D2.2. Stakeholders' engagement strategy and mapping

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Executive Summary

This deliverable presents the methodology and results of the stakeholder engagement conducted as part of the InteractionSeeds project, in five European ecosystems : Euskadi/ Basque Country (Spain), Grand Est region (France), French Riviera (France), Western Macedonia (Greece) and the city of Stockholm (Sweden).

Figure 1 InteractionSeeds implementation regions

These ecosystems were engaged in various project activities : feeding a repository of 50+ artistic and cultural interactions, raising awareness of the importance of and ways to setup an artistic and cultural interaction for knowledge valorisation, and organising four interactions per ecosystem. The stakeholders involved are of different natures: R&I stakeholders (who would bring the scientific part of the interaction), artists and the creative and cultural industries, intermediaries who support R&I and industry competitiveness (and who can support the process of setting-up an interaction).

The methodologies to engage these stakeholders depend on the InteractionSeeds partners and their position/ role in these ecosystems. Indeed InteractionSeeds partners are either clusters (with a wide range of members from different backgrounds), a research centre or an innovation management consultancy.

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The culture and history of the ecosystem itself has a huge impact on the stakeholders engagement: the Cultural and Creative Industries (CCI) will be more or less organised and institutionalised depending on the ecosystem, which will facilitate or not the engagement.

To select impactful interactions, the focus was put on scientific/ industrial sectors that are considered local priorities. This helped to convince stakeholders to participate, as it allows them to increase their local visibility and seek for additional partners and complementary financing.

Therefore, this deliverable starts by analysing the different ecosystems, before delving into the identification of the stakeholders, the barriers and motivations for them to engage in the InteractionSeeds project and more generally in science/ art related projects. The deliverable closes with the good practices learnt by each partner in their respective ecosystem and the "next steps" to keep the stakeholders engaged during the next period of the project.

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1 Introduction

1.1 Purpose of the Deliverable

The purpose of this deliverable is to provide a comprehensive breakdown and evaluation of the R&I stakeholder engagement strategy developed and implemented by the InteractionSeeds project. It focuses on mapping innovation ecosystems and their stakeholders across various regions, including Euskadi (Spain), Grand Est region (France), French Riviera (France), Western Macedonia (Greece) and the city of Stockholm (Sweden).

The deliverable assesses the readiness and awareness of the 5 ecosystems for initiatives that integrate culture and the arts into innovation processes or science to enhance research valorisation towards citizens.

The deliverable also highlights the good practices and lessons learnt by the partners from engaging stakeholders, while evaluating the cultural and creativity potential of these ecosystems and their ability to foster cross-sector collaboration for more effective citizen engagement.

1.2 Importance of Stakeholder Engagement for InteractionSeeds

Stakeholder engagement is a critical part of InteractionSeeds, as no partner could complete the project in its ecosystem on its own. Indeed, exchanges and collaborations with external stakeholders are needed to complete different tasks of the project :

- **The repository**: some of the seeds in the repository are inspired by the partners previous projects, when a large part of them have been realised by external partners, that have been contacted for the project.
- **The trainings**: to develop and present the trainings, the project partners have been inspired and supported by several stakeholders experienced in art/ science project. This support was provided through exchanges and direct participation in the trainings to raise awareness among other participants and show different approaches.
- **The interactions**: partners have selected R&I stakeholders, artists and sometimes support organisations such as local authorities to cocreate each of the 20 interactions. These stakeholders are essential to select the topics of the interactions, convince other researchers of the merits and benefits of science/ art projects, consolidate the interactions with the artists and engage with citizens.

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The local networks: Engaging these stakeholders ultimately helps to structure local networks and "Innovation-to-CCI" value chains at the regional level, fostering the integration of art and cultural creativity into innovation and knowledge valorisation processes. This approach strengthens territories, promotes the development of sustainable innovations, creates new business models for CCIs, and brings research and industry closer to citizens.

Stakeholder engagement also supports the **larger dissemination goals** of InteractionSeeds, through the snowball effect. For example, some of the trained stakeholders have offered to support the project and present its objectives in their organisation or to their partners, to increase awareness.

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2 Ecosystems mapping

Before engaging stakeholders, partners started by a mapping to gain insights on their ecosystems and realise a first "pre-selection" of stakeholders.

2.1 Methodology

The stakeholder mapping and engagement methodology involves a structured, four-step approach to ensure comprehensive inclusion and relevance. First, we identify the primary sectors and key topics in each region, often defined by the local authorities according to the industrial ecosystems, the economic environment and the local socio-environmental challenges. It usually provides a direction for researchers and innovators. Next, we map stakeholders involved in or affected by each sector or priority, considering a range of entities, including research centres, large companies doing R&D, start-ups hosted in incubators, companies working hand in hand with the local public authorities, cultural and creative industries, and community organisations. To each stakeholder mapped, a colour has been associated to make the link with the sectors presented in the first step.
In the third step, we assess stakeholder empathy, focusing on their perspectives, values, and concerns to better understand their motivations and potential responses.
In the annexes, partners have tracked how they came across the different stakeholders they have mapped, as they relationships with them might also have influenced their interest in the project.
Finally, we select stakeholders based on their influence, interest, and alignment with project goals, ensuring meaningful collaboration and feedback throughout the process.
Partners worked on a Miro board, to facilitate the collection of information and to share their advancements and potential similarities between partners.

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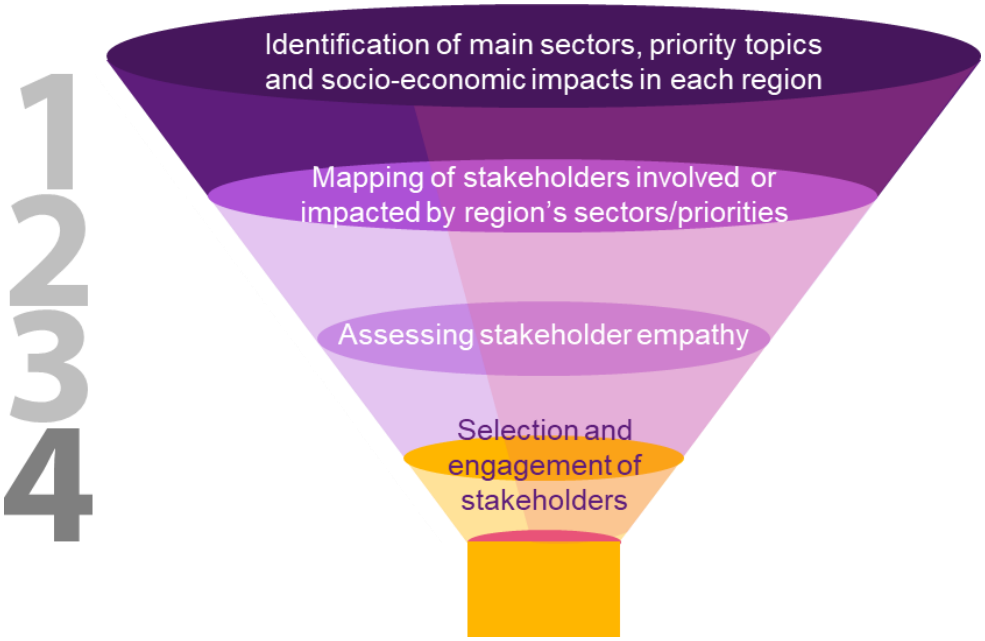

Figure 2 InteractionSeeds stakeholder mapping methodology

Before entering into details, the next chapter draft an overview of the project implementation regions.

2.2 InteractionSeeds project implementation regions

The project aims at implementing art-science-society interactions in five very different ecosystems, such as a capital city (Stockholm), a reconverted industries area (Grand Est region), a technopole and touristic destination well-known for its sea-shore (French Riviera), a rural region (Western Macedonia), and an artistic and cultural area (Euskadi). One partner is based in each of these ecosystems.
To better understand these ecosystem, their priorities (presented in a second step) and the stakeholder engagement activities conducted in each of them, short presentations have been developed as follows, to offer a general understanding of each of them.

2.2.1 Euskadi

Geographic and population Euskadi[1], or Basque Country, is a region in northern Spain that stands out for its economic dynamism and high quality of life. With an area of approximately 7,234 km² and a population of around 2.2 million inhabitants, this autonomous community has a population density above the Spanish average. Its strategic location on the Cantabrian coast and its rich history have shaped a territory with unique characteristics.

[1] https://www.basquecountry.eus/home/

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Business and economic environment The Basque business fabric is highly competitive, with a notable percentage of internationalised companies, around 19,000, and a strong commitment to exporting. Sectors such as the automotive industry, machine tools and energy are fundamental pillars of its economy. There is also an increasing focus on R&D&I, accounting for 2.15% of GDP. There are strong knowledge centres and universities, and a total of 21,000 researchers throughout the region. It is one of the regions with the highest productivity rate per employee in the European Union (121,9%).

Cultural identity Culturally, Basque society is characterised by a high level of well-being and a strong cultural identity. Bilingualism, with Basque and Spanish as co-official languages, is one of the hallmarks of the region. Furthermore, the Basque Country has a quality education system and a wide range of public services. Cooperativism is another distinctive feature of the Basque economic fabric, with a long tradition and a significant presence in various sectors.

Challenges and strengths However, the Basque Country also faces challenges such as an ageing population, the transition to a more sustainable economy and the need to adapt to technological change. Despite these challenges, the region remains a benchmark in many areas and continues to work to consolidate its position as one of the most developed and competitive regions in Europe.

2.2.2 Grand Est

Geographic and population The Grand Est region[2], located in northeastern France, merges the former regions of Alsace, Lorraine, and Champagne-Ardenne into a vast area of 57,441 km², making it one of the largest regions in the country. With a population of 5.6 million as of 2019 and Strasbourg as its capital—which also serves as one of the official seats of the European Parliament—the region is pivotal in European affairs.

Grand Est is unique in France for sharing borders with four countries: Belgium, Luxembourg, Germany, and Switzerland, establishing itself as a key economic and cultural hub in Europe. It features 760 km of borders and supports over 175,000 cross-border workers. Dominated by small communities, 91% of its municipalities are of modest size.

Business and economic environment Economically diverse, the Grand Est excels in manufacturing, agriculture, and industry, especially noted for its contributions to the

[22] https://www.grandest.fr/

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automotive, aerospace, and railway sectors. The region is also significant to France's wine production, particularly Champagne, which is a major economic contributor. Hosting 256,000 industrial jobs, it ranks among the top four French regions attracting foreign investment projects.

Cultural identity The Grand Est Region is characterised by a strong historical identity, which is reflected by a large cultural heritage (among others, 16 UNESCO world heritage sites[3]) and multilinguism. In a attempt to develop new dynamics on the territory, the Regions is now supporting the growth of the CCIs, especially the "music" and "image" industries. A regional association, "L'Agence culturelle Grand Est", has been developed to support the implementation of the regional cultural policy.

Challenges and strengths Despite these strengths, Grand Est faces challenges such as a higher unemployment rate than the national average and modest R&D investment, with only 1.4% of its €150.3 billion GDP in 2014 directed towards research and development. This underscores the need for ongoing innovation and development to maintain and enhance its economic standing and influence in Europe.

2.2.3 French Rivera

Geographic and population The French Riviera[4] (understood here as the "Département des Alpes Maritimes") is part of French Region Sud. It covers an area of 4 299km^2 including part of the alps and a large coastal area, where a majority of its million inhabitants are located.

Business and economic environment The local economy is strongly characterised by the tertiary sector. Because of its stunning scenery and mild climate, the French Riviera attracts around 11,5 million tourists per year[5], with Nice being the second most visited city in France after Paris[6]. The tourist industry is therefore the most important economic sector, and even represents around 40% of the Nice GDP and employment[7].

Besides the tourist industry, the region is strongly developing high technology industries, especially a strong sector specialised in IT/ Artificial Intelligence, health (including the silver economy) and blue economy[8]. This tertiary sector is led by the "Sophia Antipolis" science park, which was the first European science park founded in the 80s, and will host

[3] https://www.explore-grandest.com/le-patrimoine-dans-tous-ses-etats/
[44] https://www.departement06.fr/
[5] https://cotedazurfrance.fr/professionnels-du-tourisme/actualites/barometre-chiffre-cles/
[6] https://www.insee.fr/fr/outil-interactif/5367857/territoires/70_SAC/77_TOU
[7] https://www.meet-in-nicecotedazur.com/destination-cote-dazur/choisir-nice-cote-dazur/les-chiffres-cles/
[8] https://www.cote-azur.cci.fr/animation-de-filieres-professionnelles/

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the Science Parks World Congress in 2026. Its importance is both economic and social, as it attracts young qualified workers to counterbalance the ageing population.

Cultural identity The French Riviera offers a vibrant artistic scene with many festivals such as the international cinema Festival of Cannes, several music festivals (jazz festivals in Nice and Juan-les Pins, "Plages électroniques" festival in Cannes, Ocean fest in Nice etc.), or traditional festivals such as the Nice carnival, or the "Orange and Lemon" festival in Menton.

Challenges and strengths The territory is currently facing three major challenges: an aggravation of extreme weather events (including water scarcity and local floods), population ageing with the development of associated health issues (one person out of three is planned to be at least 65 in 2050) and the need to diversify the local economy towards high added-value sectors, especially since COVID-19 and the resulting tourism decline.

2.2.4 Western Macedonia

Geographic and population The Region of Western Macedonia[9] (RWM) is a region in northern Greece, with a population of 254,595 inhabitants (2021) and covering an area of 9,451 square kilometres. It is the only region in Greece without direct access to the sea. The region is an administrative unit of the first degree, according to Greek legislation on local self-government, and is divided into 12 municipalities with a total of 226 settlements. The region hosts two cities with populations exceeding 30,000 inhabitants.

Business and economic environment In general, the RWM has been the energy centre of Greece, with approximately 30% of its economic activity in the past based on lignite mining and energy production. The region has six lignite-fired thermoelectrical plants, contributing significantly to the country's energy grid. However, with the shift towards decarbonization policies, the gradual closure of these plants is having a profound impact on the region's economic landscape. It is estimated that around 11,000 jobs[10] will be lost in mining, energy production, and related sectors as part of this transition. Economically, the region's per capita GDP of €14,100[11] stands at 44% of the EU average, underlining its relatively low competitiveness.

[9] https://en.pdm.gov.gr/

[10] Territorial Plan for Just Development Transition RWM

[11] Koutsomarkos. N., *Monitoring the SDGs in Western Macedonia region, Greece*, Stamos, I., editor, Publications Office of the European Union, Luxembourg, 2023, doi:10.2760/403315, JRC134405

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Challenges and strengths The RWM is facing significant challenges, including a high unemployment rate (19.8% in 2021)[12] and a considerable portion of the population at risk of poverty or social exclusion (29.9% in 2021). The region has also seen a 10% population decline since 2011, along with an aging population. However, and in response to these challenges, the Region of Western Macedonia is embracing an ambitious vision to "Become the Greenest Region of Greece," focusing on the just and sustainable transition highlighting climate neutrality. Leveraging its expertise in energy, rich natural resources, and strategic location along key transport axes (TEN-T), the region is positioning itself as a leader in clean energy and sustainable development. Key projects include the installation of large photovoltaic parks, green hydrogen projects, and the development of energy storage technologies. The region's rich natural environment—home to 24 Natura sites, two national parks, a UNESCO geopark, and abundant water resources—provides further opportunities for green growth.

The region's transition is supported by substantial financial commitments from both the Greek government (via the Green Fund) and the European Union, aimed at facilitating a just and sustainable economic shift. Accompanying these developments are land-use and spatial planning efforts will be designed to foster green industries while mitigating the socio-economic impacts of decarbonization.

Cultural identity Kozani combines modernism with ancient history, traditions and customs. The city is for example famous for its popular traditional carnival, that combines many different traditional arts, including traditional danse and music. Public authorities and the Greek government are currently putting the development of Western Macedonia, notably through an increased tourism industry, as a priority.

2.2.5 Stockholm

Geographic and population The Stockholm region[13] is Sweden's capital and largest metropolitan area with around 2.4 million people. Situated on the eastern coast of Sweden, the region covers approximately 6,500 square kilometers and is built on 14 islands connected by 57 bridges, with access to the Baltic Sea and Lake Mälaren and with strong connections to the rest of the country.

