

Workshop on “Data Visualisation Tools in the EU Institutions”

2016-04-14

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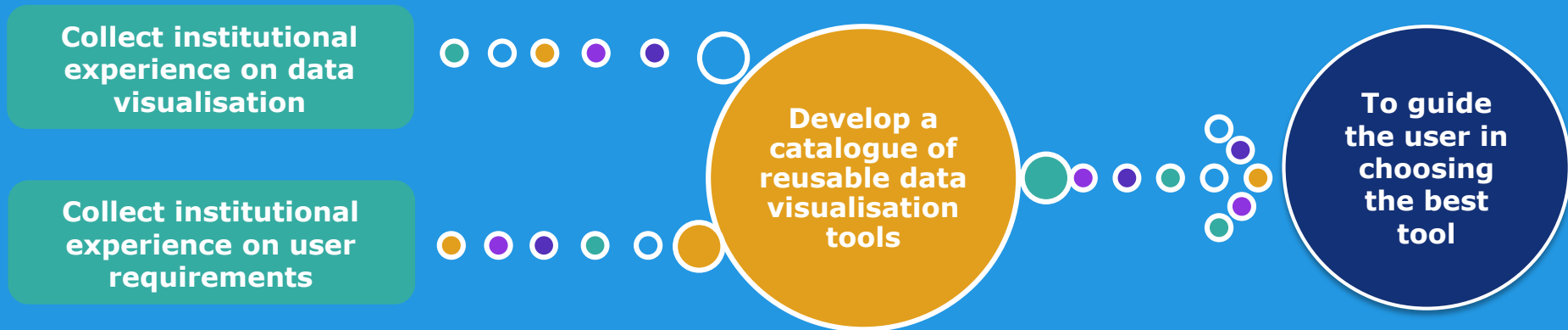
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Introduction | Objective of the workshop



Introduction | Why is data visualisation important?

Objectives of visualisation:

- Explanatory: annotate and describe
- Exhibitory: display
- Exploratory: interrogate, manipulate

Reference: Andy Kirk: <http://www.visualisingdata.com/about/>

Introduction | Our approach

Create a list of user requirements for data visualisation tools for the EU institutions.

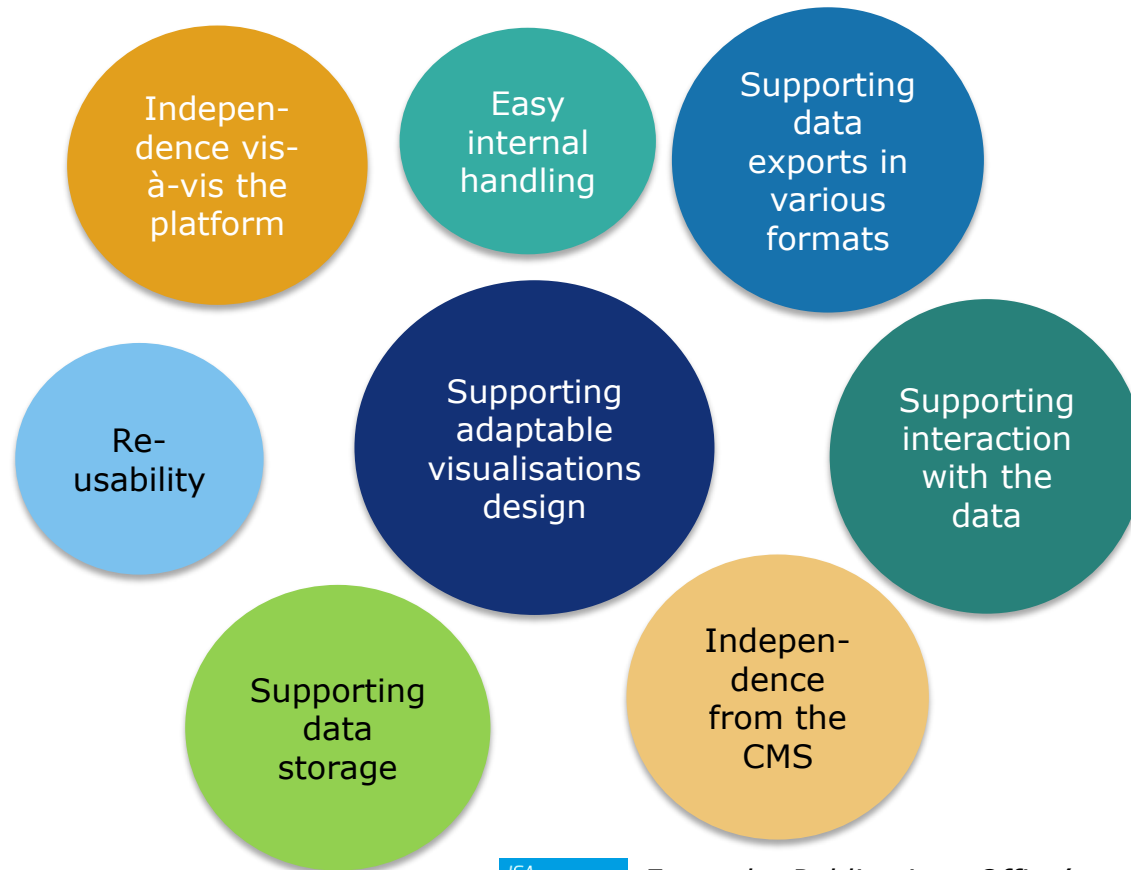
Produce a classification of data types and visualisations

