Distribution Centre NewLogic II (Tesla)

MAN 9 Case Study | Vossenberg West II Industrial Estate- Tilburg | The Netherlands | April 2015

Project Description

The newly built NewLogic II distribution centre comprises 4 connected distribution halls with a mezzanine floor suitable for storage. For the distribution function, 1 side of the building (at the end) has an office function situated over 2 levels (ground and first floors).
The entire building is fitted with sprinkler security as a fire control system.
DokVast is the developer and lessor for this project.

BREEAM rating and score

Design certificate = ★★★★★
Completion certificate = ★★★★★
Guideline applied = BRL 2011 v. 1.0
Score = 91.22 %

This percentage is subject to the innovation credit award.
The award is currently being evaluated by the DGBC.

Start of design phase = November 2013
Start of the building preparation = January 2014
Start of construction = 1 March 2014
Commissioning date = Phased commissioning from October 2014

Key figures

Floor area warehouses	=	GFA 49,027 m²	VVO 48,095 m²
Floor area offices	=	GFA 717 m²	VVO 659 m²
Site area	=	72,560 m²	

The approach to make the distribution centre as sustainable as possible.

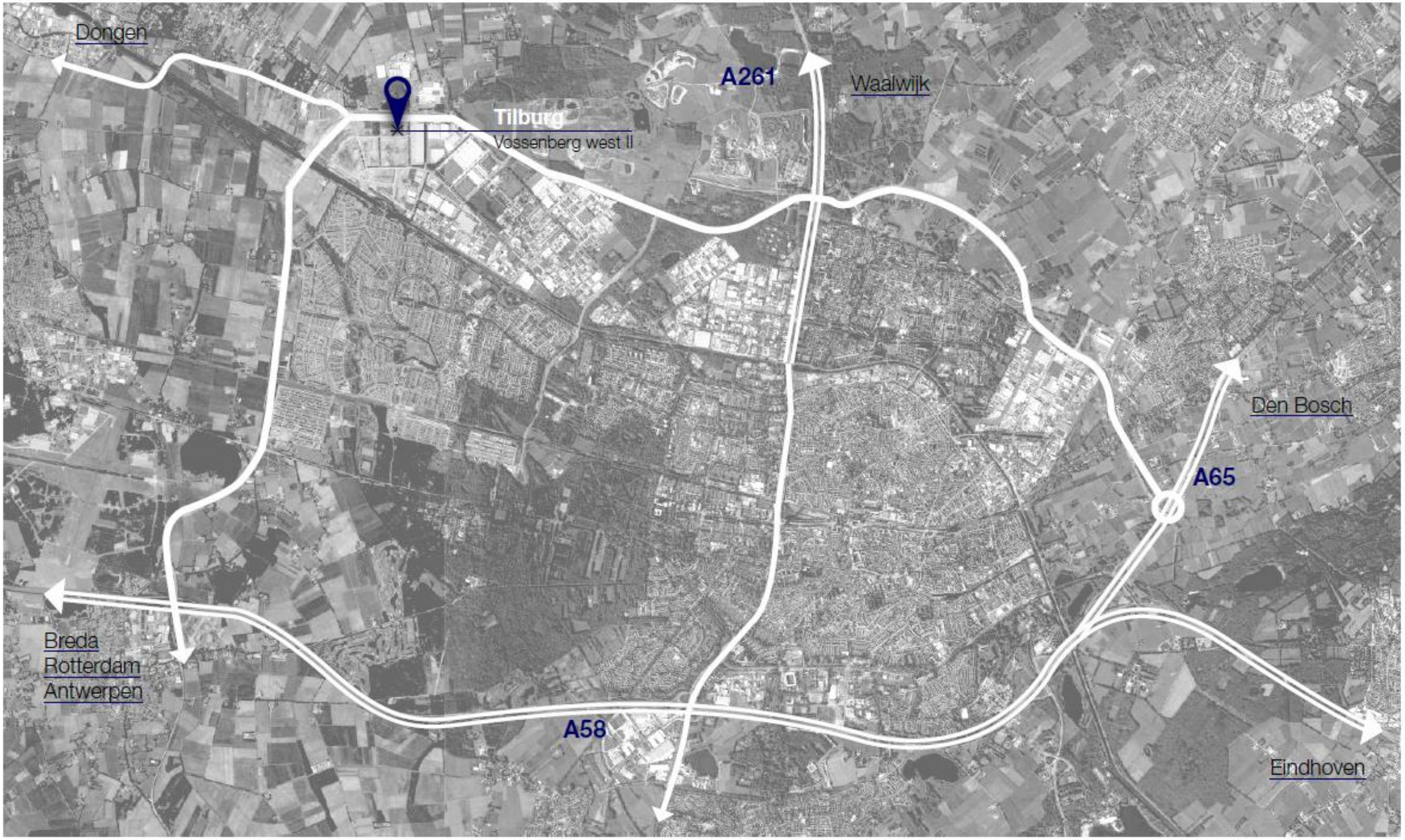
The entire approach towards making the NewLogic II Distribution Centre as sustainable as possible was viewed from an absolute Trias Energetica perspective. On the basis of this philosophy, we initially consider the potential for maximizing savings on the energy requirement. Secondly, we consider the generation of energy and thirdly, the efficient use of fossil energy.

The basis of step 1 involves looking for solutions in the building envelope. The less heat that "leaks" from the building, the less energy is required to heat or cool the building. The building envelope criteria for an industrial function, whereby the accommodation of people is secondary, are not very stringent in regulations* in the Netherlands. In fact: the regulations do not include any criteria for making an EPC calculation for the industrial function. Very few people are employed in a building with an industrial function; the people who do work there do not have a high temperature requirement (15 degrees is generally sufficient); goods are primarily stored, which only require frost-free storage.
We opted to create an insulation shell with a surrounding Rc value of 5.0 m²K/W for this distribution centre.

The temperature requirement for the office areas differs to the industrial function. Our choice for a high-quality insulation shell for the entire building meant that we did not need any thermal barrier between the office and industrial function.
For the climate control system in the office areas we chose a sustainable energy system. A VAV system was fitted in the office, which blows in more air when an area is occupied by more people or when the room temperature rises. Furthermore, the system was designed such that outdoor air can be blown in directly, when the outdoor temperature is suitable for this. This means that at these times less energy is required for heating or cooling the air.

