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The Most Powerful Name in Corporate News

ALMERIA ANALYTICS

Web Based Analytical Service for Situational Awareness, Storms, Flooding And Hurricane Predictions for the Public and Governments

"Almeria Analytics will provide the best open source information about what is going to be happening to your life… It is going to provide the basis for your ability to plan for major manmade or natural disaster responses for the future going forward."- Steven Fernandez

Steven Fernandez
Principal
Almeria Analytics

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CEOCFO: ***Mr. Fernandez, would you tell us the concept behind Almeria Analytics?***
Mr. Fernandez: Almeria Analytics has been in existence since December of 2014 when the principal and owner retired after 37 years with the national laboratory system. After seeing the national security situational awareness technologies as developed at three of the national laboratories, the company formed to commercialize those analytic technologies to bring them to commercial applications, both for the public and private sector. The concept is to license back patents and technologies and to provide essentially four areas or product lines on a web based subscription service to the public and the government.

CEOCFO: ***In which areas would your technology be applicable?***
Mr. Fernandez: The first is natural disasters such as hurricanes, tornadoes, wildfires and earthquakes. We put to the emergency responders where the damage is, but even more than the damage because there are websites out there that tell us where power is out and websites that say where the damage is, we have look-ahead models that would say -- here is where the damage is. We also tell them when we expect the power to be out, when we expect it to be back, and this is where we expect these roads to be cleared first, and we expect these roads to be cleared second. It its taking the NOAA's (National Oceanic and Atmospheric Administration) Weather-Ready Nation, to translate

what the weather or the disaster means about the things that are important to society.

CEOCFO: ***Where are you getting the information?***
Mr. Fernandez: What we have done is put the entire system on the basis of a technology called VERDE which is an Oak Ridge technology called Visualizing Energy Resources Dynamically on Earth. We have over 78 feeds that are inputs into that system. They include public feeds from the National Weather Service, NOAA, National Hurricane Center, and USGS. Many of the public feeds are mashed together and this fusion is input to our look-ahead models. We use both agent-based and data-driven models to do the prediction and then we push that back out to the public as a web streaming service.

CEOCFO: ***How do you have access to the real information from an organization such as a power company?***
Mr. Fernandez: We do not have access to proprietary restricted data but there is a great deal of data out there that is published in an open process. If you had an outage and you went to the Almeria Analytics app, if it is not just you that is losing power, we would bring out what that utility was putting out in its tweets about what is going on in that general area. More than that, we would combine that with the local weather stations that report about the wind in that area and where the flooding might be. We have our models about which substation you are hooked up to and whether or not that substation is undergoing difficulties. What we would do is take all that information and apply the rules that the utility work under as far as scheduling repairs, so you would get an answer back that says yes your power is out, here is where the power is out in that general area in the neighborhood on a ten-block basis. Then you would have an estimate when the power would come back even though the utilities are not prepared to make that kind of commitment. We sometimes may be off a bit as far as our estimates go, because they are estimates, after all. The utilities hate to be criticized if they tell you that say you will be back in an hour but you are not back for two.

CEOCFO: ***What is the second area of focus?***
Mr. Fernandez: For companies or people who have large numbers of documents, we do knowledge extraction. For US government purposes, if you have ten million documents that you want to search about a certain topic area, you would go through and keyword every one of those ten million documents which is a major investment for either a company or individuals. We have taken what we call knowledge extraction technologies that go through and break up those documents into small paragraphs, each paragraph containing a single idea and we use automated activities to extract the information and bring back a small number of documents for you to research. This is useful for people that are doing patent searches, for people doing analysis of business opportunities and a whole variety of applications where you want to survey a lot of information and really do not know the keywords.

CEOCFO: ***What is the third area?***
Mr. Fernandez: The third area is Energy Management systems for microgrids. It is actually our CIRRIS brand. When you have military installations or as we put in new renewables and different energy sources into neighborhoods or small areas, where they have built the capability to isolate themselves from the overall grid. To be able to know when to connect to the grid and when to separate and to look at the health of the different neighborhood generators you pull together a lot of

information from the sensors within the grid. Then combine that data with the VERDE (Visualizing Energy Resources Dynamically on Earth) situation awareness of what is happening as far as the weather that is going to be coming as you come up with data from new energy management systems. These new EMS devices are the computer systems that are used to bring generators on or control the electric grid within that area.

