Joint Research Centre

the European Commission's in-house science service

Serving society
Stimulating innovation
Supporting legislation

Observing the Smart Grid transition

Insights from the JRC Outlook 2016

Preliminary Results

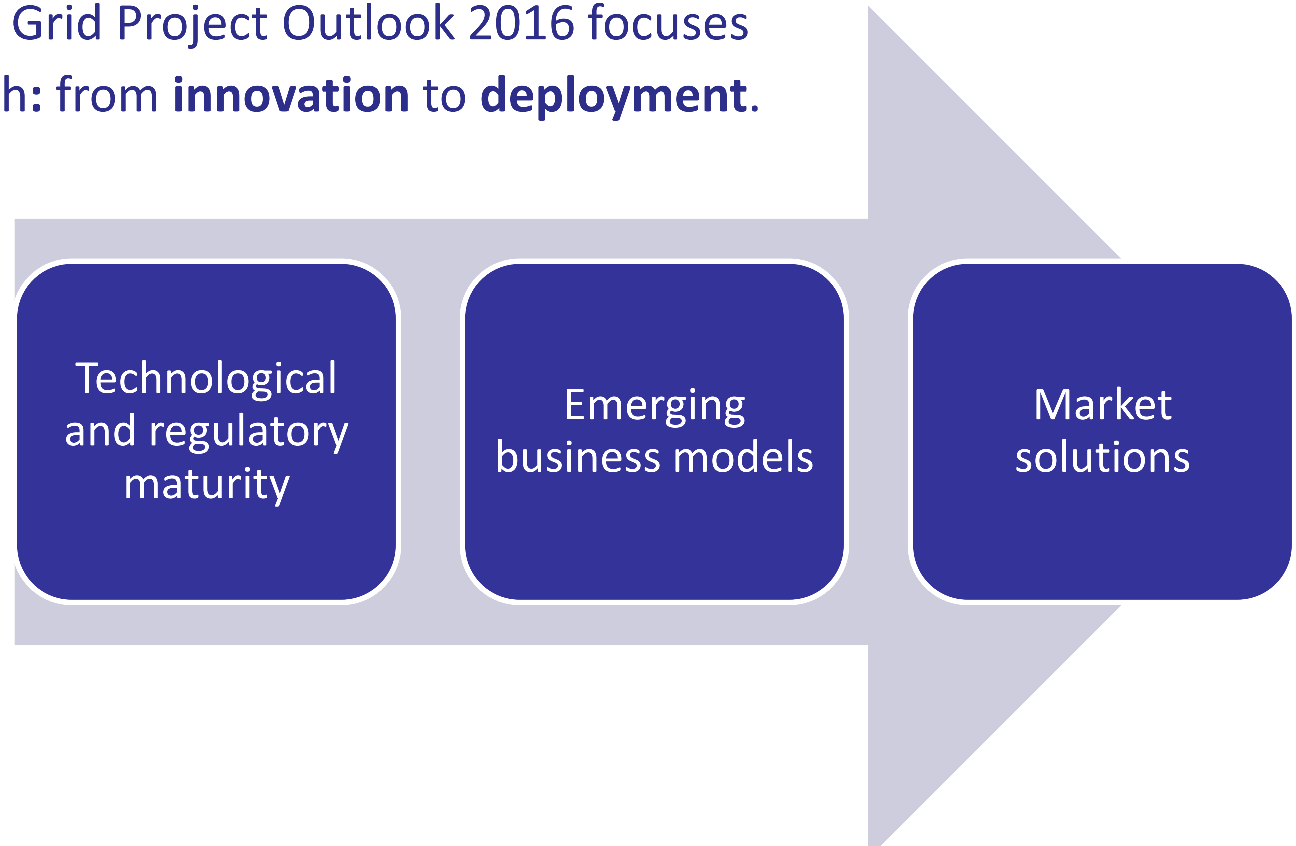
European Commission

JRC is strengthening its role of **independent data-broker** by collecting and analysing data about:

- ✓**SG Projects** (2014)
- ✓**SG Laboratories** (2015)
- ✓**Distribution System** (2016)

The SG landscape changes rapidly.

The Smart Grid Project Outlook 2016 focuses on the path**:** from **innovation** to **deployment**.



