

The European Commission's science and knowledge service

Joint Research Centre

Enlargement and Integration Workshop

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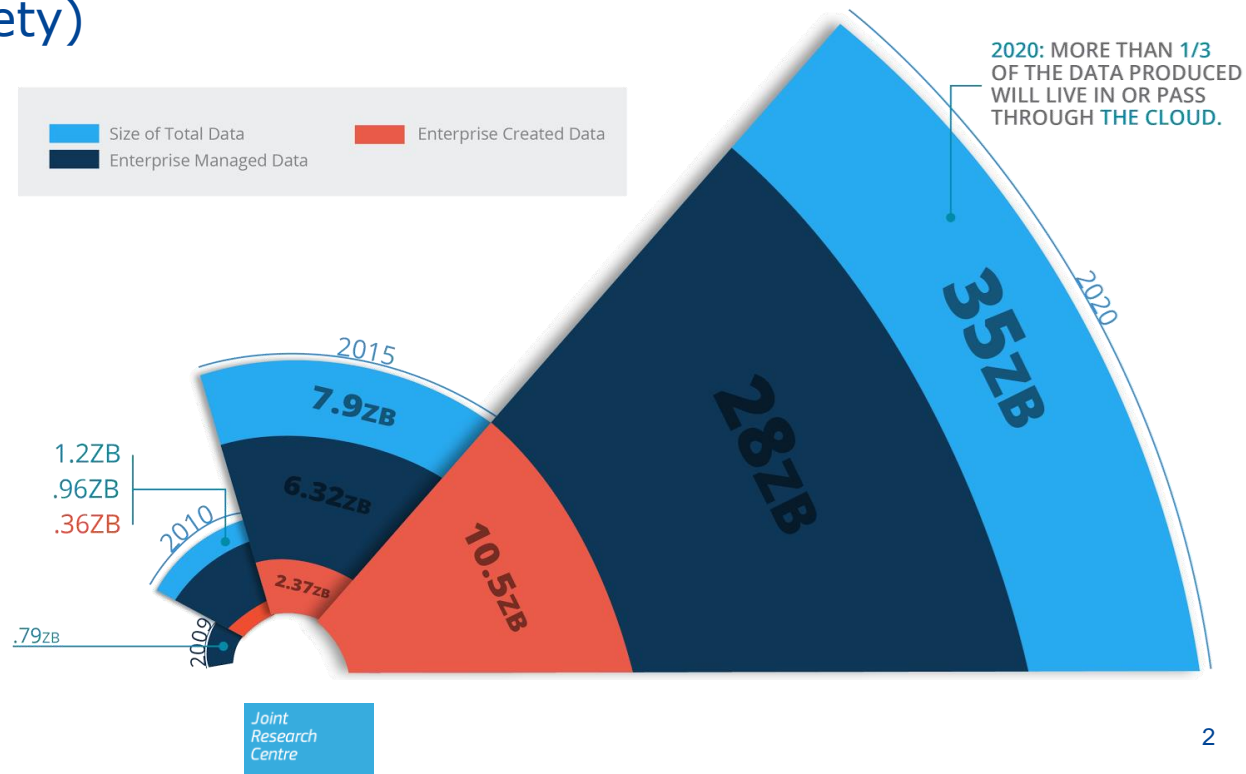
Food and Agriculture Organization
of the United Nations



European
Commission

Context

- The “Data Revolution”
 - Exponential growth
 - Size of digital universe doubles every two years
 - 50-fold growth (2010-2020)
 - Velocity
- Multiple channels (Variety)
- Noise/Signal ratio
- New technology
 - Blockchain
 - IoT
 - Cloud, etc. etc. etc.



Context

Why do we need spatial information?

- *Everything that happens, still happens somewhere*
- 80/90 % of existing data is referencable



International dimension

- Open (Geo) Data as input to Sustainable Development Goals (SDGs)
 - Indicators
 - Baseline
 - Monitoring progress



Data economy – an overview

1. Data are to this century what oil was to the last one: a driver of growth and change.
2. Flows of data have created new infrastructure, new businesses, new monopolies, new politics and—crucially—new economics.
3. Digital information is unlike any previous resource; it is extracted, refined, valued, bought and sold in different ways.
4. It changes the rules for markets and it demand new approaches from regulators.
5. A battle will be fought over who should own, and benefit from, data.



The European data economy

The value of the EU data economy is:

- estimated at EUR 300 billion in 2016, or 1.99% of EU GDP.

