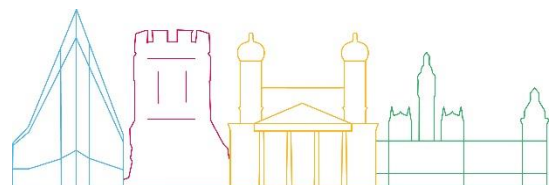




Local partnership and work plan for Hamburg

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Local work plan: Hamburg

1. Where are we?

1.1. Target historic areas

The historic area in focus for the Free and Hanseatic City of Hamburg is the UNESCO World Heritage Site ‘Speicherstadt and Kontorhaus District with Chilehaus’. The following description of this area is based in large part on the Nomination Dossier (2014) and Management Plan therein (2013)¹, produced by the City of Hamburg as part of the World Heritage nomination process. Speicherstadt, located next to the Hamburg city centre, is a former warehouse complex established at the turn of the century for processing and storage of imported goods received at the port of Hamburg. The adjacent Kontorhausviertel is a dense urban area, consisting mainly of eight large office complexes established between the 1920s and the 1950s to house the offices of companies involved in shipping and other activities connected to the port.

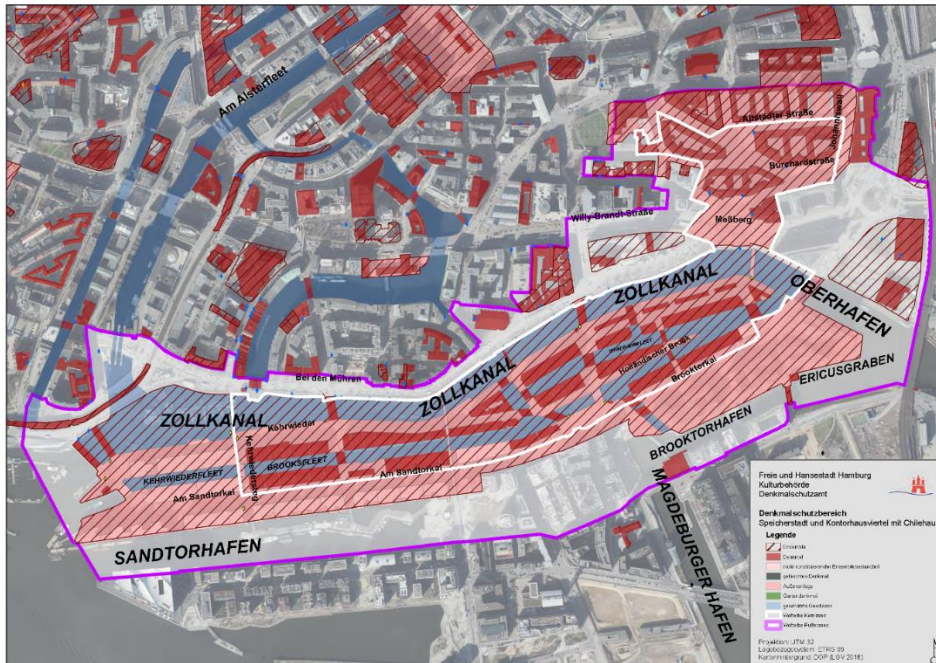


Figure 1: Location of World Heritage Site - perimeter indicated in purple. Source: Heritage Preservation Department, City of Hamburg

¹Heritage Preservation Department, City of Hamburg (Ed.): UNESCO World Heritage Management Plan: The Speicherstadt and Kontorhaus District with Chilehaus (2013), <http://whc.unesco.org/en/list/1467> and <http://welterbe.hamburg>, and hendrik Bäßler verlag, Berlin, 2017.

Speicherstadt was originally developed on a group of narrow islands in the Elbe River between 1885 and 1927 (partly rebuilt 1949-1967, post-World War II) and is one of the world’s largest unified historic port warehouse complexes, at a footprint of 300,000 m². Formerly a residential district, some 1000 houses were demolished to make way for the new warehouse complex and over 20,000 people evicted. The entire complex was constructed on pinewood foundation piles which, despite restoration and partial rebuilding over time of the structures they support, remain the original historic fabric. Since 2008, the area is part of the newly developed Hafencity district. The World Heritage Site is owned by a combination of public and private entities.

Speicherstadt’s public spaces are defined by its infrastructure: the canals, which historically served to transport goods around the port on barges (with the Speicherstadt itself being separated from the city centre by the 45-metre-wide Customs Canal, its continuation to the west, known as the Binnenhafen; and to the east the Oberhafen); its cobbled streets, almost all of which were built at the time of development and mostly run parallel to the canals, and arched iron bridges. Speicherstadt is remarkable in having largely retained its historical function and architectural integrity for over a century, despite some damage sustained during World War II (and subsequent rebuilding) and a trend over the last two decades to re-purpose the warehouses for other uses. This continuity can be partly credited to the continuous ownership of the complex by the Hamburg Port and Warehouse Association (HHLA). Much of the warehouses’ original technical equipment used for handling goods remains intact and some is still in use (e.g. winch mechanisms), while 12 of the 14 bridges are in their original condition.

Hazards of particular relevance to Speicherstadt and the Kontorhausviertel include tidal changes, storm surges and extreme precipitation (and related flooding from these), extreme heat, and bacterial attack.

1.2. Governance framework for cultural heritage management, disaster risk reduction and climate adaptation

This section lists only selected, highly relevant regulations, plans and strategies. For a more comprehensive list, see the Hamburg *City Baseline Report* (2020).

1.2.1. Key cultural heritage legal provisions and management

Name of document	Level	Year of publication	Link (if available)
UNESCO World Heritage Convention	International	1972	whc.unesco.org
Heritage Protection Act	Federal State / Regional	2013	http://www.landesrecht-hamburg.de/jportal/portal/page/bshaprod.psml?showdoccase=1&doc.id=jlr-DSchGHA2013rahmen&doc.part=X&doc.origin=bs&st=lr

Name of document	Level	Year of publication	Link (if available)
Management Plan: The Speicherstadt and Kontorhaus District with Chilehaus	Federal State / regional	2013	www.Hamburg.de/welterbe
Hamburg 2010 City Centre Concept	Federal State / regional	2010 (updated 2014)	https://www.hamburg.de/contentblob/4374074/264f74889d6ecd358e255a71abb42fd6/data/download-innenstadtkonzept-2014.pdf
Speicherstadt Development Concept	Federal State / regional	2012	https://www.hamburg.de/contentblob/4056088/42fc628d89757fee90432b0b23cb224c/data/download-konzept.pdf

Table 1: Key cultural heritage legal provisions and management documents, Adapted from: ARCH City Baseline Report: Hamburg (2020).

