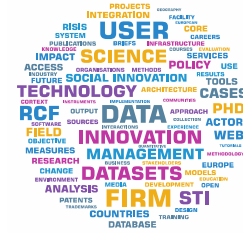


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RESEARCH INFRASTRUCTURE FOR SCIENCE
AND INNOVATION POLICY STUDIES



European Social Innovation Database (ESID)

EU-SPRI 2021 Conference

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- Social innovation is the foremost example of new forms of innovation.
- Social innovation is gathering increased practitioner, policy-maker and scholarly attention.
- One of the barriers for better research is data.



Limitations of the existing databases on social innovation:

- Thematically focused on the technologies that the projects utilise (e.g. digital social innovation) or the societal goals of the projects (e.g. social innovation on ageing).
- Fairly small in size, ranging between 50 to 1000 projects.
- Contain limited information about the features of the projects and actors.
- Rely on only human coding (manual search and input by project teams or surveys).
- Limited sustainability as human coding only prevails during the data collection phase of the projects and after that, data starts to age rapidly.
- Adopt different (and mostly inconsistent) definitions of social innovation.

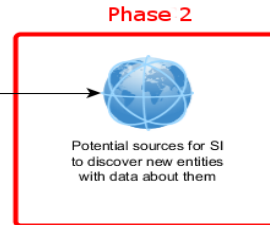
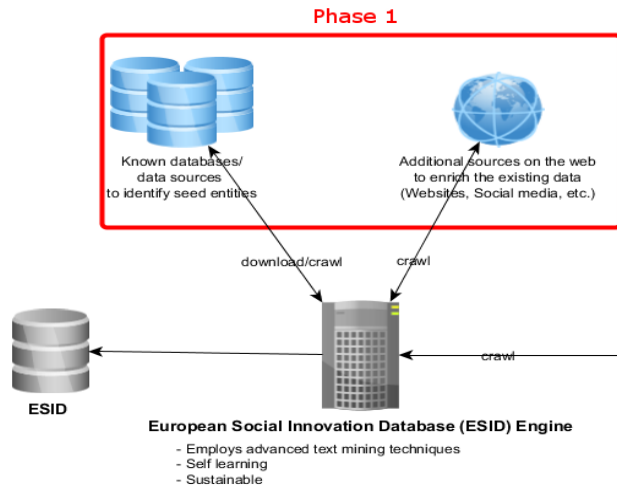


Promise of a machine-learning and text-mining based database:

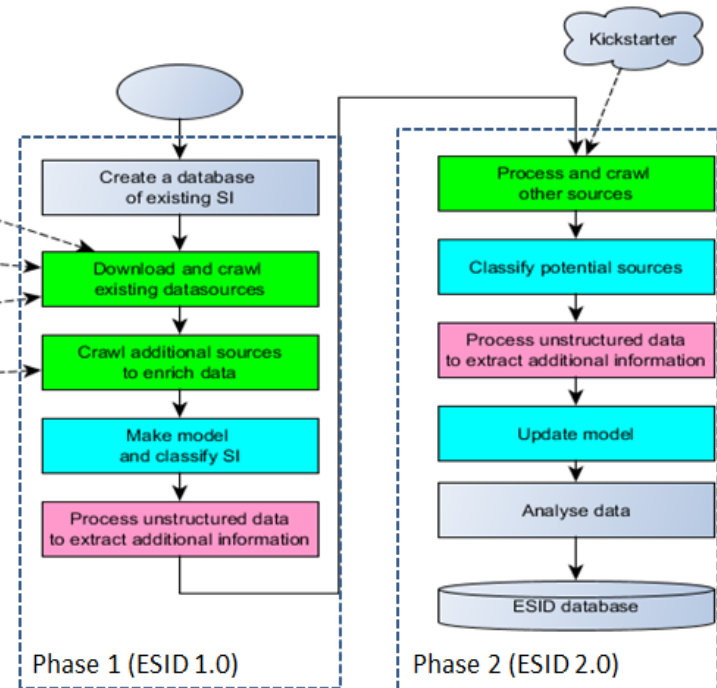
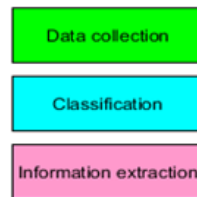
- Thematically more comprehensive
- Significantly more recall than existing databases
- More consistent and flexible conceptual structure in terms of the social innovation definition it adopts.
- Much richer information
- More sustainable as it is based on semi-automatic and automatic information retrieval and knowledge discovery techniques

An Overview of ESID

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Legend:



What is Social Innovation?

