The JRC Approach to the Digital Economy Overview of Selected Lines of Work

Max Craglia, Giuditta de Prato, Nestor Duch-Brown, Dimitris Mavridis

Digital Economy Unit, Directorate for Growth and Innovation, Joint Research Center

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European Commission

Identity

Mission Statement

To provide **quantitative and qualitative socio-economic research** in support to the Digital Economy, Digital Living and Digital Society.

Activities

It is currently leading a flagship project in the area of **Digital Transformation and Artificial Intelligence (DT&AI),** with the objective to analyse the profound changes taking place in the economy and society as a result of the uptake and integration of digital technologies in every aspect of human life.

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Overview

- **Digital Transformation and Governance of Human Society (DigiTranScope)**
  Team leader: Max Craglia
  An experimental project that leverages the digital transformation and its instruments to design and evaluate policy

- **Support for Platforms and Data Economy (SPADE)**
  Team leader: Nestor Duch-Brown
  A project that opens up the black box of platforms, the main marketplace of the digital economy

- **AI Landscape (PREDICT and AI Watch)**
  Team leader: Giuditta de Prato and Paul Desruelle
  Mapping the AI technoeconomic complex networked system based on microdata to quantify the spread and takeup of AI technologies in countries, sectors, technological subdomains

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DigiTranScope | Key Issues Addressed

- Is there a European way to digital transformation (DT)? What should it look like?

- What are the new forms and scales of governance enabled by DT?

- The project undertakes research, expert workshops, and experiments to feed to policy initiatives and the AI Watch

DigiTranScope | Governance of Data

- **Governance of data** is crucial for the healthy development of AI in Europe. We need to exploit the richness of European data to support European society and well being

- **New data sharing frameworks** are needed so that individuals, companies and society at large have control of their data and can share it with trust
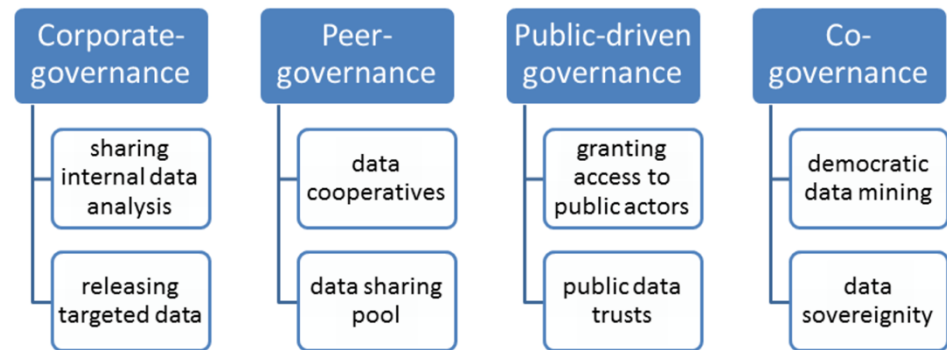
DigiTranScope | Leveraging key features of DT

- Experimental policy design using **Digital Twins** for policy targeting, group profiling, ex post assessment of policy interventions, etc.

- **Serious gaming** to involve children in policy design and environmental awareness

- AI tools to improve knowledge management

- Networking within JRC/EC and local/national governments
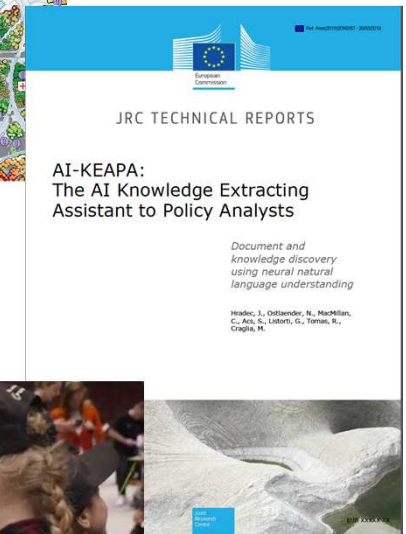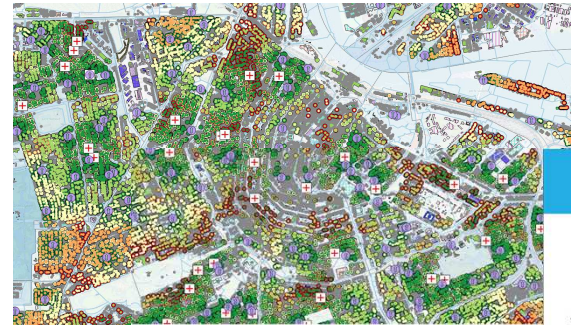
SPADE | Main Lines of Research

- **Digital platforms**
  - A hollow structure created from technology, new kind of business
  - Digital platforms are a new kind of intermediaries connecting supply and demand
  - A heterogeneous field of companies, from social media platforms to traditional e-commerce
- **Data: The "New Oil"**
  - Markets for data: B2B, B2G
  - Economics of data: ownership (non-rivarly), access (excludability), object of transactions (trade of data)
  - Economies of scope in data aggregation
  - Datafication process

