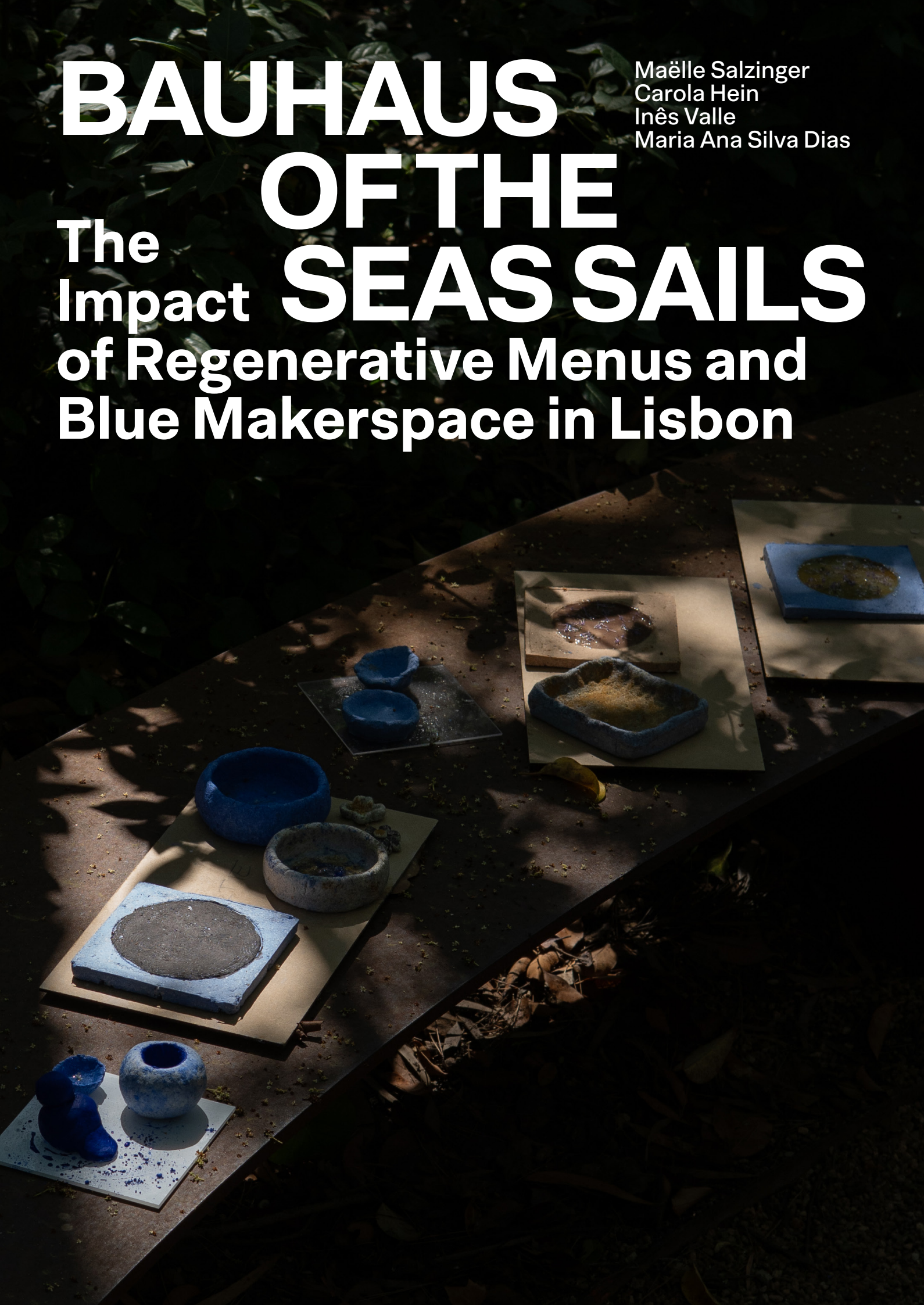
BAUHAUS OF THE SEAS SAILS

The Impact of Regenerative Menus and Blue Makerspace in Lisbon

Maëlle Salzinger
Carola Hein
Inês Valle
Maria Ana Silva Dias



Cover page: *À Flor do Tejo a Cor do Azulejo Oystermic Workshop by the Fahrenheit 180º collective (Jeremy Morris and Luca Carlisle), CAM-Gulbenkian Garden, Lisbon, 12th July 2025. (Source: Jeremy Morris - CAM Gulbenkian, 2025.)*

Back page: *Blue Makerspace products by the Fahrenheit 180º collective (Jeremy Morris and Luca Carlisle). (Source: Jeremy Morris, 2024-2025).*

Report prepared by Maëlle Salzinger, Carola Hein, Inês Valle and Maria Ana Silva Dias.

Graphic design by Léa Kayrouz, layout by Mich Rossiter, with the support of Gijs Schut.

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***Fig. 2**: Pilot kick-off Activity: Biomaterials workshop at the Marvila Library container, Parque Ribeirinho do Oriente on World Oceans Day, 8th June 2025. (Source: Carlos Morais da Silva - Lisbon Municipality, 2025.) CC BY-NC 4.0*

Introduction

This report discusses the impact of a pilot project implemented in Lisbon as part of the Horizon Europe project Bauhaus of the Seas Sails (2022–2025)[1]. Bauhaus of the Seas Sails (BoS) is a New European Bauhaus (NEB) project that tests solutions for more beautiful, sustainable and inclusive cities and neighborhoods in Europe, with a focus on seven coastal and waterfront cities (Hamburg, Venice, Malmö, Rotterdam, Lisbon, Oeiras, Genoa) and a nature park straddling the Dutch-Belgian border (Grenspark Groot Saeftinghe). Each pilot has tested innovative solutions ("drops") that aim to create ripple effects ("ripples") and ultimately generate long-term impact ("waves") (fig. 3).

The Lisbon pilot was led by the Lisbon Municipality, Calouste Gulbenkian Foundation and Associação do Instituto Superior Técnico para a Investigação e Desenvolvimento (IST-ID) and tested two solutions according to the Bauhaus of the Seas Sails typology: Regenerative Menus and Blue Makerspace (box 1). All pilots including Lisbon also applied the Zoöp drop ('BoS-Zoöp') as a method to adopt regenerative perspectives and guide regenerative action locally.

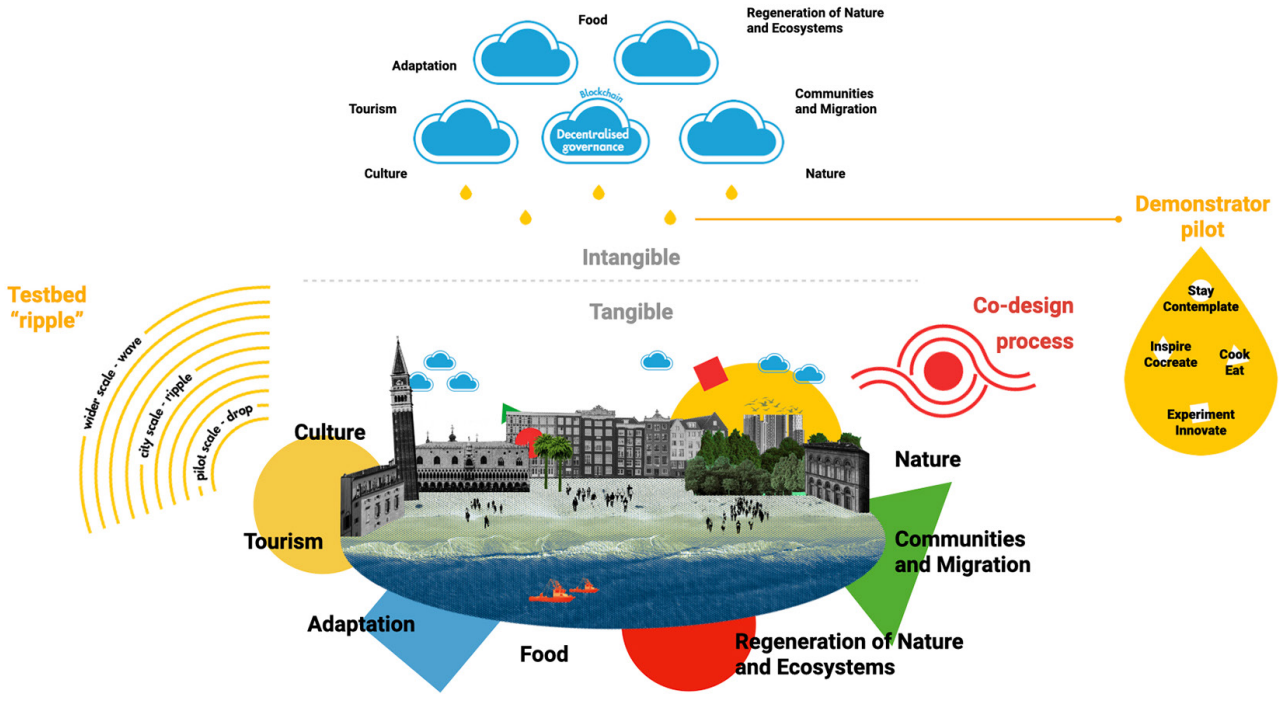


***Fig. 3**: Visualization of the Bauhaus of the Seas Sails approach. (Source: European Commission, 2024[2]; Visual identity ©José Albergaria.)*

1 See: https://bauhaus-seas.eu

2 https://cordis.europa.eu/project/id/101079995/reporting

The drop typologies Regenerative Menus, Blue Makerspace and Zoöp

The drop typologies were defined in the initial stages of the Bauhaus of the Seas Sails project. In the Description of the Action, they were described as follows:



The **Regenerative Menus drop** "argues for shifting food landscapes to follow the new seasonalities behind human-made climates. Developed from the Climavore concept (created and practised by Cooking Sections via TBA21)[3], it researches seasons of food production and consumption that react to human-induced climatic events and landscape alterations through co-design with local partners and communities. (...) Unlike carnivore, omnivore, locavore, vegetarian or vegan, Climavore is about the origin of ingredients and the agency that those ingredients have in providing spatial and infrastructural responses to human-induced climatic events for a certain period. At the core is the idea of embracing a flexible form of eating, shifting, for instance, to drought-resistant crops in a period of water scarcity or filter feeders during times of polluted or acidified waters."



The **Blue Makerspace drop** builds on the Algae Platform concept created by Atelier Luma (Atelier Luma, 2020)[4] and aims to "work with specialists to explore material applications and sustainable integration of algae, salt, shells and other sea-based resources into urban environments." Therefore, this drop planned to establish a design-research space and knowledge-sharing programme focused on water-based materials from a non-extrativistic perspective.

3 See https://www.visibleproject.org/fellowship/climavore/ and https://www.climavore.org/becoming-climavore

4 https://www.luma.org/dam/jcr:54cdb471-cf39-4c4b-85a5-1593a519986c/ALGAE_MONTHLY_%237_EN.pdf



The **Zoöp drop** ('BoS-Zoöp'), created by Het Nieuwe Instituut and practiced by other consortium members, was initially defined in the project as 'multispecies assemblies'. It was inspired by the 'zoöp' concept[5] and organizational model which supports collaboration between human and other-than human life to safeguards the interests of all life. The model appoints an independent Speaker for the Living as a human spokesperson with ecological knowledge and the ability to empathize with the experiences of other-than-human life. This Speaker for the Living ensures that the interests of other-than-human life are included, and supports organizations or projects through a learning process with the aim to become increasingly life-supporting (regenerative) within the ecosystems they participate in. All BoS pilot teams adopted key elements of the Zoöp model.

***Box 1**: The drop typologies Regenerative Menus, Blue Makerspace and Zoöp*

The drop typology was adapted to the context of Lisbon, where access to the Tagus River is inconsistent along the waterfront despite the longstanding maritime heritage of Portugal and its capital city. The development of the drops considered the unique estuary ecosystem shaped by the Mar da Palha, the waterway that connects the Tagus River to the Atlantic Ocean in Lisbon (see box 2 below for more context information).

- The **Regenerative Menus drop in Lisbon** involved artists, scientists, cooks, local associations and primary schools in the development of a food menu that is beneficial to the Tagus River ecosystem. This was done through the development of an Art and Food residency and a public programme of activities with children, citizens of the Marvila district and grassroots associations, as well as food tastings and interactive dinner presentations.

