

## VIETSCH FOUNDATION – REPORT IV

### Project: Expanding the EMREX Network to EU and beyond

This is a report of activities in the project **Expanding the EMREX Network to EU and beyond**.

Report time period: February 13<sup>th</sup>, 2021 – December 8<sup>th</sup>, 2021.

The project is divided into two parts:

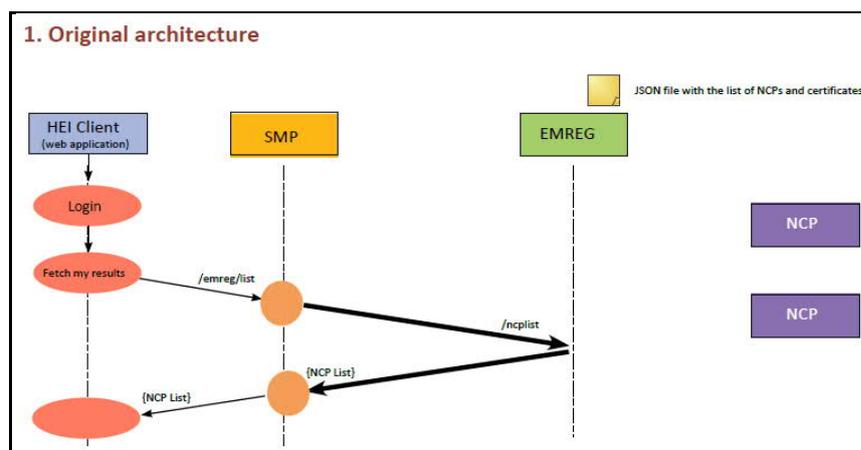
1. Industrializing the EMREX Registry and reviewing the ELMO standard.
2. Dissemination of EMREX services and building the EMREX brand.

## 1. INDUSTRIALIZING THE EMREX REGISTRY AND REVIEWING THE ELMO STANDARD – EPILOGUE

The first part of the project **Industrializing the EMREX Registry and reviewing the ELMO standard** finished in the beginning of 2021 and the final report for it was submitted in February 2021. Nevertheless, in this report we inform about the activities carried between February 2021 and December 2021 and the obtained results.

### 1.1. INTEGRATION OF EMREG WITH EWP

**EMREG** is a centralized service in the EMREX Network that has to be available to all SMPs (clients). It gives a list of all available NCPs (servers), as well as other information necessary to establish communication with each of them. The original architecture of the EMREX Network with EMREG is shown in the diagram.



**Original architecture of the EMREX Registry**

On January 29, 2021, during the technical workshop of the EMREX User Group, a suggestion was made on how to make the EMREX registry more robust and easier to maintain. It has been decided to gradually move content of EMREG to the EWP Registry.

EMREX Executive Committee and EDSSI Steering Committee have come to an agreement on the rules and conditions to combine both registries.

As the old names, SMP and NCP, do not well express the roles played by the nodes in the network, it has been decided to rename them to, respectively, **EMREX client (EMC)** and **EMREX Data Access Point (EMP)**. These new names are used in the following diagrams.

The first step has already been made in the DEV network. All EMPs posted the manifest files in the format specified for the EWP Network, with the dedicated *emrex-emp* API (temporarily also *emrex-ncp* API is accepted to give network users time to switch to the new terminology).

The Schema for the manifest file for the EMP is available at:

<https://github.com/erasmus-without-paper/ewp-specs-api-emrex-data-access-point/blob/stable-v1/manifest-entry.xsd>

These manifest files have been registered in the DEV EWP Registry, available at <https://dev-registry.erasmuswithoutpaper.eu/>. The new EMREG has been designed and implemented. All the requests coming to the old EMREG are now redirected to the new EMREG which reads the XML catalogue file from the EWP registry and translates it to the JSON format expected by the EMREX clients. That means that EMPs are now registered only in the EWP registry but the EMREX clients can still get responses in the old JSON format.

The proper requests to get the list are the following:

