

Upgrade Project

Zenith Technologies partner with Top 10 Global BioTech company to deliver control system upgrade from RS3 to DeltaV™

At a Glance

Company: Top 10 Global BioTech Company

Location: United States

Project Mission: Control system upgrade from RS3 to DeltaV™

Product / Services: Consultancy, Enterprise Integration, Commissioning & Qualification

Challenges:

- Migration of existing system to a more modern and effective system
- System changeover with minimum downtime

Solution Delivered:

- Feasibility study, execution plan and schedule
- Reverse engineering and design of code and full testing of new system
- New hardware system implemented and tested in advance
- Seamless and efficient migration

The Challenge

This case study is for one of the largest global biotech companies in the world, focused on the development and delivery of transformative therapies. With its main HQ in the US, the customer has been in operation for over 30 years and specialises in the class of rare genetic diseases. They approached Zenith Technologies with a requirement to migrate the existing Rosemount (RS3) control system within its manufacturing plant at Allston, Massachusetts to a more modern and efficient solution.

The facility produces the specific drugs and at the time was the only site within the customer network manufacturing the product. The drug they produce is a long-term enzyme replacement therapy for pediatric and adult patients.

The major challenge therefore was to implement a completely new hardware and system infrastructure solution and a brand new control system configuration seamlessly with minimum downtime for the manufacturing facility.

Our Solution

Zenith Technologies began working with the customer in January 2011 to deliver a full feasibility study, execution plan and schedule, detailed scope of work and cost estimate for migration of the control system. This enabled them to plan the project fully and ensure the foundations were sound and solid before going live. It also helped to ensure that everyone knew what the expected outcome would be and how they were going to reach it.

The Zenith approach was twofold:

Software Element: Zenith focused on proving functional equivalency between the existing control system and the new solution in order to minimise field commissioning and qualification activities. This included reverse engineering the legacy code from the RS3 system, generating and testing a new set of DeltaV™ library standards, and then creating and testing prototypes, designs and configurations along with offline testing of the new DeltaV™ solution.

Hardware Element: Zenith pre-installed and tested all new hardware and systems in advance. The Hardware solution was designed to deliver minimum downtime during cutover from old system to new. Detailed design focused on implementation of complete new system architecture as well as retrofitting existing field hardware panels to accommodate the new remote IO solution within the existing cabinets. This created a more efficient migration processes by eliminating any need for new field wiring.

“Your staff were very attentive, flexible and helpful and the employees I interacted with were very dedicated and committed to the success of Allston Landing Automation function. Because of their efforts we were able to migrate from a retired control system to a fully automated compliant DeltaV™ in little over nine days. The startup activities continue with success and we are able to return the equipment back to Manufacturing as per the schedule. This is a huge milestone for our site.”

Associate Director of Automation and Control

Implementation & Testing

At the peak we had around thirty expert engineers working on the project, both on site and remotely. The final implementation in December 2014 required a total plant shutdown for two weeks in order to fully implement DeltaV™. This included physical migration of the control system points, loop tests, engineering testing, commissioning, qualification and startup of the utilities systems on the new DeltaV™ platform.

The work had to be completed to an intensely demanding schedule or it would impact other on-going projects and impact product supply to the market. The keys to achieving this were the development of a technical solution that could be implemented and operational in a fraction of the normal time along with highly detailed planning.

Results & Benefits

The migration was achieved on schedule and the plant was operational again in under ten days. In recognition of this achievement, the team has gone on the record to thank the Zenith team for its “excellent commitment.”

“You have put together a great team that makes customers feel respected and valued.” (Associate Director of Automation, Control and Manufacturing.)

With the critical components of the migration from RS3 to DeltaV™ complete, the facility at Allston now benefits from a far more modern and effective manufacturing control system and this in turn enhances regulatory compliance.

At a Glance

Results:

- Seamless migration
- Project met demanding schedule
- Planned downtime was reduced to 10 days
- No product loss
- More modern and effective manufacturing control system
- Enhanced regulatory compliance

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