



tnc23

DIGITAL GENERATIONS

TIRANA, ALBANIA | 5-9 JUNE 2023

Worldclass education? Interoperability is key!

Enhancing education infrastructure and learner mobility through NRENs

Evelien Renders, SURF

Dragana Kupres, CARNET



Co-funded by
the European Union

| Why interoperability?

Why map internationally?

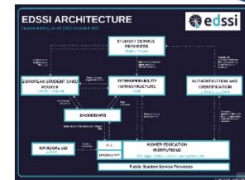
The European University Foundation aims to accelerate the modernisation of the European Higher Education Area. The Foundation focuses its action on five pillars and it stands for diversity and social fairness in Higher Education.



EUROPEAN COMMITTEE
FOR STANDARDIZATION



EDSSI



The EEA in the world
Learn more about the work of European Education Area Strategic Framework Working Groups on the external promotion of the EEA and collaboration with external partners.

Green education
Learn more about the work of European Education Area Strategic Framework Working Groups on green education.

Digital education
Learn more about the work of European Education Area Strategic Framework Working Groups on digital education.

Teachers, trainers and school leaders
Learn more about the work of European Education Area Strategic Framework Working Groups for teachers, trainers and school leaders.

Improving quality
Learn more about the work of European Education Area Strategic Framework Working Groups on improving quality and equity in education and training.



Micro credentials

EQF
ECTS



Groningen Declaration

OPEN BADGES



VC

Europass Learning Model



Erasmus+
EU programme for education, training, youth and sport



European Student ID



European Universities Initiative



....

