

Hitachi Metals

Industry: Manufacturing

Client Since: 2021

Location: China Grove, NC

Hitachi Metals Improves Efficiency at its North Carolina Lab by Almost 25 Percent with LabLynx LIMS

Overview

The Hitachi Metals plant in China Grove, North Carolina, which recently closed, manufactured magnets used in the automotive industry and then tested the magnets for strength and other properties in its on-site laboratory.

The plant manufactured 10 to 15 million magnets a month, and its lab examined 400 to 500 samples daily as part of quality control testing at least once every 12 hours. The magnets were tested for strength, magnetic properties, dimensional requirements, and other attributes. The magnets produced at the North Carolina plant were used in multiple automobile systems, including sun roofs, power windows and seats, and air conditioners.

The China Grove plant was one of five globally in the Hitachi Metals Magnetic Division, and up until January of 2021, when it fully implemented LabLynx's laboratory information management system (LIMS), the lab managed its testing processes and reporting using manual systems. After automating with the LIMS, the lab saw a significant increase in efficiency of nearly 25 percent.

Convenient LabLynx LIMS features made it easy for lab management to access reports from anywhere for approvals and improved customer service. The LIMS also enabled the lab to eliminate paper and convert to digital reporting. It also put important access controls in place and eliminated manual data entry to reduce human error.

The need for a LIMS at the China Grove lab was driven by a global company initiative

When a global initiative by Hitachi Metals Magnetic Division to convert some of its lab processes from manual to automated systems came about, each of its five labs was given the flexibility to choose its own system. This included the only US lab, in China Grove. Tim Harris, Quality Manager for the China Grove lab, had waited for more direction from the company, but when none came, he decided to begin the search for the right software solution himself.

The main issue he wanted to solve at the North Carolina lab revolved around security. He wanted to have more control over who viewed and approved reports at various test stages and levels in the company. He also wanted to reduce or eliminate data entry and human error by having a system that directly fed data into the lab's testing instruments and exported the testing results directly into reports.

"We had a very manual system," Harris said. "Everything was plotted on paper, and we put it in a computer, and printed it out. So we had everything on paper, but nothing where we could pull data and analyze it very well. You could look at some charts, but you couldn't easily see the long-term over more than one page. And we had a global initiative to automate the data gathering from some of our test instruments, especially the BH analyzer that tests magnetic properties." Tim explained that he needed a system that could store the data and transmit it to customers, but one that would also "be able to pull and show data where we could analyze it and take it directly from the instrument to the system so we didn't have to key it in or possibly make mistakes." He added that "it was all an attempt to eliminate as much hands-on-the-data as we could."

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Why the China Grove lab chose LabLynx LIMS

After he began researching solutions in the spring of 2020, Harris said he narrowed his search to two LIMS that worked well in manufacturing environments, and that also offered the customization that the China Grove lab required. One was LabLynx LIMS and the other was a LIMS from a much larger LabLynx competitor.

Harris said he got information and quotes from both LIMS providers, and he liked both the responsiveness and the quote from LabLynx. He said that LabLynx LIMS also seemed to offer a bit more flexibility, and he thought it would be more user-friendly for the lab technicians.

“The big selling point with LabLynx was the fact that they had a base system, but everything could be built exactly as you wanted it for your data, your system, your approvals. Everything could be custom built as we wanted it to happen. That was huge for us,” Harris explained. “And then we could also assign and limit people based on their positions or levels in the company as to what they could or could not do in the system. Those were some of the keys for us in selecting LabLynx.”

Harris also liked that the system was designed to adapt to his lab’s needs rather than the lab having to adapt to the system. “It was so open to adjusting it as we wanted. We could do one test field or we could do 30,” he said. New changes could also easily be made in the future as needed.

The LIMS implementation went smoothly

While the LabLynx LIMS implementation was primarily done remotely, one of two software engineers that LabLynx assigned to work on the project did visit the lab in-person to get a full understanding of the lab’s workflow, as well as to learn how the LIMS needed to integrate with testing instrumentation, Harris said. This engineer also learned the terminology used in the lab so that these same names could be used in the LIMS.

“The overall implementation was great,” Harris said, adding that LabLynx was always able to accommodate changes requested from Japan, where Hitachi Metals is based, and even attend meetings in the evenings to align with the schedules of management in Japan. “Their willingness to do all that was outstanding and made my life easier because I didn’t have to translate everything back and forth between people. They could actually hear it directly from each other.”

Of LabLynx, Harris also said, “They adapted to everything that we came up with and threw at them. They were able to figure it out and make it happen in the system.”

The implementation took about six to seven months to go live, and about nine months until it was 100 percent complete at the beginning of 2021. Most of the delay was on the Hitachi end because “we kept changing what we wanted,” said Harris.

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Improvements seen at the China Grove lab due to LabLynx LIMS

Despite news of the China Grove's plant closure at the end of September 2022, the plant's on-site lab saw significant improvements in efficiency before closure after transitioning to LabLynx LIMS. Harris estimated the improvement to be approximately 25%, specifically referring to "the efficiency of being able to get a complete report done promptly without having errors or having to wait for somebody to come in and approve it."

The ease of pulling data and accessing data from anywhere were other key benefits that directly impacted Harris, making his job easier and enabling him to respond to customers with greater speed.

"One of the big benefits I liked was being able to access the system even when I was at home because our plant ran 24/7 and never stopped, and our lab technicians worked on all of those shifts also. I could access the system and reports from home versus having to wait until I came in on Monday to approve them. If I got an email from a customer in Mexico at 7:00 p.m., I could sit at home and email them a copy of the inspection report, or send them a control chart of the data, or whatever attribute they were looking for. It was greatly beneficial that we could respond so quickly, whereas before I would have to go into the plant, pull paperwork, and put data in a spreadsheet, and create a control chart, and then send it to them. There was a big difference that the LIMS gave us in the ease of pulling data."

The LIMS also helped with traceability at the lab, making it easier to go back and determine the dimensions and magnetic properties of specific lots, especially if a customer had a question or concern, according to Harris.

Another satisfied LabLynx LIMS customer

The LIMS solved the main goals behind Hitachi Metals' global initiative, which were to eliminate manual data entry through the direct input of data from testing instruments to the LIMS, and to improve security by limiting access to data to specific individuals.

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