



AUTOMATION

# MANAGING OBSOLETE HARDWARE COMPONENTS

UPGRADE SOLUTIONS FOR ALLEN-BRADLEY/  
ROCKWELL PLC EQUIPMENT

**ANDRITZ**

ENGINEERED SUCCESS



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## MANAGING END-OF-LIFE COMPONENTS

Running either end-of-life or discontinued hardware increases your risk of being unable to source a replacement in the event of failure.



## WORK WITH ANDRITZ TO UPGRADE YOUR MILL

ANDRITZ can plan, design, and execute a custom upgrade solution for your operation that maximizes value while minimizing risk.



## ADDITIONAL UPGRADE BENEFITS

A well-planned upgrade project can yield many benefits for your plant or mill's processes, productivity, efficiency and overall operations.



## PERSONNEL TRAINING AND SUPPORT

As a Rockwell Systems integrator, ANDRITZ has the experience, resources, and specialized knowledge to address the different training requirements of your staff.





# Managing end-of-life and discontinued components

Running end-of-life or discontinued hardware increases your risk of being unable to source a replacement in the event of failure.

Many of the Allen-Bradley PLC-5 and SLC 500 hardware components are, or soon will be, considered end of life or discontinued by the manufacturer, Rockwell Automation. "End of life" status means that a discontinuation date has been announced and that there is a finite amount of time before the part is "discontinued," at which point the component will no longer be manufactured or available for purchase.

Running end-of-life hardware introduces the risk of not being able to purchase a replacement part in the event of a component failure. End-of-life hardware inventory from the supplier may be spotty, and as discontinued status approaches, the product will become completely unavailable.

Without adequate spares on hand, a component failure can lead to significant process downtime and costs in lost production. Even with spares on hand, a multiple-failure situation caused by a power surge, lightning strike, or water or dust ingress could exhaust on-hand

spares and result in the same downtime. At this stage in a control system's lifecycle, the smart move is to reduce risk and start planning for a system upgrade.



## UPGRADE SOLUTIONS

Is your operation running end-of-life hardware? Don't wait for failures to occur. We can help you explore your upgrade options.



# Work with ANDRITZ to upgrade your operation

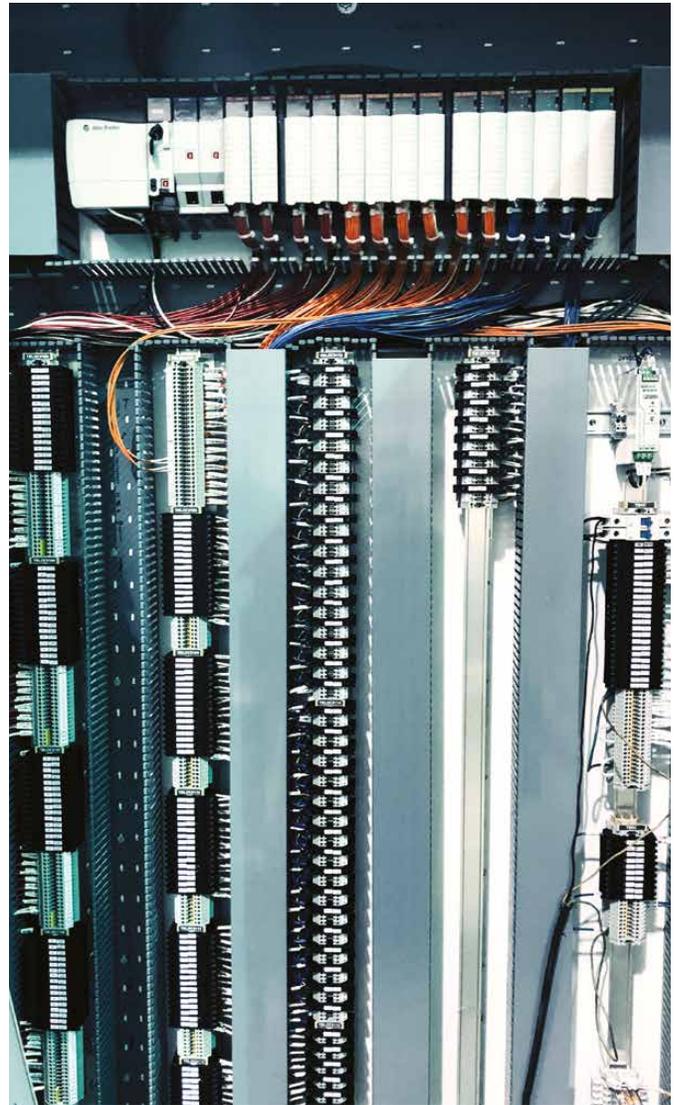
ANDRITZ can help plan, design, and execute a custom upgrade solution for your operation that maximizes value while minimizing risk.