In addition to the choice for a high Rc-value in the closed façade sections, due consideration was also given to thermal insulation when selecting the window frames. An aluminium frame profile fitted with triple glass glazing was selected here. The window frames have a U value of 1.0 and the glazing has a U value of 0.7.

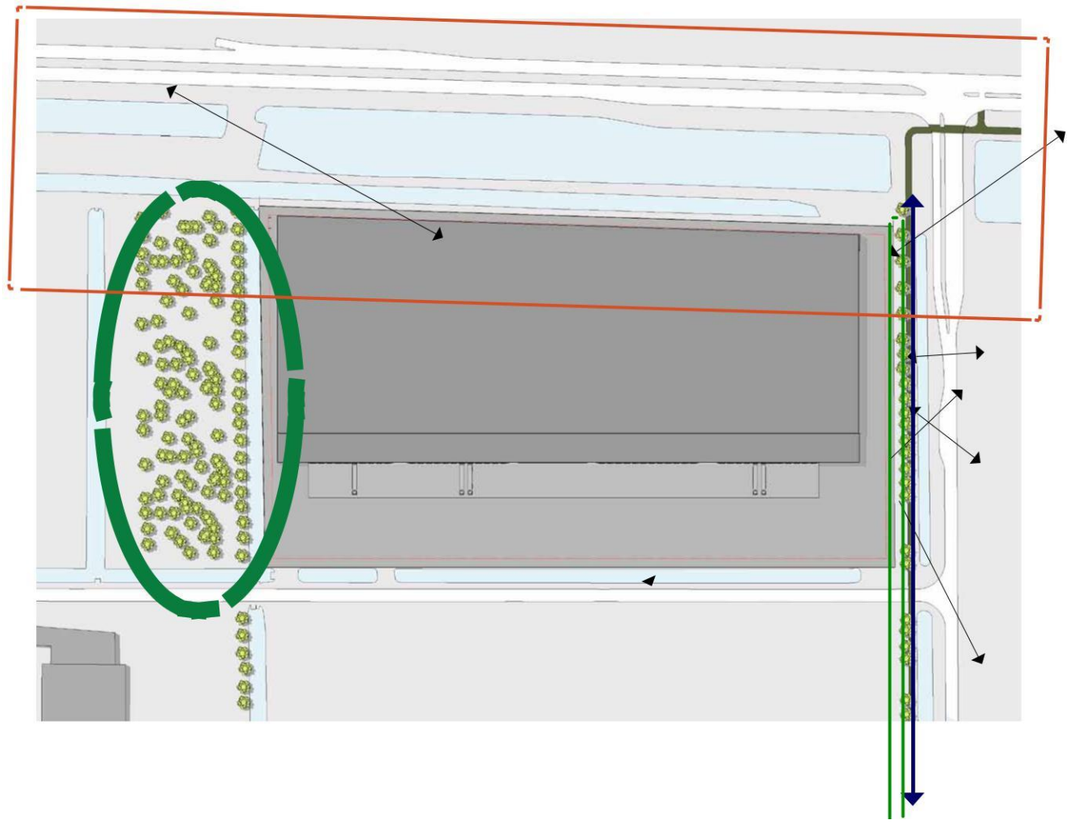
Accessibility Vossenberg West II



Location aerial photo

Industrial estates plots/zoning plan

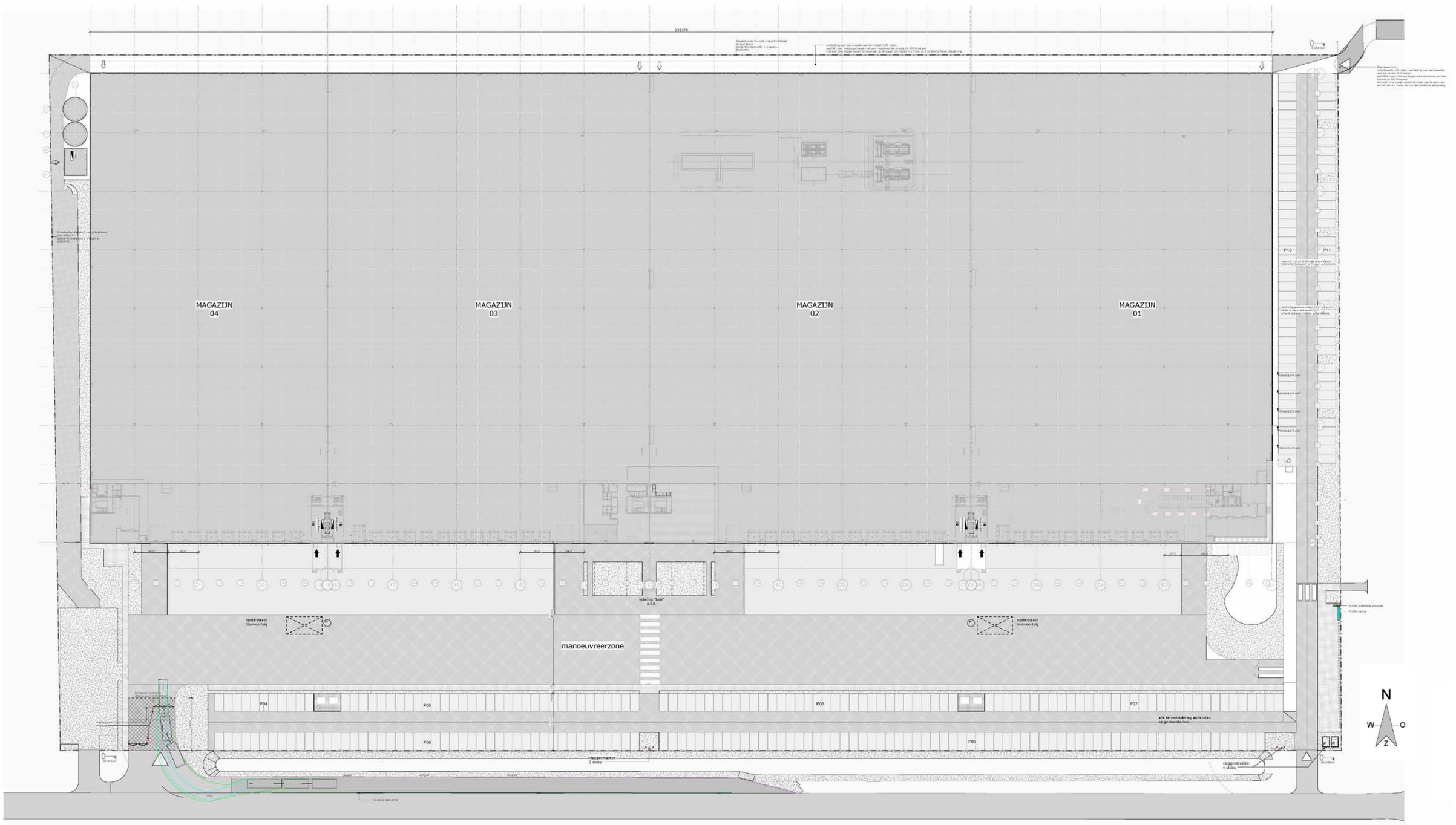
The area surrounding the building



The newly built NewLogic II Distribution Centre was completed on Vossenberg West II Industrial Estate in Tilburg.
The location of this distribution centre is situated near the container terminal.
In view of the logistical nature of the building, the choice for a location near the container terminal on the new industrial estate is a good and logical integration integration into the environment. This location choice creates reduced CO2 usage in the transport sector.
From the perspective of the municipality of Tilburg, this industrial estate is intended as a logistics/large-scale industry. This is clearly recognizable in the zoning plan and the development plan.

The approach route from the surrounding motorways has been sufficiently secured for use by the construction of Burgemeester Letscherweg. The building has therefore been designed to face this side. Due to this, the building also forms a sound buffer (for logistical movements) for the urban areas behind.

Location map and terrain



Building information

The building Distribution Center NewLogic II is divided into four compartments in base / 4 halls. For these four halls , we made separate calculations sqm. Below is a summary of the quantities of each hall (GFA and VVO).

Total GFA's

