

## JOURNAL

### PROJECT

GreenQuays - Urban  
River Regeneration  
through Nature  
Inclusive Quays

📍 Breda, The  
Netherlands

### TOPIC

Sustainable use of land  
and nature based  
solutions

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EXPERT

# GreenQuays Journal 2: Progress on tackling the major implementation challenges

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website



The second Journal of GreenQuays explores how the project continues to deal with the seven major implementation challenges of innovative projects.

The GreenQuays project delivers inspiring nature-based solutions in a dense urban setting. Thereby, it faces all the seven typical implementation challenges that have been identified by Urban Innovative Action. The project is managing these well with most of them at low or medium level. A stress test for proving the concepts to effective leadership will be the change of the alderman soon. The participative approach has improved by the intensive design process of the Real-Life pilot in which all partners participated, by learning from experience and recently also due to less restrictions to the COVID 19 pandemic. Specific emphasis still needs to be put on up-scaling activities. A more systematic process is in development and should ensure a broad upscaling of GreenQuays' multiple results.

## Executive summary

Breda's GreenQuays project intends to be a pilot for bringing more nature into the densely built-up medieval city centre by re-opening the River Marks and greening its quays. The challenge is greening it despite flowing between steep quay walls and making the greening nature-inclusive, thus enabling native plants and animals to invade the place.

The project is at mid-term. After having tested different designs in a lab test and at a small-scale test site, the final design has been developed and the construction is in procurement. Building works will start in early 2022. As it can be assumed with an innovative project that develops new and so far unknown solutions, there are several implementation challenges with leadership, procurement, collaboration among others. Breda is however aware of these, observes and analyses them continuously to develop appropriate responses to tackle these.

An asset for making progress and boosting innovation in the project has been the interdisciplinary partnership combining diverse knowledge and capacities. Finding the right balance between leading the overall project and partners' own responsibilities for certain tasks has kept their engagement and their motivation to engage and

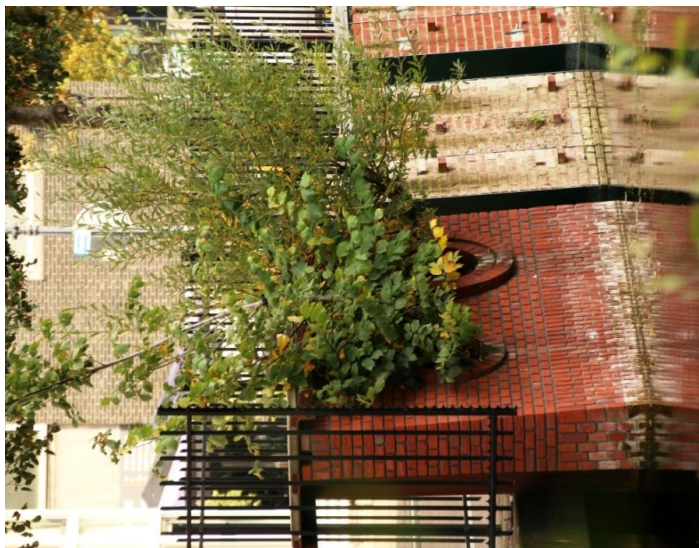
collaborate high. The partners are:

Municipality of Breda  
The Baronie Area Federation of Nature Associations  
Delft University of Technology  
Wageningen University and Research  
Waterboard Brabantse Delta - regional water authority  
Van den Berk Nurseries - private company  
RAVON – NGO  
BLAST - NGO

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## State of implementation

The objective of this project is to design and build Nature-Inclusive Quays (NIQ) to address unsustainable urbanisation, degradation of urban ecosystems, and lack of resilience to climate change in the city of Breda. To develop the design, lab tests and a small-scale pilot to test different wall materials, constructions and vegetation have been established and are running. Monitoring of the small-scale pilot started in May 2020 and has delivered data for successful wall designs and plant selection, which have been integrated into the final design of the Real-Life pilot. With this, the tests at the small-scale test site are completed.



Small-scale test site with bended trees. Image: Birgit Georgi

The design of the Real-Life pilot was finished in December 2020 and the construction is currently procured. Granting of the contract is expected by the end of the year so that the construction can start early 2022. The design development and the following procurement process have been delayed as a result of the COVID 19 crisis, which slowed down collaborative work. The project received therefore a prolongation of 12 months until the end of August 2023.

Along this development of the main project outputs, a brochure generic NIQ model has been delivered, micrometeorological simulations and the climate responsive design strategy completed. Together with the regional health services (GDD), a survey to explore the baseline for assessing the health impacts of GreenQuays has been conducted and the results are being assessed. The small-scale pilot has been concluded and delivered valuable input for the design of the Real-Life pilot. Monitoring is still going on. It is currently discussed if the test panels can be moved to a different place – they are in the way of the Real-Life pilot – where the monitoring could be continued delivering further results in parallel of building up the pilot.

