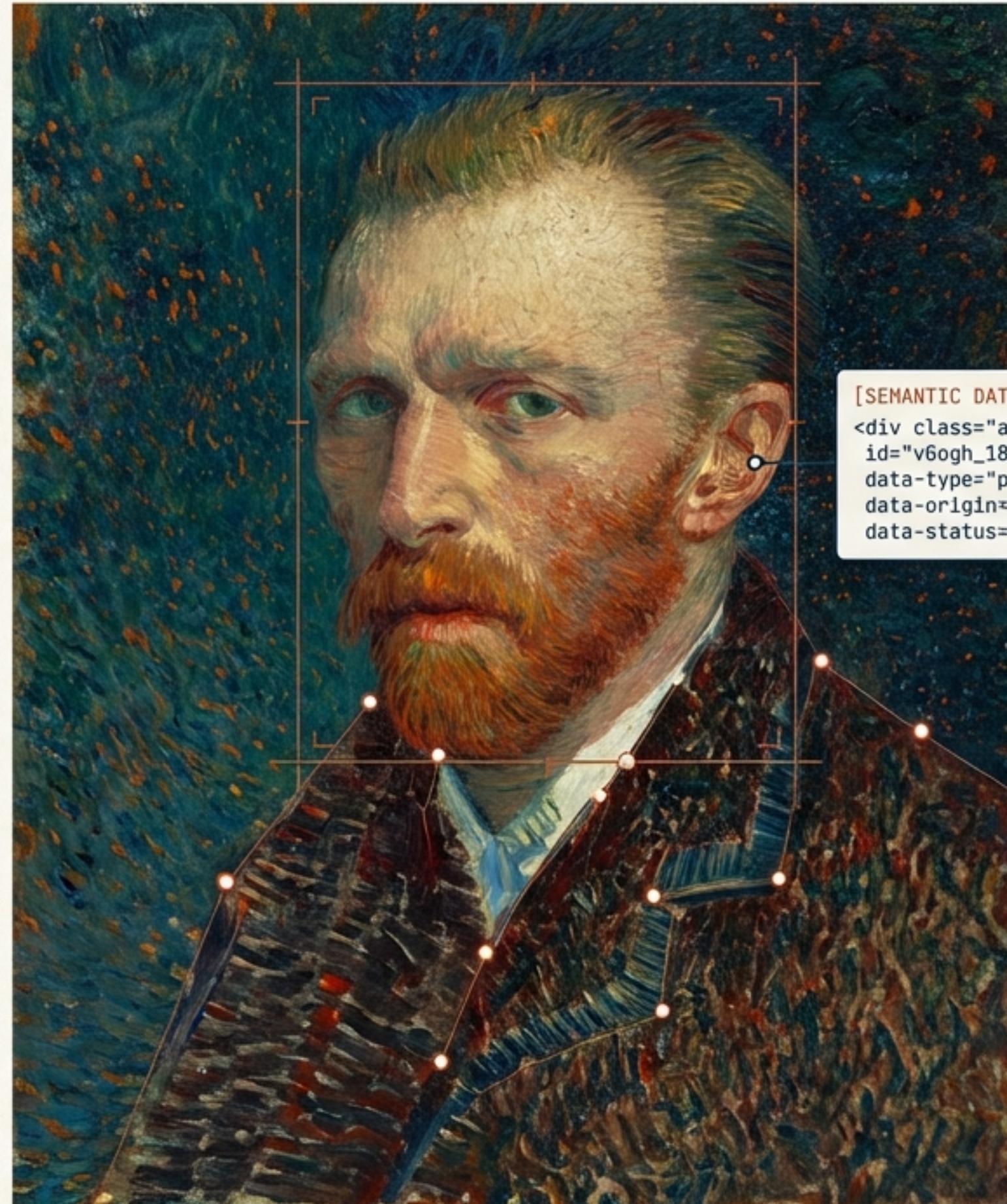


The Truth Layer

How European Libraries Are Building What Silicon Valley Desperately Needs

While the US races to build better AI models, Europe is quietly engineering the infrastructure to make them reliable.

