



**Web-COSI**  
Web Communities for  
Statistics for Social Innovation  
INCREASING TRUST IN COLLECTIVELY  
GENERATED STATISTICS

## **Web-COSI “Web COMmunities for Statistics for Social Innovation”**

[www.webcosi.eu](http://www.webcosi.eu)

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**The involvement of communities for statistics:  
National Statistical Institutes’ experiences**

**Partner in charge: ISTAT**

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## **Deliverable 2.6.**

### **The involvement of communities for statistics: National Statistical Institutes' experiences**

#### **Summary**

Within the activities of Web-COSI project, the present report (Deliverable 2.6) deals with the involvement of communities for statistics by National Statistical Institutes (NSIs) in a wide perspective: from the fostering of communication and dissemination of statistical information and data to the need for exploit new ways of collecting data from communities evaluating the potential of crowd sourced platforms for a knowledge close to real citizens' needs. The report discusses on how during time the relationship between the NSIs (the producers of official statistics), citizens and stakeholders has deeply evolved: from a pure top-down approach to a joint top-down/bottom-up approach for the re-shape of better statistics. In particular, the report illustrates the state of art and the experiences carried out by the NSIs regarding the usage of Web2.0 to foster the statistics, interacting with citizens and society at large. The mapping exercise focus on the European level but reports also some notable experiences carried abroad. The review is outlined building on the results obtained by a specific Survey on "Web2.0 NSIs initiative vs citizens for statistics" conducted by Istat at the end of 2014. Some effective remarkable examples of IT tools and portals implemented by Eurostat and some EU and extra-EU NSIs are illustrated. Some of these examples aim at making official statistics easy to access, some others aim at interacting with citizens to involve them in the process of defining statistics close to their information needs. The list of the digital initiatives given by the NSIs responding to the Survey will feed the *crowd sourced map of initiatives* (Deliverable 2.4) set up by Web-COSI project.

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## 1. Introduction

During time the relationship between the NSIs (the producers of official statistics), citizens and stakeholders has deeply evolved. Starting from a pure top-down approach for which citizens are basically respondents to a “Questionnaire” - designed ex- ante by experts given a frame of data needs - to new increasing participative approaches. During time, statistical researchers and methodologists have been pushed to involve citizens and stakeholders to narrow the distance from data producers and data providers. Firstly to reduce the so called “*response burden*” (also via the usage of administrative data), then to *motivate* the citizens and stakeholders to take advantage of the statistics produced thanks to their *responses*. In the last 15 years the relationship between citizens and NSIs is deeply changing towards a joint top-down/bottom-up approach for the construction of statistics. The decisive pressure in this direction is given by the epochal revolutions that have characterised, since the beginning of the new millennium, the research world and society at large: Web2.0 tools interactivity and the GDP&Beyond debate for the construction of statistics close to societal real information needs.

The beyond GDP debate has involved the NSIs and widely the world of research - in a global dimension - thanks to fundamental initiatives carried out in Europe and abroad. Among these, some deserve to be mentioned as pillars for the development the new NSIs approaches for better statistics beyond GDP. The Organisation for Economic Co-operation and Development (OECD) began to work rigorously on this thematic since 2001 organising the World Forums to discuss these issues at a global perspective (Palermo 2004, Istanbul 2007, Busan 2009, New Delhi 2012). In 2008 the then French President Sarkozy launched the famous Stiglitz-Sen-Fitoussi Commission which stressed the necessity to move the attention from measuring economic production to measuring individual well-being. At European level the European Statistical System, established the sponsorship group on ‘Measuring Progress, well-being and sustainable development’ with the aim of translating the recommendations of the Stiglitz-Sen-Fitoussi Commission report into concrete actions in charge of the National Statistical Institutes.

Taking advantage of Web2.0 the debate for new statistics beyond GDP became a global movement involving all the components of society. Besides the traditional stakeholders - NSIs, Academia, researchers, International Organizations - new actors are willing to give their voices - civil society organizations, social entrepreneurs, consumers, workers, citizens and communities at large.

The Internet revolution is giving huge new opportunities for the construction and reshape of better statistics definitively moving to a joint top-down/bottom-up approach. The power of sharing information and data thanks to Web2.0 tools, such as social networks and on line platforms, must push the NSIs to foster the dialogue with society at large to exploit new sources of information and data to integrate and complement the official statistics.

Against this background the present report treats on the involvement of communities for statistics by National Statistical Institutes (NSIs) in a wide perspective: from the fostering of communication and dissemination of statistical information and data to the need for exploiting new ways of collecting data from communities evaluating the potential of crowd sourced platforms for a knowledge close to real citizens’ needs.

Section 2, *Statistics and Informatics: an inseparable combine* and Section 3, *Statistics and citizens. From a top-down approach to a joint top-down/bottom-up approach*, contextualize the core of the report introduced in section 4: *The Web2.0 involvement of communities for statistics. The NSIs’ experiences*. Section 5 illustrates the state of art and the experiences carried out by the NSIs regarding the usage of Web2.0 to foster the statistics interacting with citizens and society at large. The mapping exercise focus on the European level but reports also some notable experiences carried abroad. The review is outlined building on the results obtained by a specific Survey on “*Web2.0 NSIs initiative vs citizens for statistics*” conducted by Istat at the end of 2014. Section 6 reports on some effective examples of IT tools and portals, implemented by Eurostat and some

NSIs, aimed at making official statistics easy to access and use, alongside some experiences aimed at interacting with citizens to involve them in the process of defining statistics close to their information needs. Some concluding remarks are given in Section 7 in a looking forward perspective.

## 2. Statistics and Informatics: an inseparable combine

Since the development of Informatics, Official Statistics and IT solutions have been in strong relationship. Over time the ICT's crucial role for statistics has evolved in several directions: i) the collection of data; ii) the set-up of software to process data; iii) the development of dissemination and visualization tools for the release of data; iv) the implementation of solutions for data retrieval.

In the last years, the development of the Web2.0 tools has opened huge opportunities for statisticians, pushing the National Statistical Institute (NSIs), alongside the research world, to take more and more advantage of Internet to foster the construction, the understanding and the usage of statistics. Nowadays, Internet is explored by NSIs to study how it can be exploited as a source of data. The *liquid data* available on line (Big Data, Open Data and crowd sourced data) undoubtedly represent precious new sources of data for statistical information.

On this side, NSIs together with EC, Eurostat, UNECE and other Institutions are carrying out projects to develop web-based data collection and to mix data collection modes both for social survey and business surveys. The effort is to provide suggestions and possible solutions evaluating how to combine the official statistics requirements in terms of quality and of concepts and definitions with the use of the Internet as a data source.

Moreover, the Web2.0 era with her interactive tools - such as networks and platforms - is creating ways to communicate among data producers and data users. It is changing the way in which information and data are created and shared bridging the top-down and bottom-up approaches. On this side, NSIs are investing a lot to empower the dialogue with society at large to foster the statistics as wider as possible.

## 3. Statistics and citizens. From a top-down approach to a joint top-down/bottom-up approach

Data and information are at the basis of the knowledge of the “reality” referred to a Country, a Territory. Statistics influence the everyday life of each citizen as they drive the policies and steer the public administrators' actions. Statistics give citizens the knowledge to measure their societal needs contributing to increase awareness to drive the individual behaviour for a sustainable economic growth.

Historically statistics are built by the National Statistical Institutes. Public bodies which have the mission to produce official statistics to give detailed knowledge of environmental, economic and social dimensions to assist all members of society (citizens, administrators, etc.).

During time the statistical process has evolved going through several phases characterized by different methodological and technical approaches, through different support of ICT, and by a different involvement of citizens.

### ➤ *Phase1. Questionnaire on paper - ICT to process data - Citizens as respondents*

Since their establishment - year 1929 for the Italian one – to the '80s the National Statistical Institutes invest a lot in research and methodology to produce robust statistics following a clear top-down approach. The data collection is realized by Sample Surveys and Census submitting a

Questionnaire - on paper - to citizens, enterprises and other Institutions. The Questionnaires are designed by Committees of “experts” defining ex-ante the societal information needs.

The ICT solutions are primarily devoted to process the data for constructing statistics. The data are mainly released on paper.

The citizens are essentially respondents.

➤ ***Phase2. Use of administrative data - ICT to collect (Questionnaire on line) and process data. ICT to foster the release of statistics - Citizens as respondents and users***

The ‘80s and the ‘90s are characterized by a great methodological effort to use administrative data – generated by the National and local administrations for their specific scopes - as input data to construct the official statistics. The NSIs understand the great importance of looking at sources of data which are continuously available<sup>4</sup>.

During this phase ICT plays an increasing role. IT solutions are implemented for the data collection and processing using also the administrative data. Moreover, IT brings to modernize the collection of data setting up Questionnaires on line. A faster release of the statistics becomes possible. The paper publications of data are replaced by Web1.0 tools. Data warehouses are set up to facilitate the usage of statistics selecting and tailoring the information needs of the users.

Citizens are now respondents and users of data.

➤ ***Phase3. Beyond GDP statistics and Web2.0. Citizens as respondents, users, and interpreters of data***

Since the beginning of the new millennium, NSIs are crossed by two epochal revolutions: Web2.0 and GDP & Beyond debate.