Business and economic environment Stockholm is one of the wealthiest regions in the European Union, with a high GDP per capita. The city ranks highly for quality of life, innovation, and business development. The Stockholm region is Sweden's economic powerhouse, contributing nearly 30% of the national GDP. It has a highly developed economy with strong sectors like technology, finance, and life sciences.

[12] https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20220429-1
[13] https://start.stockholm/en/

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Stockholm is a global tech hub, home to major technology companies like Spotify, Ericsson, and Klarna, as well as numerous startups. The region has one of the highest concentrations of tech talent in Europe and is renowned for its vibrant startup ecosystem. Stockholm has earned the reputation of being the "Unicorn Factory" of Europe, with more billion-dollar startups (unicorns) per capita than any other European city after Silicon Valley. Major global tech companies, such as Spotify, Klarna, and King (creator of Candy Crush), have originated from Stockholm. Stockholm houses leading tech companies like Ericsson (telecommunications) and attracts investments from major global companies such as Google and Microsoft, which have offices in the region.

The financial sector is strong, with several banks and insurance companies headquartered in Stockholm, including SEB, Swedbank, and Handelsbanken. Business services such as consulting, legal services, and real estate are also key components of the economy.

The region is a leading center for life sciences, pharmaceuticals, and biotechnology research, with major players like AstraZeneca and Pfizer having operations there. Stockholm is also home to Karolinska Institute, one of the world's leading medical universities. It is also home to several prestigious universities and research institutes, including Stockholm University, the Royal Institute of Technology (KTH), and the Stockholm School of Economics and RISE Research Institutes of Sweden. The city's focus on higher education and research contributes to its innovative and highly skilled workforce.

Cultural identity Stockholm is also a center for design, music, film, and media production. Swedish music exports have a significant international presence, and the city has nurtured world-renowned artists and producers. This is well represented in the city's priorities: the local authority indeed aims at continuing to develop Stockholm as a vibrant and inclusive city for culture and events. Work is therefore being conducted to make culture accessible to everyone, including children and the elderly. The arts as such are also very present: when the City undertakes new construction, at least 1 percent of the cost must go to art[14].

Challenges and strengths Stockholm is recognised for its commitment to sustainability and has set ambitious goals for carbon neutrality by 2040. The city promotes green

[14] https://start.stockholm/en/about-the-city-of-stockholm/how-the-city-is-governed/culture/#:~:text=Stockholm%20has%20a%20large%20and,owned%2C%20and%20some%20are%20municipal.&text=Stockholm%20City%20Museum%2C%20the%20Medieval,gallery%20belong%20to%20the%20City.

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technologies, renewable energy, and sustainable urban planning. Stockholm won the title of European Green Capital in 2010 for its environmental initiatives. This commitment reflects one of the major challenges met by Stockholm: developing a livable city district in a former industrial brownfield area, including with contaminated land. The efforts done by the city come at a high cost, which triggered some political resistance.

2.3 Innovation Ecosystems Overview

To facilitate the stakeholders engagement and the selection of topics for the interactions, a first step for each partner was to ensure they had a good knowledge of their local key sectors and priorities. These are often defined by the local authorities, based on the analysis of the local innovation and industrial ecosystems. It usually provides a direction for researchers and innovators, as they are more likely to find financial support when aligned with the local priorities. Finally, developing interactions aligned with local priorities have ensured to partners the support of the local authorities, through access to specific locations, financial contribution etc.

As a second step, partners mapped a number of local stakeholders actives in their local priority sectors. Although these mapping are not exhaustive, they reflect the networks of the partners, the most recognised stakeholders in each ecosystem and the most prominent type of stakeholders (R&D organisations, start-ups, larger companies etc.) for each priority.

Three out of five InteractionSeeds partners actives in the stakeholders engagement activities are clusters. This means that they already have a large network of innovative partners through their members. Clusters are also aligned with their local priorities, and supported by the local authorities.

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2.3.1 Euskadi

Figure 3: Sectors and priorities of Euskadi in Spain (extract from MIRO board)

The Transversal Tractor Initiatives, a key component of the Basque Government's PCTI 2030, aim to foster collaboration between different areas of smart specialization in strategic sectors. These initiatives focus on addressing critical challenges such as aging, climate change, and circular economy. By promoting innovation and cross-fertilization in these areas, the Basque Government seeks to improve the quality of life for its citizens, reduce environmental impact, and strengthen the region's economic competitiveness.

Healthy Aging: The goal is to extend the years of life without disability by an average of 5 years by 2030. This aims to promote personal independence and the highest possible quality of life for the elderly.

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Electric Mobility: aligned with the Basque Green Deal, the objective is to achieve a 45% reduction in greenhouse gas emissions in the Basque Country by 2030, supporting the European target of climate neutrality by cutting transport emissions by 90% by 2050.

Circular Economy: the challenge is to lead the Basque Country towards a more resource-efficient economy through innovative approaches to production and consumption. The targets include a 30% increase in material productivity, a 30% rise in the use of circular materials, and a 30% reduction in waste generation per GDP by 2030.

BDCC, R&D&I, and Cross-fertilisation in CCIs: within the framework of the new European innovation strategy RIS3, integrated into the Science, Technology, and Innovation Plan 2020, the Basque Country has identified strategic priorities for smart specialization, including the Cultural and Creative Industries.
The working groups established to tackle these challenges are:

- WG1: Basque Cultural and Creative District (BDCC)
- WG2: R&D&I in the Cultural and Creative Industries sector
- WG3: KSI Cross-Fertilization and Food

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R&I Stakeholders	Facilitators (other clusters, incubators, industrial associations etc.	Local public authorities	Access to citizens	CCI
Research Centres: • Tecnalia • IK4 Research Alliance • BC3 (Basque Centre for Climate Change) • Vicomtech **Universities and Schools:** • University of the Basque Country • University of Deusto • Mondragon University • San Fidel School • Department of Renewable Energy University of Applied Sciences Technikum Wien **Entities focused on R+D+& and innovation:** • Tekniker • Innobasque • Edinor	**Clusters:** • Energy Cluster • Automotive Cluster (ACICAE) • Biosciences and Health Cluster (Basque Biocluster) • Food and Agriculture Cluster (Basque Food Cluster) • Environmental Cluster (ACLIMA) • Construction Cluster (Build Inn) • Paper Cluster (Cluster del Papel de Euskadi)	**Public institutions:** • Basque Government. Department of Economic Development, Sustainability and Environment; Department of Territorial Planning, Housing and Transport; Department of Culture and Linguistic Policy. • Provincial Councils of Bizkaia, Gipuzkoa and Alava. • City Councils of Bilbao, Gernika-Lumo, Forua. **Regional economic development agencies:** • Bilbao Ekintza • Oarsoaldea • Urola Kosta Community Association • Kultur Etxea (Gernika)	• Open Data Euskadi • Open Gela • Parte Hartuz (Research Group of the University of the Basque Country for community inclusion) • Adinberri (for elderly population)	**Organisations:** • Basque Cultural and Creative District BDCC • KSI Gune • Langune, Arbaso, Colegio Arquitectos, Basquemoda, Asociación Agencias de Publicidad, Eide, Ehmbe, Eskena, Cámara del Libro, Ibaia, EPE-APV, MIE, AVPIOP. **Companies:** Dantz, Trivima, Dab, Diara Design, A Film to Kill for, etc.

Figure 4: Stakeholders mapping for Euskadi

The Basque Country ecosystem boasts a diverse range of stakeholders, including research centres, universities, public institutions, CCIs and industry associations. These entities collaborate to drive innovation and economic development in sectors such as energy, healthcare, and culture. The region's commitment to open data and citizen participation further strengthens its ecosystem and fosters a culture of collaboration and inclusivity.

2.3.2 Grand Est

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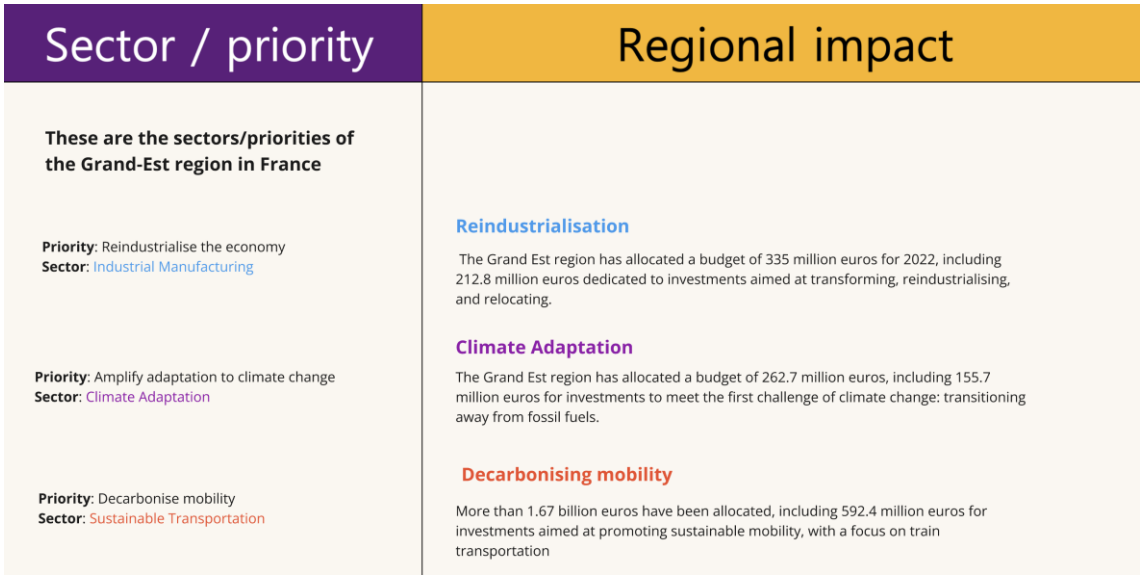

Figure 5 Sectors and priorities of the Grand Est region in France (extract from MIRO board)

The Grand Est region of France has identified three key sectors to focus on as part of its economic and environmental development strategy.

The first priority is to **reindustrialise the economy**, with a specific focus on the **industrial manufacturing sector**. For 2022, the region has allocated a budget of 335 million euros, of which 212.8 million euros will go toward investments aimed at transforming the local economy through reindustrialisation and relocating industries. To drive economic recovery and reindustrialisation, Grand Est has implemented a "Business Act" strategy focusing on enhancing business competitiveness and modernising production tools. These efforts are designed to boost economic resilience and create new opportunities for sustainable industrial growth.

The second priority is to **amplify adaptation to climate change**, addressing the region's pressing environmental challenges. The sector of focus for this priority is **climate adaptation**, with a budget of 262.7 million euros. Of this, 155.7 million euros are dedicated to investments that help the region transition away from fossil fuels. For 2024, the region has allocated a budget of 1,978 billion euros in investment credit, a large portion of which is going away to projects dedicated to support climate transition and especially energy transition. The region also benefits from European funds, at 1.15 billion euros in order to support projects linked to energy transition. This includes fostering innovations and infrastructures that will better prepare the region for the impacts of climate change, aligning with broader European climate goals.

Lastly, the region is heavily investing in the decarbonisation of its transportation sector under the priority of **decarbonising mobility**. With an impressive allocation of more than 1.67 billion euros for 2024, this initiative aims to promote **sustainable transportation**

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solutions. A significant portion, 592.4 million euros, will specifically fund projects that enhance the regional railway system, encouraging a shift from fossil-fuel-dependent transport to more sustainable, public modes of travel. These efforts are expected to contribute to a reduction in carbon emissions and promote a greener future for the region.

R&I Stakeholders	Facilitators (other clusters, incubators, industrial associations etc.	Local public authorities	Access to citizens	CCI
IRT M2P CRITT – MI SOLVAY IREPA LASER IPG PHOTONICS ARCELOR MITTAL PINT NOBATEK CNRS Centrale Supélec Université de Lorraine Université de Strasbourg UIMM STELLANTIS	AERIADES Pôle vehicule du futur NOGENTECH A3TS Initiatives durables Résseau CollECtif	Eurometropole de Metz Eurometropole de Strasbourg Métropole du Grand Nancy The Grand-Est region BPI France - French innovation bank	Eurometropole de Metz Eurometropole de Strasbourg Métropole du Grand Nancy	ACCRO La FRAC Lorraine BLIIIDA

Figure 6 Stakeholders mapping for the Grand Est region

In the Grand Est region, most R&I stakeholders are from the manufacturing sector, due to the region's history. These stakeholders are currently in a transformative phase, where they are trying to adapt and renew their attractivity. Local universities are trying to work hand in hand with these manufacturers to train a new workforce and provide local applied experiences to their students. New players, especially in the mobility and climate chance sectors, are also taking advantage of the local industrial fertile ground, to support the established stakeholders in their green transition. Being a very large region (three historical regions were merged together in 2016 to create the Grand Est), the Grand Est region still has strong local authorities that need to be convinced and motivated to develop science/ art projects. These local authorities are also working closely with the R&I stakeholders, facilitators and are able to provide access to citizens through public spaces.

2.3.3 French Rivera

Local authorities are especially prioritising innovation in four main sectors: health and silver economy, blue economy and green transition, digital transition and artificial intelligence and the cultural and creative industries, as detailed below.

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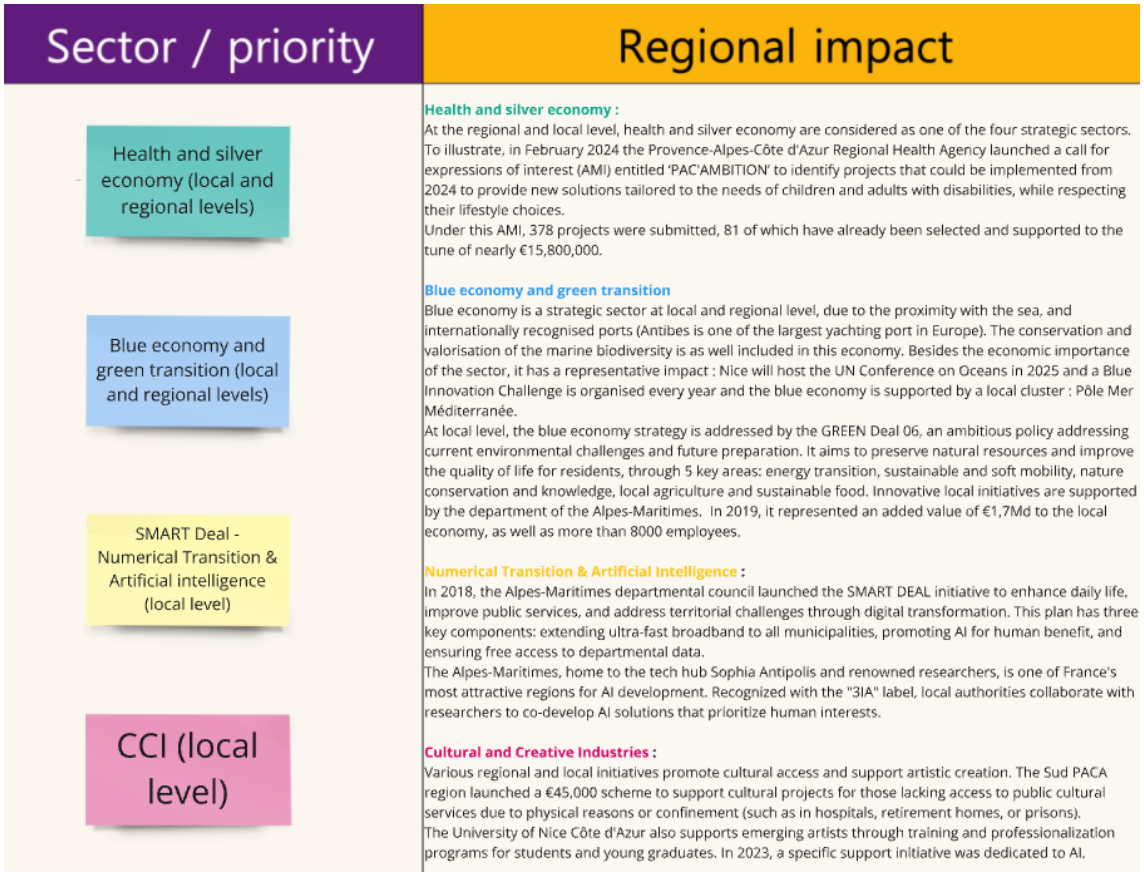

Figure 7: Sectors and priorities of the French Riviera in France (extract from MIRO board)

The Health sector represents around 19 000 organisations and 54 000 jobs at the local level[15]. It benefits from a strong collaboration universities/ research centres, hospitals and companies. Innovation is driven by public research organised in five main centres of excellence : the Institute of Molecular and Cellular Pharmacology (IPMC), the Mediterranean Centre for Molecular Medicine (C3M), the Valrose Institute of Biology (IBV), the Institute for Research on Cancer and Ageing (IRCAN) and the French National Institute for Research in Computer Science and Control (INRIA).
The sector has naturally opened up to e-health, taking advantage of the ICT expertise concentrated at Sophia Antipolis, and is finding outlets in the 'silver economy' on the Côte d'Azur, which offers fertile ground for conducting clinical studies and experiments[16].

