

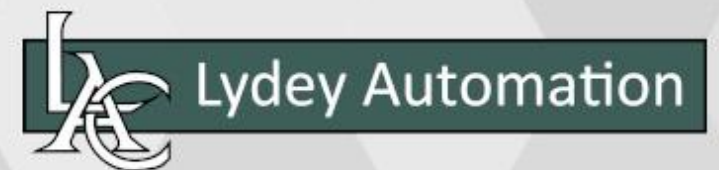


ABB Robotics and Lydey Automation

The Best Road to ROI



Fluid Power Robotics and Electric Motion Machine Safety Vision and Sensing Automation Controls

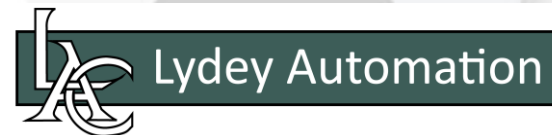


Our “Elevator Speech”

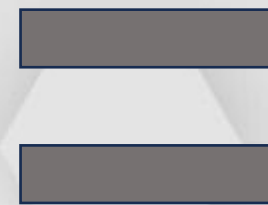
ABB Robotics creates market-leading robots and software, and Lydey Automation is your hands-on partner to help you leverage these technologies for successful projects.



- Market-leading Robotics
- The market leader for programming and Software
- Training and programming certification
- Highly durable, highly accurate robotics
- Close-to-home manufacturing in Michigan



- ABB robotics Applications support
- Access to Software and simulations for feasibility studies
- Commissioning support
- Tooling, Safety, Controls and complimentary automation
- Risk Assessment assistance and support
- Training and Education onsite



For Integrators:
Faster deliveries means your working capital isn't tied up as long
Guided access to robot resources means your time to integrate is shorter
Assistance with Peripherals such as safety, fencing, sensing and EOAT means a shorter design time
Access to Simulations means you'll have confidence in your design before you cut, weld or drill

For End Users:
Training and Programming assistance means you're never alone in understanding your robot
Access to our safety competency means you won't have to worry if your robot cell isn't safe
Close-by, in-person help is a phone call away, so you'll never have to worry about your capital investment being down.



What is different about ABB?

- ABB has a pedigree of **firsts**
- ABB **Builds** robots where they sell robots
- ABB is recognized by their competition as having the best **software**
- ABB has the **highest single market share** among industrial robots, globally
- ABB has the largest **breadth of product**
- ABB partners with **distributors**



ABB



Fluid Power Robotics and Electric Motion Machine Safety Vision and Sensing

Automation Controls



ABB pedigree of Firsts

- ABB was the first to produce an all-electric, microprocessor-controlled robot in 1974 – the IRB 6.
- ABB was the first robotics company to sell 100,000 robot systems, in March 2002.
- ABB was the first company to sell a commercially-available Delta robot
- ABB was the first company to commercially manufacture a robot in the United States

