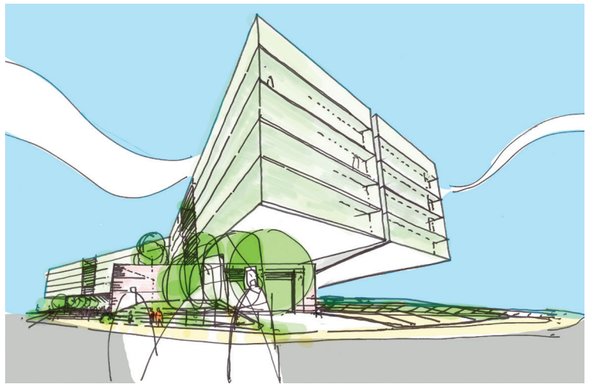

GARANTİ BANKASI
PENDİK KAMPÜSÜ
GARANTI BANK
PENDIK CAMPUS




PENDORYA
METRO

GARANTI BBVA BANK TECHNOLOGY CAMPUS

Location
Pendik, İstanbul

Concept Design
Ali Hızıroğlu, ERA Architects

Architectural Project
Ertun Hızıroğlu, ERA Architects

Interior Design
Midek Mingü

Site Area
53,000 sqm

Total Construction Area
142,000 sqm

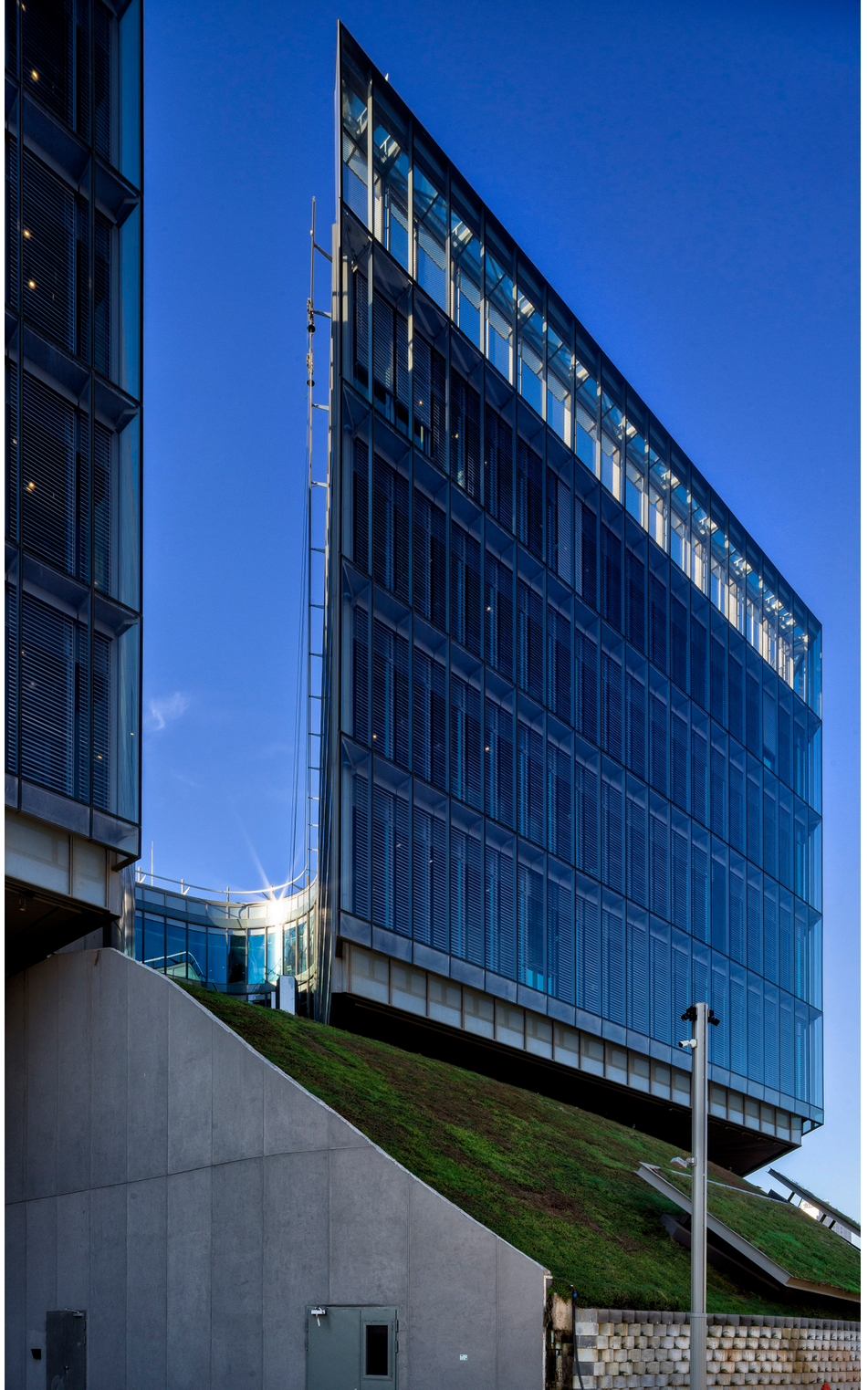
Located between major highways of Istanbul, D-100 and TEM, in the proximity of Sabiha Gökçen Airport in Pendik, Istanbul, the project transforms an old industrial chemical factory land into a technology company campus for one of the most dynamic Turkish banks.

