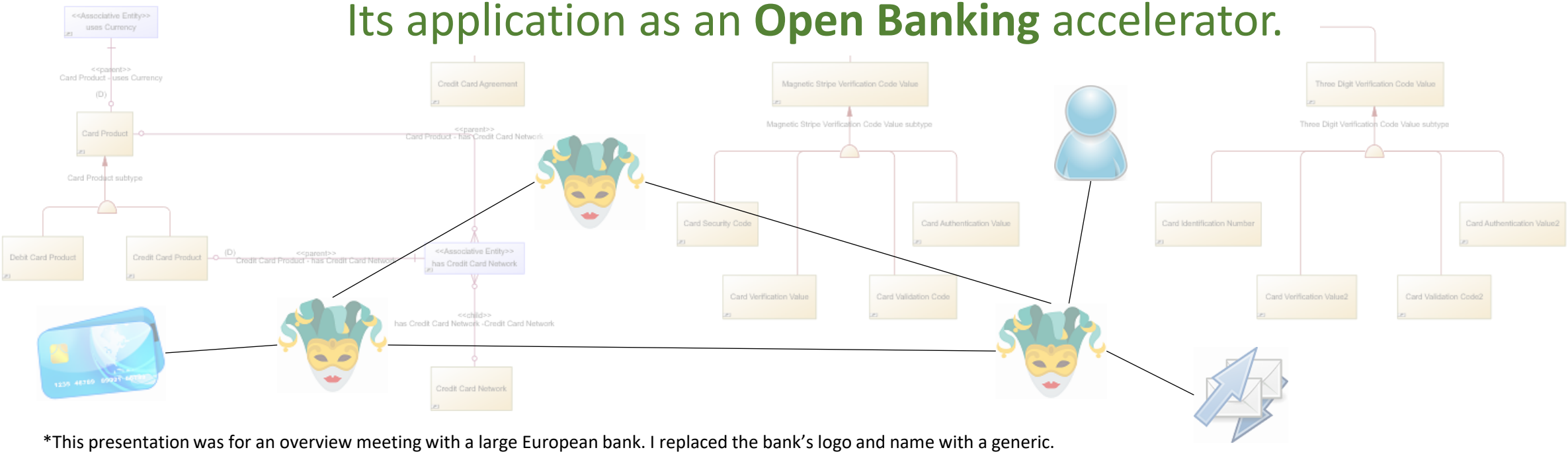
Semantics for Large Banks

An overview and introduction to the **FIBO Data Model**

Its application as an **Open Banking** accelerator.



*This presentation was for an overview meeting with a large European bank. I replaced the bank's logo and name with a generic.

Finance key point

FIBO is the authoritative model of Financial Industry concepts, their definitions, and relations.

The Enterprise Data Management Council (EDMC) is the Global Association of over 200 Financial Institutions (FI).

- Data Management best practices
- Development and implementation of Data Standards.

EDMC members developed the Financial Industry Business Ontology (FIBO), a business conceptual model.
2435 classes detail counterparties, transactions including payments.

Finance key point

FIBO is a business model and a schema

FIBO
Financial Industry Business Ontology

"The Financial Industry Business Ontology (FIBO) is a **business conceptual model** developed by our members of how all financial instruments, business entities, and processes work in the financial industry." (EDMC)

The council specifies the model in Resource Description Framework Schema and Ontology Web Language, **RDF/OWL**.
The ontology enables you to specify sample data values and complex constraints beyond the Conceptual Data Model.

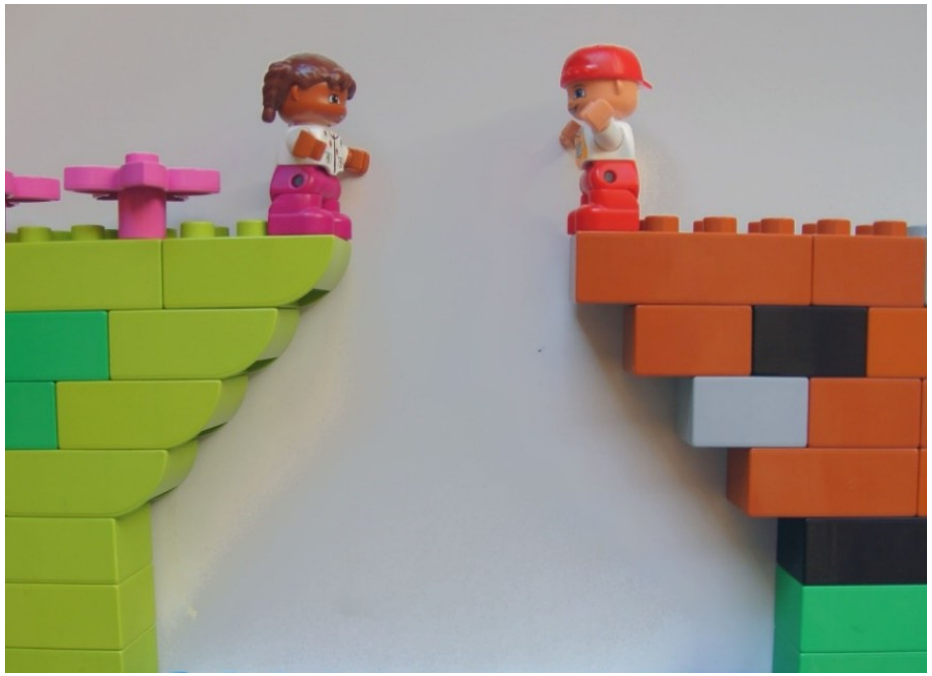
Finance key point

There is a chasm between semantic and conventional data management.

