

# Alcimed

Press release

## Emergence of serious games for neurodegenerative diseases Which business models in France?

*Although research is constantly moving forward, many neurodegenerative diseases remain poorly understood and grey areas still persist. Consequently, with the low number of effective drug treatments, new disease management methods are being developed. One of these methods is the serious games, alias “serious video games”, which are games developed to have a therapeutic effect. Just imagine if, after a doctor’s appointment, you found video game sessions on your prescription. Alcimed, a consulting company specializing in innovation and new businesses, set out to further explore this trend, which could radically impact current patient care.*

### Neurology: the trend of serious games

*BackUpMemory, Stim’Art Edith, Spaced Retrieval Therapy* are just some examples of the multitude of entertaining applications for people with cognitive disorders that are currently available; and there are several reasons for such abundance. First of all, the poor understanding of neurodegenerative diseases entails a limited effectiveness of drug treatments, leaving room for potential alternative therapies. In addition, video games are becoming increasingly integrated into the daily lives of French people, with more than half of those aged between 10 and 65 stating they play video games regularly<sup>1</sup>. This shows that even though now an older person who has never played video games before may have difficulties using one, the next generation, having lived with video games throughout their entire lives, will be able to master them without any particular effort. Another advantage of such solutions is that they are in line with the need to reduce health costs which, although not a new issue, is all the more prominent with the emergence of exorbitantly priced drugs in certain therapeutic areas.

### Medical device certified video games

The market of health related serious games is blooming and yet the effectiveness of such applications is far from being systematically demonstrated. Does this mean that the majority of them do not really work? Not necessarily: it is not always easy to identify the right measurable indicators to prove the health impact of a video game. And while, when assessing Parkinson’s disease, it is easily acceptable for tremor reduction to be a reliable indicator of the game’s effectiveness, indicators for dementia are less obvious. So far, only a few video games have been able to demonstrate positive results through the collection of data in compliance with strict protocols, leading to them obtaining a CE marking as a Class I medical device. This is particularly the case for the *TOAP Run* application for patients with Parkinson’s disease, and the *X-Torp* application for patients suffering from Alzheimer’s, both developed by GENIOUS Healthcare, an expert in innovative therapies. To obtain the certification, the company carried out clinical studies in which they demonstrated an improvement in motor skills, cognition, memory, as well as positive effects on patients’ mood, apathy, motivation disorders and their quality of life. There are also other games currently in the certification process, one of them being *Akili Interactive Labs*, which is awaiting FDA approval for the treatment of attention deficit hyperactivity disorder in children.

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<sup>1</sup> Statista

### Different possible business models

Once the CE marking has been obtained, the question of reimbursement may arise. In France, such applications are currently not included in the list of reimbursable products and services (LPPR). However, the legislative framework on the matter could evolve, as both the French National Authority for Health and the National Order of Physicians positioned themselves in favor of the reimbursement of an application for diabetic patients in 2017. But putting this issue aside, what business models do application developers adopt?

Video games are increasingly available through online platforms, accessible on computers, tablets or smartphones. Creators can therefore opt for a Freemium model, i.e. allowing users to download and use the application for free, while offering a monthly subscription for additional services. This model is the base of the *Curapy* platform, which gives users free access to therapeutic games, while introducing a monthly payment of five euros for progress monitoring and a ten euro monthly fee for the possibility to plan sessions and transmit results to a healthcare professional.

Developers of therapeutic games having a CE marking may also offer their products at higher, less attractive prices through partnerships with private insurers, which would then provide reimbursement for the proper use of the application for a given condition. In this case, they could either opt for a monthly subscription or offer a single fixed payment, the latter option eliminating the profit potential related to the chronic nature of many neurodegenerative diseases. Yet another possibility would be to combine the two by offering a fixed initial payment together with a modest monthly fee for continued access.

Another solution for therapeutic game creators is a model targeting hospitals with a neurology department. In this case, the cost of purchasing the application for a defined number of patients would be covered by the hospital itself. It would then be up to the neurologist to encourage specific patients to use it.

"It is clear that therapeutic video games are an incredible opportunity that tackles the medical and societal challenges of an aging population by providing a concrete response to the issue of a changing patient care pathway, especially in the context of neurological diseases. And since cost reduction is now at the heart of many health issues, the use of innovative technologies represents an important resource for reducing public spending and, as such, should be observed very closely. Apart from hospitals, nursing and retirement homes could also get involved following the developing trend to provide support for the various age-related symptoms." concludes Marie Rolin, Project Manager at Alcimed.

### ABOUT ALCIMED

Founded in 1993, ALCIMED is an innovation and new business consulting firm specialized in life sciences (healthcare, biotech, agro-food), chemicals, energy as well as in aeronautics, space, defense and public policy. Today ALCIMED works with major industrial groups, ETIs and SMEs, investment funds and institutional players. ALCIMED relies on a team of 180 highly-skilled individuals to help its clients in the exploration and development of their uncharted territories: New Technologies, Market Innovation, High-Growth Geographies, and Strategic Foresight. ALCIMED is headquartered in Paris and has offices in Lyon and Toulouse in France, as well as in Germany, Belgium, Switzerland, the United-States and Singapore.

Alcimed is a member of CroissancePlus and the ACI (Association des Conseils en Innovation).

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