Improving Operational Efficiencies through Analytic Software for Manufacturing Companies

Pablo Asiron
CEO
RtTech Software Inc.

"As one of the first companies to develop an Industrial Analytic App, we are on the leading edge and able to deploy our solutions to a greater spectrum of companies. We come from ten years of experience delivering the type of solutions and analytics to some the largest top Fortune 500 companies. What we are doing is putting all of the knowledge that we have gained of doing downtime monitoring and energy management information systems for those large companies on premise, and we are bringing this all to the Cloud."

- Pablo Asiron

CEOCFO: Mr. Asiron, what is the idea behind RtTech Software?
Mr. Asiron: We develop analytic software that helps industrial customers improve their operational efficiencies. What that means is that we are a software development company and what we do is get information in real-time from the machines. We connect to the control systems and sensors that are measuring things like flow, throughput, pressures, machine on-off indicators and energy consumption. Once we get that data in real-time with do three different things. The first thing that we do is we monitor the status of the machine, to be able to detect when the machine has a downtime. If the machine has a downtime, we classify the reason for the downtime event automatically, using information from the machine itself or if not we present it to the operators so that they can do the classification manually. Once those events are classified, we automatically and out of the box calculate maintenance and reliability KPIs to help our customers see what is the health of the asset and to be able to determine what they need to do to be able to increase the uptime. Some of the KPIs are utilization, availability, mean time between failures, and another KPI widely used in manufacturing called Overall Equipment Effectiveness. OEE measures all of the waste that happens on the production floor like downtime, production losses or quality losses. The next thing that we do is detect when there are slowdowns. For
example, the machine is running and producing, but at a slower speed or rate than what it was designed to do. Once we detect those production delay events we classify the reason why the machine, or production line, was not able to produce at the design capacity. We then present the information or the bottleneck to the appropriate person to be able to remove them. This will allow them to have more uptime for the machine and when they are running, they can actually produce more. The third and last thing that we do is to monitor and reduce the amount of energy that our customers use in the production process.

CEOCFO: **Is all of this done with technology or is there human input on your side?**
Mr. Asiron: More and more we are able to go through the process from raw data to KPIs without any human intervention. Machines are becoming more intelligent, there is more information available and we can use the information from the machine to classify the reason for the downtime event or the slowdown. However, many of the manufacturing plants are still using older technology that does not have that diagnostics built into it, so sometimes there is a small human intervention that is done with a couple of clicks using web interface to classify what caused the downtime or delay event.

CEOCFO: **Are most manufacturers looking for the analytics and for the type of product that you provide?**
Mr. Asiron: Manufacturers are looking for analytics, but many are still recording downtime by hand. They have a clipboard and at the end of the shift or even worse, while it is happening, they are asking the operators to record the start of the downtime, the end of the downtime and the reason for the downtime event. They are doing it by hand because until recently they could not afford to have automated systems. If you look at small and medium manufacturers, they are being squeezed by a global market that can go anywhere for those goods and production capacity. They are trying to improve, but doing it by hand is not an answer. However, with advances in cloud technology and the advances that we have from The Industrial Internet of Things, they are able to have the same type of solutions that the big Fortune 500 companies have, but in a hosted way or as a Software as a Service (SaaS). It is becoming a reality and they are able to go for it and replace the clipboard by a software solution. So yes, they are looking for a downtime system and the analytics but it is up to us to let them know that there is a solution that they can actually use that does not require capital investment or an expensive IT resource to keep the system up and running.

CEOCFO: **How do you reach out to potential new clients?**
Mr. Asiron: We have many different ways of reaching out to potential clients. We have marketing activities such as webinars, attending trade shows, email campaigns, and we have our own lead generation and inside sales team that are contacting the different customers and making sure that aware of what we have. They will ask them what they are doing in the areas of downtime and production improvement. We also have partnerships with key technology partners that allow us to extend the reach of our sales force.

CEOCFO: **How do you deliver the information to your customer so that it is easy for them to understand and take action?**
Mr. Asiron: There are two ways that we deliver this information. First, we have a web interface that allows them to access the information using
dashboards and out-of-the-box reports. This provides access to downtimes or KPIs like the overall equipment effectiveness of the machine or production line, or its availability and performance. It not only gives the average, but also a trend over any requested period. It gives them the top-10 downtime events that they had and reports as to what caused the downtime events. It is user-friendly; you would just click on the particular area that you want, select a period of time and all of the KPIs that you have selected will appear. The other way that we are making it easy to understand and take action is that we are developing apps. In the same way that you have an application in your smartphone or iPhone to access the weather, we have an app that allows people to access KPIs within the Cloud. For the plant manager who wakes up in the morning and the first thing that he thinks about is the availability or utilization of his machines overnight, he can go to the app, click the button and he will see this information right on his phone or mobile device.

