



WaVE
Interreg Europe



European Union
European Regional
Development Fund



**Key lessons from the WaVE project
and a manifesto for the future of
water-linked heritage**

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Summary

Water and its related heritage play a very special role in cities and regions in Europe. Historic water infrastructures such as bridges, quays and riverfronts, port facilities, sluices, dams, or water mills, specific water-based urban and rural landscapes, but also intangible aspects of water-linked heritage, such as water management knowledge, and values and traditions, can provide a sturdy foundation for an ecosystemic approach to sustainable urban and regional development. Water-linked heritage is unique in this respect because it connects the environmental, economic and social domains, reflecting the three pillars of sustainability. By valorising water-linked heritage as a vector of ecosystemic transformation of cities and regions, we can tap into its often overlooked potential to engage diverse stakeholders, to strategically link places connected by water, and to cut across disciplines, administrative and sectoral boundaries. In other words, water and heritage connected to it can be a powerful vector of change in cities and regions that allows for building on the past practices and facilities to face the challenges of tomorrow.

In this document we depart from the experience of the WaVE project and its five locations - Breda, Alicante, Aarhus, Ravenna and the Ister-Granum Euroregion - to draw lessons on the potential of water-linked heritage to drive ecosystemic urban and regional transformations and to sketch a manifesto for the future of this heritage. The first section introduces the WaVE project and the future challenges for water-linked heritage. The second one overviews the main actions taken by the project partners and the lessons that were drawn from the interregional learning process facilitated by WaVE. Finally, the third section presents a manifesto for the future of water-linked heritage, providing policymakers and stakeholders with inspiration and guidelines for tapping into the potential of water and heritage to nudge our cities and regions to drive ecosystemic change that our cities and regions need.



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Introduction

WaVE stands for Water-linked heritage Valorization by developing an Ecosystemic approach. This Interreg Europe project brought together five European locations - Breda in the Netherlands, Aarhus in Denmark, Ravenna in Italy, Alicante province in Spain and Ister-Granum Euroregion across the Slovak-Hungarian border - supported by Delft University of Technology (knowledge partner), CertiMac (communication) and Grants Europe (project management). The goal of the project is to exchange knowledge and insight across those territories to promote integrated adaptive reuses of water-linked cultural heritage sites. The WaVE approach is characterised by an **integrated approach to valorisation of water-linked heritage** as a vector of **ecosystemic** change towards more sustainable regional and urban futures. This is facilitated, on the one hand, by close collaboration with a diverse range of stakeholders within and across the case study locations, engaged in a process of **co-creation** of knowledge and co-decision on heritage valorisation actions. On the other hand, **storytelling** is a central element of the participatory approach in the WaVE project, used as a means to galvanise the interests of stakeholders, maintain the momentum of the co-creation process and to communicate its outcomes to the decision-makers and the wider public.

The key task for the partners was to engage the local and regional stakeholders in the formulation of action plans intended to drive policy change towards adaptive reuse of water-linked heritage. These **action plans** addressed the challenges and opportunities identified in the diagnosis of the status quo of water-linked heritage and policies to support its valorisation, based on a dialogue with a diverse range of stakeholders. The actions proposed in each of the plans aim at realisation of the jointly defined place-specific **vision** for the future of water-linked heritage and draw inspiration from the interregional knowledge exchange process, allowing for cross-fertilisation of ideas and transfer of elements of **good practices** identified in each of the five locations. The hallmarks of these practices include storytelling and placemaking, active engagement of stakeholders and citizens, and the use of the tangible and intangible heritage features as a strategic anchor and a factor bringing different stakeholders and policy agendas together, ranging from urban development, to water management, climate adaptation, restoration of nature, culture, tourism, economic development, and agriculture. The action plans are to be implemented in 2022-2023 and trigger wide ranging **changes in municipal and regional spatial and developmental policies**, which in many cases are supported by EU Cohesion Policy programmes.