. The Speicherstadt heritage ensemble was listed under the Hamburg Heritage Protection Act in 1991, while the Kontorhaus district was listed under the Act in 1983 and 2003. The Act is legally binding and in 2013 was revised to include a duty to comply with the World Heritage Convention. The competent authority for compliance with the Act is the Department for Heritage Preservation at the Regional Ministry of Culture and Media in Hamburg, which is advised by a Heritage Council of experts, citizens, and institutions.

Of particular importance to guide the future protection of the whole area and its architectural, historical and social heritage value, as well as the area’s sustainable development, is the Management Plan, developed and adopted by the City of Hamburg in 2013. The plan aims, following the phrasing of the World Heritage Council, at safeguarding the ‘Outstanding Universal Value’, authenticity, and integrity of the property; protecting the entire area, including a buffer zone. Future management of the Speicherstadt in particular is also supported by the 2012 ‘Speicherstadt Development Concept’. Of course, general administrative regulations play as well a key role, as outlined in the Management Plan (as well as Hamburg’s *City Baseline Report*).

The long-term and sustainable safeguarding of Speicherstadt and the Kontorhaus district will require:

- 1) preserving the historic buildings, the characteristic appearance of the Speicherstadt and Kontorhaus ensembles, both in their own right and within the townscape;
- 2) maintaining or improving the quality of life of the residents of Hamburg by safeguarding a unique testimony to Hamburg’s cultural and historical development, which played a key role in establishing its identity; and
- 3) raising awareness and disseminating information about their heritage significance.

1.2.2. Key relevant provisions for disaster risk reduction

This section lists a selection of relevant guidelines, regulations, plans and strategies. For a more comprehensive list, see the *Hamburg City Baseline Report (2020)*.

Name of document	Level	Year of publication	Link (if available)
Managing Disaster Risks for World Heritage	International	2010	https://whc.unesco.org/en/managing-disaster-risks/
Hamburg Disaster Protection Act	Regional	1978 / 2020	http://www.landesrecht-hamburg.de/jportal/portal/page/bshaprod.psml?showdoccase=1&st=lr&doc.id=jlr-KatSchGHArahmen&doc.part=X&doc.origin=bs
Hamburg Water Act	Regional	2005 / 2012	http://www.landesrecht-hamburg.de/jportal/portal/page/bshaprod.psml?showdoccase=1&doc.id=jlr-WasGHA2005rahmen&doc.part=X&doc.origin=bs&st=lr
Hamburg Dyke Regulation	Regional	2003	http://www.landesrecht-hamburg.de/jportal/portal/page/bshaprod.psml?showdoccase=1&doc.id=jlr-DeichOHA2003rahmen&doc.part=X&doc.origin=bs&st=lr
Hamburg Polder Regulation	Regional	1977	http://www.landesrecht-hamburg.de/jportal/portal/page/bshaprod.psml?showdoccase=1&doc.id=jlr-PolderOHArahmen&doc.part=X&doc.origin=bs&st=lr
Flood Protection Ordinance HafenCity	Local	2002	http://www.landesrecht-hamburg.de/jportal/portal/page/bshaprod.psml?showdoccase=1&doc.id=jlr-FISchuVHArahmen&doc.part=X&doc.origin=bs&st=lr
Storm surge protection in the Hamburg harbour	Local	2018	https://www.hamburg-port-authority.de/fileadmin/user_upload/Broschuere_Sturmflutschutz_Ansicht.pdf

Table 2: Key Documents on Disaster Risk Reduction at local level, Adapted from: ARCH City Baseline Report: Hamburg (2020).

1.3. Expected impacts of climate change and environmental hazards

The tables below list the key climatic hazards and other hazards relevant to Speicherstadt and the Kontorhausviertel, and go on to characterise the diversity of impacts (potential or already experienced) arising from these. Both are derived from preliminary reflection and investigation undertaken by the authors of this report, in collaboration with research staff from Fraunhofer and ENEA.

Hazard Types	Hazard sub-type
Extreme precipitation	Heavy rain
Storm surges	Convective storms, rainstorm
Extreme heat	Heatwave, drought
Sea-level rise	Coastal flooding, saline intrusion
Flooding	Coastal flooding and flash flooding
Pests and plagues	Bacteria, fungi

Table 3: Hazard Types identified for Speicherstadt and Kontorhausviertel. Adapted from: ARCH City Baseline Report: Hamburg (2020).

Exposed Elements		Impacts				
		<i>Physical</i>	<i>Functional</i>	<i>Societal</i>	<i>Economic</i>	<i>Intangible</i>
Natural Environment	Ecosystem	Increase in existing pests /diseases.				
		Coastal erosion. Physical damage to banks and quay walls.				
		Evapotranspiration & eutrophication of canal water				
Buildings and infrastructure	Buildings and foundations, quay walls, public spaces between buildings	Physical damage			Direct economic loss due to physical damage	Loss of traditional lifting practices and associated heritage value
	Road, railroad, canal	Physical damage	Loss/ disruption of service	Loss of access to key services	Direct economic loss due to physical damage and loss of revenue from tourism sector	
	Electricity and communication network	Physical damage	Loss/ Disruption of service	Loss of access to key services		
	Offices and Warehouses	Physical Damage	Loss/ Disruption of service	Loss of access to services	Direct economic loss & LoR*	
	Museums	Physical Damage	Loss/ Disruption of service	Loss of access to services	Tourism Sector: direct economic loss & LoR	Loss of traditional attraction
	Boats & Jetties	Physical Damage	Loss/ Disruption of service		Tourism Sector: direct economic loss & LoR	Loss of Traditional leisure activity
	Warehouse Equipment	Damage to traditional lifting equipment				
Human and Social Aspects	People (visiting or working in the historic area)	Illness (e.g. heatstroke), injury or mortality		Loss of tourism, loss/disruption of livelihood and/or income	Loss of revenue (e.g. from tourism sector)	

Table 4: Physical, Functional, Societal, Economic and Intangible impacts identified for the different exposed elements in the Speicherstadt and Kontorhausviertel. Adapted from: ARCH Baseline Report: Hamburg (2020).