Based on analysis by Stuart Michael Edelenbos, OCLC Netherlands



The Silicon Valley Narrative

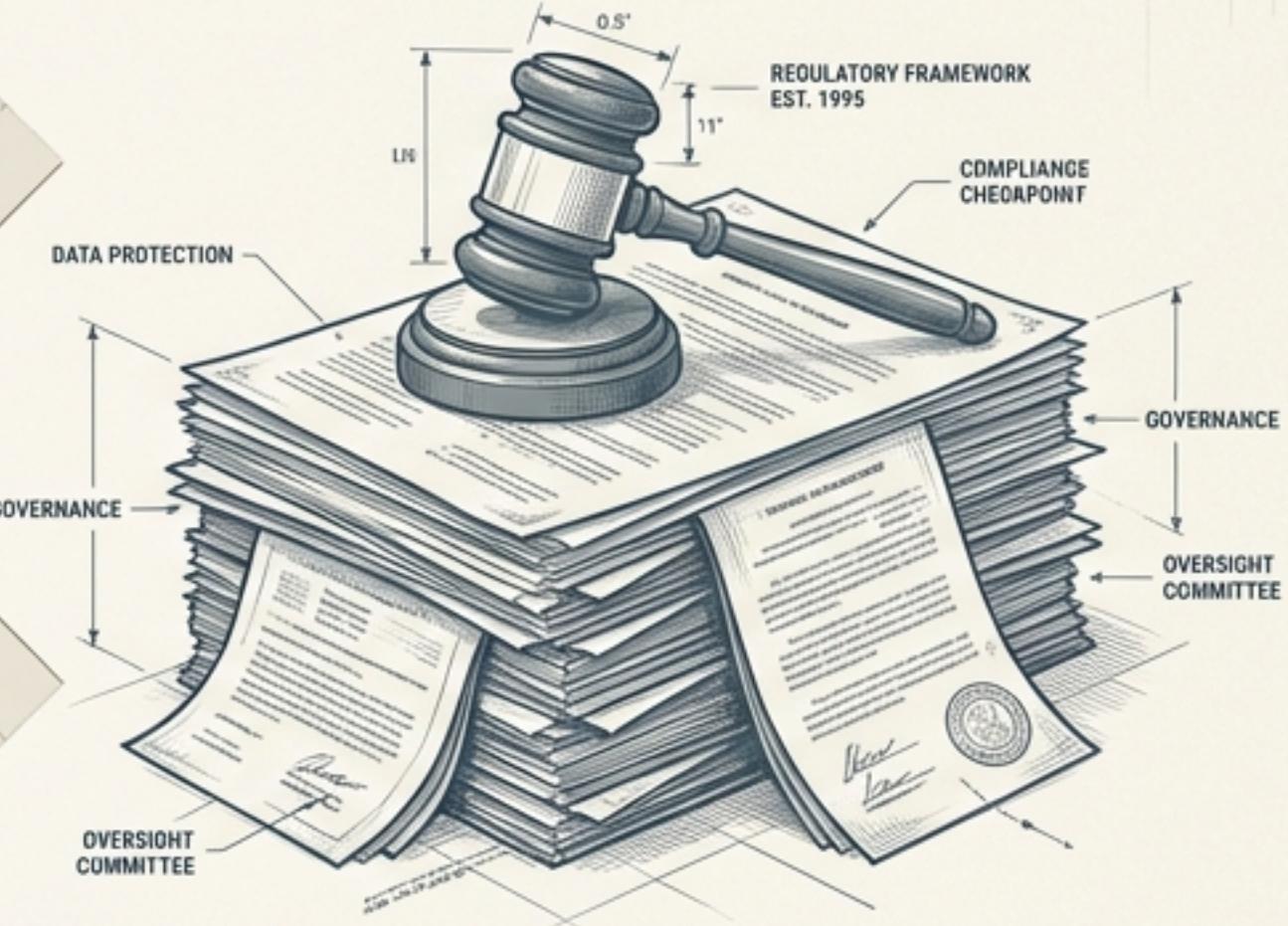
“US Innovates, EU Regulates.”

The Model Race (US)



CONTRAST

The Perception (EU)



The Prevailing Wisdom:

The global tech sector operates on a widely accepted tripod: America leads on technology, Europe follows with bureaucracy, and China copies. This story is compelling because it captures the regulatory friction often felt by US tech giants.