Specify the structure of and the user requirements for the catalogue of reusable data visualisation tools.

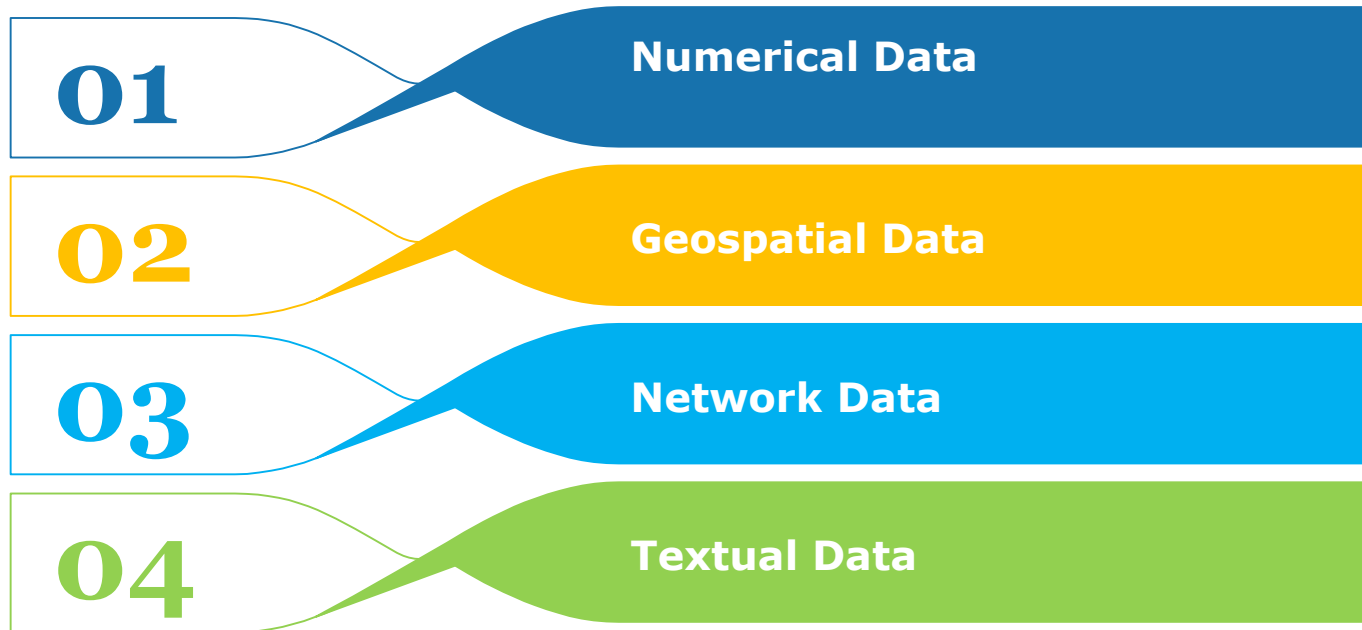
Identify and document the data visualisation tools currently in use by the EU Institutions as well as other relevant visualisation tools used by other organisations.

