*"The Landsat satellite is capable of taking a complete photograph of the entire planet every two weeks, and it's been collecting data for more than 20 years.* **In spite of the great need for that information, the vast majority of those images have never fired a single neuron in a single human brain**. *Instead, they are stored in electronic silos of data."*

Understanding our planet in the 21st Century by Al Gore at the California Science Center on January 31, 1998.
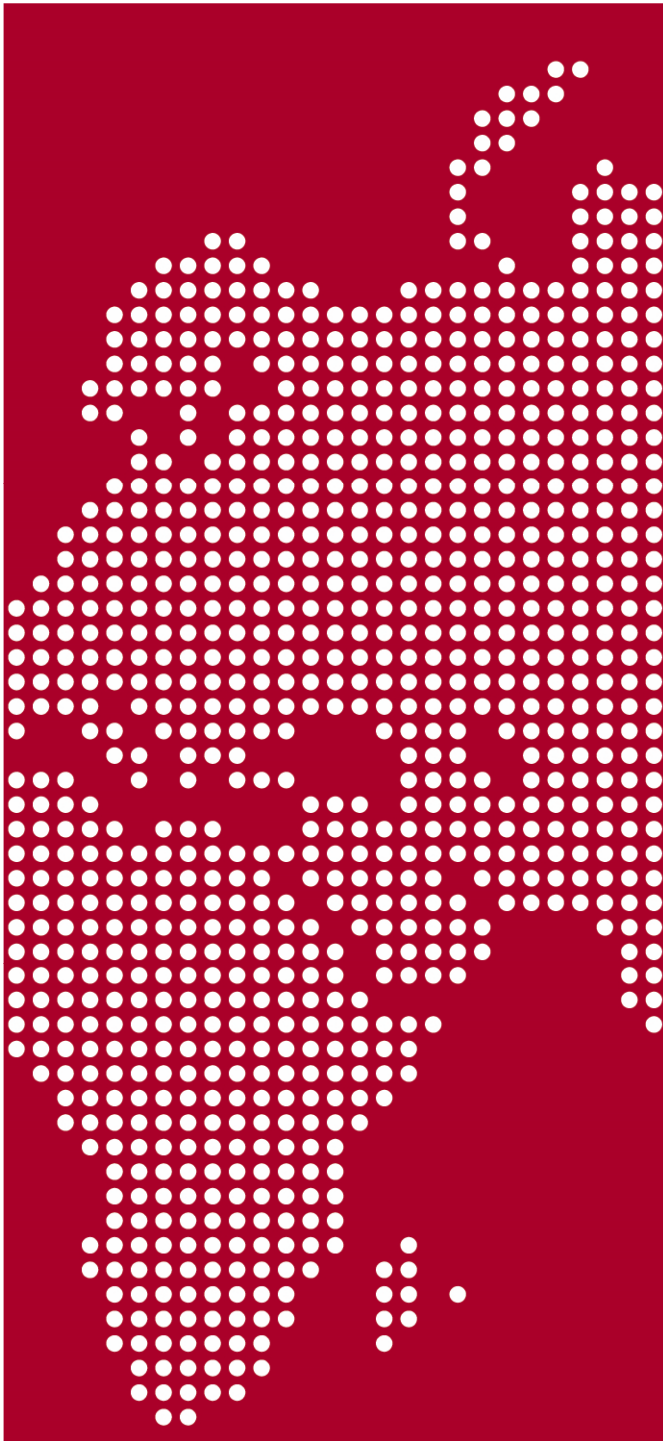
"Free data" in Denmark

- it is all about setting data free and making if accessible for the benefit for society.

Mikkel Wendelboe Toft
President of Geoforum Danmark
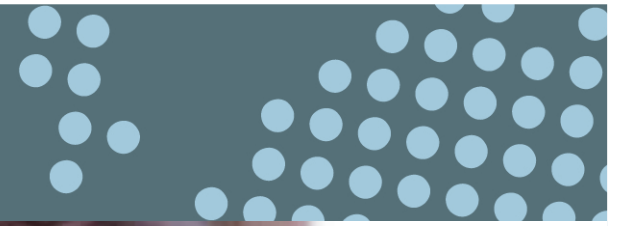Partner Manager at Hexagon Geospatial

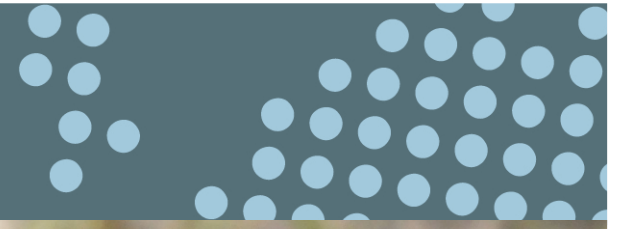# We have the ability to sense our surroundings
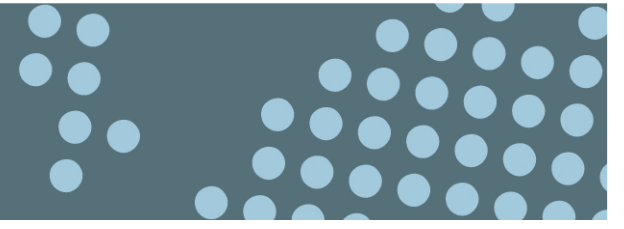
When change happens we open our sensors

We can see

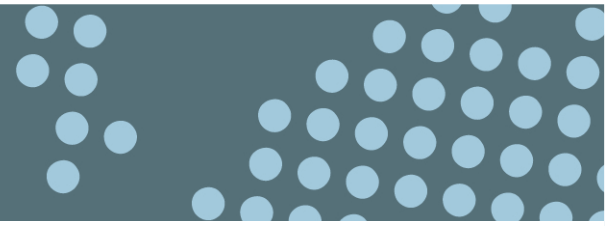# We can touch

We can smell

We can taste

We can hear

Our senses provide "data" so we can decide how to act!

