



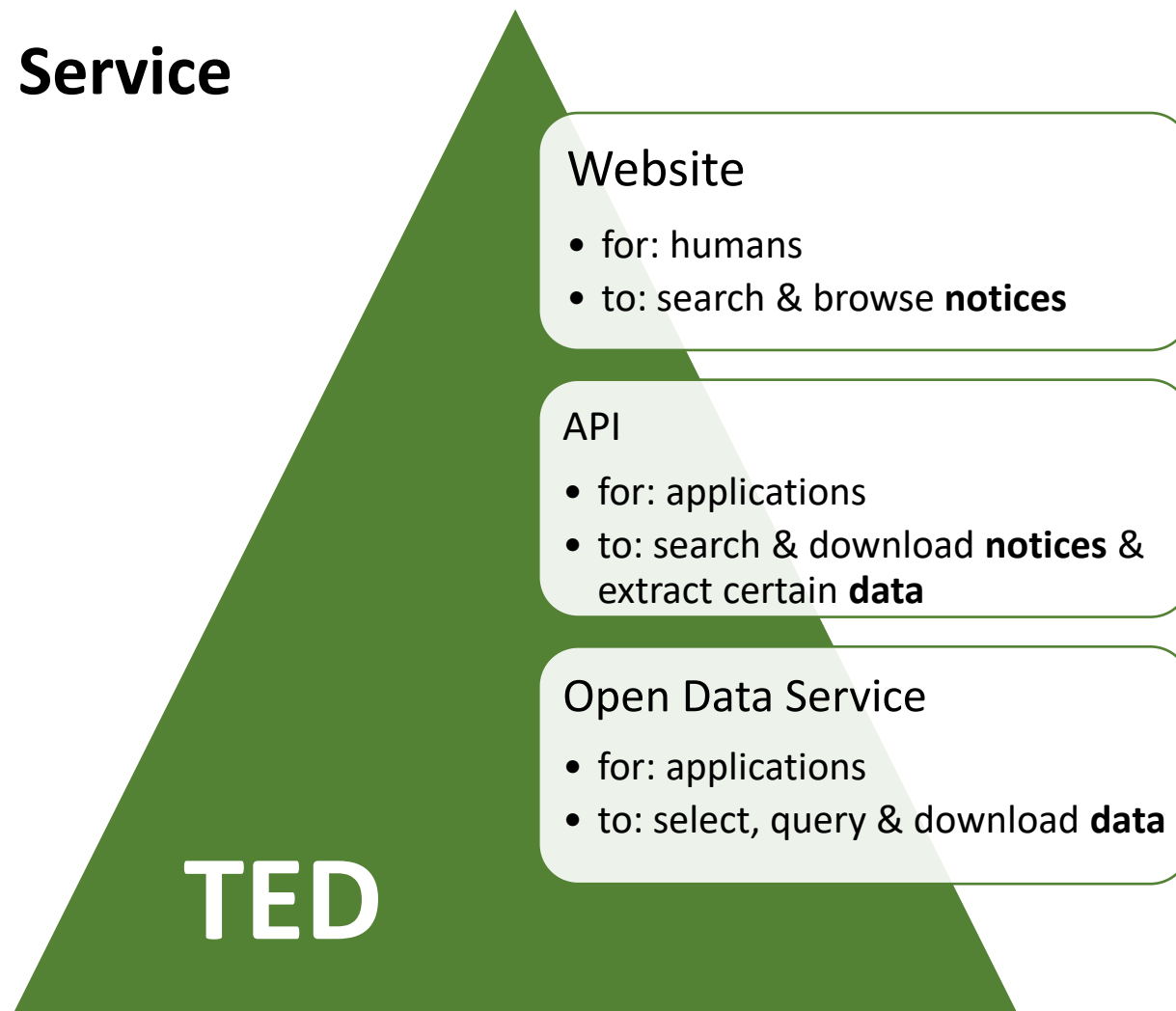
Publications Office
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TED OPEN DATA SERVICE

Natalie Muric and Victorio Bentivogli, Publications Office, 14/05/2025



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

Individuals

Data
Analysts

Business
Consultants

Researchers,
Journalists



How is it different from TED API?

