopalvelu hoitotyö	10	Centria-ammattikorkeakoulu	3	2017-05-29
Harjoittelu hoitotyö	5	Centria-ammattikorkeakoulu	HYV	2014-11-18
Harjoittelu hoitotyön perusteet	10	Centria-ammattikorkeakoulu	HYV	2015-03-30
Harjoittelu ikääntyneiden hoitotyö	10	Centria-ammattikorkeakoulu	HYV	2016-11-21

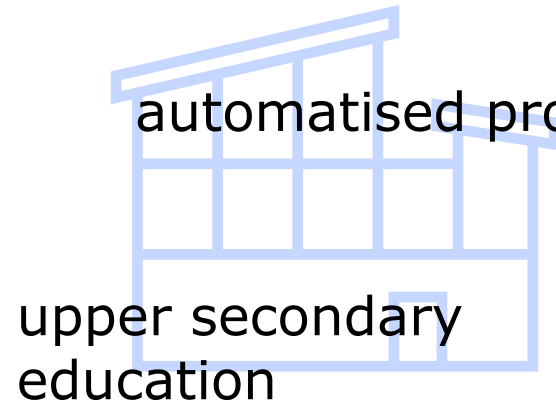
# More information

- [EMREX.eu, information and technical specification](#)
- [EMREX Service Finland](#)



