

ROTTERDAM AHOY – FOR A SUSTAINABLE FUTURE

We are Rotterdam Ahoy. A world-class stage where the sky's the limit. We are true masters at creating events that leave a lasting impression. At Ahoy, you can dance, do business, sing your heart out, quietly enjoy the proceedings or cheer at the top of your lungs. At Ahoy, we live in the here and now – because everything we do is 'live'. Our name stands for a legendary past and an inspiring future – and we are duly proud of both!

We may live in the present, but we're always looking ahead – towards the future, a sustainable future. A future in a healthy, attractive, green city. Where coming generations can also enjoy the fine things we have to offer. When it comes to sustainability, you can't realise all your ambitions on your own. Rotterdam Ahoy is working together with its partners and stakeholders in a range of projects to build a better future.



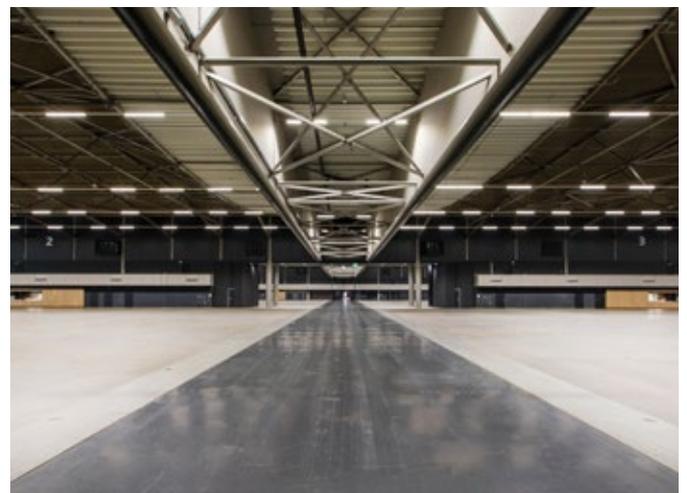
A SUSTAINABLE PAST AND PRESENT

AHOY ARENA

Ahoy Arena was expanded and modernised between 2009 and 2011. One of the innovations introduced at the time was a HVAC system that is able to maintain the desired temperature in the hall via a circular process that incorporates heat recovery. The cooling systems used in the location's catering equipment rely on CO₂, a natural refrigerant, rather than a conventional refrigerant.

EXHIBITION & EVENT HALLS

A similar system has been implemented in the Exhibition & Event Halls during their extensive overhaul in the period 2017-2018. This included replacing the entire ventilation system, so that the location can now be cooled and heated by means of a geothermal heat pump and heat extraction. The new 6-metre tall panel dividers that are used to separate the halls into different areas have excellent sound-insulating properties. The roof of Hall 2 has been sound-proofed, each of the renovated halls has been fitted with energy-efficient LED lighting, and Ahoy has made a major investment in wastewater separation.



THROUGHOUT THE VENUE

Ahoy first started investing in a geothermal heating and cooling system for its venue in 2013. Every year, it is able to achieve substantial energy savings thanks to an innovative gas engine-driven heat pump (GEHP) combined with a geothermal energy system for the storage of heat and cold. The energy is transported via long pipes a whopping 250 metres below the Earth's surface for storage. This allows Ahoy to cool its venue in the summer, using previously stored cold, and heat it during the winter, using heat stored in the warmer periods of the year.

CATERING

Our disposables are made from 100% recycled material and FSC-certified wood. FSC stands for Forest Stewardship Council, an international organisation that guarantees that certified products are based on ecologically and socially responsible forestry. Whenever possible, we purchase our food fresh and from local suppliers, and our buyers work to limit our 'food miles' to a bare minimum. Moreover the remaining coffee grounds from the coffee machines at Rotterdam Ahoy are collected and used for the cultivation of oyster mushrooms. Catering in our staff restaurant is taken care of by lunchroom Fröbel. For more information please see chapter WE WON'T BE DOING IT ON OUR OWN.

