Correcting Root Cause

A CASE STUDY

YVES ROCHER

fraysen systems

Know **Exactly** Now®

Yves Rocher is a cosmetics company that produces a range of ointments, makeups, fragrances as well as body and hair products. Founded in France in 1959, the company is now worth billions of dollars, spans 88 countries, and employs thousands of employees.

To meet this demand, Yves Rocher's manufacturing site in Cork, Ireland purchased Fraysen Systems' ProcessPlus, an operations management solution which analyses the performance of production lines and distributes actionable information wherever and exactly when it is needed. The system analyses complex production lines: the first Yves Rocher line instrumented with ProcessPlus consisted of six discreet machines that work together to load, fill, label, package, and wrap cosmetic products.

Before implementing the ProcessPlus system, a shift operator would manually gather productivity information at the end of each shift—what had been produced, whether goals were met or not, and an explanation for any discrepancies. The line was consistently under performing, so the plant's management decided to secure a capital budget to solve the problem.

To focus the investment, Management took all the data they had gathered, sent it off to a consulting agency for analysis, and waited for a recommendation. After a comprehensive investigation the agency came to the same conclusion any of the shift operators could have predicted: fix the cartonning machine. The cartonning machine looks like a carousel. Its job is to unfold cardboard cartons and place incoming glass jars filled with cosmetics into them. Ingenious fingers flip the box open and deposit the product into its proper packaging. When it works, it looks something like a ballet, but when it doesn't it's more of circus: cardboard everywhere. The workers hated the cartonning machine because it was a pain to fix, and it jammed frequently.

Thus the consultant's conclusion was not much of a surprise. The agency indicated that by refurbishing the cartonning machine (a task that would cost approximately €50,000 / $60,000), the line would begin to meet its production goals. But having deep experience, the Plant Manager had learned not to trust analysis based on simple modeling of manually collected data, and continued to be concerned that the true root cause had been missed.

He saw this as the perfect time to see what their new ProcessPlus solution from Fraysen Systems could tell him. After installing ProcessPlus, the Plant Manager asked Fraysen Systems to run its own independent diagnostic. Within two weeks, the much more sophisticated ProcessPlus model—using data it collected directly from the machines themselves -- delivered a conclusive result that flew in the face of what everyone had expected: the cartonning machine was not the problem at all. On the contrary, the machine was actually producing at a higher rate than required in order to meet the company's goals.

> "The problem was the labelling machine; ProcessPlus found that it was misfiring at least 1,400 times a shift."

Instead, the problem was the labeling machine; ProcessPlus found that it was misfiring at least 1,400 times a shift.

How did no one notice such a glaring and repetitive malfunction? Most likely, they literally couldn't see it. The machine misfired by fractions of a second—half a second here, a quarter of a second there. The delays were entirely invisible to the human eye. While no one would expect the human operators to notice the labeling machine's individually

