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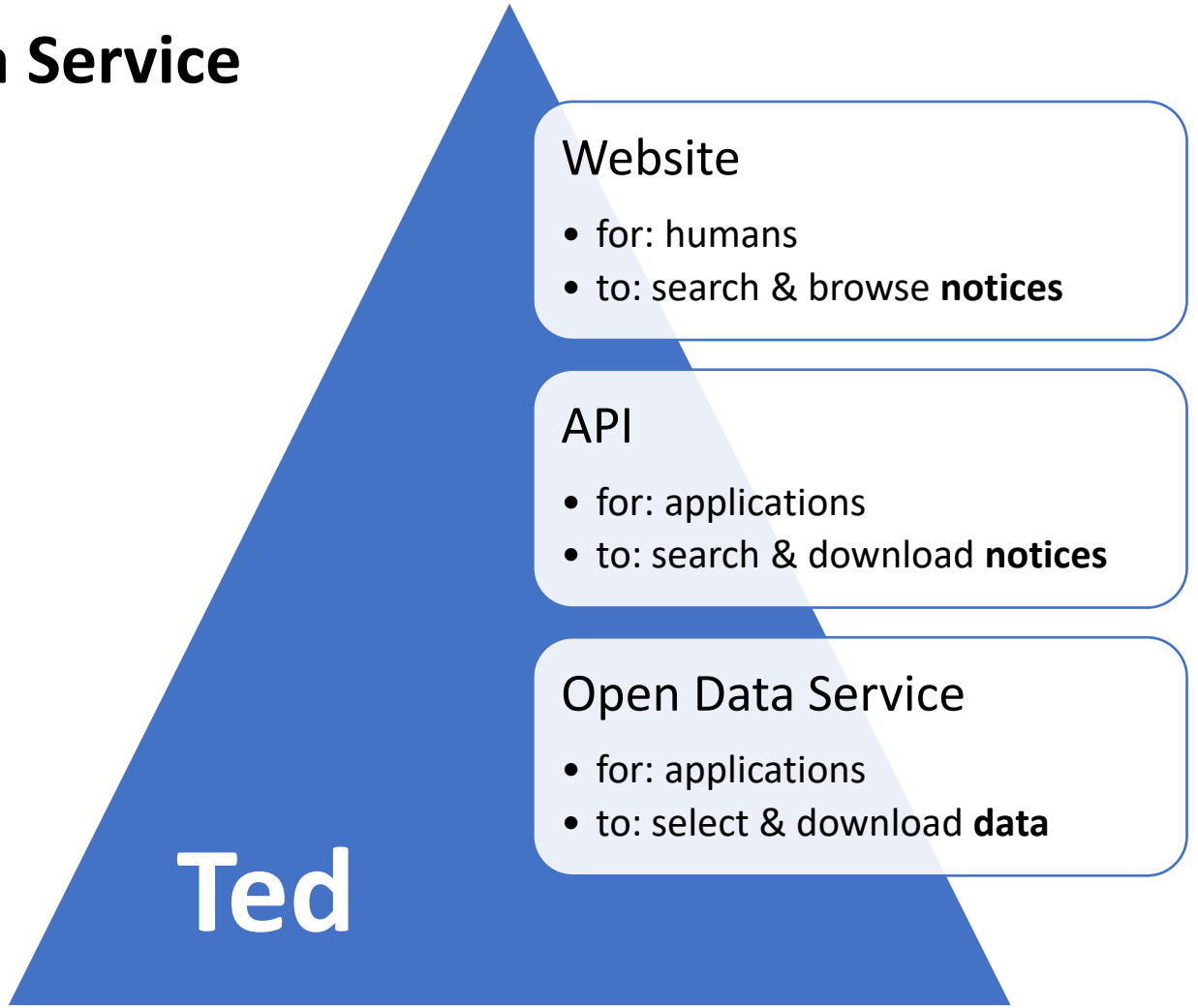
TED OPEN DATA SERVICE

