



Ministerie van Financiën

The data journey of the Dutch Ministry of Finance

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Enterprise architect
Ministry of Finance

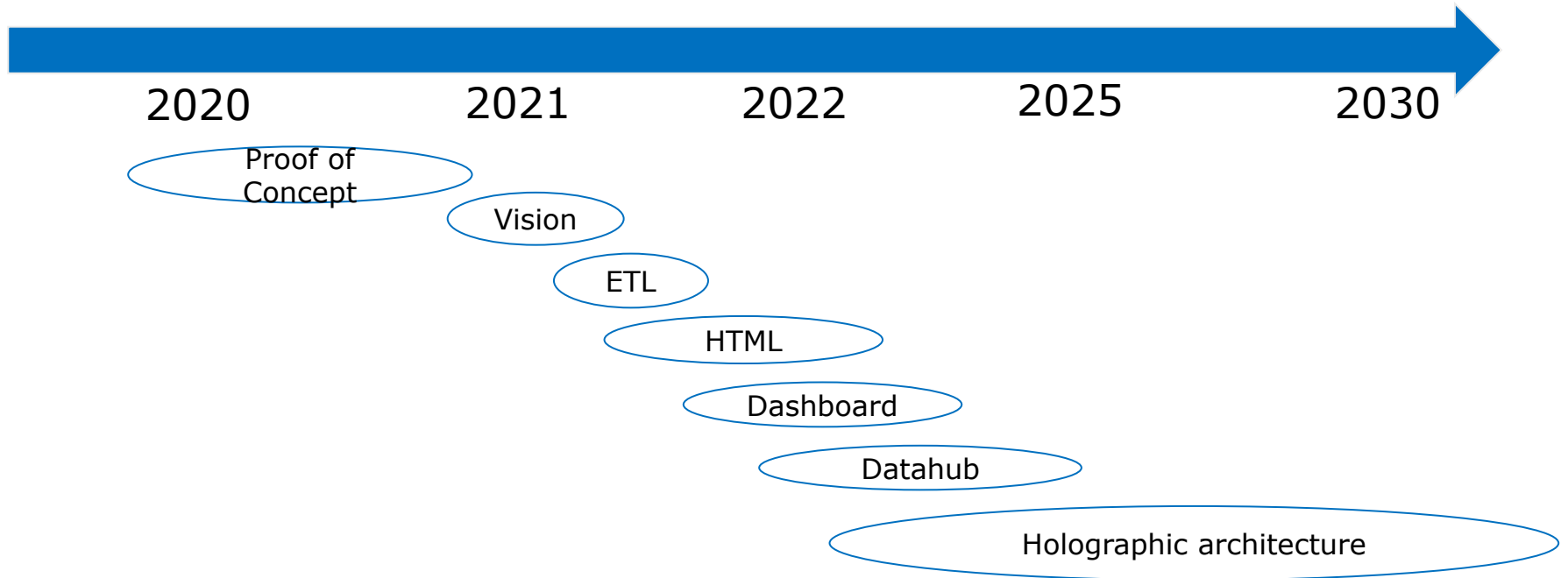
27-09-2022



- Our data journey...
- *prehistory*
- *future*
- *...and everything in between*

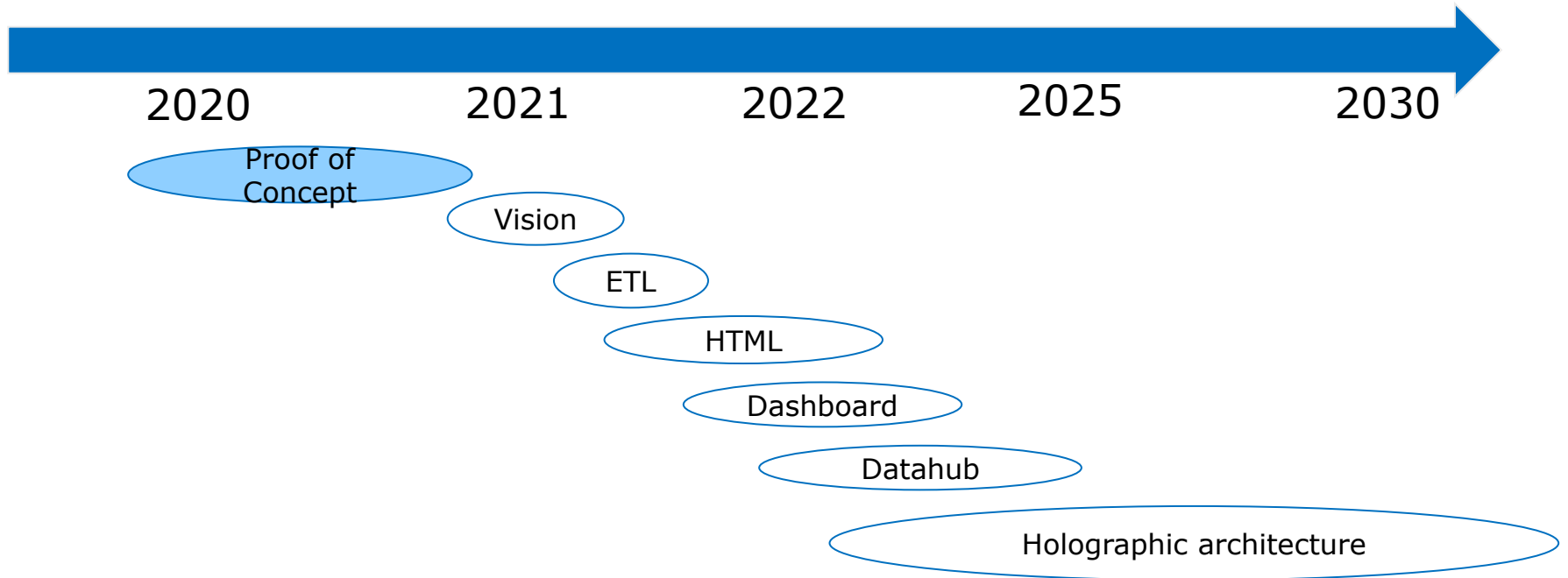


Our data journey





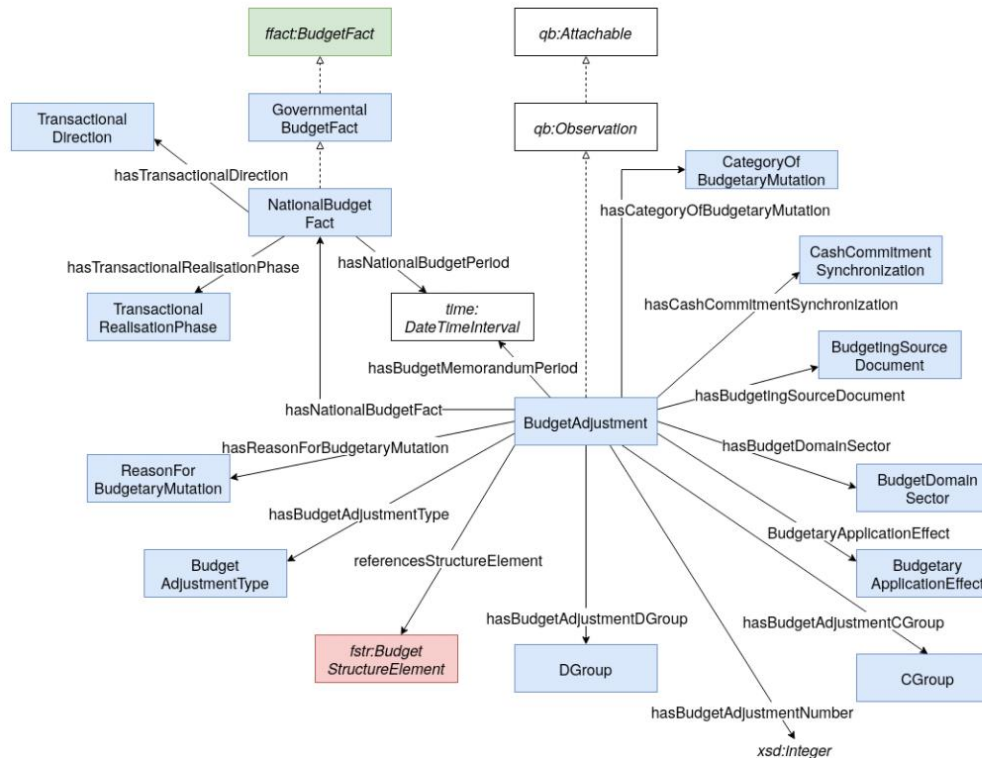
Our data journey





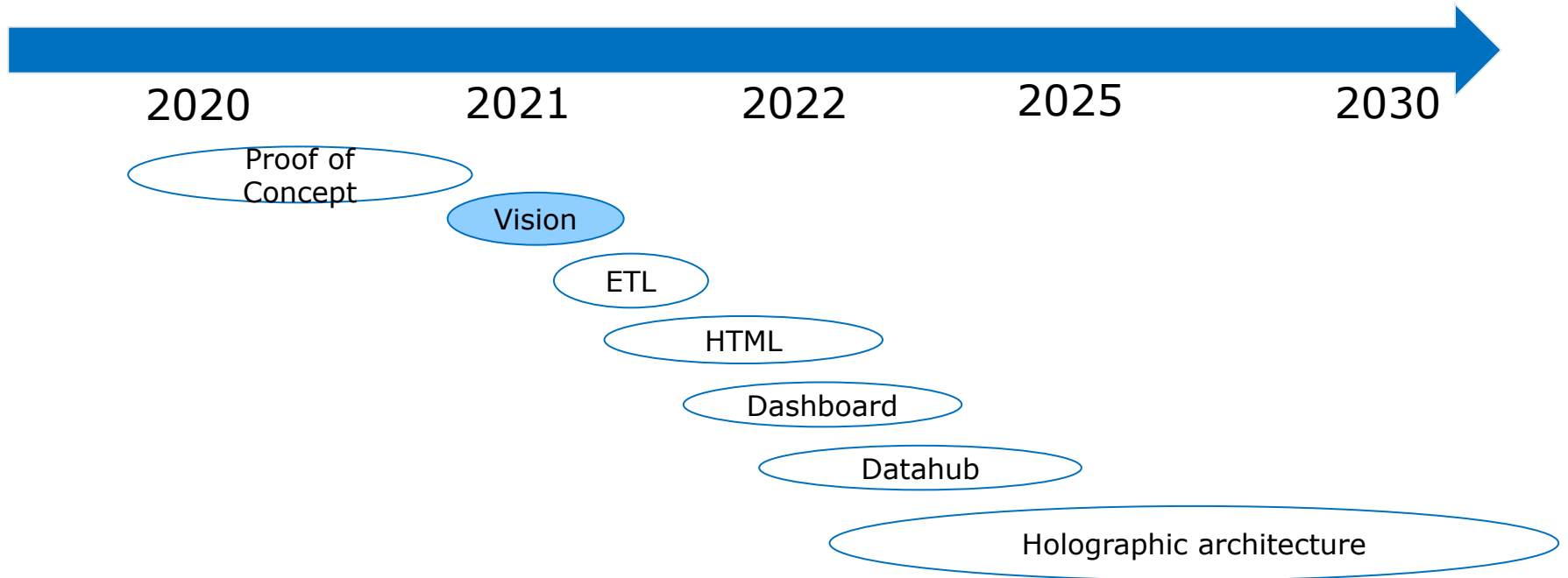
Proof of Concept Linked Data

- First experiences with Linked Data
- A draft model of budget mutations and budget structure