Office function	=	717.10 m²
Industry function	=	49,027.21 m²

Total VVO's

Ofice function	=	659.10 m²
Industry function	=	48,095.13 m²

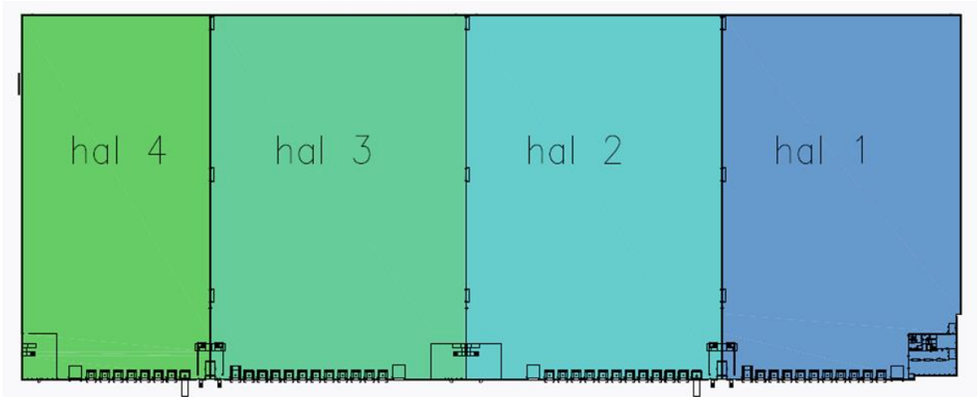


Figure : Map showing the four halls of DC NewLogic II Asteriastraat in Tilburg

Gross floor area (GFA) Asteriastraat DC NewLogic II (Hall 1) in Tilburg

	Industry function	Office function		Total	
Topsoil 1	10,922,55	264.02		11,186.57	
Topsoil 2	1,222,93	294.44		1,157.37	
Total:	**12,145.48**	**558.46**		**12,703.94**	**m²**

Rentable floor area (VVO) Asteriastraat DC NewLogic II (Hall 1) in Tilburg

	Industry function	Office function		Total	
		office	plumbing		
Topsoil 1	10,821.07	218.59	27,14	11,066.80	
Topsoil 2	1,084.02	259.98		1,344.00	
Total:	**11,905.09**	**478.57**	**27,14**	**12,410.80**	**m²**

Gross floor area (GFA) Asteriastraat DC NewLogic II (Hall 2) in Tilburg

	Industry function			Total	
Topsoil 1	12,013.28			12,013.28	
Topsoil 2	1,517.51			1,517.51	
Total:	**13,530.79**			**13,530.79**	**m²**

Rentable floor area (VVO) Asteriastraat DC NewLogic II (Hall 2) in Tilburg

	Industry function			Total	
Topsoil 1	11,904.01			11,904.01	
Topsoil 2	1,395.06			1,395.06	
Total:	**13,299.07**			**13,299.07**	**m²**

Gross floor area (GFA) Asteriastraat DC NewLogic II (Hall 3) in Tilburg

	Industry function				Total	
Topsoil 1	12,012.89				12,012.89	
Topsoil 2	1,517.51				1,517.51	
Total:	**13,530.40**				**13,530.40**	**m²**

Rentable floor area (VVO) Asteriastraat DC NewLogic II (Hall 3) in Tilburg

	Industry function			Total	
	Business space	plumbing			
Topsoil 1	11,780.44	121.99		11,902.43	
Topsoil 2	1,395.54			1,395.34	
Total:	**13,175.78**			**13,297.77**	**m²**

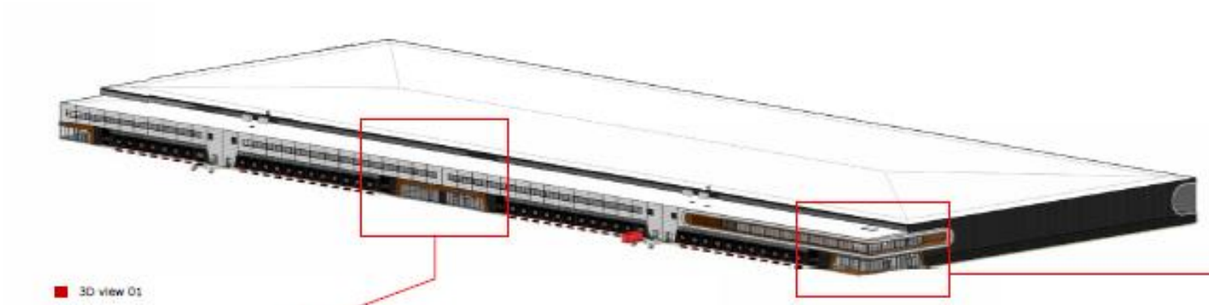
Gross floor area (GFA) Asteriastraat DC NewLogic II (Hall 4) in Tilburg