The dialogue and knowledge co-creation within the cross-regional policy network that was created in the WaVE project sparked a plethora of ideas and a lively debate on what water-linked heritage is, what it represents for cities and regions, and on the role it can play for addressing some of the major current and future societal challenges. The most prominent of those challenges is **climate change** and its impacts on cities, ranging from the increasingly frequent extreme weather and the growing fluvial and coastal flood risk to heat waves and drought. This calls for radical rethinking of how our cities grow and develop to ensure that the built and natural environment, economic activities, and communities remain resilient in the face of these growing risks. Addressing climate change also calls for efforts to cut greenhouse gas emissions and enact a wide-ranging transition in terms of production and use of energy, mobility, consumption of resources and land use, and everyday economic and environmental behaviour. In both adapting and mitigating climate change, water-linked heritage can play an important role, especially if synergies are sought between the cultural and natural heritage. For instance, water heritage can help improve excess water storage capacity, cool the urban environment, or enhance irrigation for agriculture and urban green spaces, while raising the awareness of the role of water and the heritage sites and practices for promoting sustainability. At the same time, adaptive reuse of heritage, including the more 'recent' one, like post-war industrial buildings and factory sites, restoring and giving them new values and new functions, is in line with the circular economy approach. The latter aims to design out waste and maintain the value of materials and products, including that of the elements of the built environment, and is increasingly used as a compass for sustainability policies in Europe and beyond.

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European cities have to deal with overflow of water in the face of climate change and have to reduce their emissions to mitigate climate change. Water-linked heritage valorisation can be connected to those efforts, for instance when rethinking mobility systems or energy transition, with the potential of water in terms aquathermal energy. New sustainability techniques can be combined with the traditional ones and with the existing heritage sites, while offering new values for the citizens.



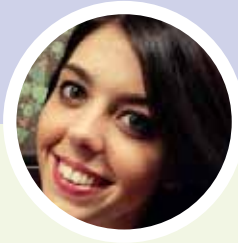
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The second major challenge, and also a factor changing the way in which we perceive heritage, is the growing recognition of the need to engage a diversity of stakeholders and especially the citizens in decision-making. The growing disillusionment with democracy across Europe and the deepening inequalities in cities make rethinking engagement of citizens in shaping the future of our cities and regions a particularly salient and urgent task. It is also widely recognised that to ensure the success of sustainability transitions across Europe we need to ensure not only that no one is left behind but also to

go beyond technocratic decision-making and give the different social groups agency in this process and, thus, create broader ownership of the strategies and actions pursued.

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The most important value that the WaVE project has achieved is underlining the importance of co-creation, between the project partners but also between stakeholders. We understand now that the vision should be made with the involvement of the people that rely on and live in cities we work on and deal with heritage day by day.



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There are also pragmatic reasons behind the engagement of a diversity of citizens and local or regional stakeholders in decision-making on sustainability. Genuine participation allows for ensuring social acceptance of actions that may require radical shifts from the status quo and, critically, it allows to tap into the specific local, tacit, or expert knowledge that informs place- and evidence-based policies.

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Heritage valorisation is something that we, as city officials, don't do for ourselves. We do it for the people of Breda. We need to be more inclusive in our approach to reach out to people and let them have a say about this important subject.



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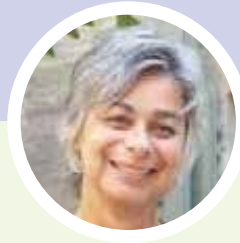
All of these considerations also apply to heritage valorisation which is crucial for catalysing an ecosystemic shift towards more sustainable urban and regional development. At the same time, however, heritage and especially water-linked heritage is deeply connected to the local identities and shared values, which can be a great asset in galvanising the interest and engagement of stakeholders and citizens in sustainability transitions. Innovations in co-creation methods and digital participatory tools and techniques, which became mainstream during the COVID-19 pandemic pushing social dialogue to the online realm, invite us to rethink how we can engage diverse social groups in heritage

valorisation, while remaining inclusive and pro-active towards the 'silent stakeholders' and marginalised groups that seldom engage in public debate.

