

What is Industrial Automation, and How Does it Work?

Industrial automation is a term that is often misunderstood. People often think of mechanical arms, conveyor belts, or sorting machines on assembly lines. But that's just mechanization: human beings still must press buttons, pull levers and otherwise control when those machines operate at an individual level. So then, what is industrial automation? Well, automation takes things one step further, using a Programmable Logic Controller.

Imagine an industrial supercomputer, programmed specifically to operate an entire manufacturing process from the ground up. It doesn't need updates, it doesn't need a human operator, and it can run for years, even decades without any issue. With the appropriate sensors and the wiring of any machines that need automation to this computer, an entire industrial process can be automated. All a human operator needs to do is use this computer to dictate what process they want carried out, and the computer will achieve that process on its own. The PLC presses the start and stop buttons, pulls the levers and switches, and runs all the systems required by the industrial process without human intervention.

This can all be done through something called an HMI: a Human-Machine Interface. These are unique, tailor-made touchpads used to monitor and control an automated industrial process. Using an HMI in conjunction with the aforementioned PLC, a single individual can monitor and dictate several aspects of a company's operation, including motion control, distributed control systems, and sequential relay control. Any sudden change that needs to be made to the industrial operation can be implemented quickly and easily, with just the touch of a few buttons.

What are the Benefits of Industrial Automation?

When it comes to altering the way your company functions, you don't want to do anything that isn't worth it. What makes industrial automation a worthwhile investment? Well, there are actually many incredible benefits to such a system. An automated industrial process removes a lot of human error: you won't have to worry about someone making a mistake or hurting themselves while physically operating your machinery. The removal of physical human interaction with your machines also means that valuable human manpower hours can be focused on other, more important tasks in your company.

With this type of industrial automation, you also gain powerful monitoring and remote control capabilities. A computer-controlled automated process gives you access to

data on your industrial functions that can be compiled and presented in any way you wish, and you can act on that data from anywhere in the world: whether you're on vacation at a beach

or on the other side of the world on a business trip, you can still use an HMI to monitor, control, and modify your factory back home. Ultimately, the biggest benefit of all combines all of these things: by reducing how many people are needed to run your factory without impacting its production capabilities, you can spend a lot less money to achieve the same results you would have gotten without a PLC.

Why Choose Us to Install Your PLC?

As you may imagine, an industrial supercomputer that can run a unique factory process is not something you can buy off a shelf at a store. These systems have to be uniquely designed from the ground up to meet a certain need. Each industrial process is unique: the type of systems required to assemble a car are very different from those required to bottle beverages, even if some of the same physical machines are involved. We specialize in designing and developing proprietary PLC systems that are tuned to the specific needs of your factory, whether that's manufacturing parts or packaging product.

More importantly, these PLC systems often require tuning and adjustment after their initial production to eke out the maximum amount of efficiency in your factory, and we are committed to carrying out those tasks as well. We don't sell a mass-produced product that can never be the perfect fit: we build the system specifically for you from the ground up, and make every adjustment needed so it can be a perfect fit for your factory needs.