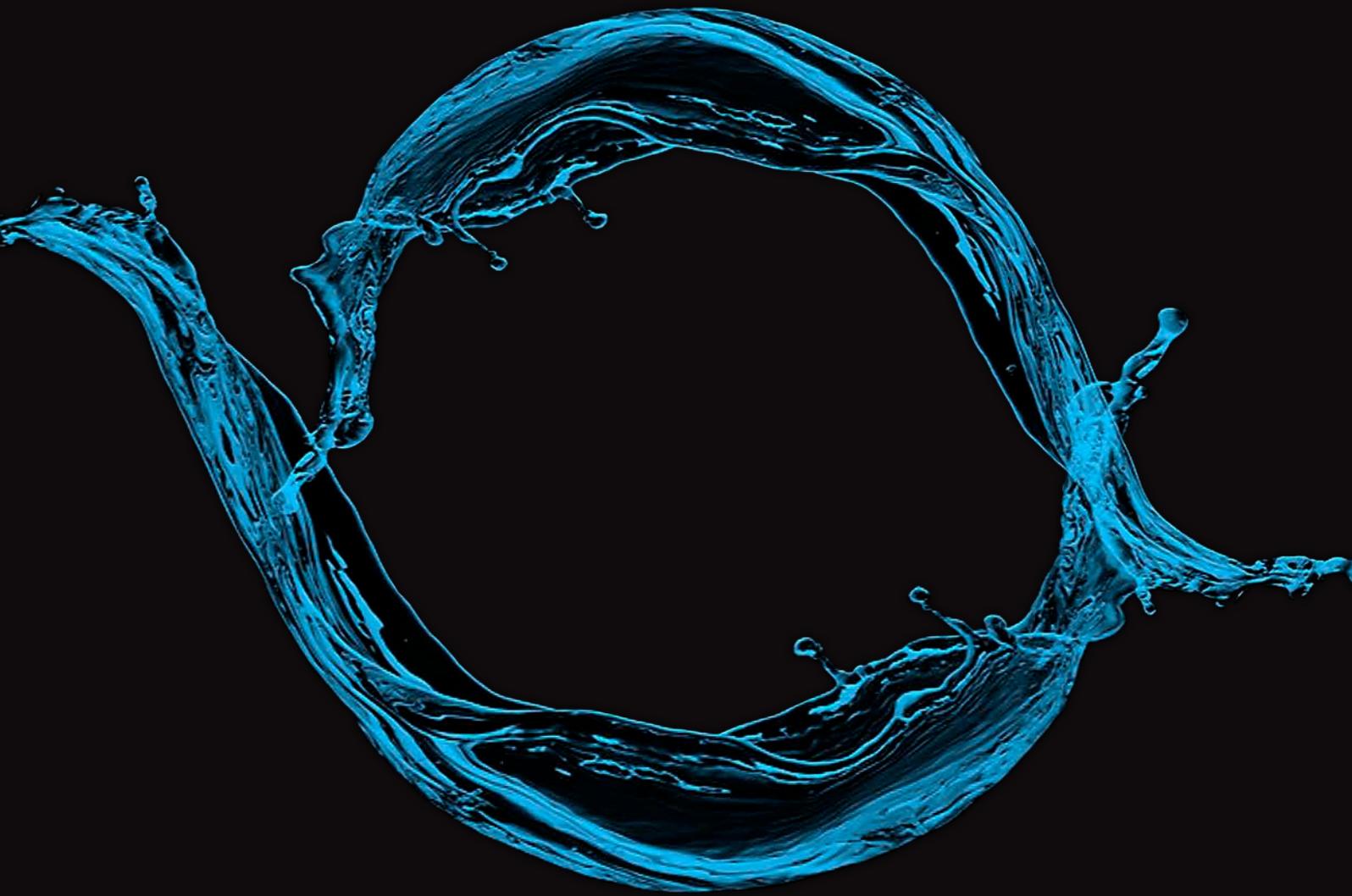


Deloitte.



The blue waterfront

City and port integration through
smart cluster management and
hybrid planning models

A Blue Waterfront
Redevelopment, looks
beyond traditional relocation,
it uses and maximizes the
overall value of the area.

Introduction

Within an era where “Blue” is becoming an ever more prominent and popular term with concepts like Blue Growth and Blue Economy, Deloitte has coined the term “Blue Waterfront”. The intention of this term is showcasing and merging two ongoing developments in the urban planning environment and the maritime/marine environment. It links blue growth, the long term strategy to support sustainable growth in the marine and maritime sectors, and development, the long term strategy to support sustainable growth in the marine and maritime sectors as a whole to waterfront redevelopment.

