Data Sheet

activplant Throughput Analyzer

Throughput Analyzer clears the way to dramatic increases in productivity

All manufacturers seek greater productivity, but until now, the way to achieving this goal has been complex and fraught with difficulties. The Activplant Throughput Analyzer allows you to see through the clutter, the endless and confusing data, to find what truly hinders you from producing more.

Throughput Analyzer is as equally at home in an automotive facility, where takt time rules the flow of product, as it is in high-speed production environments where management is more concerned with the rate of flow.

Throughput Analyzer users have experienced increases in throughput of 10% to 25%

Since its introduction, Throughput Analyzer has enabled many of our customers to achieve substantial increases in their production throughput. Previously, they had toiled long and hard to resolve their production woes, without ever really seeing long term benefits.

As you start to use Throughput Analyzer, it quickly builds an historical record of the performance of every piece of equipment you use, which it then uses to calculate statistical averages that over a relatively short period of time, two to three weeks, will expose your chronic constraints.

Because Throughput Analyzer requires minimal configuration to identify constraints, users start seeing results just a few weeks after implementing the solution. Most of our customers see a return on their investment in a matter of a few months. In today's business environment, these are the results you need from your CI projects.

By using pre-configured templates, Throughput Analyzer is designed for efficient roll-out and rapid ROI. This solution greatly reduces risk and speeds time-to-results over custom-built tools. Plus it has been developed for repeatable and consistent roll out for multi-plant enterprises.

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Consider this – your fixed operating costs for running your plant for one hour remain the same, regardless of fluctuations in actual throughput, but your profits are directly linked to the quantity of good quality product you can produce during this period. It follows that every hour of production lost due to a true constraint is lost forever and equal to the cost of running the entire plant for an hour. Therefore, every hour you can retain is a true contribution to your bottom line.

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Striving for the ideal, applying proven theory

Throughput Analyzer starts with an ideal vision of the manufacturing enterprise; plants running continuously at their designed takt time or at their ideal rate to achieve 100% throughput for maximum productivity. To bring that vision as close to reality as possible, we apply established theories as well as advanced technology and years of relevant experience.

When associated with manufacturing, the Theory of Constraints (The Goldratt Institute) suggests that the throughput of a manufacturing facility is constrained by its slowest contributor. The challenge is to isolate and then elevate that constraint.

To do this, Activplant borrows from the tenets of lean manufacturing as espoused in the Toyota Production System, including the measurement of every asset in the operation against one-piece flow to takt time or against the ideal rate.

The result is the identification of constraints through our patented Throughput Capability Metric. The movement of parts/material through each piece of equipment in the plant is tracked automatically, and the Activplant logic engine processes the data to reveal the true and chronic constraints of the operation.

With this powerful information, the Throughput Analyzer provides a clear indication of your plant processes and a new way to analyze and improve throughput.

Visual presentation of data promotes focus

The Activplant Throughput Analyzer produces views and reports that can direct your continuous improvement projects. These views and reports can unambiguously direct you to your constraints through the use of real-time information and trended historical data. With this information, plant teams can focus on where you can make real productivity gains.

Throughput Analyzer provides a series of macro level views in the form of a map, where you can view a variety of metrics for the entire plant, a department, or a particular area, and from which you can then drill-down to find your constraint. These maps provide real-time and historical data in the form of OEE, Attainment, machine states, quality, or Throughput Capability, just to name a few of the metrics. A simple color coding system provides at-a-glance information about where you should turn your attention. At the machine level, there are a series of views where you can start your constraint investigation.

Understanding constraint

To understand what constrains your production, you need to recognize that a true constraint is something that is with you all the time; it is not the machine that simply broke down today. Throughput Analyzer finds true, chronic constraints, machines that might never break down, but yet never work optimally.

In understanding constraint, it is important to note that a production line can run no faster than its slowest contributor, so while throughput analysis can reveal many assets whose performance is less than optimal, prioritizing responses achieves immediate and continually improving results. The Activplant Throughput Analyzer unambiguously identifies and ranks your chronic constraints.

Conversely, the elimination of a non-constraint – any low-priority issue which is not affecting actual throughput – does not result in quantifiable gains.

The cost of a constraint

The cost of a true constraint amounts to the percentage of fixed costs you could assign to the wasted production time, plus the foregone profits from the production activity you lost. By any accounting, production constraints are expensive. Identify your constraints with Throughput Analyzer and recover your profits.

Quick and easy to apply

The patented Activplant Universal Factory Data Model (UFDM) allows Throughput Analyzer to emulate the subtle, almost unseen interactions that occur on your line. For almost any manufacturing process, the UFDM can model it and Throughput Analyzer can measure it. Custom built, proprietary software can take many months if not years to apply, whereas it is possible to have Throughput Analyzer up and running within weeks, which means a swifter implementation with rapid, more meaningful results.

Lightweight and focused

Throughput Analyzer uses a lightweight approach to collecting the data you need to identify constraints, as it requires as few as three data items for cycle-based and five for rate-based production environments. This means a minimal amount of PLC programming on your part and a much faster implementation.