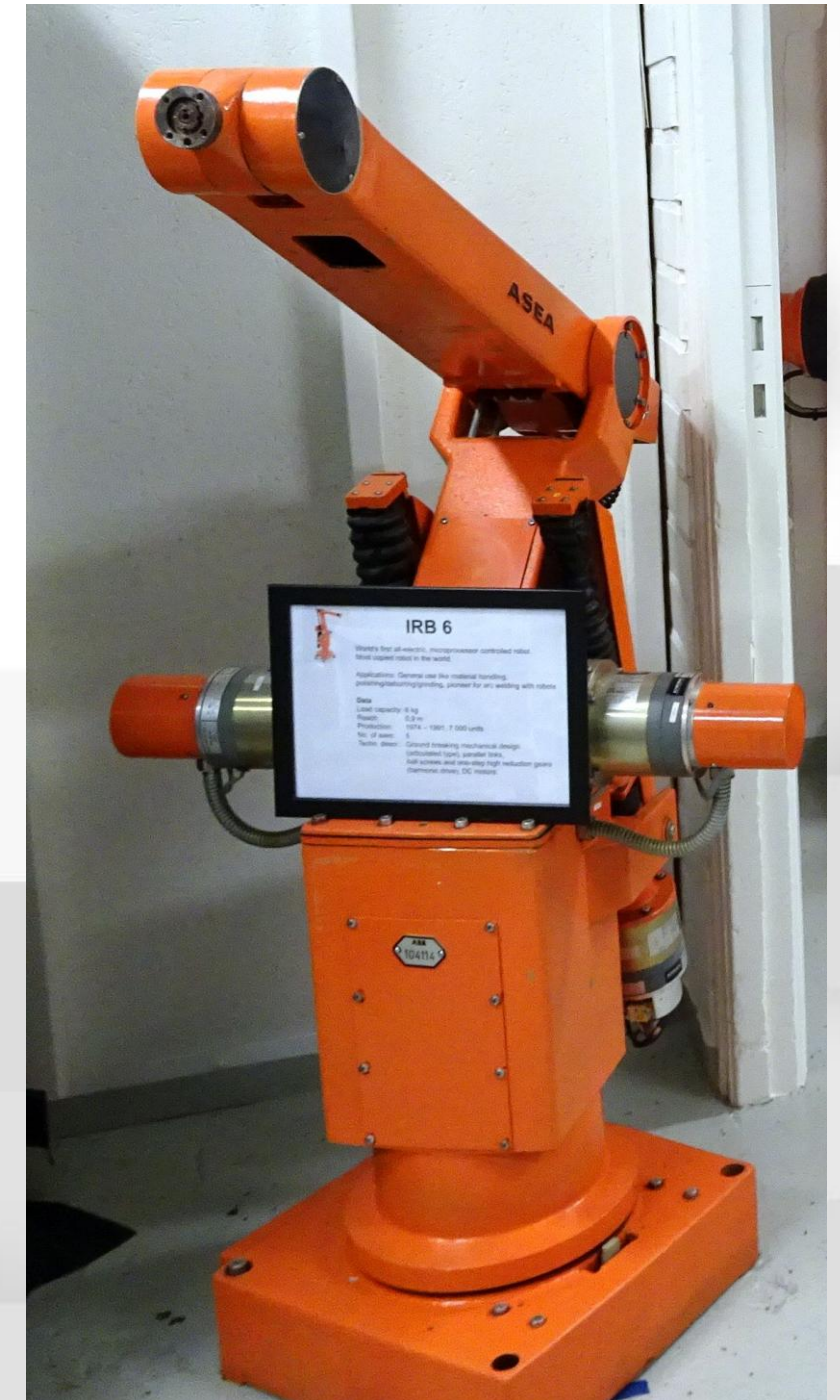


ABB builds robots where they sell robots

- ABB Robotics employs over 11,000 people in over 53 countries
- ABB has a manufacturing plant in America, Europe and Asia, gearing primarily for supplying those regions with robots

ABB Robotics Factory
Vasteras, Sweden

Europe and Africa

ABB Robotics Factory
Auburn Hills, MI

Primarily supports
manufacture of robots for
North, Central and South
America

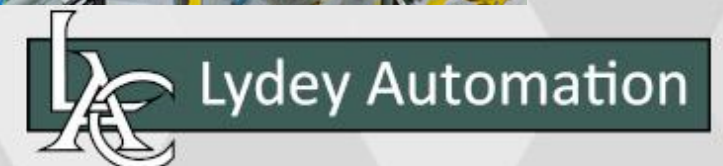
ABB Robotics Factory
Shanghai, China

Asia



Fluid Power Robotics and Electric Motion Machine Safety Vision and Sensing

Automation Controls



Best in class Software, PERIOD

- Our programming language, RAPID, is a JSP method of programming. Our programming language is the same on our pendant as in our controller
- RAPID can be edited in any text editor, including MS Notepad. RAPID does not get compiled into a second machine language like TP/Karel
- RAPID provides for hundreds of instructions, functions and data types

All industrial and Collaborative robots use the same controller platform, use the same programming environment (RobotStudio), and the same programming language (RAPID). If you know one robot, you know all the robots.

(R)apid
(A)pplication
(P)rogrammer
(I)nterface
(D)ialect

JSP – Jackson Structured Programming. A method of structuring a program environment that makes it easier to read, maintain and modify

Instructions are what we call the individual commands on a given line of code – for example, MoveJ is an instruction to move to a position.

