Free Geodata Have Made the Number of Users of the Map Supply Website Explode

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Things have moved fast since the Danish Geodata Agency on 1 January 2013 opened up for everybody to access geographical maps and data freely at the Map Supply website, Kortforsyningen.dk. *Kortforsyningen* **(the Map Supply) has had more than 1.6 billion requests for web services, more than 300,000 files have been downloaded from the FTP server, and the number of users has increased from 800 to more than 13,000. There are also indications that even during the first year of free spatial core data (2013), there have been benefits in the private sector in the form of greater turnover and more jobs.**

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Free data, new users and focus on accessibility

There were great expectations as to what the access to free data would mean. Ahead of the release of geodata, the press wrote as follows:

- *Guldgrube gemt i gratis Matrikelkort* (Goldmine hidden in free Cadastral maps) (Sille Wulff Mortensen, Børsen, October 2012)
- *Jubel over statslig databonanza: gennembrud med gratis adgang til CVR- og Matrikelnumre* (Great enthusiasm at government data bonanza: Breakthrough with free access to Central Business Register and Cadastral numbers) (Henrik Nordstrøm Mortensen; Version2, October 2012)
- …*Væksteventyr ligger for fødderne af danske virksomheder...* (Growth adventure at the feet of Danish companies...) (Jakob Chor, Berlingske Business, November 2012)

And there were many who were keen to take part in the 'government data bonanza', which has led to a rapid growth in the number of new users of geodata – from 800 users at the end of 2012 to more than 13,000 in April 2014. The many new users are distributed across several different user groups (see figure 1), which has given rise to new initiatives that can ease both the technical accessibility of data and the business-related understanding of how spatial core data can contribute positively to a whole string of task solutions in the public and private sectors. The many new users have also led to an increased use of geodata. As shown in figure 2, there has been a marked increase since 2008 in the number of
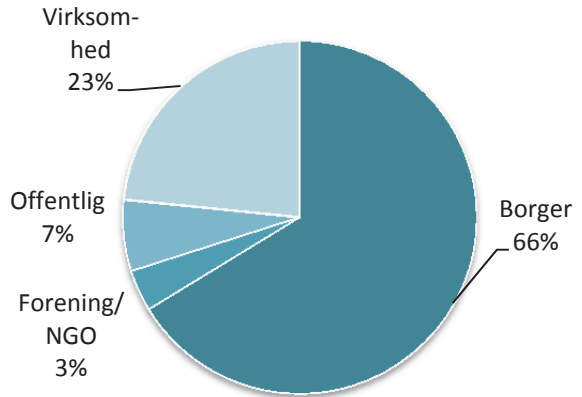
Figure 1. Distribution of user types

data enquiries about Kortforsyningen's web services. The number of enquiries has increased further after the free data became a reality. A simple projection of the current consumption indicates that the number of annual data enquiries may reach over 1.8 billion in 2014.

User survey – use and challenges

In order to ensure that the Danish Geodata Agency can support and accommodate the great expectations that have been created by the release of free data, we are following the development to be able to break down barriers for the use of the free geodata. In 2013, this has involved carrying out a survey of how the new users experience the access to and usability of the Danish Geodata Agency's free data. The user survey included 355 respondents. The survey maps how data is used, and which challenges the users encounter. The result of the survey is that the majority (71 %) of the respondents are fully
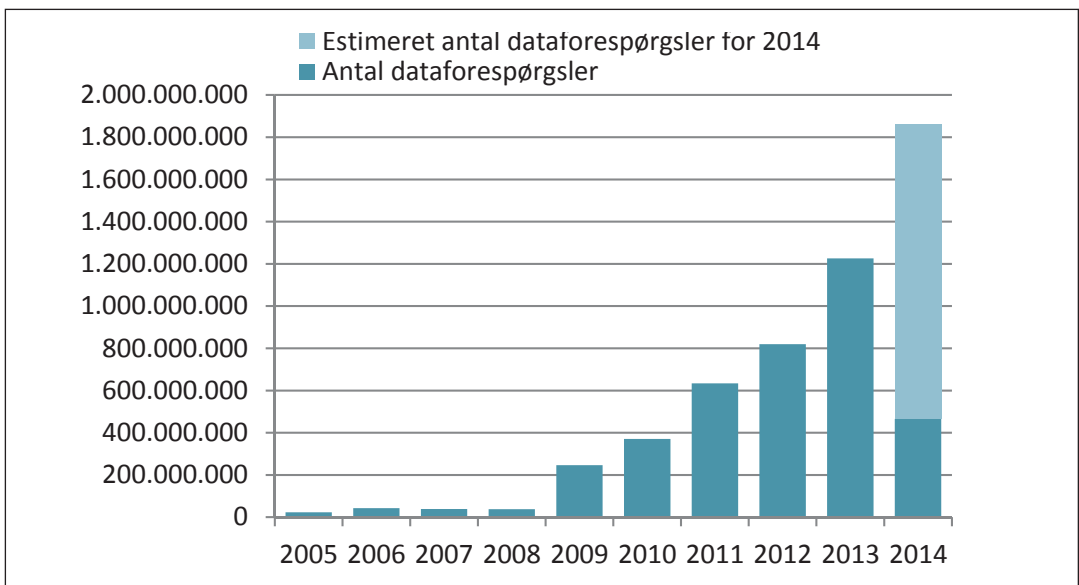

