

Tracking Users for a Targeted Dissemination

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Abstract

How to build a dissemination and communication strategy in a world where users have easy access to a deluge of data and information from various origins and where IT tools and design standards change so quickly that users behaviour and their expectations are continuously modified? The first challenge of Eurostat is clearly to know what users want: we know our different types of users but we have to identify how they get our data, what they do with our data, how they react to our outputs and which sort of new service they would like us to propose. Translating these needs into a visual dissemination is a new challenge undertaken by Eurostat through a new portal, new mobile apps and new info graphs and basic application as well as increasing the visibility on Google. The objective of this paper is to share Eurostat's experience in identifying user needs and to show how concretely this information has been visually disseminated.

Keywords

Visual dissemination, user behaviour, user needs, user feedback

INTRODUCTION

Today, each national statistical office is confronted with the same challenge: how to build a dissemination and communication strategy in a world where users have easy access to a deluge of data and information from various origins and where IT tools and design standards change so quickly that users behaviour and their expectations are continuously modified?

Eurostat is also facing this challenge. In a document recently adopted by the European Statistical System (ESS),³ it is said that "the ESS Vision 2020 aims for a future-proof dissemination and communication strategy that satisfies divergent and ever-changing user needs at both national and European level...". The first challenge is clearly to know what users want: we know our different types of users (decision makers, media, researchers, businesses, students, public at large...) but we have to identify how they get our data, what they do with our data, how they react to our outputs and which sort of new services they would like us to propose. In our changing world, this information cannot be obtained only through an annual user survey, but would require continuous and "real time" feedback from our users.

Since a few years, Eurostat has been developing a number of different and complementary tools which give an interesting and up-to date representation of our user needs. The objective of this paper is to share

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³ See: <<http://ec.europa.eu/eurostat/web/european-statistical-system/legislation-in-force>>.

Eurostat's experience in identifying user needs and to show how concretely this information has been taken into account and integrated, in particular in the functionalities and services offered by our new website.

1 FINDING THE WAY IN THE LABYRINTH OF USER NEEDS

Since the start of our free dissemination policy in October 2004, the Eurostat website⁴ – with all of its associated tools and services – has been identified as the cornerstone of Eurostat's interaction with all kinds of users. It has become the single gateway for Internet users to have on-line access to all Eurostat data and metadata, news releases and publications, or general information about Eurostat. The website is heavily visited. On a monthly basis, the website records more than 3 million visits, over 4 million page views, 700 000 pdf downloads and more than 1 million extractions of data, which ranks the site amongst the top 5 websites of the European Commission. Increasingly, data is being downloaded in bulk, with monthly downloads from the Bulk Download facility reaching 1.2 million files for a volume of 450 Gigabytes.

In order to better understand the needs of our web users, Eurostat has progressively put in place a set of tools. Each of them helps to assemble a more global picture of what modern users expect from suppliers of statistical data.

1.1 Measuring satisfaction

To get an overview of the general level of satisfaction of users, Eurostat conducts an annual on-line user satisfaction survey. This classical method still provides valuable information and feedback on the most consulted statistical domains, the purpose and the frequency of the consultation, as well as an assessment of the quality of our data, publications, and dissemination practices. The 2014 survey had 5 000 replies, the highest response rate in 5 years. Students, academics and private users accounted for the largest proportion of respondents (44%), followed by commercial business (25%) and governments (19%). Replies from international organisations, including EU institutions, and from other users both accounted for more than 5%. As regards the media, a specific survey is also organised every year.

The survey questionnaire has remained similar through the years, allowing for a comparative analysis over time. Overall the results of the survey change only marginally from year to year. Globally, results are positive. Trust remains overwhelmingly positive with 95% of the respondents stating they greatly trust European statistics or tend to trust them. On the dissemination aspects, all user groups are rather satisfied with dissemination practices and support services provided by Eurostat. However, when asked to assess the easiness of access to European statistics, 45% of respondents said it was easy, 40% partly easy and 12% not easy. Improvements are mainly suggested in the area of the search facilities along with the navigation.

