ABB’s Global Pulp & Paper Service Center of Excellence Raises the Bar

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Summary

Automation supplier-provided services can help end users across many different industrial sectors sustain the performance of their automation and other assets at a consistently high level over the lifetime of the assets. This is particularly true in the asset-intensive, yet largely capital-constrained, global pulp & paper industry. ABB visited with ARC at our offices in Dedham, Massachusetts last week to bring us up to date on the significant efforts that the company is making to expand its portfolio of maintenance services for global pulp & paper industry customers and to standardize its services delivery practices across all regions.

ABB’s Center of Excellence for Pulp and Paper Services

Like many other global suppliers with broad-based offerings, ABB has created dedicated centers of excellence for specific disciplines at different locations around the world. For ABB’s pulp & paper group, this includes a new quality control system (QCS) center of excellence in China, an open control system (OCS) center of excellence in Singapore, and a center of excellence for drives in Helsinki, Finland. These and other ABB centers of excellence develop, manufacture, and support their respective product lines. Over the last five years, the company has made a concerted effort to shift manufacturing and other resources to better serve emerging regions, where the majority of the large project activity is taking place.

Recognizing both the need for and the opportunities around performance-based lifecycle services that ABB could deliver to global customers in an effective, efficient, and consistent manner; the company also formed a pulp & paper industry center of excellence (COE) for services (in effect, a “factory” for services). Based in Westerville, Ohio, ABB’s Global Pulp & Paper
Service Center of Excellence has responsibility for developing and supporting the services products. However, the individual regions (not the COE) sell and implement these service products.

ABB’s “Full Service” offering, which a number of pulp & paper industry customers have embraced, provides a complete outsourced maintenance and improvement service capability for all equipment installed at a customer’s plant or mill (regardless of original supplier). In contrast, the charter for ABB’s Global Pulp & Paper Service COE is to develop lifecycle-based services and tools that enable local ABB organizations to work with their customers to provide better and more cost-effective support for ABB’s own installed base of systems and equipment in pulp & paper mills and to do so in a consistent manner anywhere in the world. This encompasses three elements:

- Develop and productize packaged services that expand the current service offerings
- Improve delivery efficiencies, and
- Decrease the knowledge gaps between regions to provide consistent service delivery

The overall goal is to help customers improve the performance of their ABB instrumentation, systems, and drives and achieve the proper balance between corrective maintenance and preventive maintenance.

Services Products Designed to Identify Opportunities and Implement and Maintain Improvements

Over the past five years, ABB’s Global Pulp & Paper Service Center of Excellence created three categories of services products. The three categories include the PROseries of service tools, a complete portfolio of packaged optimization services for pulp & paper mills, and several pulp & paper-specific advanced remote services.

PROseries Service Tools

The COE developed the PROseries of service tools to help standardize service delivery practices across regions by reducing the “knowledge gap,”
and to help ABB’s pulp & paper customers achieve an optimal balance between corrective maintenance and preventive maintenance. While primarily intended for use by the company’s regional service delivery organizations, some of the products also provide value for ABB pulp & paper customers’ own in-house maintenance groups. In many respects, the PRO-series provides similar functionality to a good CMMS or EAM system, except that, unlike an off-the-shelf CMMS, the PRO series provides exact factory recommendations for the specific equipment in question. The PRO-series currently includes the following modules:

- **ServicePRO** provides a standardized application and procedures for preventive maintenance, managing work orders, and ensuring contract compliance. By standardizing best practices, ServicePRO can help extend system life. It also provides a management view of maintenance-related activities.

- **PartsPRO** provides standard preventive maintenance kits for ABB instrumentation, OCS, QCS, and drives based on usage history. It also includes recommended spare parts lists for the above based on historical data, plus software tools for lifecycle management. PartsPRO automatically notifies the appropriate ABB or customer personnel when spare parts need to be ordered.

- **ProcessPRO** includes optimization service modules, including preventive maintenance procedures for the process. These can be delivered either remotely or on-site. ProcessPRO includes both maintenance scheduling and performance reporting functionality to help extend process performance.

- **DataPRO**, scheduled for rollout this year, includes a dynamic knowledge bank for root cause analysis of process/system problems and system and process quality reporting. It is designed to help reduce troubleshooting time, improve visibility, and ensure professional results.

**Optimization and Remote Services**

ABB’s COE-developed advanced services for the company’s pulp & paper customers involve a three-step, diagnose-implement-sustain process. In addition to the types of maintenance services supported by the previously discussed PRO series modules, this three-step process involves a combination of on-site Fingerprint services and remote Scan and Track services.
Fingerprint Performance Audits
ABB’s Fingerprints, performed on-site, provide thorough and accurate “as-is” diagnostic audits for specific unit-level mill applications and include recommendations for implementing performance improvements. The current optimization services portfolio includes packaged Fingerprint performance audits for many critical mill applications, including:

- Paper Machines
- Color
- Stock Approach
- Coaters
- Boilers
- Batch Digesters
- Pulp Dryers
- Profile Grade Performance
- Grade Transitions
- Process
- Variance Partition Analysis (VPA)
- Advanced Process Control (APC)

For customers that desire an even higher level of support, ABB also offers periodic and continuous remote monitoring services for ABB systems and equipment employing secure remote connection technology.

Scan Series
ABB’s Scan series provides periodic monitoring of process control loops, drives, or paper machine frames (performed either on-site or remotely). This provides a powerful tool for maintaining the performance improvements and benchmarking the current performance against best-in-class mills. Advanced remote services currently include both LoopScan and Drive-Scan, with FrameScan scheduled for release later this year.

Scan services involve installing a secure scanning device in the customer’s mill to monitor key system and process parameters on a continuous basis. The scanner stores this data for periodic uploading and KPI analysis by senior ABB specialists, who can be located within the region, or at the appropriate ABB COEs. This provides a very efficient approach for ABB to deploy its expert resources to help customer’s monitor, maintain, and improve mill performance.
Track Series
The Track series of services completes the diagnostic portfolio with continuous remote condition monitoring and tracking.

Some Challenges
While ABB has clearly put a lot of thought, effort, and resources into expanding and productizing its maintenance and performance services for global pulp & paper mills, the ABB Global Pulp & Paper Service Center of Excellence faces several large challenges.

One remaining challenge is to break down regional cultural resistance to adopting new practices and procedures. However, as the value to customers and the sheer efficiency of delivering standardized service products becomes apparent, this resistance is gradually diminishing – although at a much faster pace in some global regions than in others.

For supplier-provided remote services, ABB must also address user concerns about and resistance to providing multiple suppliers with multiple points of access to their networks for monitoring and diagnostic purposes. Even when using the most up-to-date security technology and approaches, users are often uncomfortable with this. (Particularly mill engineering and corporate IT departments). As ABB and other automation suppliers have demonstrated with numerous customer case studies, remote monitoring and diagnostics can deliver significant customer benefits, but they require a high degree of trust in the supplier on the part of the customer, and also require a high degree of rigor on the part of the supplier to justify that trust.

ARC also believes that ABB still needs to do some more homework in the way it presents its maintenance and performance services to customers. The significant breadth and depth of this offering can easily create confusion.

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