



# Active back-support exoskeletons

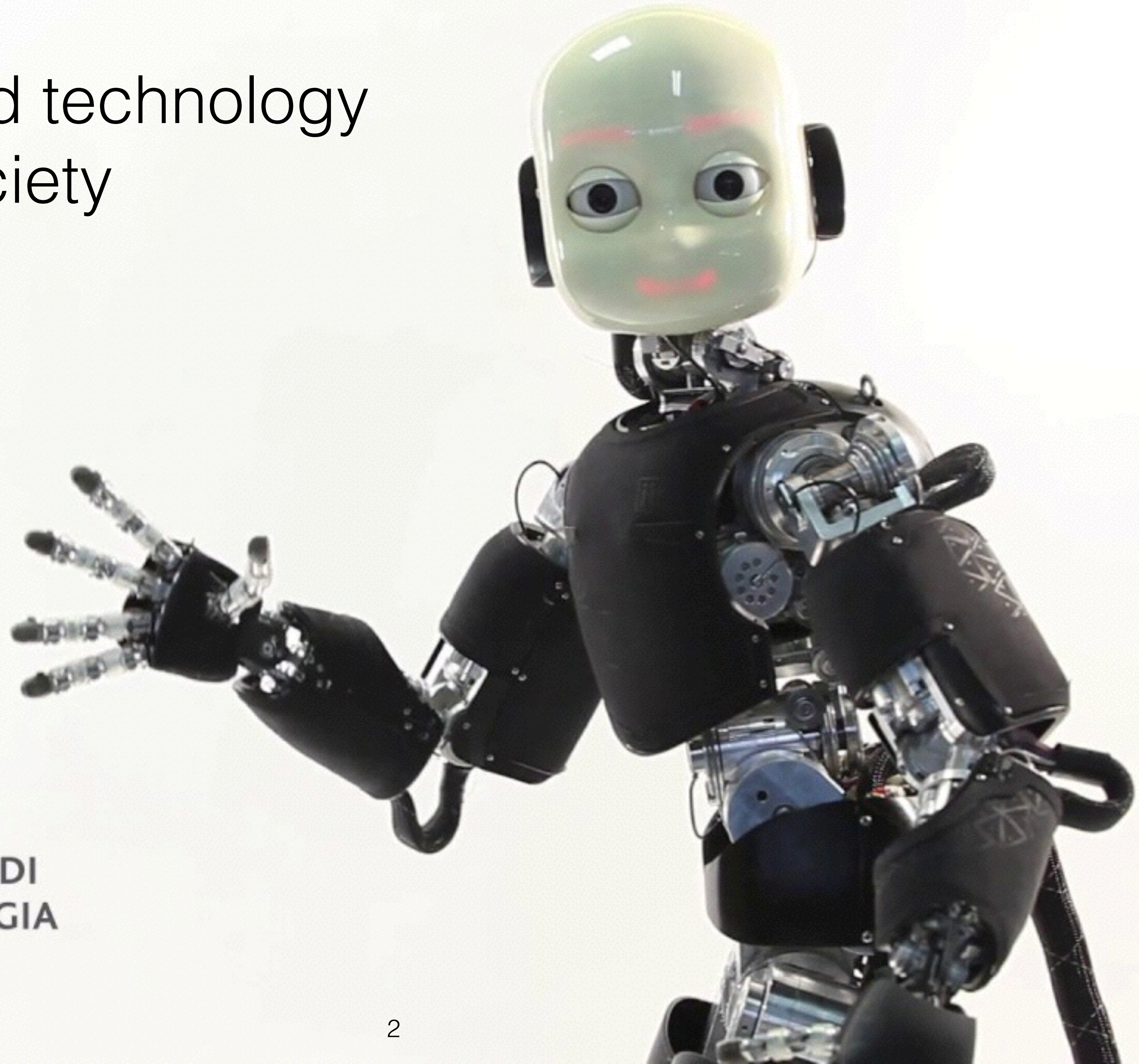
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18.06.2019 - Delft (NL)



