

## Extrusion Process Automation

Product demands resulted in an upgrade of a single Extruder back in 1995, which in turn resulted in the replacement of a Panel Control system. Being standardized on the Modicon family of PLC's, the new Quantum line from Schneider was chosen. Intouch by Wonderware was selected as the graphical interface.

The Panel Controls was replaced with PLC Logic executing an elaborate startup and shutdown sequence, which facilitated machine operation and therefore increased uptime dramatically. The startup of the machine sequentially controlled all upstream and downstream equipment and downloaded all barrel temperature settings from a recipe selection.

With the success of the first system, when it came time to replace the sites aging DCS systems, Our PLC/HMI solution was an obvious selection. The choice let us leverage off the existing system by reusing its functionality and graphic screens.



This allowed us to give the production lines the same "look and feel" thus aiding operations. As a result, the business could now cross-train controllers to be able to run either machine.

With the infrastructure in place, it was now time to supply the demands of the financial and technical personnel with plant floor data. The communication backbone already existed and a Server PC was installed on the Lan. The Server is running Wonderware's IndustrialSQL enterprise software and collecting data from the PLC's. With client tools for IndustrialSQL Server, Production personnel are now able to extract and analyze process data, leading to improved product quality and production efficiency.

Today the plant consists of 5 highly automated Extrusion Lines using identical hardware and software. Maintenance and Operations cost are reduced, Productivity and Quality has increased, and all of this leads to the site being a first class worldwide operation.