The blue economy represented around €1,7Md turnover in 2019, 1852 companies and more than 8000 jobs[17]. A large part of these jobs are linked to the yachting industry and navigation which, despites some efforts and a political willingness that appeared in the recent years, aren't the most innovative sectors of the blue economy.

[15] https://www.cote-azur.cci.fr/animation-de-filieres-professionnelles/filiere-sante/
[16] https://www.sophia-antipolis.fr/en/health-and-biotechnologies/
[17] https://www.investincotedazur.com/focus-economie-bleue-cote-dazur/

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Innovation of the blue economy in the French Riviera is closely linked to **the green transition** and mostly centered around research topics such as sea and coastal preservation. As for the health sector, the innovations of the blue economy on the French Riviera are very linked with linked with ICT expertise.
It also relates with the larger priority sector of the green transition, whose turnover is largely driven by the sub-sectors of energy and waste and water treatment[18]. Indeed, the high population density along the coast - which is exacerbated by the influx of tourists in summer - makes it all the more difficult to manage water networks and wastewater treatment properly.

The digital transition and Artificial Intelligence gathers more than 5000 organisations distributed along the value chain with a focus research and innovation[19]. This sector is especially interested in six main topics of interest, that are considered as particularly relevant to position France at the front of digital world leaders. These sectors are: artificial intelligence, big data, Internet of things (IoT, with notably many companies developing IoT for the health sector and silver economy), cybersecurity, optic, new materials and imagery (once again, applied to health use cases). The ecosystem is labelled since 2019 as one of the four French "Interdisciplinary institutes of AI" or "3IA"[20]. Its objectives are to facilitate cross-fertilisation between companies, universities and the larger community of knowledge. To do so, public research institutes (the University, CNRS and INRIA) play a crucial role and are strongly supported by the local authorities. To ensure no one is left out of the research developed on the territory, the "Département 06" therefore created a public space to raise awareness on AI : the House of AI. Several large events, such as the Soph.IA summit and the World AI Cannes Festival[21] are also yearly organised.

Finally, the region also has a strong tradition in **the CCIs**. Today, it translates into active art schools and international events, such as the Cannes Film Festival. Interestingly, the art schools of the university of Nice join forces and are developing and important local and European network, notably through their participation in the EIT Culture and Creativity.

[18] https://www.cote-azur.cci.fr/evenement/la-cci-nice-cote-dazur-dresse-un-etat-des-lieux-de-la-filiere-economie-verte-dans-les-alpes-maritimes-un-fort-potentiel-de-developpement-pour-une-filiere-davenir/
[19] https://www.cote-azur.cci.fr/animation-de-filieres-professionnelles/filiere-numerique/
[20] https://www.sophia-antipolis.fr/ia/
[21] https://www.worldaicannes.com/

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R&I Stakeholders	Facilitators (other clusters, incubators, industrial associations etc.	Local public authorities	Access to citizens	CCI
Université côte d'azur	Tourism associations	Ville de Nice	NaturDive	DRAC PACA
Laboratoire océanographique de Villefranche	Chamber of commerce: CCI Nice Côte d'Azur	Metropole NCA/ Direction Environnement	Mediterranée 2000	MicroFolie
GIS Posidonie	French Tech Cote d'Azur Incubateur Provence Côte d'Azur	incl. Zone Natura 2000 "Cap Ferrat"	Villa Arson	University of Nice - Art section (UCARTS)
Suez Environnement	Village by CA	Metropole NCA/ Direction Cycle de l'eau / Régie Eau d'azur	Maison de l'Intelligence Artificielle	Ecole de Condé
INRIA	Pôle SCS	Département 06	L'Association FRABA	Villa Arson
CoBTeK-Lab	ICAIR: Conseil de Recherche Industrielle pour l'Intelligence Artificielle	Agence de l'eau Rhône Méditerranée Corse	Pilautis06	Association Del'Art
O-KIDIA	Institut EuropIA	Office Français de la Biodiversité - direction PACA Corse	Pôle ASH	Association Slamsol
Centre hospitalier universitaire de Nice	OTESIA : Observatoire des impacts technologiques, économiques et sociétaux de l'Intelligence Artificielle	Communauté d'agglo Sophia Antipolis	ADAPEI	Association Slam Ose
Mines Paris PSL - Sophia Antipolis Campus	Cluster IA	Fondation Sophia Antipolis	CRA PACA - Centre de ressource autisme	Association of improvisational theatre of Antibes - AIA
Institut 3IA Côte d'Azur	EDUAZUR	Health Regional Agency PACA	Centre Universitaire Méditerranéen de Nice	Studio Hans Luca Marseille
Large reknown enterprises doing IA in Sophia : Accenture, Air France, Acri-ST, Arm, HPE, Orange, Renault, SAP, TAS Group, Thales	Pôle Mer Méditerranée	Metropole NCA/ Direction Culture	Association France Alzheimer 06	Creative Motion
+ countless SMEs and start-ups	Capenergies	ADEME	SophIA	Play Azur Prod

Figure 8: Stakeholders mapping for the French Riviera

We can notice that many R&I stakeholders, facilitators and access to citizens are pretty well distributed on the different local main sectors. As already highlighted, public organisations are strongly represented as major innovators, with labs and research centres specialised in AI, the health sector and the blue/ green economy. The digital sectors is however also supported by very large corporations who decided to base their digital/ AI related research centres in the Sophia Antipolis science park to benefit from cross fertilisation. This in turns supported the development of a myriad of local start-ups and spin-offs in the sector. Strong links also exist between the digital/ Ai sector on the one hand, and the health and blue/ green economy on the second hand. Indeed, several digital/ AI companies and research centres are developing products and services to support the two other local main sectors.

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2.3.4 Western Macedonia

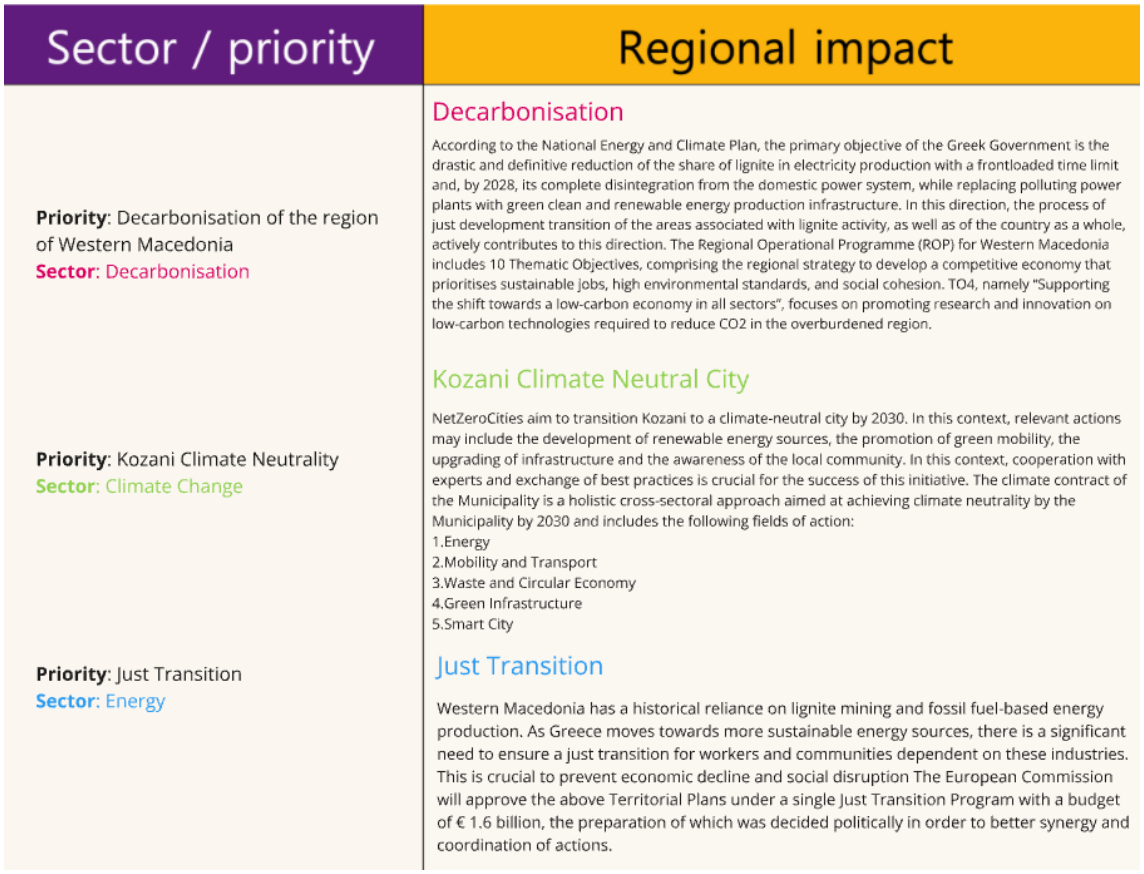

Figure 9: Sectors and priorities of Western Macedonia in Greece (extract from MIRO board)

Decarbonisation Leadership: The region is at the forefront of the country's efforts to reduce CO2 emissions by promoting low-carbon technologies and research. With Greece's National Energy and Climate Plan phasing out lignite use by 2028, Western Macedonia is transitioning from fossil fuel-based energy to green and renewable sources. The installation of large photovoltaic parks, green hydrogen projects, and energy storage facilities are central to the region's clean energy transition. These initiatives aim to replace the region's traditional reliance on lignite with sustainable energy production.

Climate-Neutral Kozani: Kozani is a leader in the region's green transition, aiming to become a climate-neutral city by 2030 through innovations in energy, mobility, and infrastructure. With a growing focus on sustainability, Western Macedonia is increasingly prioritizing waste management and the circular economy. This includes initiatives to reduce waste, promote recycling, and support the use of secondary raw materials.

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Support for Just Transition: Western Macedonia has received significant financial commitments from the EU and the Greek government[22] to ensure that communities and workers affected by the decarbonization process are supported economically and socially.

R&I Stakeholders	Facilitators (other clusters, incubators, industrial associations etc.	Local public authorities	Access to citizens	CCI
Centre of Research and Technology Hellas (*CERTH*)	Chamber of Commerce & Industry of the city of Kozani	Municipality of Kozani	Art School Kozani	KOZAIN
University of Western Macedonia	Technical Chamber of Western Macedonia	Region of Western Macedonia	3rd General High School of Kozani	Parembasi
University of Thessally	Geotechnical Chamber of Western Macedonia	Regional Union of Municipalities of Western Macedonia	Music School of Siatista	Photodiodos
Synergin EDIH			Cultural Association of Protochori	Vroom3
MetaMinds			Cultural Association of Krocus	Together Mag
			Cultural Association of Platania	

Figure 10: Stakeholders mapping for Western Macedonia

For all of the above, many different stakeholders are taking action within Western Macedonia's ecosystem.

- **Regional Government of Western Macedonia**: As the key driver of policy and regional development, the regional government oversees decarbonization efforts, infrastructure development, and green economy projects.
- **Municipal Authorities**: Local governments, such as those in Kozani and other municipalities, are critical for implementing smart city initiatives, circular economy policies, and community engagement programs.
- **Energy Companies**: Given Western Macedonia's legacy in the energy sector, major players in energy production, especially those transitioning to renewable energy, are essential stakeholders. These include companies involved in photovoltaic parks, hydrogen production, and energy storage projects.
- **Agriculture and Agri-Food Businesses**: The region's agri-food sector, known for its quality and PDO products, plays a vital role in fostering sustainable practices and integrating into the circular economy.

[22] https://www.enterprisegreece.gov.gr/en/invest-in-greece/just-transition

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- **Innovation and Technology Institutions**: Companies specializing in digitalization, green technologies, and low-carbon solutions are key to driving the region's technological transformation.
- **Universities and Research Centers**: Institutions in Western Macedonia are instrumental in advancing research in clean energy, low-carbon technologies, and sustainability. These stakeholders are critical for fostering innovation and bridging the gap between research and industry.

2.3.5 Stockholm

Sector / priority	Regional impact
Carbon Neutrality	**Carbon Neutrality** Stockholm aims to be carbon neutral by 2030. The city integrates sustainable urban design, promoting energy-efficient buildings, eco-friendly public transportation, and extensive use of renewable energy sources like wind and solar. Stockholm has a robust public transit network, reducing car dependence. Electric buses, cycling infrastructure, car-free zones, and pedestrian-friendly streets are part of the plan to lower carbon emissions.
Digitalisation and innovation	**Digitalisation and innovation** Stockholm is prioritising digitalisation by being one of the top tech hubs in Europe. There is high investment in digital innovation in the public sector, and the transition to digital citizen services. Digital innovation contributes to the sustainable transition.
Creative Industries	**Creative Industries** Stockholm has a strong tradition of Scandinavian design, and is a hub for design, fashion, music, film, and media. The creative industries are also vital in supporting the sustainable transition of the region. Digital media and creative technologies play a key role in the innovation sector.

Figure 11: Sectors and priorities of Stockholm in Sweden (extract from MIRO board)

Carbon Neutrality

Stockholm aims to become a fossil-free and climate-positive city by 2040. "The Strategy for a Fossil-Fuel Free Stockholm" is in line with the Paris Agreement's target of limiting global warming to 1.5°C, and incorporates climate goals into all municipal operations. Stockholm has an action plan for a fossil free road transport sector and investigates the feasibility of prohibiting the sale of fossil fuels by 2040. The City acts to reduce road traffic sufficiently for CO2 equivalent emissions to fall by at least 80,000 tonnes with investments in electrification, public transport and reduced car dependence.

Stockholm is also taking a major responsibility and will play a leading role in implementing Agenda 2030. The city's operational goals include:
- A socially coherent Stockholm with a strong and equal welfare system.
- A green and fossil free city – leading the way in a just climate transition.

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- A city with a solid and sustainable economy, where education, jobs and housing is available for all.

Digitalisation and Innovation

Stockholm aims to keep its position as a leading hub for digitalization and innovation. Through the project "Innovation platform for a sustainable, attractive Stockholm", the City of Stockholm wants to create opportunities for increased capacity for innovation.

The use of AI, digitalisation and new technology is assumed to create the conditions for innovation and increased growth in Stockholm, but also opportunities for increased efficiency and innovation in the public sector and contributes to sustainable societal development.

The capacity to innovate is strengthened on close collaboration with other actors in the public sector, the business community and academia. The City is working to develop collaborations with academia, and partnership agreements with bodies including RISE, Stockholm University and KTH Royal Institute of Technology.

In 2017 the City Council adopted a strategy to further develop the smart and sustainable city concept through coordination of the City's work on digitalisation. The smart city is made possible through connectivity, publicly accessible data, IT platforms that can communicate with each other, sensors and other technologies.

Creative and Cultural Industries

In 2024, the Government developed a "Strategy for businesses in the cultural and creative industries" to the parliament. The strategy lays out a vision for 2033, by which time Sweden will have strengthened its position as a leading country for the cultural and creative industries. These industries already have good growth and contribute to the Swedish economy as a dynamic business sector, increased exports and a positive image of Sweden abroad. Businesses in the cultural and creative industries is considered to contribute to a diversity of cultural expression and cultural events throughout the country.