SG Outlook 2016 – quick takes

NUMBER

- Total: 975 projects in 51 countries
- 822 with budget information
- 650 national projects (365 projects having more than one partner)
- 325 multinational projects (with an average of 5 countries per project)
- Average project duration: 45 months

BUDGET

- Total: 5.1 billion €
- Average: 5.23 million €
- 305 ongoing projects: 2.1 billion € (average of 7.2 million €/project)
- 671 completed projects: 3 billion € (average of 5 million € per project)
- Largest investments: Germany and UK

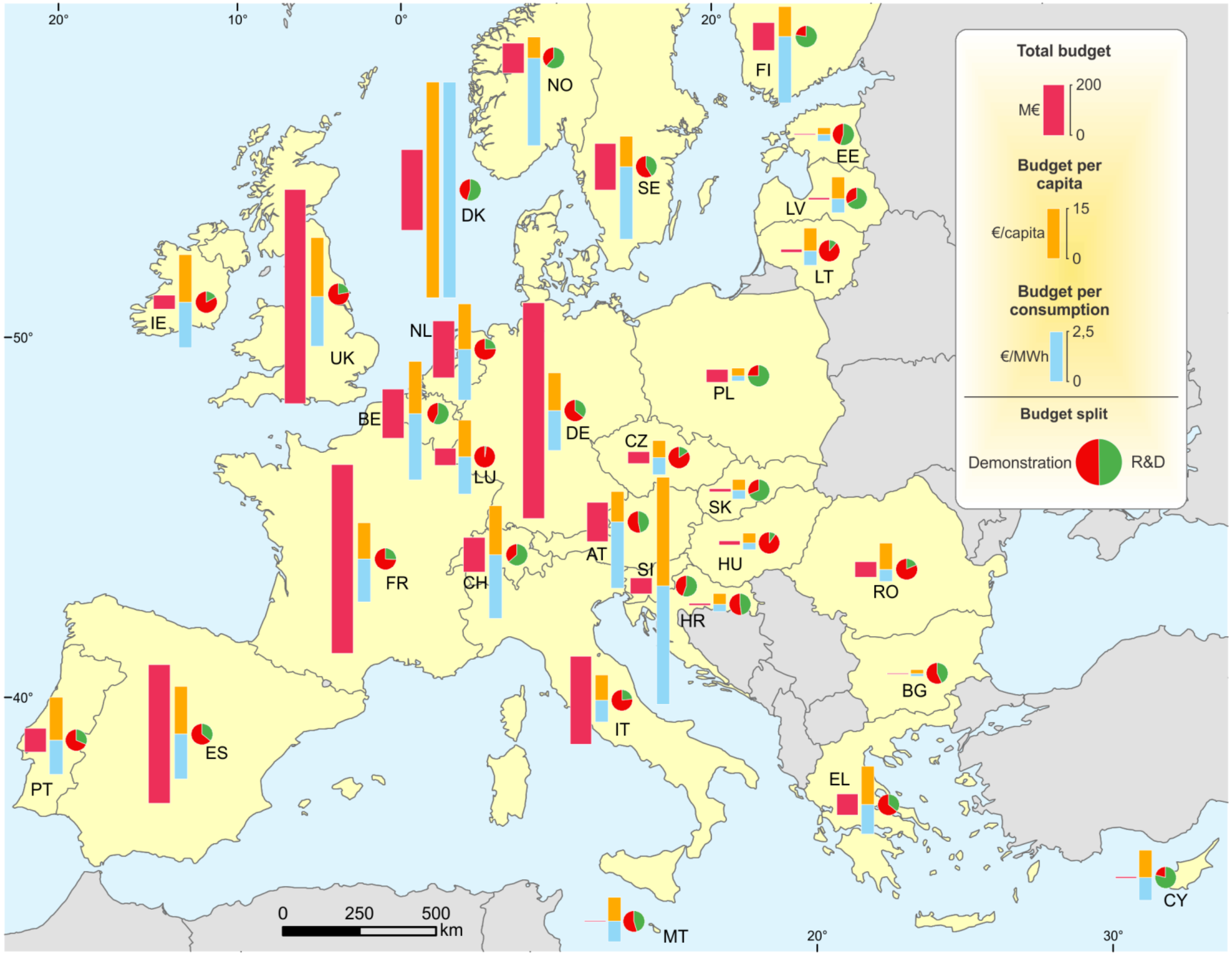
ORGANISATIONS

- Total: 3000 organisations
- 6700 participations
- Involved in more than one project:: 835 organisations
- Most active company: 67 projects (from Denmark)
- Most active organisation types: Universities/ Research centres/ Consultancies and DSOs
- Average: 5 partners per project