# Use Case Scenario

# Student data



upper secondary  
education

prior learning

automatised processes

data access

technical  
interoperability

architecture

structured data

identity authentication

data maturity level



digital data

organisational  
interoperability

degrees

digitalisation in recognition

# data

data transfer  
agreements

academic & professional recognition



legal  
interoperability

higher education

descriptive data

artificial intelligence

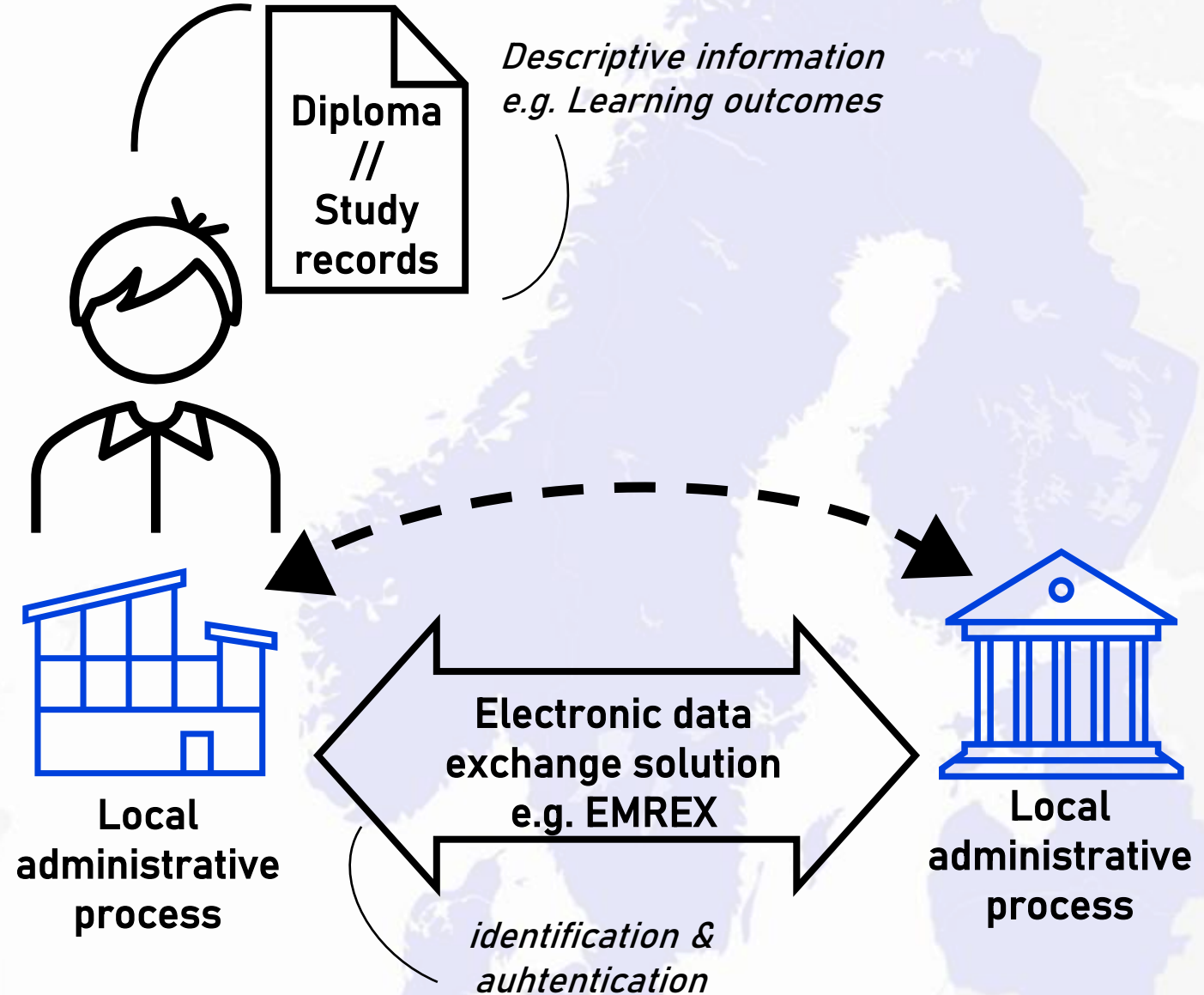
learning outcomes

semantic  
interoperability

# Use Case Scenario

A learner applies for studies through the application system of the target country. The learner shares his/her previous study record data to the target higher education institute (HEI) or upper secondary education institute by using an electronic data exchange solution.

In the use case, the learner must be identified, and his/her study record data includes descriptive information (e.g. learning outcomes, learning objectives).



# WP1: Studying in another Nordic-Baltic Country

DAY 1

Cross-Border Mobility  
Baseline study publication seminar  
30.11.-1.12.2021

## GOALS:

- Discuss the baseline study findings
- Build common understanding
- Start a concrete collaboration

THIS PROJECT CAN BE A "PUSH" FOR DEVELOPMENT ON EUROPEAN LEVEL, TOO!

"Student data flows with a person whenever wanted and it is always accessible."

(DREAM)

## VISION:

"The Nordic region will become the most sustainable and integrated region in the world in 2030."

## PROJECT AIMS 2021-2024

- Identify obstacles and create recommendations
- Build a Proof of Concept
- Expand existing networks, e.g. EMREX



STUDY DATA AVAILABLE (Upper Secondary)

- + Machine readable
- Descriptive information in English



EUROPEAN INTEROPERABILITY FRAMEWORK

## EMREX TRANSFERS

- WHAT? Decentralized system used for transferring study credits internationally
- Utilizes the ELMO XML schema
- 2 (+1) system components:
  - EMREX client EMC
  - Data access point EMP (EMREG)

EMREX.eu & EMREX service Finland

## EXAMPLE: EMREX EMP in Finland

- Uses national VIRTIA student information database
- Student is in control of data
- Most data is Finnish HEI's

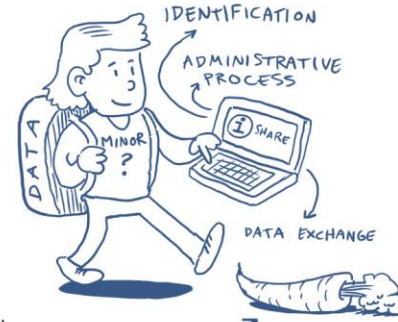
## COMMENTS & QUESTIONS

- What about countries that are not in the system?
  - we would need data converters
- In Norway we use EMREX for job recruitment (20 million NOK saved yearly)

## USE CASE SCENARIO

1. Learner applies for studies through the application system
2. Learner shares their previous study record data by using an electronic data exchange solution

