

Analytical Report n7



Analytical Report 7: Open Data in the European Union Neighbourhood

This study has been prepared by Capgemini Invent as part of the European Data Portal. The European Data Portal is an initiative of the European Commission, implemented with the support of a consortium¹ led by Capgemini Invent, including Intrasoft International, Fraunhofer Fokus, con.terra, Sogeti, 52North, Time.Lex, the Lisbon Council, and the University of Southampton. The Publications Office of the European Union is responsible for contract management of the European Data Portal.

For more information about this paper, please contact:

European Commission

Directorate General for Communications Networks, Content and Technology
Unit G.1 Data Policy and Innovation
Daniele Rizzi – Policy Officer
Email: daniele.rizzi@ec.europa.eu

European Data Portal

Gianfranco Cecconi, European Data Portal Lead
Email: gianfranco.cecconi@capgemini.com

Written by:

Jorn Berends
Wendy Carrara
Cosmina Radu

Last update: 15.07.2020

www: <https://europeandataportal.eu/>

@: info@europeandataportal.eu

DISCLAIMER

By the European Commission, Directorate-General of Communications Networks, Content and Technology. The information and views set out in this publication are those of the author(s) and do not necessarily reflect the official opinion of the Commission. The Commission does not guarantee the accuracy of the data included in this study. Neither the Commission nor any person acting on the Commission's behalf may be held responsible for the use, which may be made of the information contained therein.

Luxembourg: Publications Office of the European Union, 2020

© European Union, 2020



OA-BF-20-007-EN-N

ISBN: 978-92-78-41944-8

ISSN: 2600-0601

doi: 10.2830/235943



The reuse policy of European Commission documents is implemented by the Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39). Except otherwise noted, the reuse of this document is authorised under a Creative Commons Attribution 4.0 International (CC-BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes are indicated.

For the purposes of this report, the EU Neighbourhood comprises the countries that are part of the official EU Neighbourhood policy:

Neighbourhood South: Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine*, Tunisia;
Neighbourhood East: Armenia, Azerbaijan, Belarus, Georgia, Moldova, and Ukraine; Western
Balkan and Turkey: Albania, Bosnia and Herzegovina, the former Yugoslav Republic of
Macedonia, Kosovo**, Montenegro, Serbia, Turkey.

** This designation shall not be construed as recognition of a State of Palestine and is without prejudice to the individual positions of the Member States on this issue.*

*** This designation is without prejudice to positions on status, and is in line with UNSC 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.*

ⁱ At the time this report was first issued the consortium consisted of: Capgemini Invent, Intrasoft International, Fraunhofer Fokus, con.terra, Sogeti, the Open Data Institute, Time.Lex, and the University of Southampton.

EXECUTIVE SUMMARY

Data is seen as an extremely valuable, until now not fully tapped resource that plays a pivotal role in the development of economies and societies. Numerous studies have measured the impact of data for economic, political and societal development, with several others pinpointing the importance of *Open Data* for economic growth. Open Data is seen as a driver not only for economic development, but also for transparency and accountability, as well as innovation and knowledge. Several studies have been conducted so far to assess the maturity levels of Open Data in the European Union as well as Norway, Iceland and Liechtenstein (referred to as the EU28+). In this light, it becomes interesting to take a look at Open Data beyond the EU28+ borders, in the EU Neighbourhood to the East and South. Having strong Open Data practices in these regions is not only advantageous for the countries and the regions themselves, but also benefits the European Union and its Member States. Two reasons come to the fore here: on the one hand, Open Data fosters economic and societal development, thus contributing to stability and security at the EU borders. On the other hand, Open Data can act as an enabler of sustainable partnerships between the EU and its neighbours for the decades to come.

The present report provides a high-level assessment of the state of play of Open Data in the EU Neighbourhood and showcases the stumbling blocks that the EU neighbourhood countries encounter in their journey towards becoming (Open) Data-driven societies and economies. The report shows that the expectations with regard to the benefits of Open Data in the EU Neighbourhood are high, with country officials perceiving (Open) Data as the oil that makes the 'motors' of governments, economies and societies run smoothly. Beyond a doubt, Open Data has the potential to do so. However, in order to stand up to its hype, Open Data needs to be grounded in a solid foundation. Creating an enabling framework on which Open Data can thrive should be the next immediate step to take in order to make Open Data the rule, rather than the exception in the EU Neighbourhood. Towards achieving this, concerted efforts are needed from both the European Union and the neighbourhood countries.

Key Findings



The EU Neighbourhood countries are facing similar Open Data challenges to the EU Member States, albeit to different extents. At the same time, the EU Neighbourhood's expectations with regard to Open Data's positive impact on government, society and economy are higher compared to the EU28+.



Political will for Open Data development is stronger in the neighbourhood countries compared to the EU28+. This is fuelled by an overall eagerness to 'catch up' with Europe – a driving force that should be stronger capitalised in the EU Neighbourhood.



A solid foundation on which Open Data can thrive – consisting of an Open Data Policy and an Open Data Portal at national level – is still missing in the majority of the EU Neighbourhood countries.



There is an urgent need to increase awareness and capacity on both the Open Data supply and demand side, in order to enable neighbourhood countries to reap the full benefits of Open Data. Concerted capacity building efforts in the EU Neighbourhood should be undertaken by both the EU and the neighbourhood governments.

Table of Contents

EXECUTIVE SUMMARY.....	3
Introduction.....	6
1.1. Relevance	6
1.2. Method.....	6
1.3. Structure.....	7
2. Open Data and the EU Neighbourhood	8
2.1. Open Data in the context of the EU Neighbourhood Policy	8
2.2. Benefits of Open Data for the EU Neighbourhood	10
3. Open Data Maturity in the EU Neighbourhood	12
3.1. A bird’s eye perspective on Open Data.....	13
3.2. Impact of Open Data	20
4. Barriers to Open Data in the EU Neighbourhood Countries	26
4.1. Barriers for publishers.....	26
4.2. Barriers for re-users	29
5. Findings and Recommendations	33
<i>Figure 1: Benefits of Open Data</i>	<i>11</i>
<i>Figure 2: Open Data Maturity Scores 2016.....</i>	<i>12</i>
<i>Figure 3: Open Data Policy.....</i>	<i>13</i>
<i>Figure 4: Open Data Portal</i>	<i>13</i>
<i>Figure 5: Search option on file formats</i>	<i>16</i>
<i>Figure 6: API accessibility</i>	<i>16</i>
<i>Figure 7: Download possibility of datasets</i>	<i>16</i>
<i>Figure 8: Datasets in machine-readable formats.....</i>	<i>17</i>
<i>Figure 9: Data available free of charge.....</i>	<i>17</i>
<i>Figure 10: Data available under open licence</i>	<i>18</i>
<i>Figure 11: Activities to support re-use</i>	<i>18</i>
<i>Figure 12: News section on portal.....</i>	<i>18</i>
<i>Figure 13: Examples of Open Data re-use</i>	<i>19</i>
<i>Figure 14: Annual Open Data events</i>	<i>19</i>
<i>Figure 15: Open Data in decision-making</i>	<i>20</i>
<i>Figure 16: Corruption Perception Index 2016 - EU Neighbourhood</i>	<i>21</i>
<i>Figure 17: Political, economic and social impact of Open Data</i>	<i>22</i>
<i>Figure 18: Open Data market value studies.....</i>	<i>23</i>
<i>Figure 19: Activities to monitor impact.....</i>	<i>24</i>
<i>Figure 20: Expectations on economic impact of Open Data</i>	<i>24</i>
<i>Figure 21: Barriers to Open Data publishing</i>	<i>26</i>
<i>Figure 22: Barriers to Open Data re-use</i>	<i>29</i>

Introduction

In the past years, a series of studies have been conducted to quantify both direct and indirect benefits deriving from the use of Open Data, in terms of knowledge economy, related markets, efficiency and effectiveness in public service provision, transparency and accountability of government, as well as the overall impact that Open Data can have on people's lives¹. Noteworthy in this context are also the reports published by the European Data Portal on the maturity levels of Open Data in the EU28+. The results of the studies conducted in 2015 and 2016 are summarised in the first and respectively the second report on "Open Data Maturity in Europe"². However, little research has been conducted so far with regard to Open Data in the European Union (EU) Neighbourhood. The present analytical report addresses this 'blind-spot' and offers a high-level assessment on Open Data in the EU Neighbourhood.

1.1. Relevance

The report complements the work done by the European Data Portal in the area of Open Data: the studies assessing the maturity levels of Open Data in the EU28+, the barriers to Open Data in the EU Member States, Open Data's contribution to digital transformation as well as the benefits of Open Data in cities – to name just a few³. The report provides a high-level assessment on Open Data practices in the EU Neighbourhood, in an attempt to better grasp the maturity levels of the countries situated at the south and east of EU borders. The assessment is relevant for the EU within the broader context of promoting Open Data beyond its geographical borders, and towards fostering democracy, security and stability in the neighbourhood regions.

Open (Government) Data is information collected, produced or paid for by the public bodies (also referred to as Public Sector Information) and made freely available for re-use for any purpose. Associated data licences specify the terms of use.

Public Sector Information is information collected by the public sector. The Directive on the re-use of Public Sector Information provides a common legal framework for a European market for government-held data.

Beyond any doubt, Open Data has the potential to foster economic and societal development, which in turn leads to more democratic decision-making and more inclusive societies, as well as stability and security at national and regional levels. Moreover, Open Data can ignite synergies for cross-region collaboration between governments, businesses, research and academic institutions and create sustainable partnerships between the EU and its neighbours for the decades to come.

1.2. Method

The report is based on the results of a thematic workshop⁴ conducted in March 2017 with 21 neighbouring countries, as well as an elaborate survey carried out among government officials of the participating countries. The insights gathered from the break-out and plenary sessions as well as the 32 returned questionnaires constitute the foundation for the present report. Where applicable, further analysis and research was conducted to account for the conflicting answers of government officials from the same country.

Following countries took part in this Open Data exercise:

- Western Balkan and Turkey: Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Kosovo, Montenegro, Serbia, Turkey;
- Neighbourhood South: Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine, and Tunisia;
- Neighbourhood East: Armenia, Azerbaijan, Belarus, Georgia, Moldova, and Ukraine.

1.3. Structure

The report is structured as follows:

- *Section 2* provides an overview of the efforts undertaken in the framework of the European Neighbourhood Policy to foster Open Data and elaborates on the benefits of Open Data for the EU Neighbourhood;
- *Section 3* offers a bird's eye perspective on Open Data Maturity in the EU Neighbourhood and discusses the expected impact of Open Data in the region;
- *Section 4* illustrates the barriers that the EU Neighbourhood countries are facing, by looking at both the Open Data publishing and re-use side;
- *Section 5* highlights the main findings and offers a series of recommendations for the EU Neighbourhood countries.



Open Data entails a tremendous potential for economic development. It can contribute to improving public services and creating more transparent and accountable governments. Access to Open Data allows individuals and organisations to develop new ideas and services that have a social and economic impact.

Government official, EaP country



2. Open Data and the EU Neighbourhood

2.1. Open Data in the context of the EU Neighbourhood Policy

Boosting sustainable development – in economic, political, and societal terms – is at the heart of the European Union's contribution to stabilising its neighbourhood. Towards this end, the EU launched the European Neighbourhood Policy (ENP). With the ENP, the EU aims at strengthening stability, prosperity and security at south and east of its borders, while at the same time promoting its core principles of democracy, rule of law and human rights.

Concerted efforts were undertaken to bring about sustainable change along these dimensions, and to increase capacity and ownership in the EU Neighbourhood. This was also underlined in the May 2017 Report on the Implementation of the European Neighbourhood Policy Review⁵, which proposes revised joint priorities for cooperation, in line with today's challenges, the regions' evolution and each country's aspirations and needs. Within the framework of the ENP, the EU has invested in structural reforms to improve competitiveness and the business environment, to boost trade, support SMEs and tailor education and skills to the needs of the real economy.⁶ Although bilateral cooperation agreements are signed with each individual country, the ENP clusters its actions along geographic lines as well, thus promoting regional initiatives to the south and east of its borders. This segmentation will also be followed by the current report, when summarising the EU efforts towards promoting Open Data in the Neighbourhood.

With regard to the EU Neighbourhood to the East, the EU has pushed forward the establishment of a Digital Economy and a Digital Community⁷, in the frame of the Eastern Partnership (EaP). This is expected to actively contribute to the priority areas identified at the EaP

The ENP was launched in 2004 and now covers 16 partner countries:

To the East: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine to the East, forming the Eastern Partnership;

To the South: Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria and Tunisia.

The **European Neighbourhood Instrument (ENI)** is the ENP funding instrument, a policy-driven instrument worth over €15 billion for the period 2014-2020. The vast majority of ENI funding is used for bilateral cooperation, set out in the ENI Action Plans (APs) with each partner country. The ENI APs provide the agenda of political and economic reforms and serve as political guiding framework for the priorities for cooperation.

The ENP is designed as a bilateral policy between the EU and each partner country. It is complemented by other regional and multilateral cooperation initiatives: The Eastern Partnership, Regional Cooperation with Mediterranean Partners, Neighbourhood Wide Cooperation, and Cross-Border Cooperation.