- The **Blue Makerspace drop in Lisbon** involved architects, scientists and local associations in the development of a platform lab to conduct research and explore material applications and scenarios in urban environments related to the river Tagus. Through an Art and Design residency, the drop prototyped new sea-based materials and design applications that addressed local heritage and involved children, citizens of the Marvila district and architects in participatory 'making' activities.

5 Zoöp is short for Zoöperation and refers to a 'coöperation with zoë', the Greek word for life. See https://zoop.earth/nl/

- The **Zoöp drop** introduced the Zoöp model and method which worked with three elements: the Zoöp baseline workshop; installing and working with a Speaker for the Living within the pilot; and embedding a focus on the regeneration of (human-inclusive) ecosystems. In Lisbon, this process helped reinforce the regenerative mindset and practice of the pilot, for instance by emphasising the importance of locally-sourced oysters in the Blue Makerspace drop.

The body of the report provides an in-depth assessment of the pilot's key results, lessons and impact. We focused on the Regenerative Menus and Blue Makerspace drops while integrating mentions of the Zoöp method throughout. The report is structured along three main parts. First, it analyzes the process of the Lisbon pilot from drop, to ripples, toward potential waves (long-term impact). Second, it assesses the impact of the pilot on the four BoS themes: Aesthetics, Sustainability, Inclusion, and Local grounding. The third and final section about 'Takeaways' highlights key factors (context, stakeholders, resources) that influenced the pilot's implementation and impact, and provides areas for improvement and future development.

Key facts about Lisbon

- Lisbon is the capital of Portugal and its largest city, with a population of about 550,000 within the city and nearly 2.8 million in the metropolitan area (Ribeiro et al., 2022). This **dense urban environment** presents challenges related to quality of life and resource allocation.

- Lisbon is one of the oldest cities in Western Europe, predating cities like Paris, London, and Rome. Lisbon's history as a port city dates back to Phoenician times, making it over 3,000 years old, and was further solidified under Roman rule (Filipe, 2021). Lisbon is renowned for its **maritime heritage**, which is reflected in architecture (e.g., landmarks like the Belém Tower) and cultural practices such as the traditional cuisine centred on seafood.

- There has been an intense renewal of Lisbon's waterfront areas in the past decades, reflecting a broader economic shift from port and industries to **leisure and tourism**. The municipality's urban plans have aimed to "give the river back to the city", restoring public access to the Tagus Estuary and improving environmental quality (Medeiros et al. 2021).

- At the same time, Lisbon's focus on attracting international tourism and foreign real estate investments has made the city a key destination for visitors, international students, retirees and digital nomads. This has transformed the urban fabric of the city center and has contributed to a severe **housing crisis** for the local population, whose average salaries remained low despite rising costs of living (Cocola-Gant & Gago 2019).

- Lisbon is particularly vulnerable to **droughts and flooding**, which are becoming more frequent and intense as a result of climate change. Increases in heavy rainfall, storm surges and rising sea levels compound these risks. In 2022, for instance, the city was impacted by a months-long drought followed by destructive floods in December (Saldanha Matos & Ferreira 2024). Updating the city's drainage and flood management systems have been a particular area of concern for policymakers and urban planners (Matos Silva & Costa, 2017).

- Lisbon's ecosystems are shaped by its Mediterranean climate and the Tagus Estuary, **one of the largest estuarine wetlands in Europe** and a critical stopover for migratory birds on the Iberian Peninsula (Catry et al., 2022). The Tagus Estuary provides habitat to diverse species of birds, fish, molluscs and crustaceans. The estuarine environment has been heavily impacted by industrial and urban wastewater pollution during the 20th century and is now partly protected by a nature reserve, although the fragmented governance of the wider Lisbon metropolitan area remains a major challenge (Gonçalves & al. 2026).



Fig. 4. 25 De Abril Bridge. 27th August 2017. (Source: Mike via Wikipedia Commons, 2017.) CC BY 3.0 <https://creativecommons.org/licenses/by/3.0>.

***Box 2**: Context of Lisbon*

Methodology

The impact assessment of all Bauhaus of the Seas Sails pilots was conducted by a team at Delft University of Technology as part of the project consortium. We developed a unique analytical framework to assess the impact of the project. This impact framework helped translate high-level EU ambitions, rooted in the New European Bauhaus (NEB) Compass (2022) and its core values of aesthetics, sustainability and inclusion, into locally aligned impact tools and indicators (in line with the project-wide Bauhaus of the Seas Sails approach; fig. 4). It provided a strategy and mixed-methods approach to guide evaluation, learning and comparative analysis within the project.

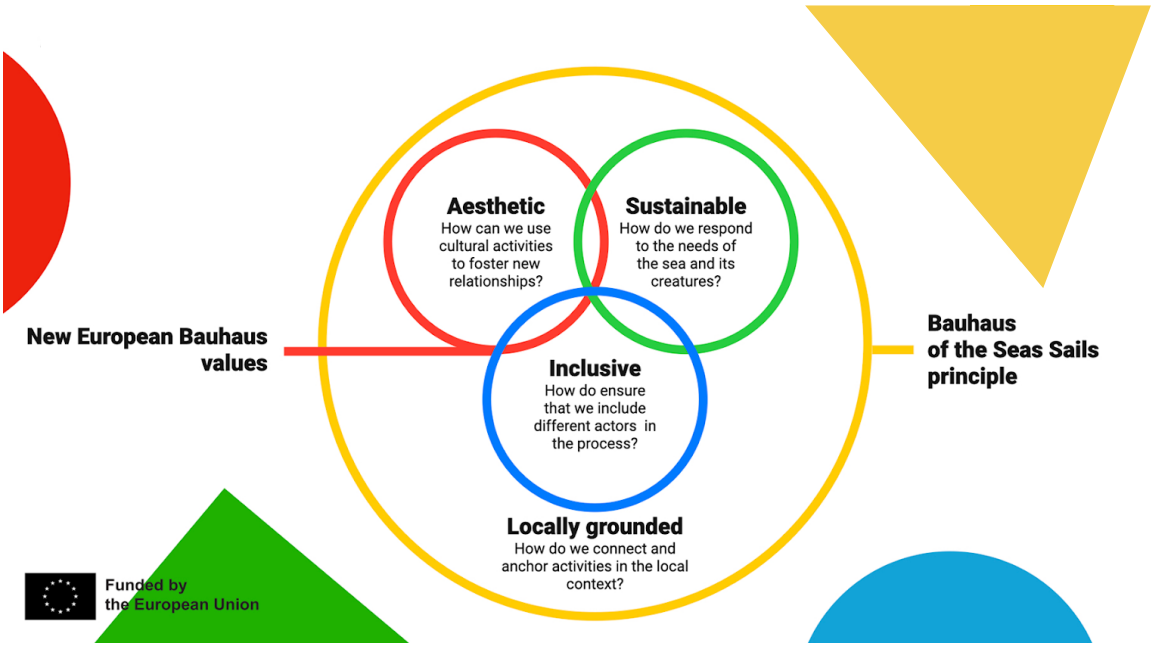


***Fig. 4**: Visualization of the Bauhaus of the Seas Sails approach to NEB principles. (European Commission, 2024; Visual identity ©José Albergaria.)*

The strategy and methodology considered current knowledge about Impact Assessment and Monitoring, Evaluation and Learning (MEL), and the challenges in putting them to practice. The figure overleaf (fig. 5) shows the five key elements that shape our approach and the related concept, approaches and tools (in blue) as well as current challenges (in red) the team has reflected on and sought to address. The authors and references for the concepts, knowledge and tools mentioned in figure 5 are listed in the annex.

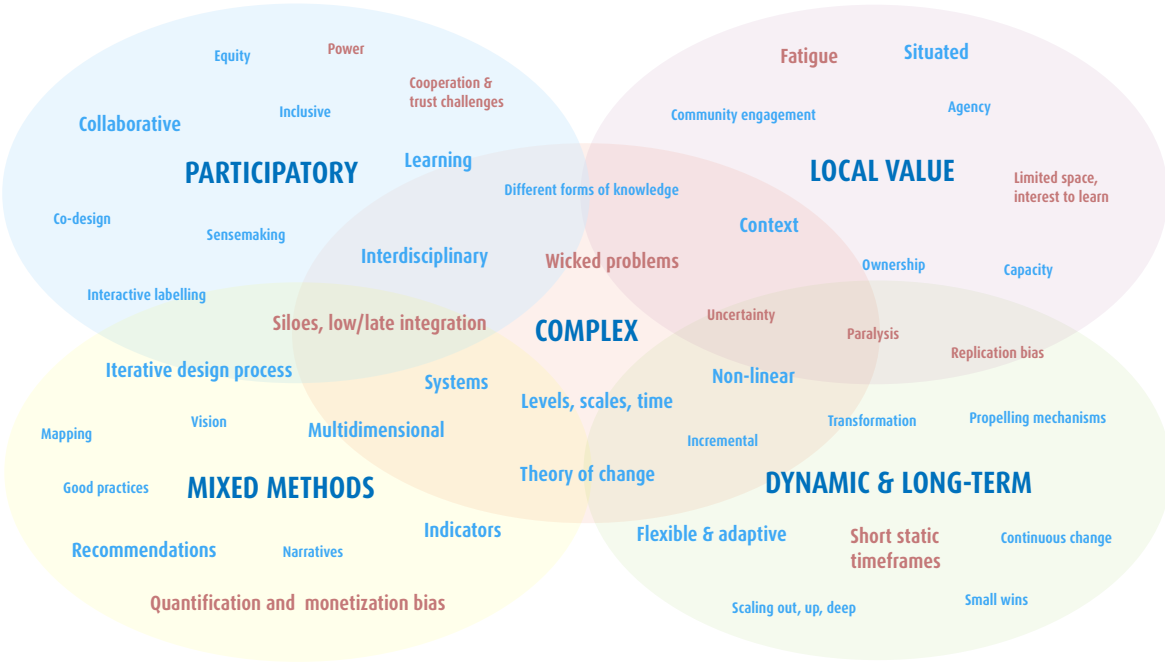


***Fig. 5**: Overview of core considerations underpinning the Bauhaus of the Seas Sails Impact Framework, CC-BY-4.0*

Complex

The team developed an impact framework that accounted for complex, cross-sector, interconnected challenges impacting coastal and waterfront cities (e.g., climate change, biodiversity loss, socioeconomic inequality, threats to cultural heritage). The impact framework included various dimensions, levels, scales and timescales of impact in its selection of indicators and in its data collection strategy. The team developed a **Library of Indicators**, which provides a common structure to make sense of complexity and compare the different pilots and drops.

Mixed methods

Our approach to impact assessment used **different methods and tools** (context analysis, Theory of Change, indicators) to capture the range of impacts generated by pilots and drops and their evolution over time. These methods enabled data collection and fostered dialogue, reflection, and a deep exploration of impact through different lenses (thematic, process-oriented, long-term thinking). Methods were refined over time based on partners' feedback and learning from other WPs.

Participatory

Our approach prioritized collaboration in the impact framework development, context analysis, data collection and comparative analysis. The team developed **participatory sessions with pilot teams and local partners** (online and in-person) that informed the development of context-sensitive impact tools and enabled collective learning and sensemaking.

Local value

Our approach sought to generate value for pilot teams and local actors involved in the impact assessment process. The team organized **learning and cross-exchange** moments for pilots, identified good practices and made recommendations for the projects' future development.

Dynamic and long term

Our approach was rooted in the understanding that impact is a non-linear, long-term process toward transformation. The team organized **Theory of Change sessions** with pilot teams to reflect on their impact pathways and scaling strategies to turn drops into ripples and waves. Considering the need for adaptive and context-sensitive approaches, the Library of Indicators provided a structured catalogue that pilot teams could use in a flexible and dynamic way to assess their impact over time.

