Business Register Interconnection System (BRIS)
a journey to using Core Vocabularies

SEMIC 2018

European Commission

#SEMIC2018
@EU_isa2

Initiative supported by the ISA² Programme
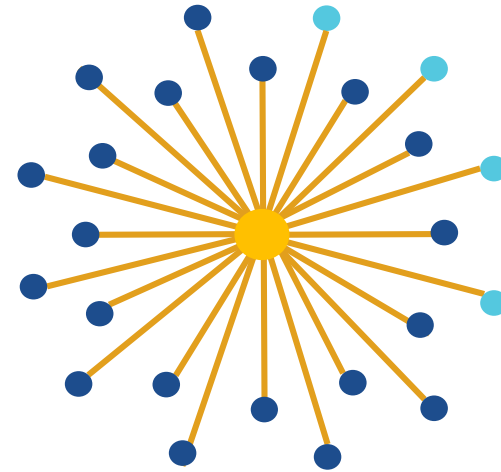
Business Register Interconnection System

BRIS

- Cross Border Mergers
- Cross Border Branch Disclosures
- Company Search
- Notifications

Figures

- 350 European Business Registers
- 31 Countries (EEA)
- 100K Daily BRIS Messages

Architecture

- European Central Platform
- Access Point (e-Justice Portal)
- National Business Register

Core Vocabularies

Systems Integration

- Different data models in Business Registers
- Need for a common "language" (ontology)
  - Semantic Interoperability

Fit for Purpose

- Design new Data Models (by extension)
  - Harmonised domain data models
  - Information Exchange messages
- Existing Data Models (by mapping)
  - Alignment of data models
  - Reconciliation of data sources

Mappings:
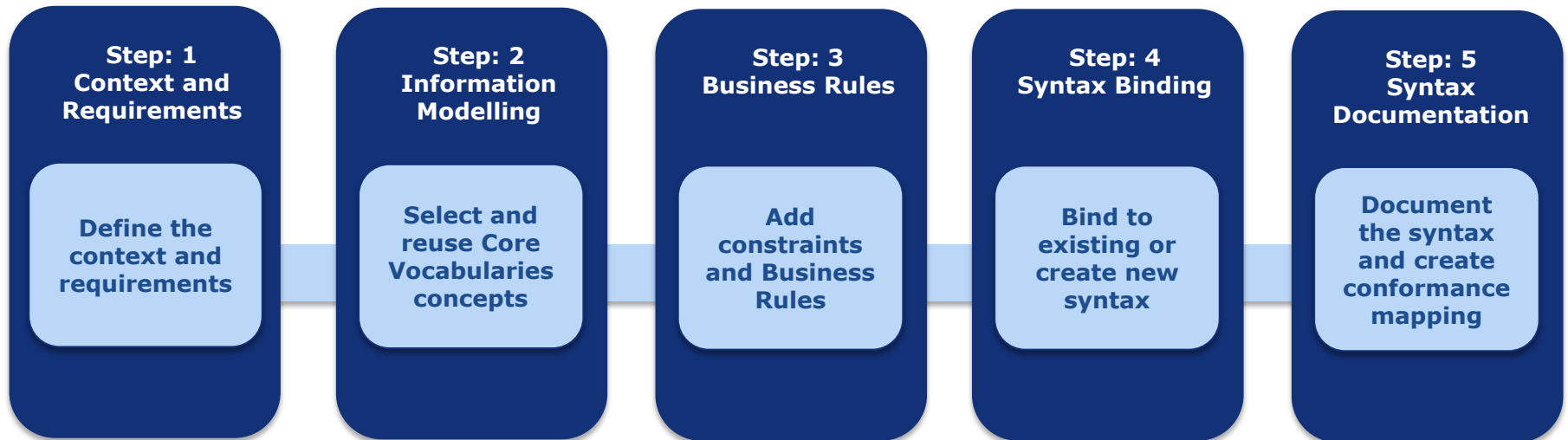
- Legal Entity
- Person
- Location
- Address
- …

SEMIC 2018

Design Process

Legal Interoperability

Organisational Interoperability

Semantic Interoperability

Technical Interoperability

European Commission

Step: 1 Context and Requirements	Step: 2 Information Modelling	Step: 3 Business Rules	Step: 4 Syntax Binding	Step: 5 Syntax Documentation
Define the context and requirements	Select and reuse Core Vocabularies concepts	Add constraints and Business Rules	Bind to existing or create new syntax	Document the syntax and create conformance mapping