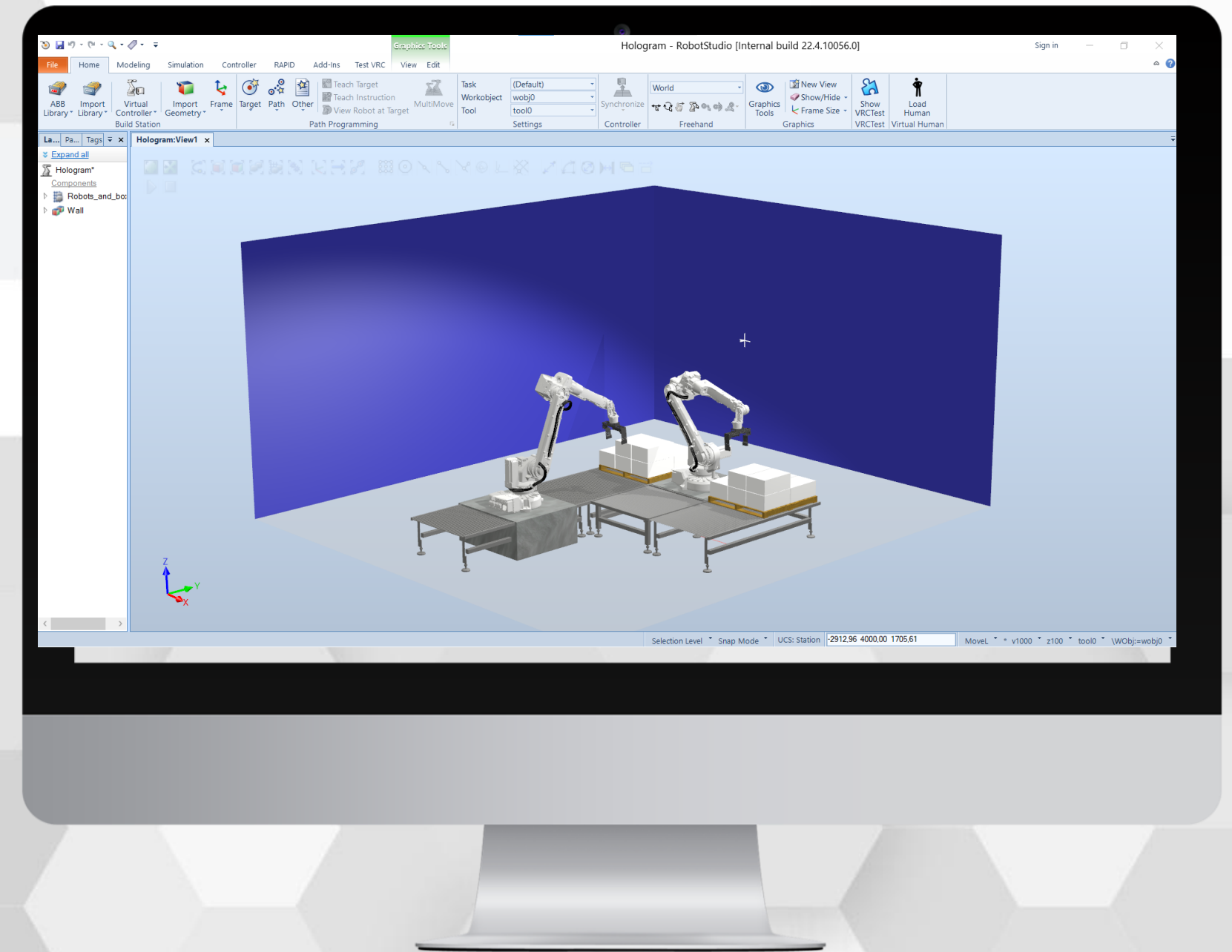
Functions are what we refer to as instructions that return a value or data. *ReadBin*, for example, returns a byte of data from a specified object

Data Types refer to the different means of storing data, and each have their own special instruction. *RobTarget* data, for example, stores a programmed robot position



RobotStudio

- Powerful Simulation, commissioning and maintenance software
- Free version lets you commission a robot's IO, safety, and write code with the Intellisense-enabled editor
- Free version gives you all the tools to program your robot completely.
- Paid version allows you to import your geometry, create independent moving mechanisms, and pick up and place objects – creating an exact, real digital twin of your future installation.



