



Ministerie van Onderwijs, Cultuur en
Wetenschap



Studentmobiliteit met EMREX

Dienst Uitvoering Onderwijs (DUO)

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Visie



"Enabling digitalization of any process in need of assessment data - before, during and after studies"



Uddannelses- og
Forskningsministeriet



Swedish Council for
Higher Education



Dienst Uitvoering Onderwijs
Ministerie van Onderwijs, Cultuur en
Wetenschap



agency for science and higher education

Ladok

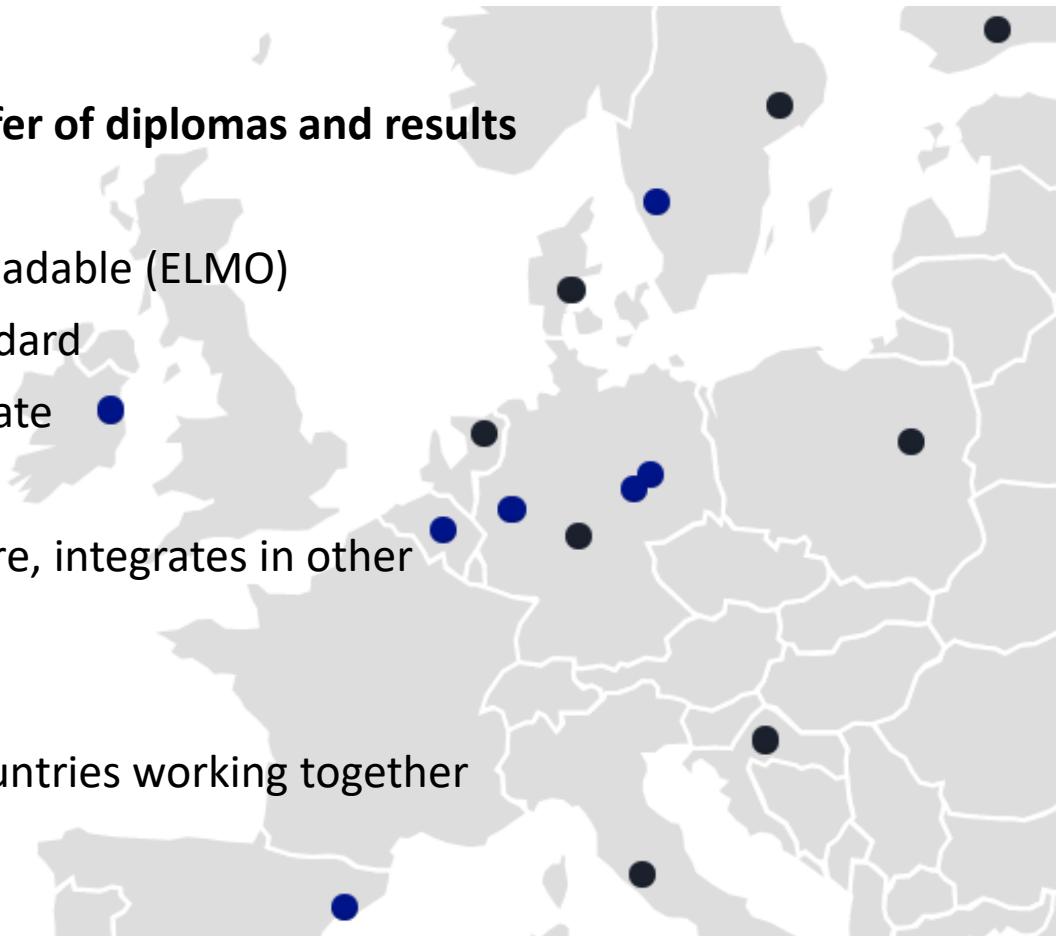
Goes beyond Erasmus+ mobility

- student mobility programs
- cooperative arrangements e.g. joint degrees, double degrees
- admission services
- recruitment solutions
- credential evaluation
- authorization

