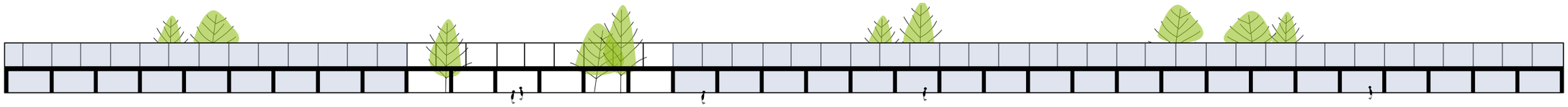

ITC

DO 24 JUNE 2020

ARUP

VALSTAR SIMONIS
ADVISEURS INSTALLATIETECHNIEK

Civic

VDNDP

STUDIO
GROEN+
SCHILD

CONTENT

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A NEW HOME FOR ITC

ITC IS A REMARKABLE ORGANISATION WITH AN INTERNATIONAL REPUTATION. THE COMBINATION OF SCIENTIFIC DEPTH, SOCIATAL COMMITMENT AND DIVERSITY MAKES ITC DIFFERENT FROM OTHER FACULTIES. THE NEW ITC BUILDING FITS THIS CHARACTER. IT WILL BECOME A NEW HOME FOR ITC WHERE PEOPLE GET TOGETHER AND GET INSPIRED TO MAKE A CONTRIBUTION TO THE WORLD. A HEALTYH, SUSTAINABLE BUILDING AND AN INTERNATIONAL SYMBOL FOR ITC AND THE CAMPUS.

VISION

In the vision for the new building, the values of ITC are leading. The new ITC building will be sustainable on an iconic level, it will be a meeting place for different cultures, it will be flexible and adaptable, and it will contribute to its environment. The vision consists of four main elements.

1. **Optimal transformation:** the existing building offers a good basis. With smart incision we will adapt to the needs of ITC.
2. **A recognizable address:** ITC will get its own address on the campus, connecting the O&O square with the Oude
3. Drienerloweg.
   Working and meeting: with the good spatial organisation, we stimulate interaction and we give the users of ITC a
4. feeling of home.
   A healthy, green, and sustainable building: inspired by nature and the research field of ITC, the new building is designed like an ecosystem.

APPROACH

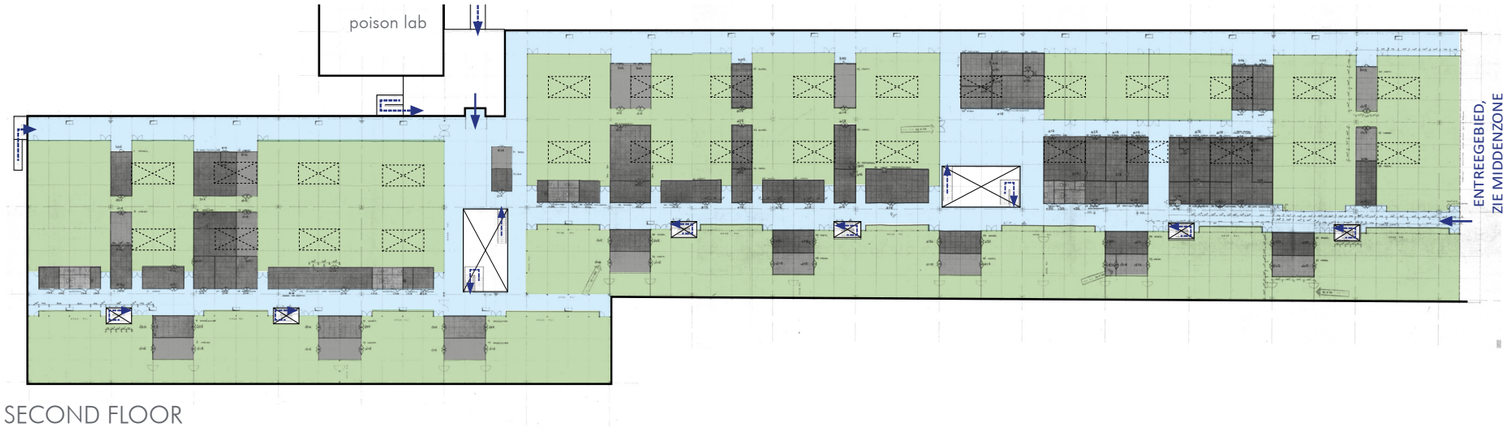
The current building at the Hengelosestraat feels like home for the users; it was designed specifically for ITC. We find it important that the new building will also feel like a safe harbour for employees, students and researchers that come to this place from all over the world. That is why we continued the collective design process in the DO phase. The design team has cooperated intensely in elaborating the plan. With ITC, with the UT and with each other.

- We considered both the hard data and requirements (space A has 20 m2, space B has 30) and the softer ones (space needs to be calmer than space B).
- We studied the existing building at the Hengelosestraat and reused the ideas that we could apply in the Langezijds building. That's is why – for instance – we located the place where everybody eats together at the heart of the building.
- We discussed with representants from ITC and the UT. We evaluated and improved our design again and again during the process. Due to COVID-19, the meetings were held digitally.
- We worked and designed in an integral manner: architects, advisors, users, and the client worked on the design together through workshops. Architecture, technique, and use strengthen each other.

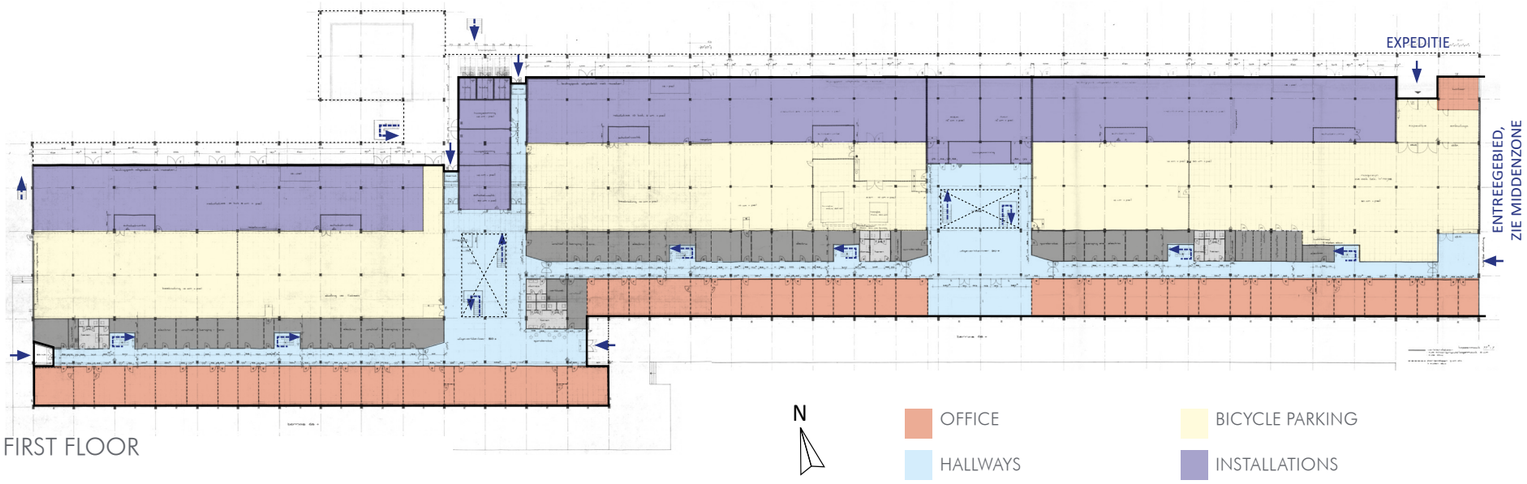
DO

In this Definitive Design (DO) book, we show how we processed all the information and how we translated our vision into a design.

VISION
1. TRANSFORMATION: ANALYSIS



SECOND FLOOR



FIRST FLOOR

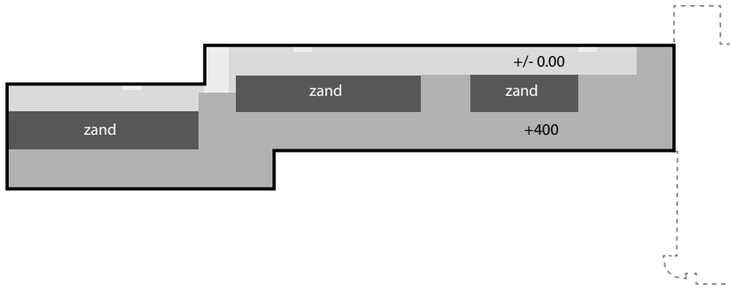
Our design is built on what is already there. That is functionally and economically smart and results in a great story to tell visitors, because past, present and future are readable in the building. In this way, ITC becomes an icon more sustainable than a new building could ever be.

Langezijds was designed by Van Embden and Choisy. It is a big linear building, with a perpendicularly placed entrance zone. The part west of this entrance – minus 3 bays of 6,2m – is allocated to ITC. It consists of a concrete plinth, with a steel second storey with a transparent curtain wall facade.

It is a special building. Its 37,2 meters of depth – almost twice the depth of a regular office/ research building – and 220 meters of length make it extraordinary. The second storey has a bay size of 12,4 meters and is higher (>4m). Here, the labs were located. The ground floor (floor 1) has a bay size of 6,2 meters and has a limited height, at certain points its 2,7meters in height. In the past, the ground floor only housed offices at the southern façade. The rest of it was appointed to storage, bicycle parking and technical rooms. The characteristics of the building have a strong influence on the possibilities of the transformation.

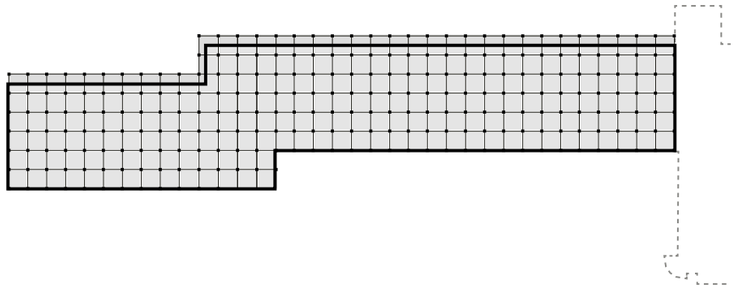
VISION
1. TRANSFORMATION: ANALYSIS

① Storey 1



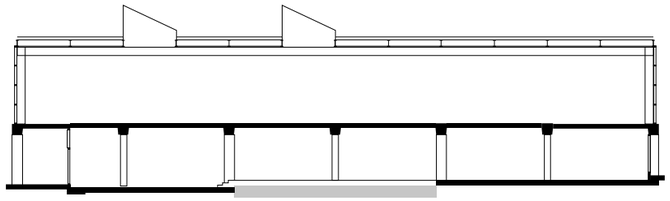
Storey 1 has an internal height difference. The southern part is located 400mm higher, so the floor height there is lower (2,7m under the concrete beams). In between, there are areas where there is no concrete floor, but only tiles placed directly on the sand soil.

② Structural grid first storey



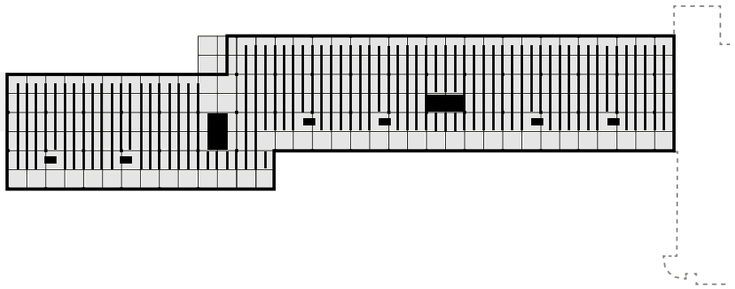
Storey 1 is built up with a concrete frame in a grid of 6,2m by 6,2m. The columns support concrete beams of 600mm.

③ Section



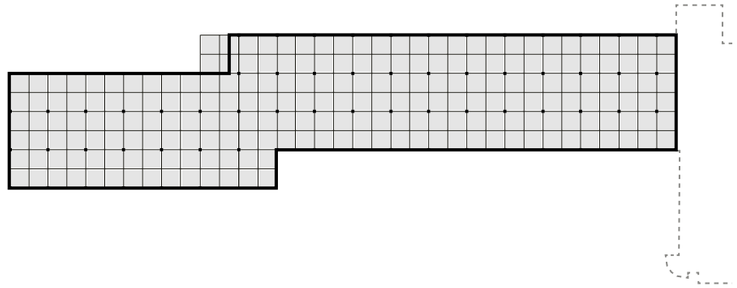
In the section, one can clearly see how the low first storey relates to the higher second storey. Downstairs only the southern side was suitable for offices. At the northern side, the façade was set back forming a gallery.

① Storey 2



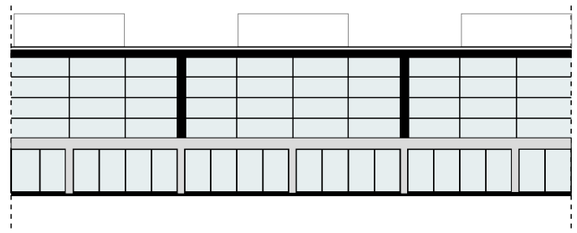
The second storey has a in-situ concrete floor of 250mm resting on concrete beams. The floor has slits of 450mm wide that were used for cables and piping connecting the first and second storey.

② Structural grid second storey



The second storey is made in steel, with a column/portal structure of 12,4m by 12,4 meters. The portals span in perpendicular direction, they support steel beams that subsequently carry lightweight concrete 'bims' ceiling panels.

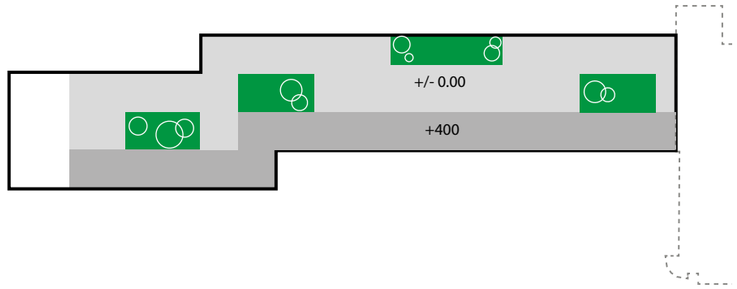
③ Façade



The building has a recognizable façade that shows the structure of the building. With a concrete plinth with columns every 6,2m and a higher second floor in glass with horizontal solar shading panels on the south and west façade.

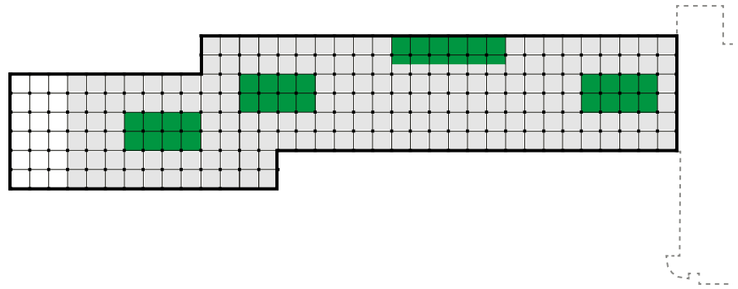
VISION
1. TRANSFORMATION: DESIGN

① Storey 1



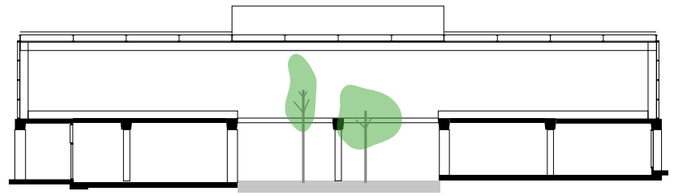
Lowering the floor comes with very high costs. Elevating the floor costs precious floor height. That is why we preserve the height difference. The parts where there is no concrete floor, we employ for the green atrium gardens; the plants will have their roots in full soil, instead of in pots.

② Structural grid first storey



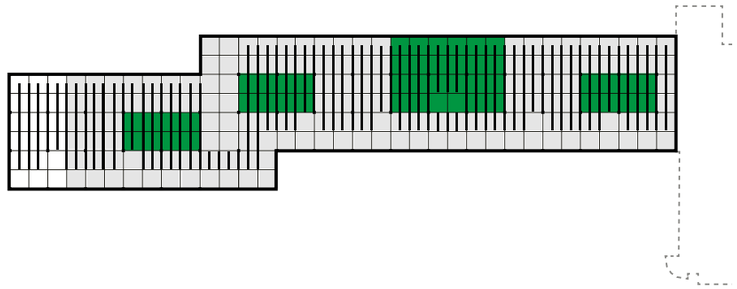
The 6,2m grid is suitable for the smaller functions of ITC, like offices, toilets, and smaller labs. The grid offers ample flexibility. Around the green lungs, we organise the working and study places. The parts that do not receive daylight are suitable for technique and storage.

③ Section



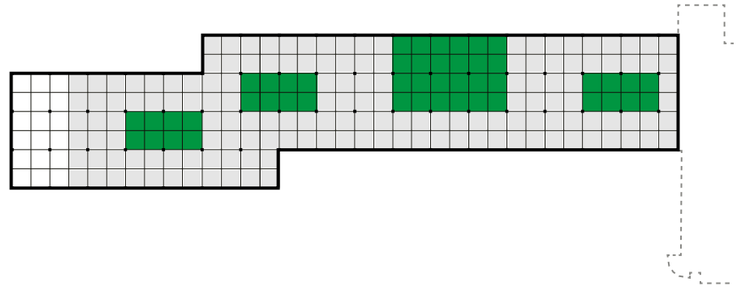
To keep the floor height of the first storey usable, we bundle all the piping and installation shafts in an elevated floor on top of existing concrete the floor of the second storey. This way, we also keep the beautiful bims ceiling free of visual nuisances. At the norther façade we remove the set back in the plinth, so we get additional usable interior space.

① Storey 2



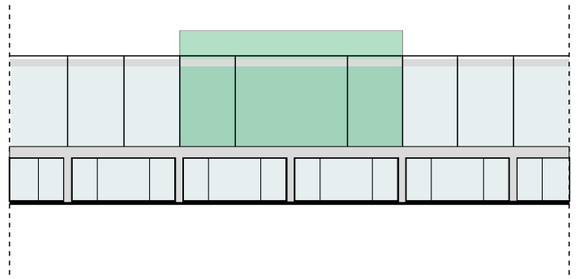
The most important intervention in the building is a fourfold of atria; The Green Lungs. We create these by removing concrete floor elements in the second storey floor. The atria connect the storeys, bring in day light and fresh air and have a function in the sustainability of the building. The existing slits in the second storey floor we reuse for cables and piping.

