

Build New or Renovate? The construction industry's dilemma

The construction sector is under increasing pressure to reduce its environmental impact and meet EU sustainability goals. Stakeholders and decision-makers are no longer just facing a technical choice, but a complex dilemma: is it better to demolish and rebuild, or to renovate and retrofit? This crucial decision cannot be made in isolation, as it weaves together environmental, economic, technical, and cultural considerations.

While new constructions can achieve high energy efficiency through modern materials and HVAC systems, they come with a heavy upfront ecological price. Studies show that renovating existing buildings instead of demolishing them can reduce lifecycle carbon emissions by more than 22%. Deep retrofits, such as improved insulation, high-performance windows, and smart energy systems, can cut energy consumption by up to 75%, while avoiding the environmental cost inherently tied to the manufacturing and transport required for new construction.

The delicate balance between the past and the future naturally extends into economic and social realms. Opting for a retrofit often demands a lower initial financial investment because the existing structural core is reused, which significantly slashes both construction time and labor costs. However, older buildings may conceal structural problems or hazardous material, creating unexpected expenses midway through the project. Conversely, new constructions provide developers with a much higher degree of financial predictability and complete design flexibility, even though they usually require substantially higher upfront capital.



Furthermore, the complete freedom of architects to design modern, efficient spaces must be weighed against the soul of the community. Demolition can result in the permanent loss of local heritage, wiping away the unique character and historical identity that existing buildings contribute to their neighborhoods. Therefore, renovation is often as much an act of cultural preservation as it is an environmental one.

However, architects do not always share a singular point of view regarding the absolute value of preservation. A clear distinction must be made based on the nature of the property itself. When retrofitting is applied to buildings of historical value, integrating modern energy-saving technology can entail extraordinarily high costs. On the other hand, when retrofitting is applied to buildings of low architectural and aesthetical value (especially those built between the '70s and the '90s) the challenge is completely different. In these latter cases, the cost of retrofitting is generally less expensive than building anew, but the final market value and



architectural quality may remain significantly lower. In contrast, new construction provides architects with complete freedom to design modern, efficient spaces from the ground up. As a result, the final value of the building may increase significantly, both economically and functionally.

This complete creative liberty must be carefully weighed against the soul of the community, as demolition can result in the permanent loss of local heritage, wiping away the unique character and historical identity that truly iconic existing buildings contribute to their neighborhoods.

Ultimately, there is no single best solution to this industry-wide dilemma. New construction proves to be the most suitable path forward when an existing building is found to be structurally unsound, or when highly specialized modern facilities are strictly required. On the other hand, retrofitting stands out as the preferred option whenever the underlying structure is sound, sustainability is a driving priority, and cultural heritage deserves to be preserved.



Why Is This Relevant for VET Students?

Navigating this multi-faceted landscape is precisely why this topic is so profoundly relevant for VET (Vocational Education and Training) students. As the future professionals of the construction, engineering, architecture, energy management, and building maintenance industries, they will increasingly sit at the forefront of these sustainable choices. Developing a holistic mindset that grasps both the advantages and challenges of renovation and new construction empowers these students with the essential technical, environmental, and economic skills needed to actively drive the transition toward a greener, more resource-efficient built environment.



Stay informed and follow our work:

<https://oasisprojecterasmusplus.eu>