TED API

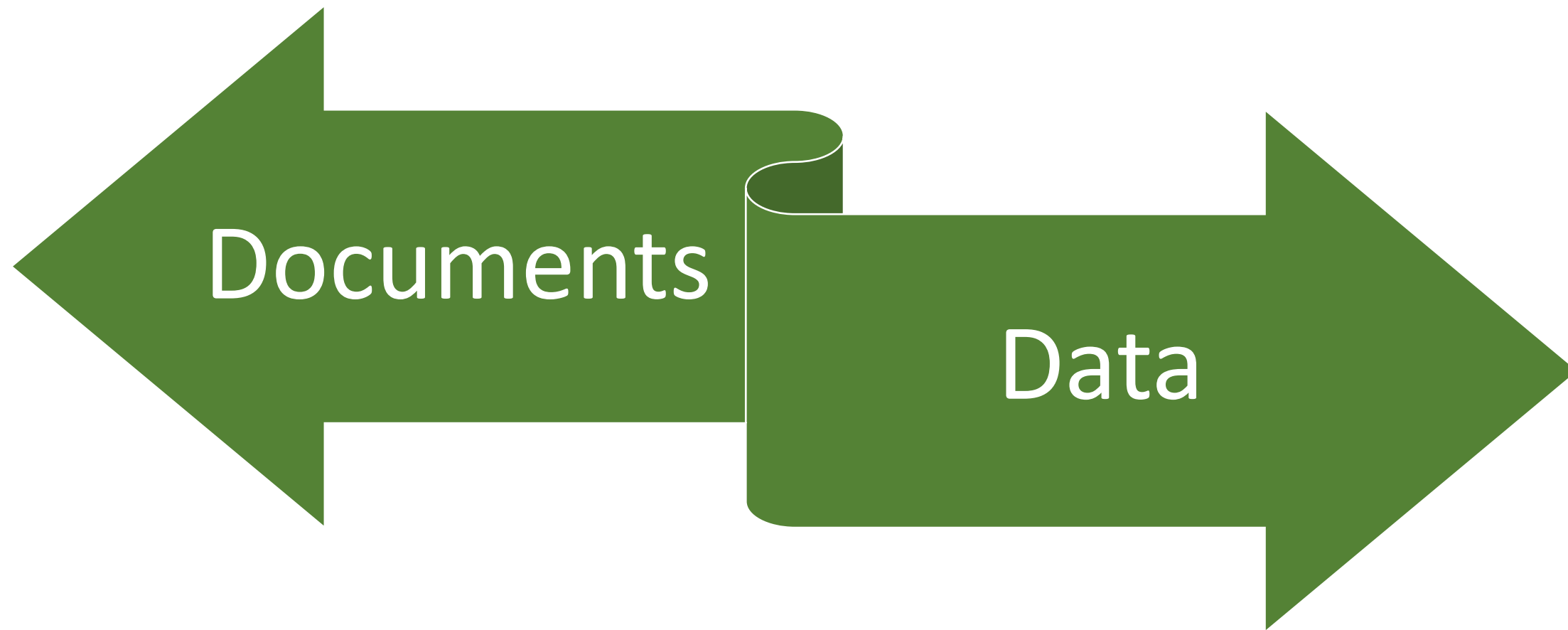
- Search all notices & certain data
- Download flat search results & notices
- Several formats (PDF, HTML, XML, etc.)

TED Open Data

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



Paradigm shift



eProcurement Ontology Objectives

- Standard vocabulary for Public Procurement
 - Including 73 code lists
- Machine and human readability
- Complete coverage of public procurement lifecycle
- Enable open linked open data