Fusing the Real and Digital World

CAPTURE

SENSOR

REAL
World
Events

**A constant flow
of information**
fuses the Real World
(as is/as built)
with the Digital World
(as planned/
as designed)

DIGITAL
World
Models

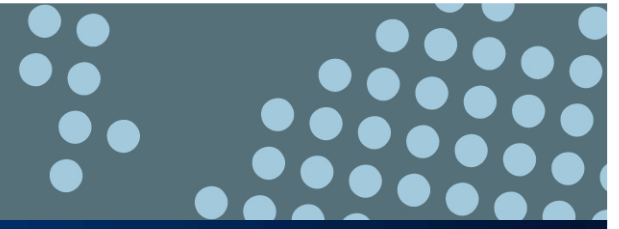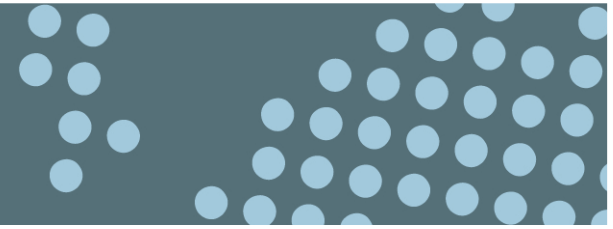SOFTWARE

ACTION
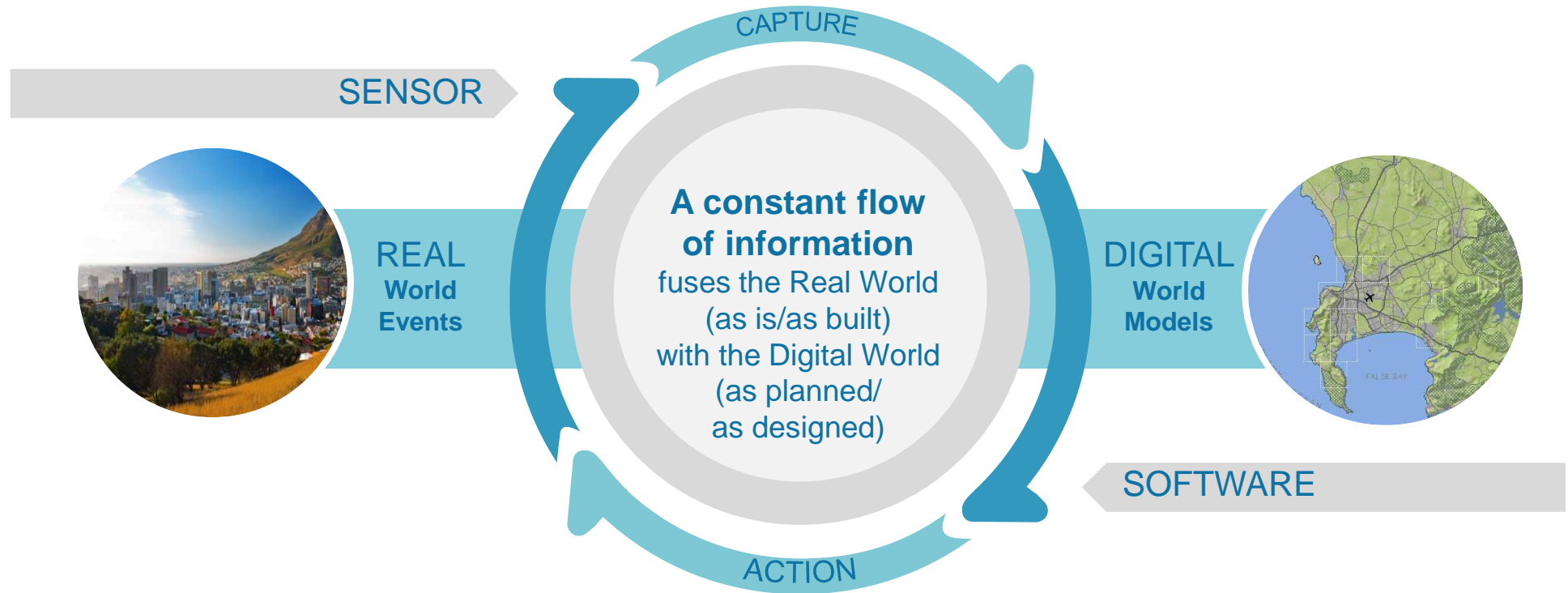
The Hexagon Model

Change is needed!

Innovations are needed!!

Our industry has been left with only sustaining innovations for many years

A **sustaining innovation** does not create new markets or value networks but rather only evolves existing ones with better value, allowing the firms within to compete against each other's sustaining improvements.

Innovations are needed!!

Disruptive innovations are needed to change the game and to put pressure on our industry, markets and decision makers

A **disruptive innovation** is an innovation that helps create a new market and value network, and eventually disrupts an existing market and value network (over a few years or decades), displacing an earlier technology. The term is used in business and technology literature to describe innovations that improve a product or service in ways that the market does not expect, typically first by designing for a different set of consumers in a new market and later by lowering prices in the existing market.

The Disruptive Innovation in Denmark

Public strategy for Digitization

DEN DIGITALE VEJ TIL FREMTIDENS VELFÆRD

DEN FÆLLESOFFENTLIGE DIGITALISERINGSSTRATEGI 2011-2015

REGERINGEN / KL / DANSKE REGIONER AUGUST 2011

Basic Data statement

FEM SKRIDT MOD MÅLET

VEJEN TIL LETTILGÆNGELIGE OG FRIE GRUNDDATA AF HØJ KVALITET GÅR AD FEM PARALLELLE SPOR

1

For at **sikre genbrug og undgå dobbelt-registreringer og skyggeregistre** frikøbes landkortdata, matrikelkort, CVR- og

Make all public Geodata FREE *Disruptive Innovation*

og private virksomheder til kommercielle og ikke-kommercielle formål, idet gældende lovgivning naturligvis over-holdes.