	Industry function	Office function		Total	
Topsoil 1	11,780.44	158.64		8,863.84	
Topsoil 2	1,395.34			1,115.34	
Total:	**13,175.78**	**121.99**		**9,979.18**	**m²**

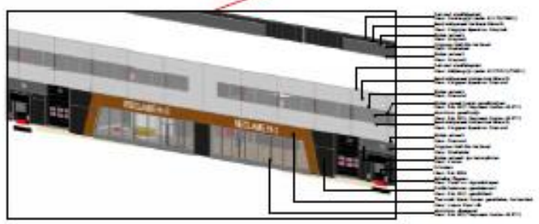
Rentable floor area (VVO) Asteriastraat DC NewLogic II (Hall 4) in Tilburg

	Industry function		Office function		Total	
	Business space	plumbing	office space	plumbing		
Topsoil 1	8,583.63	24.44	149.54	3.85	8,761.46	
Topsoil 2	985.13				985.13	
Total:	**9,568.76**	**24.44**	**149.54**	**3.85**	**9,746.59**	**m²**

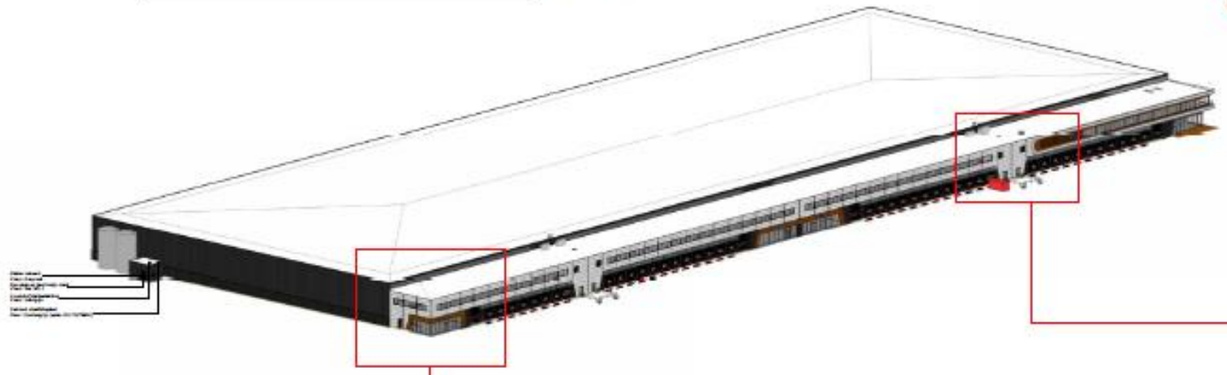
Façade concept

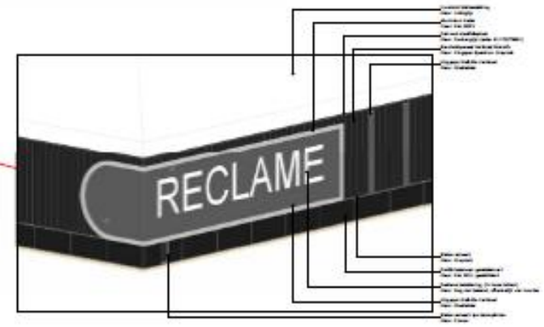


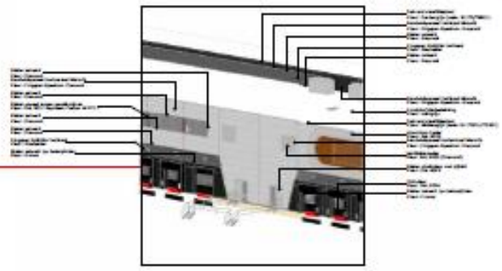
3D view 01



3D view 02





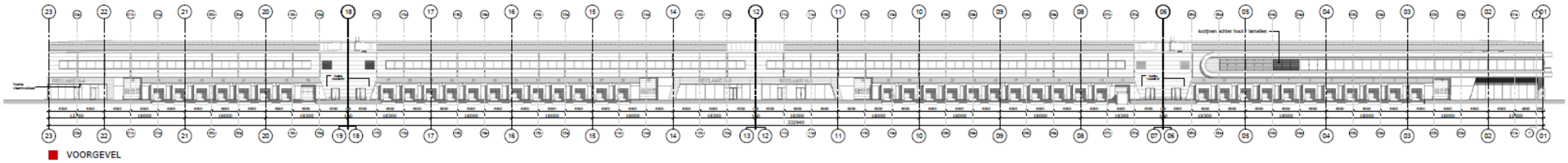


3D view 04

3D view 03

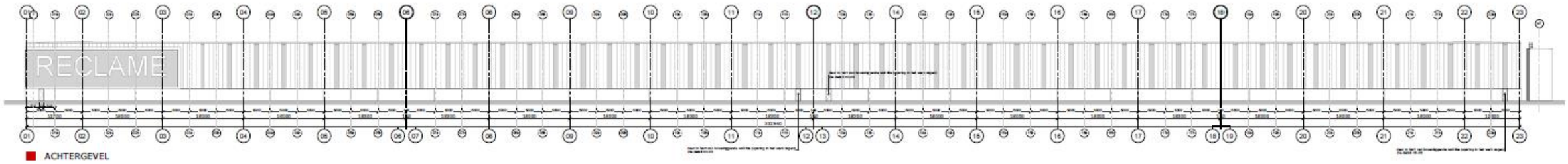
Façade office

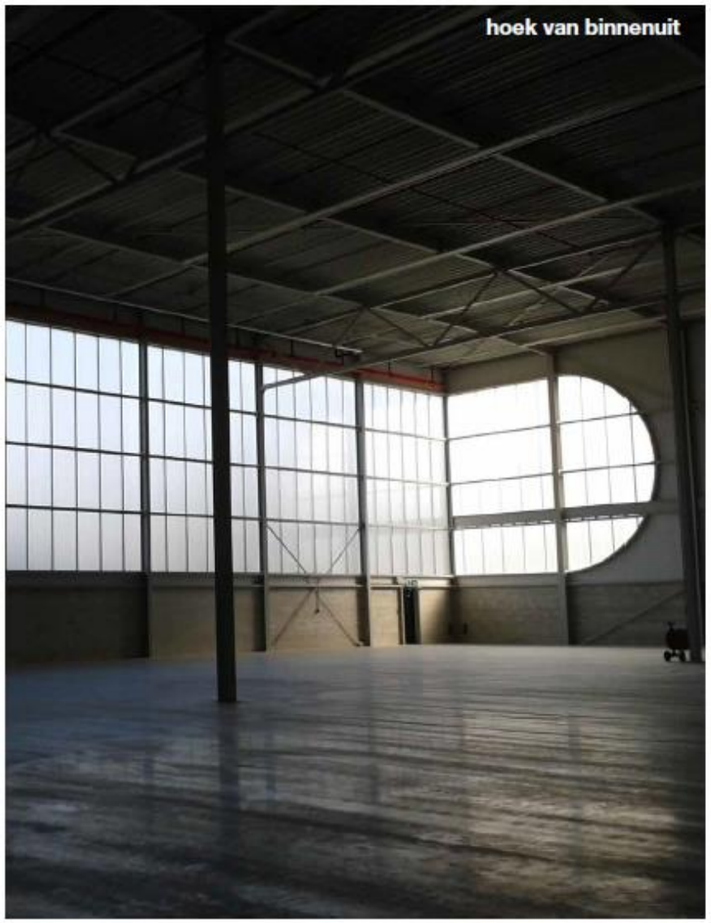
Frontage Asteriastraat

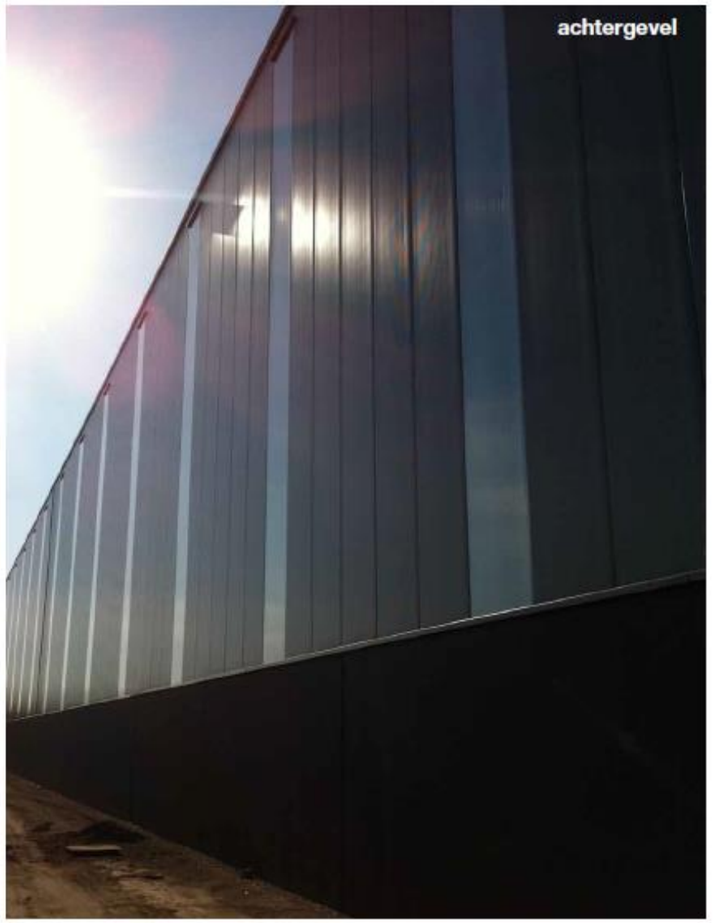


Front façade Asteriastraat

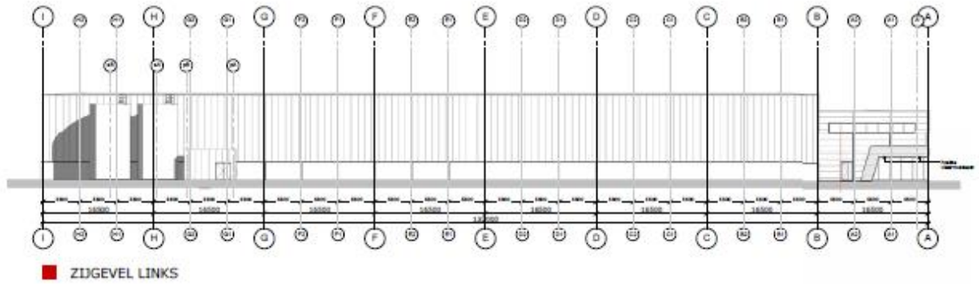
Rear façade Asteriastraat



