

Mobility scenarios supported by the Erasmus Without Paper Network

Janina Mincer-Daszkiewicz – University of Warsaw

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Agenda

- Erasmus Without Paper Project 2.0.
- State of development of the EWP Network.
- Examples of mobility scenarios supported by the EWP Network
 - Starting mobility with a new partner.
 - Interinstitutional Agreement.
 - Nominations.
 - Transcripts of Records.
- How to join the EWP community.
- Summary.



Erasmus Without Paper Project 2.0

- Funded by the Erasmus+ Programme, Key Action 3, years 2018-2019.
- Basing on the results of EWP 1.0, aims at building the sustainable infrastructure for digitized exchange of mobility data.
- Various pieces of the puzzle:
 - The EWP Network.
 - Connectors for SISs developed at home, by national consortia, by commercial providers.
 - The HUB (Dashboard) for the others.
 - Competence Center to help with dissemination and development.
 - Open source University Alliance to share code.



EWP Network

- Fully designed and specified.
- Specification publicly available in Github.
- Developers Guide.
- Supporting tools for developers.
- Reference connector.
- Two stable DEMO environments for independent testing.
- DEV Registry and PROD Registry.
- EWP Network up and running in development environment.
- Launch in production environment planned for December 2018.



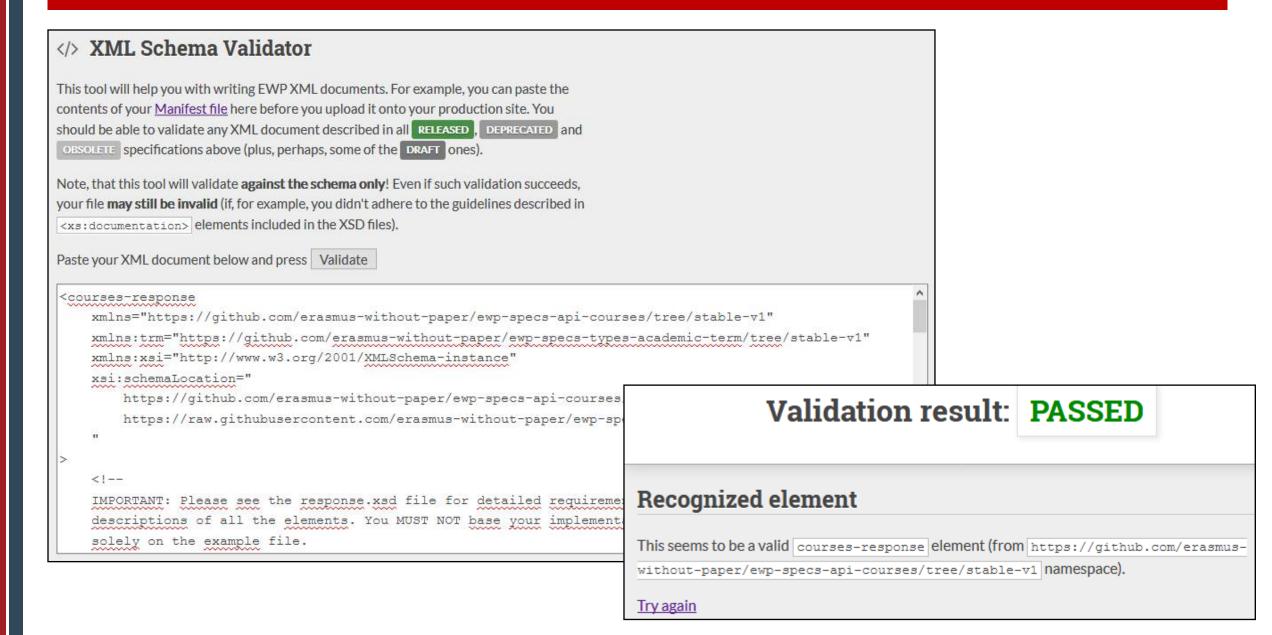
Developers Guide http://developers.erasmuswithoutpaper.eu

erasmus without paper	Specifications, Validators and Tools					
	Who should be reading this? The following chapters and tools are written by developers and for developers. If you're a					
	project manager, then please assign developer(s) from your team to keep track of the changes in these specifications. Developers chosen by the partners SHOULD:					
	 Understand Git and be able to work with it fluently, in order to continually keep track and review all the changes to the specifications. Have significant experience with XML namespaces, and XML Schema language. 					

H Chapter 1. Working with EWP Technical Documentation v120 Chapter 2. Introduction to EWP Network + Chapter 2.1. Architecture and Common Datatypes v1.10.0 + Chapter 2.2. Authentication and Security v202 Chapter 2.3. Client Authentication Methods ← Chapter 2.3.2. Authenticating Clients with TLS Certificate 11.10 H Chapter 2.3.3. Authenticating Clients with HTTP Signature 101 Chapter 2.4. Server Authentication Methods

