Cultural Center of EU Space Technologies

Figure 1_ Cultural Center of EU Space Technologies _© https://www.world-architects.com/es/projects/view/cultural-center-of-eu-space-technologies-ksevt-space-habitable-wheel

Introduction

The Cultural Center of European Space Technologies (KSEVT) is a unique and remarkable example of innovative architectural design located in Vitanje, Slovenia. The structure was designed by a collaborative effort of Slovenian firms, including OFIS Arhitekti, Bevk Perovic Arhitekti, Dekleva Gregoric Arhitekti, and Sadar Vuga Arhitekti, taking inspiration from the concept proposed by rocket engineer Herman Potočnik Noordung in 1929.

The building's interlocking rings create a continuous ramped structure, resembling a habitable wheel-shaped space station. The upper part of the building houses a research area, while the lower parts offer exhibition spaces, a multi-purpose hall, and an auditorium.

The architects' collaborative approach and special functional program make the KSEVT an exceptional architectural feat, standing out as a remarkable example of modern design. Instead of competing, the architects decided to work together when investors invited them to collaborate in a domestic competition, resulting in a stunning cultural and technology center.

1- By: Vedika Adukia

Concept

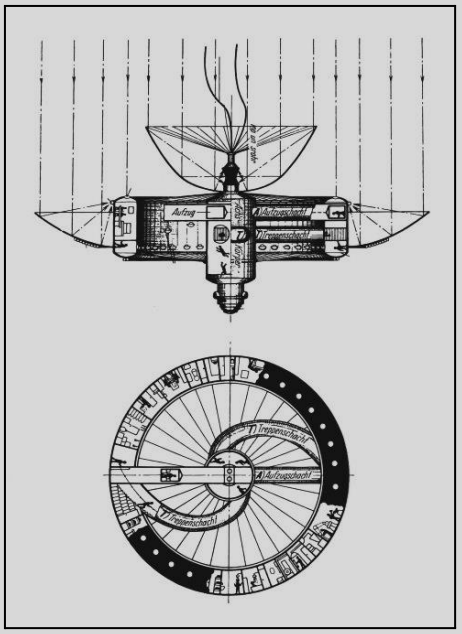

Figure 2_ WHEEL HOUSING DESIGNED BY NOORDUNG IN 1929_© https://www.dezeen.com/2011/01/09/cultural-center-of-european-space-technologies-by-ofis-bevk-perovic-dekleva-gregoric-and-sadar-vuga/

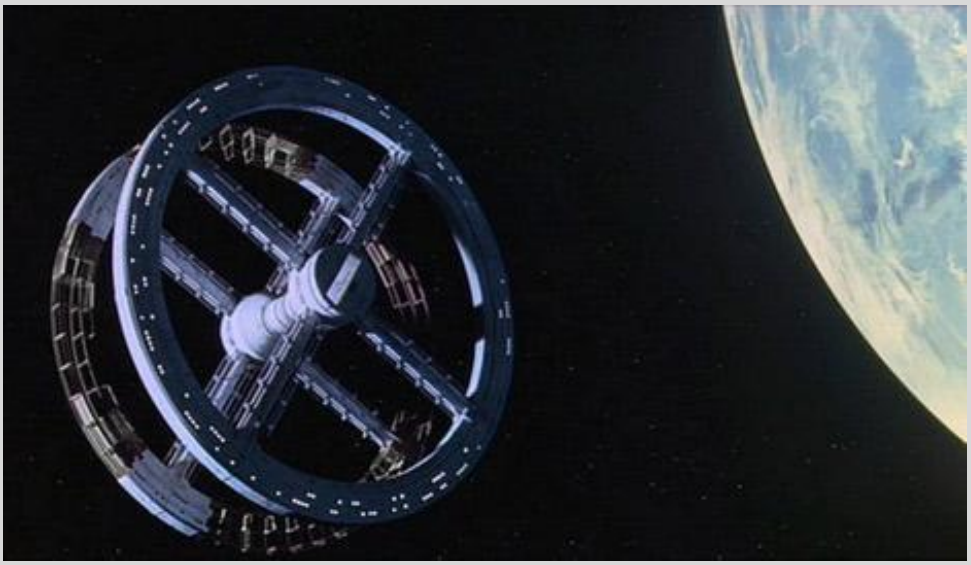

Figure 3_ Above: Potočnik's Space Station (illustration (c) by Simon Zajc) _© https://www.dezeen.com/2011/01/09/cultural-center-of-european-space-technologies-by-ofis-bevk-perovic-dekleva-gregoric-and-sadar-vuga/