Source: European Data Market Study SMART 2013/0063

- will increase to EUR 739 billion by 2020, representing 4% (high growth scenario).

Source: European Data Market Study SMART 2013/0063

- EU countries defense budget – 1.4 % of EU GDP.

Source: European Defense Agency

The (geo)data economy

Digital Economy

- Revenue from global Geo services is **\$150 billion to \$270 billion** x year Source: Oxera for Google (2013)
- Return of Investment (RoI) estimated between **3:1 and 5:1**

Savings

- 150 million x year (loss from the absence of a pan-European SDI)
Source: Craglia et. al. (2012)

SMEs

- Data is a reusable asset! (once unlocked → reused many times)
- Unlocked data creates new opportunities

The geospatial sector

- Cross-sector activity
- NACE (some applicable codes)
 - *Engineering activities and related technical consultancy*
 - *Other research and experimental development on natural sciences and engineering*
 - *Computer programming activities*
 - *Computer consultancy activities*
 - *Data processing, hosting and related activities; web portals*

The actors

New players

- Private
- Citizens (smartphone penetration)
- Machines

Role of the public sector

- Open data

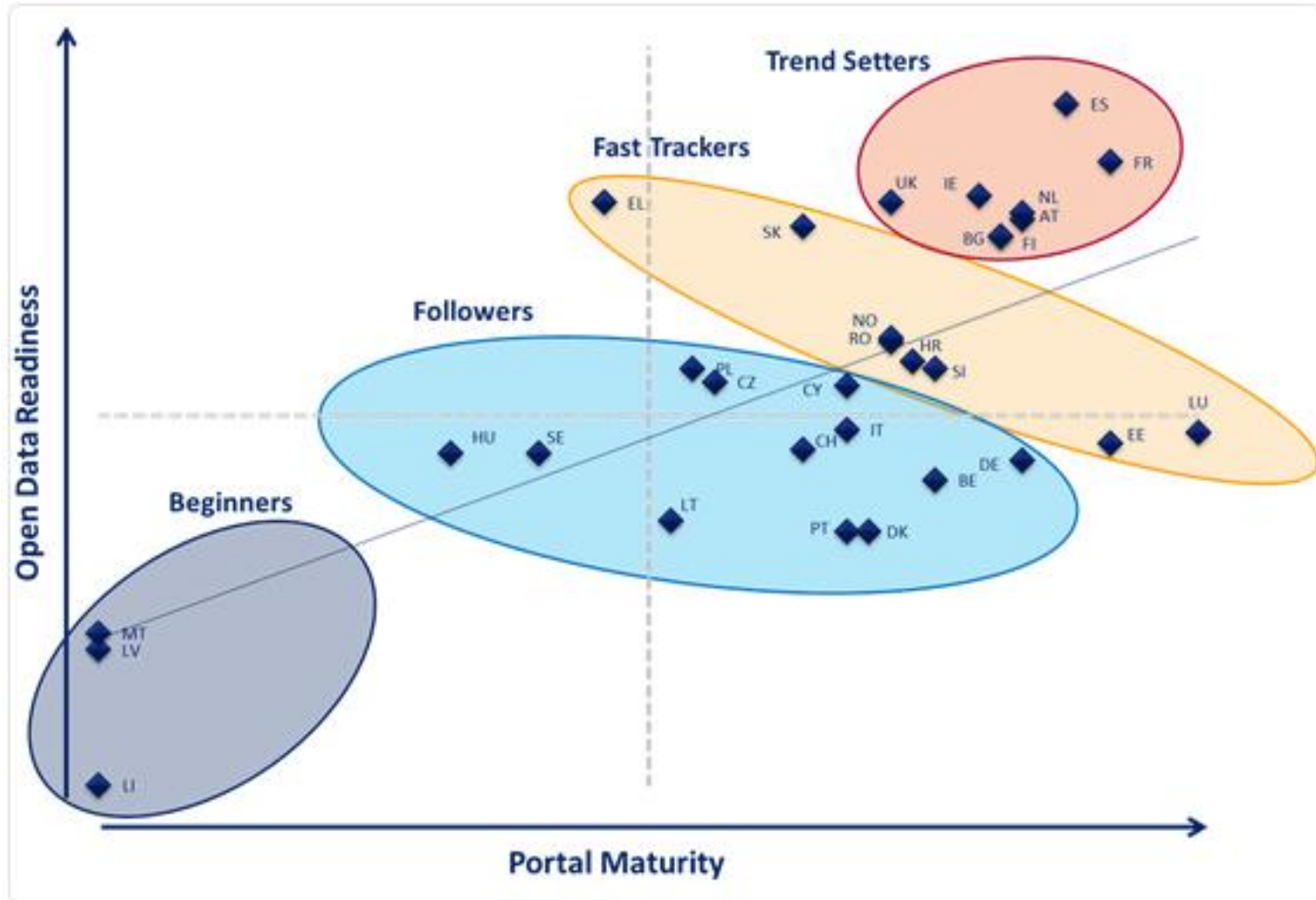
Smartphone penetration



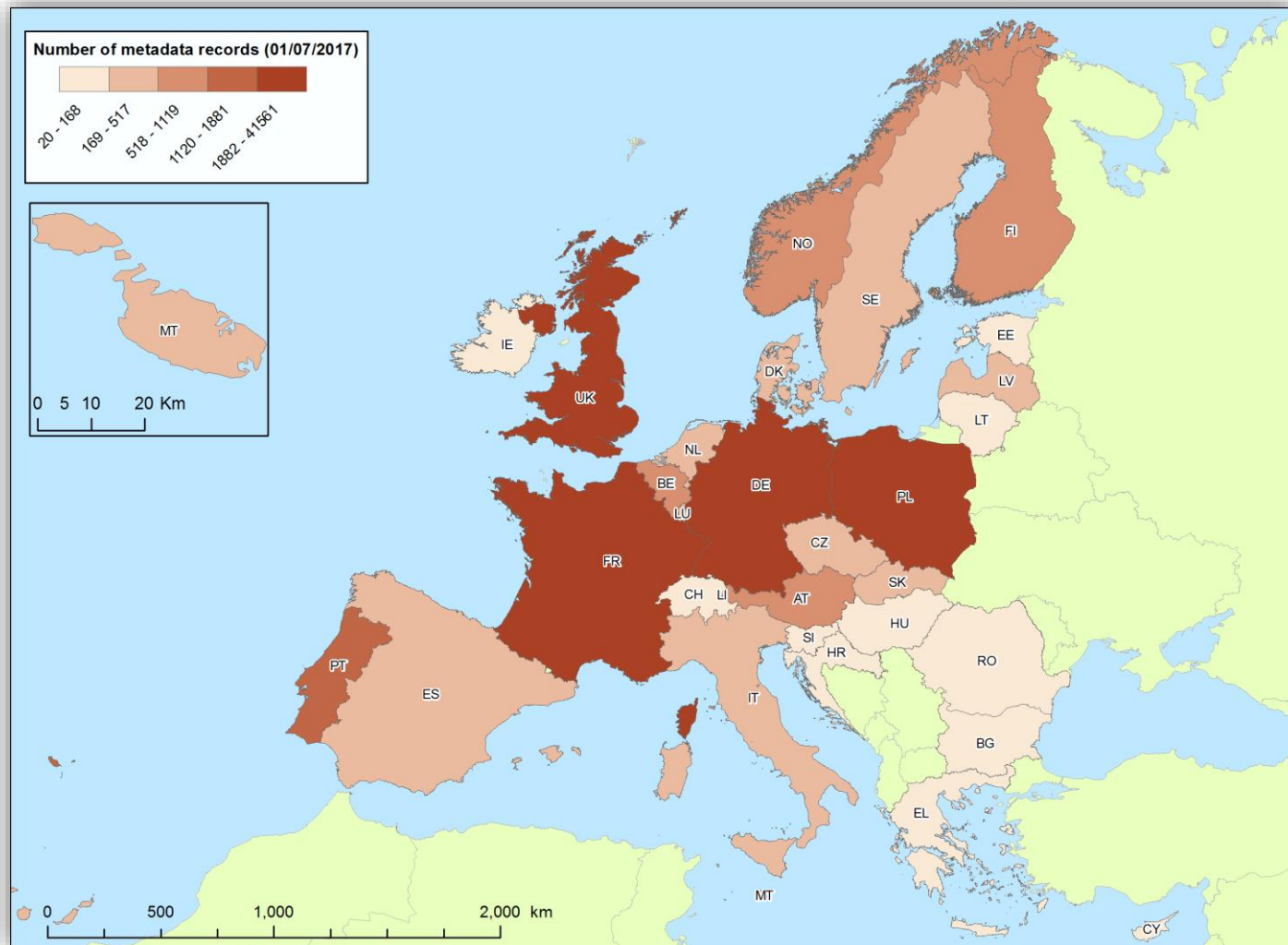
Rank	Country	% of population owning a smartphone	Relative size
1	South Korea	88	<div></div>
2	Australia	77	<div></div>
3	Israel	74	<div></div>
4	United States	72	<div></div>
5	Spain	71	<div></div>
6	New Zealand	70	<div></div>
7	United Kingdom	68	<div></div>
8	Canada	67	<div></div>
9	Chile	65	<div></div>
10	Malaysia	65	<div></div>
11	Germany	60	<div></div>
12	Italy	60	<div></div>
13	Turkey	59	<div></div>
14	China	58	<div></div>
15	Palestine	57	<div></div>
16	Lebanon	52	<div></div>
17	Jordan	51	<div></div>
18	France	49	<div></div>
19	Argentina	48	<div></div>
20	Venezuela	45	<div></div>
21	Russia	45	<div></div>
22	Brazil	41	<div></div>
23	Poland	41	<div></div>



