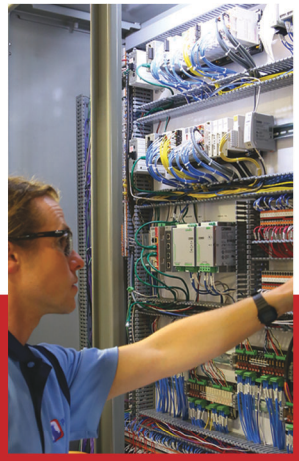

Case Study: Alta Forest Products grows new HMI

World's largest producer of fence boards improves efficiency with data visualization

OPTO 22

Your Edge in Automation.™

Opto 22

43044 Business Park Drive • Temecula • CA 92590-3614
Phone: 800-321-6786 or 951-695-3000
Pre-sales Engineering is free.
Product Support is free.
www.opto22.com

Form 2305-210514

CASE STUDY: ALTA FOREST PRODUCTS GROWS NEW HMI

World's largest producer of fence boards improves efficiency with data visualization

Walk into the fencing department of your local home improvement store, and you're likely to find Alta Forest Products wood fencing prominently featured.

Whether you're looking for naturally bug- and decay-resistant Western Red Cedar, or pre-stained wood like Douglas Fir or whitewood, you'll find the boards you need to build your own fence or have a builder install it for you.

The world's largest producer of wood fence boards, Alta Forest Products, LLC, is headquartered in Chehalis, Washington, and runs four sawmills in Washington and Idaho.The four mills produce enough fence boards every year to build a fence from Seattle to Atlanta and back—twice!

Alta Forest Products is the world's largest producer of wood fence boards.

Shipping more than 2,000 rail cars and 8,000 flatbed trucks and vans of lumber each year, the company also ships enough chips, bark and sawdust to total more than 13,000 outbound truckloads annually.

ZERO WOOD WASTE

Since 2014 Alta has invested heavily in capital improvements to redesign handling and processing systems at its mills, to improve efficiency and reduce waste. The result? It's now a zero-wood-waste organization.

Wood not suited for boards is sold as wood chips. Bark and sawdust are sold as well.

Any wood fiber not suited to produce a solid board is converted into wood chips, which are sold to pulp and paper manufacturers in the region and used as groundcover for children's playgrounds.

In addition to chips, Alta collects bark from the outside of the logs it consumes and sells it as mulch. Sawdust generated by the mills is sold to chicken farmers for bedding and used to make specialty soils for farming and gardening. Any remaining material becomes biofuel for local co-generation facilities.

THE CHALLENGE

With all these improvements to the process and handling systems at their mills, the need for visibility into operations and system data soon became clear.

Supervisory personnel wanted a broad overview of the facility, and they also needed to see critical KPIs (key performance indicators) for each machine center.

Existing data collection was a cumbersome, home-brewed solution involving Microsoft® Excel, SQL, and Visual Basic. It wasn't scalable as it was, and it would be too expensive to expand it to support the expected number of clients. In addition, it had no real provision for mobile users.

HMI (human-machine interface) systems like this are typically created by OEM vendors, who offer packaged solutions. But Alta wanted more flexibility to customize their HMI, plus a lower cost per location and per user.

"Our new HMI was easy to implement and requires no client-side licensing or updates."

- Geoff Eastman, Controls Manager, Alta Forest Products

THE SOLUTION

Specifically, the company looked for an inexpensive but capable HMI that they could easily develop, deploy, and customize for an individual sawmill, with no tag, screen, or user limitations. They considered several solutions but rejected them due to restrictive licensing, limits, and expense.

After an extensive Internet search and discussion with peers in the industry, Alta found Opto 22's *groov*®.

"We were able to try *groov* for free and could immediately see how easy it was to build an HMI that we could use on mobile and PC clients, with any browser," says Geoff Eastman, Controls Manager.

"In addition, since it's browser based, any PC workstation can be used to develop or change the interface."

