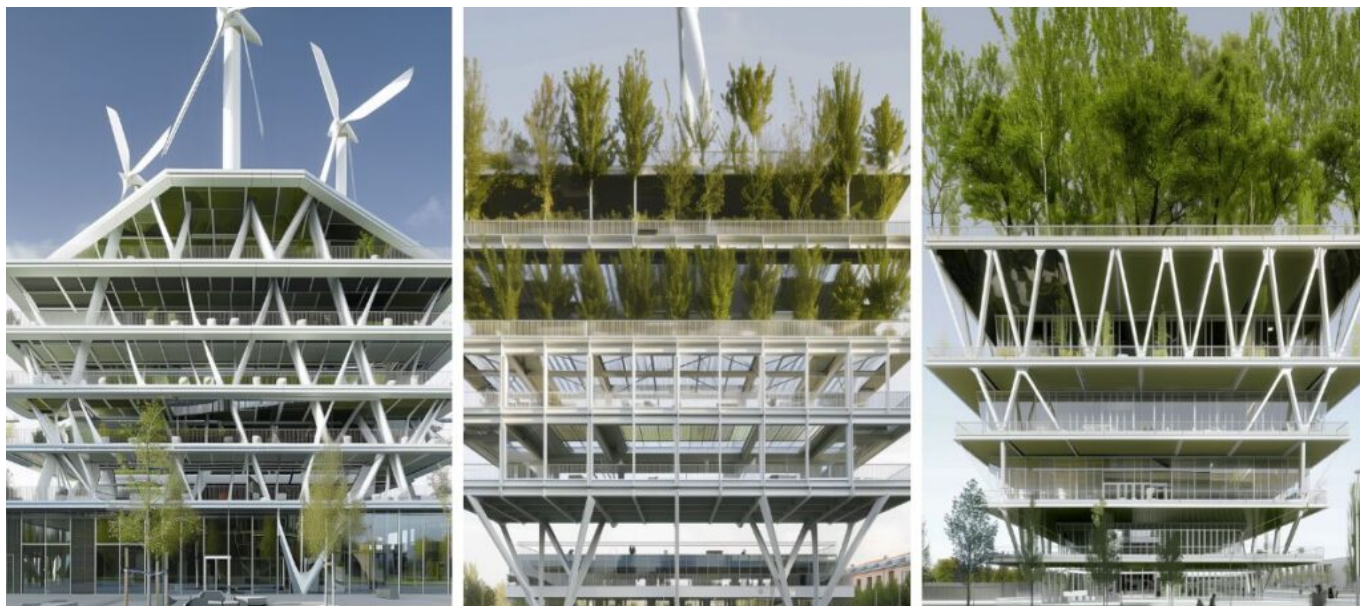




Architects: no longer “technicians”, but key players of future cities

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AI, Future of Work, Architecture, Automation, Education, Challenges, Opportunities

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The transformative impact of AI-driven technological advancements holds the promise of a future where machines alleviate us from the hardship of work. In architecture, the past two decades, have witnessed a significant surge in the automation of design processes, boosting productivity amidst a landscape abundant in work at relatively low costs. In this sense, AI does not seem to pose a threat to architects, as their profession remains too cost-effective to be supplanted by capital-intensive machines. Nevertheless, it is a topic of discussion, casting shadows of uncertainty and rising doubts.

Marx had already regarded technological development as a factor in deskilling—a process where qualified manpower in a sector is eliminated by technologies requiring less expertise. Hence, while immediate replacement may not be on the horizon, we are compelled to ponder how the profession and the role of the architect are destined to change.

Concerns about technological replacement are not new. As early as 1969, Paolo Portoghesi envisioned Dicaia, a mechanized city that could replicate itself and transmit information across generations: an ante-litteram post-work smart city. During the Great Depression, John Maynard Keynes identified a “new disease”: —unemployment caused by technologies.

In the post-war period, economic theory itself debunked the alarmism. In 1956, Robert Solow, a young economist from MIT, former White House consultant, and future Nobel Prize winner, proposed an alternative growth model. He demonstrated that technological change, responding to price stimuli (replacing the scarcity of capital or labour), determines economic growth. Solow suggested adaptability: automation, in some cases replacing humans, often aids or favors the creation of new professions. Thus, the relationship between automation and work in architecture must be envisioned within this dynamic framework.

In the professional sphere, it is plausible to envision a future where the encyclopaedic knowledge provided by artificial intelligence liberates architects from mundane tasks, protocols, and the demands associated with due diligence. A future where projects can be developed in a way that they are already equipped with the necessary information for professional tasks (legislative codes, material characteristics, structural behavior, construction protocols). Projects in which the quantity of materials with the lowest emission impact is calculated, and their availability is optimized by streamlining value chains.

Therefore, freed from tasks linked to project production, architects can redirect their focus towards present and future challenges, engaging in the process of constructing their professional careers. Instead of being regarded merely as “technicians,” absorbed in the intricacies of *how* to execute architecture, architects can reclaim a new centrality as agents and coordinators of multidisciplinary processes, capable of introspection and discerning what is necessary, urgent, and beneficial to accomplish. The prospect of accessing vast encyclopaedic knowledge, coupled with tools facilitating data hybridization, is poised to redefine how we learn and practice the architecture profession, envisioning, designing, and constructing the buildings and cities of tomorrow.

New Pedagogies

While the architectural profession confronts an epochal challenge, the pedagogical models underpinning architectural education must also be reconsidered and aligned with the new

technological paradigm. It is imperative to cultivate a new generation of architects adept at navigating the ongoing transformation. Before delving into the *how*, we must first ponder the relevance of studying architecture if any individual can design buildings at any time, without formal education.

In the pre-digital era, schools and universities served as repositories of knowledge. In a milieu where knowledge was a scarce resource, people attended these institutions to access books and engage in study. Today, architectural education still adheres, with some variations, to models established in the post-war period. This system relies on programs assuming that students will pursue a single career for their entire lives, necessitating the memorization of a set amount of knowledge.

Conversely, in an era of ubiquitous knowledge and personalized study programs tailored at an individual level, students can enrol in university not merely to acquire notions but, more precisely, to engage in deep study. If knowledge is abundant and universally accessible, the true value lies in the original contributions made to pertinent topics. Universities and architecture schools, rather than simulating problems students may face in their presumed careers, can reemerge as environments for studying the future and devising solutions to urgent issues impacting the built environment, such as the housing crisis, environmental concerns, and the ebb and flow of urbanization.

The technological paradigm shift thus represents both a challenge and an opportunity. Architects recognized the potential of the digital revolution ahead of other professions, transforming machines into tools for both work and learning. Today, there is a pressing need to redefine the role and skills of architects, steering towards the development of new forms of virtuous collaboration with intelligent machines.

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