Public Procurement Data Space

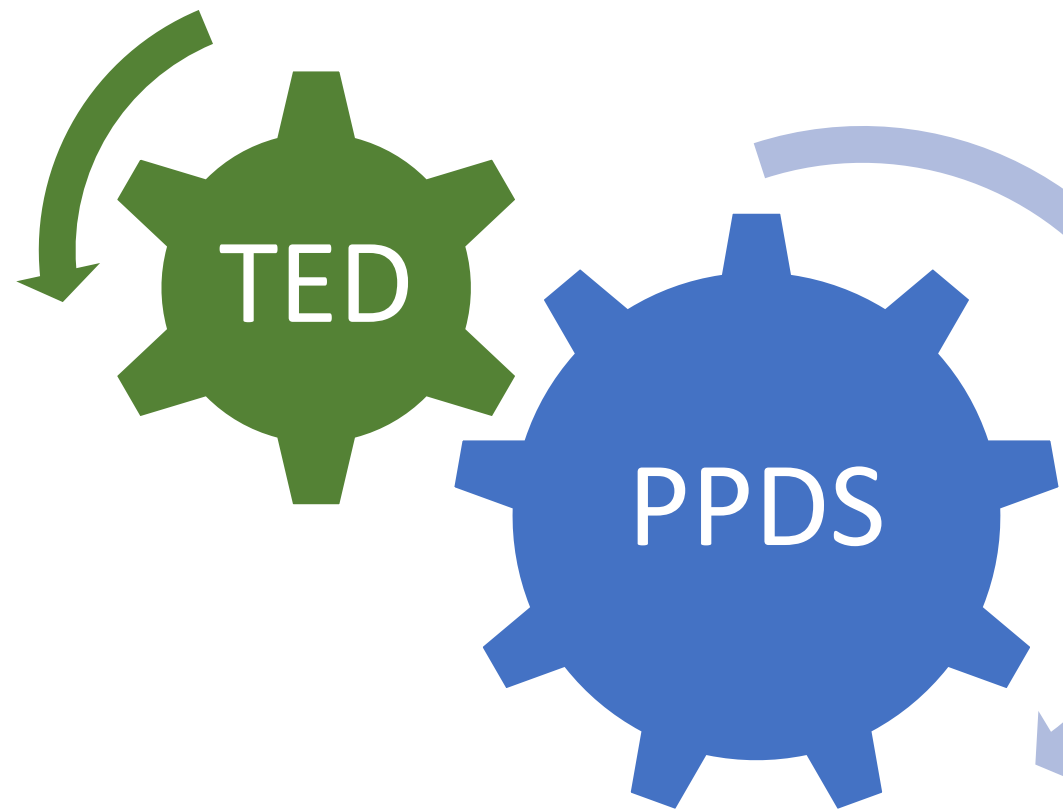
- Close collaboration with PPDS
- Providing eNotification data to PPDS

Similarities/Differences

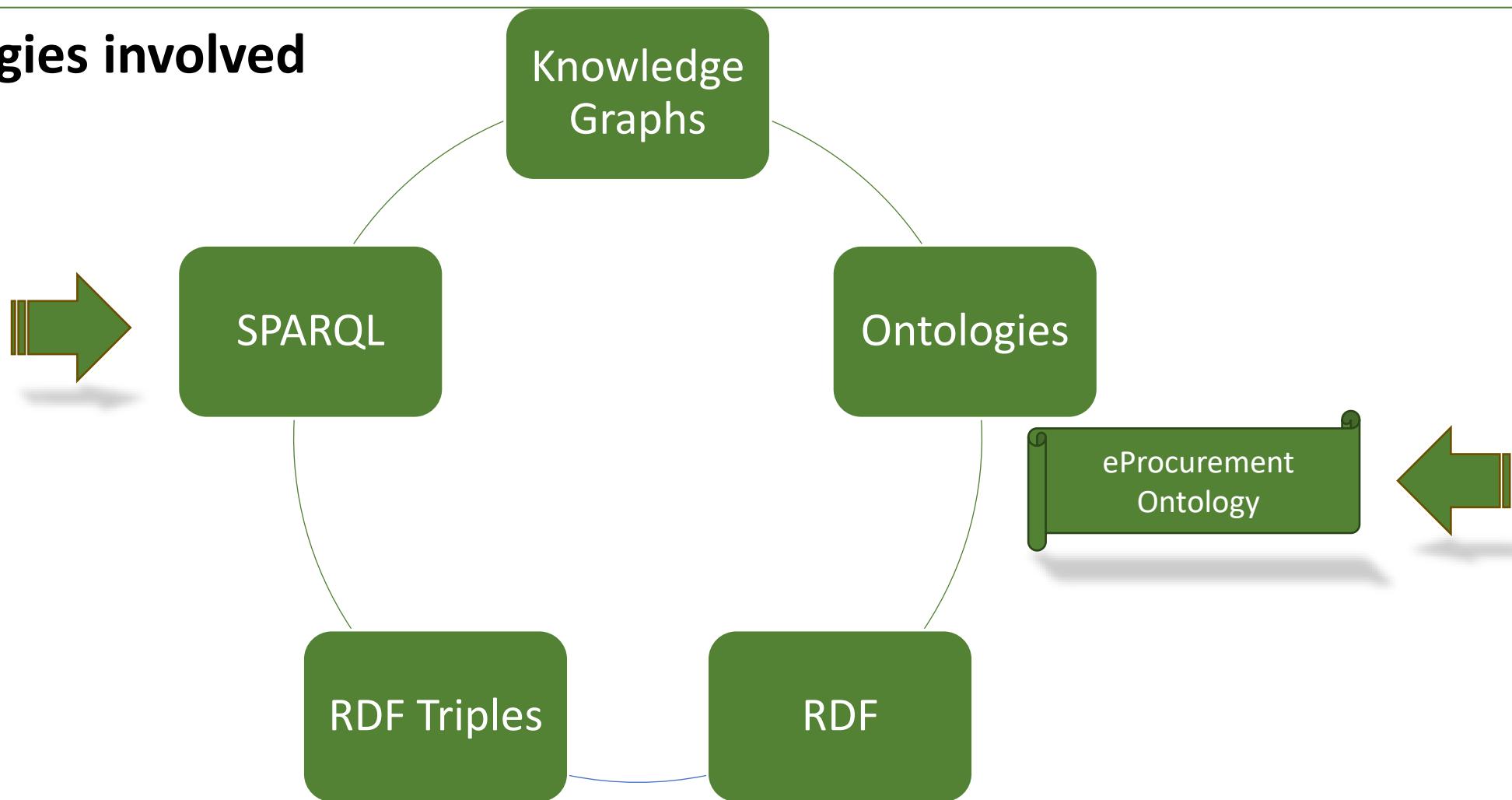
- TED Open Data available in both
- PPDS collects data from multiple sources
- Different access policies
- Emphasis on different use cases