Open data readiness



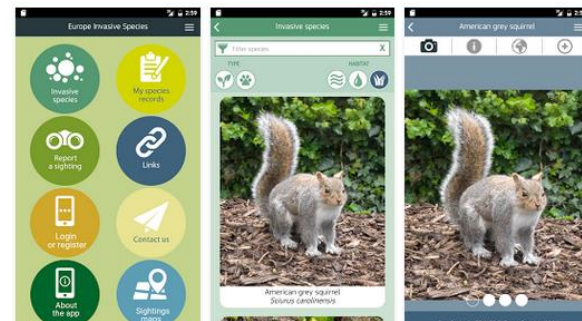
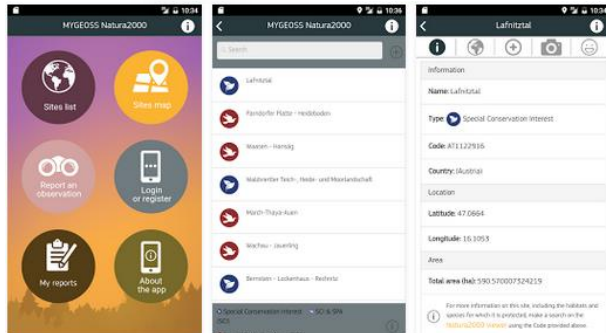
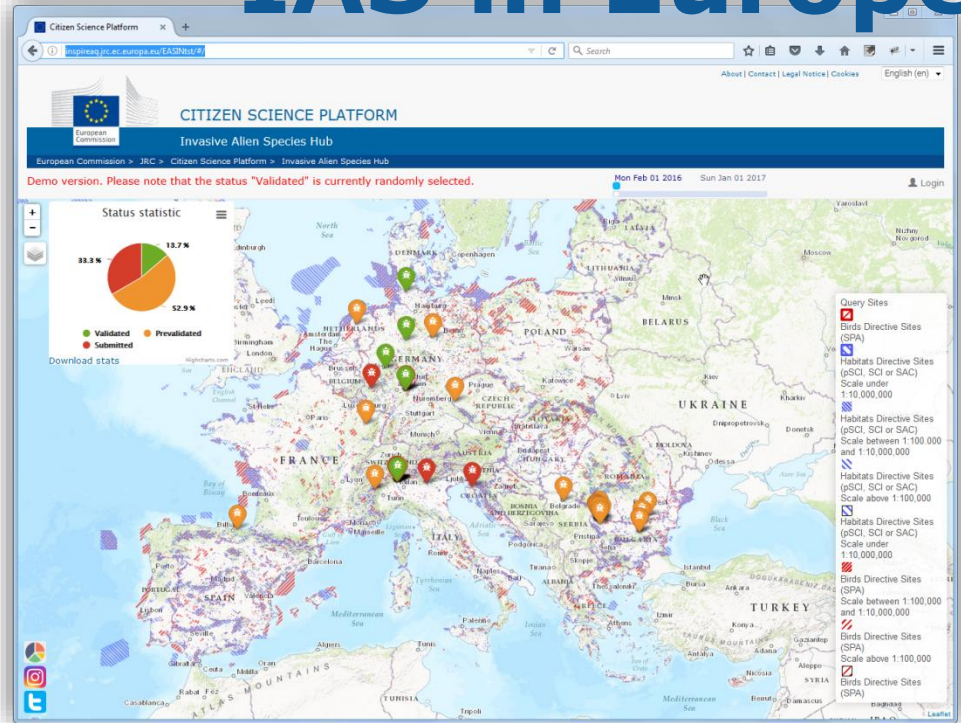
Metadata availability - INSPIRE