User requirements | initial collection

Share your opinion with us!

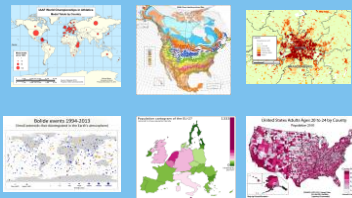


Data types | Proposed classification

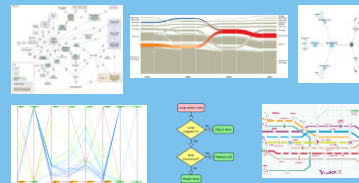


Data visualisations | Classification

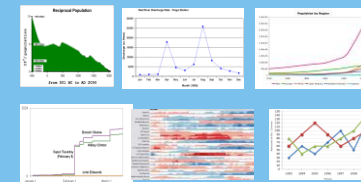
Maps



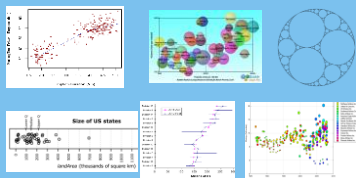
Relations & dependencies



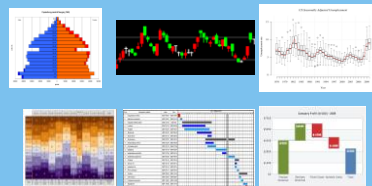
Lines



Dots & Bubbles



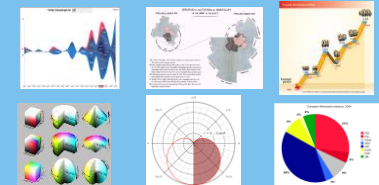
Bars



Grids



Shapes & Proportions



The catalogue | Objective

The catalogue of data visualisations aims to be a trusted source of information about available tools, practical examples and practices that allow EU institutions and Member State administrations to explore, interpret and communicate data more easily, more effectively and more efficiently.

Key use case: Discovery of information about available data visualisation tools which can:

- Produce a specific type of data visualisation, e.g. a graph or a map
- Visualise a specific type of data, e.g. statistical, textual or geospatial data.

The catalogue | Example user story

Objective: Plot an unemployment rate over time in each Member State

Specific needs:

Have a **coloured** indication of those MSs that stand out as positive or negative outliers from the average unemployment rate within the EU.