In general, the impacts of hazards on Speicherstadt and the Kontorhausviertel are understood only at a relatively general level, and there is scope to better document and monitor these hazards with a view to improving the protection of this significant heritage place.

Of the hazards relevant to Speicherstadt and the Kontorhausviertel, flooding due to storm surges is to some extent addressed in the Management Plan, although without specific reference to the role of climate change in potentially increasing the frequency or severity of floods – while others (such as heat stress) are not explicitly addressed at all. There is potential to improve the general understanding within the city administration and among its stakeholders of the impacts arising from these hazards on this historic area (e.g. through data collection and modelling), with a view to also improving their protection. These efforts need to be integrated with the administration's own existing extensive data management processes.

1.4. Resilience of historic areas and the larger urban system

A preliminary assessment of Speicherstadt and the Kontorhausviertel was conducted in February 2020 using the preliminary version of the UNDRR Disaster Resilience Scorecard for Cities. As the Scorecard is aimed at the city scale, not all questions were immediately applicable at the level of historic areas or single heritage assets. In addition, only Hamburg staff from the heritage department contributed to the assessment, meaning that first-hand knowledge on climate adaptation and disaster risk management planning was not available. The results, therefore, are highly contingent and likely reflect the knowledge of the limited number of respondents within a geographically limited area, rather than the actual situation of the whole city of Hamburg. Nonetheless, these contingent results are briefly described below.

Full scores were obtained in Essentials 02, 04, and 05 (see City Baseline Report for full results). This suggests a good understanding of current and future risks, with substantial information about disaster scenarios available and shared among different stakeholders. In addition, the city administration follows a strict zoning plan that considers risks scenarios and enforces building codes and standards.

Essential 03 also scored highly, with dedicated budget allocations already available for disaster risk management and high insurance coverage in the Speicherstadt across all sectors, because the Hamburger Hafen und Logistik AG, as owner of the warehouse district, requires insurance coverage as part of its rental contracts. Little was known about private sector incentives for resilience.

There was not enough information available during the preliminary assessment to fully score Essentials 07, 08, and 09, which concern societal capacity for responding to risks, protection of critical infrastructure, and disaster risk response. The low scores that resulted for these sections likely indicate insufficient knowledge of respondents.

2. Who are we?

2.1. Existing capacity

The ARCH project is located within the Free and Hanseatic City of Hamburg at the Ministry of Culture and Media in the Department for Heritage Preservation. The Department for Heritage Preservation has two main areas of work: maintaining an inventory of places and objects of cultural heritage significance (including the ongoing identification of existing assets that may need heritage protection) and their practical preservation (e.g. management of change). In addition, it is home to the World Heritage Coordination Office.

The responsibilities of the World Heritage Coordination Office relate exclusively to the UNESCO World Heritage Site 'Speicherstadt and Kontorhaus District with Chilehaus' described earlier. Beyond the Department for Heritage Preservation and the Ministry of Culture and Media, the Office is also in regular contact with all other authorities, departments, commercial enterprises, owners and tradespeople active in the inscribed World Heritage area.

Within the World Heritage Coordination Office, there is a team of three: the appointed World Heritage Coordinator, a heritage expert and a communications expert.

2.2. Capacity gaps

In principle, the World Heritage Coordination Office does not carry out any independent investigations; rather this is done primarily in consultation with the Practical Heritage Preservation unit and other participants through third-party funded projects or invitations to tender. As a consequence, the World Heritage Coordination Office is not able to independently and continuously collect data such as information on changes to built fabric, visitor movement (numbers and length of stay), or the impacts of climate change in the World Heritage area. There is no capacity within the Heritage Preservation Department to carry out continuous, in-depth, long-term monitoring of such data for this area. Such monitoring would be particularly desirable for the future protection and sustainable development of the World Heritage area, in order to develop appropriate corresponding recommendations and fulfil in the long-term the monitoring (reporting) mandate issued by UNESCO.

Possible methods that can contribute to achieving this goal, such as 3D modelling of selected buildings, integrated into the overall digital strategy² of the City of Hamburg; or analysing visitor flows to the World Heritage Site (e.g. as per a study of the Domplatz square, conducted by the City Science Lab of HafenCity University Hamburg³) cannot be implemented by the Heritage Preservation Department alone. It is hoped that, in close cooperation with the ARCH scientific partners and local stakeholders, this will be made possible.

² Digitalisation strategy Hamburg: <https://static.hamburg.de/fhh/epaper/digitalstrategie/#0>

³ Information on the City Science Lab, HafenCity University Hamburg: <https://www.hcu-hamburg.de/en/research/citysciencelab/>

2.3. Stakeholder analysis process and results

The day-to-day work of the World Heritage Coordinator consists largely of multidisciplinary networking with authorities, stakeholders from the private sector and from civil society, meaning it was relatively easy to form an initial picture of possible stakeholders. In addition, through producing the *City Baseline Report*, several more research institutions and departments were identified which could be relevant for the implementation of the ARCH project. These were then 'mapped' after some reflection on their likely interest, their influence, the information they can provide and any relevant impacts (interpreted as potential benefits they might derive from the project) – see Annex 1. From a long-list of stakeholders, a total of 23 were identified as potential 'local partners', as follows:

- District of Hamburg Mitte
- Ministry for Urban Planning and Housing (BSW)
- Ministry for Environment, Climate, Energy and Agriculture (BUKEA)
- Ministry for Economy and Innovation (BWI)
- Hafencity University
- Hamburg Harbour and Logistics AG (HHLA)
- Agency for Geoinformation (LGV)
- Agency for Property Management and Real Estate (LIG)
- Agency of Roads, Bridges and Waters (LSBG)
- Stiftung Historische Museen Hamburg (SHMH)
- Hamburg Tourismus GmbH (HHT)
- Senatskanzlei Hamburg
- IG Kulturquartier Speicherstadt und Hafencity
- IG Kontorhausviertel
- Air Observation Network
- Lichtkunst Speicherstadt e.V.
- ICOMOS
- UNESCO
- Institute for Hygiene and Environment
- GERICS (Climate Service Centre Germany)
- University of Hamburg Hydrology and Water Resource Management
- City Participatory Workshop
- Hamburg Port Authority

The Hamburg project team hopes to receive expertise and local support, suggestions and feedback on ideas and plans from the group of stakeholders identified above.