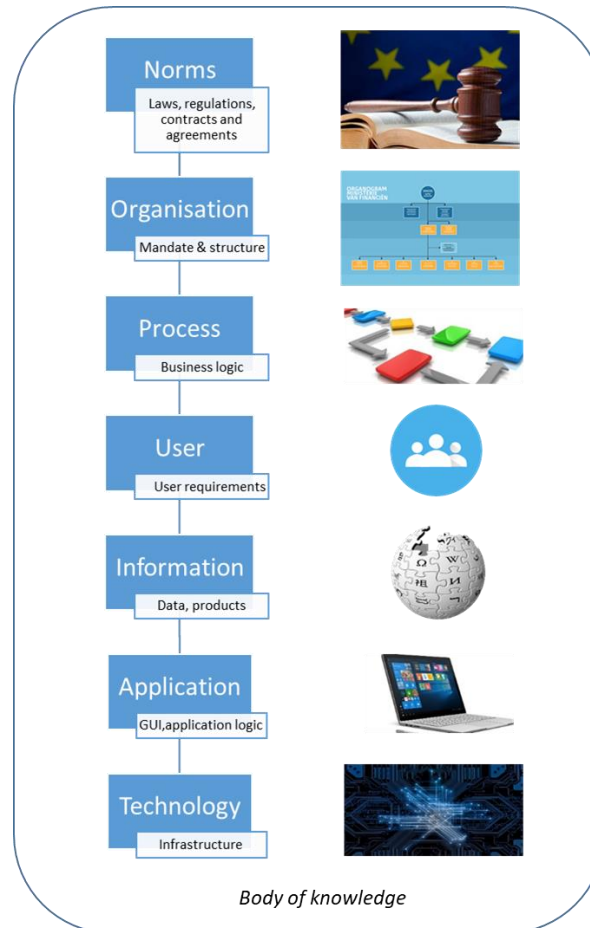


Our data journey



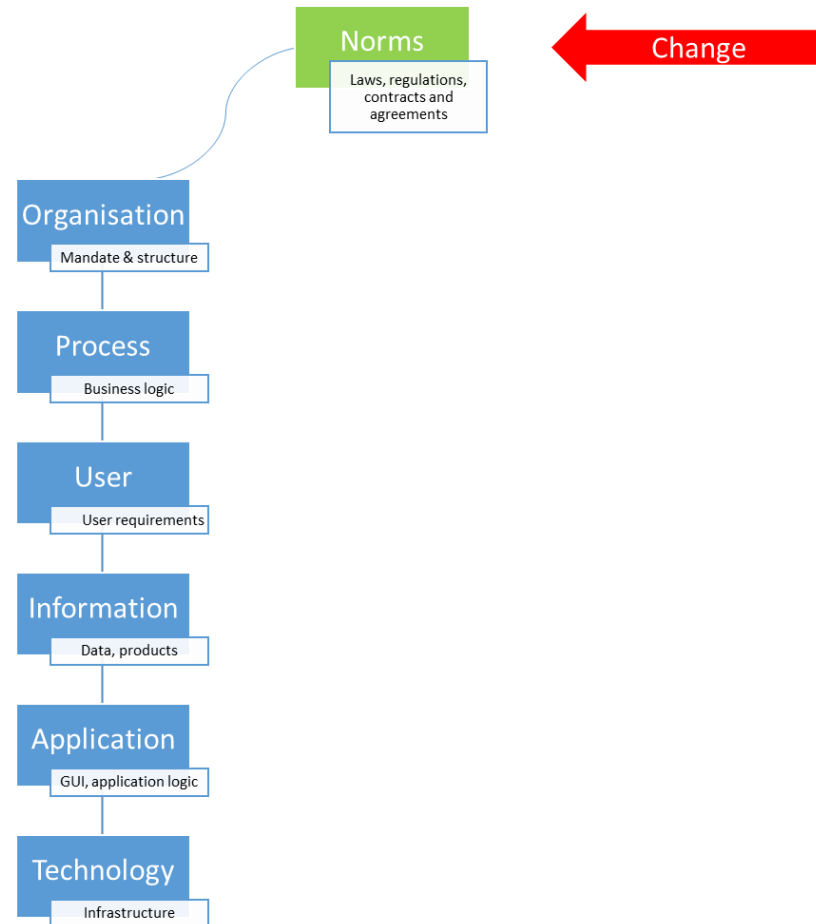


Digitalisation is about being in balance





Digitalisation is about handling disbalance





Digitalisation is about knowledge development

Knowledge management

Cherish your own expertise

- Lexicon, thesaurus, knowledge base
- Model concepts, relations between concepts, constraints and logic throughout the complete **body of knowledge**
- Facilitates **existential understanding** and **improved process execution**

Knowledge sharing

Cherish the other's expertise

- **Information exchange without obstacles**
- Supported by **standardisation**
- Facilitates **reusability** of information
- Facilitates a **diverse landscape** of applications and actors

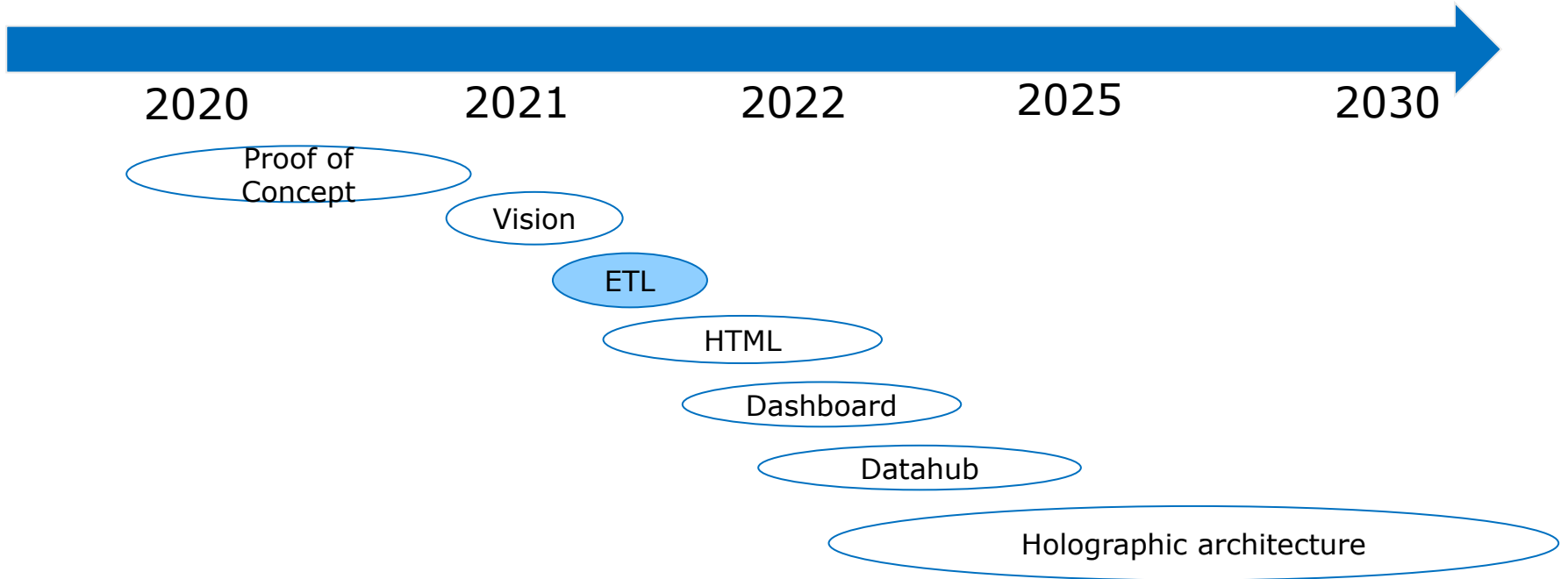
Knowledge integration

Cherish new expertise

- Gain **insights** across knowledge domains
- **Digitalise** across knowledge domains
- Enables **continuous development** of *the body of knowledge*
- Facilitates the development of **new services** and **innovation**

