Written by Robert C. Baldwin, CMRP, Editor
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Robert C. Baldwin, CMRP, Editor In "Where To Place Your Bets In 2002," my *Uptime* editorial for January, I noted that requests for maintenance and reliability funding must be made carefully. I went on to ask if anyone has a system guaranteed to beat the odds.

James Taylor, president of Vibration Consultants, Inc. , Tampa, FL, responded, suggesting that rules-based expert systems would be a good bet. He noted that his company's system contains rules that assist in diagnosing imbalance, bent shaft, misalignment, gear problems, and more. The user can use the built-in rules or develop new ones.

A short time after Taylor's letter, I had an opportunity to chat with Ken Piety, vice president of CSI Division of Emerson Process Management , in his office in Knoxville, TN. He noted that the advanced capabilities available with his company's latest vibration data collector and analyzer can save time and increase accuracy of the vibration analyst's diagnoses.

Both systems would be good maintenance and reliability investment candidates because they save time and increase accuracy. However, expert systems, like other advanced technologies, are often underutilized. The reason, as best I can deduce from conversations with users and suppliers, is that the systems are not trusted by the people they are designed to assist.

The best human experts don't trust the systems because they know as much or more than the person who wrote the rules for the system. They also get a large amount of satisfaction from the

"saves" they make by personally diagnosing problems from the raw data.

The human experts of lesser skills don't always know how to apply the system and may not want to admit that the software could "know" more than they do.

Both types of human experts, I think, are off target. Expert system software is designed to assist human experts, not displace them.

Technology forecaster Daniel Burrus has said that "time is the currency of the new economy" and people can leverage their time with technology.

If what Burrus says is true, the maintenance and reliability practitioners not using available expert systems are burning money. On the other hand, maybe things are running so smoothly for them that they have plenty of time on their hands and don't need any help from the experts.
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