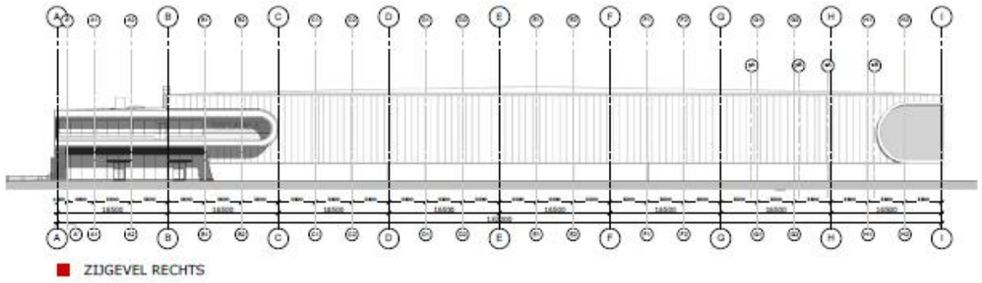




Side Façade Left



Side Façade Right



Sustainability measures

Building site and building process

The building was constructed by main contractor Heembouw. Heembouw achieved the ISO 14001 certificate in 2013.

The new-build distribution centre NewLogicII is the 2nd BREAM route for Heembouw. The experiences from the previous project created new objectives in order to reduce CO2 consumption during construction. In particular, attention was paid to waste separation, specifically wooden pallet waste. All building partners were encouraged to delivery their products on deposit pallets and to return them.

All taps in the changing room/rest room on the building site are fitted with automatic volume limiters so that water use is purely essential and that taps cannot be left on by accident. The portacabins are fully fitted with LED lighting, which is the most energy efficient form of lighting. In addition, a MAN 3 Eco portacabin was selected for the building site reception.

