

## The German visit in 2016 & design-and-build project



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DT169/2 winning design and German group celebrating in topping-out event (Richtfest)

### Details

When: September 16 to May 17

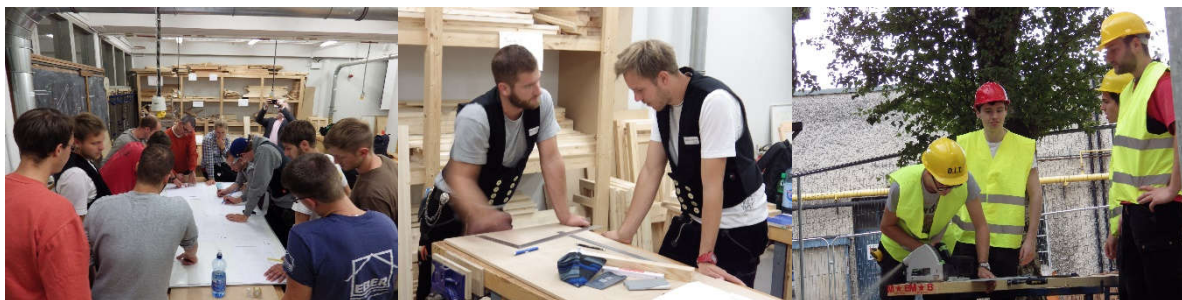
What: Eleven carpenter-Joiner apprentices and three managers from the ZI-Holzbau training centre in the town of Biberach (Baden-Württemberg, Germany) joined Dublin School of Architecture on a two week Erasmus-funded mobility in late September. They came to improve their English and BIM skills, attend lectures and collaborate with DSA students. The design-and-build project was to create a 3.5m high, 30 m<sup>2</sup> building materials shelter. It was built over many months by students and lecturers.

Where: Dublin School of Architecture and rear yard of DIT Linenhall.

Who (within DIT): The students of DT175 Architectural Technology, Year 2 (especially Michael Wood, Liam McKiernan, Kevin O'Halloran, Nala Ghantous, Jordan Heeney and Alex Forde, Dariusz Grabus); The students of DT69 Timber Product Technology, Year 2 (Alex Byrne, Jamie Black, Robert Blake, Eoghan Purtell, Cianan McNally); student Jiri Dobrovolny of DT117/4 (who assisted with health and safety overview). Lecturers involved were Alan O'Donnell, Noel Brady, Tony Hayes, Ray English, Jim Roche, Aidan Ryan and Marcin Wojcik, Joseph Little (AHoS).

Who (without DIT): The ZI-Holzbau team from Biberach, Germany.

Sponsors: Materials suppliers: Brooks (who supplied timber and sundries), Irish Rollforming (who supplied metal deck, gutters, downpipes and trims), and Masonry Fixings (who supplied long screw fixings, bolts and sundries). Financial support: Some funding support carried over from the Peter Rice Summer Workshop of Summer 2016. Festool and Topcon also contributed equipment and time.



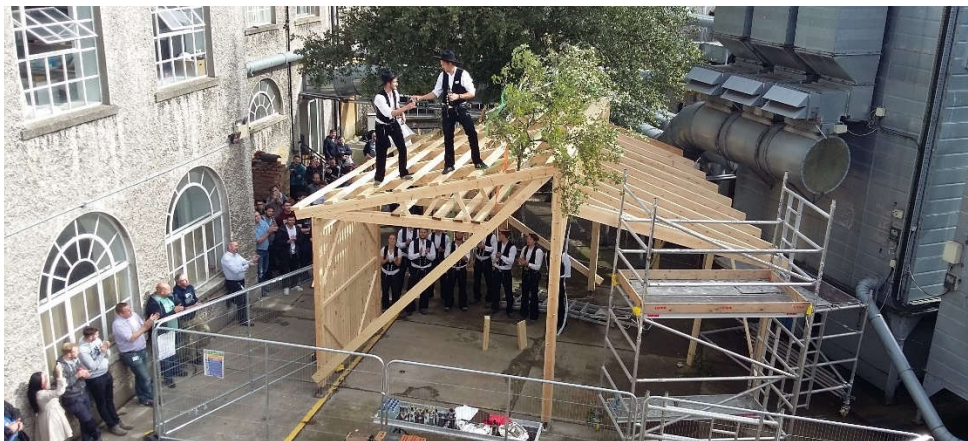
Discussions and action building the materials shelter

