Biesse goes Hyper

With Hyperpods on your Biesse Rover you will be able to carry out secondary machining operations without intermediate handling and re-referencing.

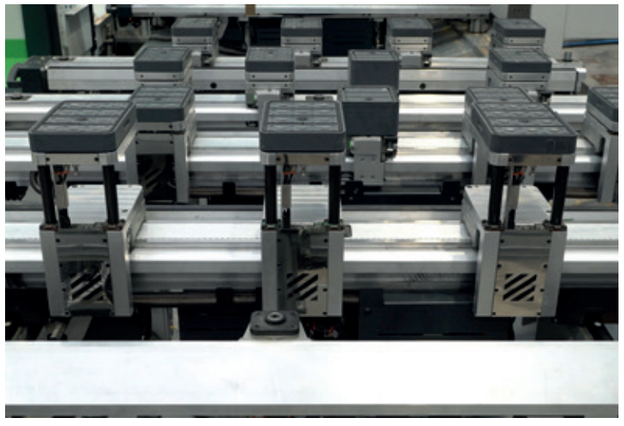
Cutting curved or shaped components on a CNC that subsequently need edging, drilling or routing can often involve removing them from the bed of the machine, flipping them over and re-referencing before the secondary operation can be performed. In terms of productivity, that's far from efficient. It also carries the risk of damage during handling and without due care during re-referencing, can easily lead to wasted materials if the secondary operation is carried out on an inaccurately-positioned workpiece. If individual cut components could be face or edge-drilled, routed or edgebanded without the need to remove them from the bed, not only would there be a significant time-saving, the associated risks would evaporate immediately.

That was the reasoning behind the development of a brand-new generation of pods that was launched in early 2022 by Biesse: Hyperpods.

What is a Hyperpod?

Biesse's CNC Brand Sales Manager, Michael Clack, explains: "A Hyperpod is a standard pod that allows you to lift and lower workpieces so secondary operations can be carried out. They will lift individual components that have been machined out of a panel so they are above the main panel, enabling secondary operations such as edgebanding, routing, even edge-drilling to be performed on them.

"A Hyperpod is a standard pod that allows you to lift and lower workpieces so secondary operations can be carried out."



"Each Hyperpod can move up and down individually on its own cylinder, so if we need to cut multiple components out of one sheet, we can raise and lower the Hyperpods one at a time without disturbing other components that are being cut from the same sheet.