The GDP & Beyond debate has dominated the statistical and economic research scene of the last 15 years having profound effects on NSIs and above. The necessity to combine the GDP index with a set of multiple indicators - belonging to various domains- to have a real measure of the economic and societal progress is radically changing the way of “making statistics”. It leads to enlarge the horizon of the data needs introducing new concepts of measurements of societal progress in terms of well-being (subjective and objective) for a sustainable growth. The debate for the re-shape of statistics has increasingly involved all the components of society alongside the traditional stakeholders. Web2.0 with its interactive tools - such as networks and platforms – has contributed to create a global grassroots movement pushing to give its voice for better statistics beyond GDP. NSIs - in conjunction with the world of research and beyond- have worked in this direction calling citizens and stakeholders to be part of the discussion for the definition of the new measurements. The experiences carried out by Istat<sup>5</sup> and ONS<sup>6</sup> on “stakeholder inclusion” through a deliberative process co-established with society at large, represent important steps towards a bottom-up

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<sup>4</sup> Issues on the usage of administrative data are still very actual. Topics about it have recently been treated within the activities of the FP7 BLUE-ETS project, coordinated by Istat. See [www.blue-ets.eu](http://www.blue-ets.eu)

<sup>5</sup> The Italian National Institute of Statistics (ISTAT) has instituted with The Italian National Council for Economics and Labour (CNEL) the “BES” initiative for measuring Equitable and Sustainable Well-being in Italy within which it has been carried out a process including representatives of society at large for the definition of a theoretical framework for the measurement of well-being. The result of the consultation has provided a set of indicators, as a decision co-established by Italian society at large. See [www.misuredelbenessere.it](http://www.misuredelbenessere.it)

<sup>6</sup> Other notable initiatives have been carried out by the Office for National Statistics (UK) for the construction on new indicators beyond GDP and for fostering the involvement of communities for their understanding and usage. See [www.ons.gov.uk](http://www.ons.gov.uk)



approach. The beyond GDP process brings to consider communities' involvement as a crucial element to build up "good" statistics<sup>7</sup>.

ICT plays fundamental roles. ICT facilitates the interaction among the various actors of society at large allowing the sharing of data and information without boundaries. On a side, NSIs invest a lot in IT solutions for Communication – using social networks and other digital tools - to foster the dialogue with citizens and society at large. On the other side, Web2.0 opens opportunities to set up tools for the release and visualization of statistics to facilitate their understanding and usage<sup>8</sup>.

Citizens are respondents, "included" for the definition of statistics, users and interpreters of data.

➤ ***Phase4. Internet opportunities and challenges. Big Data - Open Data. Web2.0 collaborative platforms. Citizens as respondents, users, interpreters and producers of data***

Nowadays, the *liquid data* available on line (Big Data, Open Data, crowd sourced data) are the new research frontier for the NSIs. The era of "Statistics 2.0"<sup>9</sup> opens huge challenges to combine user-generated non-official data with the data produced by official statistics.

Presently, the European NSIs together with other Institutions (Eurostat, UNECE, OECD, etc.) are fully involved in the growing debate for the usage of Big Data and Open Data in the construction of statistics<sup>10</sup>. The usage of the on line data for statistical purpose arises many issues not only on the methodological side. The discussion considers crucial strategic topics about the usage of Big Data and Open Data by NSIs. Some of these are: the legislative aspects for the access and use of these new sources; the privacy issues in relation to getting public trust and acceptance of data re-use and its link to other sources; the financial costs of using such new sources of data for statistical production vs its benefits; the set-up of policies and directives about management and protection of the data; training issues, as new skills are needed<sup>11</sup>.

Even if, it is mainly the private sector who leads the work on Big Data and Open Data analytics tools and solutions, presently a number of NSIs are actively engaged with studies and pilot projects to treat the usage of Big Data and Open Data<sup>12</sup>. The approach is definitively inspiring for the NSIs who have to face the management of unstructured and non-stable sources to construct data to integrate/complement the official statistics.

Currently, the crowd sourced data are a topic less explored by the NSIs. The grassroots data are a great opportunity to exploit as they can say a lot about the "real picture" of the societal state of a locality. These data and information are available mainly via the digital initiatives (crowd sourced platforms) fed by components of society as large such as civil society organisations, social entrepreneurs, and numerous communities representing various categories of National and local

<sup>7</sup> Within the activities of the FP7 e-Frame project ([www.eframeproject.eu](http://www.eframeproject.eu)), coordinated by Istat, a deliverable describing the actions for Stakeholders Inclusion and Activation of Deliberative Process has been released by ONS. The report outlines considerations, methods and tools for stakeholder engagement, with a particular focus on engagement for the development of indicators for measuring progress. The report gives guidelines based on evidence provided by national and international organisations that have engaged with stakeholders as part of developing measures of progress. See <http://www.eframeproject.eu/fileadmin/Deliverables/Deliverable7.3.pdf>

<sup>8</sup> Within the activities of the FP7 e-Frame project ([www.eframeproject.eu](http://www.eframeproject.eu)), coordinated by Istat, a catalogue on the types of data presentation and visualizations found across NSIs has been delivered. The report aims to demonstrate which tools and technologies are most suitable to different types of NSIs.

See <http://www.eframeproject.eu/fileadmin/Deliverables/Deliverable8.1.pdf>

<sup>9</sup> See Giovannini E. (2010). "Statistica 2.0: the next level", Introductory speech at the 10th National Conference of Statistics, Rome. Available at:

[http://www3.istat.it/dati/catalogo/20120621\\_00/atti\\_decima\\_conferenza\\_nazionale\\_statistica.pdf](http://www3.istat.it/dati/catalogo/20120621_00/atti_decima_conferenza_nazionale_statistica.pdf)

<sup>10</sup> See UNECE documentation on Big Data at

<http://www1.unece.org/stat/platform/display/bigdata/Big+Data+in+Official+Statistics>

<sup>11</sup> See the final technical report on Big Data Conference, supported by Eurostat, Rome, 31March-1 April 2014 at <http://www.cros-portal.eu/content/2014-big-data-event-final-report>

<sup>12</sup> See the NTTS2015 Conference at <http://www.cros-portal.eu/content/ntts-2015>



actors. The usage of these non-official data can represent a great opportunity for the construction of local statistics which are the ones that leads the policies carried out by the local administrator.

On this side, the openness and collaboration that Web 2.0 makes possible (primarily at local level) can represent a real “democratisation” of the knowledge contributing to a conscious Social Innovation. Narrowing the distance from what official statistics say and what people perceive<sup>13</sup>.

Citizens as producers of data.

#### 4. The Web2.0 involvement of communities for statistics. The NSIs’ experiences

Against the above background, the next two sections (section 5 and section 6) illustrate the state of art and the experiences carried out by the NSIs regarding the usage of Web2.0 to foster the statistics interacting with citizens and society at large. The mapping exercise focus on the European level but reports also some notable experiences carried abroad. The following review is outlined building on the results obtained by a specific Survey on “Web2.0 NSIs initiative vs citizens for statistics” conducted by Istat at the end of 2014 (see Annex 1). The Survey was addressed to the EU28<sup>14</sup> NSIs plus the four from EFTA(European Free Trade Association)<sup>15</sup> and six from extra-EU<sup>16</sup>.

Besides the Survey, some experiences arise from the activity of Web-COSI project - the on line discussions and in particular the workshop on *Using Technology to Engage Citizens with Well-being Statistics in the Perspectives from NSIs and Governments*. Other inspiring events on best practices on Web2.0 citizens’ involvement for data and information sharing have been the concertation meetings and the Conferences organised within CAPS projects. The participation to several international workshops and in particular to the recent NTTS 2015 Conference (New Techniques and Technologies for Statistics- Eurostat- Bruxelles 10-13 March 2015- [www.NTTTS2015.eu](http://www.NTTTS2015.eu)) have added notable indications about the new directions that the NSIs are taking to foster the dialogue with society at large using Web2.0 as a tool towards a “*permanent consultation*” for co-established statistics.

#### 5. The Survey on “Web2.0 NSIs initiative vs citizens for statistics”

The survey, in charge of ISTAT, aimed at taking stock and getting knowledge about the future plans of the Web 2.0 initiatives set up by NSIs to foster the interaction with citizens and to empower statistics via the usage of Internet as new source of data. The Survey is composed by two sections. Section A, addressed to NSIs’ Communication Units, deals with social media and web platforms for a growing interaction with citizens to empower statistics; Section B, addressed to NSIs’ ICT and Methodological Units, focuses on the challenges and opportunities given by Big Data, Open Data and crowd sourced data available on the Internet.

The survey was emailed to the people responsible for International Relations of the above mentioned countries’ NSIs. The survey turned out to be very successful, as the NSIs respondents have been 29 out of 38, thus showing a great spirit of collaboration and a clear interest in the matter. In some cases the responses have been very detailed, providing an accurate picture of the trend the official statistics is moving towards at a national level. The Survey results are of a deep interest not

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<sup>13</sup> The debate generated on this topic so far by Web-COSI is reported in the vast material available at <http://www.webcosi.eu/about/outputs-and-documentation/>

<sup>14</sup> Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom

<sup>15</sup> Iceland, Liechtenstein, Norway, Switzerland

<sup>16</sup> Australia, Canada, Israel, Mexico, New Zealand, Turkey

only for the work being done within the project but also for the possible developments in the near future.

In the following sections A and B the main issues stemming from the Survey are illustrated. In Annex 2 the links to the digital initiatives set up by the respondent NSIs are listed by the two sections of the questionnaire.

### 5.1. Section A – Fostering interaction with citizens by Social Media and Web Platforms to empower statistics

The massive and wide use of Social Networks in the last years has been confirmed by the Survey results: 80% of the respondent NSIs has declared to use them regularly. Most European NSIs started using Social Networks, mainly *Twitter* and *Facebook*, for communication and dissemination purposes only but these tools became more and more an additional channel of interaction with users<sup>17</sup>. In this sense Twitter has recently become a tool for NSIs to reply to questions raised by users and to interact with stakeholders.