OTHER

As an organisation, Ahoy pays attention to sustainability in the broadest sense of the word. In our HRM, we have adopted the three pillars of Vitality (which includes mental agility), Health (which includes healthy nutrition) and Deployability (which includes career/talent development). Moreover, this theme receives ample attention within Ahoy's various units. It is crucial in this context to raise awareness among our staff. A good example is our drive to minimise paper consumption; we work to reduce the number of printers at our location and promote digital invoicing and digital personnel files.



AN EVEN MORE SUSTAINABLE FUTURE

At Ahoy, we believe that sustainability is first and foremost about ensuring that our world can be passed on to the next generation. By working together with our partners, we hope to build a sustainable future.

HART VAN ZUID

Rotterdam Ahoy is situated in South Rotterdam, or Rotterdam-Zuid. The entire area around Ahoy is undergoing a metamorphosis under the programme title 'Hart van Zuid'. The final result will be a new, vibrant urban centre for South Rotterdam. Both the renovation of the Exhibition & Event Halls 2-6 in 2017/2018 and the construction of the Rotterdam Ahoy Convention Centre (RACC) and RTM Stage (opening in 2020) are part of this extensive area development programme.



We are taking a variety of concrete steps to give shape to sustainability under the 'Hart van Zuid' banner. We focus on the following categories: Buildings, Infrastructure, Social, Energy and Water.

ENERGY-SAVING MEASURES

Our energy-saving measures within the construction of the RACC and the hall renovation project can be categorised according to a number of distinct objectives:

1. Minimise our power requirement
2. Utilise residual heat
3. Generate the required power in a sustainable manner
4. Improve our GPR score via energy-saving measures.

Sub 1) The minimisation of our power requirement is determined by factors like the complex's exterior shell (e.g. air-tightness, sun blinds, daylighting, etc) as well as factors like lighting types and HVAC systems.

Sub 2) Utilising residual heat means using return air from the building's HVAC system to heat or cool fresh air from outside. In the winter, this system is used to preheat the cold outdoor air. In the summer, it is used to cool the relatively warm outdoor air.

Sub 3) The required power is generated in a sustainable manner by means of a heat pump, air-cooled cooling units and by connecting the complex to a smart grid (we refer you to the 'Ruggedised' section). In the winter, the heat pump, which heats the ventilation air in an energy-efficient process, simultaneously stores cold in the underground cold source. In the summer, the building is cooled using cold drawn from this source, supplemented by the building's cooling units. During periods when the heat pump cannot supply sufficient heat, it is supplemented with district heating. District heating relies on residual heat generated by Eneco's waste processing facility.

Sub 4) We implement energy-saving measures for the purpose of further improving our GPR-Building score. This instrument provides insight (on a scale of 0 to 10) into a building's quality and level of sustainability. A building's overall GPR score can be broken down into a number of modules: Energy, Environment, Health, User Quality and Long-term Value. We are taking targeted measures within each module to further improve our GPR score.

Within the area, we are also making a dedicated investment in the RUGGEDISED sustainability project.



RUGGEDISED

The EU's 'Smart City' programme RUGGEDISED (see www.ruggedised.eu) comes out of a partnership between six European cities, with Rotterdam in the coordinating role. The RUGGEDISED partners are testing and implementing smart solutions in the area of energy, transport and digital technology in large-scale urban pilot projects – paving the way towards a smarter and more sustainable Europe.



Working together with entrepreneurs and knowledge institutes, the participating cities will demonstrate how IT, e-mobility and power solutions can be combined to promote important innovations. The objective is to encourage the private sector to adopt these smart solutions, which satisfy higher energy and environmental standards. This will allow us to collectively reduce energy consumption, noise pollution, the release of CO2 and other polluting emissions and create clean, smart and resilient cities.

