



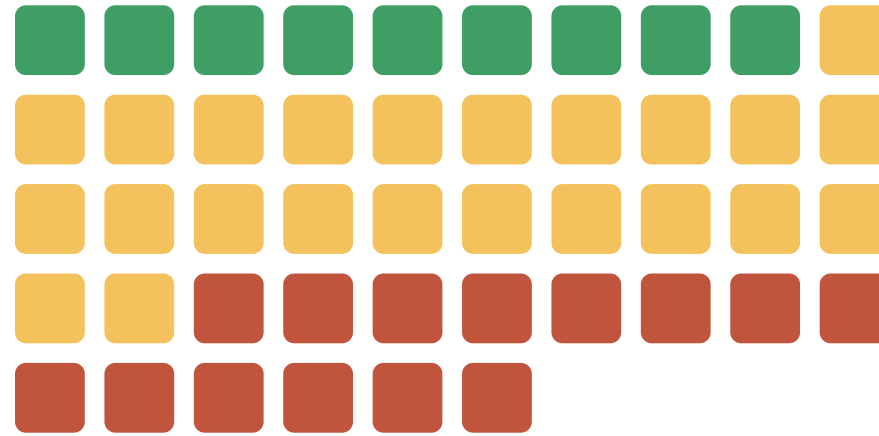
The Invisible Infrastructure

How Europe's NRENs power higher education?

We are ahead on trust and identity, and many NRENs are leading the way on other pieces of the puzzle. The real story is making all of it fit together.

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NORDUnet Conference 2026

Same mission, 46 different starting points.