The ENP undergone a review in 2015. The new ENP proposes revised joint priorities for cooperation. The existing priorities areas: good governance, democracy, rule of law and human rights – were complemented by three other joint priorities: Economic development for stabilisation; Security; and Migration and mobility.

Summit in Riga⁸: i) institutional development and good governance; ii) mobility and people-to-people interaction; iii) market opportunities and interconnection. A closer digital integration will also provide benefits to the 75 million consumers in the EaP countries, by generating new jobs, improving people's lives and helping businesses thrive⁹. In this context, Open Data was acknowledged as an “opportunity to improve government transparency and efficiency, and promote business creation”¹⁰. A noteworthy development in the context of the digital economy and Open Data was the set-up of the EU4Digital regional networks between the EU and the EaP countries. The EU4Digital networks are meant to serve as platforms to share best practices and experience, and promote joint projects in various areas¹¹.

Promising steps towards Open Data promotion in the eastern neighbourhood were also made with the launch of the Eastern Partnership Connect (EaPConnect) project¹². EaPConnect aims to link the National Research and Education Networks in the partner countries to the **pan-European research and education network GÉANT**¹³, and connect over two million scientists, academics and students from 700 institutions across the region¹⁴.

All these represent great examples for the efforts undertaken to foster the creating of digital economies and promote Open Data in the EU Neighbourhood to the East.

With regard to the EU Neighbourhood to the South, the EU has undertaken initiatives in areas such as energy, transport and environment, economic and social cooperation, and political and security dialogue, in a similar effort to promote sustainable development at its southern borders. In the Southern Mediterranean region, the European Commission plays an active role through its membership in the **Union for the Mediterranean (UfM)**. In this frame, the EU is supporting the establishment of digital markets in the region, and is dedicating over €800 million¹⁵ in funding for the years 2014-2020 towards this end.

Against this background, various initiatives have been launched to promote e-trust services including e-Signatures or e-Health as well as to harmonise the legal frameworks in the area of telecommunications and Open Data.

Set up in 2000 with the aim of enabling research collaboration and knowledge sharing among researchers in Europe and beyond, GÉANT is considered a facilitator for research projects in various fields, from climate change, environmental monitoring, food and energy supply, to particle physics and radio astronomy, medicine and bioinformatics.

Established in 2008, the UfM is an intergovernmental institution that promotes cooperation in the Euro-Mediterranean region and brings together the EU Member States, the European Commission and 15 Southern Mediterranean countries.

With regard to Open Data, the EU has pushed towards placing the topic higher on the political agendas of the countries in the Southern Neighbourhood. Within the UfM, the EU supported efforts towards stronger collaboration in the Open Data and eGovernment fields, as well as actions to improve connectivity between the scientific and research communities in the region¹⁶.

In this context, the Southern Neighbourhood countries have stressed their commitment to foster “cooperation in the development of digital services, in particular Open Data, big data, and e-infrastructures”¹⁷ as well as to leverage the full potential of Open Data within the scientific and research communities¹⁸.

Further actions were undertaken to foster cooperation and synergies around Open Data.

An example thereof was the set-up of the Digital Economy and Internet Access Expert Working Group (DEWoG) in 2015, which has also been undertaking steps to promote Open Data policy frameworks and practices in the South Mediterranean countries¹⁹.

As shown above, the ENP partners both to the South and East of EU borders have acknowledged Open Data’s potential towards their region’s development and are undertaking steps to foster Open Data practices in their national contexts.

2.2. Benefits of Open Data for the EU Neighbourhood

Similar to the forecasted impact for the EU Member States, Open Data is also expected to bring benefits along the same lines to the EU Neighbourhood countries.

Open Data is expected to provide significant cost savings in the public administrations of the EU Neighbourhood: it will enable policy integration and institutional coordination by improving data sharing across administrations acting at different government levels, thus contributing to the improving effectiveness of public service delivery. As the 2017 European Data Portal Report on “Re-using Open Data” highlights in terms of market size per sector, public administration is the sector that would most benefit from opening up data, thereby being the first and most important re-user of (its own) Open Data²⁰.

Open Data is expected to push forward societal development: Open Data helps citizens become more informed, by enabling them to engage in policy and decision-making processes of their countries. Moreover, Open Data can help save lives²¹ and increase efficiency gains in the transportation sector by saving millions of hours of unnecessary waiting time on the road²². More specifically, it can help local communities achieve environmental benefits by reducing the toxic effects of CO₂ emission and improving waste management. Regarding the latter, Open Data can provide insights into the specific areas where such problems cause the highest health risks and help municipalities tackle these issues.²³

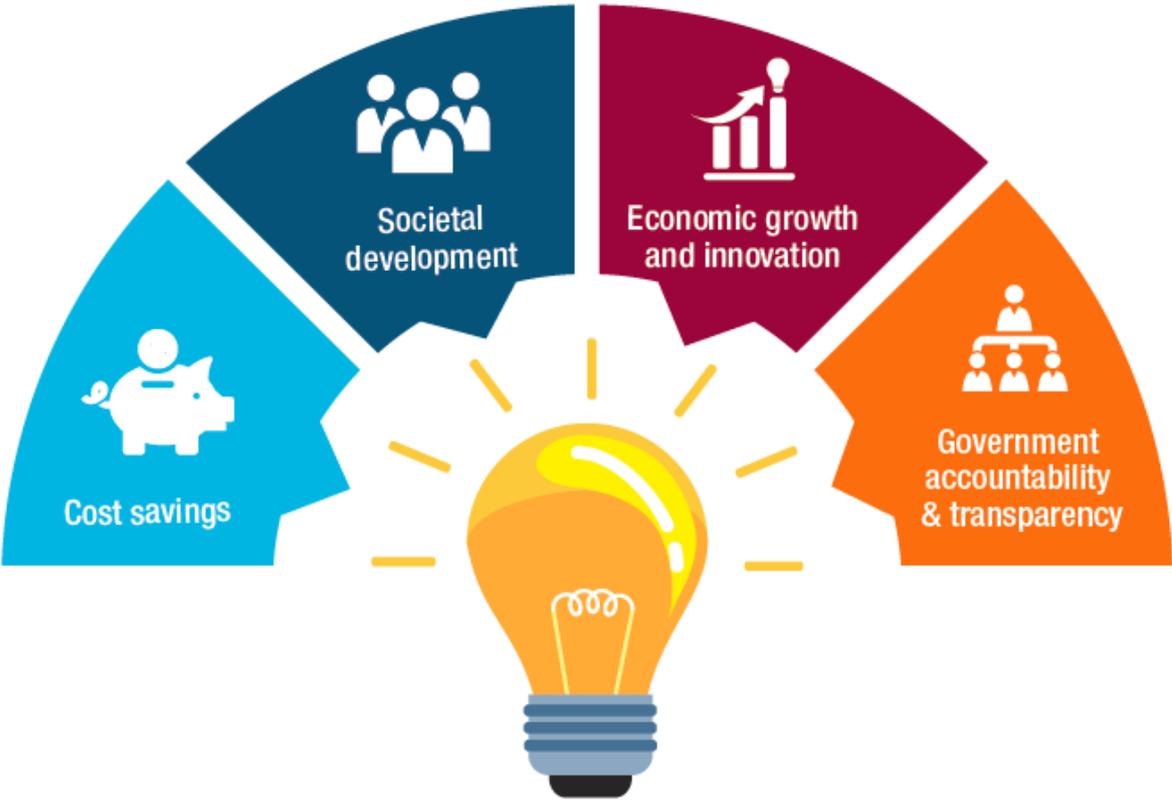
Open Data is expected to boost economic growth and innovation: Open Data can be leveraged by civil society and businesses towards developing innovative products and services, i.e. mobile applications, new market analyses to assess competitiveness of activities and explore new areas of investment. When looking at the estimates for the EU28+, the forecasted numbers look very promising: the cumulative total market size for Open Data – consisting of both direct and indirect market size – is estimated to reach 1,138 to 1,229 bn. EUR by 2020. When looking at the direct market size for the EU28+, this was estimated at 55.3 bn. EUR for the year 2016 and is expected to increase by 36.9%, to a value of 75.7 bn. EUR in 2020. In total, the direct market size for the EU28+ is expected to amount to 325 bn. EUR²⁴ for the years 2016-2020. In terms of job creation, Open Data’s impact is expected to create 25,000 direct jobs²⁵ per year by 2020. Although we are not aware of any similar study that would cover the EU Neighbourhood as a

whole, several of these countries have conducted studies on the economic impact of Open Data. As Section 3.2 will illustrate, almost all EU Neighbourhood officials expect a high economic impact of Open Data in their country.

Open Data is expected to foster government accountability and transparency: access to accurate data with regard to policies, assets, funding and international aid provides citizens with valuable information on government spending, tax revenue allocation, and increases transparency and accountability of government action. Open Data also empowers citizens to become agents of social transformation and allows them to monitor government actions and public policies.

The above mentioned aspects are in line with the European Commission’s rationale for promoting Open Data²⁶– a rationale that also fuels the EU Open Data actions in the ENP partner countries.

Figure 1: Benefits of Open Data



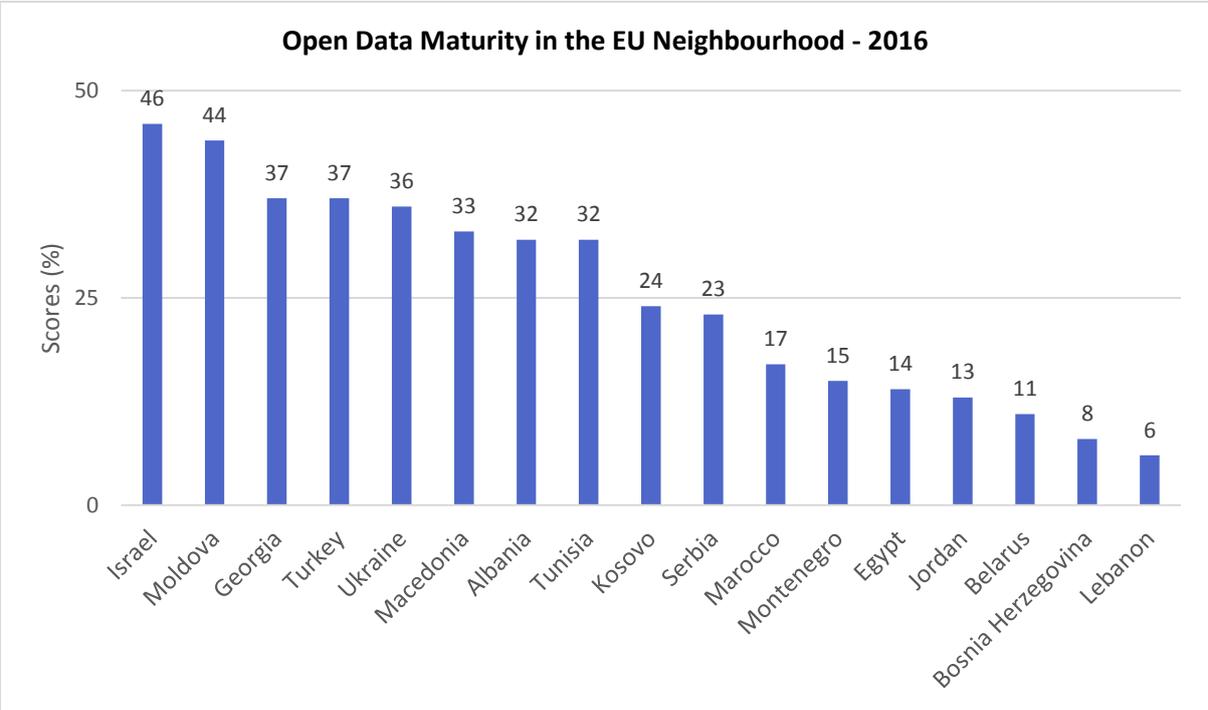
3. Open Data Maturity in the EU Neighbourhood

The Fourth Edition of the Open Data Barometer²⁷ published by the Web Foundation in May 2017 shows modest scores in terms of Open Data Maturity for the EU Neighbourhood, while highlights the fact that neighbourhood countries need to undertake more sustained efforts with regard to Open Data. Figure 2 shows the Open Data maturity level in the EU Neighbourhood countries, as depicted by the Open Data Barometer Report¹.

The workshop provided valuable insights into the levels of Open Data Maturity in the EU Neighbourhood, and elaborated upon the most salient challenges that the EU Neighbours to the East and South face in their Open Data journeys.

Section 3 provides a high-level assessment of these results and sheds some light onto the barriers to Open Data development and on the expected impact of Open Data in the EU Neighbourhood.

Figure 2: Open Data Maturity Scores 2016



The following chapters draw on the results of the Open Data exercise of March 2017 conducted with 21 of EU’s Eastern and Southern Neighbours. The exercise consisted of a two-day workshop and a survey carried out among government officials of the participating countries.

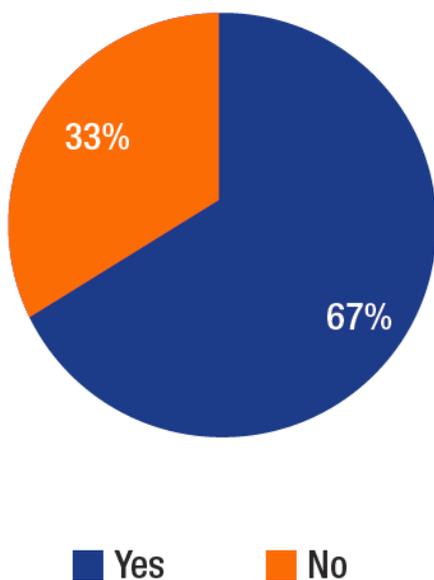
¹Aggregated scores (%) on three indicators: Open Data maturity, Open Data Readiness, Open Data Implementation.

