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Issue: April 7, 2014

The Most Powerful Name in Corporate News



Mapping and Spatial Imaging Software for GIS and Mapping Industries

Avenza Systems Inc. is a private Canadian company that develops, markets and supports computer software products and royalty-free map data for the mapping and geographic information systems (GIS) industries. Avenza creates software that focuses on design, publication, use and the creative aspects of mapping and spatial imaging. Organizations and individuals use MAPublisher®, Geographic Imager®, MAPdata and PDF Maps to create and use high-quality cartographic products for their audience. With products being used internationally and a distribution network of resellers, the global reach of Avenza is continually expanding.

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

CEOCFO: Mr. Florence, is Avenza?

Mr. Florence: We are a software company in the GIS and mapping space. We've gone beyond GIS. We are also involved in cartography, spatial imaging and things like. Let's just say things of a geographic nature. Our primary products are geospatial plug-ins for Adobe: on the vector side, Adobe Illustrator and on the raster side, Adobe Photoshop. We enabled those two Adobe products to work with, understand, and process geospatial or GIS information, which means for example, satellite and aerial imagery can be opened and worked with in Photoshop while retaining all the geospatial information. Similarly, vector data or geospatial databases can be worked with inside Adobe Illustrator to produce high quality maps. Because of this, we have quite a triple-A list of clients ranging from the CIA all the way down to National Geographic and small independent companies all along the way. We are widely used around the world in prominent places.

CEOCFO: What is the competitive landscape? Are there other companies that have a product for Adobe or do you have the market?

Mr. Florence: We have the market. There are alternative ways of making maps just like if you would say a bicycle is competitive to a car because you can use it to travel from a to b. There are other ways to make maps too. Companies like MapInfo or Intergraph would tell you that their software can produce maps too, which they can. However, when it comes to the ease of production and the quality of the finished map product, it is more desirable for many people to use the Adobe creative environment. The environment is arguably the top environment for doing graphic design, everything from magazine covers to billboards, letterheads and everything like that is designed in Adobe Illustrator, so why not a map? A map is just a combination of lines, shapes, colors and text just like any other piece of artwork. Over the last 20 years, as GIS just started evolve, map production organizations whether they are government or private sector have realized that they could be using Adobe products to save work. What was missing along the way however was the conduit between the geospatial data environment and the graphic platforms. That is where we come in.

CEOCFO: What do you understand about the process to make it smooth, easy and look good at the end?

Mr. Florence: That is Adobe's expertise. Adobe's expertise is graphic design, which includes everything from type phases and fonts to colors and pattern fills to symbology to strokes and line weights, all the elements that we take for granted when we design a piece of artwork. What ends up happening in many GIS applications is that the way in which colors and text are handled are much clunkier, not as intuitive or easy to use. The results are not often what somebody envisions when they do the work, because these GIS environments are more analytic environments and not map publishing environments. What people wanted to do is take their data from the GIS environment and bring it into a graphic design environment like Adobe Illustrator, CorelDraw, or Macromedia FreeHand, before it was discontinued, and actually make the map there. What we found, about 15-20 years ago when we got started, was that people were producing a map in a GIS application, saving it out as jpeg or tiff file, opening the tiff file up in Illustrator and then tracing it all over again just so they could get the vectorization into the Illustrator environment in order to use Illustrator's tools to make it pretty, for lack of a better word. We said that's ridiculous. Why do we not come up with a way to import the data directly? And that's what we did. Now we have taught Adobe Illustrator to speak directly to geospatial databases and files while retaining all the underlying geodata. In other words, when you import data into Illustrator, in addition to the lines, shapes and whatever it is that's supposed to be drawn, you're also getting the geo-referencing so it knows where it is in the planet, as if you were still in your GIS application, so that scale and relationships between objects are preserved in a real world sense. We also get access to the database or the table of attributes, as we sometimes call it, which describes what each object is in that map document. Using the database or attributes table, you can do things like make all the interstate highways red and 2

points thick, make all the hospitals have a particular symbol or all the banks have the same symbol and all cities with population over a million have this symbol. All those things become automatic using the Adobe Illustrator design tools, in an environment that's much more conducive to fine quality publishing.