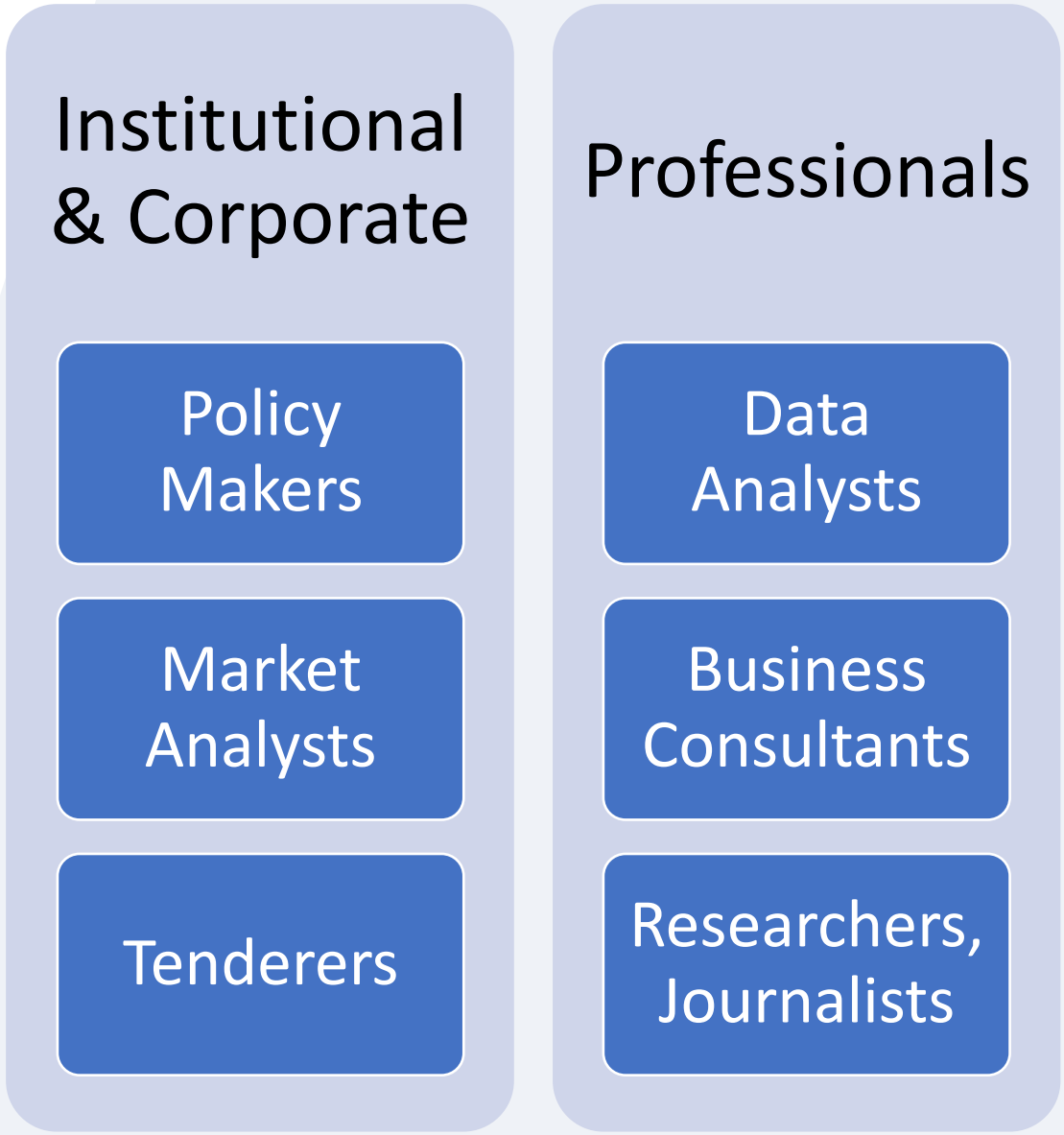
Ioannis Rousochatzakis, Publications Office, 3/12/2024

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.



How is it different from TED API?

