

Technical Knowledge

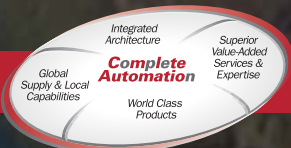
# System Solutions

Support Services

Engineering

Manufacturing Excellence

Application Expertise



WELCOME TO THE WORLD  
OF COMPLETE AUTOMATION

## Rockwell Automation Drive Systems

Solutions for  
the Paper Industry

**Rockwell  
Automation**

# Rockwell Automation: Experience You Can Trust



Before new equipment is installed, we can assist you in planning for a fast start-up.

Boosting productivity by optimizing your entire operation is the goal of Rockwell Automation Drive Systems. To ensure you achieve this goal, we've assembled a knowledgeable, experienced team to support you with:

- Application Expertise
- Engineering Solutions
- Manufacturing Excellence
- Implementation
- Ongoing Support Services



Our global network of **Drive Systems Centers** is staffed with application and system engineering experts who can respond to your needs quickly and completely.

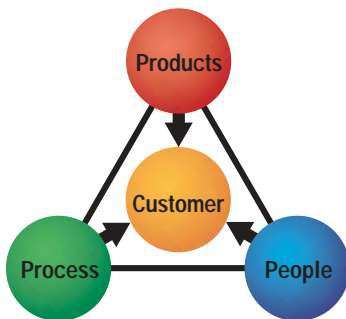
We will provide you with **complete, integrated automation solutions** that ensure your project's success. Our documented Drive Systems **Best Practices** help maximize production. And our **Systems Engineering Tools** ensure optimal system configuration, ensuring top efficiencies from engineering straight to commissioning.

Is your operation in need of upgrading? Our **Field Modernization** services can help by installing diagnostic tools to existing systems, replacing equipment, increasing line speed or upgrading hardware or software to ensure peak productivity.

Our **Global Support Services** complement our core Drive Systems offering and includes Comprehensive Asset Management, Support Agreements and Training.

## Training

Factory-based training programs are tailored to meet your specific requirements. We also offer product, maintenance, system and process level training to keep your production up to speed.



Comprehensive Asset Management ensures your company receives maximum value for its investment.

## Support Agreements

Rockwell Automation Support Agreements (RASAs) are also an integral part of our Complete Automation program. RASA customer partnerships – some of which go back over 30 years – benefit from the following advantages:

- Reduced downtime costs
- Extended equipment service life
- Increased product quality
- Improved customer satisfaction

## Installation Services

A comprehensive resource for both new or existing facilities.

### Planning

Application

### Audit

Study Existing System  
Document Results

### Engineering

Select Technology  
Design for Start-Up

### Resource Selection

Internal Resources  
External Resources  
Team Development

### Pre-Installation

Schedule  
Installation  
Rehearsal

### Install/Start-Up

Implement Plan  
Complete Installation  
Start-Up

### Production

Process Tuning under Load  
Conditions

# Solutions for Increasing Production and Quality on a New Pulp Machine

## Proven Technology

Rockwell Automation Drive Systems has received numerous patents in drive control theory technology to ensure your continued success in today's competitive paper industry.

Recent examples of patented technology include:

- Velocity Regulator for advanced control of torque disturbance – *A superior method of controlling one or more torque-regulated motors in a controlled paper processing line.*
- Fuzzy Logic Winder Analyzer – *Automatically determines the nature of various materials based on winder tension.*



Our paper team delivered on a unique OEM request – a project that demonstrated how well Drive Systems leveraged its strength as a value-added single-source solution for complete automation applications.

Our solution included AC drives, motors and ControlLogix as the primary controller. Selected interfaces provided the customer with clearly displayed operator and diagnostic information. ProcessLogix™ was used to manage the stock preparation process. ControlNet™ coordinated the process functions over a robust, high-speed network. And system controllers shared information using the producer-consumer model, which reduced latency and increased performance through the use of a common network. Machine control and system functions were communicated quickly and reliably, accomplishing coordinated production of high-quality pulp bales.