ANDRITZ has a wealth of experience with Rockwell Automation products and the global resources needed to efficiently and effectively design and execute PLC upgrade projects. ANDRITZ has been a recognized system integrator of Rockwell's products for over 30 years. We have tens of thousands of man-hours working with Rockwell control systems and more than 2,000 automation resources to support control system projects.

ANDRITZ is unmatched in our combination of control system experience and project resources. Projects commence with a thorough on-site review of the PLC hardware and networks currently in-use at site. Once complete, we create a detailed, phased plan to upgrade discontinued and end-of-life hardware to the latest technology. Plans focus on the most critical equipment first, and aim to replace the balance of the hardware before it becomes discontinued or gets too far into end-of-life status.

ANDRITZ works with your on-site team to determine the full scope of the upgrade project for both planning and budgeting purposes. Phases of the upgrade are scheduled to avoid equipment obsolescence, match up with an annual budget for the upgrade work, and coincide with plant maintenance outages in order to avoid any additional process downtime. Typically, the upgrade path follows the task priorities in this order:

- PLC HMI program conversion
- HMI upgrade/replacement
- PLC controller replacement
- PLC network upgrades
- PLC I/O replacement



A PLC system post upgrade.

# Additional upgrade benefits that go beyond mitigating risk

A well-planned upgrade project can yield many benefits for your operation's processes, productivity, efficiency and overall operations. ANDRITZ leverages available technologies to ensure that hardware upgrades go smoothly.

## UPGRADING WITHOUT LIFTING A FIELD I/O WIRE

We have experience in using conversion baseplates and modules to reuse the existing I/O swing-arms so that the upgrade can be completed without having to determine a single field I/O wire. This approach eliminates the possibility of I/O wiring errors, saving a great deal of time in the field during commissioning, and allowing upgrade cutovers to be successfully completed in less time. Additionally, this approach allows the reuse of existing field enclosures, further reducing project cost and site work required during the upgrade and plant outage.

## IMPROVED PROCESSOR CAPABILITIES

New processor and network technologies bring opportunities to improve operations by programming advanced and/or supervisory process control strategies in the PLC logic, or by connecting the control system to a networked expert or advanced control application via OPC/Ethernet.

The PLC program conversion work can be done "offline" and kept for when the controller upgrade work is completed. Converting the program in advance enables an emergency upgrade to be completed quickly in the event that a failure occurs before the planned upgrade is complete.

Old and new PLC programs are not directly compatible. Some automated tools exist to convert the bulk of the old program code to new, but these tools have some limitations and inevitably some manual conversion must be undertaken by a competent programmer. Alternately, an upgrade project such as this presents a rare opportunity to rewrite the program using modern techniques and technologies such as tag-based and function block programming.

While we are happy to do the program upgrade either way, we suggest strongly considering the rewrite method

if time and budgets permit, as there are benefits to updated code in troubleshooting, maintenance, standardization, and integration with external systems.

## FASTER COMMUNICATIONS

Legacy networks, such as DH or DH+, can be upgraded to Ethernet/IP or ControlNet for increased communication speeds with the new PLC hardware. Communications will gain speed and reliability, improving the overall performance of the PLC system and the systems that it interfaces to (DCS, HMI).

## MODERN OPERATOR GRAPHICS SCREENS

During the upgrade process, legacy HMI software and operating system software can be upgraded or reprogrammed to modern standards and match the new PLC programming code. Legacy operating systems, such as Microsoft Windows XP, are no longer supported and a logical part of the upgrade project is to take the opportunity to replace the PC hardware and upgrade to a newer, supported operating system. During this time, the HMI can be upgraded to an active product with long-term support. The new High Performance (HP) HMI graphics specifications result in greater response times and overall plant efficiency.



