

# Rotterdam and the RDM Campus: Opportunities for Building Climate Resilient Communities through Redevelopment

USACE Coastal Resilience Conference 23 May 2014 New Orleans



Piet Dircke - Global Director Water Management ARCADIS

# Similarities between New Orleans - Rotterdam

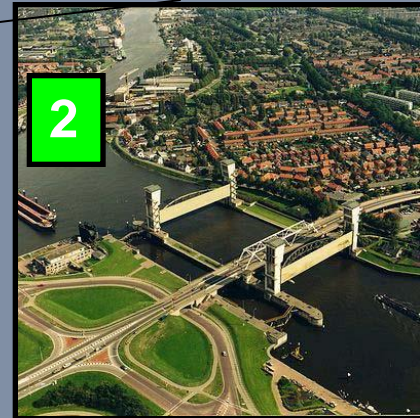
- **Geographic: vulnerable: delta, large river, partly below sea level**
- **Storm surge barriers, levees & flood walls for flood protection**
- **Large port cities with regional & national economic importance**
- **Climate adaptation/mitigation: oil- and gas industry & transport**
- **Same size: approx. 600.000 inhabitants**
- **Both hit by a major disaster => need for rebuilding**
- **Both multicultural, large low income communities, music (jazz!)**



# Rotterdam & Dutch Delta Plan



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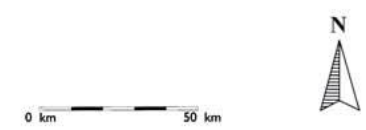


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## Dutch Delta Plan II:

- Adapting to climate change
- Sea level rise
- Future challenges
- National systems approach
- Living with water
- Long term 2100 - 2200