Starting with *groov* Server for Windows™, which runs on a Microsoft Windows® PC, the company soon found the *groov* Edge Appliance (*groov* Box™) worked even better for their purpose. The *groov* Box is industrially hardened and can be placed in tough locations where a PC could fail. It also offers built-in security and additional features for industrial internet of things (IIoT) uses.

Both *groov* products include *groov* View software for building and viewing an HMI. *groov* View's drag-drop-tag interface shortens the time needed to build an interface.

Once built, the interface can be viewed by authorized users from any device with a web browser, from a smartphone to a web-enabled HDTV. The software requires no keys or user fees and has no user or device limits.

The company's sawmill at Shelton, Washington, one of four sawmills in the U.S. Northwest

Many sawmill processes at Alta Forest Products are controlled by Allen-Bradley® ControlLogix® or SLC-500 control systems. The *groov* View software connects to these PLC systems and provides data, monitoring, and even control if users have authorization.

The company maintains secure firewall-to-firewall connections over the internet for its five discrete locations—headquarters and four sawmills—so data from all locations can be securely accessed within the HMI.

Trends in *groov* View track a wide variety of data, including motor current, residual bunker levels for sawdust and chips, black water tank levels, temperature and flow, log diameter, and production rates.

Critical KPIs are now available for machines such as this mill stacker.

Alta Forest Products' *groov* View HMI (partly shown here on a smartphone) gives operators and managers real-time displays for sawmill equipment as well as trends and KPIs.

Meaningful KPIs for each machine center are available live in the *groov* View HMI. Node-RED, included in the *groov* Box, pushes historical data to Domo®, a business intelligence web interface. Once in Domo, supervisors and other clients can customize reports to their needs.

Data from *groov* View is also logged to mySQL, again accessed via Domo. Authorized users also receive alerts and warnings based on preset conditions; these alerts are delivered via email or text message.

Says Eastman, "Our new HMI was easy to implement and requires no client-side licensing or updates. There's minimal troubleshooting and upkeep, and Opto 22 provides prompt technical support when we need it.

"With this interface we can easily visualize data from any location. We can accommodate employee requests for specific data or graphics from any PC at any site. Our engineering department can anticipate and respond to

Trends in *groov* View track a wide variety of data, including motor current, residual bunker levels for sawdust and chips, black water tank levels, temperature and flow, log diameter, and production rates.

Opto 22's *groov* EPIC system for automation and industrial internet of things applications

problems quickly. Management can track production and make better decisions based on real data."

And that helps make the world's largest producer of fence boards even more efficient.

For more information on Alta Forest Products, visit their website at https://www.altafp.com.

ABOUT OPTO 22

Opto 22 was started in 1974 by a co-inventor of the solid-state relay (SSR), who discovered a way to make SSRs more reliable.

Opto 22 has consistently built products on open standards rather than on proprietary technologies. The company developed the red-white-yellow-black color-coding system for input/output (I/O) modules and the open Optomux® protocol, and pioneered Ethernet-based I/O.

In early 2013 Opto 22 introduced *groov* View, an easy-to-use IoT tool for developing and viewing mobile operator interfaces—mobile apps to securely monitor and control virtually any automation system or equipment.

Famous worldwide for its reliable industrial I/O, the company in 2018 introduced *groov* EPIC® (edge programmable industrial controller). EPIC has an open-source Linux® OS and provides connectivity to PLCs, software, and online services, plus data handling and visualization, in addition to real-time control.

All Opto 22 products are manufactured and supported in the U.S.A. Most solid-state SSRs and I/O modules are guaranteed for life.

MADE IN THE USA

The company is especially trusted for its continuing policy of providing free product support, free online training, and free pre-sales engineering assistance.

For more information, visit opto22.com or contact **Opto 22 Pre-Sales Engineering**:

Phone: **800-321-6786** (toll-free in the U.S. and Canada) or **951-695-3000**
Email: systemseng@opto22.com

MADE IN THE USA
OPTO 22 www.opto22.com
43044 Business Park Dr. Temecula, CA 92590-3614

SALES sales@opto22.com
800-321-6786 • 1-951-695-3000

SUPPORT support@opto22.com
800-835-6786 • 1-951-695-3080