Emrex - Algemeen

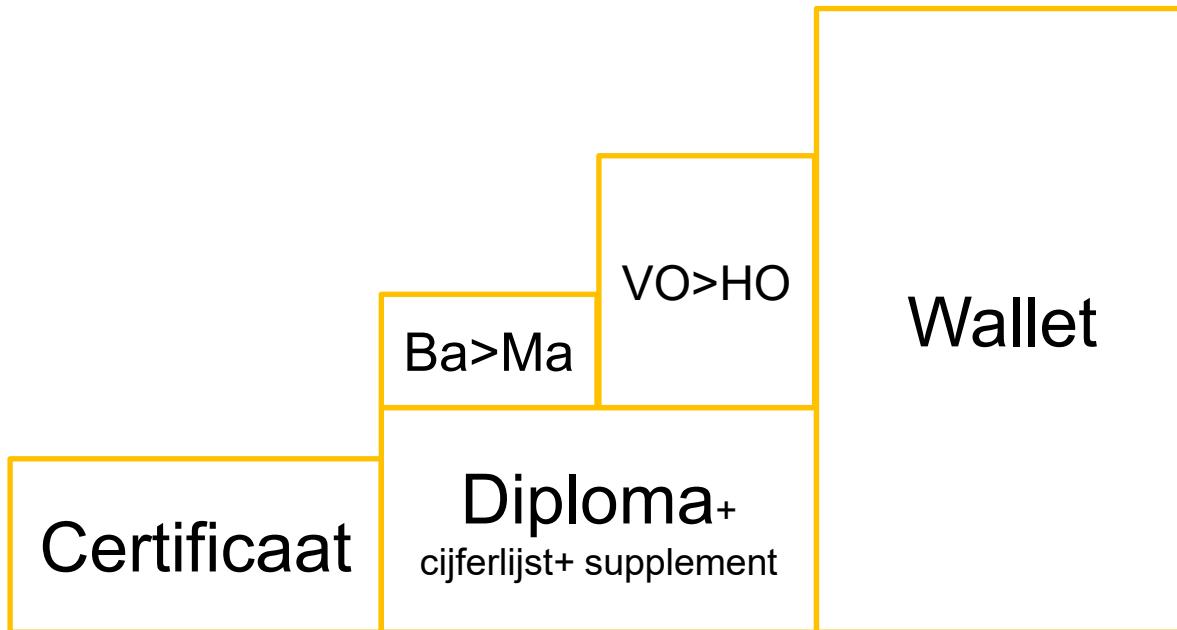


- **EU Erasmus project:** 2015-2017
- **Safe, secure and fast electronic transfer of diplomas and results**
- **User-driven approach (GDPR)**
- **Standard data format** and machine readable (ELMO)
- **ELMO** derived from ISO and CEN-standard
- **Open network:** everyone can participate
- **Open Source code (github)**
- **Building block:** uses local infrastructure, integrates in other services and processes
- Makes digitalization possible (xml)
- **EMREX User Group:** consortium of countries working together