The cultural and creative industries is viewed viewed as a new type of Swedish primary industry with a current turnover greater than the entire Swedish retail sector. The Government's strategy is to unleash the potential of cultural and creative businesses for growth, employment and innovation. Promoting the conditions for enterprise in the cultural and creative industries also benefits free culture since most professionals and creators within the industries are organised as companies.

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The CCIs also play an important role in driving innovation and creativity in other sectors. In addition, the social dimension of the CCIs is equally relevant and can be instrumental in driving positive change. These dynamic industries recognized to have a positive spillover effect on other sectors of the economy, such as technological innovation, hospitality and cultural tourism.

Stockholm is home to some of the biggest brands and players in the global Creative and Cultural Industries, including globally recognized and diverse names such as Zara Larsson, Spotify, Minecraft and Acne Studios. The city has a long legacy of creative output, from being home to world-famous game studios, to being the world's leading music exporter per capita.

R&I Stakeholders	Facilitators (other clusters, incubators, industrial associations etc.	Local public authorities	Access to citizens	CCI
KTH, The Royal Institute of Technology RISE Built Environment RISE Digital Systems RISE Mobility and Transport	SSES Stockholm School of Entrepreneurship	Stockholm Stad municipality Helsingborg Municipality		Folkets Hus Musikhus Stockholm Rinn Åhlgren Richard Widerberg

Figure 12: Stakeholders mapping for Stockholm

The R&I ecosystem in Stockholm (and more largely in Sweden) is a very unique one, as many previous research centres have been gathered under the banner of RISE. This provides a very concerted R&I ecosystem, with a common strategy. RISE is also very connected to the local companies. Innovation is strongly supported by the local authorities that are often presented as European frontrunners and ideal use cases for research and innovation.

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3 Stakeholder Engagement

The results of the stakeholders mapping allowed partners to select stakeholders to contact and engage in the project as a whole. At this stage, the idea was first to test stakeholders interest in science/ art projects, understand their barriers and motivations. Based on the first contacts, partners would then pre-select some of the stakeholders that seemed to be the most willing/ ready to cocreate an interaction.

3.1 Analysis and insights

Based on the mapping, partners have exchanged many stakeholders from their ecosystems. These exchanges took the form of specific in-person meetings, visio-conferences and dedicated workshops organised by the partners.
A summary of the barriers (pains) and motivations (gains) regarding science/ art projects is proposed at the end of this section.

3.1.1 Euskadi

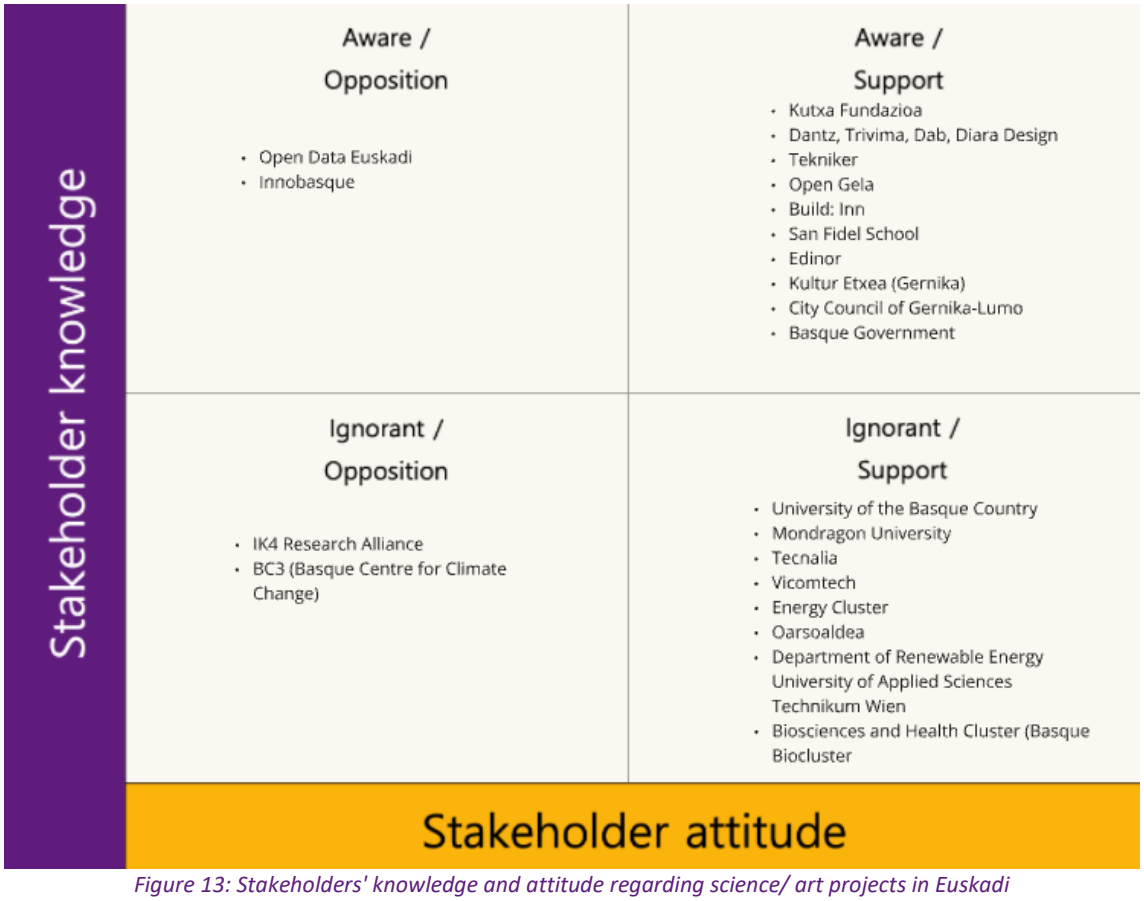

Figure 13: Stakeholders' knowledge and attitude regarding science/ art projects in Euskadi

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Most stakeholders show a **collaborative attitude** towards participating in participative projects that address the challenges detected by the Basque ecosystem. Many of them are aware of the Interaction Seeds project, especially entities linked to CCIs, sustainability and energy, as well as public administrations and some research centres. The ones that ignore the project, but support it, are mainly the University of the Basque Country, one of the largest ones of the region; the University of Mondragon, a private entity that is strongly focused on educative innovation; and different institutions related to research and innovation from the scientific-technological field, such as Innobasque or Tecnalia.

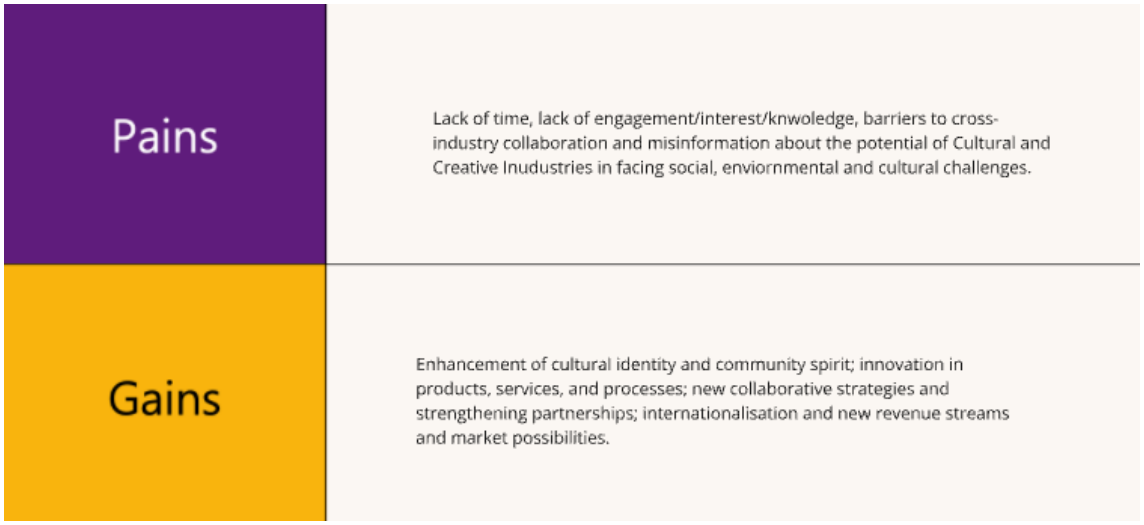

Figure 14: Pains of gains motivating or preventing stakeholders to develop science/ art projects in Euskadi

In the Basque Country, stakeholder engagement faces several challenges, including time constraints, lack of interest or knowledge, barriers to cross-industry collaboration, and misinformation about the potential of Cultural and Creative Industries (CCIs). However, there are significant benefits: enhancing cultural identity and community spirit, fostering innovation in products, services, and processes, developing new collaborative strategies and partnerships, and opening up internationalisation opportunities and new revenue streams. These gains highlight the potential of CCIs to address social, environmental, and cultural challenges effectively.

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3.1.2 Grand Est

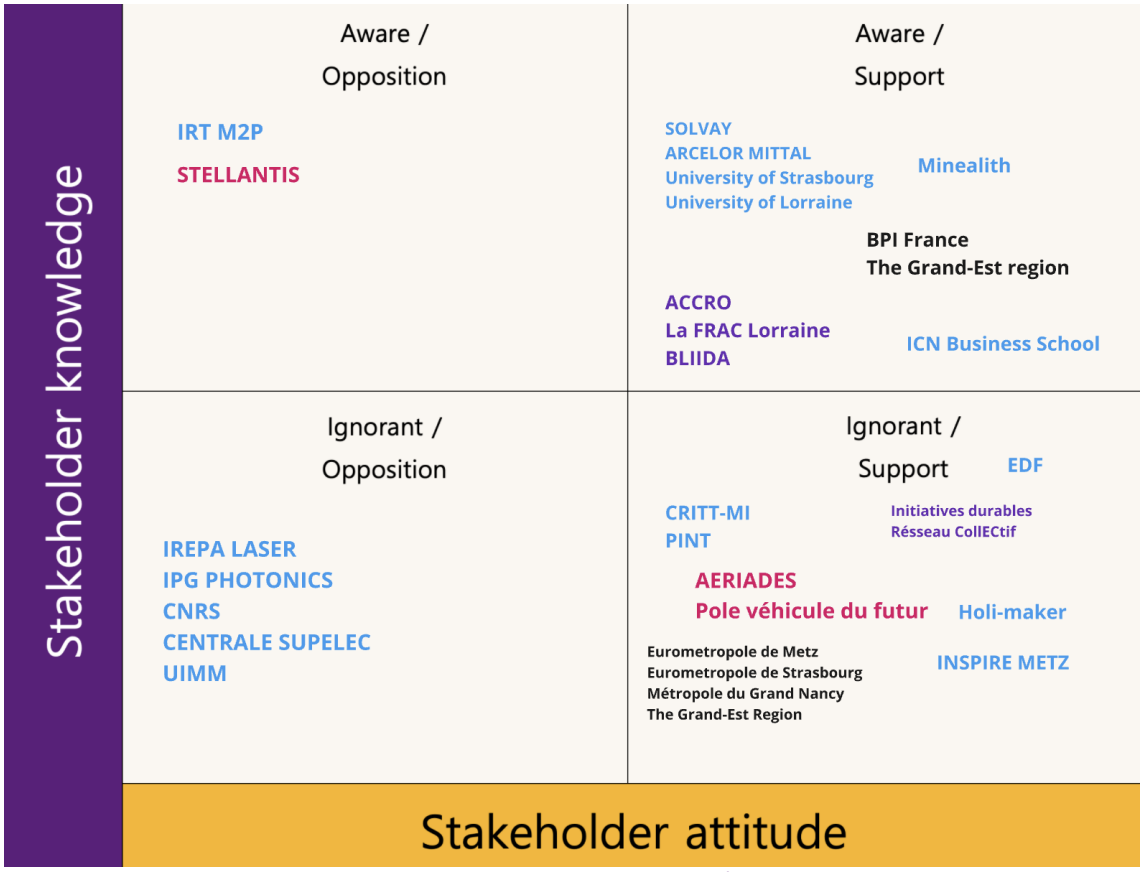

Figure 15: Stakeholders' knowledge and attitude regarding science/ art projects in the Grand Est region

The majority of stakeholders contacted in the Grand Est region have expressed a **positive attitude** towards the InteractionSeeds project and the seeds to be implemented in the territory. Recognising so as a **pioneering initiative** in an industrial region and many have also shown interest in participating in the project activities. Notably, **over half of the stakeholders contacted were initially unaware** of such projects aiming at valorising knowledge through artistic approaches.

Among those unfamiliar with this type of initiatives, opposition primarily came from large industrial groups and a major research center. In contrast, stakeholders such as cities, regional authorities, startups, clusters, and a prominent French energy company were supportive, despite their initial lack of awareness.

Stakeholders already aware of such projects or initiatives and supportive of them included organisations in the cultural and creative industries, universities, and a large chemical industry group. However, opposition among those already familiar with the initiative was concentrated within a large mobility group and a materials research center.

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The stakeholders willing to support the Interaction Seeds project and participate in event organisation are motivated by several key factors. Regional authorities and local governments see it as an opportunity to strengthen their communication and collaboration with citizens. For the cultural and creative industries, placing citizens at the heart of their activities is a natural fit within their mission. Surprisingly, a large industrial chemical group has also expressed interest, driven by a need to improve their public image, which is often seen as negative. Their participation aims not only to showcase their positive contributions to various fields, but also to attract young talents to the industry. Among those stakeholders who were initially unaware but supportive, universities and cities view this as a chance to be at the forefront of innovation and to experiment with new approaches. Clusters and startups share a similar perspective, seeing it as an opportunity to test new ideas. The prominent French energy company, on the other hand, supports the initiative because of the ongoing energy crisis, recognising the importance of connecting with citizens to better understand their needs and improve communication.

The stakeholders who were aware but opposed the project and its initiative did so for various reasons. For instance, the large car group perceived limited alignment between the Interaction Seeds project and their strategic priorities, opting instead to allocate resources to their own initiatives and internal collaborations. On the other hand, the materials research center lacks the resources, time, and personnel to engage in such activities, as their teams are primarily composed of individuals from traditional industries and hard sciences, making it difficult for them to participate in such initiatives. The stakeholders who were initially unaware but ultimately opposed the initiative, once informed, chose not to support or participate because, as highly industrial organisations, they do not see the value or benefits of engaging with the cultural and creative industries.

Pains	Perceived misalignment between the project's goals and the strategic priorities of large industrial stakeholders, a lack of resources such as time and personnel to engage in the initiative, and skepticism about the tangible benefits of collaborating with cultural and creative industries.
Gains	Perceived opportunity to drive innovation and be a the forefront of it, improve communication with citizens, and strengthen their public image. Larger companies, like those in the energy and chemical sectors, also view it as a chance to attract new talent and address public concerns.

Figure 16: Pains of gains motivating or preventing stakeholders to develop science/ art projects in the Grand Est region

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The stakeholder engagement in the Grand Est region faces several challenges and opportunities. On the one hand, industrial stakeholders perceived a misalignment between the project's goals and their own strategic priorities. Additionally, a lack of resources, such as time and personnel, limits their ability to engage in the initiative. There is also vast skepticism regarding the tangible benefits of collaborating with cultural and creative industries.

Stakeholders who adhere to the initiative and are willing to participate in its activities do so because they see it as an opportunity to drive innovation and position themselves at the forefront of it. By engaging with these initiatives, they believe they directly improve communication with citizens and work on their public image. This is particularly important for larger companies, such as those in the energy and chemical sectors, which also viewed the initiative as a way to attract new talent and address public concerns.

3.1.3 French Rivera

Most of the stakeholders contacted on the French Riviera have, to some extent, already heard about art/ science projects.
For example, this is a relatively common practice in the Health sector, that has developed projects including the arts to facilitate the relations with patients.
Most R&I stakeholders contacted were also in favour to develop more science/ art projects, as they see benefits for their activities. These benefits encompass a better image/ more visibility, the opportunity to recruit citizens for co-creation, improved chances of success for public funding applications or for private funding with an impact investor.