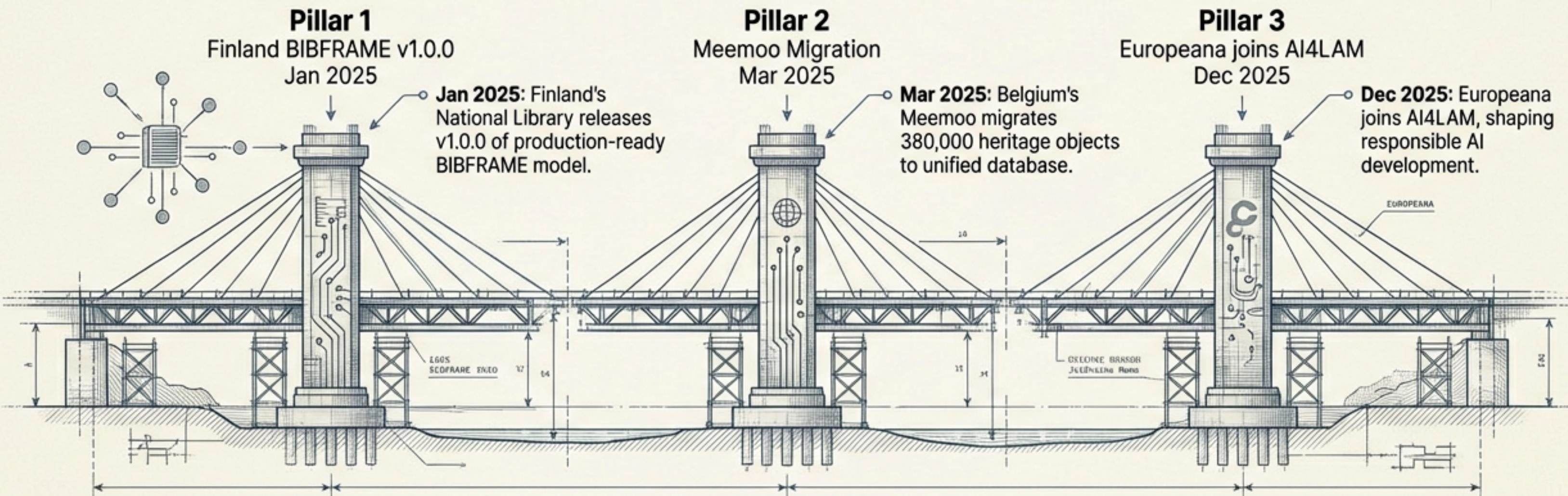
The Blind Spot:

In the rush for generative AI dominance, we have confused “regulation” with “foundational engineering.” The EU isn’t just creating rules; they are building the “truth layer”—the Linked Data infrastructure.



Europe is Innovating While Others Debate

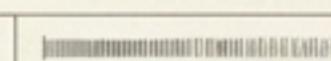
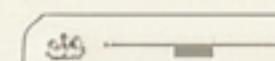
In the domain of AI infrastructure—specifically the Linked Data foundations required for machine understanding—Europe is deploying production systems at a continental scale.



“These aren’t pilot projects. These are production systems.”