IMPLEMENTATION SITES

- Total: 640 sites
- 36 countries
- Average: 2 sites per project
- Most sites: Germany (176) and France (198)
- Biggest number of sites per project: 29 sites

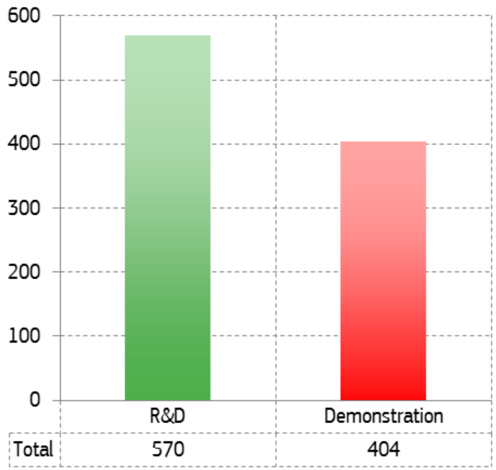
Geographical SG projects distribution

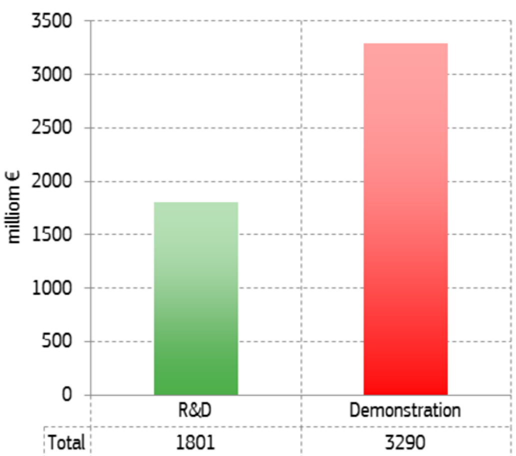


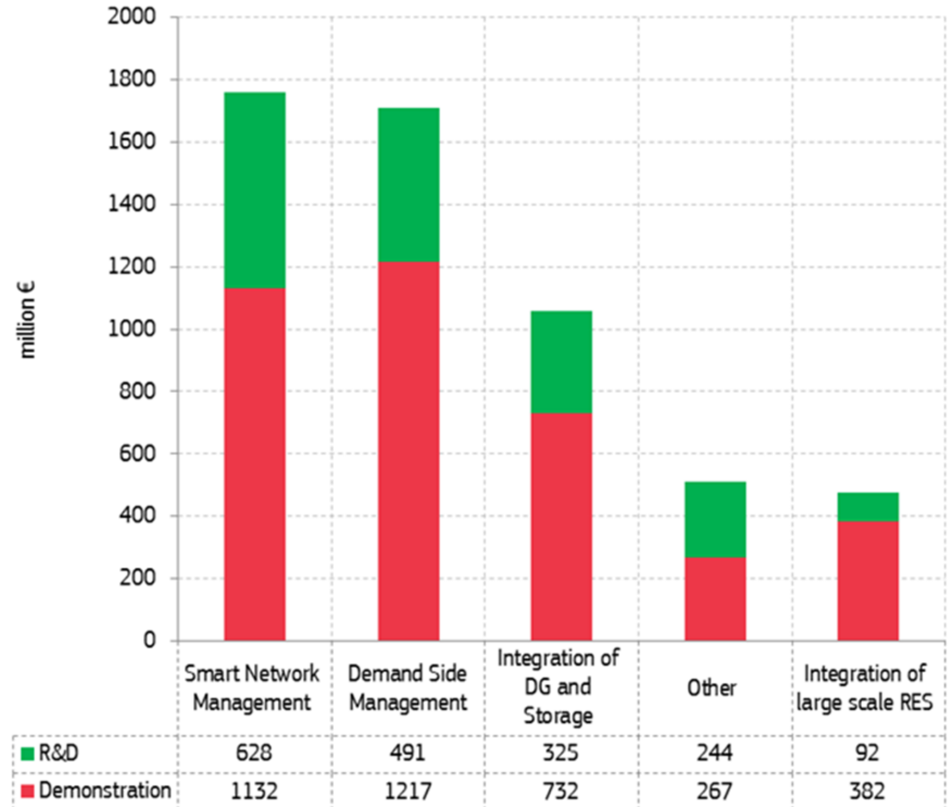
✓Top investors: DE, UK, FR (€2.3 € Bn total)

