Science Business Centre / Delft / AR3MA030 SADD

- Masterplan
- Science Business Centre
- Concept
- Plans & Sections
- Construction
- Facade
- HVAC
- Details
- Impressions
Science Business Centre / Delft / AR3MA030 SADD

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Future skyline The Hague

The Hague - justice

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Science Business Centre / Delft / AR3MA030 SADD

Rotterdam - prosperity

future skyline Rotterdam
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delft - history & technology
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The Hague
Delft
Rotterdam

JUSTICE
KNOWLEDGE
PROSPERITY

future skylines
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Science Business Centre =

1. centre of scientific knowledge  
2. meeting place  
3. architectural icon
Science Business Centre / Delft / AR3MA030 SADD

- conferences
- exhibitions
- lectures
- promotions
- presentations
- study
- eating & drinking
null
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- facade
- materials
- installations
- construction
- etc
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- Details
- Impressions
1 entrance
approach, entering, information, directions

2 presentation
new techniques and inventions

3 museum
the complete Delft University science collection

4 conference centre
where science meets people vice versa

5 drink / eat
the ‘after event’ social centre point

6 facility and maintenance
make it work and survive

7 office
contact and organising

8 archives and storing
where was it again?

9 terrain
exposition for outdoor technology

10 parking
public and employees
<table>
<thead>
<tr>
<th>Large Auditorium</th>
<th>Foyer</th>
<th>Archives</th>
</tr>
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<tbody>
<tr>
<td>Offices</td>
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<td>Entrance / Eat &amp; Drink</td>
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</table>
Science Business Centre / Delft / AR3MA030 SADD

- offices
- maintenance
- conference
- presentation
- exhibition
- entrance / eat & drink
- large auditorium
- foyer
- archives
- museum
Science Business Centre / Delft / AR3MA030 SADD

geometry floor: dimensions cube
Science Business Centre / Delft / AR3MA030 SADD
geometry floor: connecting lines
Science Business Centre / Delft / AR3MA030 SADD
Science Business Centre / Delft / AR3MA030 SADD
Science Business Centre / Delft / AR3MA030 SADD
First floor: exhibition

- computer facilities
- reading room
- science services
- shop / merchandise
- museum
- toilets
First floor: exhibition

- computer facilities          open
- reading room                closed
- science services            open
- shop / merchandise          closed
- museum                      open
- toilets                     closed
example floor: staircases
example floor: slow routing
Geometry section: Basic dimensions
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<table>
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<td>conference</td>
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<td>archives</td>
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concept program
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</tbody>
</table>
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2 presentation

3 conference

4 maintenance

5 offices / roof garden

-2 archive

-1 museum / foyer

0 entrance

1 exhibition

plans: concept program
Science Business Centre / Delft / AR3MA030 SADD

2 presentation
3 conference
4 maintenance
5 offices / roof garden
-2 archive
-1 museum / foyer
0 entrance
1 exhibition

plans: concept museum
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plan 0: entrance / drink & eat
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Ground Floor - Outside Terrace

impression
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Ground Floor - Inside Terrace
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plan -1: auditorium / foyer / museum

66/145  P5 Presentation SADD - 04/11 - paul rietdijk / 1221418  plan -1: auditorium / foyer / museum
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Foyer large auditorium / Museum
plan 2: archive & auditorium
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plan 1: exhibition
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First Floor - Exhibition

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Plan 2: Presentation

- Presentation podium
- Temporary exhibition of the newest
- Cocktail corner
- Small auditorium
- Medium auditorium
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plan 5: offices / roof garden
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Fifth Floor - Roof garden / Offices
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plan 6: roof
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constructive elements lower levels
constructive elements upper levels
constructive elements
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- floor finishing (5mm)
- floating floor (900 x 900 x 45 mm)
- adjustable pedestals (350 mm)
- reinforced concrete slab (500mm)
- hydronic thermal system in floor

construction floor: bubble deck
bubble deck floor system
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- erecting steel column
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- mounting prefab concrete element
- adding temporary support
- mounting prefab bubble deck floor slab
- adding temporary support
- pouring floor
- remove temporary support
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- adding installation
- installing adjustable-height support elements: pedestals
- adding insulation on prefab cantilever
- installing detachable floor elements
- adding finishing layer
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- Masterplan
- Science Business Centre
- Concept
- Plans & Sections
- Construction