Benefits of TED Open Data Service

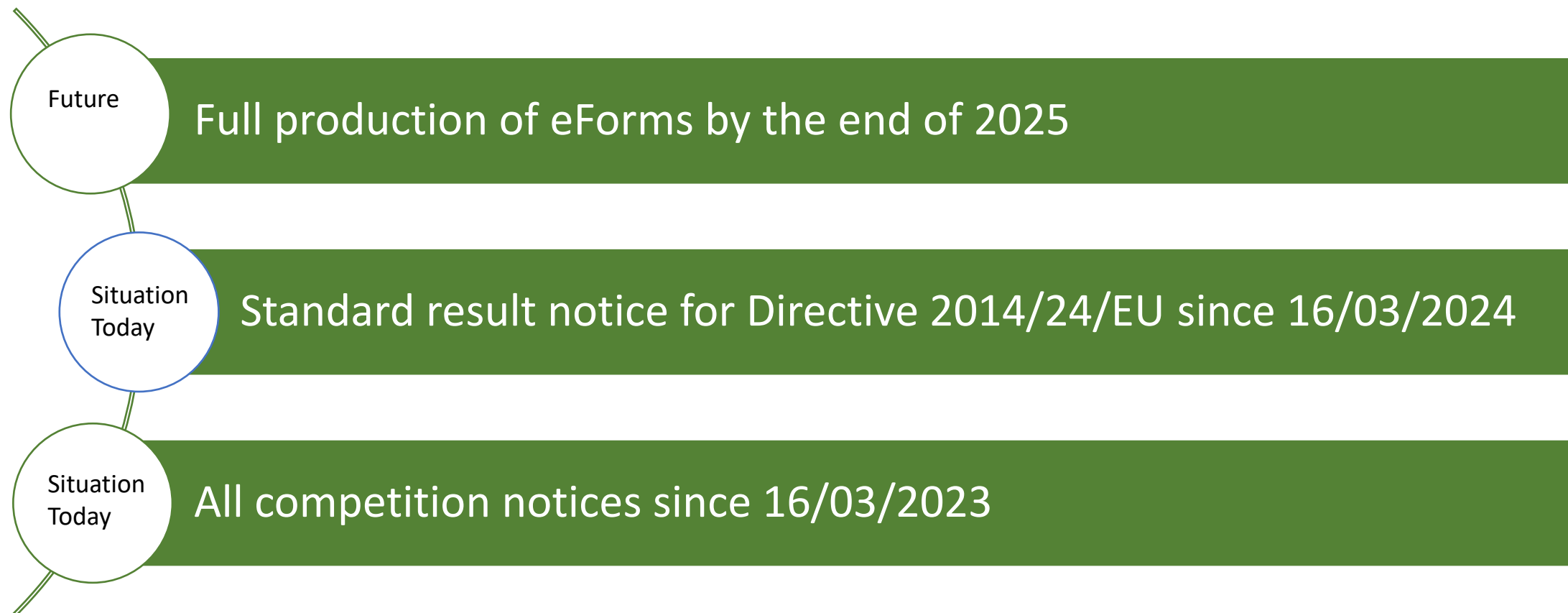
- Open access
- Available now
- Raw data – directly usable



