



# WEARPLEX Beta Workshop: FES applications



**Matija Strbac**

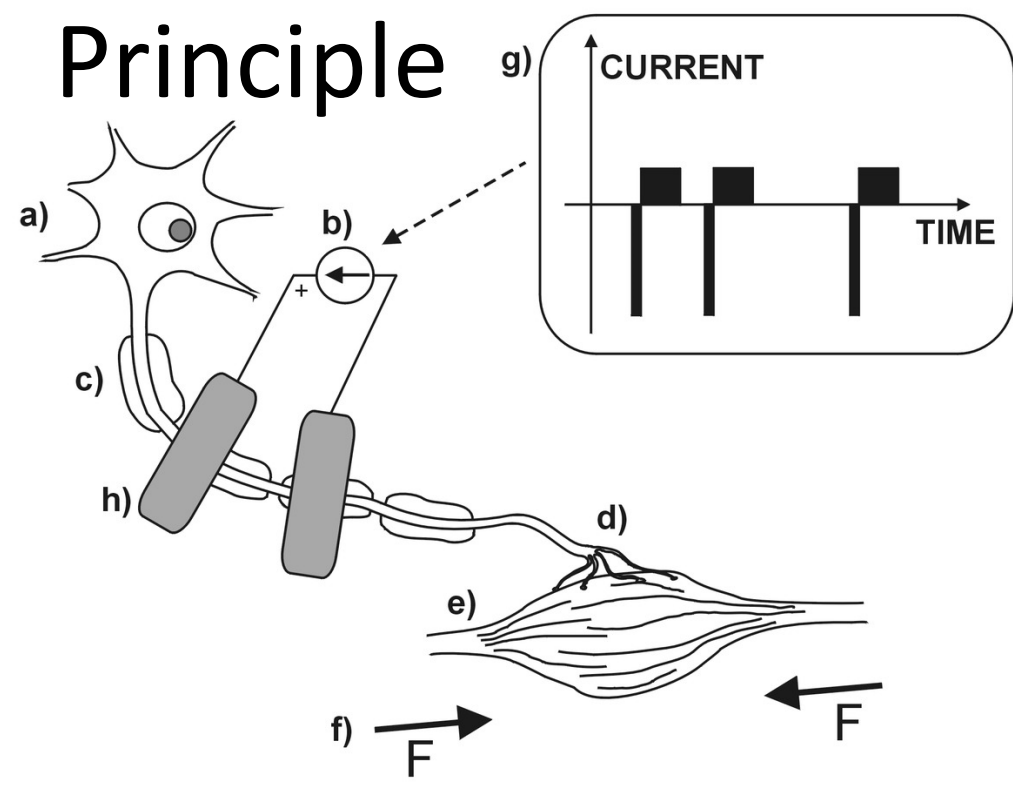
***<sup>1</sup>Tecnalia Serbia, Serbia***

