



## **Design of an active adaptive orthosis to control spasticity and contractures**

# **ACTOR**



Projectnumber 100134

### **MOBILAB**

K.H.Kempen University College



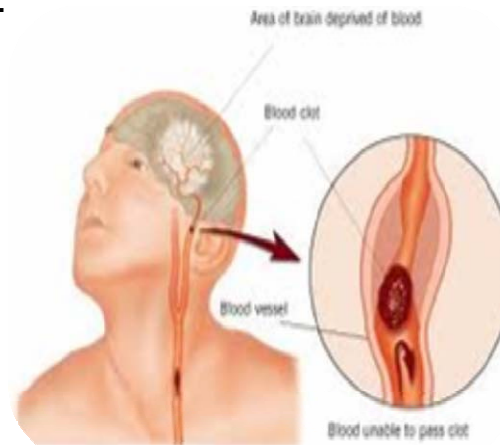


## Project Details

Project coordinator	MOBILAB - K.H. Kempen University College
Other applicants	
Sector	Biomedical and Rehabilitation Technology Health Care Innovation
Call of Interest	<input checked="" type="checkbox"/> CORNET <input type="checkbox"/> EraSME

## Project Details

### Proposal summary:



The project ACTOR aims to develop a **new orthopedic device** to control an abnormal muscle tone.

ACTOR focuses on **spasticity**, a frequent problem associated with neurological disorders which negatively affects the rehabilitation process and the patients functioning in daily life. Spasticity can cause pain, contractures and secondary deformations. Currently, orthoses which specifically control spasticity are not available.

The development of an orthopedic tool that supports the validated therapy will not only have a **positive influence** on the **rehabilitation** process but also on the **quality of life** of the patients.

This study focuses on the control of spasticity in adults suffering from **stroke**. The emphasis of this project lays on the **development of a generic, active and adaptive orthosis**. A proof of concept will be delivered by means of an intelligent actuation and control mechanism for the **elbow** joint.





## Project Details

Advantages for SMEs, trade or industry:	Direct access to a new generation of high tech active and adaptive rehabilitation devices.
Profile of partners sought:	<ul style="list-style-type: none"><li>- Research groups with relevant and complementary expertise.</li><li>- SMEs with hands-on knowledge in rehabilitation industry.</li><li>- Health care providers</li></ul>

## Summary

- Application field:
  - Health care
  - Rehabilitation industry
  - Biomedical research
  - Robotics
  - Biosignal processing
- Objectives and outcomes:
  - Understanding spasticity from EMG measurements
  - Design of an active adaptive orthosis for treating spasticity in the upper limb of stroke patients
  - Deliver a proof of concept for automated rehabilitation technology
  - Increase therapy time to augment functional outcome



# innovation for SME

transnational funding opportunities for European SME

- Actors of the project:



[www.mobilab-khk.be](http://www.mobilab-khk.be)

- Benefits for future partners
  - Direct access to a new market of rehabilitation technology and research
  - Transfer of technology and knowledge to create future commercial products
- Estimated costs and duration
  - €480.000
  - 2 year → 3 year



## Contact details

### **MOBILAB**

K.H. Kempen University College  
Kleinhoefstraat 4  
2440 Geel – BELGIUM



[www.mobilab-khk.be](http://www.mobilab-khk.be)



Lore Van de Perre

[lore.van.de.perre@khk.be](mailto:lore.van.de.perre@khk.be)

Roy Sevit

[roy.sevit@khk.be](mailto:roy.sevit@khk.be)