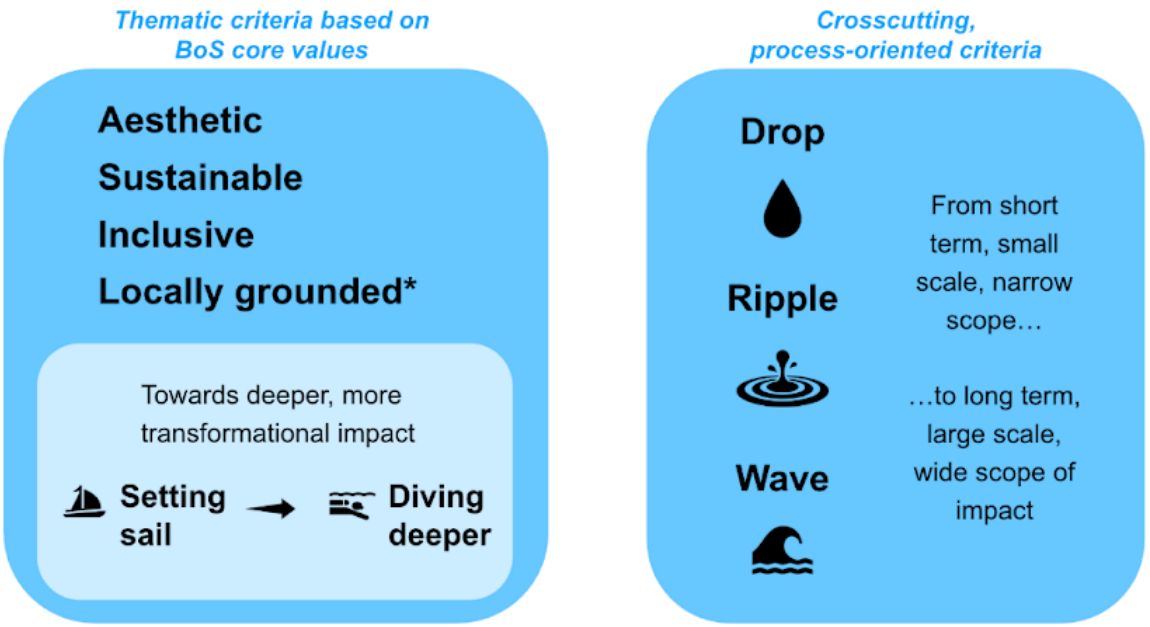


***Fig. 6**: Snapshot of the Library of Indicators' structure*[6], CC-BY-4.0

Additionally, our work considered and connected with other concepts used in the project such as the **'Ocean Ambassadors' and 'Sea Forums'** as actors who took part in co-designing, implementing and evaluating the work of the pilots (Seravalli, Light & Emilson 2022; Zumbrink et al. 2024). We considered the perspectives of these actors to be essential to assess the impact of the pilots.

- Ocean Ambassadors focused mainly on building bottom-up engagement for the ocean among citizens and grassroots actors, which helped disseminate the work of pilot teams.

- Sea Forums provided a collaborative platform for planning, evaluating and sustaining activities by building institutional commitment and mobilizing resources and knowledge across disciplines and organizations.

The following impact analysis follows the structure of the Library of Indicators (fig. 6) and focuses on criteria and indicators that were co-selected by the impact assessment team and the Lisbon pilot team. The analysis uses data collected by the pilot team and BoS work packages, which organized participatory sessions with pilots (detailed in the annex) and shared research results in project reports and academic publications. We collected and triangulated useful information during the sessions on **context analysis, theory of change** (fig. 7), **deep-dives** into aesthetics, sustainability, inclusion and local grounding; as well as an **Impact Evaluation** held at

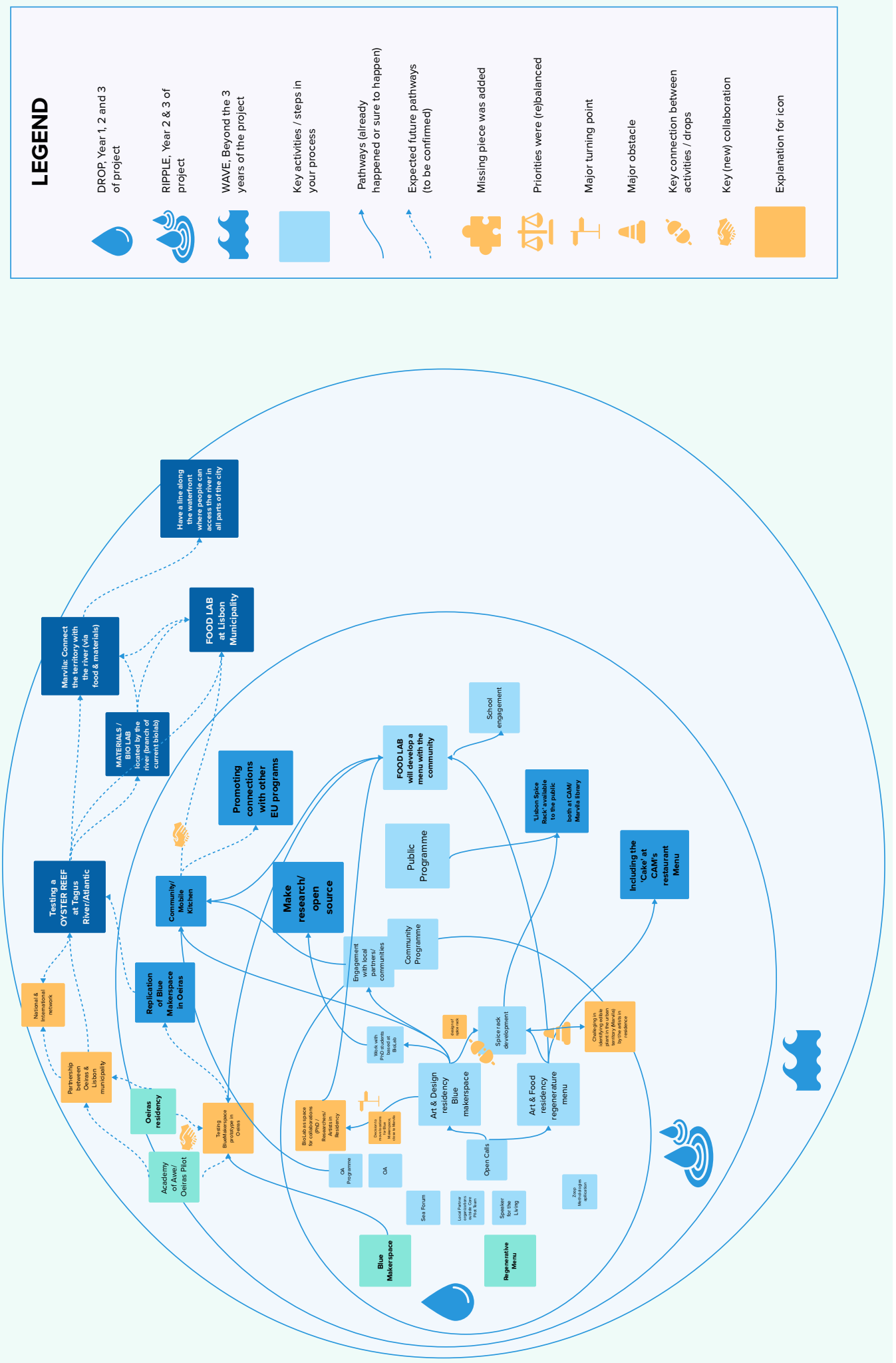
6 Local grounding, or "locally grounded" was added as a fourth core value by the BoS project. It is a crosscutting value, meaning that it applies across the three themes of Aesthetics, Sustainability and Inclusion.

Calouste Gulbenkian Foundation on 28 July 2025 during which some 14 participants from the Lisbon pilot (project partners, artists/residency teams, Ocean ambassadors, Speakers for the Living) shared valuable insights.

The impact analysis also discusses the potential of the Lisbon pilot to generate long-term impact in the section "Towards waves? Hypotheses". Considering the three-year duration of the BoS project, we focused on pilots' ability to develop **'seeds' for long-term impact** (waves). We understand seeds as elements that constitute a strong foundation for waves to unfold. Bennett et al. 2016 defined "seeds of a good Anthropocene" as ways of doing and thinking that are materialized in initiatives or prototypes, are not currently dominant or prominent, and that begin to have transformative impacts as they spread. We were also guided by the concept of **'small wins'** that captures how relatively small changes, in the sense that they initially arise at the micro– or local level, can generate "deep" effects that alter routines, values, frames and logics (Argyris and Schon 1996, in Termeer and Dewulf 2019). Termeer and Dewulf (2019) stress the importance of using dedicated propelling mechanisms to ensure that small wins (or seeds) turn into transformative change (or waves). Our analytical framework and methodology for impact assessment are further detailed in upcoming publications.

***Fig. 7** (opposite page): Theory of Change of the Lisbon pilot, as of 3 April 2025[7], CC-BY-4.0*

7 This infographic was co-developed with the pilot team, using Mural. The information was collected on 12/03/2025. The pilot activities and long-term plans have evolved since. This figure should be seen as a step in the reflection and evaluation process, rather than a definite Theory of Change of the Genoa pilot.


LEGEND
DROP, Year 1, 2 and 3 of project
RIPPLE, Year 2 & 3 of project
WAVE, Beyond the 3 years of the project
Key activities / steps in your process
Pathways (already happened or sure to happen)
Expected future pathways (to be confirmed)
Missing piece was added
Priorities were (re)balanced
Major turning point
Major obstacle
Key connection between activities / drops
Key (new) collaboration
Explanation for icon
Have a line along the waterfront where people can access the river in all parts of the city
Marvila: Connect the territory with the river (via food & materials)
FOOD LAB at Lisbon Municipality
MATERIALS / BIO LAB located by the river (branch of current biolab)
Promoting connections with other EU programs
Testing a OYSTER REEF at Tagus River/Atlantic
Community/ Mobile Kitchen
Make research/ open source
FOOD LAB will develop a menu with the community
School engagement
Public Programme
'Lisbon Spice Rack' available to the public both at CAM/ Marvila library
Including the 'Cake' at CAM's restaurant Menu
Community Programme
Engagement with local partners/ communities
Replication of Blue Makerspace in Oeiras
National & International network
Partnership between Oeiras & Lisbon municipality
Oeiras residency
Academy of Aveiro/ Oeiras Pilot
Testing BlueMakerspace prototype in Oeiras
Spice rack development
Art & Design residency Blue makerspace
Art & Food residency regenerature menu
Open Calls
Blue Makerspace
Regenerative Menu

Part 1

Process toward impact: drop, ripple, wave

This section discusses the process towards impact of the Lisbon pilot and its two drops. It summarizes the **key outcomes** of the drops, assesses their **ripple effects** and formulates **hypotheses about their long-term impact** based on available evidence. The impact categories (Drop, Ripple, Wave), criteria and indicators used for this analysis come from the Bauhaus of the Seas Sails Library of Indicators. The text below is a summary of the more detailed analysis that was conducted per criterion and indicator by the impact assessment team in collaboration with the Lisbon pilot team.



Fig. 8: Blue Makerspace by the Fahrenheit 180º collective (Jeremy Morris and Luca Carlisle). (Source: Jeremy Morris, 2024-2025.)

1.1 Drops

The criteria we analyzed focused on the extent to which the pilot:
- **engaged and connected relevant local actors;**
- **imagined, developed and tested solutions.**

For each criteria, we used detailed indicators to guide the analysis.

Key insights from developing & testing the drops:

Regenerative Menus

The drop experimented with **new food practices** that foster a reconnection with the natural ecosystem of the Tagus estuary and engage communities in educational activities. They developed a method that included an Art and Food Residency (in collaboration with an Art and Design Residency), educational activities with schools in a disadvantaged neighbourhood of Lisbon (Marvila district), co-design sessions with local associations (Guarda Rios, Food from the Block), and a public programme in Marvila and at CAM Centro de Arte Moderna Gulbenkian.

The Art and Food Residency 'Eating between Tides' took place from September to mid-December 2024 and was led by international artist Rain Wu in collaboration with Inês Neto dos Santos and Mariana Sanchez Salvador.[8] The residency team conducted **foraging and research around wild plants in Salinas do Samouco**, a biodiverse salt marsh ecosystem near Lisbon's water bodies, with the support of biologist Marcia Pinto. They studied halophyte species that are salt-resistant, flavourful and nutritious (e.g., Mediterranean Saltbush, Salicornia) and incorporated them into tasting and educational experiences for the public.

The residency team conducted research, site visits, meetings with community members and learning activities with schoolchildren of the EB Luiza Neto Jorge school. They also took part in workshops and presentation opportunities linked to the project which **amplified the international visibility of their work**. For instance, their presentation 'Taking the Sorbet on a Walk' during the Bauhaus of the Seas Sails quarterly meeting (September 2024) invited the project consortium members to taste local foraged plants (eucalyptus leaves, wild fennel, samphire, fig leaf) and discuss seasonability, unused flavours, and the impact of eucalyptus monoculture in Portugal which exacerbates the risk of wildfires.