The energy consumption and water is was monitored weekly, in view of the fact that the speed of construction is extremely fast. We achieved the following results for this project:

- Energy use during construction = 1,310 kWh
- Water use during construction = 1,734 m³

of which 800 m³ is used to fill the pond eco portacabin

eco keet

Energy use building

The ambition of the client is: a building that is as sustainable as possible, within what is realistically feasible.

The highest cost in a distribution centre in terms of use is primarily the lighting. In order to reduce this energy use as much as possible we have taken 2 measures. The first is a structural solution. By using translucent façade panels in strips in the façade that correspond with the gangways between the shelves. In this way we are able to ensure that more daylight enters the building, so that the lighting can even be turned off on light/sunny days. In view of the security of a distribution centre it is not desirable to use transparent (clear) glazing.

In addition, the artificial light is completely LED, which is the most energy efficient at this time.

For the office we continued searching for an optimal heating and cooling installation.

The offices are fitted with a HAC system (heating and cooling). The production hall is fitted with heating only. This is done by means of radiant panels. No cooling will be fitted in the production hall.

In order to be able to save as much as possible on heating and cooling, a high Rc value was opted for in walls, floors and roof:

- all closed façade elements = Rc value = 5.0 m²K/W
- entire roof = Rc-value = 5.0 m²K/W
- window frames = Rc value = 1.0 W/m²K
- glazing = Rc value = 0.7 W/m²K

In addition to the translucent façade cladding in the production halls, the offices are also fitted with as much daylight as possible. Beside the floor at the level of the office functions a continuous window frame strip has been designed, with a minimum parapet of approx. 40cm. Ceiling-high glass was designed afterwards.

Expected energy use in kWh/m² GFA	= 15 Wh/m² GFA/yr
Expected use fossil fuels in kWh/m² GFA	= 2.5 m³/m² GFA/yr
Expected use of sustainable energy sources in kWh/m² GFA	= 0.28 kWh/m² GFA/yr
Expected water use in m²/person/year	= 7.6 m³/person/yr.
	(based on 200-260 working days a year)

Expected % of water use that is included via rainwater discharge or grey water = 11.8%

Sustainability measures

Flexible construction

The building was designed according to the following construction principle: steel construction combined with precast unit floors. By opting for this principle, the building has a high degree of flexibility. This flexibility is only assured when consideration is also given in this way to the design of the installations.

In order to be able to make full use of the flexibility of the building, the decision was taken to add the installations to the bearing construction completely independently.

Several basic ducts have been created at strategic locations in the building. (In general, this means a shaft in the vicinity of the lift and near the wet groups).

All installation components for the office are fitted between the structural ceiling and the suspended ceiling. The installations hang loose, above the suspended ceiling, on the steel structure or on the floor. In this way the installation can easily be modified and the layout can also easily be modified and extended. The design of the façades is also conceived to easily change functions, or extend the office m².

The fire concept has also been conceived on this basis. By using a sprinkler system, changes can be made more flexibly. However, the user/lessee does need to remember that the sprinkler document should be amended for large changes in function.

FSC wood

All the wood used in the building has the FSC label. In view of the fact that Heembouw is also FSC certified, the wood that is used during construction (and not definitely attached to the building) is FSC wood.

The building design includes wooden façade cladding. This façade cladding is made from thermal sustainable ash. The ceiling at the entrance is fitted with this type of wood.

Charging station electric cars.

The personal parking spaces include 10 charging stations for electric cars. These charging stations are fully fed by sustainably generated energy. The charging stations are available for both the personnel and visitors. The PV panels on the roof of the building provide the power supply to the charging stations.

The structure

The basic structure of the building consists of a steel skeleton with optimized dimensioning.

The size of the steel structure is fully tailored to the usage. The column positions are positioned to correspond with the shelving plan. The least possible columns are visible in the halls. Where the columns are visible and may be driven into, they are fitted with column shields, so that the structure is damaged less and is more durable.

The ground floor is a poured concrete floor, which is directly poured on rubble granulate.

The rubble granulate serves as a foundation. We call this a floor on steel. The bearing load for the floor is partly taken from the rubble granulate foundation and partly from the soil improvement used. An advantage of this is that no pile driving is necessary for the concrete floor. This makes a difference in material usage for the entire building. In addition, the rubble granulate is made from high-quality recycled material and thus better than applying an expensive and much less sustainable layer of sand.

The skin of the building

The façade of the building is compiled of Kingspan insulated wall panels with an extremely high Rc value (5,0 m²K/W). Vertical panel distribution was selected at the location of the industry hall, so that the translucent façade panels (also Kingspan) can also be mounted in this rhythm. These translucent façade panels have the same fixing principle as the insulated wall panels.

At the office façade the panels are horizontally mounted and in terms of distribution are included in the window frame size. The window frames are designed for the panel size, which means that there is virtually no waste.

Sustainability measures

The skin of the building

The plinth of the building is fitted with a prefab concrete insulated element that is also fitted with a high Rc value (5.0 m²K/W). This plinth also serves as robust crash protection. The height of the panels is equal to the level of overhead doors, so that a neat line continues throughout the design. The insulated wall panels start above the concrete plinth.

For the airtightness of the building and particularly at the location of the offices, extra compribands are included between the offices. These connections have all been practically tested using an airtightness measurement and compared with the Qv-10 value using the EPC calculation. The result of this measurement is a Qv-10 value of 0.42.

The office façade is located to the south. In the design, consideration has been given to the later placement of fixed wooden louvres on the exterior of the building for permanent sun blinds. At this time, sun blinds have only been applied on the inner side.

The roof has a traditional roof structure (appropriate to a steel structure). The basis is a steel profile plate fitted with hard press insulation and roof cladding. This also has a high insulation value, such that we can achieve an Rc = 5.0 m²K/W. The roof cladding is a light PVC roof cladding. The light colour ensures that the sunlight is initially reflected as much as possible, before the warmth of the sunlight can penetrate the building.

Water usage

The front terrain is equipped with multiple grey-water tanks, which will provide the toilets with flushing water. The toilets have a maximum flush use of 4 litres /flushing.

From the usage water-free urinals are in use. Also, all men's toilet facilities are fitted with more urinals than toilets in order to further reduce water usage.

Also, all spaces where water usage occurs are fitted with intermediate metering, so that water usage can be monitored well and any leaks can be quickly signalled.