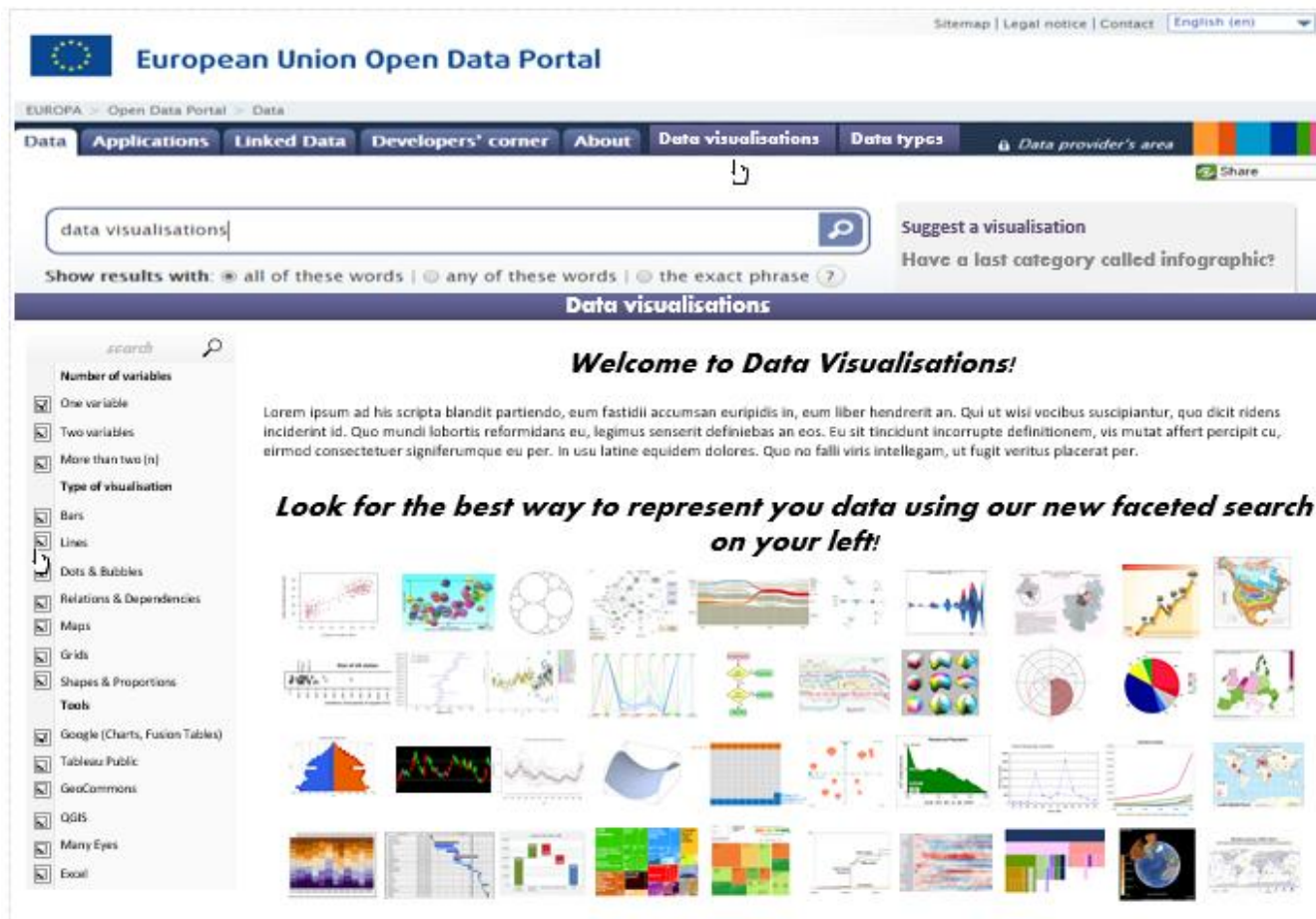
A visualisation that **compares trends over time** from MS to MS

Steps:

1. Select the data visualisation "**Lines**"
2. Check the **number of observations and variables that can be represented** by the different visualisations of lines
3. Choose the one that fits your needs: "**Horizon chart**"

The catalogue | Example user story

Step 1: using faceted search to discover tools that can produce lines



The screenshot shows the European Union Open Data Portal interface. At the top, there is a navigation bar with the European Union logo and the text "European Union Open Data Portal". Below this, there is a search bar containing the text "data visualisations". To the right of the search bar, there are options to "Suggest a visualisation" and "Have a last category called infographic?". Below the search bar, there are radio buttons for "Show results with:" and options for "all of these words", "any of these words", and "the exact phrase".