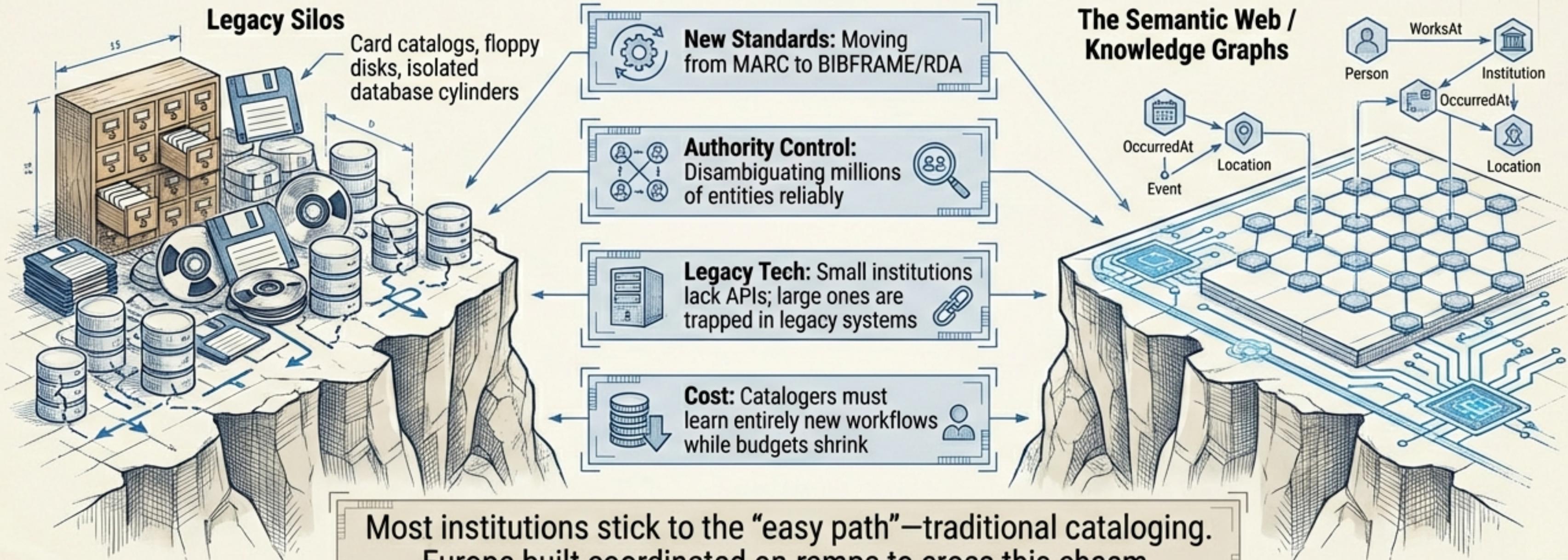


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The Transformation Gap: Why Everyone Isn't Doing This

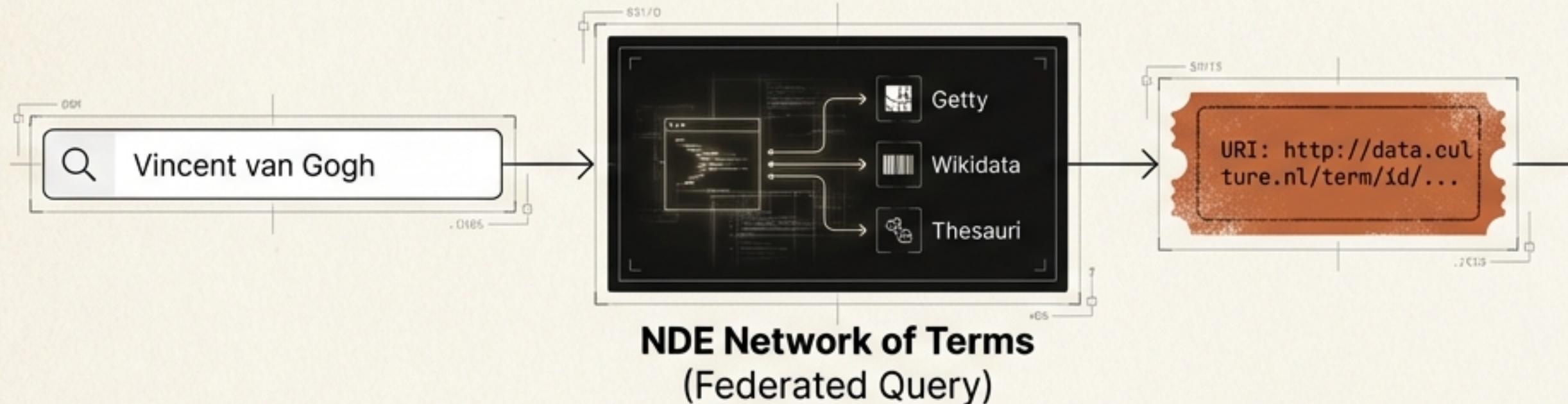
Transforming collections into Linked Data is the “hard path.” It requires moving from isolated databases to interconnected knowledge graphs.



Strategy A: The Low-Barrier On-Ramp (Netherlands)

The Philosophy:

Make it so easy they don't know it's Linked Data.



60 Million

queries processed monthly

99%+

success rate

Used by

almost all major Collection Registration Systems in the Dutch Heritage sector

The Solution: NDE's Network of Terms. Instead of asking a small museum to learn complex vocabularies (SKOS, Getty AAT, Wikidata), they simply send a query. The system searches 40+ terminology sources and returns a harmonized result.