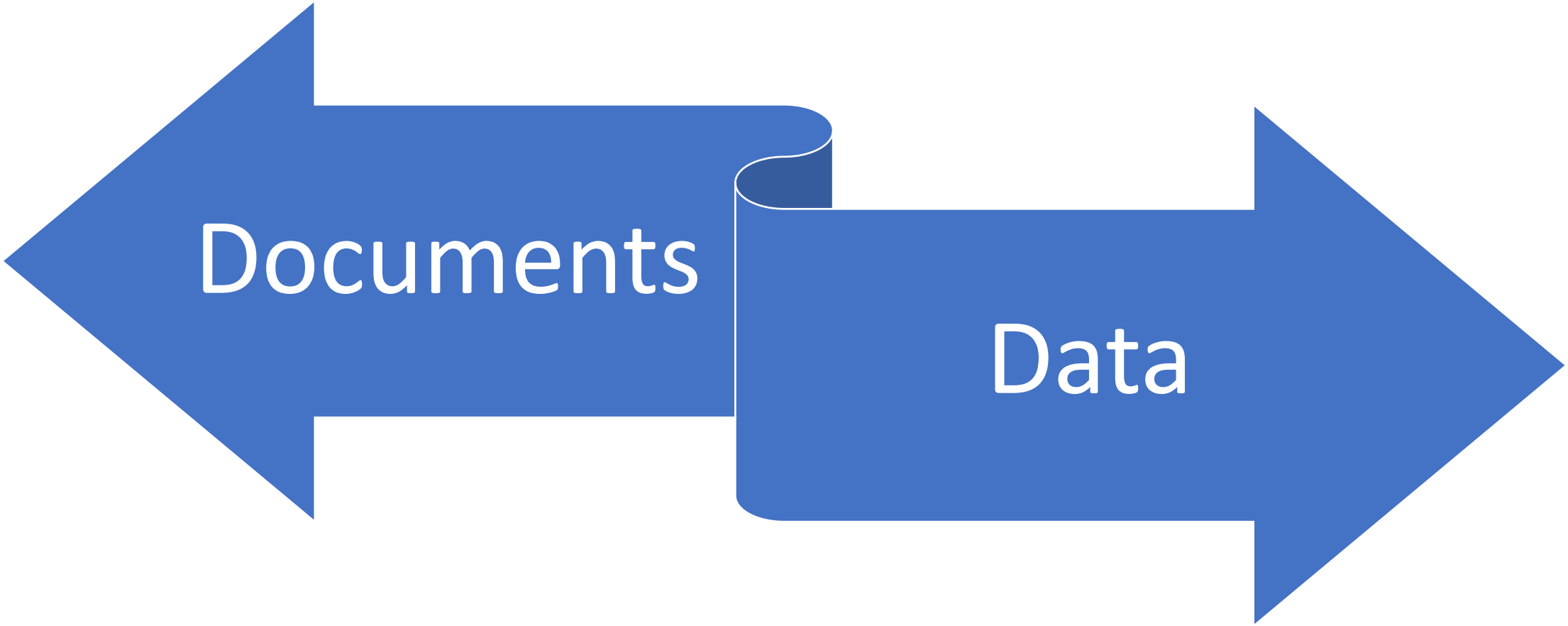
TED API

- 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