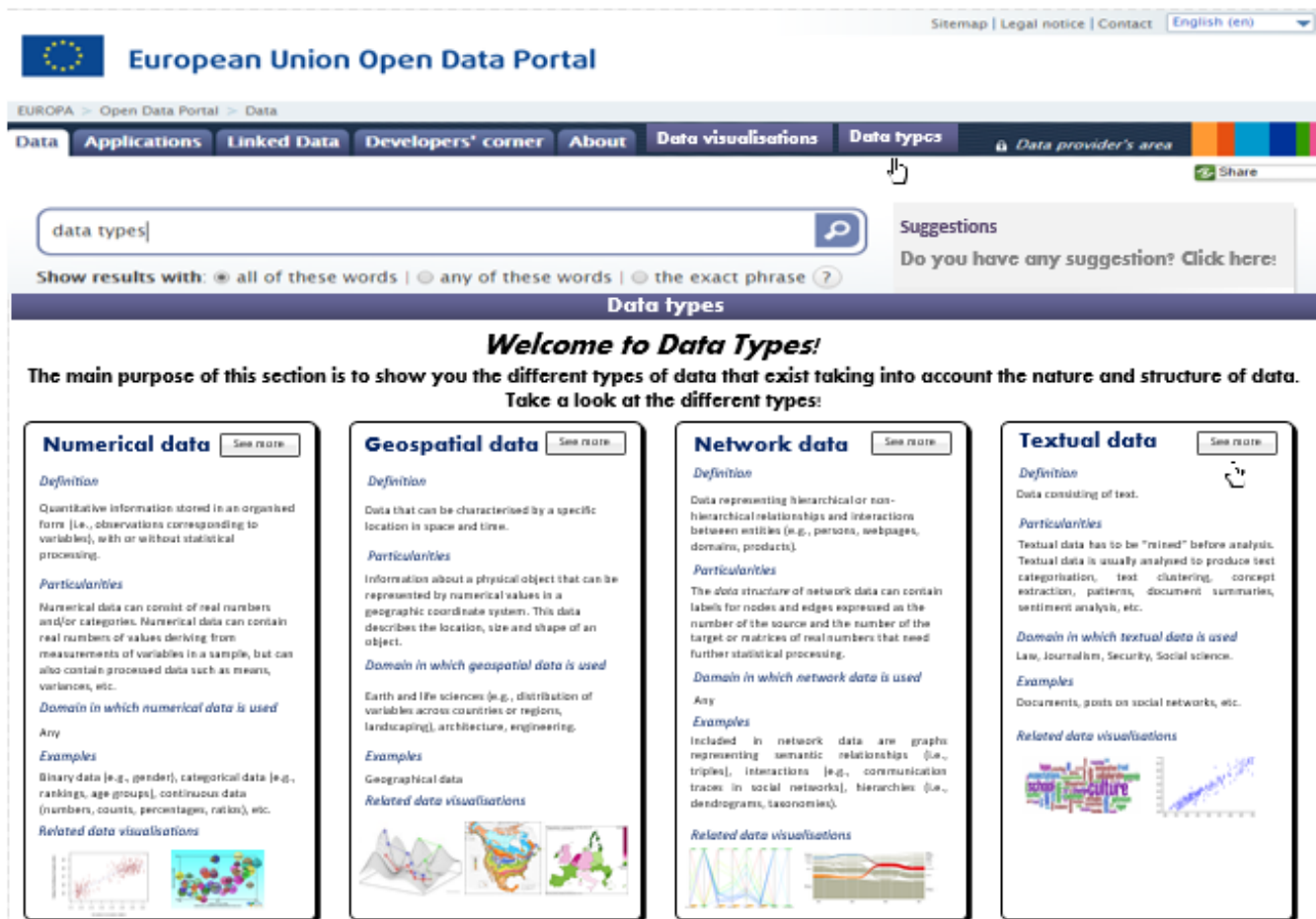
The main content area is titled "Data visualisations" and features a "Welcome to Data Visualisations!" message. Below the message, there is a paragraph of Lorem Ipsum text. To the left of the main content, there is a sidebar with a search bar and a list of facets for filtering results. The facets include:

- Number of variables
 - One variable
 - Two variables
 - More than two (n)
- Type of visualisation
 - Bars
 - Lines
 - Dots & Bubbles
 - Relations & Dependencies
 - Maps
 - Grids
 - Shapes & Proportions
- Tools
 - Google (Charts, Fusion Tables)
 - Tableau Public
 - GeoCommons
 - QGIS
 - Many Eyes
 - Excel

To the right of the facets, there is a grid of 30 small thumbnail images representing various data visualisations, including line charts, bar charts, maps, and scatter plots. The text "Look for the best way to represent you data using our new faceted search on your left!" is displayed above the grid.

The catalogue | Example user story

Alternative 1: browsing by data type



The screenshot shows the European Union Open Data Portal interface. At the top, there is a navigation bar with the European Union logo and the text 'European Union Open Data Portal'. Below this, there is a search bar containing the text 'data types'. The search results are displayed in a grid of four cards, each representing a different data type: Numerical data, Geospatial data, Network data, and Textual data. Each card includes a definition, particularities, domain of use, examples, and related data visualisations.

