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UNDER CONSTRUCTION
UNIVERSITÀ STATALE DI MILANO
LODI, ITALY
KENGO KUMA AND ASSOCIATES

AN OPEN COURT BUILDING, IN CONTINUITY WITH THE SURROUNDING AGRICULTURAL LANDSCAPE, USES NATURAL ELEMENTS AS DESIGN MATERIALS, CREATING AN ELEGANT BALANCE BETWEEN OPAQUE AND TRANSPARENT PARTS.

The Faculty of Veterinary Medicine of the University of Milano is based in Lodi, surrounded by an agricultural context. Japanese architect Kengo Kuma designed a large complex, which houses the faculty's educational, training and research activities. The complex is respectful of the natural and agricultural surroundings, and uses natural elements as building materials, calling to mind the surrounding landscape.

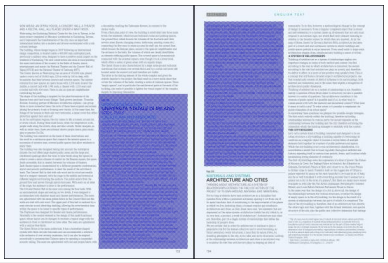
The new complex is divided into two lots, organised according to the typical layout of Lombard farmhouses. It is articulated as a large court, defined by buildings on three sides, and open on the fourth side. The livestock complex is divided into two macro-areas: an L-shaped building hosting educational activities, with classrooms and some laboratories, and a building for departmental offices and research laboratories, for a total area of 26,000 sqm. In addition to these areas, the complex includes (lot three) an extension of the existing hospital for large animals, and the creation of an hospital for small animals.

Created by Benedictine monks in the 12th century, the Bertonica canal is an important compositional element. The area is particularly rich in water, and water played a key role in the architectural composition as well as in plant engineering strategies. The canal was maintained and enhanced by Kuma's project: one side of the court is constructed as a 28 m long bridge that crosses the watercourse and connects the two macro-areas of the complex, the educational area and the research area.

Water is also important in the design of outdoor spaces, which ideally represent a continuation of the surrounding agricultural landscape. There are stretches of water and glades with native vegetation.

In terms of distribution, public spaces are placed in a central position: the bar, lecture hall, thesis rooms, some laboratories, the library, warehouses and administrative offices are spread over three floors above ground, corresponding to the eastern part. The north wing houses classrooms and teaching laboratories, while departmental offices and areas for research are spread over four floors in the southern area.

The façades also reveal a sense of continuity with the landscape; compositional simplicity translates into an elegant alternation of opaque



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and transparent parts. These parts have been balanced to meet the requirements of the interiors. The opaque parts are covered with Canadian red cedar wood slats. These slats come in different thicknesses to create a symphony of light and shadow over the façades. The transparent parts consist of double-glazing units secured to an anodised aluminium substructure fixed to the main structure by means of metal brackets. Transparent parts are shielded by internal curtains as well as by a delicate canopy that highlights the building's entrances. The canopy is made of compact polycarbonate sheets, bolted to the structure with white bent sheet metal clamps. The sheets are fixed to a galvanised steel structure, consisting of tubular and HEA beams. The wood seen on the façades is also used on the canopy, with a series of wooden slats positioned at varying heights.

The construction site and the construction phases of the complex were challenging both because of its considerable size and because of the large number of professionals involved at the same time.

The complex is built on micropile foundations; the structure is mainly prefabricated, consisting of reinforced concrete partitions, beams, pillars and tiles. The bridge building consists of 28 m long prefabricated prestressed concrete elements.

Infill walls are made of honeycomb brickwork, covered with an insulating coating glued to the walls.

Cedar wood panels have been prefabricated and are attached to the bricks through a wooden substructure, fixed by steel brackets.

The levels are separated by belt courses, both for decorative purposes and for shielding the transparent parts.

These elements are made of white concrete, fixed to the main structure with thermal breaks that made it possible to cast floors and coursing units at different times.

The concept of wood and the mood of the place are also reflected inside; false ceilings are made of wooden slats of different thicknesses and dimensions, which make it possible to control noise, combined with micro-perforated glass wool panels.

While the comfort perceived outside is created by an intelligent use of vegetation, canopies and water, sophisticated systems ensure optimal conditions inside the complex throughout the year. Water played a key role even in HVAC system engineering; groundwater is used to pre-heat or pre-cool the air coming into the rooms, reducing the amount of energy required for air conditioning. Rainwater, collected from the tanks, is used for bath drains; even the well water used for pre-heating and pre-cooling the air is used for the same purpose. Rainwater and groundwater are also used to irrigate green areas.

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