② Structural grid second storey



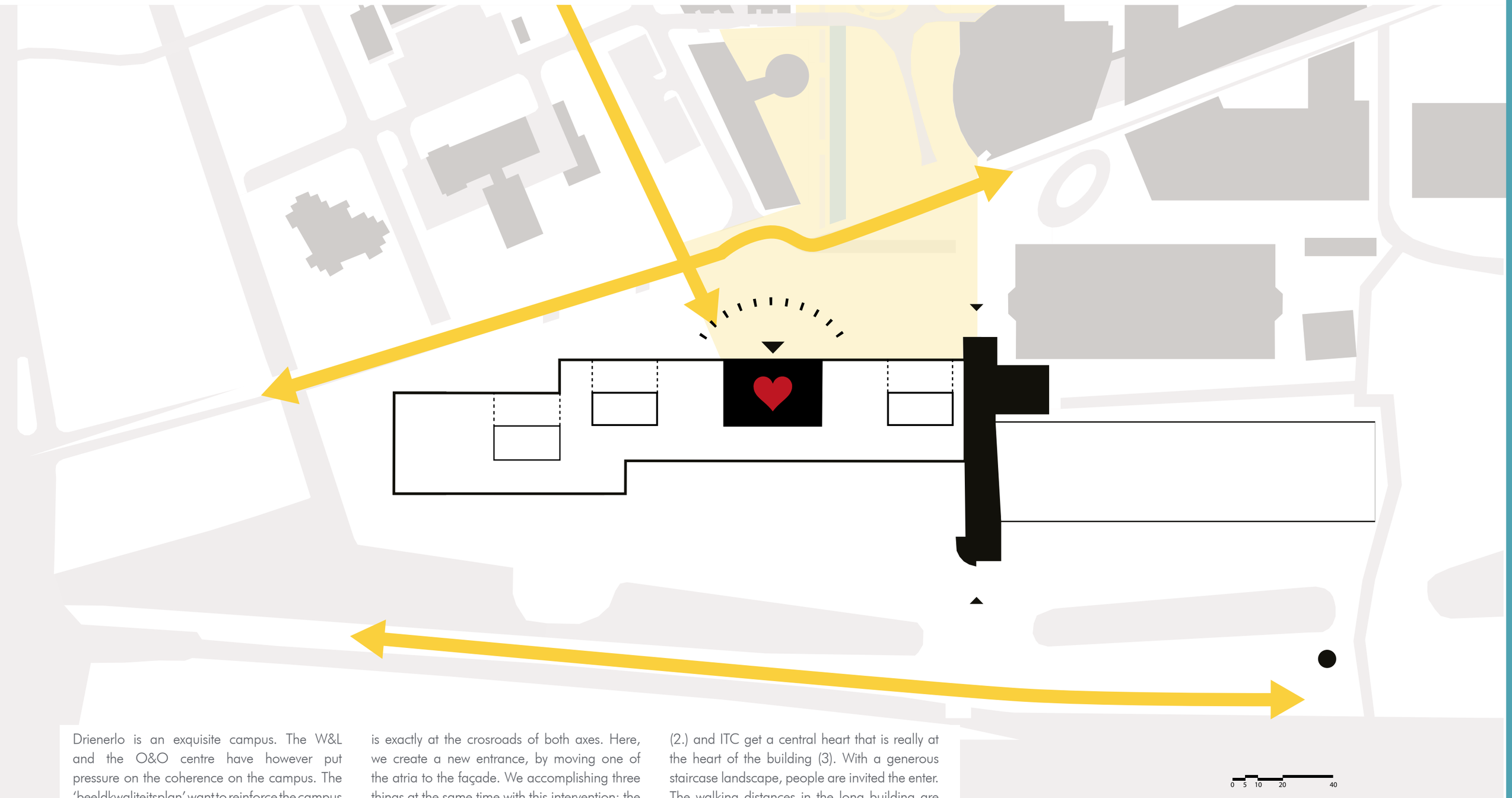
On the second storey we locate the main route in the building and the larger functions that need a lot of light: education, labs, and open study places. We preserve the openness of spatiality of the second storey. Necessary smaller functions (like toilets and emergency staircases) we do not locate at the façade.

③ Façade



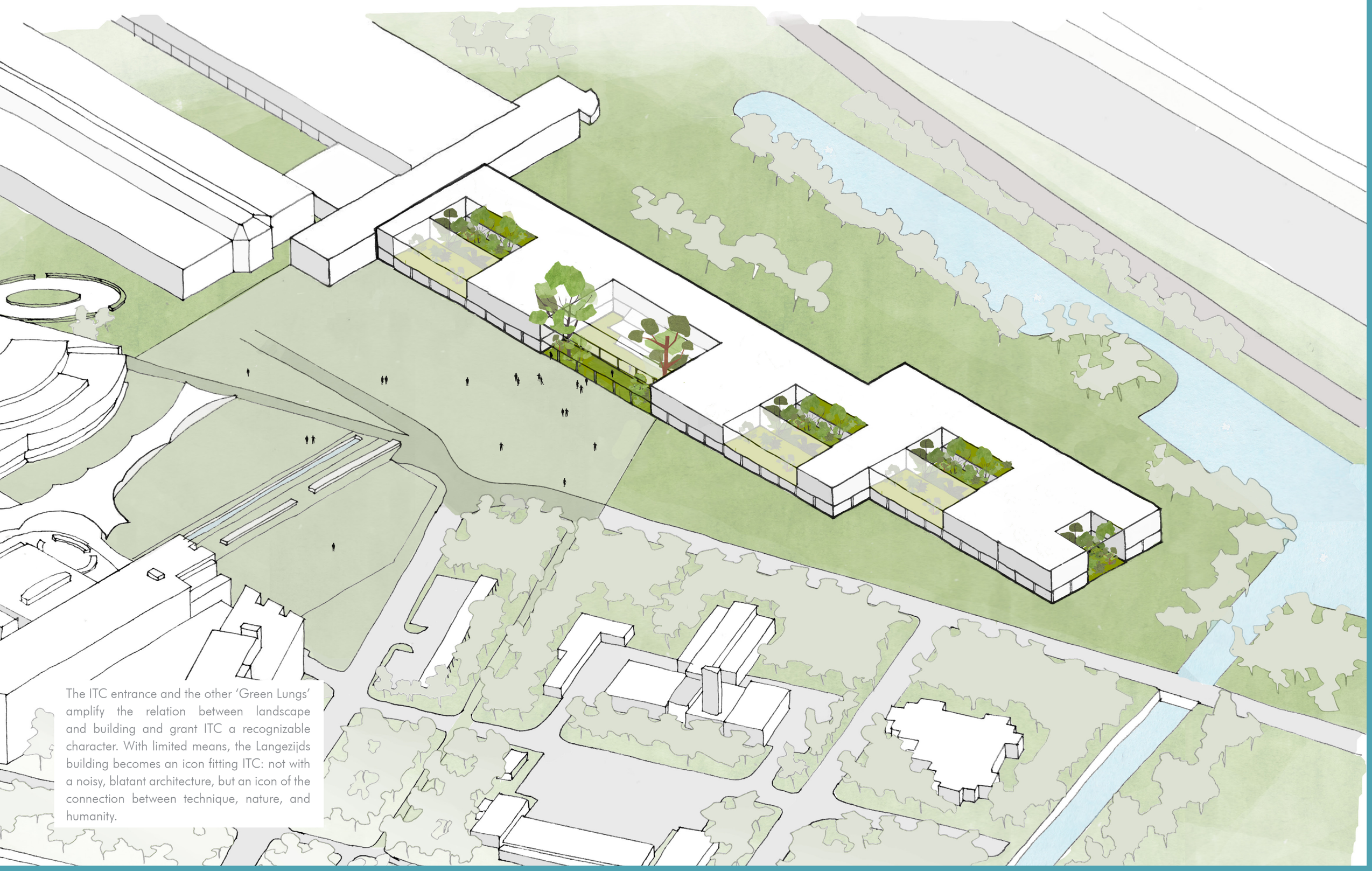
The new façade follows the logic of the existing design, with the concrete grid downstairs and the glass part up. We reuse the existing concrete solar shading on the south side. The Green Longs are visible in the façade.

VISION
2. A RECOGNIZABLE ADRESS



Drienerlo is an exquisite campus. The W&L and the O&O centre have however put pressure on the coherence on the campus. The 'beeldkwaliteitsplan' want to reinforce the campus along two axes; The 'Hallenweg' (leading from the O& square to the B&S park) and the 'Oude Drienerloweg' (from the O&O to the W&L). ITC is exactly at the crosroads of both axes. Here, we create a new entrance, by moving one of the atria to the façade. We accomplishing three things at the same time with this intervention: the Oude Drienerloweg is connected with the O&O square through a lively entrance zone (1). ITC gets a recognizable address, fitting with its status (2.) and ITC get a central heart that is really at the heart of the building (3). With a generous staircase landscape, people are invited the enter. The walking distances in the long building are shortened, so the chance of meeting each other increases.

VISION
2. A RECOGNIZABLE ADRESS

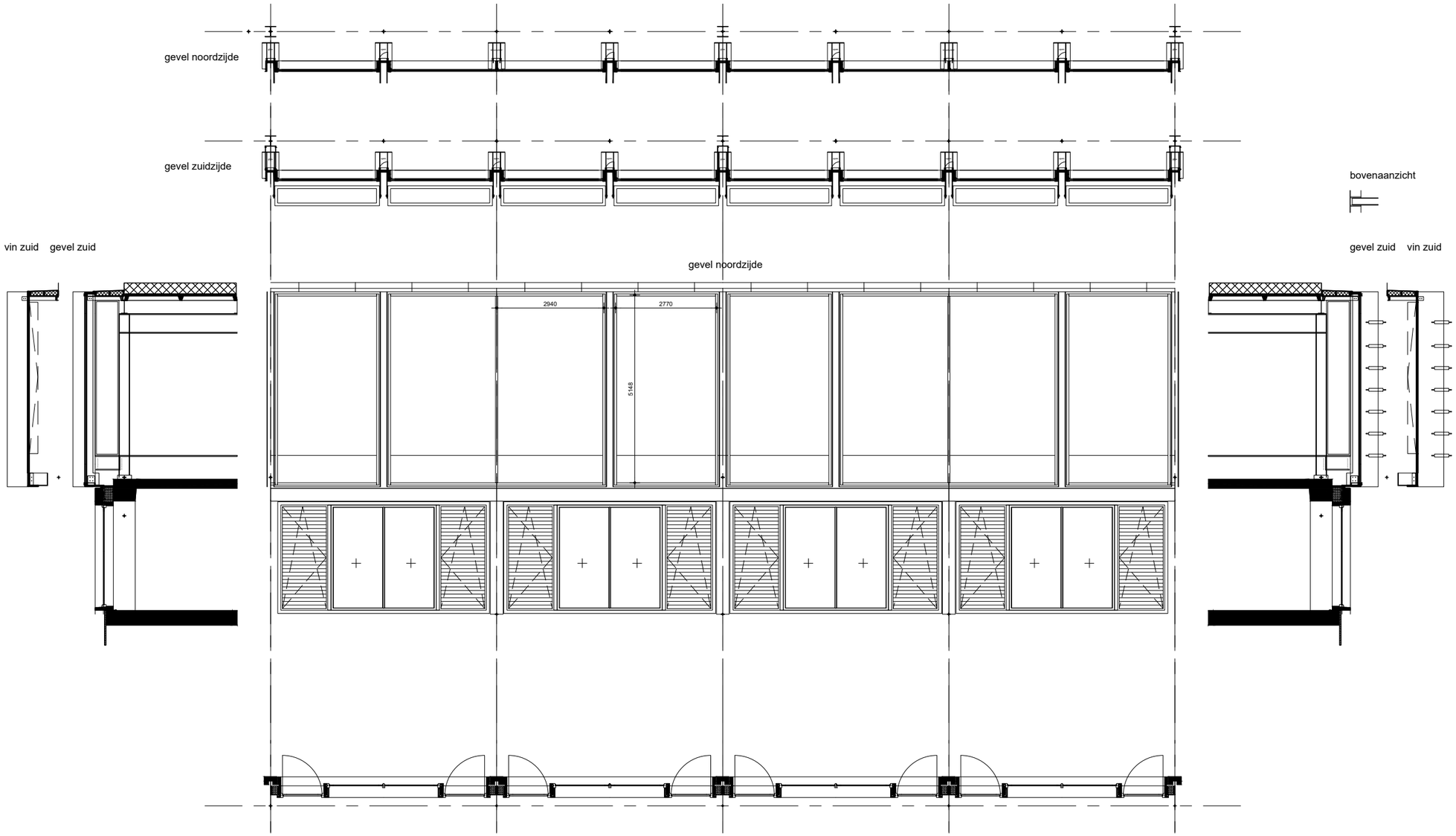


The ITC entrance and the other 'Green Lungs' amplify the relation between landscape and building and grant ITC a recognizable character. With limited means, the Langezijds building becomes an icon fitting ITC: not with a noisy, blatant architecture, but an icon of the connection between technique, nature, and humanity.

VISION
2. A RECOGNIZABLE ADRESS - THE FAÇADE

Langezijds is a long, horizontal building. The new façade diversifies the original design; the plinth is articulated by concrete columns every 6,2m and the second storey is lighter with a transparent curtain wall façade.
The power of the façade resides in the balance between repetition and subtle variation. The plinth has a wooden infill, adding a warm tone to the material pallet. It is set back a little the articulate the rhythm of the plinth.
The second storey is made in steel with a light glow. The basis is the same for both the north and south façade. Every 3,1m we introduce a slit with protruding mullions. At the south façade, these carry the existing solar panels, at the northern façade to deflect low evening sun, preventing glare and overheating.
The northern has a dynamic rhythm because every 12,4 meters we apply structural glazing instead of the protruding mullions.
At the Green Lungs, the façade has a specific expression; the elevated floor folds into steps to sit on. It offers a great view over the O&O square. The Green Longs are visible in the façade because of the roof lights; they make the façade more transparent because they receive light from behind.

VISION
2. A RECOGNIZABLE ADRESS - THE FAÇADE



We insulate the entire building all around. In front of the existing concrete columns, we place insulation and a new concrete façade panel, mirroring the concrete behind it. The wooden infill within the plinth also stands in front of the existing concrete structure. The wooden panels can be opened to assure natural ventilation. The glass windowpanes can therefore remain closed, making it easier and cheaper to detail this in a beautiful way. The openable parts are applied every 3,1m meters so every office can open a panel.

The curtain wall façade on the second storey has a small cantilever; this articulates the horizontal disposition of the façade. On the second storey, spaces are also designated with openable panels for fresh air. These are located within the intruding part of the vertical slits, every 3,1 meters. The openable panels will either be placed at the side, or the back of these slits, enabling the entry of fresh air.
On the south side, the existing concrete solar panels are mounted on the protruding mullions of the slits, fixing them in their position.

VISION
2. A RECOGNIZABLE ADRESS - THE FAÇADE

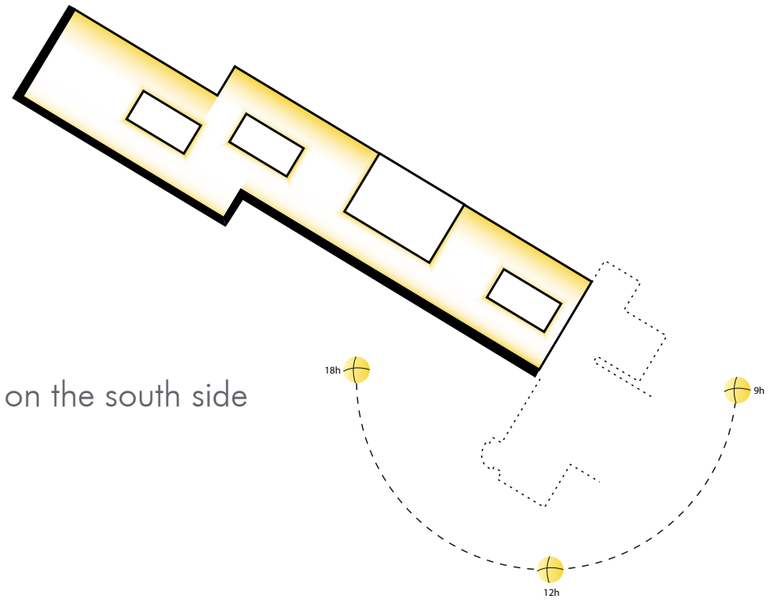
The concrete solar shading panels are cleaned and reused for the southern façade. They will not be rotatable anymore; this prevents high maintenance costs in the future. The fixed position of the solar shading panels has been determined together with the engineer of the design team, Arup. We used a simulation to assure maximum sustainability performance. The panels keep the sun out in the summer, while letting it enter during the winter – due to the lower position of the sun. To prevent further glare, we apply dynamic light shading in the interior. The combination of concrete panels with dynamic light shading enables us to use a relatively transparent glass while at the same time assuring a low 'ZTA' value. Meaning there is no overheating in the interior. The upper horizontal solar shading panel has a reflective surface, so daylight can enter deep into the building in wintertime.

VISION
2. A RECOGNIZABLE ADRESS

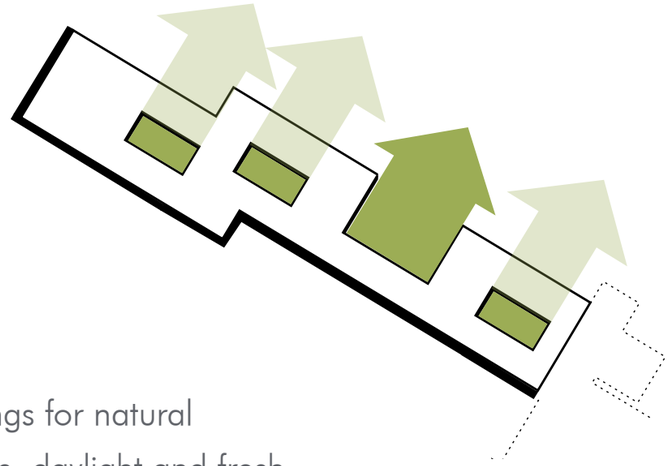
At the entrance, the façade folds inwards, drawing in the landscape. The entrance zone flows over the staircase into the social heart upstairs. This way, ITC gets a recognizable address.

VISION

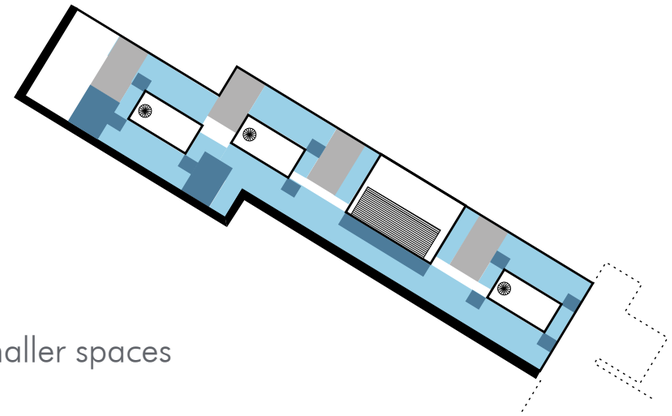
3. SUSTAINABLE INTEGRAL BUILDING CONCEPT



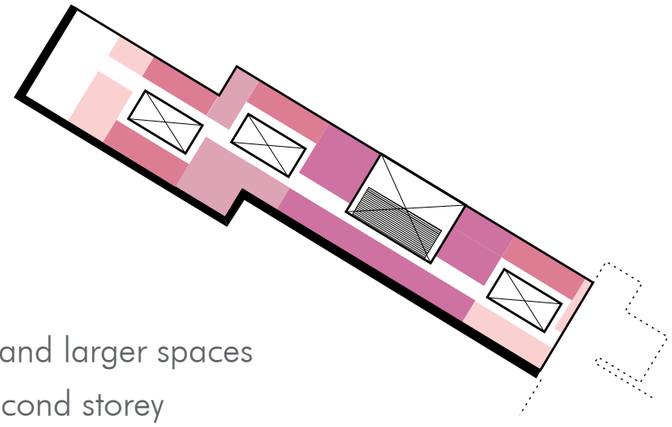
solar shading on the south side



green lungs for natural ventilation, daylight and fresh air



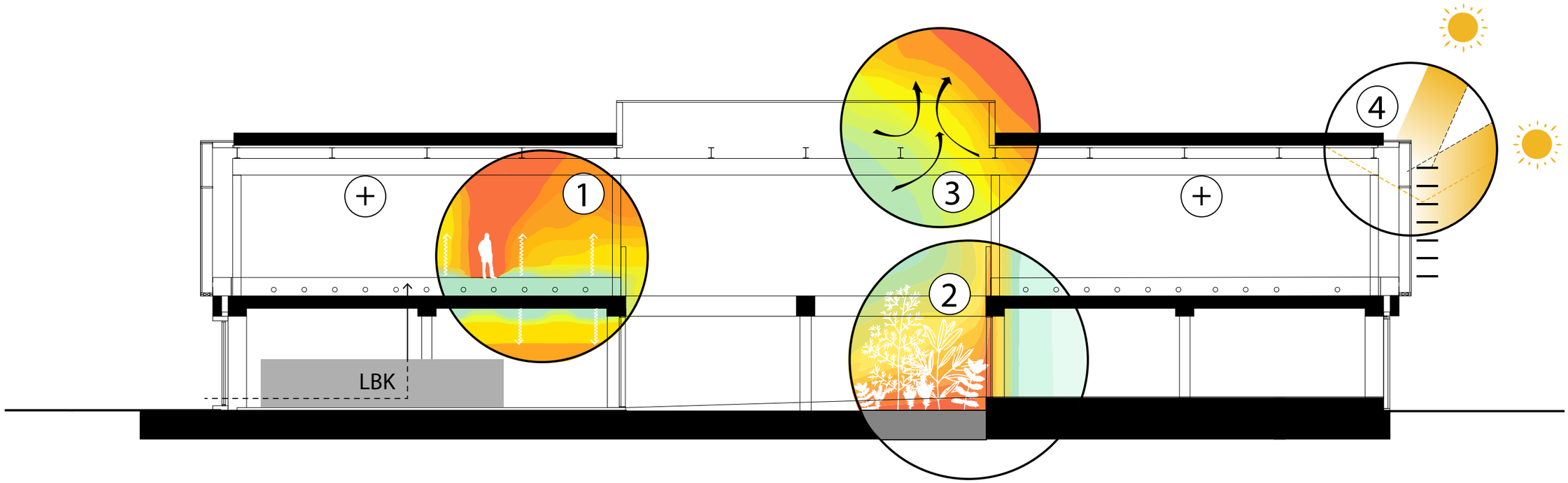
stable and smaller spaces on storey 1



dynamic and larger spaces on the second storey

The new building symbolises the sustainable mission of ITC. One can experience the sustainability, stimulating the user in his or her sustainable behaviour. We climatize the building in a natural manner as well as possible. We create a sustainable basis by reusing the existing building and by placing the offices on the cooler first storey, while locating the larger spaces upstairs. The Green Lungs assure a healthy interior climate with plenty daylight and fresh air. This leads to a stress-free working environment and improves performance. The fully glass facade assures maximum daylight entrance. The horizontal solar shading panels prevent overheating in the summer and glare on computer screens. Openable windows offer users the possibility to directly influence the interior climate.