The building's design pays homage to the first geostationary space station, specifically the wheel housing space station conceptualized by Herman Potočnik Noordung in 1929.
The building is shrouded in an enigmatic and mystical aura, drawing inspiration from Potočnik's publication "The Problem of Space Travel - The Rocket Motor", which detailed a solar power plant, an observatory, and an inhabitable wheel.
The fact that this impressive structure was constructed in Vitanje, a small town in Slovenia with a population of just over two thousand, is not a coincidence. The town is where Potočnik's family originates and where the roots of space exploration theory lie. The building is a tribute to Slovenian pride, reflecting

the town's contribution to space exploration. The building's height, slightly above the average height of Vitanje's homes, and its synthetic design inspired by the iconography of space missions, particularly in the movie "2001: A Space Odyssey," breaks from local figurative traditions while using a comprehensible language.

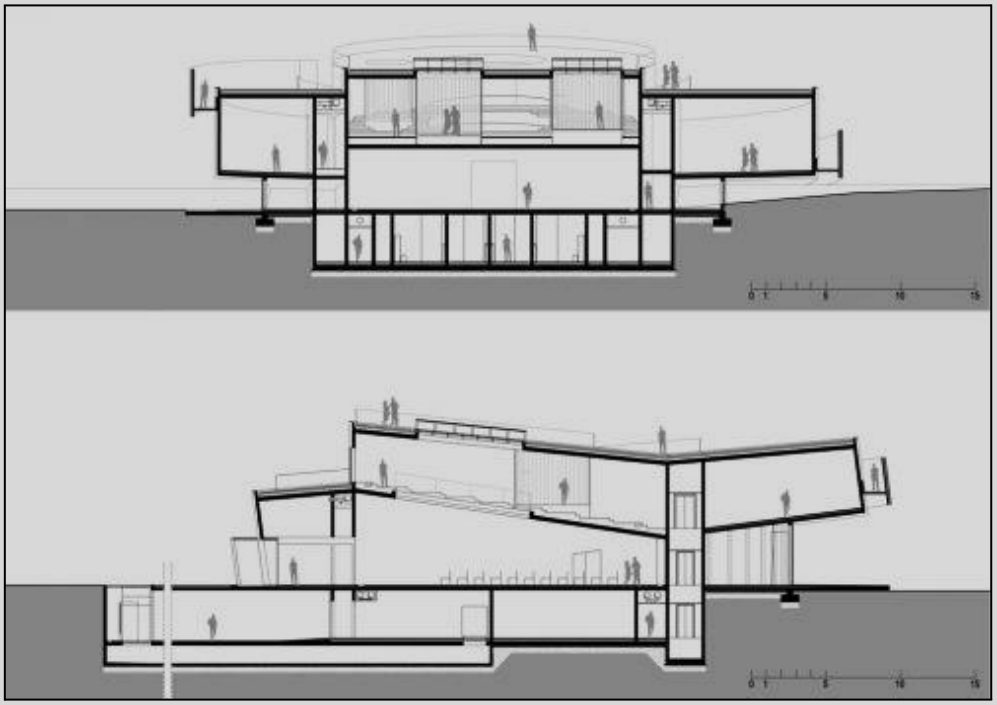

Figure 4_ SECTIONS _© https://en.wikiarquitectura.com/building/cultural-centre-of-european-space-technologies-ksevt/#:~:text=The%20KSEVT%20was%20built%20in,of%20the%20houses%20in%20Vitanje.

Figure 5_ View of first floor _© https://en.wikiarquitectura.com/building/cultural-centre-of-european-space-technologies-ksevt/#:~:text=The%20KSEVT%20was%20built%20in,of%20the%20houses%20in%20Vitanje.

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The building's undeniable dynamism comes from the simple rotation of concentric cylinders on their axes. The glass wall in the hall leading to the ground floor auditorium can be opened up to create a single public space with the square in front of the building for major events, further emphasizing the building's social and cultural significance.
Upon entering the building, visitors are greeted by a round central hall that is enveloped by an exhibition gallery. A ramp leads up to the floor above, gradually transitioning from the natural light of the hall to an artificial environment where bare, cold concrete creates a sensation of being on a solitary space journey. The auditorium and upper hall are connected by a large central opening in the floor, creating an architectural opening towards the sky. The "inhabitable wheel" is topped with an observatory, providing a new perspective on the world and continuing the architectural analogy to a space station. Overall, the building's program substantially complements and emphasizes local cultural and social activities, combining scientific research, conferences, and exhibitions to encourage culturalization about space.

