

Manufacturing consultancy

Through timber construction, there is a future in which forests can support cities and, in return, cities can support forests. As the global population increases, particularly in cities, the construction sector is expected to exponentially grow in order to accommodate the demand for housing and other infrastructure. Current construction techniques are a significant contributor to the global climate crisis and urgently need to be transformed. By substituting the carbon-intensive materials commonly used in construction with forest economy biomaterials, such as wood and bamboo, which sequester carbon, we can create buildings with reduced carbon emissions. However, this timber construction industry is still in its nascency and there is a need to address its market gaps and leverage opportunities to accelerate its development and increase its uptake.

These interventions for the mass timber construction industry can be segmented into seven main categories of solutions that affect the value chain and enablers of the ecosystem. Through various internal and external discussions, Climate Smart Forest Economy Program (CSFEP) has categorized potential solutions as relating to i) Finance and insurance; ii) Product and process certifications; iii) Communication and awareness building; iv) Timber knowledge ecosystem; v) Forest management and timber policies; vi) Value chain linkages; and vii) Timber-based real estate. The proposed solutions can be executed as for-profit, philanthropic, or blended ventures, with the services developed as individual offerings or paired with complementary services in a single offering. Additionally, while some solutions may be set up as a free-standing entity, other solutions may be similar to services provided by existing actors in or adjacent to the CSFE sector. In the case of the latter, it may make sense to approach these existing providers as potential partners to find a suitable and effective home for needed services.

VALUE CHAIN LINKAGES

One of the opportunities presented is to improve the productivity and operational efficiency of the manufacturing activities for both local and global wood-based processors in the mass timber industry. One of the challenges faced by manufacturers is the limited availability of skills capacity and capability for processing high-value wood products. These manufacturing facilities are also costly to establish which contributes to the shortage of locally harvested and processed high-value wood products and are often located far from forest resources and consumers. Additionally, there are a limited number of wood recycling facilities for end-of-life processing available to the industry. Local policies or regulations can also be limiting for timber processing, further hindering the efficiency and effectiveness of manufacturers. These challenges are particularly experienced by enterprises operating in the global South.

A manufacturing consultancy firm that establishes climate-smart high-value wood-processing facilities in the areas facing some of these challenges will support the development of regional and local supply chains. These facilities will serve to improve and create access to high-value wood processing facilities in areas where they lacking. This will contribute to the global ecosystem of actors that are promoting the adoption of mass timber by making it easier for interested parties and demonstrating opportunities for more investment in the industry.

There is demand for locally produced sustainable mass timber in many regions around the world even when the construction sector's use of the material is still in its early stages of adoption. In Brazil local manufacturing supply for engineered wood was established by Crosslam before demand was significant. This was not without its challenges as the value chains, supply chains, and enablers of the industry were underdeveloped. Crosslam needed to import their factory equipment, deal with high exchange rates, and faced the difficulty of finding investors willing to take the risk in developing a capacity that didn't exist in a

country where their implementing partners had limited market experience.¹ Despite these challenges, the venture was successful, Crosslam began manufacturing in 2008, and the demand has steadily followed with many other facilities established in South America. A manufacturing consultancy firm would have been beneficial in connecting Crosslam with investors and advising on the facility's development leveraging relationships with global players in the industry to support cost and time savings. These services would particularly be beneficial in other similar mass timber markets like East Africa and India, where the material's use is growing but doesn't have local supply sources. Bain & Company has established an entire manufacturing consulting practice showcasing demand for services.

In order to achieve its objectives, the manufacturing consultancy firm will need to be involved in many aspects of developing the manufacturing plants, from landscaping research and fundraising to opening these processing facilities. The main services provided by the firm could include:

- Identifying and connecting investors to local actors to finance the set-up of wood-processing and recycling facilities, including pitch support, etc.
- Developing partnerships with established processing facilities to transfer learnings and expertise to local processing actors
- Supporting the capacity building and equipment sourcing of processors looking to set up high-value wood manufacturing facilities
- Identifying ways to reduce the emissions of processing, through renewable energy
- Identifying regions and ecosystems with sustainable forestry resources that could benefit from local processing: scoping and landscape studies
- Supporting established processing facilities to expand and penetrate into burgeoning timber markets which could benefit from local processing
- Supporting policy interventions that promote and provide incentives to set up processing facilities

If you would like to know more about manufacturing consulting services such as infrastructure, investment, and operational consultancy, you can reach out to organizations such as [Partners in Performance](#) and [Dalberg Advisors](#).