VISION
3. SUSTAINABLE INTEGRAL BUILDING CONCEPT

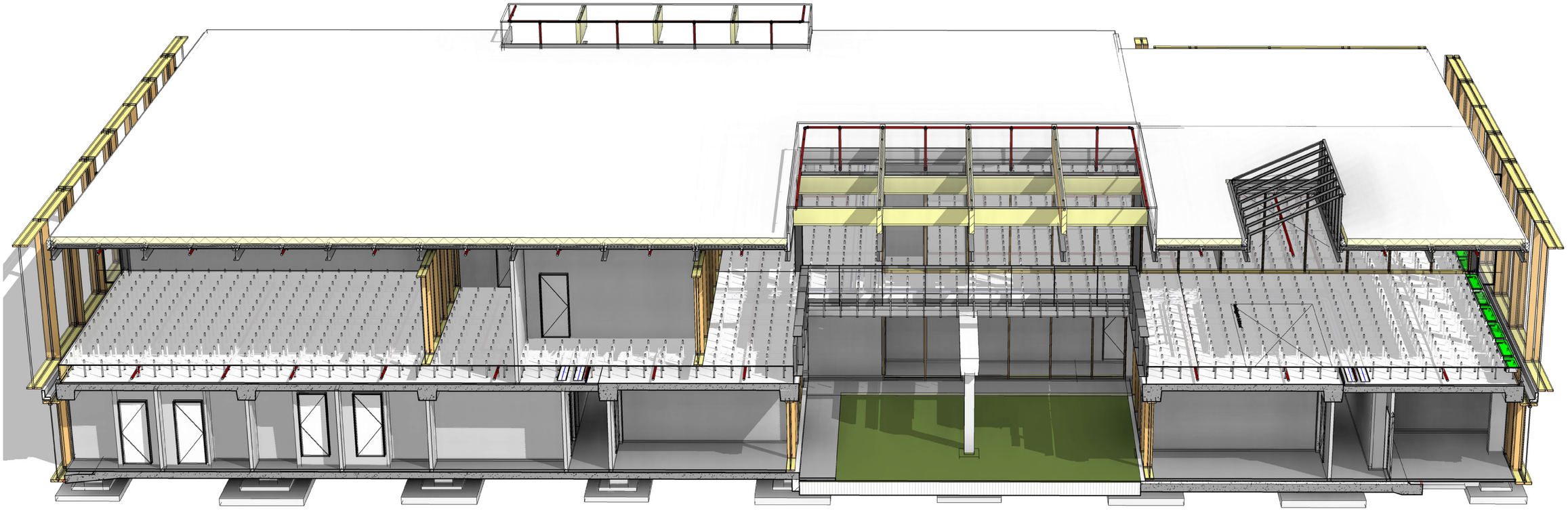


The Green Lungs are more than a metaphor; they are lush green places that support the natural ventilation in the building. The air in the building is refreshed by displacement ventilation. The fresh air is supplied trough grills at the north end of the air handling units (LBK's), where the outside air is already relatively cool.

The user spaces subsequently have their overflow in the Green Lungs, where the air is naturally led away through the openable glass roof by the natural chimney effect. A large part of the year, the mechanical installations are turned off.
The flexibility of the building is guaranteed by this ventilation principle. The space under the elevated new floor on top of the concrete second storey floor functions as a 'plenum'; it basically forms a big ventilation shaft, automatically leading the air in the direction of wherever a ventilation grill is located. There are no additional big ventilation shafts necessary for the second storey, keeping the beautiful bims ceiling free of visual nuisances.

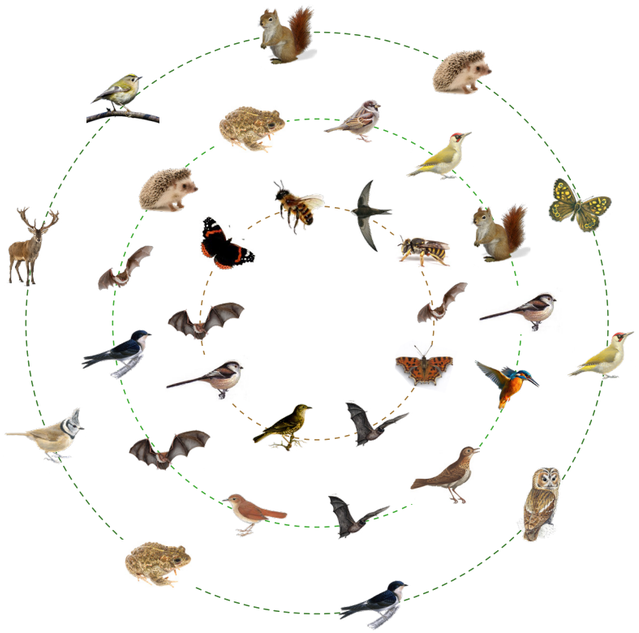
The elevated floor also contains cables and piping for the first storey. They run down through the existing slits in the concrete floor. In the information of parcel 2 and 3 this is elaborated further.

VISION
3. SUSTAINABLE INTEGRAL BUILDING CONCEPT

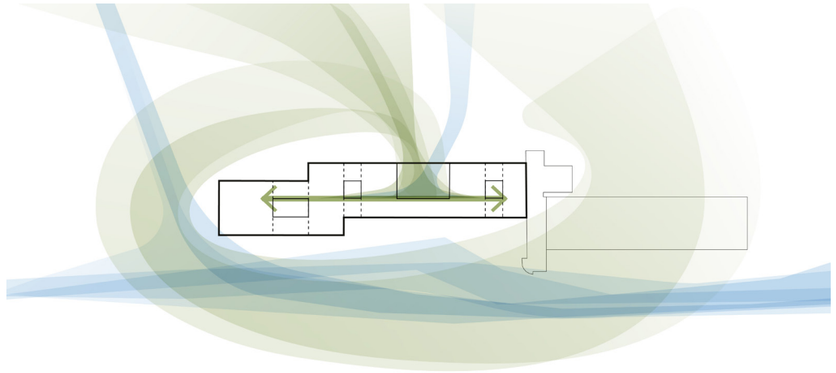


Electricity and the sprinkler system are also integrally designed within the system. Additional to the ventilation system, the main sprinkler piping and electricity cables for the first floor are located in the plenum. For the second storey, the sprinkler piping and electricity are attached to the secondary steel beams in the direction parallel to the building. They enable easy connection through walls. Cable gutters for lighting fixtures and fire alarm units are also attached to the steel profile beams. The grid assures maximum flexibility.

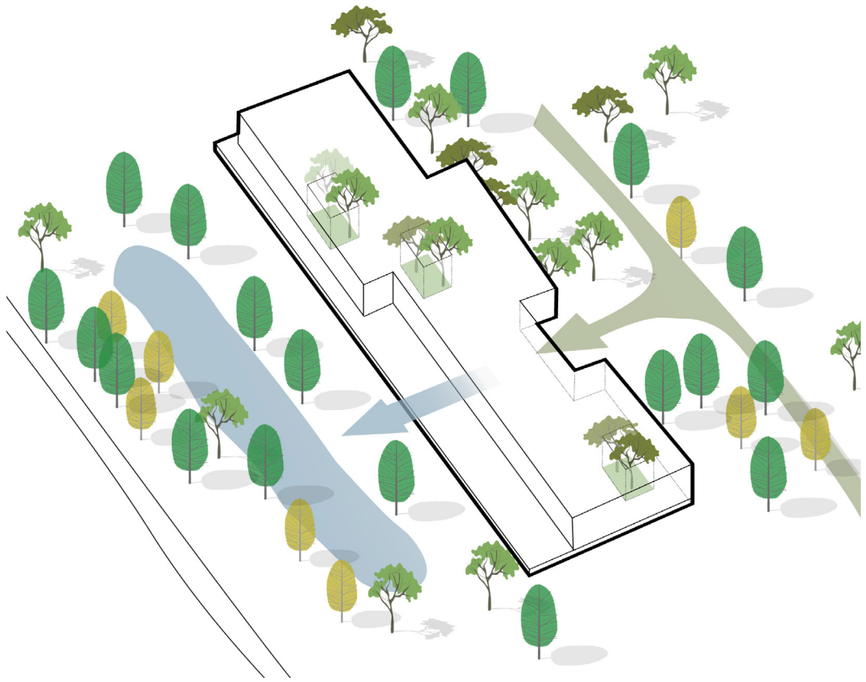
VISION
3. SUSTAINABLE INTEGRAL BUILDING CONCEPT - LANDSCAPE



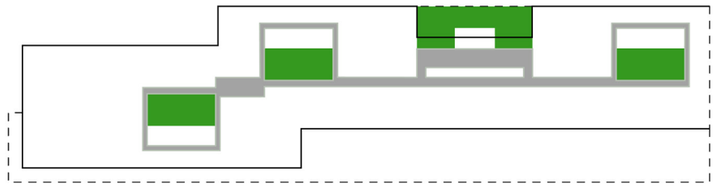
Building nature inclusive, is building for man and animal. In the environment of ITC, there is rooms for all sorts of animals. Swallows, bats, butterflies and bees can all find their place.



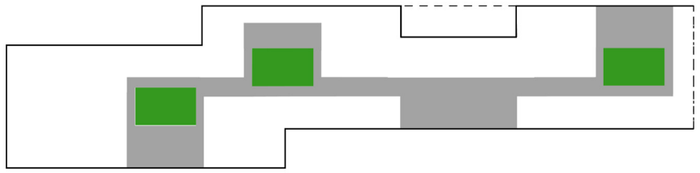
The building as part of the landscape of the campus.



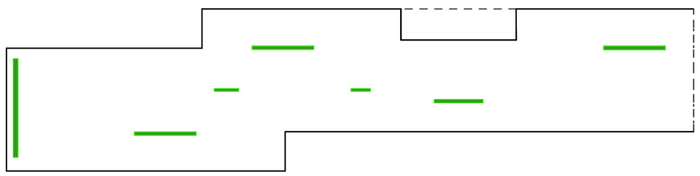
The building as a membrane, the landscape flows from exterior to interior.



The Gardens connect the building with the environment, the landscape flows through the building.



The crowns of the trees in the Gardens connect the storeys.

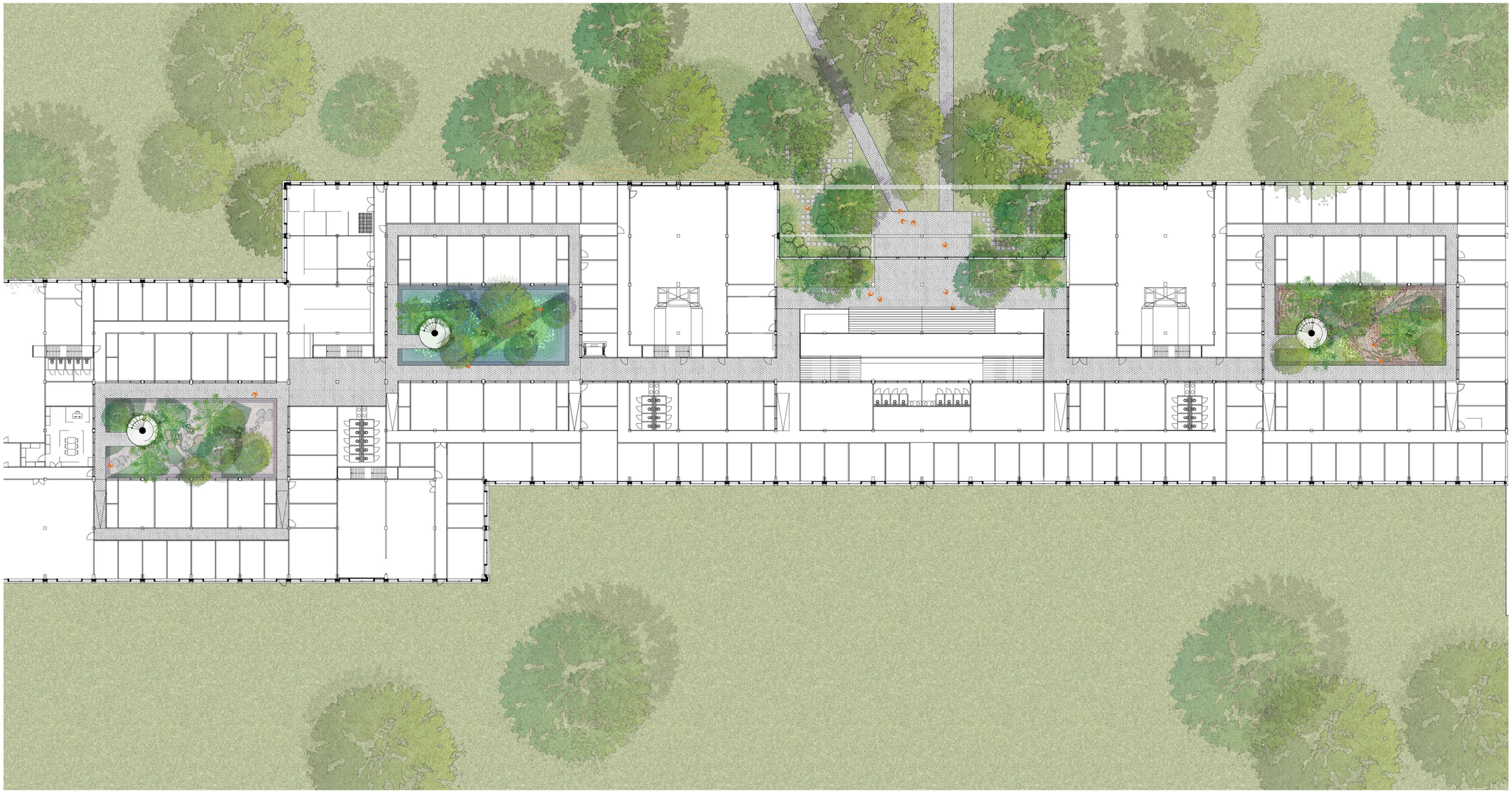


Green workplaces offer a sense of exterior in the interior. Drink coffee surrounded by plants, have a brief meeting with fresh air, drink tea made from freshly picked mint.

The campus of the UT has its origin in one of the old land estates; Drienerlo. It is characterized by an interplay of tree lanes, solitary trees, old road structures, water areas and open spaces. Characteristic buildings strengthen the atmosphere of the landscape. We strive to merge building and environment. We see the building as a membrane which the landscape – culture and nature - flows through. At the entrance, the landscape folds inwards. In and out flow into each other. Trees grow both in and outside. The entrance garden is the first of four. These landscape chambers offer the desired ecosystem services, a healthy and stress-free environment for its users, but also a fantastic biotope for flora and fauna. ITC becomes an icon of the integration of nature and technique.

VISION

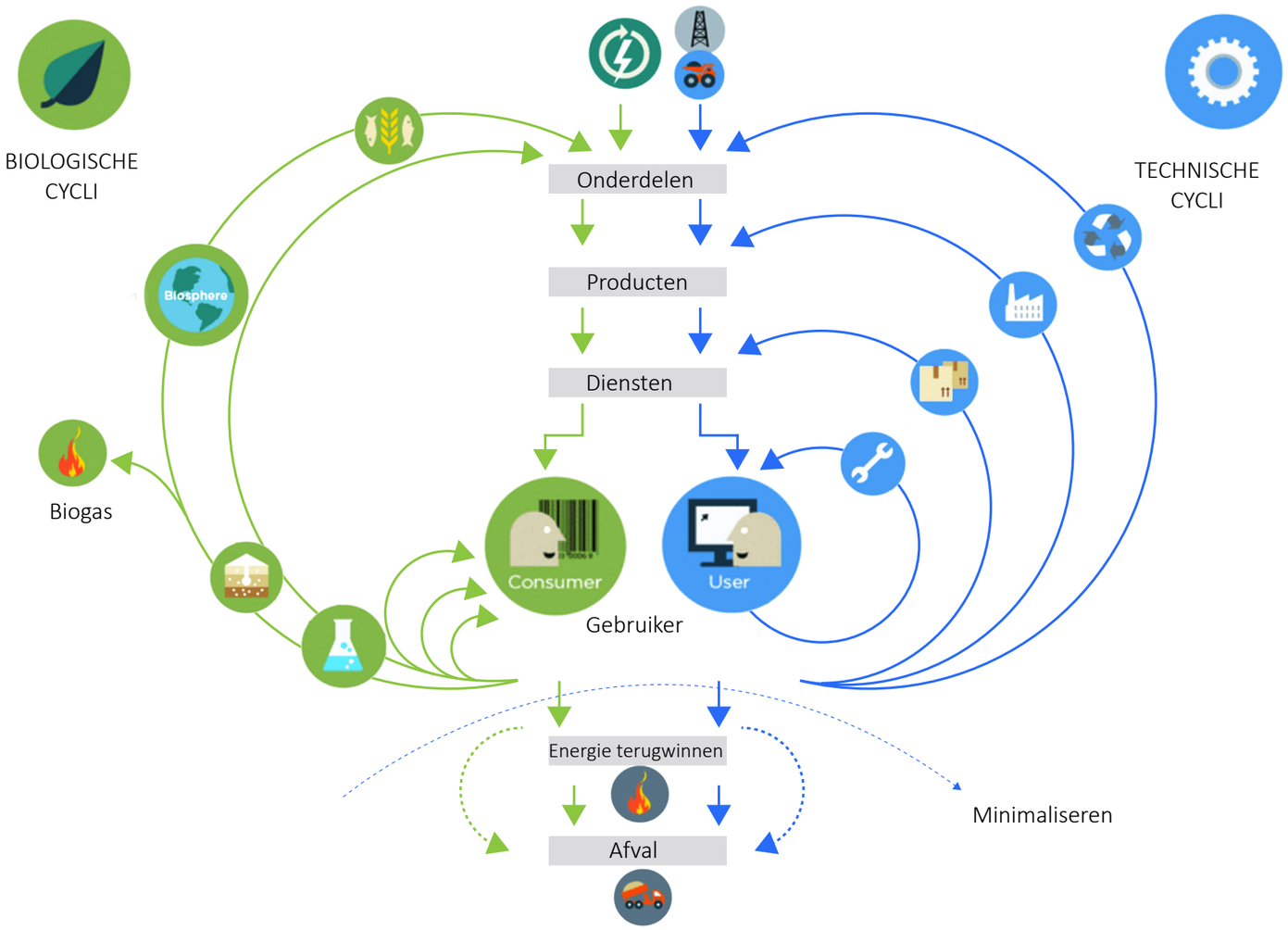
3. SUSTAINABLE INTEGRAL BUILDING CONCEPT - LANDSCAPE



The landscape gardens form a chain on the first storey. The gardens have no concrete floor, they have direct contact with the soil and are slightly lowered in relation to the concrete floor. Each garden has a slightly different atmosphere; the entrance garden relates to the landscape of Drienerlo with native and eatable plants. The other ones are characterised by wood, water, and stone. What they share, is their natural feel. We are not creating an artificial environment with plants in pots to greenwash an otherwise clinical space, no we are really creating a natural environment, rich and bulbous.

