Graansilo Maashaven
Directly connected to the creation of the Maashaven and defining its southern edge, the Graansilo acted as the generator of the southern working class neighborhoods of Tarwewijk and Bloemhof. In this context, the building assumed a central pivotal role towards the city and harbor, also acting as a 'gate' between north and south.

Urban Configuration
Maassilo: major silo complex

storage, processing and distribution of grain
Developed into an ensemble

relationship to the waterfront
Building phases: 1910 J.P. Stok

Commissioner: N. V. Rotterdam grain silo society

Capacity: 20,000 tones  Style-Typology: Post-eclecticism
Building phases: 1931 J. A. Brinkman & L.C. Van der Vlugt

Commissioner: (AVG) Grain elevator company

Capacity: 44,000 tones  Style-Typology: New Objectivity
Building phases: 1951 J. D. Postma

Commissioner: (AVG) Grain elevator company

Capacity: 22,000 tones  Style-Typology: Modernism
History – economic relevance to Rotterdam (essence)

As the first building connected to the Maas-haven and instigator for the worker districts of Rotterdam Zuid, the Maassilo has played a catalyst role in the consistent history of Rotterdam as an international harbor city. Having served as a primary instrument for a key grain transshipment company (Granssilo N.V.) the building forms an integral part of the city's socioeconomic development.

VALUE STATEMENTS

Presence – aesthetics (appearance)

A monolithic concrete mass stripped-off of its initial activities, the building's appearance carries a strong imposing effect in relation to the historic tension that it carries. Confined by the surrounding infrastructure, the building creates a strong contrast with its surroundings and the harbor, in terms of volume, material and scale. This attribute of a solo entity mediating between different districts, also gives the building a characteristic urban role as a 'gate' between north and south.

Rarity – complete ensemble of buildings

In the context of bulk transshipment and silo typology, the complex stands as a rare ensemble of different phases reflecting the growth of the company within a span of fifty years. This sequence of different volumes in relation to the preserved machinery and cranes in the waterfront, highlight the building's uniqueness.

Technology – state-of-the-art front runner

The complex also stands as a record of evolving construction processes and state-of-the-art building technology of silo making. As one of the largest in situ constructions in Europe, the complex further demonstrates the advanced use of reinforced concrete, such as the McDonald casting system, which was thoroughly applied.
Process

Attic levels

Basement

Ground floor
Historical Development: Movement of Industry
Present

-NOW&WOW dance club-
first tenant of the newly owned building

Future plans
Urban challenge

Strategic location

City scale

Catalyst location

Necessity for flexibility - social resilience

Site scale

Inhibiting site conditions

limited open space, daylight conditions

Industrial Heritage
Research question

How can the Maassilo act both as an object of historical continuity, and urban mediator?

mixed-use approach
combining both public and private
**Surroundings:** Tarwewijk and Bloemhof

Views from Tarwewijk
Site: Current conditions

Traffic

Accessibility
**Structural studies:** Monolythic construction

Axonometric study of the silos of the 1st phase, by David van Weeghel
Space plan
Building Analysis: Approach
### Value Assessment

<table>
<thead>
<tr>
<th><strong>Value Matrix</strong></th>
<th>Age Value</th>
<th>Historical Value</th>
<th>Architectural Value</th>
<th>Aesthetic Value</th>
<th>Newness Value</th>
<th>Rarity Value</th>
<th>Use Value</th>
<th>Functional</th>
<th>Contemporary</th>
<th>Economic</th>
<th>Commercial</th>
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</table>

**Note:** The Value Matrix is used to assess the various values of a building, such as its age, historical significance, architectural value, aesthetic appeal, newness, rarity, use, and functional value. Each value is rated on a scale, and the matrix helps in understanding the overall value of the building.

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**Building Details:**

- The building has a specific historical significance, as evidenced by the different volumes and the way the building was used.
- The machinery and utilities give an impression of the strictly original functional use.
- The codes painted on the silo's, the blue and yellow silo, and signs like 'gifgas' on the doors give an impression of the strictly functional original usage.
- Rust, algae, and decay are visible on the different parts of the facades.
- Weathered surfaces, decay, damage on the door give an impression of the strictly functional original usage.

**Architectural Details:**

- The different volumes give an impression of the building's age and use value.
- The machinery and utilities give an impression of the building's age and functional use.
- The structure contributes to the industrial atmosphere.
- The abandonment of activity evokes the resilience of the building as a resilient mass in a vibrant industrial setting.

**Functionality:**

- The building has always functioned as a building complex, together with the elevator towers and connecting bridges.
- The big columns have been cut away on the 2nd phase building.
- The machinery and utilities give an impression of the building's age and functional use.
- The building has a very unique and striking appearance.
<table>
<thead>
<tr>
<th>Brand's layers</th>
<th>Key Values</th>
<th>Key Words</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Surroundings</strong></td>
<td><strong>Rarity value</strong></td>
<td><strong>Fragmented/Duality Ensemble</strong></td>
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<tr>
<td>Site</td>
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<tr>
<td>Spatial Composition</td>
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<tr>
<td><strong>Structure</strong></td>
<td><strong>Historical value</strong></td>
<td><strong>Monolythic/Phases/Technology/New Objectivity</strong></td>
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<tr>
<td>Skin</td>
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<tr>
<td><strong>Space Plan</strong></td>
<td><strong>Aesthetical value</strong></td>
<td><strong>Colonnade, Funnels, Conveyors, Conceilment</strong></td>
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<tr>
<td>Surfaces</td>
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<td>Services</td>
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</tbody>
</table>
Key Discussions

north & south

public & private

mass & movement

readability & concealment
Silo challenge

Silo cells- 80%

Conceiled

Exposed

Space plan-20%
Design question

How can a new hierarchy of public and private compartments, allow internal movement and daylight conditions without compromising the building’s closed-off character?