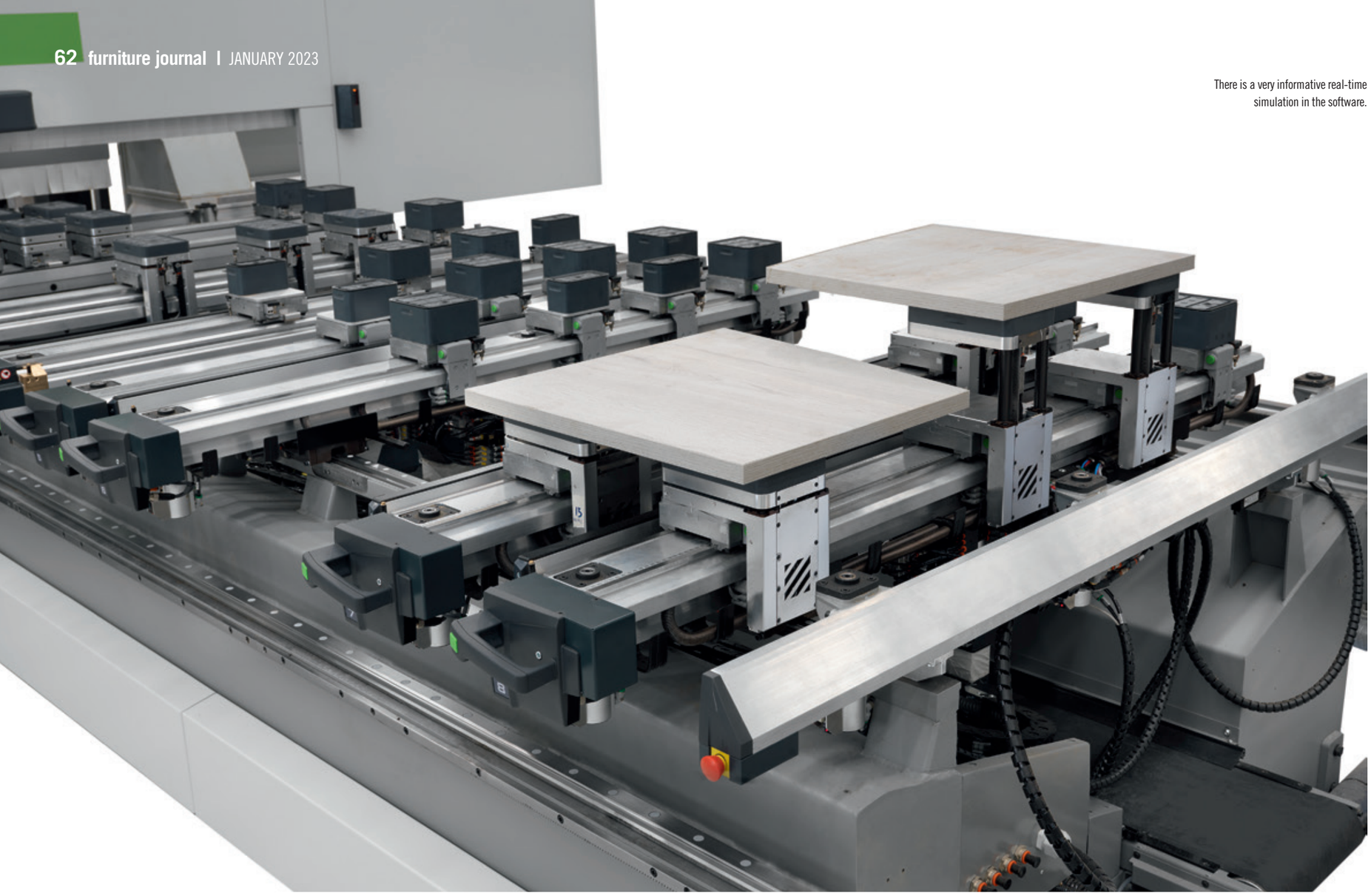
"The beauty of Hyperpods is they can be used in conjunction with standard pods so, if the machine is pre-configured to accept them – and that's something you would specify at the time of purchase – we only need to take them off or add them onto a base for them to work. Every single pod on a machine will be pre-configured so it can be used with a Hyperpod but not every pod has to have a Hyperpod on it. It can have a standard 74mm pod on and they can be moved around as required. The two will work together.

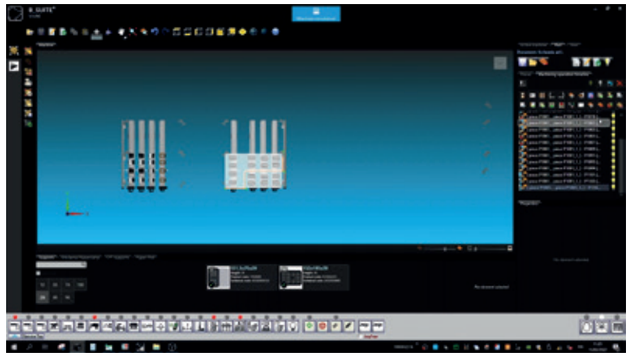
"If we need to do a desk cutout, for example, and we only have a small part that needs to be moved out of the way, that could be done on standard pods and the rest could lift up – or vice versa."

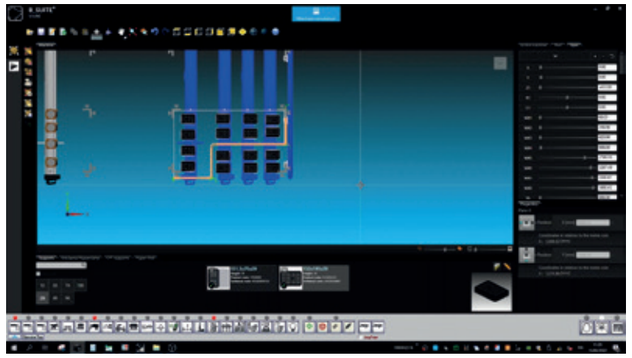
In order to accommodate the Hyperpod system, a machine must be equipped with Biesse's highly flexible multi-zone vacuum system – and a separate system provides