Shortly before the nationwide lockdown due to the Covid-19 pandemic (beginning in March 2020), it was possible to conduct a workshop with companies and owners who are strongly involved in the focus area. Depending on the project's main focus in future, this group was to be expanded in the coming weeks and months. These further steps were abruptly interrupted by pandemic-related upheavals in the working environment and the work of the project team also came to a temporary standstill.

From May 2020, stakeholder engagement has resumed, including preliminary digital/telephone exchange, followed by personal meetings between the staff of the World Heritage Coordination Office and staff of potential stakeholder departments. It became apparent that several meetings with different people were often necessary to identify the right contact person. In extensive administrative structures such as those in the City of Hamburg, these steps can take a long time, which is difficult to calculate in project development. This is particularly true when seeking cooperation with innovative bodies that have yet to be established within the existing structures themselves.

Most potential local partners have so far shown a high level of interest in cooperation in line with the themes of the project and objectives defined by the Hamburg project team. However, in several cases individuals have limited time available and care will need to be taken in involving them in a targeted and meaningful manner, avoiding potential disappointment or fatigue with the process.

2.4. Existing groups and initiatives

The World Heritage Coordination Office is part of several theme-based inter-ministerial working groups within Hamburg, such as the regeneration of public spaces within the Kontorhausviertel led by the BSW, and the implementation of the Speicherstadt Development Concept led by the Agency for Property Management and Real Estate - LIG (Landesbetrieb Immobilienmanagement und Grundvermögen). The World Heritage Coordination Office is leading the working group on the development of a Heritage Preservation Plan for the Kontorhausviertel as well as a group implementing activities connected with the World Heritage Information Centre.

In connection with the World Heritage Site in Hamburg, various interest groups and associations have been founded that are multidisciplinary in their efforts to preserve and communicate the UNESCO World Heritage Site. These are:

<p>Interest group Kontorhausviertel</p>	<p>Association of tradespeople and private individuals who are committed to the Kontorhausviertel.</p>
<p>Interest group Kulturquartier Speicherstadt and Hafencity</p>	<p>A community consisting of 11 cultural institutions and museums located in the Speicherstadt. They are actively involved in making the Speicherstadt more attractive for guests and visitors.</p>

Light Art Association	An association with around 50 members, many of them companies and cultural institutions located in the Speicherstadt. Has developed and operates the Speicherstadt on its own initiative every night.
SHMH (Foundation of Historic Museums Hamburg)	Play an important role in the dissemination of information about the World Heritage Site.
BID-initiative	Newly formed (06-2020) State-driven working-group for the inner-city (but dealing with a larger area).
Hamburg Tourism	Official tourism information point, run as a private limited company. Plays an important role in disseminating information about the World Heritage Site.

Table 5: Interest groups and associations dealing with the UNESCO World Heritage Site

2.5. Our local partnership

Our local partnership partly builds on already established cooperative relationships, by managing and working in the same focus areas (see above). However, there is also an opportunity to create new relationships with other institutions. The ideal composition of the local partnership should be based on specific strategies and actions as described below in Part 4 in general terms, and in more detail in the local work plan matrix (Annex 2). The aim is to work together with our potential local partners in groups that will focus on key strategies, keeping the workload for our local partners manageable and goal-oriented.

3. Where are we going?

3.1. Our overall aim

The overall aim of this work plan is to integrate climate change adaptation into management of the World Heritage site Speicherstadt and Kontorhausviertel, including improved monitoring of impacts on built fabric, as well as on visitors and the local community, and increased community awareness.

3.2. Objectives

The following have been identified as priority objectives by the local team in Hamburg and associated research partners within the ARCH project:

- 1) Expand and improve digital data management for buildings within Speicherstadt and Kontorhausviertel (e.g. using Building Information Modelling [BIM])
- 2) Integrate climate change and related hazards within the future revised Management Plan and associated periodic reporting to UNESCO in the years to come
- 3) Raise awareness in local community and among visitors of the relevance of climate change to Speicherstadt and Kontorhausviertel.

4. How will we get there?

4.1. Work plan

The work plan matrix (Annex 2), contains detailed information on strategies, indicators, actions, stakeholders involved and timing in regard to the city case of Hamburg. A 'match-making event' with ARCH scientific partners is scheduled for mid-November 2020, where activities to support the defined local strategies and actions will be more concretely defined. Depending on the outcome of the event, changes may be made to this work plan. This work plan and the matrix at Annex 2 are considered 'living' documents which will be adapted if necessary.

A total of seven strategies have been defined for the local work plan, as follows:.

Strategy 1: Perform Pilot-project: BIM (Building Information Modelling, an extended and interconnected 3D model of existing (heritage) construction)

Strategy 2: Obtain Proof of Concept on data exchange between DAFIS, LGV and BIM

Strategy 3: Revision of the WHS Management Plan in regard to climate change impacts

Strategy 4: Integrate Management Plan structure with UNESCO-PERIODIC REPORTING structure and relevant themes (2018-24 - Europe 22-24)

Strategy 5: Perform risk analysis and identify resilience options

Strategy 6: Develop dissemination tools (including strategy, exhibition concept and supporting materials)

Strategy 7: Participation in / Organisation of Cultural activities and events (physical/virtual)

The following table links each of these strategies with a tentative group of partners from among the list of 23 at Part 2.3 above.

