

The Techno-Economic Landscape of Earth Observation Sector

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Outline

1. Motivation behind the development of the TES methodology
2. Presentation of the TES
3. Preliminary results of the EO TES

Changing EO landscape

- Technology developments that led to the democratisation of access to space (miniaturisation) and to enhancement of analytical processes (AI, cloud computing, big data, etc.);
- New players, major investment from private sector, maturing EO market;
- Greater integration across sectors (agriculture, construction, transport, logistics, marketing...) and vertically from in-situ sensing to space;
- Space and EO are a key component of developing digital economy and data market in Europe.

Why TES?

Policymaker needs better characterisation of the changing landscape in order to:

- better understand the context for policy interventions,
- better understand impacts of policy intervention.

TES: ecosystem mapping tool

Ecosystem mapping tool that targets complex techno-economic systems not addressed by official statistics or standard classifications. Addresses emerging ecosystems or ecosystems undergoing transformation (applied recently to photonics and AI).

Objective: a) providing a timely representation of integrated and very dynamic technological domains (such as EO) rapidly evolving, expected to play a key role in the digital transformation, b) gate-keeping further developments to answer policy needs.

Methodology

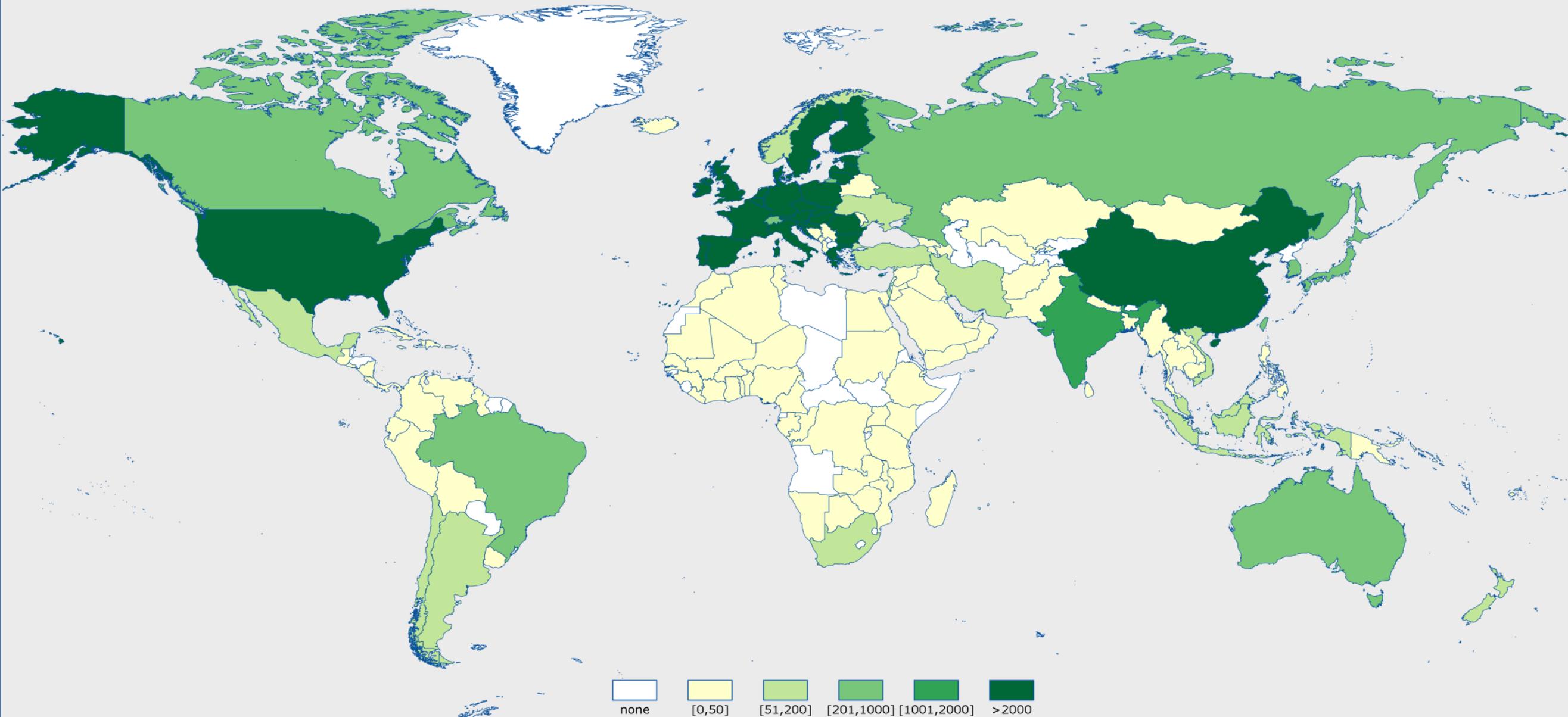
Big picture based on micro data

Key focus: identify **the key players** in the ecosystem (firms, inventors, start-ups, research centres, universities, other public institutions), **their location, activities, and collaborations** between them, including tracking more **latent connections**.

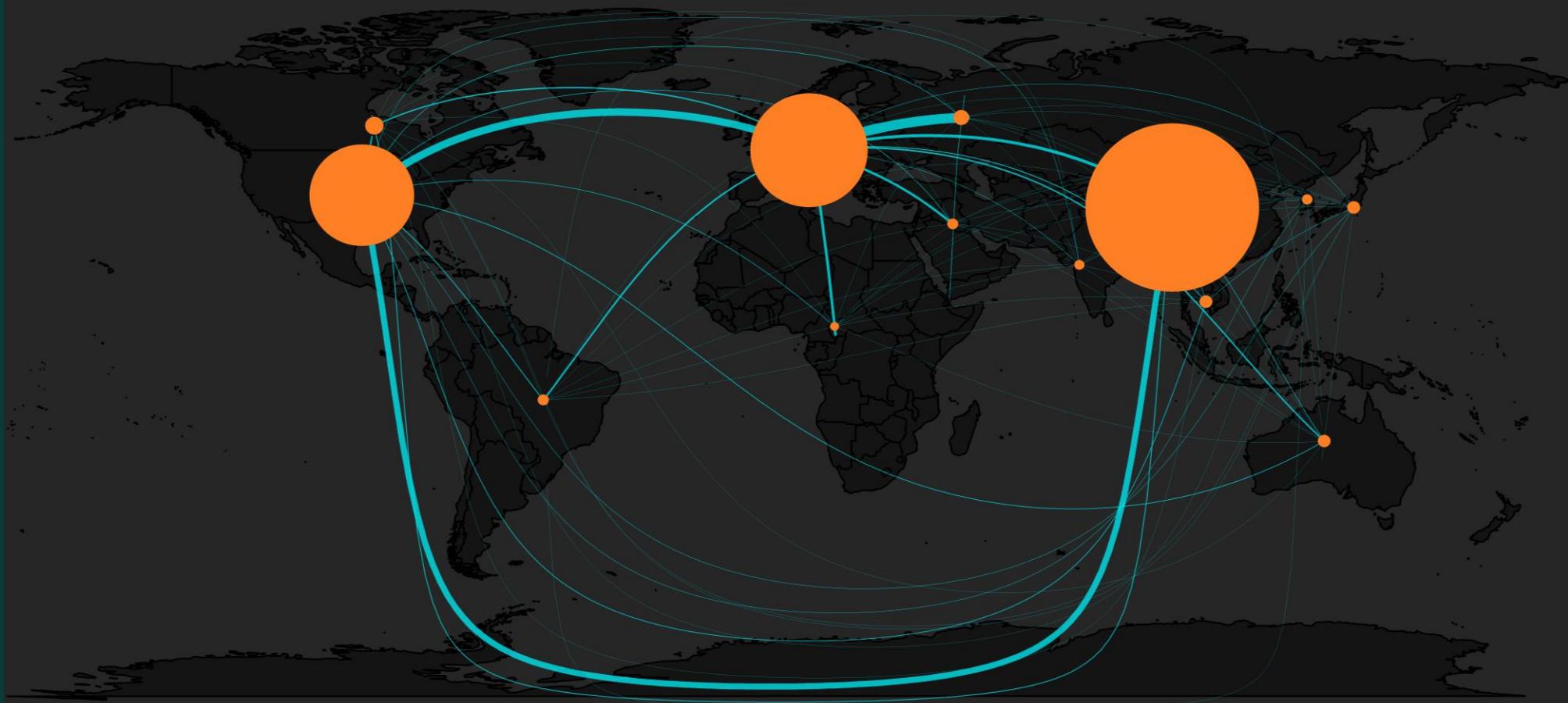
How: Data mining, Multilayer Network analysis, Text modelling.