Strategy B: Command and Control (Sweden)

The Philosophy:

When a National Library leads, the ecosystem follows.

The Solution: Libris. Sweden's National Library became the first in the world to fully transition to BIBFRAME 2.0.

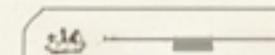
- **Not a pilot:** Full production cataloging since July 2018.
- **Scale:** 13 million items across 600 coordinated libraries.
- **Strategic Pivot:** By 2024, infrastructure rebuilt entirely on open-source platforms designed for Linked Data.



They didn't wait for international consensus. They pioneered the implementation and shared the "hard lessons" with the network.



0 100 200



Strategy C: Model-First Architecture (Finland)

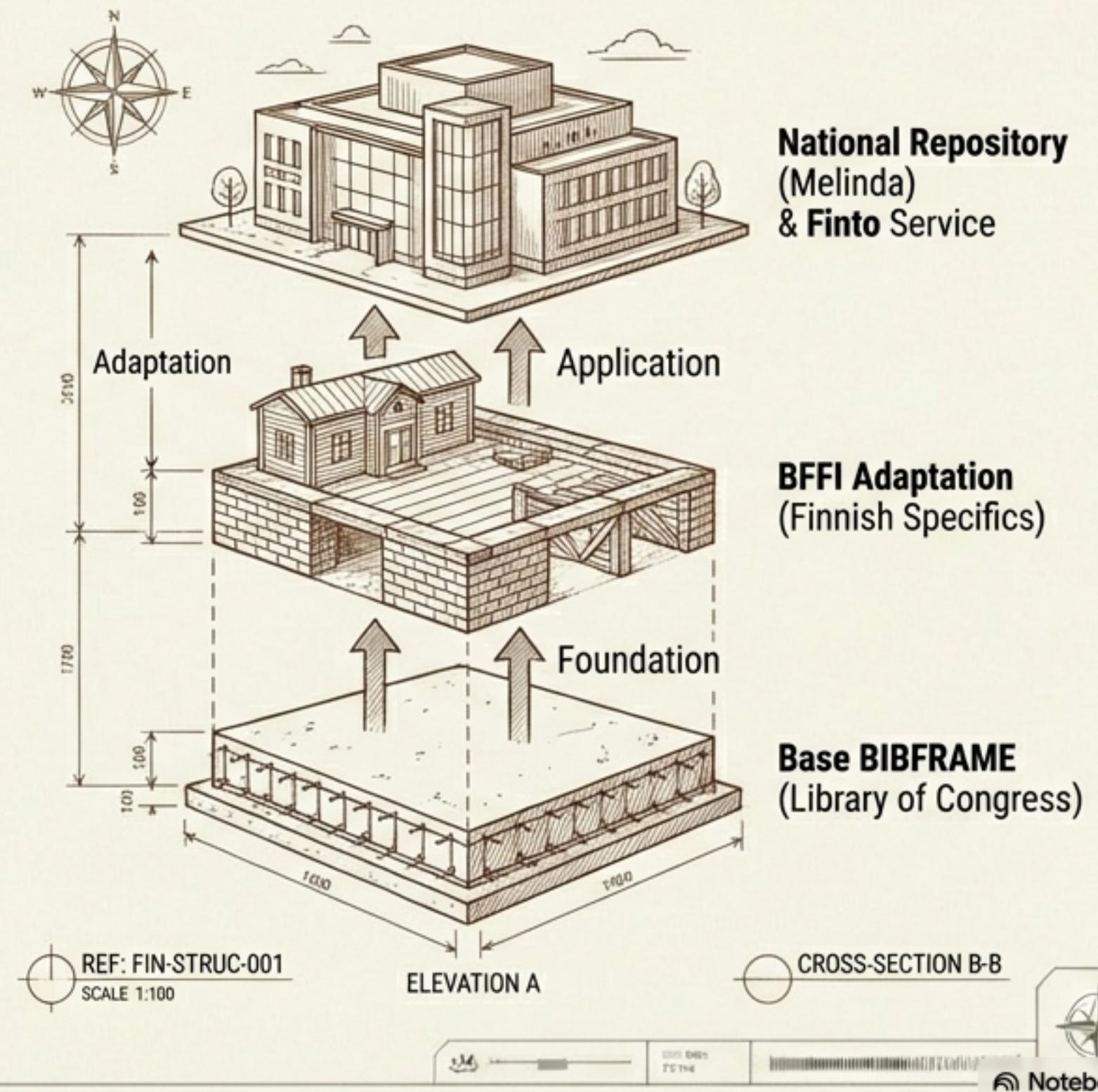
The Philosophy:

Build the ontology right, then migrate the systems.

