The Last Resort
<table>
<thead>
<tr>
<th>Site</th>
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<tbody>
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<td>Formal language</td>
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<td>Concept</td>
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<tr>
<th>Architecture &amp; Engineering</th>
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<tbody>
<tr>
<td>• Structure</td>
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<td>• Organisation</td>
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<td>• Architecture</td>
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Port of Rotterdam - Relevancy

| Stadshavens |
Stadshavens – Design Series of Pavilions
Eem & Waalhaven - STACKING
Maasvlakte
Program Resort

夜晚

- 46 Classic Suites
- 30 Ocean Suites
- 82 Deep Suites
- 4 Bride Suites

白天

- Sports & Spa
- Lounge
- 360 Restaurant
- Conference
- Wedding chapel
| Program Public Pier |

- Pier walk
- Lunchbar
- Exhibition space
- Shelter
Video Site
Urban Concept
Arriving at the Resort
Arriving at the Public Pier
Entrance Land Side
| Entrance Sea Side |
View from Public Bar at Sea Side
Structural Design
Structural Concept - Lightness
The Structure: Truss, Legs & Holder
110 m

- 3 storey building
- Large spans
- Large bending moments
The Truss – Bending Moments Optimization

Load 1: Bending, Z: Displacement
Load 1: Bending Z: Displacement

Whole Structure Mz 500kNm:1m Displacements 100mm:1m 1 LOAD CASE 1
The Truss – Axial Forces

Load 1: Axial Force

Whole Structure Fx 10000kN:1m 1 LOAD CASE 1
Load 1: Shear Y
The Truss – Short Section

- Diagonals in facade
- Sun protection because of angle facade
- Welded joints
- Type Steel Profiles: HD500
- Center is free of structure because of public walkway
The Legs
- No tension allowed in foundation
- Stability to resist uneven load conditions
- Column truss to prevent the legs from buckling
- Allowing expansion & contraction of main truss
- Diagonals provide the Public Entrance
The Legs – asymmetric loads
The Legs & Different Variations of a-Symmetrical Loads
The Legs – Axial Forces

- The main truss serves as tension element to keep the legs from falling
- Tension & compression in diagonals vary according to load conditions
• Different detailing & a better steel quality can be a solution
• **Diagonals transfer wind forces to foundation**
• **The selfweight of the building will cancel the tension in the foundation caused by lateral forces.**
• Column truss responds to specific load cases
• Max force in mid point foundation
• The axial loads incline towards base because of additional diagonals
Moments are minimized by truss design

Whole Structure Mz 1000kNm:1m 1 LOAD CASE 1 (Input data was modified after picture taken)

- Moments are minimized by truss design
| Architecture
Architectural Concept
Main Structure vs Second structure
Main Structure vs Second structure
Main Structure vs Second structure
Main Structure vs Second structure
| Section Types |

**Viewpoint Public Bay**

**Closed Resort Bay**

**Open Resort Bay**
View from Hotel Suite
Facade Mesh Typologies

- Wind protection
- Elevator zone
- "No birds" mesh

Mesh Types:
- Mesh Type 01
- Mesh Type 02
- Mesh Type 03
- Mesh Type 04
- Mesh Type 05
- Mesh Type 06

- Resort facility
- Resort suite
- Public space
Impression Facade Mesh
Facade Reference Steel Mesh

Night

Day

Centre for music | graz | un studio
Facade Elements
Facade Material

Woven metal mesh, type Omega by GKD-Gebr. Kufferath AG
Impression View from Resort Area onto Public Pier Area
Impression: Public Pier Land Side
| Thank you..

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