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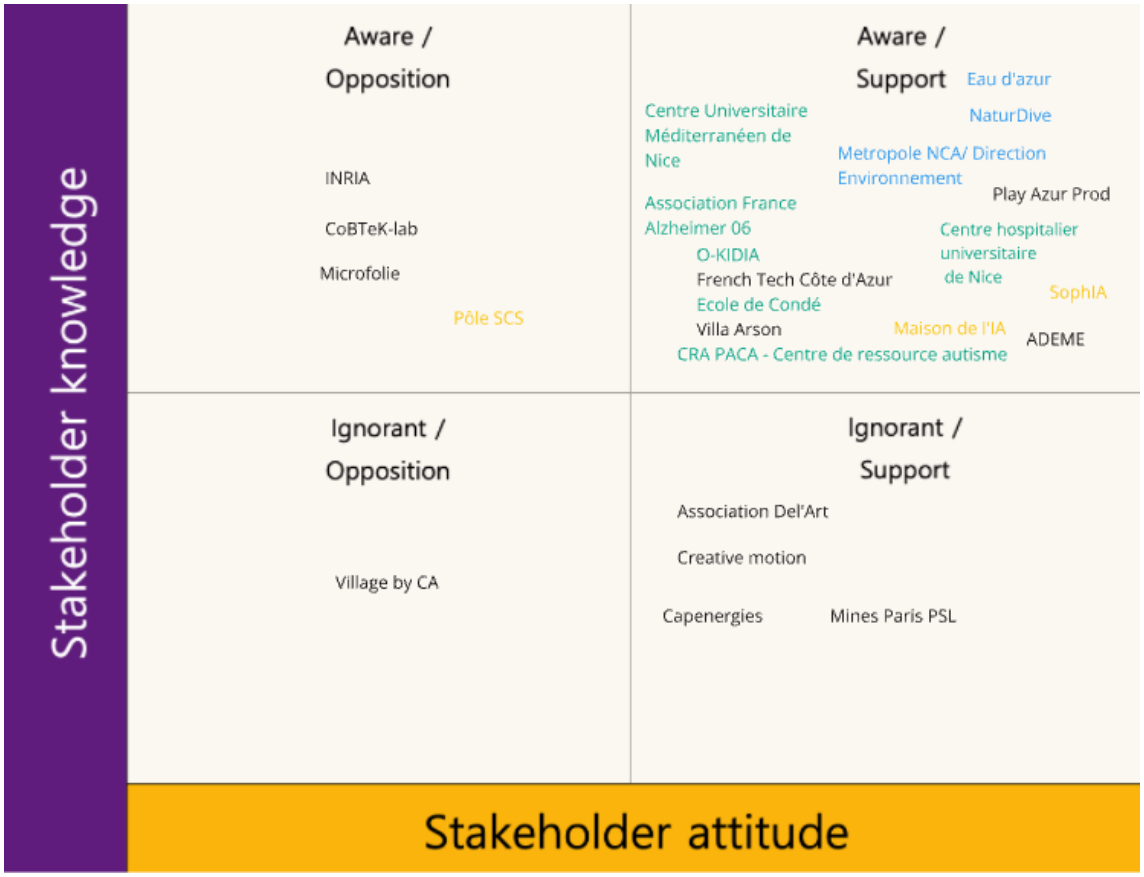

Figure 17: Stakeholders' knowledge and attitude regarding science/ art projects in the French Riviera

Even if most stakeholders find attractive the idea of combining sciences and the arts, for many of them it is still a very uncommon practice those implementation seems very blurry.

Because the support towards this practice relies a lot on personal interest, someone who would like to implement a science/ art project in his company would often be confronted with some scepticism from other colleagues/ hierarchy that are essential in the setup of the project, and the belief that either citizens engagement is not a priority, or that doing so with the arts might be too complicated or even not serious enough.

Furthermore, the people willing to develop science/ art projects might also face time and budget constraints, if these projects are not considered as a priority by the company.

Some might also experience apprehension to collaborate with artists, who often don't have the same ways to communicate then R&I stakeholders. However, in our experience related to InteractionSeeds, CCI stakeholders are well aware of this specific potential barrier and are training themselves to communicate more effectively towards R&I stakeholders, to facilitate collaboration.

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Figure 18: Pains of gains motivating or preventing stakeholders to develop science/ art projects in the French Riviera

3.1.4 Western Macedonia

Most of the stakeholders contacted in the Region of Western Macedonia have been introduced to the concept of the InteractionSeeds project.

For instance, this approach has gained attention particularly in sectors like cultural development and education, where projects incorporating artistic elements have been used to engage the local community. The University of Western Macedonia, Art School Kozani, and Cultural Associations such as those in Platania and Protochori are key supporters of such initiatives.

Many stakeholders from the research and innovation (R&I) ecosystem—such as MetaMinds—expressed interest in expanding collaborations. They see multiple benefits from these initiatives, including enhanced public visibility, opportunities for community co-creation, and improved chances of securing public or private funding, particularly from impact investors or the government-backed just transition fund, that is currently operating in the region of Western Macedonia as an important investment-driving tool. This alignment also supports the broader goals of decarbonization and sustainability, which are key priorities for the region.

However, some stakeholders, such as the Technical Chamber of Western Macedonia and Geotechnical Chamber of Western Macedonia, remain less informed or opposed to such initiatives, highlighting the need for further engagement and communication to convey the potential benefits. These institutions are considered to be more difficult to communicate with, due to the bureaucracy that characterises their responsibilities. Together Magazine, was initially very active and supported. Although, due to their decision of stop publishing, cooperation was not possible.

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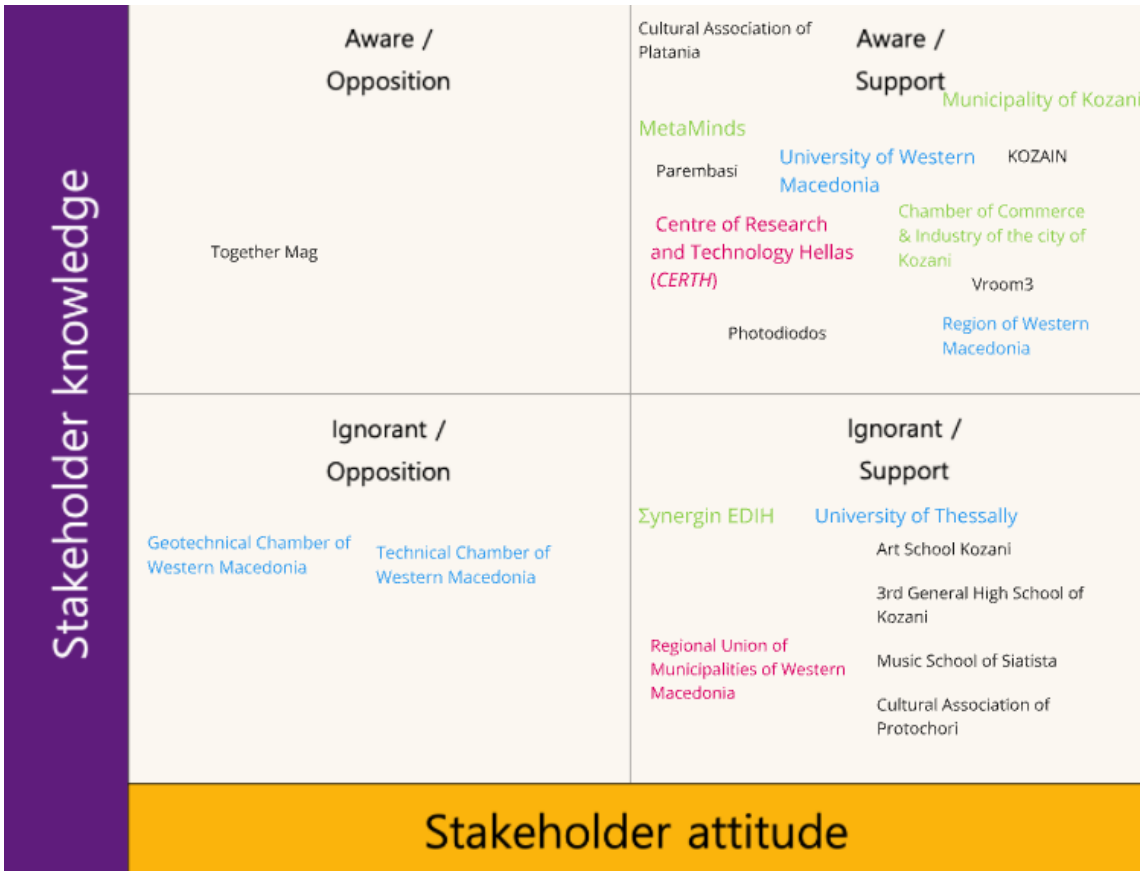

Figure 19: Stakeholders' knowledge and attitude regarding science/ art projects in Western Macedonia

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3.1.5 Stockholm

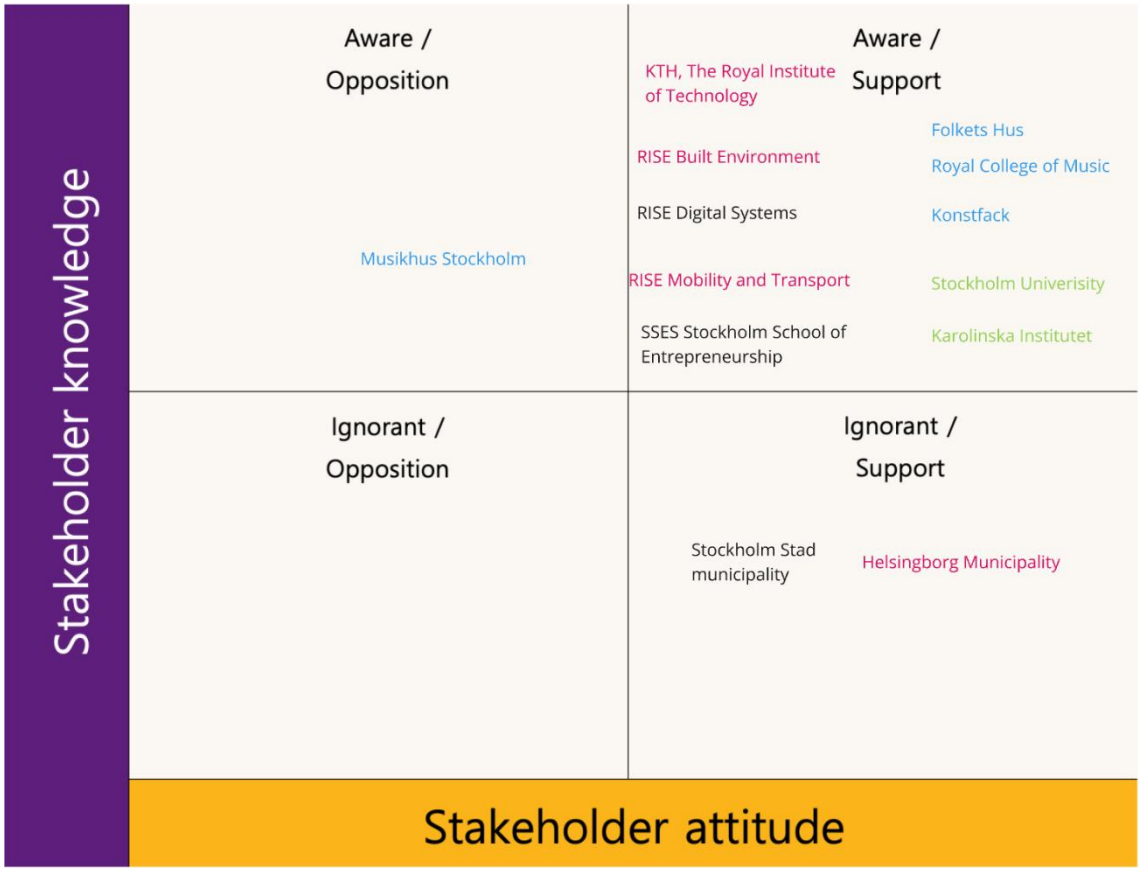

Figure 20: Stakeholders' knowledge and attitude regarding science/ art projects in Stockholm

Most stakeholders have been positive about participating in the seeds, having shown interest in exploring how art meets research and innovation. This can partly have been facilitated by the method employed where stakeholders were selected and approached with seeds tailored to what was determined to be their interest and that would fit, they ways of working and available time and resources.

In general, there was **an awareness and understanding** of the potential contribution of the cultural and creative industries (CCI) also for stakeholders outside immediate creative work and in some cases experiences of working with CCIs in part projects. For R&I stakeholders, such as RISE, **this is an established practice**, and some parts of the organisation is based on design-oriented research. Others have been aware of examples of art/science collaborations in their particular application area.

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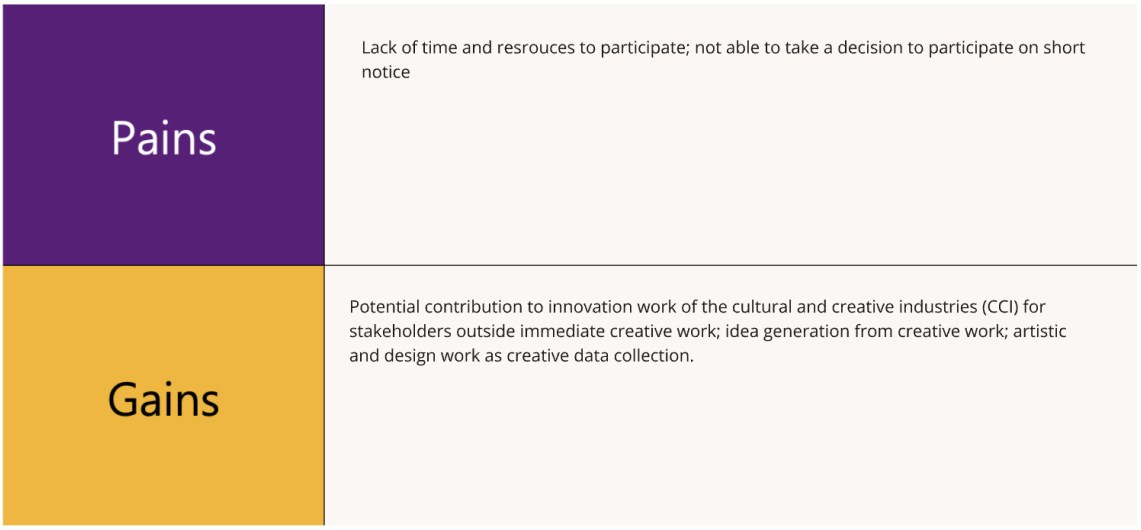

Figure 21: Pains of gains motivating or preventing stakeholders to develop science/ art projects in Stockholm

3.1.6 Findings and conclusions

While certain themes, such as the need for better communication and alignment with stakeholders' interests, are common feedbacks in each of the project's ecosystems, each ecosystem also faces unique circumstances that will motivate or not stakeholders to participate in science/ art projects.

The following common Challenges (Pains) have been identified :

- **Time and Resource Constraints**: Across multiple ecosystems (e.g., Euskadi, Grand Est, French Riviera), a lack of time, personnel, and budget is frequently cited as a barrier to engaging in science/art collaborations. For industrial stakeholders especially, aligning such projects with their core priorities is often difficult, and the persons interested in science/ art projects might not be allowed to dedicated much time to new activities. This is also the case because science/ art projects are not seen as an activity with a (direct) return on investment, and therefore not a priority.
- **Lack of Knowledge or Awareness**: In different ecosystems, some stakeholders are either unaware of the potential benefits of these collaborations or don't see how the arts can contribute to their business goals, particularly in more traditional industries like mobility or materials research. These stakeholders are particularly challenging for the project partners, as taking time to convince them individually is very time-consuming. A good approach is to keep them in the loop of the project's activities, invite them to the public local interactions developed, and ask other motivated R&I stakeholders in the same field of research to exchange with them and share their experience.

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- **Cultural Gaps in Collaboration**: Differences in communication styles between stakeholders in research/innovation (R&I) and cultural and creative industries (CCI) create friction. In the French Riviera and other regions, some stakeholders are hesitant to work with artists due to different modes of operation and communication. This gap can be bridged with specific trainings.