2

For at **styrke datakvaliteten** udbygges kort

virks

data

eksis

kan u

Warm wash of All public data *Data quality*

3

For at gøre det **muligt at kombinere data**

Technical harmonization *Interoperability*

4

For at

fælles

fælles

distrib

fordele

Common public Data Distributor *One point Accessibility*

5

For

udv

etab

best

A national board with Responsibilities for Implementation *Governance*

Basic Data, before and after

→ 2012

GEOGRAFISKE DATA NU ...

- Produktionen af landkort og matrikelkort finansieres delvist ved salg af datarettig-heder til hhv. private virksomheder og offentlige myndigheder

- De tværgående offentlige finansierings-aftaler giver kun adgang til at bruge data frit mellem offentlige myndigheder

- Production of maps and cadaster is financed by sale og user rights to private businesses and public agencies
- The governmental cross boarder agreement for access to geodata is not useable for municipalities and private businesses

2013 →

... OG I FREMTIDEN

- Alle geografiske grunddata kan frit anvendes til kommercielle og ikke-kommercielle formål. Dermed kan også private virksomheder frit anvende geografiske grunddata i kommercielle produkter og løsninger – også i kombina-tion med andre oplysninger

- All geographical Basic Data can be used for free commercial and non-commercial projects. This allows for building solutions with content and data may be combined (over-washed) with other data

Disruptive innovation

The main goal of the Free Data

A more EFFECTIVE ADMINISTRATION – Public Sector

Transparency and openness – Citizens and NPO/NGO

Growth – Private sector businesses (Geodata/IT/General)

This has an estimated value of 120 Mio Euro pr. year when implemented in 2017

The financial goal

SAMLEDE NETTOGEVINSTER FOR DEN OFFENTLIGE SEKTOR

MIO. KR.	2013	2014	2015	2016	2017	2018	2019	2020
Ministerierne	-108	-81	-50	-26	3	9	29	42
Kommunerne	-24	24	79	143	165	169	174	175
Regionerne	1	11	23	33	43	43	43	43
SAMLET EFFEKT	**-131**	**-45**	**52**	**149**	**211**	**221**	**246**	**260**

SAMLEDE NETTOGEVINSTER
– FORDELT PÅ DEN OFFENTLIGE OG PRIVATE SEKTOR

Current release of geodata

All base maps and administrative themes are now freely accessible via download or webservices. **Subscription but no fee.**

- Base maps 1:10.000 →
- Technical vector maps
- Road network
- Cadastra map
- Digital Elevation Model (1,6m now, 0,5m to to come)
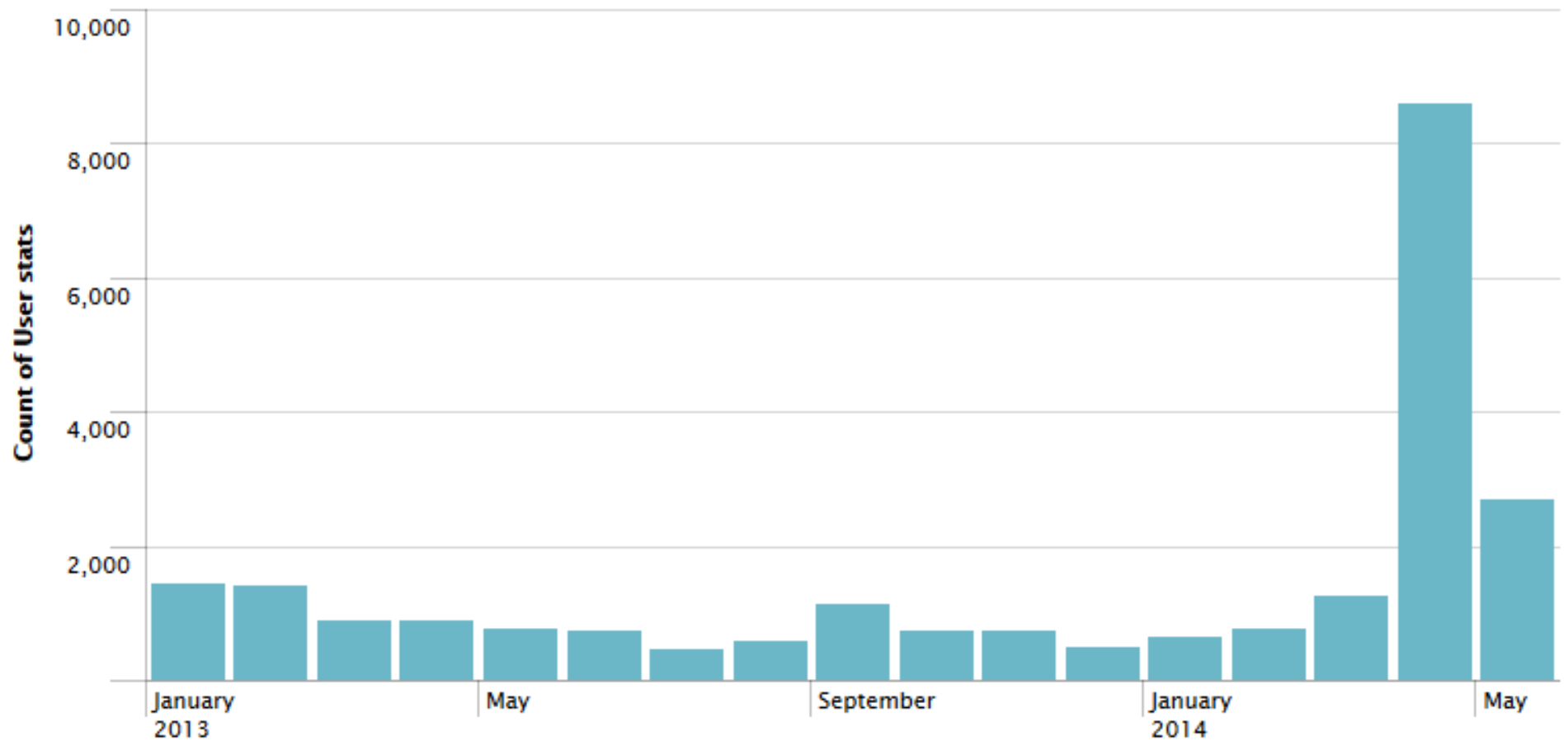- Orthophoto (12,5 cm)
- Administrative boundaries
- …
- ..
- .