# Research and technology to impact society

12 years  
15 centers  
1700 people  
60 countries  
20 spin-offs  
30 ERC grants



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# Wearable Robotics @



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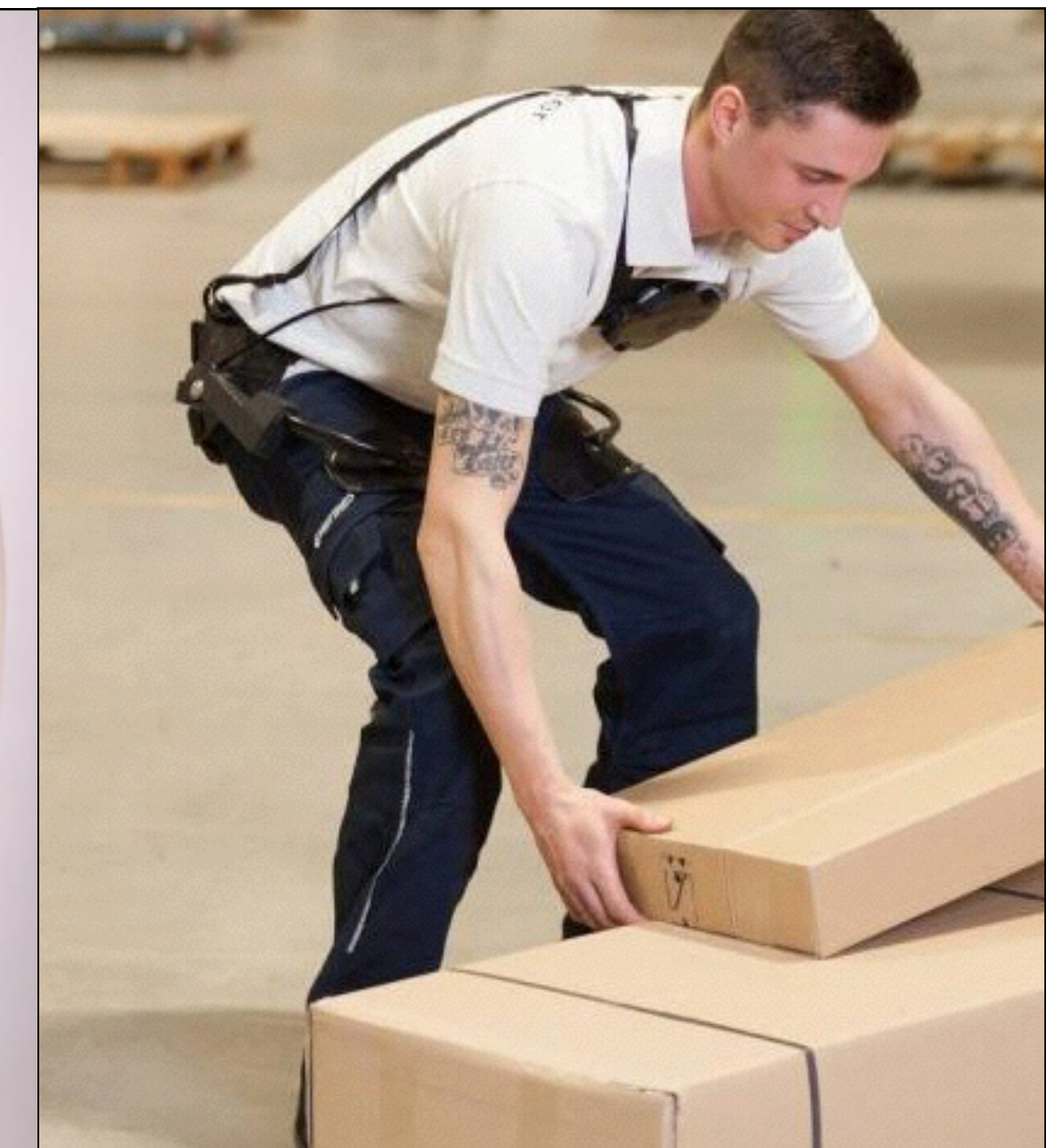