The use of Social Networks by NSIs have increased the use of statistics by a broader range of not specialised users, disseminating data in a more friendly way. Moreover, in some cases users disseminate official statistics via their shares and re-tweets, contributing to enlarge the target. To cite an interesting example of massive use of Twitter, in Statistics Netherlands these accounts are close to beating the NSI official website in terms of impact.

As reported by many NSIs, while the website remains the official dissemination channel, social media offers a new dimension to communications by fostering real-time exchanges in locations visited by the audiences on a daily basis. These activities may allow to transform and adapt NSIs programs and activities on a continuous basis.

#### ***Main aims of using Social Networks***

Using Social Networks allow NSIs to stay customer-focused, relevant, trustworthy and keep up to date with the way statistics are disseminated. The desired outcomes are to increase visitors access to NSIs websites, increase brand and public awareness of NSIs and have a better understanding of social media within NSIs. The advantages of using Social media/Networks within NSIs can be summarised in:

- promoting official statistics, improve statistical literacy, increase visibility for NSIs data;
- providing more analyses on different subject areas and improve timeliness;
- changing the conservative and formal image of NSIs to be more open and innovative;
- finding new customers and keep the current ones, fostering user engagement and generate traffic to NSIs websites;
- increasing capability to communicate with users effectively, connecting users and statisticians;
- identifying how well the statistics meet current user needs and the impact of NSIs work, getting feedback from unknown external users;
- promoting recruitment opportunities.

#### ***NSIs' strategies for communicating***

To reach the above mentioned aims, the NSIs interviewed are implementing different strategies, among which:

- using colloquial language in the messages;

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<sup>17</sup> For a detailed analysis of the efforts undertaken by NSIs to use ICT tools to communicate their data see Leib and Hartland (2013) e-Frame project deliverable 8.1 and Scrivens and Gulbahar (2014) Web-COSI project deliverable 2.3

- using infographics, pictures, graphs and maps in messages;
- training the personnel involved in the processes of social networks,
- carrying out research activity to identify best practices;
- implementing periodic test of social networks tools;
- promoting the new interactive dissemination channels, using Social Networks/Media icons on NSIs official websites.

### ***Use and types of Social Networks***

*Twitter and Facebook* are the most used social networks by the NSIs interviewed as they are highly popular among common users, they do not require particular skills to be used neither specialised training within NSIs staff, while the other Social Networks/Media, which result less used, are developed for peculiar aims. In particular, *LinkedIn* is used for publishing news and announcements of interest while in other cases is mostly a profile page where vacancies are posted to recruit new staff or NSIs internal staff participate in LinkedIn groups to promote their content to peers.

*YouTube*, which is characterised for having an undifferentiated target, is used by many NSIs as a means of promoting new events (like census), specific press releases and tutorials. It is also used for increasing statistics literacy aimed at explaining main statistical products, some basic concepts on official statistics, how statistics are made, what some statistical terms mean, posting summaries of key notes and presentations as well. Some NSIs use *Slideshare* to upload and share documents, presentations and the results of statistical research free of charge, while others launched a *statistics blog* to provide information on statistical methodology as well. *Flickr* is used to disseminate most important events to media and institutional bodies, while *Dailymotion* for videos. New social media tools, like *Storify* and *Issuu*, are, in some cases, being tested respectively for events and publications.

*Table 1 – Use of Social Networks*

Social Network	% of NSIs
<i>Twitter</i>	78
<i>Facebook</i>	57
<i>LinkedIn</i>	9
<i>YouTube</i>	26
<i>Storify</i>	4
<i>Flickr</i>	4
<i>Dailymotion</i>	4
<i>Slideshare</i>	13
<i>Statistics blog</i>	13
NSIs using Social Networks	79

### ***Experienced limits in using Social Networks***

One of the main limits is represented by the kind of users of these tools who are usually specialised, such as journalists, students, researchers, even if the particular kind of such tools allow to broaden users, potentially including all computerised citizens. An important point to be taken into account is that social networks and media are likely to change in the short time, which means that it is necessary to guarantee a great flexibility in terms of their usage to the NSIs internal organisation and staff skills.

Not all the NSIs interviewed found only advantages in the use of the Social Network. For example, Statistics Portugal, which used Facebook to promote Census 2011, decided not to have a Facebook

page for current activities, because their experience proved that the Facebook pages tend to have a limited success in terms of followers, mostly they imply a great human resources involvement compared with the obtained outcome. Nevertheless they have planned the usage of YouTube aiming at promoting the institution and official statistics as well as statistical literacy.

### ***Future strategies for using Social Networks***

Currently, only few NSIs in Europe (Bulgaria, Poland, Portugal, Slovak Republic, Iceland and Turkey) do not use any Social Network for different reasons, including the lack of human and financial resources. Some of them have planned some strategies for the future, in particular the use of Facebook and Twitter to interact with citizens, help them understanding statistics and promote the Institute. Moreover, in order to conceptualise and improve their strategy concerning social media, some NSIs mentioned the importance to take into account the guideline by Eurostat's Sponsorship Group on Communication<sup>18</sup>.

Even for those Institutes that have already fostered the use of social medias to disseminate information, some of them have planned to strengthen the use of this kind of tools, to maintain the image of open Institutions, to develop the dissemination of information about the institution and their services in new forms, and to increase the statistical literacy as well. The UK Statistics Authority makes a commitment to "improve their web and social media channels dramatically, and to find innovative ways of making their statistics more engaging, easier to understand and accessible". The Hungarian Central Statistical Office have recently launched a weekly quiz on *Facebook* where the user can choose from multiple answers, with the aim to increase statistical literacy.

### ***Web 2.0 platforms for disseminating statistics***

Only few NSIs, among those interviewed, have set up Web 2.0 platforms to engage people with statistics through VDB (Virtual Database) and API (Application Programming Interfaces) to encourage users to re-use and share statistical data. Others use interactive animated charts with the possibility to share and embed them into users' websites or blogs. In some cases the NSIs set up a statistics user forum to make sure that the needs and views of the statistical user community are properly taken into account, and to stimulate engagement between users and other users, and between users and producers of official statistics.

The collaborative tools are mainly used to increase people's understanding, use and engagement with statistics. In particular, these tools allow:

- to give information about NSI's initiatives and, in some cases, provide users an opportunity to comment on the NSI's programs;
- to participate in chat sessions with experts about different official results;
- to quickly and easily share NSI's content with other users, with an ensuing redistribution of contents;
- to inform, through email notifications, NSI's website visitors when products of interest are released;
- to involve, in some cases, users with an interactive tool helping the NSI to improve its products and services, in a way that users can vote and give feedback on products offered;
- to use, by users and producers, an online collaboration tool which allows open discussion and different levels of engagement, for example for next Census.

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<sup>18</sup> [http://www.insse.ro/cms/files/Sistemul%20statistic%20european/SSE/fisiere/Draft%20Final%20Report\\_SpG.pdf](http://www.insse.ro/cms/files/Sistemul%20statistic%20european/SSE/fisiere/Draft%20Final%20Report_SpG.pdf)

### ***Future development for Web 2.0 platforms***

Most interviewed NSIs declared that they do not have any Web 2.0 platform to foster the engagement of people with statistics. Many of them neither have any plan to develop such platform in the near future yet, due to a lack of IT infrastructure and financial resources. Instead, among the NSIs which have plans for the future, some NSIs plan to conduct consultations on statistical work programme through collaborative blogs, or to create personalised statistics portal, where one option is to write and publish statistical analysis or other similar materials.

## **5.2. Section B – Use of Open Data, Big Data and crowd sourcing for empowering statistics**

The responses to section B of the Survey, dealing with Open and Big Data and crowd sourced initiatives, clearly show that these issues are a very recent on-going process which is completely new and still not completely exploited. All NSIs have indeed acknowledged the need for a thorough modernisation of the processes of production and dissemination of official statistics exploiting the opportunities of digital technologies. The Survey shows that more than 70% of the respondent NSIs declared they are carrying out research activities in the field. The NSIs interviewed have many different situations on the matter: as for Open Data, there are many on-going initiatives, some of them showing a high level of development, while with regard to Big Data, the process is still at an early stage and most NSIs are exploring new frontiers, are doing feasibility studies and implementing pilot projects. However, some general common practices can be identified as follows.

### ***Open Data***

All respondents declared to have on-going initiatives which range from the availability of an Open Data Area on their own website to the set-up of specific platforms and portals that allow also to link data and re-use them while protecting the confidentiality of personal information and keeping data secure. NSIs are recognising that data, to be truly open, not only must be freely available on line, but they should be available in a format that maximise their potential for re-use, with semantically tagged information, open formats, machine-readable data structures and rich metadata that allow different representations of the same content, and links between related resources. Actually, those NSIs which regularly use Open Data are making efforts to re-architect the statistical metadata management capability and to develop high performance analysis capabilities.

To mention an example of data integration, Statistics New Zealand have developed an Integrated Data Infrastructure (IDI) which brings together data from a range of sources to create a linked, longitudinal database that can be used for policy evaluation, research and the production of statistical outputs on people's life pathways and outcomes. The IDI is core to the current government's aim to support data-driven policy through greater use of data and analytics.

### ***Main on-going NSIs initiatives on Open Data***

From the Survey results it is possible to provide a broad classification of the key on-going initiatives carried out by the NSIs on Open Data, showing the implementation of a process that ranges from unprocessed forms of open data to ready-made visualisation and re-usable formats, in many cases focusing on population Census data, location based data from Census and economic based data from labour market. In particular, the initiatives can be summarised in:

- remove licensing restrictions to data access;
- provide a simpler and better access to a much wider range of statistics;
- provide semantic data, metadata, texts, graphics, maps, public use files;
- convert data previously locked in publication formats into downloadable database for automated re-use and also transformed in pilot visualisations;
- use Application Programming Interfaces (API);



- set up Open Data Portal/Platform;
- develop machine-to machine services;
- set up mobile application to provide statistical data on a mobile device;
- set up linked open data initiatives.

