Entire Brewing Process on a Single Software Platform

Eliminates Paper, Improves Production and Analysis

MadTree Brewing Company of Cincinnati, Ohio, has seen rapid growth since it opened in 2013. With a $20 million expansion, it moved into its current home in 2017. MadTree's new brewery is housed in a remodeled airplane hangar that was built decades ago. The shiny new equipment blends well with the retro architecture, and the site also has a spacious taproom and outdoor beer garden.

MadTree thrives on creativity, preferring to do things its own way. When seeking a new system for supervisory control and data acquisition (SCADA) and human-machine interface (HMI), MadTree wanted something that would allow maximum flexibility. Working with ThermalTech Engineering of Cincinnati, MadTree chose Ignition by Inductive Automation® — an industrial application platform with tools for building solutions in HMI, SCADA, manufacturing execution systems (MES), and the Industrial Internet of Things (IIoT). Inductive Automation, based in Folsom, California, is a fast-growing industrial automation software company. Its key product, Ignition, is used in more than 100 countries.

"We used Ignition to develop a fully integrated recipe-management system for the entire production facility," said Kyle Lehman, controls engineer at ThermalTech Engineering. "That includes everything from the brewhouse to cellaring, all the way to packaging. It's all controlled in Ignition."

"We really wanted the ability to see and monitor all aspects of production, and Ignition really helped us with this," said Ryan Blevins, head brewer for MadTree. "To be able to monitor utilities, packaging, brewhouse, and even quality-lab data — all in one place — has been super-convenient."

MadTree Brewing has much better control of its data with Ignition.

"MadTree wanted something that was unique to them," said Lehman. "They didn't want a solution that would tell them how to make their beer, and Ignition gave us the ability to design things and get the flow going the way MadTree wanted it to." Lehman, who has worked with lots of other facilities, said MadTree does plenty of customization itself with the Ignition platform. He also noted that MadTree does more data collection and analysis than many other facilities, gaining much benefit from those activities.

Faster Analysis

At MadTree, Ignition connects to 70,000 process tags, 15 process PLCs on the plant floor, 150 process valves, and about 50 sensors. The software enables MadTree to see data more quickly than in the past, enabling better troubleshooting and faster responses. "We're getting data feedback that we never had before," said Blevins. "Ignition allows us to look at that data and analyze it quickly."

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>   Head Brewer, MadTree Brewing

"One of the cool things we discovered when we started using Ignition was how flexible it is," said Trent Leslie, quality manager at MadTree. "Being able to combine the relational database back-end with Python scripting, and having the interface for other people to actually view that information — not just me — was pretty awesome."

Kyle Moore, brewery engineer for MadTree, likes the quick access to data, including from remote locations. Overall, it raises efficiency. "Ignition has really allowed us to streamline our processes, to where we're capable of increasing our capacity," said Moore. "We can brew more in a smaller timeframe than we were able to before."

Moore prefers Ignition to other software packages he's used. "I was used to control systems where it would just run the program, and that was it," he said. "And then you'd have a second database or a secondary system like a historian pulling everything through. So you'd have to do all the work on the front-end, and also the work on the back-end to get what you wanted. With Ignition, it's all there in one thing."

Prior to using Ignition, MadTree had many manual processes, with much of its data residing on paper. "Ignition's been a great upgrade for us, as far as data collection and tracking," said Blevins. "Before, we were using whiteboards and spreadsheets, and we had data all over the place. Now it's in one convenient location."

Unlimited Licensing

Ignition's unlimited licensing gave MadTree and ThermalTech the freedom to build whatever they needed. There are no additional costs for adding new projects, tags, clients, or users. Ignition's template-management system has also paid off. "The fact that I can use a template, and apply it to many different projects, saves a lot of time for me, for my clients, and for MadTree," said Lehman. "The template-management capabilities in Ignition allow us to apply templates between jobs, between projects, and even between different areas of a facility. They allow us to be repeatable and predictable, and help us provide one unified interface for the end user."

The software has worked so well for MadTree, the company plans to do more with it. "We definitely have future plans for development in Ignition," said Leslie. "I still want to do a lot more on the packaging side, especially the canning line and some of the KPIs over there. And then some general dashboard development for our managers and directors."

MadTree also appreciated ThermalTech's contributions. "It was great working with ThermalTech," said Leslie. "We met often during the development phase, and went through the entire process step by step."

ThermalTech likes how Ignition helps it serve its customers. "Ignition is very easy to implement, it's easy to program for, and it's intuitive," said Lehman. "And Inductive Automation provides great, free, online training for anybody who wants to learn how to use it."

ThermalTech Engineering specializes in mechanical, electrical, controls, and energy management engineering. The company has offices in Ohio, Michigan, Pennsylvania, Indiana, Texas, and Tennessee. For more information, visit thermaltech.com.

Watch the video online at:
bit.ly/ia-MadTreeBrewing