3.1. A bird's eye perspective on Open Data

The Open Data Maturity in Europe reports of 2015²⁸ and 2016²⁹ provide a detailed assessment on Open Data in the EU Member States, as well as Norway, Switzerland and Liechtenstein (referred to as EU28+). The two key indicators used to measure Open Data Maturity are *Open Data Readiness* and *Portal Maturity*. Following these same lines, the present report will undertake a high-level assessment of Open Data in the EU Neighbourhood.

With regard to the first key indicator Open Data Readiness, only 67% of the interviewed neighbourhood countries have an Open Data Policy in place.

Figure 3: Open Data Policy

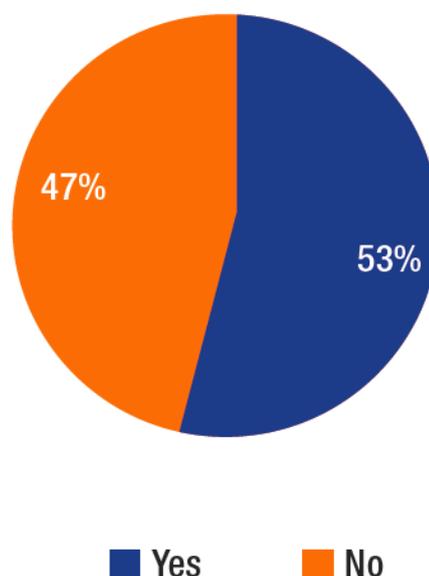


While a good score, when compared against the 81% registered for the EU28+, the number falls short. On this dimension, the EU Neighbourhood countries would need to step up their pace and work towards setting up Open Data policies at national level in a timely manner.

Having a solid policy framework in place represents one of the basic requirements to develop sustainable Open Data practices, regardless of national context. Despite the fact that two thirds of the EU Neighbourhood countries stated that there is an Open Data policy framework in place, concerns were raised that the existing legal frameworks do not account for effective enforcement mechanisms, nor do they foresee any penalties for the public institutions that do not comply. Moreover, there seem to be no clear roles and responsibilities with regard to the institutions enforcing such legal provisions. All these add to the list of barriers that hamper sustainable Open Data progress in the region.

With regard to the existence of an Open Data portal, **only 53% of the neighbourhood countries have an Open Data portal in place at national level.** This dimension leaves some room for improvement and is pivotal – alongside an Open Data Policy – to setting up an enabling framework for Open Data. With regard to the salience attributed to the development of an Open Data portal at national level, the results are mixed: while in some countries this action point did not reach the national agenda, others

Figure 4: Open Data Portal



have set this as one of their top priorities. An example thereof comes from Georgia, a country that has anchored the development of an Open Data portal as one of the objectives of its National Action Plan. The main objective of the Open Data portal in Georgia is to increase the accessibility of Open Data, support the development of e-services and e-applications, stimulate business activities and enhance transparency and accountability of government.

Looking one level deeper, the results also show that Open Data portals are also available at regional level in 40% of the countries. Israel represents an example in this perspective, with cities such as Tel Aviv and Jerusalem having launched their own Open Data portals. Interestingly enough, there are also cases in which Open Data portals were launched by several ministries to provide access to collected data. An example hereof is Tunisia where the Ministry of Interior and the Ministry of Finance provide access to their data online as well as built-in data visualisation tools² for those interested in gaining deeper insights from the data. Another interesting observation was the fact that some countries have Open Data portals in place at regional or local level, but not at national level. This appears to be the case in Turkey, Lebanon and Armenia. The lack of an Open Data portal at national level could be explained by a lack of coordination and/or difficulty of consensus-building regarding responsibilities, jurisdiction, financing, and harmonisation of regulation between central and regional and local levels.

Regardless of what the reasons for such developments might be, the existence of regional and local Open Data portals and the opening up of data by individual ministries represent encouraging observations. Such activities will most certainly give the necessary 'bottom-up

push' towards the development of a single point of access for Open Data at national level. Encouraging news in this regard comes from Jordan, with the country launching its national Open Data portal in May 2017.

Noteworthy in this context are also the steps undertaken by Belarus, where the set-up of an Open Data portal at national level was also anchored as main action point in the "State Programme for the Development of the Digital Economy and Information Society for the period 2016-2020". Belarus is planning on launching a national portal by the end of 2018 and it also plans to create the legal foundation for further promoting Open Data principles and practices. In this context, the efforts undertaken in Kosovo are also worth underlining. Kosovo has taken a participatory approach to strengthening its legal framework for Open (government) Data, by initiating a series of consultations on amending the Law on Access to Information to include the EU Directive on the re-use of public sector information³⁰.

Overall, there is broad consensus among the EU Neighbourhood countries with respect to the benefits of adopting an Open Data policy. An Open Data policy is considered to represent the legal framework for public administrations to act and interact: it provides the framework to foster collaboration on data exchange and the guidelines by which such exchange should take place. It contributes to a more democratic decision-making process and increases government's accountability and transparency. Indirectly, it makes governments more aware of the responsibility they have towards their citizens.

² Open Data Portals of the [Ministry of Interior](#) and [Ministry of Finance](#) of Tunisia.

In this regard, Israel has passed a resolution to open up government data by 2022, requiring all government bodies to integrate activities to open their data to the public from 2017 on.

Building on that, Open Data is also believed to have the potential to fight corruption in the public sector. Kosovo is undertaking steps towards preventing the conflict of interests in the exercise of public office, by publishing information on public officials' assets. In order to improve the direct interaction with its citizens, Kosovo has set up a website where citizens can report corruption directly.

Looking at the impact of Open Data from a timeframe perspective, the survey results have shown that government officials of the EU Neighbourhood expect Open Data to have an impact on the short, medium and long term. In the short term, Open Data is expected to help improve the interactions and exchanges between public and private organisations on the one hand and citizens on the other hand. In the medium term, Open Data is believed to boost a country's business sector and innovation capacity, as it is believed to foster the development of new products and services. In the long term, Open Data is expected to lead to a cultural and mind-set shift, by increasing people's awareness with regard to sustainability and by creating a culture of environmental awareness, co-creation and sharing.

In connection to the content of an Open Data policy, several elements were underlined as important by the EU Neighbourhood country officials. The most important aspects were a clear definition of the policy scope and its relevance in the national context, a clear prioritisation of the focus areas for development of Open Data practices, as well as an underlining of the legal aspects surrounding Open Data. An important part should also be attributed to defining the penalties for government institutions

that do not comply, as opening up data is understood as an obligation of public administrations towards their citizens. More, it was also suggested that an Open Data governance body be constituted, and the roles for monitoring and promoting Open Data clearly defined.

Several neighbourhood countries have taken a comprehensive approach to Open Data. One example thereof is the Republic of Moldova – a country which has both a strong Open Data legal framework in place and a well-documented Open Data Portal at national level. Open Data has been on the national agenda of Moldova for the past three years with different laws passed to support a sustainable Open Data development in the country. Positive developments also come from Albania, a country that has an Open Data policy in place since 2015 and has also launched a comprehensive Open Data Portal at national level. Both Albania and the Republic of Moldova provide great best-practice examples in terms of developing their national Open Data Portals into 'One-Stop-Shops' for Open Data: aside from the datasets, the portals provide useful information on relevant legislation, various articles and news items, event as well as video materials on Open Data.

An overview of the efforts made by various countries in the EU Southern and Eastern Neighbourhood is provided in the insight pages below.

A Comprehensive Approach to Open Data in the Republic of Moldova

In December 2016, The Republic of Moldova adopted its Action Plan for an Open Government for 2016-2018 and committed to strengthening public integrity, ensuring a more efficient resource management and improving the quality of public services. The country's comprehensive Open Data Policy has been in place since 2014 and comprises The Concept on Principles of Open Data as well as The Methodology for Open Data Publishing.

The same comprehensive approach was followed with regard to the Open Data portal. Moldova has launched its portal in 2011 and has been providing datasets as well as useful information, news and videos on Open Data. The portal is available in English, Romanian and Russian and can be accessed under: <http://www.date.gov.md/>.

A strong legal framework in Azerbaijan

Over the past decade, Azerbaijan has adopted several legislative texts to enable the development of eGovernment and Open Government.

The main objectives of the legislations in place in Azerbaijan are to simplify service provision and make public services more transparent, and therefore reduce the distance between citizens and civil servants. Towards this end, Azerbaijan also passed legislation that lays out the provisions on information and data security, as well as access to information of public interest.

Open Data in Albania

Albania has adopted an Open Data policy paper in February 2015, that aimed at implementing an Open Data policy and creating an Open Data portal.

These objectives have been met, with Albania now having an Open Data Policy in place as well as an Open Data portal at national level.

The objectives of the Albanian Open Data Policy are: i) Adoption of a legal framework and implementation mechanisms to ensure an efficient system of Open Data; ii) Creation of a unique portal for Open Data; iii) Standardisation and harmonisation of Open Data at the national, regional and local level; iv) Creation of a transparent and accountable government through the provision of Open Data.

The Albanian Open Data Portal is available under www.open.data.al



Israel

Israel passed legislation on "Improving the Transfer of Government Information and Making Government Databases Accessible to the Public" to open up all government data to the public by 2022. Ministries are required to map all their data and publish the list to the public by the end of 2017 as well as to integrate activities to open up data in their annual work plans from beginning of 2017 on.

Morocco

Morocco is currently working on a new Action Plan "Morocco Digital 2020" which aims to better foster the development of a digital economy. Morocco also adopted a new legislative act on the Right to Access to Information and has an Open Data Portal in place at national level, accessible under <http://www.data.gov.ma/>



Algeria

Algeria provides its citizens with online access to legal texts such as the Constitution, the published issues of official journals, as well as other publications elaborated by the General Secretariat of the Government. The information can be accessed under: <http://www.joradp.dz/HAR/Index.htm>.

Jordan

Ranked 87th (of 114) in 2016 in the Open Data Barometer and 58th (of 173) in the Open Data Inventory, Jordan is making visible efforts in the Open Data field by launching its Open Data Portal, as part of the National e-Government Portal. The Open Data Portal was launched in May 2017 and is integrated in the official website of the Jordanian Government.

The Republic of Serbia

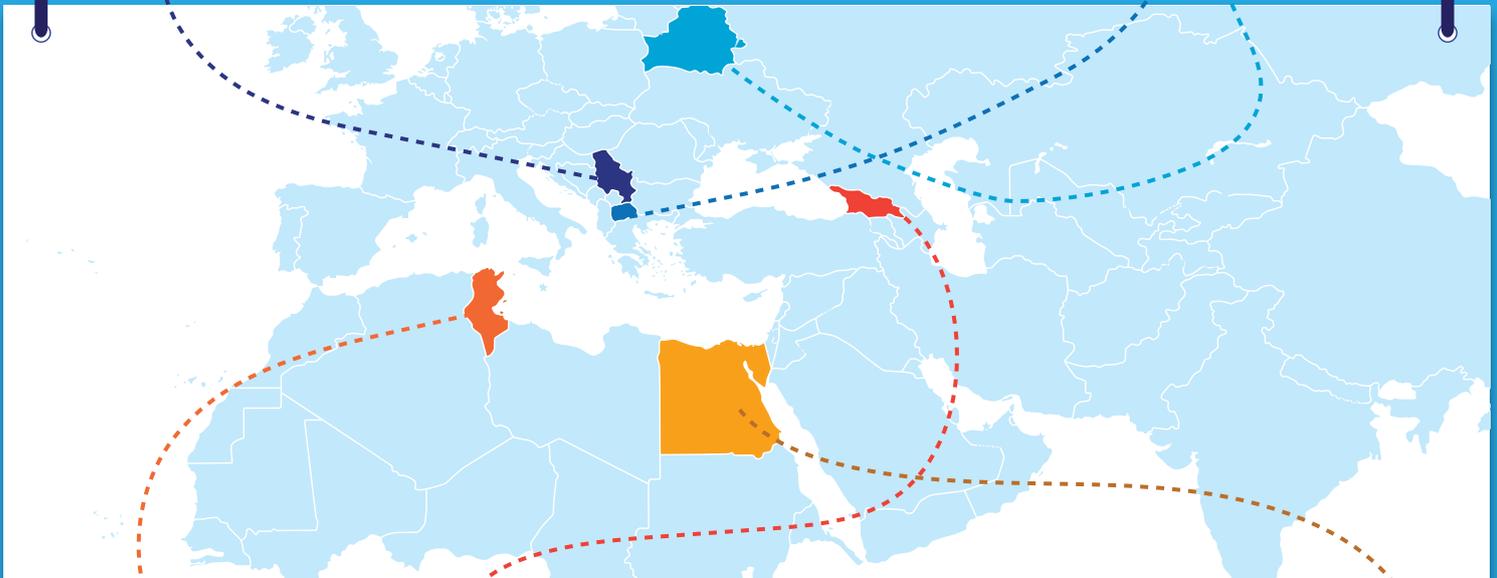
Serbia has passed various legislation to enable transparency of government actions and to ensure access to information for citizens. Serbia underlined the strong commitment on behalf of government bodies towards opening up data.