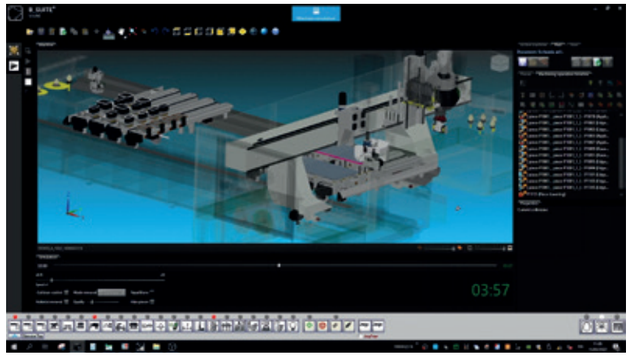
Michael Clack

There is a very informative real-time simulation in the software.









compressed air to lift and lower each Hyperpod so it's either fully up or fully down. For that reason, retro-fitting the Hyperpod system to older machines isn't a viable option. "The vacuum is controlled independently for each base and can be turned on and off independently," explains Michael. "Sometimes you need to remove some workpieces from the bed, so you need to be able to turn those pods off without turning everything else off, otherwise you would need to re-reference. Each one can be controlled up and down individually and with the XPS automatic table, each one can move individually as well as release the vacuum when needed."

Hyperpods, which are available in two sizes, can be specified on the new Rover Edge range and Rover pod and rail machines, which, as Michael explains, "Can be equipped with clamps on one side and clamps on the other so you can still use it as a standard machine. They could be Hyperpods on the other side.

"Some customers want a hybrid machine based on a pod and rail version but with the ability to run as a nesting machine. At Biesse we have something we call Convertible Flat Tables (CFTs). These are makeshift flat tables that plug into the vacuum system and plug into each other to turn the machine into a nesting machine. We can control everything from inside the software. Once nested, multiple panels can be moved onto hyperpods and processed simultaneously."

All the pneumatics and the valves have been redesigned on the new Hyperpod-configured machines. Even the pods are different to a standard pod. Nevertheless, that hasn't made a massive difference to the cost of a Hyperpod-configured machine. If you can decide at the point of ordering, preconfiguring a machine like a Rover A Edge to take Hyperpods – even if you don't need them immediately, for a slight increase in cost the machine can be pre-configured for Hyperpods. As a further contribution to keeping Hyperpods affordable, you don't need to have one in every position on the machine. The minimum order is four and the rest can be standard pods but you can add extra Hyperpods singly if you find you need more later.

So, how difficult is a Hyperpod-equipped machine to use?

"From an operator point of view, all you need to do is be able to understand the program. If the program is being produced in the back office, the machine will pause when each workpiece is finished. If it needs to release vacuum, it will move over, release the vacuum and the operator can take the component off.

"If you were going to cut two desks out of a sheet and in the middle there was a component that needed removing, for example, once the initial operations have taken place, you would see the cut-outs disappear from the simulation. The machine is telling you that during the pause, the components need to be removed.

"To carry out a piece-separation routing operation, the bSuite software takes one piece and separates it into two. It allows us to carry out secondary machining operations on each piece individually. At any time, we can go to the machine operation timeline where we have soft keys we can use to control the operation – such as lifting bar supports for doors, or changing the position of the clamps or the tables. That same functionality extends to the Hyperpods. All we do is tell the machine which piece we want to lift, or move. It's then put in the tree list of where we want it to go, so it will piece separate, lift piece two and carry out the drilling. The simulator uses the exact parameters of the machine to run the simulation, so even when the machine is tool-changing, pausing, or decelerating, everything is shown in real time."

Of course, for the ultimate in one-operator production, specifying a Synchro to load and unload is a move that will turn a Hyperpod-equipped machine into a completely autonomous automatic working cell. "Adding a Synchro basically cuts out the need for a second operator because loading and unloading can be done automatically."

By touching the image marked with a link sign, readers with the free Furniture Journal app on their tablet or smartphone will find a very informative demonstration of Hyperpods that also shows the clear graphic simulation. For further information call Biesse UK on 01327 300366 or visit **www.biesse.com/uk/**