- The youth is three times more capable of using these services
- They are also impatient and need to be motivated





FINNISH NATIONAL  
AGENCY FOR EDUCATION

# **WORKSHOP**

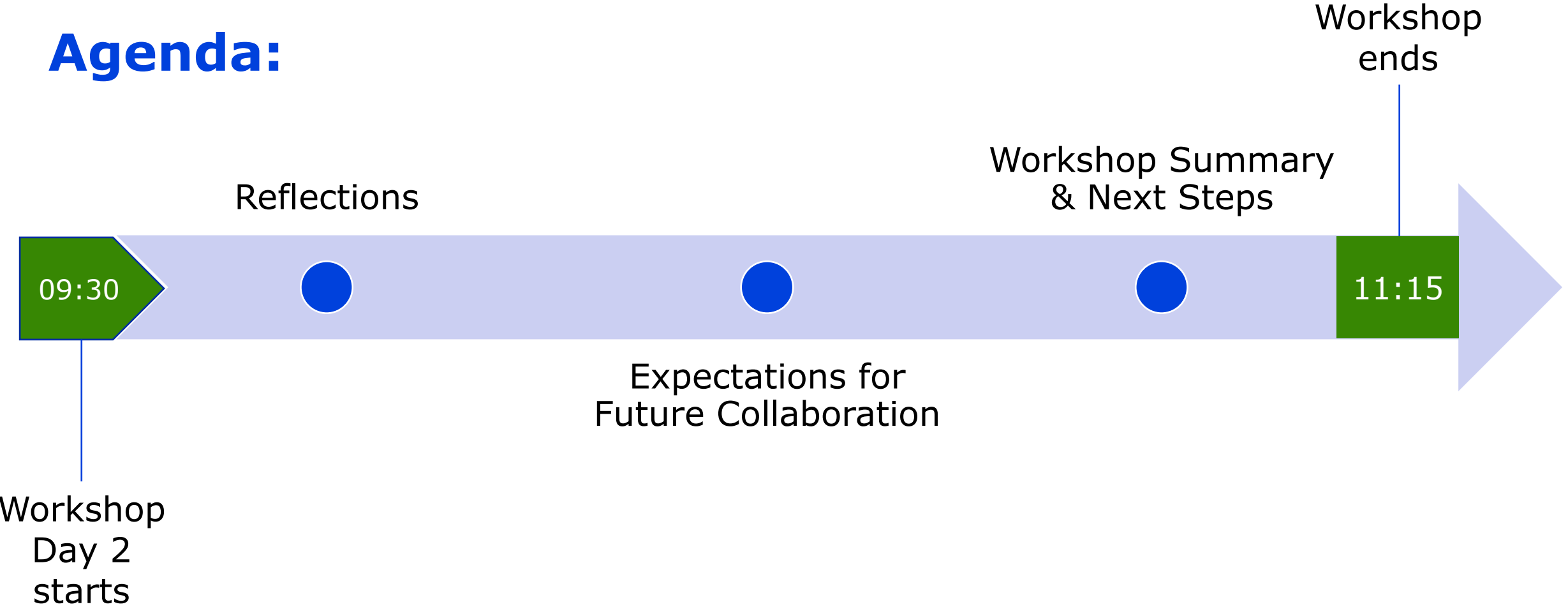
## **Studying in another Nordic-Baltic Country**

**1st December 2021 – DAY 2**



# Welcome to DAY 2 Workshop!

## Agenda:





# Reflections

The background features abstract, flowing shapes in vibrant green and blue. A thick green band curves from the top right towards the center, while a blue band curves from the bottom left towards the center. The two bands overlap and interact, creating a sense of movement and depth. The overall aesthetic is clean and modern.

# Round table discussion

- Which one of the sections of the European Interoperability Framework (EIF) should we put the most effort to?
- What would be the most beneficial in your point of view?