24<sup>th</sup> March 2021

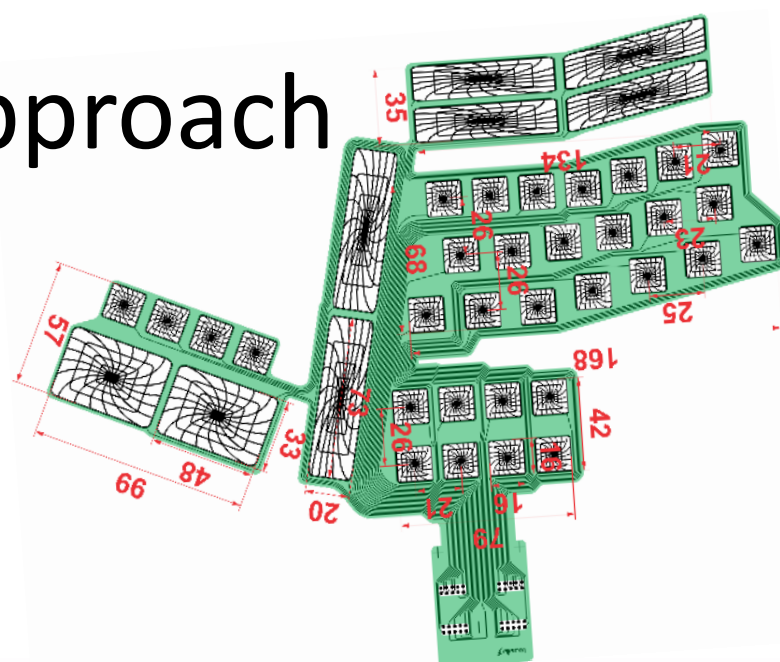


# Principle of FES and multi-pad systems

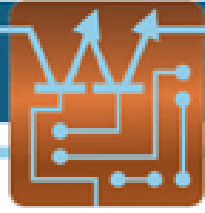
## Principle



## Approach

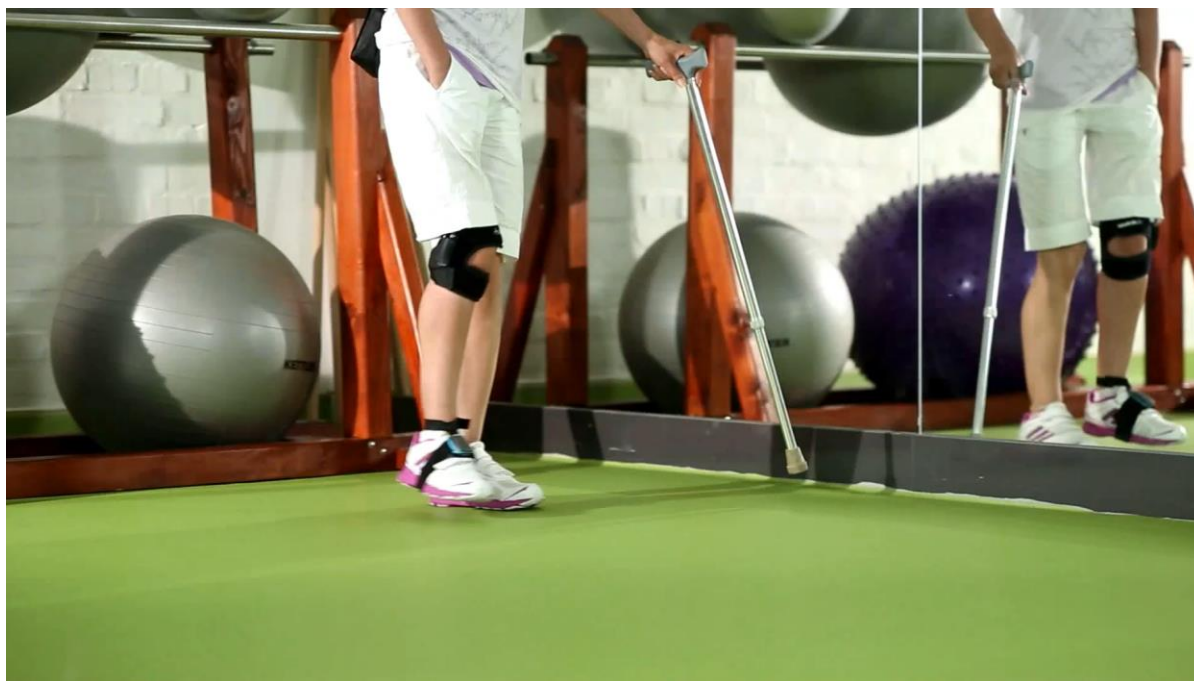




