

RESILIENT ROTTERDAM.

Since the Rotterdam Resilience Program launch on May 19th 2016, it has emerged as one of the city's top strategic programs. Rotterdam strives to make the city and her citizens resilient and ready for the challenges of the 21st century.

WHAT IS RESILIENCE?

Urban resilience is the capacity of people, communities, organizations, businesses and systems to survive, adapt and grow, regardless of long-term tensions and crises of all kinds and varying magnitudes. In this era of change and uncertainty, resilience is a critical urban skill!

THEN AND NOW

Ever since the first foundations of the City of Rotterdam were laid in the 12th century, the spirit of resilience has been embedded in our DNA. Aside from fighting the water, we used it to our advantage, creating land, establishing a postmodern city and a world-class port as the main gateway to Europe. Our city and citizens have - throughout history - overcome numerous shocks and setbacks. The city centre was destroyed during World War II, but we recovered and improved our city. Rotterdam is now a thriving cosmopolitan city renowned for its modern architecture, high quality knowledge institutions and an innovative makerspace. Rotterdam

is known as a city that shows vision, courage and perseverance: as a strong, assertive and resilient city.

In 2016 the City of Rotterdam launched its first Resilience Strategy supported by 100 Resilient Cities (100RC) – Initially pioneered by the Rockefeller Foundation. Rotterdam has since worked to implement the Strategy and mainstream holistic resilience thinking across the city.

WHY A RESILIENT CITY?

Additional to ongoing urbanization, Rotterdam faces challenges such as social fragmentation, the energy transition, digitization, climate change, and changing relationships between government, citizens and institutions. We know that these challenges need to be faced and that the technological and societal changes of the 21st century will present new risks and opportunities. Rotterdam strives for a sustainable, safe, united and healthy future for the city. By becoming more resilient, we can create a future proof city.



PRACTISING RESILIENCE.

We can only become 100% resilient when the municipality works together with citizens, social, art and cultural networks, housing corporations, universities and private sector. That is why we signed MoU's with the Rotterdam University on Applied Sciences (HRO) and with the Centre of Resilient Engineering, set up by the 4 technical universities in the Netherlands. Recently the HRO developed a special minor on resilience. Currently 700 students are active on resilience. Rotterdam developed multiple programs with third parties and citizens, like Feyenoord City (where resilience is a leading principle) and the programs mentioned below.

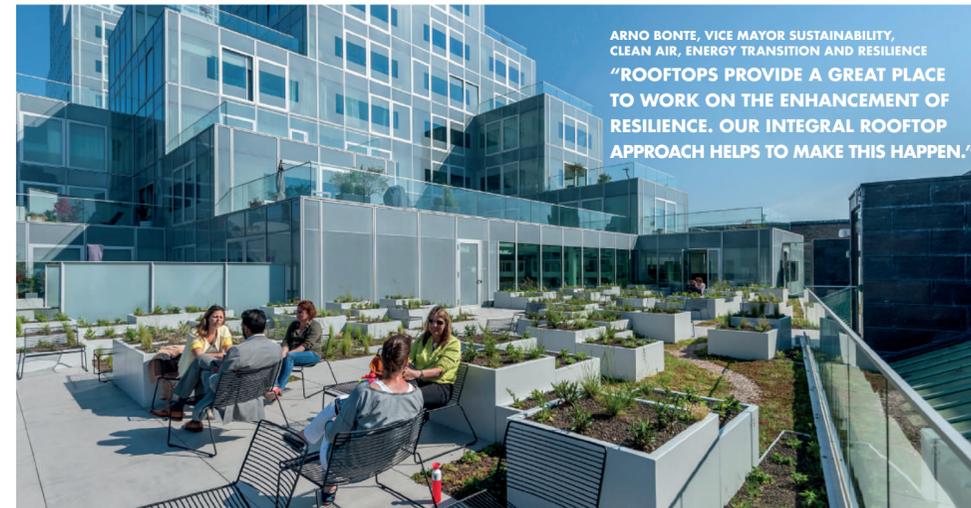


The Resilient Peperklip (building level)

This striking building is the largest social housing complex of Rotterdam-Zuid. It counts ±550 households and is home to 125 nationalities. Together, the municipality of Rotterdam and housing corporation Vestia explored the possibilities of making the Peperklip more resilient. As a result of this partnership, 11000 m² of unused roof surface will be greened. The goal is to use it to generate renewable energy and to irrigate the greenery on the roof and in the courtyard. Residents who are unemployed and on welfare benefits are employed to work on realizing the plans.

