A Common Semantic Model of the GDPR Register of Processing Activities

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- A legal requirement (Article 30 GDPR)

- A record of the personal data processing activities being carried out by the organisation

- A prescribed minimum content

- A critical element for the demonstration of compliance (CNIL France)

- Data Protection regulators provide manual templates

- Almost half of organisations are using such manual approaches to completion of ROPA (45%) (IAPP, Trust Arc 2019)

- A Semantic Model of ROPA would enable privacy tool-chains & interoperability with external bodies to support accountability

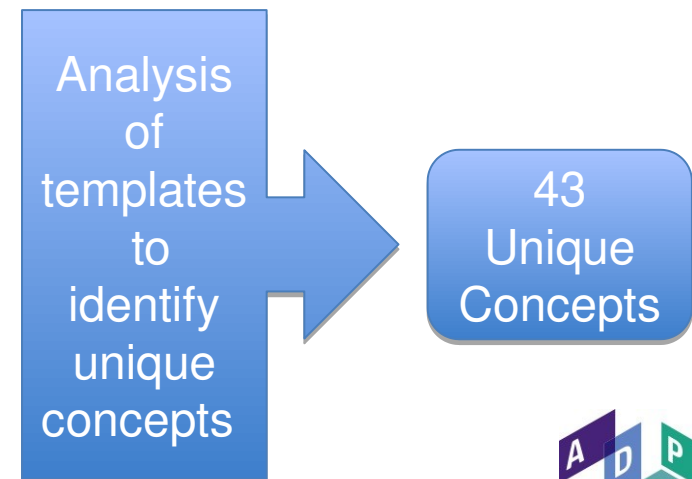- Only 28% of organisations compliant with the GDPR (Cap Gemini,2020)

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- Name and contact details
- Data Protection Officer (if designated)
- Representative (if required)
- Purposes of processing
- Name and contact details of the joint controller (if required)
- Description of the categories of data subjects
- Description of the categories of personal data
- Categories of recipients
- Reference to the personal data processing agreement signed with the processor
- Third countries and international organisations to which data is transferred,
- Documentation on suitable safeguards for International transfer
- Data storage times or the criteria for defining such storage times
- A description of the technical and organisational security measures provided for in Article 32, section 1 of the GDPR
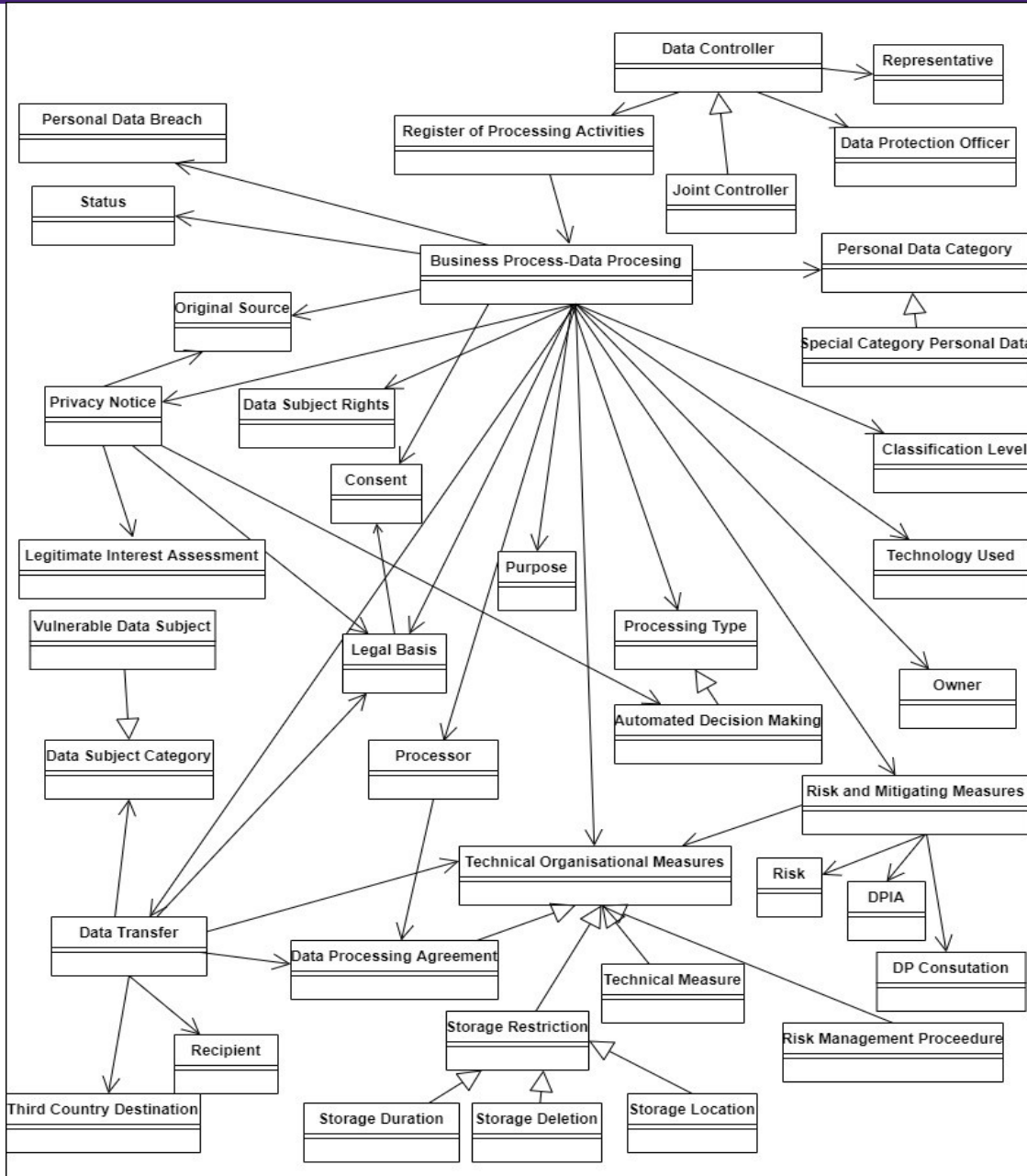
how to make this information machine readable?