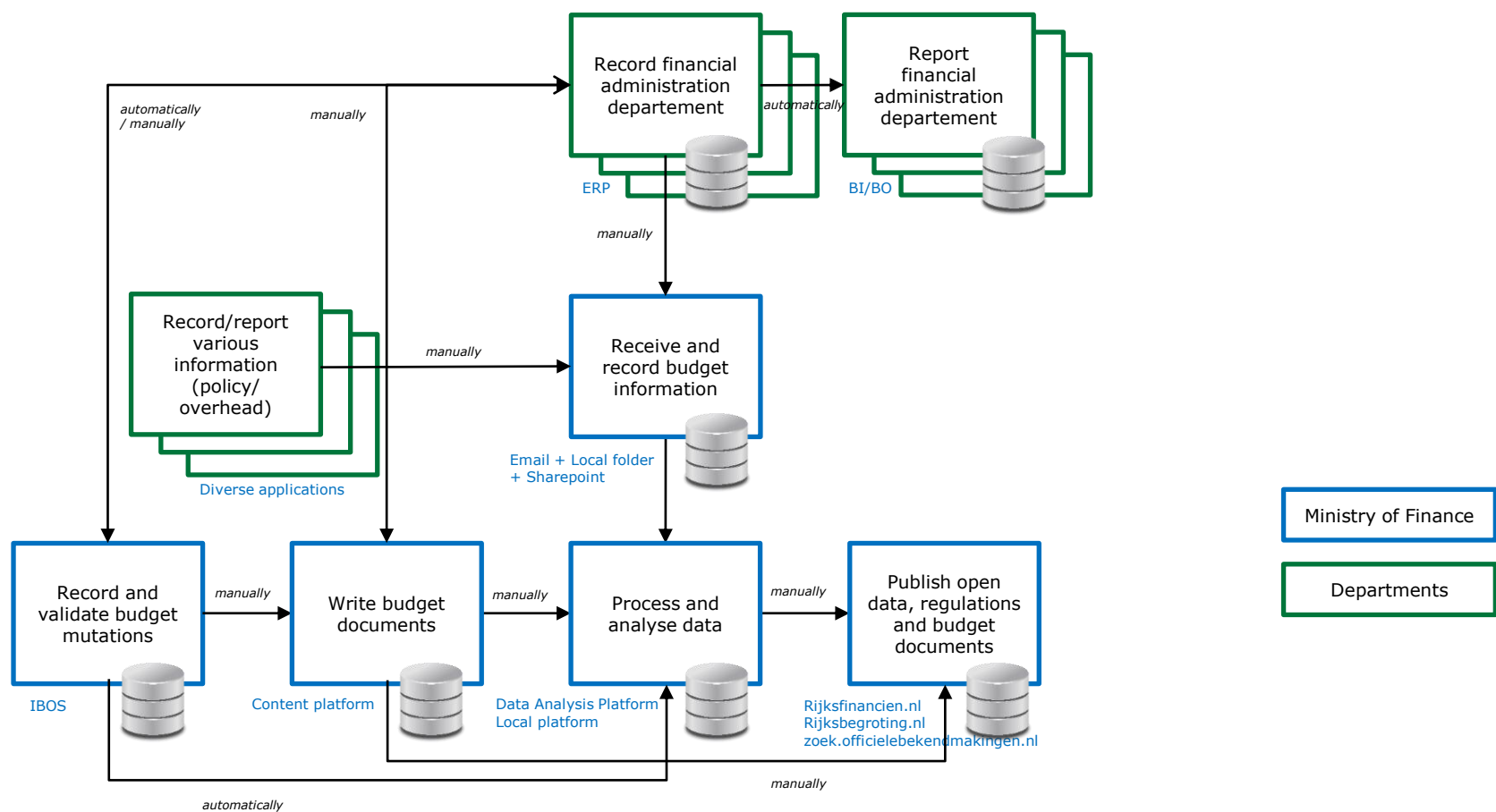


Our data journey



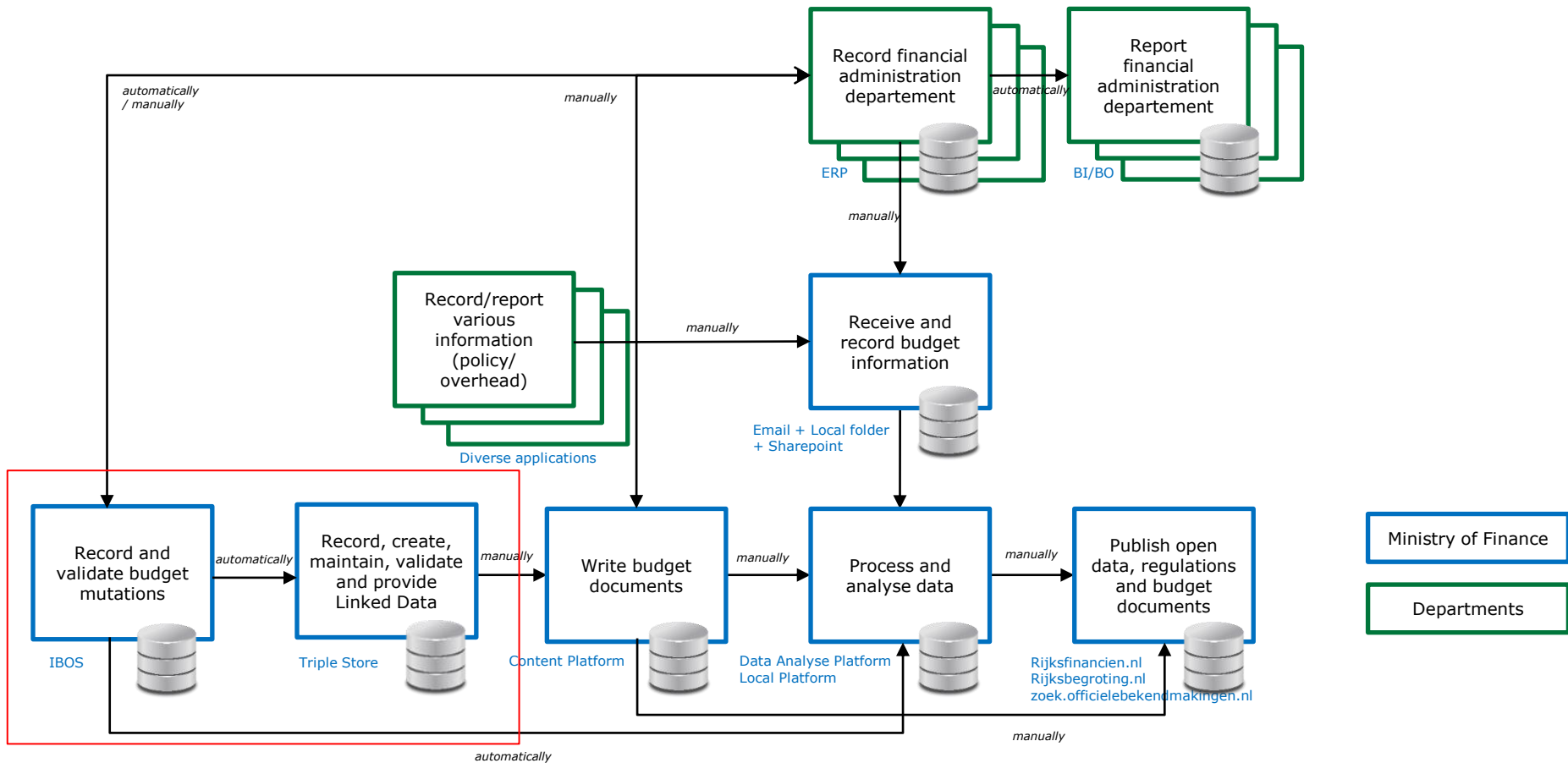


Situation 2020



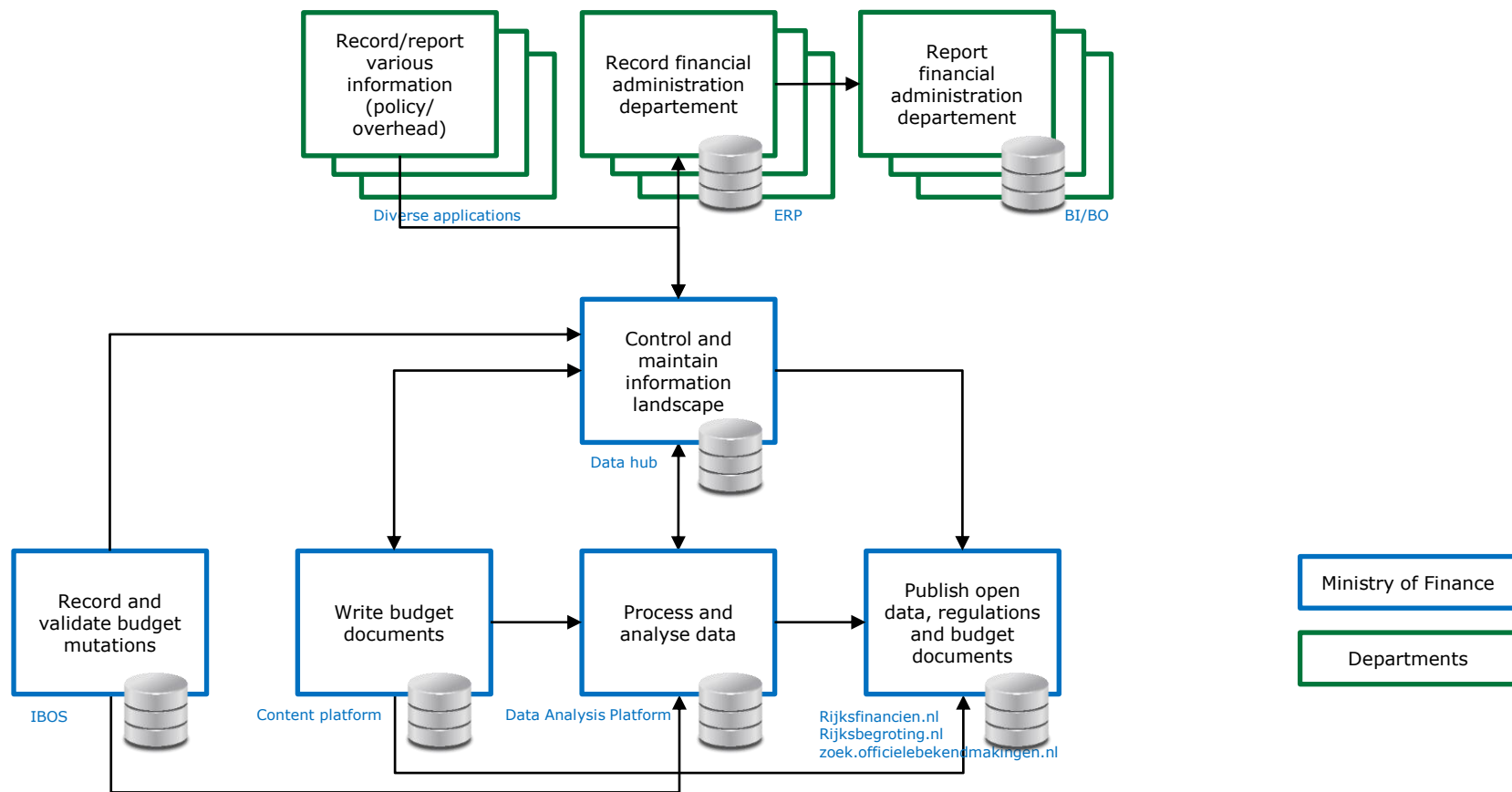


Situation 2021



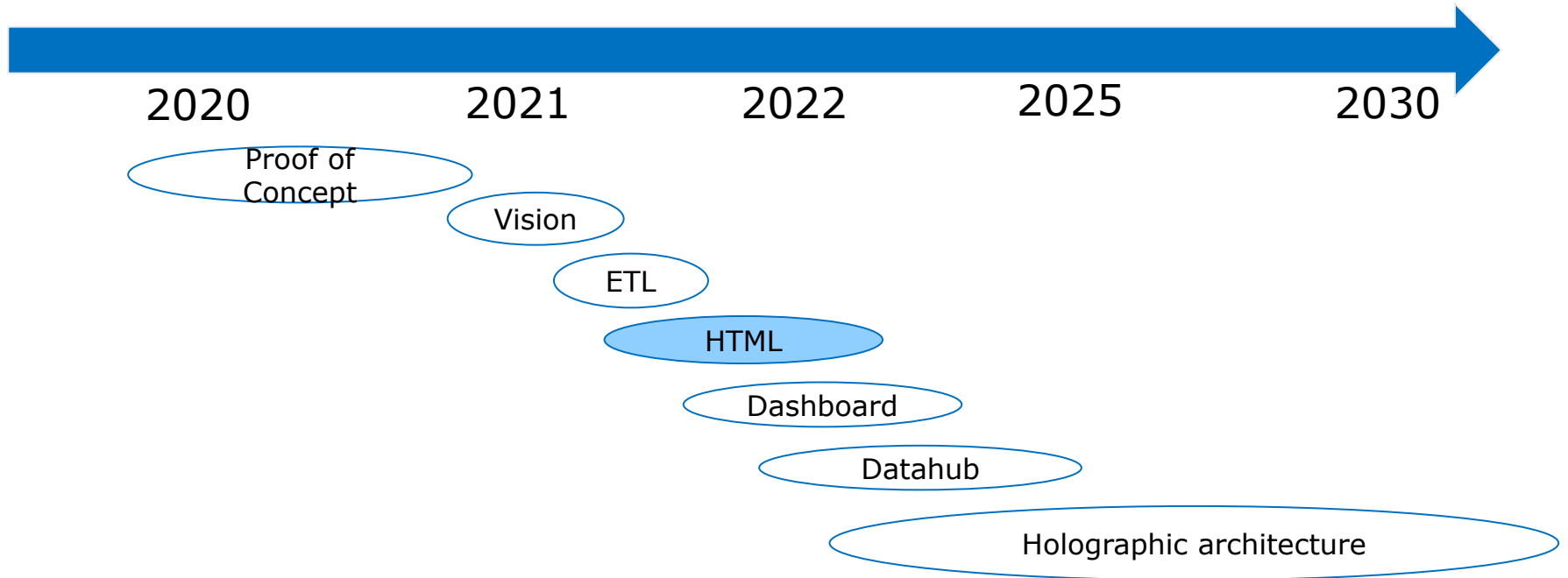


Ambition





Our data journey





The importance of HTML-documents

- An **HTML-document** is a document that can be displayed in a web browser in a specific format and structure, according to the living standards of *HyperText Markup Language*;
- Examples of HTML documents are *websites, front-end applications, laws, newspapers, annual reports, business intelligence & dashboarding*, and many more;
- Many **HTML-documents** are laborious to assemble, difficult to make sense of and unjustly treated as disposable items (*one time use only*);
- Many **HTML-documents** suffer from *low data quality* and *low interoperability* with costly business processes and vendor lock-in as a result;