# Back-support exoskeletons

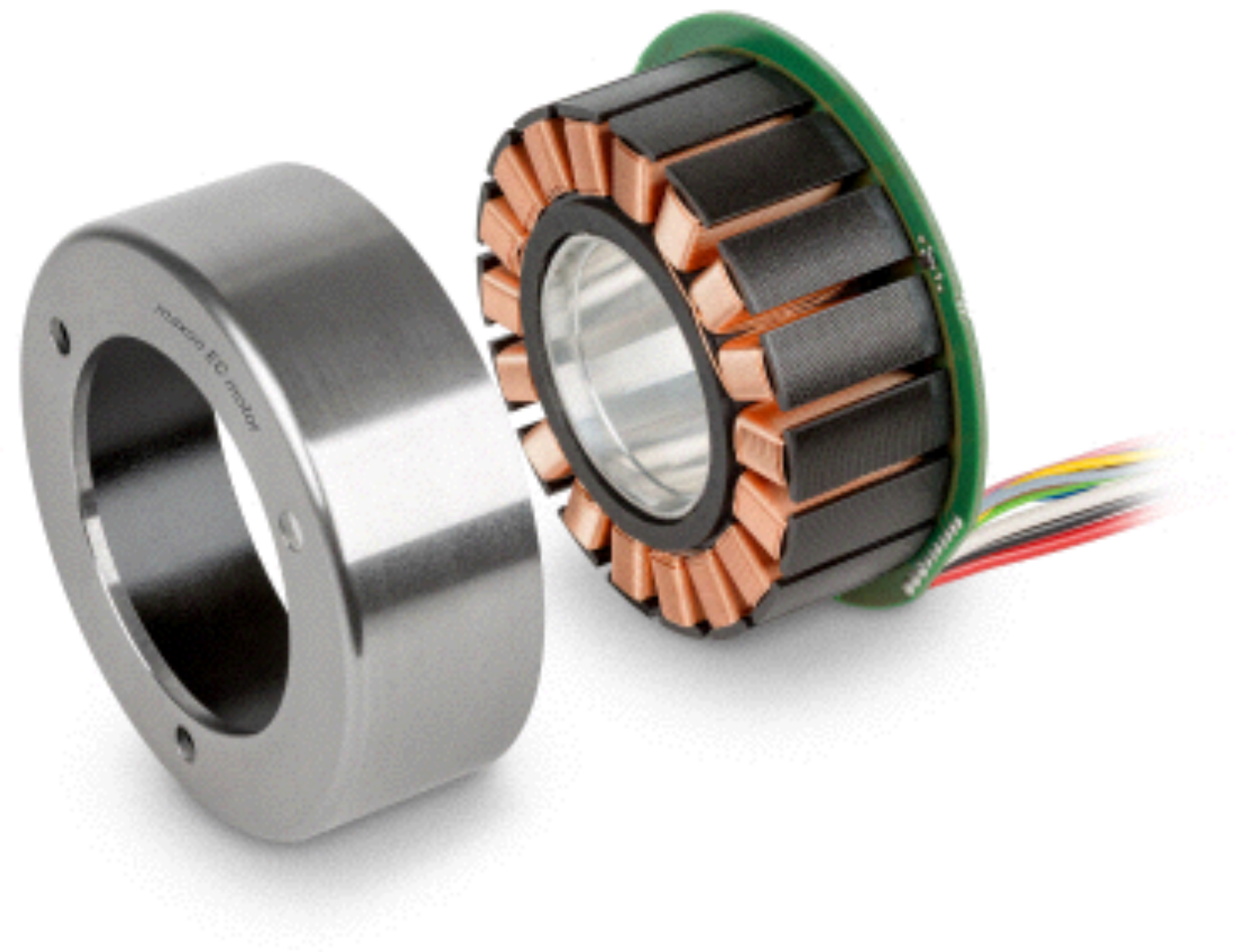
Partial physical assistance

Passive devices pioneered the market





# Active Back-support exoskeletons