Effect?

In 2012 there was 800 users
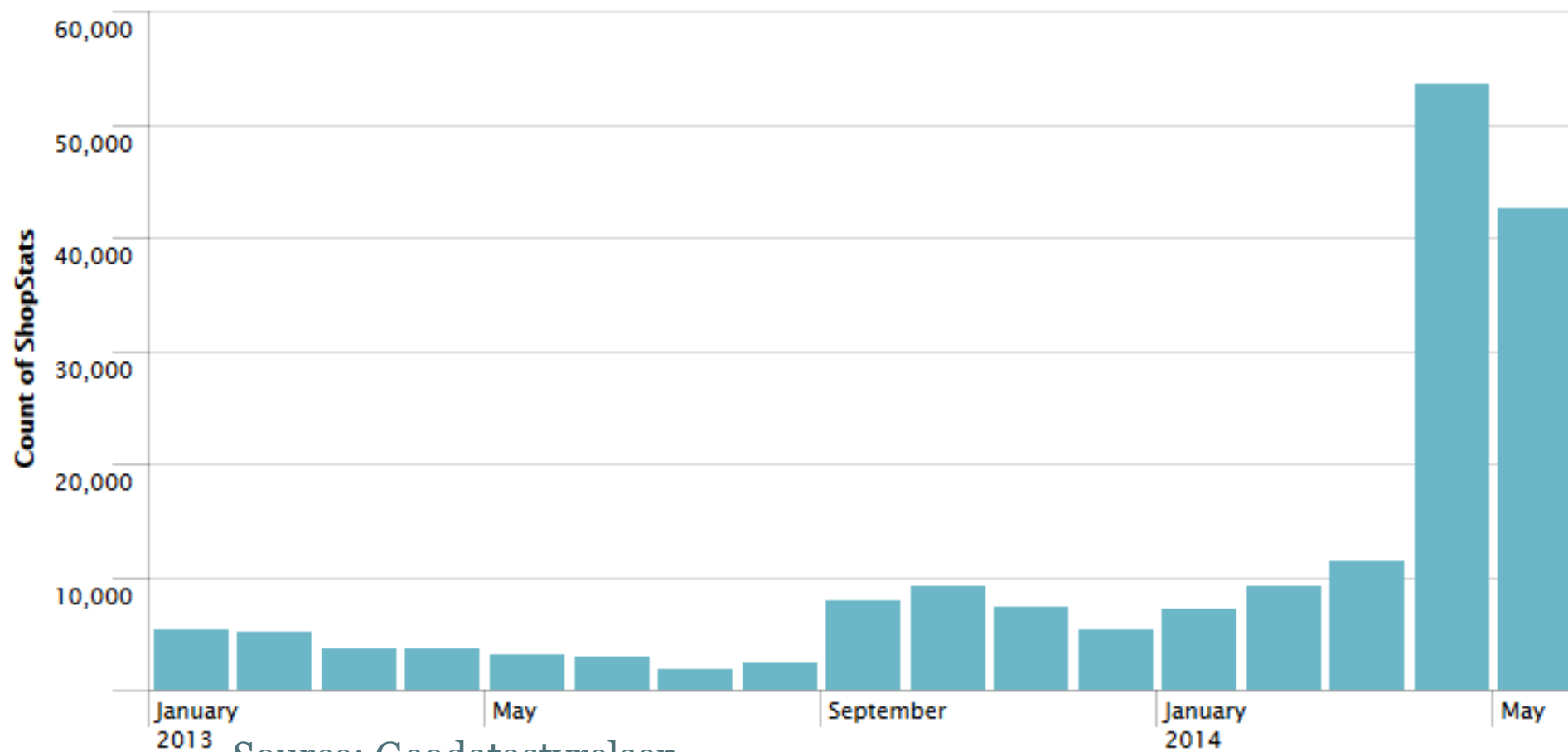
Now there are many more

