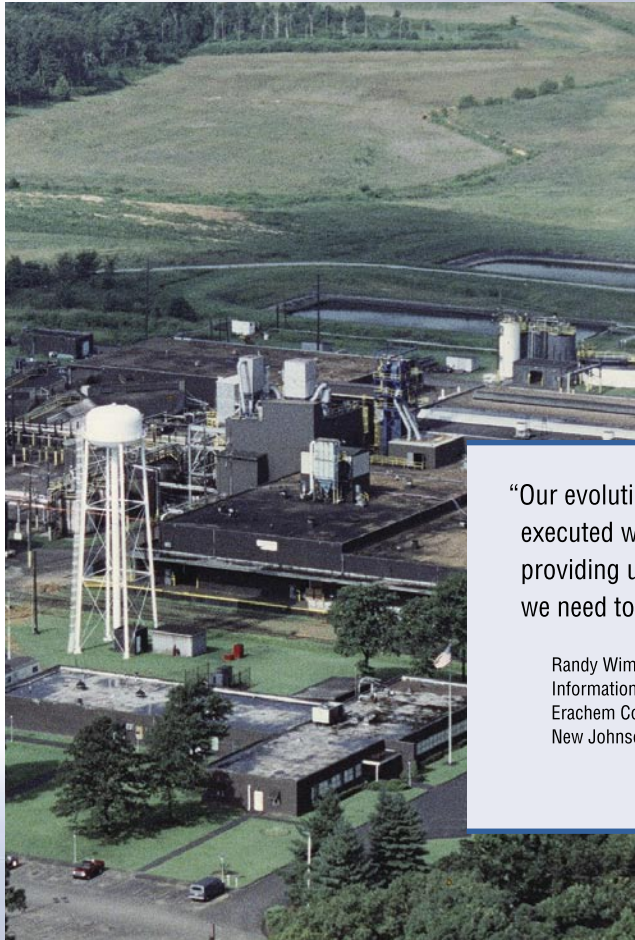


# System Six Evolution to System 800xA

Zero downtime, improved quality and reduced costs

Project Report



“Our evolution to System 800xA is being executed with zero downtime, while providing us with the added functionality we need to be competitive.”

Randy Wimberly  
Information Systems Manager,  
Erachem Comilog, Inc.  
New Johnsonville, Tennessee

“Our control system has enabled us to...improve our quality while managing our cost.”

– Randy Wimberly,  
Erachem Comilog Inc.



### **Erachem - leads the global market**

Erachem is a world class, worldwide supplier of manganese fine chemicals. They are continuously improving their electrolytic manganese dioxide (EMD) product and optimizing production to maintain a competitive lead against non-domestic competitors. Erachem relies on its exceptional quality to keep their position as a number one preferred supplier of EMD.

To enable production of the highest quality product at competitive prices and bring that product to market as quickly as possible, Erachem relies on the latest control system technology from ABB - 800xA Extended Automation.

### **Erachem Comilog is Quality Focused**

Erachem Comilog Inc., a member of the Eramet Group, is the world's leading source of manganese fine chemicals.

Erachem Comilog's parent company, Eramet is an integrated mining and metallurgy group that produces non-ferrous metals and their chemical derivatives, high-performance special steels, nickel alloys, superalloys and high-performance parts for industry.

Erachem produces a broad portfolio of specialized products essential to a vast array of applications ranging from alkaline batteries, catalysts, and agriculture to magnesium alloys, electronic components, chemicals, and steel. Erachem is the primary domestic producer of manganese dioxide; the active ingredient in alkaline batteries.

Erachem continuously improves their product's performance to meet the ever increasing power demands of new electronic devices. Electronic miniaturization requires consistently high quality raw materials. Even subtle variations in particle size or composition can dramatically affect electrical properties and the reliability of finished parts.

Erachem's plant in New Johnsonville, Tennessee (US), is dedicated solely to production of electrolytic manganese dioxide (EMD). Geographically located to supply American battery industries, Erachem in New Johnsonville can distribute its product by truck, rail, barge or container ship. Most domestic battery manufacturers are a single day's drive from New Johnsonville.

Technologically, New Johnsonville is a state-of-the-art facility. Its advanced control systems yield a consistently high quality product.

### **Evolution to System 800xA enables higher quality, lower cost**

Erachem's primary competitors are outside of the United States. Cost is a critical factor, as are quality and safety. “One of the things our control system has enabled us to do is improve our quality while managing our cost,” Erachem Information Systems Manager, Randy Wimberly said. “That's how we've been able to remain competitive. We manufacture the highest quality EMD in the world. The ABB system is one component that has allowed us to achieve that.”