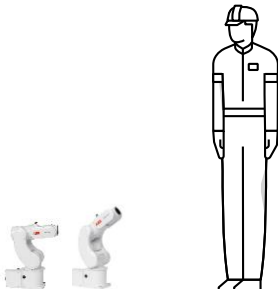


Breadth of Product

- Articulated Arm (six axis)
- Track-enabled arms
- SCARA robots
- Delta Robots
- Cobots
- AMRs
- Machine Cells



Articulated Arms (six axis)

- Small to enormous payloads
- Largest Robot Pose repeatability of 0.08mm, and path repeatability of 0.07mm
- 119 different published variants
- Made in the USA

<ul style="list-style-type: none">• Small Payload from 1.5 kg – 11 kg	<ul style="list-style-type: none">• Medium Payload from 6 kg – 60 kg	<ul style="list-style-type: none">• Large Payload from 70 kg to 800 kg
		
IRB 1010 height 42cm	IRB 4600 height 192cm	IRB 8700 height 310cm

Collaborative Robots (COBOTS)

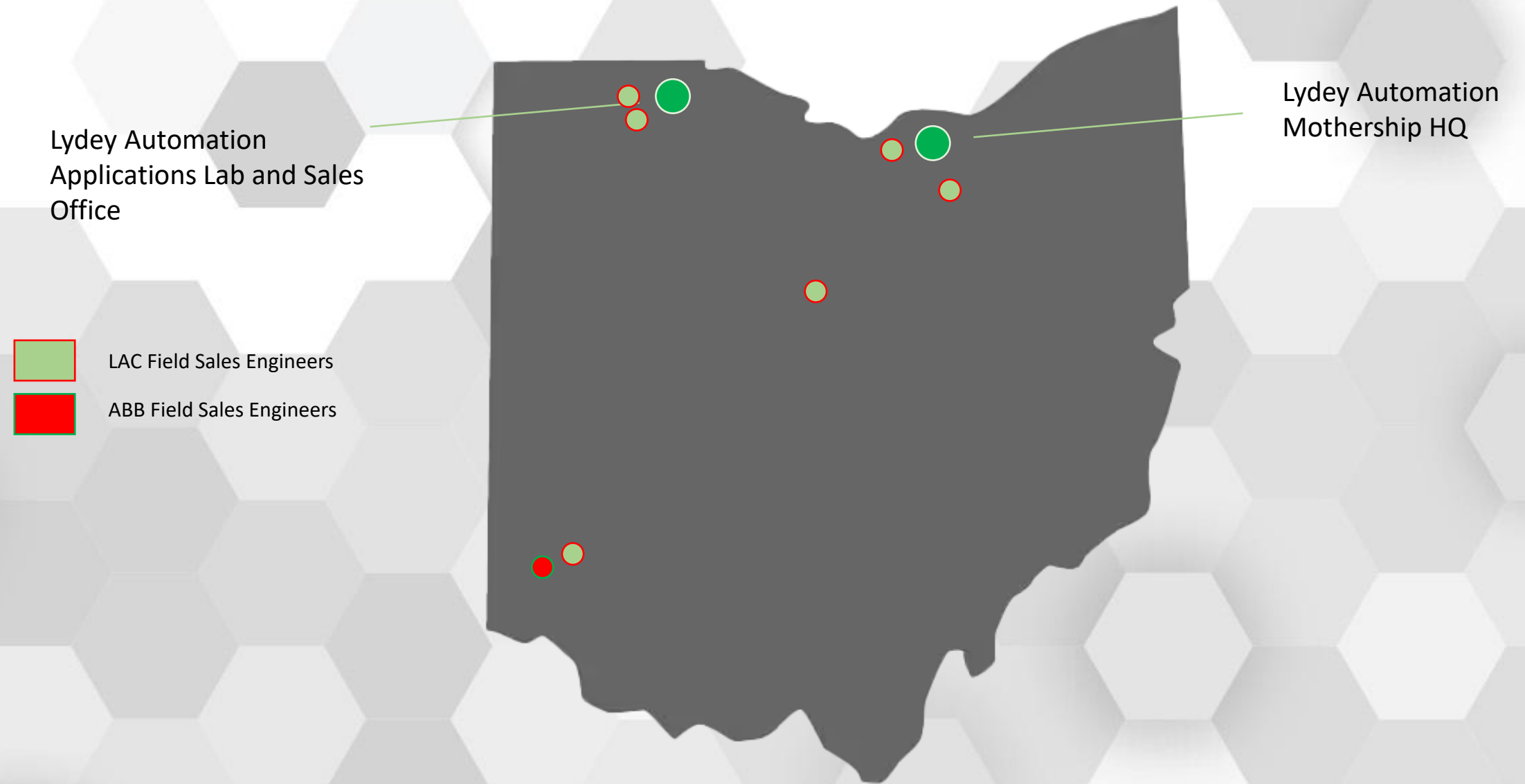
- Standard Industrial Robots can be collaborative by employing Speed and Separation Monitoring¹
- Special Robots designed for power and force limiting² to minimize the force of contact when it does occur
- Intrinsic design provides for much higher, safety-rated sensing of external forces to mitigate contact with external objects (people) in a collaborative space