Belarus

Belarus has launched a research to monitor the demand for Open Data and its possible impact. This represents the first step of actions towards the development of the digital economy and information society in the years 2016 - 2020.

The FYR of Macedonia

In the former Yugoslav Republic of Macedonia great interest is shown by academic institutions and students to further explore and develop Open Data use cases.



Georgia

Georgia set the development of an Open Data portal as one of the objectives of its Action Plan for 2015-2016. With this, it aimed at increasing the accessibility of Open Data, supporting the development of e-services and e-applications, stimulating business activities, and increasing government transparency and accountability. Georgia's Open Data portal is available under: <http://data.gov.ge/>

Tunisia

Tunisia has launched its Open Data Portal in June 2012. Tunisia believes in the power of Open Data to enhance value creation and generate new sources of employment, in particular in the fields of technology and scientific research. Open Data is understood as a powerful instrument to enable transparency and a favourable business climate for investment. The Open Data Portal of Tunisia can be accessed online under a www.data.gov.tn.

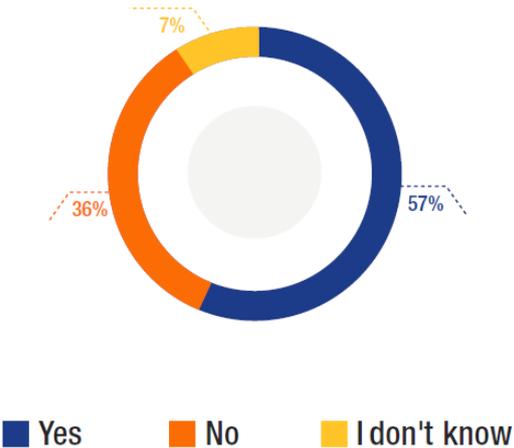
Egypt

Egypt experienced a strong pressure from behalf of the business sector to open up government held data. By this, businesses hope to gain better insights into their customers, markets, and to develop more comprehensive strategies and products. Open Data is also believed to help government bodies achieve their goals and enable them to provide more efficient public services.

With regard to the second key indicator Portal Maturity, the survey inquired about the usability of the portal, in particular the availability of functionalities, and the overall re-usability of data (e.g. datasets provided in machine-readable formats).

In the context of the EU Neighbourhood, the countries that already have an Open Data Portal in place seem to be on track towards reaching Portal Maturity. In terms of both portal functionalities and dataset re-usability, the survey shows that **57% of the national portals are accessible via a specific API**.

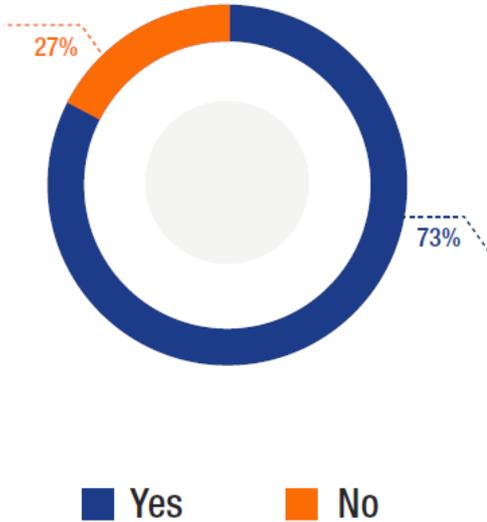
Figure 6: API accessibility



An API (Application Programming Interface) allows machine-to-machine communication and enables machines to directly access data on a given platform, thus facilitating data harvesting by other applications.

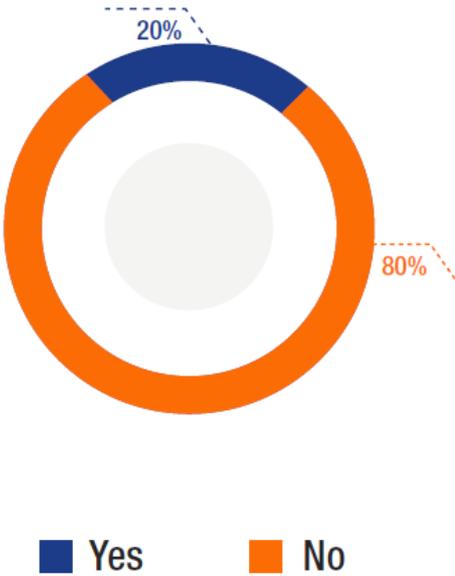
Looking at the portal features, **73% of Open Data Portals provide the user with search options on file formats**³¹, whereas 89% of Open Data portals in the EU28+ provide such search function. Despite the difference between the EU28+ and the EU Neighbourhood scores, the numbers are encouraging and will hopefully increase in the months to come.

Figure 5: Search option on file formats



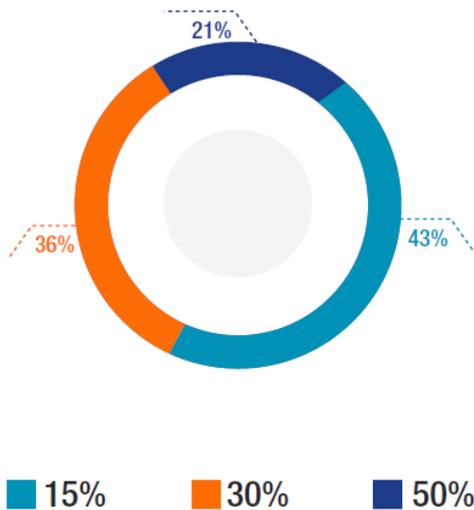
Optimistic results were also registered in terms of the download possibility of datasets, with **80% of the EU Neighbourhood portals having a download possibility for datasets**. This is not surprising as this is considered one of the mandatory features for an Open Data portal in order to foster further re-use of Open Data.

Figure 7: Download possibility of datasets



In terms of quality of data, only **one third of data-sets on the portals are provided in machine-readable formats.**

Figure 8: Datasets in machine-readable formats



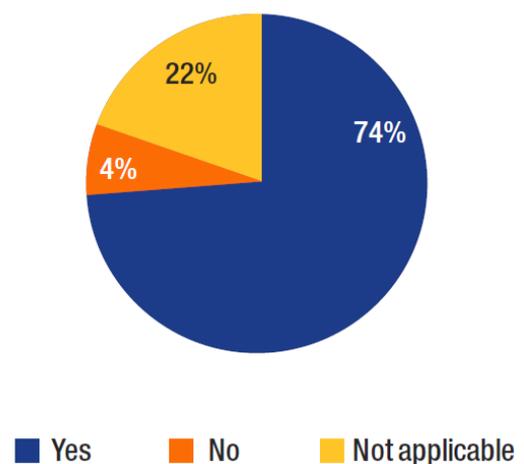
This slows down the immediate re-use of available datasets, since such datasets would need manual processing in order to be further employed. As depicted by Figure 8 the findings illustrate an overall low quality of available datasets: almost the majority of respondents (43%) stated that less than 15% of the data accessible via the Open Data portal is provided in a machine-readable format, with only one fifth of the interviewed neighbourhood countries highlighting that 50% of the available datasets are machine-readable.

This observation brings the quality aspect to the fore – an aspect that is quite often neglected. While having a high quantity of data accessible is unquestionable, making sure that such data is available in a high-quality is equally salient. Open Data published in a structured, machine-readable format increases the potential for further re-use by citizens, businesses and/or civil society organisations. Several steps can be undertaken here to improve the quality of data. Setting up standards for the collection and publishing of data is one measure towards this end.

On this dimension, the EU Neighbourhood would need to step up its pace. When compared to the EU28+ where over 90% of the datasets available on the national portals are machine-readable³², the percentage in the neighbourhood countries is indeed very modest. Given the role that data quality plays in the promotion and stimulation of Open Data re-use, ensuring that datasets are published in a machine readable format should be placed higher on the priority list in the EU Neighbourhood.

With regard to the free access to Open Data, positive developments were observed with **74% of neighbourhood countries providing data free of charge on the portal.**

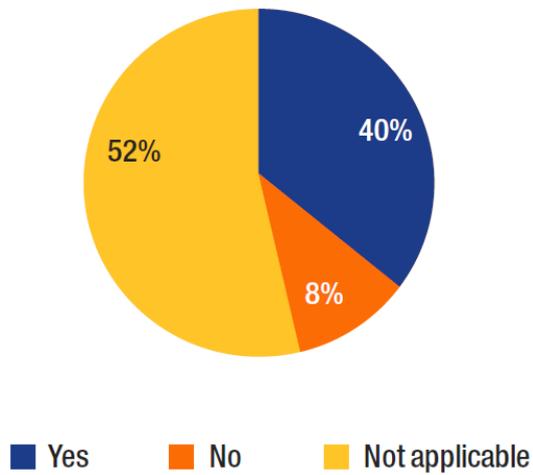
Figure 9: Data available free of charge



At the same time, **only 40% of respondents state that data is available under open licence.** This is an important aspect for the publishing of Open Data, as only data that can be freely accessed, used and modified qualifies as Open Data. From a legal perspective and in particular with regard to boosting Open Data re-use, having a clear set of rules on licencing is key. This prevents uncertainty especially for Open Data re-users, as it clarifies the extent to which the available data can be used and shared. Setting up such regulatory framework at national level

could be an option to consider by the EU Neighbours.

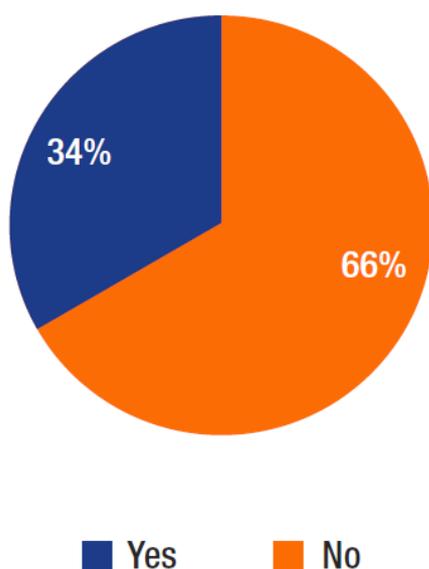
Figure 10: Data available under open licence



What is more, a rather general observation regarding Open Data holds true in the EU Neighbourhood context as well: opening up data and making datasets available on portals do not automatically clarify the licencing issue.

The survey also highlighted another area that needs significant improvement – activities for Open Data re-use, with **only 34% of countries organising activities that promote re-use.**

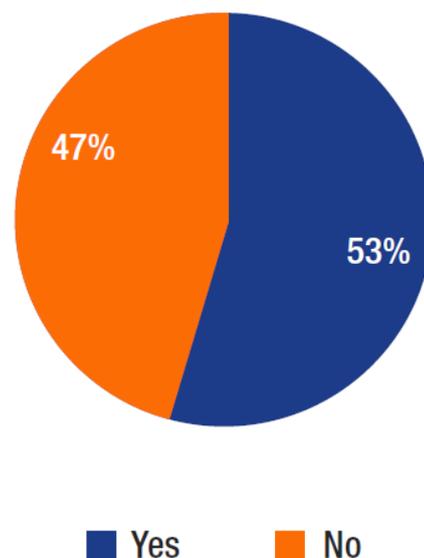
Figure 11: Activities to support re-use



A positive example here is given by Israel, where a series of hackathons are being organised, and several partnerships for the organisation of Open Data events established.

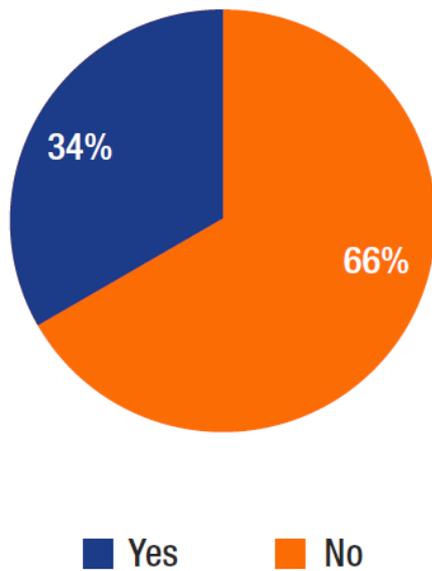
In terms of additional portal features, the survey results also show that **only 53% of portals have a news section** and **60% of them showcase examples of Open Data re-use.** This can be explained by the fact that many portals are relatively ‘young’ and the countries are in the incipient stages of their Open Data journey. The focus has apparently been set on the core features for such portals, and on the publication of datasets.

Figure 12: News section on portal



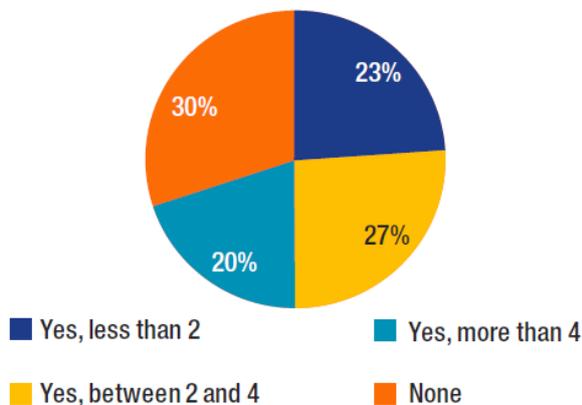
However insignificant a news section might appear at a first glance, showcasing activities and events taking place in the field is an important aspect, as it raises awareness among the website visitors regarding Open Data activities at national, regional or local level. The same holds true for exhibiting use cases of Open Data. By doing so, Open Data portals present their visitors with tangible examples to might serve as inspiration for some towards developing services and products that are based on Open Data.

