

Make Service Companies Your Partner in Reliability

By Forrest Pardue, President of 24/7 Systems

Increasing asset uptime by performing condition inspections and predictive maintenance is an underutilized reliability best practice. But some manufacturing facilities are too small to have their own dedicated condition-based inspection team. Other facilities have found that they cannot maintain the people and knowledge necessary to provide a dedicated condition-based inspection program. Some facilities choose to maintain in-house expertise for certain condition-based inspections, while contracting out inspection services for other technologies.

In each scenario, third-party reliability services companies can provide the people, equipment, knowledge base, and predictive maintenance experience often needed to assist plants in achieving a successful condition-based maintenance focus, and partner with the facility over the long term.

When a plant decides to use a reliability services provider, several questions must first be asked:

1. What assets are to be inspected?
2. What technologies are to be used?
3. What is the inspection interval?
4. How will results be reported and who is accountable for results?
5. How does the plant know that all machines contracted were inspected?
6. Are results reported in a printed report or online?
7. Who is responsible for creating work orders?
8. Is a weekly status meeting with each operating area about priority conditions part of the contract?
9. If a machine is critical upon inspection, what is the contractor's responsibility?
10. Is the contractor responsible for validating repairs?
11. What program metrics are required?

12. Is it required to calculate and report program savings or avoided cost?

Reliability services companies that are best able to meet expectations are turning to off-the-shelf reliability information management systems (RIMS) to help consolidate their data. In this way, they gain maximum value from the numerous and growing sources of available information.

It improves their ability to eliminate in-service failures and extend the operating life between failures. It also increases the productivity and performance of their asset reliability services through more timely and robust analysis, intuitive communication, and optimal outcomes.

Moreover, asset owners and operators reap the rewards of improved service partner relationships and greater reliability outcomes, without having to purchase or maintain advanced reliability tools or systems in-house.

Read on to learn how several well-established reliability services companies improved how they interact and report inspection results with their partner plants, and why a robust software platform matters to your success.

Interaction between the plants and service providers has not always been seamless

Some plants simply want work orders entered into their computerized maintenance management system (CMMS) when defects are identified, “but we have not found any CMMS that populates and tracks the relevant information needed to optimize your condition monitoring efforts,” Dean Stephens, reliability director at [Benchmark Reliability Services](#).

“A simple KPI that gets lost in most CMMS systems is: What was measured? Because it lacks sufficient granularity at the component level and insight into what was *not* measured, a CMMS is not well equipped to reveal hidden risks,” Stephens explains.

At the other end of the spectrum, many plants use spreadsheets. “It is inexpensive but would end up a mess if there was more than one person involved and if the equipment count was large,” observes the lead reliability engineer at a major North American industrial services provider. “Some clients also use technology specific systems, but this is not an ‘asset approach’ and it is also pricey.”

Dave Reynolds, owner of [Midlands Reliability & Consulting](#), believes that small clients with fewer than 100 machines to track might get by using Excel spreadsheets and Gantt charts to manage workloads and scheduling, and Word documents for reporting. However, for clients with large numbers of machines, it took longer to track, organize, and report the findings using these methods.

“Challenges arose when numerous files were needed to assign tasks and resources, conduct mobile rounds logging, complete reports, and track asset health metrics. Incorporating information from multiple vendors and condition monitoring technologies into a single file was excessively time consuming,” Reynolds explains.

Reliability service providers were also limited by early software options. For instance, a U.S. predictive technologies service company originally used Excel for tracking and PageMaker to build reports that were published in book form or emailed as a PDF. The owner explained, “These manual processes were made much worse when historical trend calculations were needed as there was no archived history, and the lack of information at my fingertips was frustrating.”

Vagueness also makes it much more difficult to determine what to do because specifics are what lead to actions to effectively maintain and improve the equipment. Early asset-specific reliability tools could indicate whether an asset was in an alarm state (red) or not (green), but not if the problem was in the asset’s pump or, better yet, a certain seal or bearing within the pump.

How does a RIMS build a long-term bridge between the service company and plant?

Reliability information management systems exist to solve these very challenges. Whether initiated internally or prompted by a client, leading reliability services companies are transitioning to RIMS-based approaches for the benefits below, and not looking back.

Consolidated, consistent information:

Robust RIMS solutions provide the ability to integrate reliability information from multiple condition monitoring technologies into one, standardized database. Having access to motor circuit evaluation, alignment and balancing, infrared, oil, ultrasound, vibration, photographs, videos, sound files, weblinks, attached office products or pdf files, visual findings and more—both current and historical—all in one place is transformational. It allows users to:

- Replace dozens of disparate information sources with a single source of truth.
- Collect reliability information from every asset, area, and site within an organization.
- Standardize on a common nomenclature for efficient communication.
- Produce reports from a software package with uniformity across technologies.
- Export data for CMMS or alternative solution integration.

Standardized reporting:

RIMS reporting is automated and standardized, providing higher quality deliverables in significantly less time than prior approaches. At the push of a button, integrated condition status reports, assessment task reports, and repair histories with lifecycle metrics and cost tracking can be generated. This provides more accuracy and increased control than simply emailing disparate reliability files.

Some RIMS's web-based reporting tools also improve continuity. Generated reports are finished quality, with cover letters, statistics, details and summaries, along with previous report histories. Custom reports, such as an annual KPI report for major clients highlighting the year's

achievements, may also be quickly compiled by snipping key KPI data and trends while preserving standards consistent with the RIMS solution.