The CAM Gulbenkian Chefs, such as André Magalhães, supported the project artistically, conceptually and logistically by sharing culinary expertise and access to a well-equipped kitchen. The residency team reported that they helped to enhance the project's creative vision and to translate ideas into dishes.

8 https://gulbenkian.pt/cam/en/projects/bauhaus-of-the-seas-sails/art-food-residency-eating-between-tides/

On 14-15 September 2024, the residency team conducted two workshops at the Bela Vista park and Luisa Neto Jorge School with 20 participants including children and their teachers. During the walk in the park, children learned to identify and document local plants. The following day, they took part in a bread making workshop ("Pão Selvagem" or Wild Bread) that **sensitized children to the connection between food and natural ecosystems**. This introduced the children to new ideas and ways of thinking that are not part of the school's curriculum, through a hands-on experience. It was also a learning opportunity for the artists in residency, about how to make ideas accessible for diverse audiences such as children from disadvantaged neighborhoods.

They developed the concept of the **'Lisbon Spice Rack'** as a way to present underutilized local plants and flavours to the public for tasting and for starting conversations about ecology and climate resilient food futures. The Lisbon Spice Rack concept was seen as a way to ensure the legacy of the residency by preserving local foods (dried and fermented plants) and making them available beyond the end of the project through a public installation at the CAM Restaurant and Marvila Library (see Ripple). It was developed as a collaborative piece with the Art and Design Residency and first introduced to the Marvila community at the residency dinner of 28 November 2024, held at Marvila Library and attended by 50 people.

The residency period ended with a dinner presentation at the CAM-Gulbenkian restaurant in December 2024 to share the research, learnings and outputs with an audience of 40 people. This served as a way to gather feedback and prepare for the final public presentation in summer 2025 (see Ripple).



Fig. 9: *Lisbon Spice Rack Cards Workshop at the Luisa Neto Jorge School, Lisbon, September 2025 (Source: Sara Pinheiro, 2025.)*

Blue Makerspace

The drop supported experimentation with biomaterials coming from local river ecosystems (Tagus estuary) and the development of **circular design approaches that enhance the ecological and cultural value of biomaterials**. The Art and Design residency 'Radical Waters-Concrete Matters' was awarded to the project 'À flor do azulejo, a cor do Tejo' led by the Fahrenheit 180º collective (Jeremy Morris and Luca Carlisle).[9]

- The residency studied materials from the Mar da Palha bioregion and experimented with production techniques (e.g., pressing, natural binders) to develop a prototype inspired by traditional Portuguese tiles (Azulejos) that can be used in public space in the future. They experimented with turning oyster shells, that are often discarded as waste, into biomaterials.



Fig. 10: *Blue Makerspace products* by the Fahrenheit 180º collective (Jeremy Morris and Luca Carlisle). *(Source: Jeremy Morris, 2024-2025).*

9 https://gulbenkian.pt/cam/en/projects/bauhaus-of-the-seas-sails/art-design-residency-radical-waters-concrete-matters/

- This process enabled the residency team to shed light on the ecological value that oysters bring to local ecosystems by cleaning the water and storing carbon. The residency also highlighted the cultural significance of oysters (which used to thrive in the region before industrial water pollution) and of Azulejos to show how circular and nature-based design approaches can reinforce cultural heritage and identity.

- The first phase of the residency, from September to December 2024, focused on testing materials (e.g. use of seaweed as a natural binder), production techniques and real-world applications in collaboration with BioLab Lisbon which provided essential space and equipment.

- The residency team also developed key partnerships, including with suppliers of oyster shells (first restaurants, then oyster farms); TBA21; PhD students Fernanda da Costa and Mariana Simões (development of the modular kitchen); the Oeiras pilot residency "A Call to the Sea" (with sound artist Francisca Rocha Goncalves who developed the soundscape for their installation at CAM-Gulbenkian); and with the Art and Food residency by engaging with the artists and local organizations (Marvila Library) to co-develop the Lisbon Spice Rack (see Ripple).

- Further, the residency team organized a participatory tile-making workshop at BioLab (in collaboration with Fernanda da Costa and Mariana Simões) with 10 architects and 5 members of the BioLab community. This sensitized participants to the potential of oyster shells as versatile biomaterials while allowing them to create and bring home their own objects.

The material documentation and tiles prototype developed in the first phase of the Residency were further expanded and disseminated to the public during 2025 (see Ripple).

1.2 Ripples

The criteria we analyzed considered whether:
- **relevant actors took part;**
- **the pilot monitored and replicated solutions to aid learning.**

Main ripples generated by the pilot:

In 2025, the pilot team set the priority to **increase community engagement in Marvila**, in order to strengthen the connection with local needs and structures, reinforce partnerships with grassroots actors (such as Ocean Ambassadors), and make the work conducted in the residencies more accessible to the public. The pilot organized an extensive public programme with physical installations, participatory workshops, food tastings and activities for children that disseminated the work and raised awareness of the Tagus ecosystem, reaching groups of different ages and socio-economic backgrounds.

As part of the public programme, CAM Gulbenkian promoted **interdisciplinary dialogue** between the projects on food, design, and sound as part of the Lisbon and Oeiras pilots, through its 'Points of Encounters' programme of 26 July 2025. This featured a bio-based installation from the residency 'À flor do Azulejo, a cor do Tejo', a tasting of delicacies from the biomaterials used in the installation (oysters, mussels, and seaweed), and a regenerative menu ("Boca do Estuário") inspired by the Tagus estuary and developed by chef and biologist Joana Duarte, Ocean Ambassador of the Lisbon pilot.

The work developed by Ocean Ambassador Joana Duarte for the event "Diatoms: Photonic Marvels of the Ocean," held at CAM Gulbenkian on Earth Day (26 April 2025), was developed as part of a collaboration with the artists-in-residence of "A Call to the Sea," within the Oeiras Pilot. For the occasion, Joana Duarte created a series of unique cocktail and mocktail recipes featuring macroalgae sourced from the Portuguese coast, bringing marine biodiversity and ocean literacy into a sensory and culinary experience. One of Joana Duarte's creations, the Estuary Seaweed Mousse, has been **incorporated in the menu of CAM Gulbenkian's restaurant** along with the 'Halofitas Cake' created by the Art and Food residency.

The pilot team refined its long-term plan of creating **local laboratories** (a Sediment lab and a Food lab) for interdisciplinary experimentation and community engagement, as well as a River School as a meeting point to directly interact with the river. The work conducted in the residencies, the consolidated partnerships with local initiatives (BioLab, Food from the Block, Marvila Library) and the public programme established the foundations for the labs. The municipality intends to co-finance the labs after the end of Bauhaus of the Seas Sails funding, and has submitted a grant application under the New European Bauhaus for this purpose.

A step was made to **bring the emerging labs together** on World Rivers Day at the Marvila Library container by the Tagus River (28 September 2025). The event featured a presentation of the bio-based mobile kitchen developed by Fahrenheit 180º with BioLab during the Art and Design residency. The Guarda Rios collective facilitated the interactive educational installation 'Mesa Rio' (River Table) that shared information about the history of Iberian rivers and their changing ecology due to human interventions, based on the comic book 'Bestiário dos Rios' (Bestiary of Rivers) by Filipe Felizardo. Citizens and schoolchildren were invited to create a river with sand and water from the Tagus.

Regenerative Menus

The Art and Food residency collaborated with the Art and Design residency to co-design and produce the **Lisbon Spice Rack**, which displays foraged ingredients turned into spices and ferments and bio-based structures such as bowls made from oyster shells and algae-based material developed by PhD student Fernanda Costa. The artists highlighted the value of this shared experience that allowed them to combine their strengths and ideas, which "expanded the creative scope of the project and created lasting connections for future projects" as reported by them.

The Lisbon Spice Rack aims to encourage audiences to explore new tastes, but the artists are interested in taking this further in the future by developing an audio element that would tell stories about the displayed spices, foraging practices, and the biomaterials in the structure. The Art and Food residency project concluded on 8 June 2025 with a dinner at Casa Jardim da Estrela in Lisbon, which provided a convivial setting to show how seasonal wild plants can be used as spices, flavourings, and accompaniments for traditional local dishes.[10]

Alongside this, in 2025 the pilot team **expanded its collaboration on food in Marvila** with local actors such as Marvila Library, Ocean Ambassadors Food from the Block and chef-biologist Joana Duarte (as mentioned above), and planned to increase activities with schoolchildren from September 2025 (the start of the new school year) onwards. The long-term plans to embed a Food lab in Marvila district aims to develop a community kitchen with regenerative elements.

10 https://bauhaus-seas.eu/creative-currents-in-lisbon-and-oeiras-residencies-finale/



***Fig. 11**: Regenerative Menu "Boca do Estuário" created by Joana Duarte, Ponto de Encontros, CAM-Gulbenkian, Lisbon (Source: Joanna Correia - CAM Gulbenkian, 2025.)*

Blue Makerspace

During 2025, the Art & Design Residency "Radical Waters–Concrete Matters"was extended for a second phase (January–July 2025). During this period, the artists-in-residence further refined the biomaterial protocols and production processes through an iterative prototyping approach and facilitated participatory tile-making workshops that contributed to the development of a **Mobile Kitchen prototype**. In collaboration with the artists-in-residence from the Regenerative Menus residency, they also co-developed a display structure for the **"Lisbon Spice Rack"**. The residency outcomes were further shared and disseminated through a diverse public programme of activities.

- FABlab and BioLab continued to provide space, equipment and advice for the work (as it dedicated part of its venue to the river and ocean), building the foundation for BioLab to become a key partner in the emerging Sediment lab in Marvila.

- The Lisbon City Hall, the Calouste Gulbenkian Foundation and ITI continued to support the artists-in-residence through regular meetings with experts in art, architecture, and biomaterials. Paula Corte-Real (Calouste Gulbenkian Foundation) and Hilda (Lisbon City Hall), also involved as speakers in the Living Lab, provided ongoing support, guidance, and feedback on the artists' projects.

- The Mobile Kitchen, made from oyster shells and seaweed, was co-developed with Food from the Block and aimed to provide functional and adaptable kitchen modules that enable communal cooking and spark conversations about sustainability and resilience among residents of Marvila.

Notable moments of the residency's second phase included the participatory workshops held at BioLab and Marvila Library in May 2025, which engaged participants in the production of tiles that were subsequently incorporated into the final public presentation of the residency project. Another workshop, "Oystermics," was held in the garden of the Calouste Gulbenkian Foundation on 12 July 2025. The workshop invited participants to create small sculptures inspired by forms found in oyster ecosystems, which they could take home with them. This introduced participants to ocean-based biomaterials and encouraged to reflect on the Tagus environment. Collectively, these workshops created opportunities for **sharing knowledge and narratives around water, community, and resilience**.

The work developed by the Fahrenheit 180º collective during their residency gained **increased reach and international visibility** through the BoS public programme. Key moments included a presentation and talk at Disseny Hub Barcelona in February 2025, as well as their participation in the talk “Liquid Futures: Art, Design, Nature” at CAM as part of the public programme “Meeting Points: Art, Science and Ecology”on 26 July 2025. Their work was also presented in the exhibition “From the Tagus to the Tile”, held in the CAM South Garden from 12–29 July 2025. The exhibition was accompanied by a public programme featuring workshops, gastronomy, and talks, further creating opportunities for public engagement with the residency’s research and outcomes.

From this increased visibility, the artist-in-residency were invited by The Hope Zone Foundation to give a **workshop for approximately 150 children** at Porto da Nazaré on 16 June 2025. During the workshop, the children used small moulds to create fish and starfish from oyster shells, exploring the potential of discarded marine biomaterials through a hands-on creative activity.

According to feedback from the artists and the Lisbon pilot team, the workshops fostered **curiosity and increased participants’ awareness** of the potential of biomaterials in art, design, and architecture, as well as the ecological and cultural significance of oysters in the region. They also encouraged participants to rethink the concept of “waste” and its potential role in supporting circular economies, community resilience, and cultural heritage. The artists and pilot team highlighted that the accessible, hands-on nature of the activities fostered a sense of agency and strengthened participants’ awareness of environmental stewardship

Following the conclusion of the art & design residency, Jeremy Morris of the Fahrenheit 180º collective plans to continue collaborating with BioLab, while the Lisbon pilot team is interested in exploring additional biomaterials with the Marvila community as part of the **emerging Sediment Lab**. These potential collaborations build on the knowledge, relationships, and community engagement developed throughout the residency and open up opportunities for further research and experimentation.