The third challenge that will affect the way in which we think about and act upon heritage concerns **land use conflicts** due to urban expansion and the housing crisis, which puts an enormous pressure on land development. These trends are a threat to water-linked heritage, with some heritage sites, particularly 20th century heritage, being at risk of demolition to make space for new, monofunctional residential neighbourhoods on the riverfronts or transformation that may preserve elements of heritage but as part of gentrified enclaves. Water-linked heritage offers numerous values and lends itself to a diversity of uses that can ensure vitality, quality of life, and strong place identity. In fact, water-linked heritage sites can host different types of activities and functions (from housing and retail, recreation in proximity to water, didactic and cultural activities, to spaces for rebirth of manufacturing and new economic activities), offer unique aesthetic, functional, historical, and often ecological values that allow for weaving old and new identities and attract diverse stakeholders. In other words, water-linked heritage requires special attention from spatial planners and city makers in the face of the growing pressures on land development and the housing crisis to revalorise it and exploit its potential to create new urban qualities and multi-functional spaces rooted in local cultural heritage.

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The idea that water is a powerful way of connecting people, ideas and places is the main lesson from the WaVE project. Studying the way to valorize water-linked heritage is a way to create relationships between stakeholders, because relationships are like water: flowing, always changing and connecting.



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Finally, addressing all the above challenges and seizing the opportunities that water-linked heritage offers for stimulating an ecosystemic shift towards more sustainable cities and regions requires us to **rethink the very meaning of heritage**. Using water-linked heritage as a strategic vector for ecosystemic change requires a degree of flexibility and openness to adaptation of the heritage sites, as opposed to mere preservation, calling for close collaboration with diverse private sector and civil society stakeholders. Moreover, we may need to expand our understanding of cultural heritage, not only to include the intangible aspects, such as traditional techniques and professional skills, stories, and customs, but also combine those cultural elements with aspects of natural heritage. This is particularly relevant for water-linked heritage. By valorising, for instance, ancient dams, riverbanks, or water management practices, we may create synergies with preservation or regeneration of natural habitats and restoration of biodiversity, bringing in a host ecosystem services to the citizens. And, last but not least, in the face of increasingly diverse societies accommodating different cultures, values and experiences, we need to rethink how the citizens perceive and benefit from water-linked heritage and how to create new shared understandings and values related to that heritage. What is at stake here is avoiding to use heritage as a tool for politics of exclusion and, instead, turning it into an inclusion and social integration device. In this, European integration and territorial cooperation programmes that it supports present opportunities to explore and experiment with new meanings and approaches to heritage as a vector of economic, environmental, social and spatial change, as can be very well illustrated by the WaVE project.

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The experience of Wave has completely changed our own vision. We started with a narrow vision of what heritage was, thinking more about hydrology, and how to reuse hydrological heritage. But we have learned a lot about how water can connect many elements in the life of the city and its heritage, and how it can create opportunities for the future. If you are able to have this broader vision, then you can unite the stakeholders to realize change. It has been an extraordinary experience for us because we have discovered a new way to see heritage.



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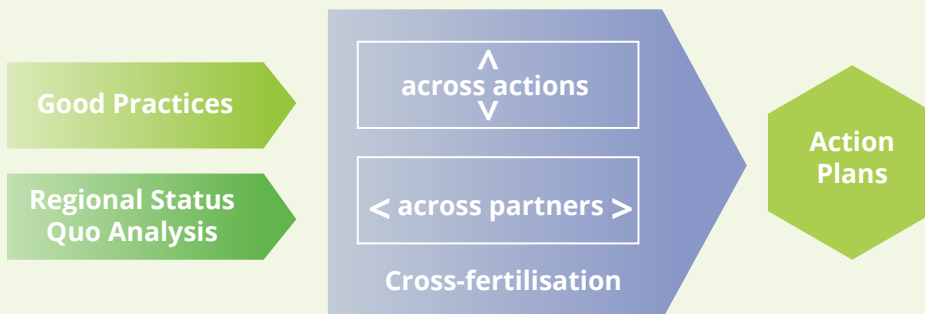
Against this background, it became clear to the WaVE project partners that there is a need to formulate a set of recommendations and guidelines for valorisation of water-linked heritage and disseminate those to influence policy and planning practice, not only within the five locations of the project, but also more broadly across a diversity of European cities and regions. Thus, in the following section, we overview the key lessons from the action plans for water-linked heritage valorisation co-created with stakeholders as part of the project, reflecting on their transferability and applicability to different contexts.

