Bank of Italy
Workshop on Big Data

Driving digital transformation through (big) data

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Introduction
Digital Transformation & Analytics

WHAT

The ability to manage data is critical to the success of organisations such as the European Commission

WHY

To become a data mature organisation to take informed decisions

WHAT FOR

- Policy-making
- Functioning
- Transparency
- Providing services

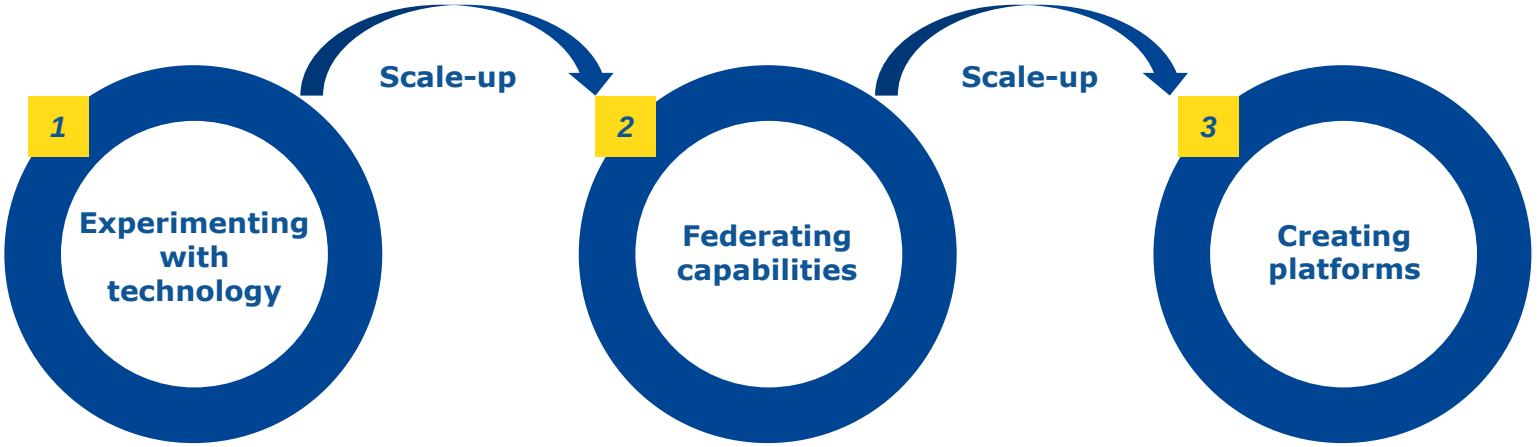
HOW

Through the Digital Transformation

- Data4Policy
- Data, Information and Knowledge management
- Data Strategy
- Data Services

Objectives

Maximise the use of data to the fullest to support the policy making lifecycle and the internal functioning



By carrying out different pilots, we understood how the **policy-making lifecycle and the internal functioning could benefit from technology**…

… and create a **collaborative environment (ecosystem)**

… with the ultimate objective of **fostering innovation and providing ready-to-use environments**

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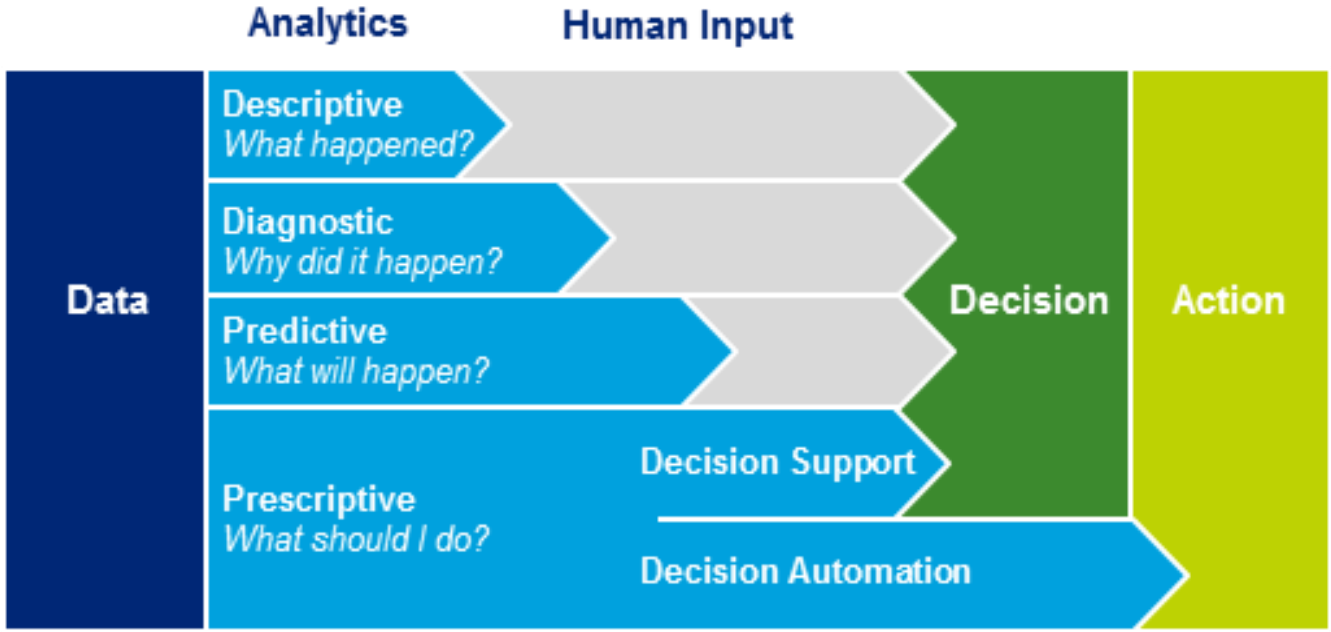
Experimenting with technology
Background