Technologies involved



Notices available in the TED Open Data Service





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DEMO

TED Open Data Service in action



Resources for the demo

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



Exploring procurement data

Some interesting queries:

- Retrieve all **procurement notices** published during a specific period
- Retrieve information about **contracts** that have been concluded according to **procurement notices** published on a specific date
- Retrieve information about **awarded tenders** according to **procurement notices** published on a specific date

Exploring procurement data

*Retrieve all **procurement notices** published during a specific period*

publicationNumber	procedureType	noticeType	formType
"00666035-2024"	"Negotiated with prior publication of a call for competition / competitive with negotiation"@en	"Contract or concession award notice - standard regime"@en	"Result"@en
"00666028-2024"	"Negotiated with prior publication of a call for competition / competitive with negotiation"@en	"Contract or concession award notice - standard regime"@en	"Result"@en
"00666116-2024"	"Negotiated with prior publication of a call for competition / competitive with negotiation"@en	"Contract or concession award notice - standard regime"@en	"Result"@en
"00666224-2024"	"Negotiated with prior publication of a call for competition / competitive with negotiation"@en	"Contract or concession award notice - standard regime"@en	"Result"@en
"00666941-2024"	"Negotiated with prior publication of a call for competition / competitive with negotiation"@en	"Contract or concession award notice - standard regime"@en	"Result"@en
"00667117-2024"	"Negotiated with prior publication of a call for competition / competitive with negotiation"@en	"Contract or concession award notice - standard regime"@en	"Result"@en

Exploring procurement data

Retrieve information about **contracts** that have been concluded according to **procurement notices** published on a specific date

publicationNumber	lotUri	legalName	amount	currencyUri
"00667079-2024"	http://data.europa.eu/a4g/resource/id_1505882f-b4a5-45c0-b8ae-1c8fb822eec9_Lot_LOT-0001	"Hewlett-Packard GmbH"@de	151773110	http://publications.europa.eu/resource/authority/currency/EUR
"00666790-2024"	http://data.europa.eu/a4g/resource/id_38bd34e3-4db3-436f-b3a9-230712ee2633_Lot_LOT-0000	"Meira Nova Oy"@fi	40000000	http://publications.europa.eu/resource/authority/currency/EUR
"00667496-2024"	http://data.europa.eu/a4g/resource/id_81ef0bf8-175d-44d5-8730-e9da1aba2950_Lot_LOT-0001	"BRUNO PRESEZZI SPA"@cs	25980000	http://publications.europa.eu/resource/authority/currency/EUR
"00667502-2024"	http://data.europa.eu/a4g/resource/id_63a66037-5c5b-479f-81f7-50f117a512f0_Lot_LOT-0002	"E B I"@fr	20000000	http://publications.europa.eu/resource/authority/currency/EUR
"00667502-2024"	http://data.europa.eu/a4g/resource/id_63a66037-5c5b-479f-81f7-50f117a512f0_Lot_LOT-0012	"G2C METZ"@fr	20000000	http://publications.europa.eu/resource/authority/currency/EUR
"00667502-2024"	http://data.europa.eu/a4g/resource/id_63a66037-5c5b-479f-81f7-50f117a512f0_Lot_LOT-0002	"SOC NOUVELLE CHANZY-PARDOUX"@fr	20000000	http://publications.europa.eu/resource/authority/currency/EUR
"00667502-2024"	http://data.europa.eu/a4g/resource/id_63a66037-5c5b-479f-81f7-50f117a512f0_Lot_LOT-0002	"NFW SGSC"@fr	20000000	http://publications.europa.eu/resource/authority/currency/EUR

