SOCKETS

SOCIETAL ENGAGEMENT
WITH KEY ENABLING TECHNOLOGIES

co-creation brief

Engaging innovation eco-system communities to encourage transitions

ARTIFICIAL INTELLIGENCE AND INDUSTRIAL AUTOMATION

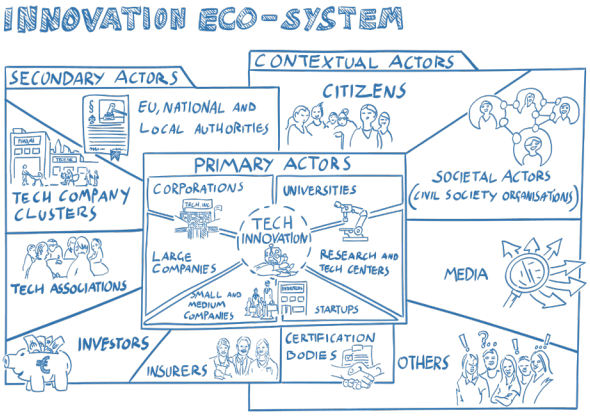


SOCKETS (SOCIETAL ENGAGEMENT WITH KEY ENABLING TECHNOLOGIES)
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SOCIETAL ENGAGEMENT TO CO-CREATE INNOVATIONS

Early and continuous societal engagement is the key to improve quality, desirability, and sustainability of innovations.
With this belief, the SocKETs project held six Labs across Europe to explore and co-create inventive solutions based on Key Enabling Technologies, in three application fields: circular economy, eHealth, industrial automation.



We used a stepwise approach consisting of workshops and interactions in-between, after a mapping of innovation ecosystem made by desk analysis and interviews:

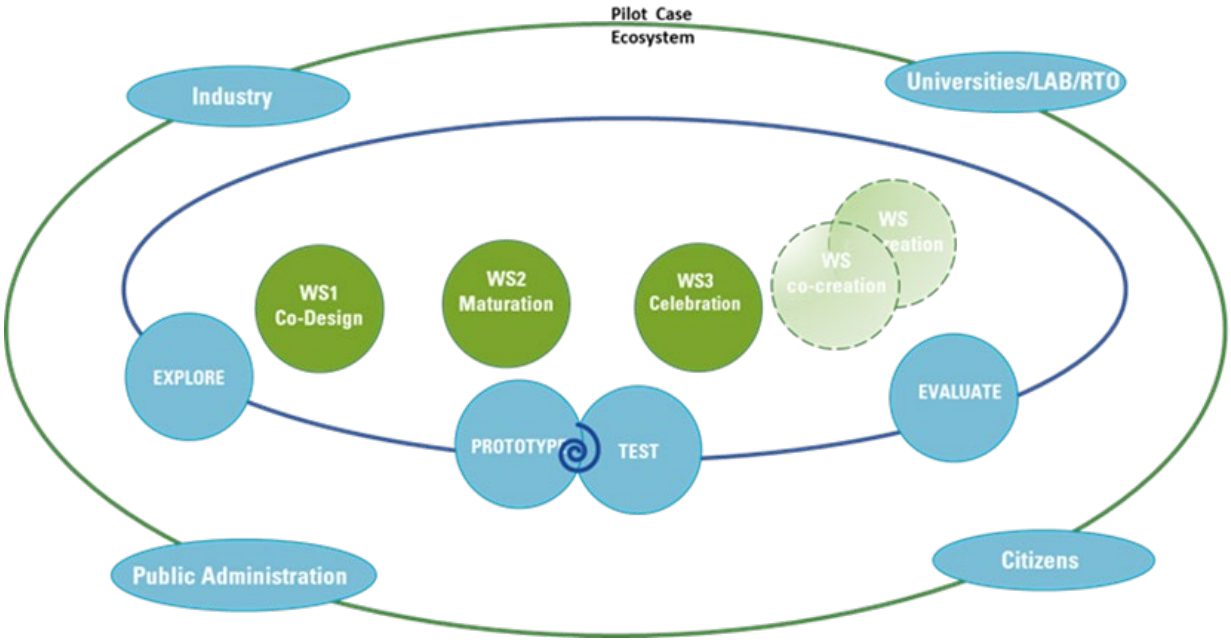
- ✓ **Co-design**: bring together technology developers in research, industry and academia, as well as other technology adopters (companies, innovation agencies, education providers) to discuss about relevant challenges and work together on some preliminary ideas to address socio-ethical challenges around AI.
- ✓ **Maturation & prototyping**: help to transform the ideas drafted in the prior workshop into concrete implementations that could be operationalized at the end of the process.
- ✓ **Celebration**: set the ground for debating with citizens about the socio-ethical implications of AI into manufacturing and the future of work.

The lab lasts for about 8 months, engaging over 40 stakeholders, of which 11 citizens.