- As **information management and digital infrastructure** becomes more fundamental to organizations for survival, we need *an instrument to control the composition, decomposition, reuse and validation of HTML-documents*.

```
!DOCTYPE html>
html>

head>
  <title>Page Title</title>
/head>

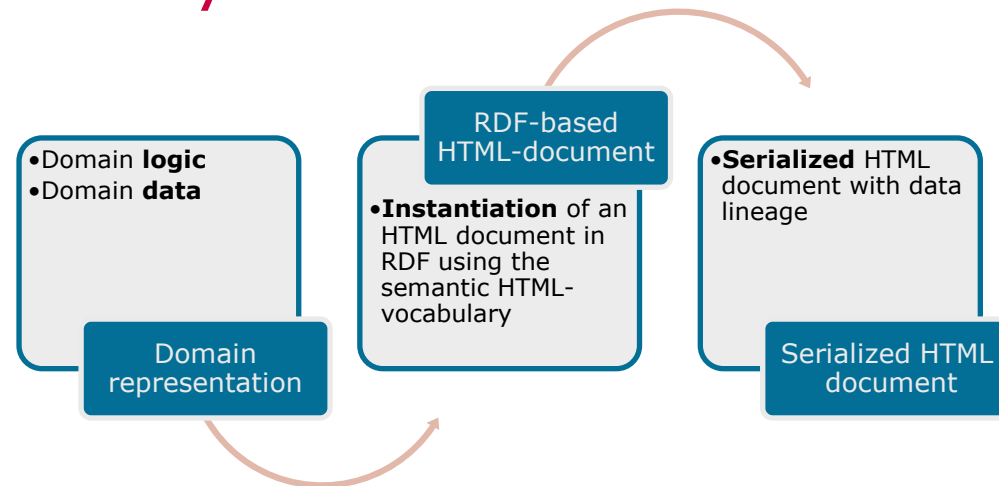
body>
  <h2>Heading Content</h2>
  <p>Paragraph Content</p>
/body>

/html>
```



Advantages HTML-vocabulary

- The **HTML-vocabulary** in Linked Data enables users to model and generate HTML-artefacts in a meaningful way, facilitating the following:
 - ✓ *Provides a multidimensional meaningful representation of an HTML-document, leveraging a myriad of perspectives and insights on such a document;*
 - ✓ *Automatically generate HTML-documents instead through laborious processes;*
 - ✓ *Use and manage HTML-templates for reusability and adaptability;*
 - ✓ *Data is auditable and offers provenance through data lineage from the presentation back to the data source, leveraging understandability and control of the information landscape;*