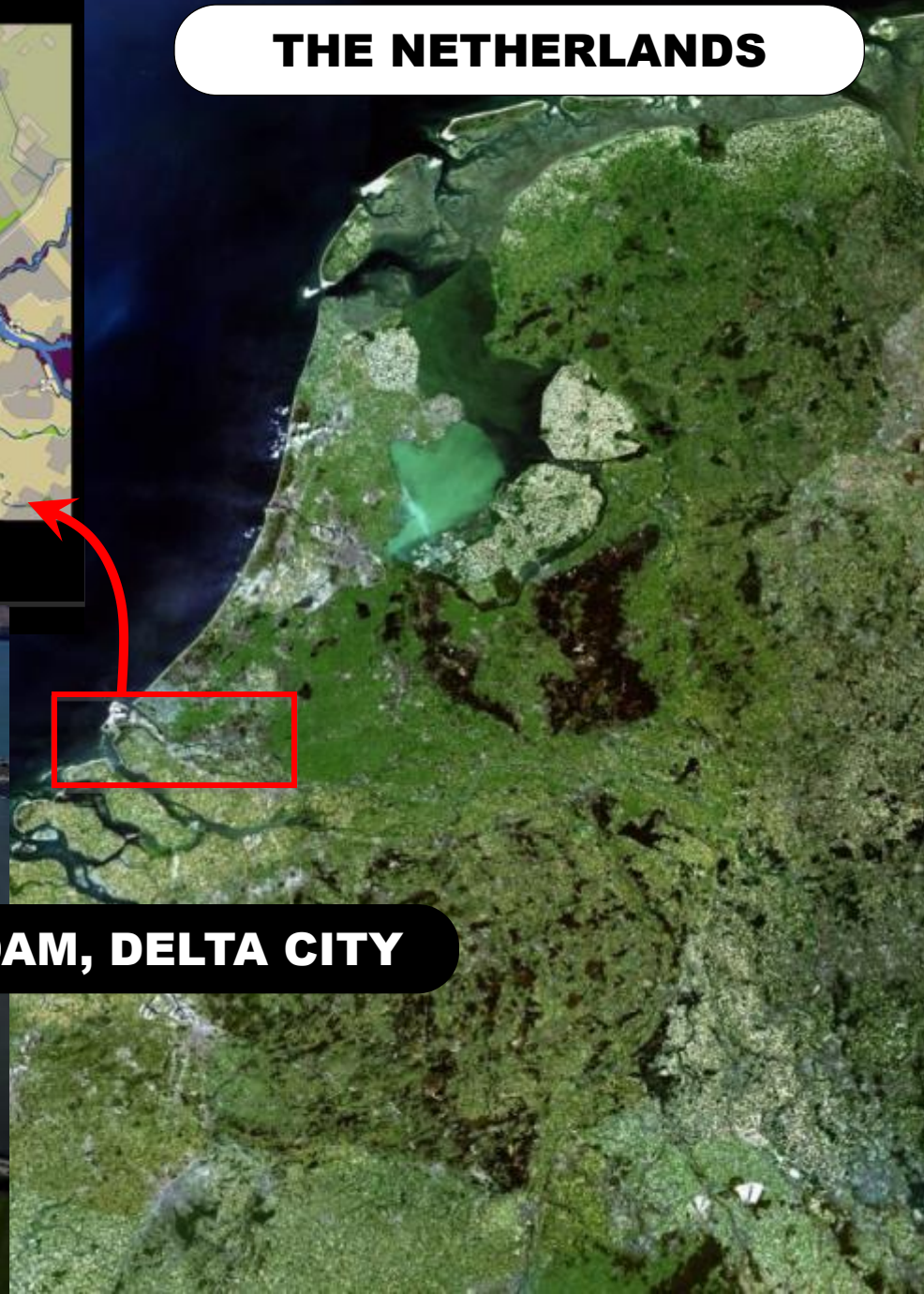




## ROTTERDAM REGION



## THE NETHERLANDS



## ROTTERDAM, DELTA CITY



**MAESLANTKERING:  
STORM SURGE BARRIER**



**ROTTERDAM 2014**

**ROTTERDAM 1652**



**LARGEST PORT OF EUROPE**

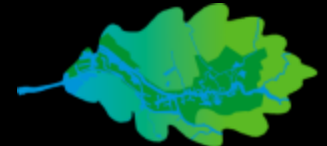
**40 KM HARBOUR**

**2800 KM SEWER SYSTEM**

**THREE WATERBOARDS**

**612.000 INHABITANTS**

**400 KM CANALS + 1000 PUMPING STATIONS**









# Climate change and water challenges

## Threats coming from 4 directions

precipitation

River discharges

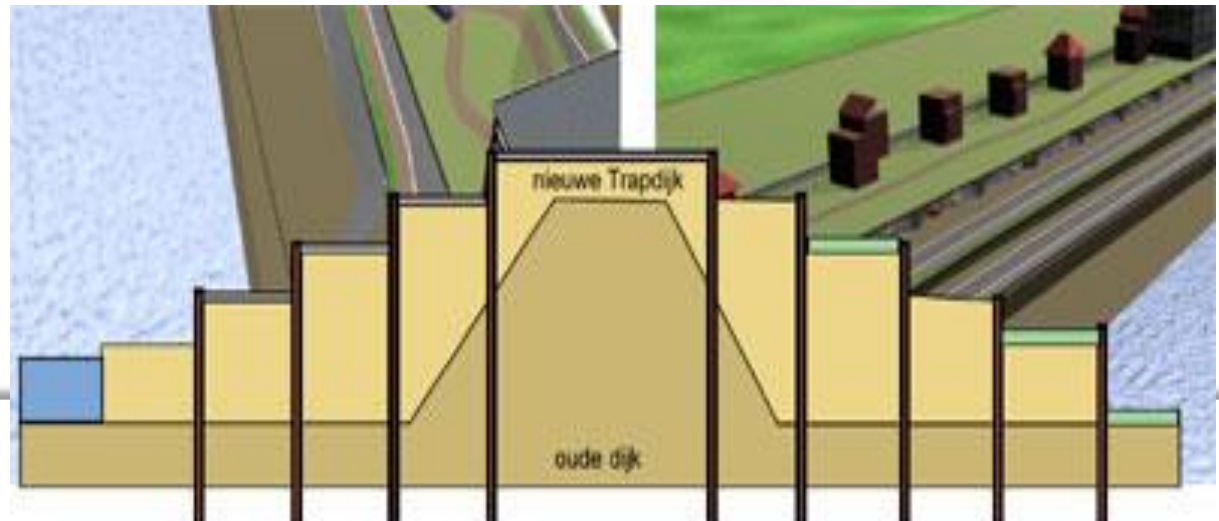
Sea level rise

Groundwater





# Rotterdam Multipurpose “Steps” DiKE Concept









# UNDERGROUND WATER STORAGE











# Water Plaza





# Water Plaza









# MORE SPACE FOR WATER





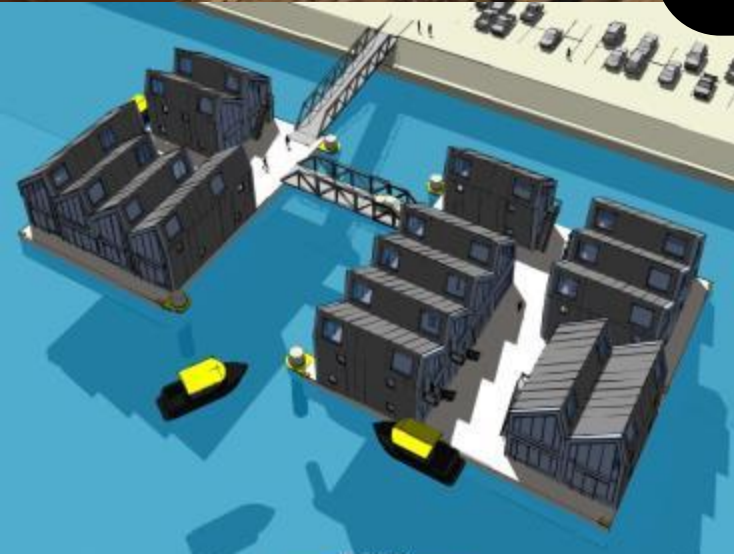
# WATER FRONT DEVELOPMENT







## ADAPTIVE BUILDING





# Rotterdam City Ports with RDM Campus



Rotterdam and Nieuwe Waterweg – Rhine Delta







# RDM Campus Location





# RDM Campus





# RDM Campus Rotterdam: Research, Design & Manufacturing





# A rich history

Rotterdamsche Droogdok Maatschappij 1902-1983  
(Rotterdam Dry Dock Company)





# Garden village Heijplaat







# Redevelopment of the RDM area



The cooperation between the partners in RDM Campus has been laid down in a cooperation agreement letter for 10 years. This is to be considered a letter of intent.





# Vision

*“RDM Campus is a breeding place for the Dutch **creative& technical industry** voor sustainable innovations with a focus to Building, Moving & Powering.”*

*RDM Campus is a place where students and companies collaborate in an open environment and focus on new economic activity and sustainable and innovative solutions in the markets Building, Moving & Powering.*





# Educational concept: Innovation teams Businesses & students







Bay 2 in Innovation Dock offers room for meetings and business events



# RDM CAMPUS INNOVATION NETWORK

RDM Campus has an extensive network in the fields of building, moving and powering, design and architecture. Regular meetings offer lectures by professors, as well as networking opportunities.



