



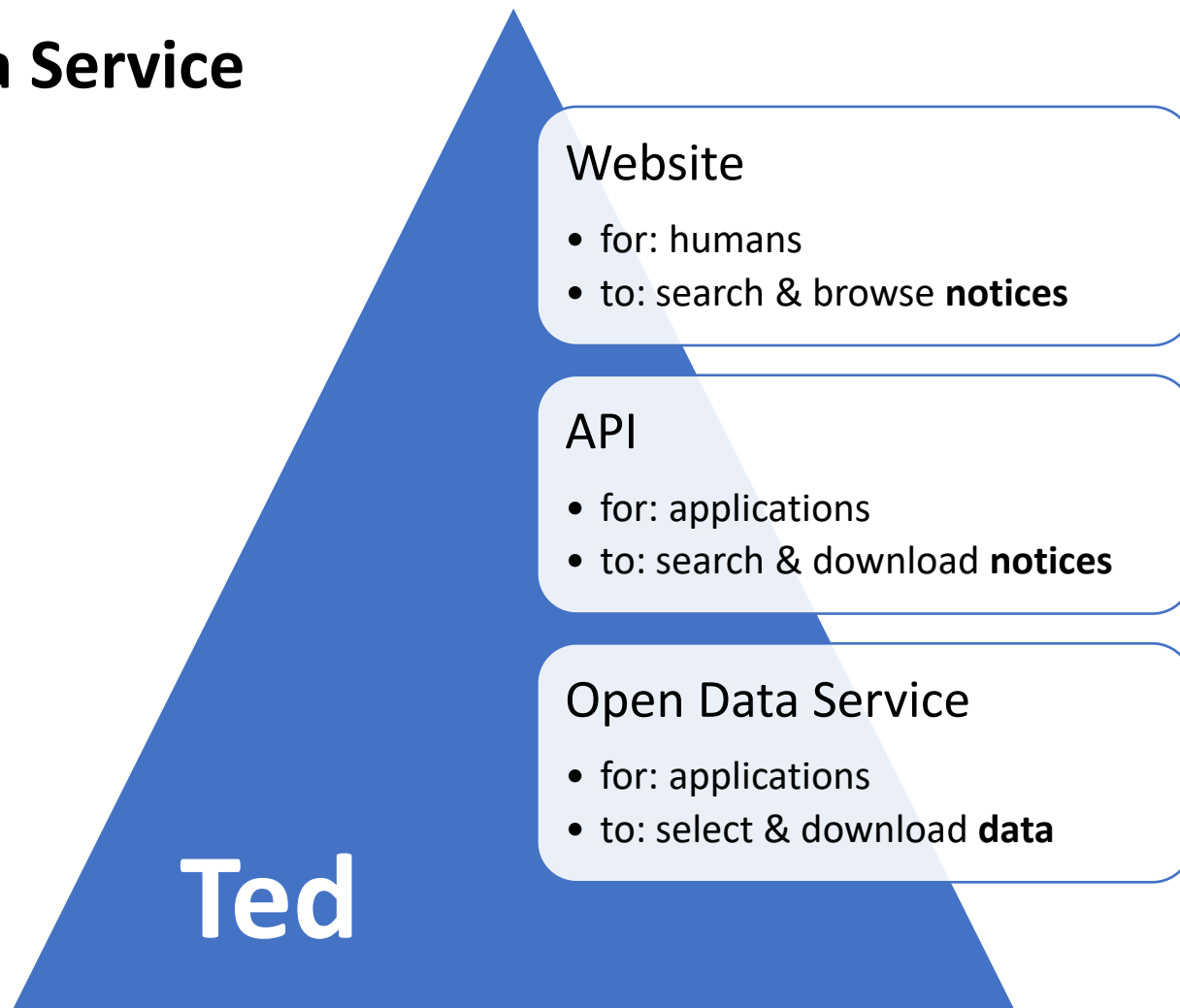
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TED OPEN DATA SERVICE

Ioannis Rousochatzakis, Publications Office, 3/12/2024



TED Open Data Service



Who is it for?

- The existing TED users and reusers:
 - Policy makers (EU Institutions, Member States)
 - Market analysis & business service providers
 - Potential tenderers
- Also opens TED data analytics to individuals:
 - Data analysts
 - Business consultants
 - Researchers, journalists etc.

