

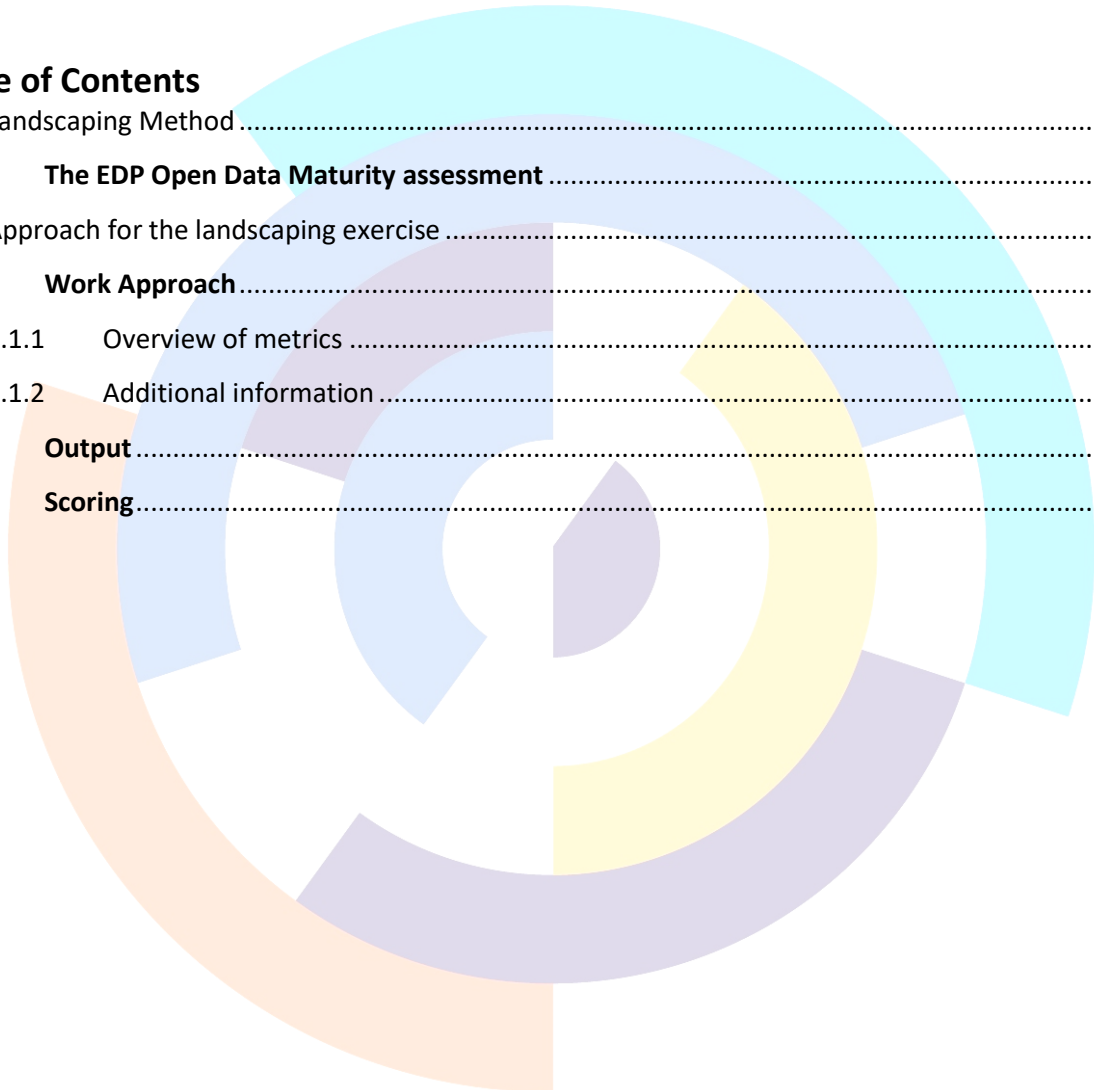
# EDP Open Data Landscaping

## Summary of the methodology used to assess Open Data Maturity in Europe

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# 1 Landscaping Method

## 1.1 The EDP Open Data Maturity assessment

Launched in 2015, the [European Data Portal](#) (henceforth EDP) has been acting as a main point of access at EU level to public sector information published across Europe. The EDP covers a broad range of activities from deploying, maintaining and updating of the EDP infrastructure, the provision of analyses, materials and reports on various open data topics, to assistance for the national open data teams in the form of maturity assessments, tailored support and strategic advice activities to enable their successful open data transformation.

