

Q&A with Mahesh Veerina, President and CEO of Cloudleaf providing a Real-Time Location Tracking and Condition Monitoring System with Intelligent IoT Sensors for Large Volume Asset Deployments and Data Collection, Analytics with Actionable Insights



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CEOCFO: Mr. Veerina, what is the idea behind Cloudleaf?

Mr. Veerina: The core concept behind Cloudleaf from a technology perspective is that we invented this very interesting location tracking and

condition monitoring system with small sensors and then are able to manage large volumes of these sensors deployed. We call that a managed Sensor Fabric™ that is collecting data from a variety of assets, whether they are moving assets or static assets, machines, or tools. The data is captured and sent to the cloud. We then use that data to harness actionable insights for our customers. Predominantly we have been focusing on supply chains, so in a nutshell we call ourselves a managed Sensor Fabric for providing real-time location and condition monitoring for supply chain visibility.

CEOCFO: How is what you are doing different from other solutions and services on the market today?

Mr. Veerina: Today a great deal of bits and pieces of this exist. There are three ways to go about it. One, there is legacy technologies that can give you location data, but with spotty coverage and they never get condition data. Condition data is like a short or vibration that happens [when an asset is affected in some way]. The second is very transaction-oriented where somebody has to enter the data. In between those solutions, such as on a network, a continuous real-time basis to track and monitor both the location and condition of anything does not exist today. Further, to do that on a large scale, if you have hundreds to thousands of assets scattered across many locations, the technology to manage all of that does not exist. Therefore, we are an industry first in that aspect.

CEOCFO: Have people been looking for a better way or is it more they are excited when they find out or will be excited when they find out what offer?

Mr. Veerina: People have been looking for better ways. This has been an age-old problem if you are a manufacturer and you are getting material from your supplier, as you would want to know: *Is my order arriving on time? How much inventory do I have on-hand? How do I use those materials for my production purposes? When can I fulfill my order that is going out?* These are the types of questions supply chain managers are asking. Today, companies have data, but it is becoming more and more imperative that continuous real-time visibility is available and the data is accessible because the velocity of business is changing so fast. If not, companies run into all kinds of inventory problems, quality control problems in products, origin complaints, product safety issues, and production delays that account for major financial losses. It is a reversible problem, except they need to change their technology. It is nearly a market demand right now.

CEOCFO: Is your solution available today? Are you still in development?

Mr. Veerina: We have one or two releases available. Today, we solve many of our in-door problems very well. In-door for us would be something like a large warehouse, distribution center, a factory, or a hospital. You are tracking your raw

materials, supplies, and tools, so whatever you are tracking you want to have visibility on them. We offer that today along with the condition monitoring as well. For example, we have a pharma customer who has blood plasma that comes in and they need to make sure it is always at a -40 degree temperature and they need to know where it is in the facility at all times, so our customer needs to be able to continuously track both the location and the temperature or condition of their assets. That is the kind of problem we solve. However, our vision is broader than that. We can go from an in-door to an out-door situation. You can manufacture something and park it in the yard. How do you know where it is? Sometimes large construction sites have big lay down areas as they are called, with many materials sitting outside, so they need to find a specific asset at a specific location. Therefore, we are extending this to out-door, and eventually it is an end-to-end problem. It starts in one place and it ends up at a retail location or grocery chain. Our angle is having that end-to-end location tracking and condition monitoring.

