

# Off-site construction research at Loughborough: a new modular building system hits the headlines



Loughborough's reputation for expertise in off-site construction made it the obvious choice for collaboration on a new EngD project with Buro Happold on an innovative modular building system by Verbus that uses shipping containers.

Containers are a good example of product technology transfer between the transportation industry and construction. They are stackable, easily transported and in plentiful supply.

However, designing, manufacturing and building an 8 storey hotel from metal containers to UK building regulations is a significant task. It took 3 years of prototyping, load testing, fire engineering, acoustic evaluation, and some careful local authority negotiation. It was therefore rewarding to see the dramatic pictures of these modules stacked in a busy London suburb hitting the national press and TV recently. Using catchy headlines such as 'Hotel checks in from China' (Financial Times) and the even more memorable 'It's a 'crate' place to stay...' (Metro).

The hotel rooms are indeed made and fitted out in China, and this has caused a few ripples in the UK building market. Volumetric or 'modular' construction fulfils many of the government best practice targets pro-



*Uxbridge Travelodge Hotel – complete building*

moted by Latham et al – innovation, improved product development, increased manufacturing, better use of a skilled workforce and reliable product delivery.

The container system is very recyclable, and it was this particular aspect that was most attractive to the client. The Verbus system has become a useful case study for the 'Adaptables' team at Loughborough, who have been working with Adrian Robinson of Buro Happold on this project.

Does this system and others add further weight to the off-site argument? Buildings promote many strong feelings, and not every building suits manufacturing, but it's a good moment to ponder on the future of buildings in increasingly dense urban sites and on new ways of building.

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