Data sources: company registers, patents, R&D projects, publications, conferences, and other data sources specific to EO domain.

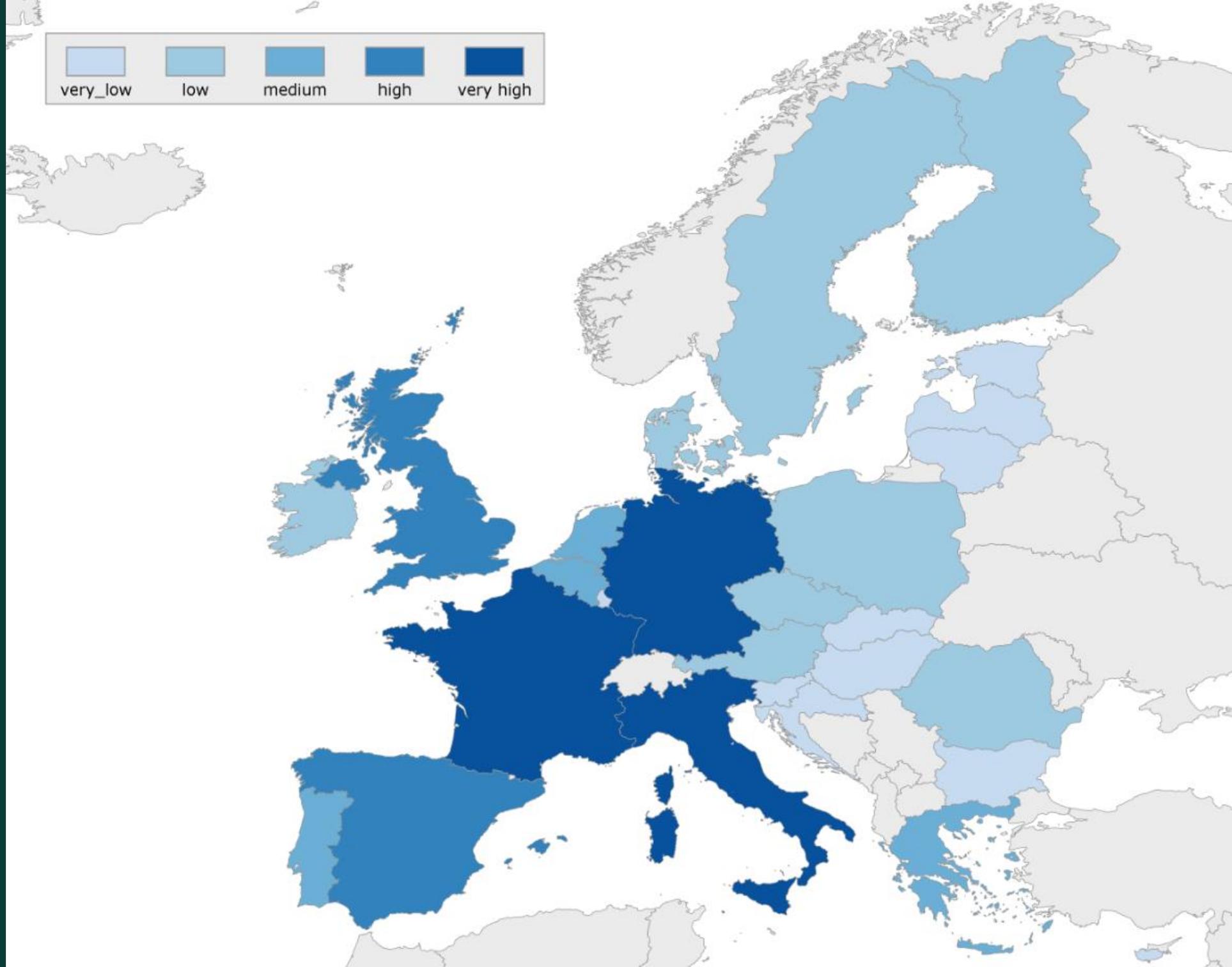
Initial mapping of $17\ 000 <$ key players