Section	Examples
<b>Organizational</b>	Networking, common direction
<b>Semantic</b>	Richer descriptive information, definitions
<b>Technical</b>	Technical interoperability
<b>Legal</b>	Data transfer agreements

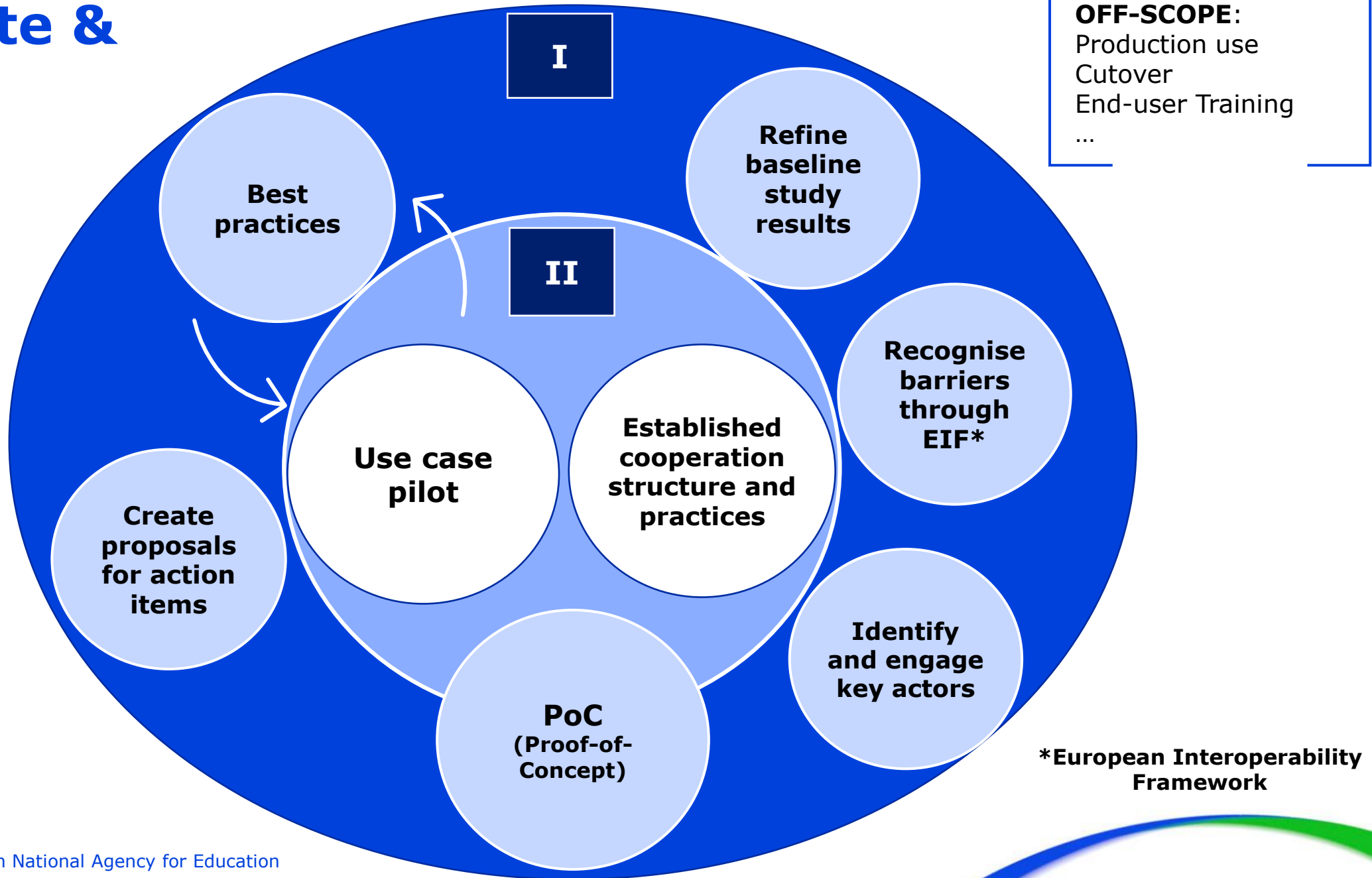


# **Expectations for Future Collaboration**

A decorative graphic consisting of two thick, wavy lines. One line is green and the other is blue. They overlap and curve across the bottom and right sides of the page, creating a sense of movement and flow.

