Investing in innovation: An internal success in cold storage monitoring leads Thermo Fisher Scientific to bring a unique digital product to market

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>
> – Larry Newman
> Equipment Manager

The challenge

About five years ago, Larry Newman was having trouble sleeping. As the equipment manager in charge of hundreds of cold storage units filled with products worth millions of dollars at the Thermo Fisher Scientific Carlsbad campus, Newman had been receiving calls from business partners who were having cold storage issues, causing product to be lost. He needed to find a solution.

"There were a lot of temperature monitoring devices—including some good ones that we had the budget for," Newman said. "But that didn't solve our need to get out ahead of aging storage units, support repair-and-replace scenarios, and bring things up to speed."

Years earlier, he and some colleagues in the metrology and asset management fields had a conversation about what the best system would look like. They came up with a list of dream features:

- An open-door switch that would not only be alarmed and monitor temperature, but would also monitor the compressors so that the user could identify patterns and potentially predict future failures

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The challenge (continued)

- Wireless capability so the user could move the units around
- A 2D map
- Assistance with 21 CFR Part 11 compliance, so the user would be able to validate the system
- Scalability, so the user could launch it globally, with multiple access levels for different roles and permissions

But the monitoring systems Newman investigated—including those from leading manufacturers—didn't provide the turnkey solution that he and his colleagues had dreamed of.

The solution

Eventually, Newman discovered a new product made by a small company called Klatu™ Networks, which would soon become the Thermo Scientific™ InSight™ Wireless Monitoring Solution. "When they demonstrated it," Newman says, "I remembered the conversation I'd had with my buddies, and I was like, 'this is almost there.'"

Once the features he wanted were added, Newman ran a proof of concept. He was immediately able to view the entire global fleet of refrigeration units and their statuses. The system identified that approximately 30% of the units were performing poorly, which they then went out and fixed. Through the proof of concept trial, he was able to validate that the system would reduce both the amount of required maintenance and energy costs. It was an easy decision to back the InSight product with Thermo Fisher's world-class, comprehensive support, commercialization, and distribution.

And sure enough, with his dream system in place, Newman started sleeping better. After the first 120 monitoring devices were installed, he no longer had to work through the weekends inspecting units and responding to emergencies. He had a system that could tell him how they were functioning right on his phone. Less worrying meant more sleep. He also started getting calls and emails from others in the company saying things like, "Your alarm system saved our product."

Storage unit users were now on the front line because their own phones were set up to receive alerts for non-conforming temperature or energy issues, like an open door or a room's temperature going too high. "It was real TPM," Newman says, "total productive maintenance." Some colleagues even put up dashboards—flat screens in their areas with the cold storage unit floor maps on them. Service calls have gone way down.

The data provided on aging units also helped Newman justify the purchase of new freezers, and he was able to expand the system to other sites. "I became somebody they trusted to help them solve this problem at distribution centers and site manufacturing facilities. 'You're the guy. Can you help us now?' They say. And that's a much better position to be in."

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The results

The success enabled Newman to begin rolling out InSight systems to Thermo Fisher sites around the world and to market it to other companies. And not only has the InSight system helped companies better monitor their storage, it’s also providing Thermo Fisher with opportunities to help them upgrade their storage capabilities.

Newman explains that “if you can point out what’s wrong with a fleet of refrigeration units, you have an opportunity to sell refrigeration units. The InSight system shows the customer that it’s worth talking to Thermo Fisher about refrigerated storage. And with our new line of energy-efficient TSX Series freezers, we have a real shot at getting that business. They use half the energy, and I can actually show them with the InSight software on my phone what their freezers are costing against a TSX Series unit.”

There are now around a dozen companies using the Thermo Scientific InSight system, including large ones like Novartis, Amgen, Rosch, and Pfizer, but Newman is passionate about the usefulness of the system for companies of all sizes. He recently presented to a smaller therapeutics company: “It’s not a big company, but they need it. Every company could use it. I don’t know if you’ve heard about recent cases where embryos were lost, brains were lost for Alzheimer’s research, and things like that. A major research facility recently lost their cryogenic storage. Their system was not predictive; they were relying on a very reactive type of maintenance methodology and monitoring. I want Thermo Fisher and our customers to protect what we store in those refrigerated units, so being able to predict and get out ahead of this issue is critical to us and critical to our success. That’s a big vision, right?”

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