Figure 13: Examples of Open Data re-use



The modest promotion of Open Data that is being observed in the EU Neighbourhood is further reinforced by the scarcity of Open Data events taking place annually, at either national or regional level. **A third of countries seem to have no events promoting Open Data organised by any public organisation.** These numbers are particularly low and reinforce the belief that countries in the EU Neighbourhood are not making sufficient effort to promote the benefits and chances that Open Data entails.

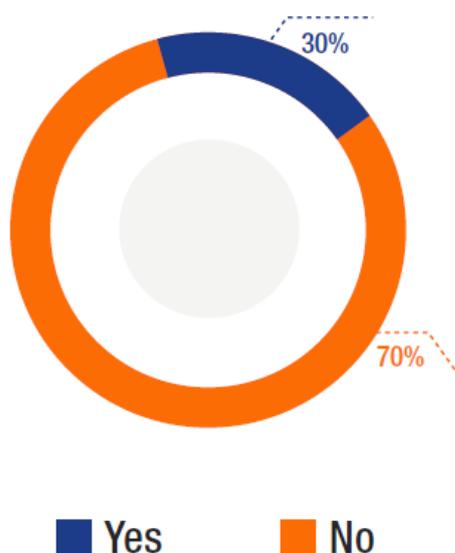
Figure 14: Annual Open Data events



It therefore comes as no surprise that some government officials expressed concerns regarding the overall low level or awareness around Open Data in the EU Neighbourhood – at public, private and third sector levels as well as among the broader population. This aspect could explain to a certain extent the low number of activities around Open Data organised in the EU Neighbourhood. The low level of visibility of the topic at all government levels and among civil society and broad public contributes to the fact that there is little pressure on governments or private sector organisations to do more in this regard.

Going beyond Open Data Readiness and Portal Maturity, the EU Neighbourhood countries still show some opportunities for improvement with regard to the actual use of Open Data in decision-making, with **only 30% of the EU Neighbourhood countries use Open Data in the decision-making process.** This can be explained by the fact that some governments in the EU Neighbourhood might not be well-aware of the ways Open Data can be used to create insights to improve policies and the decision-making processes. Some examples of how Open Data could enable better policy-making come from the EU Neighbourhood countries themselves, with Egypt giving some insights on the use of Open Data to create better policies with regard to social programmes and health care services. Despite acknowledging these tremendous benefits, the neighbourhood countries are still at an incipient stage when it comes to actually using Open Data in the decision-making process.

Figure 15: Open Data in decision-making



The following section will examine closer the dimensions on which Open Data is believed to have an impact in the EU Neighbourhood.

3.2. Impact of Open Data

The present section takes a closer look at the expected impact of Open Data on the following dimensions:

- Government effectiveness & efficiency
- Transparency and accountability
- Environmental sustainability
- Inclusion of marginalised groups

With regard to the political impact, Open Data is expected to have a positive impact in the EU Neighbourhood with **67% of respondents stating their belief that Open Data will have a high impact on increasing government efficiency and effectiveness**. In Serbia for example, there is a strong belief in the high impact of Open Data on increasing efficiency and effectiveness of public administrations, and a strong commitment from the vast majority of ministries and public agencies that are willing to move forward with opening up their data.

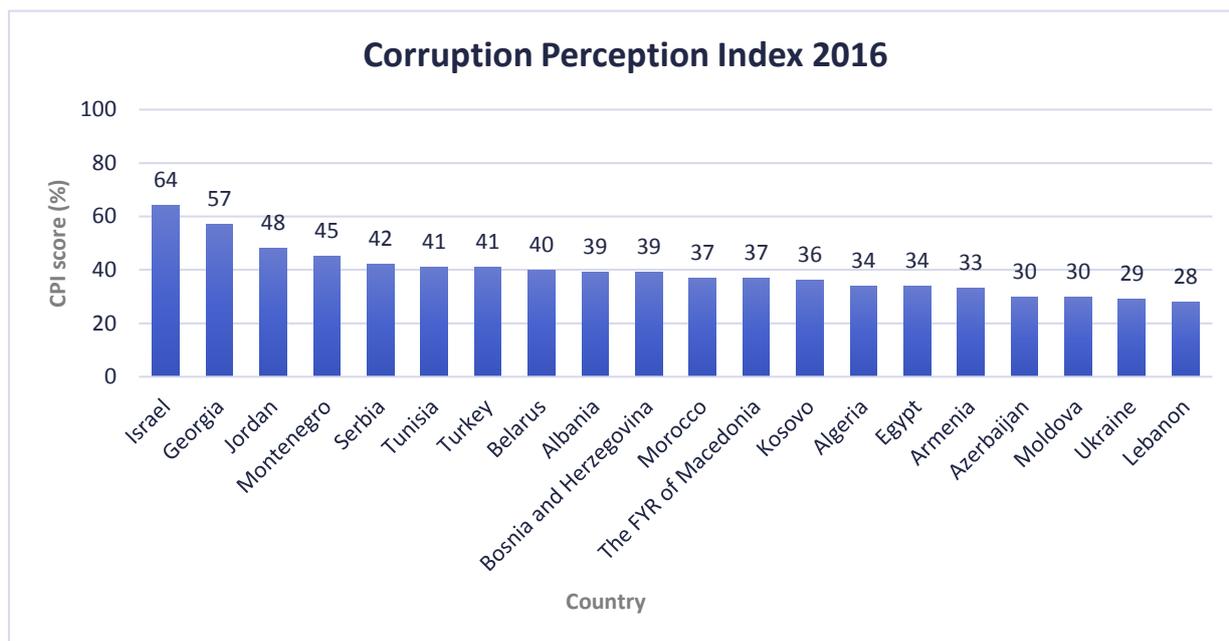
In this context, the access to base registries seems to be seen as a great instrument to increase government effectiveness and efficiency in public service provision. In Serbia this also comes as a result of the increased pressure of civil society and the business community on government to open up its data. By doing so, the costs of doing business are expected to decrease, while transparency of government action and consequently providing more certainty for entrepreneurs towards investing in particular areas.

The transparency aspect is also considered to be an important area in which Open Data is expected to have a high impact: **83% of government officials believe Open Data to have a high impact on increasing transparency**, and implicitly accountability of government.

This in turn is believed to increase the level of trust citizens have in their governments. These high numbers can be explained by the relatively modest scores on the corruption dimension in international rankings. By increasing transparency of Government actions, the perception with regard to the level of corruption within government is expected to drop. At the same time, accountability of government is expected to increase, with public bodies now being under observation by the 'civil society watchdog'. Indeed, corruption remains a challenge for most of the neighbourhood governments, as Transparency International's 2016 Corruption Perception Index³³ shows. For an overview of the EU Neighbourhood country scores in this regard see Figure 16 below.

When comparing the figures registered in the EU28+ on the same dimension, the EU neighbourhood expectations towards Open Data helping tackle the corruption challenges in their countries are significantly higher. In the EU28+ only 25% of Government officials estimate Open Data to have a high impact on

Figure 16: Corruption Perception Index 2016 - EU Neighbourhood



increasing Government efficiency, and 47% believe in its high impact with regard to transparency of Government action³⁴. This can be explained by the fact that issues such as transparency and accountability, in particular the fight against corruption, are not as stringent in the EU28+, compared to the EU Neighbourhood. This is not to say, that such aspects are not important, but more to emphasise the fact that the degree to which the EU Neighbourhood is facing challenges around corruption is higher than in the EU28+. This also enables the EU28+ to set other focus points and move towards exploring and exploiting the potential of Open Data for their increasingly data-driven economies.

With regard to the social impact, which includes aspects such as environmental sustainability and the inclusion of marginalised groups in policy-making processes and their access to government services, the EU Neighbourhood country officials expressed again a strong belief in the innovation potential of Open Data to solve such problems.

In relation to Open Data’s potential to provide solutions to current environmental challenges, **47% of respondents expressed confidence in Open Data’s high impact on environmental sustainability**, and another 40% expect Open Data to have a medium impact on this dimension.³⁵ In particular in the Southern Mediterranean region the expectations in this regard are high, with Jordan, Lebanon, Palestine, and Tunisia awaiting a high impact of Open Data on this dimension.

Other countries such as Belarus expect the publishing of Open Data on the levels of air, soil and water pollution to give the necessary impulse to citizens and businesses towards applying a more rational approach to their activities in areas such as manufacturing, farming and tourism.

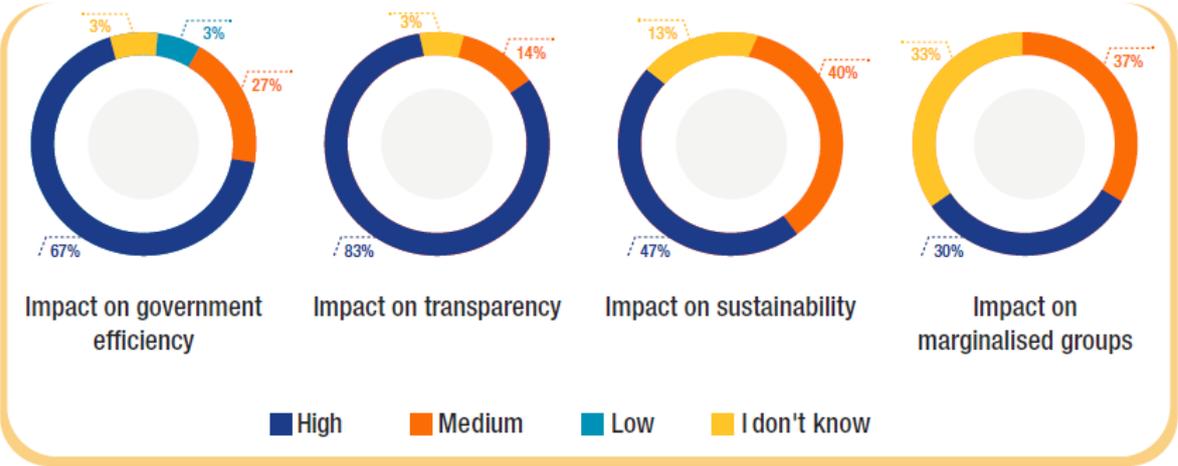
With almost half of neighbourhood country officials expecting Open Data to have a high impact on environmental sustainability, the EU Neighbourhood places appears to be placing more confidence in Open Data than the EU28+, where only 25% of government officials agree with the same statement and another 25% anticipate a medium impact on environmental sustainability. It appears that Open Data receives a strong vote of confidence from behalf of the EU Neighbourhood, who seem to see a high innovation potential for Open Data towards tackling environmental challenges such as water and air quality, as well as waste management. What is more, Open Data is also expected to help governments raise awareness of the negative effects on the environment caused by direct and indirect results of human activities.

An interesting example comes from within the EU28+, more precisely from Ireland, where the impact of Open Data on environmental sustainability is also estimated as high.

This is due to the intense work of the geospatial and environmental bodies in publishing data collected on water quality, air quality as well as waste information. Such Open Data is then used for applications such as the EPA bathing water quality website³⁶ or the Marine Institute's Marine Atlas³⁷. This could be an interesting best practice for the Southern Mediterranean region as well. By having public environmental institutions publish the collected data, impulses could be given to developers and entrepreneurs to create applications based on this data.

With respect to the **better inclusion of marginalised groups, a third of the Government officials expect a high impact**, with another third affirming their belief that Open Data will have a medium impact on this dimension. This goes more along the same lines as the numbers registered in EU Member States, with one quarter of Government officials crediting a high impact and a third estimating a medium impact of Open Data on the better inclusion of marginalised groups³⁸.

Figure 17: Political, economic and social impact of Open Data





Government effectiveness and efficiency



Transparency and accountability



Environmental Sustainability



Inclusion of marginalised groups

High hopes in this regard seem to lie in countries in the immediate EU vicinity such as Albania, Kosovo and Serbia, where government officials expect Open Data to have a high impact in this area. This could be explained by the fact that these countries are still dealing with problems such as strong social divides along ethnic and religious lines and are searching for new ways to solve deep-rooted challenges.

With regard to the economic impact, it comes as a surprise that only scarce efforts have been made to assess the economic impact of Open Data in different sectors in the EU Neighbourhood, despite the belief among almost all neighbourhood countries that Open Data will have a high economic impact in their countries. As both in Europe and worldwide studies have been carried out to measure the economic impact of Open Data on dimensions such as market size, job creation, cost savings and efficiency gains³⁹, it is somehow puzzling to see that **only 13% of the EU Eastern and Southern Neighbours have conducted studies to assess Open Data's market value**. This number is extremely low when compared to the EU28+, where almost half of countries⁴⁰ have such commissioned such studies.