The port-city waterfront has always been a disputed area where different urban and economic functions are intertwined. Some of the best known city redevelopment projects in of the past century are pure waterfront redevelopments where we see a shift from economic (maritime) spatial use to a more mixed urban spatial use. Examples include London Docklands, San Francisco Bay area, Boston Waterfront and Auckland Waterfront, Cape Town Waterfront, Antwerp Eilandje, etc. This transition has been instigated by technological developments in the maritime industry and evolving needs of urban populations in major port cities across the globe.

What we witness today is that, in tandem with the port industry as a whole, waterfront development is slowly evolving towards a more complex process. Where in the past we saw a shift of value generating activities purely from maritime-economic to urban-economic (i.e. living and office jobs), today we see a true explosion of various activities and uses which are possible at this frontier of urban-maritime development, including city logistics, recreation and additive manufacturing.

History

Waterfront redevelopment is a well know concept within city-planning and large (planned) real-estate development. The earliest projects can be traced back to the 1960s (not coincidentally aligned with the rise of the container industry¹) when cities like Boston, Baltimore and San Francisco set the trend to redevelop impoverished waterfronts into dynamic urban environments. Due to the technological developments (containerization) certain traditional, smaller terminals often located near or even in the city (centre) lost their value as a traditional port terminal. Port activities moved further outside the city and the “obsolete” terminals became derelict areas within the city.

Technological developments

Technological changes in shipping and cargo handling facilities triggered the transformation of ports. Whereas the port was formerly known as a spot of basic commodities, the modern port evolved to a horizontal cross-section of different product chains with most noticeably the container era and consequent scale increase in ships. Once this move had happened, the port-city relationship began to split and they started to become two distinct entities. This separation was

accelerated with the advent of more recent advanced port logistics and especially with containerization.

Urbanisation

Soon after the technological developments affecting the city ports occurred, we saw (see) a strong tendency of urbanization. A large population shift from rural to urban residency as a result from people wanting to live and work (again) in central areas. It occurs either organically or planned as a result of individual, collective and state action.

Then, after the old port areas became derelict, strong urbanization led to a renewed interest in these areas, often containing large open spaces and directly located near a river, dock or bay, which results in a relatively high real estate potential. The combination of the urbanisation and the technological development trends resulted in a slow progression of ports moving away from their inner city, which is still visible today with modern port expansions often taking place on reclaimed land and far away from the original city centres. Prime examples of reclaimed land are Maasvlakte I and Maasvlakte II in Rotterdam, both focusing on large shipping related activities and heavy industry².

1. Container industry started in 1950s America, patented by Malcolm McLean (USA, 1956). Although he wasn't an ocean shipper, he owned the largest trucking company in the country at that time, this resulted in a large scale increase in shipping

2. Maasvlakte I is mainly used for Bulk (EMO), container (ETC, Hutchinson, Euromax) distribution centers (Reebok, DHL, kloosterboer), Slufter (toxic reclamation) and a power station (coal, Uniper). Maasvlakte II is mainly used for container (APM, ETC), offshore (Allseas) and has vacancies.