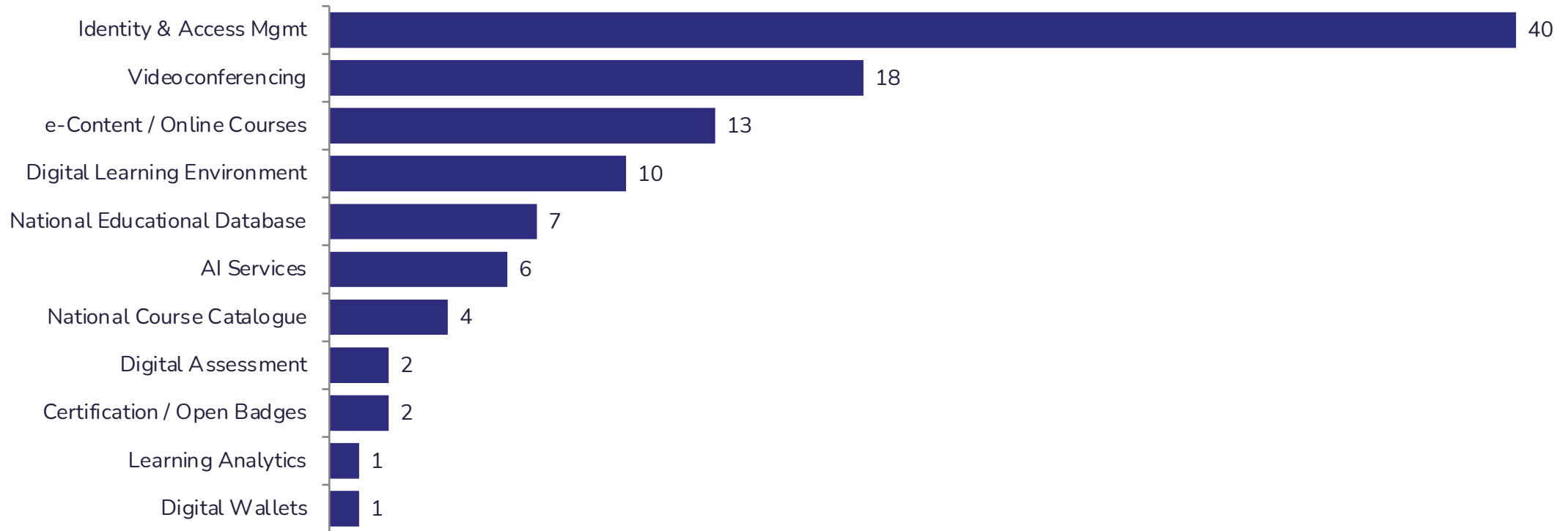
Advanced — 9

Emerging — 23

Limited — 14

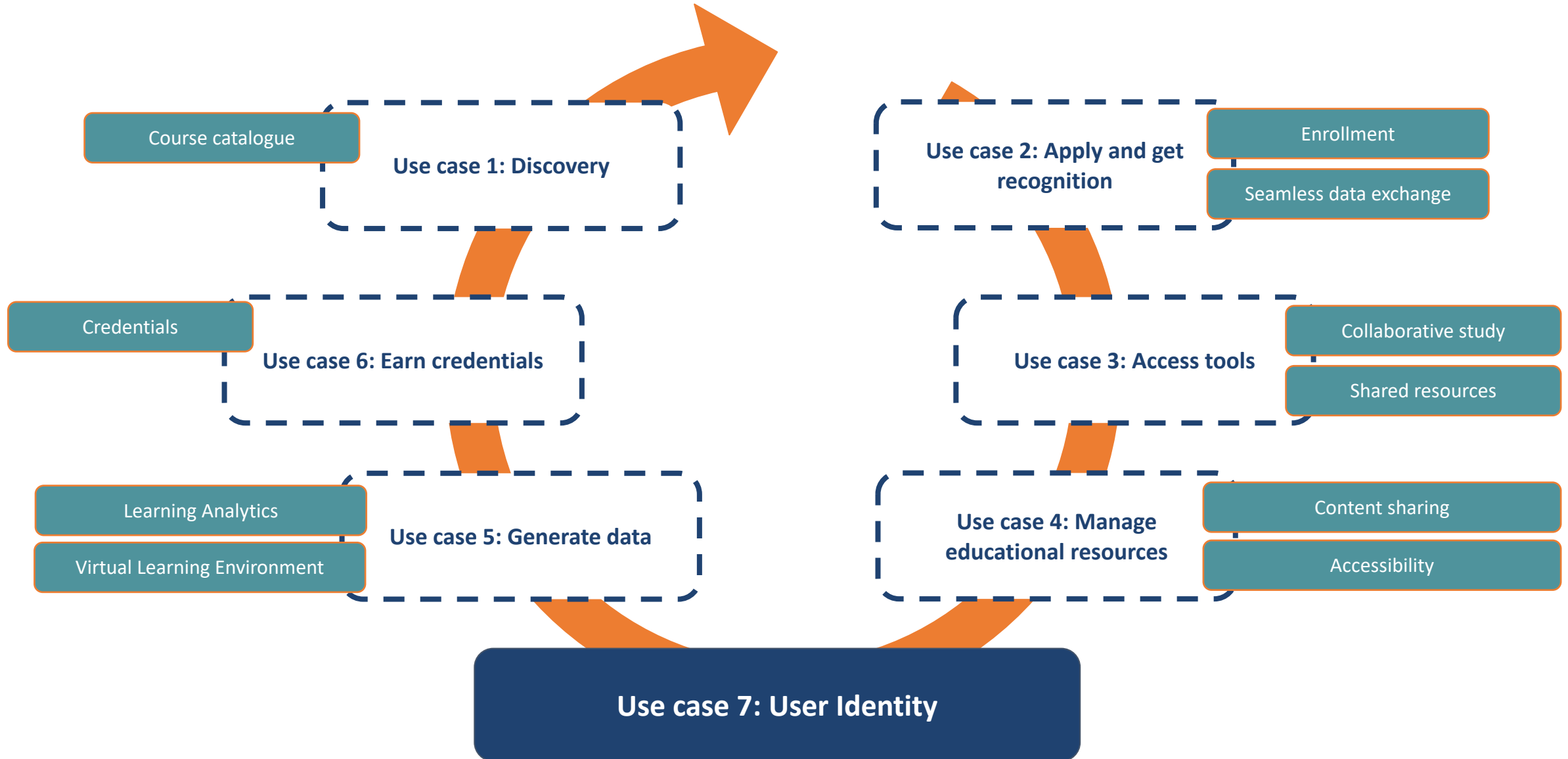
Unevenly. Very unevenly.

NRENs running each service at production level, out of 46.



The plumbing is solid, **identity works almost everywhere**, and all five Nordic NRENs are already in that 40. The parts a mobile student actually feels (catalogues, credentials, wallets) barely exist yet, anywhere.

How the learners' journey looks like? And what HEIF stands for...



Alliances aren't waiting

Nordic institutions sit inside several of these already...

~66

European University
Alliances

621

member
institutions

Circle U.

Coordinated from Oslo · incl. Norway, Denmark · est. 2020

ECIU University

DK·FI·NO·SE among 13 members · est. 2019

Aurora

incl. Denmark, Iceland · est. 2020

EUGLOH

incl. Norway, Sweden · est. 2019



Every NREN is its own small world

- 1 Ministries & funders**
set national digital-education policy
- 2 The NREN**
builds and runs the shared infrastructure
- 3 Universities**
plug national services into local systems
- 4 Students & staff**
just want it to work when they log in



Norway — Sikt

Identity	Feide / eduGAIN
Study data	FS study data APIs
Diplomas	Vitnemålsportalen
Digital wallet	DC4EU / EBSI-VECTOR
Assessment	WISEflow, Inspira

Now multiply that stack by 46 countries... Sikt's counterpart in Portugal, Poland or Bulgaria building its own version of the same five services, on its own timeline.

Nobody else is positioned to do this

Ministries

Set policy, hold budgets... but don't operate a single service that a student logs into.

Vendors

Optimise for their own platform. A closed ecosystem is a feature for them, not a bug.

Universities alone

621 alliance members, 46 countries: too fragmented to agree on anything bilaterally.

NRENs already do both halves of the job

They already run the trust layer

SWAMID, Feide, WAYF, Haka, RHnet. Federated identity is NREN-operated in nearly every country, not outsourced to a vendor.

They're already wired into each other

Iceland doesn't run its own identity federation, RHnet plugs straight into Denmark's WAYF. Cross-border already works, where the standard already exists.

Interoperability alone isn't enough

You can wire almost anything to anything, once, with enough effort. That's not the same as things fitting together.

POINT-TO-POINT "INTEROPERABLE"



Every pair gets its own custom adapter. Works ... until you add a 41st system and rebuild half the adapters.

BUILT TO A SHARED STANDARD



Everyone builds to the same spec once. New systems click in without a bespoke integration each time.

Real cross-border collaboration needs easy, smooth integration of different tools and solutions. It can only come from agreed standards, not one-off bridges.



This is NREN work and we are already proving it

46 countries have already built most of the pieces. Nobody else holds both the trust and the connections to make them fit. That's the job description of an NREN.

- 1 Collaborate and co-design: don't let 46 good intentions become 46 more systems.
- 2 Create scalable solutions for common architecture design and continent-wide standard.

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