European Interoperability Framework (EIF)
https://ec.europa.eu/isa2/eif_en

Model Mapping

Message Model (operations)

Search Request	CrossBorder Merger Notification	Branch Disclosure Notification	Company Details Request

Domain Data Model

Business Register	Document Reference	Company

Core Data Model

Legal Entity Legal Name	Legal Entity Legal Identifier	Legal Entity Company Status Code	Legal Entity Company Type Code
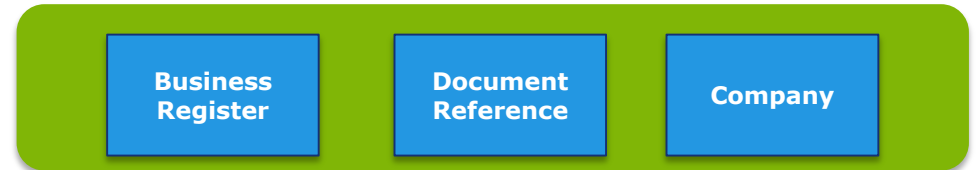
European Commission
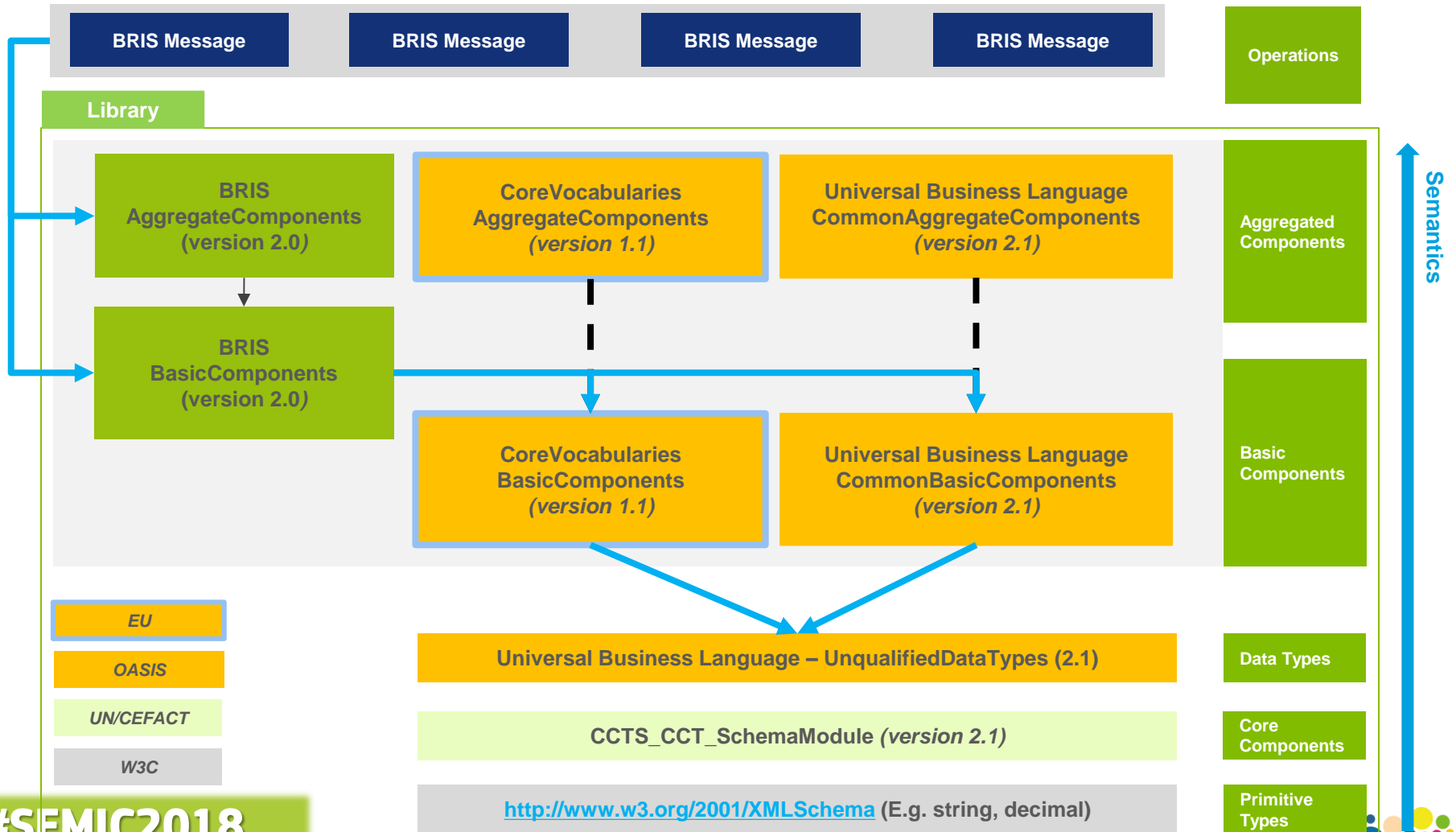
#SEMIC2018
@EU_isa2