### ***Big Data***

All the respondent NSIs confirmed the importance of Big Data as a potential data source that can be used in official statistics. This new source can be very important for delivering more frequent statistics and improving the information of more traditional sources, thus many NSIs are interested in the impact that Big Data may have on their statistical processes and outputs. However, nearly all the respondents are still conducting feasibility studies on their usage, planning their application to some statistics or implementing pilot projects. At the moment one of most common use of Big Data, which is actually implemented, refers to scanned data in relation to price statistics.

### ***European and international initiatives on Big Data***

The great importance of this issue is confirmed by the participation mentioned by many NSIs in European and international initiatives on Big Data. Among these, most NSIs take part in the Eurostat Big Data Task Force composed of NSIs in partnership with other International Organisations (OECD, UNECE), Commission services (DG CNECT) and academics. The Eurostat Big Data Task Force intends to lead and co-ordinate developments within the European Statistical System and the Commission with regard to maximising the potential of Big Data for Official Statistics and evidence based policy making. Other NSIs are involved into the UNECE project “Big Data in official statistics”<sup>19</sup> that, through a collaborative approach, bringing together over 70 experts from national and international statistical organisations around the world, aims at identifying the main challenges of using Big Data sources for official statistics. Finally, some are involved into the AAPOR Task Force on Big Data<sup>20</sup> aiming at developing standards of disclosure and transparency when using Big Data in survey research. Moreover, within these initiatives it is worth mentioning, at European level, the Scheveningen Memorandum adopted in 2013 by the heads of EU statistical offices which is a high level formal commitment to jointly address the challenges and opportunities of Big Data that will provide NSIs and Eurostat with the necessary legitimacy for actions in this regard. Further at European level in 2014 the European Statistical System Committee in Riga adopted an Action Plan on the integration of Big Data in official statistics which has been incorporated in the ESS annual work program. All these initiatives witness that Big Data inevitably requires transformations in NSIs, such as cultural, organisational and eventually transiting towards new tasks and responsibilities. As stated in the above mentioned Scheveningen Memorandum and as highlighted in the Technical Final Report on the ESS Big Data Event held in Rome in 2014<sup>21</sup>, some aspects of Big Data, such as heterogeneity, lack of structure, volume, representativeness and coverage over the populations of interest for official statistics, oblige to implement new methodological developments, including quality assessment and IT related issues.

### ***Main planned and experimental uses of Big Data in official statistics***

Within the international consensus on new opportunities and challenges that Big Data offer to official statistics, the initiatives carried out by the NSIs interviewed on the use of Big Data are

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<sup>19</sup> <http://www1.unece.org/stat/platform/display/bigdata/Big+Data+Projects>

<sup>20</sup> [http://www.aapor.org/AAPORKentico/AAPOR\\_Main/media/Task-Force-Reports/BigDataTaskForceReport\\_FINAL\\_2\\_12\\_15.pdf](http://www.aapor.org/AAPORKentico/AAPOR_Main/media/Task-Force-Reports/BigDataTaskForceReport_FINAL_2_12_15.pdf)

<sup>21</sup> [http://www.cros-portal.eu/sites/default/files/Big%20Data%20Event%202014%20-%20Technical%20Final%20Report%20-finalV01\\_0.pdf](http://www.cros-portal.eu/sites/default/files/Big%20Data%20Event%202014%20-%20Technical%20Final%20Report%20-finalV01_0.pdf)

mostly feasibility studies and exploratory methodological activities. Among these, some initiatives are worthy to be mentioned:

- customs scanner data and telecommunications bills for price measurement;
- card payments data for tourists spending survey;
- mobile phone data to specify person's location;
- web scraping about real estate prices and for improving job vacancy statistics;
- web scraping techniques associated with text and data mining algorithms to integrate the survey on ICT in enterprises;
- geo-location data and mobile phone data to estimate population grids, migration, origin/destination matrix of daily mobility and other related topics;
- google trends for integrating labour force estimates and for producing estimates at a finer territorial level;
- energy consumption data (e.g. smart meters) for replacing information collected through surveys;
- machine generated data, credit card data, web data for improving household budget statistics;
- satellite images and sensor data for statistics on traffic flows and transportation;
- tweets classified by sentiments to complement statistics on subjective wellness.

### ***Main issues related to the use of Big Data for official statistics***

The international guidelines and working groups as well as the national initiatives the NSIs are currently implementing show that there are some key and challenging questions that have to be faced:

- methodological aspects
- IT equipment
- quality
- legal and technical issues
- training
- partnerships with private stakeholders, who are “owners” of the big data
- cultural and organisational questions

The Survey has highlighted that to further implement digital systems on Big Data, human resources are necessary but they have to be trained and specialised. Moreover, in a common situation of cost constraints, the development of such tools requires financial resources, not always available. In some cases, there might be also organisational problems inside the NSIs. The legal issue can be an obstacle to the development of Big Data as well, both in terms of the lack of a legal basis allowing the NSI to work with them, and the legal framework to manage the partnership with data owners for data exchange. Actually there are few owners of Big Data but they are large organisations and the set-up of public-private partnerships between NSIs – governmental agencies – with these providers may require specific institutional treatment. On the financial side, a key issue concerns the feasibility for NSIs of accessing Big Data for free, providing fiscal incentives to the providers or buying them<sup>22</sup>. In any case, most NSIs have set up *ad hoc* groups to undertake exploratory methodological activities in the area of Big Data and the specific IT tools and techniques needed. To cite some examples on that, some NSIs are investigating new technological tools, like Statistics Canada where a “hackathon” day was hosted at the Agency to generate interest and encourage innovative use of the data; moreover, an innovation lab has been created to support exploratory activities in the area of Big Data. NSI Mexico (INEGI) are searching for alliances with other institutions to get computational power to process massive amounts of information.

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<sup>22</sup> For a more detailed analysis on these issues cfr. “Final Report on the ESS Big Data Event held in Rome in 2014”



### ***Future plans on Big and Open Data***

Only few NSIs among those interviewed do not carry out any research work on Big Data and Open Data. Sometimes the shortage of resources does not allow to investigate the fields. However, even if some NSIs have no project in the pipeline for exploring opportunities, they are participating to the above mentioned international activities. In general, most NSIs are at an early stage of working with regard to Big and Open Data technologies.

The majority of the NSIs interviewed declared that the tools they use do not allow a distinction between official and non-official data sources. The NSIs which currently do not have any digital technology to exploit Big Data and Open Data have long term policies aimed at maximising the use of them as data sources. In many NSIs research analysis are being carried out and possible digital initiatives on Open and Big Data will depend on the successive intermediate results obtained through the development of the ongoing research.

### ***Crowd sourced information***

The great majority of the NSIs interviewed do not have any digital initiative to make use of data and information generated by civil society organisations and citizens. The same limits already highlighted for Big and Open Data, due to the lack of financial and human resources, organisational and legal aspects, have to be taken into account when developing collaborative digital platforms for citizen-generated data. Nevertheless, the current trend toward citizens involvement cannot be stopped. Citizens are more and more aware of their rights and power, and thanks to social networks, they are able to clearly show their needs. Therefore, they are contributing to quickly change the approach, from top-down, where NSIs play a central role, to bottom-up, where citizens play a key role through grass roots movements. They are aware that, if they show their needs in a systematic and organised way, they may have a direct influence on the production of statistics of their interest and on policy makers' decisions as well. In particular, within the wide area of wellbeing, citizens are becoming more and more active in asking for, proposing and searching for small and big solutions for their everyday life, contributing to monitor developments and providing information.

Two innovative examples of digital platforms for citizens engagement which allow to crowd source data as well, SMART Italy and that of INEGI Mexico, are reported in next section 6.

## **6. Some remarkable experiences**

This section will focus on some effective examples of IT tools and web platforms, implemented by Eurostat and some NSIs, aimed, on a side, at disseminating and interacting with users to make official statistics easy to access and, on the other side, at interacting with citizens to involve them in the process of defining statistics close to their information needs. Eurostat is playing a central role within the European Statistical System to foster the new visual approach for more understandable statistics, exploiting the potential of IT technologies. In particular, Eurostat infographics, through a more visual dissemination, intend to attract new users of European statistics. At a national level, it is worth mentioning some successful examples of NSIs which are developing new ways of engaging users. Some experiences have been reported for their very effective ways of visualising statistics to be disseminated so that even not specialised users can catch the information easily and quickly. Namely, the “UK well-being wheel” and “How’s Austria?”, by means of sophisticated visualisation techniques, allow users to select the dimensions of progress and wellbeing they are most interested in. In the same direction, the Australian Bureau of Statistics developed the “Run that Town” interactive tool, a completely new way to interact with data able to reach audiences who would never usually be interested in statistics. The other cases reported represent interactive platforms which allow not only an active participation of users but empower people to be “producers” as well as consumers of data. In particular, SMART Italy is a very innovative tool to

build up local data on employment based on Small Area Estimations, which can be highly useful for local administrators, providing a methodology to compare the official data available on line with the crowd sourced data uploaded by the users. Finally, the INEGI Mexico initiative is a clear example of crowd sourcing, as the direct knowledge of the environment by the population contribute towards the updating of the official cartography.