Spaces

Figure 6_ Cultural Center of EU Space Technologies _© https://www.world-architects.com/es/projects/view/cultural-center-of-eu-space-technologies-ksevt-space-habitble-wheel

This impressive building is a monolithic structure located on a spacious allotment with a main road on one side and a stream with abundant greenery on the other. Its unique design is defined by two low cylinders that shape both its exterior and interior. The larger bottom cylinder rises from North to South, while the smaller upper cylinder connects with the larger one on the southern side and rises towards the North. The transparent surface of the entrance glazing provides support for the bottom cylinder, creating a striking spatial relationship between the two cylinders that generates a dynamic effect. This effect is further emphasized by full glass rings surrounding the building. The building's placement creates a lasting impression of its significance in the area and its connection to the surrounding environment. The building appears to float and rotate towards the road on the southern and western sides, while the opposite side is entrenched into the surface towards the stream and hill. The result is a unique spatial effect that creates the impression of artificial gravity.

Figure 7_ Cultural Center of EU Space Technologies _© https://www.world-architects.com/es/projects/view/cultural-center-of-eu-space-technologies-ksevt-space-habitable-wheel

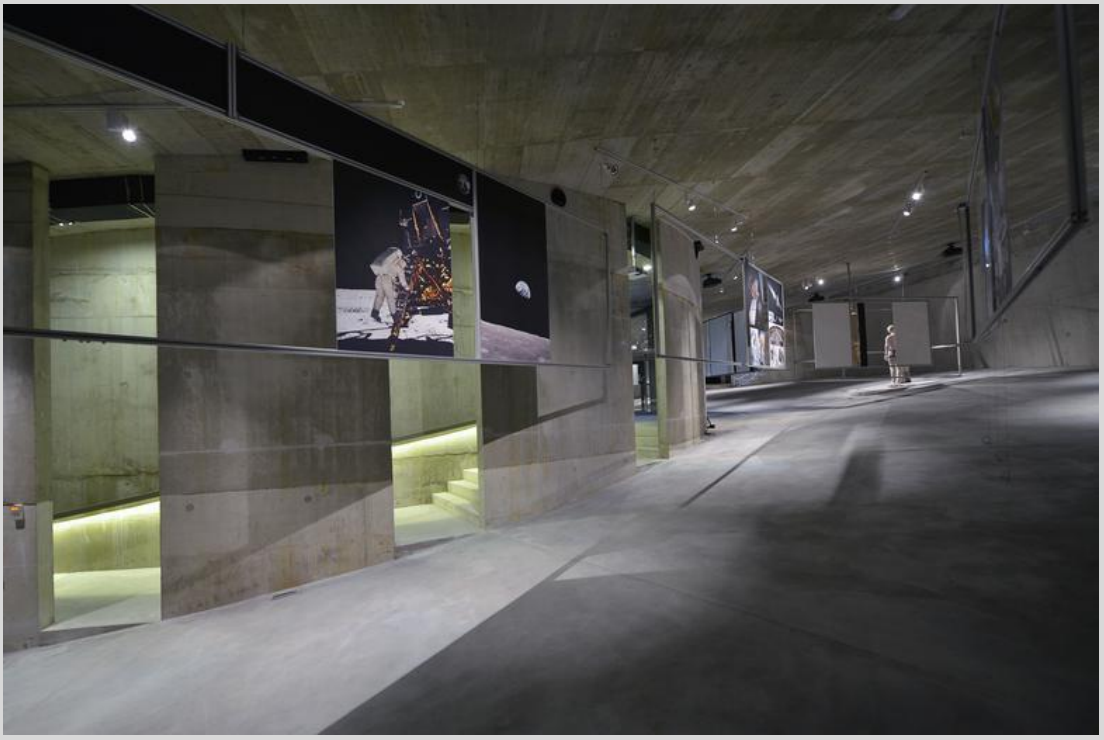

Figure 8_ Gallery view _© https://www.world-architects.com/es/projects/view/cultural-center-of-eu-space-technologies-ksevt-space-habitable-wheel

The top of the building is dedicated to research, while the bottom houses exhibition spaces, a multipurpose room, and a special library known as "The Treasure of Modernity." Overall, the building's design and function complement each other perfectly, creating a remarkable structure that blends harmoniously with its surroundings.