Exploring procurement data

Retrieve information about **awarded tenders** according to **procurement notices** published on a specific date

contractTitle	conclusionDate	lotUri	amount	currency
"Travaux neufs, de rénovation, et d'entretien dans différents sites et bâtiments municipaux de la Ville de Metz"@fr	2024-10-11	http://data.europa.eu/a4g/resource/id_63a66037-5c5b-479f-81f7-50f117a512f0_Lot_LOT-0002	20000000	"EUR"
"Travaux neufs, de rénovation, et d'entretien dans différents sites et bâtiments municipaux de la Ville de Metz"@fr	2024-10-11	http://data.europa.eu/a4g/resource/id_63a66037-5c5b-479f-81f7-50f117a512f0_Lot_LOT-0012	20000000	"EUR"
"Travaux neufs, de rénovation, et d'entretien dans différents sites et bâtiments municipaux de la Ville de Metz"@fr	2024-10-11	http://data.europa.eu/a4g/resource/id_63a66037-5c5b-479f-81f7-50f117a512f0_Lot_LOT-0012	20000000	"EUR"
"Travaux neufs, de rénovation, et d'entretien dans différents sites et bâtiments municipaux de la Ville de Metz"@fr	2024-10-11	http://data.europa.eu/a4g/resource/id_63a66037-5c5b-479f-81f7-50f117a512f0_Lot_LOT-0012	20000000	"EUR"
"Travaux neufs, de rénovation, et d'entretien dans différents sites et bâtiments municipaux de la Ville de Metz"@fr	2024-10-11	http://data.europa.eu/a4g/resource/id_63a66037-5c5b-479f-81f7-50f117a512f0_Lot_LOT-0002	20000000	"EUR"



Step 1 – Write and test your query

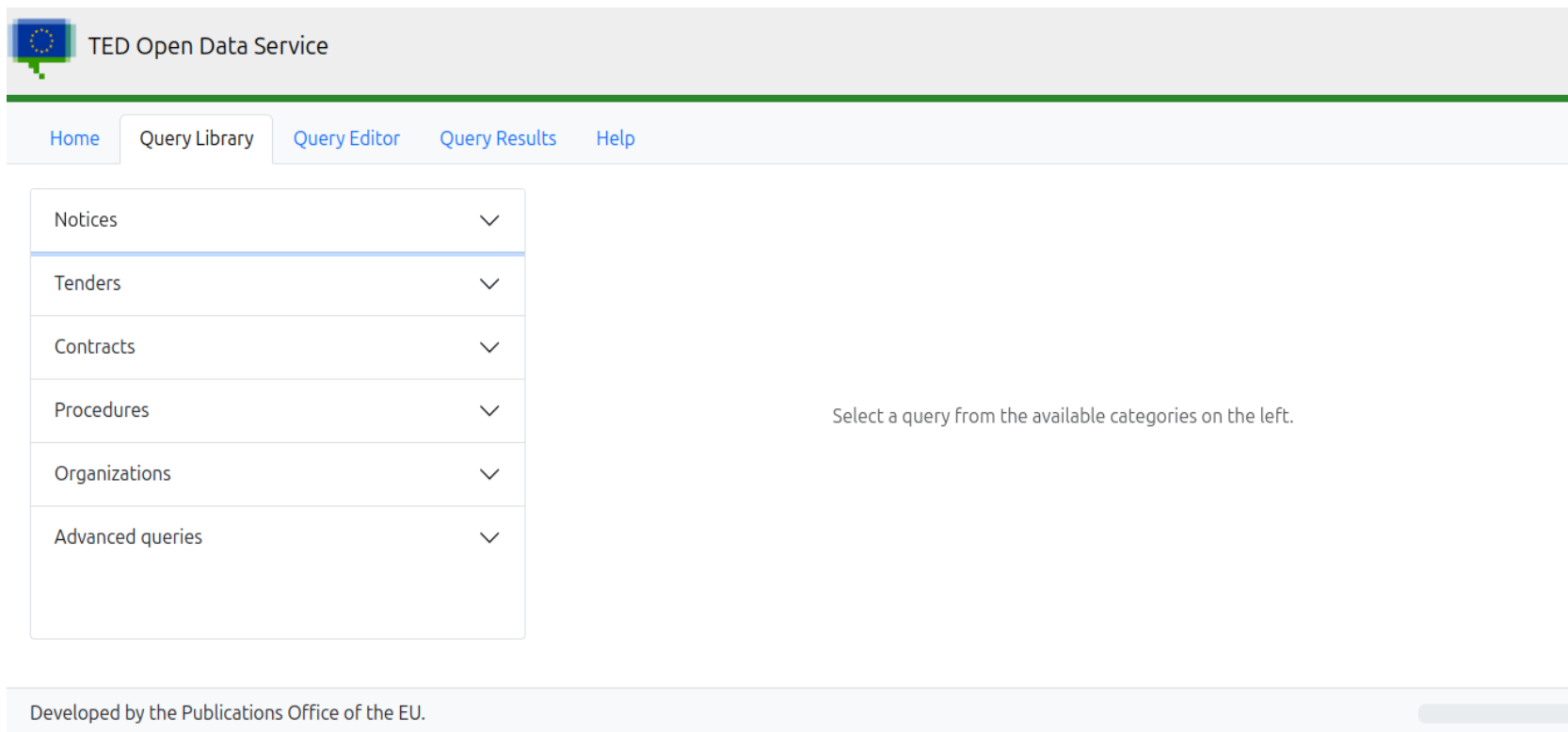
How to start?