Besides these challenges, a number of shared Motivations (Gains) have, luckily, also been identified:

- **Enhancing Public Image and Visibility**: Many stakeholders, particularly in sectors like energy (Grand Est) and healthcare (French Riviera), view these initiatives as an opportunity to improve their public image. Their objectives can be various: increase the company's attractivity to hire more easily, show potential public and private investors that the company is an "impact" company (see below), involve citizens in co-creation processes (notably in the health sector), etc.
- **New Collaborative Opportunities**: In all regions, there's recognition that combining science and art fosters innovation, both in terms of product development and process optimisation. By engaging in these projects, stakeholders can build new partnerships, expand internationally, and address societal challenges like sustainability and decarbonisation (Western Macedonia).
- **Funding and Financial Support**: Science/art collaborations are often seen as a strategic tool for increasing the likelihood of securing public and private funding, as mentioned by stakeholders in the French Riviera and Western Macedonia. Impact investors and government funds are especially drawn to innovative and community-focused projects.

Besides these commonalities in the feedbacks of the stakeholders engagement, specific regional differences can also be noted:

- **Euskadi (Basque Country)**: Here, there's a notable emphasis on addressing cultural and community challenges through stakeholder engagement. The collaboration between public institutions and CCIs is also fairly strong through the Basque District of Culture and Creativity.
- **Grand Est (France)**: Grand Est is mainly composed of traditional industries. These are usually less familiar with science/ art projects and may have difficulties to innovate in their processes. However, they could also see the potential to renew themselves and update their activities to become more attractive.
- **French Riviera**: Innovation on the French Riviera is strongly driven by the desire of local authorities to diversify sources of revenue and employment away from tourism. The large science park has been developed from scratch with the willingness to attract companies in the sectors that will be most innovative and

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relevant in the future. InteractionSeeds' objectives are therefore aligned with local authorities interest, that support its implementation.

- **Western Macedonia**: here, art/science projects are particularly interesting to leverage decarbonisation and sustainability, in an effort to align with broader political and environmental goals. These projects are also welcome to support the development of new competences and expertise needed to support the regional reconversion from a rural area to a more diversified area.
- **Stockholm**: Here, collaboration between researchers and the CCIs is already somewhat established, leading to a smoother process and fewer challenges compared to other regions.

To conclude, the experiences across the project ecosystems reveal common hurdles in stakeholder engagement (time, resources, and misalignment between sectors) but also demonstrate shared motivations like public image enhancement and development of attractiveness.

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3.2 Tracking of Stakeholders resistance

This section presents a focus on the "pains", and was developed as a "Stakeholder Resistance Tracker" by the partners to help them find patterns, improve their "pitching" skills of the project and keep track of the less interested stakeholders to find alternative ways for them to participate in the project.

3.2.1 Euskadi

Stakeholder	Motives						
	Time constraint	Political agenda	Budget	Lack of resources	Fear of change	Personal Beliefs	Other (please specify)
1. IK4 Research Alliance	X						
2. BC3 (Basque Centre for Climate Change)	X						
3. Open Data Euskadi		X					
4. Innobasque	X						

Figure 22: Stakeholder Resistance Tracker in Euskadi

Time constraints have prevented some of the stakeholders from participating in the project due to their busy schedules and competing priorities. That is the case of the entities that are not able to participate actively in InteractionSeeds. Additionally, **political agendas** can create **conflicts of interest or misalignments** with project goals, especially in the case of Open Data Euskadi, making it difficult to engage them.

3.2.2 Grand Est

Stakeholder	Motives						
	Time constraint	Political agenda	Budget	Lack of resources	Fear of change	Personal Beliefs	Other (please specify)
1. STELLANTIS							Internal processes
2. CENTRALE SUEPELEC	X						
3. CNRS	X						
4. IREPA LASER					X		
5. IPG PHOTONICS		X					
6. ACCRO	X			X			

Figure 23: Stakeholder Resistance Tracker in the Grand Est region

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Time constraints prevented half of the stakeholders from participating in the InteractionSeeds project, as their priorities were focused elsewhere during that period. Political alignment issues deterred one company, as the project's direction did not align with their strategic agenda. Another company cited a lack of resources, specifically their **inability to allocate the necessary human resources**, as the reason for their non-participation in InteractionSeeds. Finally, resistance due to **fear of change** was noted in a company with a purely industrial background, which saw the project's creative ambitions as a significant shift from their current practices.

3.2.3 French Rivera

Stakeholder	Motives						
	Time constraint	Political agenda	Budget	Lack of resources	Fear of change	Personal Beliefs	Other (please specify)
1. INRIA				✓		✓	
2. Microfolie		✓					✓ Long departmental process
3. Pôle SCS	✓			✓		✓	
4. Village by CA	✓			✓			

Figure 24: Stakeholder Resistance Tracker in the French Riviera

As for other ecosystems, even when stakeholders are interested in science/ art projects, they often face **time and resource constraints**, as these projects are usually not their priorities. Another challenge faced in this ecosystem is related to local authorities and the stakeholders those decisions are taken by the local authorities: indeed, **local authorities have very long processing timings** that are not aligned with the duration of InteractionSeeds (two years).

3.2.4 Western Macedonia

Mostly **time constraints and bureaucracy** were the main reasons why local stakeholders were not able to show support to the InteractionSeeds initiatives. Also, **institutions' internal decisions lead to their resistance**. These obstacles are not easy to overcome. Although, in Western Macedonia, inviting all parties to events and initiatives, promoting them while giving these institutions a second chance on considering their involvement.

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Stakeholder	Motives						
	Time constraint	Political agenda	Budget	Lack of resources	Fear of change	Personal Beliefs	Other (please specify)
1. Together Mag							stop operating in near future
2. Technical Chamber of WM	✔						
3. Geotechnical Chamber of WM	✔						

Figure 25: Stakeholder Resistance Tracker in Western Macedonia

3.2.5 Stockholm

Stakeholders declining to participate were mostly expressed as a **lack of capacity** to participate under the conditions of the project, such as short time schedule and a need to commit resources that were not planned for. **Some disinterests** were shown to participate in events, but **this could also be attributed to lack of time to engage in new ventures with unclear outcomes**.

Stakeholder	Motives						
	Time constraint	Political agenda	Budget	Lack of resources	Fear of change	Personal Beliefs	Other (please specify)
1.Musikhus Stockholm				✔			

Figure 26: Stakeholder Resistance Tracker in Stockholm

3.2.6 Findings and conclusions

Without surprise, lack of time and resources to commit to an activity that isn't a direct priority were the main barriers to the development of an interaction. This confirms that:

- When aiming for a high replicability potential, the interactions developed should be low cost and implemented in a rather short period of time. This was anticipated at the pre-project stage: this is why InteractionSeeds aims at developing "easy" interactions that can still fairly retribute the artists for their activity without taking too much time. This is a real challenge, as the interactions still need to be impactful, but not al organisations are yet ready to invest time and resources in science/ art projects. Having easier interactions therefore pave the way for a larger adoption by all types of stakeholders.
- This also highlights the need for a "facilitator" that can motivate and support the cocreation process of the interaction, connect stakeholders, support the logistic around the event etc.

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3.3 R&I Stakeholders selected for the implementations

At least 20 R&I stakeholders needed to be selected for the implementation of the 20 interactions of InteractionSeeds. To select these stakeholders, the following two main criteria have been chosen:

- Alignment of the organisation with regional priorities;
- The presence of a driven person, enthusiast about art/ science project, with the necessary time and resources to support the setup of the project.

In the paragraphs below, the R&I stakeholders and their participation in each of the 20 interactions of the project is described.

3.3.1 Euskadi

Seed n°1: GERNIKARTEZ: Art, Technology and Wellbeing

Tekniker explored how technology can be integrated into human life in an effective, safe, respectful, and critical manner, using a combination of artistic and scientific approaches. They provided examples of projects focused on human-interface interaction that could be replicated in the future and adapted to different contexts. Their involvement in this project, which began in May 2024, has been crucial in incorporating a scientific perspective. Thanks to their expertise, we gained a deeper understanding of the physical and psychological impact that art has on human beings.

Seed n°2: Energy Communities + Art & Culture

Edinor has played a key role in the development of the San Fidel energy community, leveraging its expertise in R&D focused on sustainability. This initiative is particularly

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significant as it showcases a collaborative energy community created with the active participation of the entire municipality of Gernika-Lumo.

What makes this project stand out, thanks to the involvement of stakeholders like Edinor, is its innovative approach, combining the co-creation methodology of Living Labs—where local residents, researchers, and stakeholders work together to develop sustainable solutions—with an artistic and creative perspective. Edinor's leadership in this initiative underscores the potential for sustainable energy solutions to be developed through inclusive, creative, and scientifically driven efforts.

Seed n°3: Urdaibai Parcc. Art & Biodiversity

Created in 2002, the Maremne Adour Côte-Sud Community of Municipalities is an Établissement Public de Coopération Intercommunale (EPCI)* bringing together 23 municipalities with a population of over 70,000. MACS is increasingly close to its residents, with 23 communes working together towards the same goal: to make the region a place of exchange and positive energy, an eco-responsible area that is attractive to all. This last decades, MACS has made it possible to develop a territory that respects the environment while anticipating technological advances and digital needs.

Over the past few decades, MACS has played a crucial role in developing a territory that respects the environment while embracing technological advancements and the digital needs of its residents. As the protector of the Marais d'Orx Natural Reserve, MACS is a key partner in the execution of this seed, which focuses on combining art, biodiversity, and cross-border exchange.

PARCC is the MACS art center located in the heart of the Labennaise forest (France). A space dedicated to contemporary creation with a cultural program open to all. Equipped with three large exhibition rooms, a creative workshop and a practice space, the PARCC is a lively place intended to host large-format exhibitions but also offers times for mediation and artistic practices for all. the public: children, families, schools... Nestled in a preserved space in the center of Labenne, the artistic center invites you to take a break from its roof terrace with panoramic views and a stroll in the green theater.

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PARCC takes part in this seed because it aligns with its mission to foster cross-border artistic collaboration and environmental awareness. The project emphasizes plastic arts and music to highlight the ecological significance of moss in two key nature reserves: the Urdaibai Reserve in Spain and the Marais d'Orx in France.

Seed n°4: Immersive Experiences through Art

Virtual manages the production and development of immersive content for organisations in the non-profit, educational, cultural and industry 4.0 sectors. They work on international projects in Spain, Colombia and Mexico. They will be in charge of installing an immersive room, within the strategic line of virtualisation of GAIA as a technology cluster, and create, together with a multidisciplinary team of artists and creators, digital content that will serve to offer quality immersive experiences to the public (citizens, professionals, students, clusters, public workers, etc.)

3.3.2 Grand Est

Seed n°1: Empowering Tomorrow: Skills for a Circular and Low-carbon future

EDF (Électricité de France) is a leading French electric utility company and one of the world's largest producers of electricity, known for its strong focus on nuclear power and renewable energy. Committed to achieving carbon neutrality by 2050, EDF plays a crucial role in the global energy transition by reducing emissions and investing in low-carbon solutions, including wind, solar, and hydropower, making it a key player in shaping a sustainable energy future. EDF will share valuable insights into how they are working towards their 2025 low-carbon goals, offering a clear pathway for other industries and organisations to follow. They will also highlight the unique role that art

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and culture can play in engaging citizens, particularly during challenging times such as energy crises. By leveraging cultural narratives, EDF aims to foster a deeper understanding and connection with communities, helping to navigate the complexities of the energy transition.

ICN Business School places a strong emphasis on integrating arts and sciences into its educational approach. By fostering a dialogue between these disciplines, the school stimulates creativity and innovation among its students. This model, known as "Arts & Design Management," encourages future managers to develop critical and original thinking by addressing economic challenges from an interdisciplinary perspective. ICN believes that this synergy between arts and sciences better prepares its graduates to face the complex and multifaceted challenges of the modern professional world, where creativity is becoming a strategic driver for innovation.
ICN Business School has also been home to the UNESCO Chair "Art & Science" until this year, showing its commitment to promoting interdisciplinary collaboration and exploring the intersection between creativity and scientific inquiry. This prestigious chair has enabled the school to lead innovative research and projects that highlight the value of combining artistic and scientific perspectives.

Vera Ivanaj has been chosen to serve as artistic mediator for Materalia's first seed due to her deep involvement in creative management, a field where she blends aesthetics and organisational strategies. Her experience, both as a researcher and an abstract artist, allows her to bring a unique, sensory-driven perspective to translating events creatively, going beyond traditional methods. Vera will produce an artistic transcription of the event, capturing its essence not only through words but also through sensory impressions, enriching the overall experience.

Seed n°2: Space for honest conversation, transparency, and accountability

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Plastinnov is a technological platform dedicated to innovation in plastics and composite materials. It provides companies with a space for research, development, and testing of new materials and production methods, fostering collaboration between academic researchers and industrial partners. This platform serves as a bridge between scientific research and practical applications, contributing to both innovation and environmental responsibility in the plastics sector. Plastinnov is also closely connected to UTOPIA, a research and innovation lab that pushes the boundaries of creative and technological exploration. Through the UTOPIA Lab, Plastinnov fosters collaborations that blend art, technology, and sustainability, particularly through initiatives such as 3D printing for creative and environmental solutions. The Lab Fab within UTOPIA is also a space where artists, designers, and engineers work together to experiment with new materials and techniques, creating innovative pieces that unite aesthetics and functionality.
Atelier Circul'R is a French association dedicated to promoting and accelerating the circular economy by supporting businesses and entrepreneurs in adopting sustainable, waste-free practices. They provide consulting, training, and project management services to help organisations integrate circular economy principles, reduce waste, and extend product life cycles.

Plastinov and Circul'R have been invited to participate in this second interaction event because both organisations operate in the plastics sector but with distinct approaches. Plastinov focuses more on working with traditional industries, leveraging established manufacturing techniques, while Circul'R brings a creative perspective, emphasising the second life of plastics and fostering innovative ways to repurpose materials within the circular economy. Their participation and the exact form of the interaction is still to be confirmed.

Seed n°3: ArtScience Lab: Exploring industry through creativity

SOLVAY

UNIVERSITÉ DE LORRAINE

NEO ANGELS

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Solvay is a multinational chemical company with a strong focus on sustainable and innovative chemical solutions. They specialise in advanced materials and specialty chemicals, with applications ranging from clean energy to sustainable mobility. Solvay is committed to driving the transition to a circular economy, reducing carbon footprints, and addressing global challenges through innovation in chemistry and materials science.

The University of Lorraine is a leading public research institution in France, known for its interdisciplinary research and educational programs. The university engages in a broad spectrum of fields, including energy transition, material sciences, and sustainability. Through its partnerships with industries and public entities, it fosters innovation and research in areas critical to the ecological and industrial transition, preparing future professionals with the skills needed for a sustainable economy.

Neo Angel is a creative digital agency that specialises in using art, technology, and immersive experiences to engage the public on important social and environmental issues. With expertise in interactive media, augmented reality, and creative installations, Neo Angel connects citizens and industry with complex topics like climate change and energy transition, transforming these challenges into engaging, understandable, and visually compelling experiences.

The third interaction to be implemented by Materelia in 2025, aims to reunite these three stakeholders in an interactive workshop where participants can co-create an art installation that visualises sustainable energy solutions, using scientific input from Solvay, educational insight from the University of Lorraine, and artistic direction from Neo Angel. The concept of the art installation is to provoke and capture citizens' attention, urging them to reflect on the critical need for industry and citizens to co-develop and implement energy solutions that will directly affect their lives. This interaction is not confirmed yet.

Seed n°4: Reimagine & Remold: Citizen Workshop on Sustainable Manufacturing

HoliMaker

BLIIDA
INSPIRATION, INNOVATION & INTELLIGENCE COLLECTIVE

EUROMÉTROPOLE METZ

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Holimaker is a startup based in Metz, France, specialising in the development of manual plastic injection molding machines. Their focus is on making small-scale plastic production more accessible, affordable, and sustainable. By providing compact and efficient molding machines, Holimaker enables individuals and small businesses to rapidly prototype and produce custom plastic parts using recycled or eco-friendly materials. Their technology empowers creators, engineers, and educators to engage in hands-on manufacturing without the need for large industrial facilities. Holimaker's innovative approach emphasises both environmental responsibility and user-friendly manufacturing solutions.

BLIIIDA is a creative and digital hub based in Metz, France, serving as an incubator for startups, artists, and creators. It provides a collaborative space where innovation, entrepreneurship, and artistic expression come together. BLIIIDA supports a diverse community of creators by offering co-working spaces, workshops, and resources that foster cross-disciplinary collaboration. The center is a driving force behind creative innovation in the region, offering platforms for experimentation in digital arts, design, technology, and social innovation. BLIIIDA is known for its commitment to supporting projects that address socioeconomic and ecological challenges through creative solutions.