“Our condition problem entry process uses preset picklists to enforce standardization, while also offering a comment section for additional in-field findings or explanations. Users benefit from standard fault descriptions and the ability to judge the severity of findings,” says Midlands’ Reynolds of the Tango RIMS solution used by his company. “Users have snapshots of monitored or missed machines, which component on the machine has the fault, detailed fault trees of condition-based findings, and asset performance comparisons by asset type or location. Furthermore, data is backed up regularly, ensuring secure storage of findings.”

Active communication:

Using a RIMS organizes the service provider’s schedule and workload, and it automatically notifies providers and clients in advance that work is coming due. All parties have ready access to a historical record of activities, findings, and reports, which is invaluable when service questions arise. Automated delivery and notifications improve communication and ensure nothing is overlooked.

Client actions such as replacing a failing motor must be communicated back to the service provider, and RIMS software promotes this feedback by providing a place to document corrective actions for deteriorating conditions, thus closing the communication loop with real-time repair status updates. Clients also benefit from rapid access to reports, built in KPIs, and remote access to the RIMS for real-time insights and oversight, which further improve communication between the provider and client.

During client meetings, RIMS reports may become central talking points. “We have ‘Exit’ meetings (some call these ‘Reds’ meetings) with clients when we are not a full-time site contractor. Going through the most recent defects refreshes everyone’s memory and instigates discussion on the craft workflow required for corrective action,” says Benchmark’s Stephens. “It

also provides back-and-forth questions for clarity, accuracy, and verifying the severity of the defect failure mode.”

Communicating RIMS information to all parties adds the benefit of providing an expanded view of provider-assessed asset conditions, such as visibility of electric motor testing results to mechanical technicians. The reports and documentation also optimize communication between Maintenance and Operations. “Giving Operations access to RIMS results helps during their rounds logging inspections or with general machine knowledge when they hear, see, or feel things that are out of sorts in the plant,” explains Stephens.

Increased accountability:

Tasks can be set up in the service contract and managed in the RIMS to ensure accountability for completion and quality control. Auditable actions provide proof of work, improving accountability by removing the veil.

One major beverage manufacturer allows its reliability service providers to use whatever data gathering tools they want as long as standardized details are entered into Tango. Client-to-provider accountability is increased by automatically generating emails to company management to escalate a correction when an assessed serious problem exceeds 14 days of age.

Some service providers elevate accountability by setting up their RIMS solution to generate an email to a manager the moment a technician hits “save” on a priority 1 or 2 entry. That manager can immediately review the data and trends and interject with expert guidance as needed before the technician’s report is even finished.

Periodically, there may be awkward moments where a client did not log in to review the machine history or status dashboard to see if a defect was actively identified before failure occurred. Or they saw the emerging defect but chose not to act. A quick look at the RIMS’

archive history will confirm when the defect was first reported and how it progressed over time. In some cases, such incidents lead to a management directive requiring that high-priority defects be addressed within a specified number of days.

Best practices enablement:

According to the lead reliability engineer for the major industrial services provider, “The biggest benefit we see from our RIMS solution is that it is asset based instead of technology based. Having a single location for all information is key for root cause failure analysis (RCFA) efficiency. Also, with the drop-down menus for asset status and issues, it allows us to quickly see patterns and pull KPIs for the client.”

For example, if there are electric motor problems caused by a bearing issue and pump problems due to cavitation, then processes can be developed for mitigating those issues to avoid future failures. Ready access to such knowledge delivers tremendous value when applied to defect elimination and continuous improvement.

Infrared Technician Damian Roche shares an example: “We take photos and notes on every piece of electrical equipment in a client’s complex, and we can look back years and see how the equipment has slowly deteriorated over time and enact improvements.” He continues, “Users can see how their equipment is performing on the fly right off of their phone. Having an entire facility’s electrical layout in the palm of your hand makes things run a lot smoother.”

Providers find particular benefit in the ability to look back in their RIMS solution and see what issues they have been dealing with most. “When maintenance managers are dealing with fire after fire, we urge them to look at the severity levels. Don't be overwhelmed by the forest; focus on the tree and how to prevent that fire,” suggests the owner of the predictive technologies service company.

Renewed relationships:

Everybody wants to be relevant. Using a RIMS solution adds newfound relevancy to roles and relationships.

1. For reliability services providers, RIMS boosts program sales when the clients realize that data and statistics missing in their current system are readily available in the provider's RIMS. Its provable value boosts client retention while also opening the door to add-on sales by offering clients the opportunity to buy a user seat, or even a standalone RIMS package to extend the advantages to other plant processes and technologies.
2. For clients, it allows them to really see how their equipment is operating year in and year out to improve planning, because they only have so much time and budget.
3. For technicians, it provides a reason to be detailed, because they can see the value they are providing. It also gives them a sense of pride that they are actually helping to drive change and operational improvements.

Moreover, the entire vendor-plant team becomes more collaborative in decision making and planning when your reliability services partner relationship is supported by robust reliability information management.

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Optional Inset or Sidebar:

Advanced RIMS solutions raise the bar through:

- Consolidated, consistent information
- Standardized reporting
- Active communication
- Increased accountability
- Best practices enablement

- Renewed relationships

Optional Graphics, Images, or Screen Prints:

- (TBD from 24/7 Systems or quoted sources; minimum 300 dpi preferred)