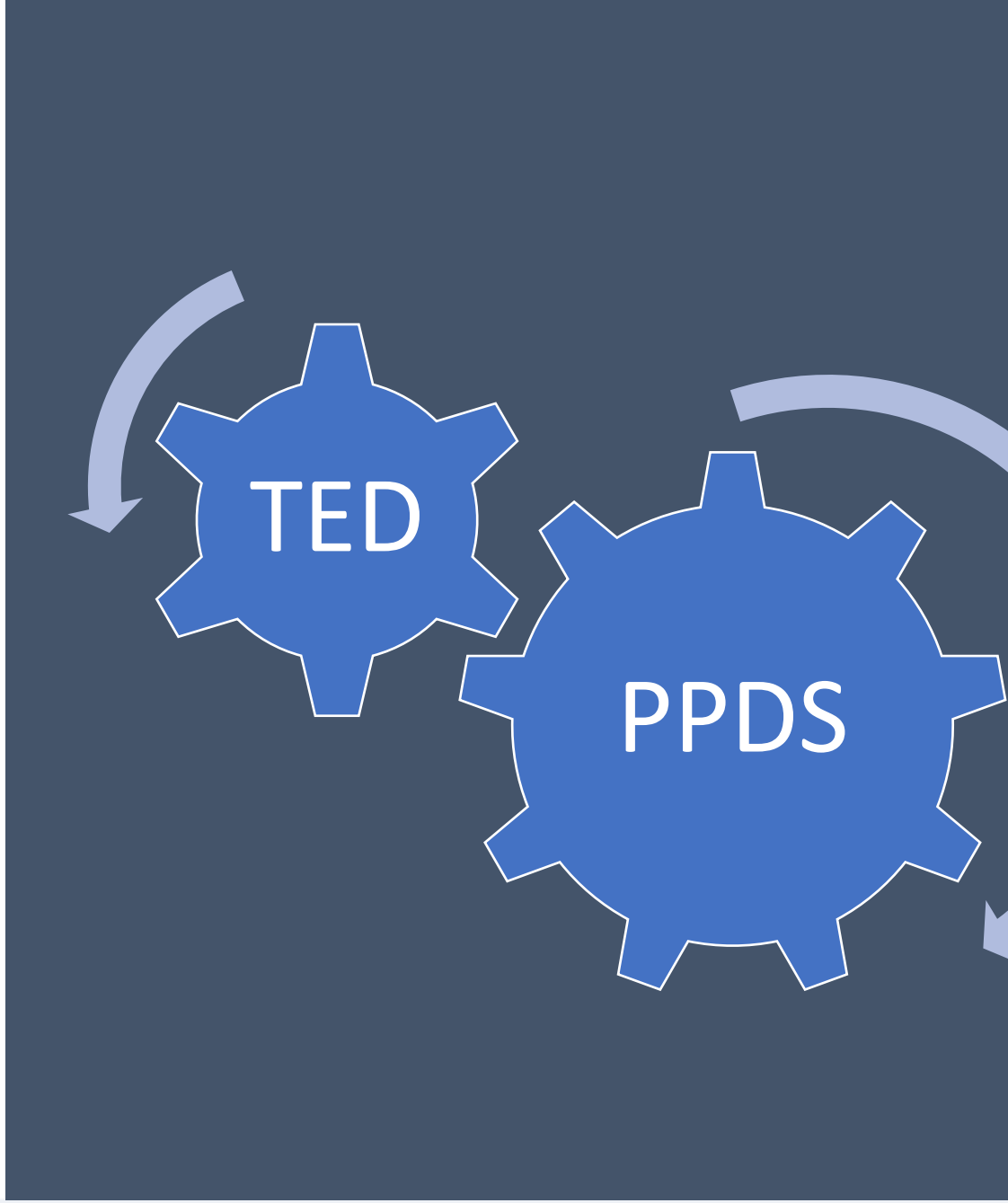
- Close collaboration with PPDS
- Providing eNotification data to PPDS

