



# Cross4Health

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## Awarded Projects Interview

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<b>Awarded Project</b>	<b>VR-Biomarkers</b>
<b>Company name</b>	<b>Open Mind Innovation and Bitbrain</b>

## 1. What is the company's business activity?

Soft-skills evaluation and development for employees at work (B2B & B2B2C).

## 2. What is the VR-Biomarkers project?

In VR-Biomarkers project we combine quantitative neurophysiology with virtual reality to provide faster and more accurate psycho-physiological assessment of cognitive and emotional functioning in the healthy and impaired participants.

More precisely, here we aim at developing biomarkers for early detection of such disorders using a novel neurotechnology system that combines: 1) Virtual Reality experiences to create emotional and cognitive relevant situations, 2) physiological measurements of the body and brain reactions to these experiences through an *ad-hoc* dry EEG and EMG system seamlessly plugged into the VR headset; and 3) signal processing and data analysis to extract information from the recorded signals and create interpretable bio-markers. Such a generic system can be used to induce, evaluate and quantify a wide range of disorders and it is a first step towards developing integral solutions to improve health and wellness.

## 3. How did the idea come about?

For a long time we wished to combine virtual reality with quantitative electrophysiology for improving human evaluation protocols. Encounter between software and hardware industrial partners in the context of this EU open call made it finally possible.

## 4. Who are the core partners of the project?

The project is carried out by two SMEs: Open Mind Innovation, which develops solutions for the assessment of individual mental wellbeing and is in charge of the VR and data analysis, and Bitbrain, which develops multi-modal neurotechnological solutions is in charge of the multimodal recording system.

## 5. How did this collaboration between the partners arise?

This was the first collaboration between Bitbrain and Open Mind Innovation. We wish to pursue that successful and mutually beneficial partnership with subsequent innovative projects together.

## 6. How did you hear about the Cross4Health project?

Web communication.

## 7. What is the current status of the project?

During the project, we have implemented and evaluated a full prototype of the system. Specific immersive experiences were developed together with the corresponding analysis tools and biomarkers. A proof of concept study was carried out including a

field evaluation with 50 participants. In-depth analysis has started and will continue in the subsequent months.

## 8. What are the next steps?

The final product is integrated into ongoing technological and commercial developments of the consortium partners. It is planned for both partners to generate IPR from the proposed assessment solution. In the mid-term perspective, this project may become a spin-off company with its own autonomy. Through partnerships with clinical institutions, it is planned to apply this assessment tool to large patient cohorts in order to build a multimodal physio-VR comparative database that will allow determining new markers for early detection of targeted mental diseases.

## 9. How Cross4health can support the development of your project?

Cross4Health can support our project with funding and expertise support to further support cross-sectorial and cross-national partnership for health innovation.

## 10. Would you recommend Cross4Health to other companies?

Yes.