- ✓ *Automatically validates HTML-documents for better quality;*
- ✓ *Linking and enriching HTML-documents with other information;*
- ✓ *Offers not only interoperability of generated information documents but digital infrastructure it self. Can be used within no-code platforms using model driven application development.*
- ✓ *Completely application- and vendor-independent solution.*

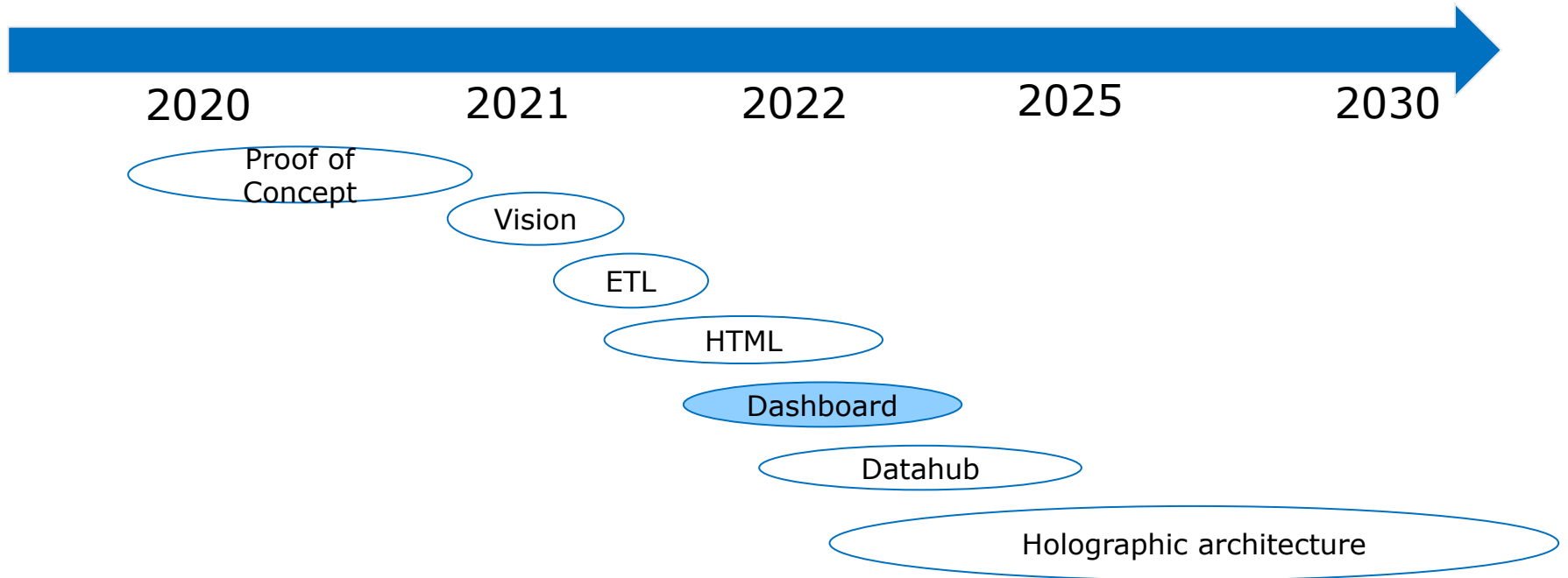
See: <https://www.w3.org/community/htmlvoc/>