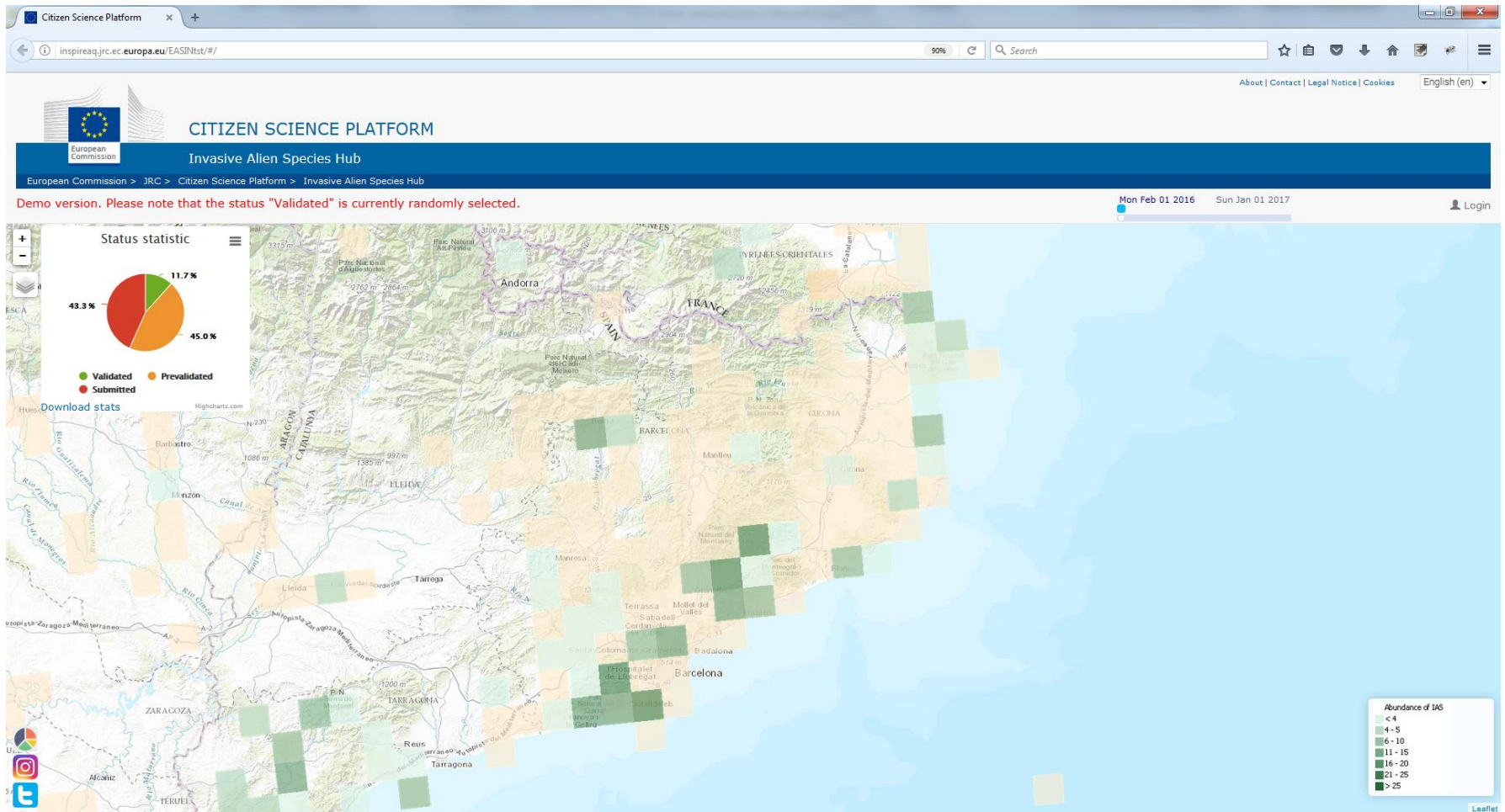


Community Data

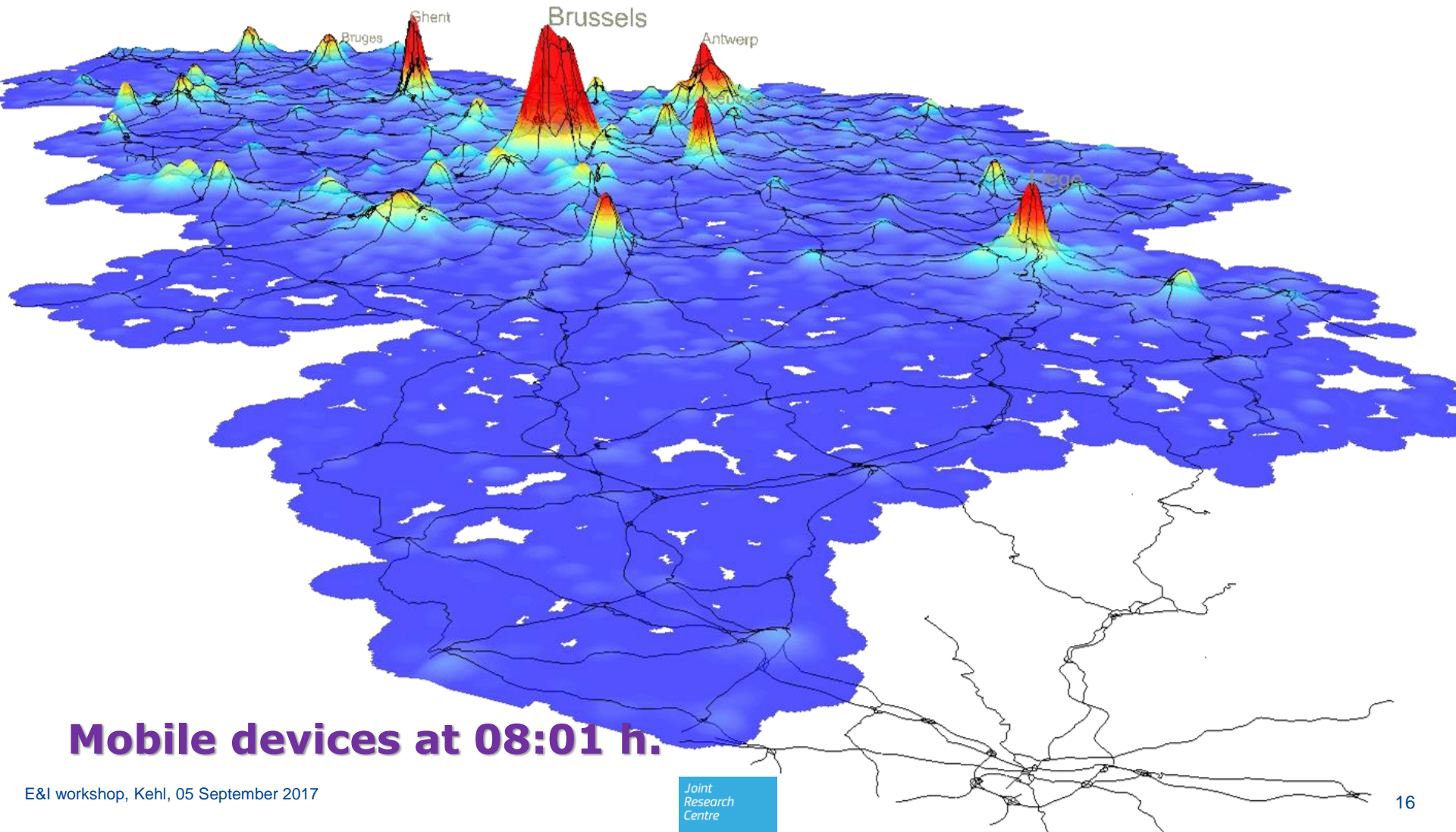
IAS in Europe



Community Data

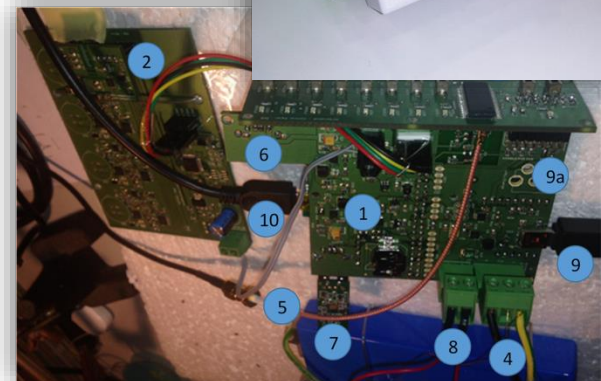
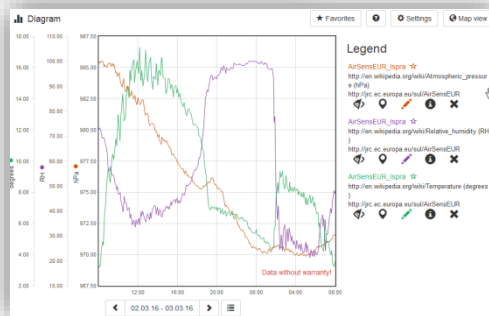
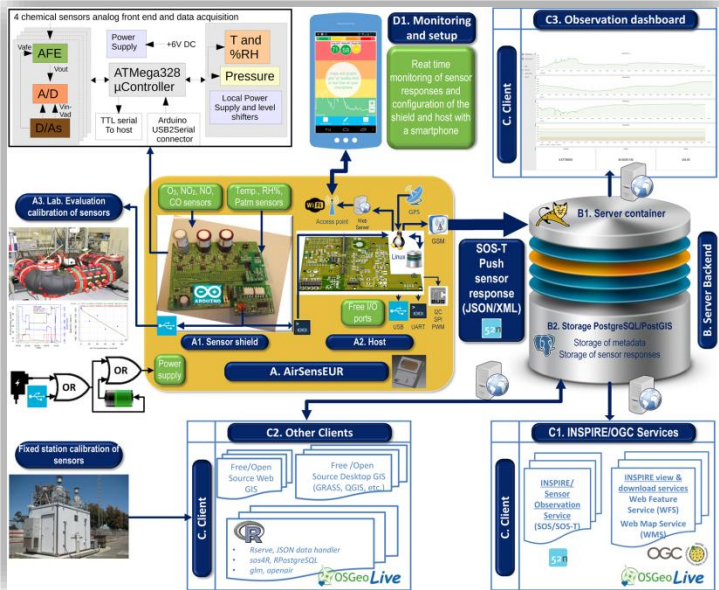


Population from Cell Phone data



Mobile devices at 08:01 h.

IoT



The EU Response

COM(2017) 9 final "Building a European Data Economy"

Part of the Digital Single Market strategy

- Extension of the success of the Single Market in the digital realm
- Opportunities of the DSM are only starting to emerge

Policy objectives

- Aiming at clear legal framework regarding the data economy
- Removing uncertainties associated with emerging technologies

Goes beyond the public sector and considers:

- Raw machine-generated (IoT) content
- Private data
- Industrial data platforms
- Citizens

Issues to be addressed on EU level

Free flow of data as a guiding principle

- 1) Avoid unnecessary localisation of storage and processing