The EDMC specified FIBO in Ontology Web Language (OWL).

FIBO is comprehensive with detailed coverage of business entities, loans, securities, derivatives, and indicators.

Large financial institutions started implementations on RDF (“triple”) stores



OWL needs highly specialized ontologists.

Many banks and investment managers don’t have the expertise inhouse.

IT-departments must still support and design conventional databases.

Data Architect

ELB current state challenges

- Thousands of **Silo** database systems with millions of tables
- **Duplicate**, 30+ “Master” systems for **customers & products**
- Data Architecture trapped in **operational support**
- “Validating” operational schemas – **no integration**
- Lack of management **buy-in** for logical reference models

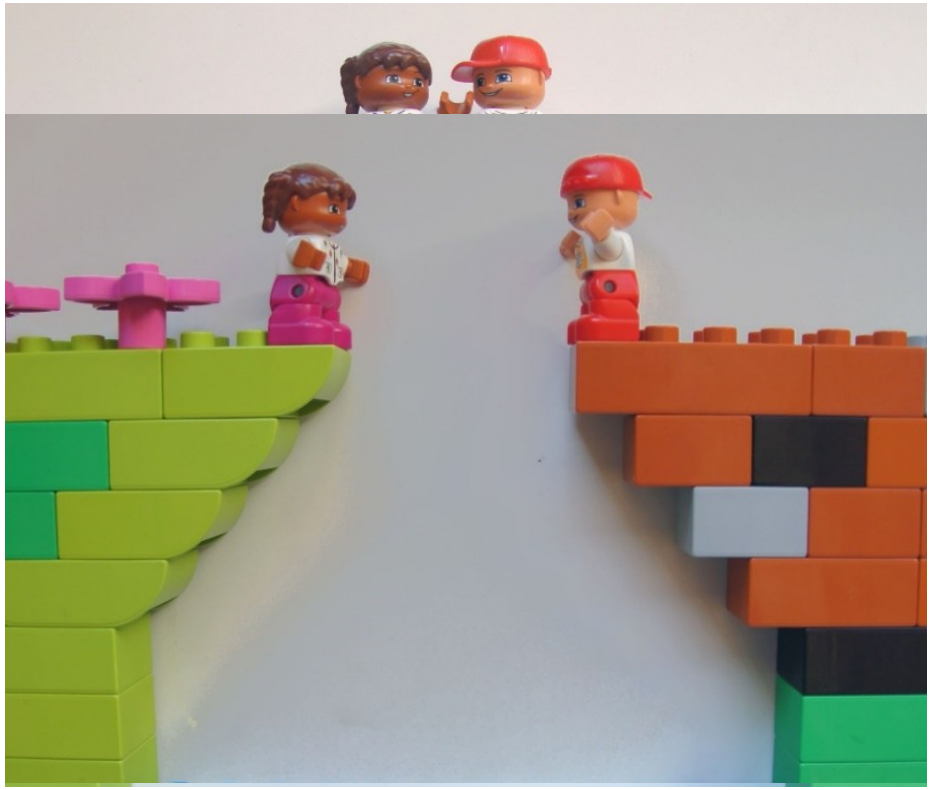
Poor Data Management Capabilities impede competitiveness, innovation, and regulatory compliance.

Finance key point

FIB-DM is the bridge across the chasm.

OKG FIBO
Financial Industry Business Ontology

in

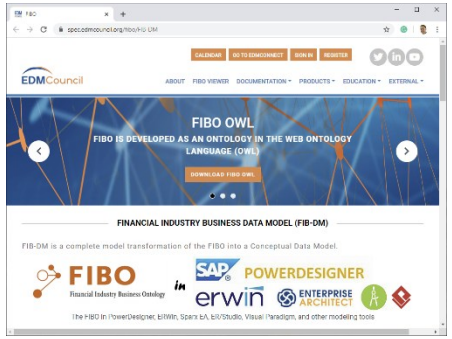


erwin

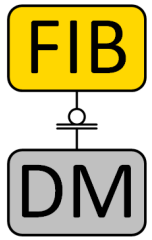
The Industry Standard is available in your Data Modeling tool.

Finance key point

FIBO and FIB-DM are the Industry Standard



The Enterprise Data Management Council endorses the FIBO Data Model on its website