1.2 Detecting user behaviour

Website log files provide a wealth of information which is exploited through a detailed and extensive web analytics effort. Each month a 30 page monitoring report on Eurostat electronic dissemination is published on the intranet. Besides figures on the performance and availability of the website, this document compiles all relevant quantitative and qualitative information on what users consult and download; just to name a few: number of consultations for each page, number of publications downloaded and precise timing of the downloads (particularly interesting when you want to monitor the respect of a system of embargo for news releases), navigation and origin of the consultation (Eurostat website, Google, apps,...), average time spent on each visualisation tool, number of consultations of each dataset, etc. This web analytics effort provides a very good picture of what users are interested in and which visualisation tools are used to their full potential. Also, information on usage of Eurostat's mobile apps is available with the number of downloads, giving an indication of the total number of users of such tools, and the number of data updates, providing information on real usage of the mobile app. Although

⁴ See: <<http://ec.europa.eu/eurostat/web/main>>.

it is clear that web analytics is not an absolute science, it allows Eurostat to identify trends and have a more precise view on what and how users consult the on-line statistical information and data.

1.3 Getting feedback in real time

Besides these more traditional methods of measuring user satisfaction and behaviour, it becomes more and more important to measure the impact of dissemination in an on-line world. Indeed, successful dissemination cannot be measured by means of web analytics and usage figures alone, but it needs to take into account new ways of information. For instance, the monitoring of social media brings further insight into who is using our information, how they use it, what they say and think about it and how Eurostat is perceived on the internet in general. Furthermore, statistics are increasingly used by a variety of websites and blogs which target specific peer audience(s). These redistributors serve as a quality vector by adding value to the statistical information supplied by Eurostat. Consumers of such websites will find the relevant statistical information presented in a way which is tailored to their specific needs or context. This enables Eurostat to reach more audiences than it would achieve solely through its own dissemination products.

To measure the impact of dissemination, Eurostat uses a tool to analyse its e-reputation in real time. The tool provides a better knowledge of our users (the ones who are on blogs or social media) and of our impact in the media, and gives a quantitative but also qualitative feedback on our work. In 2014, Eurostat was mentioned nearly 102 000 times (+13% compared to 2013) on the English, French and German speaking web, from 33 500 different identified sources in the media, blogs, forum and social networks. A detailed daily, weekly and monthly analysis of our impact on the web is published internally. In addition, Eurostat disposes of the direct feedback provided by the 58 000 followers of its twitter account. Altogether, this information leads to a much better knowledge of our audience and gives us, in real time, a good idea of our impact on the web.

1.4 Communicating with users

Apart from measuring usage, Eurostat also communicates with users via a permanent user support network, ad-hoc focus groups and benchmarking exercises. For ten years, Eurostat has managed a system of national user support centres⁵ offering assistance in nearly all EU languages. Their role is to provide free-of-charge help to users who encounter difficulties in finding or understanding European statistics. In 2014, the whole support network treated more than 15 000 requests. Consumers of statistical information are getting more and more demanding which is confirmed by a clear trend of increasingly complex questions. The valuable feedback collected via this permanent structure enables Eurostat to identify concrete user requirements and helps us to improve the quality of our services.

During the preparation phase of its new website, Eurostat organised ad-hoc focus groups to allow an exchange of views on the current website's strengths and weaknesses. These focus groups were interactive sessions with internal Commission and Eurostat staff, as well as with representative external users (journalists, academics, members of European Parliament, members of European Statistical Advisory Committee). The outcome of the focus groups was integrated in the design and structure of the new website. In particular, more attention has been given to facilitate access to statistical information for non-expert users and to improve the search functionality, in particular by limiting the need to master the statistical jargon.

Furthermore, a more formalised interaction with users is done via the European Statistical Advisory Committee (ESAC)⁶ representing users, respondents and other stakeholders of European Statistics (including the scientific community, social partners and civil society) as well as institutional users (e.g. the Council and the European Parliament). The Committee plays an important role in ensuring that

⁵ See: <<http://ec.europa.eu/eurostat/help/support>>.

⁶ See: <<http://ec.europa.eu/eurostat/web/european-statistical-system/ess-governance-bodies/esac>>.

user requirements, as well as the response burden on information providers and producers are taken into account in developing the Statistical Programmes.

As a puzzle, put together, all these different elements provide a relatively good picture of our users and their needs.