## Description

The Build Project originated as a follow-on project to the Peter Rice Summer Workshop (June 2016). It gained impetus by being an external shelter that could free up space in the brick and stone workshop to teach growing numbers of apprentices. Undertaking an open-sided building was only conceivable because we knew 15 carpenter-joiner apprentices would from Germany would be present for two weeks in September. Initial schemes created over the Summer were revised downwards till the School Executive, the House Committee and Wolfgang Schafitel the manager of the ZI Holzbau apprenticeship training centre were all happy to give go ahead.

The lecturing team of Architectural Technology Year 2 made the design of the structure the theme of a week-long competition in the first week of their Technical Design Studio II module. Eight teams created technical design strategies. The winners were chosen by (retired DIT lecturer & engineer) John Lauder, Joseph Little and Wolfgang Schafitel (who had by now arrived in Dublin). Because the design of Team 7 (featuring Michael Wood, Liam McKiernan, Kevin O'Halloran, Nala Ghantous, Jordan Heeney and Alex Forde) featured three interesting structural forms with educational value it was selected to be built. These are (a) a truss-supported roof that had the potential to span large distances, (b) a simpler lean-to roof to rear and (c) a timber box beam on which both rested. John Lauder emphasised how seldom Irish engineers and architects make full use of the structural potential of timber to span long distances when used in this way.

Drawings were then passed to the fabrication team (the German apprentices and students from DT169/2) who resolved exact geometries, types of junctions, erection sequencing and safety. Interestingly health and safety was the place where our national differences in building practice were most evident. German building culture places the safety of the site worker on his/her own shoulders supported by the collegial care and concern of fellow workers: the Irish approach is less trusting and far more structured. The Germans felt slowed by our processes, yet we knew that any incidents would be judged by Irish standards and legislation. I am glad to say no incidents occurred.



German carpenter-joiner apprentices on the roof of material shelter celebrate the 'Richtfest'

Two days of fabrication were followed by two days of erection. The photos of the traditional 'Richtfest' (topping out festivity) showing carpenters standing unsupported on rafters toasting the building with wine while reading poetry, followed by clap hands on the ground below is a sight many of us will remember for some time! The following Monday they fitted the deck and breather membrane on the main roof and handed over. Over the remainder of their visit the German apprentices studied BIM (in which we are more advanced than Germany), construction management, went on a site visit to the Luas works and learnt about Irish culture. The School will be playing host to them over the next three years.



In November Joseph gathered a team to paint preservative on the unfinished softwood structure. In January (just before Semester 2 started) another group came together to fix sinusoidal roof deck, trims and a gutter to the main roof. They also gave another coat of preservative. Finally in Review Week, and since the culmination of exams, further groups have completed the works. A lot of fun and learning happened, and generally we were blessed with great weather.

The material sponsors were all important: Brooks Group (Building materials supplier), Irish Rollforming Ltd (supplier of cold formed metal roofing products) and Masonry Fixings (suppliers of a myriad of seals and fixings). All three firms were very patient when second and even third top-up orders were made. Of course the project also needed money: this was available as the remaining portion of the funds gathered from the sponsors of the Peter Rice Summer Workshop (i.e. Arups, Coady Architects, Wood Marketing Federation, High-Tech Machinery, Coillte and Ecological Building Systems). That sum financed site fencing, scaffolding and harness rental, pizzas, and bits and bobs.

In terms of technology the Germans were intrigued that we had to bolt together planks to make large timber posts or beams they could have ordered as single solid members. We were impressed by wood screws more than 200mm long that the Germans used to tie much of the structure together. On their side they were happy to set out the rear yard of Linenhall using the latest Topcon site setout equipment under the tutelage of Topcon's Jonathan Argue, and they enjoyed using our Festool powertools. Dublin School of Architecture hosts Ireland's Festool Technology Centre, and coincidentally Baden-Württemberg - the state they come from - is the home of Festool GmbH.



The completed material shelter, DT169/2 students and German apprentices at work, lecturers Marcin Wojcik and Jim Roche fixing the roof on a cold Spring day in 2017