The EDP objective is to improve access to open data from European countries and foster high-quality public data publication at national, regional, local level. Within this scope, the EDP has been conducting since 2015 an annual landscaping exercise and providing European countries with an assessment of their maturity level and year-on-year progress. The landscaping exercise offers a benchmark for assessment of the status-quo on open data at both country and European level. At the same time, the landscaping provides the evidence on which both generic and targeted support activities for the EU Member States is based.

In the period 2015-2017, the annual open data maturity measurement was built on two key indicators: Open Data Readiness and Portal Maturity, covering the policy developments at country level as well the level of sophistication of the national open data portals. The results of the annual studies are summarised in the respective yearly reports and made available on the European Data Portal. To better reflect the open data developments taking place across Europe as well as at EU level, a major update to the landscaping measurement was carried out in 2018. The 2018 measurement set a stronger focus on the reuse and impact derived by open data and the quality of open data publication. The scope of the assessment has hence been broadened to comprise four dimensions: **Policy, Portal, Impact** and **Open Data Quality**.

Against this background, the 2019 measurement was further developed to add new layers of granularity to the four dimensions. The updates to the questionnaire reflect the progress in the European countries, the developments at EU level – such as the recast of the PSI Directive of 2013 – as well as national and EU priorities, such as the focus on real-time access to dynamic data and enabling smarter cities and countries. With the 2019 updates, the EDP maturity assessment aims to provide further impulses for the national open data teams to re-direct their focus on new strategic areas. A stronger prioritisation of high-quality open data publication, an active fostering of reuse and monitoring mechanisms of open data reuse within priority domains, the development of advanced portal features, and the need for more inclusive participative governance structures are the main elements that the 2019 assessment highlights.

## 2 Approach for the landscaping exercise

### 2.1 Work Approach

The 2019 Open Data maturity assessment will be performed on four dimensions: Open Data Policy, Open Data Impact, Open Data Portal and Open Data Quality.

The first dimension “Open Data Policy” focuses on the presence of specific policies and strategies to foster open data at national level, inclusive governance structures that allow the participation of

private and third sector actors, as well as implementation measures that enable open data initiatives at national, regional and local levels, training schemes that enhance the data literacy skills of the civil servants working with data as well as harvesting mechanisms that foster the discoverability of all open data available in the country.

The second dimension “Open Data Impact” assesses the level of understanding of open data reuse among public sector bodies, the activities performed to monitor the reuse and the impact derived by such reuse. Beyond this first layer of “strategic awareness”, the impact dimension focusses on four areas of sectoral impact: political, social, environmental and economic. Within these areas, the questionnaire examines the extent to which there is a monitoring in place to the reuse of open data published in these fields, the extent to which applications, products, and services have been developed based on data stemming from these fields as well as the extent to which civil society initiatives exist, that are based on such open data and supposed by government institutions. With regards to the economic field, the questionnaire focuses on assessments, reports and/or studies that demonstrate the micro and macro-economic value of open data, as well as the efficiency gains derived for the public sector.

The third dimension “Open Data Portal” focuses on advanced portal functions that enable both versed and less versed users to access open data via the national portal and features that enhance the interaction between publishers and reusers (via forum and discussion boards). Additionally, the dimension assesses the extent to which portal managers use analytics tools to better understand their users’ needs and behaviour and update the portals in line with the insights gained from these analyses. The dimension examines the open data coverage across different domains, as well as the approach and measures in place to ensure the portal’s sustainability.

The fourth dimension “Open Data Quality” focuses on the measures adopted by portal managers to ensure the systematic harvesting of data sources from across the country, as well as the currency and completeness of the available metadata and where possible the actual data, the monitoring of the compliance with the DCAT-AP metadata standard as well as the quality of deployment of the published data. The fourth dimension provides impulses for portal managers and policy-makers to enable open data publication that goes beyond the publication of data in proprietary and/or non-machine-readable formats to a high-quality publication in open and machine-readable formats, accompanied by URIs.