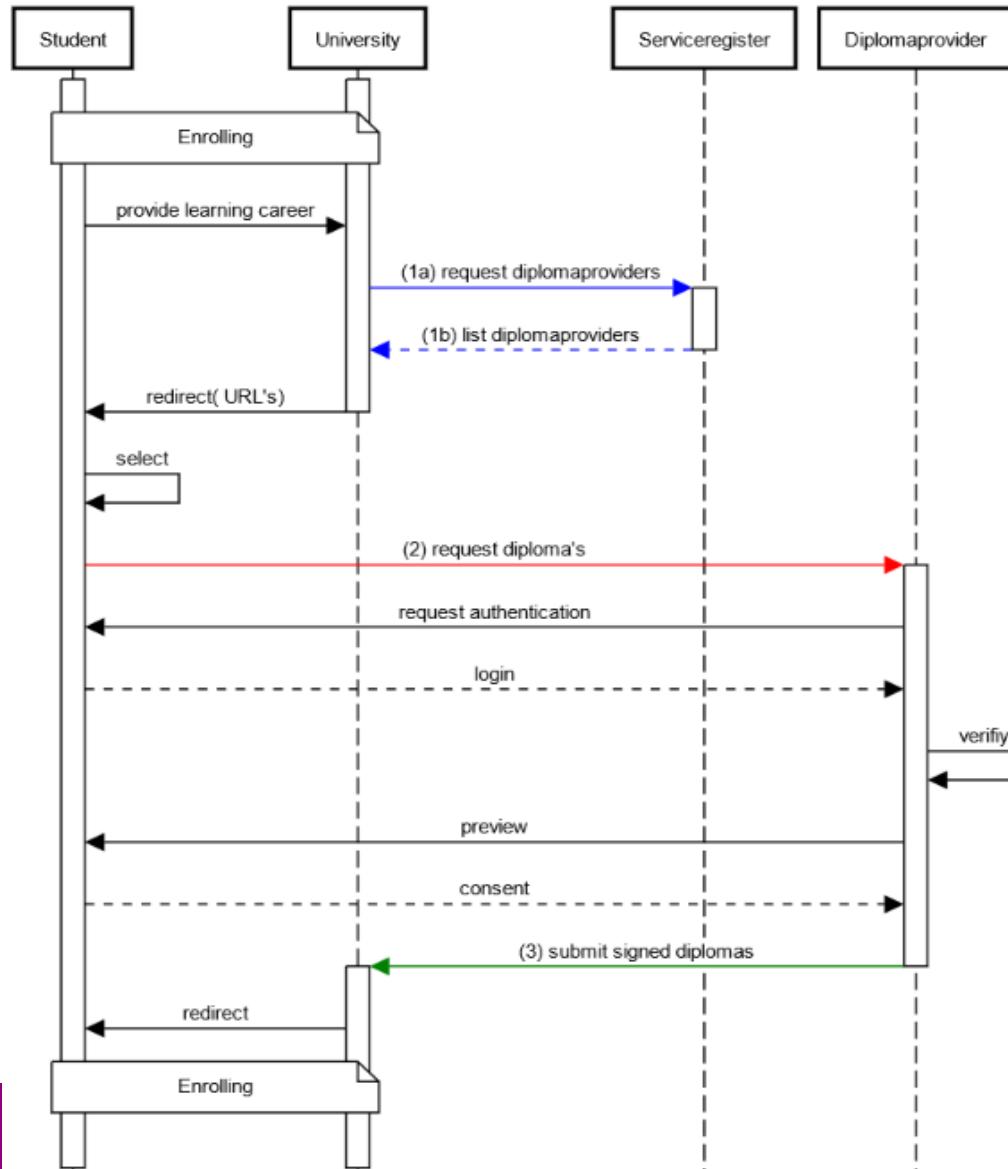


Toepassingsmogelijkheden Emrex

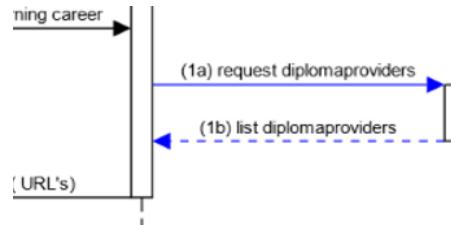




Sequence diagram Emrex



Emreg



- <https://emreg.test.usos.edu.pl/emp-list.json>
 - Response in json
 - Overzetten naar EWP

```

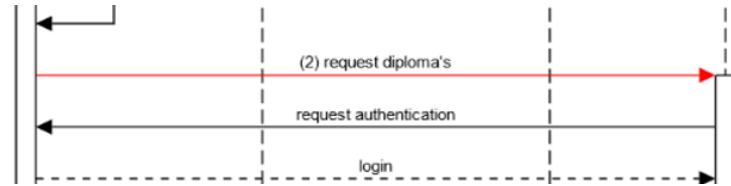
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}

```



API (2)

EMP



- POST request

```
<form action="https://app.vitnemalsportalen.no/vp/init" method="POST">
    <input type="hidden" name="sessionId" value="mysessionid12345">
    <input type="hidden" name="returnUrl" value="https://postback.url">
</form>
```

- sessionId: max 32 karakters
- returnUrl: URL waar diplomadata naar toe moet

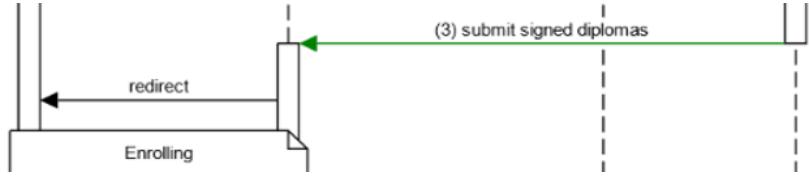


API (3)