5- By: Vedika Adukia

Access

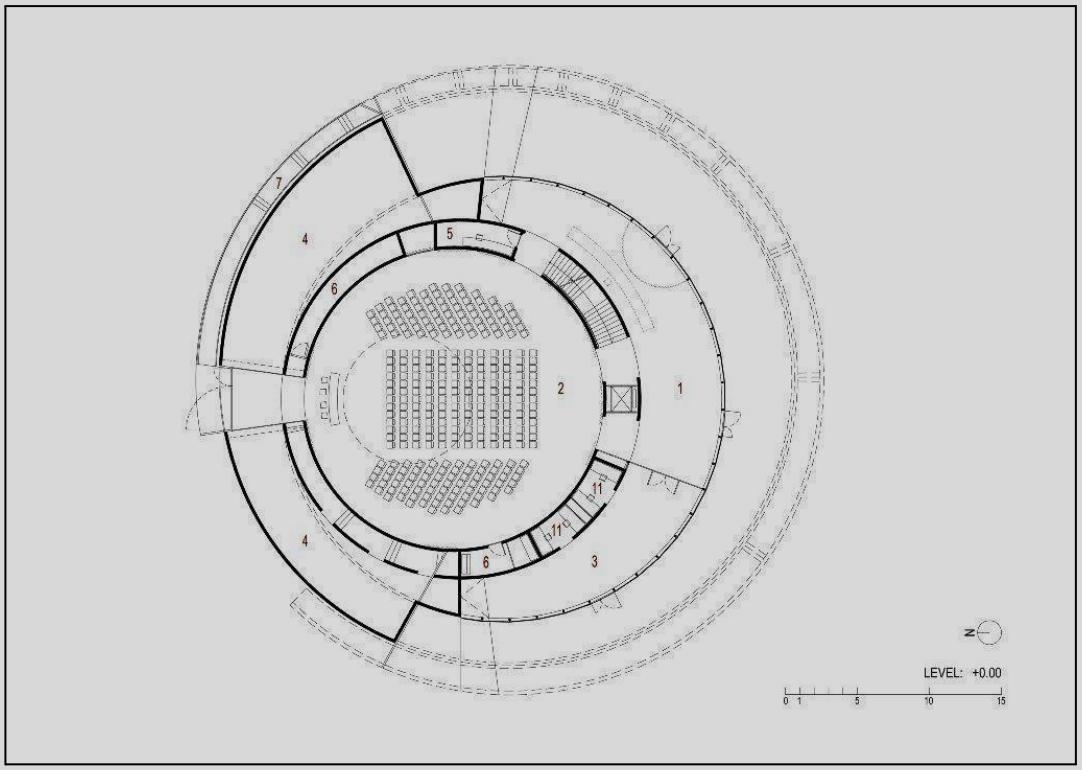

Figure 9_ Ground level plan _© https://arqa.com/en/_arqanews-archivo-en/cultural-center-of-eu-space-technologies.html

The building features two entrances, one situated on the east side, opening onto the main square, and the other on the north side. The public open space, the square, is located between the building and the main road, designed to host outdoor social events. On the opposite side, the circular floor of the building faces the Jesenica stream, creating a unique public open space that offers an alternative to the surrounding green environment. Additionally, the building opens up onto a sports field, providing yet another outdoor orientation.

Figure 10_ Cultural Center of EU Space Technologies _© https://arqa.com/en/_arqanews-archivo-en/cultural-center-of-eu-space-technologies.html

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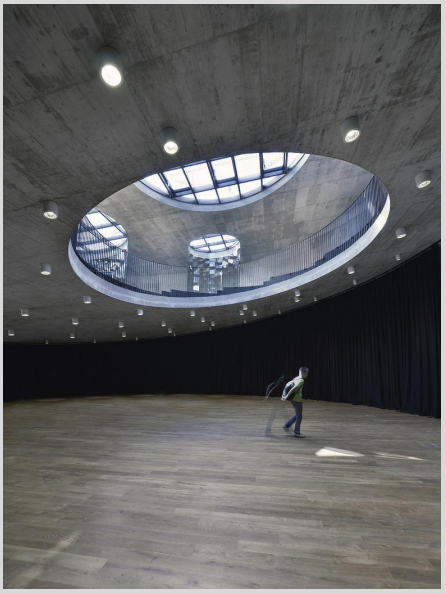