Local partner	Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7
District of Hamburg Mitte			X		X		
Ministry for Urban Planning and Housing (BSW)		X					
Ministry for Environment, Climate, Energy and Agriculture (BUKEA)	X		X		X	X	X
Ministry for Economy and Innovation (BWI)						X	X
Hafencity University					X		
Hamburg Harbour and Logistics AG (HHLA)	X						
Agency for Geoinformation (LGV)	X	X					
Agency for Property Management and Real Estate (LIG)	X						
Agency of Roads, Bridges and Waters (LSBG)	X	X					
Stiftung Historische Museen Hamburg (SHMH)						X	X
Hamburg Tourismus GmbH (HHT)			X			X	X
Senatskanzlei Hamburg						X	X
IG Kulturquartier Speicherstadt und HafenCity			X			X	X
IG Kontorhausviertel			X			X	X
Air Observation Network					X		
Lichtkunst Speicherstadt e.V.			X				
ICOMOS				X			
UNESCO				X			
Institute for Hygiene and Environment	X				X		
GERICS (Climate Service Centre Germany)	X		X		X	X	X
University of Hamburg Hydrology and Water Resource Management	X		X		X		
City Participatory Workshop						X	X
Hamburg Port Authority					X		

Table 6: List with local partners for the city case Hamburg.

4.2. Activities to develop and implement your work plan

The following table shows events that will happen over the course of the project. This calendar of activities is considered a living document where adaptations and changes can be made as plans become clearer (e.g. in discussion with local partners in the near future) and according to the progress of the project.

Year	Milestone type	Objective	When	Target audience	Public or invitation only
2020	Local launch event	Kickoff event with local stakeholders at Hamburg's climate week	End-September	local partners, citizens, tourists	public
2020	Baseline Report published	Establish a baseline upon which the work plan is developed	October	Research partners, potentially other stakeholders	Invitation
2020	Local Work Plan published	Inform partners, stakeholders and community about the objective of the project and actions that will be implemented	November	Public	Public
2020-2022	Stakeholder meeting (online/phone)	Meet with local stakeholders to work out needs, possibilities, co-operation details	Regularly, every 2-8 weeks depending on the current stage of the issue. To be discussed with stakeholders.	Stakeholders	Invitation
2020	Match-making event	Meet with research partners to discuss and develop data generation on site in Hamburg	Mid-November	Research partners	Invitation

Year	Milestone type	Objective	When	Target audience	Public or invitation only
2021	Strategy meeting	Discuss strategy for BIM and other platforms in regard to data exchange	Tbd.	Local stakeholders	Invitation
2021	Local event 1	Launch event on national UNESCO world-heritage day to raise awareness	5 + 6 June 2021	Public	Public
2021	Workshop	Training of local stakeholders on information systems and measuring results (T3.4.2)	Second half of the year	Research partners + local stakeholders	Invitation
2021	Local event 2	Awareness/ arts and culture event	Second half of the year	Public	Public
2021-2022	Workshops	Mutual learning workshops 1-4 with keystone cities (T 3.6)	Early 2021- mid 2022	Project partners	Invitation
2021	Workshop	Keystone co-creation workshop	Late 2021	Project partners	Invitation
2022	Launch dissemination strategy	Developed dissemination tools, present brochure, info-material	Tbd.	Public	Public
2022	Workshop	Transfer resilience options from Valencia/ Bratislava to Hamburg (T3.4.5)	First half of year	Project partners	Invitation

Year	Milestone type	Objective	When	Target audience	Public or invitation only
2022	Workshop	Transfer resilience pathway results to Hamburg (T3.4.5)	Mid-year	Project partners	Invitation
2022	Local event 3	Awareness/ arts and culture event	Tbd.	Public	Public
2022	Local final event	Inform stakeholders of project outcome (T3.2)	Mid 2022	Stakeholders	Invitation

Table 7: List of activities to develop and implement the local work plan.

4.3. Strategy to collaborate with local partners

After the initial difficulties in continuing to work due to the global pandemic, the Hamburg team has moved with its local partners quickly into a new, mainly digital, world of professional cooperation. As the pandemic is likely to affect co-creative collaboration in the ARCH project to a great extent over the remaining project period, we currently assume that digital meetings and working methods will be continued to be used extensively. Hopefully, this will compensate for the lack of physical exchange and ensure that information reaches the right partners.

With the help of software such as the Miro programme, which enables collaboration online, these processes should take place in the smallest possible working groups, depending on the task at hand. Ideally, such methods can also be used in between the scientific project partners and local partners. This assumes that communication in English does not present a barrier too high for the local project partners. Here, we see the World Heritage Coordination Office as the central point of contact to ensure that information is exchanged with local partners. The frequency of online meetings can vary depending on the state of work. In any case, the aim of the Hamburg team is to organise the cooperation with the local partners as efficiently as possible.

4.4. Checking and reporting on progress

Progress will be monitored and reported regularly, using a set of tools and documents provided by ICLEI.

In line with the *Guideline on ARCH co-creation approach* (D3.1), meetings with local partners will be documented, using ARCH specific templates. By sharing agendas and minutes with attendees and the ARCH partners (via e-mail and online project management platform Confluence) a steady flow of information can be established. If meetings are held in German

language, minutes will most likely be taken in German. If so, the Hamburg team will provide a short summary in English. This way, everyone involved can follow up on these meetings and project partners can understand local processes better. The ARCH self-assessment table will be used to monitor stakeholder engagement. By using the self-assessment tool, the project team is able to reflect on the past interaction with stakeholders while implementing learnings for future meetings.

In regard to the implementation of local actions, the work plan matrix (Annex 2) will be updated regularly to document the local project progress. It is considered a living document where strategies and actions are not only reported but can also be adapted if necessary.

Additionally, the ARCH foundation cities will continue to consult each other on local progress. With the regular 'cities call', a steady exchange of knowledge and information has been established. This interaction with those who are in similar situations is a valuable tool for learning and reporting.