***Fig. 12**: Mobile Kitchen Installation "À Flor do Azulejo, a Cor do Tejo" by Fahrenheit 180º (Jeremy Morris and Luca Carlisle), CAM-Gulbenkian gardens. July 2025. (Source: Jeremy Morris - CAM Gulbenkian, 2025).*

1.3 Toward waves? Hypotheses

The criteria we analyzed considered whether:
- **relevant actors took over and sustained efforts;**
- **solutions were disseminated widely.**

Hypotheses about potential waves from the pilot in the coming years

The long-term vision of the Lisbon pilot team is to strengthen the relationship between Lisbon's inhabitants and the Tagus River through environmental education, material experimentation, and sustainable gastronomy, while engaging local communities and promoting cultural heritage. The pilot has focused on the Marvila neighborhood as a testing ground for developing and embedding these approaches at the local level, with the ambition to extend them to other areas in the future.

To support these goals, the pilot team envisions the development of **three interconnected laboratories focused on the river and ocean**: (1) A River School to engage local communities in educational activities and learning experiences by the river; (2) A Sediment Lab to explore materials and material experimentation; and (3) A Food Lab to investigate food and sustainable gastronomy. Together, these structures will provide spaces for communities to co-create new knowledge, tools, and practices. The pilot has established the foundations for the development and future materialisation of these three structures.

Regenerative Menus

- The drop has **reinforced relationships with key local actors** that can engage inhabitants of Marvila in initiatives about communal eating, food literacy, sustainability and cultural heritage. Namely, the Marvila Library, Guarda-Rios and Food from the Block have confirmed their commitment to be part of the emerging Food lab as reported by the pilot team. Collaboration with local schools, researchers and the BioLab has also been developed during the pilot, and the team plans to build relationships with restaurants and food producers in the future.

- The outputs of both residencies of the Lisbon Pilot, including the "Lisbon Spice Rack" and the Mobile Community Kitchen prototype "À Flor do Azulejo, a Cor do Tejo," highlight the potential of local foraged plants and biomaterials sourced from the waterscape. These outcomes can serve as tools for raising awareness, stimulating conversations, and inspiring future multidisciplinary and collaborative projects within the Food Lab.



Fig. 13: *Table of Curiosities, Lisbon, Making Waves - Bauhaus of the Seas Sails Final Conference, Venice,15th November 2025. (Source: Ginevra Formentini, 2025.)*

- For instance, foraging trips to local parks and marshland areas, as experimented with during the Art & Food residency “Eating Between Tides”, could become part of the future curriculum of the River School, connecting environmental education with hands-on exploration of local ecosystems and resources.

- **The River School** concept, envisioned as a meeting point connecting the local community with the three laboratories, was publicly launched on World Rivers Day, 28 September 2025, at the Marvila Library container by the Tagus River. The launch brought together Guarda-Rios, BioLab, and local schoolchildren, marking an important step towards establishing the River School as a platform for community-based learning and exchange.

- As reported by the pilot team, the municipality has committed to continuing the River School in 2026. While no dedicated budget line has been created, the municipality has ensured its continuity by **integrating the River School into existing structures, resources, and work streams**, allowing the programme to remain active. The same applies to the BioLab activities associated with the Blue Makerspace.



Fig. 14: *Blue Makerspace tile production workshop, 23rd May 2025. (Source: Jeremy Morris, 2025.)*



Fig. 15: *Marvilla Food Hub, 9th November 2025. (Source: Hugo Santos, 2025).*

Blue Makerspace

- The drop has proven the potential of maker spaces and interdisciplinary collaborations to develop **innovative materials and techniques** that support circular economies and cultural heritage. It has reinforced its collaboration with BioLab Lisbon, which has dedicated part of its venue to the rivers and oceans and can continue to host research and residency projects in the future.

- The **participatory making workshops** offer potential for the future curriculum of the River school, which could engage citizens and children in riverside activities that reuse water and other natural materials to create art, products or structures. The connections with Marvila Library, Guarda-Rios and local schools can also support the future Sediment lab. This lab could expand on the work of the Art and Design residency, which initiated a **catalogue of local biomaterials for circular use** through its study of oyster shells and seaweed.

The long-term plan of the pilot is ambitious and will require the collaboration of multiple partners to materialize. Going forward, the pilot team could **refine the expected format of the three emerging structures**, their scope and the relationships between them.

They could also clarify what roles creatives can play in the future labs and river school, and what actors could fulfill these roles. The community orientation of the long-term plan is a strength, and can be combined with a strong role for artists (within interdisciplinary collaborations) based on their ability to challenge conventional methods, experiment, foster imagination, and shape alternative narratives and practices. Such artistic perspectives could be embedded in the future labs as part of the legacy of the pilot and the wider Bauhaus of the Seas Sails project.

Additionally, considering the focus of the plan on the Marvila district in the coming years, the future structures could pay more **explicit attention to inequalities and their implications for the project**, for instance with regards to accessibility, relevance for residents, and transformative potential. In terms of resources, the municipality's intentions to co-finance the plan are promising and can be complemented by other funding sources, ideally a mix of public and private funding, in line with pilot plans.



Fig. 16: *"Halofitas Cake", Lisbon Spice Rack project (artists Rain Wu, Inês Neto dos Santos, Mariana Sanchez Salvador), NEB Cluster Meeting at the Marvila Library, Lisbon, November 2024. (Source: Sara Pinheiro, 2024).*

Part 2

The Impact on the Four Themes of Bauhaus of the Seas Sails

This section discusses the impact of the Lisbon pilot and its two drops on four key dimensions: Aesthetics, Sustainability, Inclusion and Locally Grounded. These dimensions are based on the New European Bauhaus and were recognized by Bauhaus of the Seas Sails consortium partners as the **core values** driving the project's design, implementation and evaluation (Zumbrink, Seravalli, Emilsson and Light, 2024). As for the previous section, the impact categories, criteria and indicators used for this analysis come from the Bauhaus of the Seas Sails Library of Indicators. The text below is a summary of the more detailed analysis that was conducted per criterion and indicator by the Impact Assessment team in collaboration with the Lisbon pilot team.



***Fig. 17**: Final dinner presentation, "Lisbon Spice Rack" project – "Eating Between Tides" by artists-in-residency Rain Wu, Inês Neto dos Santos, and Mariana Salvador at 'CAM's Table' restaurant in Lisbon, 3rd December 2024. (Source: Sara Pinheiro, 2024.)*

2.1 Aesthetics

The criteria we analyzed considered whether the pilot had:
- **sparked pleasure, wonder or connection;**
- **enabled sensitization and learning.**

For each criteria, we used detailed indicators to guide the analysis.

Key achievements of the pilot

The pilot supported interdisciplinary research and artistic processes that generated **new knowledge, methods, and outputs**, such as the food project "Lisbon Spice Rack", and bio-based tiles used to make a prototype of a Community Mobile Kitchen ("À Flor do Azulejo, a Cor do Tejo"). Through an Art and Food residency and an Art and Design residency, facilitated by the Calouste Gulbenkian Foundation, multidisciplinary teams received financial support to experiment with new materials and practices and to develop public activities and outputs in 2024 and 2025.

Residency teams highlighted the importance of **experimentation and imagination** in the development of their project, as a way to critically reflect on and challenge conventional ways of engaging with the river, ocean and natural ecosystems in Lisbon (through science, data, policy). They also stressed the value of collaborative processes between two residencies, which blended their respective ideas and skills (e.g., Lisbon Spice Rack).

The two drops and their residencies developed projects that both **revived and reinvented local heritage and traditions** through creative approaches to address ecological challenges. This was inspiring and exciting for artists and audiences but also for pilot partners who participated in the four co-design sessions held at the beginning of the project and expressed their eagerness (Pedroso-Roussado et al. 2024).

The Art and Food residency "Eating between Tides" focused on Lisbon's food culture and demonstrated how foraging local plants (a longstanding practice) could bring new flavours to traditional dishes. The Art & Design residency "Radical Waters–Concrete Matters" explored how traditional architectural elements, particularly the Portuguese Tiles, could be reinterpreted using renewable bio-based materials such as oyster shells and seaweed. The residency demonstrated the material potential of oyster shells but also drew attention to the cultural and ecological significance of oysters, which historically thrived in the waters of the Tagus.

Together, the learning experiences, techniques, and artistic outputs developed through the two residencies sought to communicate **new narratives and values** around local resources, heritage, and ecological practices. They highlighted how sustainable approaches can contribute to environmental awareness but also to meaning, identity, and a sense of belonging.



Fig. 18: *Blue Makerspace products* by the Fahrenheit 180º collective (Jeremy Morris and Luca Carlisle). *(Source: Jeremy Morris, 2025-2025).*

These new narratives also highlight ideas and beings that are usually 'invisible', misunderstood or underrepresented, such as marine species and non-human experiences. For example, the Lisbon Spice Rack co-developed by the two residency teams used flowing forms that mimic how seaweed moves under water. Moreover, as noted by one residency team, "Artistic practices brought the **value of ephemerality** and experimentation, accepting that not every prototype must be permanent or "perfect," but that impermanence itself can communicate ecological values."

Further, the residency projects and public programme shifted perceptions by making concepts like circular economy and regenerative gastronomy more accessible and tangible for citizens, through sensory and participatory experiences of tasting, smelling, touching and making. This gave participants in these activities new embodied knowledge about sustainability and its daily life implications on food, objects and buildings. It also **expanded participants' awareness of what is possible and what they can do**, by showing how accessible practices (foraging, making) using local materials can have a positive impact on the community and the environment.

The participation in the pilot also provided **increased local and international visibility to the residency teams and their work**. It created new opportunities for them to showcase their work in Lisbon, Barcelona, Brussels, etc., and to grow their network with practitioners from different disciplines (artists, designers, scientists, cultural actors) across Europe. For example, the work of Fahrenheit 180º was featured in influential art and design magazines, including Dezeen and Parq.[11]

11 https://www.dezeen.com/2025/07/22/fahrenheit-180-oyster-shell-tiles-gulbenkian-art-museum/
https://parqmag.com/wp/ponto-de-encontros-arte-design-e-natureza-no-cam/

Regenerative Menus

Within the Regenerative Menu drop, the artists undertaking the Art & Food residency "Eating Between Tides" organised a series of food-based events in the form of shared meals, through which they presented their research, findings, and recipes to the public. Across these events, the artists paid particular attention to the visual elements of the **"tablescape"**, conceived as a table-landscape through which stories, ideas, and new meanings could be conveyed to guests. The shared meals created opportunities for participants to engage with the research through **convivial and sensory experiences**, while also encouraging reflection and conversation around food, local ecosystems, and sustainable practices.

The chefs at CAM Gulbenkian's restaurant provided both logistical and creative support, including access to kitchen facilities and equipment, as well as their culinary expertise and openness to rethinking traditional recipes.



***Fig. 19**: "Lisbon Spice Rack" project final presentation – "The River's Tongue" by artists-in-residency Rain Wu, Inês Neto dos Santos, and Mariana Salvador at Casa Jardim da Estrela in Lisbon. 8th June 2025. (Source: Sara Pinheiro, 2025.)*

According to the residency team, guests described the experiences as “thoughtful,” “delicious,” and “full of insights,” highlighting the potential of food as a means of communicating research and fostering new forms of engagement with ecological and cultural themes.

One of the residency’s final outputs was a spice rack with local plants forged from the Tagus marshland (“Lisbon Spice Rack”), co-developed with Fahrenheit 180º collective. It provides a display through which future audiences could engage with the residency’s research through sight and smell. According to the residency team, the experience of tasting wild plants enabled participants to establish a **more direct connection with the local ecosystem** and develop a more tangible understanding of the ecological implications of food habits and consumption. This approach was particularly enriching for children, who learned to start identifying plant species during foraging activities in a local park and explored where food comes from in ways that are not typically addressed within the school curriculum. At the same time, facilitating workshops with schoolchildren provided a valuable learning experience for the residency team. Accustomed to working within university and museum contexts, the artists had to adapt their methodologies to make the activities accessible, engaging, and meaningful for a young audiences.