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## Overview on implementation challenges

## Challenge

## Observation

### Leadership

Challenge level



Current leadership by the city council and alderman is very supportive to Green Quays. Politicians embrace the project also due to its innovative character, which brings them high visibility. This strong support needs to be nurtured and sustained in the future, i.e., the impacts of the change of the alderman need to be monitored.

### Public procurement

Challenge level



The main public procurement is for the construction of the Real-Life pilot. As the technical design and with it the exploration of innovative solutions has been already done by the project team, the procurement follows rather a business as usual procedures. 5 competent companies have been selected to provide an offer end of 2021.

### Organisational arrangements within the urban authority

Challenge level



While there is generally no hesitation to collaborate between the different departments in the local authority, this currently happens with less departments than actually possible as the topic of the project would offer. A challenge is that cross-departmental collaboration is not fully developed. In general terms in the municipality. In this regards GreenQuas with its interdisciplinary character can deliver even a positive impact. A broader collaboration with involving more departments would also be supportive for mainstreaming and upscaling the results of GreenQuays.

### Participative approach for co-implementation

Challenge level



Participation related to the GreenQuays had already started earlier with the broader project Nieuwe Mark; it was less needed in the design process. Still COVID 19 restriction have substantially hampered participatory approaches but also shown new ways. With less restrictions now, physical meetings have been taken up. Co-creation concentrates now on upscaling experience and results on nature-based solutions, promoting biodiversity in the city and a climate-adaptive design in the surrounding of the quays and beyond. Inside the partnership the collaboration between partners has been very good, effectively building on self-responsibility, trust, high motivations and fairness in decision-taking. Collaboration has been challenged, but that has not particularly compromised the quality of work; it only led to a delay.

### Monitoring and Evaluation

Challenge level



The project has well solved the problem of lacking knowledge to monitor health impacts by a fruitful collaboration with the regional health service GDD. Other monitoring activities have been running as planned, although biodiversity monitoring by volunteers had started later due to the COVID 19 situation. A challenge ahead will be to continue monitoring after the project ends as final results will only be delivered after several years. Breda is committed to find a solution for this.

### Communication with target beneficiaries and users

Challenge level



Communication has been challenged by the COVID 19 pandemic as it had been done online mostly but physical interaction can pick up now again. Breda's communication has mostly concentrated on the area / the city itself, but should be broadened to a wider audience now to prepare the ground for mainstreaming and upscaling.

#### Upscaling

Challenge level



Currently, ideas for mainstreaming, dissemination and upscaling the different results are still loose entities, apart from their application in the broader New Mark development. The task is to develop a much more systematic and broad approach with the inclusion of all partners. The first draft of the exploitation strategy and the brainstorming session with all partners have been steps in that direction.

## Implementation challenges

### Leadership

The character of the GreenQuays project with its innovative solutions requires a visionary and supportive leadership. In continuation of Journal 1, the support by leaders concerning the project is further considered as very good. So far, the alderman for city development has been strongly engaged. Furthermore, the City Council is very much in favour of sustainable development and nature-based solutions. The politicians continue being enthusiastic about the project and the overarching Nieuwe Mark project, of which GreenQuays is a part of, and support it actively. The recently published animation about the project made them even more engaged. By constantly informing the political level about new developments in the project and bringing each step into the decision-making process to the City Council for approval, the team not only informed the decision-makers but kept their enthusiasm and trust up. The alderman is not only constantly informed on the progress, but also included in open discussions when problems, like delays, arise. This keeps him very close to the project and builds trust. The trust in turn provides the project team the necessary space to work, test different solutions and approaches, eventually fail in parts and learn quickly from this experience and adjust the solutions.



[Animation of the GreenQuays](#). Source: Breda municipality

As everywhere, there is a risk that elected representatives as well as priorities could vanish over time. The risk of dropping interest in promoting GreenQuays and the broader city development of the Nieuwe Mark, which it is part of, is however seen as low for it is well embedded in Breda's [Environmental Strategy and Vision for 2040](#), which includes a city in a park vision. This strategy is currently discussed in the Council and will be adopted in the coming months. This provides a very good ground for the project. Even more important, GreenQuays will be a pioneer for the broader city development and achieving that vision. With its iconic solution it can even brand the city and make it visible and attractive beyond its borders. Soon however, the alderman will leave his job; this will be a test, if the approach to leadership worked and the project achieves the same level of support.