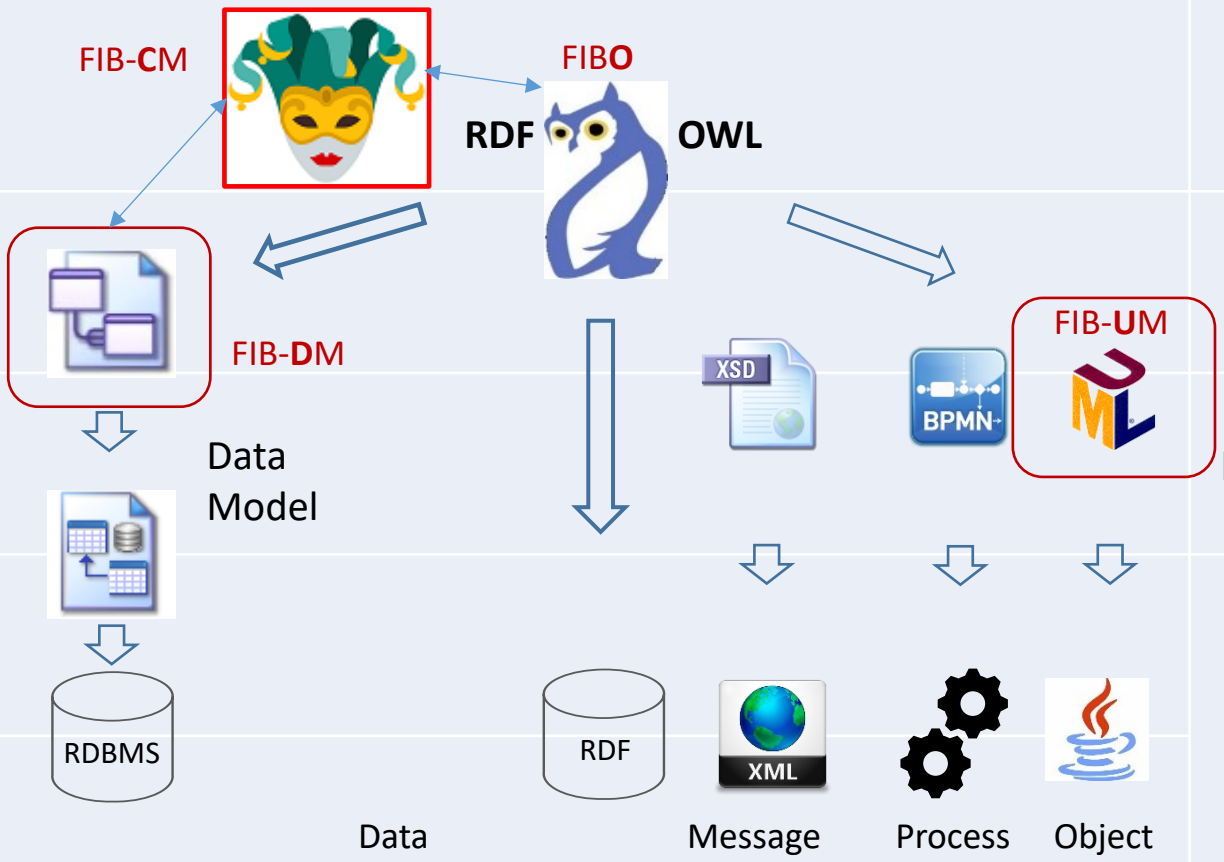
Three thousand five hundred users and 162 banks downloaded the Open-Source core version.

ELB Data Architecture team downloads the PowerDesigner model.

Finance key point

Semantic Enterprise Information Architecture

Use	Type		Level
Business	Conceptual		Enterprise
Design	Logical		Department
	Physical		
Development	Implementation		Project