1. Speed and Separation Monitoring guidelines, section 5.5.4 of the ISO/TS 15066, "Robots and robotic devices — Collaborative robots"
2. Power and Force Limiting guidelines, section 5.5.5 of the same standard document

ABB partners with automation distributors

- ABB recognizes that companies like Lydey Automation invest in our personnel to be well-trained on all facets of automation
- A robot arm is but one facet of a robot project. ABB distributors like Lydey Automation can look at your project from a holistic standpoint, and align our efforts with your project goals.



So then the question becomes.....What's different about Lydey Automation?



What is different about Lydey Automation?

- Combined 100 years of experience with robot automation in Ohio
- Experience with best practices for robot applications
- A holistic view of your robot project, not just the robot itself
- Quickly able to align your needs and interests with our success
- Competency with well-known allied technologies such as machine cell safety, end of arm tooling, vision and sensing, guarding
- A culture of providing copious training and resources for a fast track to robot competency
- Our robot sales process helps to ensure all aspects of the project are attended to



Step One -- Qualification

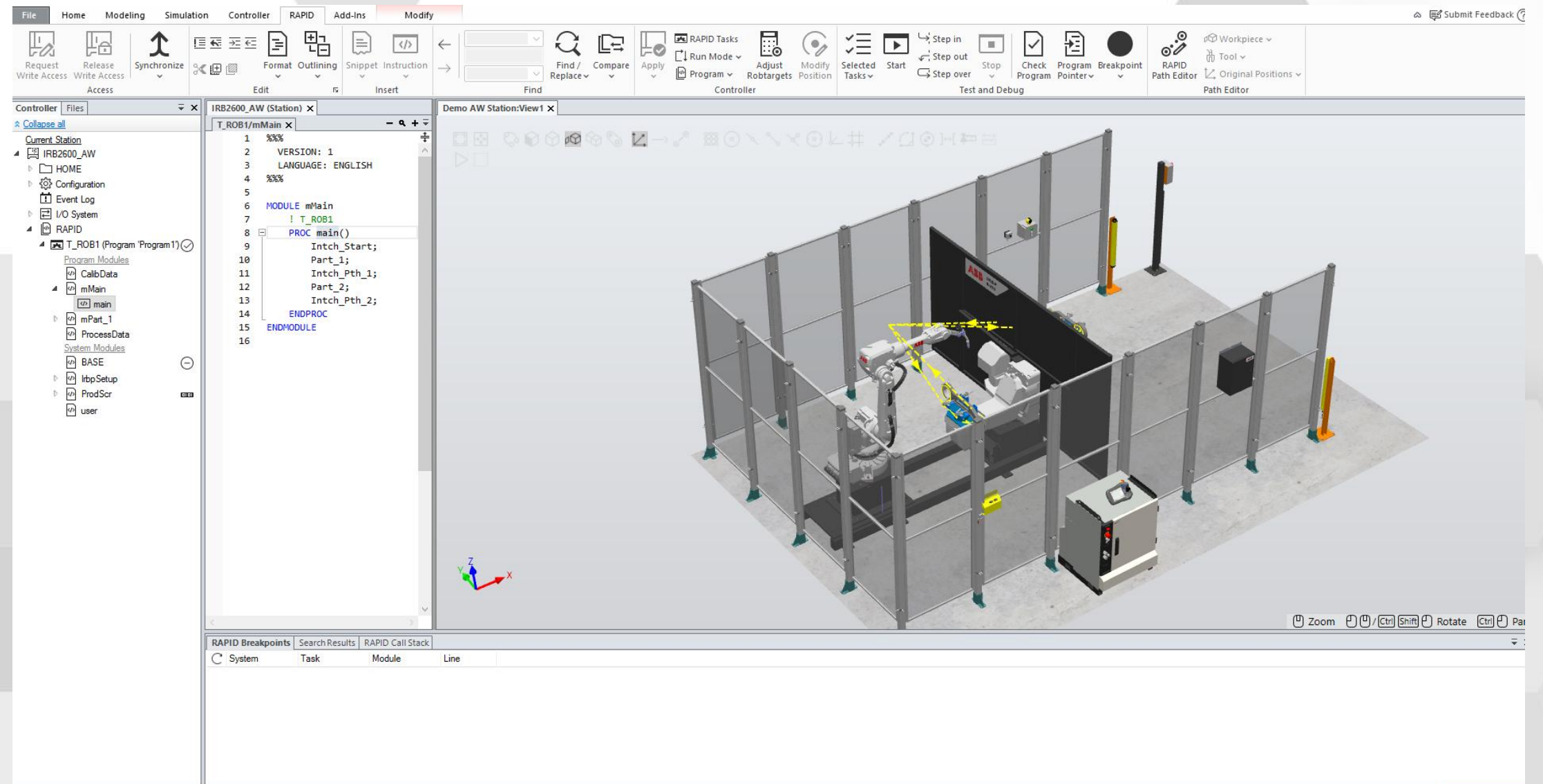
- Our first step with a company that wants to use a robot is to determine if they're a good fit for an ABB robot
- We determine if your need for a robot matches ABB's skillset
- We determine if your timeframe, budget, and expectations are doable – maybe they're not
- We work with you to make a decision to move forward, to not move forward, or to potentially involve third parties to help



