

**HEIJMANS
KLIMAMAAT
SCRIPTIEPRIJS
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heijmans

STUDENT

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THE ECOGREEN SPORTS & RECREATION COMPLEX



This graduation project is a design of a multipurpose sports complex and is located in the harbour area of Rotterdam. Different sports and recreational facilities are in the building and are combined with sustainable solutions. This building uses the basic elements on earth that shaped our world as we know today. Water, daylight, air and earth are used in the climate system and can be felt in the experience through the building. Not all elements are felt at the same time and at the same place. These are experienced in the area where it is needed for the Engineering part of the building. For example, the wind

can be felt when climbers go through the climbing tower. This gives a new level of experience in climbing and also serves the natural ventilation in the complex. The different flows of water can be seen through the central area of the building. Here the whole process filtration is visible in the form of plants and installations that are visible through parts of the floor. Daylight guides the users through the building to the places where facilities are placed or for vertical transportation. All these elements have their own unique place in the building and give a new experience in both sports and sustainable Architecture.

WATER

Water plays an important role in this building. It does not only serve as a filter and contribution to the climate system, but it delivers the unique character and experience for the users in it. Water can be seen from almost every part of the building and the whole complex is lowered in the ground and uses gravity to bring water in. It utilizes rainwater and re-uses waste water. The building can be seen as a small water purification plant.

DAYLIGHT

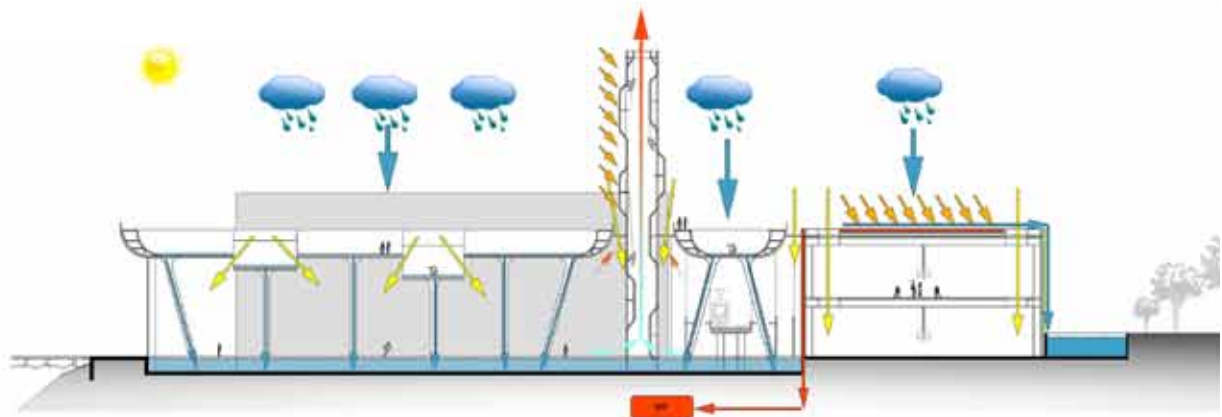
The use of daylight plays a central role in the experience of this building. The shadows of the sportsmen can be seen through the different building parts. Daylight is used in both a functional and esthetic way. The invisible property of sunlight, heat, is also used in this building. So all the properties of daylight are implemented in this building and make this a design where the light of tomorrow can be realized.

VENTILATION

The principle of natural ventilation through a chimney is maximized in this building in the form of a climbing tower. This gives the tower not only an esthetic iconic element but also a purpose in the complex. The climbing tower can be seen as the lungs of the complex; it moves air through the complex, giving it the fresh air that is needed. Climbers can switch between climbing from the interior to the exterior surface of the tower through gaps. These gaps also bring in daylight in the tower.

HEAT STORAGE

Heat, from the sun, is stored in the ground and used when needed. This principle is not new, but still not common in today's buildings. All the facades have the capability to transfer the heat from the sun towards a heat pump. This pump is an underground storage and can be harvested in the winter for heating the building. Another advantage of the thick concrete facades is that they deliver a thick coat during the winter. In sports halls it is not common that natural daylight comes in, this is because of the changing intensity of daylight. Direct sunlight can even blind the users inside. That is why most sports halls are lit by artificial light, because this can be controlled more easily and gives an even light distribution. In this building design, daylight can come in the sports halls. Daylight comes in a certain zone, where it has minimal negative effects on the users. Apart of the roof is made out of translucent glass. This way daylight comes in, but is dampened in the extreme brightness conditions. Artificial light is used in the area where it must be controlled. This is also the area where sports attributes can be hung from the ceiling.



ALS GROOT BOUWBEDRIJF HEEFT HEIJMANS IMPACT OP HAAR OMGEVING. EN DIE VAN ANDEREN. WE ZIJN ONS BEWUST VAN DE VERANTWOORDELIJKHEID DIE DAARMEE GEPAARD GAAT. STRUCTUREEL VERMINDEREN VAN ONZE CO2 UITSTOOT IS NIET VOOR NIETS ONLOSMAKELIJK VERBONDEN MET ONZE DUURZAME BEDRIJFSSTRATEGIE. OM OOK DE UITSTOOT IN DE GEHELE BOUWSECTOR TE HELPEN VERMINDEREN IS DE HEIJMANS KLIMAAT SCRIPTIEPRIJS IN HET LEVEN GEROEPEN. HET WERELD NATUUR FONDS (WNF) ONDERSTEUNT DIT INITIATIEF.

HET DOEL VAN DE HEIJMANS KLIMAAT SCRIPTIEPRIJS IS OM STUDENTEN TE STIMULEREN ONDERZOEK TE DOEN NAAR CO2 REDUCTIE EN ENERGIEBESPARING IN DE BOUW. MET HET DOEL DEZE KENNIS TE VERSPREIDEN BINNEN DE BOUWSECTOR. GEEN THEORETISCHE OEFENING, MAAR CONCRETE IDEEËN DIE DIRECT IN DE (BOUW)PRAKTIJK TOEGEPAST KUNNEN WORDEN. DOOR DE ONDERZOEKER ZELF, OF DOOR HEIJMANS, OF DOOR IEDER ANDER BOUWBEDRIJF.

VOOR HEIJMANS GAAT DUURZAAMHEID VERDER DAN 'MILIEU'. WE ZOEKEN CONTINU DE JUISTE BALANS TUSSEN DE DRIE P'S: PEOPLE, PLANET EN PROFIT. BINNEN HEIJMANS, MAAR OOK DAARBUITEN. OOK ALS WERKGEVER EN OPLEIDER WORDT DEZE VERANTWOORDELIJKHEID SERIEUS GENOMEN. EEN EXTRA REDEN OM STUDENTEN MET EEN SCRIPTIEPRIJS UIT TE DAGEN OOK HUN STEENTJE BIJ TE DRAGEN AAN EEN BETERE BALANS.

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