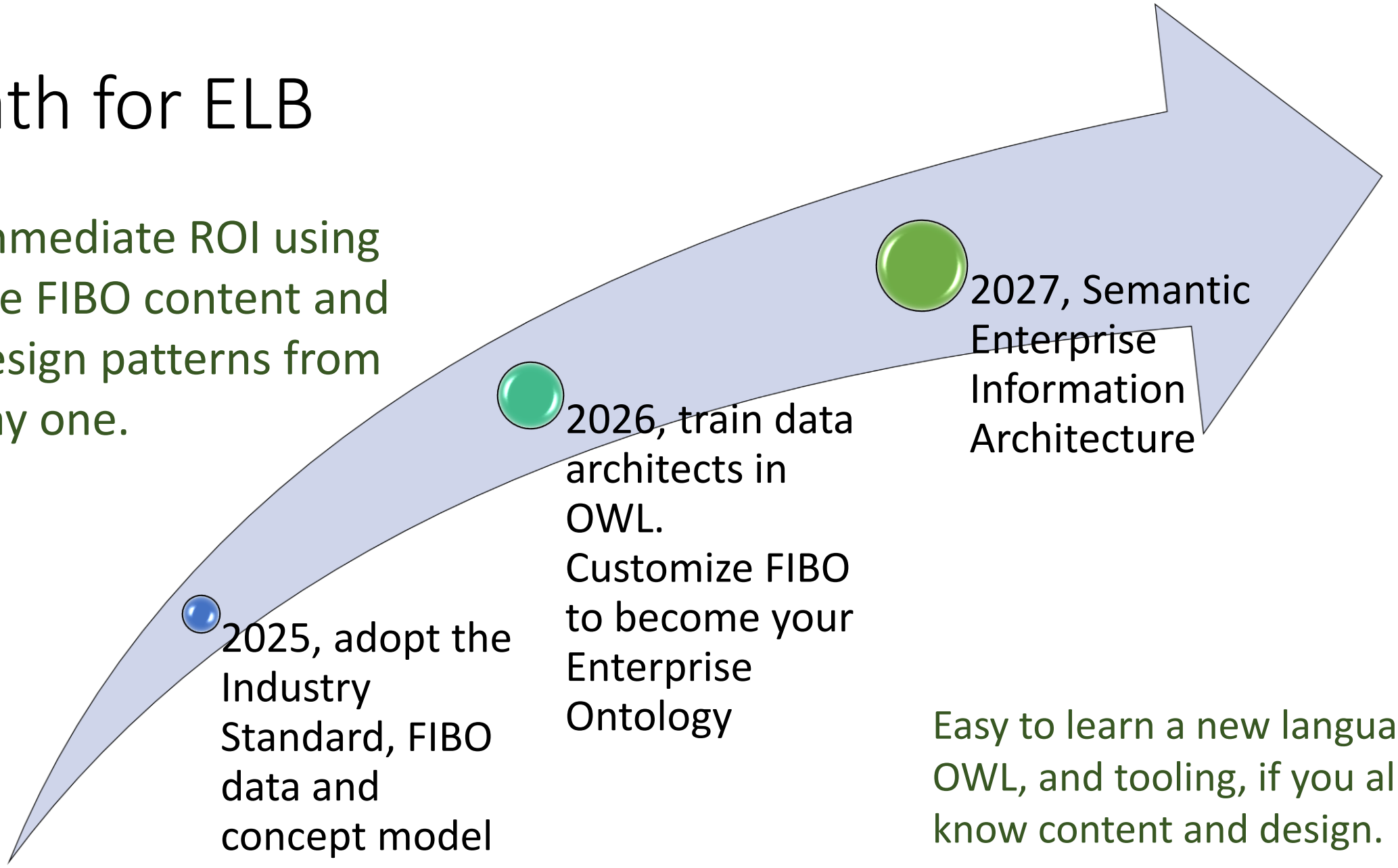


Open Banking needs data, object, and message models!

Finance key point

Path for ELB

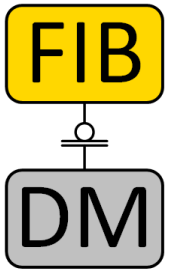
Immediate ROI using the FIBO content and design patterns from day one.



Easy to learn a new language, OWL, and tooling, if you already know content and design.

Finance key point

Financial Industry Business Data Model



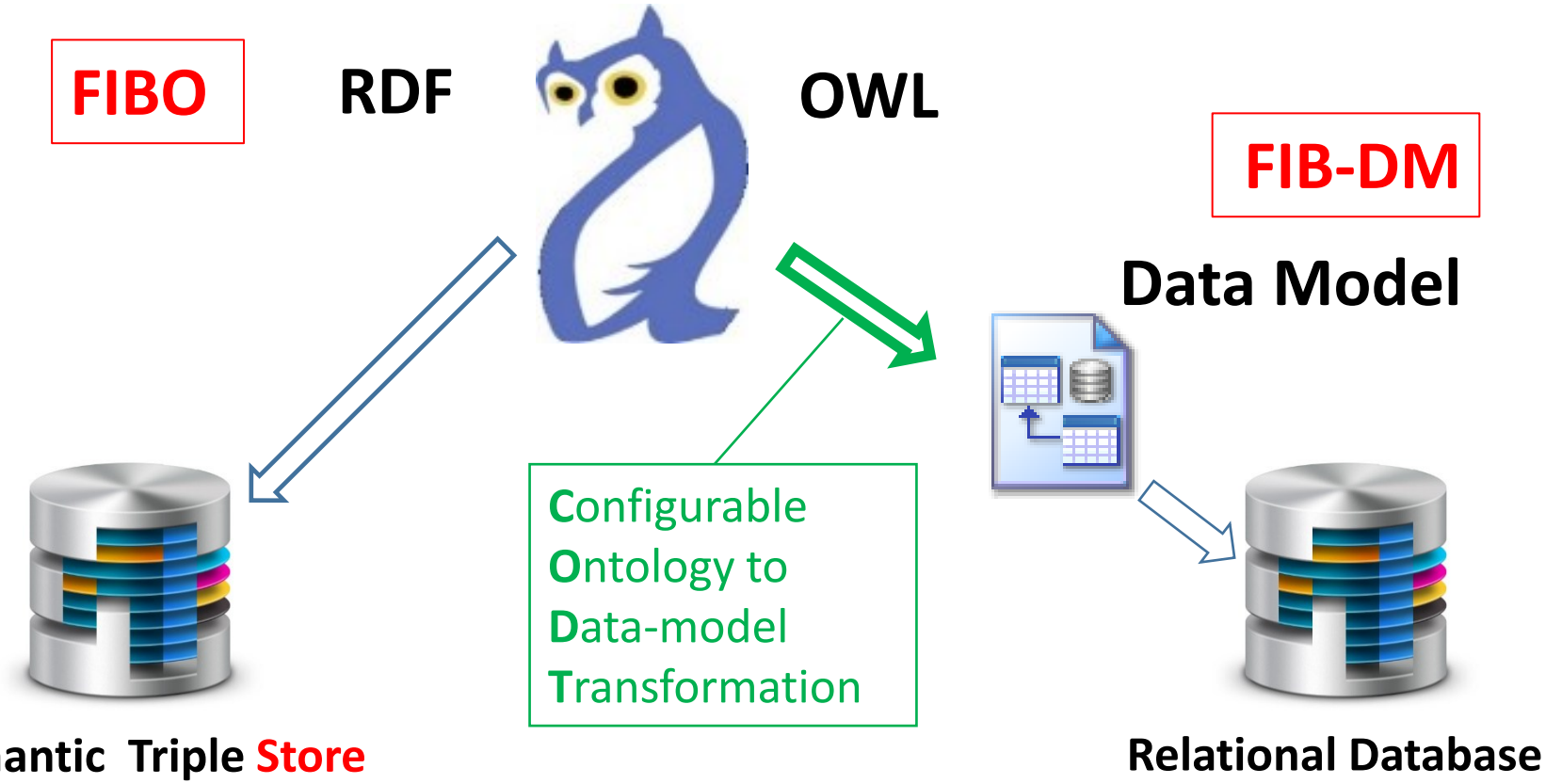
= FIBO Financial Industry Business Ontology *in* SAP POWERDESIGNER