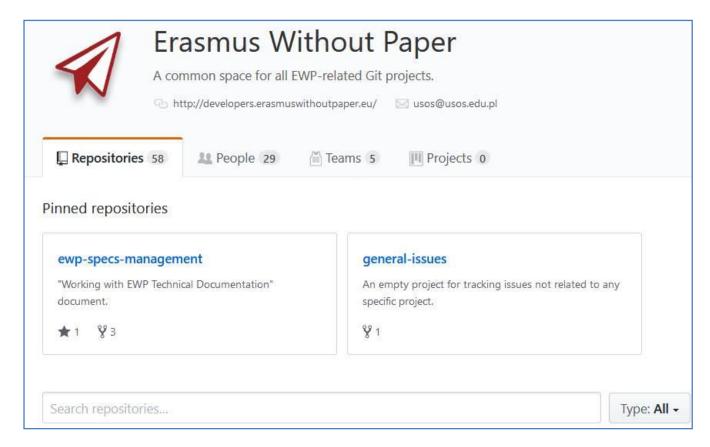
Validation result: NOTICE Security **ECHO API Validator** (performs thousands of tests) **Basic information** • URL of the Echo API being tested: https://ewp.demo.usos.edu.pl/ewp/echo Datetime validation started: 2018-06-03T11:56:57.751Z Datetime client keys regenerated: 2018-05-09T06:30:52.232Z (2179565 seconds before validation) Tests performed Check if our client credentials have been served long enough. SUCCESS Verifying the format of the URL. Expecting a valid HTTPS-scheme URL 111. Trying Combination[PHHTT] POST request with a list of echo values [a, b, a], plus SUCCESS an additional GET echo=c&echo=c parameters. Expecting the GET parameters to Verifying if the URL is properly registered. be ignored. (It's a POST request, so all parameters are passed via POST body.) Querying for supported security methods. Validating http-security inte Details (click me) Trying Combination[PHHTT] with additional "gzip" added in Accept-Encoding. NOTICE Expecting the same response, but preferably gzipped. The client explicitly accepted gzip, but the server didn't compress its response. That's not an error, but it might be useful to support gzip encoding to save bandwidth. Details (click me) Try again

Schema Validator



GitHub https://github.com/erasmus-without-paper

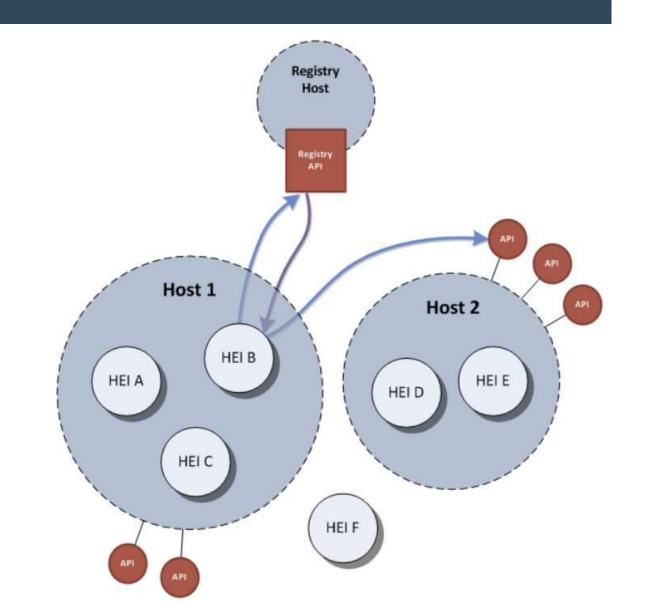
- Specifications
- Common data types
- Communication protocols
- XSD schemas
- •Examples of requests and responses in XML
- Libraries of code



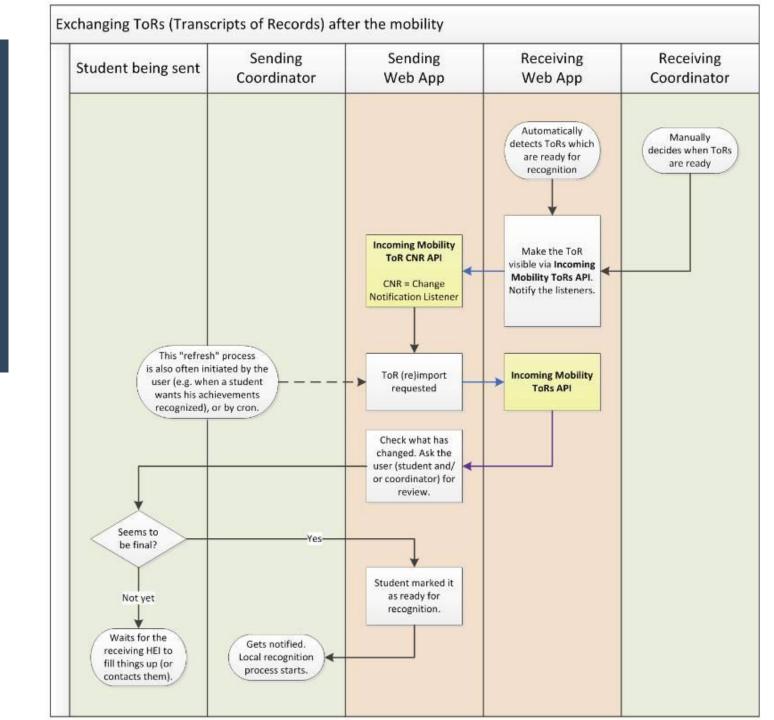


GitHub EWP Network Architecture

- •APIs with various endpoints
 - •Get
 - •Index
 - Update
- •CNR APIs
- Data masters



GitHub Mobility process explained on flowcharts





DEV Registry Service

An alternative instance of the EWP Registry Service intended to be used for development See "Development environment" chapter in the Architecture document

At the following URL you will find the XML catalogue which describes all the institutions and APIs exposed by them:

https://dev-registry.erasmuswithoutpaper.eu/catalogue-v1.xml

This catalogue is continously refreshed. Read the Architecture document for more information. Also check out the Developers Hub for useful tools and documents.

