

GOING OUT ON A LIMB TO ACHIEVE WORLD-CLASS PRODUCTIVITY AND SAFETY

Introduction

From the handcrafted table where you enjoy a family celebration, to the wall frames that help build a house that becomes a home, the natural charm and practicality of timber is all around us. But like so many things, while we enjoy the beauty of the finished product, the process of how it was made is unlikely to have crossed your mind.

AKD Softwoods is a 100% Australian owned and operated integrated forestry and timber processing company. Founded in Colac, Victoria in 1955, the company operates across Australia and has grown to include six sawmills processing more than 1,000,000m³ of saw log per annum, over 9000 hectares of Radiata Pine plantations, three preservation businesses, a softwood chip export operation and multiple log export locations.

AKD has two plants in the Colac area – a large diameter log line located 5kms east of Colac at Irrewarra which currently processes 250,000m³ per annum and a small diameter log line in Colac that cuts approximately 450,000m³ per year which was the focus of the upgrade project.

With over 350 employees in Colac alone, AKD is one of the largest employers in the region and plays an active part in supporting community activities and its employees are a vital part of its past and future success.

To compete with large domestic and international companies, in 2015 AKD identified an opportunity to upgrade its 25-year-old existing saw line and make additional facility upgrades to support an increase in production at the Colac plant.

Project Overview

The installation of a state-of-the-art saw line at its Colac processing facility was a vital reinvestment so AKD could create a more successful business moving forward, which in turn preserves jobs in regional Australia.

The AKD plant in Colac requires a high level of technology and safety being top priority. The plant processes logs onto an optimisation conveyer, where the technology builds a 3D model of the log before rotating it to the best orientation and presenting it to the quad band mill. This is the primary cut and can produce as many as eight sideboards now having the ability to reciprocate and pass the log through the saws twice. The remaining part of the log (the cant) is then flipped 90 degrees and passed through the secondary part of the saw line to be cut into rough sawn board products. These boards are graded, sorted and then kiln dried before the final stage where they are moulded, planed, resorted and wrapped for final sale.

AKD's Colac plants have a long and successful history of utilising the NHP and Rockwell Automation portfolio of products and as they are highly suited to the process control and safety requirements of the environment, it made sense to utilise these products in the project which covered both the primary and secondary cutting machines.

"I believe they are number one. They offer a very good support base and they're world leaders in the software development for their controllers," said Brady Wicks, AKD's Group Electrical Manager.

During the project, NHP and Rockwell Automation supported AKD with the new drive installation and configuration of special applications for the cutting machines which have drives up to 600kW installed.

The Solution

To meet the project requirements of variable speed throughput and delivery of the necessary safety levels, Allen-Bradley® PowerFlex® 755 AC Drives were selected. These drives provide ease of use, application flexibility, and high performance, as well as multiple control, embedded safety and hardware options. The integrated safety functions also provide advanced safety on an EtherNet/IP network, which was essential for AKD.

This installation allows AKD to bring the quad bandsaw and gangsaw to a standstill in approximately 40 seconds rather than previously waiting 15 minutes for the heavy flywheels to stop, enabling the saw doctors quick access to perform their job safely and efficiently.

The Allen-Bradley® Guardmaster® 442G Multifunctional Access Box (MAB) was specified and utilised to provide a unique combination of guard locking and access control. As an integrated safeguarding solution, they were ideal for the saw mill environment with a higher holding force and a means for exiting the safeguarded area in an emergency. With a choice of operator controls and other flexible options, they are highly configurable to suit the plant applications.

AKD also required a safety solution to sit on top of EtherNet, drives and MAB gate interlocks to provide very quick diagnostics when there are issues, which ultimately leads to greater plant uptime.

The plant is controlled centrally via Rockwell Automations FactoryTalk® View SE. The program controls and monitors the equipment whilst also providing advanced diagnostics displayed as contextualised information on customised dashboards.

Choosing a partner that could ensure a high level of support throughout the entire process was an important component of AKD's selection process.

"Providing proactive support during the project was a natural extension of our long-standing relationship with AKD, from frequent plant visits to product selection and drive configuration, our priority was to be there whenever they needed us," said NHP's Automation – Business Development, Hugh Trehwella.

The upgrade has enabled AKD to increase product throughput while lifting recovery at the same time. The existing saw line was fixed at 37 metres per minute while the new line is variable and can reach speed up to 160 metres per minute, putting AKD at the forefront of speed and recovery in its industry. The advanced saw line recovery has increased from 54% at best to more than 60%, placing AKD in a world class competitive position.

"AKD is a very forward-thinking company and has a strong emphasis around technology and the project has given us the ability to retain our reputation as a market leader," Mr. Wicks continued.

Mr Wicks also commented, *"with continued development with our residue and sorting line, we will have the capacity to cut over one million cubic metres annually."*

Following the successful upgrade, AKD plans to make NHP and Rockwell Automation technology standard across its wider group of plants and following recent acquisitions also intends to roll the technology out to those plants in the coming years.

At NHP, we are proud to partner with another local Australian company servicing the local and international market creating a pathway to an innovative and sustainable future.

Project Fact File

Project: AKD Softwoods saw line Upgrade

Location: Colac, Victoria

Details: NHP and Rockwell Automation supported AKD Softwoods' install of a new saw line incorporating a high level of technology and safety being top priority.

NHP Products/Services:

- Allen-Bradley® PowerFlex® 755 AC Drives
- Allen-Bradley® Guardmaster® 442G Multifunctional Access Box
- Rockwell Automations FactoryTalk® View SE