The role of Data analytics

All types of data can provide valuable insights for public authorities provided they are analysed in the correct way, making use of solid analytical processes for the type of data, hypothesis and questions at hand. Due to the nature of (big) data, relevant technology is an important element to process the data and discover insights.



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Experimenting with technology

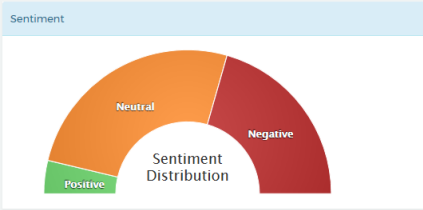
Pilots (1): analysing feedback from citizens - DORIS

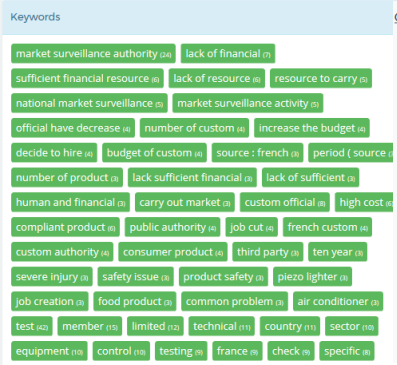
Why a solution was needed?

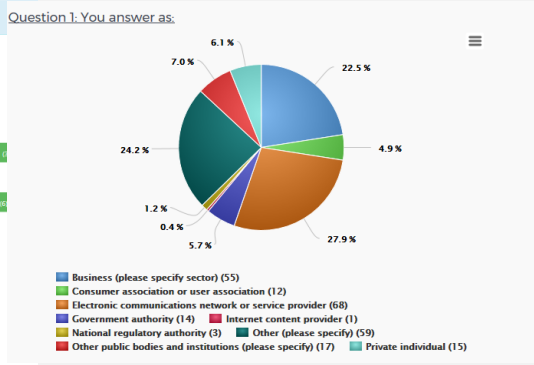
- To analyse data from open and closed questions
- Dashboard to visualise and further analyse the results of the consultation
- Text analysis, sentiment analysis, data mining and reporting techniques to facilitate the analysis of structured and unstructured information
- Optimisation of the time required for the analysis

The solution

- Different analytics techniques (clustering, keyword extraction, name entity recognition, sentiment analysis and campaign detection)
- Web interface to access the results of the analysis with basic functionalities such as filters, maps, translation and automatic charts







Experimenting with technology

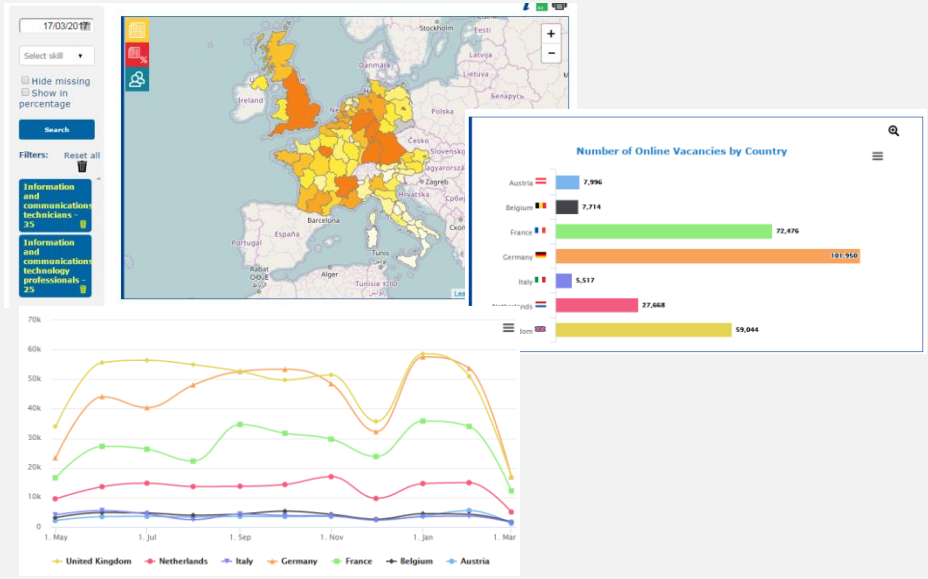
Pilots (2): job market analysis - Victory

Why a solution was needed?