2 TRANSLATING USER NEEDS INTO A DISSEMINATION STRATEGY

In order to integrate user needs in Eurostat's dissemination strategy, these needs are translated into concrete objectives and actions and we try to continuously adapt our policy to the new requests of the users. The objective of this paper is not to present a complete list of all actions implemented

Figure 1

The screenshot shows the Eurostat website interface. At the top, there is a navigation bar with the Eurostat logo, the tagline 'Votre clé d'accès à la Statistique européenne', and links for 'Ouvrir une session | S'enregistrer', 'Avis juridique', 'RSS', 'Cookies', 'Liens', 'Contact', and a language selector set to 'français'. A search bar is also present with the placeholder text 'Taper un mot clé, un oede, un titre...'. Below the navigation bar, there are several main sections:

- Actualités**: A featured article titled 'Plus de 410 000 primo-demandeurs d'asile enregistrés au cours du troisième trimestre 2015' with a date of 10/12/2015. The article text states: 'Au cours du troisième trimestre 2015 (de juillet à septembre 2015), 413 800 primo-demandeurs d'asile ont introduit une demande de protection internationale dans les États membres de l'Union européenne (UE), soit quasiment deux fois plus qu'au deuxième trimestre 2015.' Below the article are buttons for 'Calendriers des parutions' and 'Recensement 2011'.
- Données**: A section with icons for 'Tableaux populaires', 'Base de données', and 'Apps & Outils'.
- Publications**: A section with a search bar and a grid of categories including 'Statistiques générales et régionales', 'Économie et finances', 'Population et conditions sociales', 'Industrie, commerce et services', 'Agriculture et pêche', 'Commerce international', 'Transport', 'Environnement et énergie', and 'Science et technologie'.
- À propos d'Eurostat** and **Aide**: Navigation links.
- Chiffres clés**: A section showing 'Taux brut de natalité' (10.1 for 2014 UE) and 'Espérance de vie' (83.3 for 2013 UE). Below this is a line chart titled 'Nombre de naissances vivantes pour 1000 habitants' comparing the UK, EU, and NL from 2003 to 2014.
- STATISTICS EXPLAINED - ENCYCLOPÉDIE DE LA STATISTIQUE DE L'UE**: A list of recent publications such as 'Marriage and birth statistics - Updated' (10/12/2015), 'Asylum quarterly report - Updated' (10/12/2015), and 'E-commerce statistics - Updated' (09/12/2015).
- Focus sur**: A section with links to 'Données sur la population', 'Procédure des déséquilibres macroéconomiques (PDM)', 'Euro-Indicateurs/PIEs', 'Développement durable', 'Europe 2020', and 'PIB et au-delà'. It also features a '2016 European Conference on Quality in Official Statistics' logo and a 'CLIMATE CHANGE & the EU' graphic.
- À la une**: A section with links to 'Concours Big Data', 'Infographie: Qualité de vie', 'Infographie: Jeunes Européens', and 'Infographie: Mon pays dans une bulle'.
- Footer**: A navigation bar with 'Nouvelles Communiqués de presse', 'Données Base de données', 'Publications Statistics Explained', 'A propos d'Eurostat', and 'Opportunités Appels d'offres'. It also includes the Eurostat logo and the text 'Commission européenne eurostat'.

Source: Eurostat

to be closer to our users but to illustrate our approach through a few examples. Internet is of course at the heart of the efforts made to strengthen our user-orientation.

2.1 A more attractive website, an easier access and a better understanding of European statistics

The launch of the new Eurostat website has been perceived as a good opportunity to better reply to user needs. In the consultation phase of the new website, user's comments often went in the same direction: the most important improvements to the website should focus on its attractiveness and on the access to data, while the information published should be made better understandable. Users also asked for more flexibility in ways to access the data, but did not request important changes to the structure of the website.

Concretely, the main improvements aim to make Eurostat site more attractive and lively, to ease the access and the understanding of our statistics and to offer users a range of visualisation tools.

The previous version of the Eurostat website was created in 2009. Since then, new IT tools, design standards and ways of presenting information on the internet have appeared with, for example, less text and more space for visual information. In consequence, the layout and the design of the web site have undergone a major overhaul to make it more appealing and attractive for both basic and experienced users. This includes, for example, a more colourful design, the possibility to insert photos or videos, and a daily management of the editorial content of the homepage to make it more lively.

Of course, presenting statistical information in a more modern way is not enough. Users, in particular non-specialists, complained about the difficulty to quickly find the information that they were looking for. For that reason, the new website offers several "entries" to ease access to our data, depending on the type of requests or the level of knowledge of users. A quick reply to the simplest requests (on population, GDP, inflation,...) is proposed through our "most popular tables", which include a list of around twenty most downloaded tables. For the more experienced users, a direct access to the full database is proposed where they will find their way to the datasets they need through a simplified navigation tree.

