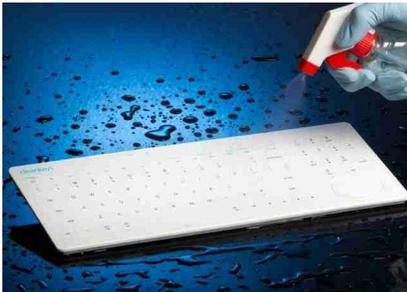


With Hospitals spending \$30 Billion a year fighting Hospital Acquired Infections and over 100,000 Deaths a Year because of HAIs, CleanKeys Inc. is well positioned for Growth Providing a Unique Solution in their Cleanable Computer Keyboards that have a built-in Monitoring Software and Reporting Systems



**Healthcare  
Infection Control**

**Cleankeys Inc.  
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**Randy Marsden  
CEO**

**BIO:**

The company founder, Randy Marsden, is also CEO and provides direction and vision for the company. He

possesses strong technical and business skills with 23 years experience as CEO of various technology companies. He has a Bachelors degree in Electrical Engineering, has been the recipient of many awards, served on many boards, and is the named inventor on several issued and pending patents. Most recently, Randy received a Manning Innovation Award - one of the most respected awards for innovation in Canada. He also serves as the Chair of the Technology Alberta Industry Association. Prior to Cleankeys, Randy was the co-founder (and original inventor) of Swype Inc., a very successful company operating in the touchscreen text input space with an installed base of over 200 million users, and which was acquired in 2011 for over 100 million dollars. Randy has also helped thousands of people with disabilities live more independent lives through his work as founder and CEO of Madentec Limited. Recently, Randy was invited to present at the TEDx Edmonton event (the presentation can be found on TED.com).

**About Cleankeys Inc.:**

Cleankeys Inc., based in Canada, is a world leader dedicated to providing technology-based infection prevention and infection control solutions to the healthcare industry. These solutions include commonly-touched devices such as computer keyboards that are easy to clean and disinfect. The company possesses a world-class engineering team that provides both hardware and software development, and also oversees the production its own products. Those products are

marketed and sold in North America, Europe, and Asia through sophisticated sales and distribution channels developed and managed by the company.

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

**CEOCFO:** Mr. Marsden, what is the concept of Cleankeys?

**Mr. Marsden:** The concept is a completely cleanable keyboard for healthcare environments for infection prevention. Keyboards are one of the most contaminated surfaces in hospitals and they are very difficult to clean, which is why they are one of the most contaminated surfaces. We decided to solve that problem by making a keyboard that is cleanable.

**CEOCFO:** Is this a unique approach?

**Mr. Marsden:** There are things like rubber keyboards, and keyboards you can put in the dishwasher, but nothing solid-surface like we have done where it can be wiped in place with no moveable keys. It is very easy to wipe, unlike rubber which is porous and tends to hold the dirt. Just being waterproof is not good enough; it needs to be easily wiped and cleaned so in that regard, we are on the cutting-edge.

**CEOCFO:** How long has your product been available?

**Mr. Marsden:** We have been selling this for a little over three years. We have just begun shipping the third generation of product now. With this third generation, we have heard from

hospitals that making a keyboard that is easy to clean and disinfect is nice but that is only half the battle because they have no way of knowing if that cleaning is actually being done. In our third generation product, we included sensors that can tell when a user cleans the keyboard. We have made software that runs on the computer that shows them how dirty the keyboard is getting. It reminds them when it is time to clean, and then measures the effectiveness of their cleaning. If they miss a corner, our keyboard knows and it warns the user; it actually shows them a picture of the keyboard and alerts them. They then will be required to clean it better in order for the software to approve the cleaning. In a hospital where there are hundreds of keyboards, all of that data is pushed up into the cloud. An infection control administrator can look at the entire facility and see which keyboards are clean, which ones are dirty, and which ones are being ignored. They can then work with the staff to improve cleaning compliance. This monitoring software has become just as important as cleanable keyboards.

**CEOCFO:** Have hospitals given much thought to the problem of keyboards related to infection?

**Mr. Marsden:** There is a term called hospital acquired infections (“HAIs”), of which every hospital is acutely aware. They are spending \$30 billion dollars a year fighting them and it is killing over 100,000 people a year. It turns out the fourth cause of death is going to the hospital. The first cause of death is heart attack, the second is cancer, the third is stroke, and fourth is going to the hospital. You might go in with a broken leg but you catch an infection that kills you. Starting in 2008, insurance companies stopped reimbursing hospitals for treatment of hospital-acquired infections. They told the hospitals that they were responsible for giving the patients the condition, therefore they were responsible. Treating HAIs went from a revenue item to an expense item for hospitals.

In United States, the current health-care act has required hospitals to start tracking hospital-acquired infections as a condition. Prior to this, it said that person died of pneumonia, that one of blood poisoning, and so on. Hospital-acquired infection was not a category. But now it is. Hospitals have to keep track of their rates of HAIs and then publicly report those on a website. Further, the hospital’s Medicare reimbursement rate will actually go down if they do not start reducing their HAI rate. On top of that is the cost in human life: 100,000 deaths per year. Think about what that means: that is like blowing up all the Super Bowl spectators every year. It is like a jumbo jet full of people crashing every day. That is how many people are dying. So, to answer your question, with that kind of economic

**“The first thing to remember about us is that we are engaged in work with very high societal impact. We truly believe that by helping ensure infection prevention activities are completed, that we can help save lives. The second thing to remember about us is that in the pursuit of that noble goal, we invent some really cool stuff that has enormous commercial potential. That’s a one-two punch that makes it really fun to get up and go to work in the morning.” - Randy Marsden**

impact and cost in human life, yes, hospitals have thought about all possible sources of infection contamination, including keyboards. Studies have shown that showed 58% of keyboards in hospitals are contaminated, making it by far one of the most contaminated commonly-touched surfaces. Our solution can help.