CEOCFO: *Your website indicates that you have several products. What are the differences and when might a company use one or the other?*

Mr. Asiron: The other product that we have is all about reducing the amount of energy that these manufacturers or processing plants use to be able to produce a finished product. What we do is get the real-time data and then build dynamic online models that continually calculate the target consumption of energy. For example, you may have a crusher with a certain throughput that you are putting into that particular crusher that crushes the rocks. We identify whether you are being efficient in the energy use of that particular large piece of equipment that has a high consumption rate. What we do is monitor and compare the actual consumption with the target consumption coming from dynamic models that we build from historical data. Then we are able to identify periods of time and places in the plant when they are being inefficient in their use of energy. We have two distinct products, RtDuet and RtEMIS but they all reduce waste, whether it is downtime waste or excess energy usage. However, one falls into asset management and the other product is an energy management information system.

CEOCFO: *Do you follow up and know if your customers are making changes based on the information?*

Mr. Asiron: Absolutely! Our downtime-monitoring product RtDuet can send automatic notifications when a key piece of equipment is down so the operator can take action right away to bring the machine up. Another way that they use the RtDuet information is for example, if 80% of the downtime is due to having high bearing temperatures, what they can do is change the way that they do preventive maintenance around those bearing temperatures and replace them more frequently so that high temperatures are avoided. They look at the causes of the downtime and the KPIs. For example when the mean time between failures is getting too short they know that it is an indication that they may have an unplanned downtime event soon. By reviewing the data, they are actually able to improve the uptime and the availability of their machines. In the case of our energy management information system, RtEMIS, our clients have a dashboard that lists all of the over-consumption events that they have had over a period of time, look into the process, and find out what is going on to remove those inefficiencies to be able to reduce the energy consumption. We have documented a 7% reduction of energy in a particular site in less than two years. We give them a 24 hour, 7 days a
week set of eyes that compare the target energy consumption with the real time consumption and identifies periods of inefficiency. They can find out when there is a deviation and be able to look at the process and find out what is going on at that particular time. By looking at the data, they can make real improvements. Having said that, in order to get the value from the system, there has to be someone responsible for and actively reviewing these reports. To avoid that issue, we have developed an app that takes some of that work out of the hands of the users. We allow our clients to define what at “bad actor” is. They can tell us that a “bad actor” is a machine that has less than a 60% availability and has been down more than 7 times in a week. The app looks through all of our KPIs and information to find the five worst performing assets that they have, notifies users by email and starts a workflow. In this way, our clients do not need people look at the reports to find those “bad actors”. What we do is proactive identify the worst actors, using their definition of what a “bad actor” is which allows them to improve the process and availability or reduce energy consumption.

CEOCFO: What is involved in implementation?
Mr. Asiron: We first gather information about the machines that we need to connect to and once we have that information, we will go to the site. We will already have had a machine installed that does the bridge between their sensors, machine data and the Cloud that is gathering information. We then send that information using Microsoft Azure, all the way to the Cloud and configure their machines. Implementation is about a two-day process from the moment that we have all of the information, to the moment that the data is in the Cloud being stored and analyzed.

CEOCFO: What is your geographic reach?
Mr. Asiron: We have installations in 15 different countries and we are managing around 2,000 machines in 16 sites with 27 accounts. Australia is a big focus. We have many key customers in Australia, such as BHP Billiton, Rio Tinto, and AGL. Therefore, we decided to put a sales office in Australia. The rest of our operations are located at our Canadian head office in Moncton, New Brunswick. Our business is 40% North America, 25% in Europe and the remainder in Australia.

CEOCFO: What surprised you as RtTech has grown and evolved?
Mr. Asiron: The biggest surprise has been how quickly The Industrial Internet of Things is making people aware that there are affordable solutions that they can actually use to improve efficiencies. I have been doing this for a long time, normally on premise, and I think that The Industrial Internet of Things, the buzz about it has made our job easier. Companies now understand what we do; it is not news to them that we can do this as a SaaS in a hosted environment. I did not think that it would happen as quickly as it did and it is a reality. We do have an app that you can install on your smartphone that will give you the results. I believe that things will happen even quicker in the future.

CEOCFO: Put this all together for our readers. Why choose RtTech Software?
Mr. Asiron: As one of the first companies to develop an Industrial Analytic App, we are on the leading edge and able to deploy our solutions to a greater spectrum of companies. We come from ten years of experience delivering the type of solutions and analytics to some the largest top Fortune 500 companies. What we are doing is putting all of the knowledge that we have gained of doing downtime monitoring and
energy management information systems for those large companies on premise, and we are bringing this all to the Cloud. This is allowing us to offer the same type of KPI and the same type of analytics for a much-reduced cost. It makes us a bit different. If you look at the companies that are emerging having analytics software for downtime and asset management, they do not have an on premise solution, and we do. This helps us from a knowledge perspective, from a proven track record and helps us from a cash flow perspective. In addition, we just received the Canadian Innovation Award presented by BDC.

Interview conducted by: Lynn Fosse, Senior Editor, CEOCFO Magazine