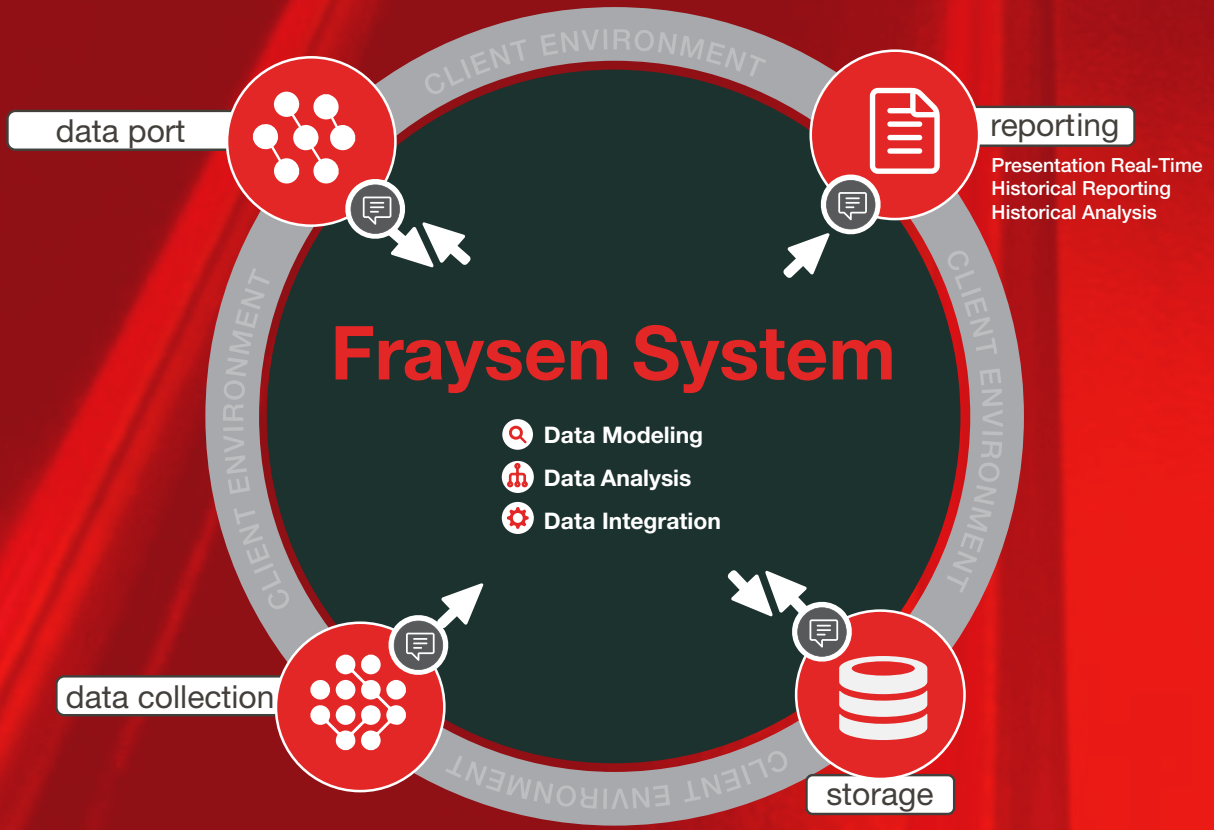
“While no one would expect the human operators to notice the labeling machine’s individually small losses, the overall impact on production was staggering and impossible to ignore.”

small losses, the overall impact on production was staggering and impossible to ignore.

But what of the consultant’s analysis? They were crunching numbers, not making observations. The failure of that analysis exposes a particularly profound weakness in human data collection: a predisposition to jump to conclusions. Each shift, operators gathering information wrote a possible explanation for the discrepancy between projected and actual totals. It was only natural for operators to connect the disruption caused by the cartonning machine with the lost output. The symptom distracted them from seeing the actual root cause. In doing so, the operators created a narrative that seemed to explain the situation, and that narrative made it into their reports so that by the time the consultants received the data, the causality was pre-determined. The consultant could not help but make the same conclusions the shift operators had already made time and time again.

ProcessPlus functions differently. While the line’s machines weren’t designed to gather data, the Fraysen System exploited the fact that machines are generally very good at collecting certain things like counts, faults, and times, and this could be extracted using ProcessPlus’ range of Data Collectors. Of course, this raw data has a limited value. For example, if the weather forecast every evening consisted of a person putting up a chart showing all the current temperatures around the area, would one be any the wiser to what the temperature will be the next day? Weather foresters must take a wide variety of information and feed it all into a model of how that data is likely to interact. Their model doesn’t produce perfect predictions, but it’s surprisingly accurate considering the complexity of weather systems.

ProcessPlus gathered information and then created a model of how the machines interacted. And it was the accuracy of the model that made the data useful and exposed the fallacy of the previous conclusions. Instead of investing €50,000 in a solution that would have produced zero net gains, the company spent significantly less updating their labeling machine and quickly met their production goals -- accruing recurring savings of more than €60,000 / $70,000 every year from this project alone. AND although it is still temperamental, people worry far less about the cartonning machine any more.



fraysen systems

Fraysen is the systems architect that redesigns and automates your business processes to maximize efficiencies and optimize outcomes.

www.fraysen.com