EMC

- POST request

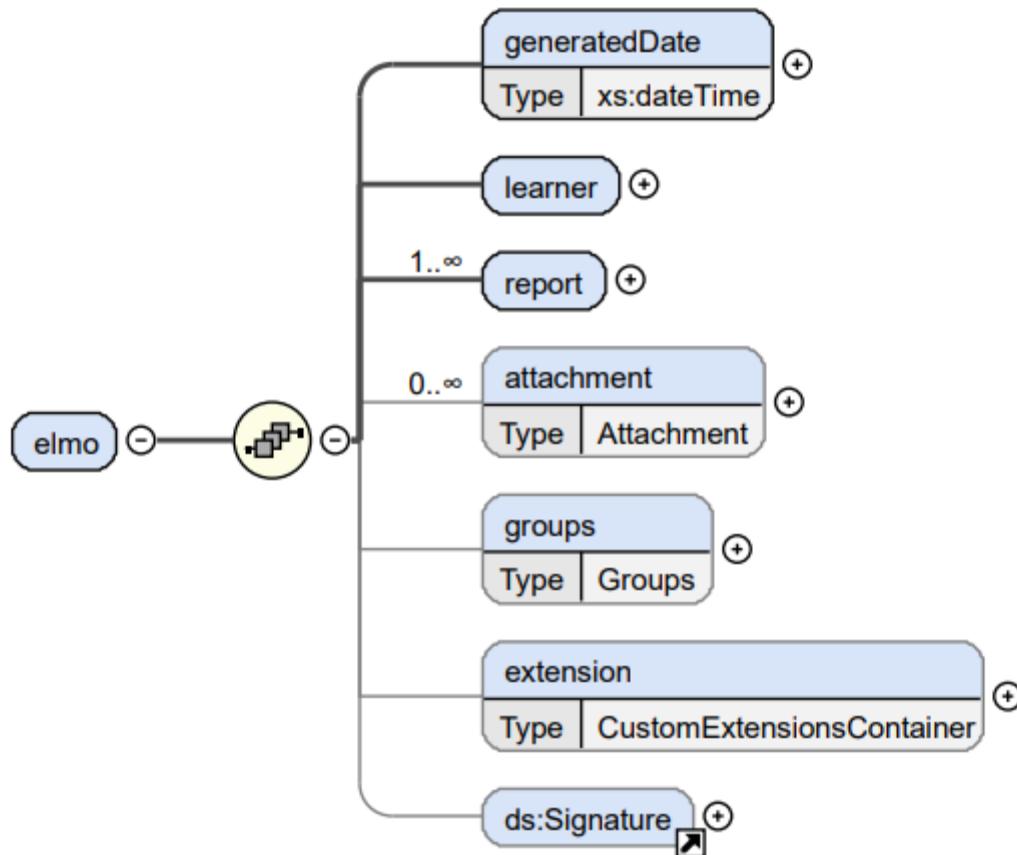
```
<form action="https://fsweb.no/studentweb" method="POST">
    <input type="hidden" name="sessionId" value="mysessionid12345">
    <input type="hidden" name="returnCode" value="NCP_OK">
    <input type="hidden" name="returnMessage" value="">
    <input type="hidden" name="elmo" value="H4sIAJSMF1...AAAA==">
</form>
```