5. Bibliography

- [1] Heritage Preservation Department, city of Hamburg (Ed.): UNESCO World Heritage Management Plan: The Speicherstadt and Kontorhaus District with Chilehaus, Berlin: hendrik Bäßler verlag, 2013 (2017). Authors: A. Seemann, M. Kloos, M. Ritscherle, K. Wachten, C. Hero, R. Lange, D. Schubert
- [2] F. u. H. H. -. Senatskanzlei und A. f. I. u. Digitalisierung, „PDF Digitalstrategie für Hamburg,“ January 2020. [Online]. Available: <https://static.hamburg.de/fhh/epaper/digitalstrategie/#0>. [Zugriff am 21 10 2020].
- [3] H. HafenCity University, „City Science Lab,“ [Online]. Available: <https://www.hcu-hamburg.de/en/research/citysciencelab/>. [Zugriff am 21 10 2020].
- [4] Interessengemeinschaft Kulturquartier Speicherstadt und Hafencity, „IG Kulturquartier,“ [Online]. Available: <https://kulturquartier-hamburg.de/de/kulturquartier.html>. [Zugriff am 21 10 2020].
- [5] Interessengemeinschaft Kontorhausviertel, „IG Kontorhausviertel,“ [Online]. Available: <http://www.kontorhausviertel.com/>. [Zugriff am 21 10 2020].
- [6] Lichtkunst Speicherstadt e.V., [Online]. Available: <https://www.lichtkunst-speicherstadt.de/>. [Zugriff am 21 10 2020].

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Annex 1: Stakeholder analysis table

STAKEHOLDER ANALYSIS TABLE & MATRIX – Hamburg (full)

Sector	Organization	Relationship with municipality (if any)	Information (what useful information can they provide?)	Impacts (how, if at all, are they impacted by the issue?)
Public	Heritage Preservation Department High interest / High influence	Department of the Ministry of Culture and Media; one of the ministries of Hamburg as a federal city state https://www.hamburg.de/bkm/englisch/ , https://www.hamburg.de/pressearchiv-fhh/4544520/unesco-worldheritage-hamburg/)	Local project coordinator holds various historic and current information on the site	As a test-case the project may have a long-term effect on the general work approach concerning heritage management.
Public	Agency for Property Management and Real Estate (LIG) High interest / High influence	Municipal enterprise https://immobilien-lig.hamburg.de/immobilienmanagement/13889212/kai-mauersanierung-speicherstadt/)	As the management agency of the public space (of our targeted site) the success of the project depends on their support. They can give important advice on the use of public space and are indispensable for the project implementation (for example the installation of monitoring tools).	Project results may have an impact on future management issues, especially concerning the project area.
Public	City Participatory Workshop (Stadtwerkstatt) High interest / High influence	Part of the Ministry of Urban Development and Housing; one of the ministries of Hamburg as a federal city state https://www.hamburg.de/stadtwerkstatt/	Local experts for any kind of participatory processes and co-creation; also on digital interacting between experts and inhabitants at the site as well as online. For further information in German: https://www.hamburg.de/dipas/	
Public	Agency for Geoinformation and Surveying (LGV) High interest / High influence	Municipal enterprise of the Ministry of Urban Development and Housing https://www.hamburg.de/bsw/whoware/	The agency provides any information about the local spatial information system and 3D-modelling issues.	The project may produce some work load for the agency. The usage of their service and data may lead to a higher visibility of their work.
Public limited company	Hamburger Hafen und Logistik AG (HHLA) High interest / High influence	Public limited company for logistics and municipal enterprise for waterfront real estate (Warehouse district "Speicherstadt") https://hhla.de/	HHLA provides all kind of data on the warehouses as it is the owner of the warehouses themselves. They are also maintaining an archive with a lot of historic plan material concerning the construction and renovation of the buildings. They are also holding existing and planned monitoring tools and data for the buildings.	They would benefit of an improved monitoring tool that helps sustain the buildings.

Sector	Organization	Relationship with municipality (if any)	Information (what useful information can they provide?)	Impacts (how, if at all, are they impacted by the issue?)
Public	Clever Cities – EU Horizon 2020 Project and Klimaleitstelle High interest / Low influence	Ministry of Environment and Energy; one of the ministries of Hamburg as a federal city state (https://www.hamburg.de/hamburg/horizon-2020-clever-cities/) (https://www.hamburg.de/klima/4358412/leitstelle-klima-hh/)	As another smart city Horizon 2020-project they may deliver additional information for the scientific partners within the ARCH project. Also other bodies of the ministry, especially the office for climate change can be of high interest with specific knowledge concerning climate change measures in Hamburg.	They may be impacted by the collection of important information for scientific project-partners, and preparation of common activities, events, and co-creation processes.
Public	Institute for Hygiene and Environment High interest / Low influence	Municipal institute belonging to the Ministry of Health and Consumer Protection; one of the ministries of the federal city state Hamburg (http://luft.hamburg.de/)	They provide information about health care and protection in public spaces, and deal with risk management aspects for inhabitants.	They may be impacted by helping to evaluate co-creation processes.
Public	Air Observatory Network (Luftmessnetz) High interest / Low influence	Municipal institute of the Ministry of Environment and Energy of the city state Hamburg (https://www.hamburg.de/luftreinhaltung/)	They provide a broad range of data referring to air quality, temperature, speed of wind, ozone concentration, and more.	They may be impacted by evaluating data.
Public science centre	GERICS – Climate Service Centre Germany (Helmholtzzentrum, Geesthacht) High interest / Low influence	Independent science centre (https://www.gerics.de/index.php.de)	They focus on climate change related research topics and communication strategies. Especially concerning influences on the river Elbe in the harbour region of Hamburg and influences on cultural heritage preservation aspects in general.	They may be impacted by common events (online as well as face to face), and their evaluation.

