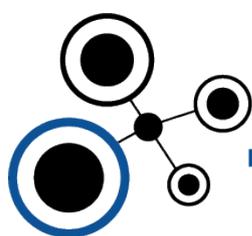


Innovation Action (IA)

**ICT-14-2016-2017**

H2020-ICT-2017-1

Enabling procurement data value chains for economic development, demand management, competitive markets and vendor intelligence



# **THEY BUY FOR YOU**

## **Deliverable D5.5**

### **White Paper on the publication and governance of open procurement data**

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## Executive summary

This white paper proposes a set of recommendations that public administrations in Europe and worldwide should follow to manage and publish their public procurement data according to open data principles. This guidance complements existing frameworks and best practices to ensure public procurement procedures follow core principles of transparency, integrity, efficiency, openness, fairness, competition, and accountability.

EU governments spend between 10% and 20% of their GDP on public procurement; this represents more than 4 trillion euros per annum. According to a recent report from the Open Contracting Partnership and Spend Network, globally governments spend an estimate of \$13 trillion a year on public contracts for goods and services.

However, the public procurement market is still not as competitive as it could be, with substantial barriers to entry, especially for new players. According to OpenOpps, only in the UK, the public sector used over 2000 unique tender domains in the last 5 years. Keeping track of all these opportunities requires substantial effort, which many companies cannot resource. Furthermore, global studies of public procurement suggest that the optimum age for a company trading with government is 10 years; that one in five tenders receives just one bid; that the average number of bidders is falling (even more so during the COVID-19 pandemic); and that over the past eight years, 18% more funds are being allocated to the 20 largest suppliers.

Our recommendations focus on how public administrations should manage and publish procurement data to

- revert this situation;
- become more efficient in managing their public procurement processes;
- benefit from the latest set of technology trends, including data analytics, knowledge graphs, and AI, to make better, data-driven decisions;
- select suppliers that benefit society more broadly;
- tackle fraud; and
- increase transparency and public trust.

Based on our work with public administrations from several European countries and the innovations brought about by the TheyBuyForYou in the last three years, our recommendations are:

- Rec 1. Make your public procurement data available in a structured format, and according to existing standards.

- Rec 2. Include identifiers of all the tenderers that participate in a contracting process.
- Rec 3. Include identifiers of the departments and sub-organisations that act as tenderers.
- Rec 4. Make sure that joint ventures' data include identifiers of the participating organisations.
- Rec 5. All notices and steps associated to a contracting process should be linked with the same identifier.
- Rec 6. Link invoices (and results) to the public procurement process to which they belong.
- Rec 7. Ensure that the text of all documents used in a contracting process are available for further processing and linked to their corresponding contracting process.
- Rec 8. Provide commonly agreed visualisations of public contracting data.
- Rec 9. Provide answers to the most common questions made by citizens and organisations.
- Rec 10. Use your own public procurement data internally (e.g., as a data backend in your transparency portal).

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# 1 Introduction

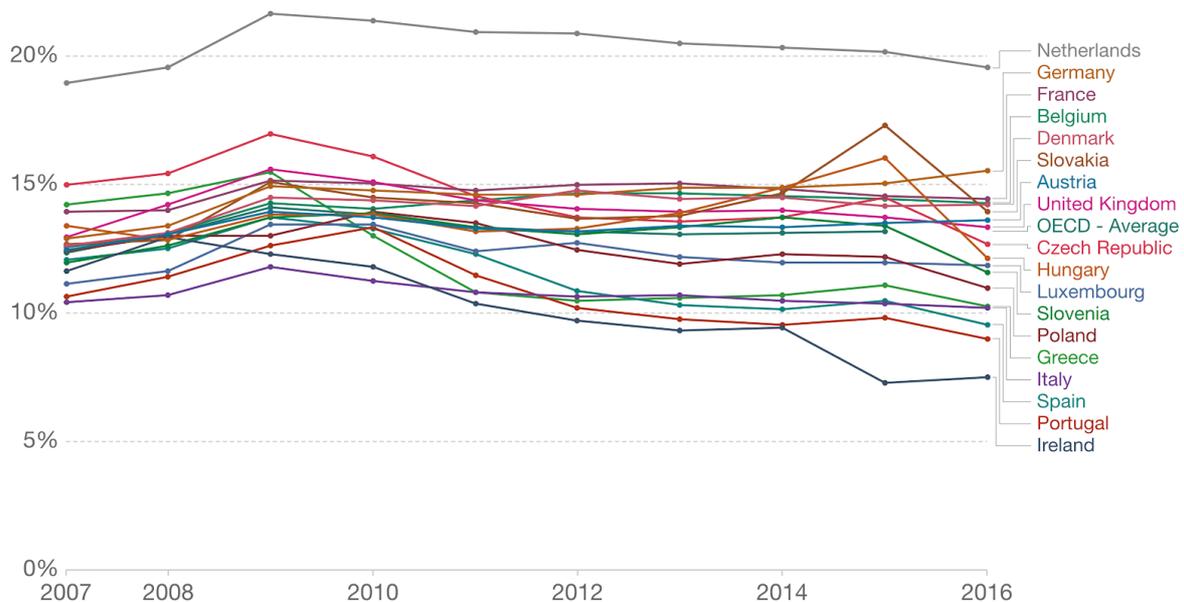
Public procurement processes follow a set of commonly agreed principles, such as transparency, integrity, efficiency, openness, fairness, competition, and accountability<sup>1</sup>. In the European Union, the latest EU Directive on public procurement<sup>2</sup> and the corresponding national legislation in the Member States understand these principles as a manifestation of our European values, while improving (and improving trust in) government spending.

As shown in Figure 1, EU governments spend between 10% and 20% of their GDP in public procurement, which represents more than 4 trillion euros per annum. In a recent report from the Open Contracting Partnership and Spend Network<sup>3</sup> it is estimated that globally governments spend \$13 trillion a year on public contracts for goods and services.

General government procurement as a percentage of GDP, OECD, 2007 to 2016



General government procurement is defined as the sum of intermediate consumption (e.g. accounting services), gross fixed capital formation (e.g. new roads) and social transfers in kind via market producers (purchases by general government of goods/services produced by markets and supplied to households). Figures include procurement for central, state and local governments.



Source: Government at a Glance – OECD (2017)

OurWorldInData.org/public-spending/ • CC BY

Figure 1. General Government Procurement as a percentage of GDP (2007-2016).

Source: Government at a Glance – OECD (2017), <http://OurWorldInData.org/public-spending/>

<sup>1</sup> [http://www.gonccppc.org/basic\\_principles\\_of\\_public\\_procurement.html](http://www.gonccppc.org/basic_principles_of_public_procurement.html),  
<https://theintactone.com/2020/01/26/fundamental-principles-of-public-buying/>

<sup>2</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32014L0024>

<sup>3</sup> <https://www.open-contracting.org/what-is-open-contracting/global-procurement-spend/>

This whitepaper discusses a set of recommendations for public administrations that manage and share data about their public procurement processes, as well as for data users (individuals and organisations) that want to make use of such data.

Public administrations following these recommendations will be able to manage their procurement processes more efficiently by capitalising on the latest technology advances including data-driven decision making, AI and knowledge graphs., since they will be. They will be also more transparent, facilitate the audit of public procurement processes by citizens and organisations, and be better prepared to fight fraud.

Data users will be able to develop and offer new products and services around public procurement, fuelled by the procurement data made available in the public sector. Examples of such products and services can be found in the TheyBuyForYou project<sup>4</sup>. They facilitate, among others, more accurate alerts on public procurement processes with greater relevance to different types of organisations (e.g. new players, SMEs), independently of where they are based or what European language they speak. This will result, in the medium and long term, into more competition and better value for money for public administrations, and for society in general.

Further on, citizens (including journalists as proxies for public interest and public opinion) will have access to better tools to audit the use of public money by their elected representatives, and become more active in shaping buying decisions to ensure they benefit everyone.

## 1.1 Who should read this whitepaper?

This white paper is useful for:

- Procurement data providers (mostly public administrations, although most of the recommendations would be also valid for private procurement providers) that are looking to improve the ways in which their procurement data is managed and published for their own benefit, and for the benefit of other data users
- Public or private auditors and watchdogs that are interested in monitoring public procurement to ensure it follows core agreed principles enshrined in law.
- Private infomediary companies that are offering procurement-based services (e.g., alerts) for current and prospective government suppliers.
- Private companies that trade or are looking to trade with public administrations and need better access to public procurement information.

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<sup>4</sup> <https://theybuyforyou.eu/business-cases/>

- Civil society organisations and data journalists guarding the transparency, fairness and accountability of public procurement and exposing fraud and other challenges.
- Citizens, who are the ultimate recipients of public services procured by government. If government publishes their procurement data according to the recommendations, they can use this data effectively to inform their buying decisions and streamline how procurement is operationalised.

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## 2 The state of public procurement publication in the world

In recent years, public administrations have spent substantial resources in digitalising their public procurement processes, with on the aim to streamline procedures, and reduce overheads for buyers and suppliers alike. Similarly, government has invested in becoming more transparent, open, accountable and fair in their tendering, including timestamped records for all the documentation that is received, making tender systems more accessible, and expediting procurement decisions.