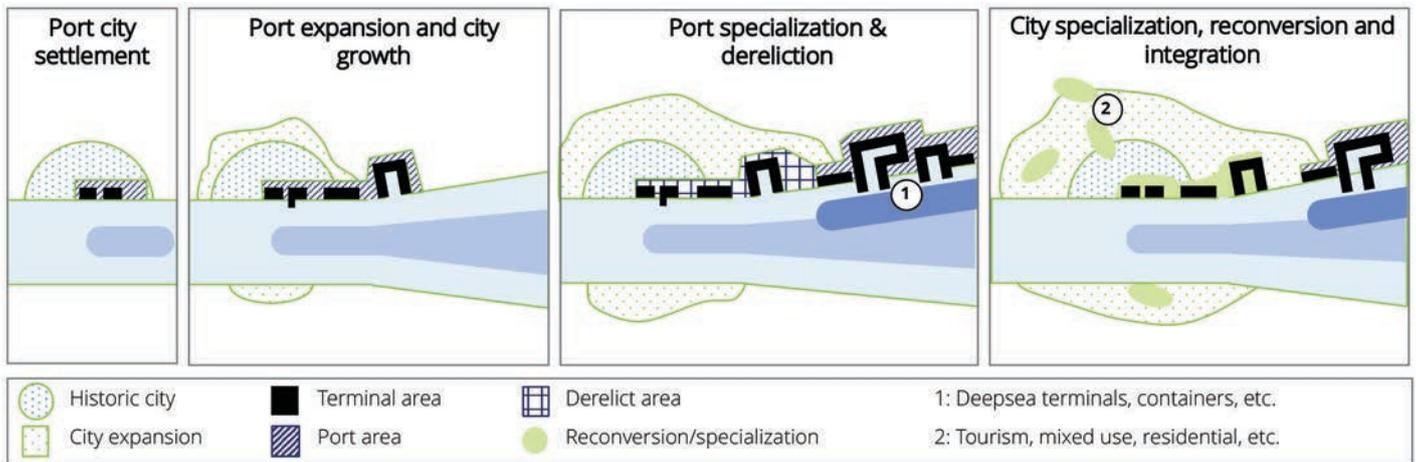


Figure 1 shows a traditional conceptual model on this port-city evolution.

The port-city waterfront has always been a disputed area where different urban and economic functions are intertwined. Some of the best known city redevelopment projects in of the past century are pure waterfront redevelopments where we see a shift from economic (maritime) spatial use to a more mixed urban spatial use. Examples include London Docklands, San Francisco Bay area, Boston Waterfront and Auckland Waterfront, Cape Town Waterfront, Antwerp Eilandje, etc. This transition has been instigated by technological developments in the maritime industry and evolving needs of urban populations in major port cities across the globe.

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possible at this frontier of urban-maritime development, including city logistics, recreation and additive manufacturing.

The complexity of Port-City evolution

The complexity of waterfront redevelopment stems from the fact that most major ports today including their older (derelict) port areas are in close proximity or even part of the city centres of successful global cities (e.g. Amsterdam, Antwerp, Durban, Hamburg, Hong-Kong, Los Angeles, New York, Rotterdam, Singapore, etc.). As a result of that waterfront redevelopment projects involve many stakeholders who all have a variety of interests and conflicts, including local communities, business owners, companies active in the maritime and non-maritime industries, government organisations, etc. This complexity has always been the core challenge of a successful waterfront redevelopment. Over the past 50 years we have seen **four main approaches** emerging:

1. **Ad hoc reconversion:** North American cases Baltimore Inner Harbour, the major North American Projects in 1960 and 1970s, these projects were mostly led by redevelopment agencies with no grand masterplan focused on creating retail and festival marketplaces
2. **Plan-led organization:** Boston, London, Barcelona and Toronto, 1980s distinctive market-driven and plan-led planning processes first European cases like London docklands, Barcelona and the start of Rotterdam, public-private partnerships and the extensive use of private investment
3. **Hybrid model:** combining lessons from approaches 1 and 2 Vancouver, Sydney, and Liverpool and in Europe Cardiff Bay, Liverpool, Salford Docks and Berlin's Wasserstadt
4. **Resource driven reorganization:** occurred post 1990 during the recession combining previous planning styles with innovative ones allowing these cities meet their redevelopment aims rethinking the use of resources, for e.g. Bilbao

In addition to these four approaches we have witnessed the rise of a 5th approach. This new approach, Deloitte dubbed the "Blue Waterfront Redevelopment", shows a strong increase in complexity and a new way of reasoning from a hybrid urban-port mindset.

Further explanation Blue Waterfront Redevelopment

According to the Blue Growth strategy of the European Commission, the objective of the Blue Growth strategy is to promote smart, sustainable and inclusive growth. The focus industries of Blue Growth in Europe include ocean energy, aquaculture, maritime tourism, blue biotechnology and seabed resources. In addition to these core sectors shipbuilding & repair, transport, fisheries and offshore oil and gas are also included as important elements of the Blue ecosystem.

The traditional waterfront development was instigated by a declining activity of the older traditional blue economy sectors/traditional port functions,

namely shipbuilding & repair, transport and fisheries. These areas were being reconverted from their intended traditional port function towards a combination of residential and urban functions balancing community, port and economic uses. Other popular reconversion functions include housing, hotels, heritage, sports, recreation, tourism and local commerce.

As we can see the traditional approach was very centred in a single use for the area (or limited mixed use) but more importantly was always comprised of the traditional urban related industries. The Blue Waterfront Redevelopment breaks with this paradigm of purely urban related use and looks at the best uses, both for the city and for the port.