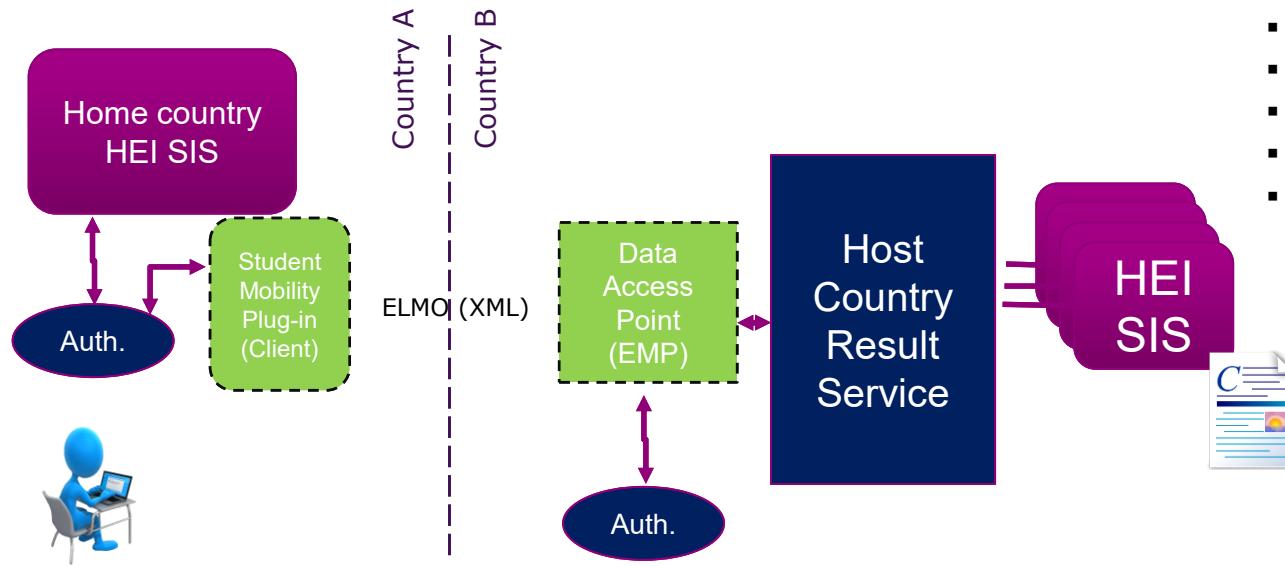


- sessionId: Zelfde als werd aangeleverd
- returnCode: NCP_OK, NCP_ERROR, NCP_NO_RESULTS, NCP_CANCEL
- returnMessage: In geval van NCP_ERROR
- elmo: Encoded/gzipped xml bericht



Elmo





ELMO versions

- V1.0: prd. version
- V1.1: small bugs
- V1.2: add qual. level (EQF)
- V1.3: minor improvements
- V1.4: add Diploma supplement
- V1.5: additional field on learner
- V1.6: under development

Anyone can build a Client

(National) suppliers can build EMP

Start scherm gebruiker



EMREX - Swedish SMP

På Svenska:

Tor Fridell 1961-06-16

Welcome to EMREX!

This service will enable you to import your awarded credits from other higher education institutions abroad connected to EMREX. Importing your records is a quick and easy process.

1. Select the country from which you want to retrieve your credits from.
2. Use the credentials from the host university where you studied to log into the system where your credits are stored.
3. Select the credits you want to import.
4. Review and confirm the selection. The records will be sent to your home university and you may save a copy in PDF format.
5. When the import is finished, please answer a few questions about the service to help us develop EMREX further.

So let's get started by selecting a country!

Choose Your Exchange Country:

Croatia	Select
Denmark	Select
Finland	Select
Italy	Select
Netherlands	Select
Norway	Select
Poland	Select
Sweden	Select





DEMO



Dank voor de aandacht!



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Gerald Groot Roessink, Informatiearchitect
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Contact information:
<http://www.emrex.eu>





Referenties

- **The EMREX Project:** <https://emrex.eu/>
- **EMREX implementation details:**
<https://confluence.csc.fi/display/EMREX/Implementation+of+EMREX>
- **EMREX GitHub:** <https://github.com/emrex-eu>
- **XML Signature Syntax and Processing:**
<https://www.w3.org/TR/xmldsig-core/>
- **European Committee for Standardization:** <https://www.cen.eu/>
- **Diploma Supplement:**
https://ec.europa.eu/education/resources/diploma-supplement_en
- **SCHema for Academia:** <https://wiki.refeds.org/display/STAN/SCHAC>
- **European Credit Transfer and Accumulation System (ECTS):**
https://ec.europa.eu/education/resources-and-tools/european-credit-transfer-andaccumulation-system-ects_en
- **International Standard Classification of Education:**
https://en.wikipedia.org/wiki/International_Standard_Classification_of_Education