

Q&A

Are there low cost solutions for increasing safety around a robot arm like Eva?

While there are low-cost solutions, they will depend on your unique setup and application. One of the cheapest options is to install a physical barrier between your workers and the robot. Using a service like [Vention](#) also allows you to add a piece of clear plastic onto the design, but you can also enlist the services of someone like Pilsz, who provide floormats, light gates and radars which work with Eva.

What type of extrusions does [Vention](#) use?

Vention has developed its own extrusion pattern, maximizing the moment of inertia while providing a lightweight extrusion. They also added V grooves that, combined with their gussets and plates, provide more rigidity to the structure.

Is the Eva software freely available for evaluation?

To get a demo of Choreograph, please [get in touch](#) with the team, and we would be delighted to help you.

I don't have any knowledge of 3D printing. How can I get started making custom grippers and jigs?

While the easiest way would be to use CAD software, it's still expensive to obtain and requires time to effectively use it. There are some online editors such as [Tinkercad](#) which can help you with an initial prototype and design for gripper fingers. For the printing side, there are a number of companies such as [Protolabs](#) (one that Automata has used over the years) which can provide both 3D printed parts and metal parts.

Do you have information on how to program your system? To understand how easy it is? Do you have information on your REST API interface?

At Automata, we strongly believe that robotics should be easy and that everyone should be able to programme a robot, regardless of experience. In its most basic form, Choreograph is a visual drag-and-drop system that allows you to create waypoints on a timeline; however, there are additional advanced features for more complex integrations. On the other end of the spectrum are the REST API and Python SDK, [full documentation](#) for which is online on our website.

Will Vention be sending loose parts for me to build?

Yes. All the loose parts that you see on the website are picked and packed directly from the warehouse and shipped straight to you, along with a step-by-step guide.

How do we know that our design is well done?

The Vention AI can help ensure that you are picking the correct parts, but it won't tell you whether the structure is stable. For that, they offer a free consultation service that can review your design and suggest modifications if necessary. There are also resources on the Vention website to help you get started with your first design.

Does Eva work with industrial protocols like MODBUS and PROFINET?

Does Eva allow for integration with ROS?

Rather than going with traditional automation protocols, we instead went with web protocols. Eva is one of the only robots on the market with a REST API, which means it can be programmed by almost any software developer, regardless of robotics experience. We are looking at adding MODBUS and PROFINET compatibility in the future, but Eva is already compatible with certain PLCs. Some integration with ROS is possible via the API and we are looking into further compatibility in future.

After placing an order with Vention, how soon will I be receiving my parts?

Vention offers several shipping options, so it's down to how quickly you need the parts for your project. As all the parts are in stock, everything can be shipped as early as the next day.

Where is Vention located and can you ship worldwide?

Both the offices and the warehouse are located in Montreal, Canada and Vention offer worldwide shipping, with competitive prices for European customers.

What are the inputs and outputs provided on Eva?

Eva has a range of different inputs and outputs, both digital and analog. It also has a range of standard 24V power rails and grounding pins.

With the wheeled table that Holtex used, how do you ensure that the position relative to the CMM is always maintained when the trolley has been removed and replaced later?

There are two options for this: physically screwing the table to the CMM with a bracket, or a low-cost safety option that functions like an electromagnetic switch to detect whether a door has opened or not. By adding two or three of these switches to the robot and the CMM, we can ensure that the two are aligned each time. If the robot and the CMM are even slightly out of alignment, the robot will shut itself off safely.

Is Eva still a collaborative robot? If so will it stop on detection of an obstruction?

At the moment, Eva is not classed as a collaborative robot, but we still class it as an industrial robot. The classification of collaborative robots is evolving and some robots only go part way towards meeting the definition, despite calling themselves collaborative. That said, Automata has ambitions for Eva to become a collaborative robot in future and we are making headway towards that goal.

What is Choreograph capable of doing?

Choreograph is capable of a number of different tasks, from creating relatively simple toolpaths to sophisticated integrations including IOs, wait steps, 'if' statements and scheduling. For a full demo of the software and its capabilities, please [contact our team](#).

Can you connect several Eva robots to perform a combined task?

Yes, through use of the REST API. You could connect all the robots and control them from one computer, via ethernet, to ensure that they seamlessly perform your application.

What is the price of the 3D Machine Building software?

Vention's design platform, Machine Builder, is completely free to use. You can access it by signing up on the Vention website, which is free as well. The platform is cloud-based, so no software download is necessary. Vention also provides free design support and reviews, we only charge for the components you order.