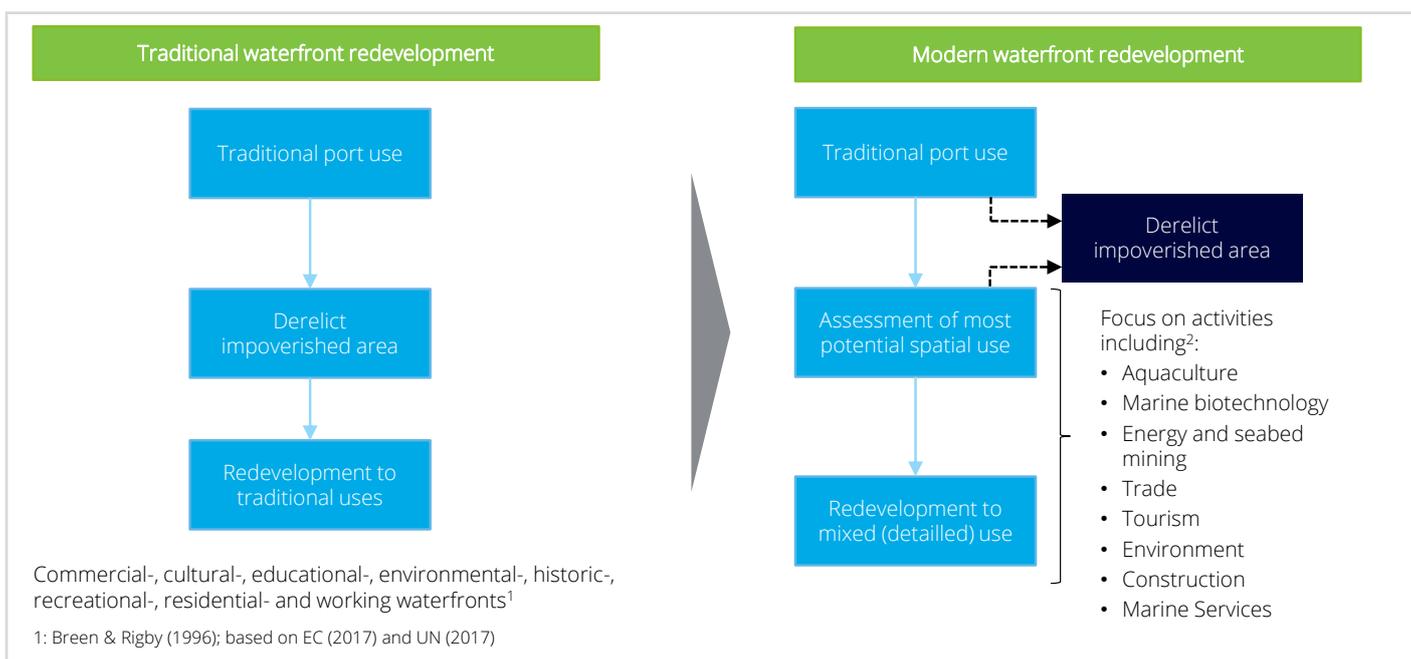


Figure 2 high level overview of Blue port ecosystem.

The term Blue in the waterfront context is derived from a definition of the blue economy stating that the “Blue Economy insists on solutions being determined by their local environment and physical/ecological characteristics”. This means that one could consider the original development of a port city the ultimate form of the Blue Economy where a city either grows organically next to a naturally “perfect port location” or a port develops near a city which is “naturally suited for maritime transport” depending on which one came first, the city or the port. Over time, due to changing environments, these “perfect locations” lost their value and had to evolve. Up until recently, the focus of this evolution was the shift from port to urban, partially instigated through the ongoing urbanization. However what we are seeing today, given the Blue economy and Blue growth developments, is that planners are starting to look at alternative/hybrid uses for these “derelict” areas.



Figure 3: Modernisation of Waterfront redevelopment.

A Blue Waterfront Redevelopment looks beyond the “traditional relocation uses” and tries to maximize the overall value of the area. It is often preceded by an in depth socio-economic benefit analysis and ecosystem analysis of the possible land uses.

Stadshavens Rotterdam, a Blue Waterfront Redevelopment case

The concept of Blue Waterfront Redevelopment can be matched with the case of Rotterdam Stadshavens (in English: City Ports). The port of Rotterdam is the largest port in Europe, a diversified port and a major logistics node. In 1900, most of the working port was concentrated within the ring area of Rotterdam, located on the north bank of the river Maas that connects the city with the North Sea. Since the end of 19th century, Rotterdam developed into the major port of transit for the local hinterland and the wider Western European mainland. In the three decades after the Second World War, 1945-75, the port

expanded impressively to more or less its current size.