Because Throughput Analyzer identifies your true constraints, you can make your capital investments in a way that leads to incremental, yet assured improvements in your production throughput. You are able to base your decisions on trustworthy machine performance data, which means that as you fix your constraints in the prioritized order, you see increased output with each fix.

Get clarity on constraints, get the right tools

Whether you measure your output in terms of hours, minutes, or seconds, you need accurate, appropriate, and timely information about your production facility.

Today's production lines are complex, with intricate interrelationships between each machine and/or process. With each piece of equipment potentially having numerous internal functions, and each running according to a programmed set of instructions, it is very difficult for you to observe just where delays occur. It can be a frustrating puzzle, where an educated guess is often the best option. You need the right tools—Activplant Throughput Analyzer.

Throughput Analyzer helps TRW

TRW Automotive is one of the world's top ten automotive suppliers and counts more than forty vehicle manufacturers as customers.

With respect to Six Sigma and Lean, TRW's Mesa, Arizona plant in the United States is one of their most mature facilities. After working for 18 months on improving the performance of a particular line, including many Kaizen events, TRW felt that they had reached an optimal level of production, but they wanted confirmation that this was the case.

They ran downtime reports to determine their top ten downtime issues and then called upon Activplant to implement Throughput Analyzer. After the throughput analysis, they found that their chronic constraint was caused by an intermittent jam on a conveyor system. This jam would cause the operator to stop production while he climbed up on the conveyor to rectify the problem.

As this constraint—which was attributable to product flow and the operator being out of position—did not qualify for the top 10 downtime issues reports. It was previously overlooked, but became immediately obvious when viewed through the eyes of Throughput Analyzer.

As a result, TRW was able to make adjustments to the conveyor, which realized them a 21% improvement in production flow.

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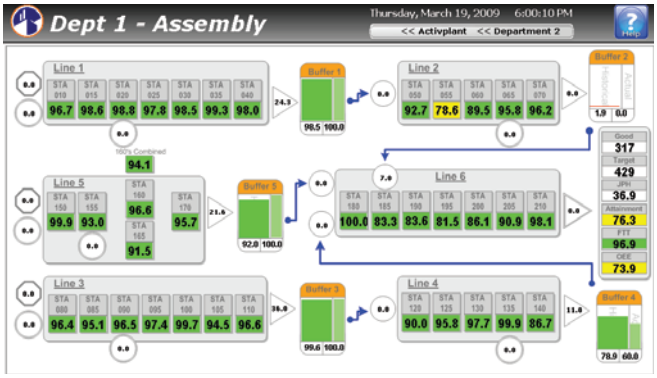
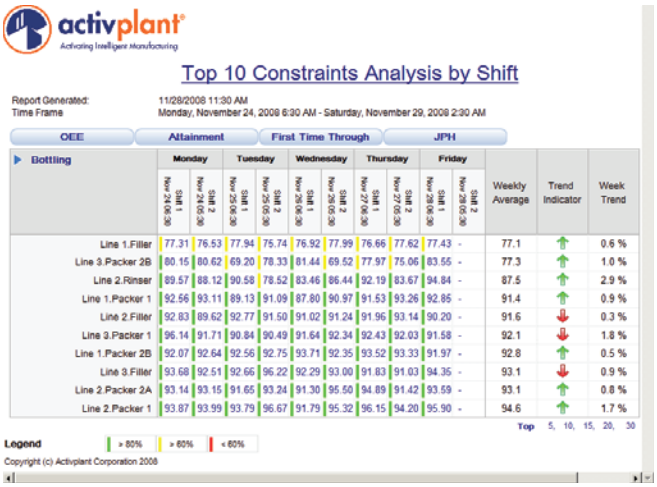


Area level Balance Map

Each constraint has a unique effect on the line, so recognizing which has the most serious affect is the key to improving results. The Throughput Analyzer Balance Map clearly displays line and asset level metrics, and lets you drill down to focus your resources and continuous improvement efforts on the most significant constraints.



Throughput Analyzer reports

Throughput Analyzer includes an extensive range of reports that are available to you through SQL Server Reporting Services.

- *Top 10 Constraints by Shifts for the past week, and by department, area, or line*
- *Top 10 Constraints during each of the past eight weeks by department, area, or line*
- *Rolling Eight Week KPI reports by department, area, or line, for each of OEE, Attainment, First Time Through, and Jobs per Hour*
- *Asset level reports categorizing operator determined loss reasons*
- *Asset level Production Losses in terms of external factors (system losses), uptime, downtime, speed, and quality*

ABOUT ACTIVPLANT

Activplant Corporation is a leader in Business Intelligence for Manufacturing Operations. Our software and expertise are setting the standard for operational excellence at some of the world's largest and most admired manufacturers. Our aim is to create world-class software that provides clarity to the management of medium- to large-scale, highly-automated, manufacturing facilities. Our software consolidates manufacturing data into relevant, real-time and historical information, which then enables manufacturers to successfully achieve productivity gains by optimizing product, people, equipment, and process. Activplant Corporation is a privately held company based in London , Ontario, Canada. For more information, please visit www.activplant.com.

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