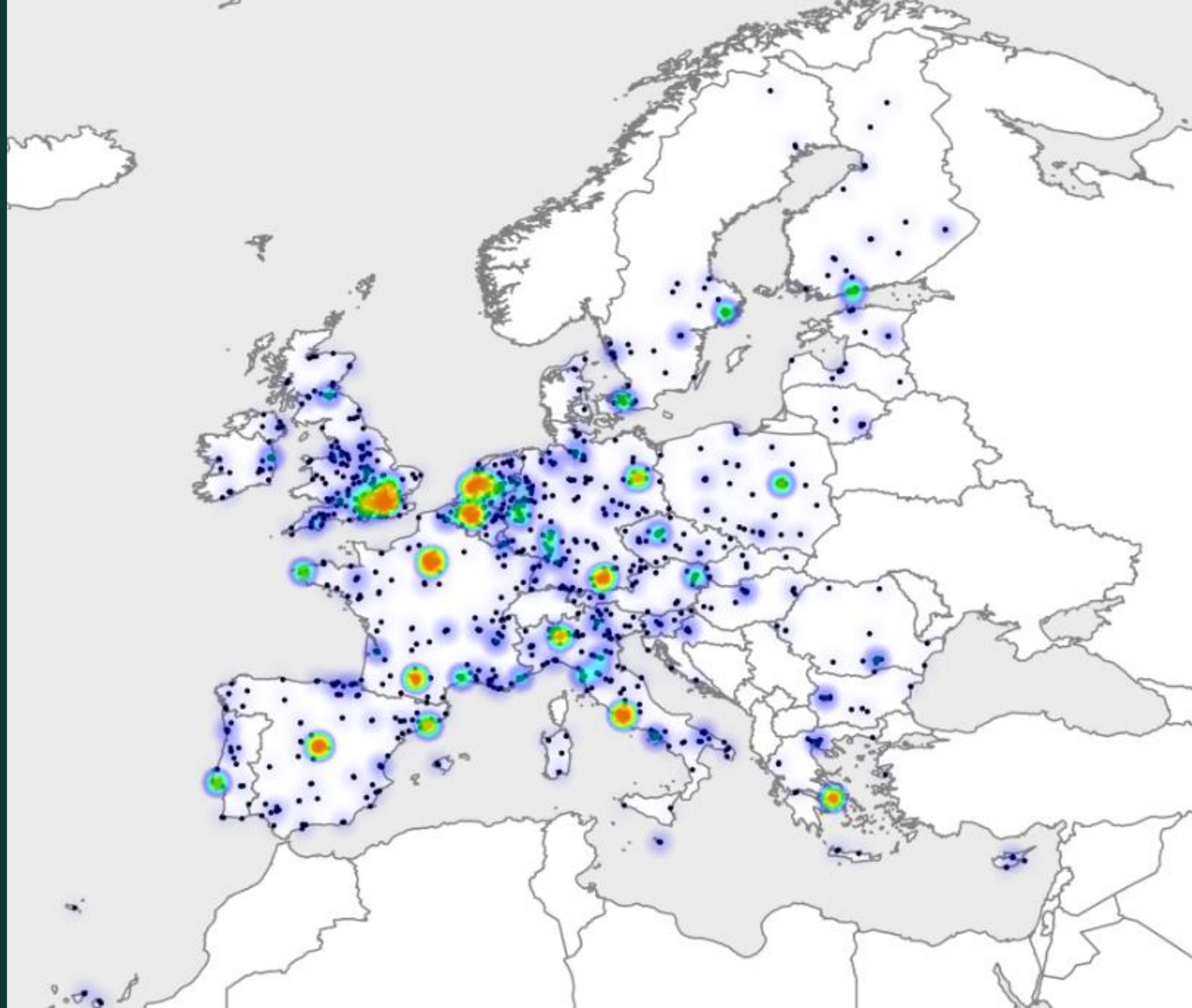
R&D global hubs



