Project Summary – Oatmilk Plant with Accord

Project Name: OatMilk Plant
Customer: Food Manufacturer, Northern Ireland
Sector: Food and Beverage
PLC: 1 x Siemens S7-1500 PLC
SCADA: Accord Scada
Networks   Ethernet & Profibus
I/O count   Over 800 I/O

System Summary;
The Oatmilk Plant consists of 2 groups of Tanks, in Low Care and High Care, and a Pasteuriser and Sieve section, and also 2 CIP Centres, 1 in each of Low and High care. The client required a system to monitor and control the equipment and to provide automatic control of the sequences and conditioning needed to turn the Oats into Oatmilk.

We consulted with the client and reviewed the initial P&ID and selected a large Siemens PLC with distributed ET200 I/O and the Accord Scada system as it could provide the scheduling and tracking needed for the plant operation.

The installed PLC system contains 500 automatic devices and over 1000 I/O and also communicates with Pasteuriser and Chilling systems. The CPU is connected to 2 virtual servers, which host Accord Scada and MES/Plan sections. The system contains many automatic production and CIP programs.

The system is started using an MES panel, which schedules the filling of the first tanks, the conditioning in these tanks, and the transfer to downstream tanks. Specialised conditioning is carried out in each tank. All the parameters for the conditioning are available on HMI screens with modify access protected by password. All of the transfers from Tank to Tank are scheduled to occur automatically, however this process is interrupted if there is an Alarm or can be paused by operator.

The CIP's are carried out at the end of the production, and again are carried out by a large automated schedule. Multiple CIP's and Make-ups happen on one click for the schedule. The scheduler can be paused and restarted at any time and will continue with the cleaning rota when restarted.

All transfers and relevant values are logged in the Scada database and reports for Production and CIP are generated at the end of each day. The system provides full traceability, tracking all valiables and actions, which is very valuable for the client.

The system was initially configured and made ready for installation in a very quick time, Accord allows for configuration instead of scripting throughout the Scada generation, which allowed us to bring models to the client for comment very early in the project and the ease of doing this was a great assurance for the client.