

JOURNAL

PROJECT

DARE - Digital Environment for collaborative Alliances to Regenerate urban Ecosystems in middle-sized cities

📍 Ravenna, Italy

TOPIC

Digital transition

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DARE Journal #1: The Project's Approach

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The DARE (Digital Environment for collaborative Alliances to Regenerate urban Ecosystems in middle-sized cities) project connects urban regeneration with digital transition, offering an integrated, digital-based and citizen centred approach to designing the future of the Darsena. With its focus on digital-based urban regeneration, DARE adds a set of new layers to traditional urban regeneration schemes. This first journal by UIA expert Levente Polyak presents the project's general structure and architecture and introduces its key challenges.

1 Executive Summary

Many European cities have begun their post-industrial transformation already decades ago. However, still today, abandoned post-industrial areas and underused facilities are a common sight across the continent. The future of these areas will be decisive for the future of European cities and one of the key dilemmas of urban policies today is to turn them into engines of sustainable and inclusive urban regeneration.

Ravenna's Darsena district, situated along the Candiano Canal, is one of these areas: once the productive harbour of the city with a collection of port facilities, industrial buildings and warehouses and a workers' neighbourhood developed around them, the Darsena has gradually lost its function between the 1960s and the 1990s.

However, despite having become a stigmatised area in the past decades, the Darsena has not ceased to play an important role in the urban imagination of Ravenna's citizens. This is the potential recognised by the Ravenna Municipality that decided to turn the neighbourhood around with the help of digital technologies, combining a series of ideas and projects into a single regeneration process.

The **DARE** (Digital Environment for collaborative Alliances to Regenerate urban Ecosystems in middle-sized cities) project builds on the skills of the people living, using or interested in the Darsena area. Mobilising a partnership that combines strategic management and design experiences with technological and research know-how as well as participatory processes, community finance and communication, DARE brings together inhabitants, civic initiatives, private companies and public officers connected to the area to shape together the neighbourhood's future.

This process is facilitated by a **digital environment** that not only collects all data and information available about the Darsena and its history but also opens knowledge production about the area to a broader community. Furthermore, this digital environment, composed of a data layer, an editorial layer and a presentation layer, also helps in the creation of a digital culture among citizens that helps them acquire new skills and enables them to participate in the regeneration process.

This digital environment is put into action by a series of **training, education and participation activities** such as games, designed to help the Darsena's population understand better their area, develop new skills, become protagonists of their neighbourhood and improve their quality of life. Through collecting relevant data, mapping practices, projects and policies that impact the Darsena, gathering stories and collecting ideas, the DARE consortium assures that the needs, knowledge and skills of the area's inhabitants and workers are incorporated in the area's regeneration process.

Telling the story of the Darsena's transformation is key to accompany the area's physical transformation with changing the self-image of the neighbourhood. The project's storytelling is coordinated by an editorial board, composed of project partners, that works on connecting stories, content and narration towards a collective narrative of the urban regeneration programme. This narration is conceived as a component of the regeneration process itself.

DARE offers a model to rethink the potentials of transitional neighbourhoods in Europe. With the help of a digital space that brings together knowledge, skills, ideas with assets and opportunities in a specific area, DARE turns deficiencies into opportunities. The digital tools, methodologies and participatory processes co-designed by the DARE consortium can **inspire many cities** with similar dilemmas to make better use of their resources.



Event in the Darsena

2 Project Overview

2.1 The history of the Darsena

The Darsena is a dock area in the city of Ravenna, built around the Candiano Canal. Although the canal is no longer navigable for commercial purposes, it was once the productive port of the city with all the industrial settlements, warehouses and factories dating back to the 1800s. It was the city's harbour, a link between the inhabited area and the sea, and Ravenna is considered a seaside city precisely because of this neighbourhood. Around the canal, there is a workers' district that has always been considered a somewhat devalued area.

Beginning with the 1960s, Ravenna's harbour moved closer to the sea. As a consequence, many buildings in the Darsena area lost their function and most companies operating along the canal shut down their activities. The Darsena had become a degraded area during the 1990s, subject to various regeneration projects in the past decades that attempted to reconnect it with Ravenna's historical centre.

In the past years, the Darsena has attracted a lot of attention. With scenic views of the canal and a growing variety of new leisure activities within a post-industrial setting, the Candiano Canal and its surroundings have become a beloved area for urban exploration and urban photography. While public space interventions and new venues popping up along the canal have attracted new groups to the neighbourhood, giving new perspectives to the area's latest regeneration plans, it is hoped that this new energy will also reach Ravenna's most intercultural area behind the Darsena.

