

# Some assembly required

Wooden or steel columns and beams are cut to the required size in factories, and then just pieced together at the construction site. These efficient and safety-boosting construction methods are being used for three three-storey blocks in the second phase of start-up space JTC LaunchPad @ one-north.

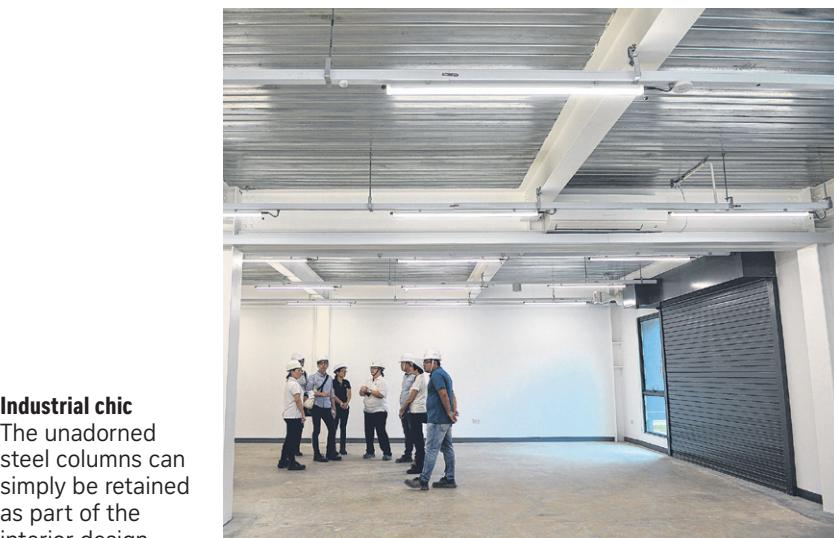
## Structural steel

Blocks 75 and 77 are built using structural steel, coated with special paint for fire protection.



### Locking it in

Steel beams and columns are shaped to requirements under factory conditions. On site, only bolts and nuts are needed. This eliminates the need for welding, which is potentially more dangerous.



### Industrial chic

The unadorned steel columns can simply be retained as part of the interior design.

## Engineered wood

The new Block 81 is natural to the core. Glue-laminated timber or glulam is used for its structural beams and columns, and cross-laminated timber for floor slabs.



### Fitting it together

Beams and columns are joined in slots, and are secured by nails and screws. Workers have to handle only simple tools such as hammers and electric screwdrivers, making for a safer construction environment.



**Factory-made**  
Tailored to the project's exact specifications, the special timber pieces are made under factory conditions in Austria and shipped over here.

### Natural style

Exposed wood beams and columns inside the building add a stylish touch.

### Keeping dry

To protect the wood from Singapore's humid and rainy climate, the exterior of the building is covered with dryboard and metal cladding.



### How are they made?

Lengths of timber are cut to size and glued end-to-end, forming sheets called laminates. These are glued together along their flat surfaces, and pressure is applied. The resulting glulam beam can then be cut to the required shape.

## These methods are...



### Lighter

Both engineered timber and structural steel are much lighter than concrete beams, and can be lifted using manual hoisting or small mobile cranes. This saves manpower and makes for safer construction.



### Faster

With quick assembly methods used, the JTC LaunchPad blocks will take about one month less to build, compared to the 11 months it would take with conventional methods.



### Less disruptive

With little dust or noise generated, these methods are particularly suitable for construction taking place near existing buildings.



### Efficient

These techniques require about 10 to 15 per cent less manpower than conventional concrete casting.



### But... costlier

Despite the productivity gains, both engineered timber and structural steel work out to be more expensive than concrete, due partly to the cost of importing the components. However, this could change if there are economies of scale.