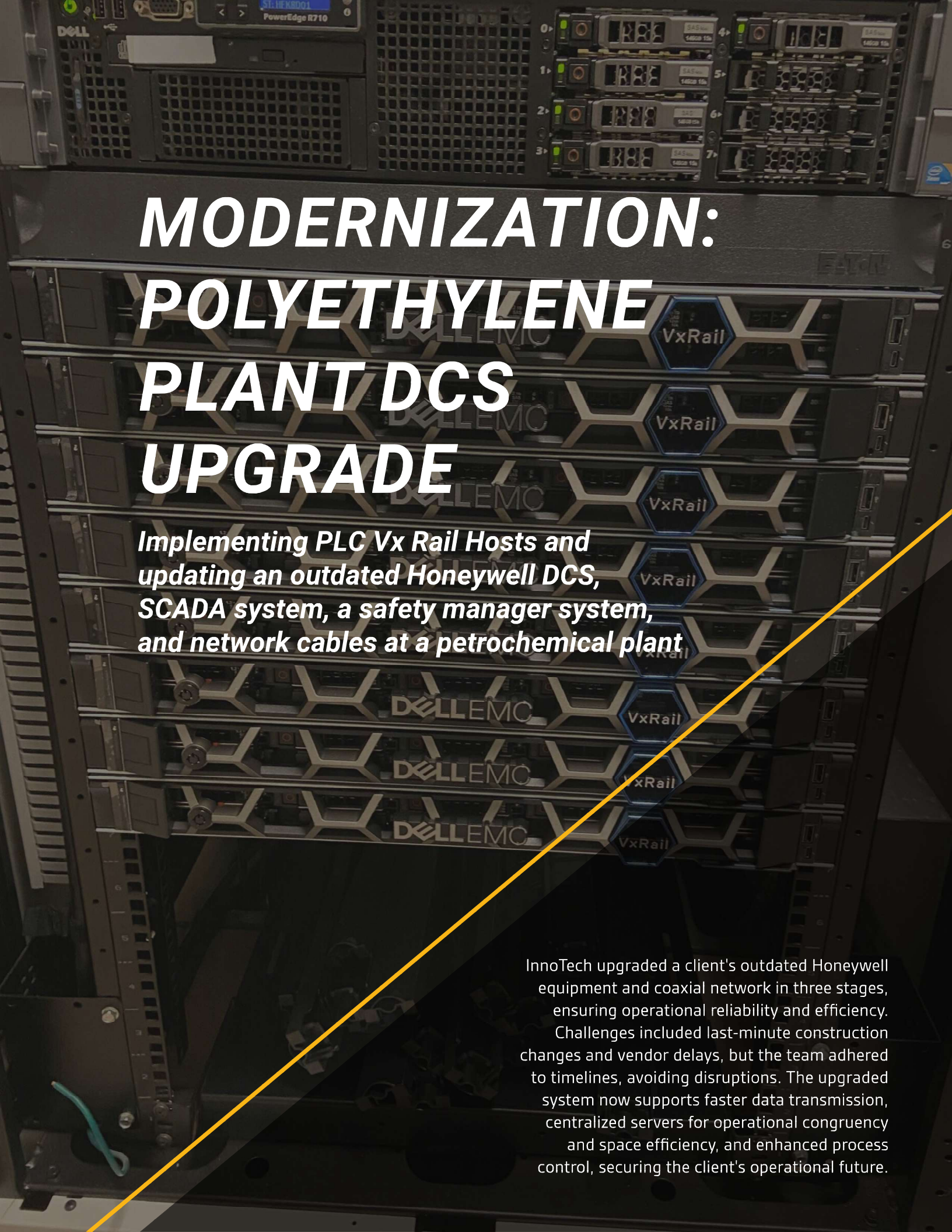


MODERNIZATION: POLYETHYLENE PLANT DCS UPGRADE

Implementing PLC Vx Rail Hosts and updating an outdated Honeywell DCS, SCADA system, a safety manager system, and network cables at a petrochemical plant

InnoTech upgraded a client's outdated Honeywell equipment and coaxial network in three stages, ensuring operational reliability and efficiency. Challenges included last-minute construction changes and vendor delays, but the team adhered to timelines, avoiding disruptions. The upgraded system now supports faster data transmission, centralized servers for operational congruency and space efficiency, and enhanced process control, securing the client's operational future.

Situation

The client had Honeywell equipment that would be obsolete in a couple years and their communication network was still operating on coaxial cables. This infrastructure needed a facelift, and the client wanted it completed with ample time to fully test and prepare their equipment and facility, to establish confidence for the future.

Risks

The outdated infrastructure would no longer be supported and there would be limited spare parts (if any) available in the future, leaving the client and their facility at risk. These risks being the ability to maintain control of their plant, to make changes to plant systems, for their equipment to communicate, and ultimately result in a substantial loss of revenue.

Why InnoTech?

InnoTech's pre-established relationship with the client and track record of high-quality work on their facility, led the client to choose them over the competition.

