



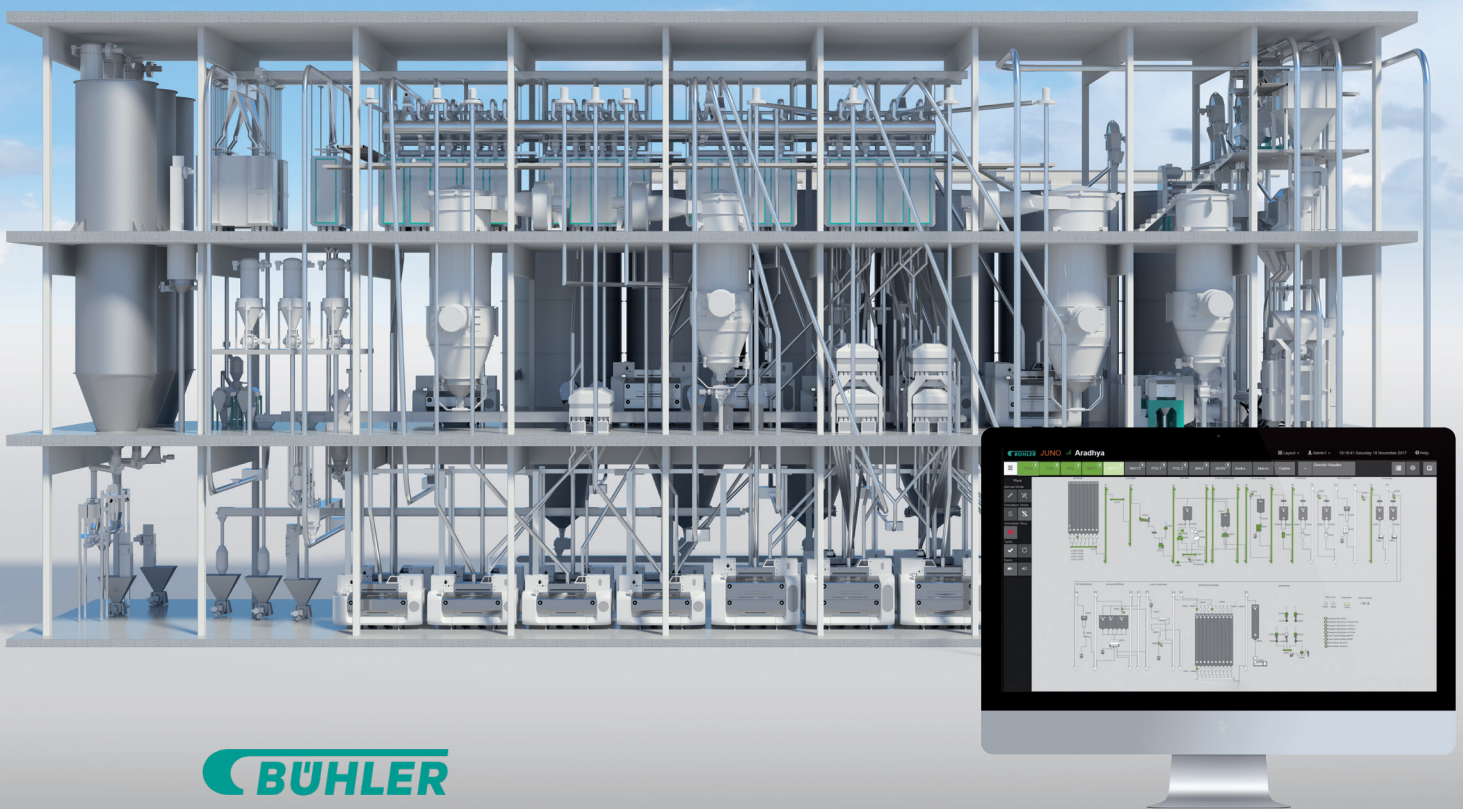
solve engineering
a Variosystems company

Solution with added value.
Competent in Electronics
and firmware development.

Intuitive, web-based plant automation

Bühler Automation is a global leader in factory automation with more than 5,000 installations worldwide. With the Pluto process control system, Bühler offers its customers a user-friendly and intuitive production line and plant automation design aid. Pluto PCS provides everything the user requires for food processing, from the raw material to the final product.

Bühler AG, Switzerland



BUHLER

All in One

Pluto is the name of a web-based automation solution from Bühler. It provides the automation engineer with an easy-to-use graphical interface for designing, operating and simulating a system as a digital twin in a very short time.

Intuitive operation as a plus

The existing Bühler ME systems for optimising manufacturing processes are primarily aimed at customers facing complex automation challenges. The target of the newly launched Pluto project was to develop a web-based automation solution. It allows the engineer to use the most advanced web-based technologies to simplify the project planning of process automation. Pluto thus supports customers with small plants and production lines, especially in increasing their efficiency.

Solution competence Solve

For the Pluto project, Solve supplied the technical know-how in the field of web technologies, databases and communication with OPC-UA. Solve's extensive knowledge of industrial electronics enabled it to rapidly become familiar with the world of automation and to establish itself as a valuable contact and development partner for Bühler. In the development of Pluto, Solve also shared its long-term expertise in the field of agile development for software tools. The development teams, which included Bühler employees and engineers from external partners, were fully supported by Solve's engineers.

Web-based solution at its best

The Pluto automation solution comprises three main components: Plant Creator, Templates Manager and an HMI (Human Machine Interface). At its core, the Plant Creator allows the automation engineer to design the process logic and the plant with a user-friendly graphical interface. Within the Templates Manager is a data pool where most of the Bühler machines, such as configurations and parameters, are stored. After engineering the plant and the process logic, the PLC code is automatically generated on the base of this stored data and downloaded to the control system. The complete plant and its processes can then be operated and monitored using the HMI.

The universal communication protocol OPC UA is responsible for data exchange between the compo-

nents. An OPC UA interface developed by Solve for the communication of all components replaced an existing solution, as it was very cost-intensive and not scalable. The customised interface improved performance, reduced annual costs and guaranteed expandability for future modifications. The integrated simulation mode provides a secure environment for operator training and is applied even before the plant is commissioned. Thanks to the intuitive user interface, the training effort



Felipe García Winterling, Product Owner

"Solve has been significantly responsible for the establishment of a marketable version of Pluto PCS. They have provided us with excellent, professional and highly committed support throughout – conceptually, technically and methodically."

can be significantly minimised and production start-up is thus achieved in the shortest possible time.

Reduced time-to-market

The Pluto automation solution ensures that Bühler is able to bring its plants to market much more quickly. This is the result of the automated code generation for the control system via the user-friendly Plant Creator in combination with the Templates Manager. Since the details for the majority of Bühler machines are stored in this library, it is guaranteed that each plant uses the same tested PLC code. An additional time-saving feature is provided by the simulator which allows each project to be tested before commissioning and also trains the operating personnel..