Sector	Organization	Relationship with municipality (if any)	Information (what useful information can they provide?)	Impacts (how, if at all, are they impacted by the issue?)
Public	BIM control centres High interest / Low influence	Municipal coordination and control centres regarding geoinformation, civil engineering, building construction. (https://bim.hamburg.de/bim-leitstellen/)	They deal with digitalization and modelling issues in all aspects, and they possess information and knowledge relevant to the BIM modelling strategy of Hamburg.	They have to be strongly involved which would mean an increased workload for the centres.
Public	Light Art Association (Licht Kunst Verein) High interest / Low influence	Independent association for illumination projects within the warehouse district. (https://www.lichtkunst-speicherstadt.de/)	The association may be able to support a communication strategy in the open space area of the warehouse district, which is especially important during the COVID19-pandemic.	They may affect the public opinion on climate change and resilience related issues.
Public, Culture	IG Kulturquartier Speicherstadt und Hafencity High interest / Low influence	Interest group of eleven museums situated in the area of the warehouse district and new developed Hafencity. (https://www.hamburg.de/welterbe/4511062/igkulturquartier/)	The interest group may support the public dissemination and co-creation process.	Their participation in shared events (online or at the site) means some partial workload on the organization.
Public	ICOMOS national High interest / Low influence	No relationship with municipality, but advisory body for all UNESCO heritage sites. (https://www.icomos.de/)		Nothing known by now; maybe participation in some online or podium discussion in combination with other related heritage sites in Augsburg and Regensburg.

Sector	Organization	Relationship with municipality (if any)	Information (what useful information can they provide?)	Impacts (how, if at all, are they impacted by the issue?)
Public	University of Hamburg Hydrology and Water Resource Management High interest / Low influence	Independent from municipality but holds strong relationships with different departments of the regional ministries. (https://www.geo.uni-hamburg.de/geographie/mitarbeiterverzeichnis/goenner.html)	They are dealing with ARCH relevant aspects like hydrology, modelling, risk management, storm surges, and climate change.	Maybe some students work related with the ARCH project can arise from the connection.
Public	Agency of Roads, Bridges and Waters High interest / High influence	Municipal enterprise of the Ministry of Economy, Transport and Innovation; One of the ministries of Hamburg as a federal city state (https://lsbg.hamburg.de/)	They provide various information on data about the waterways. Apart from that we can exchange with another smart city EU-project dealing with water resource management which is managed by the agency.	They should be kept informed about the project. They might be impacted by results of the ARCH project concerning risk management at our city study-case.
Public - owner	Bezirksamt Hamburg-Mitte Low interest / High influence	The district office is the responsible administrator of the city owned area our project focusses on. (https://www.hamburg.de/hamburg-mitte/)		If we can convey the benefit the ARCH project to them, they might become a strong and important supporter. They have to be kept updated and informed about the project anyway.
Public - private	ReGe Hamburg – Projekt-Realisierungsgesellschaft mbH Low interest / Low influence	Municipal enterprise (https://www.rege.hamburg/)	They are leading all restoration activities concerning the quay walls of the warehouse district. Therefore they are providing several kinds of information related to the civil engineering of the area.	We might be depending on their cooperation and/or support for installing monitoring tools.

Sector	Organization	Relationship with municipality (if any)	Information (what useful information can they provide?)	Impacts (how, if at all, are they impacted by the issue?)
Public agency	Hamburg Port Authority <i>Low interest / Low influence</i>	Harbour management of the main harbour district of the city of Hamburg (https://www.hamburg-port-authority.de/de/)	They are managing the waterways within the Speicherstadt, which officially doesn't belong to the harbour area any more. They provide all kinds of information on current and ancient quay walls, waterways and their management and maintenance.	They may be impacted by the ARCH project in case we are focusing on research about the quay wall structure.
Public	IG Kontorhausviertel <i>Low interest / Low influence</i>	Association to enhance awareness for the Kontorhausviertel by cultural and other activities. (http://www.kontorhausviertel.com/)		They may affect the public opinion on climate change and resilience issues towards our heritage.
Public	Ministry for Urban Planning and Housing (BSW) <i>High interest / high influence</i>	One of the ministries of Hamburg as a federal city state. https://www.hamburg.de/bsw/	They collect urban data and provide information about the local spatial information system. Central ministry in regard to urban development.	To provide data and help identifying additional needs beyond existing measurements. May create additional workload for them.
Public	Ministry for Economy and Innovation (BWI) <i>Low interest / high influence</i>	One of the ministries of Hamburg as a federal city state. https://www.hamburg.de/bwi/	They support innovative processes and can provide support in regard to awareness strategies.	Only potentially impacted by now.

Sector	Organization	Relationship with municipality (if any)	Information (what useful information can they provide?)	Impacts (how, if at all, are they impacted by the issue?)
Public	HafenCity University High interest / high influence	Independent from municipality but holds strong relationships with different departments of the regional ministries. https://www.hcu-hamburg.de/	Can provide expert knowledge on BIM modelling.	Maybe some students work related with the ARCH project can arise from the connection.
Public	Stiftung Historische Museen Hamburg (SHMH) High interest / Low influence	Foundation of historic museums in Hamburg https://shmh.de/en	They may support the public dissemination and co-creation process.	Their participation in shared events (online or on site) means some partial workload on the organization.
Private	Hamburg Tourismus GmbH (HHT) High interest / Low influence	Official tourism information point, run as a private limited company with strong relations to regional ministries. https://www.hamburg-travel.com/	They can provide information on tourism behaviour.	Project results may have an impact on tourism issues, especially concerning the project area.
Public	Senatskanzlei Hamburg High interest / high influence	Coordinates the work of the senate and ministries in Hamburg. https://www.hamburg.de/senatskanzlei	Can provide guidance and support, provide networks and connect us with other ministries.	Are responsible for EU projects in Hamburg and are being assessed upon their success.

Sector	Organization	Relationship with municipality (if any)	Information (what useful information can they provide?)	Impacts (how, if at all, are they impacted by the issue?)
Public	UNESCO High interest / Low influence	No relationship with municipality. https://worldheritagegermany.com/		Nothing known by now; maybe participation in some online or podium discussion in combination with other related heritage sites.

