

PLUX is aiming to disrupt the EU & USA physical therapy services market and improve the quality of life of more than 600 million people suffering pain due to musculoskeletal disorders (MSD), by introducing a new “home” version of physioplux Clinical, our clinically proven medical device product, designed physioplux Trainer.

physioplux Clinical is an electromyographic (EMG) biofeedback equipment, designed to guide physiotherapists and patients during the exercise training. Small electrodes are placed on specific body points to collect muscles electrical activity, that is sent via Bluetooth to a tablet device and shows the real-time activation through a game-based app to engage patients in specific treatment exercises. Initial studies show that physioplux Clinical increases patients' satisfaction, accelerates treatment by 50% and reduces reoccurrence rates up to 90%<sup>1</sup>.

Our concept is to disrupt the market of physiotherapy by linking the EMG biofeedback technology to a new mode of service where patients go to the clinic, receive instructions for treatment (through physioplux Clinical) and take exercises to perform at home (with the new physioplux Trainer) with accuracy guaranteed by our new wearable EMG sensors – muscleBAN, and with a cloud system architecture allowing remote monitoring by a physiotherapist, to check for compliance and training correctness. Prescriptions can also be changed remotely by the physiotherapist, if any adjustment is needed.

To ensure success of this objective, PLUX has launched an RCT on the Netherlands, focused on providing evidences for patient engagement and health outcomes, in collaboration with Vrije Universiteit Amsterdam.

physioplux Trainer addresses the challenge of remote patient support, by providing an innovative and engaging service for patients to execute their physiotherapy exercises at home, using state-of-the-art wearable sensors, ensuring both compliance and correctness and allowing remote monitoring by the physiotherapists.

People with musculoskeletal complaints learn to accept pain in their lives, with a tremendous negative impact in their quality of life. They are frequent visitors to primary health care centers, hospitals, and paramedical institutions. Drug treatments are often used to mask the pain and provide a rapid, but temporary, solution in acute pain. Physiotherapy is the main non-pharmacological clinical MSD treatment, but the standard physiotherapy practice has problems that physioplux overcomes: outcomes are inconsistent and subjective, treatments take too many sessions for recovery and patients have to spend a considerable time for going to the clinics to receive treatment, usually during working hours. A majority of patients drop out during treatment and return in pain within a year.

Contrarily to current physiotherapy practices and other alternatives to treat MSD pain, physioplux Clinical increases the effectiveness of the treatments. Advanced algorithms developed for physioplux give objective outcomes and consistent treatments in physiotherapy. physioplux leads to decreased economical costs, both for the patient and for health reimbursement systems. physioplux Trainer thus addresses this major health challenge, by combining a wearable sensor solution and app for biofeedback supports diagnosis and the continuum of care, by allowing remote monitoring of patients and improving treatment compliance.

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<sup>1</sup> Independent shoulder clinical study results not yet published (N=82 over 2 years)