Uptime ratios

100.00% - 24 hours

100.00% - 7 days

100.00% - 30 days

99.99% - 365 days

Manifest Importer Status | HEI/API Coverage Matrix |

EWP Developers Hub

DEV Registry Manifest files

```
-<ns9:imobility-tor-cnr version="0.1.0">
   -<ns9:http-security>
     -<ns2:client-auth-methods>
         <ns17:tlscert allows-self-signed="true"/>
         <ns18:httpsig/>
       </ns2:client-auth-methods>
     -<ns2:server-auth-methods>
         <ns36:tlscert/>
         <ns37:httpsig/>
       </ns2:server-auth-methods>
     </ns9:http-security>
     <ns9:url>https://ewp.demo.usos.edu.pl/ewp/tors/cnr</ns9:url>
     <ns9:max-omobility-ids>10</ns9:max-omobility-ids>
   </ns9:imobility-tor-cnr>
 </ns39:apis-implemented>
-<ns38:institutions-covered>
 -<ns39:hei id="demo.usos.edu.pl">
     <ns39:other-id type="erasmus">PL WARSZAW01</ns39:other-id>
     <ns39:other-id type="pic">999572294</ns39:other-id>
     <ns39:name xml:lang="pl">Uniwersytet Warszawski</ns39:name>
     <ns39:name xml:lang="en">University of Warsaw</ns39:name>
   </ns39:hei>
 </ns38:institutions-covered>
-<ns38:client-credentials-in-use>
 -<ns38:certificate>
     MIIDcTCCAlmgAwIBAgIEKYg+WjANBgkqhkiG9w0BAQsFADBpM
     VQQKEwdVbmtub3duMRAwDgYDVQQLEwdVbmtub3duMQ0wCw
     DTE3MDMzMDA5MTI1OVoXDTE5MTIyNTA5MTI1OVowaTEQMA
```



erasmus **DEV** Registry Service

Manifest Importer Status

Currently defined manifest sources and their statuses:

https://dev-registry.erasmuswithoutpaper.eu/manifest.xml	OK	details	reload now
https://ewp.demo.usos.edu.pl/ewp/manifest	ОК	details	reload now
https://ewp-hei.demo.usos.edu.pl/ewp/manifest	ОК	details	reload now
https://erasmuswithoutpaper.sigmaaie.org:1453/UPF_HOST.xml	ОК	details	reload now
https://www.service4mobility.com/europe_test/ewp/manifest?api=all	Error	details	reload now
https://www.service4mobility.com/mobility_test/ewp/manifest?api=all	ОК	details	reload now
https://ewp.its.umu.se/ewp-reference-connector/rest/manifest	ОК	details	reload now
https://ewp-test.its.umu.se/ewp-reference-connector/rest/manifest	ОК	details	reload now
https://qas.ewp.ugent.be/public-api/discovery/manifest.xml	ОК	details	reload now
https://ewp.up.pt/rest/manifest	ОК	details	reload now
https://fsweb-demo.uio.no/ewp/manifest	ОК	details	reload now
https://unisa.esse3.qa.cineca.it/ewp/Manifest.do	ОК	details	reload now
https://authewp.it.auth.gr/public-api/discovery/manifest.xml	ОК	details	reload now
https://unizone-evaserver.herokuapp.com/ewp/manifest.xml	ОК	details	reload now

(write us to add yours)

DEV Registry – HEI/API Coverage Matrix

HEI/API Coverage Matrix

	G	eneral Pu	ırpose AF	Pls	IIAs			OMobilities				IMobilities			IMobility ToRs		
Institution	Parada annuali	ounits		course	ver.	CNR		ver.	update	CNR			CNR			CNR	
	inst.	Outlits	courses	replic.		sends	recv.	ver.	types	sends	recv.	ver.	sends	recv.	ver.	sends	recv.
sop-at.at	2.0.0	2.0.0															
vorlage.sop-at.at	2.0.0	2.0.0															
ugent.be	2.0.0	2.0.0						0.12.1	NNN	yes	0.4.0						
upf.edu	2.0.0	2.0.0	0.7.0		2.0.0	no		0.12.1	NNN	no					0.7.0	no	
uni.gl																	
auth.gr																	
unisa.it	2.0.0	2.0.0	0.7.0														
pomodoro.university.it	2.0.0	2.0.0	0.7.0	1.0.0	2.0.1	yes	2.0.1	0.12.1	YYN	yes	0.4.0	0.1.0	yes	0.1.0	0.7.0	yes	0.1.0
ntnu.no	2.0.0	2.0.0	0.7.0	1.0.0	2.0.0	no											
uio.no	2.0.0	2.0.0	0.7.0	1.0.0	2.0.0	no											
demo.usos.edu.pl	2.0.0	2.0.0	0.7.0		2.0.0	yes	2.0.1	0.13.0	NNY	yes	0.4.0	0.1.1	yes	0.1.0	0.7.0	yes	0.1.0
hei.demo.usos.edu.pl	2.0.0	2.0.0	0.7.0		2.0.0	yes	2.0.1	0.13.0	NNY	yes	0.4.0	0.1.1	yes	0.1.0	0.7.0	yes	0.1.0
up.pt	2.1.0	2.1.0			2.1.0	no		0.14.0	NNN	no		0.1.1	no		0.7.0	no	
ikea.university.se	2.0.0	2.0.0	0.7.0	1.0.0	2.0.1	yes	2.0.1	0.12.1	YYN	yes	0.4.0	0.1.0	yes	0.1.0	0.7.0	yes	0.1.0