Our drive system solution resulted in:

- **Over 60% cost savings** when compared to the installed cost of a traditional DCS/PLC combination system. By using the same types of hardware for the drive system and process control, programming was simplified and a third party DCS programming specialist was not required. Distributed I/O on the machine eliminated the need for a dedicated instrument rack room, thereby, saving space.
- **Common hardware and direct communication links** between the ProcessLogix process controller, the ControlLogix controlled drive system, auxiliary PLC control systems, and mill information systems.
- **Significantly less training time for maintenance and greater ease of troubleshooting** through the use of standard NT level servers and operating terminals, Ethernet communications, and graphical programming and monitoring.
- **Full-featured integrated DCS and PLC functionality and reliability.**
- **Ease of system monitoring, reporting and programming** through standard mill LAN communication systems.

# From the Woodyard to the Shipping Dock, *Complete Automation* Solutions Help Increase Profitability

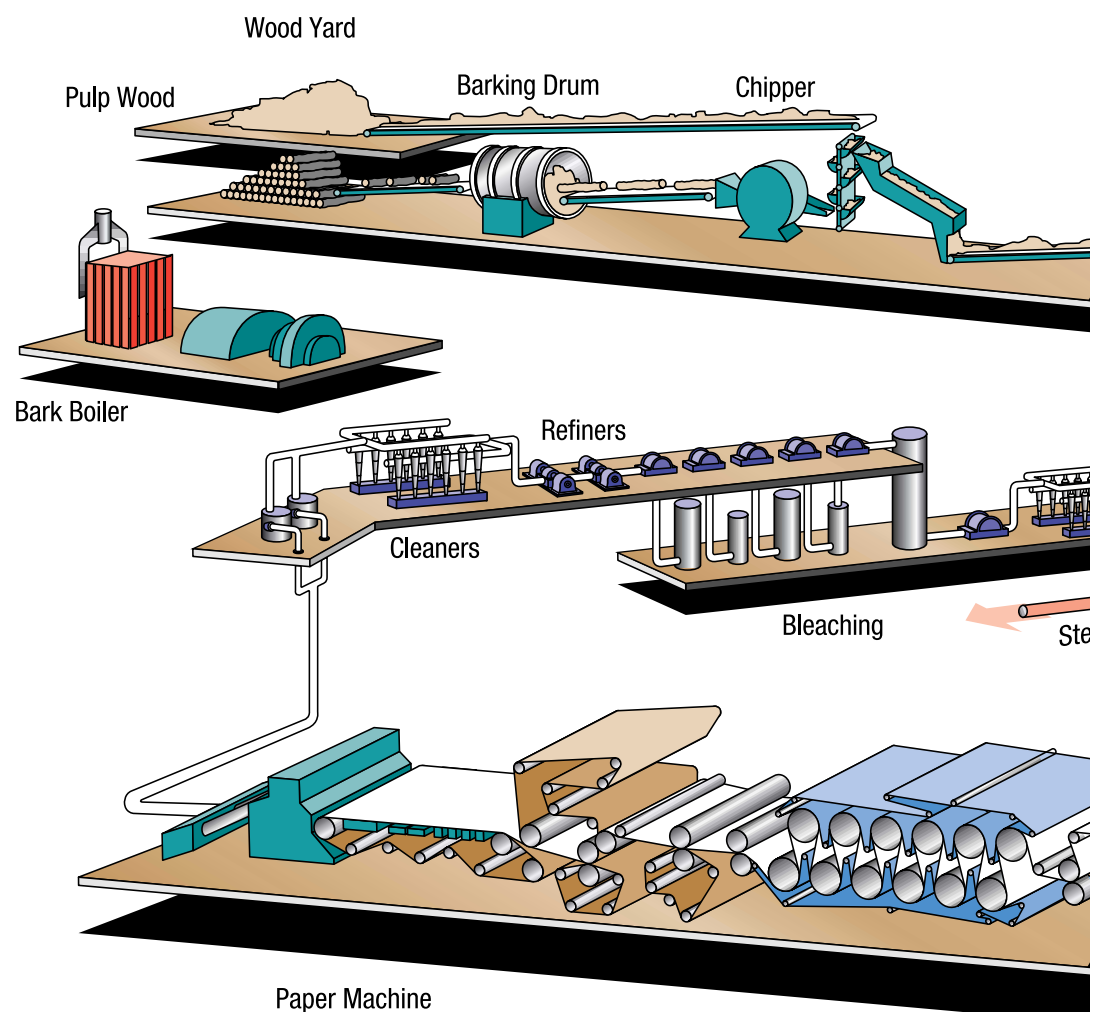
## Optimize Productivity

The high capital investment required for mill operation, combined with the daily challenge of increasing global competition, makes it essential for companies to seek greater levels of efficiency throughout their mills. Rockwell Automation Drive Systems is key to this effort.