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Learning from the WaVE cases and its potential applicability in other contexts

This section presents the actions that are included in the Action Plans that the WaVE partners prepared for water-linked heritage valorisation. First, we explain how these actions were conceived and defined through a process of cross-fertilisation among the partners. Then, we specify the different types of actions resulting from this process. Finally, we reflect on the potential to transfer these actions to other European contexts.

Figure 1. The process of cross-fertilisation to elaborate the Action Plans



2.1 From lessons to actions through a process of cross-fertilisation

The WaVE project is based on a process of interregional knowledge transfer that was realized through several types of knowledge transfer activities. The most important ones were four IKES (**Interregional Knowledge Exchange Sessions**) focused on the description of the good practice examples, the transfer of good practices and their adaptation to action plans. Furthermore, to be able to adequately transfer the good practices to the local situation, it was necessary to identify the knowledge needs of the project sites. Those knowledge needs were defined on the basis of processes of co-exploration with stakeholders which led to Regional Status Quo analyses conducted by partners for each of the project sites.

After identifying the good practices and local knowledge needs, the next step was a process of cross-fertilisation among partners to define the precise actions. This process was facilitated and stimulated by different online meetings and discussions. These included plenary meetings and bilateral discussions between two partners, and between the partners and TU Delft, in which the latter performed as facilitator, critical observer and advisor. Fig. 1 shows the main steps of the process that led to the elaboration of each of the five action plans of the WaVE partners.

Besides the identification of the actions to be included in the plans, the successive online meetings and lively

discussions among partners were useful for partners to get a better understanding of the impact of the proposed actions. They also led to an improved coherence and quality of actions as well as more realistic ambitions about the amount of possible actions to apply. Furthermore, they contributed to the overall improvement of the “tailor-made transformation” actions in order to fit into the specific local or regional context of the different sites.

2.2 Types of actions resulting from interregional cross-fertilisation

The above-mentioned process of co-exploration with stakeholders, learning from the experiences of other locations and a process of cross-fertilisation within the WaVE consortium led to elaboration of five action plans, including eighteen actions to be taken to drive change in the approach to water-linked heritage. Amongst these diverse actions elaborated across five different European locations, we can distinguish four types: (1) actions aiming at communicating and storytelling on heritage; (2) actions that entail creating imagery and databases on heritage in a given area; (3) actions that involve implementing flagship or frontrunner projects to create momentum towards change; and (4) actions

that aim at bringing stakeholders together across organisational and sectoral boundaries. These types are outlined below, while details of the actions representing each type can be found in the [WaVE action plans](#).

Communication and storytelling

The first set of actions co-created with stakeholders in the WaVE locations aim at creating awareness of the added value of water-linked heritage among citizens, civil servants, politicians, developers, town planners, architects, real estate owners and other local stakeholders. These actions entail storytelling on heritage features and their past and future values in the context of regional and urban (re)development and maintenance of cultural and natural heritage sites. The goals of these actions are to facilitate and stimulate initiatives aiming for a bottom-up approach to develop policies for water-linked heritage, while building awareness and appreciation of the role of water-linked heritage for the identity of the sites in question, for the city or the region. Examples of such actions include the ‘Place maker’ action of Breda, intended to use cultural events around water-linked heritage to engage the so-called ‘city makers’ from the private, governmental and civil society sectors in transformation of the CrossMark area; or the ‘Wiki’ on water-linked heritage put forward in the case of Aarhus, envisaged as a tool to co-create knowledge of water heritage and communicate stories related to it.