CEOCFO: ***What is your fourth product?***
Mr. Fernandez: We are gathering a lot of data about the health of the power grid and transportation grid and the infrastructures on a continuing basis. Since we are gathering these from open sources, they are much less restricted from distribution than other data sources. We work to make these commercial data sets widely available cheaply so that researchers can do their research. We actually send out published data sets and make them available for purchase at prices that are very much lower than any of the commercial data centers that are currently out there. We have worked hard to stay free of any proprietary concerns about using very detailed data that would be restricted from public release.

CEOCFO: ***What do you understand about the technology that allows you to provide less expensive and more comprehensive services than others in the markets you serve?***
Mr. Fernandez: Although it sounds very much like a big data application, in reality it is a matter of being able to understand the science behind layering of the different data sets. If we also understand the market properly about what people, want to know as opposed to what others push out. For example, to know that the wind is going to be greater than 65 mph at your area, you might know you have a problem. But, to know that there is a 50% chance that the wind is going to cause power outages and where the power is going to be out and how long it is going to take to repair it is much more useful. We are going to use our technology to combine those data sets, understanding how the infrastructure and people are going to react to those systems to come up with predictions and understanding. To borrow NOAA's terminology, we are building a Weather-Ready Nation. That cannot be just selling people's numbers, but by understanding the numbers to get on with their lives. We accomplish this by matching those data sets in real-time using technologies that we have currently patented. We combine the data together so that we can give a relevant answer about what is happening as opposed to just a jumble of probabilities.

CEOCFO: ***Are companies looking for a better way and might they come to you for their first foray into enhanced information or are they more typically changing from something they have already used but it just does not quite do it for them?***
Mr. Fernandez: I think it is more the former. For example, we have a better starting point for people who are trying to develop applications for their repair crews stores like a Target and you want to know whether the store is going to have power when big storms come through. Most companies do not have the resources to do those things themselves so they would subscribe to our service for bringing that information in. They might also have their own tools and they would know about what past storms have done to their particular business. There are other people developing apps -and to have that feed coming from us to start with to develop their interfaces will be useful. Many researchers are looking for

any kind of data that they can use in their research. We provide that starting point for research activities. Those are the three applications that we are seeing having the greatest demand for our services.

CEOCFO: ***How are you reaching out to prospective customers?***
Mr. Fernandez: We use a three-pronged marketing approach. The first is for the public sector, which includes the DoD, DoE, and various federal agencies. They are looking for how they can accomplish their missions better. We are doing that through word of mouth connections with the different federal agencies. This includes whitepapers, sources of information and proposals for performing specific contract research. We are going to demonstrate our services at national tech shows and conferences. Secondly, we also use search engine optimization on websites to reach the public. We are making our services known for those who are searching for science based, database activities, or natural disaster areas. The third thrust - is going directly to county commissioners and people responsible for emergency response. We illustrate the Concept of Operations by online demonstrations of the product and direct contact with the other decision-makers both at the county and state levels.

CEOCFO: ***What keywords would someone use to find some of your services?***
Mr. Fernandez: If you are looking at the public sector, they will be looking for situational awareness. For the public, words such as flooding predictions, individual storms, flooding or hurricanes, each of those words will tap into our website and products directly. As far as the researchers go, words such as databases or infrastructure databases would bring you to our commercial sale of data sets.

CEOCFO: ***Does the history of your technology and the expertise of your developer make a difference to potential clients?***
Mr. Fernandez: I think there is a little of both. For example, during the great 2003 August blackout in the northeast, the story is that the Department of Energy and the Secretary of Energy went to the new emergency operation center and said what is going on and how can I help. His situation awareness was eight screens all turned to CNN. He thought that was very unacceptable. I do know that the National Laboratory System convened in Washington two days later to make sure it did not happen again. The output of one model at one laboratory is input to the next model at the next laboratory. This cooperation was unprecedented in the history of national laboratories. The idea here is that it has a history that is born into that kind of collaboration. It also means that the models and approaches they are taking have been vetted for a long time. They have more confidence that even it is the best and most accepted approach for doing these kinds of forecasting.

CEOCFO: ***How is business?***
Mr. Fernandez: Business is going well. We have been in operation for approximately a year. We have operated in the first year on a number of NOAA investment contracts. We are profitable and we hope to triple sales in 2016 over what we had during our first year in 2015. The sales for the subscription service is going faster than our original business plan protections.

CEOCFO: ***Why choose Almeria Analytics?***
Mr. Fernandez: Almeria Analytics will provide the best open source information about what is going to be happening to your life, whether you

are going to lose power, whether you are going to be losing transportation, what one can expect going forward. The cost of getting this web streaming service is very nominal. It is going to provide the basis for your ability to plan for major manmade or natural disaster responses for the future going forward.

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

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