EU level adoption example for HEI to the EIF model

Interoperability Governance



Legal Interoperability



Organisational Interoperability



Semantic Interoperability



Technical Interoperability

Integrated Public Service Governance

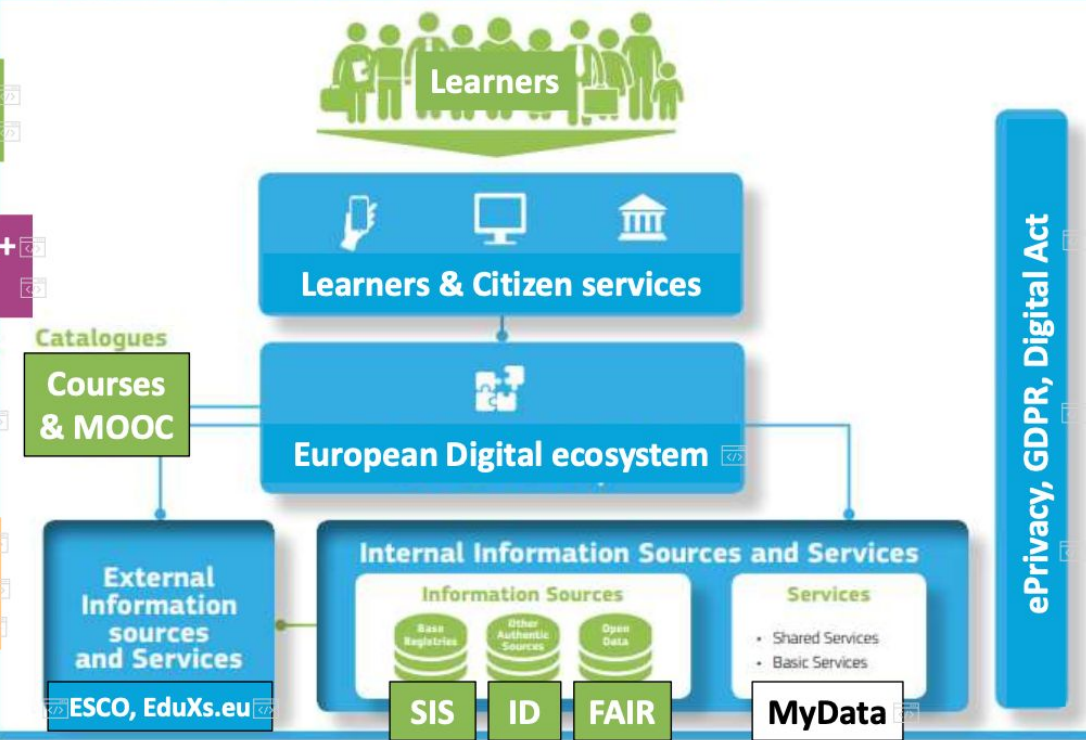
eIDAS
eWallet

Erasmus+
ISCED

ELMv3

EMREX
EDU-API
xAPI

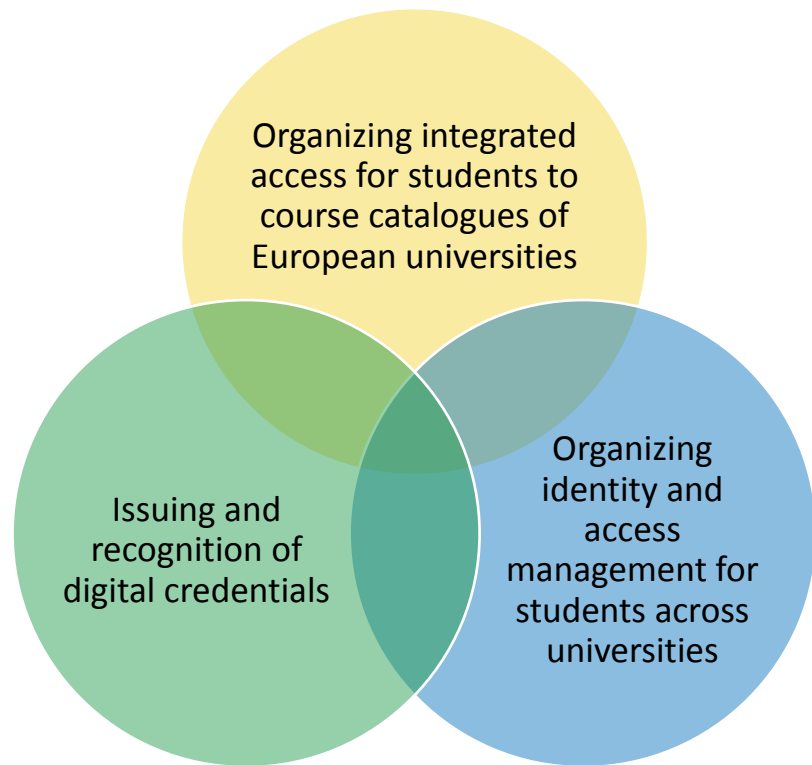
Integrated Public Service Governance



Interoperability Principles

Top 3 challenges student mobility

- a student's journey doesn't stop at the walls of the campus
- we waste public money, brainpower, and expertise by investing in point solutions
- fragmentation hinders a seamless student journey and hinders innovation.



October 2022: Clear to-do list

- Organize all relevant parties and responsibility
- Come up with a clear common vision
- Invest in all aspects of interoperability



Why Europe, why NRENs?

- Europe has shown its strength in collaboration and joint agreements.
- The European educational sector proved to be able to set a common agenda.
- European universities have a strong tradition of collaboration.
- Strong community of education institutions



| What are we working on?

Some European interoperability working groups



Interoperability Group

- 20 people | EU
- All educational sectors, but focus on higher ed (EUI)



Think Tank on Digital Ecosystem for Education

Think Tank

- 17 people | EU focus
- Ecosystem focus

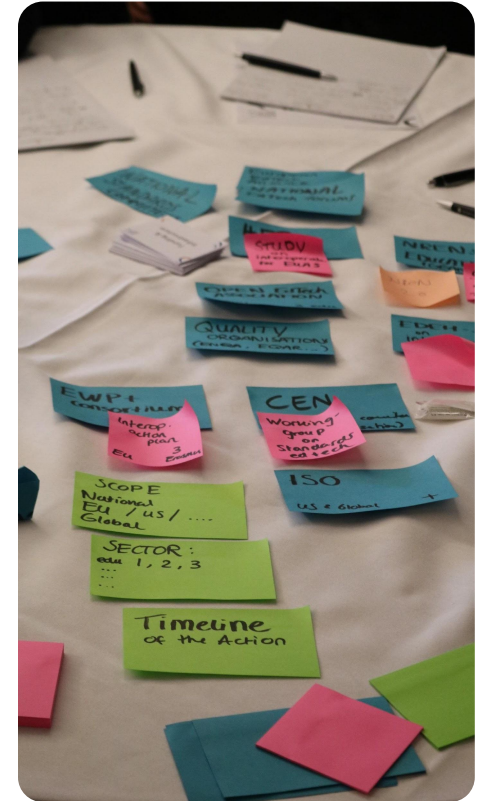


NRENs for Edu-pilot

- Proposal being discussed right now
- 8 NRENs involved



Workshop Interoperability November 2023 for European Digital Education Hub in Berlin



Gathering feedback

1. Concept
2. Process of gathering feedback
3. Content
4. Follow-up steps
5. Ownership



Organisation name	Country	Scope	Working on	Vision summary	Involvement TT	Motivation	Remarks
EUNIS		HE					1. 'hosts' the think tank, Core group (Pekka, Gill, and Ch
HFD		HE					2. Core group (Channa)