Figure 11_ Circular multi-purpose hall _© https://www.world-architects.com/es/projects/view/cultural-center-of-eu-space-technologies-ksevt-space-habitable-wheel

The main entrance is located on the protruding part of the lower cylinder and is accessible through a narrow passage that leads to a circular foyer, which then opens up into the living room. The foyer can be separated from the activities in the room with a curtain.
This marks the beginning of the exhibition area, which continues from the interior of the overhanging part of the larger cylinder. Along the ramp on the west side, smaller office areas are located. As you ascend the ramp, you undergo a transition from the bright space of the hall to the darker exhibition area.

Rooms

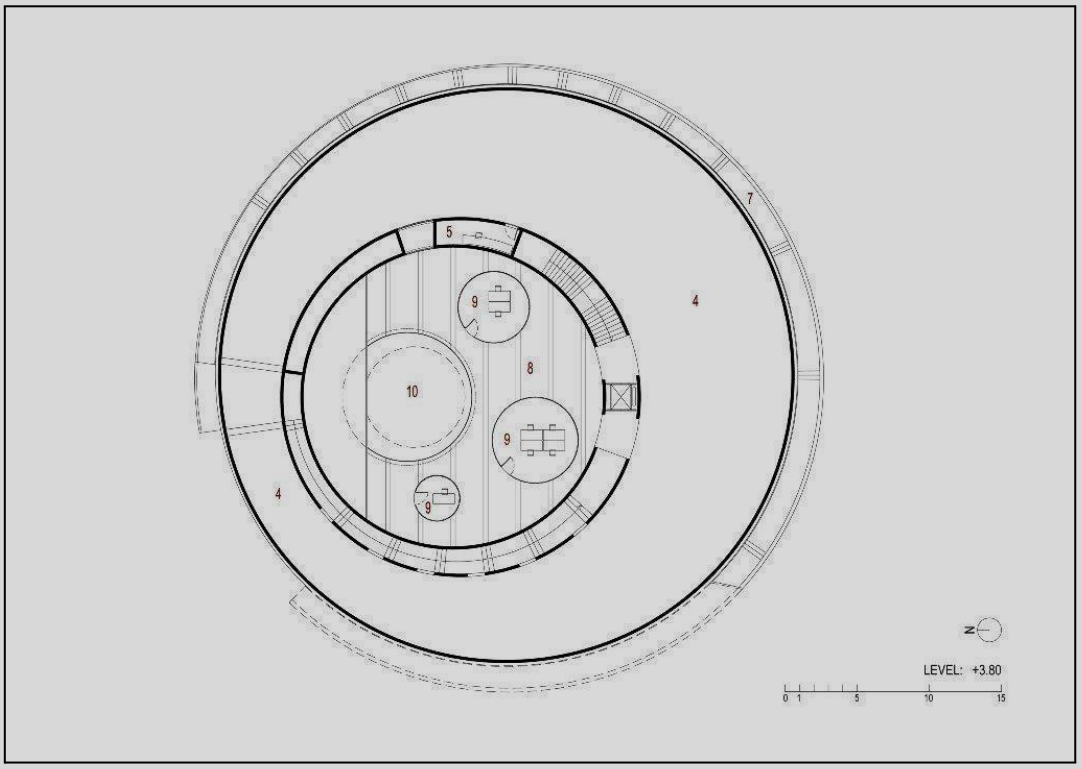

Figure 12_ First floor plan _© https://arqa.com/en/_arqanews-archivo-en/cultural-center-of-eu-space-technologies.html

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A vertical connection consisting of a staircase and a large elevator provides direct access from the exhibition area to the vestibule of the hall, creating a seamless flow between the two spaces. Continuing through the landing between the elevator and the staircase, the exhibition space leads to the multi-purpose hall, a smaller cylinder raised like a terrace above the main hall. From this elevated position, one can enjoy a bird's eye view of the activity taking place below.

