Hidden Opportunities within Your Plant, Part 1

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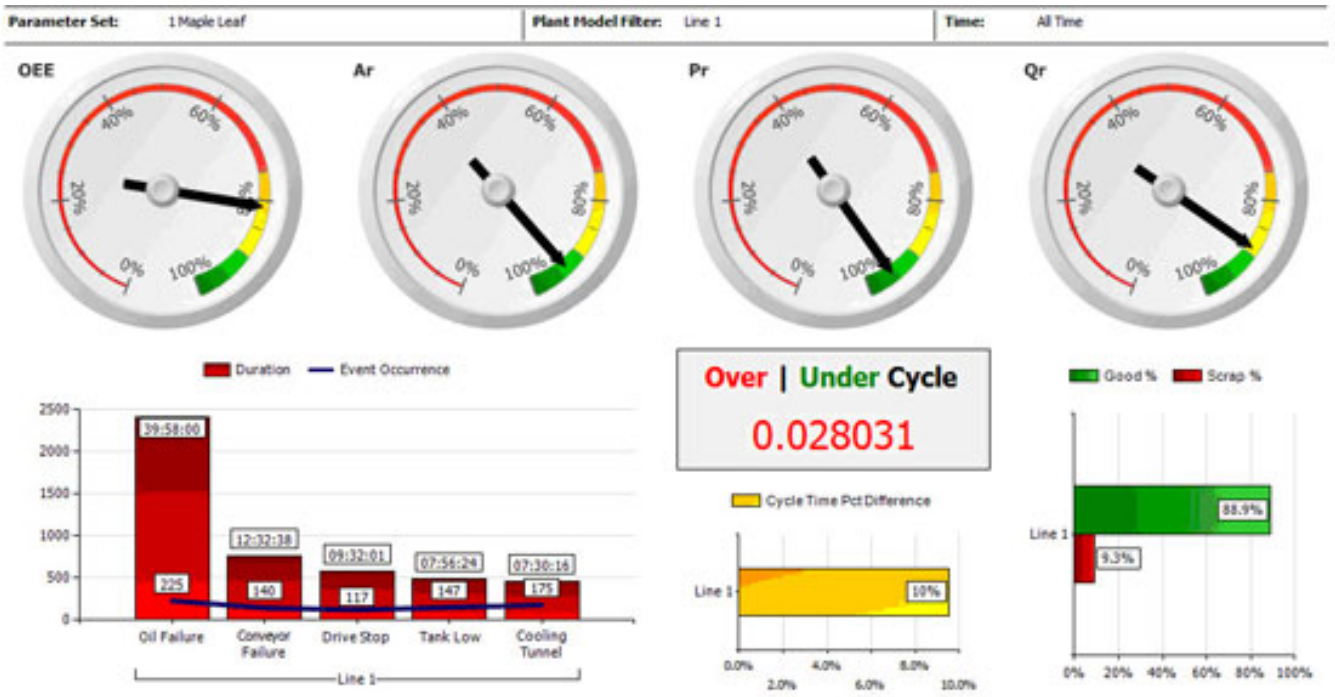
“Does my plant need an overall equipment effectiveness (OEE) system?” That question is top of mind for many plant managers intent on measuring and improving productivity. OEE — the ratio of good parts produced versus what could have been produced under ideal conditions — is a simple performance indicator to which all managers can relate. But using an OEE score alone to reduce costs is like using a credit score to reduce monthly expenses. A credit score doesn’t provide any guidance in terms of actual performance and root causes.



