RRAMAC
CONNECTED SYSTEMS

ROTOCHOPPER
CASE STUDY

Rotochopper was seeking a cost-effective remote monitoring system with a centralized database and web displays that would allow their service technicians to access graphical displays for preventative maintenance, predictive maintenance, and alarm history for all of their grinders. In addition, Rotochopper requested streamlined access for their customers to view maintenance screens and gather production reports. All of Rotochopper's historical data had to be transferred and accessible within the system. The project timeline was 6-weeks.

Rotochopper's goal was to better serve their customers, provide an enhanced level of troubleshooting, predict maintenance needs, save money, and reduce downtime.

SOLUTIONS RRAMAC PROVIDED

- One mutually accessible site for their customers and Rotochopper's internal service team

- Advanced data storage and graphing capabilities

- Bar charts showing maintenance life of individual components, engine data, and predictive maintenance

- Detailed maintenance stats and history, alarm history, performance stats, and historical trends reporting

- Weather status at the machine location using nearest NOAA weather station data

- "Go Live Link" on Rotolink page that allows the user to go online with web published pages from the onsite Operator Interface Screen

- Communications configured thru Secomea SiteManager ™ using a custom driver to collect data files from the local operator interface screen. This allowed Rotochopper to use file structures that already exist on machines in the field, so they can add the web displays to existing machines and leverage data that has already been collected

- Configurable email and text message alerts

IMPACTS OF EDGESCOUT BY RRAMAC

- Detailed and historical alerts and reporting allowed for predictive maintenance to reduce downtime and cut costs

- Corrective maintenance enabled Rotochopper to diagnose customer's bad valves before they created a bigger maintenance issue

- The quantity and duration of service calls for Rotochopper's service team was drastically reduced

- A live link was provided for service technicians and customers to see the same screen simultaneously

- Alarm notifications alerted Rotochopper to low voltage on customer's machines —allowing them to troubleshoot and fix the issue right away

- Overall enhanced customer service capabilities, increasing customer satisfaction

ROTOCHOPPER'S CHALLENGE

Rotochopper specializes in grinding and shredding equipment that transforms waste materials into colored landscape mulch, animal bedding, biomass fuels, and compost with "Perfect in One Pass" simplicity. Rotochopper needed a hosted remote monitoring solution that was able to store a large amount of data and remotely monitor their grinders.

Rotochopper wanted a centralized database and web displays that would allow service technicians to access graphical displays for preventative maintenance, predictive maintenance, and alarm history for all of their grinders. They also wanted to give customers access to the maintenance screens and production reports for their grinders.

WHY DID ROTOCHOPPER COME TO RRAMAC?

Rotochopper tried hiring an integrator to set up the required database and web pages, but ultimately decided they needed someone with more experience. RRAMAC was recommended by Power/mation who Rotochopper had a previous relationship with through the purchase of the Secomea SiteManager. As a distribution partner of EdgeScout by RRAMAC, Power/mation was intimately familiar with their capabilities and knew that RRAMAC was the right choice for the job. Tom Craven, VP of Product Strategy, and Justin Chamberlain-Dupree, Software Developer, met with the Rotochopper team to discuss their needs.

"We were looking for a knowledgeable partner who could handle a large amount of data through remote monitoring," said Brian Wenning, Control Systems Engineer at Rotochopper. "It was clear from the first meeting that RRAMAC understood our needs and had the experience to execute the project. It was an easy decision."

THE TIMELINE

RRAMAC began the project on July 31 with a deadline to be fully operational for an important Rotochopper customer event on September 13 called "Demo Days." **The project was completed in approximately 4-weeks,** with some ongoing testing and troubleshooting during the remaining 2-weeks before the customer event.

"It felt like RRAMAC was part of our team – we were all working together on the same project," said Wenning and Doug (Spike) Meyer, Director of Customer Service. "They had quick and definitive responses to all of our questions and a solution for every problem."

"We pushed hard to get the system up and running as quickly as possible to be ready for Demo Days," said Meyer. "RRAMAC did not release the system until it was ready – it was the right thing to do and they still made sure it was ready in-time for our event."
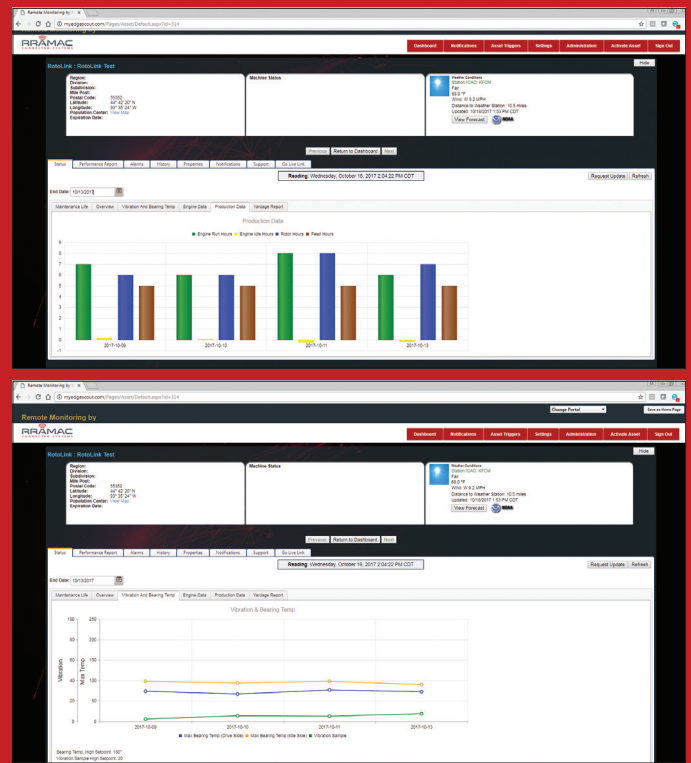
CREATING A CUSTOM SOLUTION