As a result, public contracting platforms have been designed at different scales of administration, from local to international, and more recently many of these have been integrated in national public contracting platforms (e.g., France <https://www.achatpublic.com/>, Slovenia <https://www.enarocanje.si>, Germany <https://ausschreibungen.giz.de/Satellite/company/welcome.do>, Norway <https://www.doffin.no/>, Portugal <http://www.base.gov.pt/Base/pt/Homepage>, Spain <https://contrataciondelestado.es/wps/portal/Plataforma>).

The data used in these platforms is generated and managed by public administrations. In most cases, it does not include any personal data or data that is otherwise sensitive and raises security concerns. However, despite EU and national efforts to encourage the release of public procurement data using open licenses (e.g. the public sector information reuse directives 2003/98/EC, 2013.37/UE, 2019/1024 and their national counterparts), the publication of public procurement datasets on open government data portals have been very uneven across Member States.

The latest European directive on open data (2019/1024)<sup>5</sup> identifies a list of for high-value datasets which should be published free of charge as a priority. This is subject to approvals via a future implementing act during 2021. The datasets have been selected for their potential impact on the digital transformation of the public sector, for their innovation potential towards business models, products, services and value chains, and for broader societal benefits. They are also seen as key assets for the development of novel AI solutions in this space.

The list of thematic priorities identified in the directive is as follows:

- Geospatial data
- Earth observation and environment
- Meteorological data
- Statistics

<sup>5</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1561563110433&uri=CELEX:32019L1024>

- Companies and company ownership
- Mobility

Public procurement is not explicitly named on this provisional list. However, it is closely related to companies and company ownership, and hence we expect that it to be included in the implementation acts due 2021.

This is also in line with ongoing efforts at regional and national levels. For instance, in 2019 the Spanish Federation of Municipalities and Provinces agreed on a catalogue of 40 datasets<sup>67</sup> that municipalities in Spain should prioritise in their open data provisioning programmes, including public procurement (alongside invoices, subventions, and concessions). In the UK, the Local Government Transparency Code 2015<sup>8</sup> clearly directs local administrations to publish data on tenders, contracts and spending openly.

The TheyBuyForYou team has been working for three years to produce a European public procurement knowledge graph available at <https://github.com/TBFY/knowledge-graph>). This is an openly available dataset using knowledge graph technologies to seamlessly integrate multiple sources of information into an extensible, modular format. During these three years, we experienced first-hand several bottlenecks in sourcing and consolidating the relevant data. The result, however, allows developers to easily create the added-value services, from analytics to dashboards, which buyers, suppliers, and another stakeholders demand. We have consolidated our experiences in a list of 10 recommendations that every public organisation publishing open procurement data should follow to reap the benefits of data-informed decision making and digital services.

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<sup>6</sup> <https://datos.gob.es/es/documentacion/datos-abiertos-femp-2019-40-conjuntos-de-datos-publicar-por-las-entidades-locales>

<sup>7</sup> <http://femp.femp.es/files/3580-1938-fichero/DATOS%20ABIERTOS%20FEMP%202019.pdf>

<sup>8</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/408386/150227\\_PUBLICATION\\_Final\\_LGTC\\_2015.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/408386/150227_PUBLICATION_Final_LGTC_2015.pdf)

### 3 Ten recommendations for open public procurement data management, publication and governance

#### 3.1 Make your public procurement data available in a structured format, and according to existing standards

Public procurement data should be published in structured formats and following protocols that make it easy for data reusers to obtain the data, process it and use it for their own purposes. Examples of such formats include tabular, tree-based or graph data formats such as Microsoft Excel, CSV, OData, XML, JSON or RDF, among others, as described in <https://5stardata.info/>.

Furthermore, if not only the formats are structured but also the data models used for their publication are commonly agreed, the gain in terms of data reuse will be larger. In open data publishing, it is common to produce shared data models, vocabularies or ontologies to ensure data can be exchanged across applications and to combine data from different publishers (for instance, to undertake comparative analyses in different regions or countries).

For instance, in the context of the TheyBuyForYou project we have created an ontology that is based on the Open Contracting Data Standard data model<sup>9</sup>. This ontology defines a set of concepts, with their attributes and relationships among them, which can be used to describe contracting processes, from the planning to the award phase. The main concepts and relationships described in this ontology can be found in Figure 2, Figure 3, Figure 4 and Figure 5. A detailed documentation on the use of this ontology is provided at the TheyBuyForYou deliverable D2.2 (Knowledge Graph Publication)<sup>10</sup>.

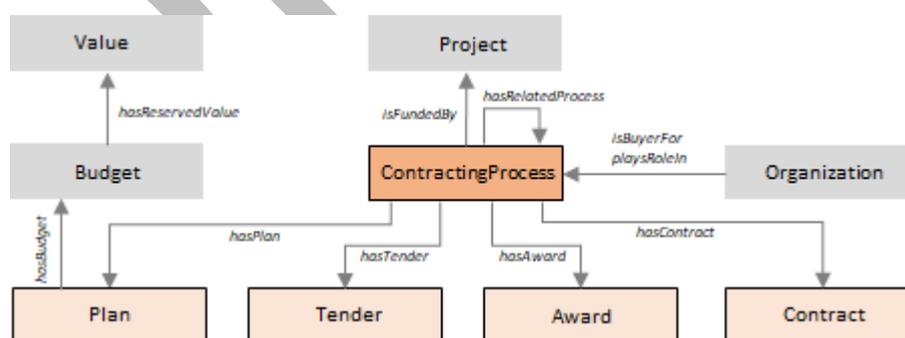


Figure 2. ContractingProcess class and its neighborhood.

<sup>9</sup> <https://www.open-contracting.org/data-standard/>

<sup>10</sup> D2.2 - Knowledge graph publication, TheyBuyForYou Deliverable, <https://theybuyforyou.eu/deliverables/>

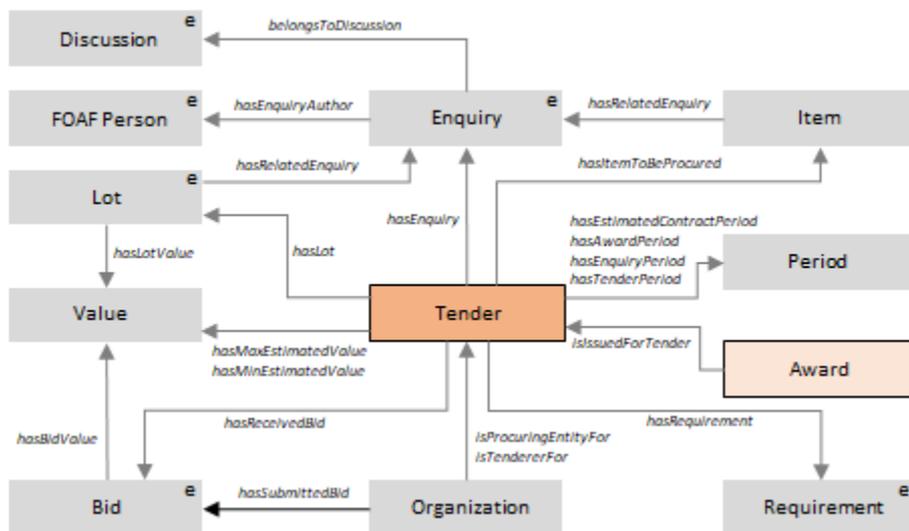


Figure 3. Tender class and its neighborhood

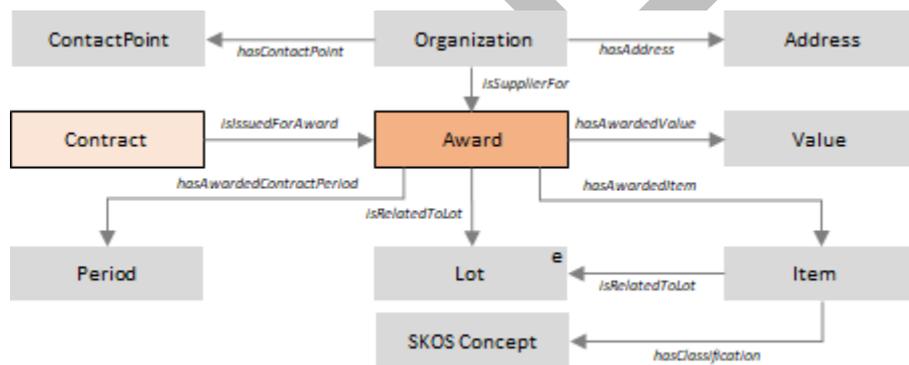


Figure 4. Award class and its neighborhood

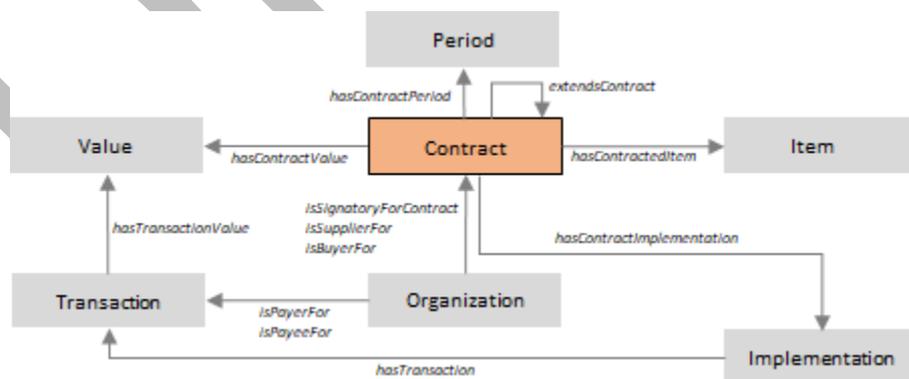


Figure 5. Contract class and its neighborhood

A public administration that publishes its procurement data according to a standardised, shared model used by others will benefit from many of the tools created in the TheyBuyForYou project<sup>11</sup> and by various other technology providers. Third parties will be able to access such data more easily, with the core TheyBuyForYou API or with a standard set of SPARQL queries, which in turn will reduce the total cost of ownership of the access to the data across multiple data providers, and will increase interoperability among them.

