

## BlackTop Labs, B.V.

Pushing the limits of human potential through data.



### Problem to be solved

BlackTop Labs has developed a novel sensor module and software system to monitor internal load of local muscles during natural human movement. BlackTop intends to use this technology in the elite athletic market to optimize strength and conditioning as well as the neuromuscular disease and rehabilitation market to optimize diagnostic decision making and rehabilitation planning.

This sensor module system requires a dry electrode that can be harnessed to a user's skin to measure electromyography (EMG - measuring electrical signals derived from muscle excitation from the surface of the skin). It must reduce movement artifacts, minimize noise, stay secured to the user during testing, and be sweat resistant.

### Solution provided by SmartEES

BlackTop and Eurecat (materials design house in Barcelona, Spain) developed a dry electrode system through the SmartEES program that is capable of detecting high resolution EMG signals with minimal noise that can be harnessed to the user. Design requirements were met through the grant funding period and a prototype is ready to undergo validation testing and revision for manufacturing.

### Business model & SmartEES' impact

BlackTop will soon launch to its first customers through selling its sensor module system and licensing its software system. Through pairing up with EBN (business consultant in Paris, France) during the SmartEES program, BlackTop was able to define its business case more and refine its pitch and expand its network to fetch investment.