1Edtech		K12, VET, HE		Mission for 2023 is trusted edte			2. Core group (Gill)
SURF		VET, HE					2. Support by Danielle, Core group (Evelien, Christien)
European EdTech Alliance	EU						
Open EdTech Association	Global	LLL, but the HEIs will drive education forward	OER (standards & quality), Edtech (R&D, developing)				
CEN	EU						
GÉANT	EU	Provides services + coordinates NRENs	eduGAIN, MyAcademicID, OCRE, etc				
SWITCH	CH	NREN, HE					
EDEH	EU						
DAAD	DE						
CEDEFOP	EC	VET	Helping develop the right policies to provide the right skill				
EBP	MSs+LI+NO+U/	Cross-sectoral/domain	EBSI, eSSIF, Diploma Use Case (II levels/type of education, educational credentials), Social Security, SME, Notarization, Traceability				
DG-EAC	EC	Primary, Secondary and Tertiary	Internalizing all EWP services, European Skills Data Space, EEA				
DG-EMPL	EC	Adult and TVET	EQF, ELM, Europass				
DG-GROW	EC	Single Market for goods and services	SDG, OOTS. Manages the implementation of the Single Market Programme (4.2 billion EUR from 2021 to 2027), HADEA is linked to GROW				
DG-CNECT-H4	EC	As per today; eIDAS	eIDAS review, including (Q)EAAs				
DG-CNECT-F3	EC	As per today; EBSI and DMA	eSSIF, Verifiable Credentials				
DG-DIGIT	EC	Building Blocks	Supporting all DGs				
DG-RTD	EC	Research	ERA				
DG-JRC	EC	Skills' Frameworks; Technology innovation	DigComp, DigComp.edu , DigComp.Org, EntreComp, GreenComp, EthComp, etc.				
GAIA-x		Industry lead initiatives	Identity framework; Data Spaces				
MyData							
SEMIC	EC	The SEMIC Support Centre is the first step	Interoperable Europe Act				
CEN-CENELEC	Association						Its deliverab
IEEE							
ISO							
ETSI							
W3C	International community		Verifiable Credentials (next gen for digital credentials)				
OECD	Global	Cross-sectoral	advancing OECD standards, through membership and partnerships a	Building the future of education	SURF will plan an introductory meeting with Dirk van De		
UNESCO	Global	Cross-sectoral					
IETF	Global						