# Goal State & Scope

- I** Goal State 1
- II** Goal State 2



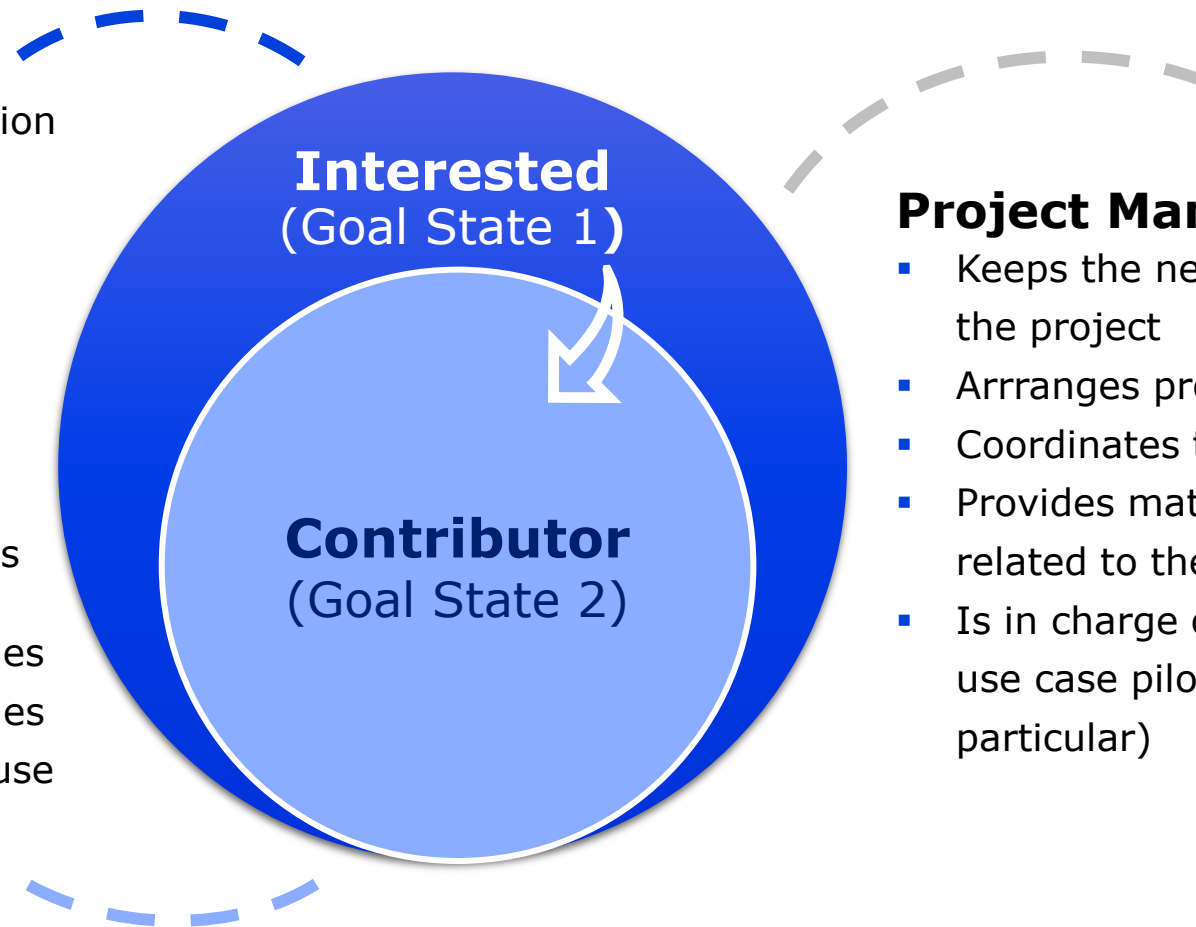
# Our Collaboration Network in practice

## Interested:

- Receives updates of the project
- As a contact point provides information related to the project scope
- Is welcome to participate in annual project activities
- Will hopefully become an active contributor at some point