Institutional & Corporate

Policy
Makers

Market
Analysts

Tenderers

Professionals

Data
Analysts

Business
Consultants

Researchers,
Journalists



How is it different from TED API?

TED API

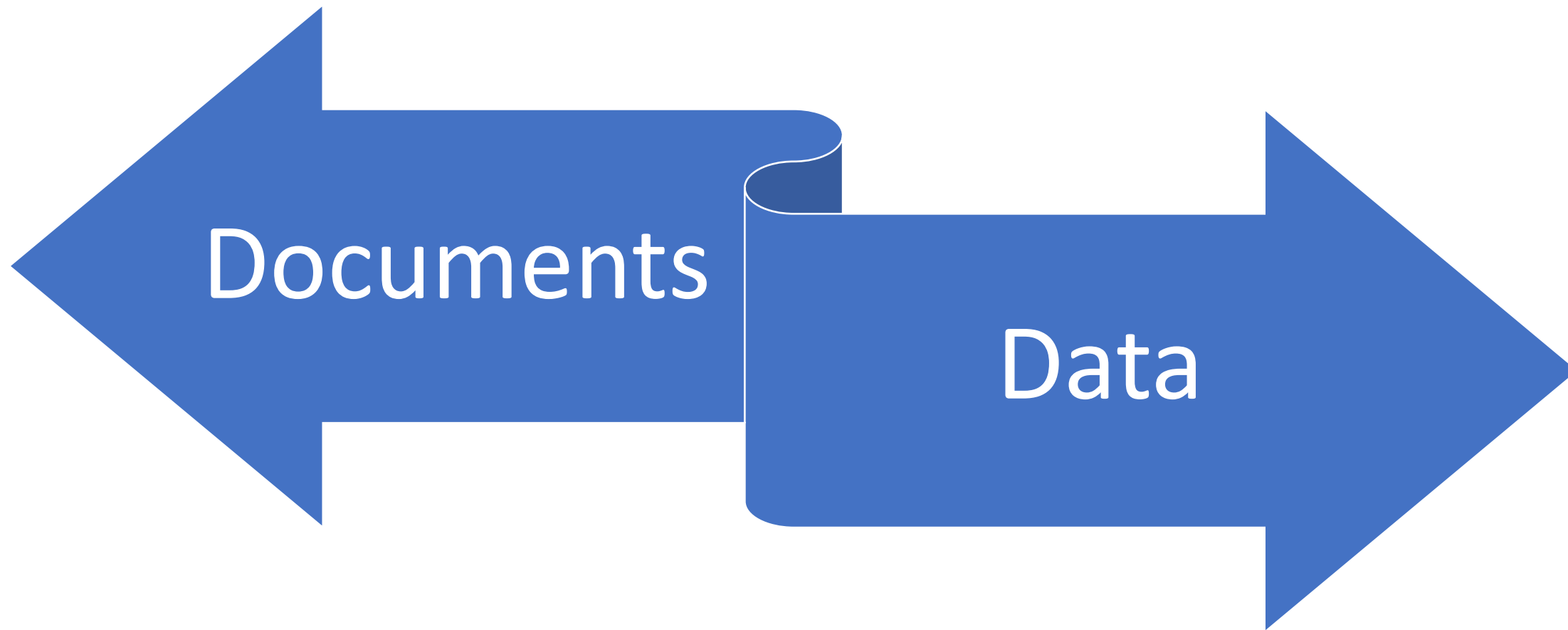
- Limited search capabilities
- Download XML files (notices)

TED Open Data

- Search any/all notice data
- Download Data (tables)
- Several formats (JSON, Excel, etc.)