- To analyse all job vacancies that are published in employment portals in order to be able to launch vacancy-unification policies
- To analyse the employability in Europe.
- To discover the market trends when it comes to IT needs.

The solution

- Job vacancies data was purchased to the job employment service providers with a total of 50 millions of records analysed per year
- Different algorithms were applied to prepare the information and machine learning techniques to classify and analyse the data
- A **web tool** has been developed to visualise the results.



Some results...

- England is the region that publishes the largest number of IT job vacancies (related to analyst or software programmers and applications)
- The country with the lowest IT vacancies is Italy and the most public is Germany.
- The most required degree is Master.
- Generates quality employment, the vast majority of contracts are permanent.
- Large companies generate 1.5 more vacancies than SMEs.
- The most demanded experience is 2 years, 3 to 5 years, and.
- The most frequent salary range is between 16-30K

Federating capabilities

Objectives

1. Promote teamwork and overcome silo mentalities
2. Harnessing synergies between portfolios
3. Give more visibility to the work done by different services and foster re-use as a service

The strategic use of data, information and knowledge is an essential part of this new way of working. Hence, data, information and knowledge need to be shared and exploited in order to remove the barriers that still hamper working together.

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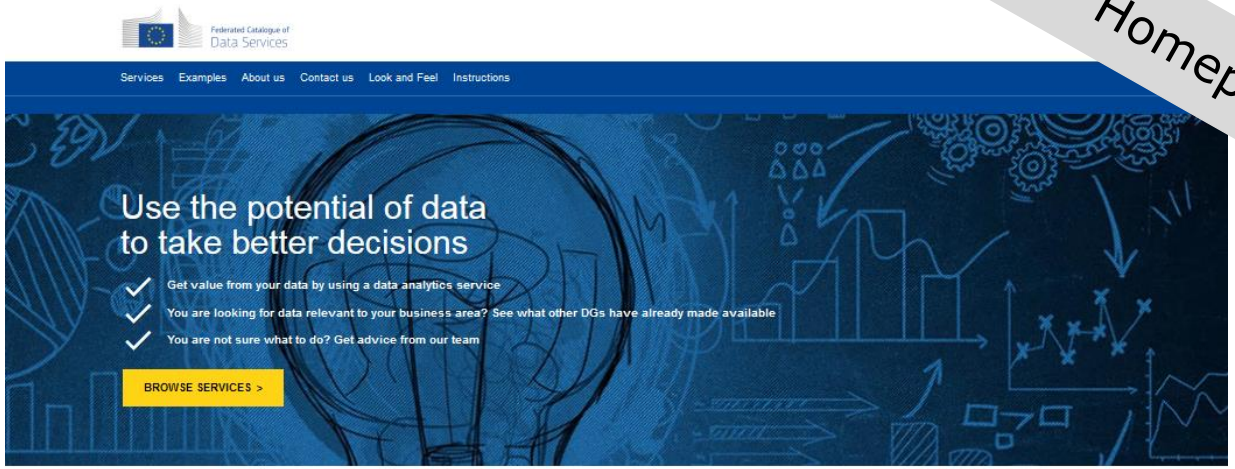
Federating capabilities

Federated Catalogue of Services: User Interface

Homepage



What can you find here?

While gut-feeling is still important, gathering and analysing relevant data is the basis of an effective decision making. Being from a policy DG or a horizontal service, you probably need to use and analyse various data in your projects. Here you can find data and analytics services, provided by different DGs that have put in place the needed capabilities. The services can include data, tools and/or expertise to guide you in the choice of a service or its use, according to your own business context.

Tools

Access to toolkits and methodologies that will help you fulfil your data needs, from generic analytics tools to custom-made solutions for specific domains or policy areas.

A wide range of tools, platforms, frameworks and methodologies to choose from, developed or made available by different DGs.

Tools

Data

Access to internal and external data sources and datasets that will help you complete your analysis and make better informed decisions.

Different datasets are published in a variety of internal portals or external locations. You might find exactly what you need for the task at hand.

Data

Experts

Expert advice that will help you find the best solution for your needs.

A set of experts from different services who will guide you in the set-up and implementation of your data projects.