### 2.1.1 Overview of metrics

The four dimensions and their respective metrics for the 2019 assessment are summarised below.

| Dimension               | Metrics                  |
|-------------------------|--------------------------|
| <b>Open Data Policy</b> |                          |
|                         | Policy framework         |
|                         | Governance of open data  |
|                         | Open data implementation |
| <b>Open Data Impact</b> |                          |
|                         | Strategic awareness      |
|                         | Political                |
|                         | Social                   |

|                          |                                    |
|--------------------------|------------------------------------|
|                          | Environmental                      |
|                          | Economic                           |
| <b>Open Data Portal</b>  |                                    |
|                          | Portal features                    |
|                          | Portal usage                       |
|                          | Data provision                     |
|                          | Portal sustainability              |
| <b>Open Data Quality</b> |                                    |
|                          | Currency and completeness          |
|                          | Monitoring and measures            |
|                          | DCAT-AP compliance                 |
|                          | Deployment quality and linked data |

The detailed metrics and indicators that constitute each dimension are listed below:.

#### Dimension 1: Open Data Policy

|            |  |
|------------|--|
|            | <b>1. Policy framework</b>   |
| <b>1.1</b> | Open Data policies and strategies are in place at national level.<br>The open data policy/strategy has been updated in the past year.<br>Opening PSI is mandatory at national level.   |
| <b>1.2</b> | The national open data strategy incentivises the reuse of open data by both the public and private sectors.<br>The national open data policy/strategy incentivises access to real-time data.<br>The development of data inventories in the public bodies at national, regional and local levels is defined as priority in the national policy and/or strategy. |
| <b>1.3</b> | Priority domains for data release have been identified at national level.<br>Data publication is prioritised in collaboration with other stakeholders (reusers).   |
|            | <b>2. Governance of open data</b>  |
| <b>2.1</b> | An open data governance structure is in place, that ensures the publication of open data at all government levels.<br>The governance structure enables the development of open data initiatives at local and regional levels.  |
| <b>2.2</b> | Data stewards/ PSI officers are appointed at each public body level.<br>A regular exchange between the data stewards as well as data publishers and reusers is ensured.  |
| <b>2.3</b> | Various open data events are organised throughout the country to foster the exchange on the open data topic.<br>The events are organised by a mix of actors (public sector bodies at national, regional and local levels, private sector, civil society, universities).  |
|            | <b>3. Open data implementation</b>   |
| <b>3.1</b> | Guidelines are in place to assist publication at national, regional and local levels.<br>Holders of dynamic data are assisted in providing real-time access to their data.   |
| <b>3.2</b> | Data publication plans exist at public body level and progress against these plans is monitored by the national level.<br>Number of public bodies that still charge above marginal costs is monitored.   |
| <b>3.3</b> | Regional and local sources are systematically harvested by the national level.<br>Percentage of harvested sources from total existing sources is known.  |

|            |  |
|------------|--|
| <b>3.4</b> | Training activities for civil servants working with data are in place.<br>The trainings provide a certification and/or are formally recognised as professional development for civil servants. |
|------------|--|