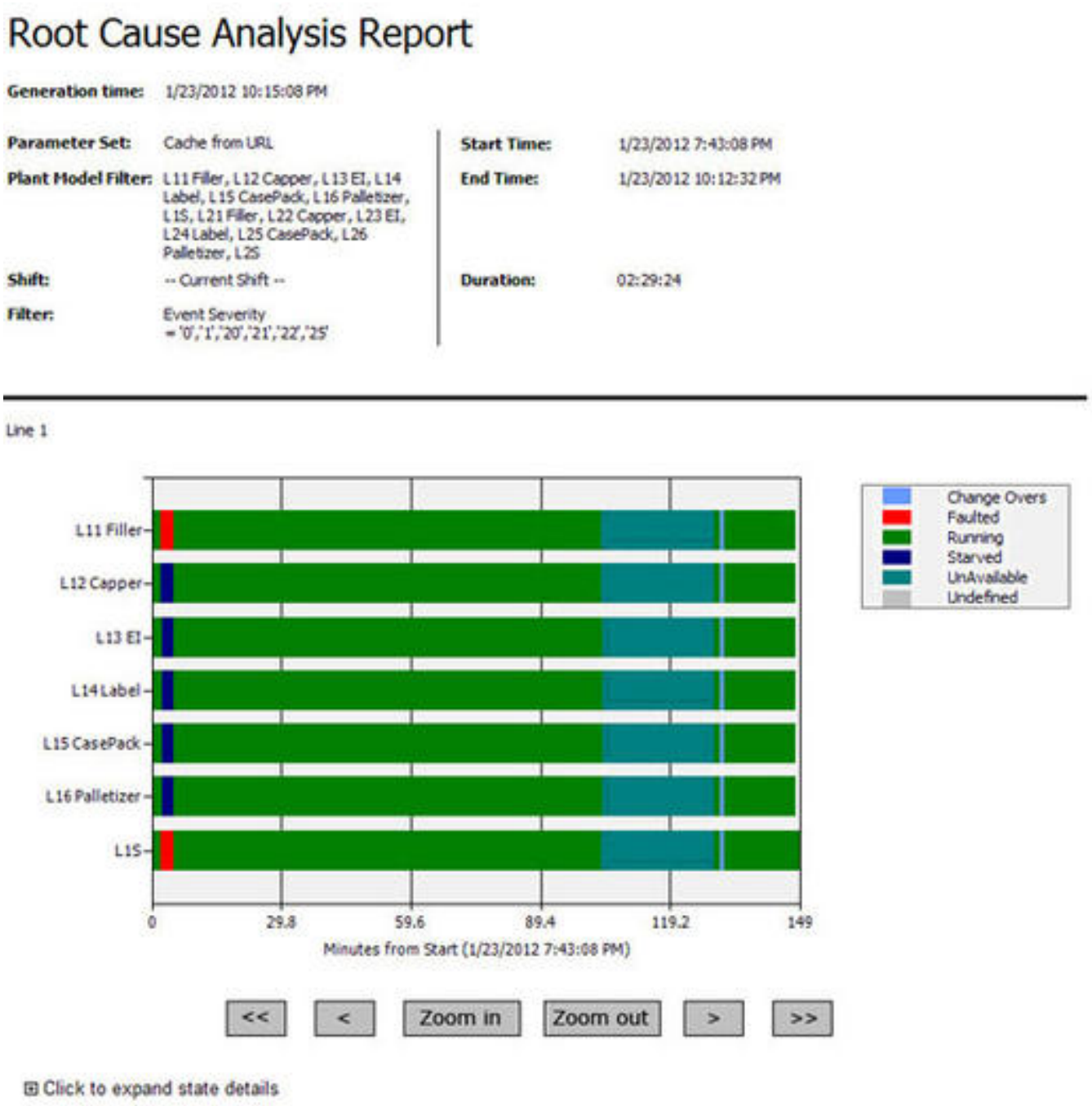
The line dashboard shows summarized OEE and components by shift with Top 5 Reasons for downtime, cycle time analysis and scrap percent.

To truly measure credit worthiness in a way that could lead to improvements, a consumer would need detailed data about the specific spending behaviors that impacted their credit score. Likewise, an OEE score alone doesn’t offer the detail of data required to understand the root causes of inefficiency and downtime, which makes it difficult for managers to identify and implement solutions that ultimately help reduce costs.

The good news is that the detailed data necessary to identify actionable areas for improvement already exists within control and human machine interface (HMI) systems on the plant floor. A performance management software system can collect this data and put it into context that will help the plant manager establish meaningful production metrics to achieve significant cost reductions.

When OEE Isn’t Enough

There are three general ways to reduce the cost of an automated process: reduce unproductive machine time (availability), improve cycle times (performance) and reduce waste or scrap (quality). Rather than asking whether a plant should implement an OEE system, a plant manager first should determine whether the plant needs to reduce costs. If so, the next step is to identify immediate priorities — such as decreasing downtime, stabilizing cycle-time variation, improving quality or reducing overtime — that can help achieve this goal. In most cases, measuring OEE alone will not help a manager determine how to meet these goals. Manufacturers need detailed, machine-specific tracking capabilities at all times, including both downtime and unproductive time, along with contextual data that shows the reasons for these states.



The root cause analysis report interprets machine state data to show how individual machines can impact each other.

In some cases, a goal like increasing production may be counterproductive to cost reduction. A large pet food manufacturer, for example, identified nearly $400,000 in potential savings simply by using performance management software to gather detailed data from one machine for one hour. The manufacturer began collecting data on the weight of every bag produced and quickly found that the machine was overfilling every bag by 5 percent.

The manufacturer actually could have improved its OEE score by producing more bags per cycle (performance), but in this case, higher “performance” in OEE terms

would mean giving away even more product.

Tune into tomorrow's Chem Insider Daily for part two of this two-part piece. For more information, please visit www.rockwellautomation.com *[1].*

Links:
[1] http://www.rockwellautomation.com