2.2 The urban planning policy context

The regeneration of the Darsena has been on the city's agenda for decades. First, there has been continuous work on improving the architectural aspect of the neighbourhood, focusing on physical urban regeneration, relying mostly on private investment. Successive masterplans all focused on the architecturally most interesting waterfront area, aiming to reconvert the abandoned production plants along the canal. The creation of a public-private agency for the promotion of real estate investment in the area resulted in a few classic housing projects with no significant impact on the neighbourhood.

In 2015, the city council approved a municipal regulation on temporary use, enabling the re-use of vacant lots and buildings in the area. Encouraged by this regulation, a new generation of initiatives has arrived to the Darsena, bringing a variety of social and cultural initiatives to the vicinity of the canal. From beach bars and sport centres to event venues and coworking spaces, temporary use projects have brought new energies both into the demography and the economy of the area. The temporary use projects were complemented by interventions to upgrade the area's public spaces: new sports fields and a new boardwalk gave a new look and easier access to the canal area.

The new dynamics of the Darsena, the arrival of new cultural and social activities as well as new social groups to the neighbourhood and the growing interest in the area's social imagery have created a peculiar setting. This context serves as a favourable backdrop for DARE, a new regeneration project built on the Darsena's memories, images, emotions, desires, knowledge and connections.

"Many regeneration projects don't succeed, partly because they don't manage to establish the right contact with the public." Morena Brandi, Municipality of Ravenna

2.3 The DARE project's approach

The DARE (Digital Environment for collaborative Alliances to Regenerate urban Ecosystems in middle-sized cities) project connects **urban regeneration with digital transition**, offering an integrated, digital-based and citizen centred approach to designing the future of the Darsena. With its focus on digital-based urban regeneration, DARE adds a set of new layers to traditional urban regeneration schemes, introducing a series of innovative elements that are novel to even compared with the most inclusive methodologies based on participatory design and planning processes.

Digital-based urban regeneration means introducing a set of enabling technologies to activate urban actors; developing an inclusive and accessible digital culture to help citizens become city changers; and combining (digital and non-digital) data, collaborative and e-democracy tools to support decision-making.

DARE's **data infrastructure** is not a goal in itself: the assembled data enhances the different stakeholders' knowledge about the area and supports their imagination and ideas. With citizen involvement and participation at the core of the project, all this digital framework serves to help the Darsena's population understand better their area, develop new skills, improve their quality of life and become protagonists of their neighbourhood.

Telling the story of the changing Darsena is integral to the success of the area's urban regeneration. Physical interventions and development need to improve the opportunities of residents, based on the changing self-image

of the neighbourhood and on cooperation with the Darsena's residents, businesses, initiatives and institutions.

"The most important thing about data is what people make out of it: data is used here to empower people's ability to imagine different scenarios." Antonella Guidazzoli, CINECA

2.4 The DARE working methods

DARE does not consist of a preconceived urban strategy: in order to define the directions and elements of the Darsena's future development, the consortium builds on the Agile methodology and on strategic incrementalism. The **Agile methodology**, organising the process into several phases, invites cyclical feedback from all project partners and allows for adjustments or improvement at all stages. This method, conceived as a series of cycles where partners offer new input to each other, allows all partners to reflect on each other's needs and to help define the data or technology to be used.

Strategic incrementalism, the methodology used by the Process Organizers Team to coordinate the territorial development of the Darsena, refers to an idea of urban transformation done gradually, with successive steps made towards a long-term strategy that directs these steps while also being shaped by them. Participation is a core element in this method as well: while the contribution of local stakeholders is decisive and fundamental, the process begins with an analysis of the territory that helps in identifying development potentials and tries to leverage local resources and energies in order to set the first steps of the urban regeneration strategy.

"The Agile methodology allows all partners to express their ideas from epic visions to user stories, analyse these visions and segment them, thus understanding what technologies or data are needed for their realisation." Cinzia Zannoni, CINECA

2.5 The architecture of the project

With the involvement of the consortium partners and a broader group of stakeholders, DARE is conceived as an urban regeneration programme intertwined with a **digital environment** that supports knowledge generation and exchange about the Darsena and an extended **digital culture** among citizens that helps them acquire new skills and enables them to participate in the development process.