The Solution: BFFI (BIBFRAME Finland) and Finto.

- **2022-2024:** Developed Finnish adaptation of BIBFRAME.
- **March 2024:** Added permanent identifiers.
- **Jan 2025:** Version 1.0.0 released (Production Ready).

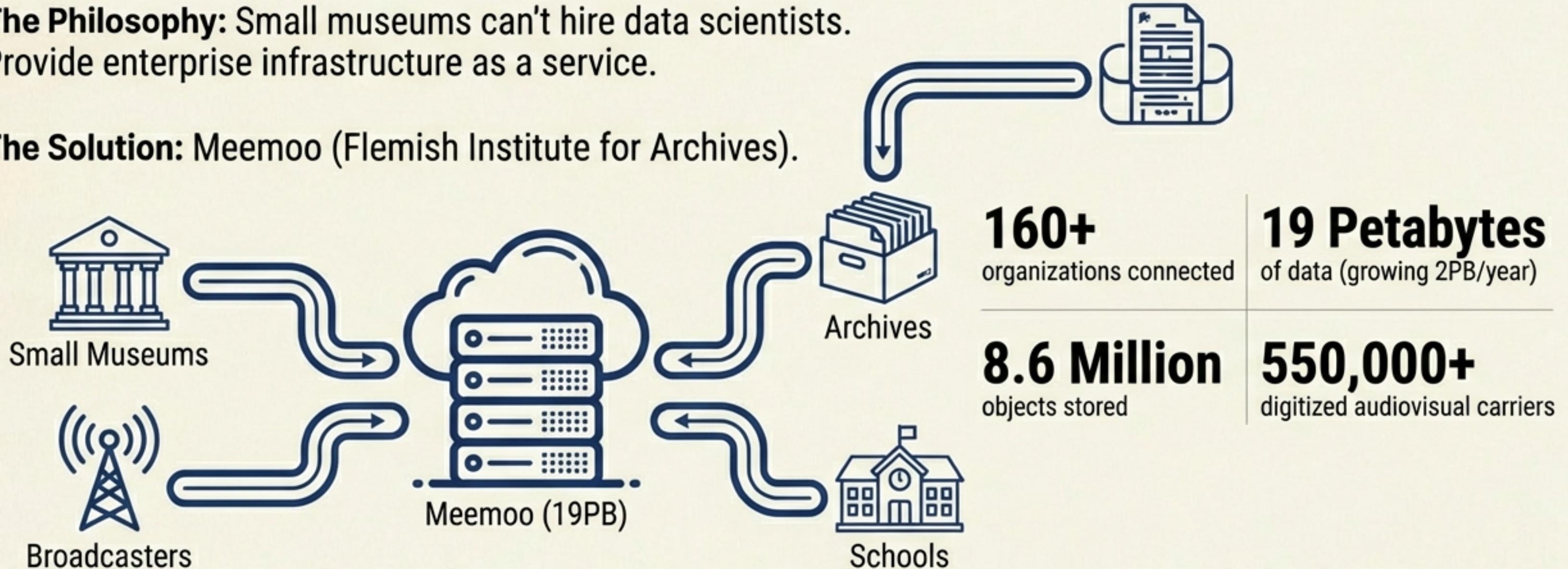
Supported by **Finto**, a national ontology service used daily across the country. Now preparing to convert the national metadata repository (Melinda) to this model.



Strategy D: Full Service Ecosystem (Belgium)

The Philosophy: Small museums can't hire data scientists.
Provide enterprise infrastructure as a service.

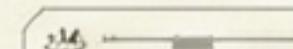
The Solution: Meemoo (Flemish Institute for Archives).



March 2025: Launched unified heritage database, migrating 380,000 objects from legacy provincial systems.