Encouraging news come from Belarus, which has launched a research initiative to monitor the demand for Open Data and its possible impact – an initiative which is part of the State Programme for development of the digital economy and information society in Belarus. The Belarus government officials expressed their belief that the publishing of data will boost the creation of new innovative products, which in turn can lead to the further development of the ICT sector, creation of new firms and organisations, jobs as well as to the increase of the export potential of the ICT sector in Belarus. The same belief is shared by another EU Eastern Neighbour – Georgia, which emphasised the expected impact of Open Data on boosting the digital entrepreneur community in the country, with this community already showing interest in exploring first-hand the potential of Open Data on their markets.

Along the same lines, the representatives of Morocco noted the potential of Open Data to boost the development of new services and products in the private sector, but also to improve investment conditions in the country. This was also highlighted by Tunisia, which expects the opening up of data to boost job creation, with new sources of employment created, particularly in the field of technology and scientific research. Here, Open Data is perceived as means to foster a business climate that is favourable to investment, as it will reinforce transparency – a necessary element for attracting foreign investment.

Despite the overall conviction among the EU Neighbourhood country officials that Open Data has a high positive impact on many areas, **only 17% of the survey countries conduct activities to monitor the impact of Open Data**. This comes as a surprise, given the high expectations that EU Neighbourhood countries have Open Data.

Figure 18: Open Data market value studies

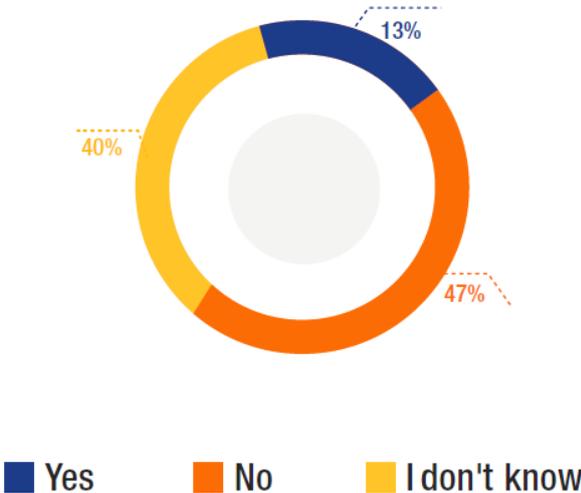
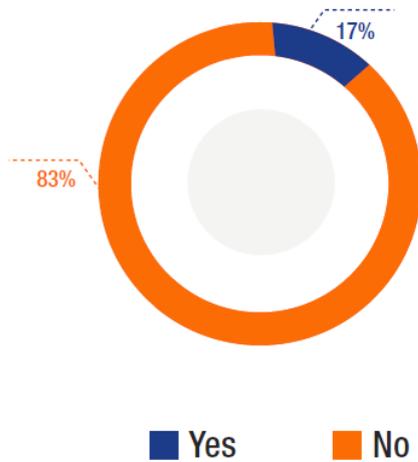


Figure 19: Activities to monitor impact



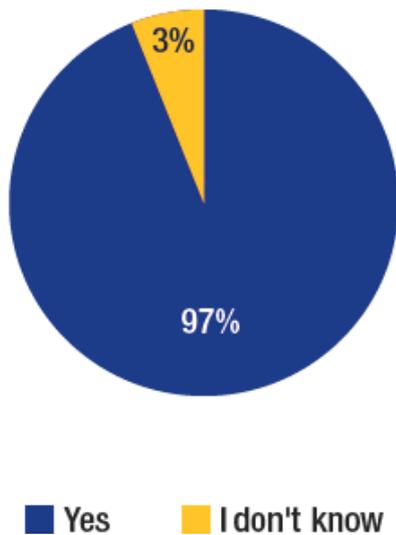
At a first glance, it could therefore be difficult to understand why such low numbers are registered in the EU Neighbourhood, despite the high expectations with regard to Open Data's benefits on economic growth.

When looking beyond the surface, these low figures could be explained by the overall lack of awareness among government bodies on Open Data's benefits, as well as the low levels of digitisation and consequently, low availability of data required to undertake such studies and monitoring activities.

Furthermore, the lack of capacity both in terms of organisational and financial resources, could further contribute to explaining these low numbers. However, it should also be noted that Open Data is a relatively young area for the majority of EU Neighbours. In addition, many of the countries have only just recently began opening up their data and developing the underpinning policies.

Figure 20: Expectations on economic impact of Open Data

Open Data is expected to have economic impact



This may explain why the economic benefits may yet be difficult to fathom. Studies that illustrate Open Data's benefits and assess its market value are pivotal to underline the missed opportunities of not adopting Open Data. This point was also stressed by some government officials that call for such ex-ante impact assessment studies in their countries.

As shown above, the expectations regarding the benefits of Open Data for governments, economies and societies in the EU Neighbourhood are high, with the vast majority of countries perceiving (Open) Data as the oil that enables the 'motors' of governments, economies and societies to run smoothly. Interestingly enough, the expectations of government officials in the EU Neighbourhood are significantly higher compared to those of their EU counterparts. It appears that a lot of trust and hope is being put in Open Data to help solve some of the region's challenges.

Beyond any doubt, Open Data has the potential to do so. However, in order to stand up to its hype, Open Data needs to be grounded in a solid foundation. Only with such framework in place will countries be able to leverage Open Data's fullest potential.

The following section explores the obstacles that stand in the way of Open Data development in the EU Neighbourhood, on both the publishing and re-use sides.

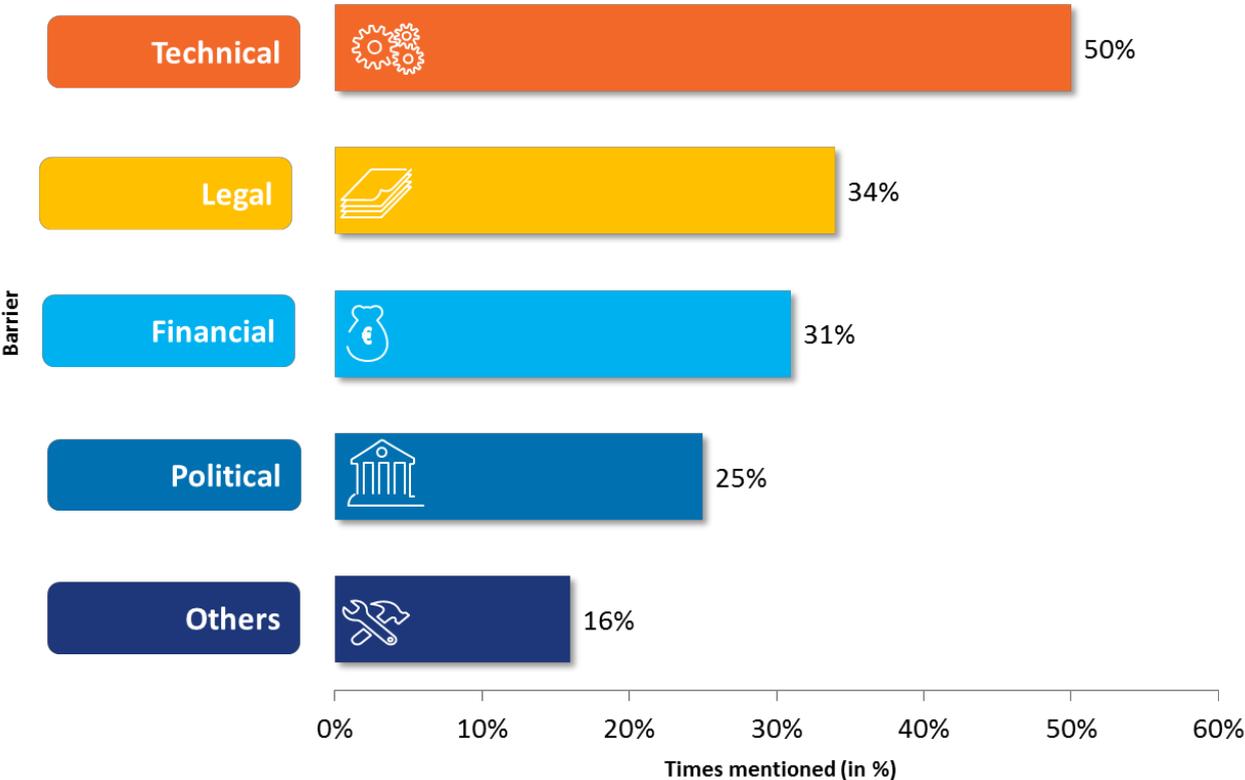
4. Barriers to Open Data in the EU Neighbourhood Countries

When it comes to the barriers that EU Neighbourhood countries face in developing sustainable Open Data practices, there are little differences to those encountered by EU Member States. The present section elaborates on the stumbling blocks of the EU Neighbourhood countries in terms of publishing (Section 4.1) and re-use of Open Data (Section 4.2). It looks at the political, legal, technical, financial dimensions, hence following the lines of the report on Open Data Maturity in Europe⁴¹. The aim is to get a better understanding of the main challenges to Open Data in the EU Neighbourhood.

4.1. Barriers for publishers

In terms of barriers to the publication of Open Data, **50% of the respondents mention technical barriers** as obstacle. Aspects such as incompatible IT systems as well as the incompatible formats in which data is made available by public administrations (semantical aspect) seem to represent the main hurdles on this dimension. In addition to this, government officials also named the lack of technical know-how at all government levels regarding the technology needed to open up data. Government institutions have difficulties comprehending what changes need to be made to the existing IT systems to be able to export data in suitable formats.

Figure 21: Barriers to Open Data publishing



Strongly interrelated – especially with regard to the latter, are **the financial barriers (with a third of respondents naming these as the most frequent barrier)**. The high costs of modernising existing IT systems and the application landscapes, as well as the setup and maintenance costs of Open Data portals were mentioned in this context. Government officials also highlighted the need for training of employees at all public administration levels that translates into additional costs. However, as the European Data Portal Report on Recommendations for Open Data Portals ⁴² also demonstrates, there are several funding schemes for cost distribution among government levels, as well as cost distribution between public and private organisations or funding via sponsorships and grants. Furthermore, several economic arguments can be made towards rallying support and funding for the development of Open Data. They range from the increased general tax revenues from increased economic activity, compliance with regulation, compliance with a general strategy to increase a country’s or region’s digital economy, compliance with a general strategy of open government all the way to operational efficiencies and improved public sector services⁴³. That is why the financial aspect – although relevant – should not represent a pretext to stay behind.

Concerns were also voiced regarding the legal aspects. **Legal impediments rank second, with 34% of respondents mentioning it as impediment**. In this context, Bosnia and Herzegovina underlined the lack of harmonisation of regulations, with regulations in place in this area at all three levels of government as being the most difficult barrier. This leads to collusion and creates extra hurdles in the way of Open Data promotion.

The survey results also point out that it does not seem to lack on political support, as the **political dimension was the least often mentioned barrier to Open Data in the EU Neighbourhood**. This appears to be in complete opposition to the obstacles to Open Data identified by the EU Member States, where, as the 2016 Open Data Maturity in Europe Report shows, political aspects are the most often mentioned barrier⁴⁴. This could be explained by the overall eagerness of the political elites in the EU Neighbourhood countries to ‘catch up’ with the progress made by the majority of EU countries, which have already started to reap the fruit of their intensive fostering of Open Data.

*Whereas in the EU Member States **political will** is the most frequently named barrier to Open Data, this seems to be **the least frequently mentioned obstacle in the EU Neighbourhood**.*

In the EU neighbourhood, it appears that development is also hindered by the political structures. Several country officials have raised their concerns regarding the difficulty in coordination and consensus-building, with jurisdictions spread across the federal, regional and local level. In particular, the difficulty in coordination across these levels as well as the fussiness in terms of distribution of roles and responsibilities appear to act as barriers. This can be explained by the fact that the jurisdictions might not be anchored in the existing Open Data policies, or that there are no Open Data policy frameworks to begin with.

Nonetheless, there is still some concern in some neighbourhood countries, that the Open Data promoters within the political elites cannot rally the necessary support around opening and sharing data. An example in this regard is Egypt, where there are still some concern about the existence of strong parties that do not believe in the benefits of data sharing. In this context, Serbia seems to have come up with a more innovative solution by planning to launch a series of pilot projects to show the quick wins of Open Data in different fields. This comes as a response to the articulated demands and expectations on behalf of both citizens and private sector, and is expected to counter the reluctance and lack of trust in Open Data amongst societal stakeholders and government bodies.

It appears that lack of trust and overall scepticism at organisational level concerning the benefits of Open Data sharing between public administrations represents a strong impediment towards further development. Adding to this, there is also an overall lack of understanding that data held by public institutions qualifies as Open Data and can be re-used to create further value. The signing of cooperation agreements between government bodies towards data sharing and access to base registries could be a wise step forward towards fostering data exchange among public bodies.

Also highlighted were the inconsistent regulation frameworks as well as the existence of legislation that hinders the opening of data (e.g. data protection laws). Here, it appears that the EU Neighbourhood countries could also profit from an Interoperability Framework as the one published in March this year by the European Commission⁴⁵. The European Interoperability Framework foresees legal and policy 'checks' of legislation in order to ensure that the legal barriers to interoperability are alleviated.

In addition to this, issues that relate to the breath of the existing Open Data policy regulatory framework appear to be relevant. Government officials of countries in which Open Data policies are already in place highlighted the shortcomings in terms of standardisation and mandatory disclosure of data by public institutions, as well as a lack of harmonisation of regulation between the local, regional and federal levels of government.