### 6.1. Eurostat infographics

During the last NTTS Conference 2015<sup>23</sup> in Brussels, Eurostat highlighted that one of the main challenge of official statistics is to develop a new communication and dissemination strategy able to face the current deluge of data, the quick evolution of IT technology and the continuous changes of users' behaviour. Eurostat is proposing new and more visual dissemination tools which aim at making their statistics more understandable to less experienced users and also attracting new users of European statistics.

Focusing on infographics<sup>24</sup>, Eurostat decided to complement its offer by presenting regular infographics on the homepage of its new website, in order to arouse the interest and provide assistance to less experienced users. Within Infographics the *Young Europeans* area is an interactive tool constructed around a number of questions about the life of young Europeans on different themes. The tool provides the possibility to compare the way of living of young people aged 15-29 with those of any other young Europeans of the same age and sex. This tool is also intended for parents, decision-makers, politicians or teachers who want to know more about the young generation in Europe.



<sup>23</sup> <http://www.cros-portal.eu/content/ntts-2015>

<sup>24</sup> P. Bautier, B. Le Goff, 2015, "A more visual dissemination for attracting new users", 2015 NTTS Conference.

## 6.2. UK interactive measures of national well-being

The Office for National Statistics (ONS) has recently developed a web-based tool, the *National Well-being wheel*<sup>25</sup> to help understand and monitor well-being and to allow people to see how the nation is doing or focus on particular areas of interest<sup>26</sup>. The National Well-being wheel and a range of interactive tools<sup>27</sup> (graphs, maps and bar charts), which present data at country and region level in the UK, are part of the wider ONS Measuring National Well-being (MNW) programme. It is a long-term programme that aims at developing and publishing an accepted and trusted set of official statistics which help people to measure and monitor national well-being. It looks at “GDP and beyond” and includes headline indicators in areas such as health, relationships, job satisfaction, economic security, education, environmental conditions and measures of “subjective well-being” (individuals’ assessment of their own well-being). The initial list of domains and measures was developed based on responses to a national debate that gathered views on what matters to people and helped establish an ongoing dialogue with citizens, specialists and others. Currently, taking into account updating, the framework comprises 10 domains and 41 measures of wellbeing. All these ONS initiatives demonstrate how they are moving from static visualisations of data to more interactive visualisations that allow users to drill down and geo personalise data to get information on what matters to people.

National  
Well-being



## 6.3. How's Austria?

In 2012, Statistics Austria launched *How's Austria?*<sup>28</sup> an interactive tool comprising 30 headline indicators which complement the GDP in the field of material wealth, quality of life and

<sup>25</sup> <http://www.neighbourhood.statistics.gov.uk/HTMLDocs/dvc146/wrapper.html>

<sup>26</sup> The evolution of the wheel was presented by Z. Hartland, ONS during the Web-COSI [“Workshop: Using Technology to Engage Citizens with Well-being Statistics – Perspectives from Official Statistics and Government”](#). See [http://www.wikiprogress.org/images/Hartland\\_ONS.pdf](http://www.wikiprogress.org/images/Hartland_ONS.pdf)

<sup>27</sup> <http://www.ons.gov.uk/ons/guide-method/user-guidance/well-being/interactive-content/index.html>

<sup>28</sup> <http://www.statsblogs.com/2012/11/27/how-s-austria/>

environmentally-oriented sustainability. The interactive database reflects the different dimensions of prosperity and progress for Austria by exploiting the available statistical data from official sources. The tool was implemented following recommendations made by the “Sponsorship Group on Measuring Progress, Well-being and Sustainable Development”<sup>29</sup>, and additional target indicators at EU (e.g. Europe 2020 indicators) and OECD level were included in the selection. An important criterion for the selection of key indicators was also the availability of time series. An interactive choice of indicators and visual presentations help the user in understanding and evaluating developments. Indexing all indicators makes possible some comparisons. The user can select up to 7 indicators among the 30 proposed to visualise them at the same time into a single graph to make quick visual comparisons. Along a 5-point scale represented by icons (from a sun to thunderstorm clouds) the tool allows a quick perception of the direction in which the situation reflected by the indicators developed, providing simple information about the development of sustainability.



#### 6.4. SMART Italy

In recent years, Istat has carried out a pilot project *SMART*<sup>30</sup> (SMall ARea Tool). The project has set up an interactive tool based on the Small Area Estimation (SAE) methodology which allows to construct local data (for employment and unemployment) starting from the official data set released

<sup>29</sup> Launched by the European Statistical System in 2010.

<sup>30</sup> The SMART platform was presented by S. Falorsi, Istat during the Web-COSI “Workshop: Using Technology to Engage Citizens with Well-being Statistics – Perspectives from Official Statistics and Government”. See [http://www.wikiprogress.org/images/Stefano\\_Falorsi\\_-\\_SMART.pdf](http://www.wikiprogress.org/images/Stefano_Falorsi_-_SMART.pdf)



only at National level. The platform is conceived to respond to the local administrators' need to have local data based on a robust methodology which brings to define non-official local data at real time. Presently, SMART is used only by informed users trained by Istat's experts for a proper usage of the tool. The Users have to verify the model and validate the estimates through the comparison with other sources. All the methods implemented in SMART are model based estimators built up on linear mixed models (Area level synthetic predictor-Area level EBLUP-Unit level synthetic predictor-Unit level EBLUP-Unit level EBLUO using spatial correlation among area random effects). The SMART exercise represents a very important experiment carried out by Istat for the implementation of tools able to define local data starting from National data sets. The next step is to set up platforms addressed to common users who can construct local data, thanks to the information they can give on their locality, starting from the available official National data sets.

## 6.5. Australian Run that Town

The Australian Bureau of Statistics (ABS) has recently launched a new and innovative user and community engagement tool, *Run That Town*<sup>31</sup>. This is an interactive and fun game<sup>32</sup> that promotes the release and application of Census data, increasing access to, and use of this wealth of statistical information. The game demonstrates the many uses of Census data by common citizens in a light-hearted and entertaining way. The goal is to boost popularity through changing public opinion by approving popular town building proposals, through the use of Census data to support decisions, to grow the town and keep the locals happy. The game can be downloaded for free from the App Store and played on all current Apple devices.

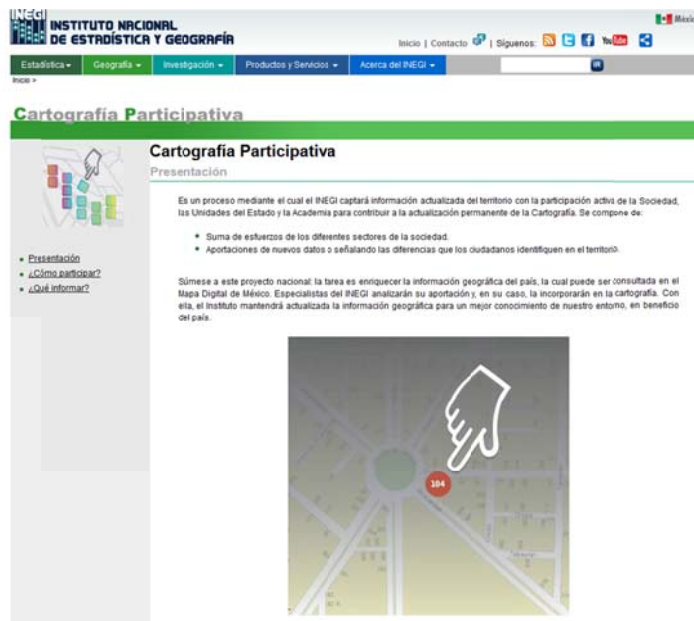


<sup>31</sup> <http://runthattown.abs.gov.au/>

<sup>32</sup> *Run that Town* was presented by E. Walter, Australia Bureau of Statistics during the Web-COSI “Workshop: Using Technology to Engage Citizens with Well-being Statistics – Perspectives from Official Statistics and Government”. See [http://www.wikiprogress.org/images//Emily\\_Walter\\_ABS.pdf](http://www.wikiprogress.org/images//Emily_Walter_ABS.pdf)

## 6.6. The crowd sourced initiative of INEGI Mexico

The Mexican National Statistics and Geographic Institute (INEGI) set up a digital initiative<sup>33</sup> with the aim to collect crowd sourced data and geographical information to complement and “reshape” official data. The purpose of the initiative is to maintain the authoritative cartography up to date through the participation of the general population, as they have first-hand knowledge of their geospatial environment. The process begins with participants first registering online. Then they are granted access to the official, authoritative cartography where they generate a descriptive report of the change needed, complementing the report with photographs or other aids. Once submitted, the information is reviewed before it is incorporated into official cartography. This initiative allows for timely and updated information and research is on-going to measure the impact on society.



## 7. Conclusions

The report has given a review on how during time the relationship between the NSIs (the producers of official statistics), citizens and stakeholders has deeply evolved. Starting from a pure top-down approach towards a joint top-down/bottom-up approach which sees the involvement of citizens as a crucial element for the construction of better statistics. The report has illustrated the recent experiences carried out by the NSIs to foster citizens’ engagement with statistics with the aim to foster the usage and understanding of the data and with the aim to re-shape the statistics thanks to the interactivity with communities. NSIs are exploring how to exploit the new sources of data available on line (Big Data, Open Data, crowd sourced locally generated data ).

Bridging top-down and bottom-up approaches leads the NSIs to face crucial challenges on a new way of “making statistics”. The usage of new sources of data conveys to significant issues such as validation, metadata, methods and techniques, including IT tools to allow combining user-generated data with the data produced by official statistics. The era of “Statistics 2.0” arises the trade-off between having more and real-time information and the quality of the information produced. The

<sup>33</sup> <http://www.inegi.org.mx/cartografiaparticipativa/default.aspx>

exploitation of liquid data on line - Open Data, Big Data and crowd sourced data - implies a big investment in producers and users' skills to combine information coming from different sources. It brings to consider crucial elements such as privacy, acceptance of data re-use and the management and protection of the data.