✓When normalised by capita or MWh, SI and DK are leading in investments

Projects' stage of development

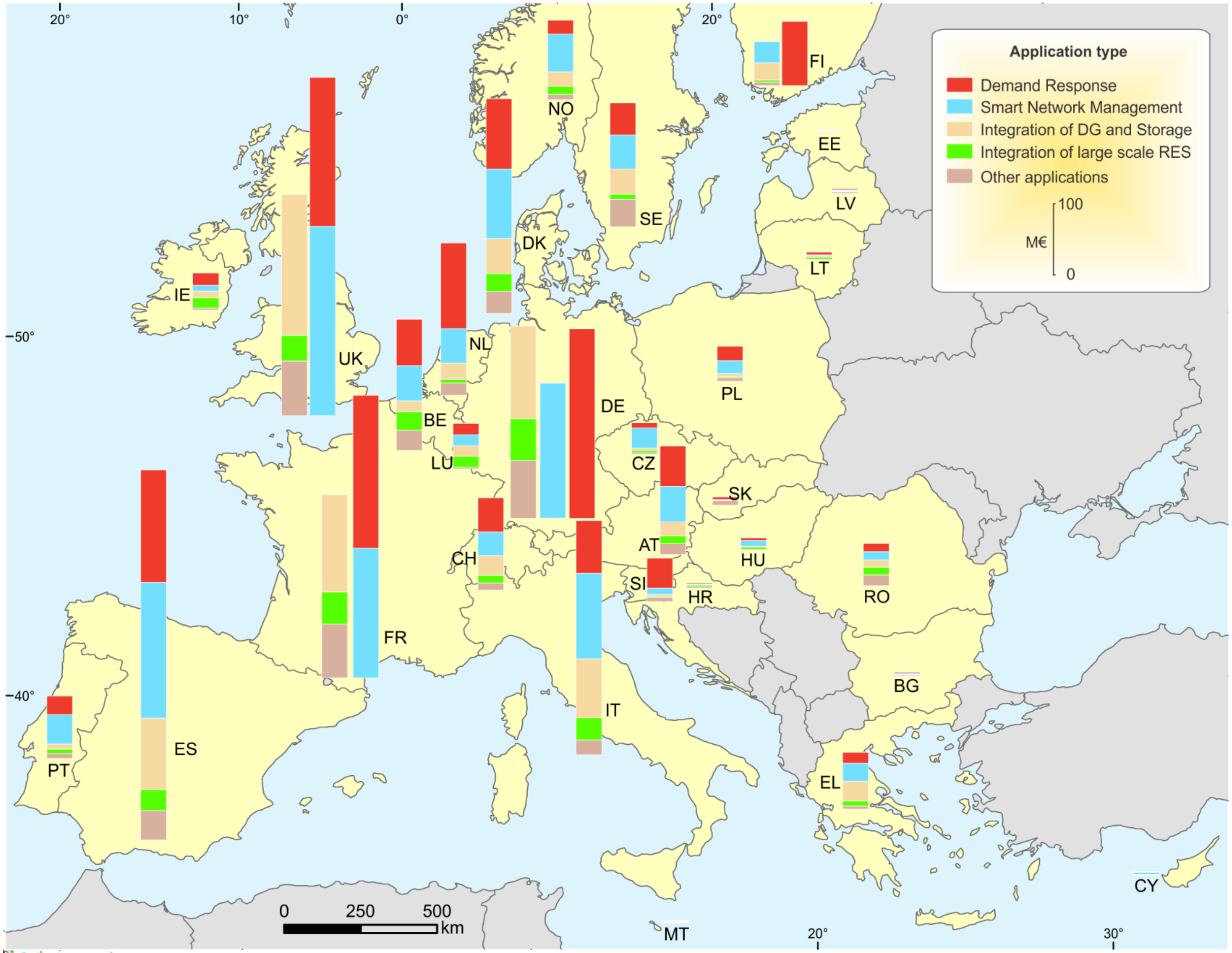