JEROEN MENNINK, DIRECTOR HOUSING CORPORATION VESTIA:

"WE USED THE RETROFITTING OF THE PEPERKLIP AS LEVERAGE TO INVEST IN RESILIENCE OF THE BUILDING AND THE RESIDENTS. RESILIENT CITIZENS ARE THE KEY TO RESILIENT ROTTERDAM."



ARNO BONTE, VICE MAYOR SUSTAINABILITY, CLEAN AIR, ENERGY TRANSITION AND RESILIENCE
"ROOFTOPS PROVIDE A GREAT PLACE TO WORK ON THE ENHANCEMENT OF RESILIENCE. OUR INTEGRAL ROOFTOP APPROACH HELPS TO MAKE THIS HAPPEN."

Resilient Bospolder-Tussendijken (district level)

Resilient BoTu 2028 is a program that aims to make the Rotterdam districts called Bospolder and Tussendijken resilient within ten years' time, particularly in terms of social cohesion, safety and climate resilience. The municipality of Rotterdam, residents and a broad range of partners are working together to increase the living environment, quality of life, participation and capacities in the neighborhood. Creative entrepreneurs, companies and citizens are invited to participate and implement their ideas via a Call for Action.

Multifunctional Rooftops (city level)

Rotterdam's rooftops of approximately 18.5 km² offer different opportunities to add value to both the owners and users as well as the city: green vegetated roofs, blue roofs to buffer rainwater, yellow roofs that generate sustainable energy, and red roofs that are attractive as public space. Best these functions are combined in a multifunctional way. With this innovative and integrated program, a new urban layer will be developed which will be one of Rotterdam's key contributions to resilient growth of the city. The famous Rooftop Farm (DakAkker) right in the city centre is one of the iconic examples.



City Opera "Ring of Resilience" (art and culture)

This city opera is created by City Lab 'Little Wotan'. 'Ring of Resilience' is a 4-year program (2017-2020) based on Wagner's 'Ring des Nibelungen' and the Rotterdam Resilience Program. The project is leading to a grand scale, immersive city opera in 2020 combining performances, mythology, serious gaming, workshops and research. The opera challenges citizens, artists, entrepreneurs, social innovators and scientists to interact in creating future scenarios for the city. This opera is an example of an art/cultural initiative that brings more awareness of daily and future challenges and that be doing so contributes to resilience.

ARLON LUIJTEN, ARTISTIC LEADER LITTLE WOTAN:
"DO YOU WANT PEOPLE TO CHANGE? DON'T JUST GIVE THEM INFORMATION; GIVE THEM AN EXPERIENCE!"



AHMED ABOUTALEB, MAYOR CITY OF ROTTERDAM:
"OUR CHALLENGE IS TO USE CLIMATE ADAPTATION AND THE ENERGY TRANSITION AS LEVERS FOR SOCIAL RESILIENCE!"



ROTTERDAM RESILIENCE SCAN.



ARNOUD MOLENAAR, CHIEF RESILIENCE OFFICER:
“TO BECOME A RESILIENT CITY WE HAVE TO APPLY THE CONCEPT OF RESILIENCE ON A STRUCTURAL AND SYSTEMATIC WAY IN ALL PROJECTS.”

The goal of our strategy is to implement a resilient way of working and thinking. We developed a tool called the Resilience Scan in order to identify resilience qualities in your project. By using the resilience qualities, we aim to understand to what extent a project is resilient and which qualities can be further strengthened to contribute

to a more resilient city. The Scan is used to anchor resilience thinking in projects of both the municipality and key stakeholders, such as housing corporations and real estate developers. Now for example, resilience explicitly is included in a tender related to the development of the ZoHo-district.

SEVEN QUALITIES OF RESILIENCE

-  **REFLECTIVE**
using past experience to inform future decisions
-  **RESOURCEFUL**
recognizing alternative ways to use resources
-  **ROBUST**
well-conceived, constructed and managed systems
-  **REDUNDANT**
spare capacity purposely created to accommodate disruption
-  **FLEXIBLE**
willingness and ability to adopt alternative strategies to changing circumstances
-  **INCLUSIVE**
prioritize consultation to create a sense of shared ownership in decision making
-  **INTEGRATED**
bring together a range of distinct systems and institutions

scale, local initiatives and invest in multi-functional and inclusive measures. We also work on resilient critical infrastructure, improving safety and emergency plans.

5. RESILIENT INFRASTRUCTURE

To maintain our robust infrastructure, we want to enhance the awareness of potential risks. By applying resilience as key quality in our asset management, our infrastructure and objects, above- and underground, our city will become more future proof.