SPADE | Work in progress: Digital platforms

- Algorithmic decision making: platforms use automated algorithmic tools to make market decisions
  - Implications for policy algorithmic collusion / competition., matching, internal processes, lock-in effects

- Platform strategies
  - Price parity clauses
  - Consumer behaviour

- Personalisation
  - Prices; In-platform search results

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SPADE | Work in progress: Digital Data

- How to enable the data economy and artificial intelligence in Europe
  - Data "commons" / Data pools

- Public sector use of private data
  - Preferential access, Licensing
  - B2G data-sharing for the public good (private vs. social value)

- Update of "ownership, access and trade in digital data" report
  - Workshop: recent evolution of the economics of data

- Trade in digital data
  - Pricing / International dimension (Free Flow of Data) data localisation restrictions (storage, movement, exchange)

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AI Watch | Identity
Monitoring of Development, Uptake, and Impact of AI

- **AI Landscape : From Research To Market And Society**
- Evolution of AI Technology
- Evolution of AI Uptake across economy (by sectors)
- Evolution of European Market shares in Robotics
- EU Member States National Initiatives on AI
- Use and Impact of AI In Public Services
- AI Index (including indicators relevant for policy making)

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AI Watch | Landscape of AI in Europe
AI Ecosystem: from research to market and society

Objective

To provide a mapping of the AI ecosystem, identifying the main European and non-European stakeholders and the competitive position of Europe with respect to the US and China in major AI subsectors

Methodology

The methodology is an extension, improvement and update based on techno-economic segment analysis (TES) of the AI ecosystem by PREDICT3.

Quantitative approach based on variety of data sources & mapping of relations and activities

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AI Watch | AI Ecosystem (Preliminary Results)

Identification of main European and no-European stakeholders: mapping of players at global level, and analysis of competitive position of Europe with respect main competitors

AI players: research centres, academic institutions, companies

AI related economic activities: R&D processes, industrial production and marketing, specific AI-related services
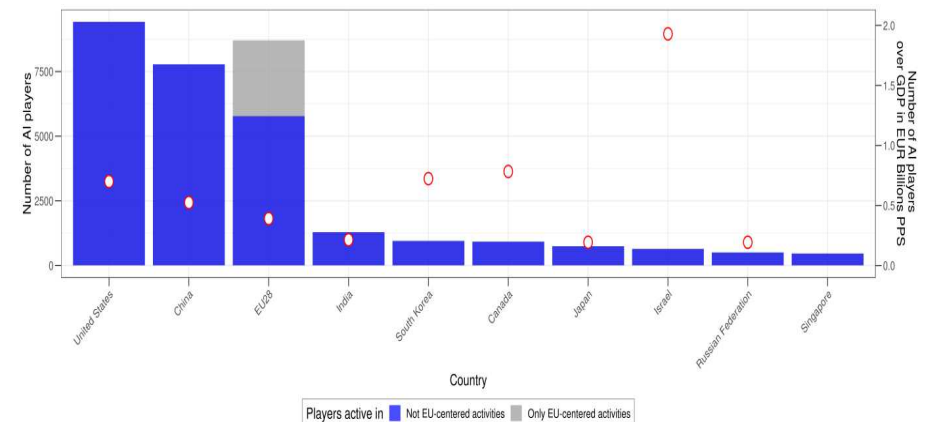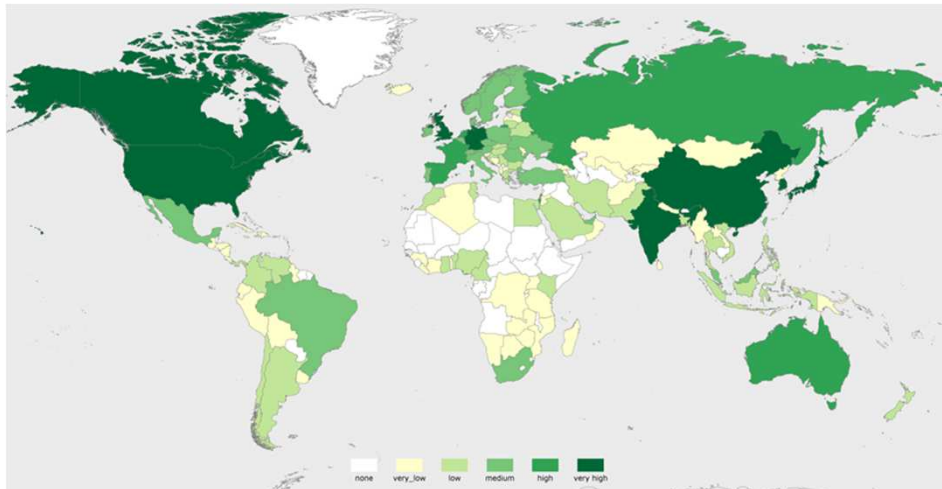
AI Watch | AI Ecosystem (Preliminary Results)