The interior gardens have a stable temperature all year round, hence the use of sub-tropical plants. They contain specifically designed furniture pieces that blend in with the plants.
The second floor offers a wide view over the exterior landscape, that runs al the way to the façade. For optimal integration, we would like to work together with the landscape architect of the campus. We see opportunities to make the O&O square greener and improve the connection with the building. In the appendix, the green concept is further explained.

VISION
3. SUSTAINABLE INTEGRAL BUILDING CONCEPT - CIRCULARITY



1. **reuse Langezijds**
   reusing the existing

2. **seperating casco & installations**
   easy to repair, de/remount or replace

3. **circular water circuits**
   plants gray storm water and clean waste water

4. **enlarge biodiversity**
   Green Lungs are biotopes for flora & fauna

5. **healthy materials**
   wood is the most important interior material

6. **renewable energy**
   pv panels on the roof

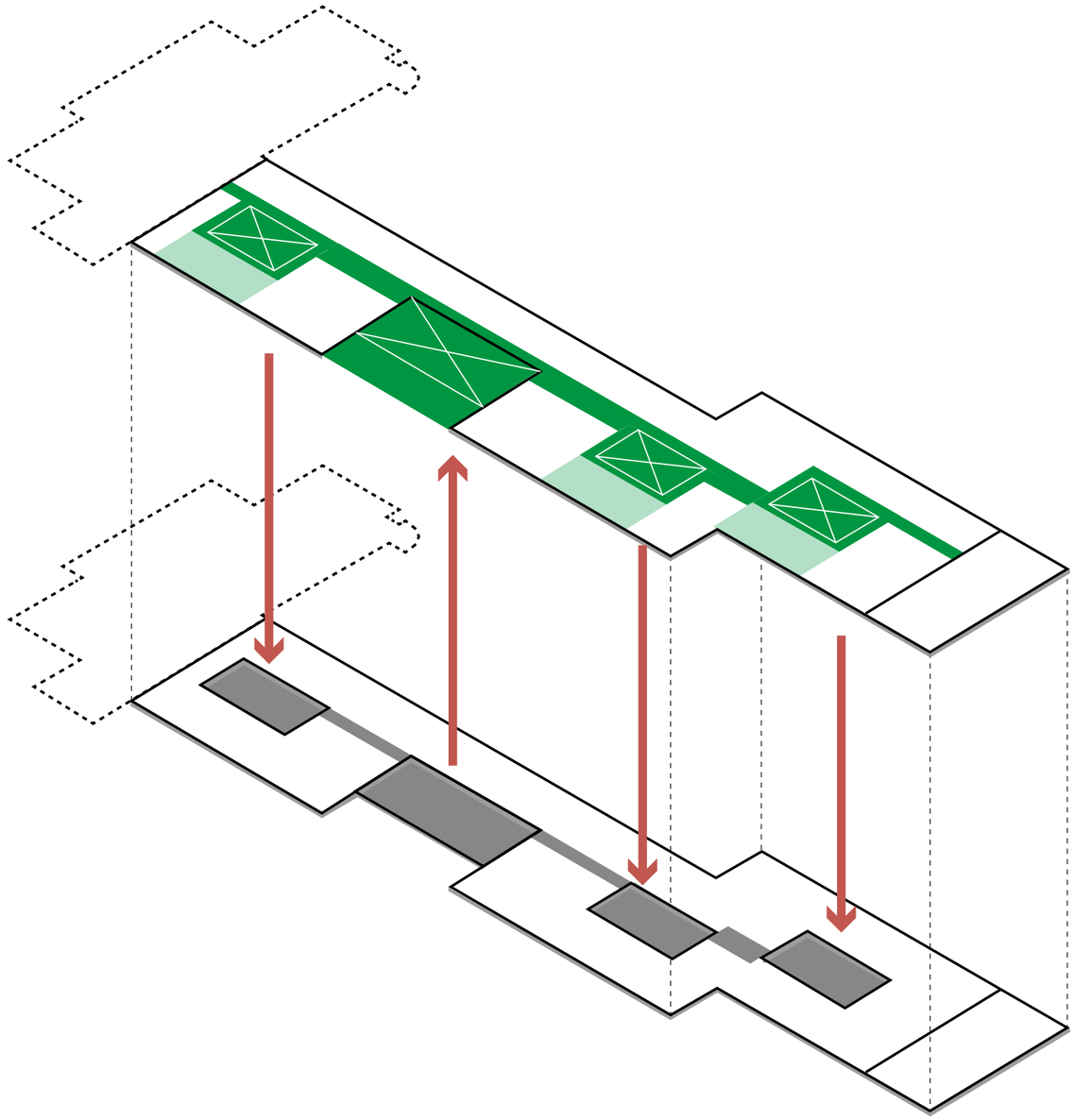
We don't have an energy problem, we have a materials-in-the-wrong-place problem', according to Cradle to Cradle-guru William McDonough. We apply six circular principles to close cycles in the building.

VISION
4. A NEW HOME - CLUSTERING PROGRAM

We design the new building, so it offers a sense of home. A building that users feel connected to. We do that with a personalized interior design, but also by locating the functions in a smart way.

It's the people that make ITC special. That is why we focus on interaction – between departments, users, research, and education. We looked at the social rituals of the people of ITC. The Social heart has a pivotal role. It is located centrally, at the entrance. Around it the workplaces of the support department are located; under the stairs the ones that need privacy, upstairs the more dynamic ones. The educafe in the social heart transits into the learning and study space, that subsequently flows into the scientific departments. The scientific departments are organised around the Green Lungs. The labs are combined in two clusters.

VISION
4. A NEW HOME - INTERIOR STREET

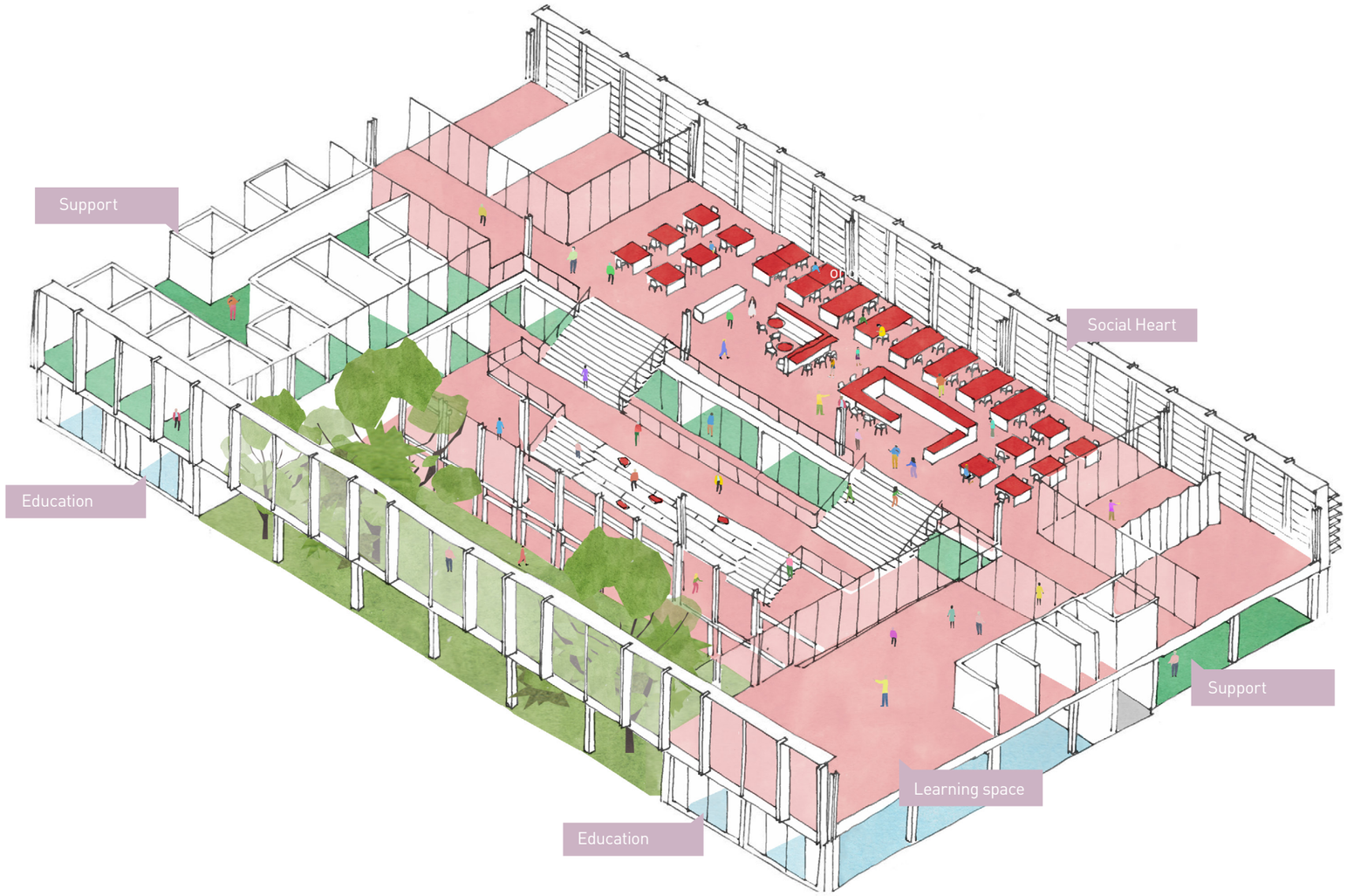


wide interior street

efficient access

A wide, light interior street on the second storey connects all the clusters. It runs from atrium to atrium. There you can take the stairs down. One can orientate following the light coming from the glass ceiling in the atria. On the first floor, a more efficient corridor connects all the departments.

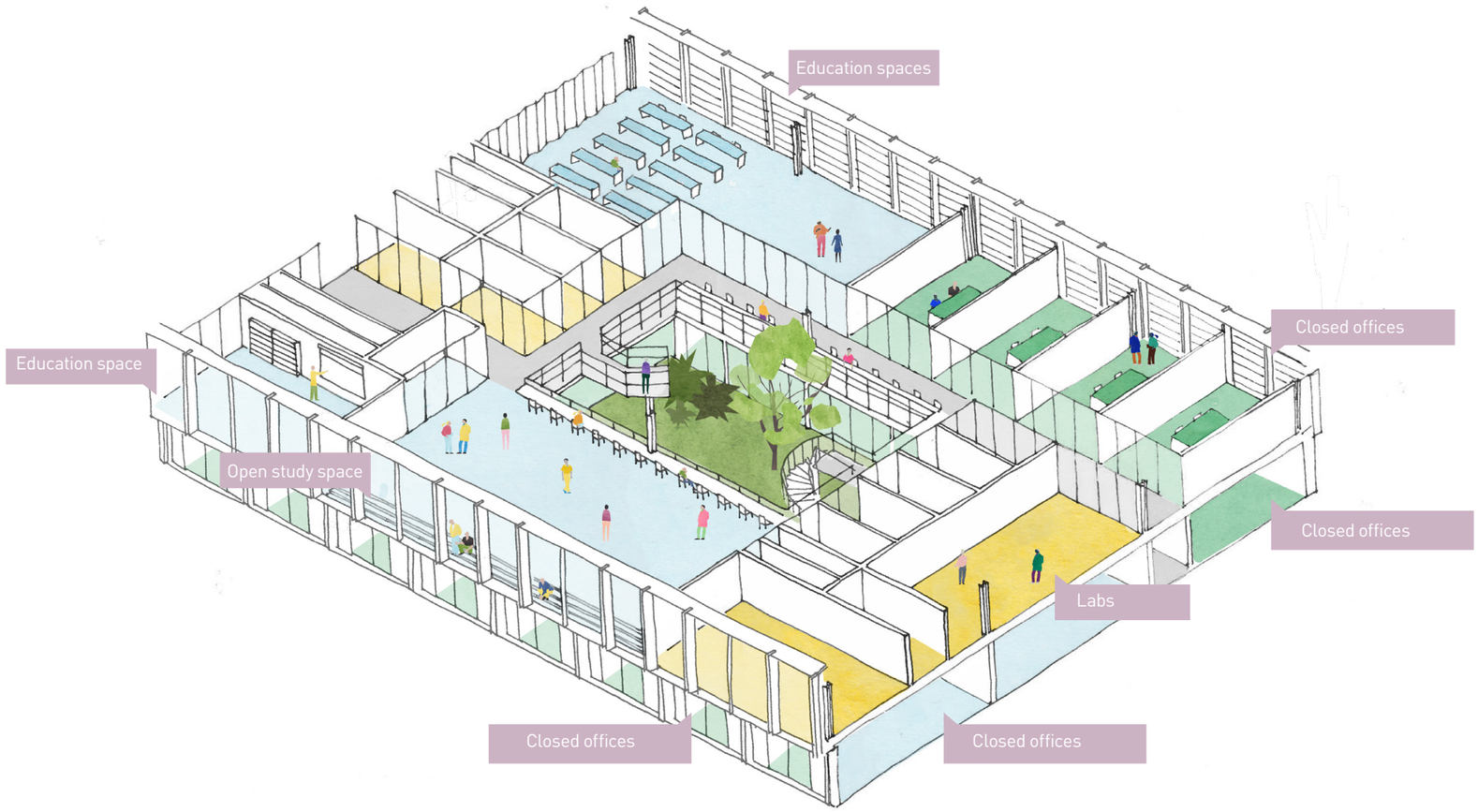
VISION
4. A NEW HOME - THE SOCIAL HEART



The social heart has an important position in the building. It forms an extension of the entrance and will become the place where everybody comes together. It forms a sort of living room with an informal atmosphere; you can drink coffee there, have something to eat, work or study or get the support you need at the support department.

The new Social Heart will not be equipped with a full-fledged kitchen, but you will be able to buy a meal here at the bar where you can also get coffee.
The staircase is generous and multifunctional, the size and angle of the stairs are designed to use it as an informal presentation space as well.

VISION
4. A NEW HOME - THE DEPARTMENTS



The departments are organised around the Green Lungs. Two departments share one Green Lung. The scale fits the smaller groups within the larger ITC family. The large spaces: classrooms, open study spaces and bigger labs are placed on storey 2, following the grid of 12,4 by 12,4 meter. This storey is high, open. It offers plenty of space to interact. The lower first storey houses the smaller offices; here it is quit and calm. The Green Lungs connect both floors.

VISION
4. A NEW HOME - THE DEPARTMENTS

Starting points:

Size departements (persons)

(count 25-02-2020)

- EOS	45	14,2%
- PGM	59	18,7%
- WRS	57	18,0%
- NRS	52	16,5%
- GIP	45	14,2%
- ESA	58	18,4%

Size Clusters

(m² workplaces)

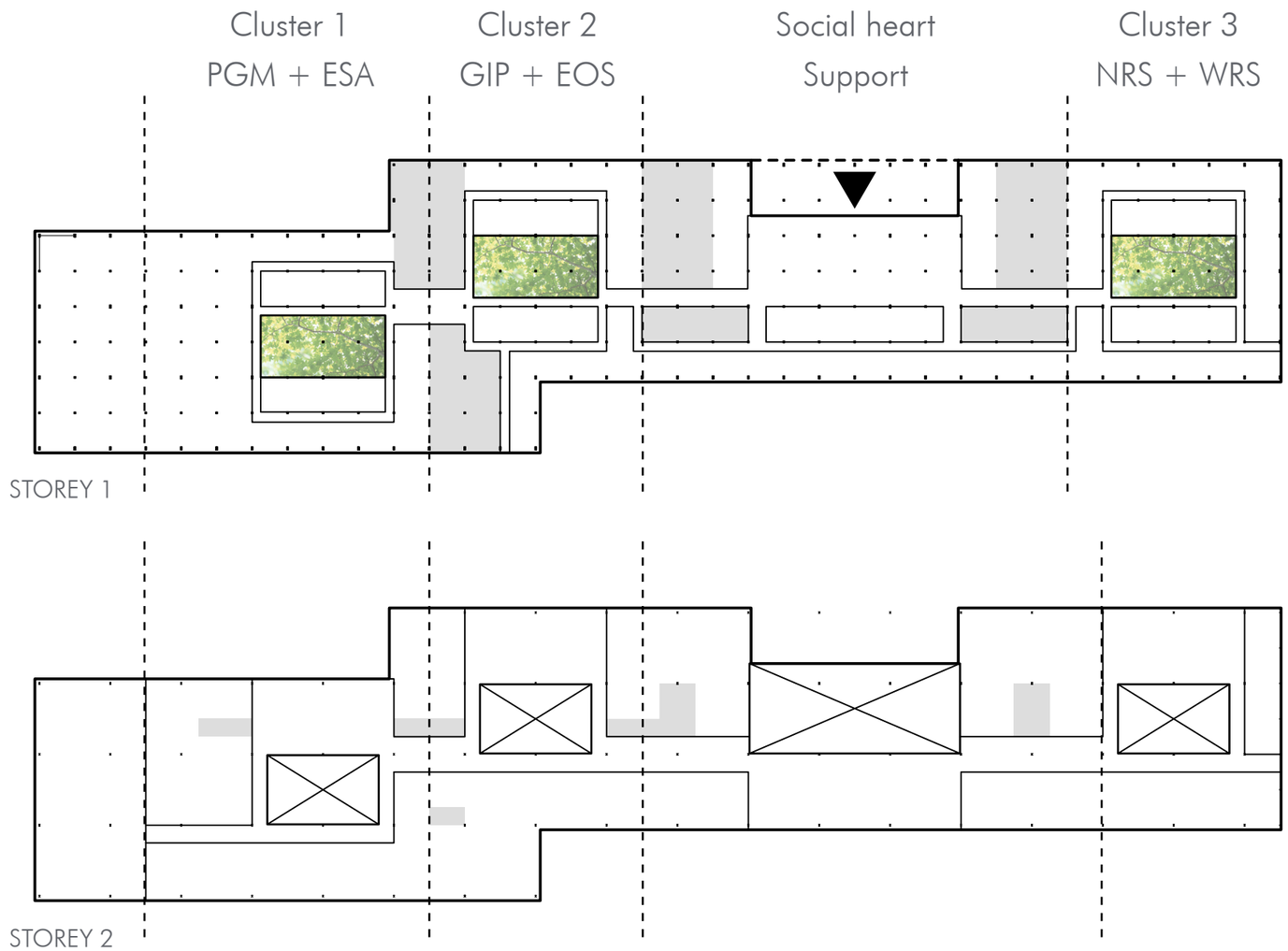
- Cluster 1	42,4%
- Cluster 2	26,7%
- Cluster 3	30,8%

