



## Continuous Glucose Monitoring that Eliminates the Finger Stick

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



**Dr. Robert Boock - CEO**

**CEOCFO: Dr. Boock, would you tell us about the concept at Glucovation?**

**Dr. Boock:** Our concept is we are taking a medical device technology, which is a continuous glucose monitoring and we are moving that into the consumer space. We have made some serious technical innovations from where the medical device products in order to move into the consumer space. It is a type of activity wellness monitors that are becoming prevalent, and we are taking that to the next level. We are going to give the end consumer a direct look at their metabolic data, which is looking at their glucose and using some internally created indices in order for them to track and understand what is going on in the body in response to both food and exercise so that they can alter their lifestyle. They can lose weight as well as be healthier and have the possibility to prevent Type II diabetes.

**CEOCFO: Would you explain the technology that will allow you to do this?**

**Dr. Boock:** In the medical device space, continuous glucose monitors have been around since 2005. They are typically electro-chemical centered. They require an enzyme that reacts with glucose and you can measure a response in current. We are taking and adapting that technology. Usually the medical device technologies require constant calibration; the user has to take a finger stick measurement, take that number

and put it back in the device in order for accuracy to be good. Our innovation is that we are eliminating the finger stick and having to prick your finger and put numbers back into the device. The system now becomes independent and allows us to go to a consumer space. The finger stick is ok for the Type 1 diabetes because people are familiar with doing them but in any other market possibility nobody wants to poke their finger and draw blood in order to take a measurement that is used to a calibrate the device. The base technology is electro chemical. The other innovation is that we have made a synthetic sensing molecule and this gets around some of the limitations of the existing enzyme based glucose monitors. With that, those several innovations that we have made around chemistry allow us to get to eliminate these calibration points.

**CEOCFO: How does the sensing molecule work?**

**Dr. Boock:** The devices in the continuing glucose monitoring space are minimally invasive sensors that just penetrate your skin slightly and measure what is called interstitial fluid, which is the fluid that surrounds tissue. That is well correlated with your circulating blood glucose. The device is a small needle that is about the size of an acupuncture needle and it goes in about five millimeters. It is pain-free but it is sensing something inside your body and it penetrates in order to get accurate glucose sensing.

**CEOCFO: Where are you in the development and commercialization?**

**Dr. Boock:** We are in the beta prototype stage and that is about three steps removed from what we would classically call the design freeze where all the technical issues have been worked out and the only thing that remains is moving it over to manufacturing. We believe we can get to the design freeze by the end of the year and that we can potentially be ready for launch in this commercial space within two years all depending on funding.

**CEOCFO: Is the medical aware or is it too early?**

**Dr. Boock:** Absolutely and we have been interviewed by a number of the diabetes community. We are open to licensing our technology back to the medical device companies. We as a company are remaining focused on the consumer space and putting the product out to the consumer. We have garnered a lot of interest especially from people that pre diabetic and who are thinking about monitoring themselves.

**CEOCFO: Would diabetics be more interested than pre-diabetics would?**

**Dr. Boock:** The diabetics have technology already but pre diabetics are very interested in what we have. Not to say that diabetics are not interested but when we talk about what we are going after in the consumer space, we are taking interface and data that we display and we are turning that message and making it consumer focused. That makes it less

interesting to a diabetic because it is not a classic CGM, which gives them the data con continuously that they can actually monitor their diabetes. We are not going to have that unless we partner up with somebody in the medical device community. When we look at the consumer focused industry that we are creating, that is less interesting to a Type 1 diabetic but it is interesting to people who have been told by their physician that you are kind of heading down this bad path and if you do not change your diet, you will be a Type II diabetic.

**CEOCFO: *Why is this is such a good point in time for what you have developed?***

**Dr. Boock:** Right now, there is a huge amount of interest in wearable sensors and activity trackers and the quantified-self movement. We are on the cusp of this revolution where people are looking to get information that they have readily available to them so they start to do more preventative measures when they are healthy. The whole ACA Act is going to push all of the insurance companies more toward preventative medicine as a way to mitigate their oncoming costs. The insurance companies want to come out ahead of this and if they could do something that would slow the rate of conversion to Type II diabetes in the US, they would be very interested. There is a tremendous amount of benefit for people who want to just lose a few lbs. as well. The problem with weight loss is you tend to have a negative reinforcement by just using the bathroom scale. You do many hard things and with dieting you do not see a positive outcome on your scale for a week and you kind of lose heart and give up. That is why many diets fail. Here we are going to give you a metric and you will see immediately the impact of your last meal. We can tell you it was a good meal and your body is going to respond well to that. There is a great deal of scientific literature that if you keep your glycemic variability or maintain yourself in a relatively tight regime, you will feel better and sleep better. Most of the low glycemic diets do not have feedback, which is needed. Many times athletes collapse their stores of glucose, and if they were wearing our sensor they would have time to understand and see their blood sugar is falling and have time to do something. This covers more than just pre diabetics. We feel there is a tremendous potential for this because it has such a wide range of potential markets.

**“We are taking a medical device technology, which is a continuous glucose monitoring and we are moving that into the consumer space... We are going to give the end consumer a direct look at their metabolic data, which is looking at their glucose and using some internally created indices in order for them to track and understand what is going on in the body in response to both food and exercise so that they can alter their lifestyle. They can lose weight as well as be healthier and have the possibility to prevent Type II diabetes.”**

**- Dr. Robert Boock**

**CEOCFO: *What have you learned from previous experiences and devices that has been helpful as you are developing the product and business?***

**Dr. Boock:** It is the old sage adage to accept failing and you want to fail fast. You want to find the technical innovations of a particular approach as fast as you can before you sink a lot of capital and time into a particular path. You want to remain flexible in your thinking and you want to go fast, find a dead-end and work around it or back up and find a different approach. You have to have the understanding that like all scientists, you are going to fail 70% of the time or more; you have to fail a lot in order to make something like this work. As far as the business side, I would say right now in the US it is probably one of the most difficult times for early-stage tech companies that are not software based. It is the classic thing of struggling to get early capital. App development and Facebook types acquisitions and those things are driving high valuation for things that are software based; you are skewing the market again much like it did in the dot.com bubble. It is hardware product plays like ours that are more difficult.

**CEOCFO: *Why should the business, medical and investment community take note of Glucovation?***

**Dr. Boock:** We believe that this has the potential to be the game changing activity tracker. Everybody is predicting wearable sensing to be a multibillion-dollar market but technologies need to go beyond a simple electronic pedometer on a watch. We are offering the technology that helps people and it is a tremendously open field for us as far as the size of the market and the ability to reach millions of people. That is why people should take a strong look at us. Our market size and potential for a product like this is very large.

**Glucovation**

**5661-F Palmer Way  
Carlsbad, CA 92010-7255**

**760.579.0199**

**[www.glucovation.com](http://www.glucovation.com)**