(and other data modeling tools)

- Financial Industry Business Data Model of 3,173 Entities, complete definitions, annotations, and axioms (business rules).
- Data Architects leverage the full content of the Industry Standard.
- **Common Language and design patterns for Semantic & Relational data.**

Finance key point

The ontology transformed into a data model leverages the design for relational databases.



The RDF-**Store** is for knowledge and analytics –
not for transaction processing, core banking

Finance key point

Atlantic is the way to Semantic EIA and MDD

FIB

Full

DM

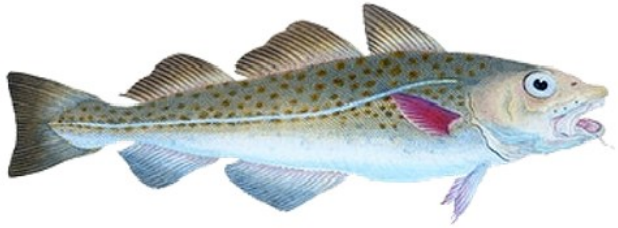
2025/Q4

release

3,173 entities

The world's largest data model.

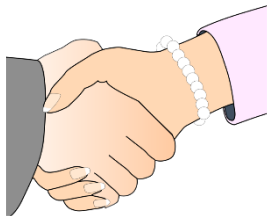
ATLANTIC CODT



Configurable Ontology to Data model Transformation (CODT)