Web-COSI project, is experimenting that encouraging communities to share, collaborate and make use of data and information at local and global level is a winning exercise. Participatory platforms, enabling virtual communities to interact, change the way in which statistical producers and consumers of information access the data at "real time", leading to narrow the gap between what statistics say and what people perceive. Nowadays, NSIs are working hard for the integration of traditional official statistics with new sources of data conscious that it is an overwhelming process which requires a radical change of mind set.

Web-COSI is giving its contribution to create a critical mass involving the NSIs on the importance of the usage of non-official sources also to push consensus at political level to support the research fostering partnerships between NSIs, Academia, civil society organisations, social entrepreneurs, and communities at large.

In the Web 2.0 era when online communities want to count more and more, the National Statistical Institutes cannot ignore their centrality for the definition of better statistics, for a better knowledge, for a new awareness to steer individual behaviour and better policies for a better quality of life.



## References

- Bautier P., Le Goff B. (2015), “A more visual dissemination for attracting new users”, 2015 NTTS Conference. Available at: [http://www.cros-portal.eu/sites/default/files//Bautier-et-al\\_Conference%20Brussels%202015.pdf](http://www.cros-portal.eu/sites/default/files//Bautier-et-al_Conference%20Brussels%202015.pdf)
- CMEPSP Commission on the Measurement of Economic Performance and Social Progress (2009), Report by the Commission on the Measurement of Economic Performance and Social Progress, [http://www.stiglitz-sen-fitoussi.fr/documents/rapport\\_anglais.pdf](http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf)
- European Statistical System (2011), “Final Report on the Sponsorship Group on Measuring Progress”, Well-being and Sustainable Development. Available at : [http://epp.eurostat.ec.europa.eu/portal/page/portal/pgp\\_ess/0\\_DOCS/estat/SpG\\_Final\\_report\\_Progress\\_wellbeing\\_and\\_sustainable\\_deve.pdf](http://epp.eurostat.ec.europa.eu/portal/page/portal/pgp_ess/0_DOCS/estat/SpG_Final_report_Progress_wellbeing_and_sustainable_deve.pdf)
- Eurostat (2014), “Final technical report on Big Data Conference”, Rome, 31March-1 April 2014, available at <http://www.cros-portal.eu/content/2014-big-data-event-final-report>
- Fazio D. (2014). Statistics for society, Science and Technology, Issue 11, Pan European Networks Publication. Available at <http://www.paneuropeannetworks.com/ST11/#30>
- Fazio D., Signore M. (2014). Exploiting crowd sourced platforms for statistical purposes, paper presented at Q2014 European Conference on Quality in Official Statistics, Vienna, Austria, 3-5 June 2014. Published in Conference Proceedings. Available at [http://www.q2014.at/fileadmin/user\\_upload/Q2014\\_Paper\\_Fazio-Signore\\_Session\\_38.pdf](http://www.q2014.at/fileadmin/user_upload/Q2014_Paper_Fazio-Signore_Session_38.pdf)
- Giovannini E. (2010), “Statistica 2.0: the next level”, Introductory speech at the 10th National Conference of Statistics, Rome. Available at: [http://www3.istat.it/dati/catalogo/20120621\\_00/atti\\_decima\\_conferenza\\_nazionale\\_statistica.pdf](http://www3.istat.it/dati/catalogo/20120621_00/atti_decima_conferenza_nazionale_statistica.pdf)
- Leib, S. and Z. Hartland (2013), “ICT Delivering Tools: Catalogue of user tools and discussion relating to implementation”, e-Frame deliverable 8.1, <http://www.eframeproject.eu/fileadmin/Deliverables/Deliverable8.1.pdf>
- Secretary-General’s Independent Expert Advisory Group on a Data Revolution for Sustainable Development (IEAG) (2014). “A world that counts”. Available at: <http://www.undatarevolution.org/wp-content/uploads/2014/11/A-World-That-Counts.pdf>
- Sestini F. (2012). Collective Awareness Platforms: Engines for Sustainability and Ethics. IEEE Technol. Soc. Mag. 31(4) pp. 54-62 Available at: <http://caps2020.eu/wp-content/uploads/2013/11/CollectiveAwarenessPlatformsEngineforSustainabilityandEthics-1.pdf>
- Scrivens K. and Gulbahar S. (2014), “Mapping initiatives and best practice: the results of citizen dialogue on well-being and societal progress”, Web-COSI project deliverable 2.3, [http://www.webcosi.eu/images/2013/11/Web-COSI\\_Deliverable-2.3.pdf](http://www.webcosi.eu/images/2013/11/Web-COSI_Deliverable-2.3.pdf)

## Annex1 – Istat Survey on “Web2.0 NSIs initiative vs citizens for statistics”



## SURVEY ON WEB 2.0 NSIs INITIATIVES VS CITIZENS FOR STATISTICS

A) FOSTERING INTERACTION WITH CITIZENS BY SOCIAL MEDIA AND WEB PLATFORMS TO EMPOWER STATISTICS

B) USE OF OPEN DATA, BIG DATA AND CROWD SOURCING FOR EMPOWERING STATISTICS

The Italian National Statistical Institute (Istat) is coordinating an FP7 project Web-COSI, *Web-Communities for Statistics for Social Innovation* ([www.webcosi.eu](http://www.webcosi.eu)), funded by the DG CONNECT within the ICT Work Programme 2013.

The general aim of Web-COSI is to foster the engagement of citizens on statistics (in particular focusing on beyond GDP indicators) using the opportunities of Web 2.0 technologies and studying how these opportunities are exploited by stakeholders and citizens.

The project, with the partnership of OECD and two young NGOs (Lunaria, IT and i-genius, UK), build upon the understanding that technology has revolutionised the way information is created and shared. This in turn has a direct impact on statistical data collection, production, dissemination, visualisation and retrieval.

Big Data, Open Data, Web 2.0 applications (Wikis, Social Networks) have introduced a new participatory process encouraging the sharing of information and data, thus further expanding our horizon. Online communities enable producers and consumers of information to meet without “boundaries”, exploring the role of official and non-official statistics and contributing to shape “the way” information and data are collected, produced and shared. *Liquid data* available on line are an increasing opportunity for the European Statistical System.

Within Web-COSI activities, the present survey, in charge of ISTAT, aims at taking stock of the Web 2.0 initiatives set up by the NSIs, and to get knowledge about the future plans to set up/improve such initiatives. The survey is composed by two sections. **Section A**, addressed to the **Communication Units**, deals with the issues on social media and web platforms for a growing interaction with citizens for empowering statistics. **Section B**, addressed to the **ICT Units**, focuses on the challenges and opportunities given by the Big Data, Open Data and crowd sourced data available in the Net.

It would be really appreciated if your National Statistical Institute could complete this form.

If you encounter problems filling this Survey, don't hesitate to get in touch with Donatella Fazio, Web-COSI scientific coordinator ([dofazio@istat.it](mailto:dofazio@istat.it)).

We would really appreciate if you could return it to [rd-projects@istat.it](mailto:rd-projects@istat.it) by the end of November 2014.

Many thanks!  
Donatella Fazio

.....  
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Web-COSI project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 610422.



return to [rd-projects@istat.it](mailto:rd-projects@istat.it)

SURVEY ON WEB 2.0 NSIs INITIATIVES VS CITIZENS FOR STATISTICS

**SECTION A**

(addressed to the **Communication Units**)

**FOSTERING INTERACTION WITH CITIZENS BY SOCIAL MEDIA AND WEB PLATFORMS TO EMPOWER STATISTICS**

<b>NSI:</b>	
<b>Country:</b>	
<b>Name of the respondent:</b>	
<b>Function of the respondent:</b>	
<b>e-mail address:</b>	



Web-COSI project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 610422.



*A.1) Did/Does your organisation carry out specific communication initiative/s using Social Networks/Media with the aim to interact with citizens about the access, usage and understanding of statistics?*

YES NO

If YES:

**A.1.1 ) Can you describe the initiative/s highlighting aims and impact ?**

*Please, add any documentation you consider useful*

**A.1.2) Can you provide the web address/es or link/s of the initiative/s?**

*Please, add any documentation you consider useful*

If NO:

**A.1.3) Does your organisation plan to set up such initiatives? Can you describe any future plans?**



Web-COSI project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 610422.