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- Term appeared first in early 19th century but spikes in 1970s and 2000s
- Many definitions and a huge definitional debate
- Rather than adopting a preferred definition, we devised a structure where any definition can be constructed by users of ESID (based on previous work and an extensive literature review).
- Four criteria was established (most definitions use combinations of these criteria).

What is Social Innovation?

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Element of Definition	Criteria	ESID Score
Objectives	<ul style="list-style-type: none"> satisfy societal needs including the needs of particular social groups or aim at social value creation target needs not met by conventional innovative activity either as a goal or end-product 	<ul style="list-style-type: none"> 3: fully satisfies the meaning of the criteria 2: partially satisfies 1: very weakly satisfies 0: no indication at all
Actors and actor interactions	<ul style="list-style-type: none"> involve actors who would not normally get involved in "economic innovation", including formal and informal civil society/third sector/NGO/social and grass-root movements (i.e. social actors) create collaborations between "social actors", business and public sector involve (predominantly new types of) social interactions towards achieving common goals, including user/community participation rely on trust relationships rather than solely mutual-benefit involve significantly different action and diffusion processes that ultimately results in social progress as social innovation 	<ul style="list-style-type: none"> 3: fully satisfies the meaning of the criteria 2: partially satisfies 1: very weakly satisfies 0: no indication at all
Outputs/Outcomes	<ul style="list-style-type: none"> change attitudes, behaviours and perceptions of the actors involved produce social technologies (c.f. innovation employing only "physical technologies"), i.e. new combination or configuration of social practices or new law, norm or rule lead to long-term institutional/cultural change 	<ul style="list-style-type: none"> 3: fully satisfies the meaning of the criteria 2: partially satisfies 1: very weakly satisfies 0: no indication at all
Innovativeness	<ul style="list-style-type: none"> involves "the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations" 	<ul style="list-style-type: none"> 3: fully satisfies the meaning of the criteria 2: partially satisfies 1: very weakly satisfies 0: no indication at all