Given technological advancements, including containerization, the port moved more and more westwards. The less-utilized or sometimes vacant plots in the central port areas only became interesting for new urban functions in 1980, starting with the Kop van Zuid. The Kop van Zuid area was a urban residential development aimed at middle and high income groups with supporting urban economic activities like cafés, bars, event halls and restaurants. Upon successful redevelopment of this area, the focus shifted towards other central port areas,

dubbed Stadshavens Rotterdam. The Stadshavens Rotterdam comprise of 1,600 hectares, making it one of the largest inner city redevelopments in Europe since the London Gateway. In the Master Plan drawn up by the City of Rotterdam in 2009 in cooperation with the Port of Rotterdam, the Stadshavens Rotterdam area initially comprised of four sub-areas:

1. Waal-Eemhaven
2. RDM-Heijplaat
3. Maas-Rijnhaven
4. Merwe-Vierhavens

Figure 4 provides an indicative high level timeline of the Stadshavens Rotterdam development.

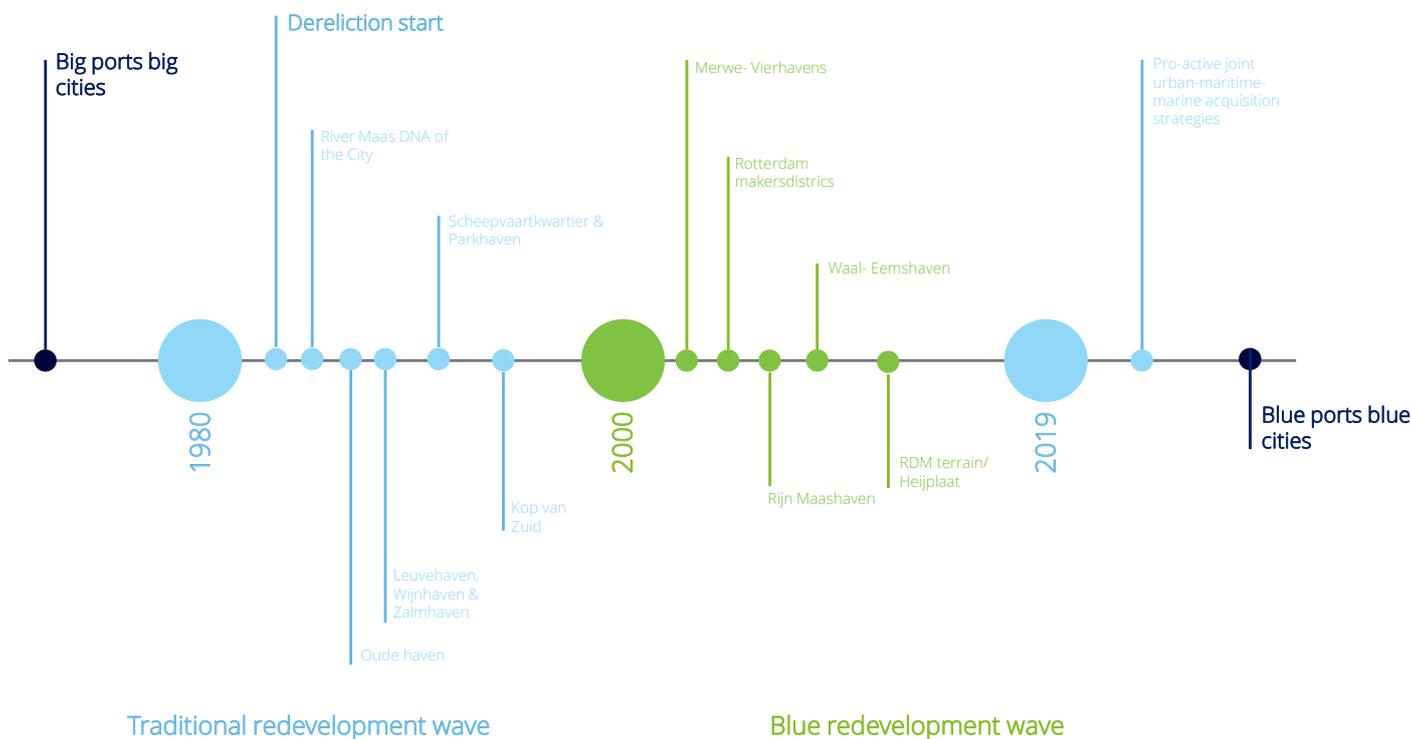


Figure 4: High level indicative overview of Stadshavens Rotterdam development.