0 100 200



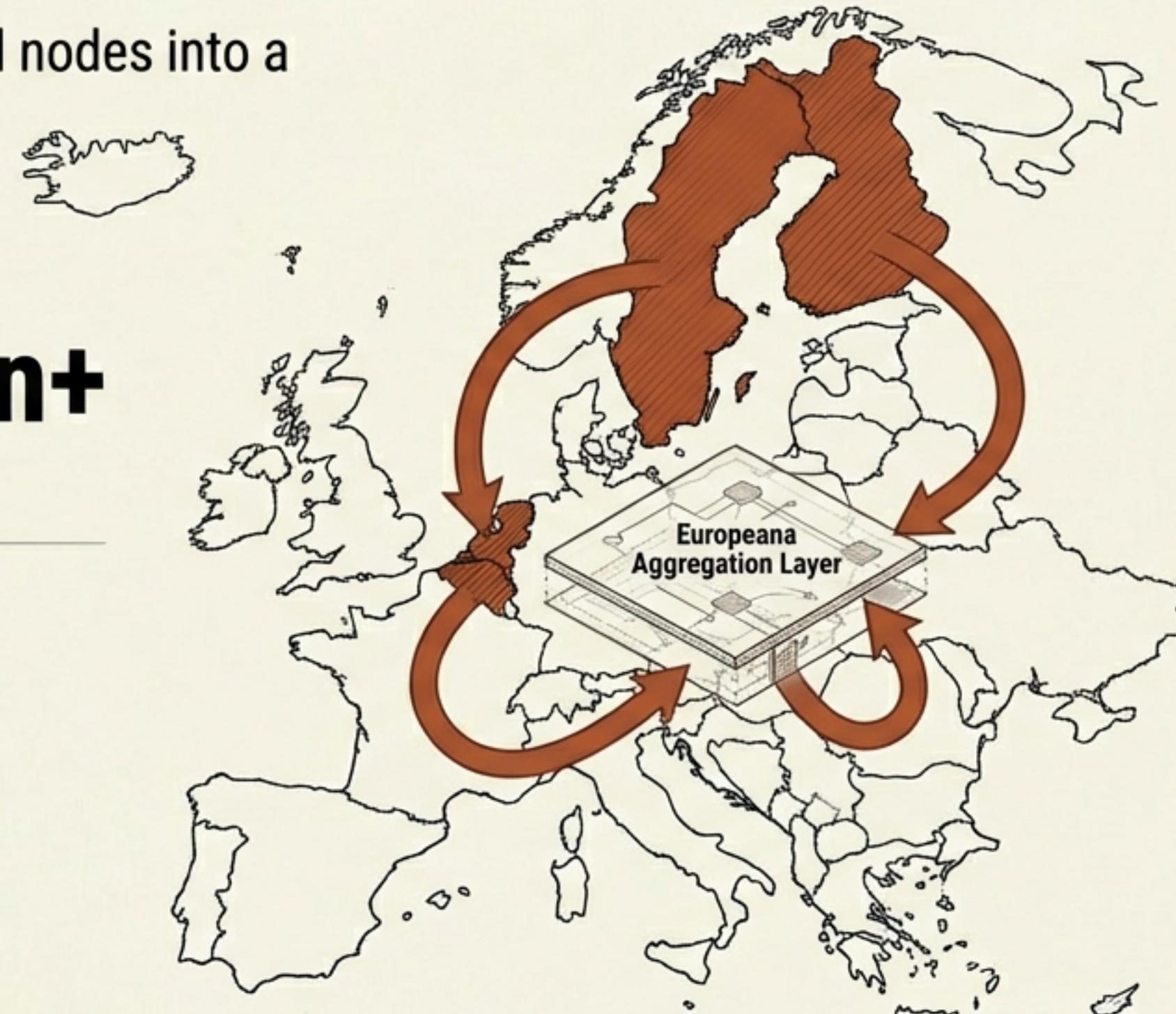
The Aggregator: Europeana

Connecting national nodes into a continental graph.

Scale Metrics

60 Million+
digitized objects

4,000+
institutions



The AI Pivot

Europeana isn't just storing jpegs; it is actively shaping AI policy.

- **Dec 2025:** Joined AI4LAM (AI for Libraries, Archives, Museums).
- **Dec 2025:** Released Impulse Paper on publishing heritage data for AI training.
- **Consultation:** 68% of professionals are 'opportunity-seekers' for AI.