Inspired by the natural topography around the site and the desire of creating a clear contrast to the surroundings' unorganized urban fabric; a crystal volume as the main working environment is lying gently over several artificial hills sheltering various functions such as two 600 and 200 seats auditoriums, educational meeting spaces, cafeterias, lounges on bridges, data center and many other functions. With approximately 142000 sqm total built area and 51000sqm site are, the campus programme is configured into three major sections: a 53,500 sqm open offices, a 16,000 sqm auditorium, educational spaces and cafeterias, a 72,500 sqm for parking, a Tier 4 data centeThe buildings' main structure is a flat slab concrete system at the offices and exposed frame structure at the lower levels. Along the outer skin, office spaces have been freed out of columns by 4.5 to 11m deep cantilevers. All four office levels are similar. r, a sport center, common spaces, archives and service areas.

The horizontal floating volume connects the two plots of the site by the introduction of hanged bridges and glazed screen walls over 30 meters spans.

The widest cantilevering areas are supported by large composite beams placed on the roof. The four levels office block stands partially on a transfer structure to enable the widespan volume for the auditorium located within one of the hills.

Flexibility and maximizing the daylight being one of the major criteria for the working spaces, the accessibility to the office spaces has been organized through a set of elevated open courtyards where the users circulate and also have the ability to rest and socialize at lounges placed on bridges allowing many surprising views and vistas.
The transparency is used to integrate the working spaces with the city, allowing the users to interact and to create different experiences throughout the year.
A strong contrast awaits the user as the elevated horizontal crystal has a sharp and decisive cantilevered appearance from outside reflecting the sky, the landscape and the city yet the inner main axis structured with rather by voids.
The user circulates through the outdoor ground levels following a path which undulates like a creek between the artificial hills. As with the ground outdoor levels, the elevated volume has been designed to allow an experience of journey for the every day user. Ponds are designed to enhance the cooling effect on the outdoors as well as on the glazed facades to reduce the temparature gain during hot seasons.



Garanti BBVA Bank Technology Campus was designed by Era Architecture as a Technology Campus for more than 4000 employees over 53,000 square meters land on the connection road between E5 motorway and TEM highway in Pendik.

A mixed structural system was used in Garanti Technology Campus Project. In fact, the factor determining the structure system was the form of the building. The presence of 9 and 7-meter large consoles at both ends of the building and the fact that the column axles are located 5.5 meters behind the façade are some of the important features of this form.

Underneath of block-A, there is an auditorium of 600 people with 65 meters and 35 meters spans respectively at both directions. This volume which is transformed into transfer structure has been solved with reinforced concrete system.

The system consisting of two basic blocks is decomposed into parts, so that it look as if there were 5 blocks in the plan. These five different blocks are connected to each other with steel bridges. With the use of steel structure system, delicate structural sections were obtained.

Air Conditioning with air was used for heating and cooling of spaces.

Ultra-clear glass was preferred for the façade designed as a double facade. In order for the structure to give the impression of a single mass from the outside, the façades between the two blocks were designed as continuous facade crossing the void. One of these facades is 32 m and the other is 28 m long and positioned 11 m above the ground level. It might be one of Europe's largest and perhaps the world's largest facade system passing such void.

Artificial hills created on the ground were solved by reinforced concrete system.

During the construction process on site, an advanced truck washing system was set up to minimize the impact to the environment, and this system was subsequently presented as a prototype by Pendik municipality to be used at the large scaled constructions.