BREEAM-NL Ambitions

Ambitions

The ambition for this plan was for the plan formulation to be realized by DokVast after
the construction of DC Vossenberg also with a BREEAM.
Because we have achieved this together earlier, we know where the challenges as well as the opportunities for achievement lie.

Technical solutions

For this building we decided on a steel structure concept, with precast unit floors as floors and partially precast unit floors on the ground floor at the location of the offices in order to create a crawl space. This is an important technical/architectural choice which ensures sufficient flexibility for all users. This is an ideal combination with the fast construction. Stacking can take place quickly and the building is made wind and watertight in this way. In addition, pipes can be fitted
separately from facilities, exactly where necessary, without interference from structures. In this way, you can design a highly flexible building with the desired fast construction time. This flexibility is also extremely favourable for the BREEAM score.
Furthermore, good technical research has been carried out on the positions on which the installation rooms should be created, in order to arrive at an optimal design here as well without having to create any excess pipe lengths. For this design we therefore decided to hang the air handling unit for the office in the production hall underneath the roof. Immediate suction of fresh air is possible and there is sufficient height between the structure and suspended ceiling in order to fit the ducts. This ensures that the technical space does not take up any expensive square metres.

Process/organization

In order to achieve a good BREEAM-NL score, the following process structure was
initiated.
The order for the design and the construction of this project was awarded by DokVast on a Design & Build basis to Heembouw. In collaboration with Habeon Architecten, Heembouw is responsible for the engineering and realization of the entire project. Heembouw hired C2N as an expert to supervise the BREEAM trajectory.

The request was made by the client and Mr R. van der Water of Quadrant 4 was appointed commissionings manager. Esther Ruijgvorm of MAT 25 was also appointed as an assessor for this project.

Various installers and consultancy agencies were appointed in this capacity to deliver the reports necessary for the various credits.

BREEAM - NL

Costs/benefits

During the design phase we reviewed various
sustainability measures. The considerations that were made included multiple factors, including costs/benefits, and delivery time with regard to building speed. In addition to the BREEAM-NL sustainability ambition,
this project was also achieved in an extremely fast building time, namely 29 weeks for the total project, although only 18 weeks were required for the first 25,000 m² warehouse. This ensured that several options regarding the building speed came before the costs/benefits or sustainability of the project. One example of this is the choice for a steel structure instead of prefab concrete. Prefab concrete is a sustainable material choice, however, in view of the long preparation time, delivery time and investment costs the preference was clearly for a steel structure.

Ecology and surrounding area

During this phase, an ecologist was consulted prior to the start of construction to establish whether and how building should commence. Together with a landscape architect, the premises including the planning was designed such that it blends in well with the surrounding area. Trees were added to the design, which require additional water and create the right ecological connection route with the already present plants/trees on the industrial estate and a connection with the other ecological zones in the area.
In addition, during the design there was also adequate consultations with the surrounding area, which resulted in a truck turning lane, of approximately 175 metres at the front of the site, so that trucks that need to wait before entering the premises can park conveniently outside the public road.

Tips for a subsequent trajectory

- Early decision making regarding the credits that are aimed for will ensure clarity between the partners and a smooth trajectory.
- Contact with the government regarding TRA1 and POL5 may have an influence on the achievement of these credits.
- Early engagement of an ecologist for the project in order to make a start on achieving credits.

Exemplary role

Dok Vast sees itself in an exemplary role as a building developer with regard to its fellow developers.

The developer of a building is the first step for the ultimate building user towards
sustainability. By investing in the development, it should be recouped in the future. At this time, in which all developments and investments are under pressure, Dok Vast is performing extremely well in the area of sustainability. Corporate social responsibility is being given great shape with a 2nd project. A good example for the built environment.

Overview Credits office function

Category	Credit	Achieved score	Maximum score
Management			
MAN 1	Performance assurance	3	3
MAN 2	Building site and Environment	2	2
MAN 3	Environmental impact building site [Innovation points +1%]	4	4
MAN 4	User Manual	1	1
MAN 6	Consultation (selection-credit)	0	0
MAN 7	Shared facilities (selection-credit)	0	0
MAN 8	Safety (selection-credit)	0	0
MAN 9	Publication of building information (selection-credit)	0	0
MAN 10	The building and site as educational aid (selection-credit)	0	0
MAN 11	Maintenance ease (selection-credit)	0	0
MAN 12	Life cycle cost analysis	2	2
MAN 13	Selection-credits (Man 6 - Man 11) [Innovation points +1%]	3	3
Health			
HEA 1	Daylight allowance	1	1
HEA 2	View	1	1
HEA 3	Prevention of reduced light	1	1
HEA 4	High frequency lighting	1	1
HEA 5	Artificial lighting interior and exterior	1	1
HEA 6	Light control	1	1
HEA 7	Natural ventilation	0	1
HEA 8	Internal air quality	2	2
HEA 9	Transient organic connections	1	1
HEA 10	Thermal comfort	2	2
HEA 11	Temperature control	1	1
HEA 13	Accoustics	0	1
HEA 16	Flexibility	2	2

Category	Credit	Achieved score	Maximum score
Energy			
ENE 1	Energy Efficiency	12	15
ENE 2	Sub-metering energy consumption	2	2
ENE 4	Energy-efficient outdoor lighting	1	1
ENE 5	Use of sustainable energy	3	3
ENE 6	Minimized air infiltration loading/unloading platforms	0	1
ENE 8	Energy-efficient lifts	2	2
ENE 26	Assurance thermal quality building envelope	2	2
Transport			
TRA 1	Supply of Public Transport (OV) - Other	0	2
TRA 2	Distance to basic amenities	0	1
TRA 3	Alternative transport - Offices and industrial buildings	2	2
TRA 4	Pedestrian and cyclist safety	2	2
TRA 5	Transport plan and Parking policy	3	3
TRA 7	Transport information point	1	1
TRA 8	Delivery and manoeuvring - Office	1	1
Water			
WAT 1	Water usage - Other	3	3
WAT 2	Water meter [Innovation points +1%]	1	1
WAT 3	Leak detection main water connection	1	1
WAT 4	Self-closing water supply toilet facilities	1	1
WAT 5	Recycling of water	2	2
WAT 6	Irrigation systems	1	1
Materials			
MAT 1	Building materials [Innovation points +1%]	7	8
MAT 5	Substantiated origin of materials [Innovation points +1%]	2	4
MAT 7	Robust designs	1	1
Waste			
WST 1	Waste management on the building site [Innovation points +1%]	3	3
WST 2	Use of secondary materials	1	1
WST 3	Storage space for recyclable waste - Other	1	1
WST 6	Layout	1	1