***Fig. 20**: Activity by the Guarda Rios collective and Filipe Felizardo, World Rivers Day at the Marvila Library container, Lisbon, 28th September 2025. (Source: Guarda Rios collective, 2025).*

Building on these experiences, the Lisbon pilot further **strengthened its engagement with schools and inhabitants of Marvila** in 2025 through collaborations with local associations, including Guarda-Rios and Food from the Block. In September 2025, the Lisbon pilot also organised an educational session with children at the river, using books, images, and creative activities to share knowledge about the Tagus River, its history, and its aquatic species. This work helped extend the residency's approach from food and foraging towards broader forms of environmental learning and community engagement connected to the river.

Blue Makerspace

The drop supported interdisciplinary collaboration between Fahrenheit 180º (a collective of two architects) and BioLab Lisbon (a lab for biological and technological innovation).

- The residency team studied and tested biomaterials, specifically oyster shells and seaweed, and developed production techniques to turn them into **design and architectural outputs** (such as the typical Portuguese tiles) that could be used in public space in the future.

- The BioLab was used as a "maker space" to experiment and create **objects and structures that are artistic, functional and site-specific**. This was the goal of the Community Mobile Kitchen, co-developed by the residency team and the local association Food from the Block.

- The maker spaces were extended to the Calouste Gulbenkian Foundation Gardens, the riverside of the Tagus, and Nazaré, where citizens and children were engaged in 'oystermics' workshops to create and bring home their own objects made from oyster shells.

According to the pilot and residency team, the making workshops provided a fun learning experience for community members that fostered **creativity, agency, environmental awareness, and a sense of stewardship** for the Tagus River and the ocean. It broadened participants' understanding of oysters and Portuguese tiles to highlight their ecological and cultural connections.

2.2 Sustainability

The criteria we analyzed considered the extent to which the pilot:
- **raised awareness and enabled learning;**
- **embedded regenerative and climate-resilient approaches.**

Key achievements of the pilot

The pilot shed light on the special estuarine environment of the Tagus River in proximity with the ocean and the capital city of Lisbon. Considering the limited physical access to the river in the Marvila district, the pilot made the river more visible and raised awareness of its connections to daily life through food and materials. To address the current fragmentation of local knowledge about the river, the interdisciplinary projects promoted a more holistic view (including ecological, cultural, social, economic dimensions) and experimented with **new practices to address environmental and climate challenges** such as salinisation, biodiversity loss and extreme weather events. This work gave audiences a more concrete understanding of the ecological transition and the local possibilities for transformative change. It also increased local awareness of the species living in the Tagus River and of their potential to support more regenerative economies and food systems.

Regenerative Menus

The drop, through its Art and Food residency programme, experimented with foraging **wild edible plants in local biodiverse marshlands (Salina do Samouco)** and turning them into flavourful spices and accompaniments for traditional Portuguese dishes.

- The residency team learned about local plants, with support from biologist Marcia Pinto, to understand their ecological role, seasonality, resilience to a changing climate, nutritional qualities, gastronomic potential and preservation methods such as drying and fermentation.

- They focused on halophytes (salt-resistant plants) including Mediterranean Saltbush, Salicornia, Sea beet, Inula, Native Thyme and Curry Plant that are abundant and bring multiple benefits.

- According to the residency team, “These wild species, which grow naturally in non-arable lands without cultivation, demonstrate the potential of working with nature rather than against it, reducing human labour as well as the use of pesticides and weed killer and other farming interventions, preserving biodiversity in the region.”

- The workshops, public presentations and dinner events explored these ideas through tasting, storytelling, and conversation around the table, creating a convivial space for exchange and participation.

- For example, the tasting 'Taking the Sortbet on a Walk' in September 2024 used Eucalyptus leaves and invited guests to reflect on the impacts of Eucalyptus monoculture in Portugal in affecting biodiversity and exacerbating risks of wildfires.

- Additionally, the residency team introduced schoolchildren in Marvila to foraging and the identification of plant species in a local park, expanding their awareness of the possibilities for locally-sourced foods.



***Fig. 21:** Marvilla Food Hub, 9th November 2025. (Source: Hugo Santos, 2025).*

Overall, the residency project and public programme contributed to **shifts in perceptions about the possibilities for flavourful regenerative food in Lisbon**. It has resulted in a Lisbon Spice Rack installation as a legacy of the project, and in CAM Gulbenkian's decision to incorporate the 'Halofitas Cake' in its restaurant menu.

During the public programme in 2025, additional activities on food were organised. Chef, biologist, and Ocean Ambassador Joana Duarte collaborated with the Art and Design residency "Radical Waters-Concrete Matters" as part of CAM Gulbenkian's "Points of Encounters" programme on 26 July 2025.



***Fig. 22**: "Lisbon Spice Rack" by artists Rain Wu, Inês Neto dos Santos, and Mariana Salvador, in collaboration with the Fahrenheit 180º collective (Jeremy Morris and Luca Carlisle). Final Residency Dinner "The River's Tongue", Casa Jardim da Estrela in Lisbon, 8th June 2025. (Source: Sara Pinheiro, 2025).*

Joana Duarte's work conveyed elements of local history and food culture but also highlighted **connections between the natural ecosystems of Lisbon, Oeiras** (with the participation of the Oeiras pilot) **and global ecosystems**. For example, she developed a sustainable cocktail menu titled "Estuary Mouth," celebrating the intersections between art and ecology by bringing together the territories of the Lisbon and Oeiras pilots, inspired by the ecosystems of the Tagus estuary and the Atlantic Ocean, local gastronomic traditions, and future food practices, and combining ingredients such as algae, halophytic plants, invasive species, and water-resilient species.[12] Her 'Estuary Seaweed Mousse' was incorporated in the menu of CAM Gulbenkian's restaurant. Further, in the emerging community-led Food lab, the pilot team aims to build connections with local restaurants and food producers to expand sustainable food practices.

Blue Makerspace

The drop, through its Art and Design residency "Radical Waters-Concrete Matters", experimented with nature-based design approaches and developed **protocols and techniques to develop bio-based ceramics** made from oyster shells and seaweed (Laminaria, used as a binding agent), in collaboration with BioLab, local scientists and PhD students (e.g., Mariana Simões worked on the pigmentation of the materials). Oysters, which account for about 90% of the bioceramic, were selected due to their ecological and historical role in the Tagus, which used to host one of the largest natural oyster banks in Europe. Now mostly grown through aquaculture, oysters have water filtration properties that support the ecological health of the river ecosystem. Large quantities of oysters and their shells are currently thrown away as 'waste' by oyster farms (if the quality is deemed too low for gastronomic use) and restaurants despite their potential for circular and bio-based design.

The new methods and prototypes developed by Fahrenheit 180º can help **reduce marine waste and build versatile, resistant, biodegradable products** such as façades, street furniture, modular urban installations, or interior design elements and artistic sculptures. According to the residency team, they could also be used to build reef blocks that would support the regeneration of oyster banks in the Tagus, although this would require increasing the supply of oyster shells.

At the same time, the participatory tile-making workshops and public programme of the drop used hands-on activities to **raise awareness about the Tagus Rive**r, its biodiverse ecosystem, water pollution and the role of oysters as 'ecosystem bioengineers'. According to the residency team, the workshops fostered a new sense of possibilities and stewardship for the Tagus River and the ocean. It sensitized audiences to the possibilities of reinventing cultural symbols (such as Azulejos) in a way that preserves heritage while carrying new ecological value.

12 https://gulbenkian.pt/cam/en/agenda/boca-do-estuario/

2.3 Inclusion

The criteria we analyzed considered the extent to which the pilot:
- **promoted accessibility and inclusion;**
- **valued and integrated alternative forms of knowledge;**
- **advanced co-creation and democratic participation.**

Key achievements of the pilot

The pilot focused on the Marvila district in Lisbon, which is shaped by multiple diasporas, socio-economic inequalities, and a limited physical access to the river. The two drops engaged with inhabitants through the Marvila Library, a well-known community space, Ocean Ambassadors and their local associations, and schools. This engagement was limited during the pilot co-design (Pedroso-Roussado et al. 2024) and first phase of the residencies. It increased during the ripple phase and public programme of the pilot in 2025, with plans to embed community-led laboratories in Marvila in the long-term.

Public activities were free, open to all, and used participatory methods to make the artistic and educational experiences accessible and fun for diverse audiences including Marvila citizens, children but also other Lisbon inhabitants, architects, designers, and art-and-culture audiences of the Calouste Gulbenkian Foundation. Overall public activities of the two drops reached several hundred visitors.

Further, the drops in collaboration with the Thyssen-Bornemisza Art Contemporary (TBA21) amplified alternative forms of knowledge through the artist-led residencies that brought speculative and exploratory approaches to challenge conventional solutions to social and environmental challenges while developing pleasing and engaging public experiences. Working with artists helped integrate **regenerative perspectives that center the health of the ecosystem** and usually 'invisible' or little known species.

Efforts to include non-human species were also supported by Speaker for the Living Paula Corte-Real at the Calouste Gulbenkian Foundation and by the interdisciplinary collaborations that merged scientific and artistic knowledge about the natural ecosystem of the Tagus. The residency projects sensitized audiences to the ecological and cultural values of often-overlooked species such as halophytes, oysters and seaweed.

Regenerative Menus

The pilot made first steps to engage with the community in Marvila during the residency project in 2024. On 14–15 September, the residency team conducted a workshop with students from Luísa Neto Jorge School, involving around 20 children, two teachers, and members of the pilot Team. The workshop comprised two moments. First, a foraging walk at Parque da Bela Vista, where the children learned about foraging, local plant species, and their connection to food through a hands-on experience, while the residency team explored ways of developing accessible educational formats for diverse audiences outside the museum. Second, a bread-baking session using locally foraged herbs, during which the children baked their own bread together. As part of the workshop, the residency team also created a card deck to **help children learn about local species through play**, designed as a resource that could be reused by schools, families, and other communities in the future.

The pilot and residency teams reported **challenges to engage meaningfully and regularly with the school**, such as language and mobility barriers of the lead artist, limited experience with young children, public regulations and local perceptions about food safety, and the duration and nature of the residency (not full time on-site, and speculative in its exploration of new ingredients). Moreover the residency team focused its foraging activities on the Salinas do Samouco marshlands in the Tagus estuary due to its favourable ecological and climate conditions that were not necessarily met in the Marvila district.



***Fig. 23**: Pilot kick-off Regenerative Menus talk on World Oceans Day, 8th June 2025. (Source: Rafael Calado, 2025.)*

The residency project also highlighted the possibilities for audiences to try foraging in the local environment, although it acknowledged that this practice is not accessible to everyone due to disability, time, or resource constraints.

The dinner presentations of the residency were accessible to people with different diets and languages (English and Portuguese), and were designed to be convivial, interactive and informal, inviting participants to **converse and shape their own interpretation of the food** presented to them. One dinner was organized at Marvila Library in late November 2024 with around 50 participants, and two at Gulbenkian in December 2024 (40 participants) and June 2025.

During 2025 the drop expanded its collaboration with local associations Food from the Block and Guarda Rios with the goal of co-creating a menu with inhabitants and organizing additional **participatory activities with community members and schoolchildren**. The Art and Design residency also participated in these efforts, notably by co-designing a Community Mobile Kitchen with Food from the Block.

Blue Makerspace

The drop, especially through its Art and Design residency, developed participatory tile-making **workshops that made biomaterial experimentation accessible** to diverse audiences, including about 150 children (with the Hope Zone foundation in Nazaré), inhabitants of Marvila, architects, and audiences of the Calouste Gulbenkian Foundation. Several workshops were conducted in 2024 and 2025, with the support of BioLab Lisbon. To ensure that activities were accessible, the residency team pre-prepared the oyster shell biomaterial mix, allowing workshop participants to use their imagination and create their own objects to bring home (December 2024). In May 2025, workshops at BioLab and the Marvila Library generated tiles that were used in the final artistic installations of the residency, making for a co-created final output exhibited at Jardim Gulbenkian in July 2025. This approach enabled participants to develop a **sense of ownership over the material and end products**, as well as a sense of ecological responsibility, according to the residency team.