More than 3000 convectors were used in the heating-cooling system of the campus where more than 4000 employees will work. These convectors placed on the floor in front of the glass facade, so that a more flexible layout were achieved and also floor heights were reduced.

In the campus where VAV (Variable Air Volume) type air conditioning system is adopted, with more than 1000 VAV outlets, approximately 1.2 million m3 per hour cool and fresh air is provided to the interior volumes. For the first time in Turkey, electrostatic filters were used in air-conditioning plants in a building of this scale. While 80 Air-Conditioning plants and 14 megawatts 9 cooling groups were used for cooling of the building, for the heating purpose, 6 boilers were installed running with natural gas produces 11.5 megawatts of heat.

A rainwater reservoir of 1250 tons In block-A of campus, and a rainwater reservoir of 800 tons in Block-B were installed, and rainwater collected at these reservoirs will be filtered and conveyed to the toilet reservoirs. With the use of this recycling system, the expenses of the Campus consuming 300 tons of water per day, has been reduced as much as possible.

A Helipad which is resistant to 14 tons of dynamical load was built on the roof where Skorsky type helicopters could land.

Electrical Systems

Complex systems that can work redundantly in case of possible interruptions in the Campus where communication with bank branches and ATMs in Turkey will be conducted, were integrated into the building architecture.

In 3 energy centers on campus, there are 6 nr of 2500kVA dry transformers, 6 nr of 1600 kVA generators, and, in two energy centers within Data Center, there are 4 nr of 2500kVA dry transformers and 4 nr. of 2500kVA generators.

Lighting Systems

DALI-based lighting automation system has been installed throughout campus, and drivers of the lighting fixtures have been selected with DALI features.

Communication Infrastructure

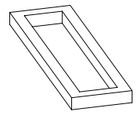
IP phones and computers can be operated via common data line with the use of IP phones throughout campus. Fo-fiber optical cables were used in the infrastructure of telephone, IT and Security Systems.

Automation and Security System Infrastructure

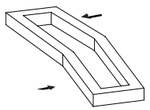
At the campus, a fire alarm system with interactive address and digital emergency alarm system was installed, using 9000 nr. of fire alarm system equipment and 2900 nr of emergency alarm system equipment.


MANZARA
ADALAR

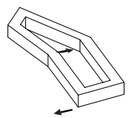

Garanti BBVA Bank
Head Office
D-100
D-80
45 km
32km
Garanti BBVA Bank
Technology Campus
O-5



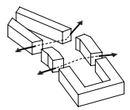
Ring Structure



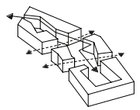
Site Adaptation



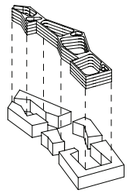
Site Adaptation



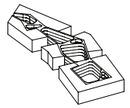
Deformation



Reduction



Circulation

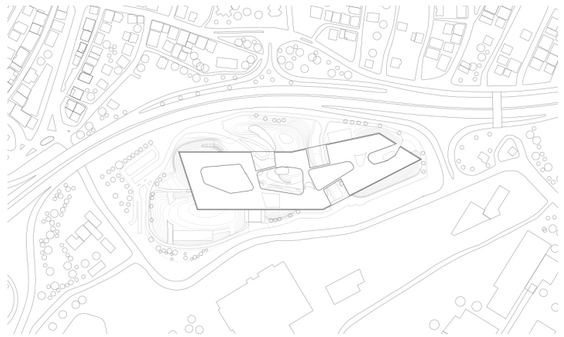


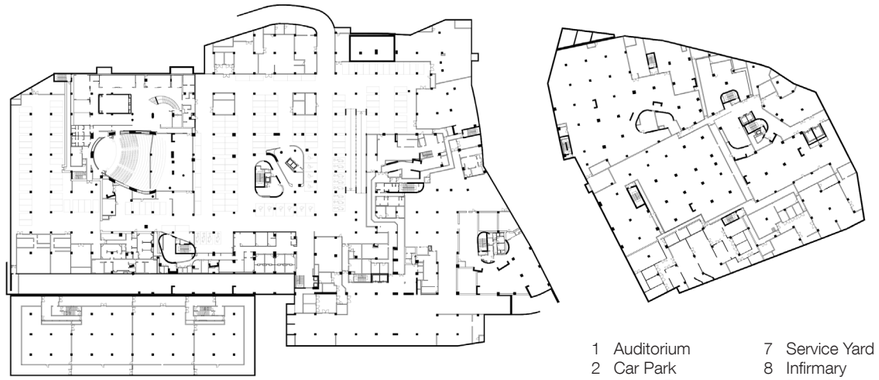
Inner Circulation

The building implements the sustainability principles overall from single and double skin facade systems with dynamic sun shading integrated with lighting, to special heating & cooling systems providing the inner spaces with hundred percent fresh air. The facades have been designed as unitized systems allowing the high quality in terms of heat and acoustic insulation as the site is surrounded by highways with heavy traffic.