**A.2) Did/Does your organisation carry out specific communication initiative/s setting up collaborative Web 2.0 platforms with the aim of increasing people's understanding, use and engagement with statistics?**

**YES NO**

**If YES:**

**A.2.1) Can you describe the initiative/s highlighting aims and impact ?**

*Please, add any documentation you consider useful*

**A.2.2) Can you provide the web address/es or link/s of the initiative/s?**

*Please, add any documentation you consider useful*

**A.2.2) Can you indicate the software you use ?**

*Please, add any documentation you consider useful*

**If NO:**

**A.2.3) Does your organisation plan to use collaborative Web 2.0 platforms ? If yes, please describe your future plans?**

Thank you for completing Section A of the survey



Web-COSI project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 610422.



return to [rd-projects@istat.it](mailto:rd-projects@istat.it)

## SURVEY ON WEB 2.0 NSIs INITIATIVES VS CITIZENS FOR STATISTICS

### SECTION B (addressed to the **ICT Units**)

#### USE OF OPEN DATA, BIG DATA AND CROWD SOURCING FOR EMPOWERING STATISTICS

<b>NSI:</b>	
<b>Country:</b>	
<b>Name of the respondent:</b>	
<b>Function of the respondent:</b>	
<b>e-mail address:</b>	



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**B.1) Is your organisation doing any work on Big Data and Open Data such as pilot project/s and research initiative/s (working group, task force,...) to explore opportunities in this area?**

**YES NO**

**If YES:**

**B.1.1) Can you describe the initiative/s highlighting aims and desired impact?**

*Please, add any documentation you consider useful*

**B.1.2) Which fields/ topics areas the initiative/s cover (labour, health, income, environment, beyond GDP...)**

*Please, add any documentation you consider useful*

**B.1.3) Can you provide web address/es or link/s of the initiative/es?**

*Please, add any documentation you consider useful*

**If NO:**

**B.1.4) Does your organisation plan to undertake any work on Big Data and Open Data ? If yes, please describe.**



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**B.2) Did/Does your organisation set up digital technology to exploit Big Data and Open Data for the construction of statistics?**

**YES NO**

**If YES:**

**B.2.1) Can you describe any digital technology initiative/s highlighting aims, techniques and impact ? This may include apps, games, interactive platforms etc.**

*Please, add any documentation you consider useful*

**B.2.2) Which fields/ topics areas the initiative/s cover (labour, health, income, environment, beyond GDP...)**

*Please, add any documentation you consider useful*

**B.2.3) Please describe the tools and software used.**

*Please, add any documentation you consider useful*

**B.2.4) Do you have any open source, data sharing platform/s?**

*Please, add any documentation you consider useful*



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**B.2.5) Do your tool/s allow a distinction between official and non-official data sources?**

*Please, add any documentation you consider useful*

**B.2.6) Can you provide web address/es or link/s of the tool/s set up by your organisation?**

*Please, add any documentation you consider useful*

**If NO:**

**B.2.7) Does your organisation plan to develop any digital initiatives for exploiting Open and Big Data ? If yes, please describe plans?**



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**B.3) Did/Does your organisation set up digital initiative/s to make use of data and information generated by civil society organisations and citizens (by collaborative platforms, crowd sourced data)?**

**YES NO**

**If YES:**

**B.3.1) The initiative/s was/were set up with the aim to:**

- A) collect new data and information
- B) collect data to complement official data
- C) get information to “reshape” official data
- D) for other uses (specify) .....

**B.3.2) Can you describe the initiative/s highlighting techniques and impact ?**

*Please, add any documentation you consider useful*

**B.3.3) In what field was/were the initiative/s set up (labour, health, income, environment, beyond GDP...)**

*Please, add any documentation you consider useful*

**B.3.4) What tool/s and software did/do you use?**

*Please, add any documentation you consider useful*



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**B.3.5) Is your initiative data sharing platform/s open source?**

*Please, add any documentation you consider useful*

**B.3.6) Do your tool/s allow distinguishing between official and non-official data sources?**

*Please, add any documentation you consider useful*

**B.3.7) What is/are the web address/es of the tool/s set up by your organisation?**

*Please, add any documentation you consider useful*

**If NO:**

**B.3.8) Does your organisation plan to undertake any work in this area? If yes, describe your future plans.**

Thank you for completing Section B of the survey



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## Annex2 – List of digital initiatives given by the NSIs responding to the Survey

Section A - Fostering interaction with citizens by social media and web platforms to empower statistics

**Communication** initiatives carried out by the NSIs using **Social Networks/Media** with the aim to interact with citizens about the access, usage and understanding of statistics

Austria	<a href="https://twitter.com/STATISTIK_AT">https://twitter.com/STATISTIK_AT</a>
Croatia	Twitter: @statcroatia (English version - <a href="https://twitter.com/statcroatia">https://twitter.com/statcroatia</a> ) @StatistikaHR (Croatian version - <a href="https://twitter.com/StatistikaHR">https://twitter.com/StatistikaHR</a> ) Facebook: <a href="https://hr-hr.facebook.com/statcroatia">https://hr-hr.facebook.com/statcroatia</a> LinkedIn: <a href="https://www.linkedin.com/company/croatian-bureau-of-statistics-dr-avni-zavod-za-statistiku-republike-hrvatske-">https://www.linkedin.com/company/croatian-bureau-of-statistics-dr-avni-zavod-za-statistiku-republike-hrvatske-</a>
Czech Republic	<a href="https://twitter.com/statistickyurad">https://twitter.com/statistickyurad</a>
Denmark	<a href="http://www.dst.dk/da/presse/twitter.aspx">http://www.dst.dk/da/presse/twitter.aspx</a> <a href="https://www.linkedin.com/company/166148?trk=vsrp_companies_res_name&amp;trkInfo=VSRPsearchId%3A148283671412607745782%2CVSRPtargetId%3A166148%2CVSRPcmpt%3Aprimary">https://www.linkedin.com/company/166148?trk=vsrp_companies_res_name&amp;trkInfo=VSRPsearchId%3A148283671412607745782%2CVSRPtargetId%3A166148%2CVSRPcmpt%3Aprimary</a>
Estonia	Statistics blog: <a href="http://statistikaamet.wordpress.com/">http://statistikaamet.wordpress.com/</a> Facebook: <a href="http://et-ee.facebook.com/Statistikaamet">http://et-ee.facebook.com/Statistikaamet</a> Slideshare: <a href="http://www.slideshare.net/Statistikaamet">http://www.slideshare.net/Statistikaamet</a>
France	Videos : <a href="http://www.insee.fr/en/publications-et-services/default.asp?page=videos.htm">http://www.insee.fr/en/publications-et-services/default.asp?page=videos.htm</a> Main indicators (EN): <a href="https://twitter.com/InseeFr_News">https://twitter.com/InseeFr_News</a> Studies (FR): <a href="https://twitter.com/InseeFr">https://twitter.com/InseeFr</a> Slideshare: <a href="http://fr.slideshare.net/InseeFr/presentations">http://fr.slideshare.net/InseeFr/presentations</a>
Hungary	Facebook (in Hungarian): <a href="https://www.facebook.com/KozpontiStatistikaiHivatal">https://www.facebook.com/KozpontiStatistikaiHivatal</a> Twitter (in Hungarian): <a href="https://twitter.com/KSHstat">https://twitter.com/KSHstat</a> Twitter (in English): <a href="https://twitter.com/Statshungary">https://twitter.com/Statshungary</a>
Italy	<a href="https://twitter.com/istat_it">https://twitter.com/istat_it</a> <a href="https://twitter.com/istat_en">https://twitter.com/istat_en</a> <a href="https://www.flickr.com/photos/galleria_istat/">https://www.flickr.com/photos/galleria_istat/</a> <a href="https://www.youtube.com/user/videoistat">https://www.youtube.com/user/videoistat</a> <a href="http://www.slideshare.net/slideistat">http://www.slideshare.net/slideistat</a>
Lithuania	Fb: <a href="https://www.facebook.com/pages/Lietuvos-statistikos-departamentas/213679255387015/">https://www.facebook.com/pages/Lietuvos-statistikos-departamentas/213679255387015/</a> TW: <a href="https://twitter.com/StatistikosD">https://twitter.com/StatistikosD</a> Blog: <a href="http://statistikouzasai.wordpress.com/">http://statistikouzasai.wordpress.com/</a>
Netherlands	Twitter.com/statistiekcb (Dutch), twitter.com/statisticscbs Youtube.com/statistiekcb (mainly in Dutch, some of their YouTube videos have English subtitles) Example of web app: <a href="http://www.cbs.nl/nl-NL/menu/themas/dossiers/conjunctuur/publicaties/artikelen/archief/2014/2014-groot-verhaal-hoe-zoveel-rijker-med.htm">http://www.cbs.nl/nl-NL/menu/themas/dossiers/conjunctuur/publicaties/artikelen/archief/2014/2014-groot-verhaal-hoe-zoveel-rijker-med.htm</a>
Portugal	<a href="https://www.facebook.com/pages/Censos-2011-Portugal/156805691035418">https://www.facebook.com/pages/Censos-2011-Portugal/156805691035418</a>
Romania	<a href="https://www.facebook.com/INSTATISTICA">https://www.facebook.com/INSTATISTICA</a>
Spain	<a href="https://twitter.com/es_INE">https://twitter.com/es_INE</a> <a href="https://www.youtube.com/user/INEDifusion">https://www.youtube.com/user/INEDifusion</a>
Sweden	Facebook: <a href="https://www.facebook.com/#!/statisticssweden?fref=ts">https://www.facebook.com/#!/statisticssweden?fref=ts</a> Twitter: <a href="https://twitter.com/StatsSweden">https://twitter.com/StatsSweden</a>
United Kingdom	From ONS only (links from other institutions are available) Twitter: <a href="https://twitter.com/ONS">https://twitter.com/ONS</a> Storify: <a href="https://storify.com/ONS">https://storify.com/ONS</a> Facebook: <a href="https://www.facebook.com/ONS">https://www.facebook.com/ONS</a>
Norway	@ssbnytt
Canada	Twitter: <a href="http://www.twitter.com/statcan_eng">www.twitter.com/statcan_eng</a> Facebook: <a href="http://www.facebook.com/statisticscanada">www.facebook.com/statisticscanada</a> YouTube: <a href="http://www.youtube.com/statisticscanada">www.youtube.com/statisticscanada</a>

Israel	<a href="https://www.facebook.com/#!/profile.php?id=100007792935092&amp;fref=%2Frefs.php">https://www.facebook.com/#!/profile.php?id=100007792935092&amp;fref=%2Frefs.php</a>
Mexico	<a href="https://twitter.com/INEGI_INFORMA">https://twitter.com/INEGI_INFORMA</a> <a href="https://www.facebook.com/INEGIMexico">https://www.facebook.com/INEGIMexico</a>
New Zealand	Twitter: <a href="http://www.twitter.com/StatisticsNZ">www.twitter.com/StatisticsNZ</a> Facebook: <a href="http://www.facebook.com/StatisticsNZ">www.facebook.com/StatisticsNZ</a>

**Communication** initiatives setting up **collaborative Web 2.0 platforms** with the aim of increasing people's understanding, use and engagement with statistics.