## Dimension 2: Open Data Impact

|            |   |
|------------|---|
|            | <b>1. Strategic awareness</b>   |
| <b>1.1</b> | Reuse of open data is monitored at national level via, for example, the national portal.  |
| <b>1.2</b> | Activities are in place at public body level to boost and monitor the reuse of own published data.  |
| <b>1.3</b> | Activities are in place at national level to measure the reuse of open data.<br>A methodology to measure the impact of open data is in place or first steps in this direction are taken.  |
|            | <b>2. Political impact</b>  |
| <b>2.1</b> | Activities have been launched to monitor the political impact of open data.   |
| <b>2.2</b> | Various reuse examples exist that showcase the impact of open data on increasing government efficiency and effectiveness.   |
| <b>2.3</b> | Various reuse examples exist that showcase the impact of open data on increasing transparency and accountability.   |
| <b>2.4</b> | Various reuse examples exist that showcase the impact of open data on enable better policy and decision-making processes.   |
| <b>2.5</b> | Civil society initiatives that are open data driven and aim to tackle a challenge identified in the political field exist / are supported by government.  |
|            | <b>3. Social impact</b>   |
| <b>3.1</b> | Activities have been launched to monitor the social impact of open data.  |
| <b>3.2</b> | Various reuse examples exist that showcase the impact of open data on a better inclusion of marginalised groups.  |
| <b>3.3</b> | Various reuse examples exist that showcase the impact of open data on increasing awareness on housing issues.   |
| <b>3.4</b> | Civil society initiatives that are open data driven and aim to tackle a challenge identified in the social field exist / are supported by government.<br>Studies have been conducted that deal with the social impact of open data.       |
|            | <b>4. Environmental impact</b>  |
| <b>4.1</b> | Activities have been launched to monitor the environmental impact of Open Data.   |
| <b>4.2</b> | Various reuse examples exist that showcase the impact of open data on increasing awareness on air and water quality.  |
| <b>4.3</b> | Various reuse examples exist that showcase the impact of open data on increasing awareness on noise levels in cities.   |
| <b>4.4</b> | Various reuse examples exist that showcase the impact of open data on enabling better waste management and increasing awareness on waste reduction.   |
| <b>4.5</b> | Civil society initiatives that are open data driven and aim to tackle a problem identified in the environmental exist / are supported by government.<br>Studies have been conducted that deal with the environmental impact of open data. |
|            | <b>5. Economic impact</b>   |
| <b>5.1</b> | Activities have been launched to monitor the economic impact of open data.  |
| <b>5.2</b> | Studies assessing the macro-economic value of open data have been conducted.  |
| <b>5.3</b> | Studies assessing the micro-economic value of open data have been conducted.  |
| <b>5.4</b> | Studies that assessed the economic benefits of open data for public administrations haven been conducted.   |

### Dimension 3: Open Data Portals

| 1. Portal feature        |  |
|--------------------------|--|
| 1.1                      | Portal features ensure discoverability and access to datasets and relevant content. Advanced features enable users to contribute content to the portal, provide feedback on existing content and rate featured datasets.           |
| 1.2                      | The portal enables users to find information and news on relevant open data topics in the country.   |
| 1.3                      | The portal enables the interaction and exchange between users and publishers as well as among reusers.   |
| 1.4                      | Use cases are promoted via a designated section on the portal and mapped to the open data they are based on.<br>Use cases can be submitted by different users to the portal.   |
| 1.5                      | Preview functions to both tabular and geospatial data are available.   |
| 1.6                      | Data publishers and other interested parties can find information on tools that enable the work with data (e.g. Trifacta Wrangler, OpenRefine, Jupyter Notebook).  |
| 2. Portal usage          |  |
| 2.1                      | The portal is responsive via both mobile and desktop.  |
| 2.2                      | Traffic to the portal (number of unique visitors, visitor profiles, percentage of machine traffic etc.) is monitored by the portal managers.   |
| 2.3                      | Analytics tools are used to derive insights into users' behaviour and needs. These insights are embedded into the portal update cycles.  |
| 2.4                      | The most and least consulted categories and datasets are known.<br>The most used search keywords are known, and updates are performed to ensure a better discoverability of available content.                                     |
| 2.5                      | API usage is monitored and used to gain insights into user profiles (e.g. "power users").  |
| 3. Data provision        |  |
| 3.1                      | The majority of data publishers can contribute data to the national portal.<br>Data publishers that do not contribute to the national portal have been identified and actions taken to enable data publication from these sources. |
| 3.2                      | Access to real-time data is provided via the portal.<br>The percentage of real-time data from total featured data is known.  |
| 3.3                      | A separate section exists on the portal where community-sourced data can be uploaded.  |
| 4. Portal sustainability |  |
| 4.1                      | A sustainability strategy for the portal has been defined.<br>Measures are in place to ensure the portal reaches its targeted audience.  |
| 4.2                      | The portal team helps enhance the visibility of the portal and the featured datasets by organising/attending info sessions and/or events to promote the national portal.   |
| 4.2                      | The source code and relevant documentation are available for the interested public.<br>The national portal has accounts and an active presence on social media platforms.  |
| 4.3                      | User satisfaction surveys on the national portal are regularly performed.<br>The portal undergoes regular reviews. Users' feedback is considered in this review process.   |
| 4.4                      | The portal provides a dashboard with information on the main performance indexes.<br>The dashboard enables data publishers to analyse their own publication activities and quality.  |