In order to provide the maximum of available information about the area and involve the broadest possible community in the regeneration of the Darsena, the DARE approach proposed a **three-layer digital environment**, which is composed of a data layer, an editorial layer and a presentation layer.

"We have to create a flexible ecosystem that is capable of handling a variety of data arriving from different sources into the data management platform." Antonella Guidazzoli, CINECA

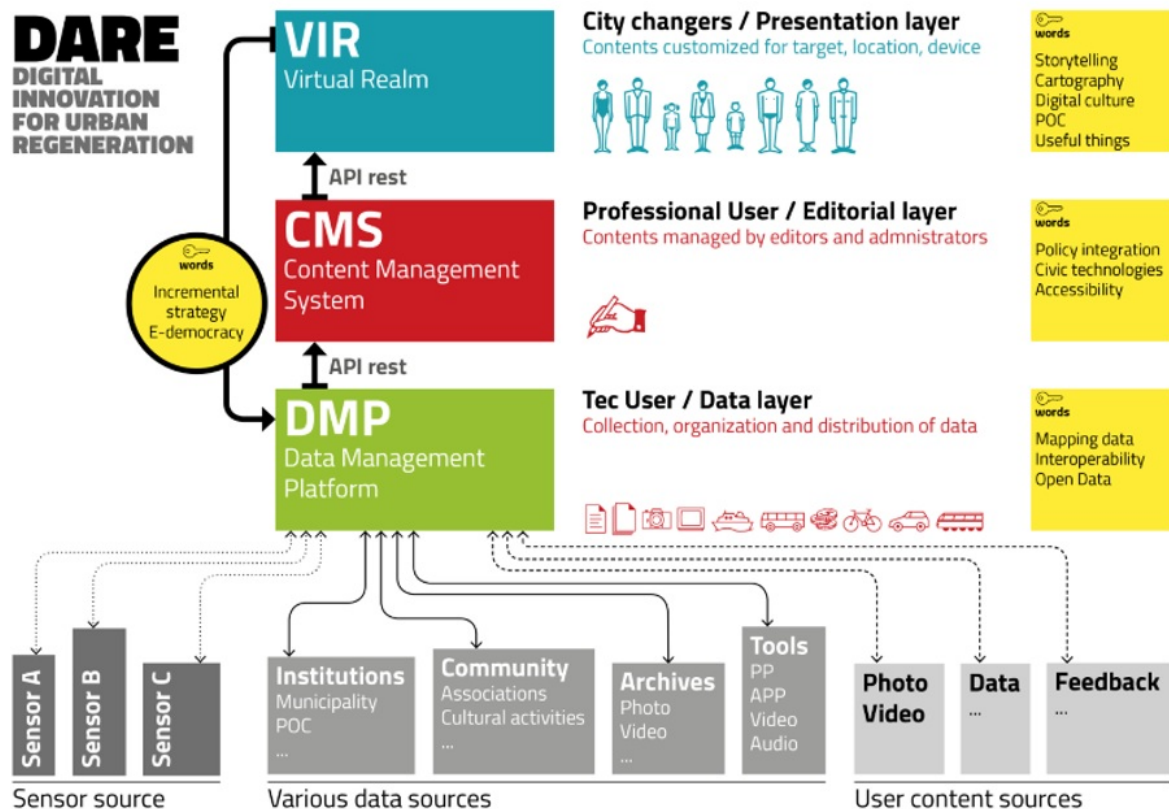
The **Data Management Platform** (DMP) is the backbone of the collection and preservation of data. It is designed to process, manage and keep updated all data from the city council databases and other sources, including data generated by citizen scientists. The platform enables DARE's digital ecosystem to be connected to other databases and integrate specific, already existing platforms developed by project partners. For instance, CINECA's IMediaCitiy collects films and audio-visual materials connected to the Darsena, enabling users to reconstruct the area's histories and identities through its visual representations. **ENEA's Smart City Platform** allows users to interact with sensor data and open data of the Ravenna Municipality. In order to design the DMP, a **Data Census** was created: a survey of all the data available with all their features, which all the partners are able to update with new, different kinds of data, such as historical, GIS, audio-visual or social data in various forms like shape file or geographical files.

"The data management platform will allow the automatic update of quality of life indicators, for instance, without doing surveys and analysis every time. This technological backbone makes data persistent and updatable." Cinzia Zannoni, CINECA.