Source: Geodatastyrelsen
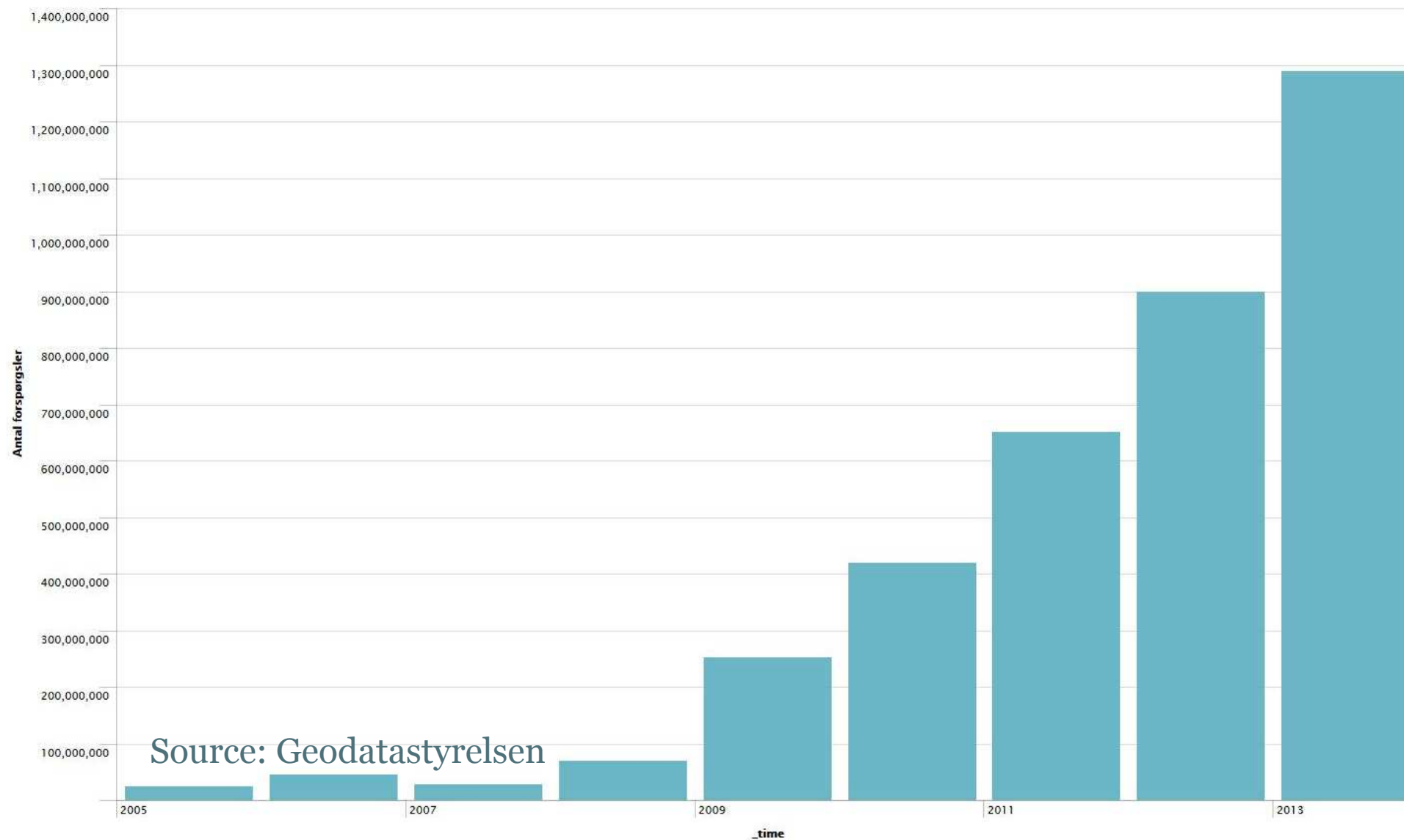
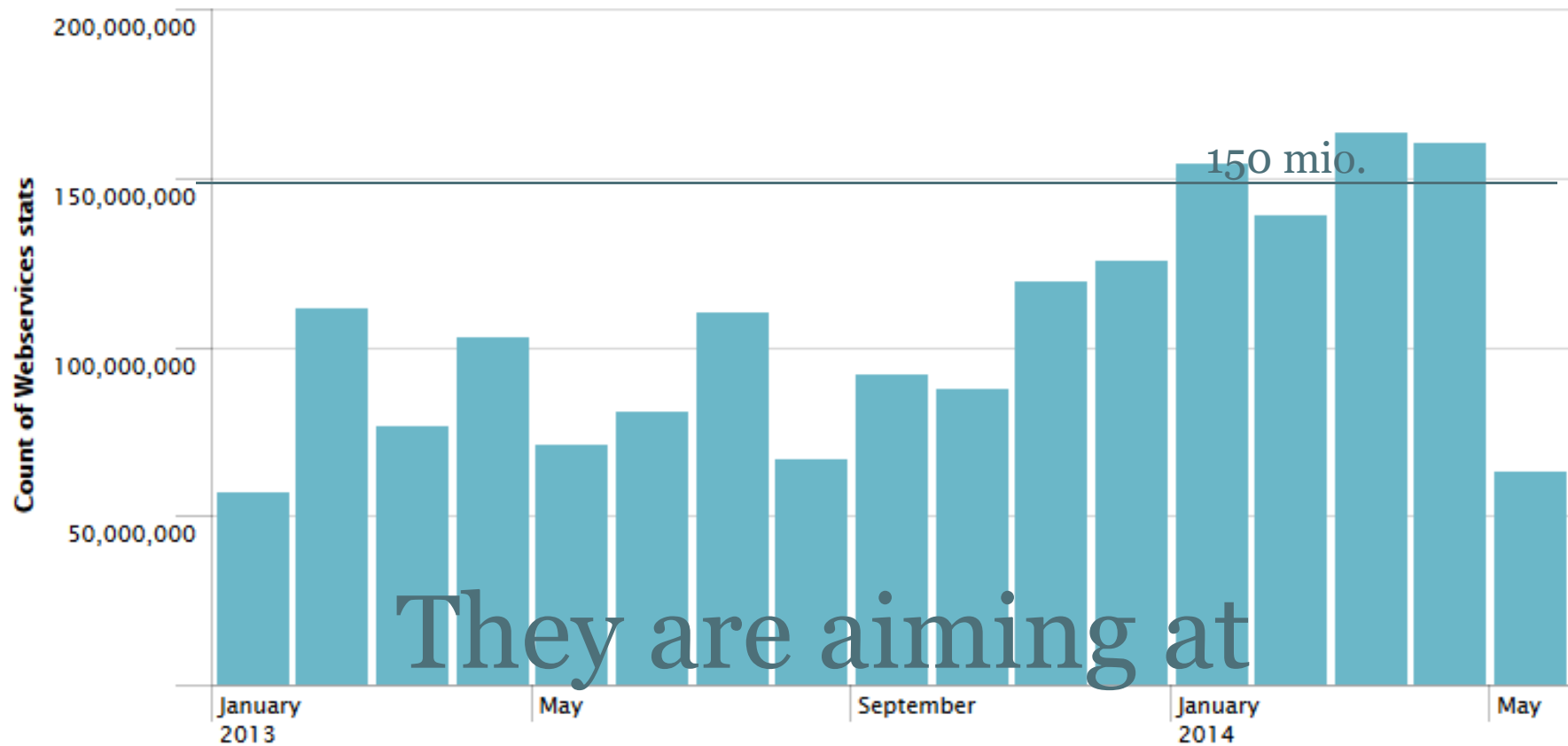# No. Of new users per month