Paradigm shift



Public Procurement Data Space

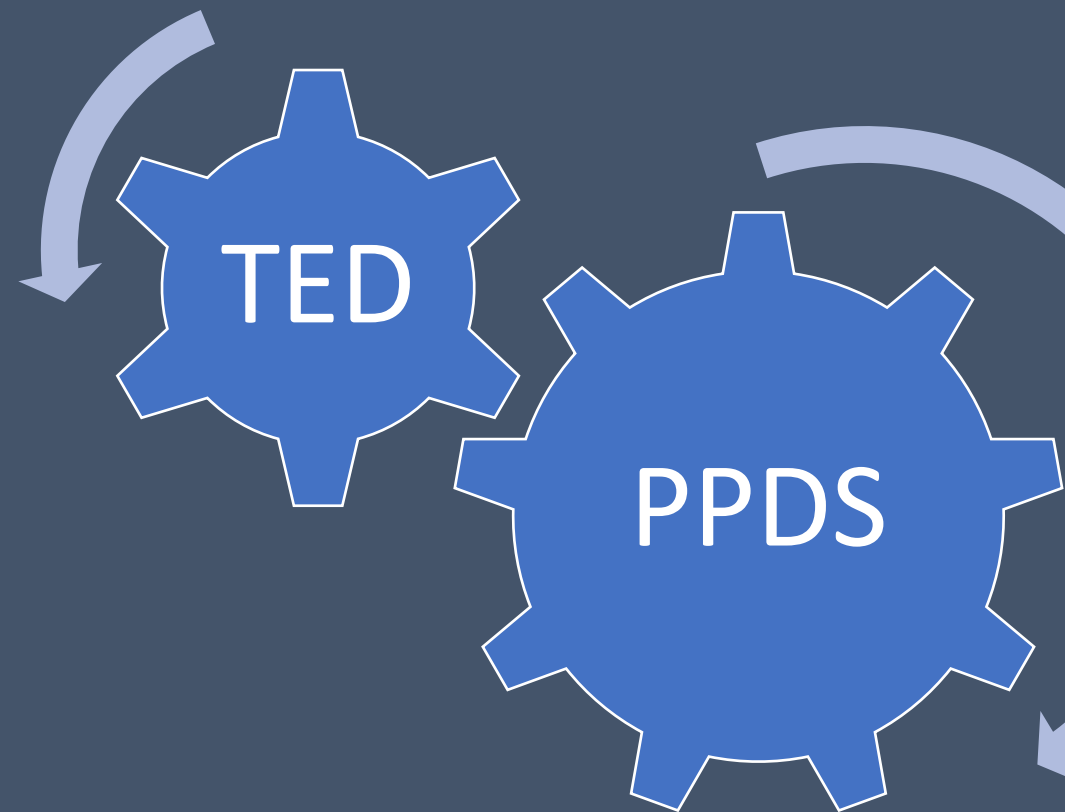
- Close collaboration with PPDS
- Providing eNotification data to PPDS

Similarities/Differences

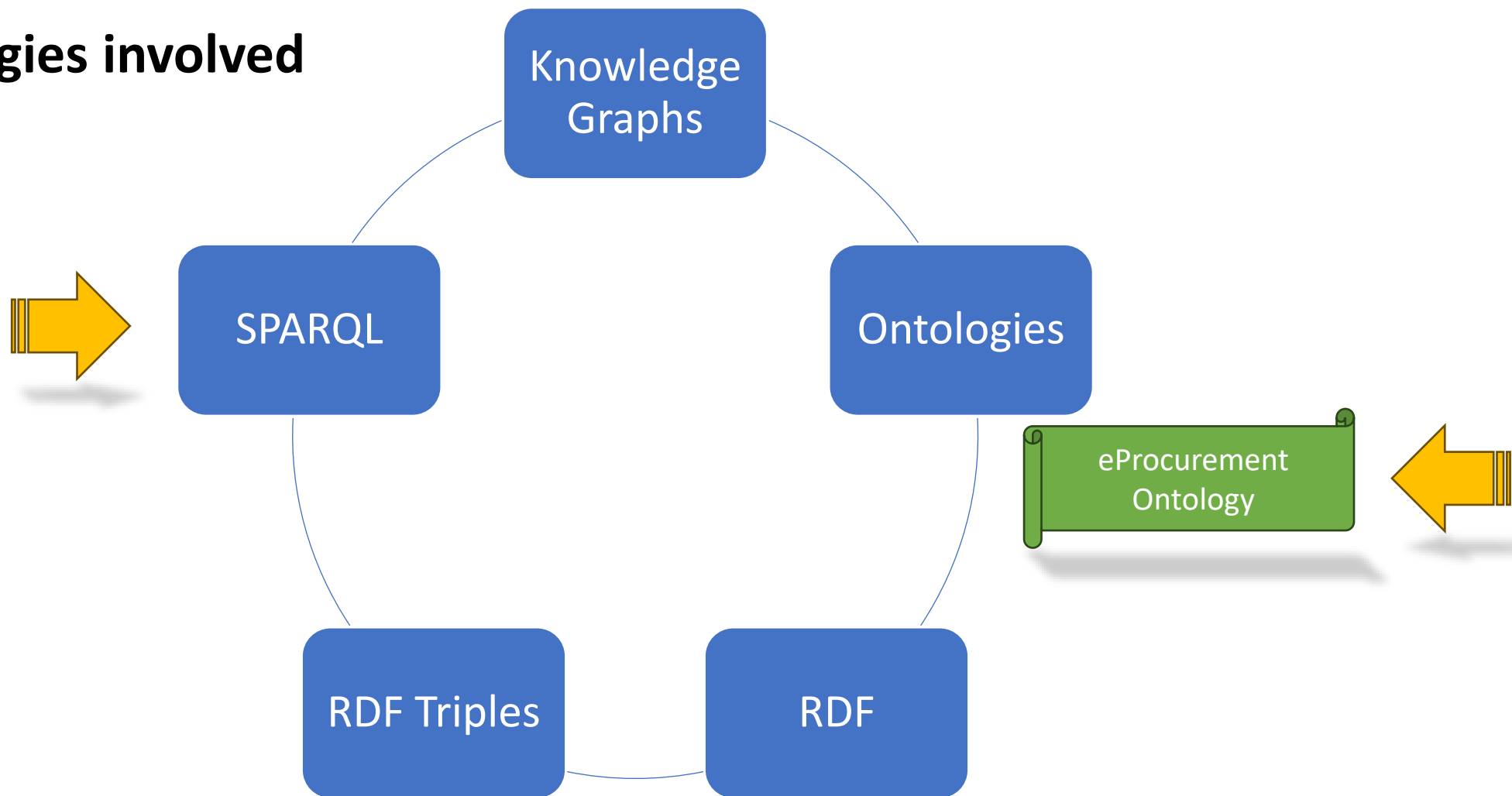
- TED Open Data available in both
- PPDS collects data from multiple sources
- Different access policies
- Emphasis on different use cases