The **Content Management System** (CMS) is conceived to collect data from the data platform and create different outputs. As a multi-user and multilingual publication system, the CMS is configured as a general environment for collecting, storing, indexing and displaying content, making data available to end users with a simple user interface. Photos, texts and other content produced in the CMS will remain in the library system after the end of DARE as well.

The **Virtual Realm** (ViR) is the graphic interface of the DARE project, available as a mobile and desktop app and spread to multiple social media platforms and contexts. Serving as the top level of the project's digital environment, the ViR goes hand in hand with the development of the project, and the activities that are organised around it. With its attractive design and user-friendly interface, the ViR functions as a presentation layer that allows users to interact with the underlying system and resources and translates data to users and target groups in an understandable way.

The three levels of the Data Management Platform, the Content Management System and the Virtual Realm constitute the digital infrastructure of DARE. At "Level 1", the DMP serves as the basis of the entire structure, capable of receiving and retrieving data from the most disparate sources (sensors, archives, etc.). At "Level 2", the CMS is responsible for aggregating and processing data, making them usable. Finally, at "Level 3", the Ravenna Darsena portal is the virtual interface where people can interact, share information, and collaborate to transform reality.



The three levels of the DARE project's digital environment

3 Challenges

3.1 Leadership

The DARE project enjoys broad political support and three deputy mayors are directly involved in the implementation. Digitalisation is on the agenda of all political parties and both the city council's majority and the opposition are following the project. One of the key objectives of DARE was to design a project that does not depend only on the municipality as a driving force but can rely on a variety of partners.

The **DARE partnership** combines strategic management and design experiences with technological and research know-how as well as participatory processes, community finance and communication. The management role of the Ravenna Municipality is complemented by strong competencies in strategic design (University of Bologna, Chia Lab). The technological expertise of CINECA and ENEA that will be used to build DARE's digital environment, adds to the competences of local partners (CIFLA, CNA and Legacoop) to involve all target groups. On the national and international level, BiPart provides knowledge of innovative democratic processes, while ECN supports processes of crowdfunding. In addition, Studiomapp helps the measurement of wellbeing and Certimac leads wellbeing-related activities in connection with energy and the built environment.

To orchestrate the process in a participative way, the partnership not only brings together a variety of skills but also shares responsibilities and decision-making competences. Therefore, the partnership set up a **process governance structure** composed of the Process OrganizerS Team (POST), and a Polycentric Urban Structure.

DARE's participatory logic prompts the municipality to act as a process enabler, helping its partners and communities to use their best competences in co-designing the future of the Darsena. Such shared leadership requires the creation of a governance structure, the **Process OrganizerS Team** (POST) that monitors processes and connects strategy, opportunities and needs in the form of policymaking bodies, economic initiatives and citizens. The POST's role is to channel citizen participation into the DARE as concrete and feasible integrated actions.

The POST consists of a team of experts selected through a public procurement. The entity chosen for this role is MultiLab, a multidisciplinary group composed of the organisations KCity, Nomisma, LABSUS and Politecnica, bringing together expertise in the fields of strategic design, urban regeneration, real estate development, social innovation, collaborative governance, economic and technical feasibility, as well as fundraising. Besides supporting the partnership in a variety of activities, the MultiLab's key responsibility is to organise a participatory process related to the urban regeneration tactics of the Darsena, to evaluate the feasibility of the collected proposals, enable their realisation with financial planning support and organise their communication.

The **Polycentric Urban Structure on Digital Culture** consists of a series of venues to host DARE events and labs. These venues include Almagià, a multifunctional cultural place located in Darsena, Laboratorio Aperto (a digital education centre located in the Museo d'Arte della città di Ravenna), Tecnopolo (a set of scientific and industrial research laboratories) and the municipal building of Ravenna's 3rd District (covering the Darsena area).

3.2 Public procurement

The project's needs in personnel, technological equipment and expertise have been well defined and targeted in the application and the implementation has been consistent with the original plans. Some parts of the procurement process are taking longer than expected but these delays can be recovered later.

3.3 Participative approach for co-implementation

Participation and collaboration are at the core of DARE. The involvement of various communities in the regeneration of the Darsena is organised at different phases and levels of the project. An informed participation of the broadest possible circle of stakeholders requires support to more marginal groups and individuals. A key challenge to effective and inclusive participation is the **digital divide**. In order to overcome this divide, a series of trainings have been designed to prepare both local citizens and companies for collaboration. While the lockdown accelerated the use of digital tools and prompted various social groups to acquire new digital skills and awareness, the DARE project designed a series of methods and incentives for more effective digital learning and exchange.