However, the most difficult requests are the ones which are "statistically speaking" less precise and for which users have a more thematic approach. A student, a teacher or a journalist may be interested to know which information is available on women, or on education, climate change, globalisation or tourism. For this type of request, a list of around 60 topics is proposed to users where they can find all datasets and publications relating to their research.

Finally, a new search engine has been developed which provides, on the basis of keywords, the most relevant datasets and articles/publications available, in a similar way to how Google works. To facilitate the search, bridges have been created to enlarge the user request written in current vocabulary (such as profits or family for example) to the associated statistical terminology (gross operating surplus or household).

Data visualisation tools are another possibility to help users better to understand our statistics. Their aim is to communicate clear information or a story through graphs, maps or charts. In recent years, several tools have been implemented by Eurostat, such as country profiles, inflation dashboard, statistical atlas, regional statistics illustrated and widgets. However, the use of these tools requires sometimes the user to have already a good understanding of statistics.

For that reason, Eurostat decided to complement its offer by presenting regular info-graphics on the homepage of its new website, in order to also provide some assistance to less experienced users. For example, new info-graphs are associated with the publication of a selection of euro-indicator news releases, where we try to give to "basic users" a better understanding of the most recent economic trends in the EU, the euro-area and the Member States.

2.2 Simple infographics and visualisation tools

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For that reason, 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.

"Economic Trends"

A new infographic is associated with the publication of a selection of euro-indicator news releases, where we try to give to non-specialists a better understanding of the most recent economic trends in the EU, the euro-area and the Member States: <<http://ec.europa.eu/eurostat/cache/infographs/economy/desktop/index.html>>.

"Young Europeans"

In connection with a new Eurostat publication on youth, "Young Europeans" is a new tool which provides the possibility to compare the way of living of a 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.

"Young Europeans" consists of quiz like questions about the life of young Europeans on 4 different themes: family, work, free time and studies, and internet. Before starting, users have to define their profile: gender, country and age.

Figure 2

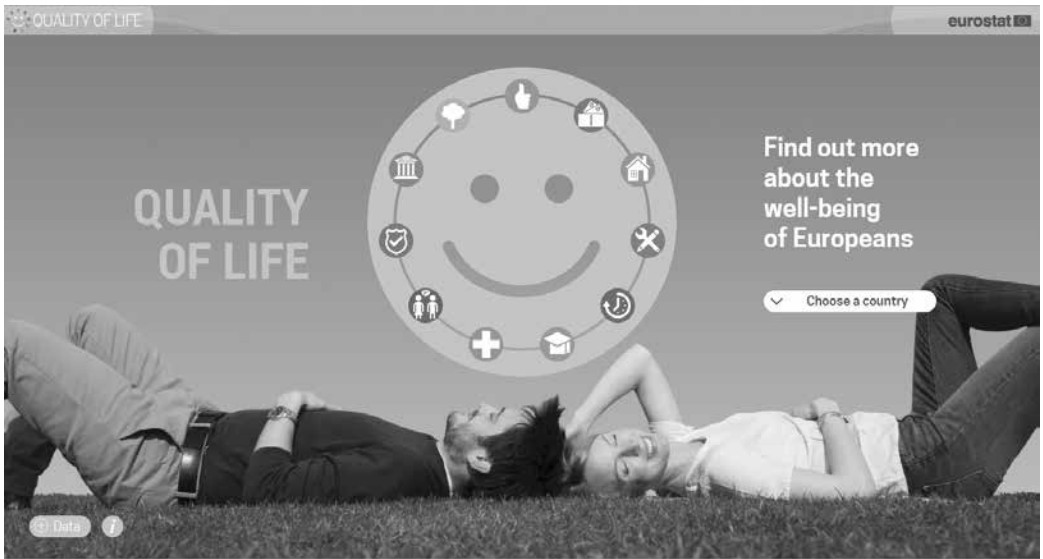


Source: <http://ec.europa.eu/eurostat/cache/infographs/youth/index_en.html>

"Quality of life"