***Fig. 24**: Lisbon Spice Rack workshop, Escola Básica Luiza Neto Jorge, Marvila, 27th November 2024. (Source: Inês Valle 2024.)*



***Fig. 25**: Blue Makerspace workshop with children in Nazare, 2025. (Source: Jeremy Morris, 2025.)*

2.4 Local grounding (crosscutting value)

The criteria we analyzed considered the extent to which:
- **the pilot aligned with local needs and priorities;**
- **local actors co-created and had ownership over solutions.**

Key achievements of the pilot

Regenerative Menus and Blue Makerspace

The pilot was led by the Lisbon Municipality in close collaboration with its cultural partner, the Calouste Gulbenkian Foundation (CAM-Gulbenkian). Both institutions are highly visible and well-connected within **Lisbon's cultural, educational, and civic ecosystems**, providing institutional support and networks for the development and dissemination of the pilot's activities. The Municipality's role enabled the pilot to align its activities with the city's longer-term objectives, including the revitalisation of Portuguese maritime heritage and the improvement of citizens' physical and cultural access to the river and sea. The municipality's continued involvement also strengthens the prospects for the pilot's durability, through its stated intention to co-finance the future Sediment Lab and Food Lab.

CAM-Gulbenkian was the pilot's cultural partner and facilitated the artistic and interdisciplinary components of the project, by shaping the institutional and cultural framework for the residencies, supporting the selection and coordination of artists, providing financial and logistical resources, and facilitating access to its facilities, expertise, professional networks, and public programmes. Its role enabled the residency teams to experiment with artistic, ecological, and material practices while connecting their research to wider audiences through exhibitions, workshops, talks, food events, and other public activities. The collaboration between the municipality and the Calouste Gulbenkian Foundation therefore **brought together public-sector knowledge and long-term policy objectives with cultural expertise, artistic experimentation, and public engagement**, building a solid foundation for the continuation of the pilot's initiatives.

The pilot location was initially foreseen to be closer to the river, but due to administrative barriers the pilot team refocused on the Marvila district. In Marvila, the pilot also identified strong needs for reconnection between people and the river due to the limited physical access and perceptions that the river was polluted and unsafe. The pilot increasingly involved the Marvila community, especially during the Ripple phase, by **consolidating key relationships** with the Marvila library as a local anchor for workshops, dinners and conversations, as well as Ocean Ambassadors and their organizations for the future community-led Sediment lab (BioLAB) and Food lab (Food from the Block, Guarda Rios). The pilot team has secured the commitment of these actors for its future plan.

Alongside the co-creation activities with community members (i.e., menu, tiles, storytelling), the pilot also integrated the local history and heritage, which the residency projects sought to explore and update using sustainable products and approaches (i.e., foraged wild plants as spices to accompany traditional dishes, bio-based ceramics inspired by traditional Portuguese tiles). As such, the drops showed the **possibilities of both reviving and reinventing local identities and practices** to meet climate and environmental challenges.

While the human communities of Marvila were involved, the pilot also studied and interacted with the **natural ecosystems of the territory** by exploring plant species at the Bela Vista park and Gulbenkian gardens but also the Salinas do Samouco saltmarshes and Tagus River oyster farms as part of the broader Tagus estuarine environment and Mar da Palha bioregion. These other locations were selected for their special ecological and climate conditions that supported the research and experimentation components of the residency projects. The two residencies emphasized the importance of using locally or regionally sourced elements as 'ingredients' and 'materials' in their research and public activities, sensitizing audiences to a key aspect of sustainability. Ocean Ambassadors and Speakers for the Living played an important role as local experts and advisors to the residency projects.

In September 2025, the pilot team brought the two drops and Marvila community members (citizens, schoolchildren) together at the riverside to participate in **hands-on activities in direct interaction with the river**. Such activities are a key element of the pilot's future plans to organize ocean literacy activities at the river, as a way to co-create and disseminate the work of the interdisciplinary labs.

The pilot team envisages future replications of the labs in other neighbourhoods and cities along the river and coast to revive waterfront communities of the Mar da Palha bioregion. Both pilot and residency also highlighted the value of being part of a European project to connect with interdisciplinary practitioners from other countries, gain new visibility and professional opportunities, and learn from diverse local experiences.



***Fig. 26**: Blue Makerspace workshop with children in Nazare, 2025. (Source: Jeremy Morris, 2025.)*

Part 3

Takeaways

This section summarizes the key factors (e.g., context, stakeholder situation, resources) that shaped the pilot's ability to create impact (3.1). These factors should be considered for replication and adaptation to other contexts. This section also provides potential avenues to improve and further develop the work of the Lisbon pilot in the future (3.2).



***Fig. 27**: Installation "À Flor do Azulejo, a Cor do Tejo" by Fahrenheit 180º (Jeremy Morris and Luca Carlisle), CAM-Gulbenkian gardens. July 2025. (Source: Jeremy Morris - CAM Gulbenkian, 2025).*

3.1 Key factors that influenced pilot impact

This section summarizes the key factors – including context, stakeholder situation and resources – that shaped, enabled or hindered the pilot's ability to create impact. These factors played a role in the co-design and implementation of the pilot and its drops, but also have implications for its sustainability and long-term impact. Such factors should be considered when examining possibilities to replicate, or draw inspiration from the work of the pilot for other contexts. We identified two main types of factors, related to the project setup and institutional context (box 3) and to ecological, cultural and urban context of the pilot (box 4).

Project setup and institutional context



- The impact pathway of the drop was shaped by its local partners, which included established local institutions with **visibility and networks** (Lisbon Municipality, Calouste Gulbenkian Foundation) and BioLab, an initiative of the municipality which provided essential space, equipment, community ties and an open attitude to experimentation that aligned well with artistic residencies. At the same time, **institutional procedures** brought challenges of bureaucracy and tight timelines (the artistic residencies were both initially planned to last three-four months).

- The pilot had a strong emphasis on **community engagement** in the Marvila parish and public-facing activities, driven by the municipality and Calouste Gubenkian Foundation. This was challenging to combine with the experimental nature and timeline of the artistic residencies. The Lisbon pilot team worked with multiple partners, making it difficult to manage different expectations, perspectives and ways of working.

***Box 3**: Project setup and institutional context*

Ecological, cultural and urban context



The pilot's focus on the **Marvila parish of Lisbon** was influenced by the limited access to the Tagus River experienced by local inhabitants, which affects daily practices and the sense of connection to the river ("In Marvila, the river is connected to boats, not to people"). The drop complemented Lisbon Municipality's plans to improve access to the waterfront by reviving often-neglected ecological and cultural dimensions of the relationship with the river.

Blue Makerspace drop

- The Blue Makerspace drop faced contextual challenges in developing its biomaterial solution. Restaurants' inadequate recycling habits did not generate a consistent **supply of oysters** for the residency, pushing the Fahrenheit 180 collective to turn to oyster farms for supply. The search for suppliers revealed the substantial need for reusing oyster shells that are otherwise discarded in landfills.

- Fahrenheit 180 also faced technical challenges to produce solid and durable bio-based tiles with limited precedent. Nonetheless, there is **growing momentum** for circular and nature-based approaches in design and architecture which could garner further support for the solutions developed in the residency.

- The artistic residency organised participatory workshops with citizens that co-produced familiar objects like the traditional Portuguese tiles and helped convey the ecological and cultural values of oysters through hands-on experiences. Participants, including **children and socio-economically disadvantaged groups from Marvila**, could gain an increased sense of agency and environmental stewardship by creating a product using their imagination and local materials.

- The Blue Makerspace drop solution uncovered an opportunity to **revive the memory of the Tagus estuary** as having hosted one of the largest natural oyster banks in Europe in the past. Such an approach of aligning regenerative practices with local heritage is promising to shift to more hopeful perspectives on the green transition.

Regenerative Menus drop

- The Regenerative Menus drop focused on the connection between food and water bodies and the **special ecological conditions of marshland areas**. The artistic residency team conducted foraging and research around wild plants in Salinas do Samouco, located in the Tagus estuary near Lisbon. They used halophytes (salt-resistant plants) in the regenerative menus as these combine climate resilience, flavour and nutritional qualities. Focusing on marshlands helped rethink interactions between water, land and communities, and provided opportunities for environmental education as these ecosystems are often little-understood.

- There is a **strong attachment to traditional food diets** in Lisbon, and a heightened sense that heritage needs to be protected in a context of mass tourism that threatens tangible and intangible forms of heritage. This helps explain why the Lisbon drop opted for a Lisbon Spice Rack that introduced foraged ingredients as accompaniments of traditional dishes – aiming to introduce subtle, gradual changes to local diets.

- Challenges of **food safety regulations and perceptions** emerged during drop implementation. The Lisbon drop team noted that there is a perception in the Marvila parish that the Tagus River is polluted and that food coming from the river is unsafe. This generated concerns and skepticism from the parents of the schoolchildren involved in activities organised by the Art and Food residency team – raising the need for a long-term engagement with the school and community in Marvila to shift perceptions, according to the drop team. Regulations also did not allow for serving children a regenerative menu, this potentially made it harder for children to fully grasp the connection between their natural environment and the food they eat.

***Box 4**: Ecological, cultural and urban context*

3.2 Areas for improvement and future development

This section provides potential avenues to improve and further develop the work of the Lisbon pilot in the future. These suggestions and ideas are based on the in-depth analysis conducted above, and combine reflections from the Impact Assessment team, and from the pilot team and their partners. Overall the suggestions point to different ways that the pilot team could embed early and adaptive project co-design and planning (box 5), adapt the residency model to strengthen community ownership (box 6), diversify and scale the impact of the Ocean Ambassadors program (box 7), and refine evaluation methods and future plans for the River school and local laboratories (box 8).

Note: The considerations below resemble those made in the Oeiras Impact Report (Salzinger et al., 2026), due to the common methodologies, partners, events and physical proximity of the Lisbon and Oeiras BoS pilots.

Embed early and adaptive project co-design and planning



- An analysis of the pilot's four co-design workshops noted that "the participants were mostly used to developing projects in short or mid-term longevity" which posed challenges to formulate a long-term vision and objectives (Pedroso-Roussado et al. 2024). The analysis also stressed that the semi-structured approach of the workshops created a level of discomfort among participants who might have favoured clarity over flexibility.

- This suggests that **extra time and facilitation efforts might be needed at an early stage** of the pilot to agree on shared goals and expectations as well as ways of working, distributing the workload, communicating, co-designing and evaluating. This could help foster more clarity (e.g., tentative timeline) and openness to new approaches.

- According to Pedroso-Roussado et al., 2024, the four co-design sessions held in 2023 did not provide sufficient time for building trust and challenging power structures. In the future, the pilot team could follow a more **continuous and informal co-design process**, backed by an experienced co-design facilitator used to working with institutional and community actors. This could help build trust and adapt plans over time, while not precluding the organization of more formal co-design moments with Sea Forum partners.

***Box 5**: Embed early and adaptive project co-design and planning*

Adapt the residency model to strengthen community ownership



- Feedback from the artists in residency and the pilot team suggests that expectations about the level of engagement between artists and the local community were not sufficiently aligned. They reported a mismatch of timelines between the residencies, the institutional processes of pilot partners, and the seasonal rhythms of the local ecosystem. Challenges of space, budget and organizational cultures were also mentioned.

- In the future, a **collective residency model** could be envisaged where artists collaborate with a well-connected community member(s) on a regular basis. A longer, or full-time residency on site would allow more time for research and local relationship-building. As a first step, the selection process for the residents should include interviews to ensure that goals and expectations are clear on both sides, as suggested by a pilot team member.

- The pilot team reported that it took time to build collaboration between artists, scientists and the community. Considering this time investment, the pilot could **embed artistic-scientific collaborations within longer initiatives** happening locally. This would entail partnering with artists and scientists who are committed to working in the area for several years. It may require selecting people who are less specialized or experienced at first, but who would ensure that the capacities and relationships reinforced during the project remain in Lisbon.

- During the evaluation session of the pilot, artists suggested to "create more intimate and safe spaces" and moments to share feedback and address challenges during the residencies. The future River School and local labs could foster a **work environment that promotes communication and trust** by ensuring that mutual expectations are set clearly, that regular check-ins and feedback mechanisms are in place, and that partners meet in person regularly. Another concrete avenue could be to appoint a "person of trust" (not in a management/ leading position) that anyone within the River School or labs can contact to discuss emerging challenges.

***Box 6**: Adapt the residency model to strengthen community ownership*

Diversify and scale the impact of the Ocean Ambassadors program



- The pilot team noted that a **more diverse mix of Ocean Ambassadors** would be beneficial in the future. Involving Ocean Ambassadors from marginalized groups could help reach new audiences who often lack access to artistic and educational programs about the river. Including ambassadors in less senior positions, with more time availability and stronger community ties, would support more regular engagement, youth participation and local impact.

