

# The CNC Shop With Tom Morin

## Robotics Diary: Part 3 in a series



In manufacturing, silence is never golden. Cabinetmakers become highly attuned to sounds: the sound a hand plane makes when it's freshly sharpened, the sound of a router when it is not, or the of pops and zings that let a machine operator know that the edgebander is working properly, or more often —

not. Indeed, most machining problems are heard before they are seen.

Our newly up and running robot, on the other hand, is almost silent. Amazingly robust yet nimble and precise, it makes a soothing whirring sound that can just be heard above the drone of the spray booth.

What you can't hear, is the large team that was required to put this venture together. A robotic workcell is different than standard CNC machines. The robot itself is like an engine that needs a car built around it. It has the generic ability to move, but has to be adapted to its specific task. Unlike a CNC machining centre, you can't buy a ready-to-go robot to unload your panel saw. A robot has to be custom adapted to your requirements.

From my experience, here are the people you need to put a robotic work cell together.



### A visionary

Because robotics is not common in woodworking, you can't count on the actual robot vendor to understand your needs or application. Instead, you need an expert in wood manufacturing who understands the potential functionality of robotics, to push and guide the process. In my case, one Brian Timothy filled this role. As Brian has spent his career bringing new technology to the woodworking

sector, his experience was invaluable.

Building a process from scratch requires attention to detail. We needed to provided input and oversight to every link of our supply chain. This was key to pulling the project together.

### A robotics company

Beyond getting a good machine and good value, the robot vendor provides programming support, and contacts to other

business with similar applications. We needed to call on Kuka's programmers on a few occasions to move our project ahead. A good company will also have a well equipped teaching facility for training of operators and programmers. Kuka scores an A on training (kuka.com).

### An integrator

This is possibly the most important decision in building a new process. Integrators are responsible for building and coordinating the peripheral parts of the workcell. They write the programs and build the fixtures that make it all work. Integrators typically build manufacturing cells for the automotive business, or other big industry. We found a great partner in Saber Engineering (sabereng.com). They overcame many hurdles to meet a demanding specification in a short time.

So now we can turn our attention to production, and listen to the whirring of our workcell: it's the sound of a plan coming together. **ww**

*Tom Morin runs Morinwood Contract Millwork in Victoria BC, which is currently supplying automated assembly and project management services to Island Precision Mfg., (islandprecision.com) for their latest project — the millwork contract for the Vancouver Convention Centre Expansion Project. This marquis building will house the broadcast centre for the Winter Olympics. Its interior is designed to tell the story of BC's woodworking sector and showcase its innovative future.*

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