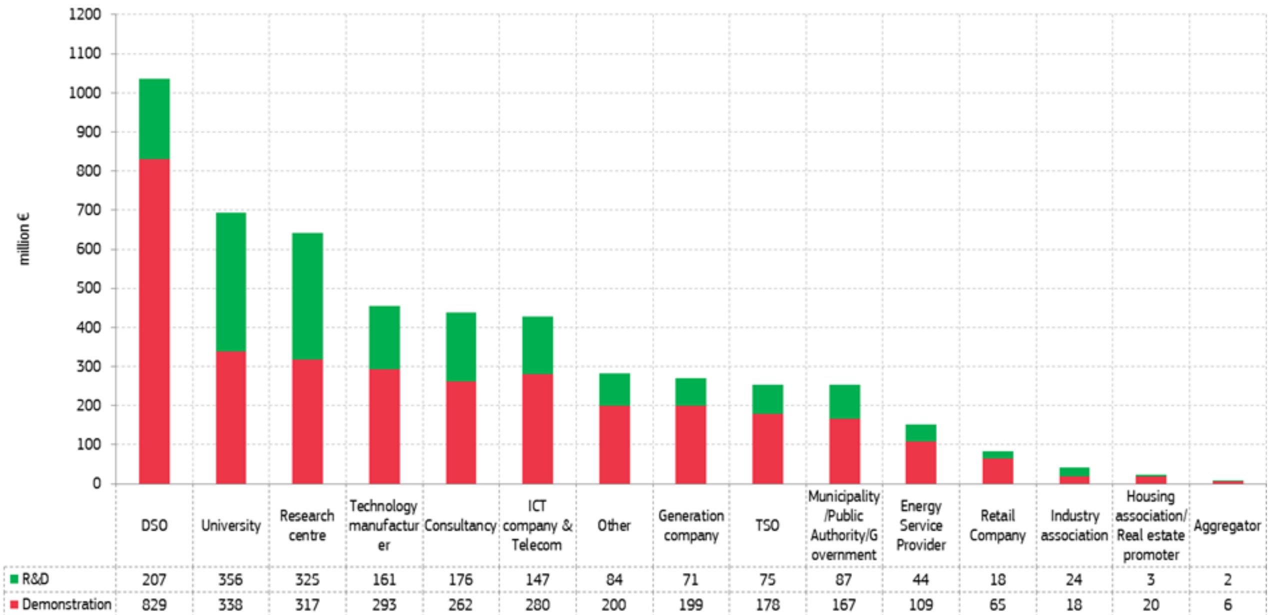
- ✓ 975 projects: 58% R&D
- ✓ €5.1 billion: 65 % Demonstration
- ✓ SNM and DSM: leading applications