Similar to the EU Member States, the political barriers in the EU Neighbourhood seem to be driven by the lack of political leadership and ownership with regard to the promotion of Open Data, as well as low levels of awareness concerning the benefits of Open Data for a country's sustainable development. As one government official highlighted, "it appears that those in charge do not have a view about the economic impact of open government data and how open government data can drive stronger collaboration and hence more innovation". This seems to further emphasise the findings of the Open Data Maturity in Europe 2016 Report⁴⁶ with regard to the lack of awareness of the Open Data benefits among the political elites. A positive example with regard to a strong political will and high level of awareness among the political elites regarding Open Data's potential comes from the Republic of Moldova, as the country insights on the next page show.

Some other important aspects were also mentioned by the government officials of the neighbourhood countries as stumbling blocks in the development of Open Data practices. Worth highlighting is the overall lack of capacity at public administration levels --- that is strongly interrelated to the above-mentioned financial, legal and technical factors. In particular, the difficulty of Government bodies to distinguish between public and confidential data and to balance data privacy concerns with the general

public right to access data. In addition, public administrations in the neighbourhood region seems to have problems with attracting qualified workforce, in particular IT experts and data scientists. These two elements go hand in hand and represent important components of capacity building at public administration level. This is a general challenge that several EU Member States are also facing, albeit to different extends.

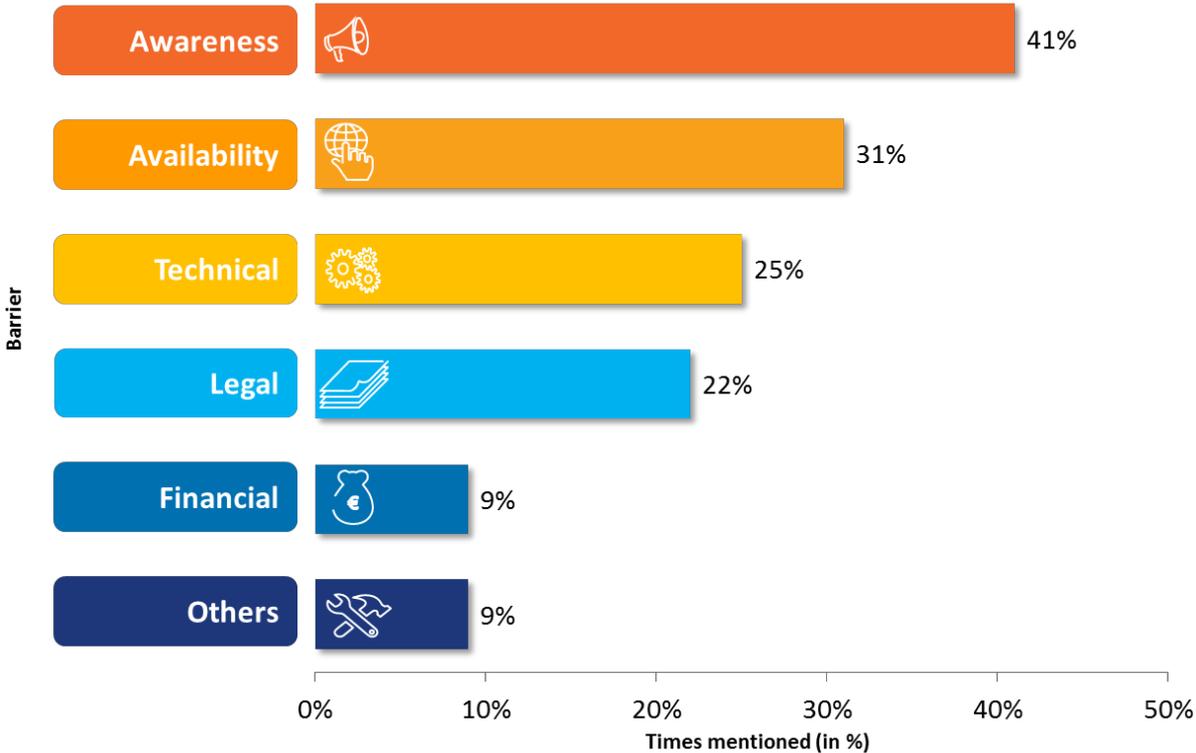
4.2. Barriers for re-users

When looking at the barriers that hinder the re-use of Open Data, the EU Neighbourhood country officials most frequently mentioned a lack of awareness (40% of respondents), followed by the low availability of data (31%). Technical and legal barriers to Open Data re-use ranked third and fourth respectively. In many of the EU Neighbourhood countries, the Open Data field is considered a relatively new one. Hence, the lack of awareness with regard to Open Data and its benefits was the most frequently mentioned barrier to the field’s further development.

This lack of awareness is mentioned both when it comes to the political elites and public servants, as well as the broader public: businesses, academia and civil society. Interesting best practice examples come from EU Member States such as Malta, where data advocacy was used to counter a similar trend.

Other EU Member States organised more meetings and negotiations with government and public administrations to raise awareness about the salience of the topic. Examples in this regard are Spain that hosted the International Open Data Conference in Madrid in 2016 and Estonia that also organised events to raise awareness of the benefits and challenges of opening up Government data. More innovative formats such as hackathons are organised throughout Europe that aim at creating certain applications based on Open Data⁴⁷.

Figure 22: Barriers to Open Data re-use



Such events can be held in the neighbourhood countries as well, at a smaller scale to start with. In addition, there were also concerns regarding the financial burdens of ‘add-ons’ to the IT landscapes existing in public administrations. Moreover, the lack of awareness appears to be a cross-cutting issue, as it is seen as an impediment not only at the public administration level, but also in the broader society with relatively low levels of awareness on the availability of data and usefulness of Open Data. This appears to remain an important hurdle, despite the advocacy efforts undertaken by governments. Positive trends are however observed in the statistics regarding portal usage (visits and downloads) as well as some internal surveys all showing constant increase of data assimilation and awareness.

However, the two barriers ‘lack of awareness’ and ‘the low availability of data’ should not be underestimated, as their impact has far more reaching consequences that beats the eye. On the one hand, the lack of awareness also implies less pressure on behalf of citizens towards their governments to put Open Data higher on the political agenda.

On the other hand, the low quantity as well as low quality of Open Data could in the long run have implications on a country’s innovation capacity, with direct negative effects for the business as well as the R&D sectors. Open Data shows potential to foster innovation, by being used as ‘raw material’ to create applications by developers and entrepreneurs, and has the potential to create great value for businesses. The political structure of the EU Neighbourhood countries seems to also play an important role in the promotion of Open Data, as Open Data might be a major topic for the national level, but it does not enjoy the same salience at the local and regional levels, where other issues are more urgent. In addition, the lack of skills and capacity to take on Open Data as a further task at the local, regional and national

administration levels appears to play a role as well. Furthermore, some countries seem to experience low levels of interest from the business sector to re-use Open Data while others – Egypt and Serbia for example – mention that there is significant pressure from civil society and the industry to open up government data. In addition to this, Egypt is also exploring the idea of a more life event oriented provision of public services, by planning to enable access to base registries by public administrations.

Encouraging is the observation made in the former Yugoslav Republic of Macedonia that great interest is shown by academic institutions and students to further explore and develop Open Data use cases. In this context, the semantical barrier to Open Data re-use appears to be salient, as some countries emphasise that datasets are published in formats that do not enable re-use by other applications without further manual converting. What is more, updates to already available datasets are not always consistent with previous versions. Here the urgent need for standardisation in this field – ideally to be pushed forward at national level comes again into play.

In addition to the above mentioned factors, the countries also highlighted various other challenges to Open Data. These relate more to lack

“The benefits and added value of Government Open Data need to be better promoted within the public sector, as well as within specific target groups, such as academia, students, journalists, developers and businesses.”

*Government official,
EU Neighbourhood*

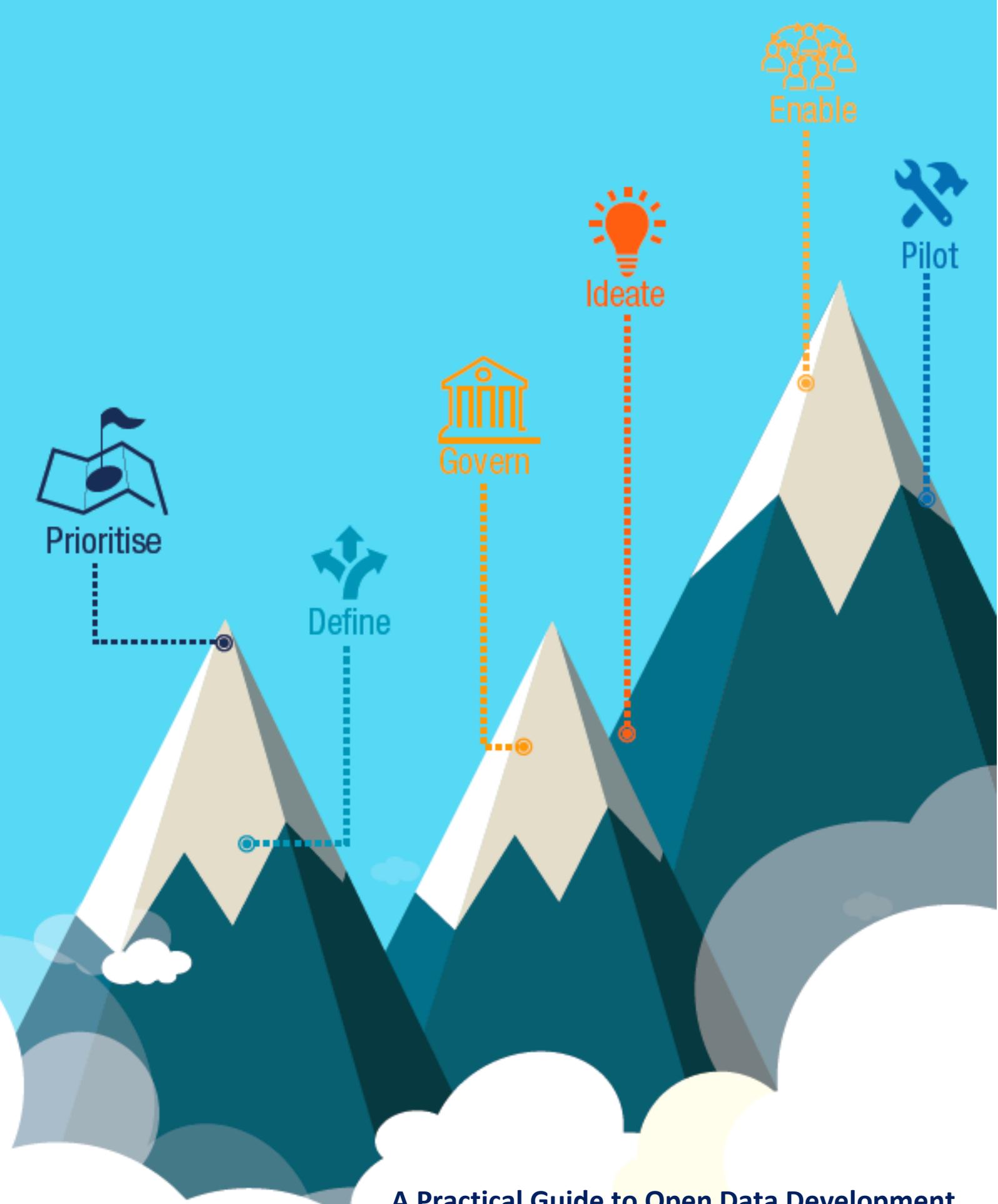
of capacity and resources as well as to societal and cultural dimensions. With regard to the former, countries expressed concerns regarding the lack of capacity – both administrative as well as in terms of skills at national, but more stringently at regional and local levels. It appears that this lack of capacity affects the public bodies the most; here, basic knowledge regarding the export of data into open, non-proprietary formats to enable further re-use appears to be still missing. The resistance to change was also mentioned in this context. This could be explained by the overall lack of understanding of the benefits that publishing Open Data can have for the broader society – an aspect mentioned quite often by the government officials in the EU Neighbourhood.

In this light, capacity building is urgently needed to bring about the boost in awareness, skills and more importantly, on the long run – the needed change in mind-sets. With regard to the latter, government officials also underlined their concern that a change in mind-set is also needed at a societal level – a change that is far more difficult to bring about. An essential aspect here is the increase in trust of citizens that the data collected and published by public institutions complies with national and/or even international standards with regard to data privacy, data protection and data security.

An interesting trend crystallised in Serbia, where agencies in which there is a high IT know-how have timely recognised the lack of regulation on data security and established a set of rules in this regard at organisational level. However, such trend should be timely addressed by the national legislator, in order to avoid a high level of segmentation with regard to data security rules, with each organisation being guided by their own principles and rules. If such rules and regulations differ significantly among the different public agencies, it could hamper further progress when it comes to organisational interoperability and the signing of cooperation agreements and Memoranda of Understanding for data access (e.g. access to base registries).

Increasing citizens' trust in Government becomes pivotal to overcoming the societal challenges to Open Data.

As illustrated above, the journey ahead is strenuous and most certainly, at times, bumpy. Nevertheless, some steps can be taken in the short-term to ensure that an enabling framework is created, on which Open Data can thrive. These steps are depicted in the following section.