SocKETs Spanish lab:
Address the implications of Artificial Intelligence (AI) adoption in in the Basque Country region and the challenges that AI brings in terms of deskilling and re-skilling process, new needs in education and training or socio-ethical dilemmas in the workplace regarding privacy and/or surveillance.

WHY THIS SECTOR

Recent breakthroughs in AI triggered great developments into automation of tasks in industry. These achievements paved the way for deploying disruptive innovations that sparked "automation anxieties" and concerns about massive unemployment, deskilling and the future of work,



SocKETs Lab phases and innovation ecosystem

as well as organizational, political, ethical, social, cultural and legal implications.

The goal of the AI and Automation Systems lab was to:

- Co-create innovative solutions, prototypes and alternatives aligned with societal needs and expectations.
- Facilitate co-creation among innovators, researchers, procurers, policy makers and citizens.
- Foster collaboration culture between them to create socially aligned research and innovations.

Participants have been engaged/recruited thanks to the ecosystem mapping exercise that was done at the beginning of the project and to facilitator networks. Selected participants helped identifying new connections: industry ones gave links to other professionals in the sector, and NGOs helped to involve citizens.

During the lab we used the group debate, prototyping, networking, brainstorming,

What stakeholder say:

«I believe that the integration of technology has been gradual and that little by little we are paying more attention to ethics, to the human factor. Initially production, quality and cost were most relevant, and the human factor was left in a second place. Therefore, we need to work on it now». (SocKETs interviews)

Listen our stakeholders on the SocKETs youtube



Spanish SocKETs lab

creativity, discussion and collective dialogues and consensus methods.

OUTCOMES

Participants recognized four issues related to the application of AI in the Basque industrial ecosystem:

- Socio-ethical dilemmas produced by AI, such as the mitigation of biases in algorithms, workplace surveillance, sustainability of the systems or privacy issues, among others.
- Trust in AI. "Black boxes" features of AI systems due to the opacity and lack of explainability can lead to a lack of trust by their potential users.
- AI adoption and digital transformation. The Basque industrial ecosystem is still far from the optimal degree of digitalisation to promote AI technologies, especially regarding SMEs.
- Fears and anxieties that AI in industry could cause mass unemployment, deskilling and reskilling.

LEARNINGS ON KETS DEPLOYEMENT IN THE SECTOR

- Improve interdisciplinarity of employees in industry and develop tailored workers' education approaches to meet new interdisciplinarity requirements.
- Constantly update employees' skills due to the adoption of AI.
- Work to reach agreement and collaboration among social agents for the acceptance and successful uptake of AI in manufacturing, including the participation of workers in the companies' digitalisation processes.
- Prevent the dehumanization of work due to AI in the workplace and the potential mental and physical health issues that can emerge with its adoption.
- Raise public awareness from early ages on data use and management. Underline the relevance of unbiased explanations about the use, potential and risks of AI.

LEARNINGS ON SOCIETAL ENGAGEMENT

Three concrete ideas for promoting societal engagement were prototyped:

- **Foster education of future professionals in AI**, to respond to the lack of skilled people in the field.
- **Pilot testing of transition plan towards digital transformation of companies,** developing a methodology for facilitating digitalization and adoption of AI technologies by companies and workers. With this idea the aim is to raise awareness and to inform institutions and companies

OUR RECOMMENDATIONS ON SOCIETAL ENGAGEMENT

- Anticipation & flexibility to manage multi-stakeholder complexity
- Balancing stakeholder heterogeneity
- Context analysis, above all regarding citizen participation (specific enough to affect the decisions of actors)
- Set the objective: themes, level of impact, innovation eco-system stakeholders
- Create a safe space
- Design and facilitation matters
- No right or wrong tools, only tools that are useful

Read more on our Guide on tech Innovation and societal engagement!

about the different challenges that the development and adoption of AI may have for organizations and their employees. There is also the ambition to involve citizens in the diffusion of projects results and with the message that *"at this moment, all kinds of people have a role in organizations".*

- **Artistic action/performance on AI,** aimed at developing an artistic production that illustrates how people feed AI systems and the risks related to it. The artistic representation could compile personal data of the citizens and show how a profile is built thanks to these data. Thus, it would open a debate around the ethical and social risks of using AI, based on digital traces of personal information.

CONCLUSIONS

The adoption and implementation of Artificial Intelligence in manufacturing is one of the priorities in the Basque industrial ecosystem, but it poses different societal challenges. Those are mainly non-technological, and require considering the perspectives of different actors, and adopting an inclusive approach in the introduction of AI. A holistic and systemic view is needed, engaging public and private organisations, and as well incorporating citizen voices. The Spanish SocKETs Lab contributed to better identify the challenges ahead and to create a network of stakeholders in the Basque AI ecosystem interested in promoting a responsible and inclusive uptake of these technologies into manufacturing.

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