



***In a disruptive environment,
review of some challenges and opportunities
that public geo-information agencies are facing***

François ROBIDA - BRGM



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Géosciences pour une Terre durable

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Digital transformation



Agenda

1. Our mission of public geo-environment agencies
2. Challenges of a disruptive environment
3. Some tracks towards a bright future !

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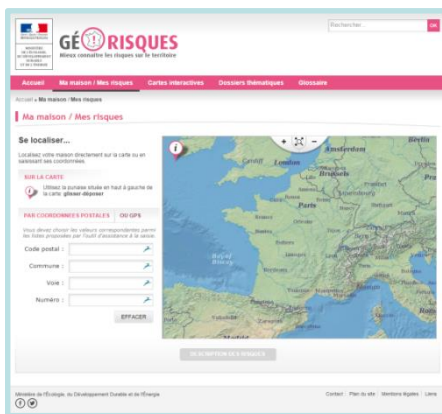
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Public geo-information agencies

- > Geological surveys, Mapping agencies, Met agencies, Stats agencies
- > A mission : to produce, manage and deliver **reference data** (+information) for all types of users (public, private, citizen)
- > Reference data
 - trusted
 - up to date
 - widely used, and referenced...
 - visible, accessible, understandable, and credible to information users
 - authoritative ???

What we (geol surveys) have done in the last 15 years

- Engaged the development of interoperable thematic data infrastructures
- To give access to public data about our subsurface environment
- Based on our national mission
- Built upon international standards (OGC, GeoScML,...)
- Strongly supported the design and implementation of INSPIRE
- Contributed to the development of tools/apps to access / re-use « our » data



Some of the geoscience data infrastructures based on those principles



EG
S C O

Tomorrow, "inspired"
business as usual ???

EPOS
EUROPEAN PLATE OBSERVING SYSTEM

Research Infrastructure and E-Science for Data and Observations
Earthquakes, Volcanoes, Surface Dynamics and Tectonics



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A disruptive environment new rules

- > The Open Data wave

Disruption of the economic
model of some actors

Everything is (almost) accessible
to anyone to create products
and services

- > And not ties for G8 meetings...

A disruptive environment new players

> Citizen science / Citizen observatories / crowdsourcing

Conferenza Internazionale

Citizen Management

7-10 Giugno 2016 - Venezia


« Authoritative » data
vs
openxxx

con l'alto patrocinio di

European Commission

MINISTERO DELL'AMBIENTE
E DELLA TUTELA DEL TERRITORIO E DEL MARE

PROTEZIONE CIVILE
NAZIONALE

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A disruptive environment

New players

➤ Production of data by industry : google

Authoritative data
vs
Industry datasets



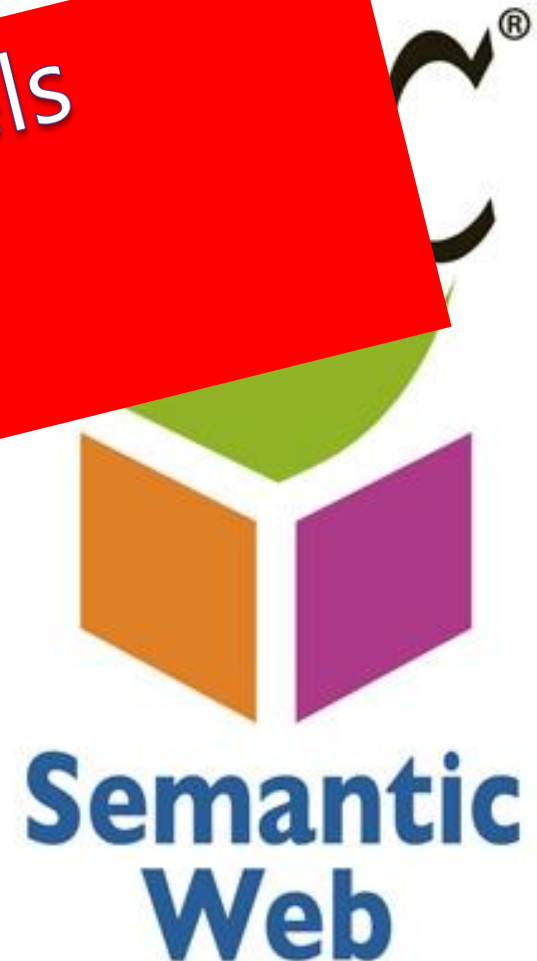
...a public
...with almost 10
...that have been vetted
...organized. The company has 6
million drill holes that are being
processed into that database.”

New technologies / paradigms

> Semantic web / Linked data



INSPIRE data models
vs
RDF ?



A disruptive environment

New technologies / paradigms

> Big data

Capacity to control/use the technology
Capacity to break the silos
Challenges the « expert » approach

VELOCITY
SPEED OF CHANGE

VARIETY
DIFFERENT FORMS
OF DATA SOURCES

VERACITY
UNCERTAINTY OF
DATA

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A disruptive environment

New technologies / paradigms

➤ Cloud

A [European Open Science Cloud](#) (EOSC) will offer Europe's 1.7 million researchers and 70 million science and technology professionals a shared environment to store, share and analyse large volumes of information, accelerating the digital revolution.



EUROPEAN
CLOUD INITIATIVE
UNLOCKING THE POWER OF
BIG DATA FOR OPEN SCIENCE

Local vs shared infrastructures
Public / private

AWS Cloud Credits for Research

The AWS Cloud Credits for Research Program (formerly AWS Research Grants) supports researchers who seek to:



And at the end...

> the winner is



- Copernicus/Sentinel...?
- A unique capacity to monetize services

> What about our capacity to keep the control/access of the data necessary for the performance of public policies ?

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The « reality » of public agencies

> Our strengths

- **Expertise on data**
- Independence of economic interests
- Understanding of users needs (???)

> Our weaknesses

- **Silos**
- « Over quality » syndrome (experts know what is good)
- Ignorance of our real challengers...
- Capacity to attract and keep expertise (data scientists...)

Some possible orientations for our future...

- to be the “**reference point**” of expertise about data of our domain (**trusted third party**)
- do not be limited to a role of data curators
- be active in development of **standards** (user oriented)
- invest on understanding of **usages and needs**
- make sense of data (**data science**)
- provide added value on data (**services**)
- develop public-private partnerships in a framework that guarantees the “public interest”, for instance co-operating platforms for specific domains (ie for smart cities or infrastructures)
- **Strengthen our capacity to act in collaborative environments,**
- **Based on sustainable and balanced governance and economic arrangements**

Thank you for your attention

François ROBIDA
f.robida@brgm.fr

www.brgm.fr



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