

# John Baby - Co-Founder, Investor, Director, WO:EX

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*John Baby of home rehabilitation device start-up WO:EX outlines how his firm's products differ from others on the market through their multifunctionality, its expansion plans in Asia and Australia, and the benefits of starting a medtech business in Singapore.*

## **Could you begin by introducing yourself and WO:EX?**

My name is John Baby, and I am one of the founders of WO:EX, a medical device company focusing on safe and affordable home-based rehabilitation solutions. My background is in computer science, however for the last 21 years I have worked as a consultant in the medical device domain for design controls on robotic devices and software. While operating WO:EX, my involvement in QUASYS consulting continues with recent projects including emergency approvals for COVID kits, AI mammographic projects, and AI-based ultrasound projects.

WO:EX was created from the ideas and passions of Vlad Lukashevich, a medical doctor specializing in neuro-related diseases, particularly rehabilitation. Following multiple experiments, the current solution was established that notably helps patients requiring assistance in rehabilitation, especially given the pandemic with increased fears of going into clinic.

This product avoids the use of expensive exoskeletons and their transportation and simplifies the solution for rehabilitations at home. It also helps with teleconsultation for remotely diagnosing problems and providing the appropriate rehabilitation programs.

### **How is this product different from what is currently in the market?**

The key difference is the multifunctionality of the system we provide compared to other products in the market. Depending on the solutions needed for rehabilitation, different programs, equipment, anamorphic solutions, and assistive devices may be needed. However, our device provides solutions for neurological problems, rehabilitation on stroke, multiple sclerosis, and aids in related rehabilitation issues.

Furthermore, the product is advantageous due to its deliverable size which may be sent by courier and then assembled by our team in forty minutes. In addition, it may be integrated with augmented reality, artificial intelligence and other virtual reality factors to guide those in rehabilitation programs. The product uses biofeedback indicators such as sensors to track the rehabilitation progress and whether the patient is deviating from the program to then resolve those issues. This can all be completed in smaller spaces than those required by traditional rehabilitation solutions.

Starting at 3000 euros, the device is significantly less expensive than other small assistive devices while simultaneously acting as safer equipment without the potentially dangerous exoskeleton, establishing itself as a user-friendly, safe and affordable device.

### **Does WO:EX intend to target businesses or individual consumers for its product?**

Primarily, the focus is on targeting B2B. We are seeking clinics for the program to be accepted in and then provided in rehabilitation clinics or retirement homes with medical professionals available to support its use. For any rehabilitation, professional guidance will be required before support in the home, particularly for bedridden patients. Following the product's acceptance, we then plan to transition to a B2C segment that will be supported through our telemedicine, teleconsultation and telemonitoring programs.

### **How has the business evolved over the last two years?**

The first trial, simply using a mechanical frame as the working prototype, assisted a bedridden patient who was told they would never walk again back to their feet in around forty days. Following the patient's successful rehabilitation in trial we founded the company.

From that stage we had a motorized device that would assist lower limb training without manual support assisting bedridden patients to move and train weak muscles. Now, we possess two versions of the product, the initial mechanical frame and the second robotic solution which is ready for production.

Following trials with 50 patients, journal publications, patents for the technology and all possible uses, and the presentation of our scientific literature in a Europe conference in Dubai, we are at the current stage of the business. The main issue facing the business at this stage is the investment for which we are raising money for manufacturing and to obtain the necessary certifications.

**Which strategic markets will you use to seek the certifications and approvals for the business?**

Following our analysis, we discovered the rehabilitation market is growing significantly in Asia and Australia which will become our first target sector, notably due to our proximity to the region in Singapore. Furthermore, we are conducting research and development programs in Poland where the research costs will be compensated while we simultaneously try to set up the company there.

**In its current stage, what partnerships are valuable for your business?**

We are looking for partners who understand the complexity and the challenges we are facing in developing a hardware device. This extends beyond capital to knowledge from those with similar backgrounds in the rehabilitation, assistive technology or research industries. In addition, we need partners to aid us in the AI and augmented reality aspects and the progress of the business more generally.

Moreover, to increase the exposure of our business, we must participate in numerous competitions to generate more interest among investors. Recently, we had success following our pitch in Hong Kong for the Asia conference finishing as finalists.

**What do you believe are the key challenges facing medical device startups today?**

Although there are numerous startups with a range of ideas, most of them fail because these ideas are not practical and do not meet the expectations of the industry. Primarily, they are educational

projects that do not have a commercial use and are not putting the products into a user perspective.

Additionally, many startups in the medical device domain do not foresee the regulations preventing products from reaching the market with the path towards approval requiring clinical validations and usability of the product in trials. Finally, for many startups, it is not possible to continue investing in the business before it begins to make an income.

### **What are the advantages of starting a business in Singapore?**

There are two key advantages for startups in Singapore. Firstly, the culture and environment for startups regarding the availability of mentoring and support systems helps foster growth without having to travel large distances due to the size of the country. Secondly, a company can be created and maintained online without the need for chartered accountants, lawyers and other barriers to entry.

### **What are your priorities right now for the upcoming years?**

The current priority is generating an income to support the business and this product. Therefore, both Dr Vlad and I need to split our time between consulting and WO:EX. We both wish for the product's success beyond the money aspect because we have witnessed the help it provides patients and understand there is a real need for it to be made available.

### **Do you have any final comments that you would like to share with our international audience?**

After one and a half years of a pandemic, I was concerned for businesses in the medical device domain. However, government and investor support has become more serious compared to the historically risk-averse investments due to the presence of many regulations in the field. This has led to the creation and success of more businesses that will have lasting, positive impacts on mankind and the future.

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