Departements clustered:

PGM + ESA

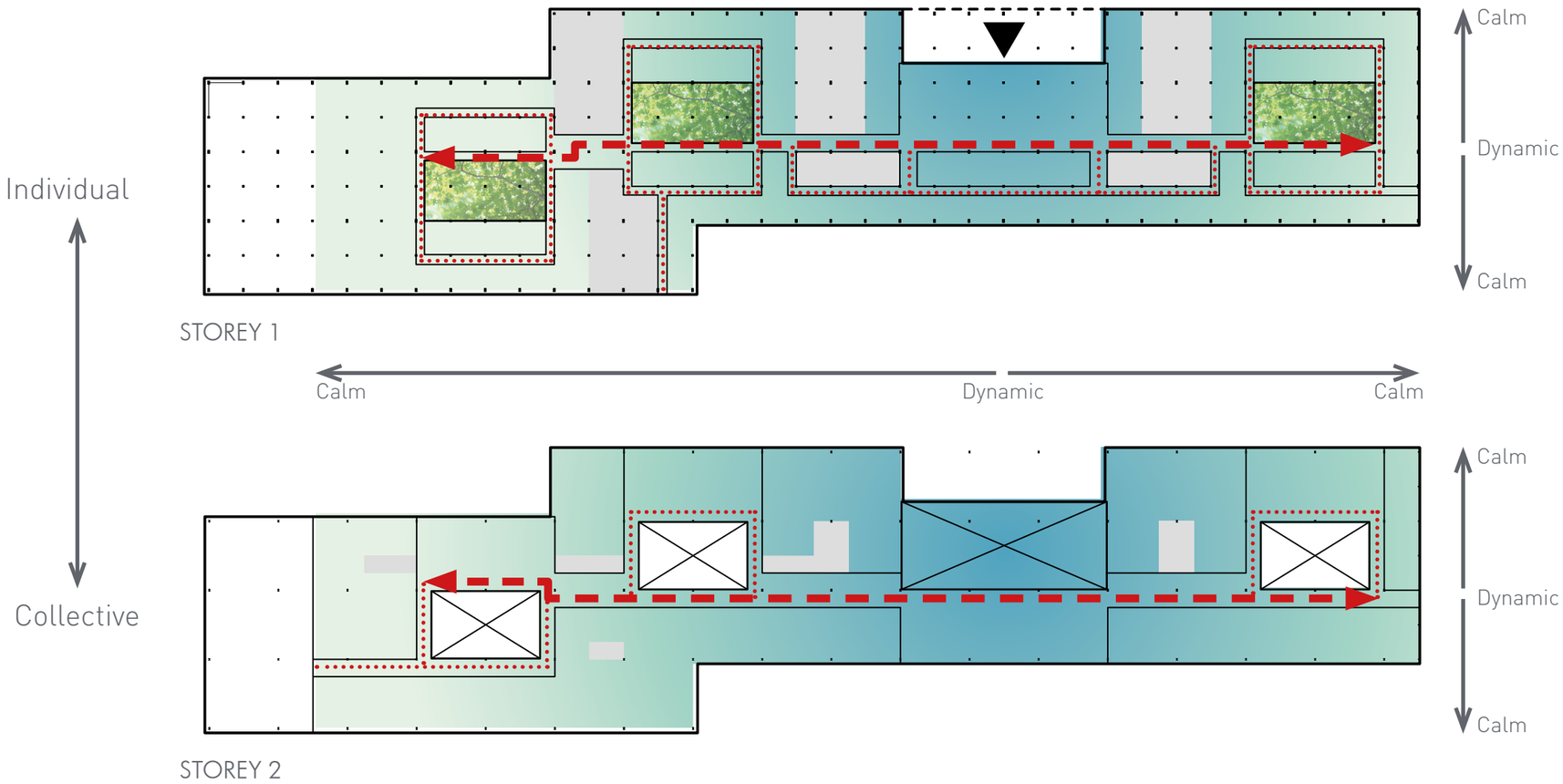
GIP + EOS

NRS + WRS

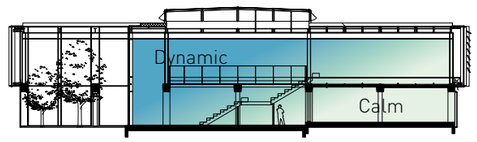


The structure of the building forms a guiding principle for the positioning of the departments. Around every atrium, two departments are clusters, meaning there are three clusters of two departments.
In the workshops, the departments have stated their preferences; PGM and ESA will be in cluster 1, GIP and EOS will share cluster 2, NRS and WRS will be in cluster 3. The workplace concept however has a generic character, meaning the same spatial and functional principles apply throughout the building. This means when the departments would change size in the future, the can flow into the other clusters; making the concept flexible and robust.

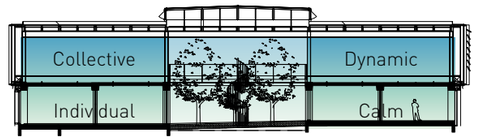
VISION
4. A NEW HOME - CALM AND DYNAMIC



The building offers a nice balance between dynamic and calm atmospheres. The new building will offer open, dynamic spaces to interact. These atmospheres are balanced by spaces where you can withdraw, where there is peace and privacy. We use a three-dimensional coordination system for this: on floor 1 it is more calm than on floor 2. Downstairs the closed 1, 2 and 3-person offices are located while upstairs there is place for more collective functions like education spaces, study landscapes, labs and the restaurant (axis 1). The inner street (the main corridor) that connects all parts of the building is more dynamic, while close to the façade it becomes more and more silent (axis 2). The third axis is the one running from the social heart (dynamic) outwards (calm). Functions that need more quietude, are not located around the social heart.



SECTION ENTRANCE



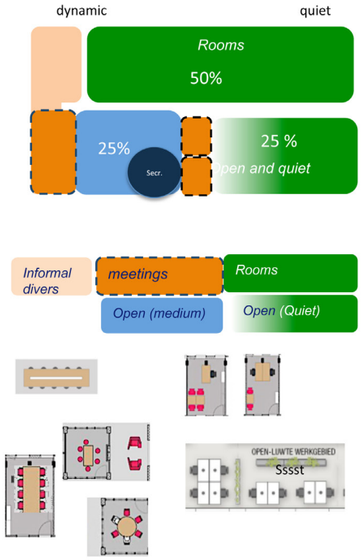
SECTION ATRIUM

VISION
4. A NEW HOME - WORKPLACES

Functie/ruimte	aantal medewerkers	aantal Fte	werkplekoppervlak ruimte oppervlak	totaal oppervlak	Opmerkingen
Entree					
Hal				150	
Services desk (receptie)				40	
Garderobe				10	
BHV				20	
Subtotaal Entree				***220***	
Sociale "hart"					
Restaurant - er wordt onderzocht of er gebruik kan worden gemaakt van het bestaande restaurant in de Gallery				300	Gebaseerd op huidig oppervlak
Keuken, magazijn, opslag – er wordt onderzocht of er gebruik kan worden gemaakt van de bestaande voorzieningen in de Gallery				150	Gebaseerd op huidig oppervlak
Koffiepunt				10	
VIP lounge				50	
Educafé 65 x zelfstudie	65		3	195	
Educafé recreatie				40	
Subtotaal Sociale "hart"				***745***	
Kantoorruimte (peildatum april 2017)					
WBP	116	114	12	1392	éénpersoonskamer
AiO	45	45	7	315	meerpersoonskamer
PhD	57	50	7	350	open werkruimte
ePhD	0	0	7	0	open werkruimte
Gast	27	11	7	77	meerpersoonskamer
Stagiair	2	2	7	14	open werkruimte
OBP	42	30	12	504	éénpersoonskamer
OBP	28	24	7	168	open werkruimte
OBP gedetacheerd	18	16	12	216	éénpersoonskamer
WBP vacature ruimte FTE UHD, UD, Docent	15	12	12	180	éénpersoonskamer
WBP vacature ruimte FTE Hoogleraar	3	3	12	36	éénpersoonskamer
WBP groeiverwachting (conform verhouding basisfinanciering/strafomvang), zijnde 10% van het huidige aantal WP	11	11	12	132	
Subtotaal kantoorruimte	***364***	***318***		***3384***	
Onderwijsruimten					
Lecture hall (150+ pers)				-	Wordt elders voorzien
Studieruimte incl. bibliotheek				190	
Studieruimte incl. bibliotheek 70 x zelfstudie plekken	70		3	210	
Education spaces 5 x 25 studenten	125		4	500	
Education spaces 4 x 50 studenten	200		4	800	
MSc research rooms 17 x 8/10 studenten	153		6	918	
Studievereniging				100	

IDENTITY CONSULT

ACTIVITY BASED ACADEMIC



Description

- Combination of (semi) open workplaces, enclosed meeting ,offices and quiet but open workplaces
- The balance is an example
- **To be shared and used in a flexible way: unassigned**
- **There are as many workplaces as users**
- Clear structure:
  - Dynamic and informal activity near the entrance
  - Quiet and more private work settings more distance en located in a quiet zone
- The relationships between the types of workplaces and environments are based on the proportions of types of activities
- **A smart workplace tool** can support the use and planning of the environment
  -

Profiles

- Scientists
- Secretary
- Guest

- High autonomy and independent behaviour
- Need for concentration and interaction
- Daily fluctuations in work styles and needs
- medium to high mobility

Werkplekconcept ITC

OP BASIS VAN DOCUMENT werkplekken-25022020
D.D. 16-4-2020

Departementen

Afdeling / *Type*	EOS	PGM	WRS	NRS	GIP	ESA	*subtotaal*
WBP	18	26	17	24	20	21	**126**
AiO	5	8	6	6	5	9	**39**
PhD	7	10	13	9	8	13	**60**
ePhD	1	5	7	4	1	2	20
Gast	6	4	6	2	1	7	**26**
Stagiair	1	0	0	0	0	0	**1**
OBP closed	3	2	6	3	4	2	**20**
WBP groeiverwachting	4	4	2	4	6	4	**24**
Totaal	**45**	**59**	**57**	**52**	**45**	**58**	**296**

= ex ePhD

Support

Afdeling	
Travel Agency	3
FEA -FEZ	11
BOOZ (BERS)	13
LISA	2
M&C	4
HM	4
Education	9
Capacity Development	4
Coördinatoren	3
Research	3
Information manager	1
Faculteits bestuur	6
Staff	1
totaal	64

Original
Program of requirement
+
Scenarios workplace concept
Identity Concult
+
recalibration Program
February 2020
=
New
Starting point

Before we started this design process, Identity Consult created several options for the workplace concept based on the original program of requirements. This resulted in three scenarios, ranging from 1 person rooms (scenario 1) to a flexible concept with open and shared offices (scenario 3). The faculty board decided to go with scenario 2; a mix of 1, 2 and larger shared offices because of reasons of efficiency, budget, and flexibility. Later, a recalibration of the program was proposed, with less larger offices and no open offices.
The design is based on the current ITC organization (assessed again in February 2020) plus 10% growth. Staff members will get 2 person offices and the building will get a number of additional 1 person-offices. PhD's and AiO's will work in slight larger shared offices, ranging from 2 tot 8 persons. Additional meeting rooms are added to the building so private meetings can be held there.

VISION
4. A NEW HOME - WORKPLACES

CLUSTER 1

Departement	type	aantal pers.		1p kamer	2p kamer	2p + groei	3p kamer	4p kamer	5p kamer	6p kamer	8p kamer	TOTAAL
	WBP + groeiverwachting	21 + 4		3	5	4						25
	AiO	9									1	8
ESA	PhD	13								1	1	14
	OBP	2			1							2
	Gast	7						2				8
	totaal	**56**										**57**
	WBP + groeiverwachting	26 + 4		2	8	4						30
	AiO	8									1	8
PGM	PhD	10			1						1	10
	OBP	2			1							2
	Gast	4			2							4
	totaal	**54**										**54**

CLUSTER 2

Departement	type	aantal pers.		1p kamer	2p kamer	2p + groei	3p kamer	4p kamer	5p kamer	6p kamer	8p kamer	TOTAAL
	WBP + groeiverwachting	18 + 4		2	4	4						22
	AiO	5			1						1	10
EOS	PhD	7									1	8
	OBP	3						1				4
	Gast	6			1		1					5
	totaal	**43**										**49**
	WBP + groeiverwachting	20 + 6		2	3	6						26
	AiO	5										0
GIP	PhD	8									1	8
	OBP	4						1				4
	Gast	1			1							2
	totaal	**44**										**40**

CLUSTER 3

Departement	type	aantal pers.		1p kamer	2p kamer	2p + groei	3p kamer	4p kamer	5p kamer	6p kamer	8p kamer	TOTAAL
	WBP + groeiverwachting	24 + 4		2	8	4						30
	AiO	6			1			1				6
NRS	PhD	9							1		1	13
	OBP	3						1				4
	Gast	2			1							2
	totaal	**43**										**55**
	WBP + groeiverwachting	17 + 2		3	5	2						19
	AiO	6			3							6
WRS	PhD	13					1	2		1		17
	OBP	6			1			1				6
	Gast	6			1			1				6
	totaal	**50**										**54**

High lights meetings

- ☑ - alternative clustering departments
- ☑ - check amount of fte's
- ☑ - staff, max of 2 people per office
- ☑ - no open work places for staff
- ☑ - use msc. workrooms for additional offices
- ☑ - try to add a few flexibel 1-person offices
- ☑ - try to give phd'ers closed offices as well
- ☑ - we prefer office space for meeting space
- ☑ - do not sacrifice education space for office space
- ☑ - optimize the learning & study space for more office space
- ☑ - acoustics are of the essence

Numbers

pve

297 scientific

64 support

plan

307 scientific **(+11)**

68 support **(+4)**

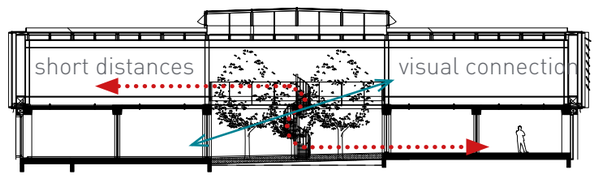
+ 39 extra meeting rooms **(120** places**)**

inc. **18 1-person** offices

In the meetings and workshops on the topic of the workplace concept, some crucial attention points were added. As a result, in consultation with ITC and UT, the program for the building was changed a bit: The msc. Study spaces were combined into open study landscapes (1.), the amount of office space was increasing by trimming down some of the meeting space (2.), the learning and study center was optimized by making full use of multifunctional spaces (3.). More importantly, we optimized the design, by making the corridors smaller and the atria bigger so more daylight can enter the building, enabling more space. For offices. With these interventions, we managed to create 15 extra workplaces than the program required, plus 39 extra meeting rooms – equaling 120 chairs. The optimization also resulted in 18 1-person offices.

VISION
4. A NEW HOME - WORKPLACES

Every cluster has its own facilities, like printer, storage, coffee and meeting facilities on the ground floor and an open pantry on the second floor. While on the first floor all the office spaces are small, 1, 2 person offices. On the second floor the spaces are bigger on average. All the offices look out at green – either outside or in the interior atrium. A spiral staircase connects the stories and maximizes the walking distance in every cluster to 40 meters.

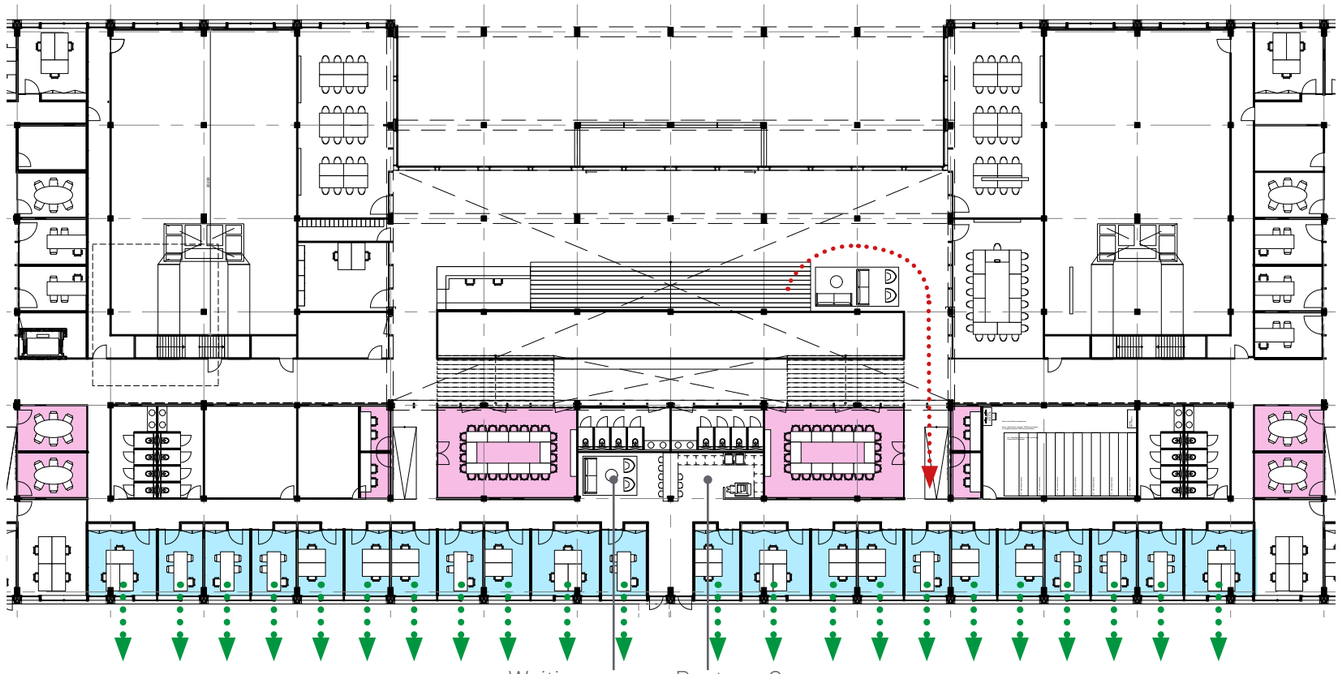


SECTION ATRIUM

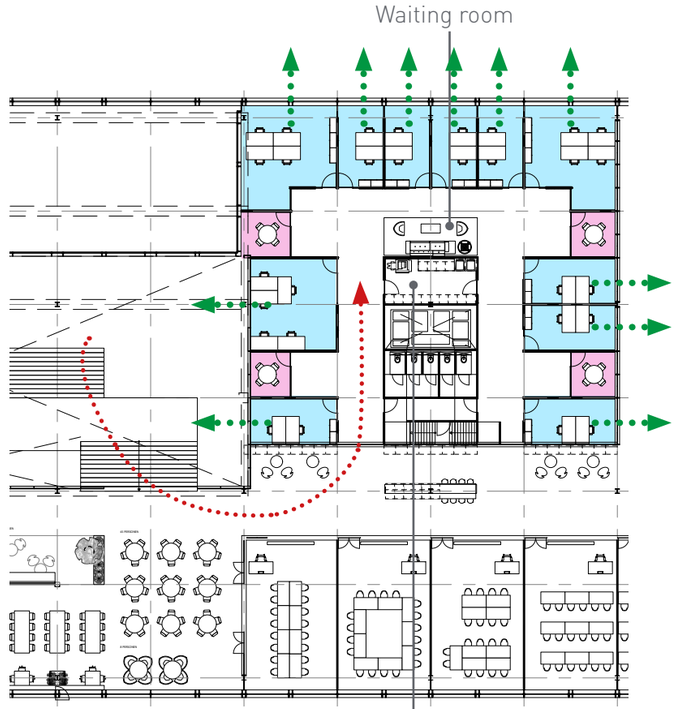
Offices
Education
Meeting
Labs

Daylight and green

VISION
4. A NEW HOME - WORKPLACES



STOREY 1



STOREY 2

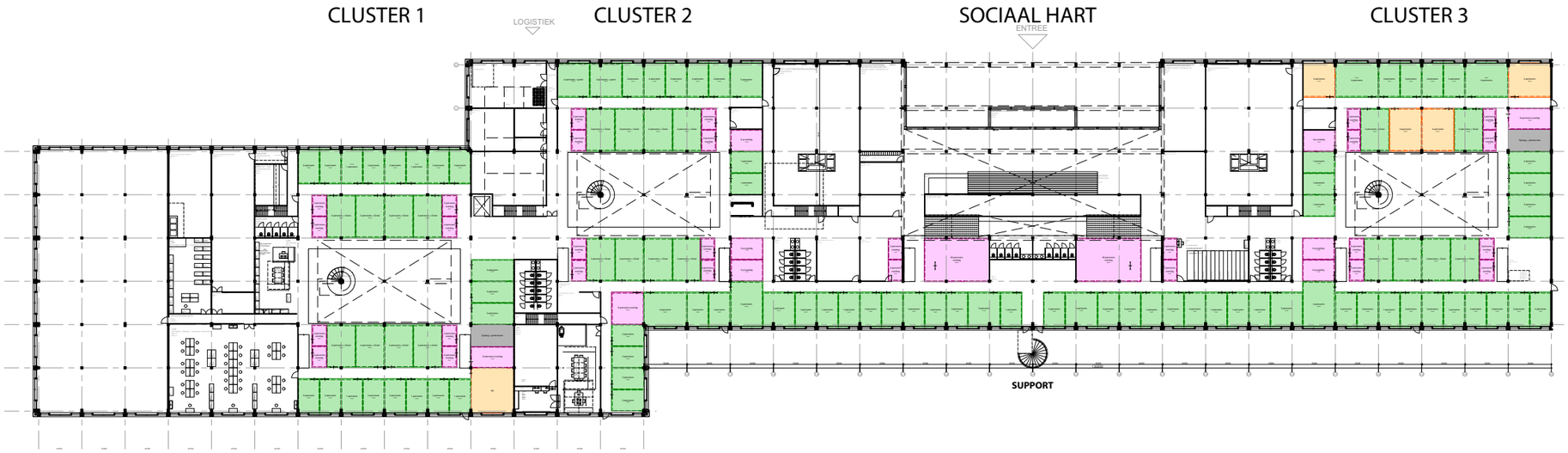
The support department will be located around the social heart. Close to the entrance and central in relation to the scientific departments. The workplaces are divided in two zones: one on the first floor behind the central staircase at the entrance, the second one along the main internal street on the second floor. Connected by the main staircase the remain close to each other. The spaces on the ground floor are separated from the main axis by meetings rooms an storage spaces, making the quit and peaceful. The offices on the second floor are also closed off from the internal street. The offices are surrounded by diversity of facilities, like meeting and waiting spaces.

