



Make space for fabrication and future makers



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Demos is a cross-party think-tank that produce original research and publishes innovative thinking on social policy. The following article was written by architect and design activist Zoë Berman.

Much thought is being invested in the question of how the UK can improve its industrial strategy, and how we train young people to design and make things. Many people agree this is essential for a resilient economy and reinstating a sense of identity among working communities. What isn't agreed on is how to go about this. There are fundamental contradictions at the heart of this debate that need to be raised if a renaissance in making in the UK is to have a chance of success.

As a practising architect and educator I find myself part of parallel conversations about the future of the construction industry with two key lines of thinking that appear to be running diametrically to one another. First is the proposition that in the coming decades digital technologies are going to be the cure-all for the construction industry, predicated on an assumed upsurge in the use of automation and computerisation to build and manufacture. Ideas abound about how new-tech will solve the housing crisis, streamline the mess of building projects, and cut out waste and inefficiency. With this comes much head scratching about the associated loss of jobs that will occur if and when the building industry shifts to automated methods.

Meanwhile in my role as an undergraduate design tutor I'm hearing ever mounting calls for improvements in technical education. Particular attention is being focussed on improvements in training for 16 - 19 year olds. In 2015 Professor Alison Wolf was commissioned by then Secretary of State for Education to review vocational training, producing a report with constructive recommendations on policy, quality of training and governance. In April last year the government funded a further report, chaired by David Sainsbury, looking at systematic reforms in technical education to address a shortage of technicians in industry. Last month at the Future Cities Forum the new director of the V&A, Tristram Hunt, called for a revival of polytechnics, "particularly in cities that need the regeneration we want." In his pre-election budget Philip Hammond unveiled plans for new 'T-levels,' which will be a technical equivalent of A-levels. Young people will be offered study options within 15 proposed sector areas, including

the broad-brush descriptors of Creative and Design, Construction, Digital and Engineering, and Manufacturing. The government's plans are in the early stages. But if this educational overhaul is to be useful in the long term, government ministers need to get to grips with how the UK is going to successfully train young people in manual types of work – tangible, craft based – in an age when robotics is becoming an ever-closer threat to jobs. There are two opposite pulls here: significant investment being made in training for hands-on and often physical kinds of work, and at the same time a rise in digital, computer-based forms of manufacturing.

Without clear-sighted and forward-looking thinking, the government will be investing a proposed figure of £500 million a year in the T-levels scheme, delivering forms of design and engineering training that could prove to be obsolete. That is, if the automation of the future does impact on the construction industry in the way that many are predicting. And here lies another rub. In the industry of architecture and design we're getting excited about the possibilities afforded by prefabrication, pre-engineered systems and digitisation. Yet the UK has almost no factories set up to provide this type of manufacturing. Companies able to deliver off-site construction projects at the scale needed to have any serious impact on the UK's housing crisis, or operating at a significant enough scale to make meaningful impact, simply don't exist in the UK.

The lack of built infrastructure for manufacturing is directly reflected in our capacity to carry out technical training. We do not have high quality centres for making, or enough built spaces to host and house vocational training programs. Three years ago the Wirral Metropolitan College commissioned Glenn Howells Architects to design a new Built Environment, Skills and Enterprise Centre in Birkenhead to create an education building to house courses for 16 – 19 year olds. If the government's planned shakeup of technical training is to work, significant investment in such buildings will be essential.

Meanwhile, the Chancellor is putting verbal weight behind hopes for improved productivity and a brighter, shinier kind of industrial strategy than what has gone before. For this to be any kind of success we're going to have to build a new kind of industrial landscape. Even if the future of manufacture does lie in robotics, those robots will need to be housed.

Much attention is being paid right now to this country's housing crisis, and well it should be. But alongside this we need to maintain existing places for industry and create more spaces, both for our existing makers and manufacturers, and to train the makers of the future.

Manufacturing in the UK is in a state of crisis, and we're caught in a pinch point between pursuing digitally-based fabrication or hand-crafted, skilled making. The government is poised to substantially invest in improved methods of vocational training. But whatever the outcomes of the handmade versus mechanised debate, the UK needs significant investment in industrial infrastructure. That has become all the more urgent right now as we think about the UK's position in a global economy.