CEOCFO: *What are some of the changes you might have made in the last year or two? What do people want now and what have you been able to offer?*

Mr. Florence: One of the big changes we have made in the last few years is output to mobile. Over the years in the map production environment, the output, the medium of consumption by the map user, has changed. If we go back 1000 years or more, maps were drawn on the sides of caves or the dirt, then they went on stone tablets, then eventually to parchment and animal hide, then to paper and then from paper, we went to web. There is everything from Google maps to flash maps, and now the move is to mobile. What is happening now is people are saying they can produce these great maps but they want to be able to use them on a smart phone or tablet or iPad. They want to be able to take these maps out in the field and use them on their construction site, forest site, oilrig, or mining camp or while doing highway transportation analysis or something like that. A big thing that we started doing is modified our products to adapt to the different output media that people want. When we first got started 15 years ago, everything was on paper, so that is all we cared about. Then people started seeing the value of putting maps on the Internet, so we started to allow people to produce maps in Flash or html 5 so the maps would be interactive and able to be put online. Over the last couple of years, we adapted our software to produce maps that are well suited for the mobile space. Now when you publish a map, you can publish it three ways at the same time, paper, web and mobile in the same package without having to change your map in any way.

“We are an important segment of the whole mapping business on the map production side. You do not have to take my word for it but you can talk to National Geographic and or the CIA and ask them how they make their maps, how long they’ve been using our products to do it and why they rely on it so much.” - Ted Florence

CEOCFO: *What is the key to keeping up the new technologies? How do you know what will stick, what you need to plan for or what might go by the wayside?*

Mr. Florence: You do not. We guess from experience, trial and error. You have a caucus of people in your company that you discuss things with and you see if this is a good idea or not. You get feedback from customers and see what other companies are doing by reading the journals and going to trade shows. A good example of that is not just mobile stuff but also things like LiDAR. We’ve seen over the last couple of years that LiDAR is starting to really flourish and that tells us that we should probably start thinking about more ways of integrating it into our products. 3D is also big deal. Now more and more people are demanding 3D products, so not a flat map anymore but an actual 3D map that you can really see the elevation on and drape vectors on top of. Like anything else, you have to feel that you know enough about an industry and you have enough of a relationship with your customers, particularly the major ones like the National Geographics of the world, and the feedback you’re getting is valuable and you assimilate that feedback and turn it into products.

CEOCFO: *Do many people take advantage of your upgrade services and consulting? Do you see that as a growing area for Avenza?*

Mr. Florence: Some of it yes, but mostly, as far as the upgrades go, we charge an annual maintenance fee. Most people, probably between 80-90 % of the customers, renew their maintenance year by year, so they are entitled to upgrades by doing that. It is basically an annual subscription. They buy the software the first year and then every year after that they pay a percentage of the original acquisition price towards just maintaining it. They continue to get support and upgrades. That is the way many companies do it. At the same time, one of our other products is training. Training is a big deal and we do a great deal of that. We do some professional services where people ask for specific features, functions, modifications or certain tweaks to the product specific to them. We also sell data, so if somebody buys software from us and they want to make maps, they may not have access to the data they need to make maps. So we might sell them data discs or downloads.