Czech Republic	<a href="http://vdb.czso.cz/vdb/en/charts.jsp">http://vdb.czso.cz/vdb/en/charts.jsp</a>
Denmark	Api.statbank.dk: <a href="http://api.statbank.dk/console#subjects">http://api.statbank.dk/console#subjects</a> Mobile StatBank: <a href="http://m.statbank.dk/">http://m.statbank.dk/</a>
United Kingdom	StatsUserNet: <a href="http://www.statsusernet.org.uk/Home/">http://www.statsusernet.org.uk/Home/</a> Scotstat: <a href="http://www.scotland.gov.uk/Topics/Statistics/scotstat">http://www.scotland.gov.uk/Topics/Statistics/scotstat</a>
Switzerland	<a href="http://blogstats.wordpress.com">http://blogstats.wordpress.com</a>
Canada	Blog: <a href="http://www.statcan.gc.ca/eng/blog-blogue">www.statcan.gc.ca/eng/blog-blogue</a> Chat with an expert: <a href="http://www.statcan.gc.ca/eng/chatwithanexpert">www.statcan.gc.ca/eng/chatwithanexpert</a> My StatCan: <a href="http://www.statcan.gc.ca/eng/mystatcan/login">www.statcan.gc.ca/eng/mystatcan/login</a> Labour Market Indicator desktop application: <a href="http://www.statcan.gc.ca/eng/sc/lmi">www.statcan.gc.ca/eng/sc/lmi</a> Consulting Canadians: Question of the month: <a href="http://www.statcan.gc.ca/eng/consultation/question-eng">www.statcan.gc.ca/eng/consultation/question-eng</a>
New Zealand	At this stage the Loomio discussion is private but will be made open next year: <a href="http://www.loomio.org/">www.loomio.org/</a> <a href="http://www.stats.govt.nz/browse_for_stats/snapshots-of-nz/data-visualisations.aspx">www.stats.govt.nz/browse_for_stats/snapshots-of-nz/data-visualisations.aspx</a>

## Section B – Use of Open Data, Big Data and crowd sourcing for empowering statistics

Work on **Big Data and Open Data** such as pilot project/s and research initiative/s (working group, task force,...) to **explore** opportunities in this area

Austria	<a href="http://www1.unece.org/stat/platform/display/bigdata/Big+Data+in+Official+Statistics">http://www1.unece.org/stat/platform/display/bigdata/Big+Data+in+Official+Statistics</a> <a href="http://www.statistik.at/web_en/about_us/events/scanner_data_workshop/index.html">http://www.statistik.at/web_en/about_us/events/scanner_data_workshop/index.html</a>
Belgium	OD Portal: <a href="http://data.gov.be/">http://data.gov.be/</a> PSI-portal: <a href="http://psi.belgium.be/fr">http://psi.belgium.be/fr</a>
Czech Republic	<a href="http://www.volby.cz/index_en.htm">http://www.volby.cz/index_en.htm</a> <a href="http://www.czso.cz/csu/redakce.nsf/i/otevrena_data">http://www.czso.cz/csu/redakce.nsf/i/otevrena_data</a> (Czech only)
Denmark	- (only in Danish)
Estonia	SE statistical database: <a href="http://pub.stat.ee/px-web.2001/dialog/statfile1.asp">http://pub.stat.ee/px-web.2001/dialog/statfile1.asp</a>
Hungary	The OP platform is currently reachable on their intranet only; it will published on Q1 2015
Italy	See attached papers on BD and OD
Lithuania	<a href="http://osp.stat.gov.lt/en/viesos-duomenu-rinkmenos">http://osp.stat.gov.lt/en/viesos-duomenu-rinkmenos</a>
Netherlands	OD portal: <a href="http://www.cbs.nl/nl-NL/menu/cijfers/statline/open-data/cbs-dataportaal-el.htm">http://www.cbs.nl/nl-NL/menu/cijfers/statline/open-data/cbs-dataportaal-el.htm</a>
Poland	<a href="http://www1.unece.org/stat/platform/display/BDP/Big+Data+Project+Home">http://www1.unece.org/stat/platform/display/BDP/Big+Data+Project+Home</a>
Slovakia	<a href="http://www.data.gov.sk">www.data.gov.sk</a>
Sweden	<a href="http://www1.unece.org/stat/platform/display/BDP/Big+Data+Project+Home">http://www1.unece.org/stat/platform/display/BDP/Big+Data+Project+Home</a>
United Kingdom	From ONS only (links from other institutions are available) API service: <a href="https://www.ons.gov.uk/ons/apiservice/web/apiservice/home">https://www.ons.gov.uk/ons/apiservice/web/apiservice/home</a> ONS Big Data: <a href="http://www.ons.gov.uk/ons/guide-method/development-programmes/the-ons-big-data-project/index.html">http://www.ons.gov.uk/ons/guide-method/development-programmes/the-ons-big-data-project/index.html</a>
Switzerland	<a href="http://www.opendata.admin.ch">www.opendata.admin.ch</a> <a href="http://data.admin.ch">http://data.admin.ch</a>



Canada	Federal government open data portal: <a href="http://www.data.gc.ca">www.data.gc.ca</a>
Israel	CBS website: <a href="http://www.cbs.gov.il/reader/?Mlval=cw_usr_view_Folder&amp;ID=141">http://www.cbs.gov.il/reader/?Mlval=cw_usr_view_Folder&amp;ID=141</a> Data Bank inside CBS website: <a href="http://www.cbs.gov.il/ts/ID7fa25467bb10af/databank/databank_main_func_e.html">http://www.cbs.gov.il/ts/ID7fa25467bb10af/databank/databank_main_func_e.html</a>
New Zealand	<a href="http://www.nzdatafutures.org.nz/">www.nzdatafutures.org.nz/</a>
Turkey	<a href="http://www1.unece.org/stat/platform/display/bigdata/Big+Data+in+Official+Statistics">http://www1.unece.org/stat/platform/display/bigdata/Big+Data+in+Official+Statistics</a>

### Setting up digital technology to exploit Big Data and Open Data for the construction of statistics

Italy	Publication of LOD Portal in February 2015
Lithuania	<a href="http://osp.stat.gov.lt/en/viesos-duomenu-rinkmenos">http://osp.stat.gov.lt/en/viesos-duomenu-rinkmenos</a>
Netherlands	OD portal: <a href="http://www.cbs.nl/nl-NL/menu/cijfers/statline/open-data/cbs-dataportal-el.htm">http://www.cbs.nl/nl-NL/menu/cijfers/statline/open-data/cbs-dataportal-el.htm</a>
Sweden	<a href="http://www.scb.se/en/About-us/Open-data-API/API-for-the-Statistical-Database/">http://www.scb.se/en/About-us/Open-data-API/API-for-the-Statistical-Database/</a>
United Kingdom	Cross government - Data.gov.uk: <a href="http://data.gov.uk/">http://data.gov.uk/</a> Environment Registry: <a href="http://environment.data.gov.uk/registry">http://environment.data.gov.uk/registry</a> URLs below relate to other Open Data work NOMIS: <a href="http://www.nomisweb.co.uk/">http://www.nomisweb.co.uk/</a> Neighbourhood Statistics: <a href="http://www.neighbourhood.statistics.gov.uk/">http://www.neighbourhood.statistics.gov.uk/</a> ONS: <a href="http://www.ons.gov.uk/ons/data/dataset-finder/">http://www.ons.gov.uk/ons/data/dataset-finder/</a> ONS Geography Portal: <a href="https://geoportal.statistics.gov.uk/geoportal/catalog/main/home.page">https://geoportal.statistics.gov.uk/geoportal/catalog/main/home.page</a>
Switzerland	See links in <a href="http://www.opendata.admin.ch">www.opendata.admin.ch</a>
Canada	<a href="http://www.data.gc.ca">www.data.gc.ca</a> <a href="http://www1.unece.org/stat/platform/display/bigdata/Big+Data+in+Official+Statistics">http://www1.unece.org/stat/platform/display/bigdata/Big+Data+in+Official+Statistics</a>
Mexico	<a href="http://hadoop.apache.org/">http://hadoop.apache.org/</a> <a href="https://spark.apache.org/">https://spark.apache.org/</a> <a href="http://www.elasticsearch.org/">http://www.elasticsearch.org/</a> <a href="http://www.r-project.org/">http://www.r-project.org/</a> <a href="http://www.scala-lang.org/">http://www.scala-lang.org/</a>
New Zealand	<a href="http://www.stats.govt.nz/browse_for_stats/snapshots-of-nz/integrated-data-infrastructure.aspx">www.stats.govt.nz/browse_for_stats/snapshots-of-nz/integrated-data-infrastructure.aspx</a>

### Setting up digital initiatives to make use of data and information generated by civil society organisations and citizens (by collaborative platforms, crowd sourced data)

United Kingdom	Defra – Joint Nature Conservation Committee (JNCC): <a href="http://jncc.defra.gov.uk/">http://jncc.defra.gov.uk/</a>
Mexico	<a href="http://www.inegi.org.mx/cartografiaparticipativa/default.aspx">http://www.inegi.org.mx/cartografiaparticipativa/default.aspx</a>