Building a strong leadership is also supported by engaged persons in key positions that work as a kind of ambassador for the project. For example, the former initiator of GreenQuay has changed his job, is now a foreign affairs officer in the municipality with widespread connections. He writes GreenQuays into speeches, booklets etc. ensuring thus that it is always in the mind of politicians and decision-makers and broadly present as a shining

example branding Breda.

At the project level, strong leadership is requested as well. Right from the start, the project lead has focussed on leaving each partner own responsibility on their tasks and trusted that they will organise themselves. This created indeed ownership, enthusiasm and trust. At the same time, the lead attempts to be in touch with each and monitors the progress to advice and steer where needed. The lead needs to observe if the right balance of this approach is met and where it needs to be adjusted. A need for adjustment can also arise during different project phases. Currently, the tasks are changing from preparatory tasks and tests to procurement and construction of the site. This means less input from most partners and waiting for the site getting ready. This creates a new situation for the project lead in creating tasks and procedures to keep up the strong ties with and between the partners and their enthusiasm. Overall, the perception of that leadership by project partners is good.

**Options to act:**

Continue as done so far with:

- Constantly inform and involve the political leaders;
  - Keep embedding / linking GreenQuays into other urban development projects and initiatives;
  - Use the monitoring results as evidence for the success and communicate this to leaders;
  - Despite shared responsibilities between project partners, ensure and support the integration of tasks and results by the project lead.
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## Public procurement

The main procurement activity of GreenQuays is for the construction of the Real-Life pilot and establishment of adjacent green spaces, which is currently ongoing. Comprehensive national procurement schemes are available, and rules are followed. 5 potential bidders have been identified and requested to write an offer. As Breda municipality has the technical expertise inhouse, they have developed together with the project partners the detailed design for the Real-Life pilot themselves and have tested the feasibility and effectiveness of different potential construction solutions and plant growth at a small-scale pilot. This meant that most questions concerning innovative solutions have been discussed and decided before the actual procurement. This is only needed for the construction work itself and rather business as usual. The potential bidders have got very specific requirements for the design and its execution – a document of around 40 pages. Thus, the inherent risk of innovative design is rather left on the municipality than the constructor.

A European procurement process is very lengthy, which is normal for large-scale projects, but it became even longer due to COVID 19. For the project that poses a challenge as it stands still. There is no progress visible for a longer time, which can challenge the team spirit. The project may get out of their focus. The continued monitoring of the small-scale test panels may be an option to keep the attention.

Other risks are that the prices in the offers will be higher than expected, e.g., due to the COVID19 crisis the prices of construction material went up. The bidder can also make errors in the offer. To minimise that risk, advice and training was offered for them. The project lead follows up that development closely and acts as early as possible, if needed. Furthermore, the risk of failure or unsuitable offers has been reduced by training potential contractors on the forms. The activities ensured that finally 5 competent bidders could be identified and work on offers; in a comparable other project in Breda, it has just been one, which let the municipality without any choices.

For the construction phase, Breda municipality will have a specific project manager to closely observe and steer the implementation. At the end, it is an innovative project with inherent uncertainties due to applying new solutions. These have been only partially tested at the small test site for one year, which delivered encouraging results but is actually too short to deliver final results; vegetation simply needs its time to develop fully. To a certain extent, uncertainty is even part of the plan – nature is supposed to take over. Constant monitoring – specifically to the construction as well as the general monitoring (see monitoring) – and consequent adjustments where needed, during and after the construction work, is therefore a necessity.

**Options to act:**

- Monitor the procurement and later construction process to eventually make adjustments in time
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## Organisational arrangements within the urban authority



Discussing results of the small scale test. Image: Birgit Georgi

The project is overall well appreciated in the municipality, but not known everywhere, where it would be relevant. Directly involved are departments responsible for spatial planning, technical implementation and procurement. The project's outputs will most probably be relevant for more departments, but due to the lack of an overarching coordinating unit, the links to these are still very incidental. An additional reason is the big size of Breda's municipal administration and the staff involved or related. It is not always easy for the project lead and project partners to find out, which potentially relevant activities and projects are going on or are planned in the different departments. Such activities are often narrow in their topic and performed inside the specific department rather in silos.

GreenQuays however is different. The diverse partnership with expertise and perspectives from different ends indicates its interdisciplinary and integrative character. This strong cross-sectorial work is special in the municipality. The challenge for the project lead is to discover the other potentially related activities and involved persons. Once these are found and approached, the team does not experience any resistance to collaborate. The integrated work within GreenQuays helps to discover step by step such gaps and missing links. In this sense GreenQuays works also as an integrator for other municipal work, creating, i.e., the links to responsible departments, such as of ecology and green space or climate change adaptation, or the URBACT project Greenspace and Health. The team has experienced that the commitment to Urban Innovative Actions pushes that increasing cross-departmental collaboration.