Overview Credits office function

Category	Credit	Achieved score	Maximum score
Land use & Ecology			
LE 1	Reuse of land	3	5
LE 2	Contaminated soil	0	2
LE 3	Plants and animals present on the building project location	1	1
LE 4	Plants and animals as co-users of the plan area	2	2
LE 6	Sustainable co-use of plants and animals in the long term	1	1
Pollution			
POL 1	GWP of cooling agents for climate control	0	1
POL 2	Prevention of cooling agent leaks	2	2
POL 4	Space heating related Nox emissions	3	3
POL 5	Building protection in the event of floods	3	3
POL 6	Minimization of pollution of overflow rainwater	1	1
POL 7	Minimization of light pollution	1	1
POL 8	Sound pollution	1	1
Innovation credits			
ICO 1	Innovation credit 1 [Innovation points +1%]	0	0
ICO 3	Innovation credit 3	0	0
ICO 4	Innovation credit 4	0	0
ICO 5	Innovation credit 5	0	0
ICO 6	Innovation credit 6	0	0
ICO 7	Innovation credit 7	0	0
ICO 8	Innovation credit 8	0	0
ICO 9	Innovation credit 9	0	0
ICO 10	Innovation credit 10	0	0

Overview Credits industry function

Category	Credit	Achieved score	Maximum score
Management			
MAN 1	Performance assurance	3	3
MAN 2	Building site and Environment	2	2
MAN 3	Environmental impact building site [Innovation points +1%]	4	4
MAN 4	User Manual	1	1
MAN 6	Consultation (option-credit)	0	0
MAN 7	Shared facilities (option-credit)	0	0
MAN 8	Safety (option-credit)	0	0
MAN 9	Publication of building information (option-credit)	0	0
MAN 10	The building and site as educational aid (option-credit)	0	0
MAN 11	Maintenance ease (option-credit)	0	0
MAN 12	Life cycle cost analysis	2	2
MAN 13	Selection-credits (Man 6 - Man 11) [Innovation points +1%]	3	3
Health			
HEA 2	View	0	1
HEA 4	High frequency lighting	1	1
HEA 5	Artificial lighting interior and exterior	1	1
HEA 6	Light control	1	1
HEA 8	Internal air quality	2	2
HEA 9	Transient organic connections	1	1
HEA 10	Thermal comfort	2	2
HEA 16	Flexibility	2	2
Energy			
ENE 1	Energy Efficiency	11	15
ENE 2	Sub-metering energy consumption	2	2
ENE 4	Energy-efficient outdoor lighting	1	1
ENE 5	Use of sustainable energy	1	3
ENE 6	Minimized air infiltration loading/unloading platforms	0	1
ENE 8	Energy-efficient lifts	2	2
ENE 26	Assurance thermal quality building envelope	2	2

Category	Credit	Achieved score	Maximum score
Transport			
TRA 1	Supply of Public Transport (OV) - Other	0	2
TRA 2	Distance to basic amenities	0	1
TRA 3	Alternative transport - Offices and industrial buildings	2	2
TRA 4	Pedestrian and cyclist safety	2	2
TRA 5	Transport plan and Parking policy	3	3
TRA 7	Transport information point	1	1
TRA 8	Delivery and manoeuvring - Other	1	1
Water			
WAT 1	Water usage - Other	3	3
WAT 2	Water meter [Innovation points +1%]	1	1
WAT 3	Leak detection main water connection	1	1
WAT 4	Self-closing water supply toilet facilities	1	1
WAT 5	Recycling of water	2	2
WAT 6	Irrigation systems	1	1
Materials			
MAT 1	Building materials [Innovation points +1%]	7	8
MAT 5	Substantiatd origin of materials [Innovation points +1%]	2	4
MAT 7	Robust designs	1	1
Waste			
WST 1	Waste management on the building site [Innovation points +1%]	3	3
WST 2	Use of secondary materials	1	1
WST 3	Storage space for recyclable waste - Other	1	1
WST 6	Layout	1	1

Overview Credits industry function

Category	Credit	Achieved score	Maximum score
Land use & Ecology			
LE 1	Reuse of land	3	5
LE 2	Contaminated soil	0	2
LE 3	Plants and animals present on the building project location	1	1
LE 4	Plants and animals as co-users of the plan area	2	2
LE 6	Sustainable co-use of plants	1	1
Pollution			
POL 1	GWP of cooling agents for climate control	1	1
POL 2	Prevention of cooling agent leaks	2	2
POL 4	Space heating related Nox emissions	2	3
POL 5	Building protection in the event of floods	3	3
POL 6	Minimization of pollution of overflow rainwater	1	1
POL 7	Minimization of light pollution	1	1
POL 8	Sound pollution	1	1
Innovation credits			
ICO 1	Innovation credit [Innovation points +1%]	0	0
ICO 3	Innovation credit 3	0	0
ICO 4	Innovation credit 4	0	0
ICO 5	Innovation credit 5	0	0
ICO 6	Innovation credit 6	0	0
ICO 7	Innovation credit 7	0	0
ICO 8	Innovation credit 8	0	0
ICO 9	Innovation credit 9	0	0
ICO 10	Innovation credit 10	0	0

Eleboration pre-assessment score

Catergories		Catergory scores		Weighing		Result
MAN	Management	100,00%	x	12,00%	=	12,00%
HEA	Health	90,00%	x	15,00%	=	13,63%
ENE	Energy	73,00%	x	19,00%	=	13,93%
TRA	Transport	75,00%	x	8,00%	=	6,00%
WAT	Water	100,00%	x	6,00%	=	6,00%
MAT	Materials	76,00%	x	12,50%	=	9,62%
WST	Waste	100,00%	x	7,50%	=	7,50%
LE	Land use & Ecology	63,00%	x	10,00%	=	6,36%
POL	Pollution	91,00%	x	10,00%	=	9,17%
IC	Innovation credits	0,00%	x	0,00%	=	0,00%
Innovationpoints + Exemplary Performance						7,00%
Pre-assessment qualification						91,21%