Furthermore, **the public administration should publish at least a minimal set of attributes** (as specified in the OCDS data model documentation, as well as in the ontology) so that the data is useful enough for users.

Other relevant efforts in this direction are the work on the eProcurement Ontology<sup>12</sup> by the EU Publications Office, or previous works such as the PPROC ontology<sup>13</sup>.

### Good practice example

The city of Zaragoza in Spain publishes procurement data according to the OCDS data model, and following the TheyBuyForYou OCDS ontology. An example of such data can be obtained at <https://www.zaragoza.es/sede/servicio/contratacion-publica/ocds/contracting-process/ocds-1xraxc-4817-ContractingProcess-2020-11-17T08%3A44%3A39Z>, for which an excerpt is provided below:

```
{
  "uri": "https://www.zaragoza.es/sede/servicio/contratacion-publica/ocds/ocds-1xraxc-4817-ContractingProcess-2020-11-17T08:44:39Z",
  "publisher": {
    "scheme": "DIR3",
    "uid": "L01502973",
    "name": "Ayuntamiento de Zaragoza",
    "uri": "https://www.zaragoza.es"
  },
  "publishedDate": "2020-11-17T00:00:00Z",
  "license": "https://www.zaragoza.es/sede/portal/aviso-legal#condiciones",
  "publicationPolicy": "https://www.zaragoza.es/sede/servicio/catalogo/147",
  "version": "1.1",
  "packages": [
    "/sede/servicio/contratacion-publica/ocds/tender/ocds-1xraxc-4817-ContractingProcess-2020-11-17T08:44:39Z-tender.json"
  ],
  "extensions": [
    "https://raw.githubusercontent.com/open-contracting-extensions/ocds_lots_extension/v1.1.5/extension.json"
  ],
  "releases": [
    {
      "ocid": "ocds-1xraxc-4817-ContractingProcess",
      "id": "4817-ContractingProcess-2020-11-17T08:44:39Z",
      "date": "2020-11-17T00:00:00Z",
      "tag": [ "tender" ],
      "initiationType": "tender",
      "parties": [
        {
          "id": "1-DIR3-L01502973",

```

<sup>11</sup> <http://theybuyforyou.eu/tools/>

<sup>12</sup> <https://github.com/e-procurementontology/e-procurementontology>

<sup>13</sup> <http://pproc.unizar.es/def/sector-publico/pproc>

```

    "identifier": { "id": "L01502973", "scheme": "DIR3", "uri": "https://www.zaragoza.es"
    },
    "name": "Ayuntamiento de Zaragoza", "roles": [ "procuringEntity" ]
  },
  { "id": "61827-buyer", "name": "COORDINACIÓN GENERAL DEL ÁREA DE ACCIÓN SOCIAL Y FAMILIA"
  },
  { "id": "60257-buyer", "name": "OFICINA TECNICA DEL MAYOR" }
],
"buyer": { "id": "60257-buyer", "name": "OFICINA TECNICA DEL MAYOR" },
"tender": {
  "id": "4817-tender",
  "title": "ADQUISICION DE 50 TABLETS PARA PROYECTO NOS GUSTA HABLAR EN CENTROS DE
  CONVIVENCIA DE MAYORES",
  "description": "Licitacion del contrato ADQUISICION DE 50 TABLETS PARA PROYECTO NOS GUSTA
  HABLAR EN CENTROS DE CONVIVENCIA DE MAYORES",
  "status": "active",
  "items": [
    {
      "id": "4817-item",
      "description": "ADQUISICION DE 50 TABLETS PARA PROYECTO NOS GUSTA HABLAR EN
      CENTROS DE CONVIVENCIA DE MAYORES",
      "classification": {
        "id": 30200000,
        "scheme": "CPV",
        "description": "Equipo y material informático",
        "uri": "https://www.zaragoza.es/sede/servicio/contratacion-publica/cpv/30200000.json"
      },
      "quantity": 0
    }
  ],
  "value": { "amount": 0, "currency": "EUR" },
  "minValue": { "amount": 14990, "currency": "EUR" }
},
...
"numberOfTenderers": 0
},
"language": "es"
}
]
}

```

### Bad practice example

The UK's Ministry of Defence contracting portal<sup>14</sup> is a model for poor practice. This site requires users to register before providing access to the data. It provides no API and obfuscates the data to prevent users from gathering the data from the website systematically. All data published on the platform is copyrighted to the private-sector company that runs the platform; in addition, the site also serves as a sales channel for the same company's subscription services. As a result, the public data published by the Ministry of Defence is not open to access and cannot be reused. At the same time, the site is being used as a lead generation tool and a publicity billboard by a company that is also being paid to publish public data from taxpayer's money.

<sup>14</sup> <https://www.contracts.mod.uk>

### 3.2 Include identifiers of all the tenderers that participate in a contracting process

When providing contracting data, many public administrations include only the organisations that were awarded a contract. This is not very useful for an auditor or a civil society organisation that aims to:

- ascertain if there are any questionable practices among tenderers, for instance, prior agreements among groups of companies that commonly bid together;
- compute performance indicators such as the number of bidders per contract for competitiveness analyses; or
- determine the share of bidders that are small and medium businesses to understand barriers to entry.

Unfortunately, this is not the only problem with the data about tenderers. In many cases, the data made available includes only (some version of) the name of the tenderer, but no indication of the VAT number or any other unique identifier that could be used to link the tenderer to a registry of companies. This makes it difficult both auditing and company profiling more difficult.

Our recommendation is to **include clear references to all tenderers that participated in a tender (not only awardees), with a standardised unique identifier that removes any ambiguity about the organisations** (e.g., a URI in a global company registry).

#### Good practice example

In the TheyBuyForYou OCDS ontology all tenderers that bid for a contract are identified by a URI according to the OpenCorporates URI scheme, if available. An example of a contracting process is provided below:

```
[
  {
    "idEmpresa": 572,
    "ute": "N",
    "nombre": "G.M.P. PUBLICIDAD ",
    "nif": "B50209154",
    "openCorporateUrl": "https://opencorporates.com/companies/es/50209154",
    "autonomo": "N"
  },
  {
    "idEmpresa": 592,
    "ute": "N",
    "nombre": "MUEBLES LARA ",
    "nif": "B50364819",
    "openCorporateUrl": "https://opencorporates.com/companies/es/47212865",
    "autonomo": "N"
  },
  {
```

```
"idEmpresa": 574,  
"ute": "N",  
"nombre": "GRUPO SOLITIUM S.L",  
"nif": "B50570571",  
"openCorporateUrl": "https://opencorporates.com/companies/es/50570571",  
"autonomo": "N",  
"nacionalidad": "es"  
}  
]
```

DRAFT

## Bad practice example

The data published by the Spanish contracting platform includes only names of awardees of a contracting process (e.g., [https://contrataciondelestado.es/wps/poc?uri=deeplink%3Adetalle\\_licitacion&idEvl=5CR7bvUUYB%2BiEjrVRqloyA%3D%3D](https://contrataciondelestado.es/wps/poc?uri=deeplink%3Adetalle_licitacion&idEvl=5CR7bvUUYB%2BiEjrVRqloyA%3D%3D)) and the number of bidders. The data does not include the VAT number of the company, which introduces ambiguity. For instance, a bidder like “FujiFilm Europe GMBH” produces 15 different potential URIs in a company registry such as OpenCorporates (e.g., <https://opencorporates.com/companies?q=Fujifilm+Europe+GMBH&utf8=%E2%9C%93>).

