



RESTORATIVE OPEN AIR GYM: BRIDGING SOCIAL DESIGN, ECOLOGICAL CONSTRUCTION AND DIGITAL MANUFACTURING

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This project was developed by the students of the Paolo Cascone's Master Class in the context of the Advanced School of Architecture directed by Pierre-Alain Croset at the Politecnico di Milano. The aim was to bridge a social design agenda with an ecological construction and digital manufacturing approach. Therefore, over the course of eight intense days, 20 students from 16 different countries worked with Paolo Cascone and Maddalena Laddaga to translate the need for a more performative sport space for detainees in the Bollate prison into a one-to-one scale prototype for an open-air gym.



Beyond any humanitarian rhetoric, the process is proposed as a possible response to the critical

conditions in Italian prisons. In that sense, the main drivers of the Master Class were articulated as follows:

Collaborative design

We have strategically involved students, detainees and prison guards with the aim of developing an architectural paradigm for a restorative justice approach. The one-to-one scale prototype was self-constructed by the students in the Polytechnic courtyard following a series of meetings organized with the detainees at the women's prison. The ROG // RESTORATIVE OPEN-AIR GYM prototype was developed and executed in collaboration with the ACTS (A Chance Through Sport) project, directed by Prof. Andrea Di Franco at Bollate prison.



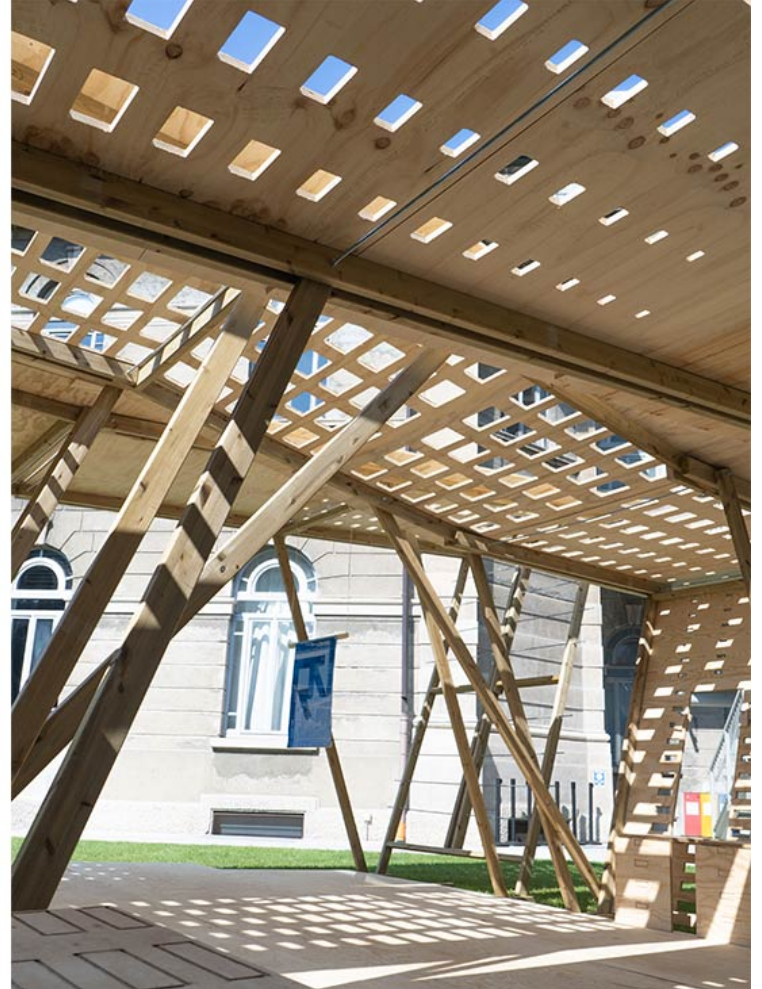
Open system

According to the diverse programmatic and ergonomic needs of the gym, an initial genotype was developed by Paolo Cascone with Maddalena Laddaga. This proposal, conceived as an open system with a structure that allows for fast deployment, was shaped, assembled and tested in collaboration with the ASA students inside the Polytechnic campus. The students developed a catalogue of possible spatial and performative variations according to the different users' needs, looking at questions of customization, incrementality and scalability.



Eco-digital construction

One of the possible configurations from the catalogue was selected and built on a one-to-one scale in order to test its structural and environmental performance. For these reasons, we used a lightweight structure made out of wood components for both the primary and secondary structures. At the same time, the paneling system was designed in keeping with two different performative criteria: the roof was informed by an environmental parametric solar strategy while the vertical panels integrated a kinetic system that could transform the vertical surfaces into ergonomic devices (benches, chairs, etc.) for different types of exercise.



The whole project was presented and validated by the prison community and now we are working on the next steps of in order to update and install the structure in the prison courtyard. The process will involve the students and the detainees, sharing the construction kit and helping the detainees to self-build their own ROG version through a series of workshops. To that end, the Politecnico di Milano students will soon launch a crowdfunding campaign to support the next steps in the project. This community-oriented process is part of the pedagogical agenda developed at CODESIGNLAB over the last 15 years in collaboration with different educational institutions