DEMO

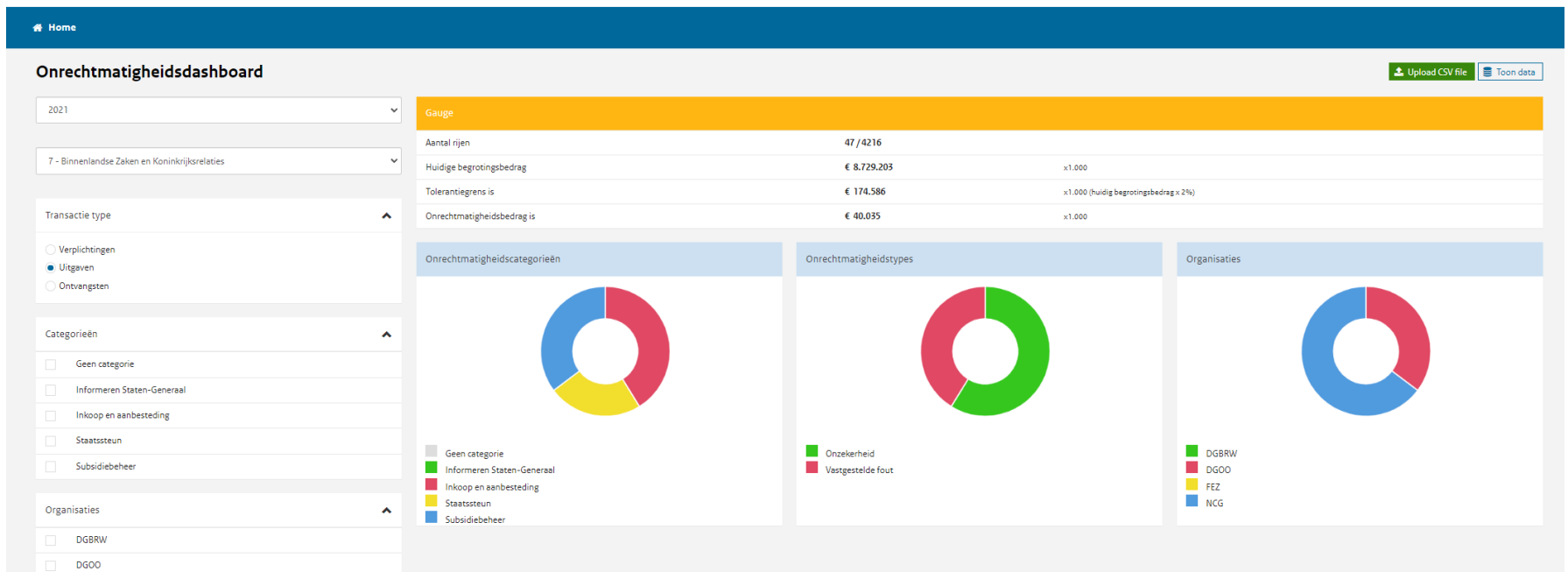


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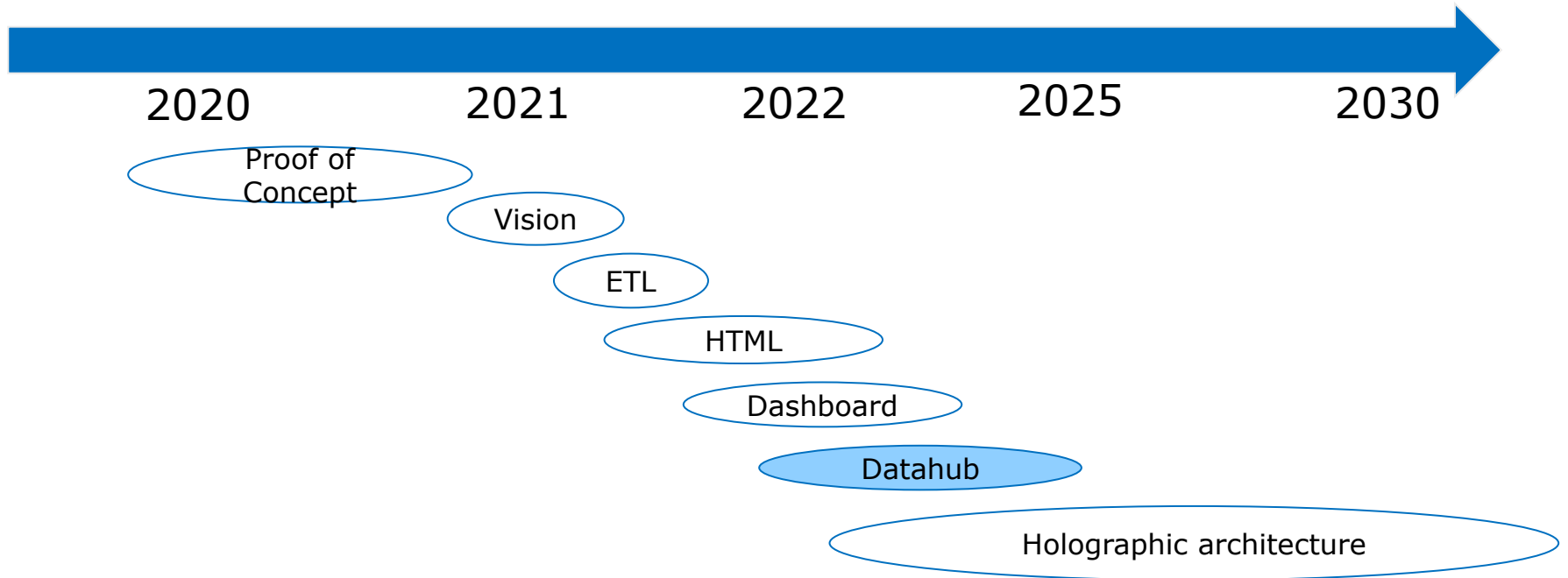