Source: Geodatastyrelsen

Data downloads

Source: Geodatastyrelsen

Effect? Webservice requests

Source: Geodatastyrelsen
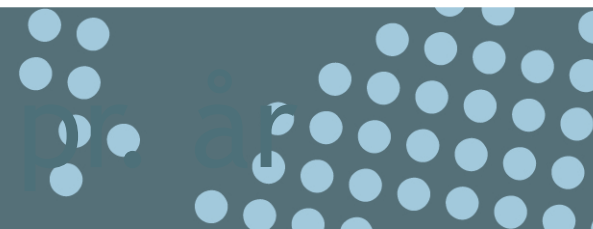
Effect? Webservice requests

Webservice Requests per month

They are aiming at 2.000.000.000

Source: Geodatastyrelsen
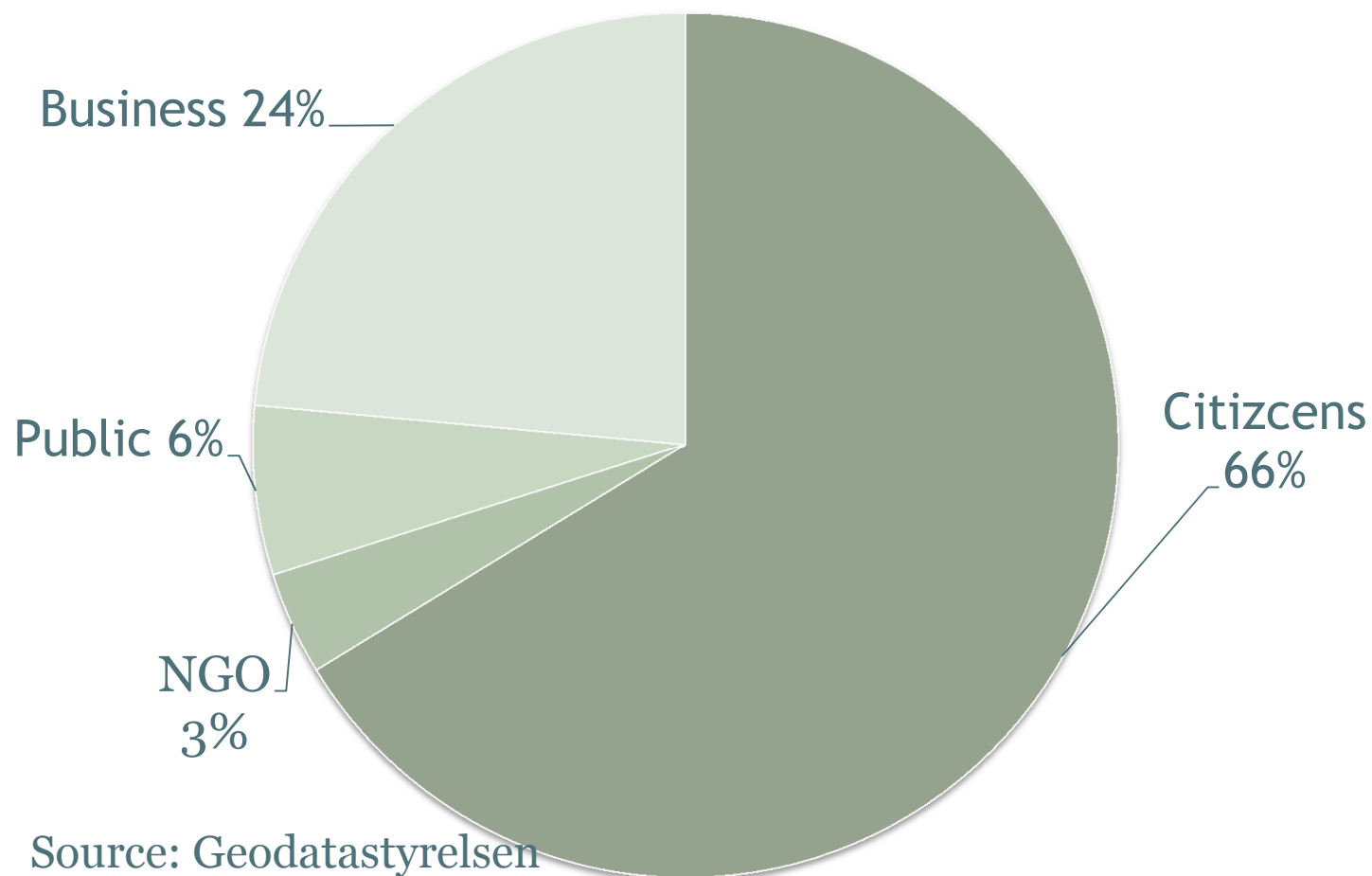
Businesses –any effect?

Frikøbet i 2013?