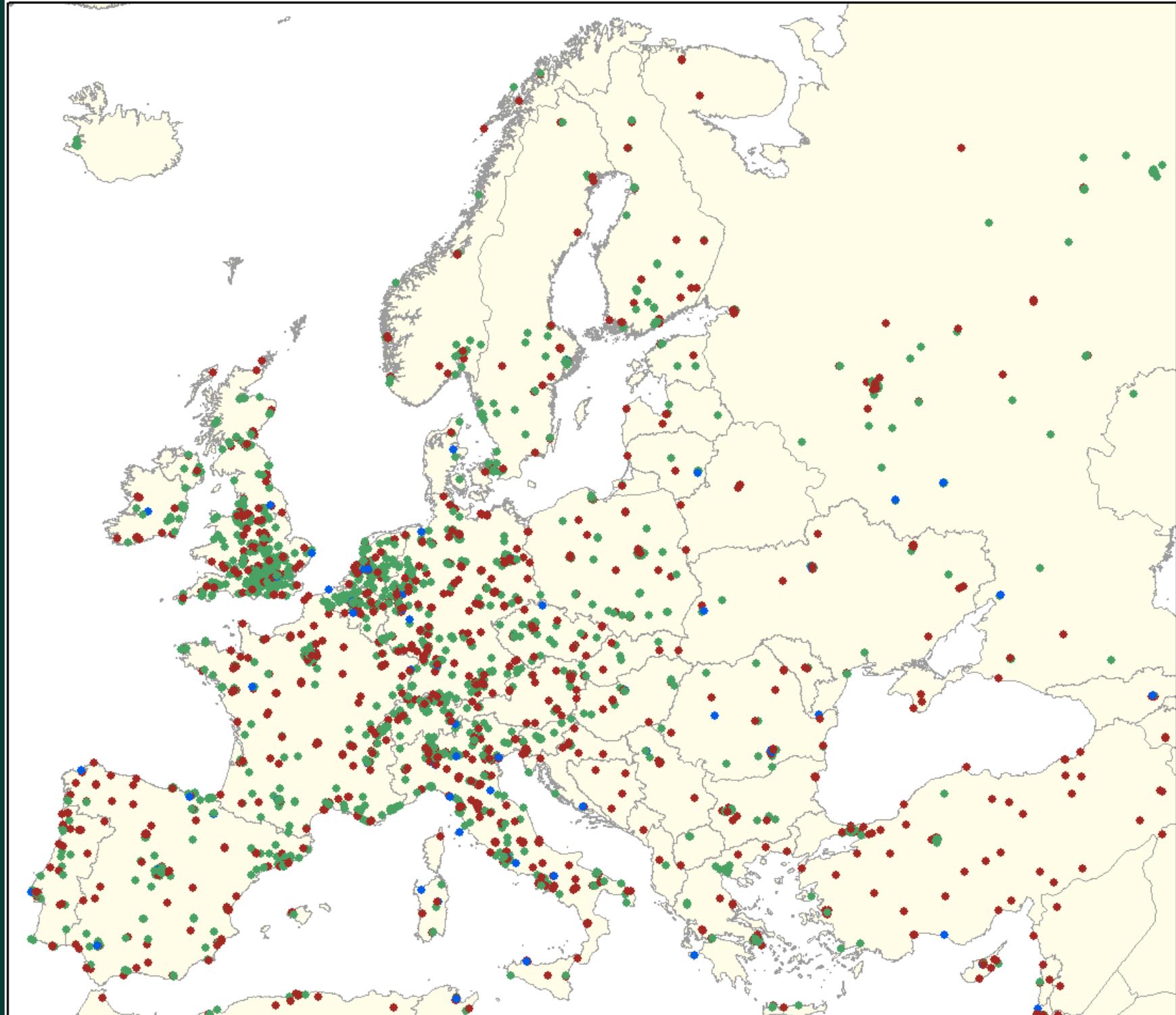
Mapping of 5 000< key players in the EU28