GÉANT TF-EDU: edu services 2023 survey findings

TF EDU surveys 2019-2023

Edu services =

- services for teaching and learning
- services for administration of education institutions

Digital Learning
Environments

Student
Management
Systems

Online, Blended
and
Remote Delivery
of Education

Providing e-
Content

Video
Conferencing for
Education

T&I for
Education

Open Badges,
Digital
Credentialing

NREN-built
Digital Learning
Tools

Educational Data
Mining and
Analytics

Learning
Analytics

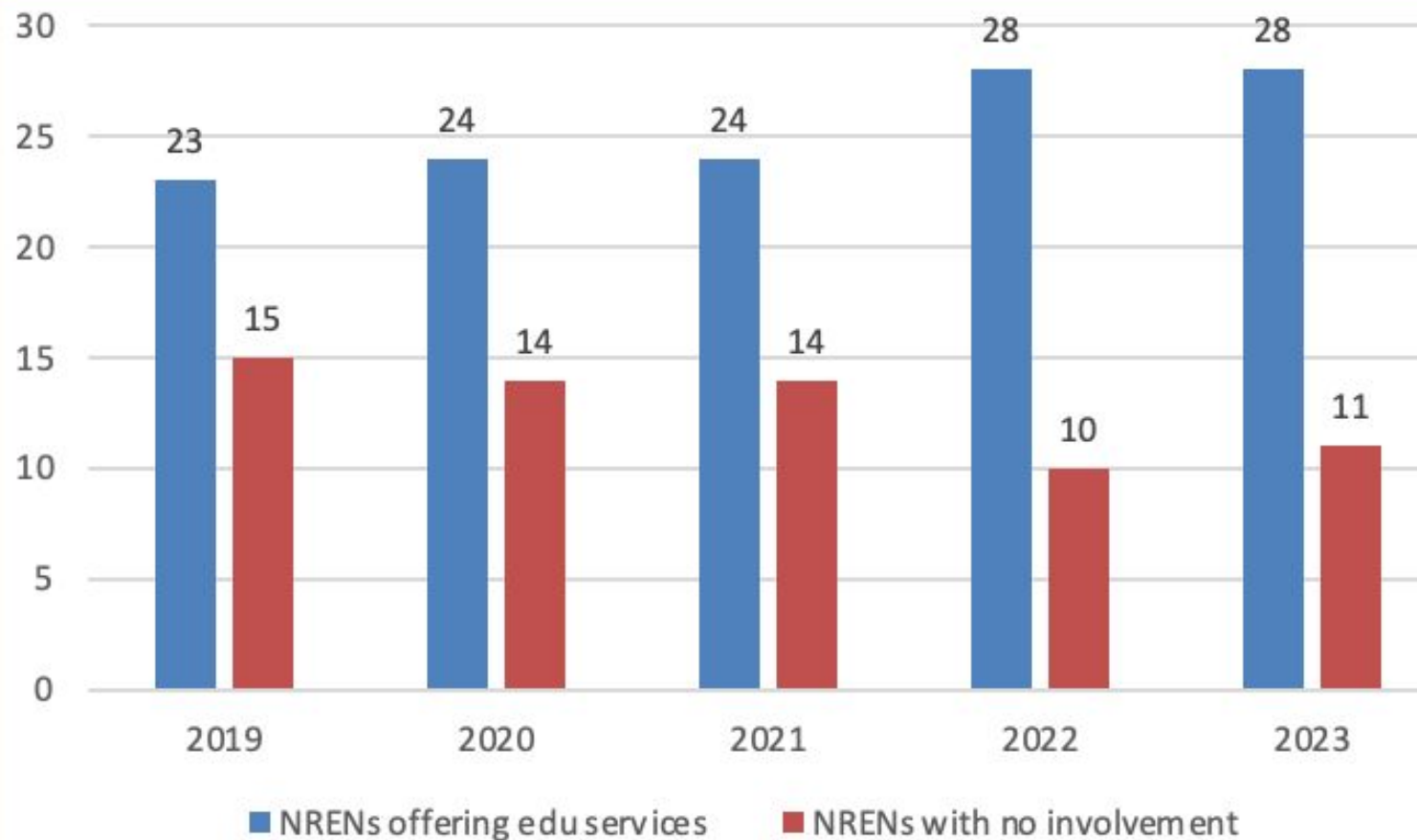
Digital
Assessment and
Testing

Support for off-
shore students

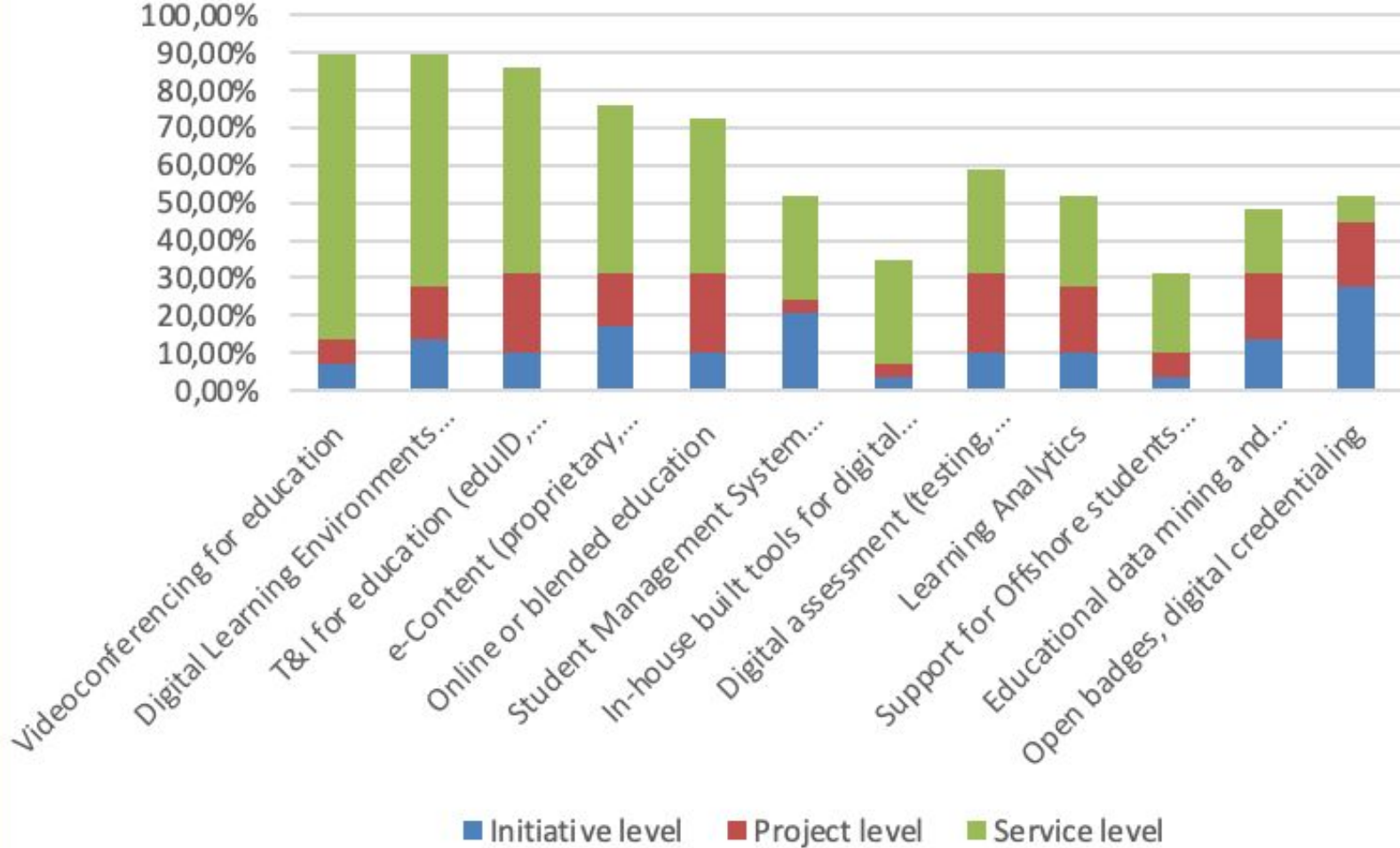
NRENs offering edu services

Data source: TF-EDU survey
