

Medical Device and Robotics Technology for Users with Mobility Impairments



Peter Bloch
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CEOCFO: *Mr. Bloch, would you tell us the concept at Bionik Laboratories?*

Mr. Bloch: The concept is to bring robotics to the rehabilitation market. In the past, rehabilitation has been done by a manual process which involves physiotherapists who treat a patient, but unfortunately, it is not always repeatable. In other words, it is not always possible to treat the patients in the same way. Different therapists have different technique and will treat patients differently. With robotics, processes can be repeated and we can measure improvements, which can lead to better outcome with the patients. Our lead program, Arke, is an exoskeleton set of legs that can be used for anyone that is walking disabled to help from a rehabilitation perspective to get them up and walking and to avoid many of the side-effects of sitting in a wheelchair. We believe that another application for Arke will be for use in a home setting, which will significantly improve the quality of life of patients as they are able to continue their rehabilitation at home and able to walk around their house, completing normal daily tasks.

CEOCFO: *Have robotics been used in the rehabilitation segment in the past?*

Mr. Bloch: Let me divide the market into two segments. There is upper and lower body. In the lower body market, we have three to four major competitors that are working on various types of robotic rehabilitation technologies but the market is new. These new products are starting to have a major impact. I think there is a great deal of interest in these types of rehabilitation technologies and we can see there is a great opportunity for better patient outcomes. Upper body robotic products have shown very good clinical data and are also starting to penetrate the market.

CEOCFO: *When would it be applicable and how would the robotic legs and arms be used?*

Mr. Bloch: Robotic legs, like Arke will be used for anyone that is walking disabled so it could be used for paraplegic patients, patients who have suffered from a stroke, or multiple sclerosis or cerebral palsy. We plan for Arke to initially be used in a rehabilitation setting. Most of those people would be in a wheelchair and go to the hospital for regular physical therapy. If a person is newly paralyzed, there also is a possibility that they could start walking again. Interestingly, the brain can find other neuro-pathways to send signal to a persons legs, however the probability is not very high. People that are walking disabled need a lot of intense physical therapy to avoid issues of sitting in the wheelchair for long periods of time and that is where Arke comes in. Instead of having manual therapy, we would have the patient strap on a set of our exoskeleton legs and with the help of a therapist would be able to walk with those legs on. In the future, we believe that these products could also be used in the patient's home to help people rehabilitate without having to go into a rehabilitation setting.

CEOCFO: *Where does the psychological impact come into play?*

Mr. Bloch: That is something that we would want to test and measure in the future because with anyone that is walking disabled there is a significant psychological impact. I think there is a good possibility that products like the Arke and other programs we are developing could have a dramatic impact on a patient's mental state after suffering from a severe accident or some type of illness like multiple sclerosis.

CEOCFO: *What is the training involved for a therapist or doctor?*

Mr. Bloch: There is some initial training for the therapists and the patients, but they can quickly learn how to use Arke.

CEOCFO: *Where does the cost factor come in?*

Mr. Bloch: Currently, similar products in the robotics rehabilitation market can range in price from \$75,000 and up. We are hoping to come into the market at a lower price but we have not decided what price yet. We designed Arke with the

idea that robotic products had to be delivered at a reasonable price in order to penetrate the market. If you look at the products being used in a home setting, there are not a lot of people that can afford to spend \$75,000 and up on a product to use at home. With prices coming down, lower prices will make the product more accessible to a larger portion of patients. These products are still going to be expensive but you have to look at the total cost of therapy and the opportunity cost of avoiding many of the side effects of sitting in a wheel chair. We believe these products will become much more cost effective.

CEOCFO: *What has been the reaction from the medical or therapist community?*

Mr. Bloch: The response seems very positive. It is an exciting new product and a different way of therapy. People need to gain a better understand to the benefits of these types of robotic rehabilitation products because it is still a relatively new technology. After a few sessions the patient is able to use robotic products like the Arke.

CEOCFO: *What has changed from the initial concept that makes for a stronger product today?*

Mr. Bloch: Robotics in rehabilitation is a new market. We are only now beginning to understand how the patients and therapists will use these products. This knowledge has helped us to improve the usability of Arke and learn how to integrate the product into a medical system.

“I believe that robotics are going to have a significant impact on rehabilitation and in other areas of medicine. It is a new market with tremendous potential out there. I would say we are in a very exciting market at the right time. Bionik is in an excellent position to capitalize on the new and growing robotic rehabilitation market.” - Peter Bloch

CEOCFO: *Bionik recently entered the public arena; why now?*

Mr. Bloch: The primary reason is that to develop these robotic products requires a substantial amount of capital and the capital is available from the public markets. They are complex products to engineer and the approval process is complex. In addition sales and marketing resources are costly to create and penetrate a new market. Funding has been more readily available in the public domain because people are starting to see the potential for robotics in the rehabilitation setting. There is a second reason is that is that we need to start raising the profile of our company and getting and getting people to know who we are. Being a public company helps us to meet this objective.

CEOCFO: *There is a science fiction aspect to this. Is that helpful?*

Mr. Bloch: There has been a tremendous amount of news for similar rehabilitation products like the ones we are developing, probably because the products have a science fiction or “cool” aspect to them. This helps to raise awareness and also helps to build our profile. Patients are asking to see and try the Arke and that has been helpful for us in the marketplace. However this sometimes raises expectations too high and those expectations have to be managed.

CEOCFO: *What is the plan for the next year or so?*

Mr. Bloch: What is important for us is to get Arke into the marketplace and to look at other opportunities to grow the company. We are focused on getting Arke to market and getting patients using it. I believe that there is a lot of opportunity for robotics in the medical market, and we intend to pursue some of these opportunities in the future.

CEOCFO: *Why pay attention to Bionik Labs?*

Mr. Bloch: I believe that robotics is going to have a significant impact on rehabilitation and in other areas of medicine. It is a new market with tremendous potential out there. I would say we are in a very exciting market at the right time. Bionik is in an excellent position to capitalize on the new and growing robotic rehabilitation market.

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