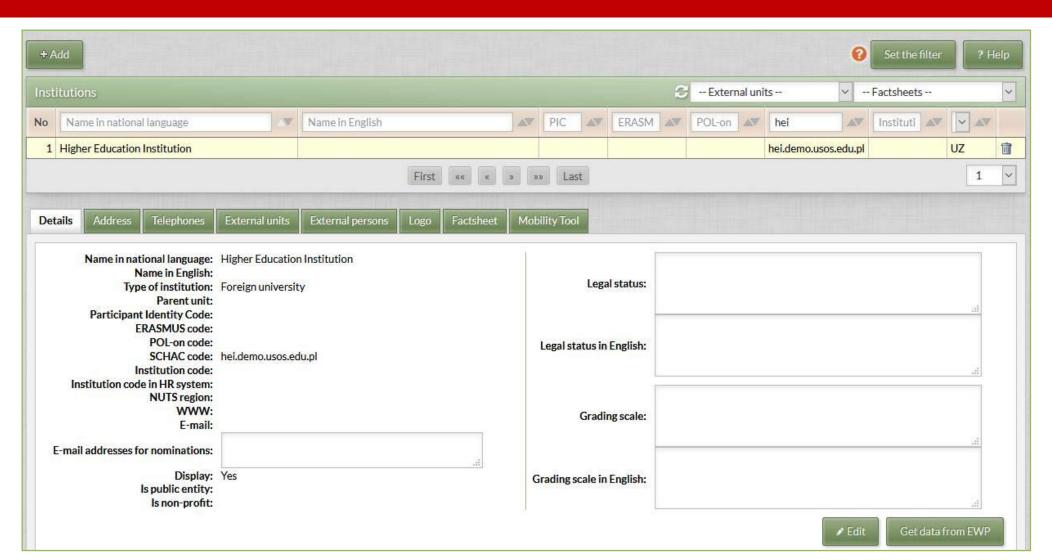
Mobility scenarios

- Two installations:
 - University of Warsaw at https://usosadm.demo.usos.edu.pl/usosadm/
 - HEI new mobility partner of UW at https://usosadm-hei.demo.usos.edu.pl/usosadm/





University of Warsaw Enters name and SCHAC code of the new mobility partner



University of Warsaw gets the rest of the institution data from the partner by calling Institutions API (data are copied to the appropriate fields)

Edit institution			
			? Help
	Data from EWP		Data in USOS
SCHAC code:	hei.demo.usos.edu.pl		hei.demo.usos.edu.pl
Name in national language:*	Higher Education Institution (pl)	00	Higher Education Institution
Name in English:	Higher Education Institution	00	
Participant Identity Code:	999642716	00	
ERASMUS code:	PL WARSAW50	00	
Factsheet:	https://usosapps-hei.demo.usos.edu.pl/services /fac/factsheet_get?fac_id=00000000 (en)	e +	.4
			Bytes remaining:2000
WWW:	http://usos.edu.pl	20	
			Characters remaining: 100
Logo:	https://usosapps-hei.demo.usos.edu.pl/res/fl/200	0x200	
	/dd4b21e9ef71e1291183a46b913ae6f2-2840d	e3d9caf	44eb6db74e91499fdcb234b29fb9.jpg
Correspondence address			
Country:			Click to choose Choose
Foreign code:		40	
City/village:		00	
Street:		C 4	
House number:		00	
Address type:*			Adres stały 🔻
Building address			Not stored in USOS
Country:	PL		
Foreign code:	02097		
City/village:	Warszawa (Ochota)		
Street:	Banacha		
House number:	2		
			*- required fields
Ħ Save			

University of Warsaw displays all obtained factsheets in the web portal for students and staff



INTRODUCTION

EXAM REPORTS

EDITING COURSES

MY PROFILE

TESTS

EXAMS

POSTULATES

OPINIONS ON APPLICATIONS

APPLICATIONS COORDINATING

SURVEYS RESULTS

STUDENT MOBILITY coordinated faculties

partner institutions university's agreements my commissions my opinions

NEWS

DIRECTORY MY USOSWEB STUDENT'S SECTION STAFF SECTION

COMMON SECTION ADMINISTRATION

Partner institutions

Showing elements 1..7 (out of 7)



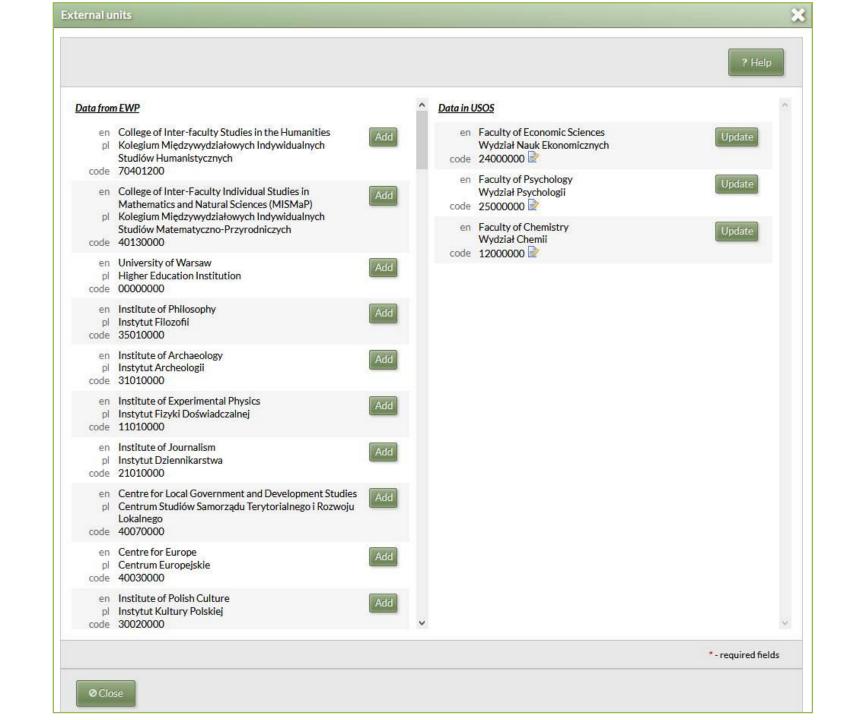
This page displays foreign higher education institutions with which DEMO University has signed at least one agreement for international exchange that fulfills the following criteria:

- · agreement comes into effect within a year from now,
- · end date is later than today or is not determined.