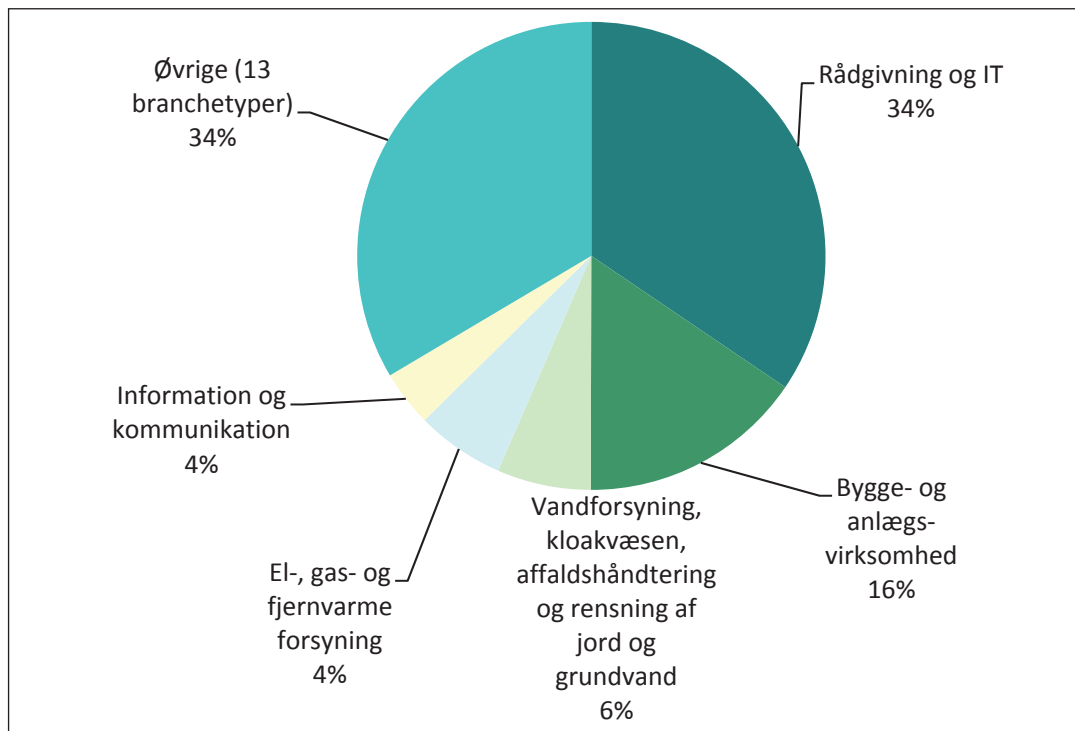Figure 2. No. of data enquiries per year

Figure 3. No. of data enquiries per year

satisfied with the geographical maps and data that have now been made freely accessible.

However, the survey has also given the Danish Geodata Agency important information to suggest that it will still take some work to increase the accessibility of the free data. It is difficult for the users to gain a clear view of the amount of data and possibilities. One architect points out that: "It is very difficult for 'non-geeks' to find out what is contained in the different map series". This is confirmed by the fact that a quarter of our users indicate that it is difficult to gain an overview of the possibilities, while a third find that there is a lack of guidance about the use of maps and data.

Who use data and for what?

The removal of the direct payment for use of the free spatial data has had great significance for the number of new users. Only 13 % of the users would use the Map Supply's maps and data if they had to pay for them. In a growth

perspective, it is highly interesting that many companies have adopted geodata after the payment has been dropped. The private companies are distributed across various industries, of which, not surprisingly, the largest users of the free data are to be found within the IT, construction and supply industries (figure 3).

The free geodata have been applied in many new places. For instance, the IT service company EG uses orthophotos in their operating system for cemeteries; CSC Scandihealth uses DAGI (register of geographical divisions) in connection with business intelligence; the financial group Nykredit uses geokeys to find the nearest Nykredit centre on their website; the property search website Boliga uses the cadastral map to show the property location along with property adverts; Mapicture works with geographical visualisation in solutions that are used by, among others, the pharmaceuticals firm ALK Abello, the Region of Southern Denmark, the Danish primary and lower secondary schools and the Danish

Crime Prevention Council. And not to forget – the elevation model has been used in connection with climate adjustment and flooding scenarios.

The changing seasons of the year have not been left unnoticed by the Map Supply either – both Christmas traffic and a storm crossing Denmark can be read at the Map Supply's website. The Danish Road Directorate is one of the large users, as the Map Supply's services are used for traffic information aimed at the citizens. Figure 4 shows the Danish Road Directorate's moves on the Map Supply's website in the days before and after the storm Bodil.