Offices

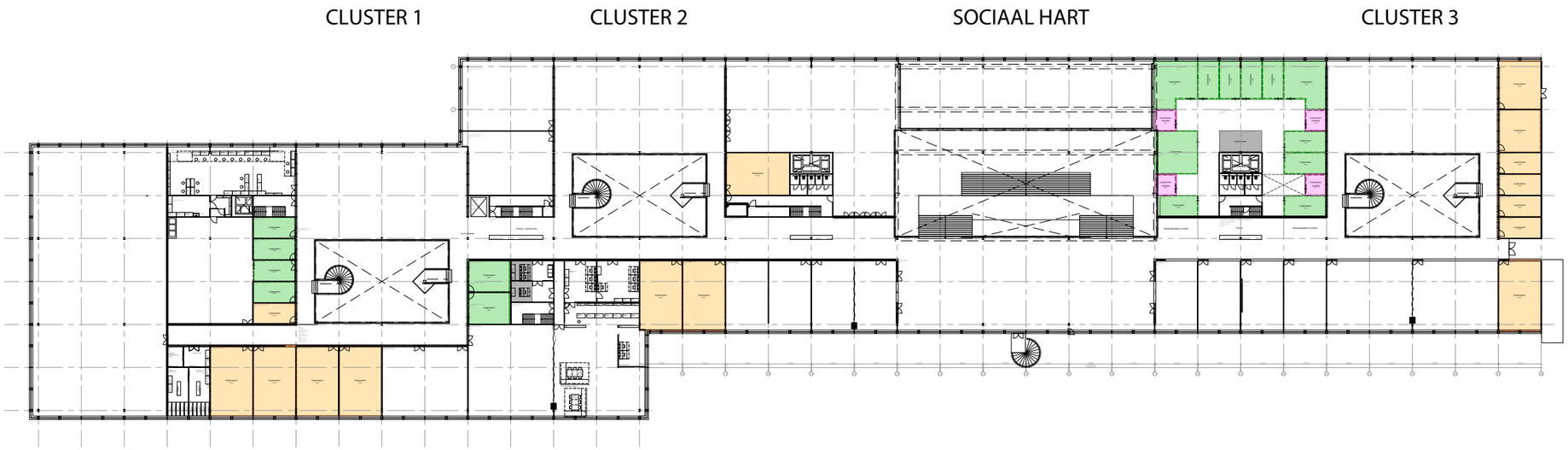
Meeting

Daylight and green

VISION
4. A NEW HOME - WORKPLACES



FLOORPLAN - floor 1
1:250



FLOORPLAN - floor 2
1:250

CLUSTER 1

Departementen:	PGM	ESA	totaal	Getekend
STAFF (incl. growth)	30	25	55	55
PhD / AiO	18	22	40	40
Support	2	2	4	4
Guest	4	7	11	12
totaal	54	56	110	111

Extra:
- 2p overlegruimte 8 stuks
- 8p overlegruimte 1 stuks

CLUSTER 2

Departementen:	GIP	EOS	totaal	Getekend
STAFF (incl. growth)	26	22	48	48
PhD / AiO	13	12	25	24
Support	4	3	7	8
Guest	1	6	7	7
totaal	44	43	87	87

Extra:
- 2p overlegruimte 8 stuks
- 6p overlegruimte 1 stuks
- 8p overlegruimte 1 stuks

CLUSTER 3

Departementen:	WRS	NRS	totaal	Getekend
STAFF (incl. growth)	19	28	47	49
PhD / AiO	19	15	34	42
Support	6	3	9	10
Guest	6	2	8	8
totaal	50	48	98	109

Extra:
- 2p overlegruimte 8 stuks
- 6p overlegruimte 1 stuks
- 8p overlegruimte 1 stuks

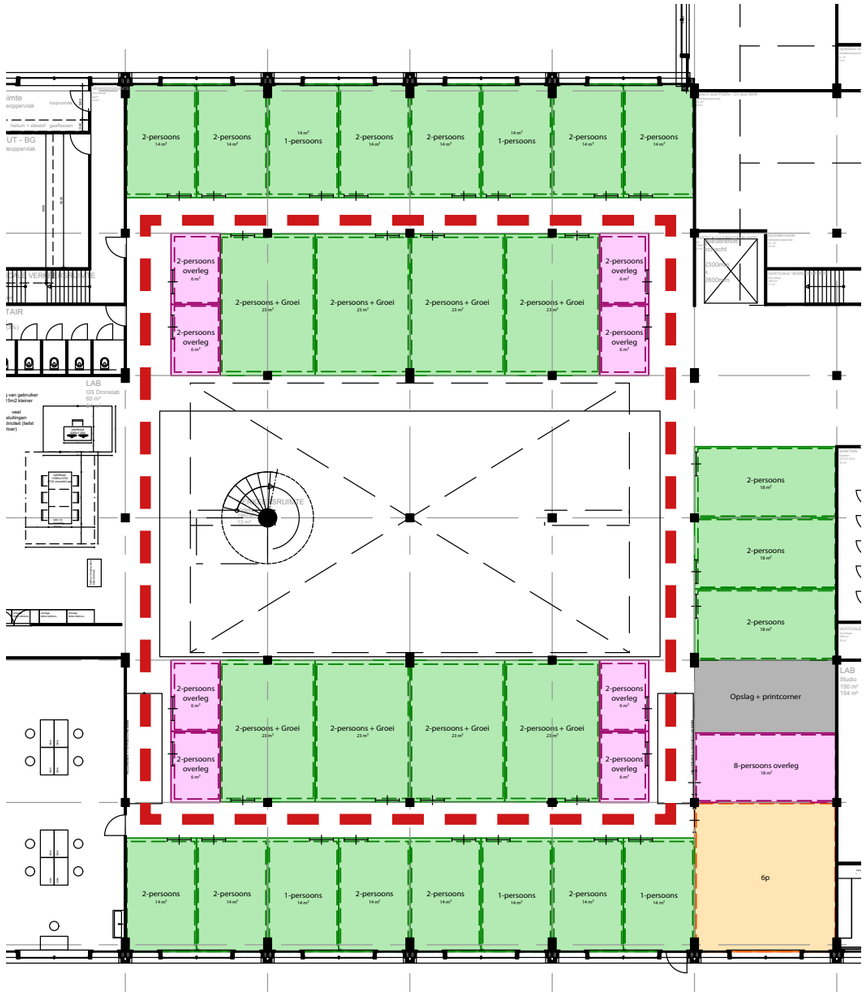
CLUSTER SUPPORT

Afdeling	aantal	Getekend	
BOOZ (BERS)	13	14	
Capacity Development	4	4	
Coördinatoren	3	3	
Education	9	9	
Faculteits bestuur	6	6	
FEA - FEZ	11	11	
HR	4	4	
Information manager	1	2	
LISA	2	0	(geen vaste werkplek)
M&C	4	4	
Research	3	3	
Staff	1	1	
Travel Agency	3	3	
totaal	64	64	

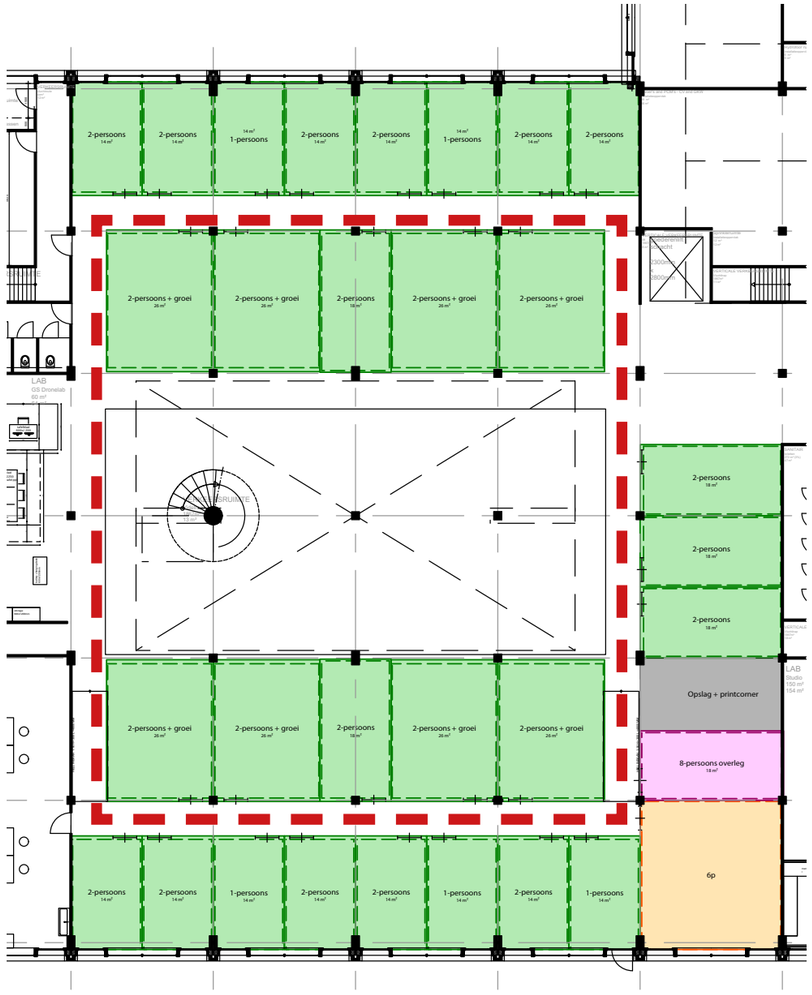
Extra:

- 1p werkplek	4 stuks	vloer 1	
- 2p overlegruimte	4 stuks	vloer 1	
- 6p overlegruimte	2 stuks	vloer 1	
- 4p overlegruimte	4 stuks	vloer 2	

VISION
4. A NEW HOME - WORKPLACES - OPTIONS



OPTION 1



OPTION 2

Within the workplace concept, we see another option to increase the amount of office spaces, by switching 4 smaller meeting rooms to 1 additional 2-person office space. This is possible on both sides of every atrium, so in total 2 sides times 3 atria equals 6 2-person offices equals 12 additional workplaces.

CLUSTER 1

Departementen:	PGM	ESA	totaal	Getekend
STAFF (incl. growth)	30	25	55	55
PhD / AiO	18	22	40	40
Support	2	2	4	4
Guest	4	7	11	12
totaal	54	56	110	111

Extra:

- 2p werkplek		2 stuks (4wp)
- 8p overlegruimte		1 stuks

CLUSTER 2

Departementen:	GIP	EOS	totaal	Getekend
STAFF (incl. growth)	26	22	48	48
PhD / AiO	13	12	25	24
Support	4	3	7	8
Guest	1	6	7	7
totaal	44	43	87	87

Extra:

- 2p werkplek		2 stuks (4wp)
- 6p overlegrumte		1 stuks
- 8p overlegruimte		1 stuks

CLUSTER 3

Departementen:	WRS	NRS	totaal	Getekend
STAFF (incl. growth)	19	28	47	49
PhD / AiO	19	15	34	42
Support	6	3	9	10
Guest	6	2	8	8
totaal	50	48	98	109

Extra:

- 2p werkplek		2 stuks (4wp)
- 6p overlegruimte		1 stuks
- 8p overlegruimte		1 stuks

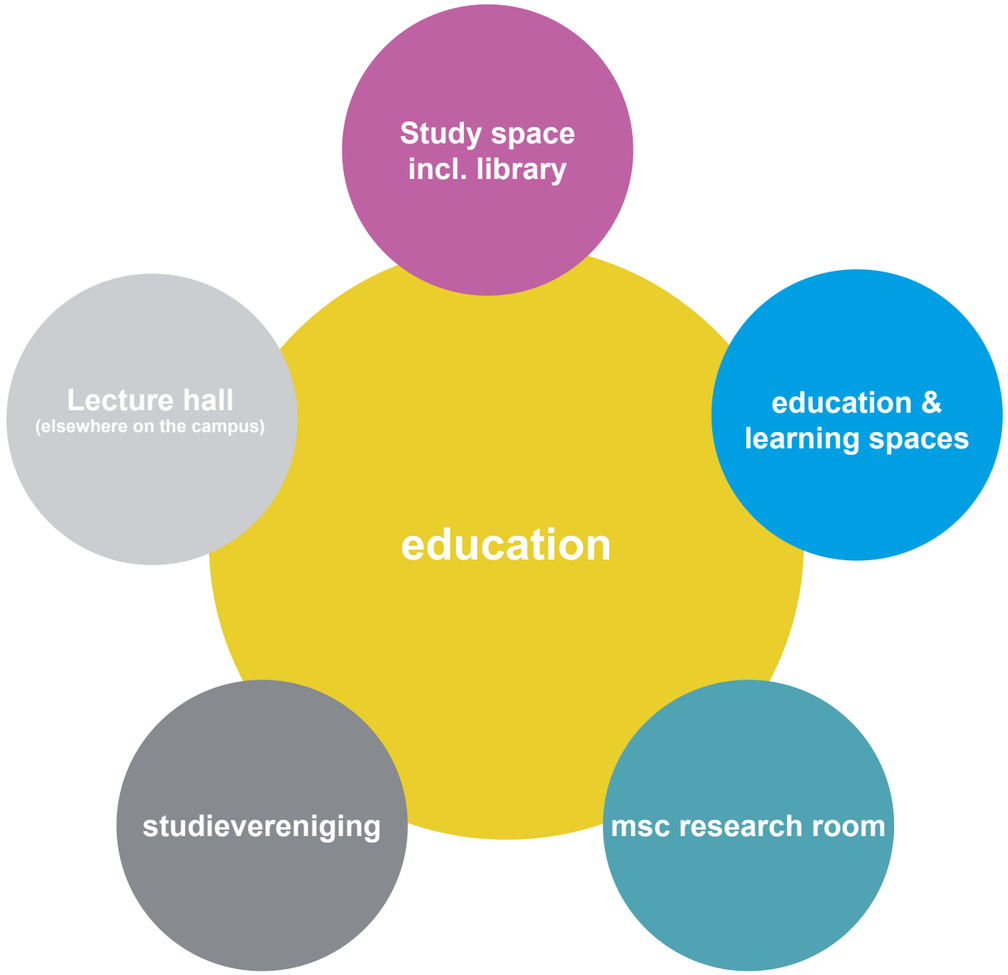
CLUSTER SUPPORT

Afdeling	aantal	Getekend	
BOOZ (BERS)	13	14	
Capacity Development	4	4	
Coördinatoren	3	3	
Education	9	9	
Faculteits bestuur	6	6	
FEA - FEZ	11	11	
HR	4	4	
Information manager	1	2	
LISA	2	0	(geen vaste werkplek)
M&C	4	4	
Research	3	3	
Staff	1	1	
Travel Agency	3	3	
totaal	64	64	

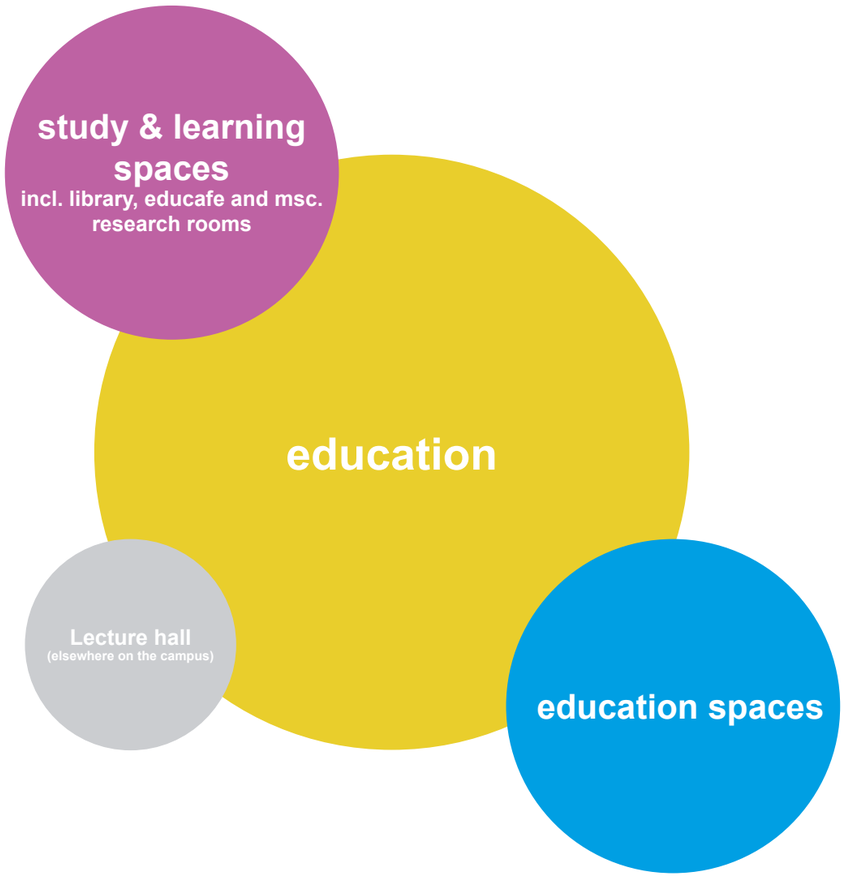
Extra:

