

JAKOB FACTORY: TROPICAL SUSTAINABLE ARCHITECTURE

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The Jakob Factory project offered the design partnership of rollimarchini architekten from Bern and Swiss-born G8A Architects the unique opportunity to propose a highly innovative and highly specific manufacturing space, set to become a design reference for tropical sustainable architecture. The factory houses the specialist steel rope producers Jakob Rope Systems, a high-quality manufacturing organization, specializing in custom-made steel meshing for private and industrial uses. The partnership of organizations applied their pillar value of sustainability, both environmental and social, to all phases of the design process, from conception to execution and projected developments.



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The 30,000 m2 site area is located in the center of an industrial park 50 kilometers north of Ho Chi Minh City, the economic capitol of Vietnam. Ever since Vietnam's economic reform in 1986, the country has seen a steady rise in national GDP, with industries and populations moving from a primarily agricultural industry to a focused industrial practice. The past 10 years have seen a doubling in the number of industrial parks built on city outskirts from the north to the south of the country.

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In a context of lightning speed, loose regulations, and priorities focused on economic gain rather than environmental impact, many of these zones have suffered from highly polluting and detrimental construction practices, transforming the previously porous land into large zones of impermeable slab development. The Jakob Factory proposal provided a unique opportunity for rollimarchini and G8A to propose an alternative to these detrimental practices, presenting a strategic land-saving project with a focus on elements of passive design.

Proposing an environmentally friendly alternative to the typical horizontally spread manufacturing buildings. Jakob Factory offers an innovative vertical densification strategy, stacking the usable zones on superimposed slats. This robust design avoids unnecessary ground usage and needless land development, while also offering workers agreeable outdoor spaces. However, the proposition implies that the imposing façades need to take on important functions: they have to provide both shade and rain protection, a service previously provided by roofing. Taking inspiration from the

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traditional tropical architecture of the region, the design was developed with a porous façade devised as a lush green “skin”. The suspended structure is supported by a two-layer rope network stretching from the ground to the roof. The horizontal geotextile planters not only filter rain and sun but also contribute to lowering the atmospheric temperature through evaporation, acting as air purifiers and dust particle binders.

The intelligent distribution of workspaces, combined with the green façade and completely modular interior walls, provide a comfortable working space, a pioneering initiative as Jakob Factory becomes the first project in Vietnam proposing completely naturally ventilated manufacturing halls.

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