



#2: Help resource, manufacturing and distribution systems keep up with demand

With a model of Distributed Manufacture (DM), production of the Everything Unit could be evenly distributed across the HMP estate, rather than at a handful of prisons. This would add flexibility to the system of furniture production and distribution.

The Everything Unit has two primary components: (1) plastic panels for the back and sides, and (2) shelves made of lightweight and recyclable material. Plastic panels would be fabricated in prison industries using a method called injection moulding, which prison industries already uses to produce plastic products. This manufacturing process is good for producing a large volume of units quickly, and would only need to occur at just one HMP establishment. The lightweight shelf components could easily be fabricated on-site at most prisons using CNC (Computer Numerical Control) or die-cutting machines. PSPI currently uses both methods for manufacturing products. These processes are common and relatively inexpensive.

You will find examples like this in prison:

A prisoner's MDF wardrobe is missing a drawer and shelf because years ago someone used those parts to make a wall mounted corner shelf and picture frame. The shelves cannot be replaced and so his best chance at better furniture is to take someone else's.

With on-site fabrication of components, individual prison establishments can respond to the needs of staff and prisoners more quickly and efficiently. The plastic panels would last a long time, and when in need of new shelves, staff could place an order for a shelving kit. On-site workshops would then cut the shelving with CNC, and the kit would be provided to the prisoners in short order. Also, there is no assembly required because the lightweight shelves simply slide into place.

#3: Improve safety and reduce weaponisation of furniture

The functional style and materials currently used in UK prisons can be described as 'hard architecture' (Matter, 2017) which is understandable when thinking of the challenging circumstances. However, living in this environment can wear down the inhabitants, being surrounded by materials that are tough, 'resistant to human impact' and devoid of comfort. Our research into use, misuse and abuse of the furniture found that there were many different motives for the damage of furniture. Commonly, feelings of frustration, cries for attention and raging anger are taken out on the furniture, in some cases to the level of 'flatpacking' (the total destruction and 'posting' of furniture through the cell door's window panel).

Matter architecture practice produced a report called Wellbeing in Prison Design: A guide (2017) in which they describe 'hard architecture' and its effects:

'The entire environment should not be designed to be indestructible as this tends to encourage destructive activities. Providing elements that require a small degree of care in use, particularly in individual spaces can help foster better connections between people and their environments.' (Matter, pg 182)

The design of the new cell furniture aims to have better functionality as well as responding to prisoners' desires – working to increase the chance of an emotional attachment. We ask, how can material changes help to encourage this? Matter put forward that 'use of soft materials reduces the negative effects of 'hard architecture' (Matter, pg 182), referencing Viktor Papanek's (1995) work that 'curse and soft forms can induce a feeling of calm. We have explored materials that can bring a sense of comfort and calm to the cell, as well as more destructible elements that are designed with destruction in mind, a method of 'target softening'.

The current cell furniture made of MDF appears robust, but it is easily broken and more easily discarded than repaired. In comparison, if someone tries to intentionally break the Everything Unit, it is designed to break at points that are easily replaceable or repairable. Specifically, the plastic panels are robust and designed not to break or shatter, but they are joined with plastic fasteners. These fasteners are designed to fail before detrimental damage is done to the panels. In the likely event that a prisoner 'flatpacks' the cell, the prison could simply put the Everything Unit back together using new plastic fasteners and thereby extend the life of the furniture. Depending on the damage, the shelves might need to be replaced, but because this material is inexpensive and recyclable, these fixes are not very costly. Worst case scenario, the plastic panels are damaged beyond repair and the material is recycled, granulated and moulded into new plastic furniture units.

#4: Reduce the amount of cell furniture sent to landfill

MDF cell furniture makes up the majority of storage-type furniture units and beds, and is exclusively used in all new prison builds. It is easily broken, difficult to repair and not recyclable. The polypropylene (PP) plastic specified for the Everything Unit is robust and the same plastic used for the current plastic in-cell chair. Even though this plastic can be recycled, HMP typically uses virgin PP in its furniture production as opposed to using recycled PP, so there are possibilities to make this system more environmentally friendly.

In an ideal situation, we recommend implementing a circular model of production such that the product does not end up in landfill, but is instead recycled or repurposed. The plastic components of the Everything Unit – its panels and fasteners – can be recycled, granulated and used to create parts for new Everything Units. The non-plastic components of the Everything Unit – for example, cardboard shelves and dividers – are also recyclable. They might not be as robust as plastic, but they are safe, and difficult to turn into weapons.