

Q&A with Eitan Vesely, CEO of Presenso providing a SaaS Solution with Artificial Intelligence and Big Data IoT Predictive Analytics to Prevent Machine Downtime for Manufacturers in Europe, the US and India



Eitan Vesely
Chief Executive Officer

Presenso
www.presenso.com

Contact:
Eitan Vesely
+972.4.982.1199
info@presenso.com

Interview conducted by:
Lynn Fosse, Senior Editor
CEOCFO Magazine

CEOCFO: *Mr. Vesely, your site shows, Big Data for Asset Maintenance. What is the Presenso approach?*

Mr. Vesely: When we look at the industrial sector today there is a huge transformation towards industry 4.0 or the digitalization of traditional industries. Changes are underway in the performance of machine asset maintenance. There is a disconnect between potential from Big Data and AI (Artificial Intelligence) and the realities and constraints of most industrial

facilities. We bridge this gap using advanced analysis tools on all the operational data generated by industrial machinery. We start by extracting all the operational insights that are hidden within the gigabytes and terabytes of data. Our solution analyzes every piece of sensor data generated by these machines, and is able to alert on evolving failure at their very inferences, before they evolve into a huge shut down, which effects and stops the entire production line.

CEOCFO: *What are some of the items you look at and what might you detect?*

Mr. Vesely: For example, one of our power plant customers, which actually has 21 power plants in Austria. In analyzing one of their processes, which is comprised of 4 machines, with a total of 2,400 sensors in it, we were able to demonstrate by doing it on a daily basis, how we were able to detect the beginning of a failure, and so far have detected and prevented 10 failures from happening. That was on a test case on historical data. They type of insights we provide are diverse, starting with detecting any unusual sensor reading, whether the sensor readings such as the temperature is slowly rising on a daily basis, or whether it is a pressure that slowly goes down because of some kind of leakage. These are the types of events that we are detecting on the sensor anomalies. Because we are talking about large machines with hundreds and thousands of sensors in them, it is never enough just to analyze each sensor separately. We need to provide our customers with a somewhat holistic overview of their process and machines, and for that we need to have another layer of analysis, which is called Symptoms Correlation Detection. What it actually does is finds any relationships or interdependencies between the abnormal sensors, so in that way we are giving the users the full context in the sequence of the symptoms detected in their machines. This then provides them with a full understanding of where in the system these events started evolving from, which components are affected, which sensors are taking part in this unusual behavior. Therefore, they have the initial understanding of where they should start their troubleshooting from.

CEOCFO: *Do many companies have an idea of the correlation between obvious things such as lightning strikes and a blown fuse, or are the correlations you are bringing to the forefront something new?*

Mr. Vesely: It depends. We have had cases where we presented these correlations and the customers reviewed them, and the customers were surprised because our findings were important and they were not even monitoring and looking at

those sensors. Therefore, that was brand new for them. We have had other cases where we found correlations between three sensors and the customer thought there should be a fourth sensor that should be correlated together for the three. Then we found out that the fourth sensor was just out of calibration or disconnected, so this was another type of insight generated from viewing these Dashboards. You can see that it is very diverse.

CEOCFO: How do you implement a system at a given location or for a given company? What are the steps?

Mr. Vesely: Our concept is this is a Software as a Service (SaaS) model. We are a cloud-based service, where our customers are connecting their data sources to our cloud and then we are able to integrate as people do the service remotely, without ever being on their local sites. The process begins with a Proof-of-Concept project. We start normally by getting into a project together with the customer in which we are analyzing historical data, so in that way the customer can see the value and they system in a matter of two to three weeks, which is the timeframe that it takes to see results and value generated for the customer. The customer can then decide if they want to move on to a real-time deployment or not. Normally, the decision is in our favor, to continue to real-time deployment.

CEOCFO: Is all machinery today equipped with the sensors so that you can linkup with it? Are there some industries or equipment that are not ready yet?

Mr. Vesely: That is a good question. As you can imagine, not all machines are a good fit to our services and solutions. There are a few criteria. First of all, we are relying on any engineer's knowledge and basically our solution is quite agnostic to the machine it monitors. We rely on the data, which means that we are aiming to work with multiple machines that have multiple sensors in them. They could have anywhere from a dozen sensors to a few thousand sensors, or even tens of thousands of sensors. That means that we will not go and work with small machines or old machines that do not have enough sensors in them or are not generating enough data. Typically, the process industry are the customers that we are working with.

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CEOCFO: Is the data able to be shared with machines at multiple or different facilities? Is it specific to a particular machine?

Mr. Vesely: The answer is yes. We have a term for that. We call it machine crowdsourcing. Given the fact that in some cases there is a fleet of similar machines, we are doing something called Transferred Learning or Meta Modeling, where we model each machine, analyze it and monitor it separately. We then take all of the similar machines and we construct a Meta Model, which is a model based on the data coming from all of the similar machines. Then insights or patterns that are detectable on one machine, such as failure signatures learned from one machine can and are being used to alert failures on other machines in the fleet.

CEOCFO: How are you reaching out to potential customers and how would people look and find you if they have heard about the concept, but not necessarily Presenso?

Mr. Vesely: This is a very active market so we see customers approaching us through our website. In other cases we have our online marketing activities, where we are publishing articles on a weekly basis, which gets a great deal of traction with a great many readers, as well as discussions on LinkedIn groups. We are also contacting people that we believe are good candidates as clients. Therefore, they come to us or we find and approach them if needed. There are also industry events such as conferences, trade shows.

CEOCFO: What is your geographic reach today?

Mr. Vesely: Our geographic reach consists mostly of Europe, secondary the United States and some in India.

CEOCFO: What has changed in your approach over time? What have you learned as Presenso has been in use?

Mr. Vesely: This first thing I learned is that the level of acceptance in the market has dramatically increased in the last two years. It has gone from a point where we had to chase down customers, educate them and explain what the industry is for and about digitization. We are now at a point where I think the market has matured to where they understand the value, understand that there is a gap and that there is a great deal of potential in their data, so we are now actively looking and developing solutions.

CEOCFO: *When you are talking with prospective customer, do they understand the value, does it make sense, or do you need to be speaking to a CTO or CIO?*

Mr. Vesely: In most cases, people understand. People come from the understanding that they already have the need to perfect and get more efficient. I now see that the people, even if they are not coming from data science and computer science areas, they understand more-and-more the technology behind it, because the market is getting more educated on the solutions and the technology that drives that.

CEOCFO: *How is business today at Presenso?*

Mr. Vesely: Business is pretty good for Presenso. We are working with multiple customers, mostly in Europe and in the process industry. We have three main types of customers. One of them are the end users, which are people who operate the equipment and are in charge of maintenance in their plants. Another secondary type is the OEMs, which are the manufacturers of the equipment. Those who for centuries or decades have been manufacturing machines, nuts and bolts, and they now understand that they need to start sending and providing services, together with their machines. We see this happening very quickly.

CEOCFO: *What should we expect a year from now for Presenso?*

Mr. Vesely: We will continue to grow pretty much at the same pace that we are growing right now, or possibly even faster. We will embark on actively opening new markets in the United States and other parts of North America. We will also look to raise more money from Venture Capitalist. We feel we have a bright future.

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