Such collaboration is currently done rather ad hoc according to specific questions, tasks and people coming across; hence, important potentials for integration may not be used yet. Interdepartmental cooperation needs to be stimulated beyond just talking at joint activities. Thereby, the challenge but also the opportunity lies in the project being a bit outside the usual lines of working in the authority requiring thus new ideas on how to work across departments. In particular with a view to mainstream and upscale the results of GreenQuays, the project needs to identify more systematically the stakeholders and activities inside the authority and effective ways to collaborate with these. This will require to put sufficient resources on the project management on such interlinking and mainstreaming activities.

The COVID 19 crisis definitely challenged the cross-departmental collaboration. Online communication was seen as an effective tool if tasks can be clearly outlined, partners know each other well, and depending on the purpose of the meeting. However, for building up work relations, brainstorming and exploring new grounds, it has shown much less appropriate. Some new staff members have even never met physically. It is hard to establish effective collaboration structures under these conditions. In the months to come and with hopefully less restrictions, a balanced approach between online meetings with their positive aspects and on-site exchange and collaboration needs to be found.

### Options to act:

- Further identify links of GreenQuays to the topics and tasks of other departments and find ways of stronger collaboration to use synergies and increase the uptake of GreenQuays results and experience

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## Participative approach for co-implementation

There are three different levels where participation for co-implementation can take place:

- With citizens
- Inside the project partnership
- With other partners outside the partnership

### ***Citizen participation***

Breda has already established a culture of citizen participation for a long time and has gained broad experience with different participatory approaches and tools over time. GreenQuays does not just benefit from this but is itself an output of that. In earlier participation events to re-open the quays, citizens have voiced that they wish to have them much greener, which wasn't easy to realise as the space is very limited. However, this request led to innovative ideas and the GreenQuays project as a pilot for more green in the broader revitalisation of the new re-opened river Mark.

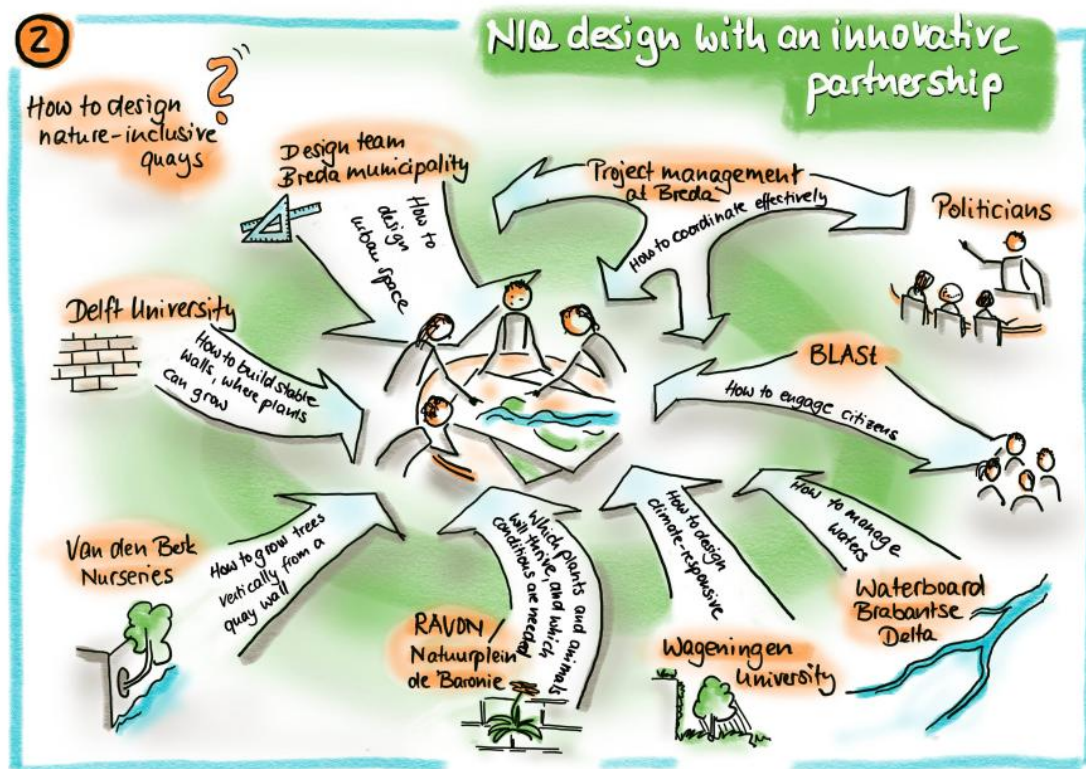
The major and decisive part of citizens participation has therefore taken place before the actual start of GreenQuays. Nevertheless, the project continues with participation activities like workshops and presentations throughout the project to refine the design and ensure the buy-in by citizens, which will soon be stressed rather by heavy construction work than a pleasant environment. The partner BLAST is explicitly responsible for participation and can build on its rich experience.