- Browse our examples in the query library
- Use an LLM to write a query for you

For now, we will use a query we prepared for you

Step 1 – Write and test your query (cont.)

The query library can be found in <http://data.ted.europa.eu>



The screenshot shows the TED Open Data Service interface. At the top, there is a header with the European Union flag and the text "TED Open Data Service". Below the header is a navigation bar with links: "Home", "Query Library", "Query Editor", "Query Results", and "Help". The "Query Library" link is highlighted. On the left side, there is a list of categories with dropdown arrows: "Notices", "Tenders", "Contracts", "Procedures", "Organizations", and "Advanced queries". The "Tenders" category is highlighted. On the right side, there is a message: "Select a query from the available categories on the left." At the bottom, there is a footer with the text: "Developed by the Publications Office of the EU."

TED Open Data Service

Home Query Library Query Editor Query Results Help

Notices ▼

Tenders ▼

Contracts ▼

Procedures ▼

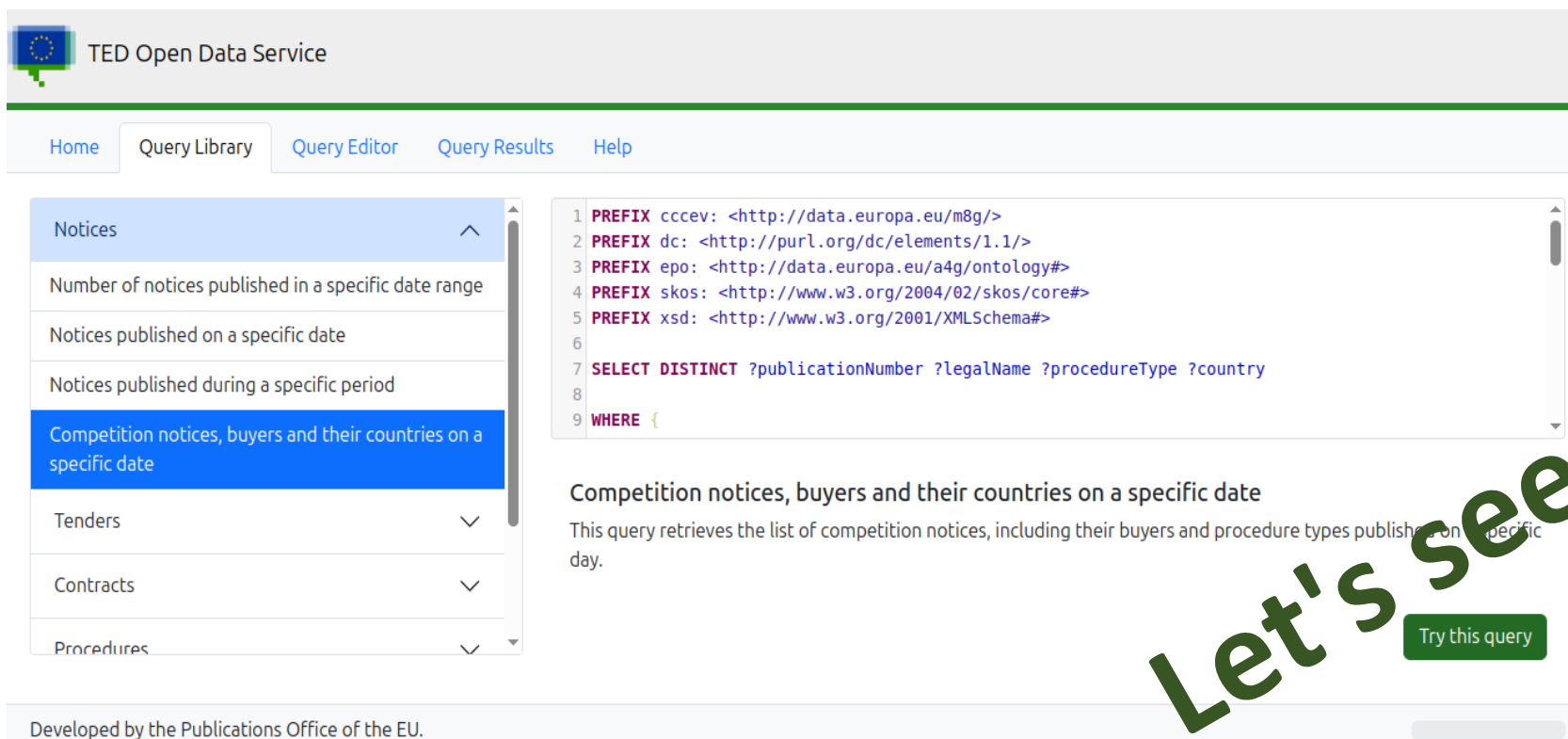
Organizations ▼

Advanced queries ▼

Select a query from the available categories on the left.

Developed by the Publications Office of the EU.

Step 1 – Write and test your query (cont.)



The screenshot shows the TED Open Data Service interface. At the top, there's a header with the European Union flag and the text "TED Open Data Service". Below this is a navigation bar with links: Home, Query Library, Query Editor (selected), Query Results, and Help. On the left side, there's a sidebar menu with categories: Notices, Tenders, Contracts, and Procedures. Under "Notices", several options are listed, with "Competition notices, buyers and their countries on a specific date" highlighted in blue. The main area displays an SQL query editor with the following code:

```
1 PREFIX cccev: <http://data.europa.eu/m8g/>
2 PREFIX dc: <http://purl.org/dc/elements/1.1/>
3 PREFIX epo: <http://data.europa.eu/a4g/ontology#>
4 PREFIX skos: <http://www.w3.org/2004/02/skos/core#>
5 PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
6
7 SELECT DISTINCT ?publicationNumber ?legalName ?procedureType ?country
8
9 WHERE {
```

Below the query editor, the title "Competition notices, buyers and their countries on a specific date" is shown, followed by a description: "This query retrieves the list of competition notices, including their buyers and procedure types published on a specific day." A green button labeled "Try this query" is positioned to the right of the description. At the bottom left, it says "Developed by the Publications Office of the EU."