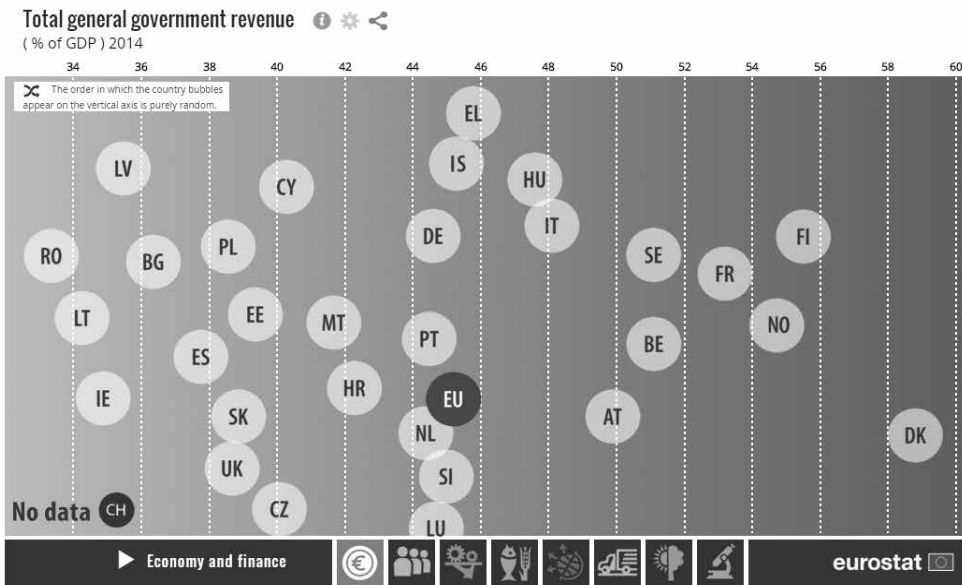
Linked to the release of a Eurostat publication on quality of life, this infographic shows both objective and subjective indicators covering 9 themes. It proposes a combination of photos and graphics to display the information in an attractive and innovative way. A new easy recognizable logo for quality of life statistics has also been created.

Figure 3



Source: <http://ec.europa.eu/eurostat/cache/infographs/qol/index_en.html>

Figure 4



Government revenue | Government expenditure | GDP per capita | Inflation rate | Employment growth | Government debt
 Government deficit / surplus | Investments | Household consumption expenditure: Food & non-alcoholic beverages
 Household consumption expenditure: Clothing & footwear

Source: <<http://ec.europa.eu/eurostat/cache/BubbleChart/?lg=en>>

"My country in a bubble"

This simple visualization tool allows users to see in one image the situation in Europe for more than 140 statistical indicators covering all economic, social and environmental domains.

This tool is not really proposed to fix some precise numbers in users' memory but more to give him in one image the perception of the place of his country compared with other EU countries and to encourage him to know more.

2.3 Be present where users are

In the last years, the behavior of internet users has strongly changed. Users are going systematically on Google, Yahoo, etc... Every day the same users are browsing and playing on smartphones and tablets for leisure and/or professional purposes. As a consequence, the market of mobile devices is strongly expanding, and users expect that organisations such as Eurostat offer at least some dedicated information and functionalities for mobile devices. It is then expected that mobile applications (apps) will attract a growing number of users and are therefore increasingly important for Eurostat's image.

In the last years, Eurostat has tried to increase its visibility on Google in different ways. Cooperation with Google started in 2009. In a first step, Eurostat provided a dozen of datasets as well as information about meta information in order to make them directly available via Google search. In doing so, Google translated table titles, definitions, footnotes and labels in 34 different languages. Google also made changes

