Technology Offer CSIC/ME/022

Improved walking analysis method to detect and prevent risk of falling

System to analyze human gait, that generates an accurate analysis adapted to each patient and its characteristics and peculiarities of footfall, being therefore of special interest for prevention and rehabilitation of motor disorders or anomalies.

Intellectual Property

Priority patent application filed

Stage of development

Prototype developed (see picture) and successfully tested in relevant environment (hospital)

Intended Collaboration

Licensing and/or co-development

Contact

Marc Escamilla

Vice-presidency for Innovation and Transfer

m.escamilla@dicv.csic.es
comercializacion@csic.es

Market need

Currently, there are multiple commercial systems for biomechanical analysis of human movement, with very diverse purposes (health, physical exercise, digitalization and AI, etc.). Most of these systems have complex algorithms generally designed to optimize movement, and are therefore of limited usefulness when it comes to diagnosing cases with pathological mobility or motor disorders. This means that there is a special interest in having new systems adapted to the detection and prevention of motor disorders, such as foot drop syndrome or hemiparetic gait, among others.

CSIC solution

Our system is specifically designed to detect the accurate gait of the person who uses it, generating a completely personalized walking profile, and through the use of its own software, achieves an analysis of key parameters to detect possible anomalies, risks or injuries, allowing to prevent accidents or falls and to design tailored rehabilitation programs. It is therefore a system of special interest to be used in hospitals, nursing homes, or physiotherapy centers.

Competitive advantages

- Low cost design and structure without compromising precision in data collection and analysis.
- Generation of a completely personalized gait profile, since it does not use predictive algorithms like most current commercial solutions.
- Easy to implement in commercial wearable systems.