% af virksomhederne

65,2

Yes , the release of geodata have a positive effect on our business

- ■ Ja, frikøbet af data har været positivt for vores forretning
- ■ Vi ser ingen effekt af frikøbet for vores forretning
- ■ Frikøbet af data har desværre skadet vores forretning
- ■ Ikke angivet
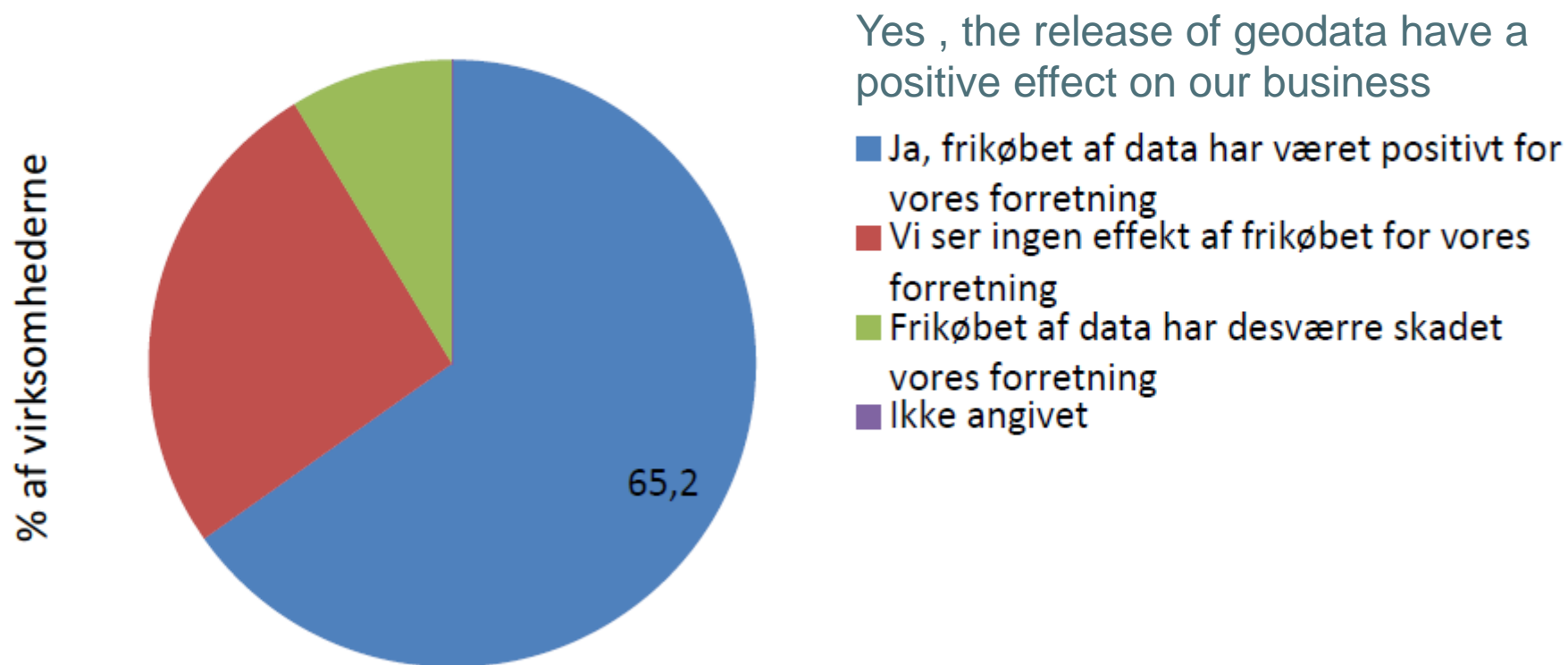
Source: Geoforum Annual Business survey

Businesses – 2014 expectations

Expectations to 2014

Forventningen til 2014?

% af virksomhederne

Growth   ■ Vi vokser

Cut   ■ Vi skal skære

Status quo   ■ Status quo

Na   ■ Ikke angivet

73,9
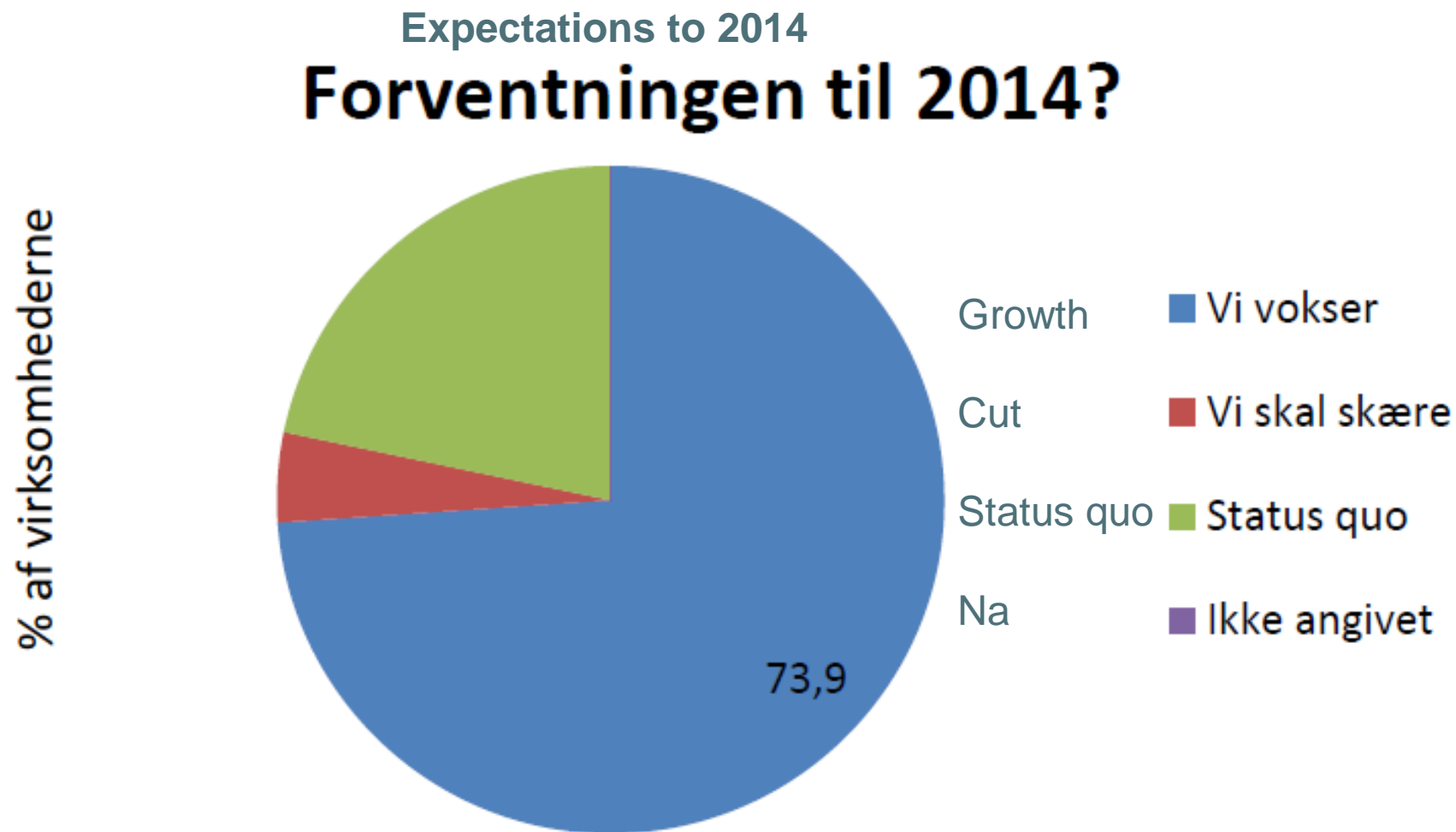
Source: Geoforum Annual Business survey