- 2) Address possible liability
 - Failures of hardware (IoT)
 - Software defects
- 3) Ensure portability, interoperability and standards
- 4) Data protection to be retained (for personal data)

Distinguishes two types of data

–Personal

–Non-personal

General Data Protection Regulation

- Into force as of May 2018
- Same rules for data protection on EU level (instead of 28 sets of rules)
- One stop-and-shop mechanism ensuring cross-border use

Issues to be addressed on EU level

- Fostering the development of technical solutions for reliable identification and exchange of data:
 - Traceability and clear identification of data sources are a precondition for real control of data in the market. The definition of reliable and possibly standardised protocols for PIDs to create trust in the system.
 - APIs can foster the creation of an ecosystem of application and algorithm developers interested in the data held by companies.
 - On this basis, broader use of open, standardised and well-documented APIs could be considered, through technical guidance, including identification and spreading of best practice for companies and public sector bodies. This could include making data available in machine-readable formats and the provision of associated meta-data.

- Access for public interest and scientific purposes: Public authorities could be granted access to data where this would be in the "general interest" and would considerably improve the functioning of the public sector, for example, access for statistical offices to business data, or the optimisation of traffic management systems on the basis of real-time data from private vehicles.
- Access to business data by statistical authorities would typically contribute to alleviating the statistical reporting burden on economic operators. Similarly, access to and the ability to combine data from different sources is critical for scientific research in fields such as medical, social and environmental sciences.