Each of the cities is developing and testing new technologies at a previously determined location. The cities will subsequently share their results and experiences. Rotterdam has launched a total of 13 projects, which can all be found in the 'Hart van Zuid' area – Ahoy's home turf. The European Commission is supporting the development with millions of euro in funding. This budget is awarded within Horizon 2020, Europe's foremost research and innovation programme.



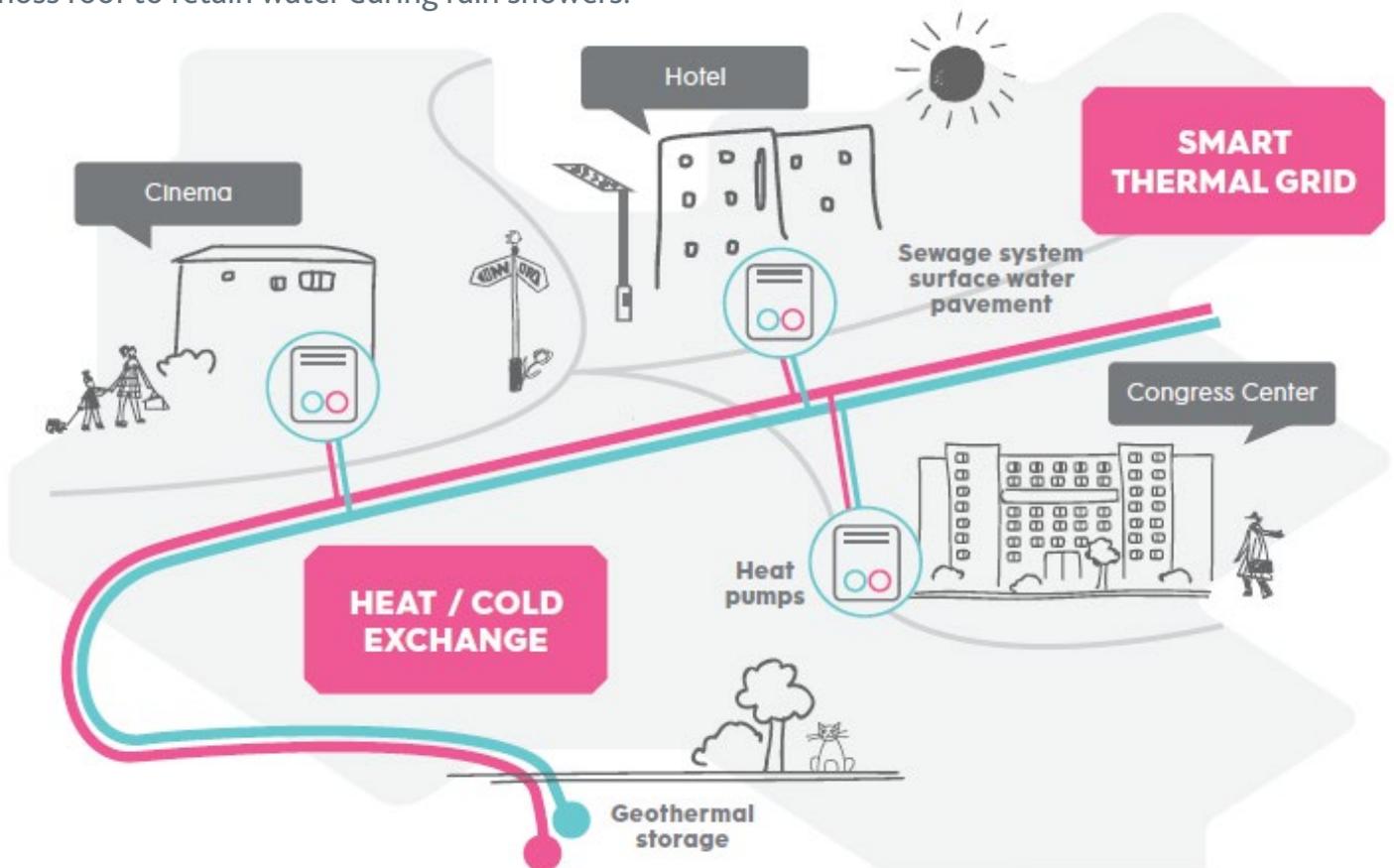
ELECTRIC AND THERMAL GRID

The RUGGEDISED project currently includes a thermal grid (used to store heat and cold). In addition, we are working on the development of an electric grid (based on solar panels).