The COVID crisis has put an extra challenge on participation and co-implementation. BLAST switched mostly to online communication and tried to arrange that interactively with polls, surveys etc. but these forms work less effective than physical meetings. Fortunately, co-creation with citizens was less needed in this phase. At least it kept citizens in the loop and with abandoning more and more restrictions now, more physical interaction can be introduced again.

Recent examples for such interactions are the Stadssafari, where experts together with residents explored further opportunities to integrate more green in the surrounding of GreenQuays. Creating a map of opportunities starting with a workshop in November, will offer new co-creation options (see Communication with target beneficiaries and users) and the monitoring of biodiversity development by volunteers. This approach builds on the curiosity of interested volunteers and their eagerness to act in support of biodiversity. It is important to keep their motivation up. Partner RAVON tackles this by staying in close contact, being available for questions and offering excursions. While observing the target species, volunteers also learn about the impact of climate and ground conditions or different maintenance conditions. They can also apply this knowledge in their own backyards enabling more nature-inclusiveness as described in chapter 3.5. Furthermore, the recent health survey has kept citizens involved for voicing their perception of the current situation and their needs and wants regarding GreenQuays (see Monitoring).

### ***Co-implementation by the project partners***

Over the last month, the design process of the Real-Life pilot has been the main form of co-implementation by the partners. Partners come from very different institutions – the municipality, research, NGOs, commercial partners. They all have their own mission and agenda on how to design attractive urban space, how to bring more nature into the city, test and learn how vertical green quay walls can be built or how the urban design can be made also climate responsive (see figures below).



Partners of GreenQuays and their input in the [design process](#). Image: Birgit Georgi

First identifying and then balancing the different interests of partners has been a stepwise approach. At the beginning partners had to understand clearly their role - that they actively contribute to the design, but the technical team of Breda municipality makes the design out of all these contributions and their own ideas. This has led to minor tensions in the process, but the whole process has left them satisfied at the end. It was important that the leading design team at Breda municipality created a climate where all partners could put their ideas on the table, and where these proposals have been dealt with, with open-minds and respect and discussed seriously no matter if it came from a small or one of the bigger partners. It was however not possible to take up each idea as they have been partially conflicting or simply technically not feasible. For example, planting trees / greening has not been possible at space with a lot of underground infrastructure; space for people may compete with space for nature; the best mortar for plant growth does not provide the best stability for the walls, etc. The open and respectful discussions enabled to find solutions and finally to take all decisions in agreement even if not all wishes of partners could be taken on board. As a result of that approach, the final design of the quays became much richer, more innovative and multifunctional with, i.e., water nozzles to provide cooling, placing trees in stairs, or finding new combinations of wall construction and their greening.

The high engagement of partners already stated in Journal 1 was also fuelled by gains that they expected and which the project continuously serves: gaining a high visibility, gaining new knowledge, skills and new ideas from the collaboration with the other partners, seeing research results come to life and the opportunity to proof these, and getting new relationships and business opportunities.

A challenge for developing the integrated design has however been to COVID 19 restrictions when collaboration went mostly online. That hampered the exchange and collaborative work; such creative design work is best done with the partners around the table. This situation has led to delays in the design process but is finalised now.

>> See also the [visualisations of GreenQuay's design process](#)

The collaboration in projects with many different partners can in general pose challenges, but in the GreenQuays project, the collaboration runs generally smooth. The lead partner's approach from the start has been to share responsibilities and encourage each partner to take up their own role. Partners are engaged and excited also because of the expected individual gains for them. The project lead needs to pay attention to this asset by further keeping these favourable conditions where sharing, co-creating, mutual respect and thus learning is possible. This can be challenged over the next month as the design work and partner's most concrete input is done for the



moment and the Real-Life pilot not yet constructed. There is not such a strong tangible element for partners integration at the moment and scarce resources with in particular the smaller partners may challenge their active involvement to some extent. However, discussions on the results of on-going monitoring and the construction and intensifying the work on tasks such as upscaling and communication and understanding it as a joint task could balance the situation.