During the initial stages of design when the site has been acquired, the old chemical factory has been removed. The soil has been checked further for contamination. The remainings has been dismantled into several different categories and has been sent for recycling and certified. The existing pine trees from the old factory has been kept and few displaced into newer locations within the site. The rain water harvesting is used for the landscape mainly. The green hills were obtained by a system of cables embedded into the sedum surface from top to bottom of the artificial hills. It is one of the largest green roof system applications in Turkey. The campus has received Leed Gold certificate.

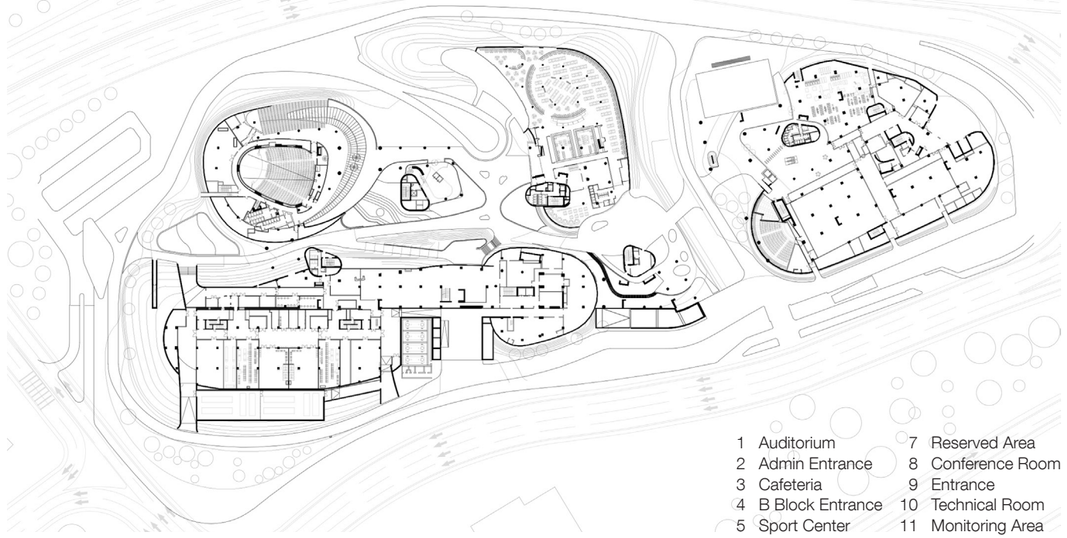
Site Plan





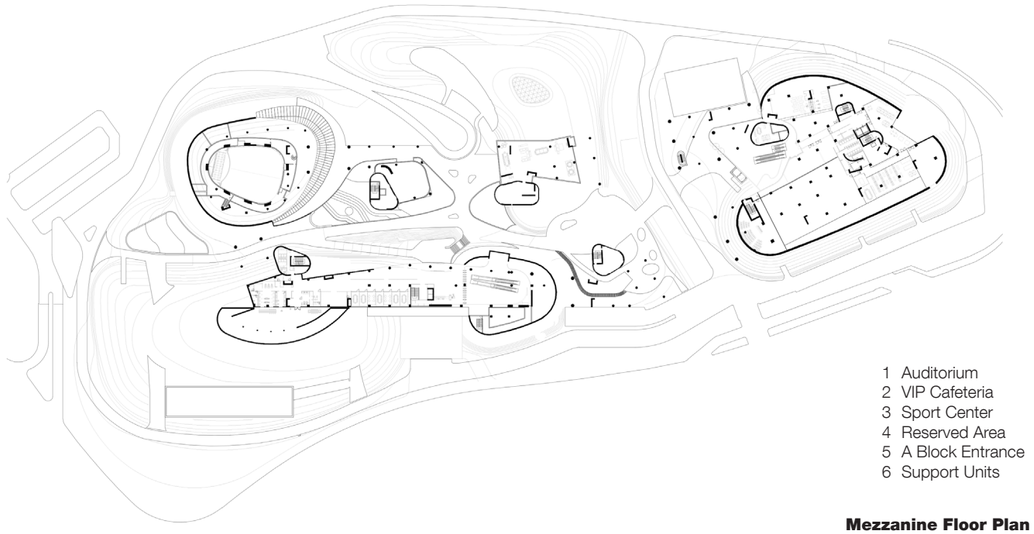
1 Auditorium
2 Car Park
3 Admin Entrance
4 Technical Rooms
5 Service Area
6 Cash Operation
7 Service Yard
8 Infirmary
9 Data Center
10 Storage
11 Storage Office
12 Print Shop