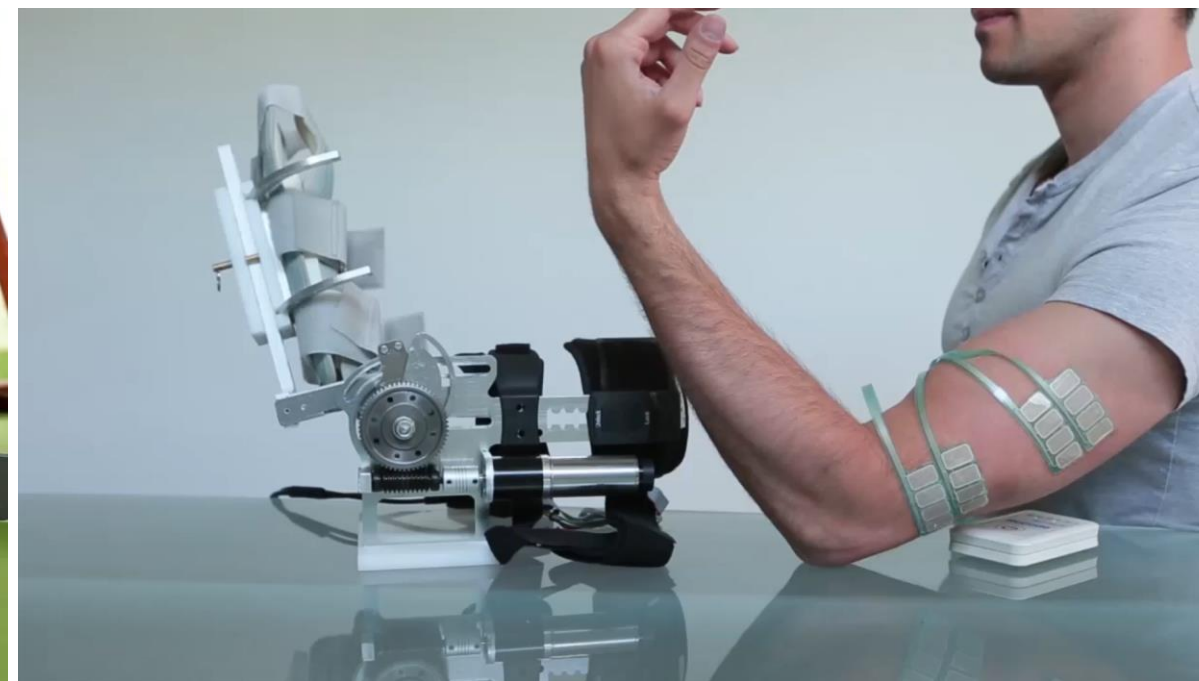


# Other examples of multi-pad FES

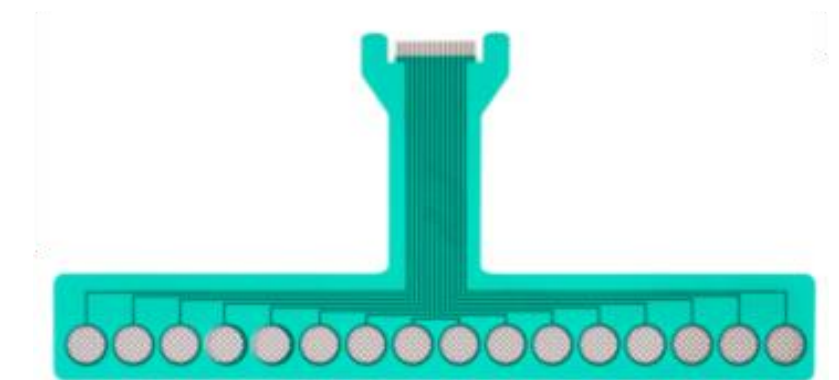
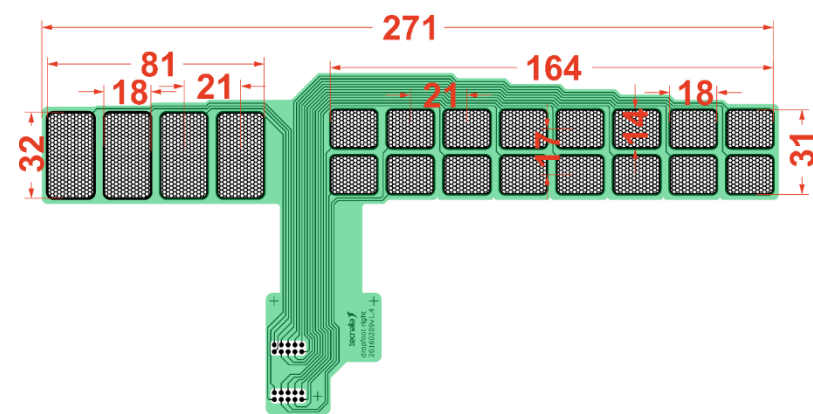
## Dropfoot