- 1p werkplek		4 stuks	vloer 1
- 2p overlegruimte		4 stuks	vloer 1
- 6p overlegruimte		2 stuks	vloer 1
- 4p overlegruimte		4 stuks	vloer 2

VISION
4. A NEW HOME - EDUCATION SPACES



ORIGINAL PROGRAM

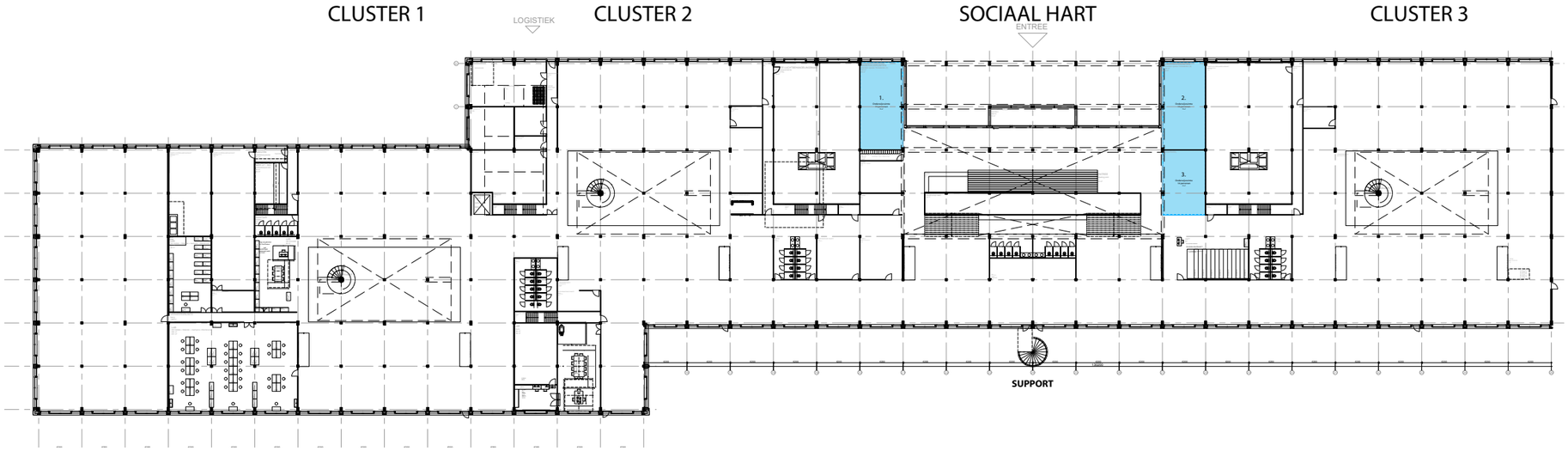


UPDATE PROGRAM

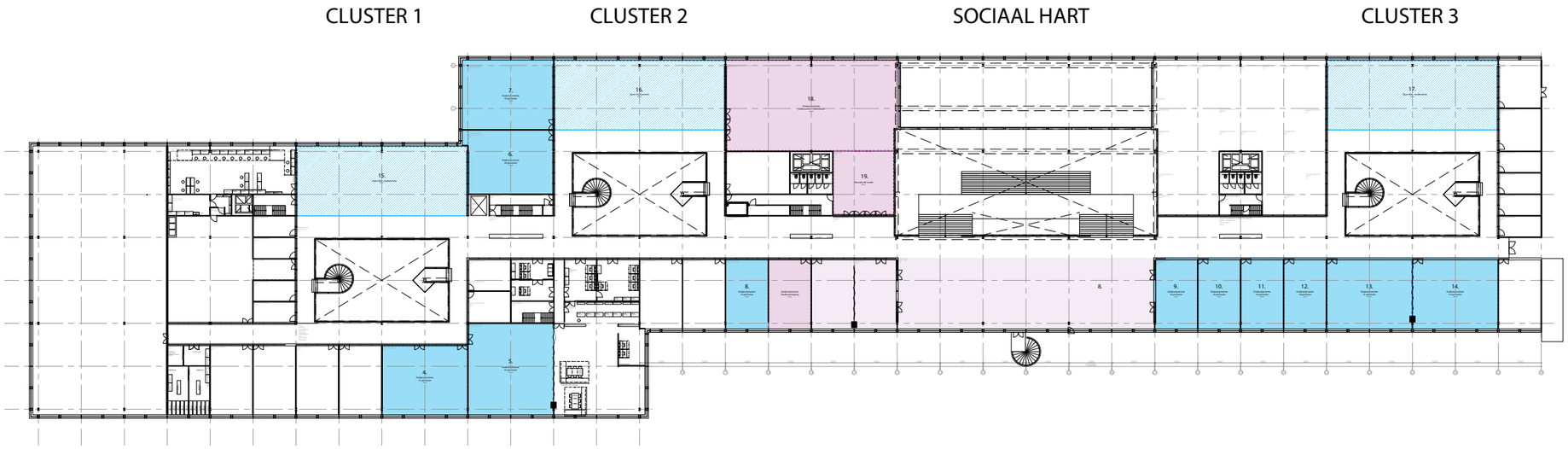
For the education spaces, interaction is key: the interaction between students, staff, and researchers, between the different types of spaces in the building. A second important thing is the diversity of education spaces that are needed to facilitate modern education. This typology of education spaces has been updated during the design process. We now differentiate between two main categories of education spaces:
- the general education spaces/ classrooms: we are creating 13 classrooms with a wide variety of sizes and specifications, flexibly connectable to each other.
- the study and learning spaces, including what was once called the library. This category also includes the 'studievereniging' and the 'educafe' but also the msc. research rooms.
- the lecture hall is still elsewhere on the campus, we did create a flexible space that can be used for informal lectures and presentations.

We use these categories to check that indeed all the necessary spaces are in the building, in practice the borders between the categories will be fluid. We have put a lot of effort in stimulating the interaction between the spaces. Also, the usage of the spaces can change and/or be used in a hybrid manner: a classroom can be used as a project space, you can study in the restaurant, read a book in one of the study landscapes. How the spaces will be used can be further researched in the next phase.

VISION
4. A NEW HOME - EDUCATION SPACES



FLOORPLAN - floor 1
1:250



FLOORPLAN - floor 2
1:250

EDUCATION SPACES

ONDERWIJSRUIMTES

	Verdieping	m²	aantal personen
Onderwijsruimte 1	Floor 1	78	19
Onderwijsruimte 2	Floor 1	78	19
Onderwijsruimte 3 / vergaderruimte	Floor 1	56	14
Onderwijsruimte 4	Floor 2	122	31
Onderwijsruimte 5	Floor 2	161	41
Onderwijsruimte 6	Floor 2	114	29
Onderwijsruimte 7	Floor 2	131	33
Onderwijsruimte 8	Floor 2	61	16
Onderwijsruimte 9	Floor 2	61	16
Onderwijsruimte 10	Floor 2	61	16
Onderwijsruimte 11	Floor 2	61	16
Onderwijsruimte 12	Floor 2	61	16
Onderwijsruimte 13	Floor 2	122	31
Onderwijsruimte 14	Floor 2	122	31
totaal		1290 m²	328 personen

STUDIERUIMTES

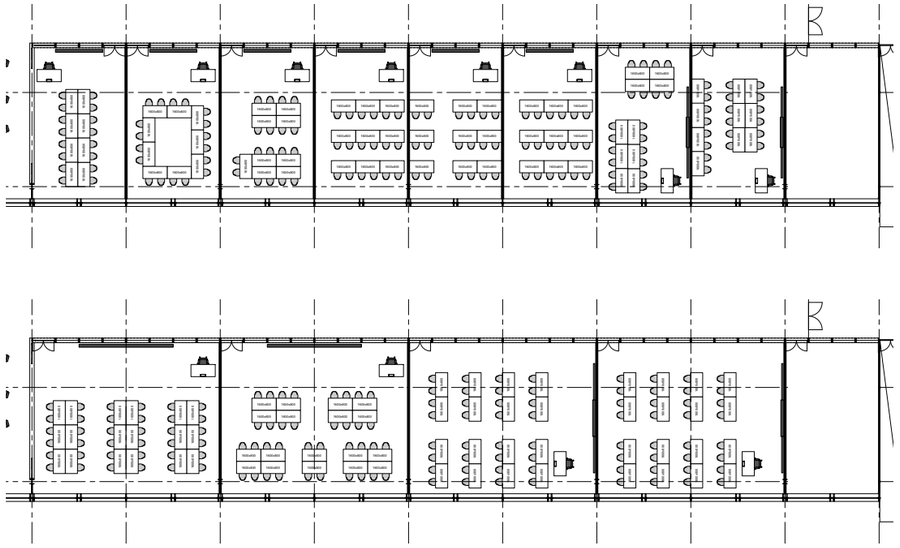
Open Msc. studieruimte 15	Floor 2	287	60
Open studieruimte - Learning & study	Floor 2	287	60
Open Msc. studieruimte	Floor 2	287	60
Studieruimte 16 (incl bibliotheek)	Floor 2	318	56
StudieruimteVIP + Educafe +studiever.	Floor 2	181	31
totaal		1360 m²	267 personen

This overview shows the location of the different spaces within the building. The education spaces are concentrated on the second floor, because this floor is higher (4,4m) and has a structure with bigger spans (12,4m) making it suitable for the education spaces.
Within the plan, the spaces have been spread through the building, stimulating interaction between education and research and between the different clusters. At the same time, the spaces are clustered, so flexibele connections between the different spaces are possible.

- The cluster of 5 classrooms that can be connected and divided in many ways
- The learning & study space cluster, where the restaurant flows into the educafe, through the closed study spaces (the former library) in to the open study spaces
- The lab cluster, where education spaces can be connected to the decision rooms
- Two landscape education chambers, where you are surrounded by green.
- The multifunctional meeting rooms and a small surplus of office spaces that can be used for one on one education.
- The wide entrance stairs can be used for informal presentations and lectures.

The building functions as an education landscape with a wide variety of study, learning and education spaces that can be used flexibly and both formally and informally.

VISION
4. A NEW HOME - EDUCATION SPACES

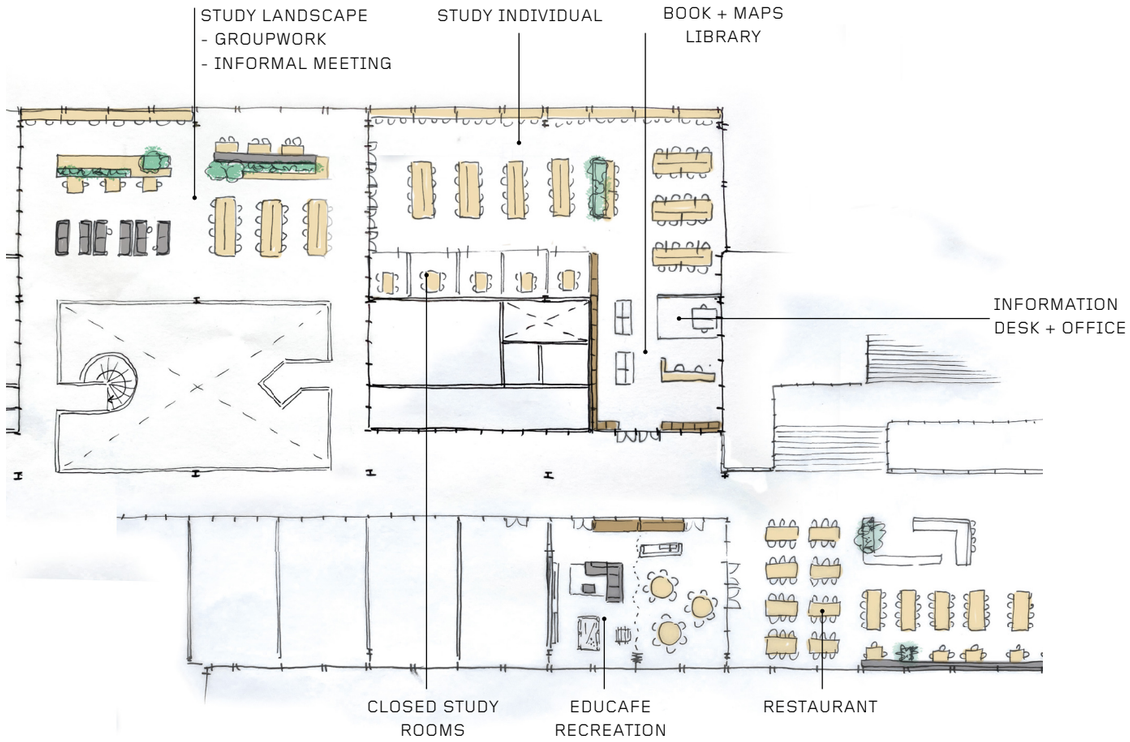


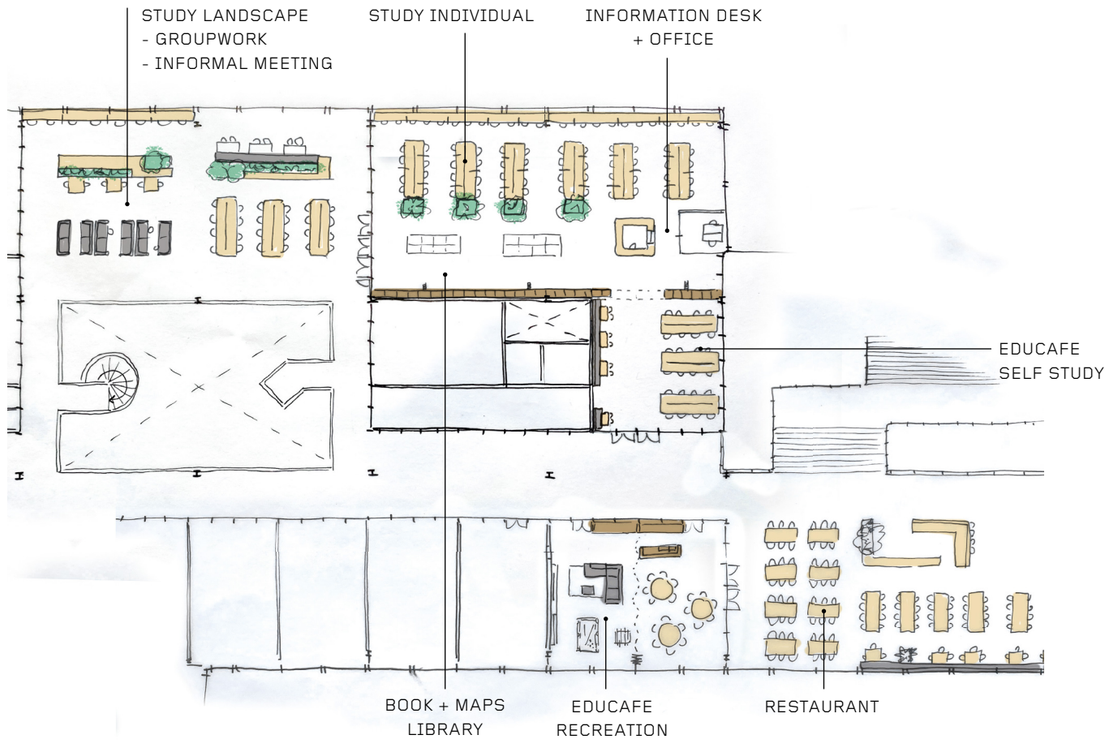
In the cluster of classrooms, the clustering enables a multitude of options. The basis is the 122m2 classroom, suitable for at least 30 persons based on a 4m2 per person factor. The classroom is usable parallel to the facade but also perpendicular. The 61m2 is also usable in 2 directions.

The classrooms have abundant daylight because of the large glass facade, the solar screens on the outside in combination with the movable translucent screens on the inside. They make sure the space always has a nice temperature and glare is eliminated. This also ensures the layouts perpendicular to the facade work well. Every classroom has an openable facade panel so fresh air can come in.
its not financially and acoustically feasible to have flexible walls everywhere. In the next phase (TO), we can define where we want flexible and where we want permanent walls. Permanent is relative in this context: the structure and the installation concept of the building enables easy transformation of the building: we just move a wall and the installation system arranges itself.

VISION

4. A NEW HOME - EDUCATION SPACES, LEARNING AND STUDY



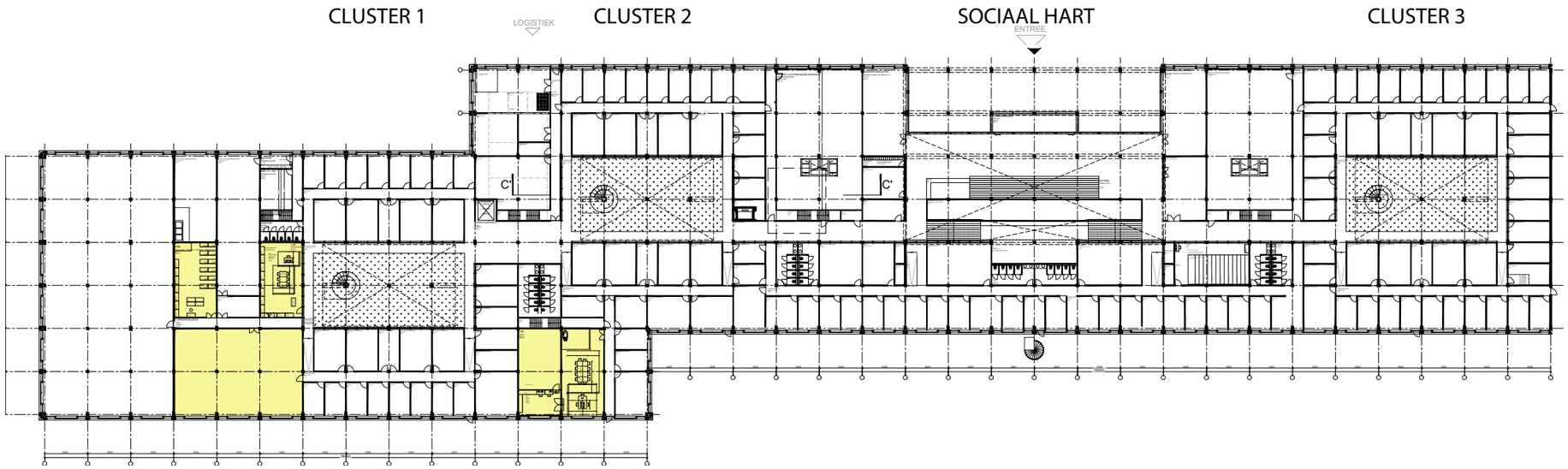


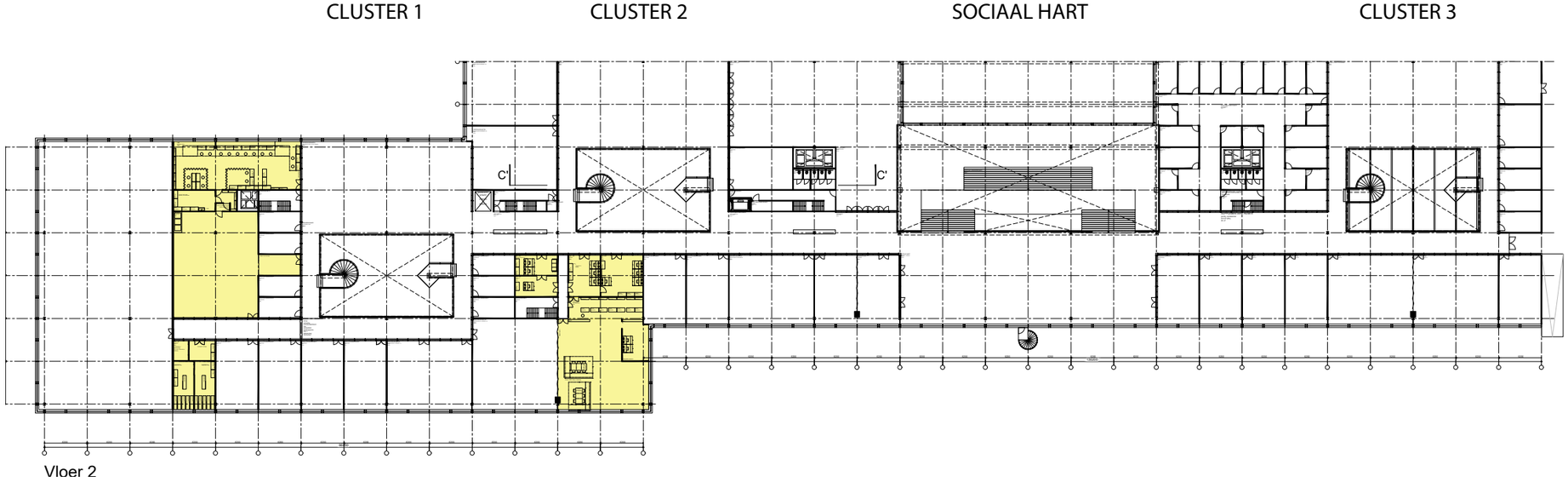
The study and learning cluster is a pivoting point in the plan, linking the social heart with the scientific clusters. Instead of creating a library – that was mentioned in the original program of requirements - that houses a diversity of spaces, the whole learning and study cluster is designed as one cluster. It forms an inspiring environment to study, learn, read, listen, study and meet. It contains a gradient from active, dynamic (restaurant) to quit and enclosed (research information desk) to more open but calm (study spaces) with in between steps.

