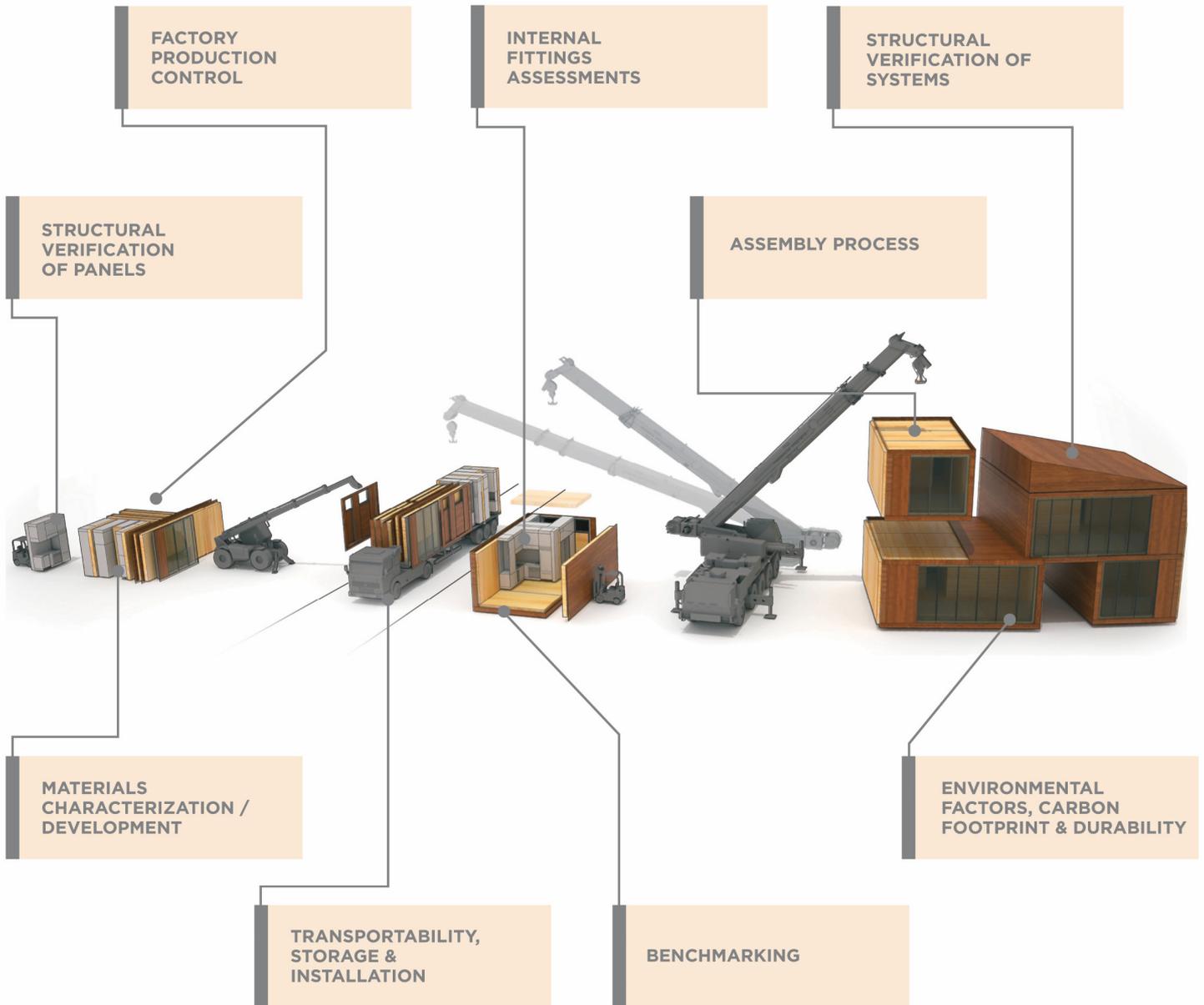


# SERVICES FOR OFFSITE & MODULAR BUILDING COMPANIES



## STRUCTURAL VERIFICATION OF PANELS

We provide laboratory testing for individual wall, floor and roof panels, as well as for entire building panels, to assess structural integrity in relation to wind loading, racking ability and compressive loads. We also assess the thermal, acoustic, air leakage and durability characteristics of full systems and develop customized test programs for innovative systems.

## FACTORY PRODUCTION CONTROL

Lucideon holds a Notified Body status under the Construction Products Regulations for Certification of Factory Production Control under ISO/IEC 17065 in areas such as masonry or road construction products.

## ASSEMBLY PROCESS

Our experts can assess the ease of on-site panel assembly to form the finished structure, and produce models to increase efficiency. We can also evaluate connections and sealant techniques, and develop best practice guides and installation manuals.

## STRUCTURAL VERIFICATION OF SYSTEMS

For finished buildings, we offer on-site testing to assess installations, air leakage, thermal performance and acoustic performance. In addition, we provide hose testing of penetrations, including window and door reveals. These tests enable easier sign-off for building regulations and guarantee providers.

## MATERIALS CHARACTERIZATION / DEVELOPMENT

Material properties for each of the individual elements of the composite panel can be characterized with regard to material and physical properties. This allows a choice of generic materials with similar attributes to be used in the construction process, or allows quality control of the materials used in the panel construction.

## TRANSPORTABILITY, STORAGE & INSTALLATION

Transportability of modular buildings has an impact on costs. Handling techniques and storage can impact upon the carbon footprint and affect safety requirements during installation. We can assess the effects of the processes on the integrity of the system and ensure the safety of the construction.

## BENCHMARKING

Material properties and characteristics can be benchmarked to allow generic products to be used to optimize the use of energy, time or materials. This allows a broader range of products to be sourced with no fear of reduced performance and hence provides a more cost-effective approach to sourcing and buying.

## ENVIRONMENTAL FACTORS, CARBON FOOTPRINT & DURABILITY

All environmental impacts need to be considered. The suitability of cladding materials for their intended life cycle, which includes renders, brickwork, concrete and modern composite materials, need to be considered as the design life of a building is now expected to be plus 60 years. Samples can be subjected to accelerated weathering and assessments made as to their structural integrity as well as their aesthetics. We use thermography for buildings to explore energy efficiency and cold bridging problems, as well as heat flux plates to monitor energy usage and the efficiency of insulation systems. Assessments for condensation risk and carbon verification can also be performed.

## INTERNAL FITTINGS ASSESSMENTS

We can assess offsite units for all types of modular building projects, from hotel, residential and student accommodation, to public sector buildings and high-rise offices. Our experts test individual fixings in-situ, and the load characteristics of fitted and complete units. When transporting finished units, differential movements can affect both the exterior and interior fittings. We are able to simulate these movements in our laboratories or monitor movements during transportation to quantify any damage caused, and advise on methods of stiffening or alternative construction techniques to avoid costly and timely onsite repairs.