## QUALITY UPGRADES

Custom upgrade solutions offer benefits that go far beyond simply keeping your hardware current.



# Personnel training and support for new equipment and operations

ANDRITZ has the experience, resources, and specialized knowledge to address the different training requirements of your staff.

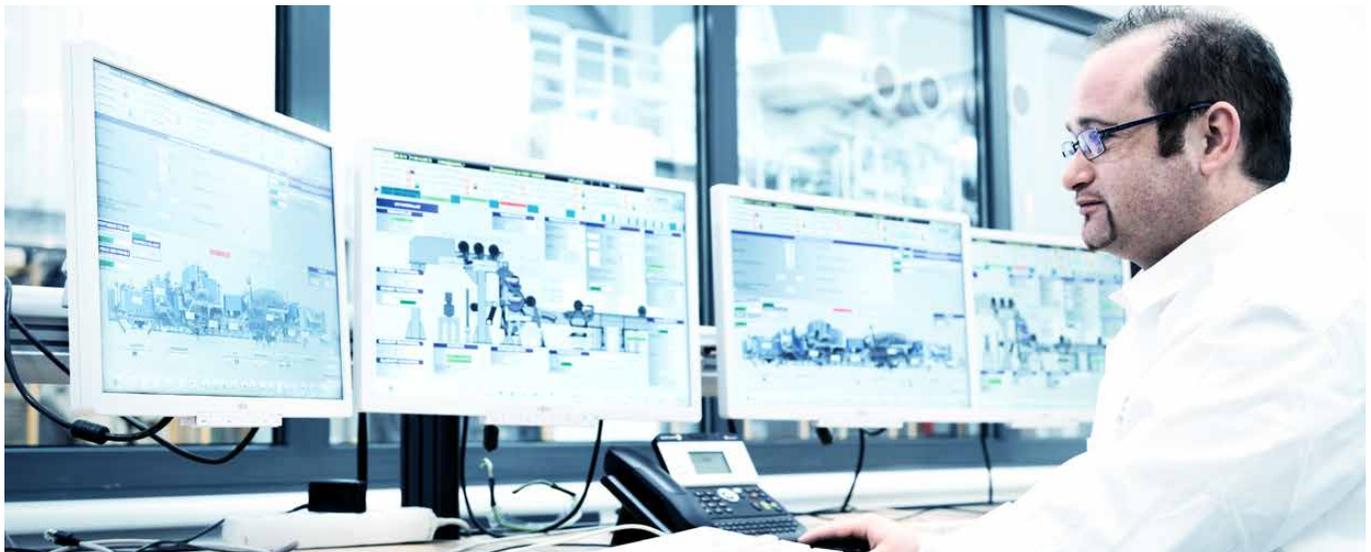
When legacy systems are replaced, personnel training is required. New graphics will require your operations group to learn a new process interface. Maintenance and engineering crews will need to learn the new hardware and how to navigate the new programming and systems software.

ANDRITZ has developed training manuals and courses that can be customized to address your mill or plant's specific needs. Using these, your operators can see the new graphics and familiarize themselves with the upgraded HMI in advance of the changeover. The maintenance and engineering teams can learn the specifics of the new PLC, from system architecture and hardware specifics to programming and spare parts.

Using our IDEAS simulation technology, we can develop an operator training simulator for the control room

operators to learn the new HMI functionality in a simulated operational environment. This technology allows your operators to become familiar with the new aspects of the upgraded control system without risking operational performance, equipment damage, or employee safety.

ANDRITZ offers ongoing support services to maintain and troubleshoot control systems of all types. We have experienced PLC experts for on-site check-out and commissioning, integration with other control systems, and troubleshooting of any network or configuration issues. Being vendor independent, our team can effectively work across and integrate all PLC and DCS platforms, providing you with a single point of contact for all of your systems. Long term, ANDRITZ provides support to our customers remotely by phone, web, and/or remote access. Our team is available to address all of your needs.





## WHY WORK WITH ANDRITZ

For over 20 years we've been providing modeling and OTS services to customers across a variety of different industry verticals, offering our customers proven OTS solutions that enable them to achieve their operator training objectives. We can connect our clients with any third-party DCS vendor, as well as develop software, offer flexible commercial models, and provide technical support 24/7 thanks to our global presence.

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