2019-2023

Graph: Jasna Tingle



Edu services maturity level

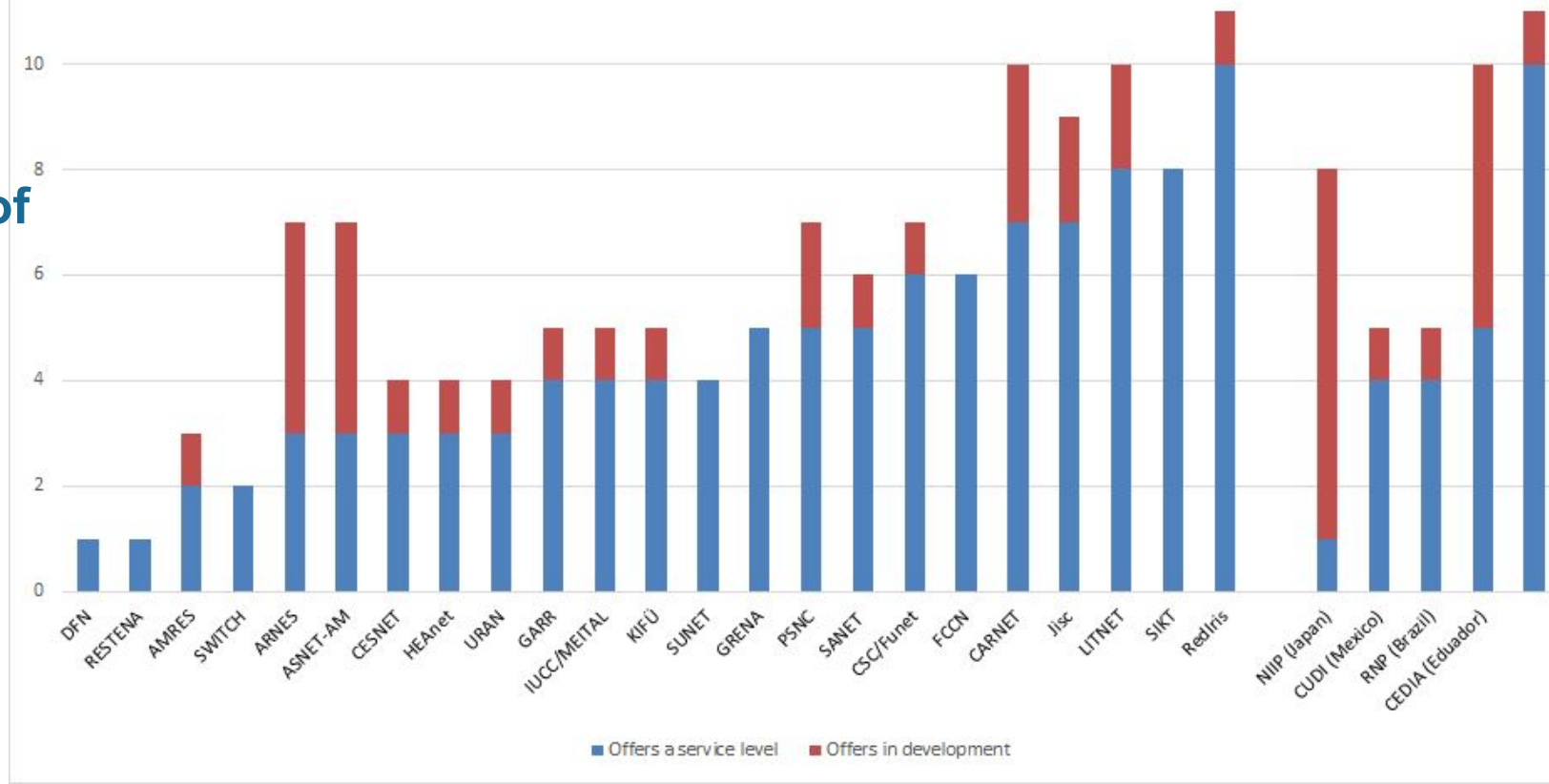


Data source: TF-EDU survey 2023

Graph: Jasna Tingle

Number of edu services

provided and in development / by NREN



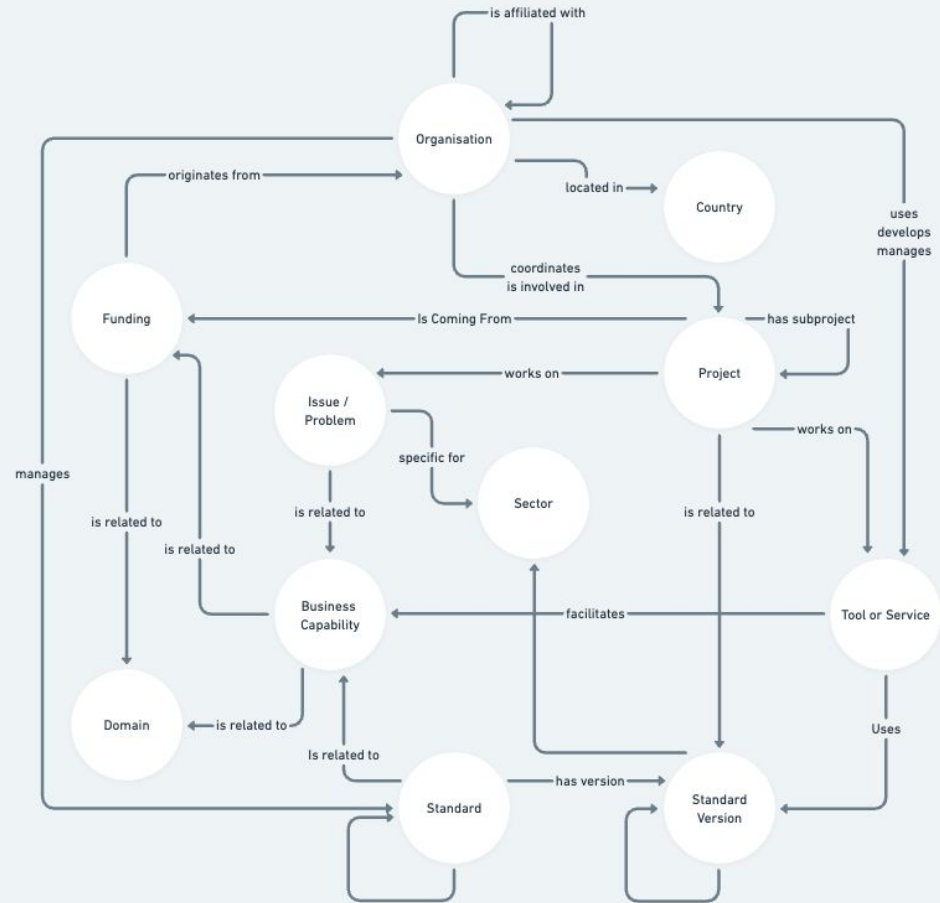
Data source: TF-EDU survey 2023

Graph: Daniel Wustenberg

| Who is working on what?