#### Dimension 4: Open Data Quality

| <b>1. Currency and completeness</b>          |  |
|--|--|
| <b>1.1</b>                                   | A pre-defined approach is in place to ensure metadata is up to date.   |
| <b>1.2</b>                                   | Harvesters are programmed to ensure that changes at the source are reflected with the least amount of delay on the national portal.  |
| <b>1.3</b>                                   | The portal provides access to a vast range of data, both historical and current.   |
| <b>2. Monitoring and measures</b>            |  |
| <b>2.1</b>                                   | Mechanisms are in place to monitor the quality of the metadata.<br>Information on the quality of the metadata is available to the broader public.  |
| <b>2.2</b>                                   | Guidelines and/or tools are available to assist publishers in choosing the right type of licence for their data.<br>The compliance level in terms of correct licencing information is monitored.                   |
| <b>2.3</b>                                   | Measures are in place to assist publishers in publishing in high-quality metadata / data.  |
| <b>3. DCAT-AP Compliance</b>                 |  |
| <b>3.1</b>                                   | Guidelines and materials to help publishers in ensuring compliance with DCAT-AP are linked on the national portal.   |
| <b>3.2</b>                                   | Compliance with the DCAT-AP standard in terms of mandatory, recommended and optional classes is monitored. The compliance level is monitored.  |
| <b>3.3</b>                                   | Monitoring activities of the percentage of accessible distributions (availability of AccessURL and DownloadURL) are in place. The compliance level is monitored.   |
| <b>4. Deployment quality and linked data</b> |  |
| <b>4.1</b>                                   | The 5-star open data model or similar is used to assess the quality of data deployment. Activities to familiarise publishers with the 5star model and linked data are conducted.                                   |
| <b>4.2</b>                                   | The percentage of published open data that complies with the requirements of the 1, 2, 3, 4 and 5-stars deployment levels is known.<br>The improvements in terms of quality of open data deployment are monitored. |

#### 2.1.2 Additional information

Additional information is collected in the landscaping questionnaire addressed to the PSI Expert Group. This information is used to complement the country assessment and will be presented in the respective country factsheets. These answers are not scored. The material collected is also used to assess the progress at country and EU level and better understand the barriers to data publication and reuse.

| <b>A. Barriers to open data publication</b> |  |
|---|--|
| <b>A1</b>                                   | Main barriers  |
| <b>A2</b>                                   | Undertaken measures to address the existing barriers |
| <b>B. Barriers to open data reuse</b>       |  |
| <b>B1</b>                                   | Main barriers  |
| <b>B2</b>                                   | Undertaken measures to address identified barriers   |

## 2.2 Output

The output of the annual Open Data Maturity assessment consists in:

- The annual report *Open Data Maturity Landscaping* documenting the state-of-play in the EU28+ countries, as well as – where open data activities already in place – the EU Accession Candidate countries.

- The Open Data Maturity Dashboard (see **Error! Reference source not found.** below) presenting the detailed country scores per dimension and European ranking<sup>1</sup> as well as the country clustering visualising the maturity level across Europe
- Country Factsheets presenting the country results and yearly progress

Along with the in-depth report documenting the country results, the country factsheets depict the specific situation of each country as well as information with regards to best practices and barriers to open data publication and reuse. An example of the country factsheet is presented in Figure 1 below.

