A novel muscular micro-electro-stimulation device for the enhanced treatment of adolescent idiopathic scoliosis avoiding bracing and invasive open surgery

Fact Sheet

Project Information

STIMULAIS

Grant agreement ID: 315327

Project website

Project closed

Start date
1 November 2012

End date
31 January 2015

Funded under
Specific Programme "Capacities": Research for the benefit of SMEs

Total cost
€ 1 135 869,60

EU contribution
€ 877 000,00

Coordinated by
TEQUIR S.L.
Spain

This project is featured in...

Objective

Adolescent idiopathic scoliosis (AIS) is a progressive structural spinal deformity that affects around 2-3% of children aged between 10 and 16 in the world. Current conservative treatments (bracing and physiotherapy) are not sufficiently effective in stopping curve progression, so that more than 40.000 patients per year need an invasive fusion surgery that eliminates spine mobility. Recent studies evidenced that the spine deformity is a musculoskeletal expression of a central nervous system disorder that affects the paraspinal muscles inducing an imbalance of forces acting over the vertebral segments. The results of these studies and the work of a renowned clinical research group participating in the project (UCV) constitute the basis for the StimulAIS project, whose main objective is the development of a novel device for the treatment of AIS by muscular electro-stimulation of the deep paraspinal rotator muscles. The novel system will provide a customized treatment protocol to each patient, with targeted stimulation and real time control to maintain stimulation effectiveness and maximize treatment outcome. This device will be capable of stopping progression of the curvature and of correcting it, avoiding the side effects of current solutions, reducing the rate of surgery, and being cost effective compared to the abovementioned methods. The consortium integrates three SMEs along the product value chain, experienced in manufacturing and distribution of medical devices, surgical instruments and electrotherapy systems. The core R&D activities will be carried out by UCV, and two more RTD centers, namely IBV and FRAUNHOFER-IPMS, who have the necessary capabilities to achieve the objectives through development, integration and validation stages. The expected potential market for the StimulAIS device is about 400M€ in Europe and total Consortium's turnover expected within four years after implementation will reach over 45M€, being around 9M€ the consortium benefits.

Fields of science (EuroSciVoc)

natural sciences > biological sciences > **neurobiology**

medical and health sciences > clinical medicine > **surgery**

medical and health sciences > clinical medicine > **physiotherapy**

Programme(s)

FP7-SME - Specific Programme "Capacities": Research for the benefit of SMEs

Topic(s)

SME-2012-1 - Research for SMEs

Call for proposal

FP7-SME-2012
See other projects for this call

Funding Scheme

BSG-SME - Research for SMEs

Coordinator

TEQUIR S.L.

EU contribution

€ 336 529,60

Total cost

No data

Address

POLIGONO INDUSTRIAL EL OLIVERAL, CALLE C-S/N
46190 RIBARROJA DEL TURIA
Spain

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Participants (5)

INSTITUTO DE BIOMECANICA DE VALENCIA

Spain

EU contribution

€ 27 792,60

Address

CAMINO DE VERA EDIFICIO 9C UNIVERSIDAD POLITECNICA DE VALENCIA
46022 Valencia

Region

Este > Comunitat Valenciana > Valencia/València

Activity type

Research Organisations

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

FRAUNHOFER GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG EV

Germany

EU contribution

€ 26 945,00

Address

HANSASTRASSE 27C
80686 Munchen

Region

Bayern > Oberbayern > München, Kreisfreie Stadt

Activity type

Research Organisations

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

FUNDACION UNIVERSIDAD CATOLICA DE VALENCIA SAN VICENTE MARTIR

Spain

EU contribution

€ 17 559,20

Address

CALLE QUEVEDO 2
46001 Valencia

Region

Este > Comunitat Valenciana > Valencia/València

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

SYNERGIE INGENIERIE MEDICALE SARL

France

EU contribution

€ 128 558,60

Address

Z A DE L ANGLE CHAMBERET
19370 CHAMBERET

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

BENTRONIC GESELLSCHAFT FÜR MEDIZINTECHNIK GMBH

Germany

EU contribution

€ 339 615,00

Address

HAGERTSHAUSEN 7
85283 WOLNZACH

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

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