CEOCFO: *What is involved in an implementation?*

Mr. Veerina: Typically, we go out and a smaller implementation will take one or two days, and a larger implementation with a few thousand assets to be monitored may take a week. Everything is a cloud-based software, so we set up what we call a tenancy for the customer in the cloud. We offer it out of Amazon AWS, but we are agnostic, as it can also be Azure or another. Then our team physically goes out to install the sensors on the assets. Typically, our customers have pallets or tools they want to track, so there is a one-time task of attaching the sensors to the assets. Once that is done there is some configuration and lighting-up that will sense the fabric, and we also install something we call Gateways to track all of these in the facility. After that is done, a customer is up and running. Now customers can get to work on the cloud. We offer something called Rule Configuration, where they can go and configure all of the rules, such as a particular asset always has to be at -40 degrees, so if it is sitting in an ambient temperature for more than an hour and half it will let you know; sound the alarm. They can build complex rules to notify if an asset is moved from one location to another on the normal path or if it deviates from that path it will let the customer know. We track all of those with analytics and metrics.

“Today, companies have data, but it is becoming more and more imperative that continuous real-time visibility is available and the data is accessible because the velocity of business is changing so fast.” - Mahesh Veerina

CEOCFO: *Do you deploy your own team to the location or do you employ local people to provide that service? How is that working now and how might it work as you ramp-up?*

Mr. Veerina: We are still in the early stages and a young company, but we have learned a great deal about deployment, so we are currently going out and doing the deployment ourselves, along with the company’s IT or production team. However, as we mature, what we see is there will be a two-path model, especially with large installations. One will be where we recruit VARS and resellers around the country to deploy our solution locally. Then for very large installations we might start working with large vendors such as AT&T or Verizon.

CEOCFO: *How do you get a foot in the door?*

Mr. Veerina: Typically, we know our market. We are talking to the supply chain, where the industry focus has been on automotive, industrial manufacturing, pharmaceutical, and construction. We reach out to the CIO and start conversations there. There is a new phenomenon in the industry called digitization and they want to extract more and more digital data from their operations. However, today there is no instrumentation to extract any data, so the conversations go pretty fast. They quickly open the door for us to come in and explain ‘how we do that’ and ‘where they should go’ because they all have projects that they want to go digital with. Then the process takes 3 to 6 months before we build an application for them.

CEOCFO: *What have you learned as your solution is reviewed and as you have talk with more and more people?*

Mr. Veerina: There is a great deal that we are learning. Early on there were some incumbent technologies. Originally, they used RFID to track operations. There is an industrial company that wants sensors that monitor the battery levels on their tools so that in the field they can connect their tools and track them. The pharma company that I referred to earlier manages large volumes of plasma bottles and they want sensors. Therefore, we hear input from all kinds of different sensory mechanisms and what data they would be collecting right now, as well as integration to their enterprise system, because they already *have* existing systems. Those are all features that we keep adding to our core platform.

CEOCFO: *Would you tell us about your recent funding and how you will be using it?*

Mr. Veerina: We recently completed our first Series A financing for \$13 million, so that is what we have now. Our product was in the beta stage, and taking that pilot beta product to a finished G&A, which we just did, so doing that product and

continuing the innovation on that product is one of the key fund usages. The second big area is starting to expand our GTM, the go-to market strategy, getting the message out, and putting out more field sales people to engage potential customers. Those are the two primary activities right now.

CEOCFO: *What do you bring from your earlier experience to help in getting a company off the ground?*

Mr. Veerina: There were many lessons to learn. One of the biggest lessons was that the answers are not always clear when you start with new ideas and bring them to the market. Next, trying to get to new customers and educating them. Therefore, one of the biggest lessons I learned that is important for me today is being nimble. After that, figuring out who the customers are and how to find that retraceable pattern to get some growth and scale. Then there's your team, so it's hiring the best people you can. The final factor is cash and keeping the treasury full.

CEOCFO: *Put it all together for our readers. Why is Cloudleaf an important company?*

Mr. Veerina: We are solving a very important problem in this whole visibility and condition monitoring market. We are also doing it at an enterprise and carrier-grade scale. The world will be full of sensors and I see 2018 and 2019 as the inflection point. We will have millions if not billions installed. Therefore, the question is how you manage the sensor networks and extract the relevant data. Then, it's how you consume and process the data into actionable insights. We are tackling a very important problem that is not largely well-served right now.