Rotochopper had historical data files at every site that they did not want to lose. All of this information needed to be transferred to the EdgeScout system. Nathan Entinger, Chief Technology Officer and Dupree led the project from the RRAMAC side.

RRAMAC was able to take full advantage of the existing control system platform that Rotochopper was already using because of their experience working with the Secomea SiteManager. The data log files that were in use at existing sites were accessed remotely by RRAMAC to easily upgrade these sites while making use of data that had already been collected.

"RRAMAC worked with us so we did not have to go through the extra work of converting all of our existing data into a different file form," said Wenning.

RRAMAC created one mutually accessible website for their customers and the internal Rotochopper service team with data storage and advanced graphing capabilities. The Rotochopper grinders connect to the internet via the customer's local LAN or WiFi. Some sites require a cell modem.

"RRAMAC showed the data storage and graphing capabilities that other companies would have to build from scratch," said Wenning. **"RRAMAC brought a new level of knowledge, expertise and experience to the project. They understood what we wanted and created solutions to fulfill our goals."**

THE DEMO DAYS ROTOLINK LAUNCH

Rotochopper unveiled their latest IoT remote monitoring solution from EdgeScout by RRAMAC, called the Rotolink at the Demo Days event. Dupree even drove out to the event to ensure a smooth product launch.

Meyer and Wenning were both very impressed by this, commenting "Justin taking the time to personally drive to Demo Days and demo the system to the customers spoke to the impressive level of customer service that RRAMAC provides."

"The company was exceptionally receptive and welcoming," said Dupree. "Attending Rotochopper's annual customer event was a great first-hand opportunity to see interaction with the system and get important feedback directly from their customers. This was an excellent opportunity to explore some new and interesting functional areas."

HOW HAS EDGESCOUT BY RRAMAC BENEFITTED ROTOCHOPPER AND THEIR CUSTOMERS?

"This upgrade has made an impact on the service we provide to our customers," said Meyer. "**We can tell ahead of time if a machine needs servicing and save money, and downtime in the end.** The troubleshooting feature with detailed, non-subjective data is incredibly valuable."

EdgeScout by RRAMAC has enabled Rotochopper to practice corrective maintenance. By means of the production and engine chart data, Rotochopper diagnosed a bad valve and notified the customer before it caused a bigger issue – saving both time and money for Rotochopper and their customer.

The EdgeScout product has proven to be a huge rollout for customers and for the Rotochopper customer service department. With the shared website, data operators are able to consult with Rotochopper customer service to quickly troubleshoot machine failures with the least amount of impact to production uptime. In addition, historical data and machine performance trends are captured for proactive and predictive maintenance on the machine.

The EdgeScout platform has allowed Rotochopper to drastically reduce the quantity and duration of service calls. In one instance, Rotochopper received an email notification that alerted them to a low voltage warning on of their customer's machines. They were able to contact their customer right away and provide a solution that fixed the issue.

This alarm history report is extremely valuable to Rotochoppers' service group to remotely troubleshoot machines. "The EdgeScout system allows them to get actual time stamped data, instead of relying on anecdotal operator reports and details," said Craven.

The Rotochopper team was very pleased with the result and commended the RRAMAC team saying, "They handled everything very well – their professionalism was outstanding."

"Customers see maintenance as the first thing when they log into the site," said Meyer. "They love the fact that they can see what maintenance needs to be scheduled – just as they do with new vehicles. The history part is huge – engine data, bearing temp, and the zoom in. The ability for service to have a live link to see exactly what the customer sees is the cherry on top."

The RRAMAC team was greatly appreciative of the level of response, ease, and friendliness of the Rotochopper team. Dupree noted that, "It was great to work with an organization that had a clear sense of vision in terms of what they wanted to accomplish, yet was willing to take guidance on how best to present their vision to customers. Spike and Brian in particular were very receptive and responsive. Their ability to turnaround any requests from our side in a timely manner really helped ease the process and get everything completed on time."

RRAMAC continued working with Rotochopper to develop the same system for other machinery. "The great thing about our product is that it is reusable across other machines and systems," said Craven. "Only minor tweaks are needed to customize to the specific needs of the machine."

RRAMAC CONNECTED SYSTEMS SOLUTIONS

EdgeScout by RRAMAC is a comprehensive Industrial Internet of Things (IIoT) based solution that can maximize production, reduce operating costs, and keep your equipment up and running. EdgeScout features custom reporting and analytics, easy installation, web and mobile apps, and secure data collection. The EdgeScout solution allows you to manage equipment performance and make real-time decisions anytime, anywhere.