



VIETSCH FOUNDATION – FINAL REPORT

Project: Expanding the EMREX Network to EU and beyond

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

The project was divided into two parts:

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

1.1. INDUSTRIALIZING THE EMREX REGISTRY AND REVIEWING THE ELMO STANDARD

The first part of the project “Industrializing the EMREX Registry and reviewing the ELMO standard” was originally supposed to last until December 31st 2020 but due to delays it was prolonged until the beginning of 2021. Part 1 of the project had three goals

1. Organize on-line teleconferences and webinars or if possible on-site technical workshops.
2. Carry research on how to change the standard format ELMO to fit new requirements and prepare draft specification of the new version.
3. Give technical help to potential/new members of the network.

It also has the following expected outcomes

1. Technical specification of the new EMREX registry. This document will be the basis for future development of EMREG. The document will be posted publicly at emrex.eu.
2. Specification of the new ELMO version. ELMO versions are described in GitHub, information on changes is sent to the subscribers. The main addition to this version will be the possibility for ENIC-NARIC organizations to submit results of recognition to the EMREX network. The document will be posted publicly in GitHub. This way it will also become available for reference to other parties.

Due to COVID-19 pandemic there was no chance of organizing on-site workshops. However, several on-line meetings were held first restricted to parties in charge of preparing the proposal for the expected outcomes and define the requirements for those proposals. In January this work culminated with a webinar for the entire EMREX network and other interested parties to present and discuss the proposals.



Outcome 1: Technical specification of the new EMREX registry.

European Commission's European Student Card Initiative requires HEIs to exchange more data digitally and to make information more accessible to students. HEIs are expected to use the Erasmus Without Paper infrastructure to exchange data. By 2022 it will be compulsory to exchange inter-institutional agreements digitally.

Increased number of student mobilities and virtual mobilities will significantly increase the number of transcripts that will have to be issued and sent to students/partner HEIs. Therefore, it is essential to simplify the process and to lessen the burden on IROs/Student Offices or other units issuing transcripts. The EMREX network has within this project prepared a technical solution to support this process and data transfers with a shared register for EMREX and Erasmus Without Paper infrastructure. The technical specifications are published and can be found here <https://emrex.eu/2021-technical-meeting/>

Outcome 2: Specification of the new ELMO version.

Work with ELMO standard has been ongoing and a proposal was presented at the technical webinar in January. The proposal included support to adding attachments containing digitally signed Diplomas and Micro credentials and the final schema will soon be included in ELMO1.5.1/ELMO1.6. and published here <https://github.com/emrex-eu/elmo-schemas/issues/50>

Based on previous, the work with ELMO will continue e.g. with collaboration with CEF project EDSSI to explore need of changes for exchanging data within the EWP network. This work will be done Spring 2021. The EMREX user group is also exploring the connection between ELMO and EDCI (Europass Digital Credentials) to enable cross platform data exchange between these two architectures.

Technical support was given to existing, new and prospect members when needed.

No project funds were spent during the first part of the project.

1.2. DISSEMINATION OF EMREX SERVICES AND BUILDING THE EMREX BRAND

The second part of the project started at the end of 2020 and was prolonged from the original plans to end of 2021. The promised activities for this part of the project were to organize stakeholder seminars on registry services and ELMO standard and dissemination work e.g. visiting national meetings of new members and participating in international conferences. These were heavily affected by the COVID-19 pandemic making it impossible to travel due to restrictions. However, the following activities took place



Workshop for members of 4EU+ Alliance. On January 26, 2021 the University of Warsaw organized a workshop for partner universities, members of 4EU+ Alliance. The main goal of the meeting was to decide how to make mobility data exchange between 4EU+ partners as easy as possible.

Technical workshop on changes in ELMO and EMREG. On January 29 2021 over 30 attendants from 15 countries gathered online to discuss need for changes in the ELMO format, further cooperation with other organizations and needs for converters between different formats. Furthermore, a suggestion how to make the EMREX registry more robust and easier to maintain was presented.