**Stronger** assistance (more effective?)

**Adaptable** to multiple users and activities (more versatile?)

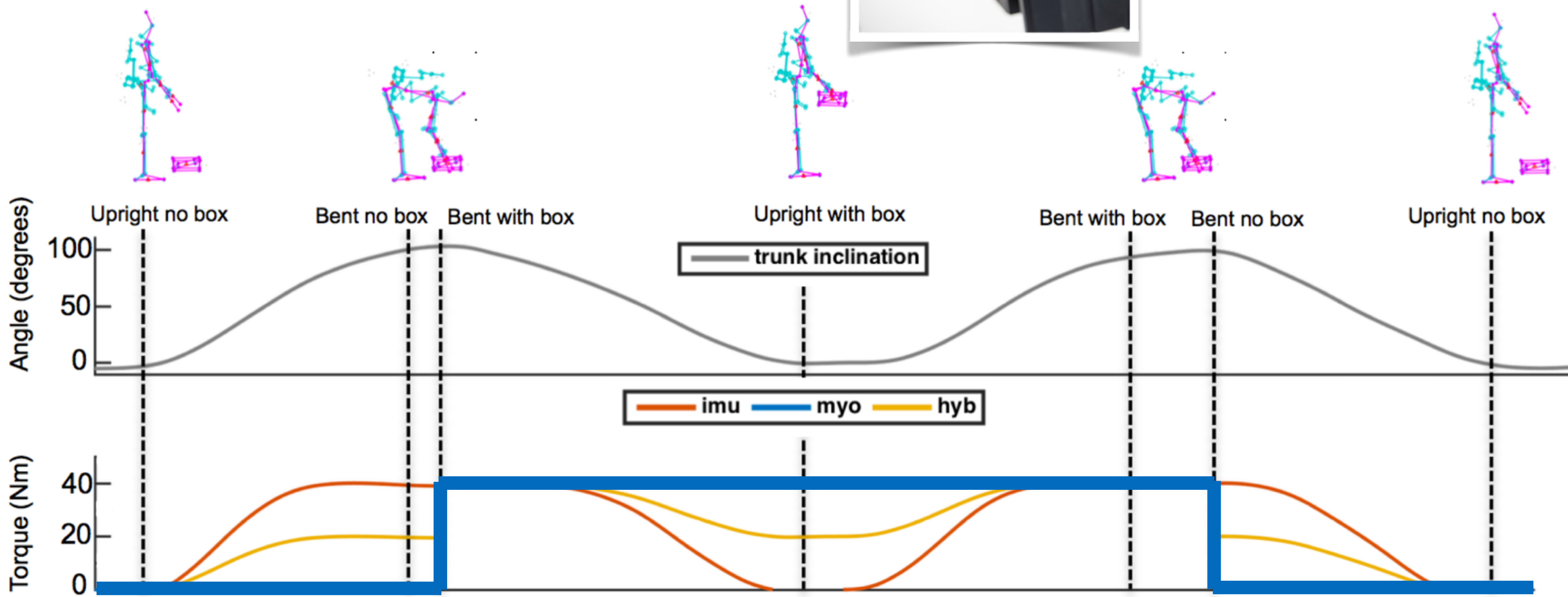
**Digital** integration (e.g. monitoring)