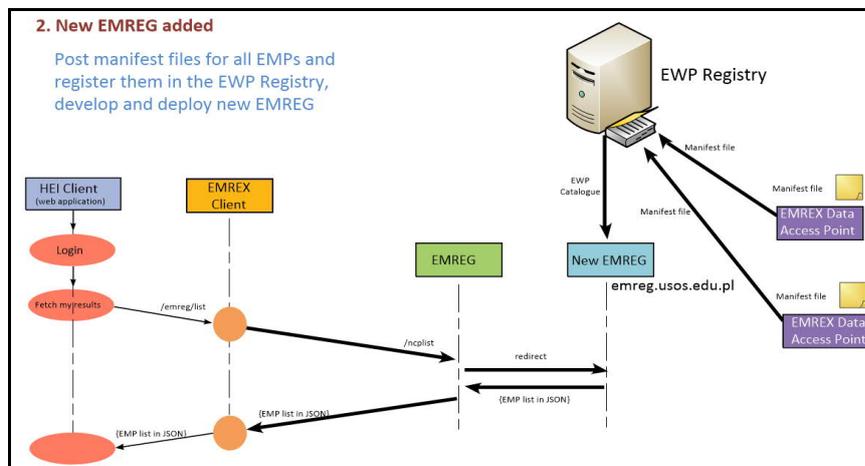
- <https://emreg.test.usos.edu.pl/emp-list.json> (DEV network)
- <https://emreg.usos.edu.pl/emp-list.json> (PROD network)

The response has the format: {"emps": ...}.

Temporarily client can also use links with the old terminology:

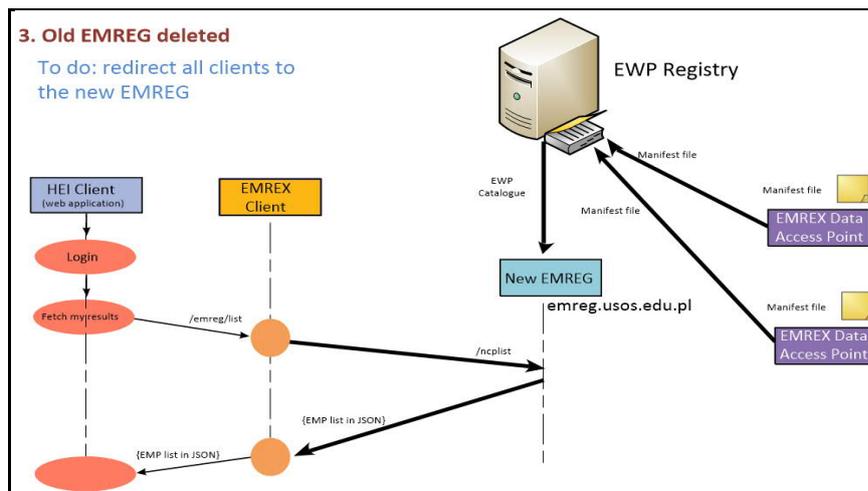
- <https://emreg.test.usos.edu.pl/ncp-list.json> (DEV network)
- <https://emreg.usos.edu.pl/ncp-list.json> (PROD network)

The return format is: {"ncps": ...}.



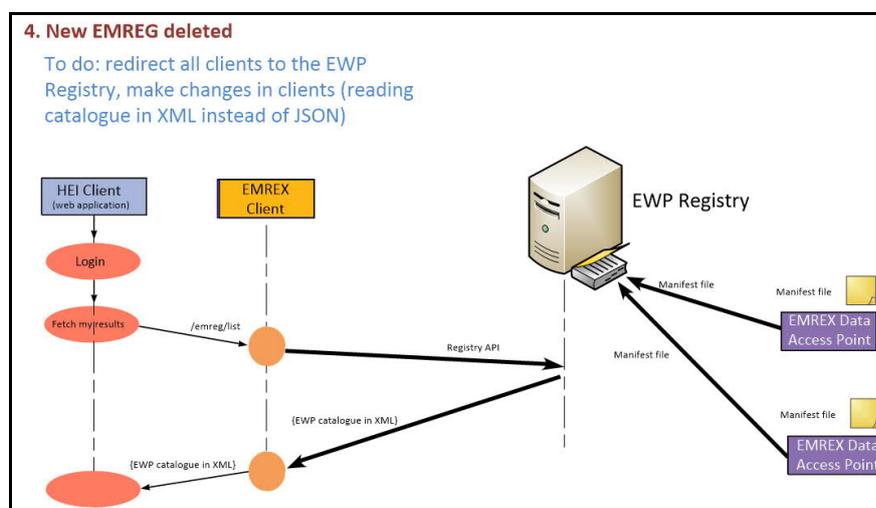
***New EMREG translates EWP catalogue file to JSON format***

The next step has also been finished in the DEV network. The EMREX clients skip the old EMREG and send requests straight to the new EMREG. **The old EMREG has been removed.**



***EMREX clients send requests directly to the new EMREG***

The final step will be to delete the new EMREG. The EMREX clients will send requests directly to the EWP registry and will accept the catalogue file in the XML format.



***EMREX clients send requests directly to the EWP Registry***

According to the agreement between EMREX EC and EDSSI SC the content of EMREG should be transferred to the EWP registry in the production settings by the end of 2021. The process is in progress.