## Contributor (in addition to previous list):

- Participates in annual project activities
- Participates in working group activities
- Contributes in POC planning and in use case pilot
- Joins TEAMS or other collaboration platform (tbd)



## Project Management:

- Keeps the network updated of the project
- Arranges project activities
- Coordinates the working group
- Provides material and report(s) related to the project
- Is in charge of resourcing (in use case pilot phase in particular)

# **Workshop Summary & Next Steps**

A decorative graphic consisting of thick, wavy lines in green and blue. The lines curve and overlap, creating a dynamic, abstract shape that frames the central text.

GOALS

- Discuss the baseline study findings
- Build common understanding
- Start a concrete collaboration

"THIS PROJECT CAN BE A 'PUSH' FOR DEVELOPMENT ON EUROPEAN LEVEL, TOO!"

"Student data flows with a person whenever wanted and it is always accessible."

VISION

"The Nordic region will become the most sustainable and integrated region in the world in 2030."

PROJECT AIMS 2021-24

- Identify obstacles and create recommendations
- Build a Proof of Concept
- Expand existing networks, e.g. EMREX



STUDY DATA AVAILABLE (Upper Secondary)  
+ Machine readable  
- Descriptive information in English

EMREX TRANSFERS

- WHAT? Decentralized system used for transferring study credits internationally
- Utilizes the EMD XML schema
- 2(+1) system components:
  - EMREX client Enc
  - Data access point EMP (EMREG)

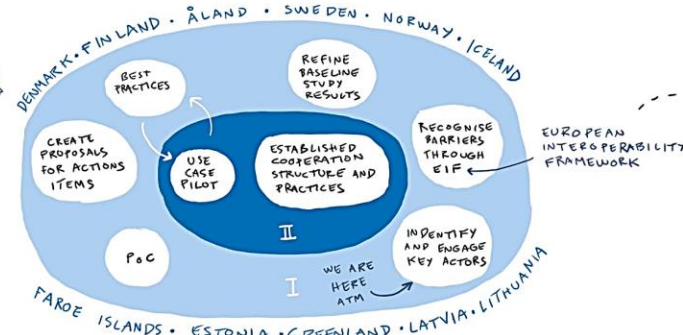
EMREX.eu & EMREX service Finland

EXAMPLE: EMREX EMP in Finland

- Uses national VIRTU student information database
- Student is in control of data
- Most data is Finnish HEI's

COMMENTS & QUESTIONS

- what about countries that are not in the system? → we would need data converters
- in Norway we use EMREX for job recruitment (200 million NOK saved yearly) → (20 million €)



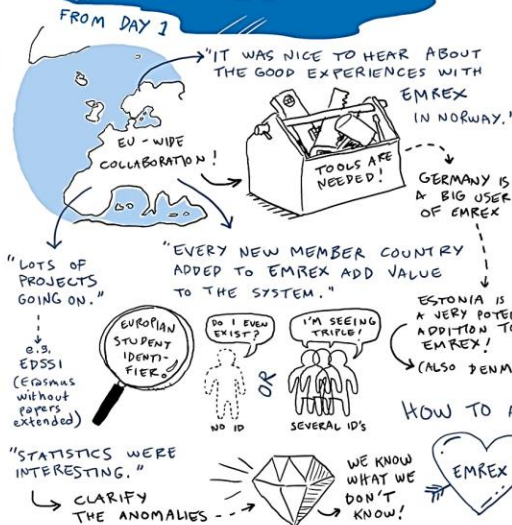
USE CASE SCENARIO

1. Learner applies for studies through the application system
2. Learner shares their previous study record data by using an electronic data exchange solution