For example, our open network process and control architecture will simplify connectivity to mill MIS for data retrieval and analysis. It will help improve product quality while maintaining compliance to environmental regulations for clean air and water. It will help streamline manufacturing processes while minimizing energy and material costs.

*Complete Automation* Solutions from Rockwell Automation Drive Systems can help increase productivity, capacity and reliability, while reducing downtime and minimizing maintenance costs.

## Pulp & Paper Process



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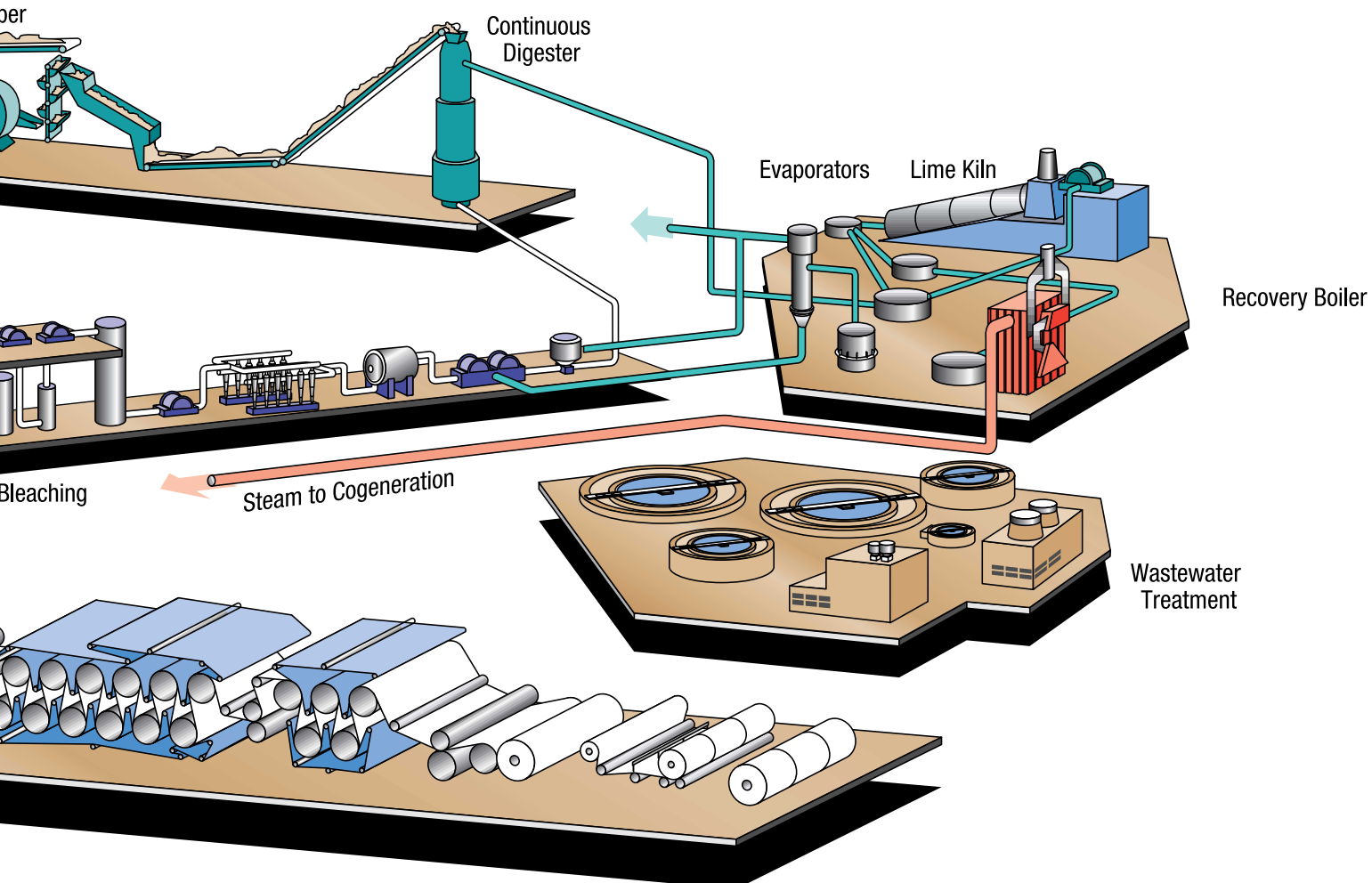
### A Trusted Global Resource