Benefits of TED Open Data Service

- Open access
- Available now
- Raw data – directly usable



Technologies involved

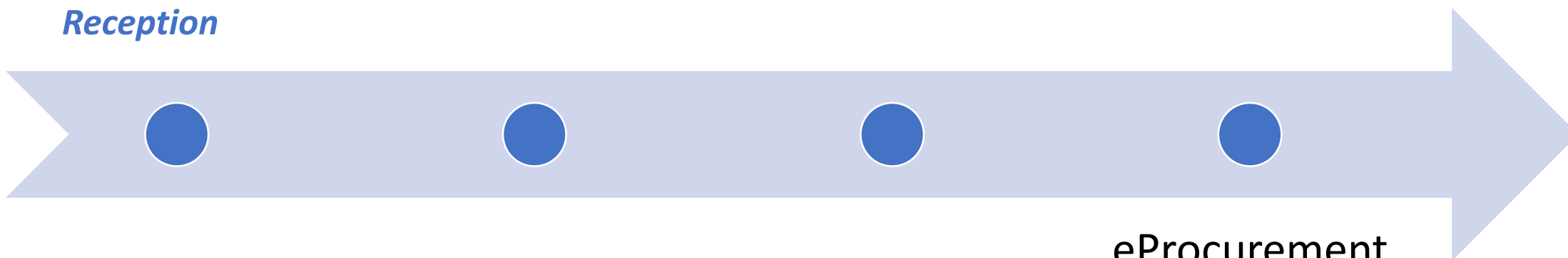




eNotification Standards

eForms SDK

Reception



eProcurement
Ontology

Dissemination



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DEMO

Kicking the tires with Excel



A simple exploration

- Analyse **competition** data per **procurement type** and **country**
 - How many competitions per procurement type and country?
 - What is the percentage of procurement type per country and within the country?
 - Name the buyers per procurement type per country,
 - Etc..



Step 1 – Write and test you query

Where do I start?

- Start with our example query library
- Or use an LLM to write your query for you
- For now, we will take one I prepared for you
Not too complicated, not too simple

Links for the demo:

- <https://docs.ted.europa.eu> – Developer documentation; look for TED Open Data Service.
- [Link to demo query page](#) – Copy the SPARQL query from this page; then paste it in the SPARQL Editor.
- <https://data.ted.europa.eu> – TED SPARQL Editor; test the query; copy the query URL to use in Excel.



Step 2 – Get the data in your application

- I'll show you how to connect your Excel
- You can connect any application that can read data from the web
 - Power BI,
 - Qlik,
 - Etc.
- Data analysts, developers, connect with
 - Python, R, or any language you prefer to analyse data with
 - Jupyter Notebooks,
 - Etc.