The plan with the big spaces and the large spans enables flexibility, different set ups are possible. The layouts shown here make full use of the open and longitudinal character of the enclosed part. Is has books along the wall and a front desk in the middle of the space. You can look outside towards the green in all directions.

It is also possible to have the information desk more as welcoming point next to the corridor, and individual study spaces along the walls.

VISION
4. A NEW HOME - LABS





LABS

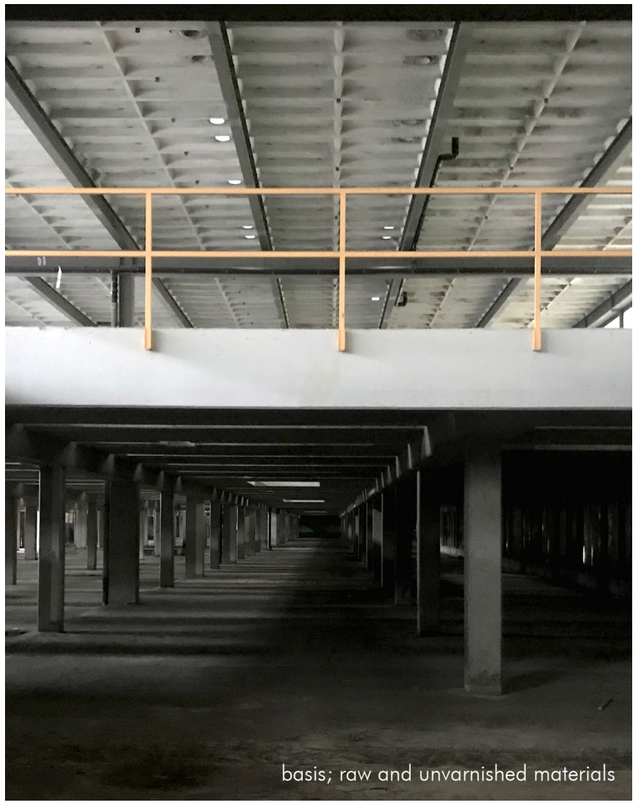
	Verdieping	m²
RSG	Floor 2	37
GEONET	Floor 2	27
Greenroom	Floor 2	60
Decisionroom	Floor 2	172
Computerlab	Floor 2	32
Studio	Floor 1	154
Geoscience Chem	Floor 2	205
Geoscience Veldlab	Floor 1	286
Geoscience Waterlab	Floor 1	
Geoscience Geofysica	Floor 1	
Maintenance	Floor 1	
Geoscience Dronelab	Floor 2	64
Geoscience Spectroscopy	Floor 2	155
Usability	Floor 2	18
Geovisual Analytics Lab	Floor 2	18
		m²
totaal		1256

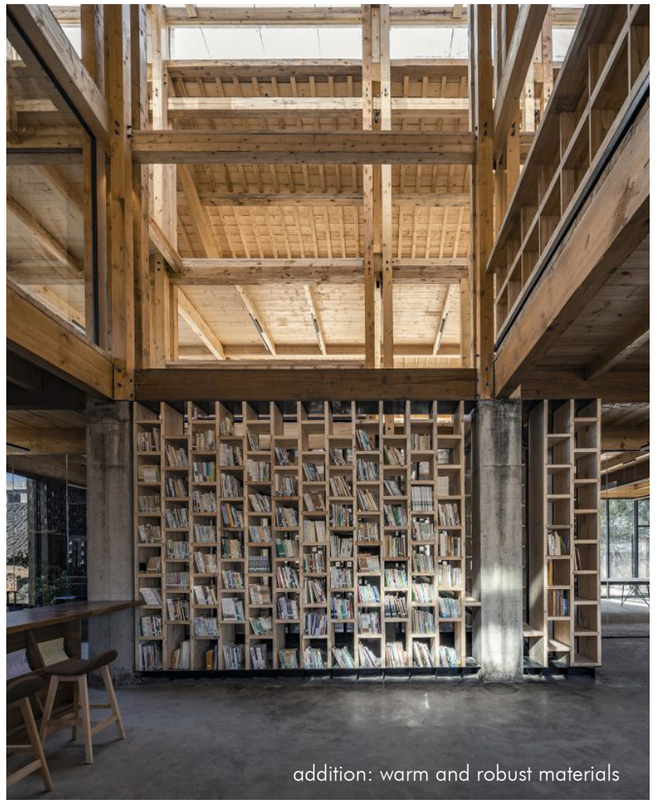
For the labs we had a similar intense workshop period. All the labs have been placed in line with the requirements. The more public one is located in cluster 2, along the main internal street.

VISION
4. A NEW HOME - INTERIOR VISION


second floor


first floor


basis; raw and unvarnished materials


addition: warm and robust materials

One building, two worlds.

On the first floor, the concrete structure defines the space, there's a column every 6,2 meters and the concrete ceiling is relatively low. The second floor has a very different feel, the steel structure with columns every 12,4m and the glass façade make it an open and light floor.

The both share their clear, rational structure and rhythm. With materials stacked on top of each other.

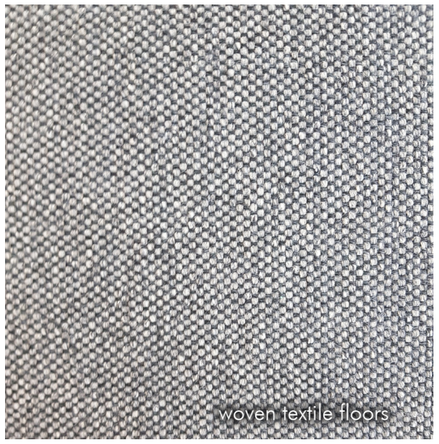
VISION
4. A NEW HOME - INTERIOR VISION

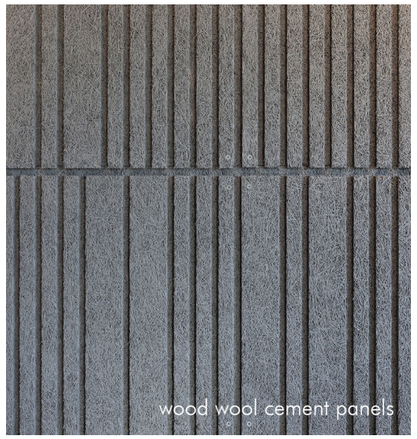

oak

wall of wooden lath's


brass


coated steel


woven textile floors


wood wool cement panels


concrete cement


concrete

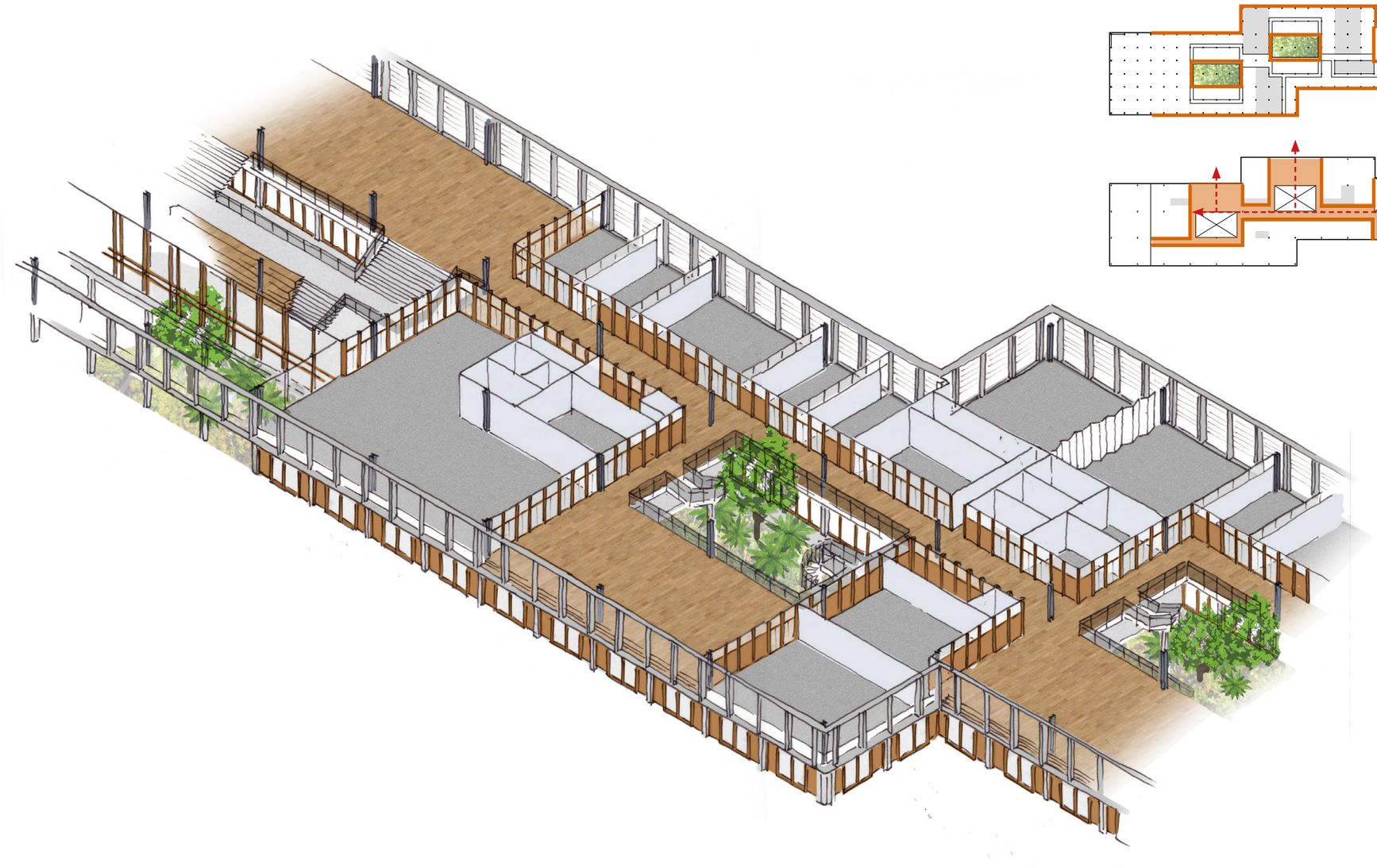

addition: warm and robust materials

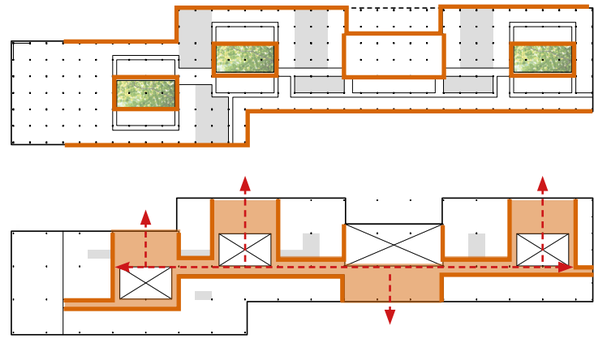

Green atria

The interior design and choices of materials also plays an important role in creating a feeling of home. In DO we further developed the concept that we created together with ITC. The interior is going to be open, light and transparent. The raw concrete and steel structure remain visible. Beams and columns run straight through the atria, like modern ruins. We use them to connect new stairs, plants grow over them. It provides the building with a unique character.

Within this robust basis, wood offers a warm en human touch to the material palet. We use textile and acoustical materials to improve the acoustics and green, connecting the two stories. New elements conform to the architectural logic of 'sticks and beams'. The materials are rough, the details refined and sharp. The first floor gets a cement finish, the second floor gets a wooden floor around the atria, while the closed spaces will have a woven textile floor. The inner window frames will be made from wood and coated steel. We use furniture and art / signing to add accents and convey the identity of ITC.

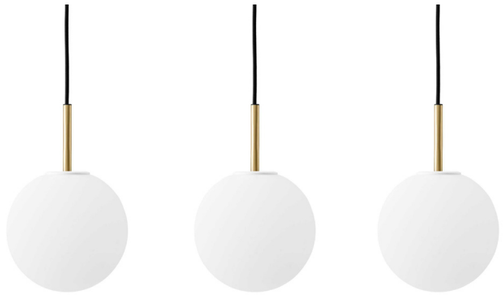
VISION
4. A NEW HOME - INTERIOR VISION





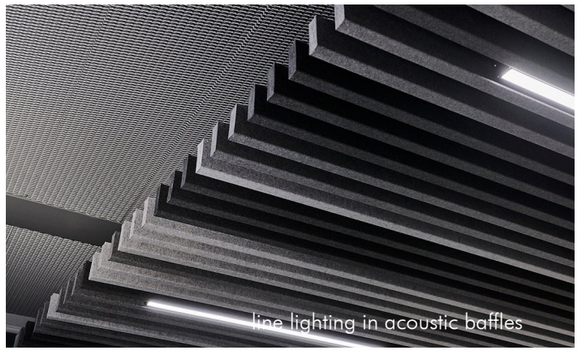
The wooden floors and window frames around the atria and main internal street strengthen the collective character of the second floor and the connection between the departments. Depending on the function behind the wooden window frames, we apply closed or glass infills.

VISION
4. A NEW HOME - LIGHT

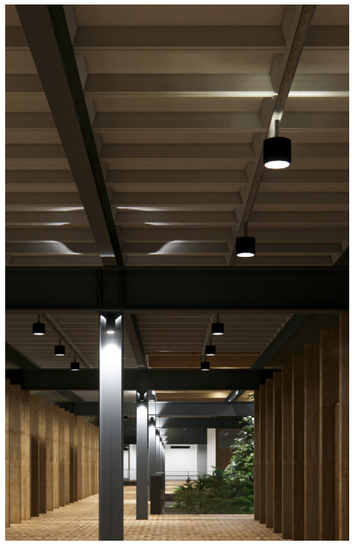


sphere laps meeting places pantries

linear suspended fixtures for offices



line lighting in acoustic baffles



spots in the ceiling and on the ground

opbouw downlight

up-downlight spots

integrated lighting in tables at the study landscapes

Lighting is essential for a nice interior. We can emphasize the right places and assure the right light levels. We propose to work with a nuanced approach. An even light level everywhere flattens out the entire building. By playing with light fixtures, light color and levels we create a sense of place and can articulate the quality of the building.
In the offices we will work with suspended light fixtures, to assure optimal working conditions. These suspended fixtures shine both down- and upwards, hence they also light up the beautiful ceiling. They are linear and therefore emphasize the linear direction of the building.

At the open study landscapes, we create accents with lights integrated into tables and larger standing lamps. The education rooms will get suspended fixtures as well. Where necessary we will apply acoustical baffles, containing linear light fixtures. In the meeting spaces we want to apply atmospheric lighting.

In the atria we have roof lights. In darker days and in the evening, we will light up the atria from both the floor and the ceiling. We want to integrate these in the ceiling structure.

VISION

4. A NEW HOME - IDENTITY AND ART

ABSTRACT AERIAL PHOTO'S

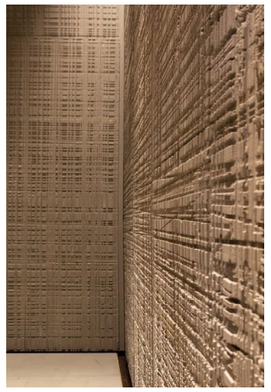
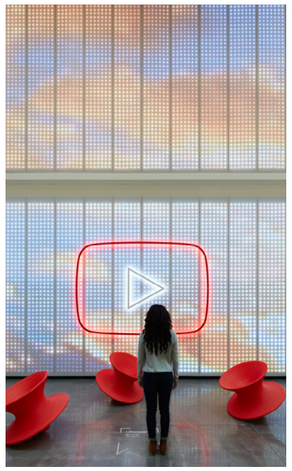
We want to integrate the identity of ITC in the building by using stories/narratives and images of ITC. Subtle, but impactful.

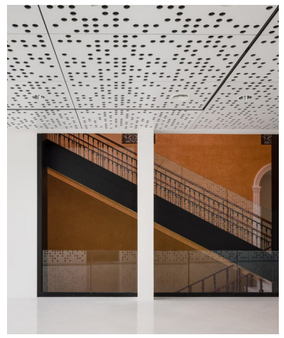
With impact, we mean bigger narratives; achievements from the students or researchers can have a permanent place in the building, for instance with an abstract map integrated in an acoustical panel, or a text in the ceiling. The development of running projects can be shown with digital means of LED with adaptable content.

A collection of art and maps can be projected on a wall. Through the GeodataWarehouse we have a large amount of images and maps. We want to select certain ones: Images that look like abstract art, reveal to be aerial photos when you look closer, showing the stories behind ITC.

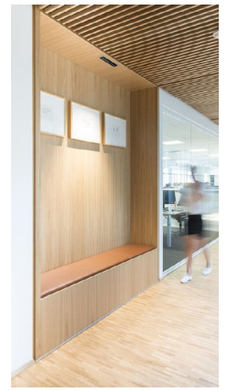
VISION
4. A NEW HOME - IDENTITY AND ART

IMPACT

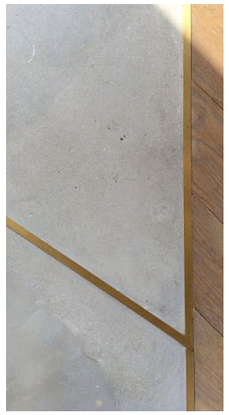




SUBTLE







The large existing art collection is thoroughly documented. It will (partly) move to the new building, where we will exhibit a selection. Either impactful or subtle. Subtle; with a recognizable text that surprises you, extraordinary art or other items that are placed in a book cabinet with regular scientific books.

The signing and wayfinding will be integrated in the architecture, with materials fitting the interior design. Where possible we will make the signing acoustically absorbent.

COLOFON

june 2020
this DO is a coproduction of

Parcel 1
Civic architects
Donauweg 10
1043 AJ Amsterdam
www.civicarchitects.eu

VDNDP
Piet Heinstraat 12
7511 JE Enschede
www.vdndp.nl

Studio Groen+Schild
Zuiderzeestraat 3
7411 MC Denver
www.studiogroenenschild.nl

Parcel 2
Valstar Simonis
Kieler Bocht 5
9723 JA Groningen
www.valstar-simonis.nl

Parcel 3
Arup
Naritaweg 118
10432 CA Amsterdam
www.arup.com

Client
Universiteit Twente

User
ITC