



Osseointegrated Implant

Implantable Myoelectric Sensors on
Targeted Reinnervated Muscles

Variable Stiffness Actuators &
Novel Composite Materials

MyLeg will develop a new generation of powered transfemoral prosthetic legs that can be intuitively operated, sensed, and trusted as the healthy and reliable counterpart for a variety of tasks.

PROJECT OBJECTIVES:

- To enhance human-prosthesis interaction, perception, and motion capabilities by exploiting osseointegration.
- To provide an intuitive control and to extend the user's cognitive capabilities by using implantable myoelectric sensors on targeted reinnervated muscles.
- To achieve energy efficiency, dependability, and adaptability to different tasks by designing novel variable stiffness actuators and composite materials.

EXPECTED IMPACT:

- MyLeg will have a societal impact. Transfemoral amputees will better accept the prosthesis, their quality of life will improve, they will reach a higher degree of self-reliance, their social contacts will be enlarged, their (re-)integration in the society and in the labour-market will be facilitated.
- MyLeg will have an economic impact. Transfemoral amputees will need less support by formal/informal caregivers, which will reduce the burden on these groups and on society as a whole.
- MyLeg will impact the leadership role of Europe in the prosthetic market and, more in general, in the robotic world.

UNIVERSITY OF GRONINGEN

Raffaella Carloni (Coordinator), r.carloni@rug.nl

UNIVERSITY OF BOLOGNA

Andrea Zucchelli, a.zucchelli@unibo.it

ROESSINGH RESEARCH and DEVELOPMENT

Hermie Hermens, h.hermens@rrd.nl

RADBOD UNIVERSITY MEDICAL CENTER

Nico Verdonshot, nico.verdonshot@radboudumc.nl

ÖSSUR

Freygardur Thorsteinsson, fthorsteinsson@ossur.com

UNIVERSITY OF TWENTE

Bart Koopman, h.f.j.m.koopman@utwente.nl

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