### ***Collaboration with further partners***

GreenQuays has included also stakeholders from outside the partnership. During the first month of the project, a lack of knowledge on health impacts of the GreenQuays implementation became evident. While positive impacts have been assumed, detailed knowledge on considering and monitoring these was lacking. The project therefore had a meeting with external stakeholders from the health sector to discuss available information and approaches. During these discussions the expertise of the Regional Health Service GDD seemed in particular interesting and the organisation itself was interested in a stronger collaboration. This led to the GreenQuays team and GDD together designing and launching a survey on the health impacts in the neighbourhood, which delivered interesting first ideas on the situation and citizens perception. This survey will be repeated when the quays are implemented and – as GDD is an organisation outside the project with own budget – could be repeated years after the completion, when the vegetation is grown. Then, the expectation is that the health impacts of certain designs can be measured, and recommendations to maximise positive health impacts in other urban developments can be given by the GDD and the municipality. This collaboration has also led to new ideas and closer ties with the municipality as well as the project partner BLASt.

### **Options to act:**

- Continue the approaches taken and proven successful. Further monitor their effectiveness and adjust where needed.
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## Monitoring and evaluation

The technical and biological parameters of the nature-based solution have been monitored at the small-scale test site. Different partners have been responsible for monitoring different elements at the test site – trees and their substrate, herbaceous plants and wildlife, temperature and moisture, climate and the wall construction as such. In joint meetings, the partners have looked at each other's results, which provided them new insights. The biologists learned on which material and under which micro-climatic conditions different species thrive. They even discovered that surprisingly seedlings could sprout in fresh mortar and not just in weathered walls (see [Making trees and wall plants thrive at steep quay walls](#)). These monitoring results have however only been preliminary as the small-scale test site is standing for one and a half year only which is not sufficient for a final monitoring of vegetation. However, the preliminary results have been useful to develop the design of the Real-Life pilot. They also serve as the basis to develop the monitoring for the Real-Life pilot itself, which will be constructed in 2022. This should report on the project indicators, which are currently further detailed and refined.



Sensor for measuring air temperature at a lamp post. Image: Birgit Georgi

Currently the monitoring of target species has started with the support of volunteers, which have been trained or have already been experienced by participating in other monitoring activities of RAVON. The baseline is currently created before the construction starts. In order to learn more about nature invasion on walls and to discount effects of GreenQuays from external impacts, further reference areas across the city have been selected, like old quay walls with spontaneous vegetation and quays built some decades ago with a focus only on stable walls, with no or very limited spontaneous vegetation.

In parallel, the monitoring on social and health impacts has started. The last [Journal](#) (January 2021) indicated a challenge to monitor the impacts on health, wellbeing, and social impacts as there was little expertise in the team. In a real co-creation action with the regional health service GDD, which is not partner of the project, this gap could be closed. A survey has been designed and launched. 149 responses have been received delivering interesting first results. It is planned to repeat that survey after the construction to identify changes.

>> For the process of developing the [health and social monitoring and first results see the podcast](#).

A task ahead is also to integrate much more profoundly the different strands of monitoring – biological parameters, climate, substrate, wall conditions, health and social interaction and organising an integrated assessment.

A major problem for the monitoring is the short project duration; as the Real-Life pilot needs time to be built and nature needs even more time to fully develop. The small-scale test site, which currently serves as a reference and delivered data for at least one and a half year and delivered important information for the design of the Real-Life pilot - even if not final, will be relocated for the construction work. This means that final monitoring results on the Real-life pilot are not to be received inside the project duration of GreenQuays. Monitoring needs to continue and Breda municipality as the owner of the site is committed to do so. However, monitoring itself is done by project partners which contracts end. Breda needs to find a solution for that. On the health part, the GDD has shown a big interest and first considerations have been made to continue monitoring from their side.

#### **Options to act:**

- Develop the monitoring for the Real-Life pilot
- Further foster the integration of single thematic monitoring results;

- Continue collaboration with the GDD;
  - Seek for ways to continue the monitoring after the project ends
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## Communication with target beneficiaries and users

Communication activities have been comparably low over the last months as the project is currently in a kind of waiting position; the procurement of the construction is going on, and then, the construction itself will follow until there are again visible nice results to communicate. This waiting is however a threat, as it could result in a drop of the enthusiasm of citizens and stakeholders. The project has just realised that challenge but not yet developed a systematic approach to tackle it. Maybe construction work itself and the progress could be catchy for developing communication.

The COVID 19 pandemic has also changed the communication approach substantially with a major shift towards online communication. While that suited technology-affine population groups, mostly younger people well and made them more aware, online events constrain the flow of communication to other population groups that are less affine to technology like many elderly people. While the impacts of that switch are hardly to quantify, several inspirational and exchange workshops reached a broad audience.