Expediente: (A02018350)-PA 10 HMS/2020		COMUNIDADES Y CIUDADES AUTÓNOMAS>Comunidad Autónoma de Aragón>Departamento de Sanidad>Servicio Aragonés de Salud (SALUD)>Gerencia Sector Sanitario de Zaragoza 2	
Órgano de Contratación	Gerencia Sector Sanitario de Zaragoza 2		
Estado de la Licitación	Resuelta		
Objeto del contrato	Suministro mediante arrendamiento operativo, sin opción de compra, de equipos de endoscopia con destino a la Unidad de Endoscopia Digestiva del Hospital Universitario "Miguel Servet" de Zaragoza		
Presupuesto base de licitación sin impuestos	998.375,00 Euros		
Valor estimado del contrato:	998.375,00 Euros		
Tipo de Contrato:	Suministros		
Código CPV	33100000-Equipamiento médico.		
Lugar de Ejecución	España - Zaragoza		
Procedimiento de contratación	Abierto		
<b>Información</b>			
Resultado	Adjudicado		
Adjudicatario	FUJIFILM EUROPE GMBH, SUCURSAL EN ESPAÑA		
Nº de Licitadores Presentados	2		
Importe de Adjudicación	997.999,68 Euros		
<a href="#">Resumen Licitación</a>			

Figure 6. Bad example that does not include VAT's organisation

### 3.3 Include identifiers of the departments and sub-organisations that act as tenderers

Similarly, there are too many cases where public procurement records do not provide many details about tenderers or buyers. In a medium-sized city such as Zaragoza there are more than 10 public entities (the city council, foundations, etc.) that may act as tenderers of contracting processes; when the tenderer is listed as the City Council of Zaragoza, the contract may be associated to any of its departments. This lack of detail matters.

Data about a tenderer should be descriptive rather than generic (e.g., the specific department within the public authority that is requesting the work. The references to the tenderers should be machine-readable (e.g. using department names stored as plain text rather than unique identifiers in the procurement management system). Otherwise there is a greater risk of inconsistencies in the data entry – for instance, when it comes to names of departments, even the smallest variations such as abbreviations, spelling, casing (“Department of Public Works”, “Dept of Public Works”, “Dept of public work”) will make the data much harder to use because the user will have to reconcile these variations to be able to do any meaningful analysis.

An example is shown in Figure 7.

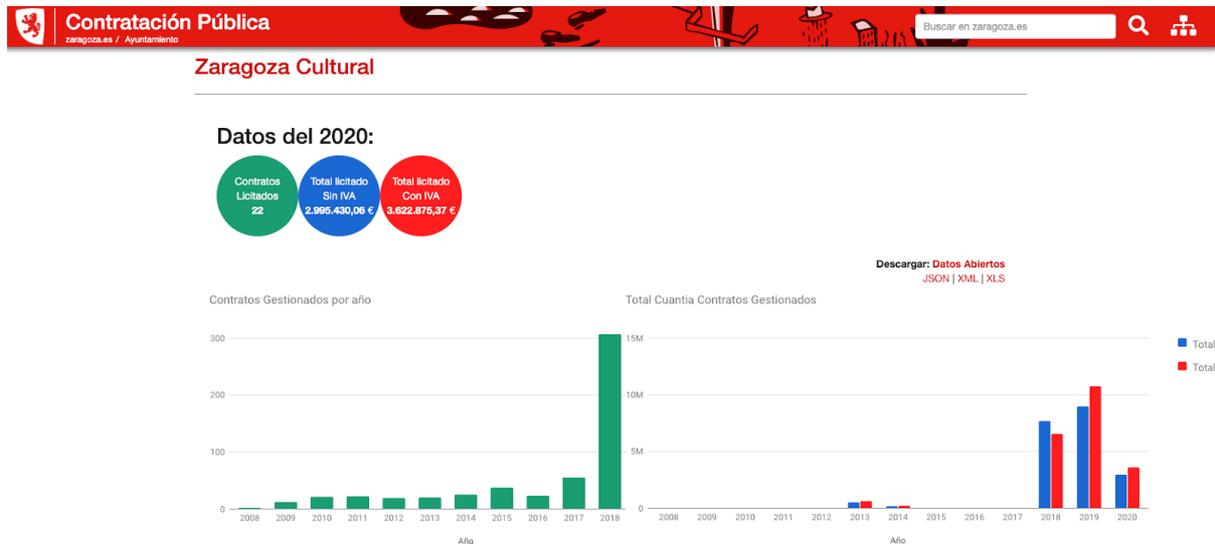


Figure 7. Visualisation on contracts, and their value, for the municipal society with name Zaragoza Cultural, as available in the public contracting transparency site of the City of Zaragoza.

### Good practice example

When publishing procurement data, adding detailed information about each relevant entity can take time. Using knowledge graphs helps reduce the overhead considerably. Instead of re-entering all information, the procurement knowledge graph can pull the complete record of an organisation, including its departments, address, contact details and much more through the corresponding URI of that organisation. An example is shown below.

<http://data.tbfy.eu/kg-api/organisation/no-977182697>

```

{
  id: "no-977182697",
  legalName: "STIFTELSEN GRID-ARENDAL",
  jurisdiction: "no",
  foundingDate: "1989-12-31",
  dissolutionDate: "",
  numberOfEmployees: "36",
  status: "",
  activityType: "Stiftelse",
  - fullAddress: {
    address: "Teaterplassen 3, ARENDAL, 4836",
    postCode: "4836",
    postName: "ARENDAL",
    thoroughfare: "Teaterplassen 3",
  },
}

```

Figure 8. Information of an organisation pulled from the knowledge graph

### Bad practice example

The information about buyers available in the TED portal lacks detail and does not identify the buyers through identifiers. Sometimes, buyers' information includes the URL to the organisation's website, which is not directly related to the contract advertised. For example, in the notice <https://ted.europa.eu/udl?uri=TED:NOTICE:542020-2020:DATA:EN:HTML&src=0&tabId=3>, the buyer is a local authority called Ville de Montmorency in France. Information about the specific department in charge of this canteen services contract is missing.

### Services - 542020-2020

Back to result list   Refine search   [?](#)   1 ← 4/14629 → 1

Current language   Original language   Summary   **Data**   Document family

[← Share](#) 

<b>TI: Title</b>	France–Montmorency: Canteen services
<b>ND: Notice publication number</b>	542020-2020
<b>PD: Publication date</b>	12/11/2020
<b>OJ: OJ S issue number</b>	221
<b>TW: Town/city of the buyer</b>	MONTMORENCY
<b>AU: Official name of the buyer</b>	Ville de Montmorency
<b>OL: Original language</b>	FR
<b>CY: Country of the buyer</b>	FR
<b>AA: Type of buyer</b>	3 – Regional or local authority
<b>HA: EU institution/agency</b>	–
<b>DS: Document sent</b>	07/11/2020
<b>DT: Deadline for submission</b>	16/11/2020
<b>NC: Type of contract</b>	4 – Services
<b>PR: Type of procedure</b>	1 – Open procedure
<b>TD: Notice type</b>	2 – Additional information
<b>RP: Regulation</b>	4 – European Union
<b>TY: Type of bid</b>	1 – Submission for all lots
<b>AC: Award criteria</b>	9 – Not applicable
<b>PC: Common procurement vocabulary (CPV)</b>	55510000 – Canteen services
<b>RC: Place of performance (NUTS)</b>	FR108
<b>IA: Internet address (URL)</b>	<a href="http://www.ville-montmorency.fr">http://www.ville-montmorency.fr</a>
<b>DI: Legal basis</b>	Public procurement Directive 2014/24/EU

Figure 9. Information about a contracting process for a service contract for the Ville of Montmorency, in France

### 3.4 Make sure that joint ventures' data include identifiers of the participating organisations

More often than not, especially for large contracts, several organisations join forces to bid. In most countries, such joint ventures are considered a new type of organisation, with a new fiscal ID. This makes it difficult to reproduce all contracting processes in which an organisation has been involved, as these include both those where the supplier bided on its own and those where they were part of a joint bid. This makes public procurement less transparent. In addition, it reduces the accuracy of services that aim to provide added-value to buyers (e.g., by scouting potential suppliers based on the contracting processes where they have participated) or to potential suppliers (e.g., to find contracting processes according to their profile).

To remove these limitations in the data, we recommend that both single bidders and joint ventures be identified using standardised URIs e.g. from company registers. In addition, joint ventures need to provide information about each member organisation, again identified using a standardised URI.

#### **Good practice example**

The Zaragoza API for public contracting offers an endpoint for joint ventures at <https://www.zaragoza.es/sede/servicio/contratacion-publica/ute>, which is then used in the charts from Figure 8 (details of a company, including the joint ventures where they have participated). This allows querying all contracts that an organisation has been awarded, including those where the organisation was part of a consortium (“Unión Temporal de Empresas” in Spanish).

## ÁRIDOS Y EXCAVACIONES CARMELO LOBERA, S.L.

Información Open Corporate: [ÁRIDOS Y EXCAVACIONES CARMELO LOBERA, S.L.](#)

La empresa ha participado en las siguientes UTES:

- [UTE Elecnor S.A., Áridos y Excavaciones Carmelo Lobera S.L.](#)



Descargar: [Datos Abiertos](#)  
[JSON](#) | [XML](#) | [XLS](#)

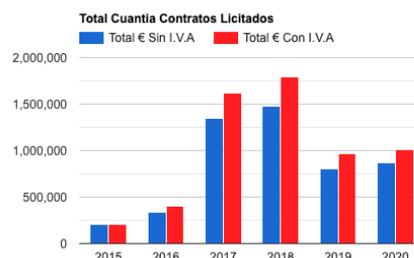


Figure 10. Structured data about a company participating in a joint venture in Zaragoza's portal

### Bad practice example

The Spanish contracting platform publishes data about each joint venture as a new entity. For example, in this award document [https://contrataciondelestado.es/wps/wcm/connect/81dc19aa-2f84-48af-a3d2-1c5c59d5be23/DOC\\_FORM2019-755431.html?MOD=AJPERES](https://contrataciondelestado.es/wps/wcm/connect/81dc19aa-2f84-48af-a3d2-1c5c59d5be23/DOC_FORM2019-755431.html?MOD=AJPERES) the joint venture is composed of Universidad Politécnica de Madrid and Oficina de Cooperación Universitaria and is given the tax ID A80897770, which is not linked to the tax IDs of both entities belonging to the joint venture. As a result, when searching for the contracts awarded to Universidad Politécnica de Madrid the earlier contract is missed.