Finance key point

The 15 concept mnemonic icons, and abbreviations



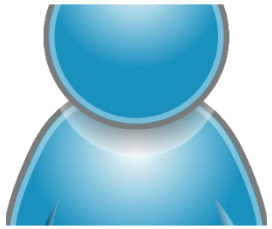
SIT
Situation

R
Role

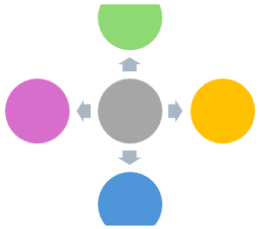
D
Designation

CST
Constituent

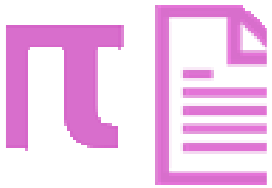
COL
Collection



A
Agent



ASP
Aspect



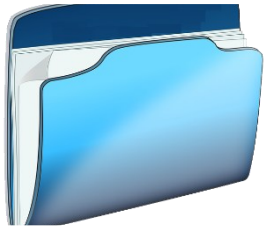
SP
Specification

ARR
Arrangement

M
Measure

OCC
Occurrence

TE
Temporal Entity



DOC
Document

SQ
Scalar Quantity

ACT
Account

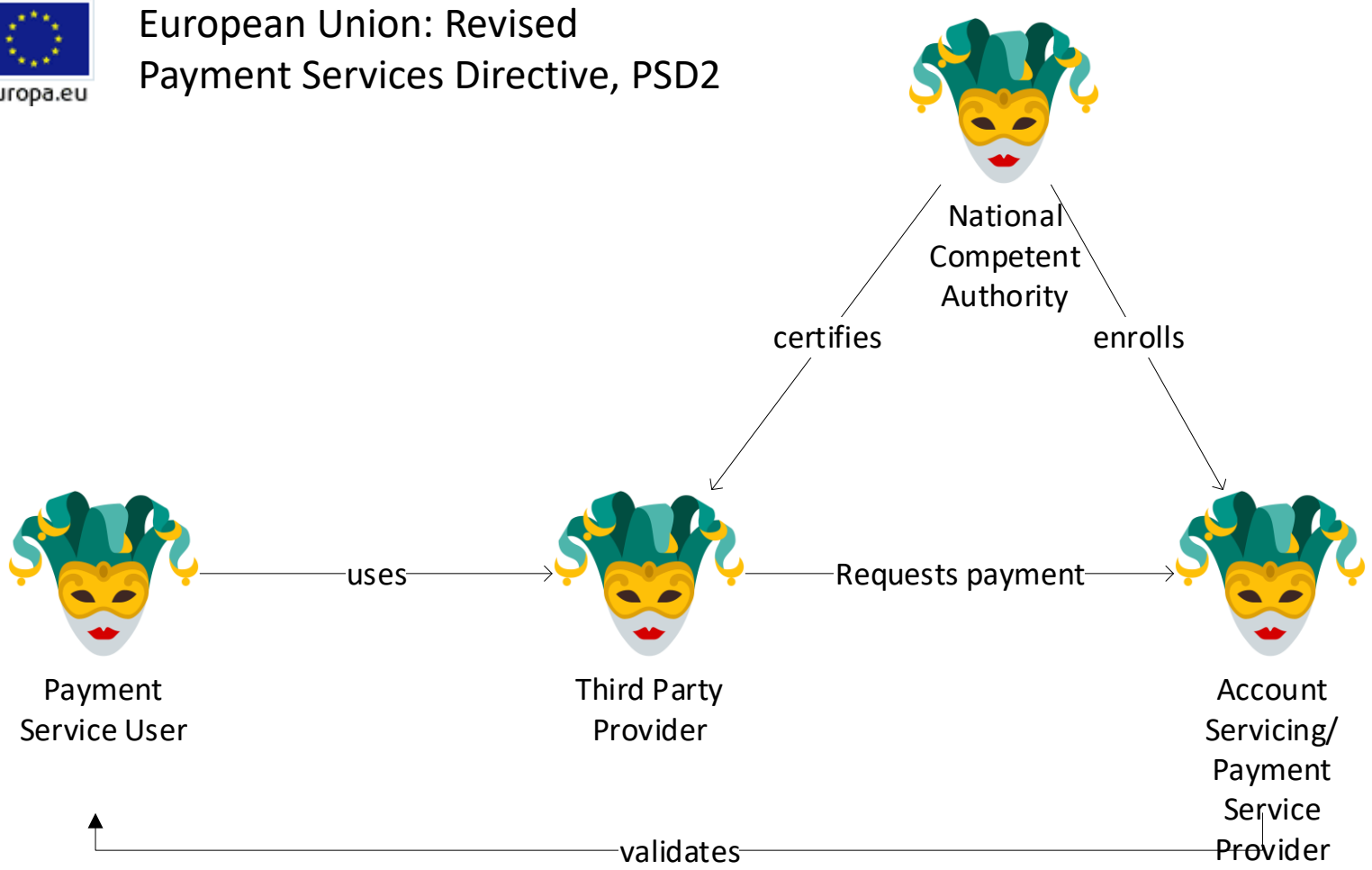
The Fundamental concepts define the Open Banking scope: Registry (ARR), Network locations (LOC), new products and services, customer agreements, documents, accounts, an of course the API request (OCC) and their timestamps (TI).

The concepts are ultimate supertypes in the data model.

Finance user int

Open Banking example

European Union: Revised
Payment Services Directive, PSD2

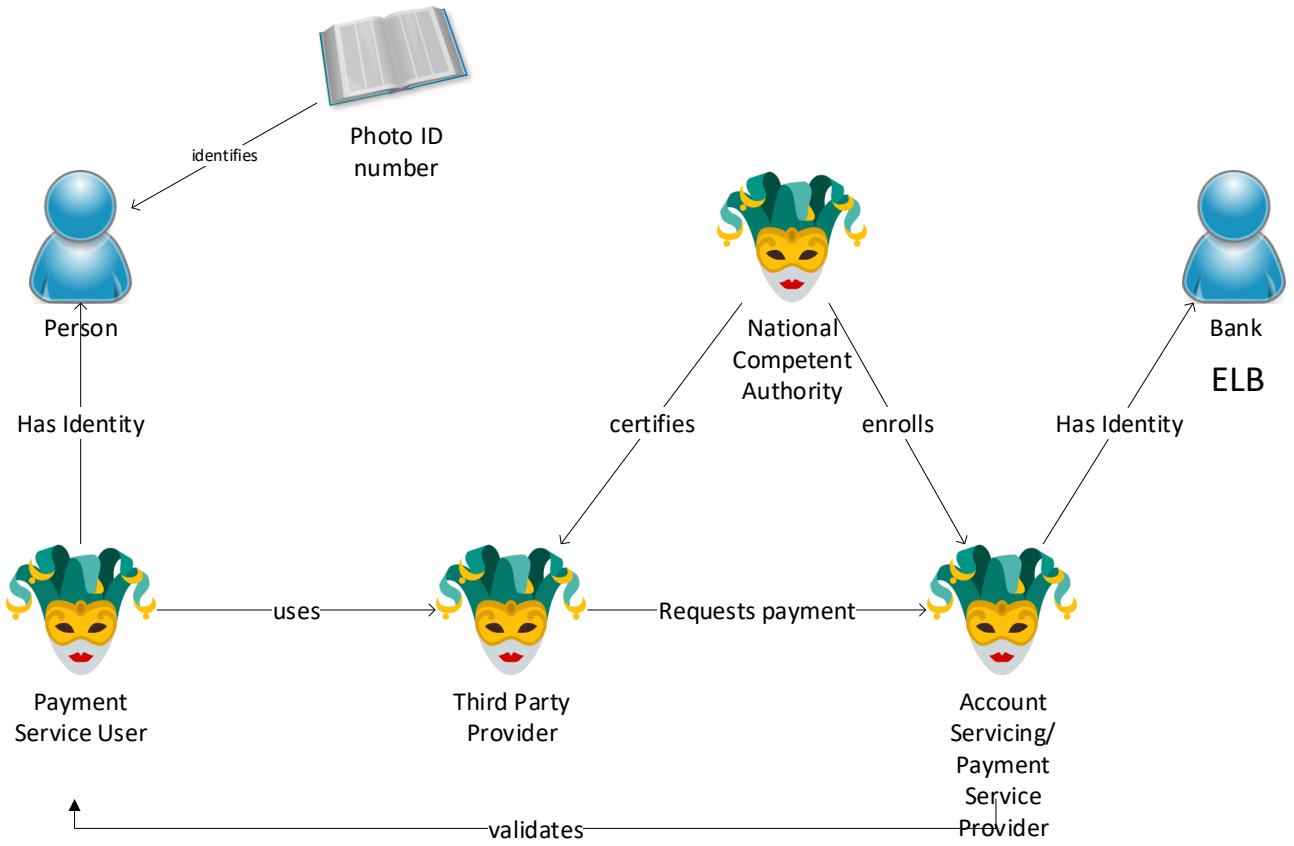


The standard PSD2 diagram shows the four **actors and their relations.**

In the FIBO, they are a **Role**.