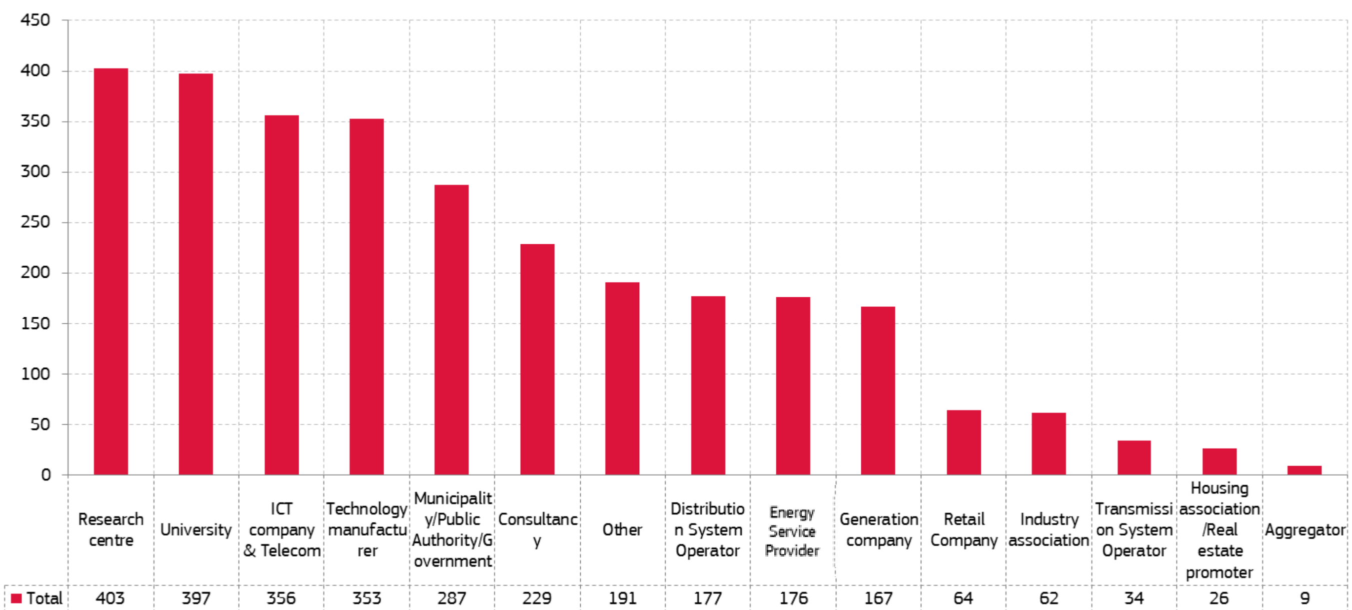
Project categories



✓MS have different interest in SG applications, in line with national circumstances.

Who's investing?

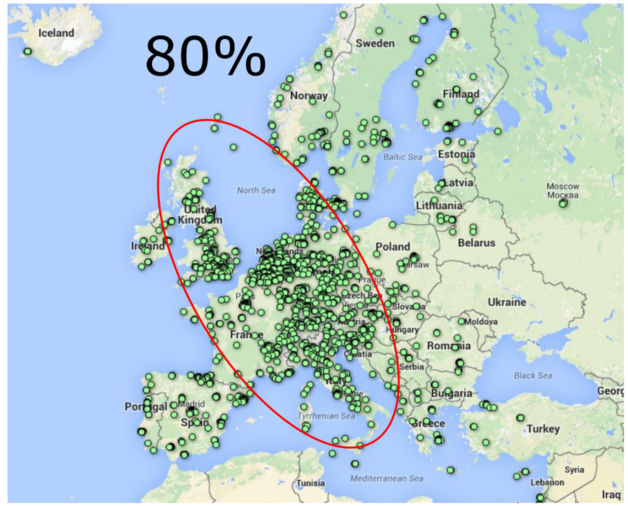


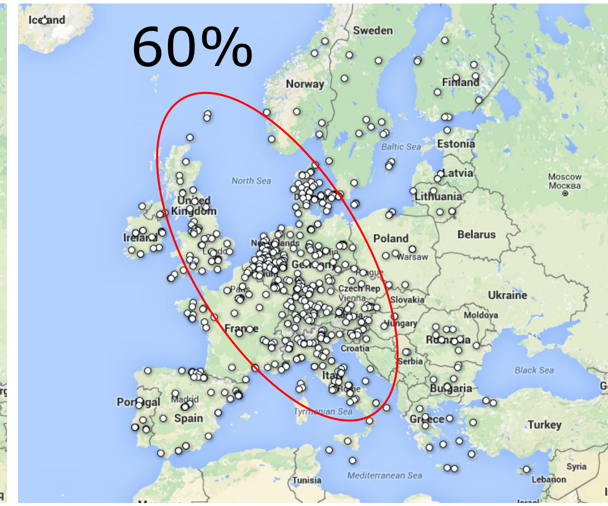


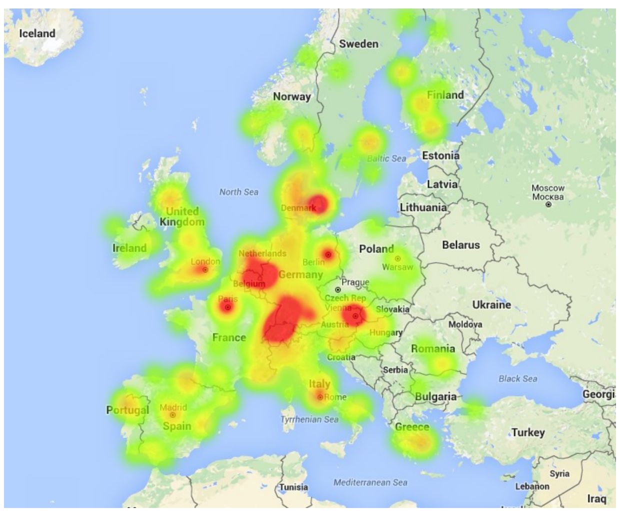
- ✓ **DSOs** are the top investors
- ✓ **New actors** are emerging (e.g. municipalities, housing associations)