1st Basement Floor Plan



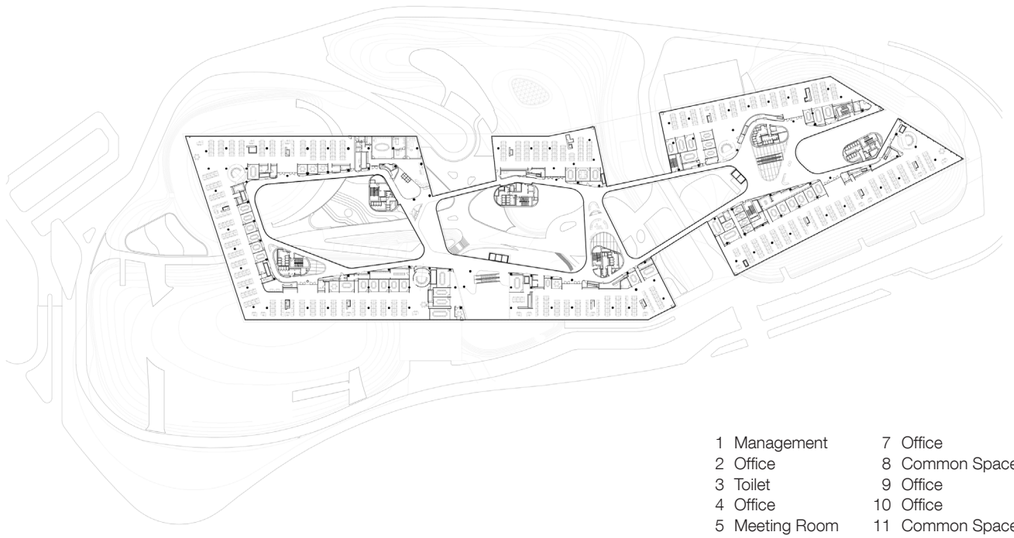
1 Auditorium
2 Admin Entrance
3 Cafeteria
4 B Block Entrance
5 Sport Center
6 Technical Room
7 Reserved Area
8 Conference Room
9 Entrance
10 Technical Room
11 Monitoring Area
12 Data Center

Ground Floor Plan



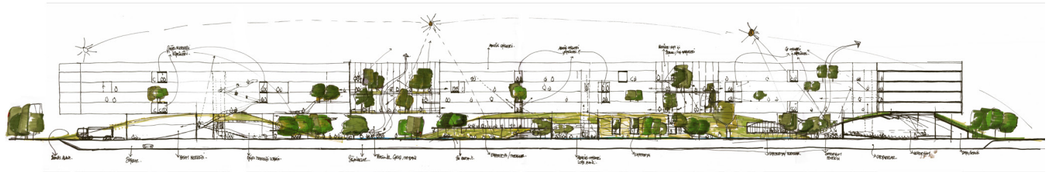
1 Auditorium
2 VIP Cafeteria
3 Sport Center
4 Reserved Area
5 A Block Entrance
6 Support Units

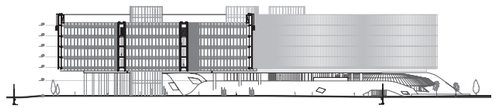
Mezzanine Floor Plan

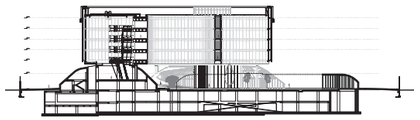


1 Management
2 Office
3 Toilet
4 Office
5 Meeting Room
6 Common Space
7 Office
8 Common Space
9 Office
10 Office
11 Common Space
12 Toilet

Typical Office Floor Plan (4th Floor Plan)








RECYCLED MATERIALS
DOUBLE FACADES
AIR QUALITY
COOLING
INTERIOR
26
23
37
17
22
GREENERY

Sections

2018