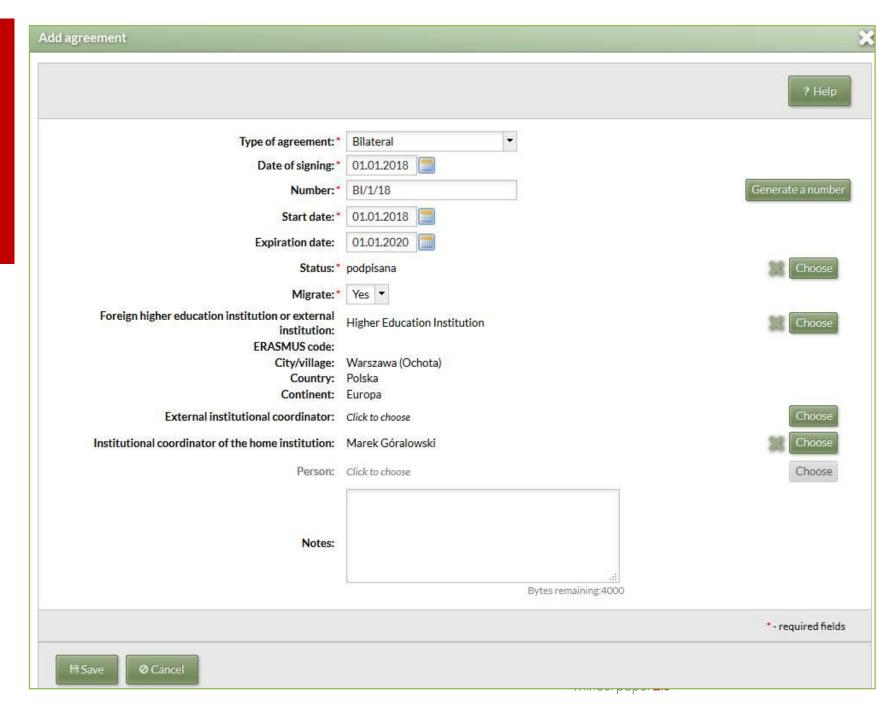
FILTER OPTIONS	
Country: 🚺	
City: 🚺	
Institution name (in native language): 🚺	
Institution name (in English): 🚺	
Erasmus code: 🚺	
Factsheet (for institutions and/or units):	
	CLEAR FILTERS APPLY

No.	Country and city	Erasmus code	Institution name	Institution name (Eng.)	Web page	Factsheet
1	Belgium (Antwerp)	B ANTWERP01	Universiteit Antwerpen (show units)	University of Antwerp	http://www.ua.ac.be	show from partner → show from USOS →
2	Belgium (Gent)		Universiteit Gent (show units)	Ghent University		show from USOS →
3	Portugal (Porto)	P PORTO02	Universidade do Porto (show units)	University of Porto	http://www.up.pt	show from partner
4	Russia (Ulan-Ude)		Бурятский государственный университет	Buryat State University	http://www.bsu.ru/	show from USOS →
5	Sweden (Lund)	S LUND01	Lunds Universitet (show units)	Lund University	http://www.lu.se	show from partner → show from USOS →
6	Sweden (Umea)	S UMEA01	Umea Universitet (show units)	Umea University	http://www.umu.se	show from partner
7	Switzerland (Geneva)	CH GENEVE01	Université de Geneve (show units)	University of Geneva	http://www.unige.ch	show from USOS →

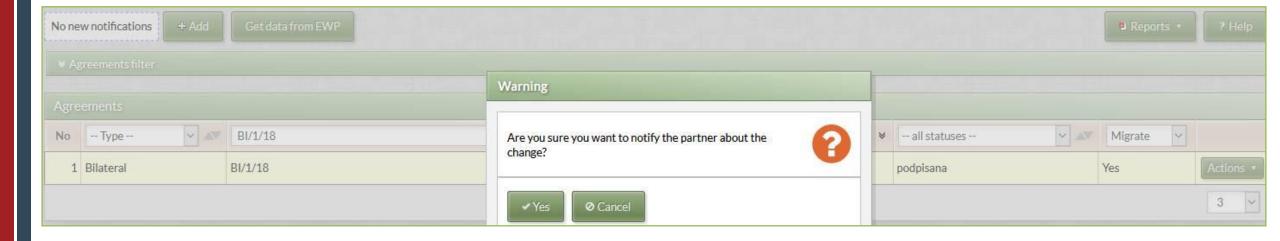
University of
Warsaw gets units
of the partner HEI
by Organizational
Units API.
Only units which
participate in the
mobility are copied.