Creating:
1. new floor space
2. integrated circulation
3. generous daylight conditions

Programme

Cultural value

Highlighting:
ensemble
closed-off
Methodology: Scales-Emphasis of interventions

<table>
<thead>
<tr>
<th>SITE</th>
<th>VOLUME (spatial composition)</th>
<th>STRUCTURE</th>
<th>SKIN</th>
<th>SPACE PLAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public character of Stok phase. Experience of the waterfront - new entrance and car access</td>
<td>Ensemble of existing buildings. Creating new in-between zones and a central void and new internal facade</td>
<td>Tectonic language of silo cells to guide the design of new spatial compartments</td>
<td>New facade interventions to serve (as much as possible) the existing closed-off character</td>
<td>Allow a more continuous experience of the existing ground floor colonnade. Deploy footprint of the conveyor belts as a general circulation system</td>
</tr>
</tbody>
</table>

Illustration by K. Vatanidis
Methodology: references

Royal Festival Hall

Yale School of Architecture
Methodology: Silo structure as guideline

Curving-out & Floor construction/mezzanines
Programme: Transshipment Society
Programme: breakdown

Municipality scale

National scale & European scale

Established relations

Main functions

Logistics

- Public interior-Exhibition
- Library/Learning Center

Central Bureau voor de Rijn & Binnenvaart (CBRB): Central office for the Rhine & inland navigation

European Barge Union (EBU): representing barge owners & operators & inland navigation associations, shaped committees

Central Commission for the navigation of the Rhine (CCNR): carrying the main patronage

- Public hall
- Temporary exhibition space
- Service areas
- Parking space

- Entrance hall
- Old machinery exhibition
- Service areas

- Main conference/seminar space
- Board rooms
- Archive
- Office space
- Leisure/Living space
- Headquarters
- Service areas
- Public Archive/Library

- Auditorium
- Storage
- Service areas
- Main event space
- Service areas

- Foyer
- Service areas

- Reception hall
- Bar/Restaurant
- Representatives’ rooms
- Terrace
- Service areas
- Laundry/Drying
- Staff
- Kitchen space
- Storage
Programme: Adjustments

Brinkmann

Stok

Private 57 %
Semi-private 20 %
Public 23 %

WORKING
GATHERING
EVENT
**Design Approach:** Starting Points

**Ensemble**  
(Public & Private)  
Emphasis of public & private profiles in Stok & Brinkmann

**Closed-off**  
(Daylight)  
Main openings from the roof for providing both diffused and direct daylight

**Internal Movement**  
(conveyor belts)  
Circulation ‘merging’ the two buildings based on the past movement of the conveyor belts
Design Approach: Spatial Sequence
Design Approach: Spatial Sequence

Main levels

spatial sequence & circulation
Design Approach: Spatial Sequence

Main levels- voids
**Design Approach:** Further Investigation of new zones

Studies of main volumes and circulation
Design Approach: Concluded scheme
**Main interventions:** Ground floor

![New entrance](image1)

![New relation to the waterfront](image2)
Main interventions: Ground floor
Main interventions: Ground floor
Main interventions: Ground floor
Main interventions: First cut-outs and new load bearing elements
Main interventions: New floors and programme adjustments
Main interventions: Main levels
Main interventions: Main levels
Daylight conditions
Design Elaboration: upper levels
Design Elaboration: roof articulation
<table>
<thead>
<tr>
<th>Climate zones</th>
<th>Temperature</th>
<th>Air flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auditorium</td>
<td>sum 21-25</td>
<td>800 fpm</td>
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<td>win. 25-30</td>
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<td>Seminar room</td>
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<td>Library</td>
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<td>1200 fpm</td>
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<tr>
<td>Offices</td>
<td>sum 24-26</td>
<td>1200 fpm</td>
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<td>win. 22-24</td>
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</table>
Facade strategy: waterfront
Facade strategy: back facade
Facade articulation
Reflections: a still unchartered territory
Reflections: main discussion points

Programme
1. In cases of post-industrial settings of such multilayered historical context and diverse social context, the re-use approach should investigate a new function, which however allows new functions to develop and be defined by the needs of the surrounding communities.

Intervention strategy
2. Particularly looking at cases of such immense scale such as the Maassilo, a good design strategy would be to work in layers, constructing a language/hierarchy of interventions, deploying a strategy of multiple scales (from site to surface e.t.c) which remains consistent with the existing spatial qualities. (That involving the solution of objective necessities, such as new circulation and daylight, to more subjective and commemorative interventions (such as the facade).
Thank you
Interventions: Connections
Interventions: Strategy

Brinkmann - Multiple cut-outs

Connection - New structure

Stok - Partial, Big scale intervention

Interventions:

Stok - Partial, Big scale intervention

Connection - New structure

Brinkmann - Multiple cut-outs

Experiments:

52 %
25 %
21 %
6 %
42 %
9 %
14 %

Intact

Exposed Hollowed

Cut-out

Removed

Intact

Brinkmann

Stok