REF: EUR-AGG-001
SCALE NTS





Proof of Concept: Does it Work?

```
  {
    "@type": "Painting",
    "creator": "Vincent van Gogh"
  }
```

Rijksmuseum (The Veteran)

Open Data policy since 2002.
800,000+ objects available
as Linked Data via APIs.

Result: Used globally by
developers and researchers
because it is reliable
production quality.



Van Gogh Worldwide (The Collaborator)

Problem: Work scattered
across ~200 institutions.

Solution: Linked Data
architecture unifies
disparate systems.

Result: 1,100+ works unified.
First platform to use the
Linked Art data model.



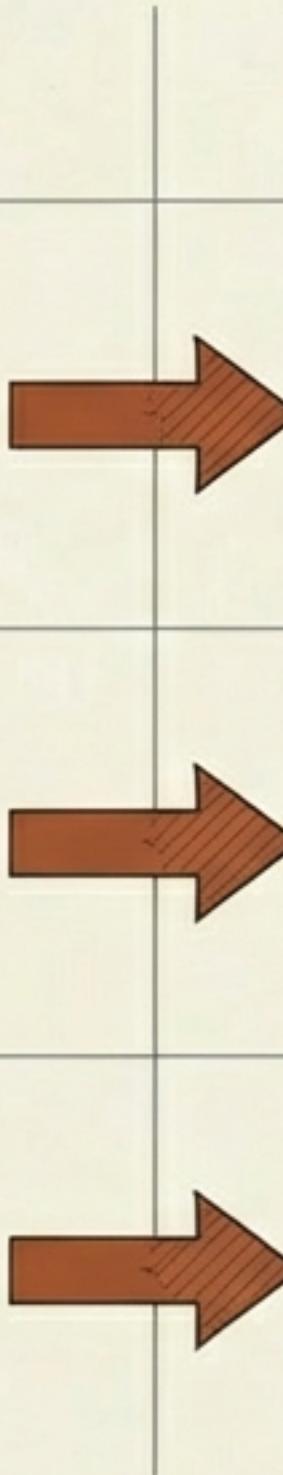
The Rosetta Stone: Why AI Needs Librarians

⚠ AI Pain Point

Hallucinations & Entity Conflation
(Is "Michael Jordan" the player or the professor?)

Data Provenance & Trust
(Where did this training data come from?)

Context & Semantic Understanding
(How do concepts relate?)



✓ Library Infrastructure Solution

Authority Control
(Unique PIDs for every entity since 1876).

Metadata Standards
(Systematic documentation and sourcing).

Classification & Knowledge Graphs
(150 years of taxonomy development).

Strategic Divergence: Models vs. Infrastructure



US Strategy (Silicon Valley)

Focus: Race to build better AI models.

Strengths: Individual excellence (Library of Congress Linked Data Service, Getty Vocabularies).

Weakness: Disconnected. No equivalent to national coordination.



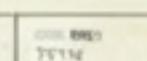
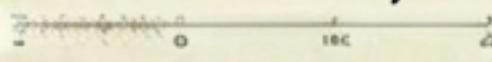
EU Strategy (Systemic)

Focus: Build the infrastructure those models need.

Strengths: Coordinated national programs (NDE, Libris, Meemoo).

Outcome: The Truth Layer.

The Irony: The EU AI Act isn't blocking innovation; it is codifying best practices (Authority Control) that AI companies are now frantically trying to reinvent.



Summary: Production, Not Pilots

60M 19PB 150

Queries/Month (NDE)

Heritage Data (Meemoo)

Years of Taxonomy

Success Factors

- Infrastructure Exists:** It is operational, not aspirational.
- Multiple Entry Points:** From simple APIs to full service.
- Scale:** Millions of objects, hundreds of institutions.
- Timing:** The investment is validating right now.

“Libraries spent 20 years building Linked Data systems. That investment is validating. Right now.”

The Bandwagon is Leaving the Station

The narrative that “US innovates, EU regulates” is incomplete. On AI infrastructure, Europe innovated by building what libraries do best: authoritative, provenance-tracked knowledge systems.

- The infrastructure exists.
- The standards work (BIBFRAME, Linked Art).
- AI has validated the value proposition.

It is time to stop debating regulation and start utilizing the infrastructure that makes AI trustworthy.