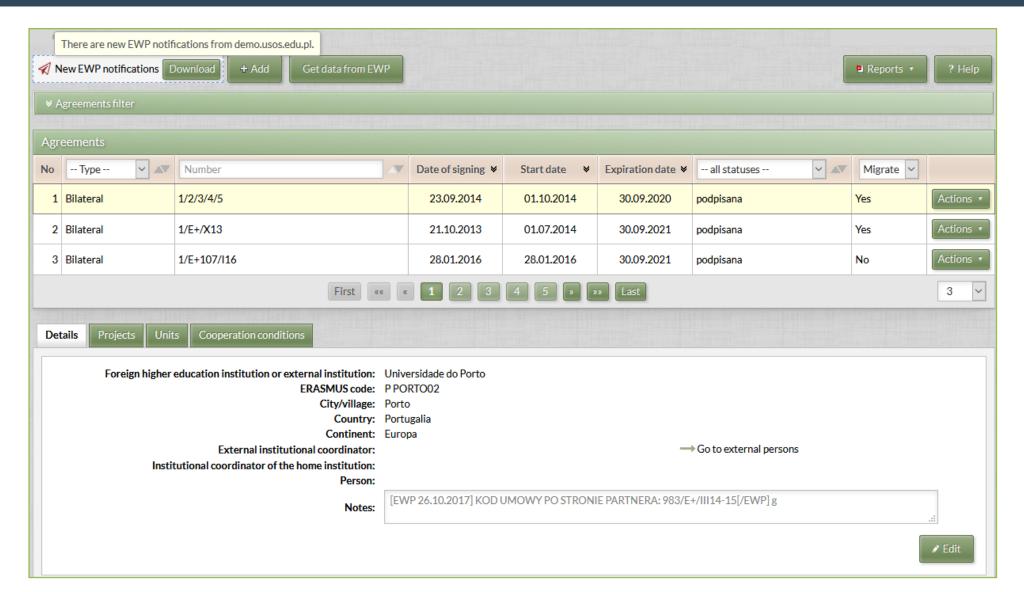
University of
Warsaw enters
details of the
bilateral agreement



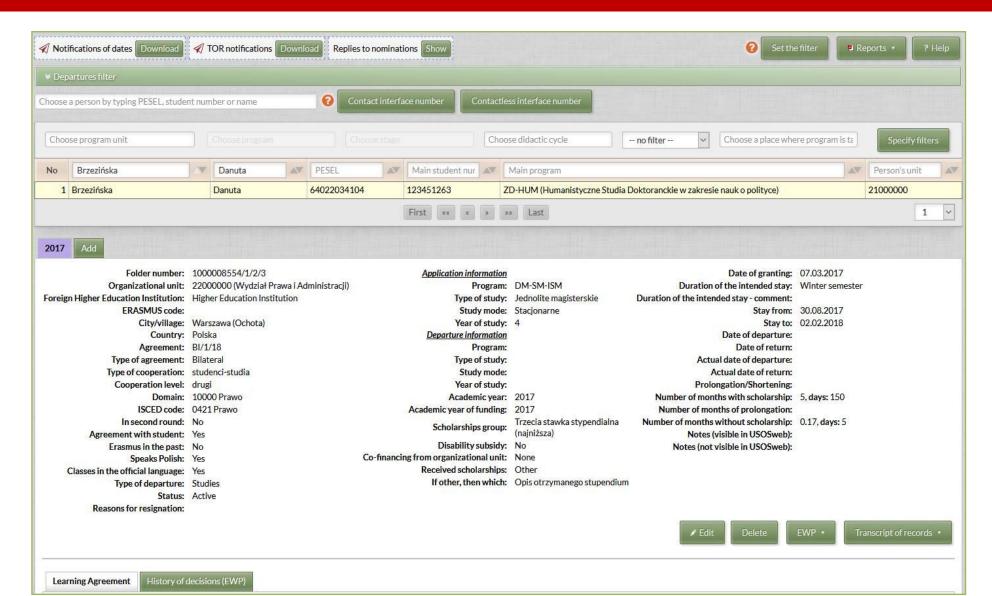
University of Warsaw notifies the partner that the draft agreement is ready by calling **IIA CNR API** (Interinstitutional Agreement Change Notification Request)



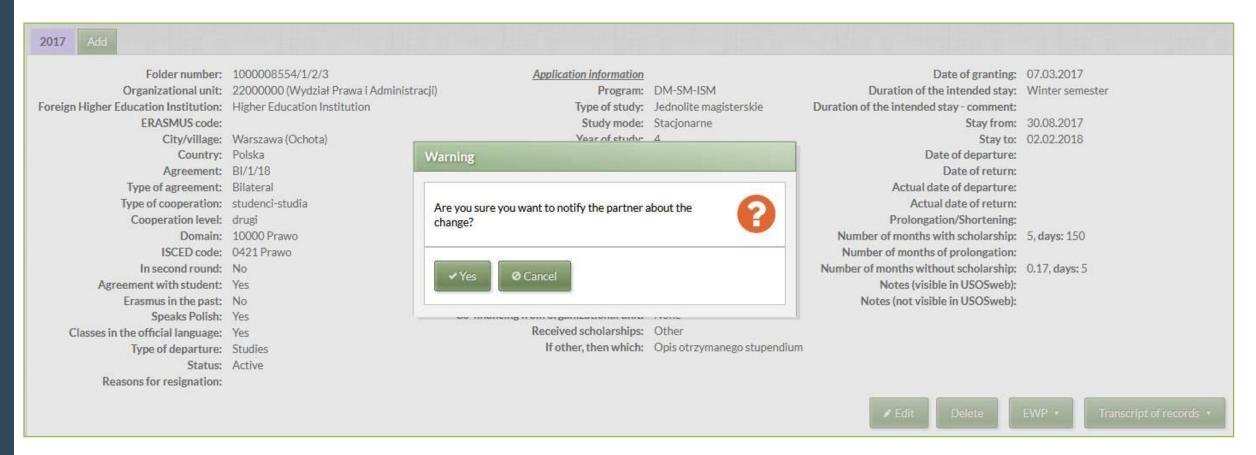
HEI receives notification, gets agreement data from UW by calling IIA API (no need to enter this data by hand)