Is this application REALLY robot-ready, and are we really robot-ready?

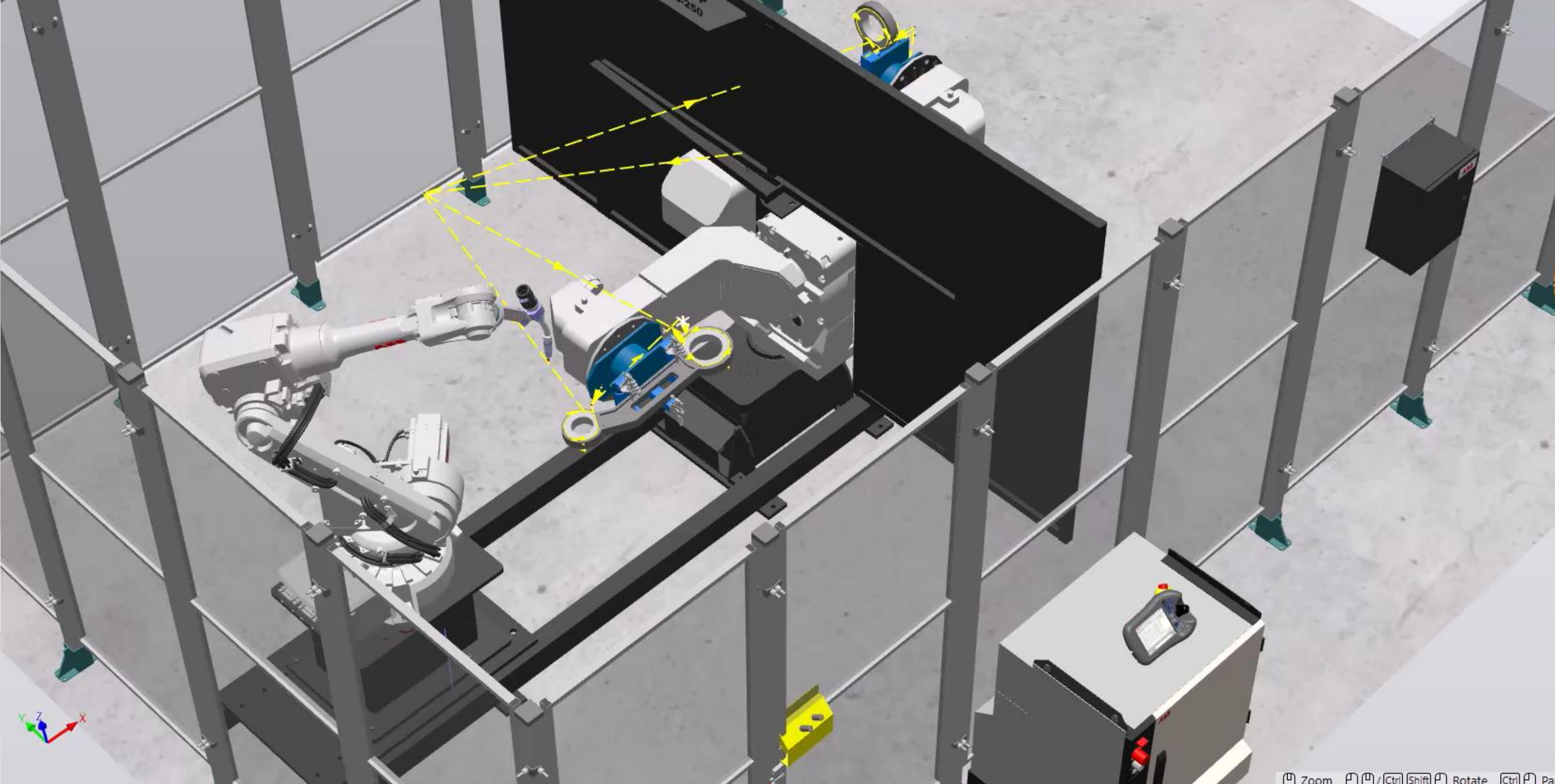
Step Two -- Simulation or Demonstration

- A RobotStudio Simulation can help prove out a cycle time need, payload or arm configuration challenge.
- Creating a simulation gives you peace of mind that a robot we offer will do your task within your time frame, space or footprint.
- RobotStudio Digital Twin technology very accurately repeats a simulated world of a robot's kinematics, movement, path accuracy and tooling/fixtures geometries.



Does the Robot we select REALLY do the job we need it to do?

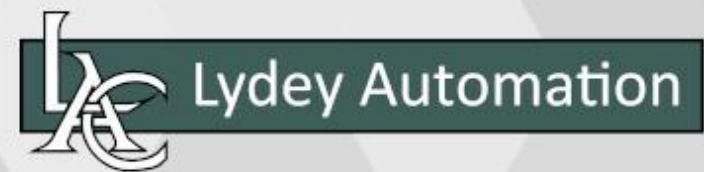
RobotStudio Simulation – Weld Cell



⌕ Zoom ⌂ / ⌘ / ⌃ / ⌂ / ⌃ / ⌂ Rotate ⌘ / ⌂ Par



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Step Three – Complementary automation

- Fit your application with recognized leaders in industrial automation
- Component testing for tooling, risk assessment assistance for safety, design assistance for complimentary tech



