



Treating depression with technology? It's not that impossible at all! VR Tier One

They want to cure depression ... in virtual reality. The Polish startup is making a sensation on the market

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January 29, 2021, 2:44 pm

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🕒 "Welcome to the virtual world" - the soothing voice of the therapist takes the patient to the "garden of rebirth", where he listens to stories and performs various tasks, such as painting a mandala. This is not a relaxation application, but a specialized VR therapy.

One in three people with severe COVID-19 complaints of mental and neurological disorders

One of the newest methods of supporting the therapy of people struggling with this type of problems is virtual reality

In Poland, at the end of 2020, at the Ministry of Interior and Administration in Głucholazy, a pilot therapy program for postovoid convalescents took place, using the proprietary VR TierOne program.

Treatment of depression in virtual reality

The innovative medical device of the Polish start-up VR TierOne uses **virtual reality** to support the treatment of depression and rehabilitation of people after stroke, as well as pulmonary and cardiological treatment.

Recently, it has also been successfully supporting the treatment of convalescents who have suffered from coronavirus. Currently, the therapeutic rehabilitation proposed by the Polish startup is successfully carried out for post-covid recoveries at the **Ministry of Interior and Administration in Głucholazy** . Other hospitals in Poland are also interested in the solution.

VR TierOne uses the phenomenon of total immersion - it isolates the patient from hospital conditions, thanks to which he engages 100% in the therapeutic process.

- In people who fall seriously ill, their mental state definitely worsens. There are anxiety and depression states, and the level of stress increases - explains Paweł Pasternak, director of VR TierOne.

Meanwhile, psychological factors have a huge impact on the success of the entire treatment process. As it turns out, also in the fight against COVID-19.

- For example, **severe pulmonary changes** were a fairly predictable consequence of the severe course of the coronavirus . However, the transition of this disease may also affect the appearance of depressive episodes or memory loss. They significantly worsen the quality of life of convalescents - explains the expert.

According to data provided by WHO, every third person with a **severe course of COVID-19** complains of mental and neurological disorders. There are as many as 98 long-term symptoms of COVID-19 in scientific reports, including chronic fatigue, difficulty concentrating, headaches, sleep problems, anxiety, depression, memory disorders.

Virtual reality is one of the newest methods supporting the therapy of people struggling with this type of problem.

How does VR TierOne work?

The therapy according to the VR TierOne program is based on three parts: a set of medical procedures that support the treatment and rehabilitation process; a medical device using

virtual reality and a two-week therapeutic cycle.

- We designed both the **software** - i.e. the therapeutic application - and the hardware, i.e. the device itself - says the head of the startup. - Of course, in its creation we used ready-made elements, e.g. graphics cards available on the market, but of the highest quality. It is very important. To be effective, the application cannot be launched on the phone. For the full immersion effect, the highest reception quality is needed.

This also translates into the cost of the device - about PLN 85,000. The equipment is not intended for home use. It is a medical device designed for use in hospitals, clinics, physiotherapy and psychotherapeutic offices.

- The device is fully mobile, so it can be efficiently transported from room to room and enable the therapy process also for patients with limited mobility - says Paweł Pasternak.



VR Tier One

The results of research carried out by the company indicate that their solution reduces the level of depression by 37 percent. (according to the GDS scale), the level of anxiety by 36% (according to the HADS scale), and the level of stress by 27%. (according to the PSQ scale). The effects of using the therapy include improving the mood and motivation for rehabilitation, psychophysical relaxation, increasing the patient's faith in the success of the physiotherapy process, improving concentration and attention, and reducing pain sensations.

Startup PIVOT

The VR TierOne team has been using artificial intelligence for medical purposes for about three years. Previously, the team ran the printing industry.

- She has been operating continuously since 1981 - the entrepreneur smiles. - At one point, however, we found that we needed to expand our activities. We've always been fascinated by VR, so we expanded our 2D graphics department with **3D graphics** . And we started to move around strongly in this environment.

Soon, the company managed to be placed as absolute VR specialists. Then dr hab. Joanna Szczepańska-Gieracha, certified psychotherapist of the European Association of Psychotherapy and lecturer in psychotherapy at the Polish Erickson Institute

- The professor worked as a psychologist in many hospital wards and told us how insufficient this help is in Poland. There are simply not enough psychologists to meet the needs of patients, recalls Paweł Pasternak.



- We have established that since we know VR and the professor perfectly understands the situation of hospitals, we can together create something that will relieve the system and bring relief to patients - the entrepreneur smiles.

Research on the effectiveness of the device and application began in 2018. First, with stroke patients, then with heart attack patients and geriatric patients. It quickly turned out that the VR TierOne therapeutic solution brings very good results.

The application has also been appreciated in the technological environment. In 2020, VR TierOne was awarded a grant by one of the largest game publishers in the world, Epic Games.

Future perspectives

The successful pilot in Głuchołazy has opened doors for the startup in other centers in Poland. The technology has already been used by such facilities as the Cardiac Center in Wrocław, the Siwy Dym Foundation for Activating Seniors and the Analgomed Pain Treatment Center in Wrocław.



- We have also started talks with the Neurotic Therapy Center in Moszna or with the psychotherapeutic clinic in Poznań. Thanks to the pilot project in **Głuchołazy**, hospitals understood the idea of our treatment. You can tell a lot about our system, but it is difficult to say it dry. It's best for someone to put on glasses over their eyes and see for themselves how immersion works - says the startup boss.