### 3.5 All notices and steps associated to a contracting process should be linked with the same identifier

Procurement data models, such as the Open Contracting Data Standard, CODICE, the data model of TED, etc. recommend keeping the same identifier for each contracting process during its lifecycle so that all data can be adequately aggregated as the process progresses. However, because in many cases the data is not easily available and needs to be scraped, such identifiers can be lost, leading to disconnected data items which cannot be reconciled for analysis purposes.

We recommend making sure that all data about a contracting process are aggregated around the same core data structure/data items, maintaining the relevant IDs during the entire contract.

#### **Good practice example**

OCDS proposes the use of OCID (Open Contracting Identifier) as a way to maintain the references to the contracting process for all the releases of data generated throughout the lifetime of a contract.

#### **Bad practice example**

Do not include the documents associated with the tender in the same place where the metadata is displayed.

### **3.6 Link invoices (and results) to the public procurement process to which they belong**

Public procurement data often focuses on the award stage of a contract rather than accounting for the entire lifecycle of the contract, including subsequent changes. Such contract changes are not uncommon in public contracts, but the data that is released records only major modifications to the contracts, if at all. This means that auditors or civil society organisations do not have full access to the real final cost of contracts, since the data that is made available does not document what happened after the original contract was signed; sometimes they have to infer such costs from bank account movements, if available., since Something similar happens with the results of service or works contracts. For example, e.g., when a report has been produced that can be made openly available, this report should be linked to the corresponding contracting process. When a piece of open software has been developed, this should be made available accompanied by documentation of the works performed. Such documentation is often standard procedure towards the buyer, but is not disclosed publicly or linked to the structured procurement records released by public administrations.

We recommend disclosing this additional information **to enable richer and more accurate analyses of costs and outcomes, both at the point when a contract is signed and during its execution.**

This should include at least the invoices associated to the contracting process.

#### **Good practice example**

We are not aware of good practice examples yet. The City of Zaragoza has been working on publishing open data about all the invoices that they receive, including information on status, issuer, etc. However, this data is not yet linked to contracting processes, or the results of contracts. One could potentially cross-reference the total amounts across the

relevant invoices with the amounts mentioned in the contracting data, but this can be tedious and does not guarantee accurate results. As example, the data retrieved from an invoice related to the COVID-19-related disinfection of vehicles (<https://www.zaragoza.es/sede/servicio/factura/231831>)

```
{
  "id": "231831",
  "title": "COVID DESINFECCIÓN VEHICULOS Y SALA DE ECO - FACTURA ELECTRÓNICA: 066/600/2020",
  "entidad": {
    "id": "20800",
    "title": "POLICIA LOCAL",
    "uri": "http://www.zaragoza.es/api/recurso/sector-publico/organismo/20800"
  },
  "numFact": "066-600-2020",
  "tercero": {
    "id": 281521,
    "title": "INTERNET-ZARAGOZA-SL ",
    "cifAnonimo": "B50875871"
  },
  "facturaElectronica": "S",
  "amount": 568.7,
  "ejercicio": 2020,
  "codigoGestor": 196,
  "issued": "2020-11-04T00:00:00",
  "fechaRegistro": "2020-11-04T00:00:00",
  "status": "Pago en trámite"
}
```

**COVID DESINFECCIÓN VEHICULOS Y SALA DE ECO - FACTURA ELECTRÓNICA: 066/600/2020**

Nº de Factura: 066-600-2020  
 Ejercicio: 2020  
 Servicio Gestor: POLICIA LOCAL  
 Proveedor: INTERNET-ZARAGOZA-SL  
 C.I.F.: B50875871  
 Factura electrónica: No  
 Importe: 568,70€  
 Fecha de Factura: 04/11/2020  
 Estado: Pago en trámite

Figure 11. Example of invoice

### Bad practice example

Unfortunately, invoices are not published by most public administrations yet.

### 3.7 Ensure that the text of all documents used in a contracting process are available for further processing and linked to their corresponding contracting process

AI holds the promise to transform many sectors, including public administrations. This is acknowledged in strategic documents such as the European Strategy for Data<sup>15</sup> and the European Commission's Whitepaper on Artificial Intelligence<sup>16</sup>.

Providing added value on public contracting is feasible if data is made available in a structured manner, as we have described in previous sections. Public administrations should also consider releasing ancillary unstructured documentation (such as administrative and technical procurement notices). This documentation could be processed using machine learning and natural language processing (NLP) technology for richer insights.

#### **Good practice example**

The TheyBuyForYou knowledge graph includes such links. This allowed us to develop a cross-lingual tender search service that is used in some of its business cases as in the case of Vendor Intelligence Procurement Solution<sup>17</sup>, from CERVED, (Details are available in D3.1 Cross-lingual Document Similarity Service v4<sup>18</sup> and at <http://tbfy.librairy.linkeddata.es/search-api/api.html>).

#### **Bad practice example**

The government of Odisha (India) makes tenders available as scanned PDF.<sup>19</sup>

<sup>15</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0066&from=EN>

<sup>16</sup> [https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020\\_en.pdf](https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf)

<sup>17</sup> <https://theybuyforyou.eu/business-cases/>

<sup>18</sup> D3.1 - Cross-lingual document similarity service, TheyBuyForYou Deliverable, <https://theybuyforyou.eu/deliverables/>

<sup>19</sup> <https://cdn.s3waas.gov.in/s3289dff07669d7a23de0ef88d2f7129e7/uploads/2020/11/2020112330.pdf>

e-mail- ori-hemgiri@nic.in

**GOVERNMENT OF ODISHA,  
PANCHAYAT SAMITI OFFICE, HEMGIR, DIST- SUNDARGARH  
TENDER CALL NOTICE NO. 04 OF 2020-21  
Letter No. - 2538 Date: 20.11.2020**

The Block Development Officer, Hemgir, Sundargarh invites Percentage Rate basis for the following works in sealed tender on behalf of Government of Odisha from registered and eligible contractor of the state P.W.D (R&B)/Water Resource / Rural works / Minor Irrigation / C.P.W.D for the following works eventually to be drawn up in the P1 forms in conformity with the Detail Tender Call Notice. The bidders may submit bids for the following works under OMBAD-C Scheme for the year 2020-21.

Sl No	Name of the G.P.	Name of the Work	Estimated cost in (Lakh)	Amount put to tender (In ₹.)	Cost of Tender Papers (non-refundable in ₹.)	Bid security EMD 1% (In ₹.)	Period of Completion	Class of Contractor
1	2	3	4	5	6	7	8	9
1	Munderkhet & Duduka	Construction of AWC building at 1. Mundarkhet 2. Barpali Talpada 3. Kendajore 4. Parmanpur 5. Barpali Tileimal	85.00	69,27,290/-	10,000/-	69,300/-	06 (Six Calendar Month)	B & A Class
2	Balinga & Sumura	Construction of AWC building at 1. Balinga 2. Tumikhoh 3. Tikilipada-I	51.00	41,56,373/-	6,000/-	41,600/-	06 (Six Calendar Month)	B & A Class
3	Laikera	Construction of AWC building at 1. Laikera-I 2. Laikera-II	34.00	27,70,916/-	6,000/-	27,800/-	06 (Six Calendar Month)	C & B Class
4	Ankelbira	Construction of AWC building at 1. Daghora 2. Karlaghat	34.00	27,70,915/-	6,000/-	27,800/-	06 (Six Calendar Month)	C & B Class
5	Tanaria	Construction of AWC	17.00	13,85,458/-	6,000/-	13,900/-	06 (Six Calendar Month)	D & C

Figure 12. Example of a bad example of tender made available as PDF

Other cities such as Lisbon or Porto also have tenders in downloadable pdf format.