Rockwell Automation Drive Systems understands your need to seamlessly integrate your mill's various control and information systems. Our open-control architecture gives us the ability to interface with your current systems, offering you the best solutions to meet your specific needs.



### Applications

- Conveyors
- Debarkers
- Chippers
- Pumps
- Fans
- Mixers
- Refiners
- Roll Wrap
- Fan Pumps
- Paper/Tissue Machines
- Re-Reelers
- Off-Machine Coaters
- Super Calenders
- Winders
- Salvage Winders



# A History of Expertise, Innovation and Results in the Paper Industry

For more than 80 years, we have been the brains and brawn behind this industry's most innovative drives technology – including the first complete AC Coater drive system, AC Paper Machine, AC Winder Backstand and AC Super Calender.

Today, we continue to advance the technology with an impressive range of *Complete Automation Solutions*. With our applications expertise, products and support, customers can achieve higher levels of optimization and be successful in the global marketplace.



It is easy to take advantage of our expertise. Simply identify your objective, then rely on us to help you achieve it – from solutions for the woodyard through finishing and shipping. We can engineer custom solutions for your new projects or for existing investments.

And because we're Rockwell Automation, we have the resources to support customers anywhere on the globe with unsurpassed applications expertise and world-class products.

## **Improve Efficiency with DC Drive System Retrofits**

If you're looking for the most cost-effective way to upgrade your process to the latest in digital technology, the ControlLogix™ Digital Retrofit is the best solution. You decide if you want to keep your existing AC input power circuits, DC power conversion equipment, armature circuits and motors. Simply install the Digital Retrofit as the

flexible platform for your modernization program. Retrofitting existing MG sets or thyristor power modules improves control, as well as uptime and production. The flexible architecture of ControlLogix also accommodates future growth and integration into other mill processes.

Upgrading DC Drives to the new digital technology can be done during machine wash-ups or outages – with no loss of production time. If you prefer to remain with your existing Rockwell Automation drive platforms, digital DC Drive Retrofits can be done with them as well.

Digital technology provides precise control of the process, permits data acquisition for diagnostics and performance measurement, and guarantees improved operation and efficiency. Flexible packaging techniques permit accommodation of almost any installation requirement.

# The Forefront of Technology

The key to a superior drive system is not only expertise and commitment, but also using a provider in control of its own technology.

Rockwell Automation offers more than 500,000 products to solve your application challenges. Because we design and manufacture AC and DC drives, servo drives, motors and controllers, we can customize our world class products to match performance to the application.



*We verify interoperability in our System Evaluation Lab – not in the field – so you can be confident your system will perform as promised.*

And every day, more than 300 scientists and engineers push the frontiers of automation technology at the Rockwell Science Center.



Creating cutting-edge solutions with world-class technology. That's Rockwell Automation Drive Systems.

*Our semiconductor research allows us to incorporate advanced proven, cost-effective technology into our drive products. It also lets us reduce product size while increasing functionality.*

## System Solutions

Commissioning

Partnering

Implementation

Engineering Solutions

Support Services



Manufacturing  
Excellence

Technical Knowledge

Application Expertise

# Global Solutions. Local Support.

- Over 100 years of experience as an electrical drives provider
- More than 50 years of organization systems application experience
- Represented in more than 80 countries
- 620 sales and support offices
- Nearly 5,600 distributors, system integrators and agents worldwide

For more information check our Web site at [www.automation.rockwell.com/drivesystems](http://www.automation.rockwell.com/drivesystems)

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