Figure 5

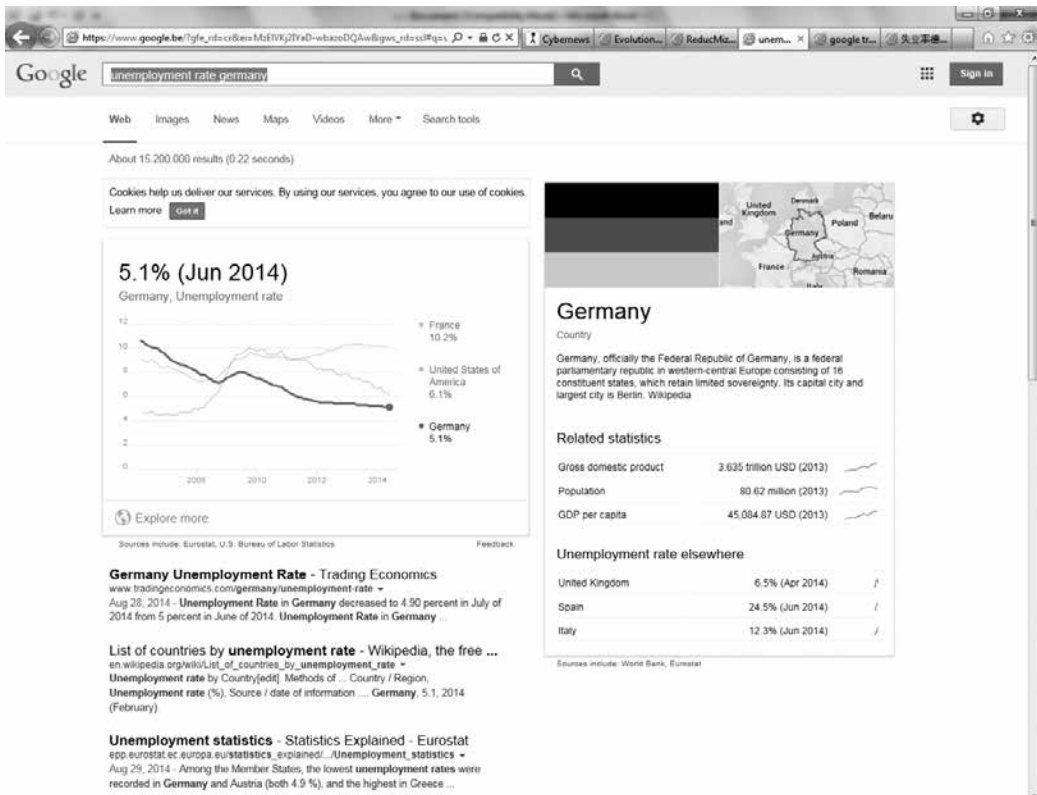


Figure 5

continuation



Source: Eurostat

to its search algorithm to ensure that appropriate searches led directly to these datasets. In a second step, Eurostat worked with Google for the Public Data Explorer. As an example, the results of a Google search on "Unemployment rate in Germany" in English and Chinese show that, in both cases, Eurostat data appear at the first place of Google indexation.

The importance of Google is also noticeable in Statistics Explained, the Eurostat on-line encyclopedia on European statistics and the most consulted collection of Eurostat publications. Here also, important efforts have been invested to obtain a high Google indexation of the articles published in Statistics Explained. We have had very recently the confirmation of the power of Google for our own dissemination when, due to an IT problem at Eurostat, Statistics Explained articles were not indexed on Google during several weeks and the total number of pages viewed on Statistics Explained fell by nearly 70%.

As regards Eurostat's presence on mobile devices, Eurostat has so far released three apps (Country Profiles app at the beginning of 2012, EU economy app at the end of 2013, a quiz on European statistics just released in autumn 2014).

The Country Profiles app shows the latest data for a set of about 160 key indicators. It also allows for displaying the data in the form of dynamic graphs and maps for each indicator. EU Economy app gives

mobile access to the most important short-term macroeconomic indicators (Principal European Economic Indicators-PEEIs)⁷ for the euro area, the EU and its Member States. The app is available in three languages: English, French and German. It is mainly designed for professionals who need a quick overview on the most recent economic information. The Eurostat Quiz app allows users to test their knowledge about European statistics classified by themes. In answering the questions, users can compete and learn interactively about the European countries. The quiz and the questions are available in 25 languages.

CONCLUSION

All these actions are part of Eurostat's efforts to better respond to user needs but we could have also mentioned a number of other actions, such as the ones more directly related to the content of our publications. Today, statistical institutes are confronted with the same challenge: to continuously adapt their digital and visual dissemination strategy in parallel with the rapid evolution of user needs and IT developments. In a period where human and budgetary resources are limited, this challenge can only be faced if a reinforced cooperation among ESS members is put in place.

References

EUROSTAT. <<http://ec.europa.eu/eurostat/web/european-statistical-system/legislation-in-force>>.

EUROSTAT. <<http://ec.europa.eu/eurostat/web/main>>.

EUROSTAT. <<http://ec.europa.eu/eurostat/help/support>>.

EUROSTAT. <<http://ec.europa.eu/eurostat/web/european-statistical-system/ess-governance-bodies/esac>>.

EUROSTAT. <<http://ec.europa.eu/eurostat/web/euro-indicators/peeis>>.

⁷ See: <<http://ec.europa.eu/eurostat/web/euro-indicators/peeis>>.