



PROJECT PROFILE

AUTOMATION

CHEMICAL AND PROCESS

SAND FEED RATE CONTROLS UPGRADE

PTS was asked by a client to help automate two different types of machines that process a sand-like material. The problem was the machines had vibratory feeders whose feed rate could only be controlled by manual up and down push buttons. Throughout the day, operators would increase or decrease the feed rate to try to meet their targeted rate. A scale would measure the final product as it exited the machine and report a feed rate back to the operator, but this required close supervision and frequent adjustments to maintain the target rates.

Upon inspecting the machines, PTS found that they were controlled by GE VersaMax PLC's, which is among the many types of PLC's that PTS can program and support. Our controls team was able to design a system where the PLC would receive a signal from the exit scale, perform the calculations to determine the actual feed rate in real time, and automatically control the vibratory feeder to maintain the targeted rate. We then designed a control enclosure with a large touch screen HMI to display the status of the machines with various security levels for adjusting the system. The client thought this was great and even wanted us to go a step further by connecting the HMI to wall mounted TV in a different room where the operators frequent so they would not even have to enter the room to see the machine status. By partnering with PTS to automate the machines, the client is now able to allow their operators to focus on other tasks while the equipment automatically feeds at the optimal rate for product quality.