CEOCFO: *Are there particular industries or groups of people that should be looking at maps that perhaps do not use them now?*

Mr. Florence: I think there is growth everywhere. Some of the more mature government agencies like oil and gas and mining have probably been producing maps for a long time and really started to understand the value of that. In general business such as retail, large retail and consumer oriented stuff like that, there’s probably a great deal of upside and way to grow to help people understand their data more and visualize it better by using maps. A good example would be, let’s say a store like Starbucks. I’m sure that Starbucks uses maps and GIS but let’s say they did not or there are similar companies that are trying to branch out or maybe there’s even somebody that just wants to open up a store by themselves. They might be able to take in data of their demographic, who is their customer? Their age, sex, income levels and all the kind of things that sort of define what their customer looks like, map that on a city, overlay it with existing

locations they may have and competitors' locations and maybe even vacant property and see where it might make sense for them to open a new location. I think that is one way of what we call business intelligence, a thing that is really going to grow more. For example, my sister is a veterinarian and she was looking to open a veterinary clinic. We produced a map for her of all the veterinary clinics in the Toronto area and we put buffers around them of 1 or 2 kilometers, thinking that people might not want to travel more than 1 or 2 kilometers to get to a vet. We were looking for holes and areas in the city that were underserved by veterinarians. We identified a few of those areas and from there she was able to figure out where she might want to open a veterinary practice. I also think in the map business what is going to change a great amount or is changing a great amount is this business move to mobile. That is where we also come in. We have a product called PDF Maps, which is basically iTunes for maps. If you think about it this way, it started with music and books, digital downloads direct to your device. You buy it on your device, it gets delivered to your device, everything is electronic, and you consume it on your device. It is like books with Kindle and eBooks with the same idea that you have a device that you browse for reading material and when you find what you want, you pay for it right there with your device, it gets delivered to your device and you read it on your device. As this has been happening, the map industry has been looking around saying, "Wait a minute, what is going to happen to us?" Then you think about Apple, Netflix and all these digital video systems that put Blockbuster out of business. Amazon and Apple with their book systems put Borders out of business. There are countless large companies that have been put out of business by technology. Blockbuster and Borders are just two of them but there are more. If you are a major player in the map business like Rand McNally or National Geographic you have to be thinking, "What is going to happen to us? Every car has a navigation system in it, every cell phone has maps on it, there are Garmins and Tom Toms available at Best Buy for \$100 or less. How are we going to stay relevant to the 21 century with our map products if we do not do something?" Well, we heard that and one of the ways that we innovated is we came up with iTunes for maps, our PDF Maps product. It is exactly the same principal as iTunes is for music and Kindle is for books, but the commodity is instead, a map. Now if you are traveling somewhere and you need a map, you can search on your phone, find a map you want, then you can buy it on your phone, have it delivered on your phone and use it on your phone with the GPS of your phone and other tools for measuring distances and adding data, instead of going out to buy a paper map. Because of that, more people are going to be able to use maps in ways they could not before.

CEO CFO: *Why should people be paying attention to Avenza today?*

Mr. Florence: We are an important segment of the whole mapping business on the map production side. You do not have to take my word for it but you can talk to National Geographic and or the CIA and ask them how they make their maps, how long they've been using our products to do it and why they rely on it so much. That is only growing and growing around the world because with every CIA, there's another somewhere else in the world. For every National Geographic, there is another one somewhere else in the world and it is growing. What is probably going to be even bigger is this whole mobile mapping, iTunes like map store. It is different and new. It is not rocket science, it piggybacks on the trail that was blazed by Amazon and Apple, but it is very ingenious. It is growing; we now have over 100,000 maps, hundreds of publishers. Maps are selling as we are talking. We plan on maybe spinning this off one day into a separate company, doing a separate fund raising, and running it on its own, just this mobile platform that we have.

BIO: Ted Florence is a Professional Engineer who serves as the President of Avenza Systems Inc. and the CEO/Chairman of Avenza Holdings Inc., Avenza's parent and owner of several other companies in the geospatial software space. Ted has been in the technology industry for almost two decades and has spearheaded innovation and invention throughout. He currently has two patents on elements of his geospatial software inventions with several others currently pending. Ted is also on the Board of the International Map Industry Association having started his second term this past fall. He is a frequent speaker and lecturer on technology and geospatial science at industry and academic events throughout the world. In addition to his activities with Avenza, Ted manages two private investment funds focused on technology and mobile and advises several technology companies on a variety of matters.



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