an example









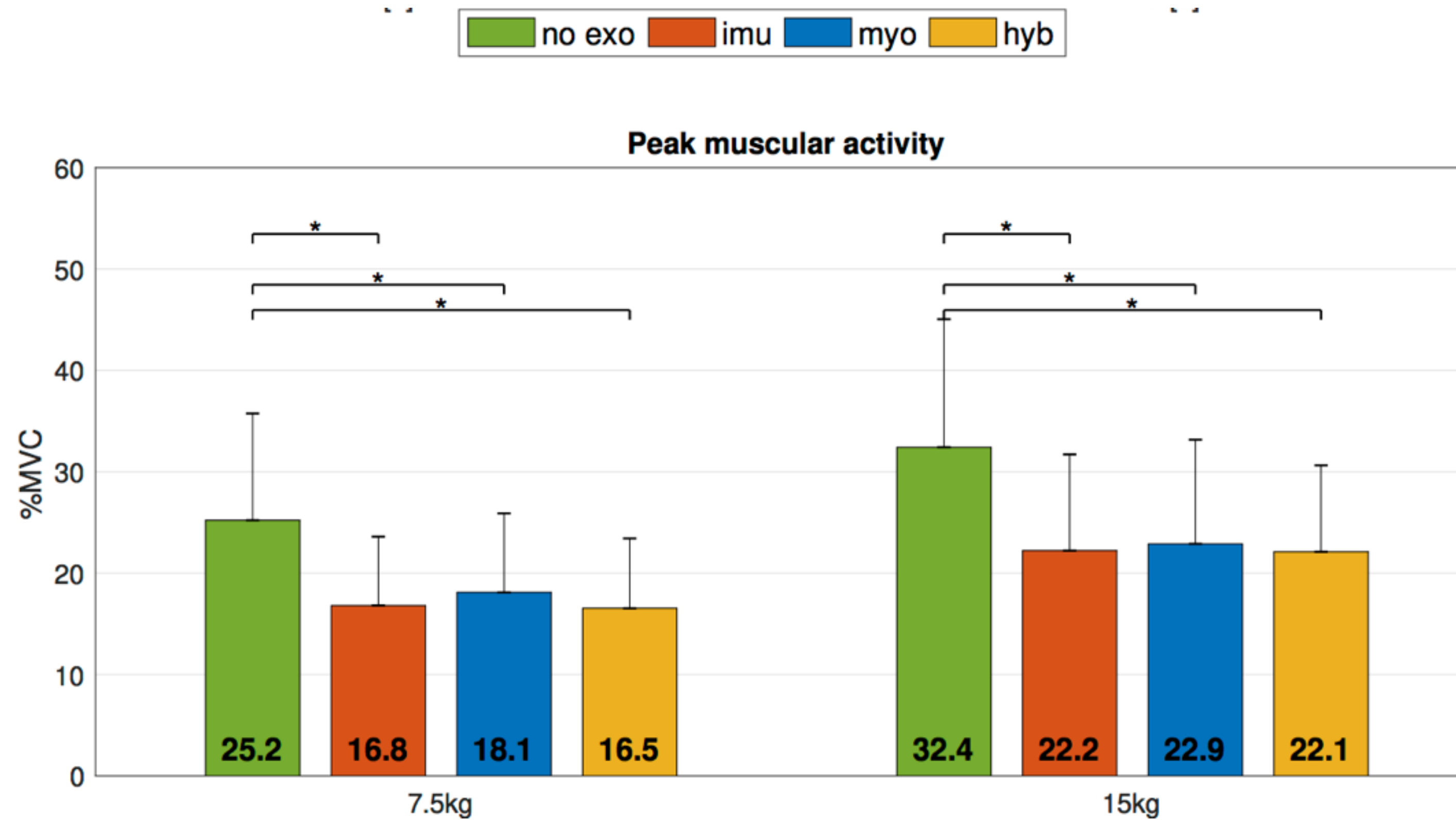
## Active back-support exo- skeletons: how assistive strategies determine effectiveness



2017: **experiments** at VU Amsterdam



# ~30% reduction



peak muscular activation at the lower spine





Improved **prototype**

Ongoing **pilot trials**

**Spin-off** to reach market





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