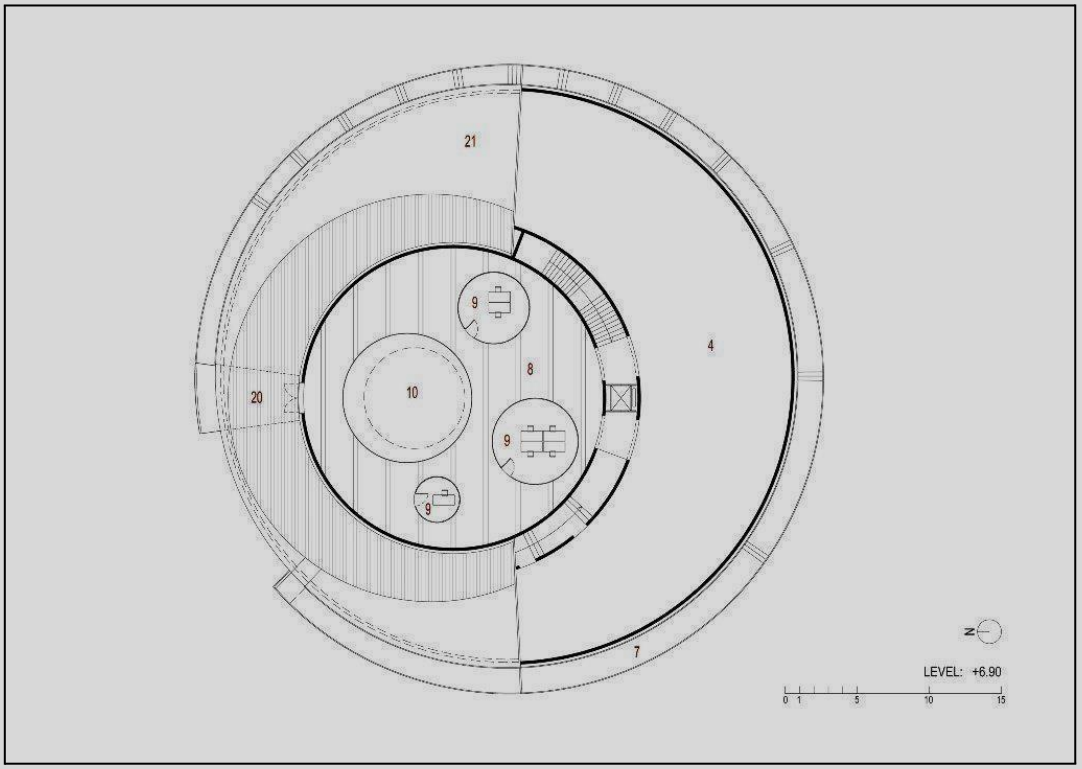


Figure 13_ Second floor plan _© https://arqa.com/en/_arqanews-archivo-en/cultural-center-of-eu-space-technologies.html

At the northernmost point of the smaller cylinder lies the club area, the library, which serves as the most intimate space within the building.

The circular multi-purpose hall can seat up to 300 people and is surrounded by a semicircular ramp that connects to the exhibition area on the overhanging part of the larger cylinder. Along the ramp on the west side, smaller offices are located. The ramp also represents a transition from the bright and airy space of the main hall to the darker and more contemplative exhibition area.

The vertical connection provided by the staircase and elevator connects the exhibition area directly to the lobby of the hall, creating an uninterrupted flow between the two spaces. As you ascend through the landing between the elevator and the staircase, you arrive at the multi-purpose hall, an auditorium that is raised above the main hall, offering a commanding view of the activity below.

