

Sanofi Aventis Biopharm R&D Lab in Cambridge, MA

Vortechs Automation Was Tapped To Build Control Systems To Monitor Critical Temperatures, Cryo Freezers, and O₂/CO₂

Lou Capozzi, Regional Director for Facilities Engineering and Project Management, oversees Sanofi Aventis biopharm R&D labs in Cambridge, MA and beyond. He has had a long-standing working relationship with Vortechs Automation for the past 8 years and knew them to be knowledgeable and trustworthy.

In 2018, when it came time to put a new lab in one building (640 Memorial Drive) and replace an old system in another (270 Albany Street), Capozzi didn't have to think twice. He called on Vortechs Automation to get both jobs done on time and within budget.

First, Vortechs designed and built a multi-point, user-configurable lab monitoring SCADA system for Sanofi's Genzyme Division where a 5-floor building was being constructed at 640 Memorial Drive, Cambridge MA. The first three floors were labs where Vortechs provided all of the software for the alarm system which required temperature monitoring and contacts on lab equipment. Critical alarm points included 37°C storage, 4°C storage, -20°C storage cryo freezers, O₂ and CO₂ monitoring, flammable gas, and even a pick-and-place robotic system. System simplicity, reliability, and flexibility were key objectives.

While accountability and performance are areas where some contractors fall short, that's not the case with Vortechs. As Lou Capozzi explains, "My biggest thing is schedule and budget. And Vortechs has been great on that and as far as the 640 project - we did the first three floors (all the labs) so there were a lot of Bio Safety Cabinets (BSCs), a lot of controlled temperatures, a lot of exhausts, Volume Air Dampers (VADs), and targeted supply VADs."



270 Albany Ground Floor Monitoring Schematic

“...they don’t have to be on site. They can do everything virtually on the phone from their office in Pennsylvania, which we like.”

Lou Capozzi on Vortechs’ Remote Monitoring

“We’re a biotech company and this is an R&D facility. So everything is really temperature sensitive. And everything has to be documented.”

The SCADA system that Vortechs designed using software from Iconics, was able to handle the extremely low temperature points in the labs as well as the remote monitoring and documentation requirements in the offices upstairs.

After the success of Vortechs’ work in the 640 building, they moved on to replacing the monitoring at the 270 facility. Since it was originally built in 1914 as a Ford automotive plant, it posed some significant challenges.

Vortechs had to migrate all of the SCADA software running on a physical server at 640 to a VM on the corporate network. The same software could then be used to monitor the 270 building and anything else in their enterprise. From that platform, Sanofi had access to remote I/O anywhere in their operation.

Ultimately, the decision was made to employ a system using Moxa ethernet-based, 3-wire RTD input modules that could accurately read temperatures across the required range, from 37°C down to -200°C. The customized system consisted of data collection enclosures with input modules, power supplies and Cat3 wire management. A local electrical contractor handled the installation. RJ-11 wall jacks were installed at all locations where monitoring of devices might be required. An RTD with RJ-11 surface block was mounted to each piece of equipment to be monitored.

The software was then configured to allow Sanofi to define and edit the equipment, alarm parameters and alarm response for each channel. If alarm points need to be added later, because of how Vortechs

configured the system, it allows for that without customers incurring extra fees.

Vortechs Automation consistently works with its customers to exceed their expectations and make their jobs easier. Lou Capozzi agrees, “With Vortechs, you say one thing and they do it. You don’t have to worry that it’s not going to get done. They perform really well.”

“Vortechs makes me look good when I answer to my superiors in France. And to make them happy is tough.”



640 Memorial Second Floor Monitoring Schematic