EduXS data model

- Work in progress
- see www.EduXS.eu for a link to the database and wireframe



Challenge ^

Projects ^

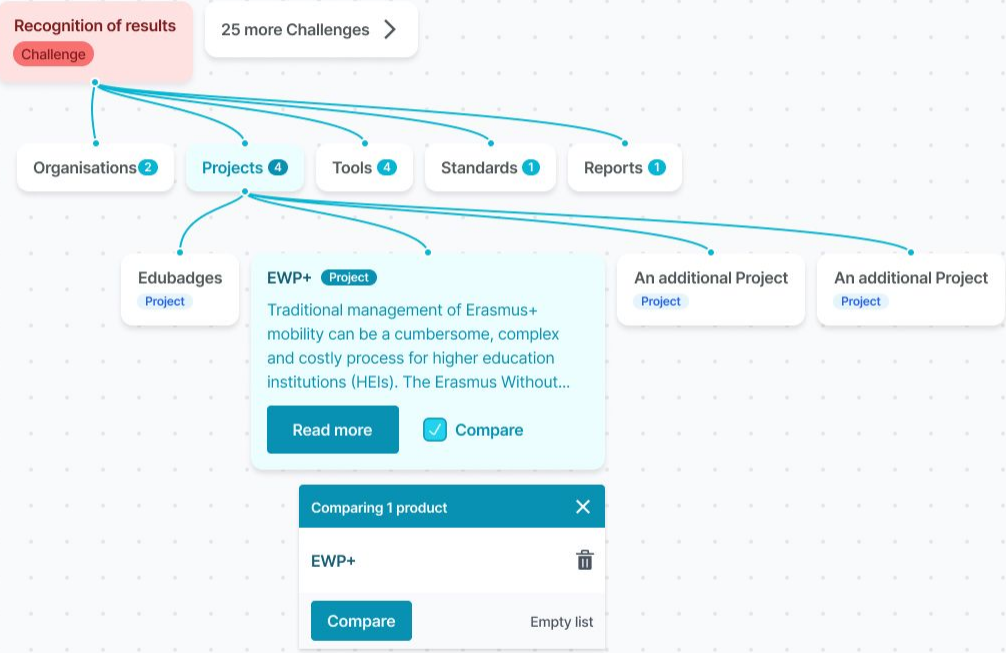
Goals v

Projects v

Tools v

Funding v

Theme Educational content v



Views

Project overview

1 hidden field

Filter

Group

Sort

Color

Share view

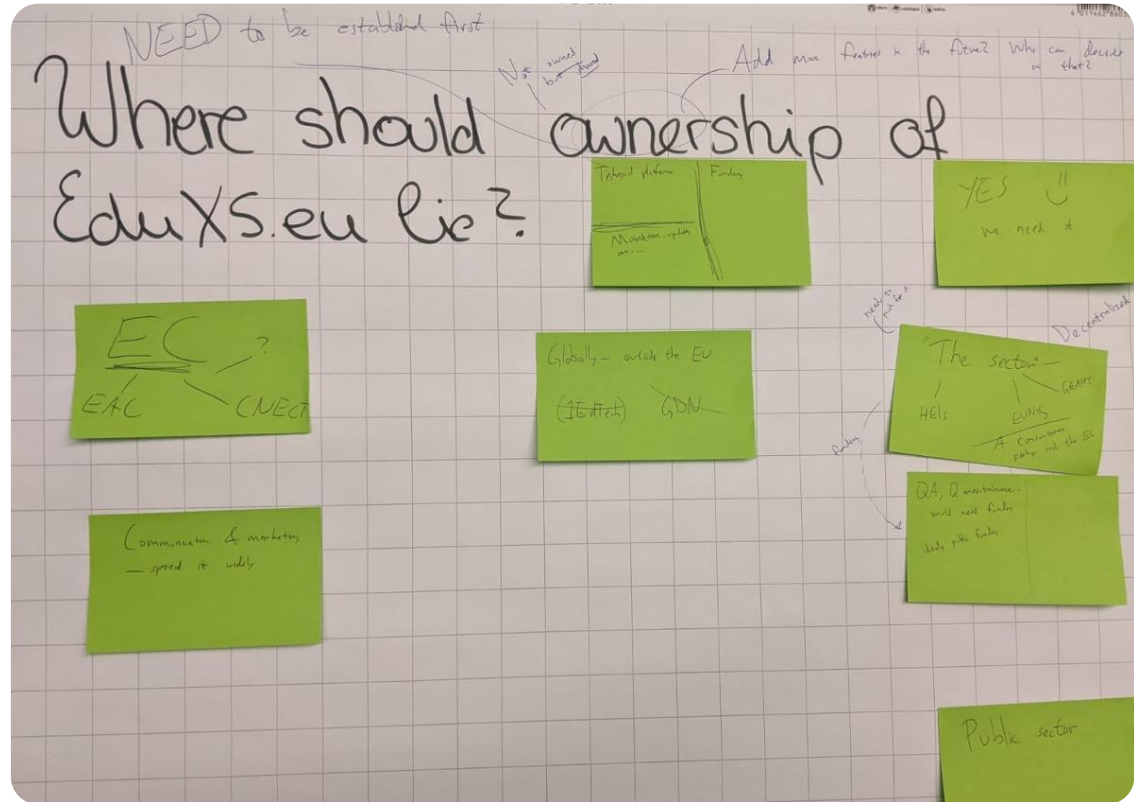
	ID: Abbreviation pro	Name	Description/Goal/Aims	Type	Start d...	End d...	Scale	URL	is sub-project of ...
1	ESVA	eSignature Validator for Acade...	The ESVA project aims to devel...		2021	2023	EU	https://esva-project.eu/	
2	EDSSI	European Digital Student Servic...	The European Digital Student S...	Standardisation initiative	2020	2022	EU		
3	EWP 2.0	Erasmus without paper 2.0	The Erasmus Without Paper pr...		2018		EU		
4	ESCI	European Student Card Initiative	The European Student Card Init...	Programme			EU		
5	EDSSI 2	European Digital Student Servic...	EDSSI L2 intends to further har...	Standardisation initiative			EU		
6	ESC	European Student Card	aim is: transforming current stu...				EU		ESCI
7	OLA+	Online Learning Agreement 1.0	Online Tool for Learning Agree...		2017	2019	EU	https://uni-foundation.eu/...	
8	OLA 3.0	Online Learning Agreement 3.0			2019	2021	EU	https://uni-foundation.eu/...	
9	eIDAS	european Identity	1999/93/EG Nr. 910/2014	Regulation					
10	PIM	Platform for International Mobility	"Recognition platform" tool for...				National	https://pim-platform.de/...	
11	MyAcademicID	MyAcademicID	delivered on the core promise t...						
12	eduXchange	pilot Student Mobility	Taking courses at other instituti...	Standardisation initiative					
13	EWP 1.0	Erasmus Without Paper 1.0	Development of proof of concep...		2015	2017	EU		
14	EMREX-2	Expanding the EMREX network t...	Industrializing the EMREX regis...	Standardisation initiative	2020	2021	Global	https://emrex.eu/vietsch-f...	
15	Acceleration plan	Education innovatn with ICT	39 universities (of applied scie...	Programme	2019	2022	National	https://www.versnellingsp...	
16	Edubadges	Edubadges	Edubadges aim to make higher ...	Standardisation initiative	2016			edubadges.nl	
17	EMREX	EMREX-project	The purpose of EMREX, with its...	Standardisation initiative	2015	2017	EU	www.emrex.eu	
18	EWP+	Erasmus without paper +	Traditional management of Era...	Standardisation initiative	2022	2028	EU	https://erasmus-plus.ec.e...	ESCI
19	IDUnion project	IDUnion project	German IDUnion project, resear...				National		
20	OZG (1.0)	Online Zugangsgesetz (Online ...		Regulation			National	https://www.onlinezugang...	
21	SDG	Single Digital Gateway					EU		
22	DIGIZ 1.0	Projekt Digitales Zeugnis	Field test for German digital up...	Implementation project			National	https://www.digiz.nrw/	OZG (1.0)
23	XBildung		The aim of the project is for act...					https://xbildung.de/web/	OZG (1.0)
24	XHochschule		The XHochschule project aims ...	Standardisation initiative			National	https://www.xhochschule...	XBildung
25	EBSI	European Blockchain Services I...	One of a few initiatives that trie...	Standardisation initiative			EU	https://ec.europa.eu/digit...	
26	DigiVis 2020	DigiVis 2020	In the DigiVis 2020 program...	Implementation project	2022	2026	National	https://digi-vis-2020.fhn...	