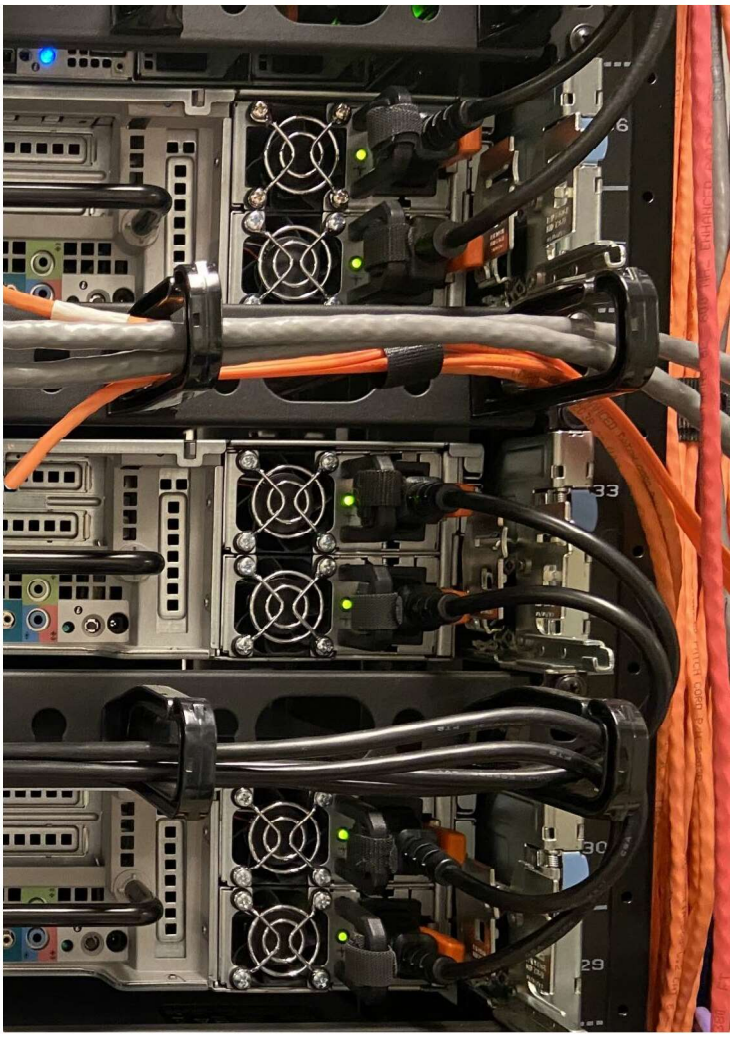
Actions Taken

This project was completed in 3 stages, beginning with the simulator infrastructure package which involved installing all the hardware. This included network switches, centralized PLC Vx Rail cluster hosts and power supply infrastructure (replacing the old UCN and LCN connections with an ethernet network and fiber cables) to power all the new hardware in the cabinet designs.

The next stage was the virtualization package where software was installed and configured in the virtualized machines. Then, all the cables were plugged-in, and everything was tested to ensure that it was ready to go for the implementation stage.

Finally, the hardware was implemented and migrated; the old hardware and cables were removed, and the equipment was tested and commissioned. Then, during the plant turnaround, the hardwired machines were moved to the virtualized machines.

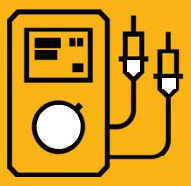
Alongside the installation of the virtualized central servers, the team also upgraded the client's outdated Honeywell Plantscape SCADA system to the Experion Process Knowledge System (PKS) and replaced the outdated Honeywell FSC with a Safety Manager (SM).



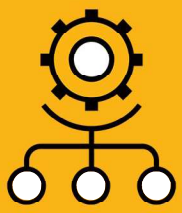
Challenges

The team faced challenges along the way with last minute changes to the construction packages, delayed communication with a third-party vendor, and limitations with cable lengths. These challenges ultimately put stress on the project timeline, but the team managed to issue the final package just in time, avoiding the need to redo the risk assessment and reschedule the migration.

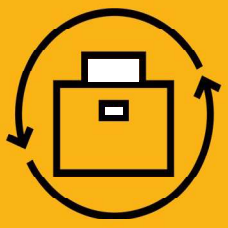
Results



The client now has a new system with **supported hardware** that will run more efficiently, can be serviced, and new parts can be procured for.



These virtualized clusters allow for the plant to have interfaces that **connect to this centralized server,** rather than having servers at each workstation, freeing up space in the control room.



The upgraded communication network and equipment sends and receives data and commands faster which **increases the efficiency** of the client's processes.

Have you considered auditing your facility for obsolete equipment?

This best practice helps mitigate risks to processes and production, especially before it is nearly, or is, too late.

This may seem like more work to add to your plate, at InnoTech Engineering we provide Health assessments for OT (Operational Technology) system hardware, software, cybersecurity level threats, configuration, and standardization. Focus on what you do best, leave the OT to us.