PROJECT FOR A MULTI-PURPOSE BUILDING AND REDEFINITION OF A CENTRAL AREA IN CERNUSCO LOMBARDONE IN ITALY-ARTERY OF CERNUSCO

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Abstract - The Municipality of Cernusco Lombardone, Italy had held a competition among the students of Politecnico di Milano, Italy. The requirement was to design a sustainable built environment of a multi-functional buildings in a definite area. This project was awarded as winner project in 2014. The concept to transform this area into a more vital and vibrant one is based in making of this park "The Artery of Cernusco", through which the movements and the life of the city will pass and remain every day. This artery will be developed in the most important axis of movement of the park, connecting different public spaces as a transitional path between different experiences. The real artery, an organic inviting path will cross the third and biggest public space, the park. It is designed this connection as an activity path, a journey where the user can any kind of recreational activities.As a program in the architectural spaces, it is designed as a multi-purpose building which serves as exhibition area, conference hall, library in a small scale and a gym. Since this multi-purpose building is also a technology-oriented building, this complex is integrated with technological units. To produce energy, three strategies are defined: The installation of BIPV cells (building integrated photovoltaic) over the shading structures, the use of mono or poly-crystalline silicon photovoltaic cells over the green roof and the use of solar powered street lights. For the heating during winter or cooling in summer needs, the installation of a geothermal heat pump which works sending water deep into the soil and carrying it back up only by the pressure difference is suggested. To conclude, in this area of Cernusco Lombardone, the connection of spaces was thought to be weak, thus, they are considered to be strengthened by interaction of spaces and the community by several activities in the complex with eco-friendly installations.

Keywords - Architectural design, multi-purpose building, public spaces, sustainable design