

Abstract

When it comes to set up a programmable logic controller, a mistake could be easily made, leading the PLC to be out of service; and since these are expensive machines, one would rather keep it working. A good a way of keeping the machine safe while testing the program is to use a computer simulator.

In our project, we had to to develop a surface treatment platform simulator. Thanks to Visual Studio, using the C# language, we were able to set a simulator like this up. Then, we used OPC libraries to make the computer communicate with the PLC. Our simulator offers almost all of the physical platform's features.

With the simulator the person who wants to work on the surface treatment platform can, in a first time, test his program before transferring it to the physical platform. This person could either be a student or a teacher, but needs enough knowledge in Industrial Networks, Automation and Object Oriented programming.

The main advantage of this kind of simulator is that multiple people can work and test their programs at the same time, even when the physical platform is unusable or already used. This also prevent the machine from being damaged while testing programs, and can be used anywhere, as long as a PLC is available.