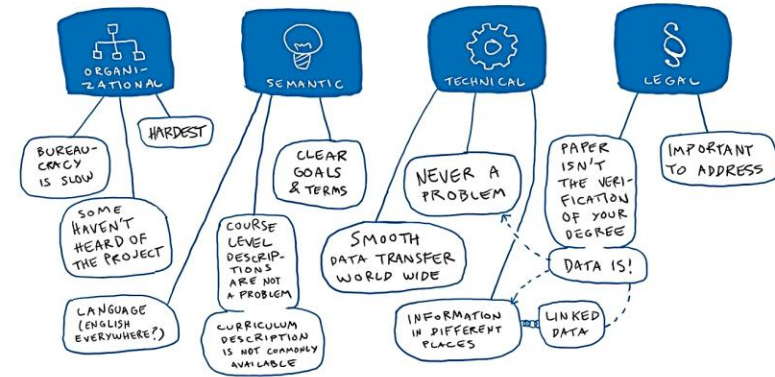
→ The youth is three times more capable of using these services  
→ They are also impatient and need to be motivated

REFLECTIONS

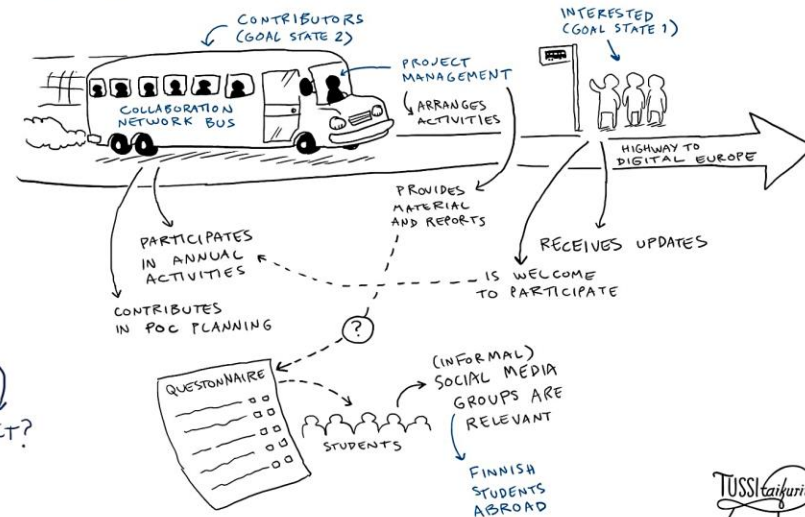


ROUND TABLE DISCUSSION

WHICH SECTION OF THE EIF SHOULD WE PUT THE MOST EFFORT TO?



EXPECTATIONS FOR FUTURE COLLABORATION



# Key takeaways for successful cross-border data exchange according to interviews and survey

- EMREX
- Solving legal issues and student identification across country borders
- A common interest and motivation
- Student holds the ownership of the data
- Clear responsibility management
- A common Nordic database for study records
- Requirements of GDPR fully observed
- Better communication between responsible parties



# Next Steps

- Primary way of communication is the project website ([link](#))
- Workshop's summary and next steps will be published in the newsletter 1/2022
- Building working groups and finding the right partners & networks



The background features abstract, flowing shapes in vibrant green and blue. A thick green band curves from the top right towards the center, while a blue band curves from the bottom left towards the center, creating a sense of movement and depth.

**Thank you!**



FINNISH NATIONAL  
AGENCY FOR EDUCATION

## Contact information:

### **Mrs Riikka Rissanen**

Project Manager

Finnish National Agency for Education

PB Box 380 (Hakaniemenranta 6) FI-00531 Helsinki, Finland

Tel. +358 295 331 059

E-mail: [firstname.lastname\(at\)oph.fi](mailto:firstname.lastname(at)oph.fi)

### **Mr Petteri Pulli**

Adviser

Finnish National Agency for Education

P.O. Box 380 (Hakaniemenranta 6), FI-00531 Helsinki, Finland

Tel. +358 295 331 996

E-mail: [firstname.lastname\(at\)oph.fi](mailto:firstname.lastname(at)oph.fi)