**What about the things that go along with the robot?
Are we sure they all work together?**

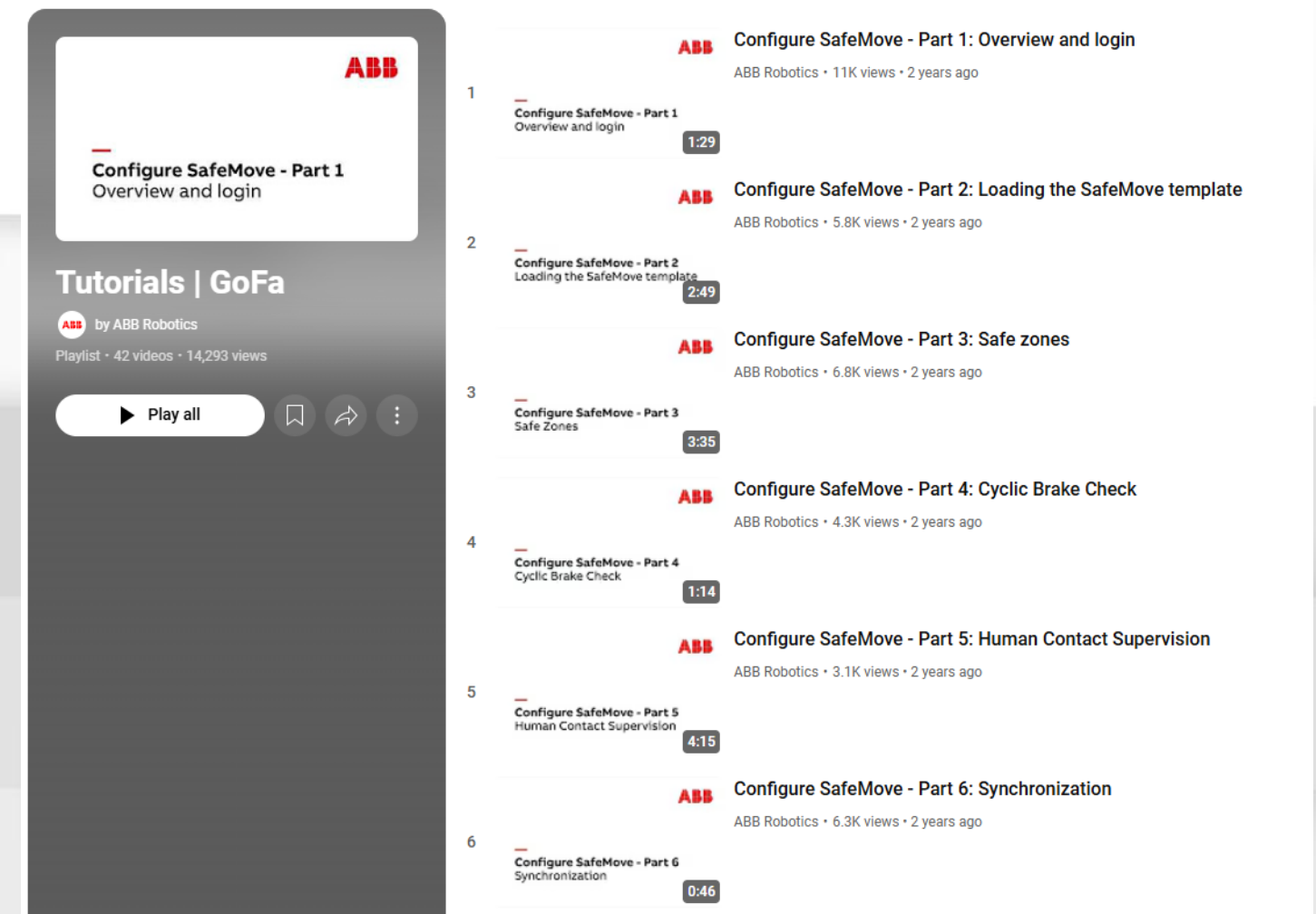
Step Four – Configuration, pricing and lead timing

- We'll work with you to understand what options you need on your robot—without providing options you won't need that only add cost.
- Understanding your project schedule and timeline for receiving a robot
- Making a plan with you to transact a robot order to be sensitive to your schedule AND to tying up your capital, so your robot doesn't arrive too early or too late

Do we know what the real costs are, and when those costs come due?

Step Five -- Robot arrival and unpack

- When your robot arrives, we can be onsite to work with you to review your hardware and accessories
- We can help direct you to self-help resources, such as the GoFa Tutorial series that walks you step-by-step through starting up a GoFa cobot
- We can help you find last-minute resources if you determine you need them, like operations manuals and circuit diagrams



**The money is spent; now the clock is ticking on ROI.
How do we move very fast to achieve it?**

Step Six – Power-up and Training

- If you're new to robotics, we can be onsite with you when you first power up your robot
- We can show you the basics of programming, configuring I/O and communications with other devices
- We can create your own training agenda to make sure all the important parts of learning about the ABB robot are covered
- We can be your primary point of tech support, and get you connected with the right tech support resources at ABB

When or if we need some handholding, who provides that?



The Lydey + ABB Value Proposition

- Recognized name in Robot Arms
- Best in class Software
- Free, powerful robot programming software
- Free robot tech support from ABB and from Lydey Automation
- Free training from Lydey Automation
- Broad Industrial Automation competency to apply to your robot project – we're more than just selling you a robot arm
- Competitive Pricing and feature rich software add-ons
- Made in the USA

