**Title Mass timber systems – route to market**

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**Image caption Research methodology into mass timber systems**

**Key words**

Mass timber, solid laminate timber systems, CLT, DLT, NLT, Glulam, laminated timber, manufacture, compliance criteria, mass timber research.

**Main body**

The popularity of mass timber systems is on the rise. Timber products, due to their environmental credentials and other benefits, are becoming the material of choice for many specifiers. But have you ever thought “what does it take to introduce a new mass timber product, such as Cross Laminate Timber (CLT), Glue Laminated Timber (GLT), Nail Laminate Timber (NLT) or Dowel Laminated Timber (DLT), to the market”? You probably realise that the process requires time and effort, but what does it include exactly?

First of all, the process of implementation needs to be planned with care. This is to ensure that the end product you want to develop not only fulfils the requirements set out in the standards, but also, reaches the desirable market penetration ideally utilising locally sourced material. The process of implementing a new mass timber product can be split into several stages, referred to in research terms as a “methodology for implementation”. It usually begins with identifying the correct mass timber product for the context by understanding its parameters - manufacturing process, applications etc.

Once the desirable system has been identified, its parameters for application and utilisation considered, the ‘Preliminary investigation’ can begin. The purpose of this stage of product development is to understand the market conditions and available timber resources, as well as to investigate the most appropriate joining technique (adhesive, dowels) and lamellae configuration.

Next stage of the research is the review of the ‘Compliance criteria’ for the chosen product. Most mass timber systems, whether it’s CLT, DLT or GLT, have specifically defined requirements and assessment methods set out in internationally recognised standards. The properties which need to be assessed are similar for most mass timber systems and are usually linked to their mechanical resistance, bond strength, durability and fire properties. In most cases all required properties of mass timber system can be assessed either: by declaration of properties of timber layers or by testing, often it’s a combination of both.

If the outputs from the preliminary investigation are promising and there’s a good chance that your product will meet all compliance criteria, the next step is to consider ‘Pilot manufacture’. At this stage it’s important to follow appropriate quality assurance procedures. This will allow for an accurate appraisal of the manufactured product and help to gain necessary knowledge needed for follow on stage including full scale manufacture.

Pilot manufacturing the product allows the next state to take place which is ‘Primary investigation’. This stage is where the properties and compliance criteria of the proposed mass timber product are determined, often by means of full scale tests. Information obtained from this stage of the research should be comprehensive enough to extract product information aligned with what would be required for full certification and reflecting of what could be achieved via full scale production.

To further optimise and add value to the mass timber product, it is recommended to carry out appropriate ‘Design and Analysis’ exercises in order verify the outputs from all previous stages of the research. This should be done by applying the results to various building scenarios, carrying out performance modelling and structural detailing.

Finally, the system is ready to be trialled on a ‘Pilot project’. This is a crucial stage and provides a first hand learning experience which will demonstrate the feasibility of the mass timber system for full scale manufacture

Do you want to find more about the mass timber systems and learn more about the past and the future of mass timber products manufactured from UK resource? Register for the ‘Mass Timber Systems’ seminar on December 04th at the Lighthouse, Glasgow, where you will have an opportunity to:

* hear more about manufacture process and assessmet methods of mass timber systems,
* learn about the research carried out so far on the UK mass timber systems including CLT, Glulam, NLT and DLT,
* get an insight into the future steps towards the commercialisation of a UK mass timber product

**Event link**

<https://www.eventbrite.co.uk/e/mass-timber-systems-tickets-81325824731>