Let's see it live!



Step 2 – Get the data in your application

- You can connect any application capable of reading data from the web, such as:
 - Excel
 - Google Sheets
 - Power BI
 - Qlik
- Data analysts and developers can use:
 - Python, R, or any preferred programming language to analyse data
 - A tool like Jupyter Notebooks and Marimo

Let's see it live!

In case you need help...

- You can post questions in our GitHub discussions page: <https://github.com/OP-TED/ted-open-data/discussions>

OP-TED / ted-open-data

Search: Type to search

<> Code Issues 2 Pull requests Discussions Actions Projects Security Insights Settings

Sparql code for dps
Q&A · TedofSwe

Search: is:answered category:Q&A Sort by: Latest activity Label Filter: Answered New discussion

Categories

- View all discussions
- Announcements
- Ideas
- Q&A**
- Show and tell

Most helpful
Be sure to mark someone's comment as an answer if it helps you resolve your question — they deserve the credit! ❤️

Q&A
Ask the community for help

- Simple query to filter after a cpv category.**
leobroom asked on Feb 13 in Q&A · Answered 2
- Sparql code for dps**
TedofSwe asked on Dec 19, 2024 in Q&A · Answered 2

Community guidelines

END OF DEMO

Just save your file 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

- It 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

Prefix declarations

```
PREFIX cccev: <http://data.europa.eu/m8g/>  
PREFIX dc: <http://purl.org/dc/elements/1.1/>  
PREFIX epo: <http://data.europa.eu/a4g/ontology#>  
PREFIX skos: <http://www.w3.org/2004/02/skos/core#>  
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
```

- 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



Where to start?

- Start at <http://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 <http://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



Using AI assistants for writing queries

- The eProcurement Ontology specification is available on GitHub
- Upload the OWL representation of the ePO conceptual model (ePO-Core and eNotification) to your LLM, for the LLM to have an adequate context to work on
- 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



It will not always get it right, but it will help you learn and understand the ontology faster



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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