A Practical Guide to Open Data Development

5. Findings and Recommendations

The EU Neighbourhood countries have come to realise the importance of creating an enabling framework for the development and promotion of Open Data practices. However, most of them are at the incipient stages of their Open Data journey. Nevertheless, recent developments such as the launch of the Open Data Portal by Jordan reinforce the belief that Open Data is taking a more prominent position on the national agendas in the EU Neighbourhood.

In light of the evidence presented above, several conclusions can be drawn. Overall, there is still a need to create an enabling framework for Open Data in the majority of the EU Neighbourhood countries and an urgent necessity to boost awareness and capacity on both Open Data supply (publishing) and demand (re-use) side. Political will is present, as well as a strong eagerness to catch up with Europe. Leveraging this more strongly, concerted efforts are needed from both the EU and the neighbourhood countries, in order to boost Open Data development in the EU Neighbourhood.

Against this backdrop, some recommendations are in place. These recommendations should not be understood as a 'one-size fits all' formula and should therefore be weighed against each country's needs, objectives and evolution.

1. Open Data needs to be set higher on the political agenda

Open Data is acknowledged for its potential to bring benefits to a country's political, economic and societal development as well as to a country's security and stability. Thus, placing Open Data on the national and regional political agendas represents a clear statement of support and sends out a clear message to all interested stakeholders. Countries in the EU Neighbourhood seem so far to be missing the opportunity to send such signals to their citizens. Placing Open Data on the national agenda is the first step to enabling an Open Data culture, regardless of national setting. In order to achieve this goal, the strong political will in the EU neighbourhood countries could be better leveraged upon, in order to rally the necessary support amongst the political decision-makers.

2. Open Data needs an adequate legal framework and infrastructure

With over half of the EU Neighbourhood countries not having a national Open Data Portal in place and approximately one third still lacking an Open Data Policy, countries in the EU Neighbourhood still need to take these first steps towards creating an enabling legal framework as well as the technical infrastructure for the development of Open Data. Surprisingly, government officials underline these two aspects as main enablers towards Open Data development in a country. In this light, political leaders should push forward the adoption of a National Open Data Policy that provides an adequate legal framework for Open Data as well as the establishment of a single point of access to Open Data – a national Open Data portal. Such a platform is imperative to providing publishers and users with an access infrastructure to Open Data.

3. Open Data needs a governance structure to ensure responsibility, ownership and sponsorship

Clear distribution of roles and responsibilities for the institutions in charge of the development of Open Data can make the significant difference when moving forward in this domain. The lack of an Open Data governance structure is a basic impediment to a sustainable Open Data development and represents a barrier in many of the EU Neighbourhood countries. Therefore, establishing a clear governance for Open Data, while ensuring the inclusion of all stakeholder groups, will provide the necessary organisational framework to promote Open Data within a country. Having such a governance structure

in place will ensure ownership and sponsorship for Open Data. By involving representatives of all stakeholder groups from the national, regional and local levels, countries enable a strong multiplier effect towards promoting Open Data ideas and practices at all levels and in all activity areas.

4. Open Data lives and thrives from practice – both bottom-up and top-down

A worrying observation in the EU Neighbourhood is the lack of awareness and, to a certain extent, lack of interest with regard to Open Data – at all levels and stakeholder groups. Although this is not a general observation for the entire EU Neighbourhood, the finding holds true in the vast majority of them. To counter this development, working groups should be set up— under the supervision of the Open Data governance structure – that conduct practical research on potential Open Data use cases, in line with the needs and particularities of the given context. An example in this sense could be taken from the EU28+, more precisely from Ireland, where a Local Government Open Data project team was set up with the mandate to roll-out activities across local administration level. Similar pilot initiatives could also be launched in the EU Neighbourhood countries, to bring use cases into practice at local level. Such bottom-up activities require in turn a strong support and promotion from the central level, in order to increase awareness, visibility and enable ‘contagion’ across communities.

5. Open Data needs ‘proof of concept’ and figures to rally support

Another important finding that should be dealt with in a timely manner, is the low number of studies conducted on the (economic) impact of Open Data in the EU Neighbourhood, as well as the low number of studies that explore the market value of Open Data. Both the impact and market value of Open Data need ex-ante assessments and deeper exploration at both macro and micro level. This will provide a solid instrument towards raising awareness of the added value generated from Open Data amongst stakeholders and the broader public. Such initiatives should be complemented by trainings at all government levels to create a better understanding of how Open Data can be used as an instrument for better policy-making and to increase efficiency within public administrations.

6. Open Data needs partnerships and an ecosystem of promoters

Another valuable observation is represented by the lack of partnerships between the public and private sector to promote Open Data. In today’s times, it is unrealistic to believe and expect that governments can ‘do all the work’. Public-private partnerships can provide the necessary framework to pilot use cases and enable innovation. They can provide a nurturing environment for the development of new products and services by using Open Data. Actions from both private and public sector actors can be undertaken in this regard by organising conferences, workshops and/or hackathons for researchers, academia, civil society, developers and business entrepreneurs. Such events create important spaces for Open Data innovation and can foster ‘synergy creation’ between stakeholders. In time, they have the potential to become a powerful instrument to foster an ecosystem of Open Data promoters.

Despite the different needs, prerequisites and particularities of the EU Neighbourhood countries, this analytical report has highlighted a series of commonalities regarding the Open Data challenges that the EU Neighbourhood countries face and presented a practical guide for the neighbourhood countries towards developing sustainable Open Data practices. Such commonalities should be more strongly leveraged towards building strong partnerships across countries. By doing so, the EU Neighbourhood countries can embark together in their journeys towards developing (Open) Data-driven economies and societies.

Endnotes

- ¹ European Commission (2015). Creating Value through Open Data: Study on the Impact of Re-use of Public Data Resources. Available at: https://www.europeandataportal.eu/sites/default/files/edp_creating_value_through_open_data_0.pdf
- ² Open Data Maturity in Europe 2016: Insights into the European State of Play. Available at: https://www.europeandataportal.eu/sites/default/files/edp_landscaping_insight_report_n2_2016.pdf
- ³ Open Data Reports and Extensive Studies. Available on the European Open Data Portal, under: <https://www.europeandataportal.eu/en/what-we-do/factsheets-and-reports>
- ⁴ The TAIEX Multi-Beneficiary Workshop was held in March 2017 on the topic of “Benefits of Open Data - from policy to re-use of public sector information”.
- ⁵ European Commission (2017). Revised European Neighbourhood Policy: supporting stabilisation, resilience, security. Press release, May 18, 2017. Available at: http://europa.eu/rapid/press-release_IP-17-1334_en.htm
- ⁶ European Commission (2016). EU and its Eastern Neighbours agree the way forward to a Digital Community Digital Single Market News. October 10, 2016. Available at: <https://ec.europa.eu/digital-single-market/en/news/eu-and-its-eastern-neighbours-agree-way-forward-digital-community>
- ⁷ Press Statement of July 26, 2016, by former Commissioner Günther H. Oettinger on plans to launch a Digital Community with Ukraine. Available at: https://ec.europa.eu/commission/commissioners/2014-2019/oettinger/announcements/press-statement-commissioner-gunther-h-oettinger-plans-launch-digital-community-ukraine_en
- ⁸ European Council (2015). Joint Declaration of the Eastern Partnership Summit. Riga, May 21-22, 2015. Available at: https://eu2015.lv/images/news/2015_05_22_RigaDeclaration_EaP.pdf
- ⁹ European Commission (2015). Going digital: Linking the EU with its eastern neighbours. Speech by Andrus Ansip. Vice-President for Digital Single Market. Luxembourg, June 11, 2015. Available at: http://europa.eu/rapid/press-release_SPEECH-15-5160_en.htm
- ¹⁰ Ibid, page 2.
- ¹¹ The EU4Digital Network on eHealth was established in February 2017 in Tbilisi, under the Eastern Partnership Panel on the Harmonisation of Digital Markets and the EU4Digital programme implementation initiative.
- ¹² EaPConnect Homepage: <https://www.eapconnect.eu/>
- ¹³ European Commission (2013). Advancing research collaboration with GÉANT's high-speed infrastructure. Available at: <https://ec.europa.eu/digital-single-market/news/advancing-research-collaboration-g%C3%A9ants-high-speed-infrastructure>
- ¹⁴ European Commission (2015). First Eastern Partnership Ministerial Meeting on the Digital Economy. Available at: <https://ec.europa.eu/digital-single-market/en/news/first-eastern-partnership-ministerial-meeting-digital-economy>
- ¹⁵ Information retrieved from the EU Neighbourhood info Center Homepage. Available at: <http://www.eu-neighbours.eu/en>
- ¹⁶ European Commission (2014). Press Release. European Union, Jordan and Union for the Mediterranean (UfM) Ministers in charge of the Digital Economy launch new digital cooperation initiatives. Available at: http://europa.eu/rapid/press-release_MEMO-14-543_de.htm?locale=FR as well as <http://ufmsecretariat.org/union-for-the-mediterranean-ufm-ministers-in-charge-of-the-digital-economy-launch-new-digital-cooperation-initiatives/>
- ¹⁷ UfM (2014). Union for the Mediterranean Ministerial Meeting on the Digital Economy. September 30, 2014, Brussels. Draft Declaration. Page 3. Available at: <http://ufmsecretariat.org/wp-content/uploads/2014/09/UfM-MinistersDeclarationEN.pdf>.
- ¹⁸ Ibid, see footnote 20.
- ¹⁹ DEWoG Working Plan 2016. Available at: <http://ufmsecretariat.org/wp-content/uploads/2016/01/DEWoG-Workplan-2016-v2.0-approved.pdf>
- ²⁰ European Commission (2017). Re-use of Open Data. A study on companies transforming Open Data into economic and societal value. Page 19. European Data Portal. Available at: https://www.europeandataportal.eu/sites/default/files/re-using_open_data.pdf
- ²¹ By helping patients choose a better service provider based on treatment outcomes, as well as improving hospitals’ effective response in emergency situations regarding the placement of equipment and stationing of personnel, Open Data has a potential to save up to 1425 lives a year in the EU.
- ²² Estimates show a reduction of 10% of waiting time can lead to a total of 629million hours of unnecessary waiting time between 2016 and 2020, in the EU.

-
- ²³ Ibid, op. cit, see footnote 1, p. 21.
- ²⁴ Ibid, op. cit, see footnote 1, pp. 70-72.
- ²⁵ Ibid, op. cit, see footnote 1, pp. 73-79.
- ²⁶ European Commission. Digital Single Market. Open Data. Available at: <https://ec.europa.eu/digital-single-market/en/open-data> as well as the Communication on Open Data: An engine for innovation, growth and transparent governance COM (2011)882 final. Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0882:FIN:EN:PDF>
- ²⁷ World Wide Web Foundation (2017). Open Data Barometer. Fourth Edition. Available at: <http://opendatabarometer.org/doc/4thEdition/ODB-4thEdition-GlobalReport.pdf>
- ²⁸ European Commission (2015). Open Data Maturity Report n.1. Available at: https://www.europeandataportal.eu/sites/default/files/edp_landscaping_insight_report_n1_-_final.pdf
- ²⁹ Ibid, op. cit., see footnote 28.
- ³⁰ Directive 2013/37/EU of the European Parliament and of the Council of 26 June 2013, to amend Directive 2003/98/EC of the European Parliament and of the Council of 17 November 2003 on the re-use of public sector information. Available at: <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:02003L0098-20130717>
- ³¹ Ibid, op. cit, see footnote 28, p. 48
- ³² Ibid, op. cit, see footnote 28.
- ³³ Transparency International (2017). Corruption Perception Index 2016. Available at: https://www.transparency.org/news/feature/corruption_perceptions_index_2016#table
- ³⁴ European Commission (2016). Open Data Maturity Report n.2. Available at: https://www.europeandataportal.eu/sites/default/files/edp_landscaping_insight_report_n2_2016.pdf. Pp. 33-34.
- ³⁵ Ibid, op. cit., see footnote 28, p. 35.
- ³⁶ [Splash Platform](#)
- ³⁷ [Ireland's Marine Atlas](#)
- ³⁸ Ibid, op. cit., see footnote 28, p. 36.
- ³⁹ Expected economic gains of Open Data, as shown by the European Data Portal Study on 'Creating value through Open Data: Study on the impact of Re-use of Public Data Resources', as well as the 2014 Open Data World Bank Report on "Open Data for Economic Growth".
- ⁴⁰ Ibid, op. cit, see footnote 28, p. 37
- ⁴¹ Ibid, op. cit, see footnote 23.
- ⁴² European Commission (2016). Recommendations for Open Data Portals: From setup to sustainability. Available at: https://www.europeandataportal.eu/sites/default/files/edp_s3wp4_sustainability_recommendations.pdf. Pp. 31-33.
- ⁴³ Ibid. Op.cit, see footnote 43.
- ⁴⁴ Ibid, op. cit, see footnote 23, p. 54.
- ⁴⁵ European Commission (2017). ISA² Programme. The new European Interoperability Framework, available at: https://ec.europa.eu/isa2/eif_en
- ⁴⁶ Ibid, op. cit, see footnote 23.
- ⁴⁷ Ibid, op. cit., see footnote 28, pp. 54-58.