The FIB concept maps use the **mask as a symbol**.

Expanding the scope

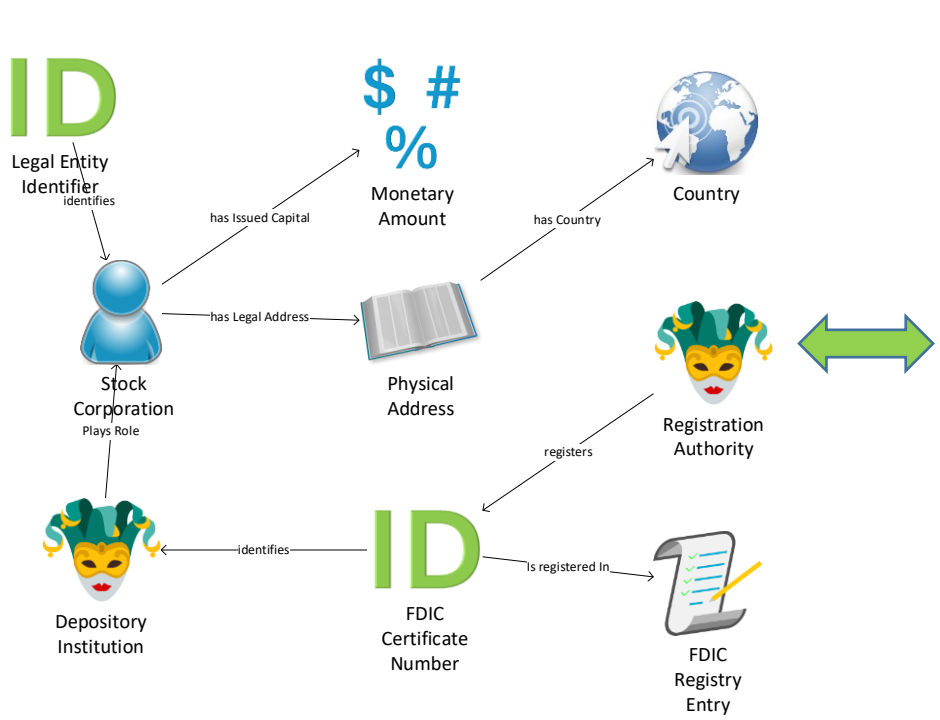


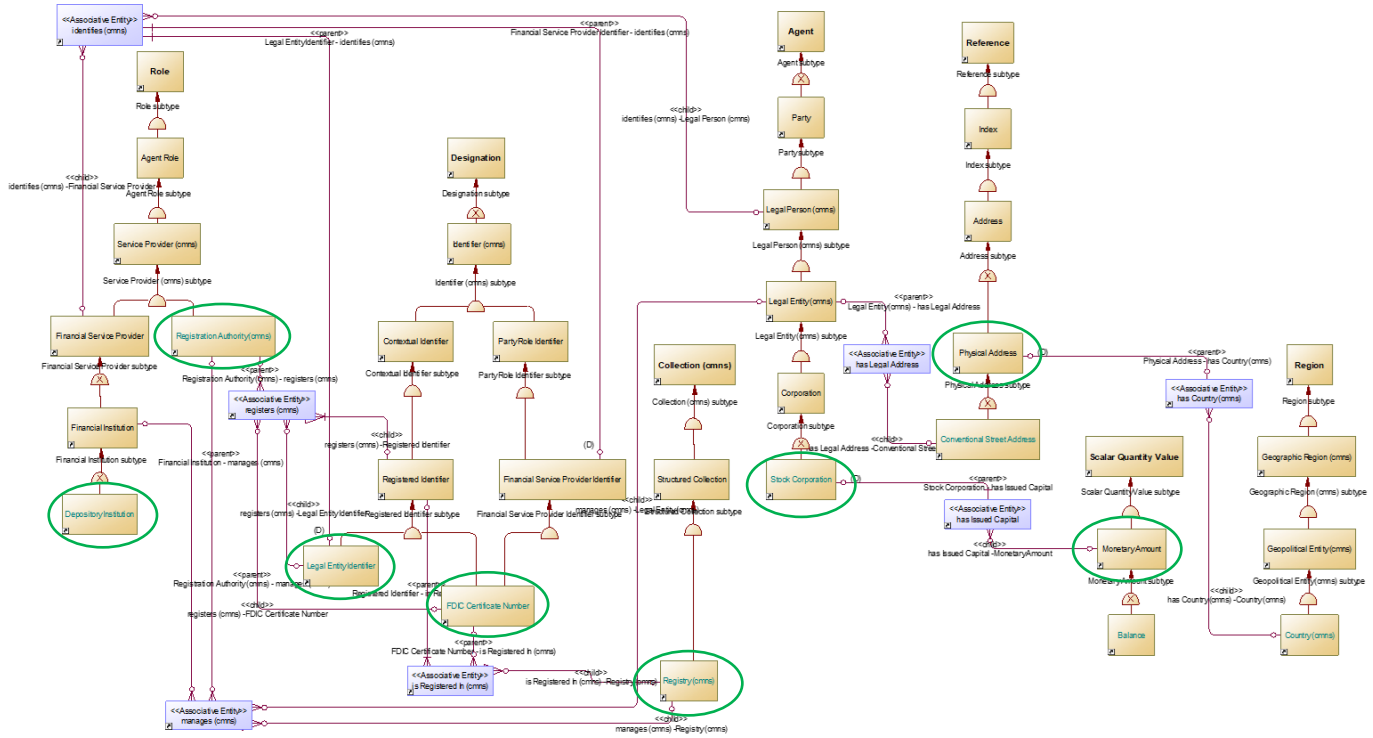
All Things in Role have an identity, the **Agent.**