8- By: Vedika Adukia

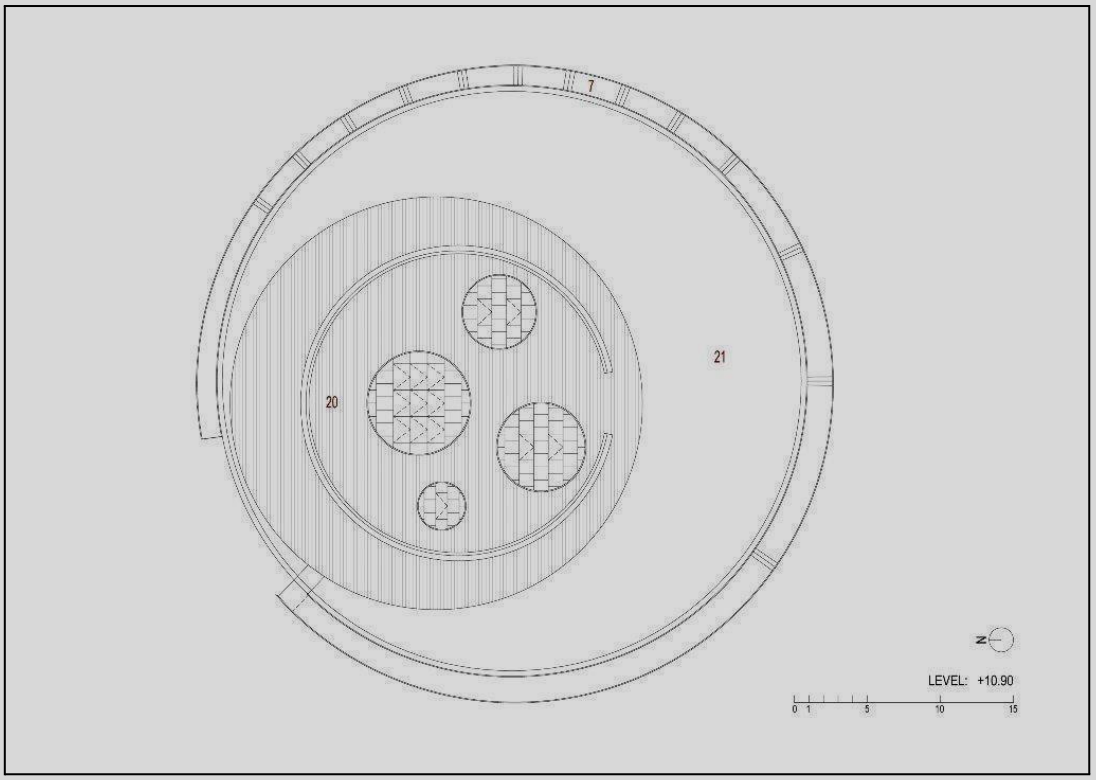


Figure 14_ Terrace plan _© https://arqa.com/en/_arqanews-archivo-en/cultural-center-of-eu-space-technologies.html

Finally, at the highest point of the smaller cylinder, researchers dedicated to space technology can concentrate on their work, undisturbed by the other activities taking place in the center.

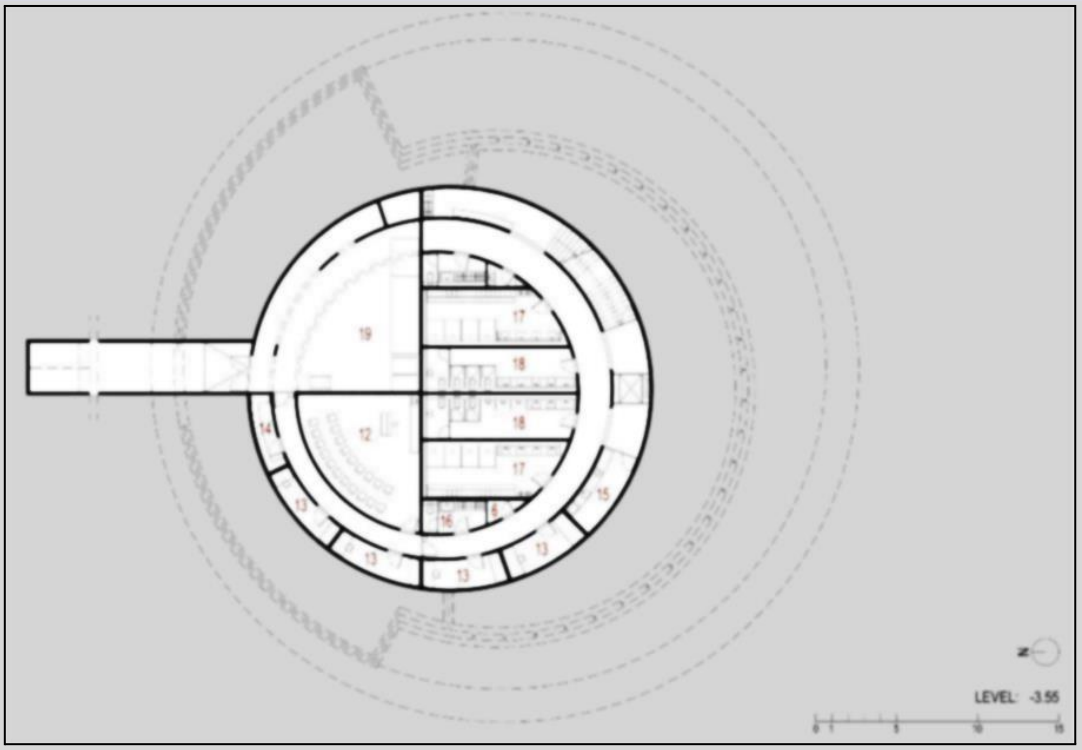
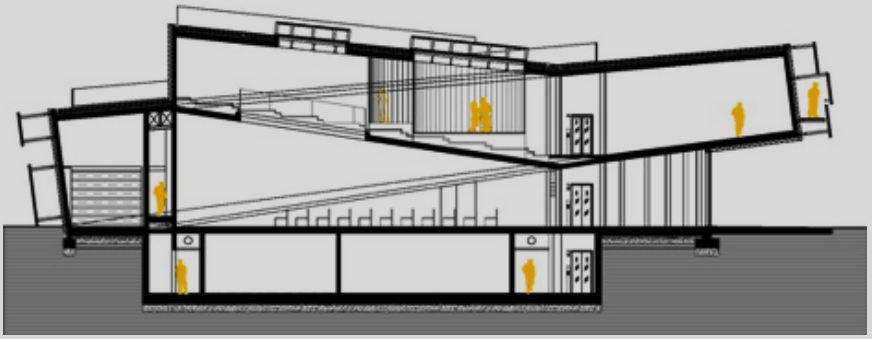


