UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH
Servei de Gestió de la Innovació

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STRAIN TEXTILE SENSOR

A new strain textile sensor capable of detecting different states of elongation of the tissue and therefore it is possible to characterize its resistance variations.

Partners to further develop the system and/or to establish commercial agreements along with technical cooperation are sought.

The Challenge

The technology pretends to answer to the necessity of take measures of some parameters related with strain, which can be observed in different situations, and do it with the least impact and the major integrability. The smart-textiles provide the opportunity to increase the applications where a textile sensor could be used and uses sensors in applications where it could not have done because the lack of resources or the impact that involve the integration

Textile strain sensor used as a goniometer on one knee to measure the degree of mobility of a patient

The Technology

An embroidered strain sensor in an elastic textile substrate is presented which is capable of varying its total resistance in function of its elongation state that is applied to it. This property, in joint with the embroidered pattern, allows that sensor can be build with an elastic conductive yarn or with a non-elastic conductive yarn, giving a different possibilities to produce it

Innovative advantages

- Textile fabric with strain sensing capacity
- Possibility of using non-elastic threads
- Configurable behavior and adaptable to the measurement system

Current stage of development

A demonstrator has been validated on the laboratory.

Applications and Target Market

- Health applications
- Sport applications
- Technical fabrics

Business Opportunity
Technology available for licensing with technical cooperation

Patent Status
Priority application

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