European Union Open Data Portal

EUROPA > Open Data Portal > Data

Data types

Welcome to Data Types!

The main purpose of this section is to show you the different types of data that exist taking into account the nature and structure of data. Take a look at the different types:

Numerical data [See more](#)

Definition

Quantitative information stored in an organised form (i.e., observations corresponding to variables), with or without statistical processing.

Particularities

Numerical data can consist of real numbers and/or categories. Numerical data can contain real numbers of values deriving from measurements of variables in a sample, but can also contain processed data such as means, variances, etc.


Domain in which numerical data is used

Any

Examples

Binary data (e.g., gender), categorical data (e.g., rankings, age groups), continuous data (numbers, counts, percentages, ratios), etc.

Related data visualisations



Geospatial data [See more](#)

Definition

Data that can be characterized by a specific location in space and time.

Particularities

Information about a physical object that can be represented by numerical values in a geographic coordinate system. This data describes the location, size and shape of an object.

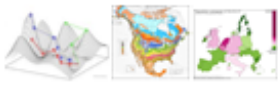
Domain in which geospatial data is used

Earth and life sciences (e.g., distribution of variables across countries or regions, landscaping), architecture, engineering.

Examples

Geographical data

Related data visualisations



Network data [See more](#)

Definition

Data representing hierarchical or non-hierarchical relationships and interactions between entities (e.g., persons, webpages, domains, products).

Particularities

The data structure of network data can contain labels for nodes and edges expressed as the number of the source and the number of the target or matrices of real numbers that need further statistical processing.


Domain in which network data is used

Any

Examples

Included in network data are graphs representing semantic relationships (i.e., triples), interactions (e.g., communication traces in social networks), hierarchies (i.e., dendrograms, taxonomies).

Related data visualisations



Textual data [See more](#)

Definition

Data consisting of text.

Particularities

Textual data has to be "mined" before analysis. Textual data is usually analyzed to produce text categorization, text clustering, concept extraction, patterns, document summaries, sentiment analysis, etc.


Domain in which textual data is used

Law, Journalism, Security, Social science.

Examples

Documents, posts on social networks, etc.

Related data visualisations



The catalogue | Example user story

Steps 2 & 3: find basic information about the data visualisation type (lines) and the tools that can produce it



The screenshot shows the European Union Open Data Portal interface. At the top, there is a navigation bar with the European Union logo and the text "European Union Open Data Portal". Below this, there is a search bar containing the text "data visualisations". To the right of the search bar, there is a button labeled "Suggest a visualisation" and a link "Have a last category called infographic?". Below the search bar, there is a section titled "Data visualisations" with a sub-section for "Lines".

Lines
Description
Lorem ipsum ad his scripta blandit partiendo, eum fastidi accumsan euripidis in, eum liber hendrerit an. Qui ut wisi vocibus suscipiantur, quo dicti ridens incidunt id. Quo mundi lobortis reformidans eu, legimus senserit definiebas an eos. Eu sit tincidunt incorrupte definitionem, vis mutat affert percipit cu, eirmod consetetur signiferumque eu per. In usu latine equidem dolores. Quo no falli iris intellegam, ut fugit veritus placerat per.

Main characteristics

- Lorem ipsum ad his scripta blandit partiendo
- Eum fastidi accumsan euripidis in

Types of lines visualisations

- Horizon chart
- Line chart
- Step chart
- Area chart

Horizon chart:
Number of variables: n
Number of observations: n



Examples



Tools

- Lorem ipsum ad his scripta blandit partiendo
- Eum fastidi accumsan euripidis in
- Eum liber hendrerit an.

Need to draw a line visualisation? See which tools you can download!

