

Behco-MRM Brings Universal Robots to Life

In the last 5 years, the Michigan manufacturing market has witnessed the introduction of a new collaborative robot (Cobot) on the production floor. Designed to work alongside workers, Cobots are solving the labor problems for companies that have dirty and/or repetitive work. Universal Robots has emerged as the global leader in Cobots, and Behco-MRM is the leading Universal Robots distributor and solutions provider in Michigan, serving customers from Hudsonville to Madison Heights with knowledgeable engineering and sales support. Together, Behco-MRM and Universal Robots are changing the paradigm and enabling manufacturers to quickly and easily deploy Cobots by themselves. So, how do they do it? We spoke with Behco-MRM's Scot Van Vleet, Senior Sales Engineer, and Kaleb Rodes, Applications Engineer.



KALEB RODES.

while studying Computer Engineering at Lawrence Technological University. When I work with customers, the first task is training them on the programming. Universal Robots offers some free training; however, there can be unique challenges in a production process that we can help overcome with our experience. While the Cobots are easy to teach, they typically need to interface with machines and accessories – so it's important to engineer the system as a whole and make sure it is safe and effective.

Kaleb – You touched on safety. It's a robot; how do you make it safe without a cage?

Collaborative robots are a new class of robot using redundant safety systems to ensure, with proper programming, that no one will get hurt. It is still important to look at the system as a whole. The parts, end-of-arm tools, and process with the machine all can impact the safety risk assessment. Universal Robots are Force Limited – which means the power output is programmable to ensure that it's never going to cause injury if it makes contact. They also have safety inputs which can connect

to other devices that will make the robot stop and hold position if someone is in the working zone.

Scot - Where are customers using collaborative robots?

The best place to launch a Cobot is for handling parts, whether it's loading or unloading machines, moving product from one process to another, or picking and placing into packaging. As customers gain experience, they often find other areas to reduce waste and improve quality. Cobots are great for adding inspection and detection processes that will prevent the delivery of defective parts. More advanced projects are doing fabrication, and removing dirty or dangerous work from workers' tasks, such as gate clipping, glue dispensing, etc.

Kaleb –What advice would you offer an engineer being tasked to launch a Cobot?

I'd start with some on-line research. Universal Robots' website (www.universal-robots.com) has excellent Case Studies from a variety of industries and processes. After that, bring us in! We can answer the deeper technical questions specific to your business and application. There are several considerations, such as part presentation. Cobots need to either have a specific place from which to pick, or vision tools that tell the Cobot where the part is on a conveyor or randomly in bins. We offer solutions for these challenges.

Scot – This sounds almost too good to be true. Tell me about the financial impact using Cobots?

We've seen an average Return on Investment of 9 months for a job running 2 shifts/5 days a week, with a capital investment of about \$60,000. That would include the largest Cobot, accessories, and



Behco-MRM has been leading the sales and support of Universal Robots (UR) in the Michigan market since the 2013 introduction of collaborative robots (or cobot). With offices in Western Michigan and metro Detroit, Behco-MRM's team of Application Engineers has deep expertise with cobot and related technologies that enable efficient and effective solutions for a variety of applications. Visit <http://www.behco.com/> for more information.

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Scot – Who is your typical customer and tell me how you engage?

Customers that are getting the most benefit are medium-sized manufacturers running multiple shifts and making parts of a similar style. Think of injection molding companies with parts on a conveyor, where a person's job is picking and placing parts into packaging; it's a repetitive task that's easy to automate. We offer a live demonstration of the Universal Robot so customers can see a Cobot at work. It takes about 5 minutes to set up and requires only power from a wall outlet. While we're on-site, we like to walk the floor to understand a customer's processes and, together, identify potential applications.

Kaleb – How long have you been engineering the Cobots and what is the typical challenge for a new customer?

It has been almost 5 years now working with Universal Robots. I started as a Co-Op student with Behco-MRM

allow for some engineering time from Behco-MRM to get the first job running. This technology allows our customers to keep their best people performing more valuable work while allowing the Cobots to take care of repetitive, dirty and/or dangerous activities.