6. NETWORK CITY

We are aware that the city and its identity is created by Rotterdammers. Our resilience increases as more and more alternative organizations and networks arise. By increasing the flexibility of the municipality (for example through deregulation and more public participation) we facilitate to self-organize and connect people to initiatives and businesses which contributes to the resilience of the city.

7. ANCHORING RESILIENCE IN THE CITY

Rotterdam works on mainstreaming the resilience thinking by anchoring the resilience qualities in a structural way. By focusing on resilient district development and by applying the Rotterdam Resilience Scan in our main projects, we assure that the growth of the city is used as leverage to become a resilient city.

7 RESILIENCE GOALS.

We want to build on our heritage and past successes to take our city resilience to the next level. The Rotterdam Resilience Strategy outlines seven goals.

1. SOCIAL RESILIENCE: A BALANCED SOCIETY

We strengthen resilience at the individual level. Knowledge, skills, education, health, wellbeing and respect are central pillars of a balanced society. We want our young citizens to be ready to live and work in the 21st century, and to benefit from and contribute to the so-called 'Next Economy'.

2. CLEAN AND RELIABLE ENERGY

As a port city Rotterdam wants to work deeply on the clean energy transition. We strive for a diversification of energy sources and a more flexible urban energy infrastructure. We want to become a frontrunner city when it comes to the use of solar energy and abandoning the use of natural gas for heating.

3. CYBER RESILIENT PORT CITY

The digitization of society offers many opportunities, but also increases risks of disruption to critical processes for production, logistics and services. Rotterdam aims to be a cyber resilient city and port, which will become an additional asset in attracting new businesses.

4. CLIMATE PROOF

Rotterdam is taking its actions on climate resilience to the next level as we have to speed up and scale up. Together with citizens we strive to strengthen small-

JOIN THE MOVEMENT.

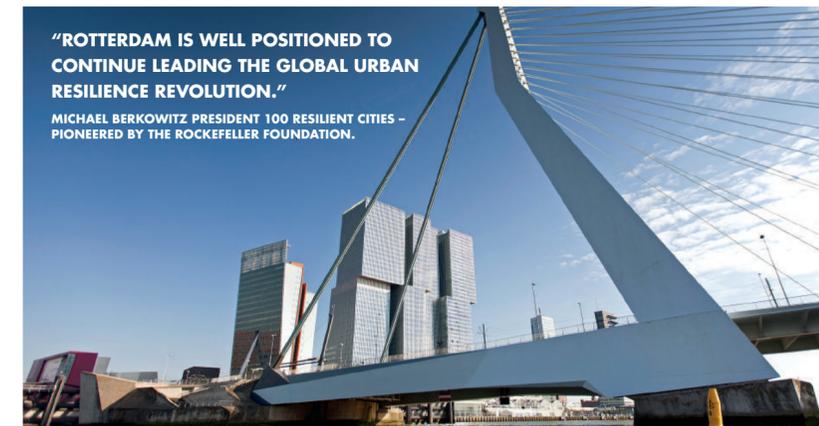
The development of the Rotterdam Resilience Strategy has benefitted greatly from the executive support of 100RC and Mayor Aboutaleb. The city has made a top-level commitment to continue work to implement its resilience strategy in an integrated way.

Internationally Rotterdam wants to invest in the Global Resilient Cities Community to learn from other cities and to share our knowledge and experiences in order to help other cities to become more resilient. Additional Rotterdam continues to facilitate in upscaling and accelerating resilience globally via initiatives e.g. the Global Centre on Adaptation.

MORE INFORMATION

Website: resilientrotterdam.nl
 Website: 100resilientcities.org
 E-mail: resilient@rotterdam.nl
 Twitter: [@resilientrdam](https://twitter.com/resilientrdam)

So please let's join to make our world more resilient!



“ROTTERDAM IS WELL POSITIONED TO CONTINUE LEADING THE GLOBAL URBAN RESILIENCE REVOLUTION.”

MICHAEL BERKOWITZ, PRESIDENT 100 RESILIENT CITIES - PIONEERED BY THE ROCKEFELLER FOUNDATION.

COLOPHON

Photography

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Concept & design

Buro voor de Boeg

Text editing

City of Rotterdam

We have made all possible effort to credit all photographers for their work. If you feel that, despite our efforts, your work has not been duly credited, please contact us via resilience@rotterdam.nl.

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IMPLEMENTATION UPDATE.

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