While switching back to more and more physical communication, the project appreciates the experience made on the advantages of online communication by reaching out to groups that have constraints by time or distance to attend physical meetings. A highlight at international level has been the recent application and finally shortlisting for the [Guangzhou International Award for Urban Innovation](#). Further under discussion are, i.e., a virtual tour and an own webinar.

Other successful forms of communication have been the use of local TV and a podcast in the radio show “Early birds” which is very popular. These forms provided easy access to information without the need of internet access. Another tangible format is the small-scale test site where people can get an idea of what GreenQuays may look like. Additional information boards explain what is planned.

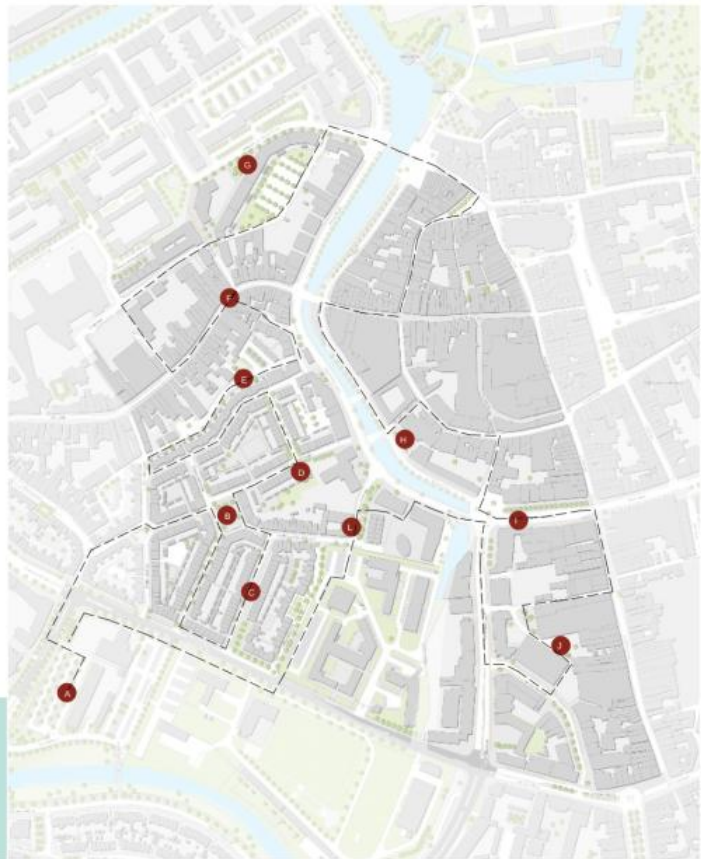
However, the test site shows also the less successful wall elements. These are important for learning by the project but passing citizens have been concerned to get only scarcely greened quays. As useful it is to have the test site as a tangible example, such obviously needs more explanation of what is happening there and how this will be taken up into the design and construction of the Real-Life pilot. Anyway, the small-scale test site will be relocated soon.

The Stadssafari is a nice example of a two-way communication between the experts and citizens. 10 experts (ecologist, engineers, architect, etc.) and 10 residents went to different places around GreenQuays and discussed the options to bring more green into the city. Thus, local knowledge is taken up in the further development of rainwater management by nature-based solutions in the inner city stretching beyond the GreenQuays area. At the same time, that supports to spread knowledge among citizens and encourage their own thinking and action city-wide. In a further workshop, a map of opportunities will be developed. Such spin-off activities of GreenQuays bring back co-creation processes with residents and help to upscale GreenQuays’ results.

# STADSSAFARI

kansen voor biodiversiteit, water en stadsklimaat

A: 13.00	start de Teruggave (Gasthuusvelden 11)
B: 13.10 - 13.30	kansen in het plangebied volgens gemeente Breda: Bas Hoefjers en Harold van den Broek
C: 13.30 - 13.45	in gesprek met een buurtbewoner Felleroord
B: 13.45 - 14.00	kansen voor de woningbouwcorporaties, in gesprek met Jelle van Aalsten
D: 13.45 - 14.10	kansen rondom het Nazarekerkje en Kadastergebouw
E: 14.10 - 14.30	in gesprek met een buurtbewoner over herinrichting Gravenstraat
F: 14.30 - 15.00	groene participatie rondom de Haagdijk: in gesprek met Marty uit Klundert (Spacevalue)
G: 15.00 - 15.30	wandeling door Schermolen
H: 15.30 - 16.00	in gesprek met wijkvereniging Stadshart Vakenberg (Egbert Peeters)
I: 16.00 - 16.15	kansen voor onderwijs (Matthijs van Dalen)
J: 16.15 - 16.30	invloed van de omgeving op het stadsklimaat, in gesprek met Bert Heutsinkveld (WUR)
K: 16.30 - 16.50	/wandeling door Zuidpark Centrum/Chasse
A: 17.00 - 17.30	in gesprek met een architect uit het gebied, Marcel Snellenberg
	einde bij de Teruggave, namte voor een drankje beoogde route



Further bits on communication are social media communication and website of the municipality as well as the ones of partners. A helpful tool has been the developed stakeholder mapping around the GreenQuays area, which can enable also more targeted communication directly approaching certain stakeholder groups like shop owners or apartment associations.