In order to reach the most important target groups of the area (non-working age residents, young adults, local entrepreneurs and public officers), the consortium created a **Digital Facilitation Team** (DFT) with eight facilitators to match the four specific target groups, and two specialised in civic journalism and crowdfunding. Digital facilitators, also following a learning path themselves, represent a bridge between those who need support to develop their digital skills and constantly evolving technologies, promoting the use of digital technologies among citizens, institutions, companies and professionals.

After reaching out to the target groups and exploring their digital knowledge through a series of "storylabs" taking place in different venues across Ravenna, the facilitators of the DFT co-designed a specific training process to address each target group, leading them to take an active role in the digital activities defining Darsena's urban transformation. The digital training process includes an Open Badge to recognise digital competences, an e-learning toolkit to help disseminate the training paths and a library of digital culture.

"Social media is important, but it cannot be the exclusive core of our communication strategy in Italy, especially for the elderly. It was very important for us in the beginning to involve local newspapers and printed newspapers that have quite a distribution in Italy. To reach those under 16, the most efficient way is to reach the structures where youngsters are for sport or school activities." Emilio Gelosi, Legacoop

In order to connect future regeneration plans with existing needs and already conceived ideas, DARE begins with a careful mapping of practices, projects and policies that exist in the territory and that help identify the main themes, ideas and concerns that Ravenna's concerned citizens have projected onto the Darsena. Findings of the **mapping process**, enriched with the help of interviews and workshops, are developed into planning guidelines, to be turned into possible "tactics," or sets of integrated projects through a selection by citizens with the help of an

e-democracy exercise. In this process, the municipality is supported by the consortium's Process organiserS Team (POST) to guide and support organisations and citizens in developing collaborative projects.

To assure participation at different phases of this collaborative planning process, a variety of e-democracy tools are used to involve citizens in different ways. The role-playing game Empaville allows participants to think through the needs and interests of others while other platforms are used to vote for the tactics at the end of the process. These tools serve more than the creation of learning communities through easier access to digital education: they **enable people to be active protagonists in the participatory process** by not only expressing desires, but also proposing, designing and implementing new projects together.

"The idea is to involve people in different phases, to make proposals on the platform and keep following and discussing, trying to overcome the problem of physical distance. People cannot come together every time, so the platform should help to increase the opportunities of participation and interaction." Stefano Stortone, BiPart



Announcement of storylabs targeting four different social groups

3.4 Cross-department and integrated management and implementation

The DARE consortium has developed a working model for the project that includes a variety of working groups as well as a well-defined governance model to assure the participation of all partners and actors in all decision-making and operational steps of the projects. DARE involves all areas within the Ravenna Municipality, in particular Human Resources and Quality Services, European Policies and Territorial Information Systems. The departments of European Policies, Urban Regeneration and Smart City are directly represented in the project. DARE is an experiment to bring together these departments with a new methodological approach that connects urban regeneration with a horizontal approach to participation. The various working groups ensure the engagement of all departments in different phases and tasks of the project. This transversality is achieved in the project's first period and special attention will be devoted to guarantee its continuity.

3.5 Monitoring, evaluation and measurement

The DARE consortium is engaged in developing a monitoring, evaluation and measurement framework together with its local stakeholders. This framework, in progress at this phase of the project, will assess the impact of the urban regeneration process, both for the project's 3-year period and on a longer term. A process of methodological work has been implemented by BiPart in order to define a set of governance indicators that will be monitored over time during and beyond the DARE project; the draft governance indicators were presented in September 2020.

3.6 Communication with target beneficiaries and users

Communication with beneficiaries is a key element of the DARE project. Communication in the form of participatory processes or the sharing of data and knowledge between consortium partners and the broader community takes place at a variety of channels and events. The project's low-barrier communication channels do not only facilitate the broader community's access to information and data related to the Darsena, but also turn communication into a participatory tool by amplifying the voices of various stakeholders.