Example: For admission of students - OOAPI, eduAPI, OCCAPI

See overview about OOAPI: <https://airtable.com/shrwuS10Fdxkiih2Z>

<p>OOAPI</p> <p>NAME</p> <p>Open Onderwijs-API</p> <p>DESCRIPTION</p> <p>OOAPI is a set of definitions that allows software programmes to communicate with each other. It serves as an interface between ...</p> <p>TYPE</p> <p>Data exchange</p> <p>BASIS</p> <p>SCALE [TAG]</p> <p>National</p> <p>MANAGED BY (ORGANISATION)</p> <p>SURF</p> <p>CORE CAPABILITIES</p> <p>Organisation of education</p> <p>Settin</p> <p>NL PRIO</p> <p>CONTACTS</p> <p>Ronald Ham</p>	<p>EDU-API</p> <p>NAME</p> <p>EDU-API</p> <p>DESCRIPTION</p> <p>The proposed EDU-API specification will allow for the standardized exchange of data between the transactional ...</p> <p>TYPE</p> <p>Data exchange</p> <p>BASIS</p> <p>SCALE [TAG]</p> <p>Global</p> <p>MANAGED BY (ORGANISATION)</p> <p>1EdTech</p> <p>CORE CAPABILITIES</p> <p>Organisation of education</p> <p>Exec</p> <p>NL PRIO</p> <p>CONTACTS</p> <p>Ronald Ham</p> <p>Mark de Jong</p>	<p>OCC-API</p> <p>NAME</p> <p>Course Catalogue API (EWP)</p> <p>DESCRIPTION</p> <p>The Open Course Catalogue API specification aims to standardize the way in which Higher Education Institutions expose ...</p> <p>TYPE</p> <p>Data exchange</p> <p>BASIS</p> <p>independent</p> <p>SCALE [TAG]</p> <p>EU</p> <p>MANAGED BY (ORGANISATION)</p> <p>EUF</p> <p>CORE CAPABILITIES</p> <p>Organisation of education</p> <p>NL PRIO</p> <p>CONTACTS</p>	<p>ELM</p> <p>NAME</p> <p>European Learning Model</p> <p>DESCRIPTION</p> <p>The Europass Learning Model aims to capture the results of any non-formal and formal learning across Europe, as well as the ...</p> <p>TYPE</p> <p>Data model</p> <p>Vocabulary</p> <p>BASIS</p> <p>SCALE [TAG]</p> <p>EU</p> <p>MANAGED BY (ORGANISATION)</p> <p>EDC</p> <p>CORE CAPABILITIES</p> <p>NL PRIO</p> <p>CONTACTS</p>	<p>ELMO</p> <p>NAME</p> <p>European Learner Mobility Obje...</p> <p>DESCRIPTION</p> <p>ELMO is a data format for the exchange of (education) result information. ELMO is an implementation of the European...</p> <p>TYPE</p> <p>Data model</p> <p>BASIS</p> <p>industry/sectoral standard</p> <p>SCALE [TAG]</p> <p>EU</p> <p>MANAGED BY (ORGANISATION)</p> <p>EMREX EC</p> <p>CEN</p> <p>CORE CAPABILITIES</p> <p>NL PRIO</p> <p>CONTACTS</p>	<p>ECTS</p> <p>NAME</p> <p>European Credit Transfer Syste...</p> <p>DESCRIPTION</p> <p>is not a standard in itself but a tool of the European Higher Education Area (EHEA) for making studies and courses mo...</p> <p>TYPE</p> <p>Basic regulation</p> <p>BASIS</p> <p>SCALE [TAG]</p> <p>EU</p> <p>MANAGED BY (ORGANISATION)</p> <p>CORE CAPABILITIES</p> <p>NL PRIO</p> <p>CONTACTS</p>	<p>Schema.org</p> <p>NAME</p> <p>Schema.org</p> <p>DESCRIPTION</p> <p>Parts of schema.org are widely used to publish course and occupation data. Schema.org is a collaborative, ...</p> <p>TYPE</p> <p>Vocabulary</p> <p>BASIS</p> <p>independent</p> <p>SCALE [TAG]</p> <p>Global</p> <p>MANAGED BY (ORGANISATION)</p> <p>W3C</p> <p>CORE CAPABILITIES</p> <p>NL PRIO</p> <p>CONTACTS</p>	<p>OAS Open API Specificati...</p> <p>NAME</p> <p>Open API Specification</p> <p>DESCRIPTION</p> <p>The OpenAPI Specification is a specification language for HTTP APIs that provides a standardized means to define your API to ...</p> <p>TYPE</p> <p>Data model</p> <p>BASIS</p> <p>independent</p> <p>SCALE [TAG]</p> <p>Global</p> <p>MANAGED BY (ORGANISATION)</p> <p>Linux Foundation</p> <p>CORE CAPABILITIES</p> <p>Setting up data interaction</p> <p>NL PRIO</p> <p>CONTACTS</p> <p>Erwin Reinhoud</p>
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- Sectorwide?
 - Key stakeholders
 - Role of European Commission
- Governance?
 - Technical platform
 - Content maintenance
 - Funding



Timeline EduXS

- April – June 2023:
 - EduXS.eu data model
 - Data solidification
 - Views for Edustandaard, Edu-V and Npuls
- August – September 2023:
 - Public views accessible via www.eduxs.eu
 - Private views shared with specific people
 - September onwards....
- Governance? Funding? Review cycle?

| Narrative around interoperability

Why is interoperability key?

SURF programme international interoperability for education. Together with graphic designer, Dirma Janse.

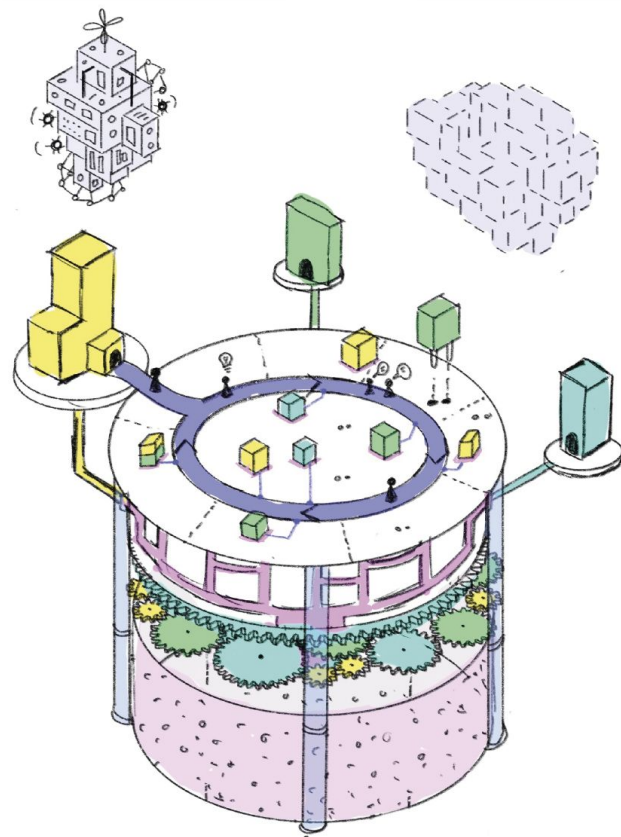
! NOT PUBLIC YET - DO NOT SHARE !

Current iteration, comments in Miro are welcome!

https://miro.com/app/board/uXjVMIto1Sc=/?share_link_id=314293571174

Background - first iteration of sketches:

https://miro.com/app/board/uXjVMLZfmw8=/?share_link_id=602890035855



Visualisatie: Dirma Janse, in opdracht van SURF

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Thank you

Any questions?



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