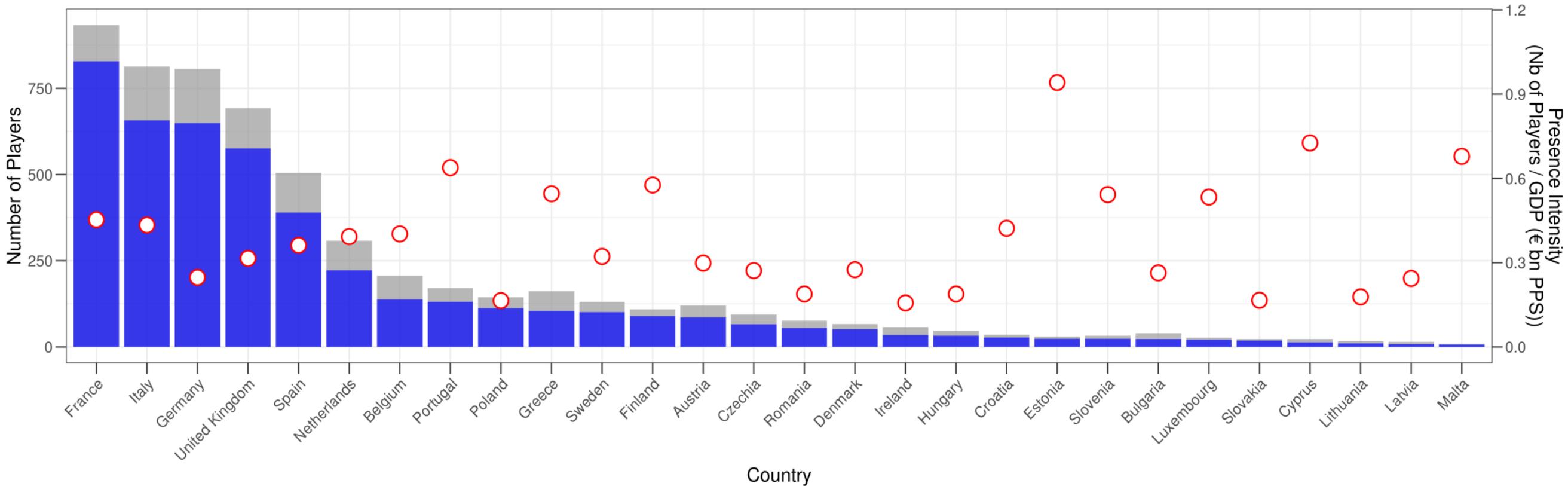
European hotspots



Type of players

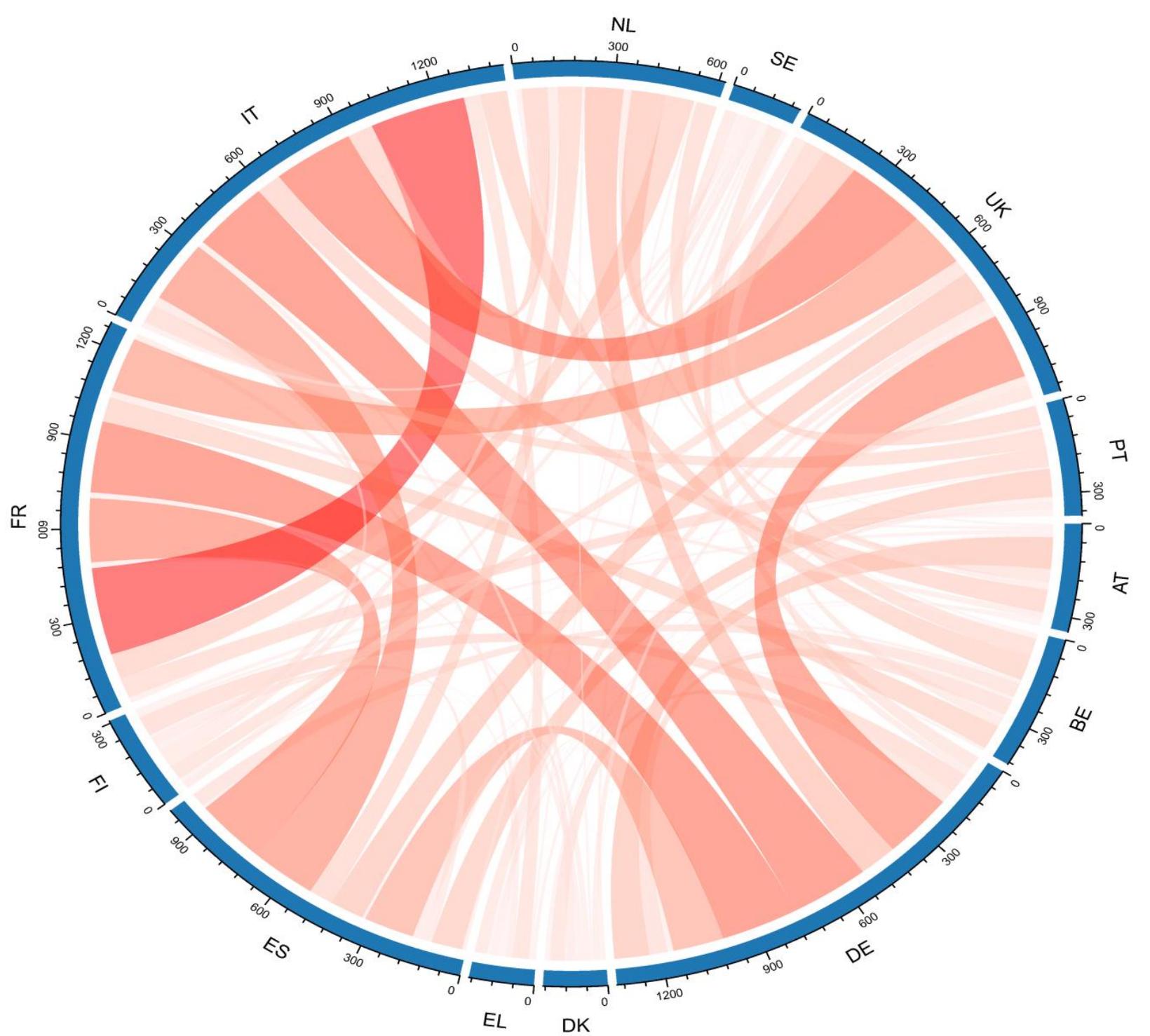


Mapping of 5 000 < key players in the EU28



○ Right Axis: Presence Intensity
 Left axis: Players active in ■ Not EU-funded activities ■ Only EU-funded activities

European cooperation in research





EOValue

Socio-economic value of Earth Observation Research



Work in progress but watch this space!

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<https://ec.europa.eu/jrc/communities/en/community/eovalue>