Entidade	Tipo de Procedimento	Nº de Procedimento	Objecto do Contrato	Data Limite	Prazo de vigência do contrato	Classificação Económica
Município do Porto	Concurso público	CP/34/2020/DMC	Aquisição de Máquinas dividido em 2 lotes	2020-11-30 17:00	90 dias	07011002-Outro
Município do Porto	Concurso público	CP/13/2020/DMC	Aquisição de serviços de cantinas e de vending	2020-11-30 17:00	1095 dias	020105-Alimentação-Refeições confeccionadas
Município do Porto	Concurso público	CP/26/2020/DMC	Aquisição de serviços de manutenção e limpeza de vegetação em escarpas	2020-12-03 17:00	36 meses	020220-Outros trabalhos especializados

Figure 13. Porto tender platform with downloadable pdfs

### 3.8 Provide commonly agreed visualisations of public contracting data

As discussed in Recommendation 1, using common, standardised data models, vocabularies or ontologies facilitates data reuse by developers. To make the data accessible to as many audiences as possible, including the public, government spenders

should use infographics, charts and dashboards to communicate key insights about their procurement practices. To facilitate comparisons, these visual designs should be consistent in terms of:

- Choice of charts to convey a specific procurement detail – for instance, bar charts could be used to show the total value of contracts for each month of the year or in different regions. Pie charts could show the breakdown of such amounts across sectors. Some charts will be more suitable than others to present each type of information, and they should be used consistently.
- Consistent encodings, including colour schemes, as well as axes labels, annotations, and legends. For example, chart annotations for highlighting average values, outliers etc could be formatted in the same way to facilitate chart comprehension.

We recommend organisations in charge of public procurement to agree on common visualisations for public procurement data that can facilitate this task for a wider audience<sup>20</sup>.

### Good practice example

The set of visualisations generated by organisations like OpenOpps to present their aggregated data, as shown in Figure 9, may be a good starting point for starting up those agreements. The city of Zaragoza is making their visualisations available openly in GitHub so that they can be reused by other cities in Spain.

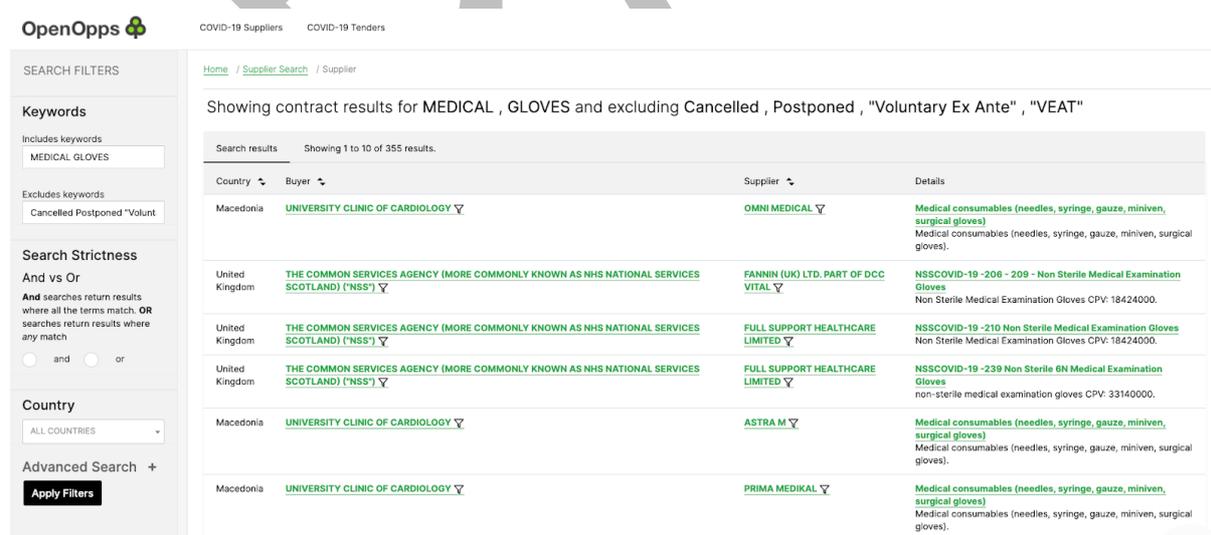


Figure 14. Visualisations generated by organisations at OpenOpps

### Bad practice example

<sup>20</sup> D4.3 - Data-shape aware automatic storytelling methods, TheyBuyForYou Deliverable, <https://theybuyforyou.eu/deliverables/>

Cities as Köln and München, in Germany have very different ways of presenting public contracting data in their corresponding transparency portals, as shown in Figure 15.

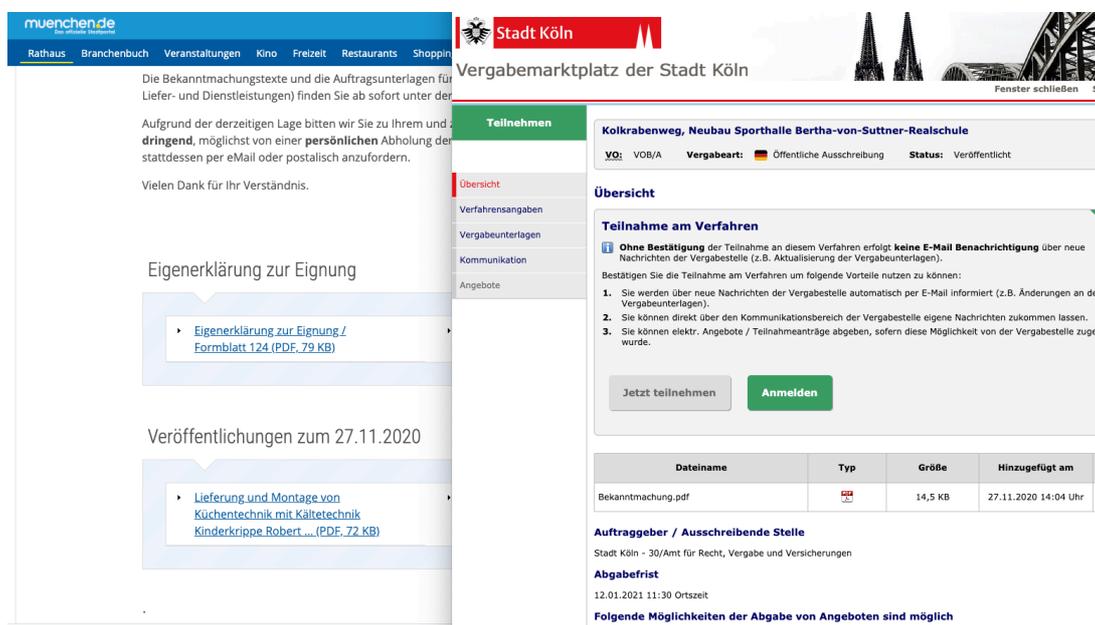


Figure 15. Köln and München public procurement pages

### 3.9 Provide answers to the most common questions made by citizens and organisations

To increase the accessibility of the data even further, publishers should consider how they could support a wide range of audiences, including people with limited technical skills or knowledge of the data models used, find answers to common concerns such as: the suppliers that are awarded the largest contract; the money spent to build a public building, or the costs of keeping public parks in good shape. The European Data Portal has released a series of recommendations for making open government data more accessible and easier to use by everyone in their report on “The future of open data portals”.<sup>21</sup> Among others, it recommends co-locating data and tools to use the data to answer typical questions people aim to answer with the data.

We recommend generating shortcuts and easy-to-follow paths that allow solving these types of queries, either providing them as part of the offered visualisations or as links where the corresponding data can be downloaded.

#### Good practice example

This recommendation is related to principles of user-centric design. In this context, procurement dashboards would focus on common questions the audience aims to

<sup>21</sup> <https://op.europa.eu/en/publication-detail/-/publication/a1b8aa36-daae-11ea-adf7-01aa75ed71a1/language-en>

answer with the data, as a result of focus groups or other forms of user research. Some of these questions are already available in transparency portals like Zaragoza's<sup>22</sup> In addition to supporting these typical user journeys, portals could include visual ways to customise user charts or issue queries<sup>23</sup>.

### Indicadores por licitador



### Listado de licitadores por cuantía y Nº de licitaciones 2019

Ver  registros por pagina Buscar:

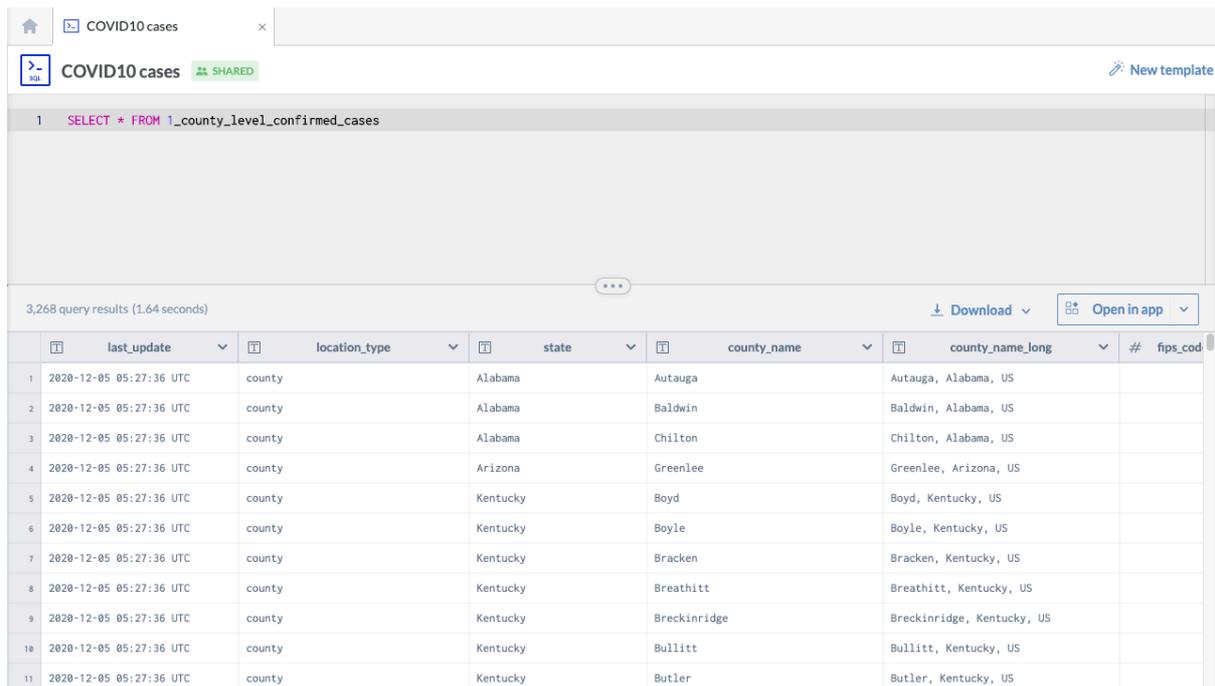
Licitador	Total Sin I.V.A (€)	Total Con I.V.A (€)	Nº de Contratos Licitados	Nº de Contratos Ganados
Áridos y excavaciones carmelo lobera, s.l.	1.799.978,70	1.967.974,10	9,00	7,00
Multiestilo s.l.	88.017,19	106.500,80	7,00	6,00
Industria y montajes eléctricos s.a.	1.193.300,00	3.334.617.709,56	7,00	5,00
...	...	...	...	...

Figure 16. Number of indicators per tender

Another example of good practices can be found in data.world, where the results can be seen on the same screen where the query is made:

<sup>22</sup> <https://www.zaragoza.es/sede/servicio/contratacion-publica/indicadores/?idPortal=1&anyo=2019>

<sup>23</sup> D4.6 - Visualization and interaction components v3, TheyBuyForYou Deliverable, <https://theybuyforyou.eu/deliverables/>



The screenshot shows a data.world interface with a query editor and a results table. The query is: `SELECT * FROM 1_county_level_confirmed_cases`. The results table contains 11 rows of data, each representing a county with its last update time, location type, state, county name, and long-form county name.

	last_update	location_type	state	county_name	county_name_long	#	fips_cod
1	2020-12-05 05:27:36 UTC	county	Alabama	Autauga	Autauga, Alabama, US		
2	2020-12-05 05:27:36 UTC	county	Alabama	Baldwin	Baldwin, Alabama, US		
3	2020-12-05 05:27:36 UTC	county	Alabama	Chilton	Chilton, Alabama, US		
4	2020-12-05 05:27:36 UTC	county	Arizona	Greenlee	Greenlee, Arizona, US		
5	2020-12-05 05:27:36 UTC	county	Kentucky	Boyd	Boyd, Kentucky, US		
6	2020-12-05 05:27:36 UTC	county	Kentucky	Boyle	Boyle, Kentucky, US		
7	2020-12-05 05:27:36 UTC	county	Kentucky	Bracken	Bracken, Kentucky, US		
8	2020-12-05 05:27:36 UTC	county	Kentucky	Breathitt	Breathitt, Kentucky, US		
9	2020-12-05 05:27:36 UTC	county	Kentucky	Breckinridge	Breckinridge, Kentucky, US		
10	2020-12-05 05:27:36 UTC	county	Kentucky	Bullitt	Bullitt, Kentucky, US		
11	2020-12-05 05:27:36 UTC	county	Kentucky	Butler	Butler, Kentucky, US		

Figure 17. Query and results from data.world

### Bad practice example

In TED, knowing which is the company that obtains more money from the European Commission in computer equipment and supplies (CPV code 30200000) requires a large number of queries and analysis of the data that is produced in the advanced search engine (go to <https://ted.europa.eu/TED/browse/browseByMap.do>, Browse by Business Sector (CPV), select CPV code 30200000 and a figure like the following will appear). This is a substantial barrier to entry for anyone who does not have the technical skills or resources to embark on such analyses.

## Search result



Refine search    Print list ▾

Search scope: Active notices

Notice type: ▾

Common procurement vocabulary (CPV):  ▾

Country of the buyer: ▾

Showing 1 – 25 of 3,284 results

◀ 1 2 3 4 5 6 7 8 ▶▶

<input type="checkbox"/>	Document number ▾	Description	Country ↕	Publication date ↕	Deadline ↕
<input type="checkbox"/>	<a href="#">555134-2020</a>	<b>Romania-Bucharest: Personal computers</b> Type of buyer: Regional and local authorities Notice type: Contract award notice Type of procedure: Open procedure Type of contract: Supplies	RO	19/11/2020	
<input type="checkbox"/>	<a href="#">555133-2020</a>	<b>Romania-Râmnicu Vâlcea: Disposable non-chemical medical consumables and haematological consumables</b> Type of buyer: Bodies governed by public law Notice type: Contract award notice Type of procedure: Open procedure Type of contract: Supplies	RO	19/11/2020	
<input type="checkbox"/>	<a href="#">555123-2020</a>	<b>Germany-Bonn: Data-processing machines (hardware)</b> Type of buyer: Ministry and any other national or federal authorities Notice type: Contract award notice Type of procedure: Open procedure Type of contract: Supplies	DE	19/11/2020	
<input type="checkbox"/>	<a href="#">554933-2020</a>	<b>Switzerland-Villigen: Photocopiers</b> Type of buyer: Bodies governed by public law Notice type: Contract award notice Type of procedure: Open procedure Type of contract: Supplies	CH	18/11/2020	
<input type="checkbox"/>	<a href="#">554875-2020</a>	<b>Norway-Lillehammer: Computer equipment and supplies</b> Type of buyer: Other Notice type: Contract notice Type of procedure: Open procedure Type of contract: Supplies	NO	18/11/2020	08/01/2021

Figure 18. Example using searching page of TED

### 3.10 Use your own public procurement data internally (e.g., as a data backend in your transparency portal).

Making public procurement data available for download (e.g., as an XML, CSV, Excel or JSON file) helps with reuse. Making the data available according to shared data models or ontologies (e.g., downloadable in RDF or JSON-LD), as proposed in recommendation 1, and via an API helps even more.

However, to ensure data is accurate and relevant, our experience has shown that the publishers themselves need to use it routinely. Collecting, collating and releasing procurement data is a complex process – errors are unavoidable at many stages in this process, from data entry and processing to exports to reconciliation. Publishers have the unique advantage that they know most about the context in which the data was produced and can diagnose how the errors came through and could be remedied. Other users lack such insights and could only flag errors in the data to the publisher.

We recommend public procurement data providers to make use of the open data that they are publishing, following an open-data-by-default principle, so that their management systems make use of it instead of the data that is stored internally in their own databases. This may be useful, for instance, for deriving public procurement indicators that are fed into the transparency portal. Through use the data publisher can identify very quickly critical errors and omissions and correct them before others try to use the data.

### Good practice example

The indicators for public contracting that are used in the transparency portal of the city of Zaragoza<sup>24</sup> are created reusing the public procurement data that is being published in the open data API of the city. Indeed, for every visualisation it is possible to have access to the associated open data.



Figure 19. Incomes and expenses indicators from Zaragoza City Council

### Bad practice example

The open data available in the Spanish public contracting platform<sup>25</sup> does not contain all the items that are presented in the website or used in the advanced search engine.

<sup>24</sup> <https://www.zaragoza.es/sede/servicio/contratacion-publica/indicadores/?idPortal=1&anyo=2019>

<sup>25</sup> [https://www.hacienda.gob.es/es-GobiernoAbierto/Datos%20Abiertos/Paginas/licitaciones\\_plataforma\\_contratacion.aspx](https://www.hacienda.gob.es/es-GobiernoAbierto/Datos%20Abiertos/Paginas/licitaciones_plataforma_contratacion.aspx)

The screenshot shows the 'Portal Institucional del Ministerio de Hacienda' website. The main content area is titled 'LICITACIONES PUBLICADAS EN LA PLATAFORMA DE CONTRATACIÓN DEL SECTOR PÚBLICO'. It contains several paragraphs of text explaining the data availability and a list of 14 download links for compressed files (zip) from 2012 to 2019. The links are as follows:

- [https://contrataciondelestado.es/sindicacion/sindicacion\\_643/licitacionesPerfilesContratanteCompleto3\\_2012.zip](https://contrataciondelestado.es/sindicacion/sindicacion_643/licitacionesPerfilesContratanteCompleto3_2012.zip)
- [https://contrataciondelestado.es/sindicacion/sindicacion\\_643/licitacionesPerfilesContratanteCompleto3\\_2013.zip](https://contrataciondelestado.es/sindicacion/sindicacion_643/licitacionesPerfilesContratanteCompleto3_2013.zip)
- [https://contrataciondelestado.es/sindicacion/sindicacion\\_643/licitacionesPerfilesContratanteCompleto3\\_2014.zip](https://contrataciondelestado.es/sindicacion/sindicacion_643/licitacionesPerfilesContratanteCompleto3_2014.zip)
- [https://contrataciondelestado.es/sindicacion/sindicacion\\_643/licitacionesPerfilesContratanteCompleto3\\_2015.zip](https://contrataciondelestado.es/sindicacion/sindicacion_643/licitacionesPerfilesContratanteCompleto3_2015.zip)
- [https://contrataciondelestado.es/sindicacion/sindicacion\\_643/licitacionesPerfilesContratanteCompleto3\\_2016.zip](https://contrataciondelestado.es/sindicacion/sindicacion_643/licitacionesPerfilesContratanteCompleto3_2016.zip)
- [https://contrataciondelestado.es/sindicacion/sindicacion\\_643/licitacionesPerfilesContratanteCompleto3\\_2017.zip](https://contrataciondelestado.es/sindicacion/sindicacion_643/licitacionesPerfilesContratanteCompleto3_2017.zip)
- [https://contrataciondelestado.es/sindicacion/sindicacion\\_643/licitacionesPerfilesContratanteCompleto3\\_2018.7z](https://contrataciondelestado.es/sindicacion/sindicacion_643/licitacionesPerfilesContratanteCompleto3_2018.7z)
- [https://contrataciondelestado.es/sindicacion/sindicacion\\_643/licitacionesPerfilesContratanteCompleto3\\_201901.zip](https://contrataciondelestado.es/sindicacion/sindicacion_643/licitacionesPerfilesContratanteCompleto3_201901.zip)
- [https://contrataciondelestado.es/sindicacion/sindicacion\\_643/licitacionesPerfilesContratanteCompleto3\\_201902.zip](https://contrataciondelestado.es/sindicacion/sindicacion_643/licitacionesPerfilesContratanteCompleto3_201902.zip)
- [https://contrataciondelestado.es/sindicacion/sindicacion\\_643/licitacionesPerfilesContratanteCompleto3\\_201903.zip](https://contrataciondelestado.es/sindicacion/sindicacion_643/licitacionesPerfilesContratanteCompleto3_201903.zip)
- [https://contrataciondelestado.es/sindicacion/sindicacion\\_643/licitacionesPerfilesContratanteCompleto3\\_201904.zip](https://contrataciondelestado.es/sindicacion/sindicacion_643/licitacionesPerfilesContratanteCompleto3_201904.zip)
- [https://contrataciondelestado.es/sindicacion/sindicacion\\_643/licitacionesPerfilesContratanteCompleto3\\_201905.zip](https://contrataciondelestado.es/sindicacion/sindicacion_643/licitacionesPerfilesContratanteCompleto3_201905.zip)

The right sidebar contains several utility links: 'Versión imprimible', a search box, 'Sede electrónica', 'BANCO DE DATOS ECONOMICO FINANCIEROS', 'Central de Información Económico-Financiera', 'portal de la transparencia', and 'participación pública en proyectos normativos'.

Figure 20. Data offered in hard-to-reuse formats

## 4 Conclusions and next steps

This whitepaper has focused on providing a set of recommendations for the publication of open data about public procurement. These recommendations are based on our accumulated experience in the collaboration with several public administrations in the publication of their public procurement data, as well as in working with procurement data from different data providers to provide added-value services

We expect that these recommendations will help in multiple ways. On the one hand, we expect them to be a reference guide for public administrations that are already leading the way in their effort to publish useful procurement data to reflect on the decisions they made and identify areas of improvement. On the other hand, we expect those public administrations that are not yet publishing their data, or are publishing it in a very limited way to make the necessary changes to facilitate reuse, both internally and by other audiences, with varying levels of technical skills and professional backgrounds.

We want this guide to be a starting point for the development of best practices for digital procurement in the public sphere. This is a rapidly changing field that is undergoing radical transformations – as such, our ten recommendations will evolve as governments advance in their quest for transparency, openness, efficiency, fairness and accountability, and as new added-value services become available to buyers and suppliers alike.

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## Annex. The 10 recommendations in other European languages

### Slovenian

**Priporočilo 1.** Navedite minimalni nabor podatkov v strukturirani homogeni obliki za vsak postopek javnega naročanja.

**Priporočilo 2.** Navedite jasne reference na vse ponudnike, ki sodelujejo v postopkih javnega naročanja.

**Priporočilo 3.** Vključite jasne reference na oddelke in podorganizacije javne uprave, ki izvajajo postopke javnega naročanja.

**Priporočilo 4.** Ustrezno obravnavajte podatke skupnih javnih naročil, tako da informacije niso "prikrite" pod različnimi ID-ji organizacije.

**Priporočilo 5.** Vsa obvestila o javnih naročilih ter koraki, povezani z istim javnim naročilom, morajo biti objavljeni na enem mestu.

**Priporočilo 6.** Povežite račune (in rezultate) s tistim javnega naročanja, ki mu pripadajo.  
processes

**Priporočilo 7.** Vsa besedila ponudb naj bodo na voljo v surovi obliki in povezana z vsemi postopki oddaje naročil.

**Priporočilo 8.** Zagotovite pregledno vizualizacijo podatkov o javnih naročilih.

**Priporočilo 9.** Zagotovite vizualizacije ali možnosti iskanja po podatkih, ki bodo odgovorile na tipična vprašanja državljanov in organizacij o postopkih javnega naročanja.

**Priporočilo 10.** Ponovno uporabite lastne podatke o javnih naročilih (npr. na spletnem portalu namenjenemu povečanju preglednosti javnega naročanja).

### Italian

**Rac 1.** Fornire un set minimo di dati in un formato strutturato e omogeneo per ogni gara d'appalto

**Rac 2.** Includere chiari riferimenti a tutti i partecipanti che concorrono al processo di aggiudicazione

**Rac 3.** Includere chiari riferimenti ai dipartimenti e agli Enti della Pubblica Amministrazione che pubblica il bando

**Rac 4.** Gestire in modo appropriato i dati delle joint venture, in modo che le informazioni non siano "mascherate" sotto diverse identità dell'organizzazione

**Rac 5.** Tutti gli avvisi e le fasi associate alla stessa offerta devono essere pubblicati nello stesso posto

**Rac 6.** Collegare le fatture (e i risultati) alla gara d'appalto pubblica a cui afferiscono

**Rac 7.** Rendere disponibili tutti i testi delle offerte in formato grezzo e collegati alla gara d'appalto

**Rac 8.** Fornire visualizzazioni omogenee dei dati di appalti pubblici

**Rac 9.** Fornire visualizzazioni o informative che rispondano alle domande tipiche dei cittadini e delle organizzazioni

**Rac 10.** Riutilizzare i propri dati sugli appalti pubblici (ad es. nel proprio portale per la trasparenza).

### Spanish

**Rec 1.** Ponga disponibles sus datos de contratación pública en un formato estructurado y de acuerdo con los estándares existentes.

**Rec 2.** Incluya identificadores de todos los licitadores que participan en un proceso de contratación.

**Rec 3.** Incluya identificadores de los departamentos y suborganizaciones que actúan como licitadores.

**Rec. 4.** Asegúrese de que las empresas conjuntas incluyan identificadores de las organizaciones participantes.

**Rec 5.** Todos los avisos y trámites asociados al mismo proceso de contratación deberían estar enlazados con el mismo identificador.

**Rec. 6.** Conecte las facturas (y los resultados) con el proceso de contratación pública al que pertenecen.

**Rec 7.** Asegure que el texto de todos los documentos utilizados en un proceso de contratación esté disponibles para su posterior procesamiento y vinculados a su correspondiente proceso de contratación.

**Rec 8.** Proporcione visualizaciones comúnmente acordadas de los datos de contratación pública.

**Rec 9.** De respuesta a las preguntas más habituales realizadas por ciudadanos y organizaciones.

**Rec 10.** Use internamente sus propios datos de contratación pública (por ejemplo, como backend de datos en su portal de transparencia).

### Norwegian

**Anbefaling 1.** Tilby et minimum datasett i et strukturert homogent dataformat for hver anbudsprosess.

**Anbefaling 2.** Inkluder entydige referanser til alle anbudsgivere som deltar i anbudsprosessene.

**Anbefaling 3.** Inkluder entydige referanser til alle avdelinger og underenheter for organisasjonen som står for den offentlige anskaffelsen.

**Anbefaling 4.** Håndter data knyttet til joint venture på en god måte slik at informasjon ikke blir skjult under forskjellige organisasjoner.

**Anbefaling 5.** Alle kunngjøringer og steg knyttet til et bestemt tilbud bør publiseres på samme sted.

**Anbefaling 6.** Koble fakturaer (og resultater) til den anbudsprosessen de tilhører.

**Anbefaling 7.** Gjør all anbudsbeskrivelser tilgjengelig i tekstformat og koble de til anbudsprosessen.

**Anbefaling 8.** Tilby homogen visualisering av offentlig anbudsdata.

**Anbefaling 9.** Tilby visualisering av søkestier som svarer på typiske spørsmål som innbyggere og organisasjoner har.

**Anbefaling 10.** Gjenbruk egen offentlig anbudsdata (f.eks. i en informasjons- og innsynsportal om offentlig anskaffelse).