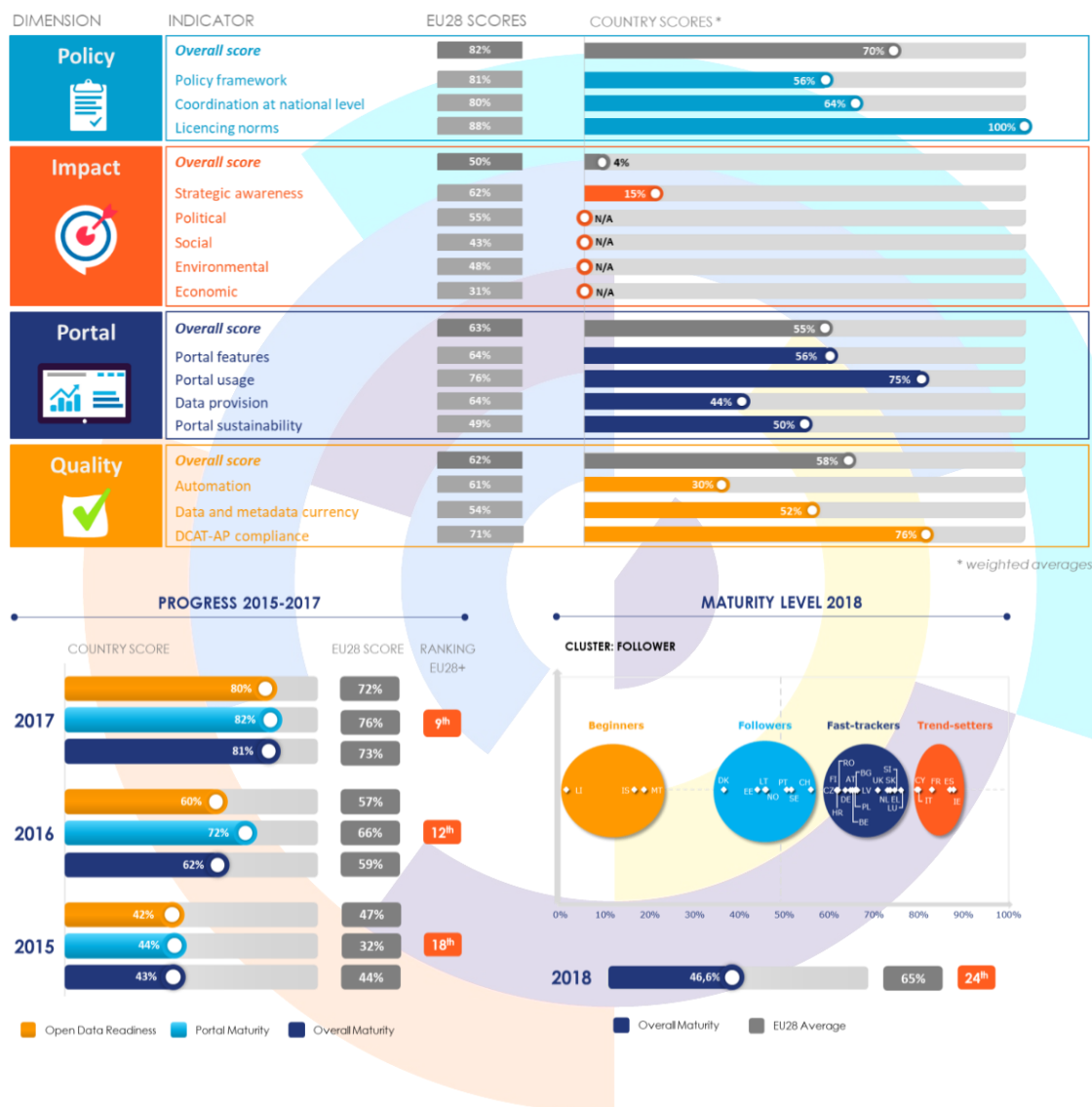


Figure 1: Country factsheet depicting the 2015-2018 results

The country factsheets are published on the European Data Portal, upon validation with each country.

<sup>1</sup> <https://www.europeandataportal.eu/en/dashboard#2018>



## 2.3 Scoring

| Dimension         | Key metrics                        | Weight |
|-------------------|------------------------------------|--------|
| Open Data Policy  |                                    | 25%    |
|                   | Policy framework                   |        |
|                   | Governance of open data            |        |
|                   | Open data implementation           |        |
| Open Data Impact  |                                    | 25%    |
|                   | Strategic awareness                |        |
|                   | Political                          |        |
|                   | Social                             |        |
|                   | Environmental                      |        |
|                   | Economic                           |        |
| Open Data Portal  |                                    | 25%    |
|                   | Portal features                    |        |
|                   | Portal usage                       |        |
|                   | Data provision                     |        |
|                   | Portal sustainability              |        |
| Open Data Quality |                                    | 25%    |
|                   | Currency and completeness          |        |
|                   | Monitoring and measures            |        |
|                   | DCAT-AP compliance                 |        |
|                   | Deployment quality and linked data |        |