THERMAL GRID

In 2019, we will be installing a number of cooling units, which are connected to the thermal grid (we also refer you to paragraph 3 in the section on 'Energy-saving measures'). These units are not only able to cool the entire building, but also the new Convention Centre and possible locations directly next to the Ahoy complex. In addition, we will be installing extra cooling units at the Convention Centre, which can be used as a back-up facility if one of the regular units is out of operation.

In the near future, we will be connecting the thermal grid to other buildings in Ahoy's immediate environs. This programme also includes plans for asphalt collectors, the recovery of residual heat at the pumping station on Ahoy's forecourt, and rainwater drainage. The new building will be fitted with a sedum and moss roof to retain water during rain showers.



ELECTRIC GRID

We are exploring opportunities to generate power at our location. In Phase 1 of the project (completed in Q2 2019) we installed 2,562 solar panels on the roof of Exhibition & Event Hall 1 and the Rotterdam Ahoy office building. All in all, these panels supply a quarter of Ahoy's total annual power requirement and reduce our CO2 emissions by 25%. In Phase 2, we will be fitting solar panels on the roofs of the new Rotterdam Ahoy Convention Centre and Ahoy Plaza.

WE WON'T BE DOING IT ON OUR OWN

At Rotterdam Ahoy, we have a strong faith in partnership, in a wide range of areas. Sustainability, for example. Together with our partners we are working towards a more sustainable future. Allow us to offer a few examples:

HAGO

Cleaning will always have an environmental impact, but Ahoy is working together with its partner Hago to make our cleaning activities as neutral as possible. Measures adopted in this context include the re-use of microfibre cloths, biodegradable waste bags, cleaning products with the European Eco label and work trolleys with a C2C Gold certificate. Through the Made Blue platform, we also compensate for the water volumes used during cleaning by making targeted investments in water treatment projects in Africa, Asia and South America: a litre for every litre used.

In addition, Hago has teamed up with TOP Academie, a Learn2Work initiative that improves young people's job prospects by training them in General and Technical Assistance. Hago and TOP Academie Rotterdam jointly arrange work training placements in the General and Technical Assistance field. Moreover, students who satisfy the standards set for modern-day cleaners – and who would like to continue working in this sector – are hired by the partners after successfully rounding off the programme.

Ahoy will be organising its first pilot projects in the area of waste separation during events in Ahoy. It will be setting up recycle stations in public areas, to promote the re-use of various waste streams. Hago's operational management is based on a number of the UN's Sustainable Development Goals, including Goal 12: responsible consumption and production. We are also looking into other circular solutions, such as turning used plastic cups into tokens and used tickets into toilet paper.



PAMEIJER

All indoor painting at Rotterdam Ahoy is handled by a team from Pameijer. This organisation supports people with a mental and/or psychological impairment. Pameijer follows an integrated approach and helps its clients in their personal development, work, life skills and social interactions. Every day, the organisation works to build a society in which everyone counts.

FRÖBEL

Since 1 July 2019, lunchroom Fröbel has been operating the staff restaurant. The purpose of Fröbel is to offer a wonderful place in society to people with an intellectual disability. A place where they can work, train and are able to develop and do what they do best.

DB SCHENKER

As far as logistics is concerned, Ahoy's official forwarding partner for public events is DB Schenker. This logistics company focuses on developing ecologically sustainable logistics solutions that can help to reduce or compensate for the associated CO2 emissions. The organisation aims to become the industry leader in green logistics services.