END OF DEMO

Just save your Excel and come back the next day.

It will automatically download fresh data every time you use it.



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SPARQL

Let's take a quick look at that query



Purpose of the Query

- Retrieves public procurement data from TED Open Data Service
- Focuses on:
 - Notice publication details
 - Buyer information
(name, country)
 - Procedure type
- Filters data for a specific date and language

Ontology Declarations

```
PREFIX dc: <http://purl.org/dc/elements/1.1/>  
PREFIX epo: <http://data.europa.eu/a4g/ontology#>  
PREFIX cccev: <http://data.europa.eu/m8g/>  
PREFIX skos: <http://www.w3.org/2004/02/skos/core#>
```

- What are prefixes?
 - Shortcuts for long URIs
- Why use them?
 - Simplifies the query, making it more readable
- Example:
 - epo: refers to the eProcurement Ontology

SELECT Clause

```
SELECT DISTINCT
  ?publicationNumber
  ?legalName
  ?procedureType
  ?country
```

- Purpose:
 - Defines what data to retrieve.
- Variables:
 - ?publicationNumber: Notice ID.
 - ?legalName: Buyer's name.
 - ?procedureType: Type of procurement procedure.
 - ?country: Buyer's country code.

WHERE Clause

```
WHERE {  
  GRAPH ?g {  
    ?notice epo:hasPublicationDate ?publicationDate ;  
    epo:refersToProcedure [  
      epo:hasProcedureType ?procedureTypeUri ;  
      a epo:Procedure  
    ] ;  
    epo:hasNoticePublicationNumber ?publicationNumber ;  
    epo:announcesRole [  
      a epo:Buyer ;  
      epo:playedBy [  
        epo:hasLegalName ?legalName ;  
        cccev:registeredAddress [  
          epo:hasCountryCode ?countryUri
```

- Key relationships:
 - Notice links to publication date, procedure, and buyer.
 - Buyer has legal name and registered address.
- Graph (GRAPH ?g): Retrieves data from a specific RDF graph



Filtering Notices by Date

```
FILTER (?publicationDate = "2024-11-04"^^xsd:date)
```

Purpose:

- Retrieves only notices published on November 4, 2024.

Why it matters:

- Focuses the query on relevant data for analysis or demonstration.



Where to start?

- Start at docs.ted.europa.eu
(our developer documentation website)
 - Find examples in our query library
 - Read the eProcurement Ontology documentation
- Use our SPARQL query editor at data.ted.europa.eu
 - Test your queries
 - Download datasets
- Help each other at <https://github.com/OP-TED/ted-open-data/discussions>
 - Provide feedback
 - Ask questions
 - Share your queries with others



What about AI assistants?

- The eProcurement Ontology specification is available on GitHub.
- Upload the OWL file for ePO-Core and eNotification to your LLM.
- Chat with the LLM about the ontology.
- Ask the LLM to propose questions & queries that the ePO supports.
- Ask the LLM to write SPARQL queries for specific questions you want to answer or datasets you want to retrieve.
- It will not always get it right, but it will help you learn and understand the ontology faster.



Data availability

eForms

- Conforms to eProcurement Ontology v4 (to be upgraded to v5 in 2025)
- 150 000 notices and growing
- Current pace at 55 000 notices per week
- Currently supported: competition notices (10-24), result notice (29)
 - All submitted after August 2024
 - Working backwards
 - To be completed by March 2025
- Support for remaining notice subtypes
 - Under development (until March 2025)
 - To be completed by end of 2025

Standard Forms (TEDXML)

- Conforms to eProcurement Ontology v3 (to be upgraded to v5 after eForms)
- 75 000 notices – Paused. (to continue after eForms)
- Currently supported forms:
 - F3, F6, F21, F22, F23, F25
- Support for remaining forms coming in 2026



Current limitations

- Data availability
 - Growing.
 - Complete by end of 2025 for eForms.
- Historical data (TEDXML) still in ePO v3
 - Upgrade will start 2026
- Querying at the level of organisational entity
 - An Entity Resolution Service to be developed by end of 2025
- Several big and small improvements
 - Example: currency conversion



Final positive note

- It is available
- Open access to everyone
- Use it
- Help us improve it

THANK YOU

To start go to <https://data.ted.europa.eu>



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