**CEOCFO:** How are you able to clean the keyboards?

**Mr. Marsden:** Hospitals already have a cleansers and disinfectants that they use. They are wipes or sprays for surfaces. We just needed to make the surface of the keyboard so that it could withstand that chemical treatment and it does. The surface is made of gorilla glass, the same type of glass that is used on most tablet computers. There is a second option where it can be a special molded pol-

ycarbonate top that has a PET film on the top, which is resistant to chemicals. You simply hit a key to pause the operation of the keyboard, clean it with a disinfectant, and resume operation – all done in a matter of seconds and in place.

**CEOCFO:** What is the competitive landscape?

**Mr. Marsden:** There are other cleanable keyboards on the market, but none quite the same as Cleankeys. Some of them are rubber, some you can just put in the sink and wash or put them in a dishwasher. None of them have a built-in monitoring software and reporting system that we have implemented, and that is absolutely unique to our solution. If you think about that monitoring software, which we call Clean Sweep, it is monitoring the hospital environment and infection prevention activities. Right now, most solutions are focused on infection detection and curing infections. The technology endeavors to find out what patients have an infection, so they can be isolated and treated. It is all about detecting and treating the infections. We are different. We are on the prevention side where literally an ounce of prevention is

worth a pound of cure. There are very few companies operating on the prevention side. There are many solutions on the detection side, so in that way we are also unique. Clean Sweep software is all about monitoring the environment and the prevention activities that go on in the environment. Contrast that to the solutions on the detection side, they are more oriented toward monitoring patients and the human monitoring, which is another way we are different: we are monitor the environment and prevention activities, not the patient.

**CEOCFO:** How do you reach potential hospitals and what has been the rollout?

**Mr. Marsden:** In order to be adopted in hospitals, clinical evidence is essential. Our strategy right now is to work with a select few hospitals and

do clinical studies. We are putting keyboards in the hospitals, measuring the effectiveness of the monitoring software and tracking if infection rates go down in the areas where the keyboard is used. That is the first step in going into hospitals. Once that is complete, we are seeking partners. We do not expect to start selling directly to all the hospitals in the world. We want to partner with other companies that are already doing that. There are many doing solutions on the infection detection side as I mentioned earlier. Our solution would be very complimentary to what they have. We are in talks now with a number of those strategic partners and that is how we see going to hospitals.

**CEOCFO:** Given the problems with infections, it is hard to measure the cost effectiveness, but can the hospitals absorb the cost?

**Mr. Marsden:** It comes down to making sure hospitals see our product as an infection prevention solution – not an expensive keyboard. It is similar to the money they spend on housekeeping, disinfecting, and autoclave machines, gowns, gloves and masks - all the money that is spent on trying to prevent infections. Compared to all that, it is really just a fraction of what they spend overall on infection control. And that's not even mentioning the exponential cost savings in preventing infections and thereby avoiding all the associated costs of treating them.

**CEOCFO:** How far will your current funding take Cleankeys?

**Mr. Marsden:** We have funding well through commercialization. But funding is something you can never have too much of.

**CEOCFO:** Will you be selling the software as one complete solution

with the keyboards or would you separate that if for some reason a hospital wanted only a part of the solution?

**Mr. Marsden:** They are symbiotic but they can be sold separately. Up until now, we have been selling the keyboard without monitoring software, so we can certainly continue to do so. The software we imagined someday will be monitoring more than just keyboards, and in that case, it could be sold separately without keyboards.

**CEOCFO:** How did the company come up with the idea of getting into this arena?

**Mr. Marsden:** It is an interesting story. We spent about twenty years developing products for people with disabilities and one of those products we built was a head tracking camera that replaced the computer mouse. Someone like Christopher Reeve, for example, who could not use their hands, could just move their head and our camera would translate that movement into cursor movement on the screen. Then we built onscreen keyboards to allow them to type. In fact, a company called Swype spun out of that effort. It is a very popular product now on android smart phones. (Using Swype, you can quickly text by sliding your finger from letter to letter on the onscreen keyboard). Along the way, a dentist in France bought our head tracking camera which was meant for people who cannot use their hands. So I emailed him and said I was curious: since he was a dentist, I assumed he could use his hands, and asked him why he bought it. He explained that every time he had to touch the mouse to view digital x-rays, he had to de-glove. Otherwise he could be transferring contamination from the patients' mouth to the mouse, and then back again to the next patient. He wanted to use our head tracker so he would

not have to physically touch the mouse, but then I asked him the key question about what he was doing about the keyboard. He said the keyboard was impossible to clean, and that they were wrapping them in plastic wrap. He thought that if we could make a keyboard which was cleanable, then it would be something every dentist could use. So we did, and have sold thousands to dentists all over the world. Now that has led us to this third generation, which we are taking to hospitals.

**CEOCFO:** Why should the business and investment community pay attention to Cleankeys?

**Mr. Marsden:** We have very strategic and protected intellectual property. Our patents cover a broad range related to typing on touch surfaces like our keyboard, and our development team is at the top of their field in converting those ideas to working designs. We have a long history of very successful inventions with some great exits. And that party isn't over yet – there are many exciting things coming down the pipe.

**CEOCFO:** What should people remember most about Cleankeys?

**Mr. Marsden:** The first thing to remember about us is that we are engaged in work with very high societal impact. We truly believe that by helping ensure infection prevention activities are completed, that we can help save lives. The second thing to remember about us is that in the pursuit of that noble goal, we invent some really cool stuff that has enormous commercial potential. That's a one-two punch that makes it really fun to get up and go to work in the morning.



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