Figure 15_ Basement plan _© https://arqa.com/en/_arqanews-archivo-en/cultural-center-of-eu-space-technologies.html

9- By: Vedika Adukia

Materials

The design of the Culture Centre of European Space Technologies boasts a distinctive and striking volume, achieved through the use of simple, clean materials. Contrasting with the surrounding buildings, the exterior is clad in smooth aluminum sheets resting on glass facades, while the interior features reinforced concrete walls adorned with metal and glass. The terrace area features an aluminum-trimmed floor deck and railings, seamlessly integrating with the outdoor green space, which is mostly covered with grass. The front area of the building and its connection to the sports field on the east side are paved with pebbles, adding to the center's unique aesthetic.



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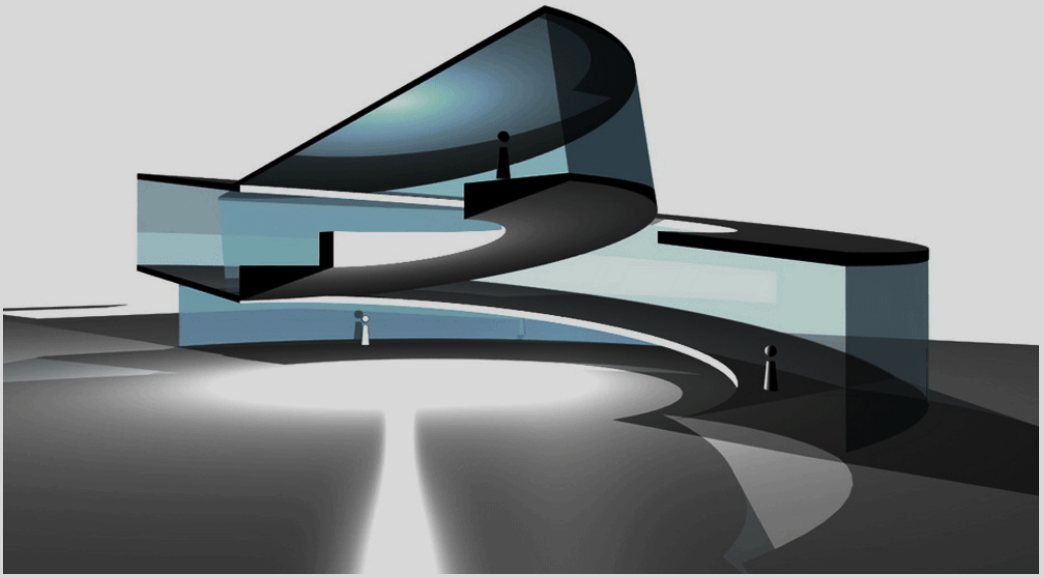
Inside, the library and lower hall are equipped with windows, while the zenithal lighting in the hall creates a bright and welcoming atmosphere. The front of the building's opaque section is made of various types of aluminum, further contributing to the striking appearance of the center. The interior is a combination of self-compacting concrete, paint, and wainscot, all of which will be elaborated in greater detail in the upcoming phases of the project documentation.



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