## From System Six to System 800xA

Erachem began installing System Six distributed control system components in their New Johnsonville facility in 1992.

The primary reasons Erachem engineering chose System Six were to be able to track reagent usages, make the plant more efficient and manage labor costs.

"That was definitely a success and has continued to be," said Randy. "Since we put the system in, back in '92, we've been able to increase production without increasing personnel. We've also been able to improve our quality, through automation and data gathering, using the tools that come with the control system."

### Erachem trusts Industrial Concept's expertise

Then as now, Erachem has had an excellent relationship with ABB Channel Partner, Industrial Concepts, Inc. (ICI).

Located in Hartsville, South Carolina (US), ICI is an application and integration services

organization whose mission is to provide quality integration, sales and service support that will give their customers a competitive edge through improved process control and data collection. ICI configuration and installation projects can be found in the waste treatment, chemical/petrochemical, pharmaceutical and textile industries, as well as in environmental applications.

"The other day, I heard a control system user say that (one of ABB's competitors) has only their own interests in mind; not the user's," said Industrial Concepts Inc.'s President, Mike Winburn. "At ICI and at ABB, the end user's goals become our goals. We realize that any

work required must be accomplished with this mindset, since we are typically working on a live process. With our strong field service background, ICI knows the importance of system uptime. We take responsibility for the solutions we recommend.

Our position as ABB Channel Partners and our relationship with Erachem, coupled with ABB's commitment to system evolution through enhancement (as opposed to the rip and replace mentality of some providers) makes cost effective system evolution a reality. Some talk about it, but at ICI, we're doing it. And Erachem is benefitting from this."

"Industrial Concepts has always been a very close ally of ours, supporting us, recommending changes and notifying us when things are about to happen," said Erachem's Randy Wimberly.

"In my position at Erachem, I have multiple responsibilities outside process control. I'm responsible for the DCS system, all the plant databases and basically anything IT. So, what I've been able to do, by utilizing Industrial Concepts, is allow them to be the experts on the process control - especially during this conversion. I utilize their expertise to make sure things are done correctly. It gives me more flexibility to manage my other duties in the plant."

I think the thing I value most about ICI is that they're always there, 24 hours a day, seven days a week. I can call them anytime and they'll treat us like their most valued customer, always."

Together with ICI, Randy visited several plants that were operating System Six, and discussed conversion to System 800xA Extended Automation.

"The engineering tools that System 800xA has are a lot more open. System 800xA is really an open and versatile tool," Randy said.

In 2002, Industrial Concepts suggested that Erachem begin to formulate a control system evolution plan.

**"Quality is our number one concern.**

**Our continuous process plant must run with virtually no downtime to ensure the high quality of our product, as well as manage our costs. Our evolution to System 800xA is being executed with zero downtime, while providing us with the added functionality we need to be competitive."**

Randy Wimberly

## Flexible evolution plan spells success

As this document goes to press, Erachem is in the third year of a four year plan to evolve their DCI System Six control system to System 800xA.

In the first year, Erachem added a Profibus card in one of their DCU's, and extended the I/O count in one of their process areas by putting in about 150 S800 I/O and attaching them to the Profibus card (replacing the outdated Distributed I/O). Erachem also added seven IP video cameras and developed graphics to allow live video to come into the DCI system.

In Phase Two, Erachem added a DCI Connect Server, an Aspect Server, an engineering workstation, an operator workplace, and eight more video cameras. That allowed Erachem to begin to use the software and start to understand the features.

"This year we added a second (redundant) Aspect Server, and a second (redundant) DCI Connect Server, four more operator workplaces, a second Profibus card and approximately 150 more S800 I/O," Randy said. "We also put in an AC800M controller and an S800 I/O unit." In this phase, Erachem's given their operators time to get up to speed on software enhancements to the system.

"In the future, we'll implement Phase Four," Randy said. "We'll probably add additional AC800M controllers one DCU at a time."

## Why Evolve to 800xA?

- Centralize your control for visibility of information and less costly operation
- Develop flexible, incremental upgrade steps that fit your schedule and budget
- Open system enables secure integration of 3rd party applications

## Measurable Results

"Quality is our number one concern," said Randy Wimberly. Our continuous process plant must run with virtually no downtime to ensure the high quality of our product, as well as to enable us to manage our costs. Our evolution to System 800xA is being executed with zero downtime, while providing us with the added functionality we need to be competitive.

One of the things our control system has enabled us to do is improve our quality while managing our cost. The ABB system has allowed us to achieve that."

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