- We identified 14 ROPA templates from regulator websites
- We focused on 6 English language ROPA's
- We identified that they differed greatly
- Some contained 12 input fields where as other templates have up to 34 fields
- We identified 43 unique fields

Regulator	No. of Fields on Template
Belgium	34
Cyprus	12
Denmark	12
Finland	13
Luxembourg	14
United Kingdom	33

Analysis of templates to identify unique concepts → 43 Unique Concepts

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- The DPV is a vocabulary (terms) and an ontology (relationships) serialised using semantic-web standards to represent concepts associated with privacy and data protection, primarily derived from GDPR

- A community specification through the W3C Data Privacy Vocabulary and Controls Community Group (DPVCG).

- A machine-readable representation of personal data processing and can be adopted in relevant use-cases such as legal compliance documentation and evaluation, policy specification, consent representation and requests, taxonomy of legal terms, and annotation of text and data.

- Links to DPV and community group
- https://w3.org/ns/dpv
- https://www.w3.org/community/dpvcg/

Sample of mapping of GDPR Concepts to DPV

GDPR Regulation	Regulation Template GDPR Concept	Mandatory Art. 30 GDPR	Related DPV Concept	DPV mapping outcome	Belgium (34)	Cyprus (12)	Denmark (12)	Finland (13)	Luxembourg (14)	UK (33)
30	Register of Processing Activities	Y	No DPV Concept	None	Y	Y	Y	Y	Y	Y
30	DataController	Y	dpv:DataController	Exact	Y	Y	Y	Y	Y	Y
28/30	Data Categories subject to transfer	N	dpv:PersonalDataHandling, dpv:Transfer, dpv:PersonalDataCategory	Complex, Partial	Y					

Summary of mapping success GDPR Concepts to DPV

Match Status	Number of GDPR Concepts
Exact	14
Partial	15
Complex/Partial	3
None	1

Combined ROPA Model Field	Related DPV Concept	Current Status with DPV
Register of Processing Activities	No DPV Concept	Proposed
Controller name and contact details	Many suitable vocabularies	Accepted
Data Protection Officer	No DPV Concept	Accepted
Representative	No DPV Concept	Accepted
The original source of data	No DPV Concept	Accepted
Risk - Information about the risk	No DPV Concept	Accepted
Data Protection Impact Assessment	No DPV Concept	Accepted
Data Subject Rights	No DPV Concept	Accepted
Privacy Notice	No DPV Concept	Proposed
Personal Data Breach	No DPV Concept	Proposed
Prior Consultation with DPA	No DPV Concept	Accepted

- A first step to developing a comprehensive ontology of ROPAs and information processing that will serve as the basis for intelligent GDPR compliance tools that support machine inference, data federation and integration

- We have engaged with the W3C DPVCG to incorporate our analysis towards representing ROPAs using the DPV.

- Our analysis and mapping to DPV concepts provides a clear indication of further work in developing the DPV towards representing ROPA's and its utilisation in the GDPR compliance process

- Evaluating CSM-ROPA contribution to demonstrating ROPA compliance
- Development of Compliance Tools based on CSM-ROPA

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