University of Warsaw nominates a student for outgoing mobility at HEI under the newly signed agreement

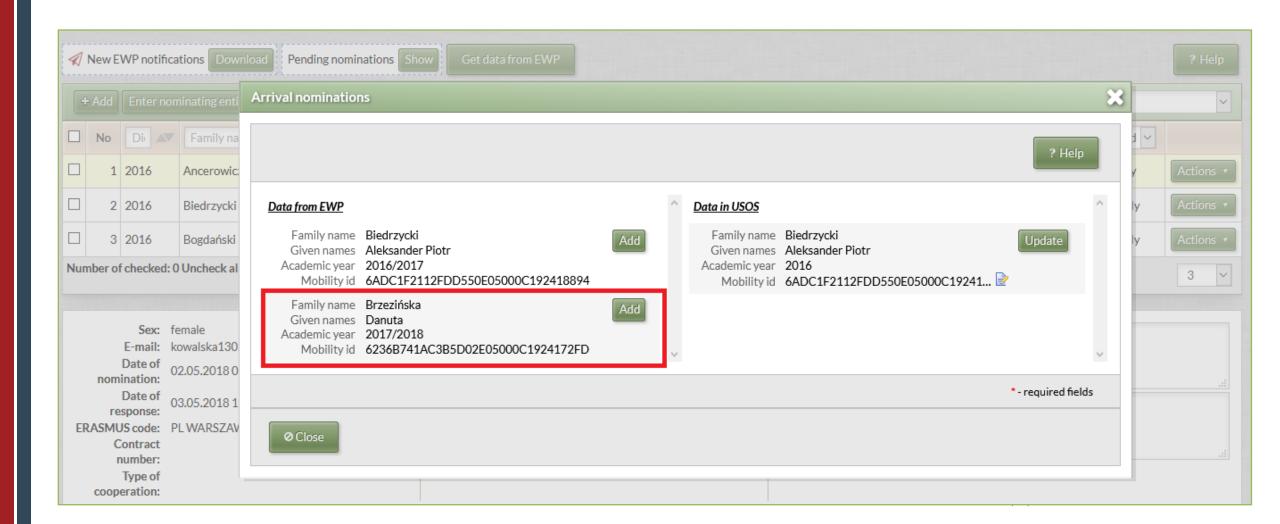


University of Warsaw informs the partner about new nominations or changes in nominations by calling **Outgoing Mobility CNR API**