The payment user is a Person.
The Photo ID, a **Reference**, identifies her.

An Autonomous Agent can have many roles.
It may also be a third-party provider requesting information from another bank.

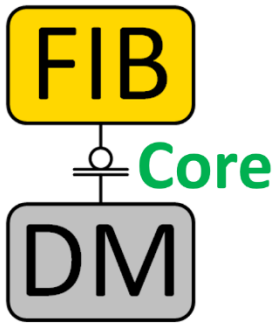
The concepts and vocabulary establish a direct correspondence between the map and the data model.

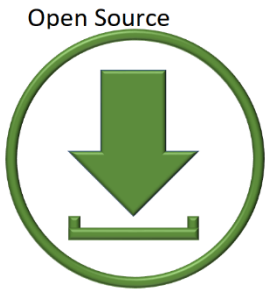




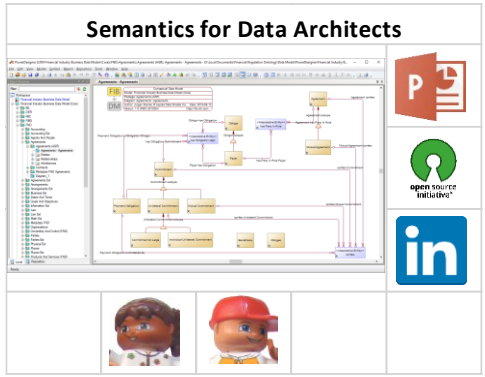
Finance key point

Transparency for your FIB-DM evaluation

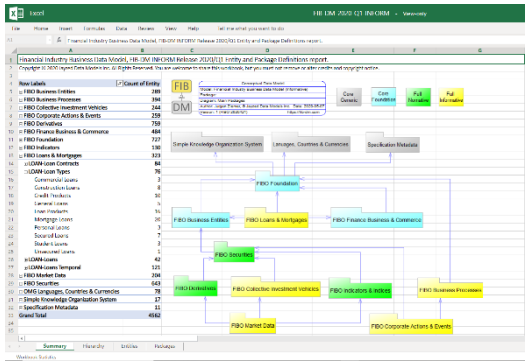




Explore the PowerDesigner Model



Study the Education resources



Examine the 2025/Q4 Full Model content

Review license, maintenance, and pricing

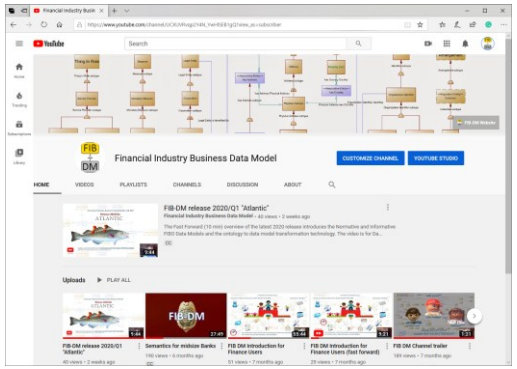
Finance key point

Thanks, and enjoy the ride

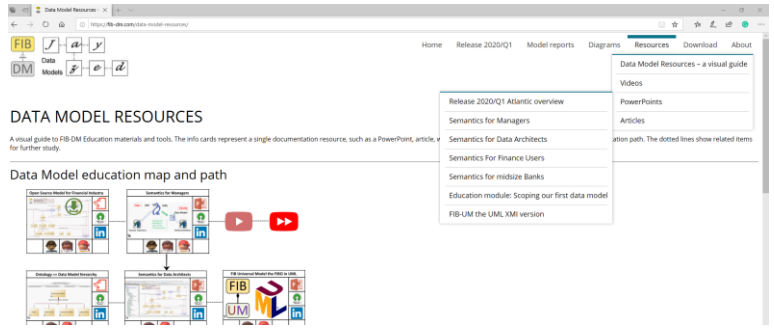
ELB

Semantics for Finance Users explains the 15 fundamental concepts for non-technical audiences.

Scoping our first data model transforms a concept map to PowerDesigner and creates a project model.



https://www.youtube.com/c/fibdm



https://fib-dm.com/