Room for improvement is on measuring the impact of all that communication activity beyond the pure dissemination numbers – on how this information is taken up, changed awareness and behaviour. The link to the social and health monitoring could be strengthened.

## Options to act:

- Use the learning on different online-forms of communication under COVID 19 and combine these with physical forms of communication
- Communicate at wider (national, European) beyond the surrounding of GreenQuays and Breda and with other groups (architects, engineers, biologist etc.)
- Make the web page also in English or offer translation and include more results, guidance, manuals
- Monitor the dissemination of information but also uptake of information, like feedback from groups, changed behaviour etc.

## Upscaling

A major recent achievement of the project has been the participation at the [Guangzhou International Award for Urban Innovation](#), where it finds itself among the 15 shortlisted cities. The winner will be awarded later this year. This has broadly exposed the project and boosted its recognition. The task ahead will be to make best use out of this popularity for upscaling activities.

A systematic strategy for scaling up and for exploitation is further developed although not finalised. Obviously, the solutions of GreenQuays are highly relevant for upscaling at other sections of the Nieuwe Mark project. As



Breda municipality is also in the lead of this urban development, this upscaling is expected to happen smoothly and organically (chapter 4.3). With a systematic analysis of potential upscaling opportunities and developing more targeted approaches the dissemination and upscaling of the different results of GreenQuays can be made more effective.

The same is valid for the upscaling outside Breda municipality in other cities across the Netherlands and Europe. Breda's technical and non-technical solutions could be relevant in many other cities that have quays and other walls in dense urban centres that they want to green in a nature-inclusive way. So far, the project has collected some ideas and just started a more systematic analysis of options. In a workshop session moderated by the UIA expert on 14 October, all partners collected results of the work with GreenQuays that could be upscaled, which goes beyond the constructed quays but includes also the single technologies and approaches used, forms of citizens and other stakeholder engagement, and processes on how to set up such innovative partnership and collaboration. Then they brainstormed, where these solutions could be transferred to (people and places) and finally how and by whom that could happen. The joint discussion brought up more ideas than if done by one partner in isolation and will eventually lead to a better implementation of upscaling activities due to a feeling of ownership and awareness of the own benefits per partner.



Brainstorming results for upscaling activities. Image: Birgit Georgi

With these results, the team will refine and complement the draft of the exploitation strategy and define further tasks. Among these, an analysis of how many/which cities or commercial stakeholders have a substantial amount of quay walls and could be interested, and their information needs is a challenge that could provide valuable information for tailor-made upscaling activities. At the same time an overview on potential events, platforms and networks for mainstreaming and upscaling is continuously updated to explore further opportunities for distributing the results and networking. These activities could connect the dots by linking the rather spontaneous activities of single partner into a targeted and integrated dissemination and upscaling approach.

### Options to act:

- Develop systematically the exploitation strategy further based on the results of the brainstorming in October 2021.
- Consider the variety of products / results of Green Quays, stakeholders, and targeted tools and approaches to reach them

# Conclusions

Breda faces all of the seven mentioned implementation challenges. Most are at low or medium level, but that could change over time and Breda needs to continuously observe the development to react in time. A kind of stress test will be the change of the alderman. The question is if that will affect the high political support of the programme or if the ground is indeed so well prepared that the political support appears at the same level. Regarding monitoring the project is well organised, however, it is already clear that the project duration will not be sufficient to deliver final monitoring results on the impacts on biodiversity, health and climate-resilience as the vegetation needs time to grow. The municipality is committed to find solutions to continue the monitoring afterwards. The challenge that has currently the highest level is upscaling the results. The issue is not so much the upscaling in the wider re-opening of the river Mark, which the project is a part of but more the broader and systematic application of the NIQ technology and other results of the project beyond this. With recent steps to further develop their exploitation strategy, Breda is however on a good way to tackle that challenge.

Finally, COVID 19 has left its traces in the project, slowing down the work and has led to a 12 months prolongation. The impacts have been most felt on the design process, which is now concluded, and citizens / stakeholder participation. While new online forms have been explored and shown certain benefits, loosening the restrictions opened for more direct stakeholder and citizens interaction again.

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Sustainable use of land and nature based solutions

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