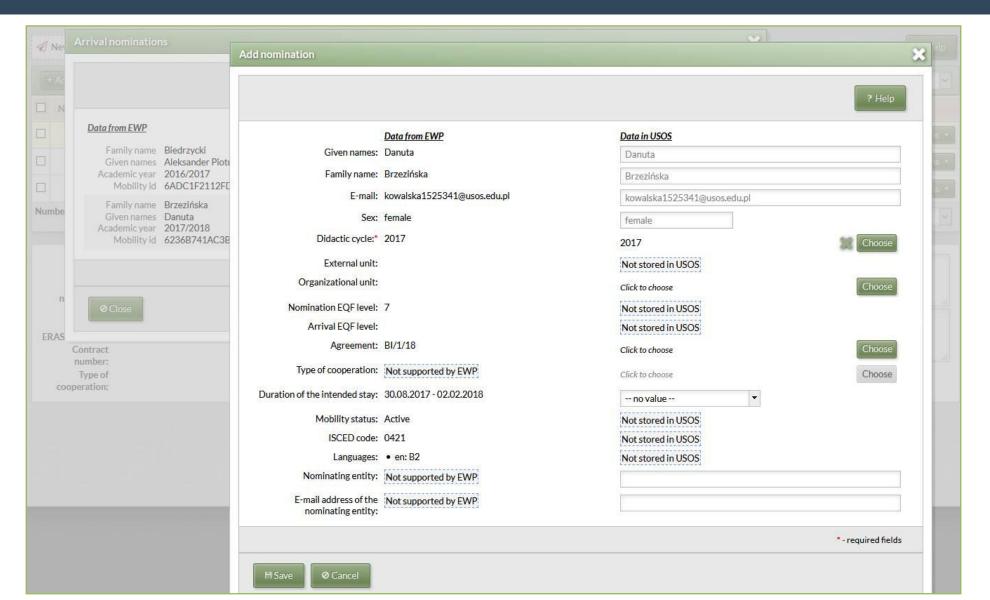




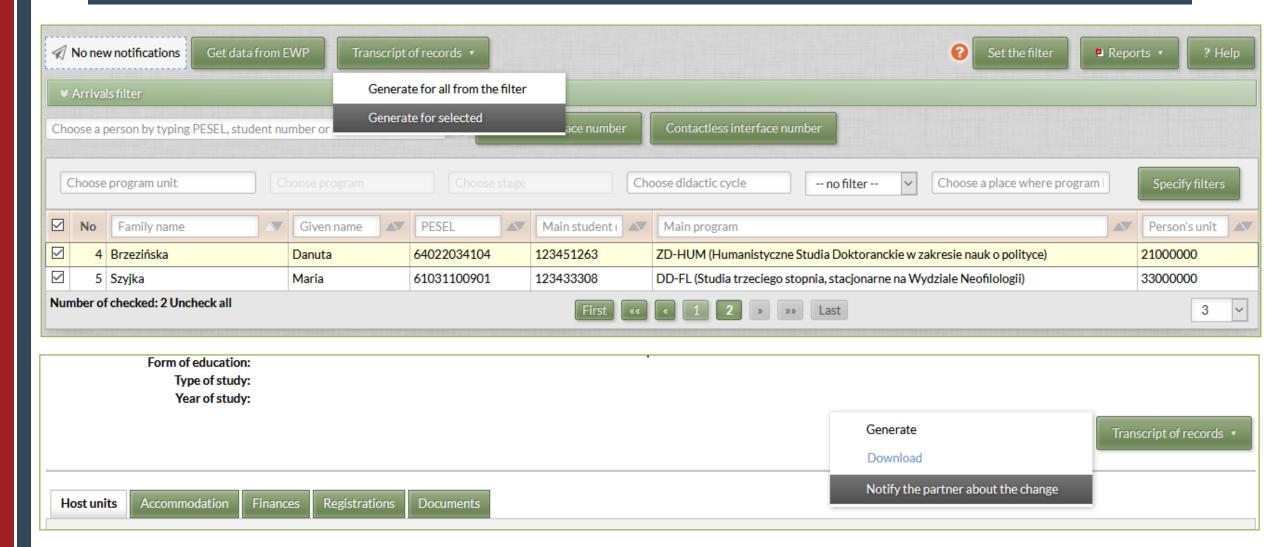
HEI receives notification, gets student data from UW by calling Outgoing Mobility API



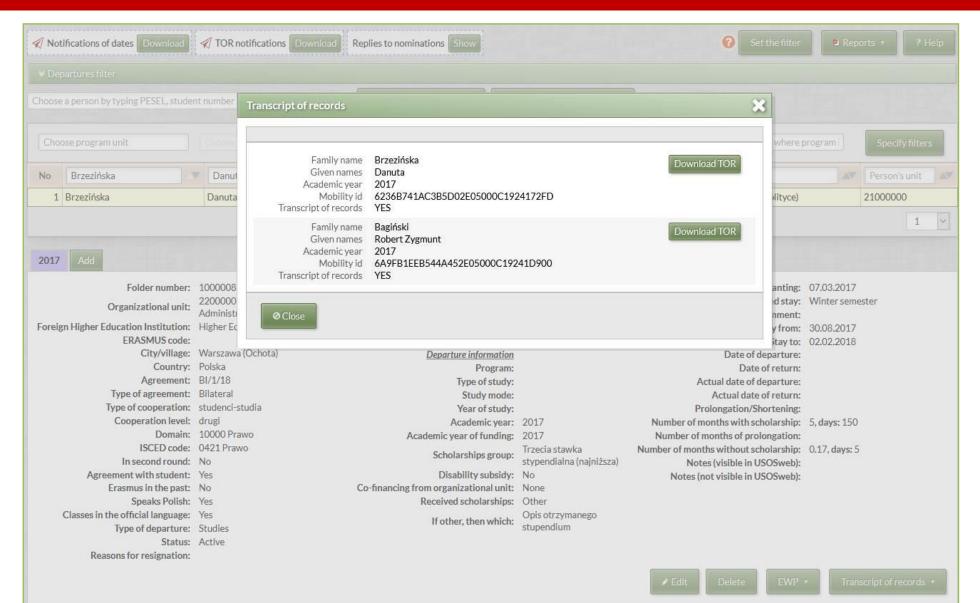
HEI can copy data which should be stored in the local system (no need to enter data by hand)



HEI at the end of the mobility generates ToRs for incoming students and notifies the partner (ToR CNR API)



University of Warsaw receives notification and then downloads ToR to the local system (Incoming Mobility ToR API)



Other scenarios and APIs

- Sharing new versions of factsheets
- Approval/rejection of nominations
- Changes in nominations
- Learning agreements all parts
- Confirmation of the arrival and departure dates → grants
- Digitally signed Transcript of Records (XML and PDF)
- Mail notifications as a supplement to Change Notification Requests
- Greater process automation
- Use GitHub to tell us about your favorite scenarios are any APIs or parameters missing?



Steps to join the EWP community

- Get in touch with the EWP Competence Centre.
- Depending on the situation:
 - Develop your own connector,
 - Use connector developed by a national consortium (if you are a member),
 - Use connector developed by a commercial provider,
 - Use the **HUB** (**Dashboard**).
- Contact EWP technical team to be entered to the DEV Registry.
- Test, test, test.
- Contact EWP technical team to be entered to the PROD Registry.
- Enjoy easy data exchange at you institution.
- Encourage your partners in mobility to join.



Summary

- EWP proves that it is possible to exchange data between partners in mobility in a digital way.
- Network, tools, specifications, code, competences are publicly available.
- We are getting ready for the official launch of the EWP Network in December – join the EWP conference in Ghent.
- Work will continue in 2019
 - Pending invitation for new partners.
 - New APIs with extended functionalities (MT+, grade conversion).
 - Joining forces with other European digitization projects.
- Goal: interconnect all ECHE holders.
- Get ready for new Erasmus+ in 2021-2027.

































Janina Mincer-Daszkiewicz, jmd@mimuw.edu.pl



http://erasmuswithoutpaper.eu

http://developers.erasmuswithout paper.eu

http://github.com/erasmus-without-paper

https://www.linkedin.com/groups/13590744

https://twitter.com/hashtag/Eras musWithoutPaper