The redevelopment of the Stadshavens Rotterdam is in line with the four main approaches to waterfront development. If we go back to 1960-1980, the growth of port and city were aligned, big ports create big cities, strong symbiosis between city and port.

- Then in 1980 we see the start of dereliction because of outwards growth of the port in tandem with the first wave of waterfront redevelopment focused on urban redevelopments towards, history, culture, tourism, leisure, housing nature and recreation.
- Around 2000 we see a strong mentality shift, and a start of the second wave. During this wave space has/is been created to develop new activities which are important to both the city and the port. Examples include housing, water management, energy and recycling, marine innovation, tourism, water construction, marine education, etc.
- In 2007, the Port of Rotterdam Authority and the City of Rotterdam entered into a special partnership for the redevelopment of Stadshavens. With the Stadshavens Rotterdam Program Office, work was done to connect the city and port in the four Stadshavens areas. This cooperation has among other things provided a new, lively living and working area in Rijn-Maashaven. The Waal-Eemhaven are renewed ports full of maritime service providers. The governance structure is an organization set up by both the City and the Port of Rotterdam. This organization coordinates the planning, the financing procedures and regional, provincial and national support. As with many waterfront development projects the project is influenced by many stakeholder with differing views of the area.
- In 2018 the city and the Port Authority of Rotterdam published a plan together to rebrand RDM and Merwe-Vierhavens into the Rotterdam Makers District. The Rotterdam Makers District aspires to be the centre in the region focused on the innovative manufacturing industry

cluster. Where a large section of the previous developments were still built on reinforcing the residential and urban character, the new approach for Rotterdam Makers District aimed to incorporate the changing economy of the Rotterdam region, including the Next Economy, circularity, digitization and innovation as crucial components of the development.

This tendency to focus activities more on innovation and “water bound semi-industrial activities” is in line with the core of the Blue Economy principles. Whereas, in the earlier plans of the waterfront redevelopment (1990s-2005) focus was more on a value transfer from port to city, today we see that the port and city are working together to attract the best possible activities, be it residential, industrial, urban or leisure to the waterfront region. This is reinforced over the past few years with capturing ongoing ecosystem synergies up to late 2018 for waterfront redevelopment and active acquisition strategies.

So now what?

The case of Rotterdam cannot be superimposed to all waterfront related cities, each city has its own history, planning outlines, geography etc. The concept of Blue Waterfront however is applicable across all port-urban environments. The potential for Blue Waterfront Redevelopment is apparent in most port cities, both small and large, and central and non-central. When embarking on the Blue Waterfront Redevelopment path, there are a couple of things that should be considered, including:

1. **Stakeholder support:** Waterfront redevelopments typically have a large number and large variety of stakeholders, whilst it is typically driven by local government (city, county, province, etc.), port authority or local landowners. Proactive stakeholder management and alignment of interests is key for successful Blue Waterfront Redevelopment. Securing stakeholder buy-in and solving /

mitigating challenges in an early stage will allow the project to move smoothly through the planning phases and generate a maximum of support.

2. **Ecosystem approach:** Successful Blue Waterfront Redevelopments build on proven successful existing clusters in the city / port. An assessment of cluster / ecosystem presence, potential and dynamics in the city / port will provide the input for robust and enduring planning with respect to the Blue Waterfront Redevelopment, and business acquisition strategy. It is important for local government, port authority and/or development agencies to continue the ecosystem approach; focus on adding value to the Blue Waterfront rather than selling real estate.
3. **Planning:** With the many stakeholders, the focused approach, and the natural tendency towards planning opportunism, it is important to agree on the indicators (i.e. KPI's) that define success for all stakeholders, and the parameters that are most important to realise that success. Keeping focus on realising predefined successes for all stakeholders will smoothen planning, especially in the early stages of the Blue Waterfront Redevelopment. Stakeholders need to understand that allowing others to realise (and celebrate) successes is required to realise (and celebrate) their own successes.
4. **Funding:** Blue Waterfront Redevelopment projects are complex and have many stakeholders. Whilst the long term (also financial) benefits of Blue Waterfront Redevelopment projects could be substantial, they tend to have high risks and uncertainties. Also, inner city redevelopment projects require large upfront investments and aligning on scope and agreeing on objectives takes time, especially with many stakeholders. Projects with these characteristics often require public involvement to start, and public funding could kick-start conversations and planning.

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