Consumption of Linked Data



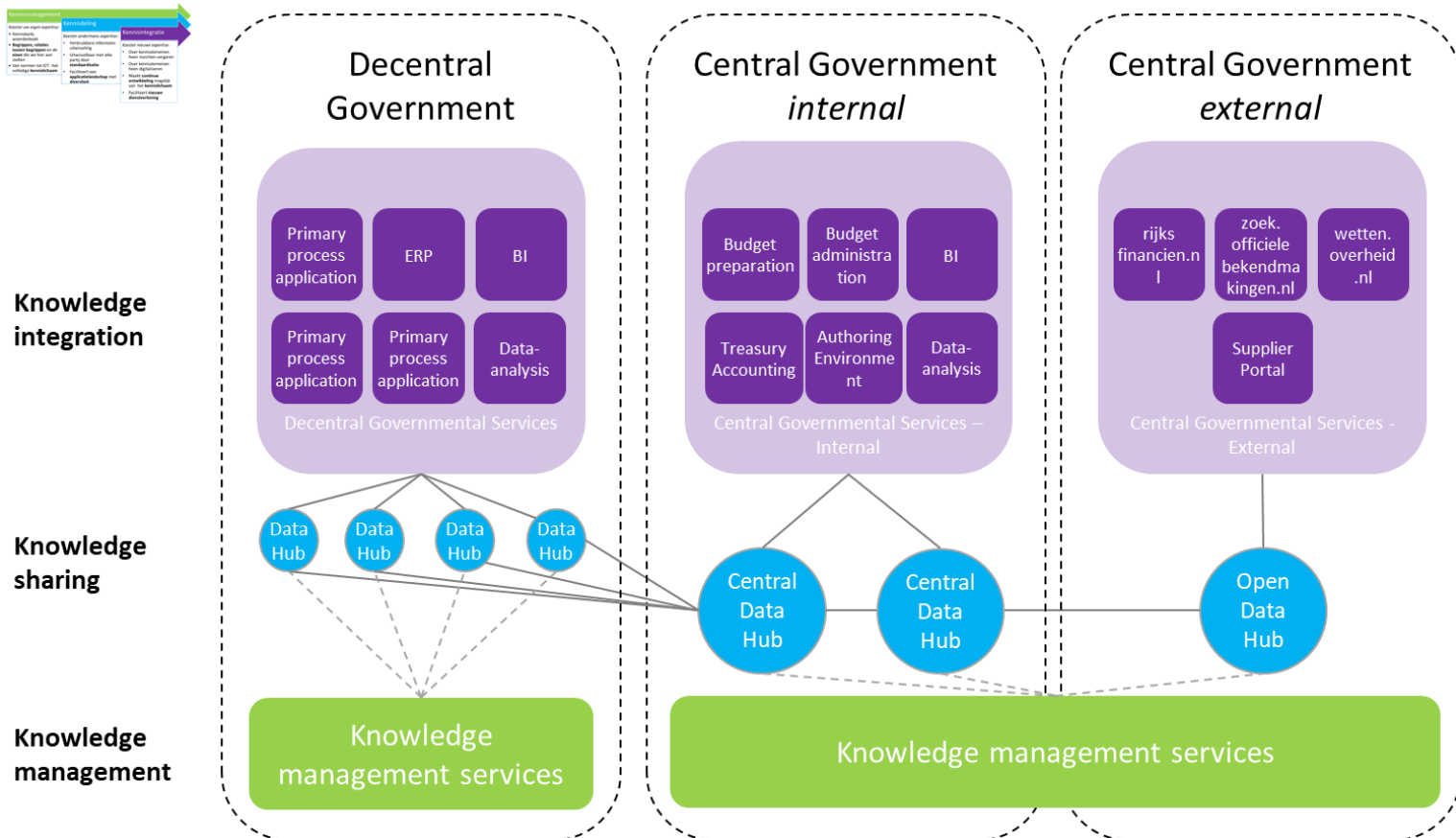


Our data journey



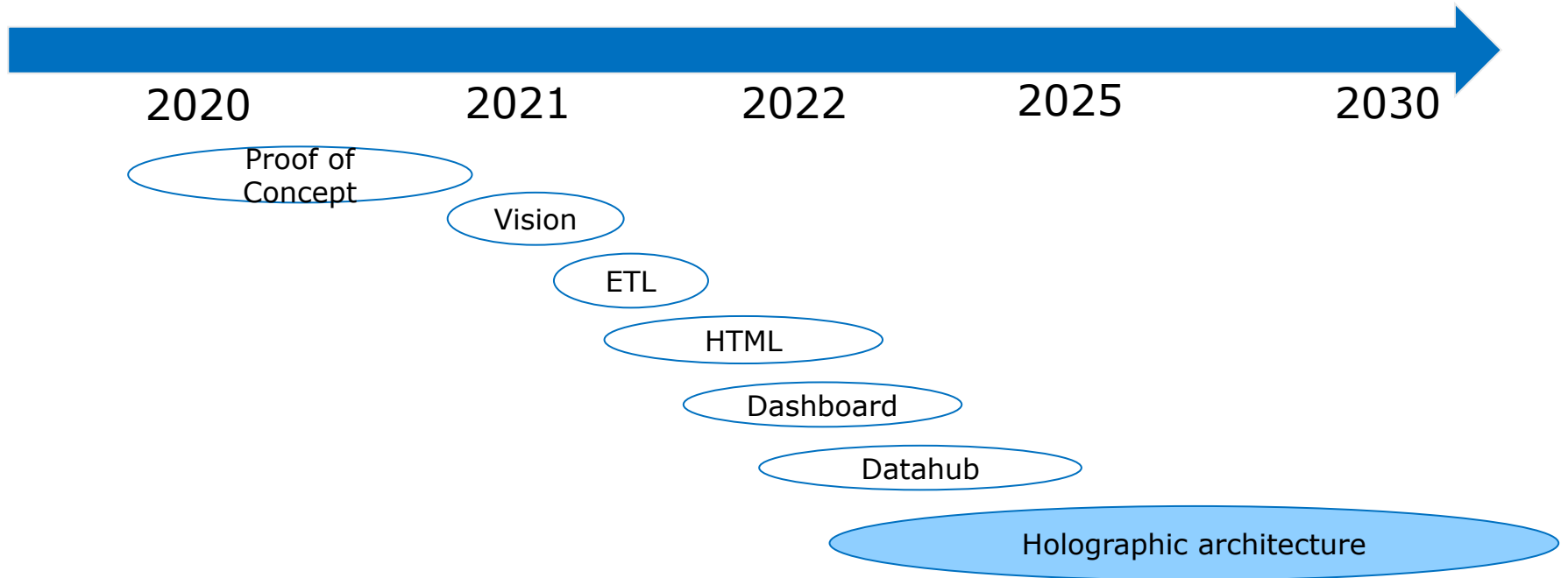


Draft architecture: governmental finance ecosystem



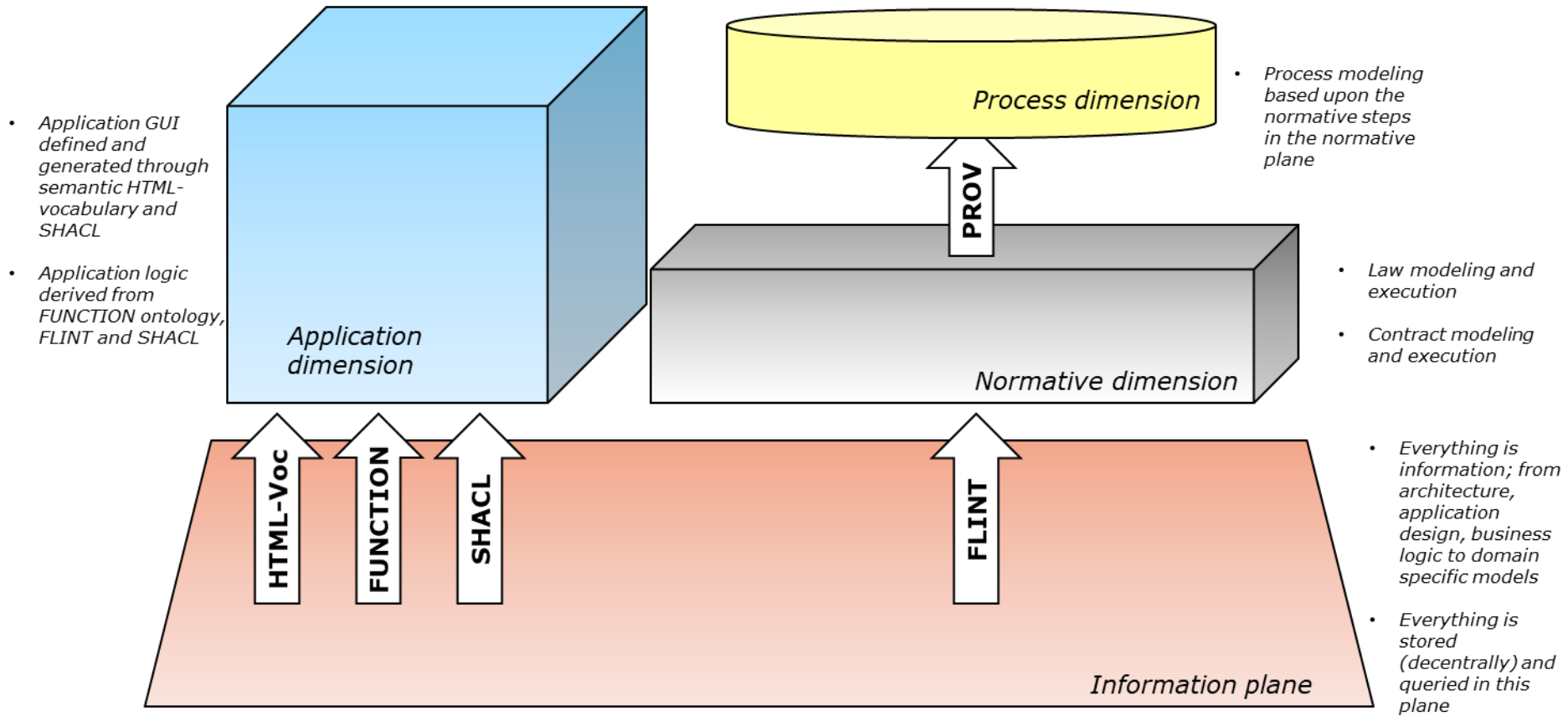


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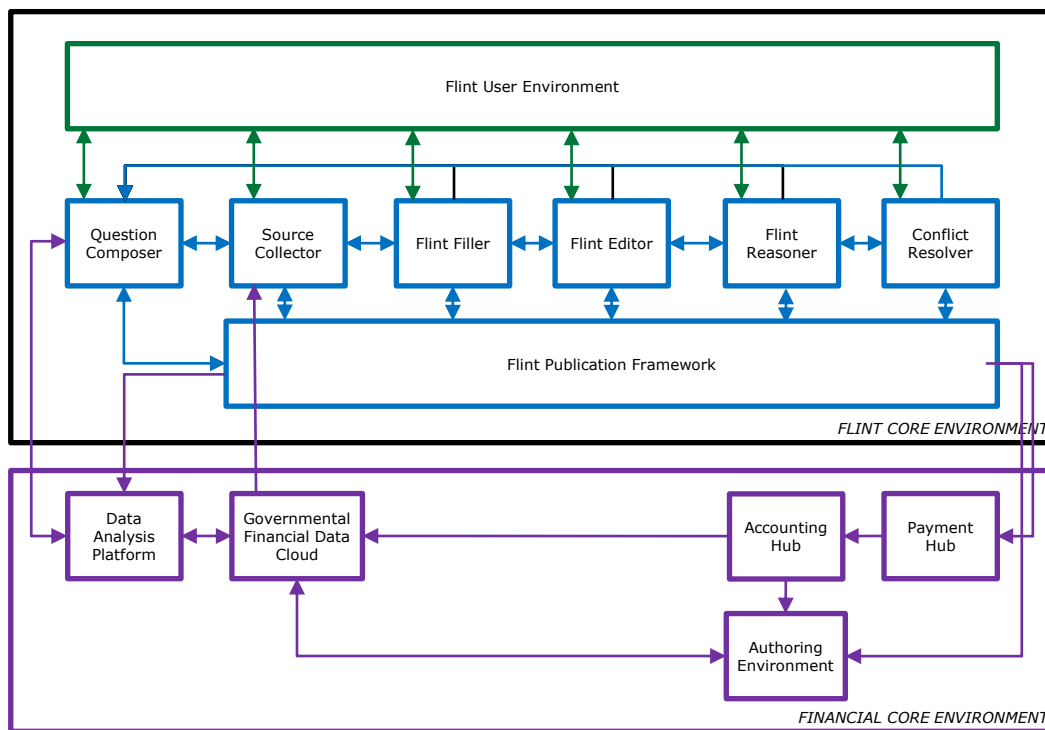


Towards a holographic architecture





Governmental Financial Infrastructure (Draft)



In 2022/2023 the laws & regulations regarding the Dutch governmental budget cycle will be modeled in FLINT using RDF, OWL & SHACL in collaboration with TNO.

Included is an experiment to automatically reason with budget data.



Questions?

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See also:

<https://www.linkedin.com/pulse/fundamentals-digitalisation-towards-holographic-flores-bakker/>