Personal Reflection

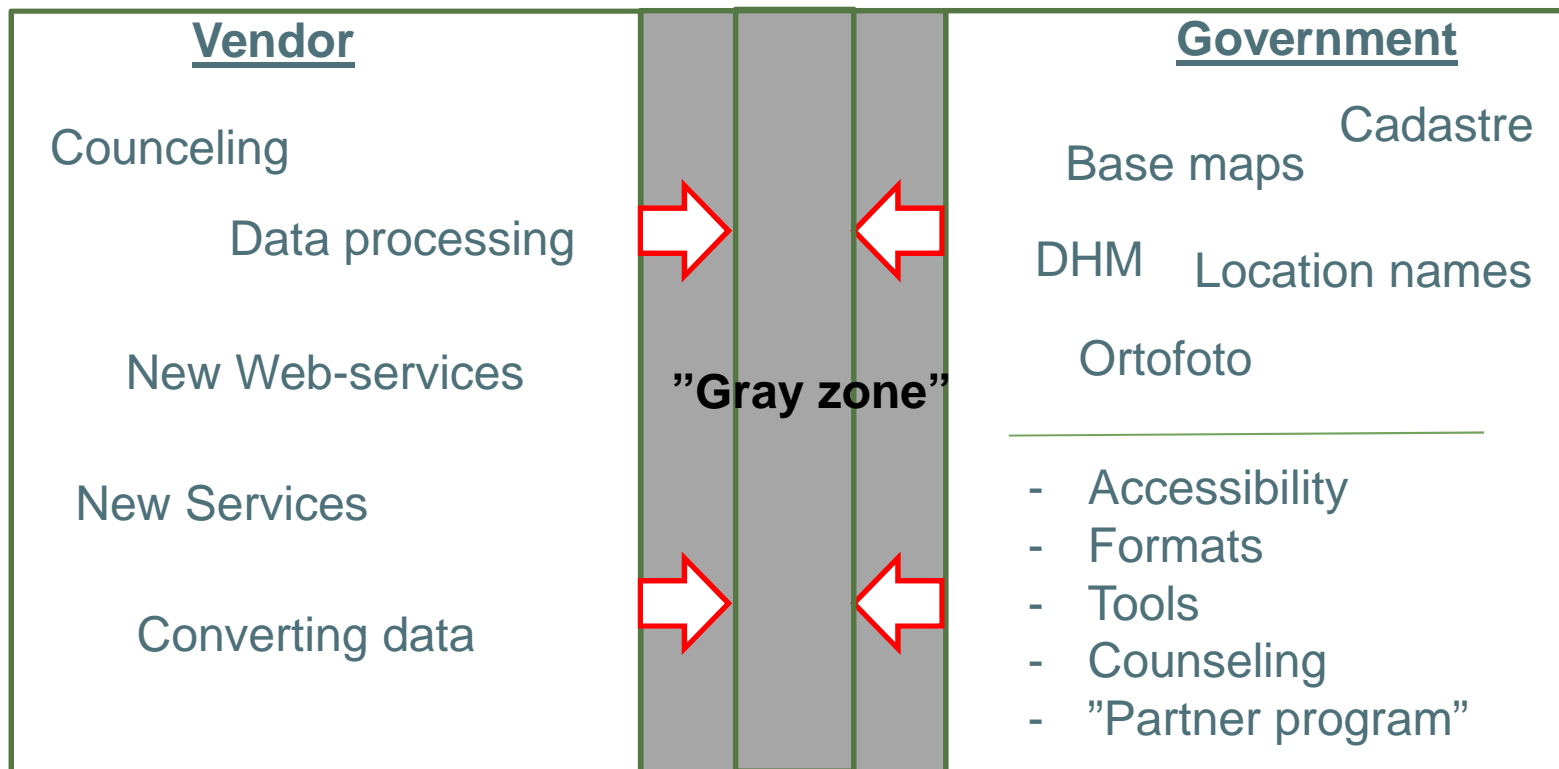## What is ment by "Free and Open Geodata"?
What are the new roles?

Vendor	"Gray zone"	Government
Counceling		Base maps Cadastre
Data processing	→ ←	DHM Location names
New Web-services		Ortofoto
New Services		- Accessibility
Converting data	→ ←	- Formats
		- Tools
		- Counseling
		- "Partner program"

Business conditions are changing

Personal Reflection

Be prepared for innovation and investment

Thank you!

"Geoforum Denmark are working for promoting the public value of geodata"

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mikkel.toft@hexagongeospatial.com

Content is partly delivered from the Danish Geodata Agency