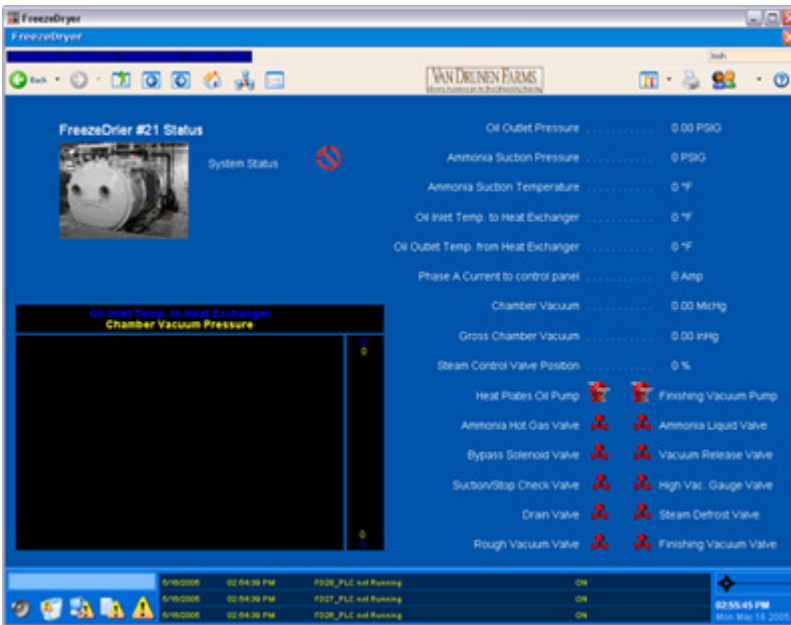


Overview

Van Drunen Farms has a facility located outside of Chicago that specializes in freeze-drying. Frozen food products are placed in a refrigerated vacuum system and the ice in the product is sublimated into water vapor. The finished product is easily rehydrated and is suitable for sauces, soups, noodle bowls, baby foods, and any other food product where a high-quality, minimally processed ingredient is needed. Enterprise Automation was contracted to create the PLC programs for the entire automated freeze-drying line. This also included creation of the PLC programs for the waste water and ammonia refrigeration systems. Every PLC has an EZTouch OIT attached for local control of the systems. In addition, a CitectSCADA system was installed which included a server and multiple clients. Once the first system was completed, a second system was installed in Serbia. The Serbia system used programs that were very similar to the programs in Chicago. The main difference between the two facilities was that Enterprise Automation performed a complete electrical redesign of all the panels for the systems (8 freeze-dryers, 4 compressors, water system), reflecting these changes in the PLC programs.

Solution

Van Drunen Farms had a previous integrator that had worked on their project for over 9 months without success. Enterprise Automation rewrote all programs for the freeze-dryer line, ammonia refrigeration and water treatment systems. During this process, requests were received for automated reporting and access to data throughout the facility. CitectSCADA is well suited to this roll, easily allowing creation of web based reports, and its client capabilities allowed for all the appropriate personnel to access the data. Once the system was installed in Serbia, remote data could be accessed over the internet from the USA.



Technology

Each system consisted of 11 PLCs, 11 EZTouch Screens, 1 CitectSCADA Server, and 4 CitectSCADA clients. The system contained large numbers of recipes, reports, and alarms. The ammonia system has a very large number of safety interlocks and a fully automated redundancy feature. The freeze-dryers required advanced configurable ramp and soak techniques.