Figure 2. Viking stoplights from Aarhus, creating awareness of the Viking roots of the city



Databases and easy to understand imagery to support the bottom-up making of plans together with stakeholders

The second type of actions elaborated by the WaVE partners together with the local stakeholders are tools to catalogue and store the information on heritage values and to communicate that information in an accessible and visual way. By this, heritage values can be integrated in future policies and spatial designs for area transformation designs and easily communicated among diverse stakeholders. To create a broad and full understanding, maps, pictures, databases, and 3D imaging are useful to clarify the goals and focus of poli-

cies and proposals for spatial change involving heritage sites. Thus, an image is worth a thousand words, as the saying goes. What is more, easy to understand imagery not only draws the attention of stakeholders, but also limits the scope for divergent interpretations of the changes planned, limiting the risk of future conflicts among stakeholders, while triggering imagination and stimulating bottom-up engagement in planning and design activities. This type of actions can be best illustrated by the heritage maps elaborated as part of the pilot action undertaken by Ister-Granum region (see Fig. 3), or the online heritage map elaborated by Breda, offering an attractive visual tool for both experts and laymen to get insight into the planned heritage valorisation projects.

Figure 3. Ister-Granum water heritage map prepared as part of the WaVE pilot action



Coordination actions to break 'silo thinking' within and among heritage-related organisations

The fourth type of actions concern the improvement of coordination and communication processes within and among organizations with a stake in the process of water-linked heritage valorisation, with the purpose to break "silo-thinking" and to achieve a more effective (re) development process and higher outcome quality. The reason behind this type of actions was the realisation of existing conflicts of interest between different areas within and among heritage-related organisations. In actual practice, such "silo-thinking" is especially seen in the municipal areas of urban development and urban management, which have very different interests and priorities. In many cases, such priorities are guided by aldermen with different political backgrounds.

It becomes important to identify such differences and conflicts at a very early stage in order to promote understanding and a coherent approach with support of all stakeholders. Constant exchange and reciprocity between disciplines and stakeholders (Fig. 5) enriches both process and content of the actions and motivates stakeholders to work together. One example of such action is the Water Table proposed in the action plan of Breda intended to bring together diverse regional and local stakeholders to create new synergies between them and develop an innovative cultural and natural heritage valorisation strategies.

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We celebrate locally distinctive heritage because it gives meaning to places and fosters sensitive urban development in harmony with its setting. We must create an inclusive planning process that can exploit the attractiveness of water-based heritage to foster collaborative joined-up solutions across the built, natural, and cultural environments.



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Figure 5. Stakeholder workshop in Ravenna

The following table (Fig. 6) presents the four types of actions mentioned before, and the specific actions that correspond to each type. These actions are explained in detail in the five action plans prepared by the WaVE partners - Breda, Alicante, Ravenna, Aarhus and Ister Granum - available via the [WaVE online library](#).

Besides its core aim towards the implementation of a process of interregional knowledge transfer to identify the most effective actions to prepare the five action plans, the WaVE project also aims towards promoting a process of international knowledge transfer towards European regions. The next section addresses the potential transferability of the above-mentioned actions to other cities and regions.

Figure 6. Overview of actions as part of the action plans in the WAVE participant cities and regions

	Breda	Alicante	Ravenna	Aarhus	Ister Granum
Communication and Storytelling					
The Booklet				■	
The Wiki				■	
The signs				■	
Newspaper-to-public dialogue				■	
Place maker	■				
Integrated storytelling	■		■		
Inventory and promotion					■
Data bases and imagining					
Heritage Map+	■				
2D/3D imagining		■			
Entrepreneurial ecosystem			■		
Front runner flagship projects					
Iconic water-linked heritage symbol			■		
Revitalization of heritage Mills					■
Development Bridge Guard project					■
Director Plan for the Tibi reservoir		■			
Recover water surface in Relleu reservoir		■			
New business opportunities by investments		■			
Coordination actions to break 'silo thinking'					
Water table	■				
Anti-silo thinking planning approach	■				
Upgrade coastal management system			■		

■ actions as part of the local action plan

2.3 Transferability of the actions to other contexts

While each of the actions mentioned above has been co-designed with local stakeholders and tailored to the local context, on a more abstract level, most of the actions developed as part of the project are transferable to most contexts found in European cities and regions, with a degree of adaptation to the local conditions and tailoring to take advantage of the specific local assets and knowledge for effective implementation.