**1.2.REVIEWING THE ELMO STANDARD**

Two concrete proposals were included in ELMO1.6 delivered 23 February 2021:

- add the possibility to enclose Diplomas and Micro credentials as attachments to ELMO <https://github.com/emrex-eu/elmo-schemas/issues/50>,
- added ESI (European Student Identifier) as a new learner identifier type <https://github.com/emrex-eu/elmo-schemas/issues/51>.

The updated version of ELMO can be found here: <https://github.com/emrex-eu/elmo-schemas/releases/tag/v1.6.0>.

A discussion with the EBSI Diploma initiative is on agenda right now on using ELMO as a format for live transcripts.

An ELMO session was held as part of the EMREX seminar in Göttingen 24 November 2021, discussing upcoming changes for ELMO. This will be followed up with an ELMO workshop 15 December 2021, for looking into the concrete changes for the new version of ELMO. The goal is to implement this new version by Summer 2022.

A MIT license for ELMO will be introduced.

**2. DISSEMINATION OF EMREX SERVICES AND BUILDING THE EMREX BRAND**

EMREX was entered in the PESC 22<sup>nd</sup> Annual Best Practices Competition where we won first place in the Network Technology category. The awards ceremony was held during the General

Sessions at PESC's October 2021 Data Summit being virtually on 19-21 October 2021. More information:

- <https://emrex.eu/2021/09/28/emrex-awarded-1st-place-in-pesc-22nd-annual-best-practices/>,
- <https://www.pesc.org/best-practices-competition.html>.

A series of meetings with different stakeholders e.g. EBSI, EDCI and EDSSI to extend the use of ELMO schema.

The EMREX network organized a workshop in Göttingen, Germany on 23-24 November 2021. Due to COVID-19 situation the workshop was organized as a hybrid with the possibility to join physically in Göttingen or via remote connection. Altogether 43 participants joined our workshop to discuss EMREX and its future development. More information about the workshop can be found here <https://emrex.eu/2021-emrex-workshop/>.

The physical meeting and the workshop were made possible by the project funding from the Vietsch foundation, for which the project group and the EMREX Executive Committee would like to express our gratitude.

### 3. PROJECT ADVANCEMENT

Unfortunately, the COVID-19 pandemic has kept us from advancing with the project as planned. The workshop in Göttingen is at this point the only expenses we have had for the money granted by the Vietsch foundation. Despite this, we have been able to do dissemination work, hold workshops and broaden the network. A new EMREG register in online and we are moving forward towards a joint registry with the EWP network.

### 4. CHANGE OF SCOPE AND EXTENDING THE PROJECT PERIOD

In May 2021, the EMREX Executive Committee asked the Vietsch Foundation to extend the awarded grant until the end of 2021 and to use parts of the grant amount for the development of a converter between the ELMO data standard and the Europass Learning Model (ELM, formerly EDCI). The Vietsch Foundation was kind enough to comply with this request.

In recent months, there have been developments that now compel the EMREX Executive Committee to **ask the Vietsch Foundation to rededicate the grant again**. One of these unexpected new developments is that the Europass Initiative has also announced that it will develop an ELMO-ELM converter. Another development was a result of the EMREX workshop held at the University of Göttingen on 23-24 November 2021. EMREX Executive Committee was forced to hold such a workshop very late in the year due to the development of the Corona pandemic. As a result, the EMREX Executive Committee only now became aware of how much the current documentation of the EMREX system is insufficient and hinders the dissemination of the EMREX system in Europe. Changes in the structure of the network imposed by moving the

content of the EMREX registry to the EWP registry and enforced changes in terminology imply necessity to review all technical documentation and make changes in all diagrams. The procedure to enter the network also has to be reformulated as well as the testing environment. Currently documentation is available in three different places which is an additional barrier.

Therefore, the EMREX Executive Committee would like to ask the Vietsch Foundation that parts of the funding may no longer be used for the development of an ELMO-ELM converter (which is to be created in parallel by the Europass initiative) but for the development and elaboration of the EMREX documentation. The EMREX Executive Committee plans to use these funds to create structured documentation in Github that will help EMREX prospects easily implement EMREX and learn about new use cases and developments in EMREX. We expect the funding for the workshop to be about 5 000€ and we ask that the remaining project funds (ca. 22 000€) could be directed to achieving these goals.

**The EMREX EC would like to continue to ask the Vietsch Foundation that these funds can be used to mandate the creation of this documentation. Since we are already at the end of 2021, the EMREX EC would like to ask that this money be allowed to be disbursed to the contracted entity until the end of March 2022.**