Similarities/Differences

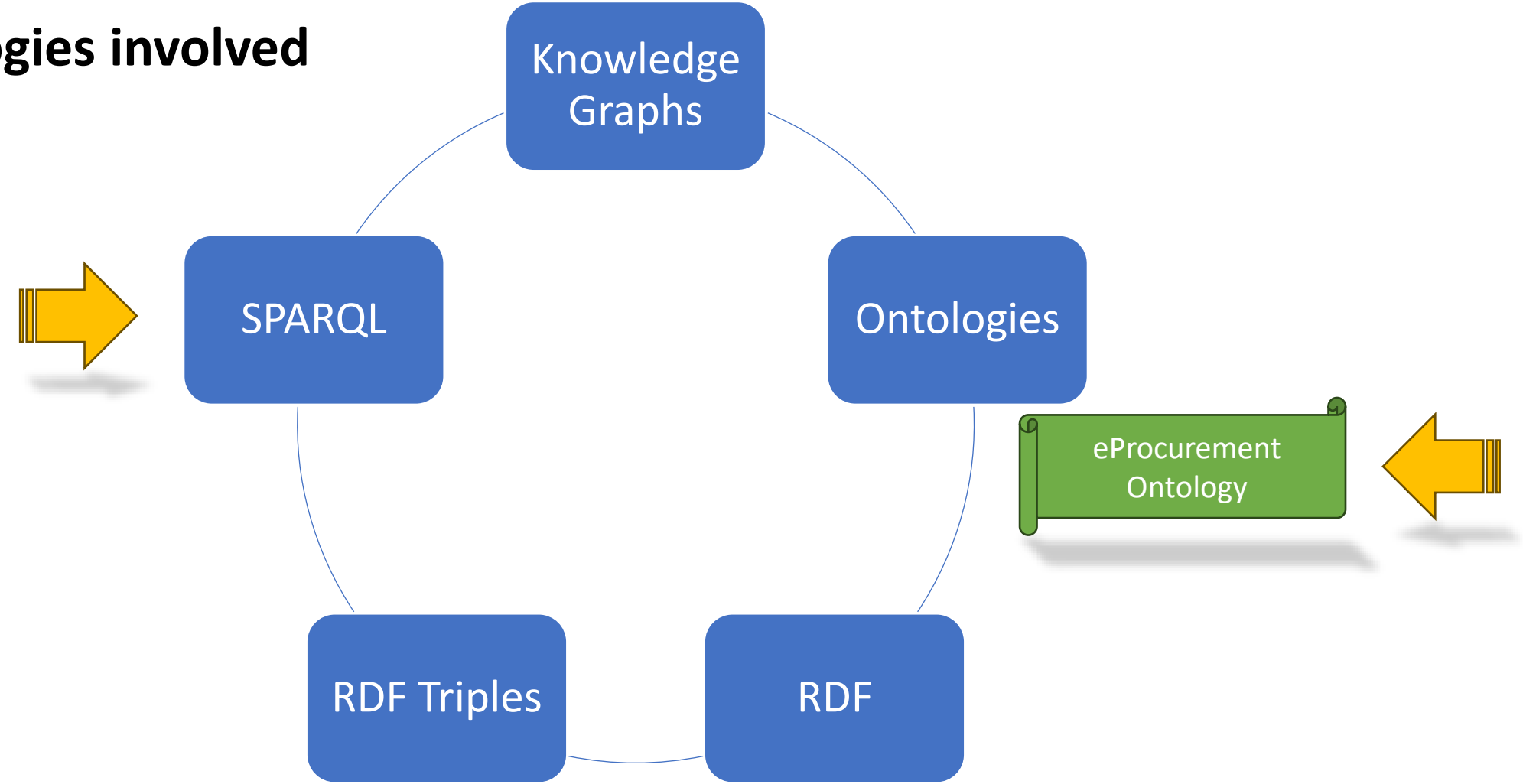
- TED Open Data available in both
- PPDS collects data from multiple sources
- Different access policies
- Emphasis on different use cases

Benefits of TED Open Data Service

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



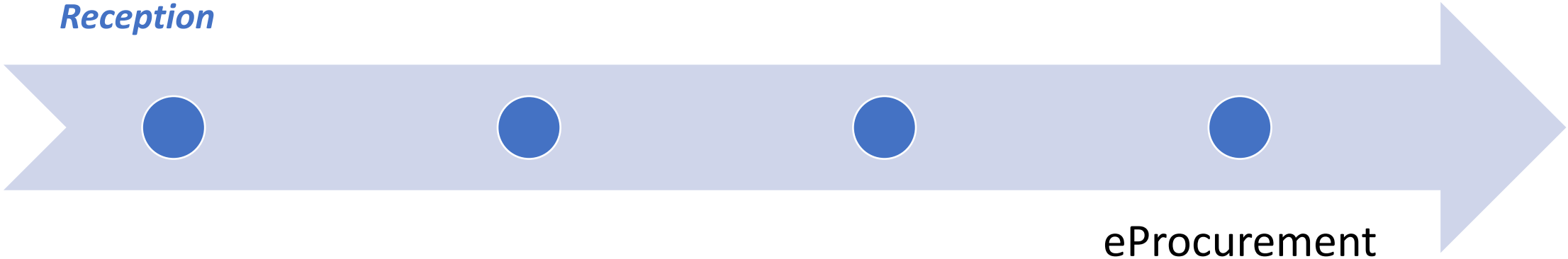
Technologies involved



eNotification Standards

eForms SDK

Reception



eProcurement Ontology

Dissemination

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.

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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