The Eurométropole de Metz is an intercommunal organisation in northeastern France that encompasses Metz and several surrounding municipalities. It is a metropolitan area focused on promoting economic development, improving urban mobility, and fostering sustainability in the region. The city is also committed to citizen participation in projects that aim to enhance the quality of life, sustainability, and inclusivity in urban spaces. Through events, public projects, and collaborations with organisations like BLIIIDA and Holimaker, Metz aims to position itself as a hub of creativity and eco-conscious growth in the region.

For the fourth seed to be implemented by Materalia, HoliMaker, in collaboration with BLIIIDA and the Eurométropole de Metz were asked to host an innovative event combining technology, creativity, and sustainability. The proposed event aims to engage local citizens through hands-on workshops where they can learn to use HoliMaker's manual plastic injection molding machines to create custom, sustainable products using recycled materials. HoliMaker will share its technical expertise, guiding participants through transforming plastic waste into useful objects, demonstrating how eco-friendly, small-scale manufacturing can empower individuals to tackle everyday challenges. BLIIIDA would provide the creative space, encouraging participants to explore artistic approaches to problem-solving, turning ideas into functional and sustainable designs. Meanwhile, the Eurométropole de Metz would support the event by promoting it and

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ensuring active citizen involvement. This collaboration would aim to show how citizens and local organisations can work together to address environmental and social challenges through creative, practical solutions.

3.3.3 French Rivera

Seed n°1: Authenticity and AI

In an effort to support the local artificial intelligence ecosystem, the local authority of the Alpes-Maritimes has created two organisations : the MIA ("House of AI"), a space to allow citizens to understand and experience AI, and OTESIA, the Observatory on the Technological, Economic and Societal Impacts of Artificial Intelligence and Digital Technology.

For this first seed, that will start in December 2024 and lasts until mid-february 2025, three R&I stakeholders have been contacted.

The MIA will be the first stop for the two school classes that will participate in the interaction. There, they will be able to understand and test firsthand what artificial intelligence can do.

OTESIA will be involved in the second step of the interaction, to show the youngsters how to prompt on ChatGPT, and most importantly, how an AI is really programmed and why it's different from human creativity. OTESIA role is also very important while building the interaction, to reassure the artist and professor on their own values and the fact that they can't be replaced by the AI.

Finally, the Laboratory of innovation and digital for education of the University Côte d'Azur will be involved as a "background" stakeholder, to follow the process and exchange with the professor on the use and role of AI in education.

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Seed n°2: Beauty of Nature Based Solutions

Nature Dive is an association working for the protection of local marine environment. It is composed of engineers and marine biologists that are involved in observing the ecological status of the local marine ecosystem, contribute to naturalist knowledge, educate citizens on how to preserve the marine environment and protect the marine environment through preservation and restoration projects.
Nature Dive will support the presentation of the virtual reality movie at the "Foire de Nice" and answer the testers' questions there. The association will then present the photography exhibition in a scientific way, adated to the larger public comprehension.

Seed n°3: Museums for all

O-KIDIA is a start-up that develops digital products to detect neurodevelopmental disorders. Ecole de Condé is a school of design and visual arts, with offices in several major French cities, including in Nice.
O-Kidia will first be involved in the training of design students from the Ecole de Condé (March 25) in better understanding neurodivergence and its impact on experiencing daily activities, such as visiting a museum. Students will then work in groups on how to improve an exposition that will take place at Villa d'Arson (June 25) ad make it friendlier for children with neurodevelopmental disorders.
O-Kidia will then participate in the exposition, by giving a conference and being a part of the jury to rate the work of the design students. In participating in this interaction,

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O-KIDIA also hopes to be in touch with children and their parents, that could take part in the co-creation of its products.

Seed n°4: Water Quality Dance

Eau d'Azur is responsible for the management of the public drinking water and wastewater services in the Nice Metropolis. Preserving water resources is one of Eau d'Azur's main concerns. Therefore, the company aims for an exemplary management of the "small water cycle".

The interaction will address two challenges met by Eau d'Azur: how to encourage responsible and sustainable behaviour, and how to facilitate better representation and diversify talent in the new water professions.

To do so, a conference will first be organised by Eau d'Azur for biology students from the University Nice Côte d'Azur. Students will then be asked to conduct research on the challenges presented during the conference, and the feelings and emotions it make them feel. Based on these feedback, a choreography will be created and presented publicly in a dance battle against a Polynesian dance company based in Papeete.

3.3.4 Western Macedonia

Seed n°1: House of AI

MetaMind Innovations, as a leading spin-off of the University of Western Macedonia, plays a crucial role in the "InteractionSeeds" project by offering its expertise in AI, Cybersecurity, Big Data, and Smart Applications. Their interest in the project lies in integrating advanced digital solutions into everyday life and industries, promoting the use of AI and IoT technologies to drive innovation. By focusing on practical

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applications, MetaMind supports the project's goal of connecting citizens and organizations with cutting-edge tools for sustainable and creative problem-solving.

Seed n°2: Climate Swipe

CERTH
CENTRE FOR
RESEARCH & TECHNOLOGY
HELLAS

As a leading research institution, CERTH possesses extensive expertise in the fields of energy, environmental technologies, and sustainable development, making them a valuable contributor to Kozani's climate neutrality efforts. If they confirm their participation, CERTH can offer technical knowledge and innovative solutions in green energy, low-carbon technologies, and climate modeling with research-driven recommendations for implementing the Climate Swipe tool in alignment with Kozani's climate action goals and most importantly expertise in engaging citizens and municipal authorities in data-driven dialogues on sustainability.
The Centre for Research & Technology Hellas has not yet confirmed their participation in the seed. Although, CERTH has been approached by CluBE to host an InteractionSeeds workshop during their event. In case this will not be possible, CluBE has already contacted the Regional Development Fund authorities, from the Region of Western Macedonia, who expressed real interest in the project's activities. The Regional Development Fund authorities could provide extensive knowledge of regional development policies, particularly around Just Transition and the decarbonization process, as well as insights into the Climate Neutral City label for Kozani, providing localized R&I inputs on how Climate Swipe can support broader climate-neutral and just transition objectives. Also, the RDF has strong ties to local government and regional stakeholders, which can ensure the integration of policy-driven innovations and regional-specific strategies into the Climate Swipe implementation.

Seed n°3: Lazarines

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UNIVERSITY OF WESTERN MACEDONIA

The University of Western Macedonia as a key R&I stakeholder to provide valuable insights into the cultural and socio-economic dimensions of intangible heritage.
The inclusion of the University of Western Macedonia in the interaction allows for an interdisciplinary approach to understanding and promoting the cultural heritage of the Lazarines event. The university's involvement will support the documentation, preservation, and promotion of this tradition through research and educational programmes. Additionally, the University will provide R&I input on how cultural heritage can serve as a driver for sustainable community development and contribute to social cohesion in the region. Their expertise will help ensure that the workshop integrates both cultural and academic perspectives, enhancing the overall impact of the Lazarines seed in fostering regional identity and prosperity. Also, the Department of Agriculture of the UOWM will provide important insights on the climate adaptation in regards to welcoming spring, which is the main goal of this workshop.

Seed n°4: Nature's Flow: Yoga and Mindfulness for Environmental Educators

ΠΑΝΕΠΙΣΤΗΜΙΟ ΔΥΤΙΚΗΣ ΑΤΤΙΚΗΣ
ΚΕΝΤΡΟ ΕΠΙΜΟΡΦΩΣΗΣ ΚΑΙ ΔΙΑ ΒΙΟΥ ΜΑΘΗΣΗΣ

This seed is taking place as a key feature of the Winter Academy of Environmental Educators, organised by the Department of Public Health at the University of West Attica. The university provides scientific insights into the health benefits of nature and mindfulness, demonstrating how these practices reduce stress and promote well-being. The workshop equips environmental educators with tools to integrate these concepts into school programs, fostering mental health through nature-based activities.
Led by yoga instructor Thirty Six – Thomas Korelas, participants will engage in yoga sessions designed to reduce stress and enhance mental clarity. Environmental educators will also bring their artistic expertise, facilitating hands-on arts and crafts activities designed to translate mindfulness and yoga into visual expressions. These

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activities help participants explore the therapeutic power of creativity, showing how artistic expression can enhance emotional and mental health, particularly in children. By connecting public health insights, yoga, and environmental education, the University of West Attica empowers educators to create impactful learning experiences. This collaborative effort supports the university's mission to promote innovation in health and environmental education, nurturing responsible and well-informed future generations.

3.3.5 Stockholm

Seed n°1: Digital Cleanup Day

The Electrum laboratory in Kista, Stockholm is a hub for research, innovations, and education. Leading research and development are carried out at the laboratory, which spans a wide range of technologies and application areas.

KTH, The Royal Institute of Technology hosts the premises and have a large presence of students and researchers together with RISE, Research Institutes of Sweden. Inventors and entrepreneurs also use the facilities for manufacturing and to develop prototypes in ISO 9001-certified laboratories, which has a strategic role as a production incubator for high-tech spin-offs.

The Digital Cleanup Day was hosted at the Electrum premises as an open event attended by researchers, students and companies, focusing on digital sustainability as a core concern of the research focus.

The project partner RISE is a co-initiator of this and the other Swedish seeds led by its interdisciplinary design-driven research department "Prototyping Societies", while also involving other departments and divisions of the national research institute body.

Seed n°2: 3C Workshop

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STOCKHOLM SCHOOL OF ENTREPRENEURSHIP

RI. SE

The cultural and creative sector, including art & design, is central to the mission of SESS both as a driver of innovation and entrepreneurship and by having two art & design focused universities among their members. Since the cultural and creative sector is also a major economic factor in the Stockholm region and one of the prioritized economic areas of the city, the conditions of a future existence of a vibrant cultural sector is vital for both SESS and the innovation environment in the whole of the Stockholm region.

Seed n°3: Future Sound of Cities

HELSINGBORG

RI. SE

Helsingborg is a municipality in the south of Sweden. The city has a current population of 150,000, is undergoing rapid growth and aims to achieve Climate Neutrality by 2030. Transport, responsible for 34% of emissions, is a primary focus and the city supports the 15-minute city concept, aiming to transform car-centric transport lanes to vibrant pedestrian areas. They also want to increase the number of adults and children who bicycle to school or work and reduce traffic accidents by prioritising pedestrians, cyclists, and public transport over the automobile.

One challenge of this effort is to try to get citizens to focus on the future benefits and liveability in areas that now serve as car-centric transport areas, rather than focusing on the pains involved in the reduction in or down prioritising of car-traffic itself. To do this, they are open to try art & design-based methods that enable citizens to experience and imagine future cityscapes.

Seed n°4: Building Sufficiency

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Oxfam Sweden is part of the global Oxfam organization that works to saving and improving people's lives. They fight climate inequality, economic inequality, inequality and injustices that cause poverty and oppression—and are present on the ground in crises and disasters. They contribute new knowledge, highlight social structures, give people tools for change, and demand that those in power take responsibility. Their work is grounded in universal human rights and is informed by a feminist and decolonial approach.

As part of their interest in how consumption patterns influence the intersection of climate and social justice, they have been keen on utilizing the concept of "sufficiency" and circular economies to explore ways of challenging consumption habits and social practices that lead to wasteful use of material and human resources. By using art & design-based participatory methods, these topics can be explored in a more hands-on and practical ways than only using communication and information as means to create change.

3.3.6 Status of Stakeholder engagement at M10

At this stage, more than 20 R&I stakeholders confirmed their interest in participating in an interaction with the project's partners, even if all interactions have not been well defined. For some of them, the exact topic, artists and form of the event is still to be discussed and defined. This work will be continued in WP3.

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3.4 Good Practices and Lessons Learnt on stakeholder engagement in each ecosystem

3.4.1 Euskadi

Two main conclusions can be drawn from the stakeholders engagement activities in Euskadi:

- There is a **lack of facilitators** to enable cross-fertilisation between industry, art and technology. This is translated in a need of creating a common language that can bridge de gap between different ways of approaching reality.
- **Examples of other projects** in technology, innovation, art and culture **can be analysed and presented** to the stakeholders. For example: Sónar, electronic music festival in Barcelona; Ars Electronica, Austrian cultural, educational and scientific institute for new media art; European Creative Economy Conference 2024 in Helsingborg (Sweden); EIT Culture & Creativity.

Other good practices can be listed as follows:

- The importance of disseminating activities that combine an Art-Design Thinking methodology to provide solutions to concrete social and cultural challenges. For that, it is highly recommended to **have practical examples that can set a precedent in the local ecosystem** and encourage other entities to innovate. For instance, we were able to pull the local ecosystem in Gernika-Lumo thanks to the energy community that started in the San Fidel school.
- The necessity of **combining technological research together with artistic creation to respond to societal, cultural and sustainable challenges**. We have detected among our stakeholders that the variable of technology applied to specific challenges is essential to engage them. In a way, it proves the R&D&I dimension that many companies with a traditional profile need to join the development of the different seeds.
- The success of **establishing co-creation smart spaces**, such as Living Labs, **to engage community and create a sense of belonging in the local ecosystem**. In our case, we had the possibility to attract so many different stakeholders thanks to the Living Lab approach: the University of the Basque Country; San Fidel school; private companies (Edinor, Virtual4); clusters (Build:Inn); public administration (Gernika-Lumo City Council), cultural institutions (Gernika Kultur Etxea – House of Culture) or start-ups from the CCIs (Dantz, Trivima).
- It is also crucial to **create a common language** between traditional industry profiles and those in the field of art and culture. In our case, having, thanks to

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the Basque District of Culture & Creativity, specific knowledge of cross-fertilisation processes and success stories in hybridising traditional and creative industries in the Basque Country and other European contexts, has been of great help.

These have been the lessons learnt in the development of the Energy Communities + Art & Culture seed, aligned with the good practices that we have implemented:

- The importance of **synergies between public administration, industry, citizen and culture**: Fostering synergies between the public sector, industry and CCIs is essential to drive sustainable measures and spread consciousness on citizens.
- The **essential role of facilitators** for the promotion of the cultural values and to drive the change of the behaviour of citizen through art design thinking.

3.4.2 Grand Est

Materalia, as an industrial cluster, brings together a wide range of stakeholders from industry, academia, and government. Given the region's industrial past and its pursuit of reindustrialisation and decarbonisation, most stakeholders within the cluster come from traditional industries and **tend to approach collaboration and activities in a conventional and traditional manner**. This meaning, that **they are not used to engage with cultural and creative industries whatsoever.**

Organisations from traditional industries in the Grand Est region have practices deeply embedded in conventional industrial methods, which created a challenge when encouraging them to collaborate with more innovative and creative sectors. Their reluctance to engage with cultural and creative industries is often tied to personal beliefs and an old-fashioned work culture that leaves little room for ground-breaking collaborations, which could bring valuable cross-fertilisation opportunities to play.

These are the key lessons and best practices that have emerged from the stakeholder engagement process, and you should be brought to light:

- Reaching out to the right person within an industrial organisation can make a great difference. Within teams, there are often individuals who are more open to hearing new perspectives, ideas, and initiatives. **Identifying these key individuals can be a game changer** when trying to engage an organisation in initiatives like the InteractionSeeds project.

- **Explaining industrial stakeholders that the European Commission has a clear and well-defined knowledge valorisation strategy** that brings cross fertilisation

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at its core and that it also **provides funding to projects** such as InteractionSeeds can motivate their interest and encourage them to get involved. For these stakeholders, knowing that the European Commission is involved makes them take things more seriously and view the initiative in a different, often more positive light.

- Industrial groups can be either open or resistant to the idea of engaging with cultural and creative industries. However, those **in critical sectors such as energy and chemicals recognise the importance of working with citizens**, not only to improve their image and attract new talent, but also **to involve them in developing solutions**. They have seen engaging with creative industries as an opportunity to connect more closely with citizens, as they often feel distant from them. This closer collaboration helps communicate their innovation and challenges more effectively and potentially bridge that gap.