Breaking down barriers

In order to gain more specific knowledge about the accessibility of our data and services, the Danish Geodata Agency supplemented the user survey with 10 user tests in the autumn of 2013. The user tests focused on how a user without any particular qualifications encounters the Danish Geodata Agency's download portal, finds what he is looking for, and achieves greater understanding of the possible applications of geodata. With the results of the user tests in mind, the Danish Geodata Agency is currently revising texts and guidelines in order to make it easier to find the geodata that people are looking for – including the uninitiated.

The results of the surveys that have been carried out are included in the continuing work to identify barriers, so that we can prioritise and focus on the initiatives that can render the greatest possible effect in relation to increasing the accessibility and promoting the use of geodata.

The effect of the release

In order to be able to follow whether and how the effect of the release develops, the Danish Geodata Agency completed the first part of an effect measurement study in 2013, which contains an account of the value that the
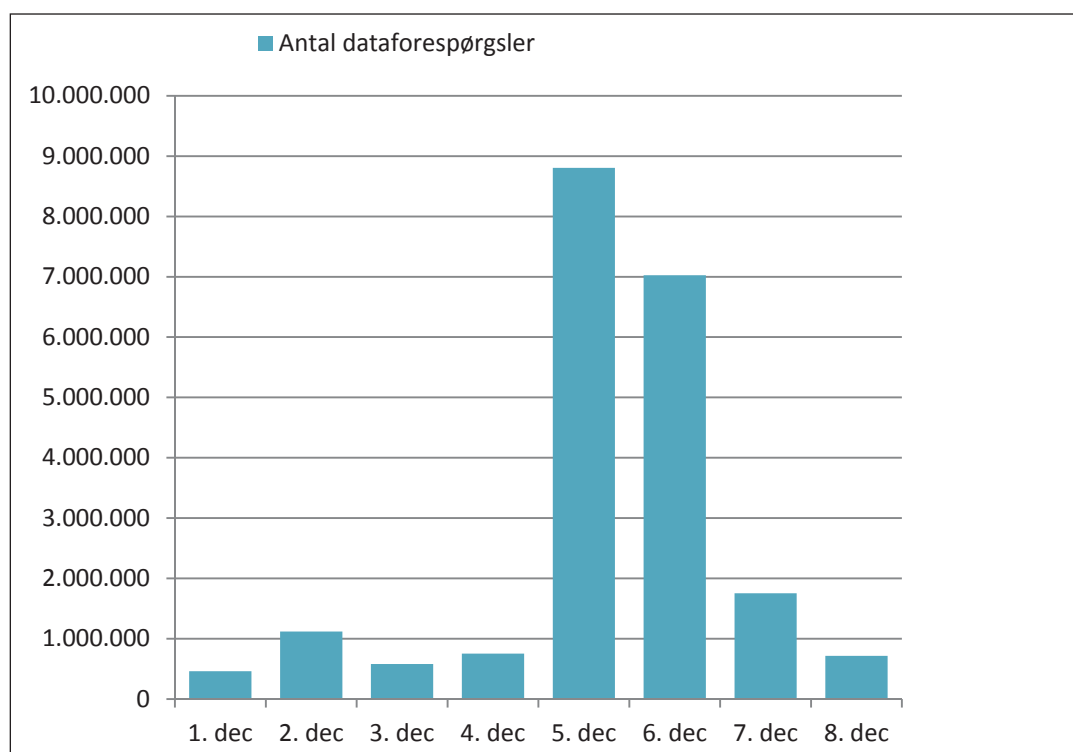

Figure 4. No. of data enquiries from Trafikken.dk in connection with the storm Bodil

use of spatial core data constituted before the release for a whole string of public and private users of geodata. The report, which was prepared by Deloitte, concludes that the societal value of the Danish Geodata Agency's data is estimated at 1.6 billion Danish kroner in 2012. Historically, the market for geodata has been driven by traditional application areas, such as the environment and technology, but new markets in other administrative areas and in other industries are maturing. This is a positive and necessary development and a prerequisite for our achieving the streamlining benefits in the public sector and growth in the private sector that were the reason for the release of the spatial data.

Have the expectations to the free geodata been met?

Even though there are still many activities that could be launched in order to promote and develop the value and use of the free geodata, the release has been a success so far. One year after the release of the geodata, the press wrote:

- *Virksomheder vilde med frie geodata* (Companies mad about free geodata) (Peter Møller Christensen, Børsen, 28 January 2014)
- *Brugereksplosion ændrer geodatabranchen* (User explosion changes geodata industry) (Adam Fribo, Version2, 29 January 2014)
- *En succes. Så kort kan man opsummere frigivelsen af en stribe geo- og kortdata her godt et år efter…* (A succes. That's how briefly you can summarise the release of a string of geo- and map data one year on...) (Kristian Hansen, Computerworld, 27 January 2014)