- The pilot team reported a need to reinforce the role of Ocean Ambassadors within the pilot, and to better connect the work of the artists in residency with the needs and aspirations of the community. **Embedding Ocean Ambassadors as advisors or partners within collective residencies** could be an avenue to address these two issues jointly. This would provide the Ocean Ambassadors with a clearer role and objectives as well as financial incentives to contribute in a continuous manner. This could help build a long-term collaboration with Ocean Ambassadors who would become key actors within the future River School and local labs.

***Box 7**: Diversify and scale the impact of the Ocean Ambassadors program*

Refine evaluation methods and future plans



- The seaweed species (Laminaria) used as a binding agent in the bioceramics developed by Fahrenheit 180 is sourced from abroad. Further research in the local ecosystem could help find other ingredients with binding properties, to further reduce the environmental impact of the biomaterial. This could take the form of a **follow-up project** to develop a viable business model, expand suppliers and seek investments, with the support of an expert in circular business models and entrepreneurship. For example, the pilot team could seek support from Climate KIC's entrepreneurship team, also considering their involvement in New European Bauhaus projects.

- The pilot developed an extensive public programme, and the pilot and artistic residency teams shared glimpses of the feedback they received from visitors and participants. In the future, it would be valuable to collect **direct feedback from participants**. This would give the pilot and residency teams additional possibilities to refine the work based on feedback. It could generate a deeper understanding of the impact of the public activities on participants, in terms of emotional experience, ecological awareness, sense of agency, as well as their will to continue learning or take follow-up action. This would also help refine the pilot's long-term plans such as the future curriculum of the River School.

- As mentioned in the 'Toward Waves' section, the long-term plan of the pilot is ambitious and will require the collaboration of multiple partners to materialize. Going forward, the pilot team could **refine the expected format of the three emerging structures**, their scope and the relationships between them. They could also clarify what roles creatives can play in the future labs and River School. The community orientation of the long-term plan is a strength, and can be combined with a strong role for artists (within interdisciplinary collaborations) based on their ability to challenge conventional methods, experiment, foster imagination, and shape alternative narratives and practices – as part of the legacy of the pilot and the wider BoS project.

- Considering the focus of the plan on the Marvila parish in the coming years, the future structures could pay more **explicit attention to inequalities and their implications for the project**, for instance with regards to accessibility, relevance for residents, and transformative potential.

- The pilot and artistic residency teams noted that **more transnational exchanges** between pilots would have been beneficial. In future European projects, enabling artists, ocean ambassadors and other key actors across pilots to meet earlier could foster more relationship building, site visits, cross-learning and joint initiatives. Although such transnational exchanges should aim to limit carbon emissions from flying.

***Box 8**: Refine evaluation methods and future plans*

Annex



Fig. 28: *À Flor do Tejo, a Cor do Azulejo installation opening, created by the Fahrenheit 180° collective (Jeremy Morris and Luca Carlisle), Ponto de Encontros, CAM-Centro de Arte Moderna Gulbenkian, Lisbon 2025 (Source: Joanna Correia - CAM Gulbenkian, 2025.)*

Main data collection activities

This impact assessment used data collected via various activities in collaboration with, or led by, the Lisbon pilot team. These include activities organized by the impact assessment work package (WP5) led by TU Delft as well as other work packages focusing on co-design (WP2 led by Malmö University), implementation (WP3 led by TBA21 Thyssen-Bornemisza Art Contemporary) and replication (WP4 led by Ca' Foscari University of Venice) within the BoS consortium. TU Delft took part in the activities organized by other work packages, as co-organizer or attendee.

Activities used to gather data and analytical insights:

- WP4 Benchmarking session 'Building with Water', online, 29 January 2025 (led by WP4)
- Session on Pilot Sea Forums, online, 17 January 2025 (led by WP2)
- Theory of Change (ToC) session, online, 13 March 2025 (led by WP5)
- Theory of Change (ToC) session (update), online, 03 April 2025 (led by WP5)
- Matrix activity, online, 09 May 2025 (led by WP4)
- Reflection session on aesthetics and impact, online, 09 May 2025 (led by WP5)
- Reflection session on sustainability and impact, online 06 May 2025 (led by WP5)
- Zoöp discussion with WP5 and WP2, 23 June 2025
- Ocean Ambassadors meeting in Rotterdam, in-person, 23-24 June 2025 (led by WP2)
- Reflection session on inclusion and impact, online, 04 July 2025 (led by WP5 and WP2)
- Impact evaluation session, in-person, 28 July 2025, at Calouste Gulbenkian Foundation in Lisbon, attended by some 14 participants from the Lisbon pilot including pilot leads, partners, artists/residency teams, Speakers for the living, Ocean Ambassadors (organized by Calouste Gulbenkian Foundation and WP5, moderated by Associação do IST-ID)
- Conversation with Inês Valle (Calouste Gulbenkian Foundation) about the role of Ocean Ambassadors in the Lisbon and Oeiras Pilots, August 2025 (led by WP2)
- Reflection session on local grounding and impact, 05 September 2025 (led by WP5 and WP2)
- Seminar on Replication Proposals, online, 08 October 2025 (led by WP4)

Bibliography

References used in figure 5

Bice, Sara, and Thomas B. Fischer. 2020. "Impact Assessment for the 21st Century – What Future?" Impact Assessment and Project Appraisal 38 (2): 89–93. https://doi.org/10.1080/14615517.2020.1731202.

Bond, Alan, Angus Morrison-Saunders and Jenny Pope. 2012. "Sustainability Assessment: The State of the Art." Impact Assessment and Project Appraisal 30 (1): 53–62. https://doi.org/10.1080/14615517.2012.661974.

Bond, Alan, and Jenny Pope. 2012. "The State of the Art of Impact Assessment in 2012." Impact Assessment and Project Appraisal 30 (1): 1–4. https://doi.org/10.1080/14615517.2012.669140.

Coger, Tamara, Sarah Corry and Robbie Gregorowski. 2021. "Reshaping Monitoring, Evaluation and Learning for Locally Led Adaptation." World Resources Institute Working Paper. https://doi.org/10.46830/wriwp.20.00060.

Esteves, Ana Maria, Daniel Franks and Frank Vanclay. 2012. "Social Impact Assessment: The State of the Art." Impact Assessment and Project Appraisal 30 (1): 34–42. https://doi.org/10.1080/14615517.2012.660356.

Goodwin, Sean, and Marta Olazabal. 2025. "Revisiting the Challenges to Monitoring, Evaluation, Reporting, and Learning for Climate Adaptation." Environmental Science & Policy 172: 104199. https://doi.org/10.1016/j.envsci.2025.104199.

Mackay, Michael, Nicholas Taylor, John Saunders, Paul Rutherford and Caroline Saunders. 2024. "Integrated Impact Assessment for Land and Water Management." Environmental Impact Assessment Review 105: 107397. https://doi.org/10.1016/j.eiar.2023.107397.

Moore, Michele-Lee, Darcy Riddell and Dana Vocisano. 2015. "Scaling Out, Scaling Up, Scaling Deep: Strategies of Non-Profits in Advancing Systemic Social Innovation." Journal of Corporate Citizenship 58: 67–84. http://www.jstor.org/stable/jcorpciti.58.67.

Torres, Aurora, Charla Patterson and Jochen A. G. Jaeger. 2022. "Advancing the Consideration of Ecological Connectivity in Environmental Assessment: Synthesis and Next Steps Forward." Impact Assessment and Project Appraisal 40 (6): 451–59. https://doi.org/10.1080/14615517.2022.2134619.

Termeer, Catrien J. A. M., and Art Dewulf. 2019. “A Small Wins Framework to Overcome the Evaluation Paradox of Governing Wicked Problems.” Policy and Society 38 (2): 298–314. https://doi.org/10.1080/14494035.2018.1497933.

Wilson-Grau, Ricardo, Heather Britt, Yulianto Dewata, Patricia Rogers and Kaye Stevens. 2024. “Outcome Harvesting.” BetterEvaluation website, Global Evaluation Initiative. https://www.betterevaluation.org/methods-approaches/approaches/outcome-harvesting.

References used in box 2

Catry, Teresa, José A. Alves, Joana Andrade, Helder Costa, Maria P. Dias, Pedro Fernandes, Ana Leal, et al. 2011. “Long-Term Declines of Wader Populations at the Tagus Estuary, Portugal: A Response to Global or Local Factors?” Bird Conservation International 21(4): 438–53. https://doi.org/10.1017/S0959270910000626.

Catry, Teresa, José Pedro Granadeiro, Jorge Sánchez Gutiérrez and Edna Correia. 2022. “Stopover use of a large estuarine wetland by dunlins during spring and autumn migrations: linking local refuelling conditions to migratory strategies.” Plos One 17(1): e0263031. https://doi.org/10.1371/journal.pone.0263031.

Cocola-Gant, Agustin and Ana Gago. 2019. “Airbnb, buy-to-let investment and tourism-driven displacement: a case study in Lisbon.” Environment and Planning A: Economy and Space, 53(7): 1671-1688. https://doi.org/10.1177/0308518x19869012.

Filipe, Victor Manuel Simões. 2021. “Olisipo (Lisbon, Portugal) and its place in the Roman trade.” SPAL Revista De Prehistoria Y Arqueología De La Universidad De Sevilla, 2(30): 189-215. https://doi.org/10.12795/spal.2021.i30.22.

Gonçalves, Jorge, Paula Vale de Paula, and Cátia Valente. 2026. “The Tagus Estuary at risk: Fragmented governance and the future of waterfront regeneration in the Lisbon metropolitan area.” City and Environment Interactions 29: 100291. https://doi.org/10.1016/j.cacint.2025.100291.

Matos Silva, Maria, and João Pedro Costa. 2017. “Urban Flood Adaptation through Public Space Retrofits: The Case of Lisbon (Portugal).” Sustainability 9(5): 816. https://doi.org/10.3390/su9050816.

Medeiros, Eduardo, Ana Brandão, Paulo Tormenta Pinto, and Sara Silva Lopes. 2021. “Urban Planning Policies to the Renewal of Riverfront Areas: The Lisbon Metropolis Case” Sustainability 13(10): 5665. https://doi.org/10.3390/su13105665.

Saldanha Matos, José, and Filipa Ferreira. 2024. “Lisbon Master Plans and Nature-Based Solutions.” Sustainable Development. IntechOpen. doi:10.5772/intechopen.113870.

Other references

European Commission. 2022. The New European Bauhaus Compass. https://new-european-bauhaus.europa.eu/tools-and-resources/use-compass_en.

European Commission. 2024. “Principles.” Bauhaus of the Seas Sails Reporting (Reporting period: 2023-01-01 to 2024-06-30). CORDIS. https://doi.org/10.3030/101079995.

European Commission. 2024. “Approach.” Bauhaus of the Seas Sails Reporting (Reporting period: 2023-01-01 to 2024-06-30). CORDIS. https://doi.org/10.3030/101079995.

Pedroso-Roussado, Cristiano, Nicholas B. Torretta, Frederico Duarte, Luisa Seixas, Mariana Pestana, Yacooba Labs Lda, Redcatpig Lda, Ann Light and Nuno Nunes. 2024. “Co-design under the Bauhaus of the Seas Lighthouse Project: a New European Bauhaus case study in Lisbon and Oeiras.” In Gray, Colin M., Ciliotta, Estefania Chehade, Paul Hekkert, Laura Forlano, Paolo Ciuccarelli and Peter Lloyd. (eds.), DRS2024: Boston, 23–28 June, Boston, USA. https://doi.org/10.21606/drs.2024.604.

Salzinger, Maëlle, Carola Hein, Inês Valle and Alexandra Melo Vasconcelos. 2026. Bauhaus of the Seas Sails – The Impact of Ocean Literacy in Oeiras. PortCityFutures. https://www.portcityfutures.nl/bauhaus

Seravalli, Anna, Ann Light, and Anders Emilson. 2022. “The Co-design Template.” Bauhaus of the Seas Sails. CORDIS – EU Research Results. https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5f9f07936&appId=PPGMS.

Zumbrink, Seravalli, Anders Emilsson and Ann Light. 2024. Ocean Ambassadors Compass. https://bauhaus-seas.eu/ocean-ambassadors-compass/.



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