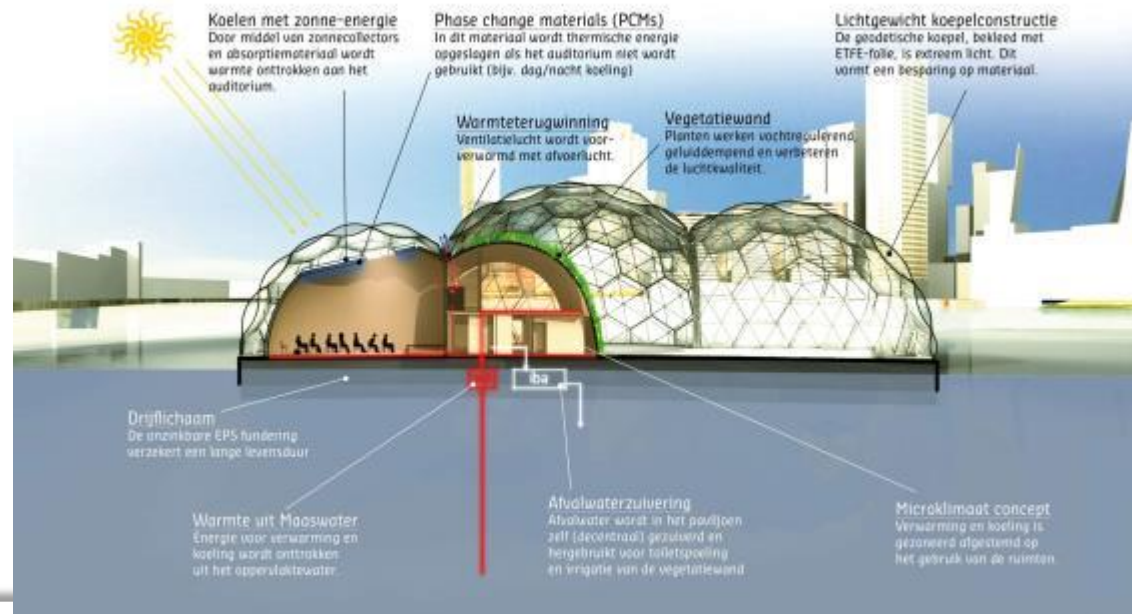


# Floating Pavillion artist impression





# Floating Pavillion construction at RDM Campus

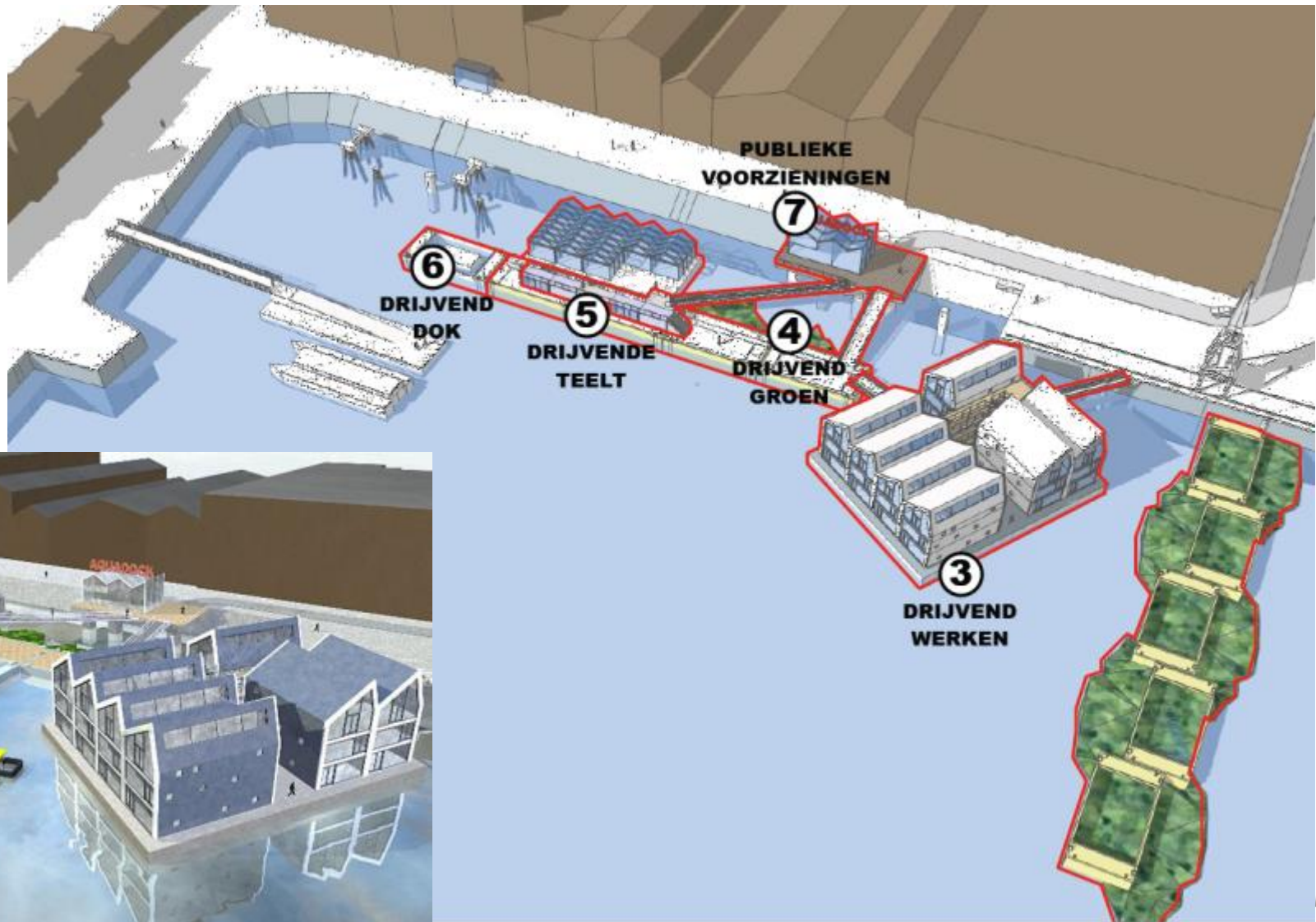




# Rotterdam Waterfront and floating pavilion



# RDM Aqua Dock





# Concept House Village/ Living lab: Development, testing, implementing

- Technical innovations
- LivingLab: automation (domotica)
- Research: sustainable behavior
- Demonstration Sustainable Houses
- Street of the Future (Straat van de Toekomst)

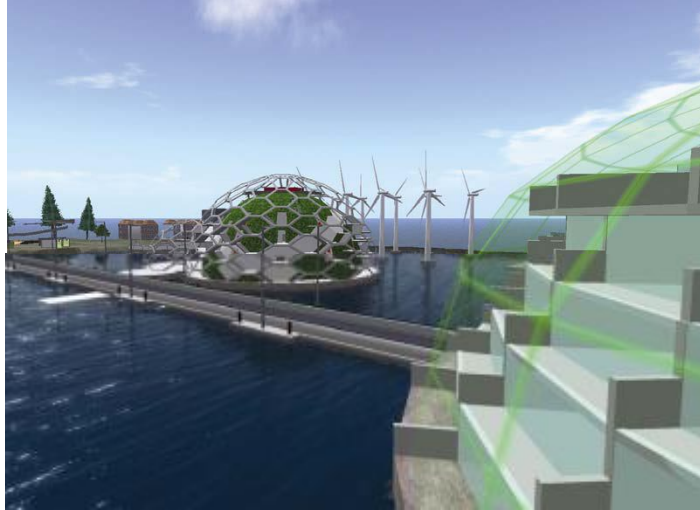




## BRWX - Community Resiliency



- Climate Adaptation
- Knowledge networks & centres



## Connecting Delta Cities

Connecting Delta Cities unites those Delta Cities who strive to make their cities climate proof. They join forces in their quest for innovative adaptation strategies, sharing knowledge and best practices.

Connecting Delta Cities virtually combines the knowledge, experience and connections of Rotterdam, Tokyo, Jakarta, Hong Kong, Shanghai, New York, London and others.

London Rotterdam Shanghai Tokyo  
New York Hong Kong Jakarta

[www.deltacities.com](http://www.deltacities.com)



DDD 2012  
DUTCH DELTA DESIGN

## HOLLAND UNITES THE WORLD OF WATER

NIP



Gemeente Rotterdam



# More information

Check out [www.rdmcampus.nl](http://www.rdmcampus.nl)

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or call +31 10 794 92 29



**Thank you!!**



**Rotterdam images courtesy of City of Rotterdam & Urbanisten**