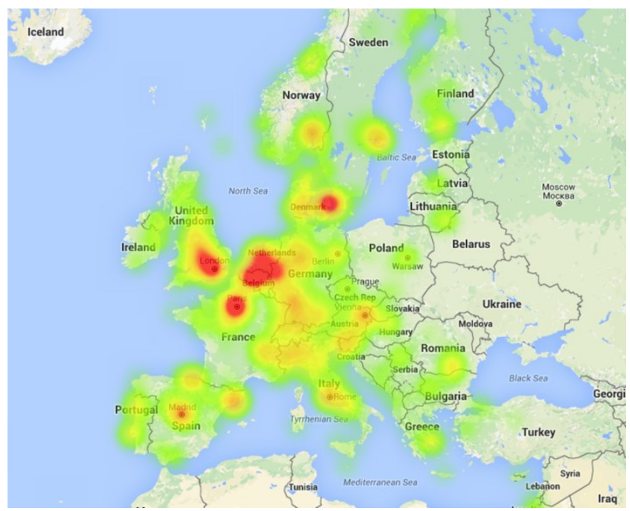
Organizations and Implementation sites

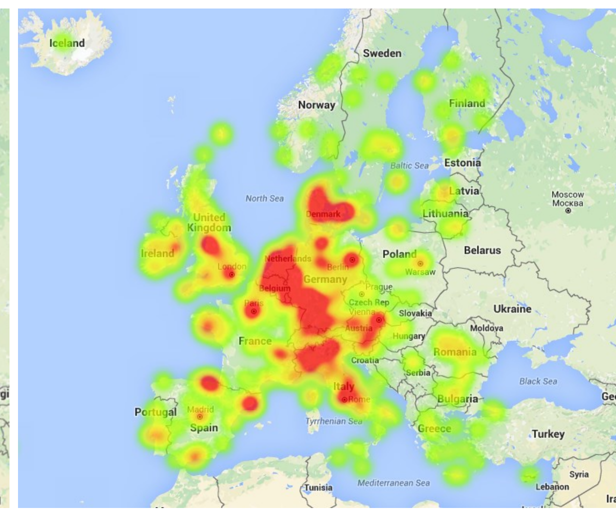
Leader	Partners	Implementation sites



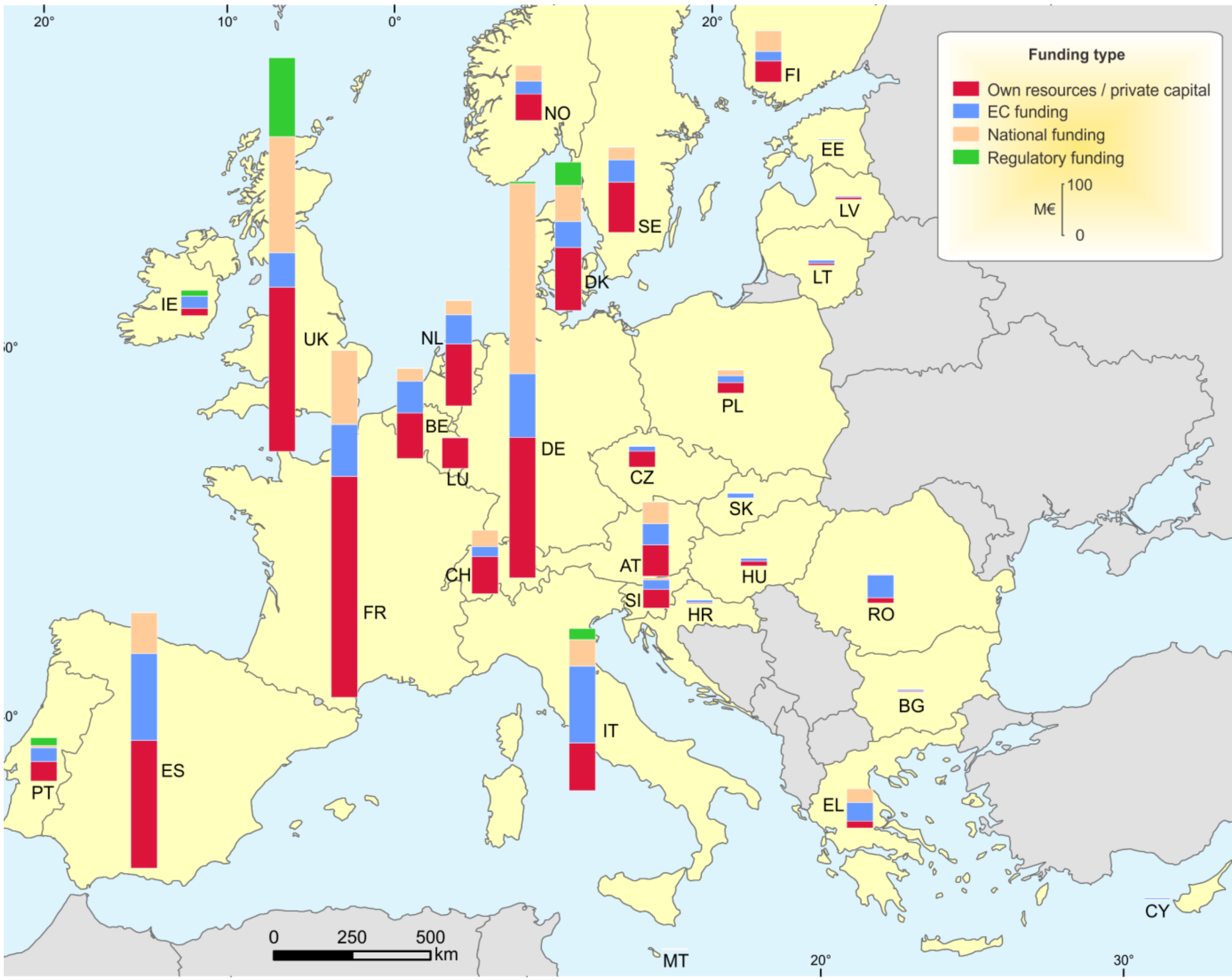


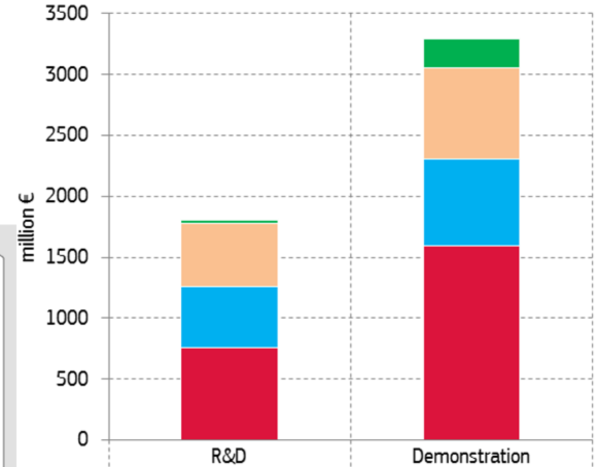






Sources of financing





	R&D	Demonstration
Reg.	24	239
Nat.	518	748
EC	497	708
Own	762	1597

- ✓ Private resources as main source of financing (45%)
- ✓ EC funding: 25%
- ✓ In all countries, public support (EU and national) is key for SG investments

Main messages

- ✓ Europe is among the **world leaders** in smart grid investments
- ✓ SG solutions will only work if all the conditions are right (technology, regulation, consumers, business value, etc)
- ✓ Increasing degree of **cross-border** interaction and synergies among **new and emerging** actors
- ✓ Need to investigate and test **systemic integration of different solutions** under real-life conditions and their interaction with end-users
- ✓ Importance of **public funding** to support the smart grid R&D and demonstration activities
- ✓ **Knowledge sharing** and dissemination of **best practices** is key to accelerate SG deployment.

The Smart Grid Projects database is constantly updated.
Share your project data on our **online platform**!

http://ses.jrc.ec.europa.eu/survey-collection-european-smart-grid-projects