An important lesson from the WaVE project is that the transfer of good practices and policy actions across different settings is not about simply taking a solution from one place to graft it into another place. In fact, it is critical to develop an in-depth understanding of the original context and the differences with the context for which heritage valorisation policies are to be developed. Such an understanding of both contexts and of what made the original practice work (resources, enabling factors, actors, timing) can be developed in a process of an iterative dialogue between the 'senders' and 'recipients' of knowledge, as happened between the WaVE partners, informing the process of transfer of solutions and mutual learning. That said, what also matters for a successful policy transfer is adaptation and fine-tuning of the knowledge transferred to the local conditions. Such a process of 'translation' of the 'imported' knowledge also requires a dialogue, but with the local stakeholder networks, allowing for combining insights from other places with local knowledge, merging of elements of several 'foreign' good practices and combining with the already existing local initiatives, policies, 'ways of doing things' in order to effectively address the local needs and challenges.

On the basis of the above-mentioned actions, combined with the observation of co-creation and knowledge transfer processes that led to their elaboration and with the insights from the lively debates on water-linked heritage during the project events, we can formulate a set of statements about the future of water-linked heritage. These presented in the manifesto outlined below.

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It was interesting to see how much the diverse cities and locations from across Europe have in common and how they face similar challenges. If we want to face those challenges, we can learn from the experience of others.



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Manifesto on the future of water-linked heritage



1 Water-linked heritage may be the most vulnerable to climate change impacts, but also it can inspire us to develop nature-based solutions for climate adaptation, building on techniques and knowledge from the past.



2 Since water is crucial for local identity and represents shared values, water-linked heritage is an asset in building awareness of climate change impacts among stakeholders and citizens and of the need to embrace water, rather than strive to keep it at bay.



3 Moving away from top-down decision making towards more inclusive and open engagement of diverse stakeholders and social groups in water-linked heritage valorisation is needed to identify and seize the opportunities that it can bring for our cities and regions.



4 Engaging stakeholders in co-exploration of the status quo, co-design of actions to valorise water-linked heritage and co-decision on strategies for their implementation allows for identifying new, often overlooked, potentials and thinking 'outside the box' to overcome challenges.



5 Co-creation of knowledge and solutions for water-linked heritage valorisation is a process that requires building and maintaining relations with stakeholders, which pays off by creating ties and networks that last, supporting long-term collaboration, ownership and social acceptance of heritage valorisation strategies and long-lasting impacts.



6 Storytelling on water-linked heritage is a powerful tool to galvanise the attention and engagement of stakeholders and build up momentum for far-reaching change. Storytelling on water-linked heritage should emphasise place identity (soul), shared values and connections (trust), potential of heritage to create better, more liveable places (quality) through creative engagement of the public (theatre), and bold, visionary interventions and strategies (courage), which all together nurtures collective pride and ownership of strategies and policies.



7 Instead of a human-centred approach to water-linked heritage valorisation, we need an ecosystemic one, in which past knowledge and heritage values inform the design of new landscapes and pathways towards sustainability. In this approach, water is an important element connecting the visions for far-reaching ecosystemic urban and regional transformation with the necessary transitions in the basic elements of the urban systems and structures (energy, mobility, blue-green spaces).



8 To realise the potential of water-linked heritage to be a vector of ecosystemic change, we need to broaden our understanding of heritage, to include not just buildings and infrastructures, but also intangible cultural heritage and natural heritage.



9 As our societies become increasingly diverse and mobile we need to rethink and enrich the meaning of water-linked heritage building on inputs from citizens having different values, cultural backgrounds and experiences, and harnessing the potential of heritage as an inclusion and social integration vehicle.



10 Heritage, like water, is always in flux. Instead of preserving it in its current state, we should be bold about using it to develop dynamic and multi-functional waterfront areas, create new values and new uses of heritage through a process of development in dialogue, nudging our cities and regions towards more sustainable futures.

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