

## Harmony Performance Services at Australian Mine Company ABB Advanced Services help prevent unplanned shutdowns



Image Credit: AFP

One of the world's largest bauxite operations is located in a remote part of northern Australia, with a harsh tropical savanna climate. Under these tough conditions, reliable control system performance is essential, and is why the customer chose the ABB Harmony Distributed Control System to control their processes. To ensure that this important control investment continued to perform as planned, managers asked ABB to provide a diagnostic service that would identify any potential system issues that could be addressed in order to minimize process disruptions and extend asset life.

### Customer challenge

- Analyze ABB Harmony Distributed Control System performance to identify issues that could be mitigated to ensure continuous production
- Perform this analysis in less than one week
- Upgrade the Harmony system software
- Train customer personnel to use the Harmony system more effectively

### ABB solution

This mining company chose a Harmony Performance Fingerprint service to identify system issues that could cause hardware failure, and as a result interrupt production. The Fingerprint is a cost-effective, non-invasive service that provides diagnostics, key findings and recommendations in less than a week.

The ABB Harmony Performance Fingerprint audits and analyzes Harmony control systems to find issues that may impede performance. The Fingerprint benchmarks control system performance and parameters, and compares them to peak operating conditions. After identifying optimum system operation, ABB recommends improvements.

Reliability is crucial at this hard-to-reach customer's location, where local temperatures average 30 °C (86 °F) year round, and frequent heavy downpours present a challenge for optimum performance of all physical assets.

At this bauxite mining operation, the raw material extracted is screened and washed at one of the site's two processing plants before being transported off-site to be refined. The customer used the Harmony Performance Fingerprint to identify hardware issues that could disrupt this process.

The ABB Service team prepared thoroughly before arriving at the location. After learning that additional hardware would be needed to connect to the site's Harmony system, they brought the necessary hardware with them. This ensured fast communication with the existing Harmony system, so ABB could complete the Fingerprint quickly and accurately.

ABB collected and analyzed data, then presented findings and recommendations in less than one week, including travel to and from the site. ABB also conducted training to help personnel learn to use the Harmony control system more effectively.

### Results

The Harmony Performance Fingerprint found issues with the plant's controllers that might have impacted uptime. The Fingerprint analysis discovered that although some of the Harmony system's controllers experienced very heavy usage, the site did not have recommended redundant controllers. Additionally, there were dissimilar firmware versions in the controller pairs that could adversely impact performance.

Before leaving the site, ABB presented some of the problems they found as class exercises during customer training. This gave plant personnel a hands-on opportunity to familiarize themselves with the new software through the lens of real issues on their Harmony system.

Because the Fingerprint provided needed confidence in its system's health, the customer plans to have ABB provide more Fingerprints in the future.

### Customer benefits

- Customized, detailed action plan that defined controller issues and prioritized actions
- Increased control system functionality and understanding through customer training
- Increased customer confidence in the control system's ability to keep production running
- Higher assurance of continuous process uptime by identifying hardware issues that could have caused interruptions

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