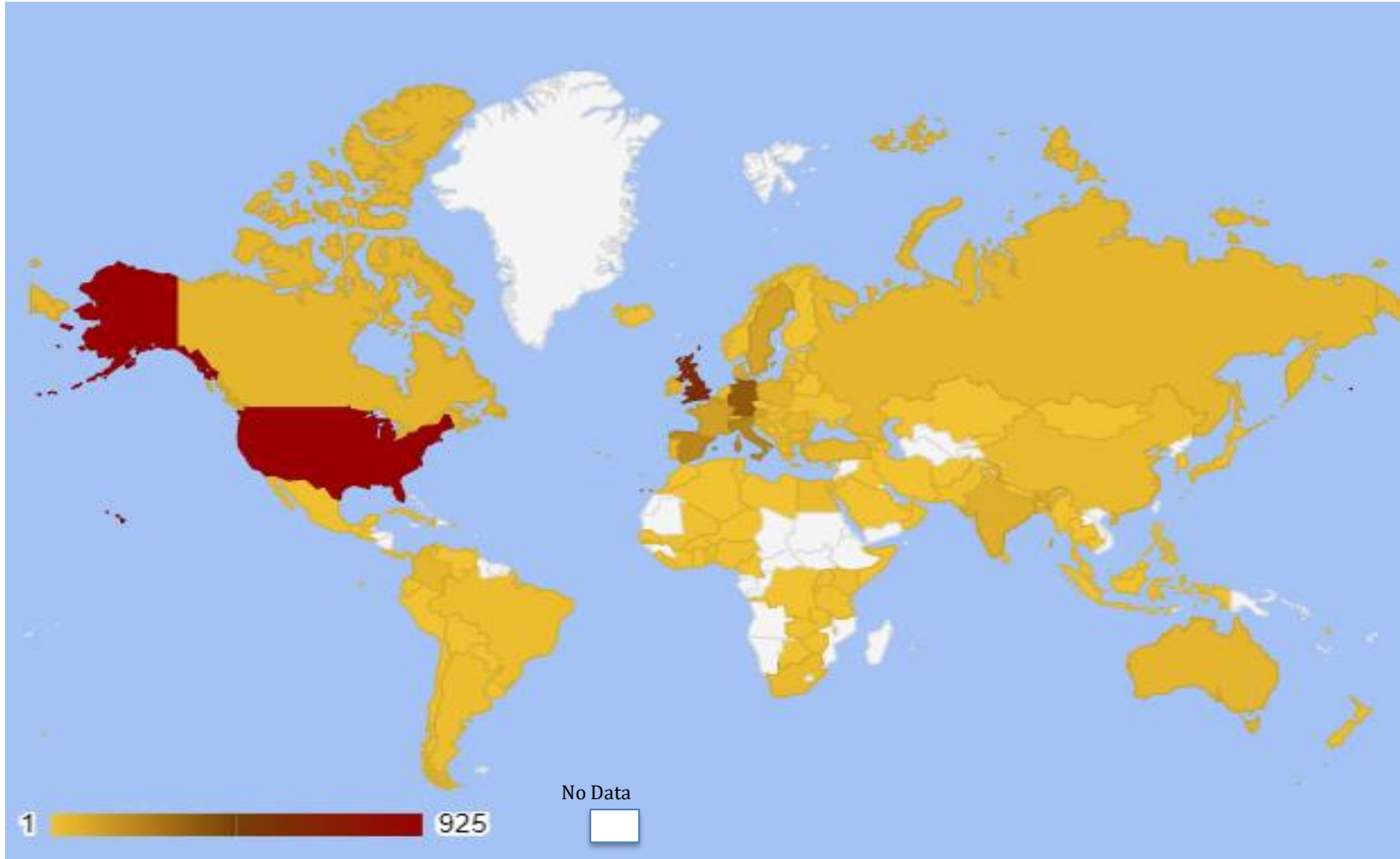
- Main Entity: Projects
- Features:
 - Project Title
 - Type of Social Innovation: Scores for the four social innovation criteria ([0-3] and in some cases [0-1])
 - Project Description: a short summary of the project
 - Location: city, country and derived coordinates, so can be converted to any geographic area
 - Topics: societal grand challenges and key enabling technologies (448 unique classes in 4 levels from the KNOWMAK ontology), with scores
 - URL: including project website and social media



- Total number of projects: 8,299
- Two subsets:
 - Curated subset (2,688):
 - Reported to KNOWMAK interface
 - All the data was manually verified/corrected by humans
 - Only Europe, a strict social innovation criteria and hits a topic
 - Non-curated subset (8,299)
 - Includes some negatives
 - Mostly non-European projects

Current Release of ESID

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Current Release of ESID

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Topics (only top level is shown)

	Topics	Frequency counts	
		Full Dataset	Curated Dataset
Key Enabling Technologies (KET)	Industrial Biotechnology	767	442
	Nanoscience and Technology	425	237
	Optics and Photonics	47	32
	Micro-and Nano-electronics	1	1
	All Projects with a KET	1,240	712
Societal Grand Challenges (SGC)	Society	3,479	2,141
	Bioeconomy	23	15
	Transport	249	126
	Health	147	97
	Climate change and the Environment	268	171
	Energy	33	24
	All Projects with SGC	4,199	2,574



Expansion:

- Increase the number of projects to about 20,000:
 - “chain projects”
 - Kickstarter

Extension:

- Improve existing models with better annotation and techniques/packages
- Add new features/entities:
 - Actors (including their type, e.g. project owner, funder, partner, etc.)
 - Mission, products/services, outputs/impact

Dynamic Retrieval:

- Biannual crawl and information extraction

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THANK YOU!

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