Annex 2: Work plan matrix

ARCH D3.2 Local partnership and work plan
Work plan matrix - Hamburg

For abbreviations see index of abbreviations at the bottom of this matrix

Overall aim: to integrate climate change adaptation into management of the World Heritage site Speicherstadt and Kontorhausviertel, including improved monitoring of impacts on built fabric, as well as on visitors and the local community, and increased community awareness.									
Objective 1: Expand and improve digital data management for buildings within Speicherstadt and Kontorhausviertel (e.g. using Building Information Modelling [BIM])									
Strategy	Indicator	Action within the strategy	Responsibility (lead/support)	Possible stakeholders to involve (indicate whether local partner or other stakeholder)	Related plan, policy or strategy (existing or future)	Link to ARCH scientific partners' tasks (if known)	Implementation period	Status (for monitoring purposes)	Notes
Perform Pilot-project: BIM (Building Information Modeling, an extended and interconnected 3D model of existing (heritage) construction)	Digital BIM-model of one existing historic bridge / one historic warehouse within or close to the World Heritage Site was created. The model documents both, the outside and the interior (from foundation to roof) of the structure and includes data relevant to climate-change.	Inform research partners on BIM-strategy for the city of Hamburg and clarify requirements.	Lead: Heritage Preservation Department Support: LSBG, (HHLA)	LSBG HHLA LGV LIG BUKEA Institute for Hygiene and Environment GERICS University of Hamburg Hydrology and Water Resource Management	BIM Strategy Hamburg as part of the digital strategy for the city of Hamburg UNESCO World Heritage management plan ICOMOS periodic reporting	Most likely ENEA, RFSAT, Fraunhofer? Tbd	2021-2022	Mid October 2020: Ongoing conversation with local stakeholders. Planning of match-making event for mid November to engage ARCH research partners	/
		Select of a bridge/warehouse for data collection and further use - upon agreement with owner(s).							
		Define process for data acquisition (time frame, on-site measurements, tools, technical issues)							
		Construct the BIM model							
		Implement and evaluate the BIM model							
Obtain Proof of Concept on data exchange between DAFIS, LGV and BIM	Exemplary data set of historic area/ historic building exchanged between DAFIS, LGV and BIM	Collect technical requirements of each data base and coordinate cooperation across partners	Lead: Heritage Preservation Department Support: LGV	LSBG LGV BSW Responsible for DAFIS: Heritage Preservation Department	BIM Strategy Hamburg as part of the Digitalstrategy for the city of Hamburg	ENEA tbd	June 2021-March 2022	/	/
		Select data set (possible use of same structure as analysed in the first strategy of this objective)							
		Allow ARCH partners to explore and give feedback							
		Define, describe and implement exchange of dataset across the data models							
	Methodology for exchanging data (Proof of concept) described and documented	Document process, judgement on usability and usefulness							

Objective 2: Integrate climate change and related hazards within the future revised Management Plan and associated periodic reporting to UNESCO in the years to come									
Strategy	Indicator	Action within the strategy	Responsibility (lead/support)	Possible stakeholders to involve (indicate whether local partner or other stakeholder)	Related plan, policy or strategy (existing or future)	Link to ARCH scientific partners' tasks (if known)	Implementation period	Status (for monitoring purposes)	Notes
Revision of the WHS Management Plan in regard to climate change impacts	Identified gaps in the Management Plan	Introduce research partners to the management plan and the extent to which climate change and monitoring is currently adressed	Lead: Heritage Preservation Department	District authority of Hamburg Mitte Lichtkunstverein IG Kulturquartier Speicherstadt und Hafencity IG Kontorhausviertel Hamburg Tourismus AG Innenstadt BUKEA GERICS University of Hamburg	WHS Management Plan UNESCO periodic reporting	tbd	First half of 2021	/	/
		Analyse the Management Plan (by research partners)							
	Developed recommendations to fill the gaps	Consult research partners on data to improve future mangement							
	Transferred knowledge to local stakeholders as potentially responsible for proposed future actions/ future monitoring/ collaboration	Identify and engage with stakeholders Convince stakeholders of the need to adress the topic							
Integrate the UNESCO-PERIODIC REPORTING structure and relevant themes (2018-24 - Europe 22-24) into Management Plan structure with	Identified Management Plan - themes/issues common with UNESCO periodic reporting questionnaire	Provide transferrable outcome from the reviewed Management Plan		ICOMOS UNESCO					
Perform risk analysis and identify resilience options	Identified relevant data that describes climate change impacts on the WHS	Identify and gather relevant data (e.g. heat, heavy rain falls, weather conditions like CO2 / UV-concentration)	Lead: Heritage Preservation Department	District authority of Hamburg Mitte Air Observation Network BUKEA Institute for Hygiene and Environment University of Hamburg GERICS HPA HCU	Climate Plan Hamburg	tbd (Tecnalia, ...)	2021-2022	/	/
		Identify impacts of climate change on visitors/tourists and people living or working in the WHS or in its close vicinity.							
		Identify relevant data on tourism flows							
					/	tbd	tbd	/	/
Objective 3: Raise awareness in local community and among visitors of the relevance of climate change to Speicherstadt and Kontorhausviertel.									
Strategy	Indicator	Action within the strategy	Responsibility (lead/support)	Possible stakeholders to involve (indicate whether local partner or other stakeholder)	Related plan, policy or strategy (existing or future)	Link to ARCH scientific partners' tasks (if known)	Implementation period	Status (for monitoring purposes)	Notes
Develop dissemination tools (including strategy, exhibition concept and supporting materials)	Developed and implemented a communication/dissemination strategy, building on the framework outlined in the Management Plan.	Set up communication timings	Lead: Heritage Preservation Department	SHMH Hamburg Tourismus GmbH (HHT) Senatskanzlei Hamburg Cultural Quarter Association (IG Kulturquartier) Local businesses BUKEA BWI IG Kontorhausviertel	tbd	ICLEI as project partner responsible for communication can be involved	2021	/	
		Create topics and content to be published							
		Define communication strategy according to the progress of Covid-19 pandemic							
	Produced posters/banner/roll-ups to inform about ARCH project and the relevance of climate change to Speicherstadt and Kontorhausviertel	Translate scientific knowledge into information that is relevant and interesting to local community/visitors					2021-2022		
	Produced 1 brochure outlining relevance of climate change to Speicherstadt and Kontorhausviertel	Identify interesting and relevant content and topics for local community/visitors					2021-2022		
Created 1 exhibition concept for new a World Heritage Centre, reflecting on relevance of climate change to WHS (implemented in 2023)					2021-2022				
	Implemented/taken part in 3 cultural	Develop variable event concepts that might offer arts & culture, information on climate change in relation to the WHS, WHS related topics							