SEMIC 2018

Design Process

BRIS Message	BRIS Message	BRIS Message	BRIS Message

Operations

Library

BRIS AggregateComponents *(version 2.0)*	CoreVocabularies AggregateComponents *(version 1.1)*	Universal Business Language CommonAggregateComponents *(version 2.1)*

Aggregated Components

BRIS BasicComponents *(version 2.0)*	CoreVocabularies BasicComponents *(version 1.1)*	Universal Business Language CommonBasicComponents *(version 2.1)*

Basic Components

EU

OASIS

UN/CEFACT

W3C

Universal Business Language – UnqualifiedDataTypes (2.1)

Data Types

CCTS_CCT_SchemaModule *(version 2.1)*

Core Components

http://www.w3.org/2001/XMLSchema (E.g. string, decimal)

Primitive Types

Semantics

Model Customisation

```xsd
<xsd:complexType name="CompanyRegistrationNumberType">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            ComponentType: Basic
            Definition: Company number refers to the registration number of the
            company in the domestic register of origin
            Data. Type: IdentifierType
            Content: String
            Examples:ATU99999999
        </xsd:documentation>
    </xsd:annotation>
    <xsd:simpleContent>
        <xsd:restriction base="cvb:LegalEntityLegalIDType">
            <xsd:minLength value="3" />
            <xsd:maxLength value="35" />
            <xsd:pattern value=".*[^\s].*" />
        </xsd:restriction>
    </xsd:simpleContent>
</xsd:complexType>
```

Messaging Model

Step 1

- **Analyse Use Case(s)**
  - Define Business Messages (e.g. CrossBorderMergerNotification)
  - Generic Message Structure
    - MessageObject, RequestObject, ResponseObject
  - Consider using a Message Container
    - UN/CEFACT Standard Business Document Header (SBDH)
    - ETSI ASiC – binding multiple (signed) message objects

Step 2

- **Identify Message Exchange Patterns**
  - Request / response scenarios
  - Notifications, one-to-one, one-to-many
  - Map onto Technical Message Channel
    - BRIS -> CEF e-Delivery (AS4 Standard)

Legal Interoperability

Organisational Interoperability

Semantic Interoperability

**Technical Interoperability**

Challenges

Message Versioning

- How to handle different versions of a Business Message ?
- Level of versioning (model vs. message)
- Message "backward/forward" compatibility
- Using a Service Directory

Message Compliance

- Verify implementation of Message Model
  - Alternative scenarios, error handling
- Testing in cloud environment (ISA[2] TestBed)
  - Global e-Business Interoperability TestBed

References
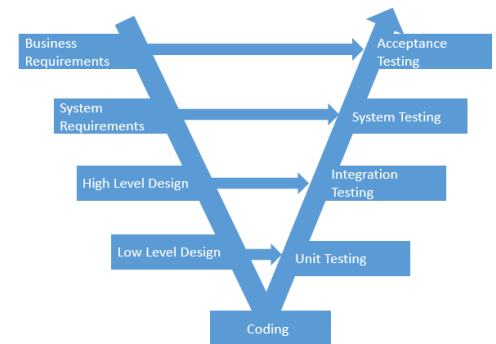
- Core Vocabularies
  - https://ec.europa.eu/isa2/solutions/core-vocabularies_en
- CEF e-Delivery
  - https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery
- Standard Business Document Header (SBDH)
  - https://www.gs1.org/standards/edi/standard-business-document-header-sbdh
- Associated Signature Containers
  - https://en.wikipedia.org/wiki/Associated_Signature_Containers
- Testing V-Model
  - https://en.wikipedia.org/wiki/V-Model_(software_development)
- ISA^2 Interoperability TestBed (GITB)
  - https://ec.europa.eu/isa2/solutions/interoperability-test-bed_en

Vincent.Dijkstra@ec.europa.eu

@VincentDijkstra