PROJECT DESCRIPTION

The Pontificia Universidad Católica do Rio de Janeiro (PUC-Rio) - Metasol - is an academic facility that focuses on low-energy university mediathèque. This building is designed to be a model for sustainable architecture and technology, incorporating passive cooling and heating systems, solar panels, and rainwater harvesting. The mediathèque is located in the heart of the university campus, providing a central hub for students and faculty to engage in research and study.

1. THE SUPPORT BUILDING

The roof of the support building is a reflecting pool which forms the Mediathèque Plaza. This area is a central node for the building, serving as a social hub for students and faculty. The reflecting pool is designed to reduce heat gain and provide a visually appealing feature. The roof also serves as a rainwater harvesting system, capturing and storing rainwater for reuse within the building.

2. THE PUBLIC BUILDING

The mediathèque is a multi-functional space designed for various activities. The main reading room is located on the lower level, providing a quiet space for study and research. The media lab is situated on the upper level, equipped with state-of-the-art technology for multimedia projects.

3. THE LIBRARY

The library contains a vast collection of books, journals, and multimedia resources. It serves as a central hub for students and faculty to access information and conduct research. The library is designed to be a quiet, peaceful environment, providing a conducive space for study and contemplation.

4. THE STUDENT UNION

The student union is a social and cultural center, providing a space for students to relax, socialize, and participate in extracurricular activities. It features a café, a gym, and a multipurpose hall for events and meetings.

5. THE ADMINISTRATION BUILDING

The administration building houses the offices of the university's administration and faculty. It is designed to be energy-efficient, with features such as passive cooling, solar panels, and rainwater harvesting.

SITE PLAN

[Site plan of the facility, showing various departments and locations]

[Image of the facility, showing the main features and design elements]

[Construction details of the facility, showing the materials and construction techniques used]
THE BUILDING STRUCTURE AND CONSTRUCTION STRATEGY

The support building and public building were viewed as two independent structural pieces. The structure of the support building was built on the first floor of the building, while the public building was constructed above. The roof structure is made of a rainwater tank, which is used to collect rainwater for the building's needs. The roof structure is made of a reinforced concrete frame, which is supported by a series of steel columns. The roof structure is also designed to allow for the collection of rainwater for the building's needs.

The public building's structure is made of a series of beams, each one made of reinforced concrete. The beams are supported by a series of steel columns, which are also used to support the roof structure. The beams are designed to allow for the collection of rainwater for the building's needs. The public building is also designed to be energy-efficient, and is equipped with a series of solar panels to generate electricity. The building is also designed to be sustainable, and is equipped with a series of energy-efficient systems to reduce its impact on the environment. The public building is an integrated solution, and its parts will be fabricated in advance and assembled on site.
RELEVANCE TO THE TARGET ISSUES

1 Quantum change and transatlanticity

The Medellín project is a high-quality and innovative architecture, exploring urban possibilities using the "horizontal" thinking of Friulian architects. The project is designed to respond to the sustainability challenges through 3D models and simulations, while also exploring a new architectural language.

2 Ethical standards and social equity

The project was selected for a competition organized by the PUC in collaboration with the Arup Group. The competition was open to all architectural professionals and challenged them to develop a sustainable and accessible project. The process and its outcome were widely publicized throughout the world.

3 Ecological quality and energy conservation

Design means to improve the project's sustainability and energy consumption. The project is designed to include strategies such as green roofs, solar panels, and rainwater harvesting. These strategies will contribute to reducing energy consumption and improving the project's environmental impact.

4 Economic performance and compatibility

The project was not only designed to be sustainable but also to be economically viable. This includes optimizing the use of materials and energy, as well as ensuring the project's compatibility with the surrounding urban context.

5 Contextual and aesthetic impact

The project provides social benefits and the Medellín project promotes the identity of the city. The project is designed to enhance the cultural heritage of the city and contribute to its development.

In conclusion, the Medellín project is a significant contribution to the field of sustainable architecture and urban planning. It demonstrates the potential of innovative design solutions to address the challenges of sustainability and social equity.