Webinar World's smoothest cross-border mobility and daily life through digitalization. A project "World's smoothest cross-border mobility and daily life through digitalization" financed by the Nordic Council of Ministers and lead by the Finnish National Agency for Education was launched. In the kick-off webinar in February 2021 EMREX was presented as a possible solution to transfer data.

EUNIS 2021. EMREX was represented at the 2021 EUNIS conference. EMREX was part of the pre-congress workshop on June 1st. The workshop was entitled Everywhere and Nowhere: student mobility in the era of micro learning, digital credentials and blockchain and covered a broad range of topics relating to student mobility. EMREX also had a presentation in the slot Interoperability across the EU.

PESC 22nd annual best practices competition. The EMREX Executive Committee presented the EMREX solution at PESC's Data Summit on the 21st of October 2021. EMREX was awarded with the 1st place for Network Technology category.

EMREX Workshop 23-24 November 2021. The EMREX User Group held a two-day workshop in November 2021. It was held as a hybrid meeting with participation onsite at Georg-August-Universität in Göttingen, Germany and online. The topics ranged from discussions about strategies for the future to hands-on technical details. There were presentations about for instance security, blockchains, student Ids and use cases about EMREX and ELMO. Changes in the ELMO-format were discussed which lead to inviting to another workshop for all stakeholders.

Online meeting on ELMO schema December 15th 2021. Following the results of EMREX workshop in November and to initiate the process to handle requests for changes in the ELMO schema an online meeting was held to all ELMO schema stakeholders. It was envisioned that a goal could be to have completed the work by June 2022, possibly with the last meeting as a pre-conference workshop at the EUNIS yearly conference.

Expected results for project part II

In the original project plan a state-of-the-art report (white paper) on EMREX in operation (in particular it will gather statistics on the operation of each SMP/NCP and data they provide/consume) was planned. However due to difficulties in dissemination and participation

efforts the finalization of the document was delayed and is expected to be finalized by June 2022. Parts of the report has been communicated in the annual assembly in 2021 and the last part will be ready for the annual assembly in June 2022. The document will be used for dissemination and posted in the EMREX portal.

1.3.OVERALL PROJECT OUTCOMES

During the project the EMREX network has been able to increase visibility even though not entirely by the means that were originally planned. The COVID-19 situation has practically prevented participation in all live events – seminars, congresses etc. The project has been active in web events, though, and through these efforts nine new members have joined the network.

In the project plan a **more stable and professional operation on EMREG, the only single point of failure in the whole EMREX network** was promised. On January 2021, during the technical workshop of the EMREX User Group, a suggestion was made 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 (Erasmus Without Paper) Registry.

The first steps were made by September 2021. All data access points posted the manifest files in the format specified for the EWP Network. The new EMREG had been designed and implemented. All the requests coming to the old EMREG were 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 were registered only in the EWP registry but the EMREX clients could still get responses in the old JSON format.

By the end of 2021 The EMREX clients were switched from the old EMREG and started to send requests straight to the new EMREG. The old EMREG has been removed. The final step of removing the new EMREG and start using the EWP registry directly still remains.

As to the updated ELMO standard that will suit more potential members and thus give HEIs more incentive to join there have been difficulties due to COVID-19. The project has not been able to have the discussions as planned with all the stakeholders to assure a compatible and proficient solution for all. This is why the updated ELMO standard is expected to be finished later this year.

1.4.ABOUT THE PROJECT

Despite the special situation with COVID-19 the project has been able to finish tasks. It cannot be said that the project had progressed as planned due to the special situation globally but the project group is satisfied with the results achieved. The work with new registry service has been completed. Dissemination work has been successful despite having had to be done online and



not in physical meetings. The EMREX service is now on a more solid base and the network broader than ever before with good future outlook.

The project group would like to extend our gratitude to the Vietsch foundation for our cooperation.

On behalf of the project group

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