- **Cultural and Creative Industries are generally open to new collaborations** and engaging with other sectors, including those from traditional industries. However, they often **feel that they are not fully integrated or valued equally compared to organisations from traditional sectors**. They also face a lack of financial support, **frequently being underpaid, or not paid at all for their contributions**. To ensure better collaboration with them, it is beyond necessary to provide clear communication about expectations and to offer fair remuneration for their work and contributions.

- Cross-fertilisation activities can often be challenging due to the **different "languages" spoken by creative and traditional sectors**. A key lesson to consider is the **need for facilitators** who can bridge this gap by understanding and communicating the needs, priorities, approaches, and working methods of both industries. Without this mediation, the great differences between these sectors can hinder their effective or smooth collaboration.

3.4.3 French Rivera

Because DOWEL is a consulting company and not a cluster and doesn't have members, the local mapping of stakeholders was an interesting first task, that allows us to step outside of our usual network.

- The first good practice learnt was to **start with people that already have an interest in science/ art projects**, and **consider these people as facilitators**. This

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will allow you to start building a community of people with various (successful) experiences, that can then be used to convince people who are more reluctant.

- In supporting and trying to develop new science/ art projects, facilitators take a risk (they invest time or even money, engage their own networks etc.) It is therefore important for them to **get motivated and supported**. This support can take different forms: **strengthened links with other facilitators or with artists at local and European levels, better knowledge of new science/ art projects, support from local public authorities** (e.g. in facilitating access to public spaces) etc.

- **Sharing experiences** allow people to look ahead and imagine what a science/ art project would look like for them, and help them understand that this kind of project doesn't implies high risks. This was done in two different ways. The first way was **using the repository** and the first seeds that were collected for it. Indeed, R&I stakeholders that we contacted to implement interactions, even if they were interested by science/ art projects, would feel a bit lost as to what are the possibilities. **Showing them different examples of previous projects done in their secto**r or in another one helped us to get a feeling of the type of artistic method that would be of interest for them, and propose them an interaction adapted to their needs and affinities. The second way was by **inviting CCI stakeholders in meeting, to share their own direct experience.**

- R&I and CCI stakeholders both have their **own ways to communicate**. **A facilitator should be able to understand both language** to reassure R&I stakeholders and get the attention of the CCI stakeholders. In our experience, CCI stakeholders are usually more interested in a collaboration with science and will educate themselves on the R&I topic they are interested in or more largely on the corporate world to communicate more effectively with their R&I counterparts.

- Science/ art projects are beneficial at many levels. When engaging an R&I stakeholder, it is important to **put forwards to benefit that are the most important for them**, and therefore to know a bit about them in advance. Depending on the type of stakeholder we're addressing, these benefits can range from co-creating a product, to gaining more visibility at the local level, create synergies with other sectors, enhance creativity, develop more social innovation to increase chances to get public funding or increase chances to get private support from impact investors, develop participatory science projects etc.

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- Finally, it might be difficult for R&I stakeholders to even know where to start to find a CCI partner. A good starting point might be **going through the university**. The University Nice Côte d'Azur bring together several art school (in the fields of design, visual arts including cinema etc.) These schools are gathered into "UCArts", which is a great entry point to engage these schools, their students and alumnis.

3.4.4 Western Macedonia

Being a regional cluster in Western Macedonia has significantly enhanced our stakeholder engagement practices by creating a structured and collaborative environment that integrates diverse actors from the quintuple helix—academia, industry, government, civil society, and the environment. As a cluster, CluBE established a unified platform where stakeholders from different sectors can come together, share insights, and contribute to regional development goals. This multi-stakeholder approach has allowed us to address key challenges more effectively, ensuring that each stakeholder sees their role in the broader vision of decarbonisation, green energy, and innovation. This collaborative ecosystem has been extremely helpful in driving forward initiatives, promoting inclusivity from all sectors of the quintuple helix.

- Success relies on a strategy of **proactive outreach and inclusion**. We ensure that all members, regardless of their initial stance or awareness level, are consistently invited to participate in our initiatives. This inclusive approach fosters stronger relationships and creates opportunities for all actors to see the benefits of collaboration. For instance, cultural associations, academic institutions, and business chambers were engaged through **repeated outreach**, making them feel integral to the region's initiatives.
- **Civil society organisations**, like the Cultural Association of Platania, **offer valuable insights into community needs**, and **local government stakeholders**, like the Municipality of Kozani, **ensure** that **policy alignment** is in place.
- Organising participatory workshops, forums, and brainstorming sessions, we foster joint ownership of initiatives, which strengthens the commitment of stakeholders. For example, the involvement of Art School Kozani in sustainability projects allowed stakeholders to merge creative expression with technological innovation, benefiting both the cultural and environmental sectors.

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3.4.5 Stockholm

As an R&I stakeholder and project partner engaged in design-driven research and innovation, we were used to forming multidisciplinary project teams and engaging stakeholders in participatory creative processes. This also includes a sometimes-blurry line between design-driven work and artistic methods. Still, the stakeholder engagement process has provided an opportunity to reflect on the roles and expectations of design, art, research, and innovation respectively.

The first reflection is that **there is a widespread interest—and expectation—of art and the cultural and creative industries to fulfil a number of roles outside of being its own sector with its own interests and drivers**—while facing its own challenges of boundaries, precarity and potential de-professionalisation brought about by ubiquitous digital production and circulation, and more recently, artificial intelligence. The cultural and creative industries are today considered important drivers in such diverse sectors as the tech and media industry, tourism and urban development, sustainability transitions and democratic participation, as well as influencing consumption trends patterns and providing highly sought after skills in industry. There is also increased interest from within artistic and creative practices to also influence other domains; so-called "useful art" is often valued for its contribution to social and political causes, artistic research has established itself as an academic field on the claim that artistic practices produce its own kinds of knowledge, and a lot of current art production is engaged in social critique, not at least of current tech developments.

Another reflection coming from our position as design researchers is that **the art tradition is not as prepared as the design tradition to engage deeply and long-term with transdisciplinary research and innovation practices**, where design has had decades of explicit development and reflection of methods for accomplishing this. **This sometimes leading to art being only partially integrated into the processes and sometimes as only the cherry on top** as an afterthought or contributing with single instance short-term interventions in public outreach or as lateral thinking idea generation. Even artistic research, that has become its own field in recent decades with the academisation of artistic practices, is not commonly engaged in these multi-stakeholder practices but more often solitary artistic practices unique for that particular project and that particular artist and has not as a discipline developed the kind of methods to explore complex multi-stakeholder processes and prototype creative responses to them the way the design field has.

The question can then be what is expected of the artistic fields in these collaborations and also **what the gain is in them for the artists**. If designs research process are understood in its basic form as a collaborative and iterative process of exploring a problem or opportunity space, defining objectives and then creatively inventing and

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testing ways of addressing these problems and opportunities, art inevitably becomes integrated in a design process in these collaborations, with or without intention—or for that matter trained designers. Unlike art—that in the modern period established a tradition of autonomy—design has since its modern conception aimed at influencing (and with the ambition of directing) industrial production, research, and innovation by infusing it with humanistic, aesthetic and creative forms and functions. Asking art to fill a similar role—perhaps after the exhaustion of over a decade of so-called "design thinking"—inevitably leads to art/science collaborations to either follow in the tradition of design or try to reinvent the wheel from a blank canvas.

3.4.6 Findings and conclusions

One of the major good practices that can be drawn from InteractionSeeds stakeholders engagement activities in five ecosystems is the need for facilitators who can create a common language to address both R&I stakeholders and artists, to motivate everyone to participate in an art/ science project.

The main key takeaways include the need for:

1. **Full integration of the CCIs in the project development**: Cultural and creative industries (CCIs) are often undervalued, views as "tools", or not fully integrated in a project development from a more traditional sector. Setting-up a meaningful interaction requires clear communication, collaboration from the start, fair compensation, and recognition of the CCIs' contributions. CCIs have a clear understanding of these needs, and are more and more training themselves to communicate and interact more efficiently with R&I stakeholders.
2. **Applying the Living Labs and Co-Creation processes**: Creating spaces for experimentation and community engagement, such as Living Labs, has proven successful. These environments foster collaboration among a diverse range of stakeholders (academia, public sector, industry, etc.) to address local challenges and drive creative solutions.
3. **Stakeholder Motivation**: Successful stakeholder engagement often depends on identifying key individuals open to new ideas and demonstrating the tangible benefits of collaboration, such as visibility, funding opportunities, and social innovation.
4. **Aligning with Broader Goals**: Aligning science/art projects with larger local socio-political objectives, such as decarbonisation, facilitates stakeholders engagement.
5. **Tailored Approaches**: Finally, success in stakeholder engagement varies depending on local conditions, necessitating customised approaches. For instance, regions like Euskadi focused on technology and art synergies, while in

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Grand Est, traditional industries needed specific motivators, like European Commission backing, to engage in cross-fertilisation initiatives.

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4 Communication and long-term dissemination for Stakeholders

Stakeholders engaged during the first months of the InteractionSeeds project can be classified in three categories : CCI stakeholders, who have been contacted to display their previous work in the repository – stakeholders that will participate in the interactions conducted by the consortium – other stakeholders that have been engaged about the project's objectives but don't have a specific role in the project's achievements.

A continuous engagement will be encouraged for the project. During the training activities, stakeholders manifested their will to stay in touch with one another and create a local active network. LinkedIn groups related to InteractionSeeds will therefore be created for the projects ecosystems to allow R&I stakeholders and CCI stakeholders to meet and learn from each other's to stimulate the development of new science/ art projects.

Other continuous engagement actions will include:

- **Sharing of the repository**: a brochure will all seeds collected in the repository will be made by the end of the year and disseminated to all contributors and stakeholders engaged so far in the project's ecosystems. This brochure will be translated in local languages to inspire and support facilitators in their efforts to develop new science/ art projects.
- **Sharing of the training kit**: Once approved, the training kit will also be translated in local languages and made available to potential facilitators in each ecosystem. The material developed by InteractionSeeds can indeed be included in existing trainings, e.g. in trainings provided by universities to researchers on Open Science.
- **Inviting stakeholders to the project's public interactions**: When possible, stakeholders engaged during the first phase of the project will be invited to local interaction they are not directly involved in, to get a feeling of what can be done and motivate them to replicate the process.
- **Newsletters**: Besides the LinkedIn groups for local ecosystems, stakeholders engaged are invited to join the InteractionSeeds LinkedIn page, through which regular newsletters on the project activities will be sent. =
- **Sharing good practices and lessons learnt**: At the end of the project, lessons learnt and good practices to encourage the development of more bottom-up science/ art projects will be shared to all stakeholders already engaged in the

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project and to a large number of European potential facilitators. These potential facilitators might be: universities or network of universities, clusters and national cluster associations, European initiatives such as the EIT Culture and Creativity etc.

5 Conclusion

This deliverable presents the state of stakeholder engagement at M10 of a two years long project. However, stakeholders engagement is necessary for the project: these activities will be consolidated at the local levels, to create local communities of practice, with the aim motivating the local replication of the project.

The first 10 months have demonstrated the importance of sustained interactions with a large panel of stakeholders, including local R&I stakeholders, companies, artists, and policy makers. Through workshops, consultations, and collaborative discussions, the project has laid the groundwork for fostering a deeper understanding of the importance of science/ art projects. These efforts have been instrumental in identifying the needs, interests, and potential contributions of different stakeholders, which have been critical for ensuring that the 20 interactions developed as part of InteractionSeeds are relevant and impactful.

From now on, further engagement activities will focus on strengthening partnerships with other existing communities outside of the five project's ecosystems and expanding outreach, both locally and across European networks. Local communities will also be strengthened to continuously encourage interdisciplinary collaboration, and promoting knowledge exchange. For example, stakeholders participating in a training workshop in the French Riviera have asked to make this kind of meetings a regular thing, to both raise awareness and support the CCIs in acting like a market place.

Ultimately, the ongoing participation of stakeholders is vital for the success of the project and its replicability. Their active involvement ensures that the outcomes are aligned with local needs and priorities, while also reinforcing the project's capacity to serve as a model for future initiatives that combine science, art, and community development.

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6 Annex

The following tables are showing how the first contact with the engaged R&I stakeholders was made for each partner :

Stakeholder Origin Tracker

Stakeholder	Sources				
	Desk research	Literature review	Networking	Conference	Other (please specify)
1. Kutxa Fundazioa			X		
2. Tekniker				X	
3. Trivima				X	
4. Dab				X	
5. Dantz				X	
6. Diara Design				X	
7. Edinor			X	X	
8. San Fidel School			X	X	
9. Kultur Etxea			X	X	
10. Build : Inn			X	X	
11. Open Gela			X	X	
12. Viviendas Municipales				X	
13. University of the Basque Country				X	
14. Department of Renewable Energy University of Applied Sciences Technikum Wien				X	
15. Basque Government			X		
16. Gernika-Lumo City Council			X	X	
17.					
18.					
19.					
20.					
21.					

Figure 27 : Source of GAIA's stakeholders

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Stakeholder Origin Tracker

Stakeholder	Sources				
	Desk research	Literature review	Networking	Conference	Other (please specify)
1. EDF			X		
2. SOLVAY			X		
3. ICN - Business school			X		
4. PINT			X		
5. Université de Strasbourg			X		
6. Université de Lorraine			X		
7. Eurometropole de Metz			X		
8. Inspire METZ			X		
9. BLIIIDA	X				
10. Minealith	X				
11. Grand Nancy innovation			X		
12. Holi-maker			X		
13. CRITT-MI			X		
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					

Figure 28: Source of MATERALIA's stakeholders

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Stakeholder Origin Tracker

Stakeholder	Sources				
	Desk research	Literature review	Networking	Conference	Other (please specify)
1. Metropole NCA/ Direction Environnement			✓		
2. Metropole NCA/ Direction Culture			✓		
3. NaturDive					✓ Karine is member of the association
4. Association Del'Art	✓				
5. O-KIDIA	✓				
6. école de Condé	✓				
7. French Tech Côte d'Azur			✓		
8. Villa Arson			✓		
9. Play Azur Prod			✓		
10. Eau d'azur			✓		
11. House of AI	✓		✓	✓	
12. ADEME			✓	✓	
13. Capenergies			✓		
14. Mines Paris PSL			✓		
15. Creative MOtion			✓		
16.					
17.					
18.					
19.					
20.					
21.					

Figure 29: Source of DOWEL's stakeholders

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Stakeholder Origin Tracker

Stakeholder	Sources				
	Desk research	Literature review	Networking	Conference	Other (please specify)
1. Centre of Research and Technology Hellas (*CERTH*)					✓ CluBE MEMBER
2. University of Western Macedonia					✓ CluBE MEMBER
3. University of Thessally					✓ CluBE MEMBER
4. Synergin EDIH					✓ Participation of CluBE
5. MetaMinds			✓		
6. Chamber of Commerce & Industry of the city of Kozani			✓		
7. Technical Chamber of Western Macedonia			✓		
8. Regional Union of Municipalities of Western Macedonia			✓		
9. Region of Western Macedonia					✓ CluBE MEMBER
10. Municipality of Kozani					✓ CluBE MEMBER
11. Cultural Association of Platania			✓		
12. Cultural Association of Krocus			✓		
13. Cultural Association of Protochori			✓		
14. Photodiodos			✓		
15. Vroom3			✓		
16. Parembasi			✓		
17. Music School of Siatista			✓		
18. 3rd General High School of Kozani			✓		
19.					
20.					
21.					

Figure 30: Source of CluBE's stakeholders

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Stakeholder Origin Tracker

Stakeholder	Sources				
	Desk research	Literature review	Networking	Conference	Other (please specify)
1. KTH, The Royal Institute of Technology			✓		
2. RISE Built Environment					✓ Same research institute as project
3. RISE Digital Systems					✓ Same research institute as proje
4. RISE Mobility and Transport					✓ Same research institute as proje
5. SSES Stockholm School of Entrepreneurship			✓		
6. Musikhus Stockholm			✓		
7. Stockholm Stad municipality	✓				
8. Folkets Hus			✓		
9. Royal College of Music					✓ Via other stakeholder
10. Konstfack					✓ Via other stakeholder
11. Stockholm Univerisity					✓ Via other stakeholder
12. Karolinska Institutet					✓ Via other stakeholder
13. Helsingborg Municipality			✓		
14.					
15.					
16.					
17.					
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21.					

Figure 31: Source of RISE's stakeholders

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