Accounting for the role of all relevant stakeholders, such as VCs, shareholders, facilitators as regional development agencies and Digital Innovation Hubs, etc.
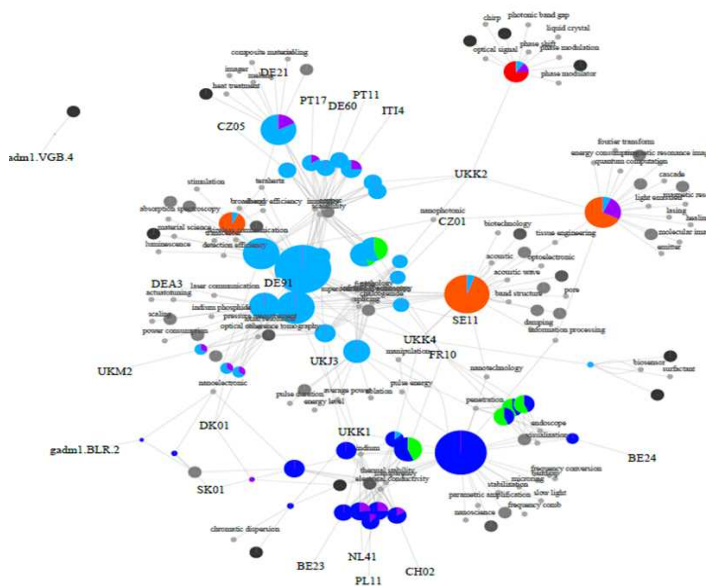
Mapping the hotspots in Europe, at various levels of granularity
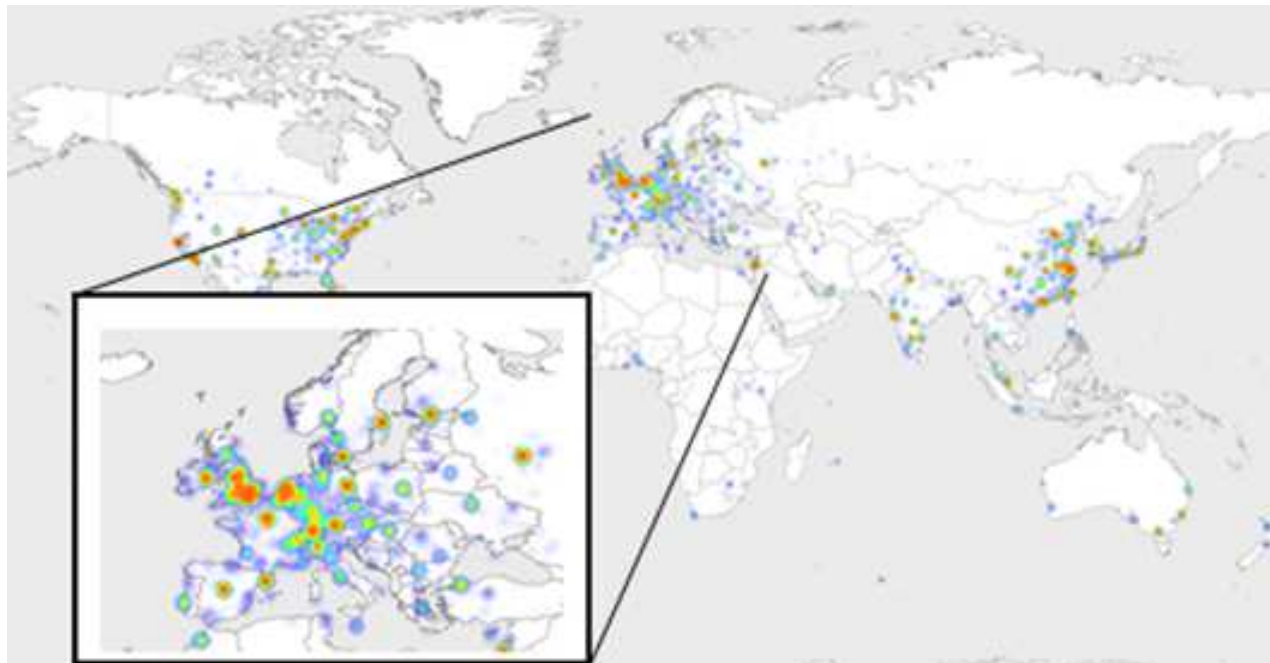
AI Watch | AI Ecosystem (Preliminary Results)

Accounting for players' activities and interactions

Mapping of the networks of collaborations at global level

Conclusions

- **We undertake a wide variety of activities under the Digital Transformation and Artificial Intelligence flagship initiative**

- **DigiTranScope**
  Exploratory projects that give insights to policy makers with experimental methods

- **SPADE**
  Economic Analysis of digital platforms as the new kind of business emerging in the Digital Economy

- **AI Watch/AI Landscape**
  Data intelligence based on modern techniques for monitoring, reporting, and policy support in regional policies for innovation and development in deep technologies

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Any questions for the team leaders?

Contact us at dimitrios.mavridis@ec.europa.eu
massimo.craglia@ec.europa.eu (Digitranscope), nestor.duch-brown@ec.europa.eu (SPADE),
giuditta.de-prato@ec.europa.eu (PREDICT) or paul.desruelle@ec.europa.eu (AIWatch)

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