Experts

Creating Platforms

Big Data Test Infrastructure: Background

This Big Data Test Infrastructure is one of the activities under **ISA² Action 2016.03 – Big Data for Public Administrations**, funded by the ISA² Programme

The **ISA² programme** supports the development of digital solutions that enable public administrations, businesses and citizens in Europe to benefit from interoperable cross-border and cross-sector public services.

Problem statement:

- **Adoption of analytics technologies is lagging** behind in public administrations
- **Lack of a turn-key cloud environment** that offers a full stack of technologies to test the value of new ways of processing big data

Objective:

Support the execution of Big Data pilots under different policy domains by any interested Public Administration and Institution in Europe enabling the implementation of both Big Data pilots at National/Local level and at cross-border level

The infrastructure is to be used by the Commission and by interested Public Administration in the EU

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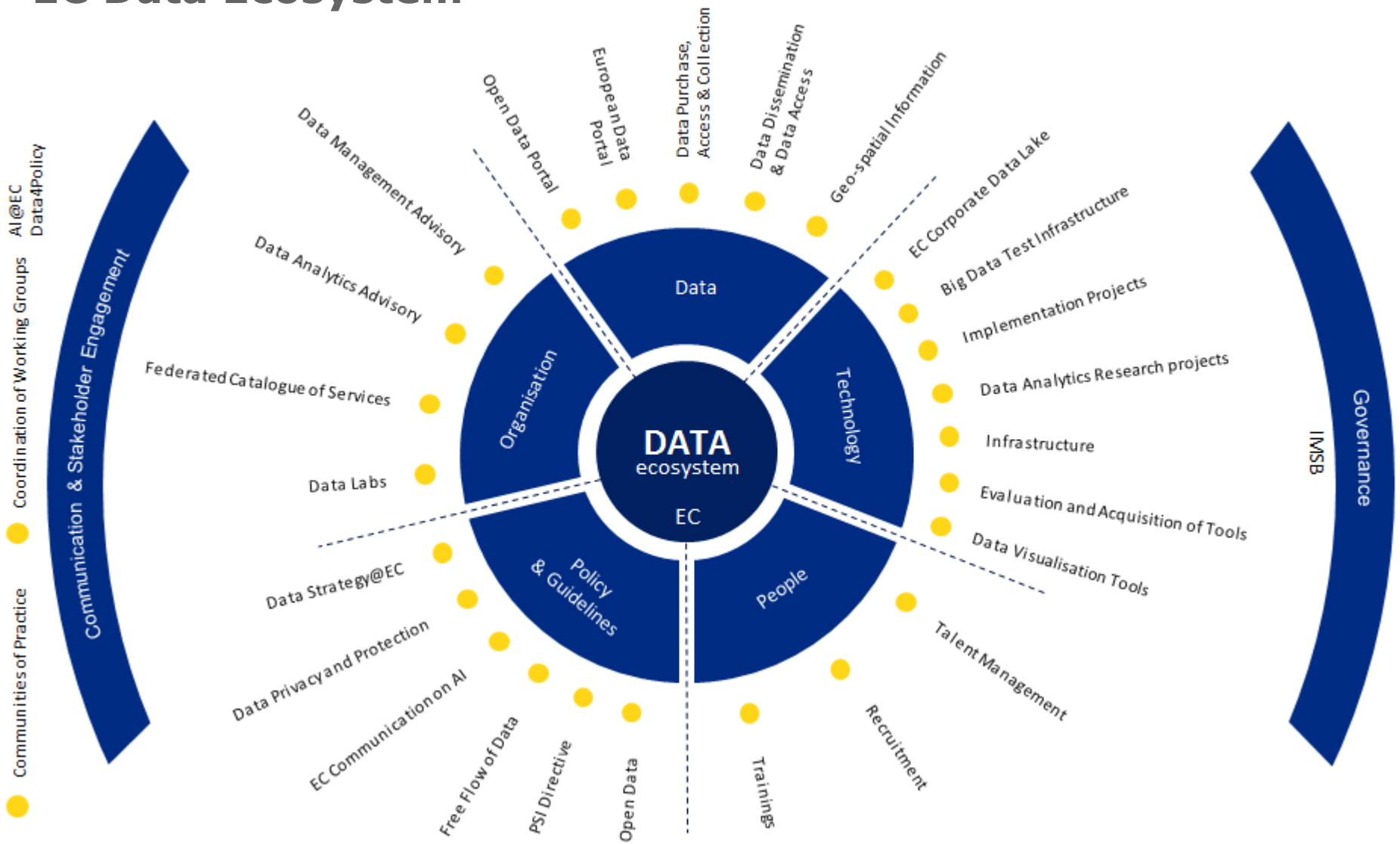
EC Data Ecosystem



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Thank you for your attention

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DG INFORMATICS (DIGIT)

Contact us

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