- Facade
- Heating / Cooling
- Ventilation
- Details
- Impressions
architectural icon?
study facades
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Science Business Centre / Delft / AR3MA030 SADD

1350 x 1350 grid
Science Business Centre / Delft / AR3MA030 SADD

concept facade
Science Business Centre / Delft / AR3MA030 SADD

concept facade
concept facade
materialisation facade

- light material
- prefab production → fast assembling
- new technology (Science Business Centre stands for new technologies)
materialisation facade

- light material
- prefab production → fast assembling
- new technology (Science Business Centre stands for new technologies)

Vande Broek en Bakema - Windesheim Hogeschool Zwolle
Composite facade
fabrication facade panels

- reinforcement (fiberglass) are put in the molds
- on top of this PIR foam blocks are put in the molds
- adding Cetris panels (obtained by mixing wood fibers, Portland cement and waterglass under high pressure)
- cover with foil to obtain a closed mold
- injecting resin by sucking it around the PIR foam blocks with vacuum techniques
- the whole package is lifted out of the mold, and finally the Cetris panels are finished with a layer of resin
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floors: south facade
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panel: south facade
### Science Business Centre / Delft / AR3MA030 SADD

<table>
<thead>
<tr>
<th>North</th>
<th>West</th>
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<tbody>
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<td>e₂  d  c  b  a</td>
<td>f₁  g  h  i  j</td>
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<tr>
<td>Q₂  R  S  T  U</td>
<td>F₂  G  H  I  J</td>
</tr>
<tr>
<td>O₂  P  Q  R  S</td>
<td>D₂  E  F  G  H</td>
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<td>M₂  N  O  P  Q</td>
<td>B₂  C  D  E  F</td>
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<tr>
<td>K₂  L  M  N  O</td>
<td>A₂  A  B  C  D</td>
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<td>J₂  K  M  N  O</td>
<td>G₂  H  I  J  K</td>
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### South          | East          |
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<td>E₁  F  G  H  I</td>
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**facade panels**

114/145 P5 Presentation SADD - 04/11 - paul rietdijk / 1221418
<table>
<thead>
<tr>
<th>0 (Middle)</th>
<th>1 (Corner right)</th>
<th>2 (Corner left)</th>
<th>3 (Inside)</th>
<th>0 (Middle)</th>
<th>1 (Corner right)</th>
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</table>

231 24 24 9 288 48 336

panels A - V
panels a - j
total panels

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number panels
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facade: north
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section technical spaces
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Science Business Centre / Delft / AR3MA030 SADD
technical spaces: upper levels
strategic placing of shafts
UFAD: **Under Floor Air Distribution**

Displacement Ventilation Systems supply air at or near the floor at a low velocity and at a temperature slightly below the desired room temperature. The cooler supply air ‘displaces’ the warmer room air, creating a zone of fresh, cool air at the occupied level. Heat and contaminants rise to the ceiling where they are exhausted from the space.
UFAD: Under Floor Air Distribution

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Benefits:
- improved flexibility for building services
- improved ventilation efficiency and indoor quality
- improved occupant comfort, productivity and health
- reduced energy use
- reduced life-cycle costs
Clean, conditioned air
occupant zone

fresh air
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1- fixed window with (6/21/6+6) double glazing
2- steel T-profile supporting double glazing, mounted on facade panel
3- prefabricated composite facade panel formed by fiber-reinforced polyester (6 mm) filled with PIR (Polyisocyanurate) foam blocks (198 mm) and cement fiberboard (18 mm)
4- Framing Channel (Halifen HM 50 – 30)
5- Aluminium C profile (60 / 60)
6- Rubber profile, color: white
7- Steel L profile 160/80/12 anchored on concrete floor
detail vertical: roof
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8- Single glazing (6 mm) fixed on prefabricated roof panel
9- Phonotherm (48 mm) PUR based plastic with super thin aluminum foil particles
detail horizontal corner
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start Mekelpark at Aula
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Tramstop
Science Business Centre / Delft / AR3MA030 SADD

Mekelpark

impression
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Square in front of Science Business Centre

impression
Thank you