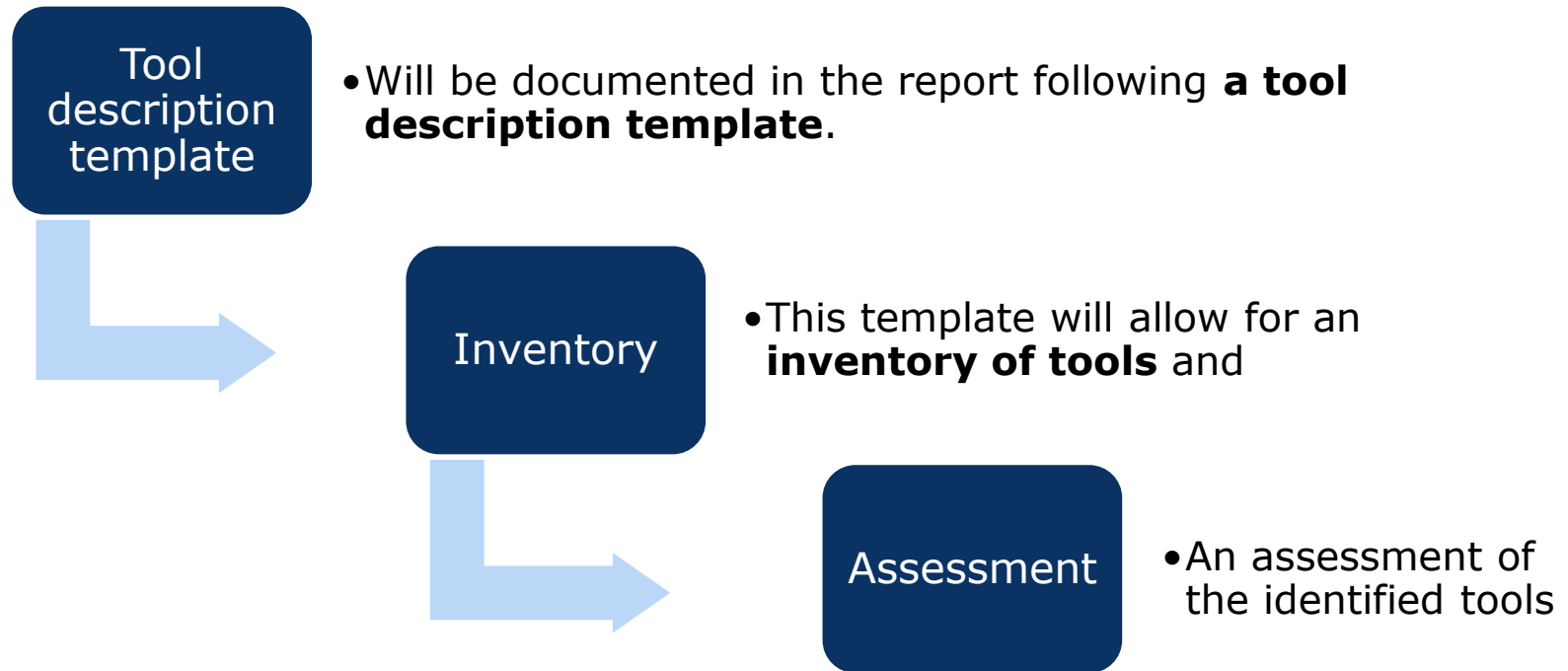
Most viewed view all >>

- Lines (224 views)
- Onils (224 views)
- Bars (224 views)

View all types

Data visualisation tools | Creating an inventory of tools

- Data visualisation tools used by the EU Institutions:



Next steps

Your input and feedback received during the workshop will be incorporated in our current and future work.

- Scope of the catalogue
- Support services to be provided by the catalogue
- Functionalities of the catalogue
- Information to be made available
- Piloting the catalogue

Developing further data visualisation capabilities within the EU institutions

- Organising trainings
- Creating examples with your data

The outcomes of our on-going task will be made available to all of you in early July 2016.

Save the date!



12 May 2016
Rome – Italy

Stay tuned at:

<https://joinup.ec.europa.eu/node/148436>



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ADMS ASSET DESCRIPTION METADATA SCHEMA	StatDCAT-AP FOR STATISTICAL DATASETS	GeoDCAT-AP FOR GEOSPATIAL DATASETS	DCAT-AP FOR DATA PORTALS IN EUROPE	CORE PUBLIC ORGANISATION VOCABULARY
CORE PERSON VOCABULARY	REGISTERED ORGANISATION VOCABULARY	CORE CRITERION & EVIDENCE VOCABULARY	CORE LOCATION VOCABULARY	CORE PUBLIC SERVICE VOCABULARY

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