



Licensing opportunity

Biomechanical muscular asymmetry measurement device for fitness

Field of use

01004001 Applications for Health
06005002 Sensors & Wireless products
06005003 Health information management
09003 Electronic measurement systems
11007 Sports and Leisure

Current state of technology

Stage of Development:
Available for demonstration

Patent status

Copyright
Exclusive Rights
Secret Know-how

Publication

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Background

A Slovenian company has developed the first connected isometric muscular asymmetry measurement device for mass use in fitness. It measures peak torque and muscular asymmetry which is crucial for proper planning of performance training and rehabilitation to prevent injuries or speed up recovery. Partners from Italy are sought for commercial agreements with technical assistance or technical cooperation agreements.

Description of the Invention

Biomechanical measurements of muscle strength are crucial for proper planning of performance training and rehabilitation in order to prevent injuries or speed up recovery. Currently, biomechanical measuring such as peak torque and muscular asymmetry is reserved for clinics or expensive training facilities for professionals. Fitness centers generally do not use biomechanical measuring because they lack the knowledge and financial resources. Recreationists are left with no objective measuring available at a reasonable price. The consequence of this are frustrated runners reaching a plateau in performance or, more problematically, suffer injuries causing otherwise perfectly healthy people to take a long leave to cure, e.g., a ruptured anterior cruciate ligament (ACL) (a big burden for EU healthcare). For example, the strength of the knee-flexors and knee-extensor significantly affects the dynamic stabilization of the knee in most sports activities (skiing, football, tennis). The best tool for assessing and monitoring muscle strength are isometric measurements.

A Slovenian company has developed the first connected isometric muscular asymmetry measurement device for mass use - compact in size and price (targeting every wellness/fitness center). It measures peak torque and muscular asymmetry which is crucial for proper planning of performance training and rehabilitation. It prevents injuries and speeds up recovery. Data is gathered in the cloud and analyzed automatically (planned) or on-demand by the Company's experts. The technology is disruptive and eliminates the financial (and knowledge) barrier for fitness centers to bring their services on a new level. The benefit for the end-user is in getting a premium service – measurement, analysis and exercise planning that would otherwise not be affordable.

The company is a start-up based on 20 years of experience in operating a private rehabilitation center. The center used a homemade isometric peak torque and muscular asymmetry measuring device to make data-driven decisions for rehabilitation. It was mostly used for rehabilitation after ACL ruptures for both lay people and Olympic medallists.

Fitness and wellness centers in Italy are sought for commercial

agreements with technical assistance or technical cooperation agreements. Also partners which are offering services and technical support to fitness, sport, wellness or rehabilitation centers are sought that could act as sales representatives. Possible partners could also be sport and medical faculties and research centers.

The partners sought should have interest in acquisition of the isometric muscular asymmetry measurement devices to be installed in their facilities in order to provide new added value services to their customers or for research experiments in sport and medical faculties and research centers. The Slovenian company will provide all necessary expert support of the partner in setting up the devices and providing the training of the partner's employees to be able to analyse the measured data and provide services to the customers. Further collaboration with joint development and customization of the devices based on the users' feedback and testing of possible new business models will be highly appreciated.

Main Advantages

The main advantages and innovations of the proposed solution are:

- small and cheaper isometric muscular asymmetry measurement device with automatic remote data analysis as opposed to bulky and costly isokinetic measuring in hospitals or pricey and mid-sized in rehabilitations centers.
- eliminates the entry barriers (financial and knowledge) of biomechanical measurements for fitness centers
- with functionality of the new device and with tele-medicine like services the fitness center can become a data-driven training facility
- connectivity enables innovative, subscription-based revenue models