Telling the story of the Darsena's transformation is coordinated by **DARE Redazione**, the governance body of DARE's communication activities. DARE Redazione, composed of all project partners, acts as an editorial board that connects stories, content and narration, working towards a collective narrative of the urban regeneration programme of the Darsena, to involve people in the regeneration process. Using the Darsena Ravenna website as its interface, DARE Redazione assembles many voices to tell the story of urban transformation of the Darsena, serving also as a press office to provide information to the public. Through its collective, DARE Redazione also helps individual actions find their place in a broader regeneration framework, thus empowering participants and helping further develop the Darsena's ecosystem.

Storytelling plays an important role in the editorial activities of DARE Redazione. Citizens are encouraged to develop their own stories with the help of **civic journalism** experts. Stories are collected directly from residents and they are organised according to concepts, keywords and ideas, as part of the editorial and interpretation work. Storytelling, amplified through the use of various social media channels, also helps aggregating and connecting seemingly distinct data and sets of information, allowing participants to recognise patterns and opportunities in the Darsena's transformation.

Another communication instrument of DARE is the **Darsena Living Archive** (DA.LI.A) developed by the Bologna University's FrameLab. Conceived as the digital archive of the Darsena, DA.LI.A's objective is to recover part of the area's past and regenerate its connection with the sea, by making available historical documentation and materials to the wider community in a user-friendly form. Locating resources in the Darsena area is helped by "storymaps" that collect various media (texts, pictures, videos, data) to narrate stories, while providing the public with detailed, geolocalised information.

"Users can use DA.LI.A to see, for example, a historical building related to the area of the docks of Ravenna, associated with particular information and specific pictures. It is not only aimed at experts, but to provide the public with the most precise possible information." Marco Carnaglia, FrameLab

3.7 Scaling up

The DARE project has a clear vision of how to transfer and upscale its methods both to other parts of Ravenna and to other cities.

The DARE platform acts as a digital urban space that, starting from the experimentation at the Darsena, can be later on extended to the whole area of Ravenna, and be taken as a model in other cities and countries as well. The Darsena's regeneration process serves as a pilot example for medium-sized cities in the Mediterranean and Eastern Europe with a high amount of abandoned and underused sites, with low level of digital knowledge among citizens, and with public administrations committed to rethink the socio-economic dynamics of a specific neighbourhood or town. **DARE's Data Management System** could be used to support the governance and development of various districts and cities, based on the understanding and monitoring of quality of life indicators in the city.

This digital space is situated in a **broader process of collaborative urban regeneration**. The architecture of DARE with its governance, storytelling dimension and digital support can be replicated in other districts or cities. The various training, education and participation activities organised by the consortium are captured in a series of tools that can be transferred from Ravenna elsewhere: the compilation of the e-learning toolkit, the recognition of competences with the Open Badge system, and the access to the digital library are a combination of materials that enables other cities to make use of the knowledge developed by the DARE consortium.

4. Conclusions and lessons learnt

In the first period of its lifetime, the DARE project proved to be more relevant than ever. With the COVID lockdowns and the accelerated digitalisation, the path opened by the Ravenna Municipality and its partners have turned into a key strategy to prepare the Darsena and Ravenna for future challenges. While certain elements of the participatory processes were hindered by the successive lockdowns, the need for wide-spread digital competences has become clear for everyone. The success of the project's online and offline participatory

activities as well as the intensified interest in digital means of communication and participation confirmed the presumptions of the project and broadened its outreach.

With participation and communication at the core of the DARE project, many of the project's working processes were not pre-defined: instead, they have been co-designed with consortium partners and a broader group of stakeholders. With certain governance, communication and data management structures in place, innovation within the project is not concluded: DARE's in-built incremental logic and agile methodology assures that certain decisions are revisited, and directions are adjusted according to recurrent feedback cycles.

Ravenna recognised that improving the capacities of a neighbourhood's inhabitants and users will add to the collective competence of that neighbourhood. Building an inclusive digital transition process around the Darsena demonstrates that instead of the dehumanising smart city concepts seen in many cities around the world, a citizen-centred approach can offer a viable alternative. In this alternative, data collection and aggregation is not an end in itself but a means to develop new discussions and connections among citizens, civic initiatives, private entrepreneurs and public officers.

While physical sustainability lies in the reuse of existing buildings, spaces and materials, social sustainability builds on a convergence of needs, ideas and proposals connected to an area. Building online and offline processes to reanimate the Darsena's imagination is a crucial ingredient in the Darsena's future: it is with a multitude of different actors and competences, that these processes are woven together in the project's tissue, constituting a more complex vision of the Darsena, connected with the neighbourhood's needs and aspirations through many strings.

Digital transition

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