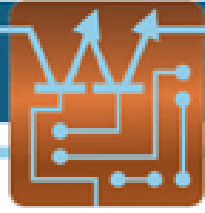
## TENS



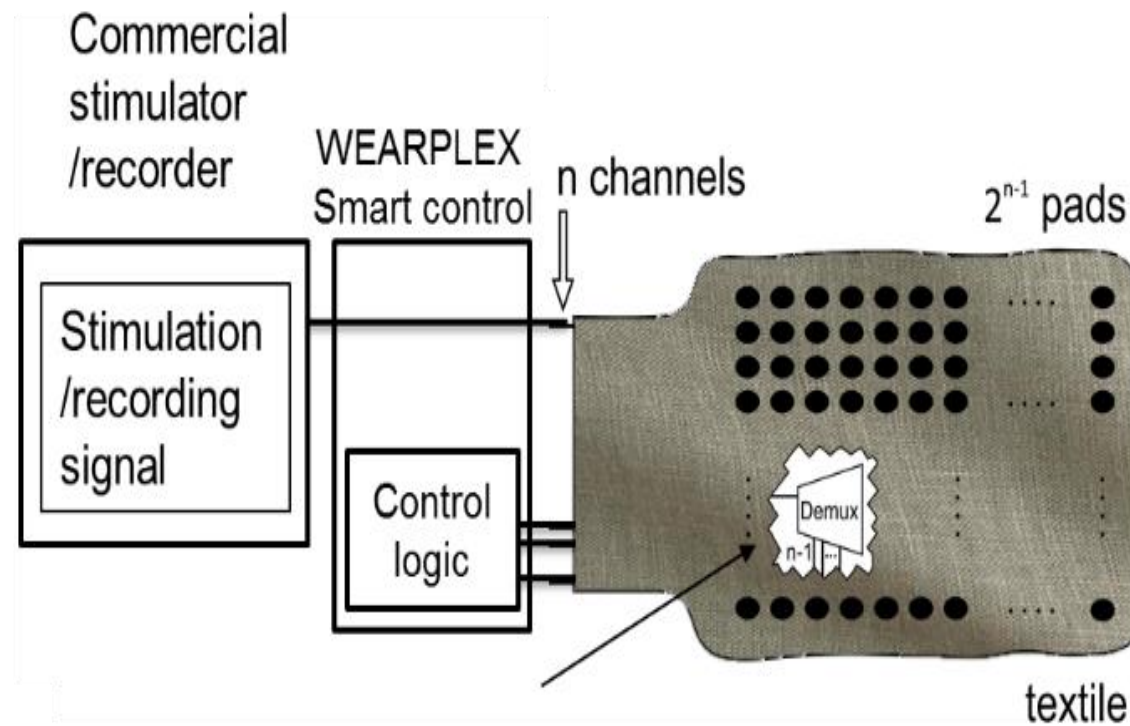
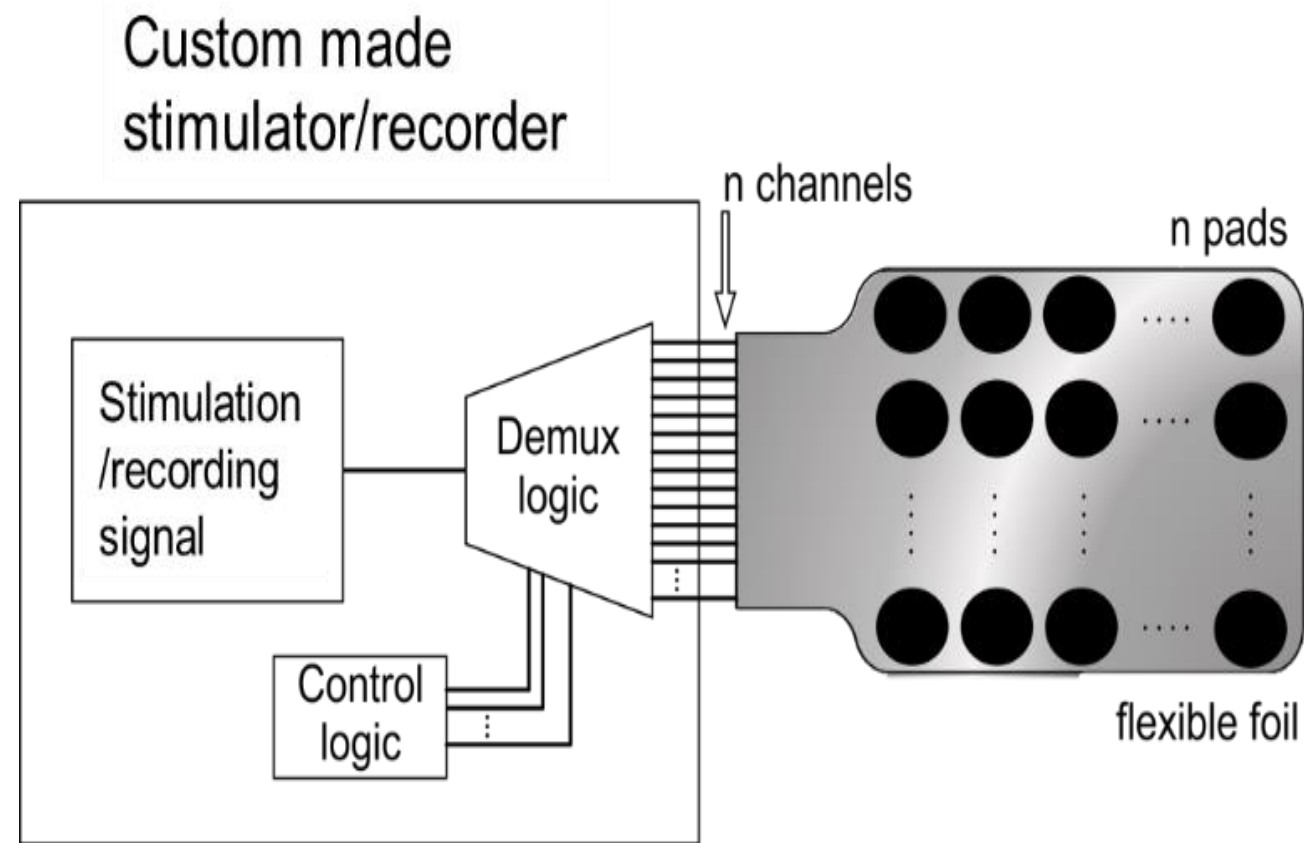
## Electrotactile feedback







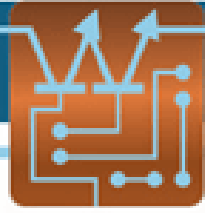
# WEARPLEX “SMART” Electrodes



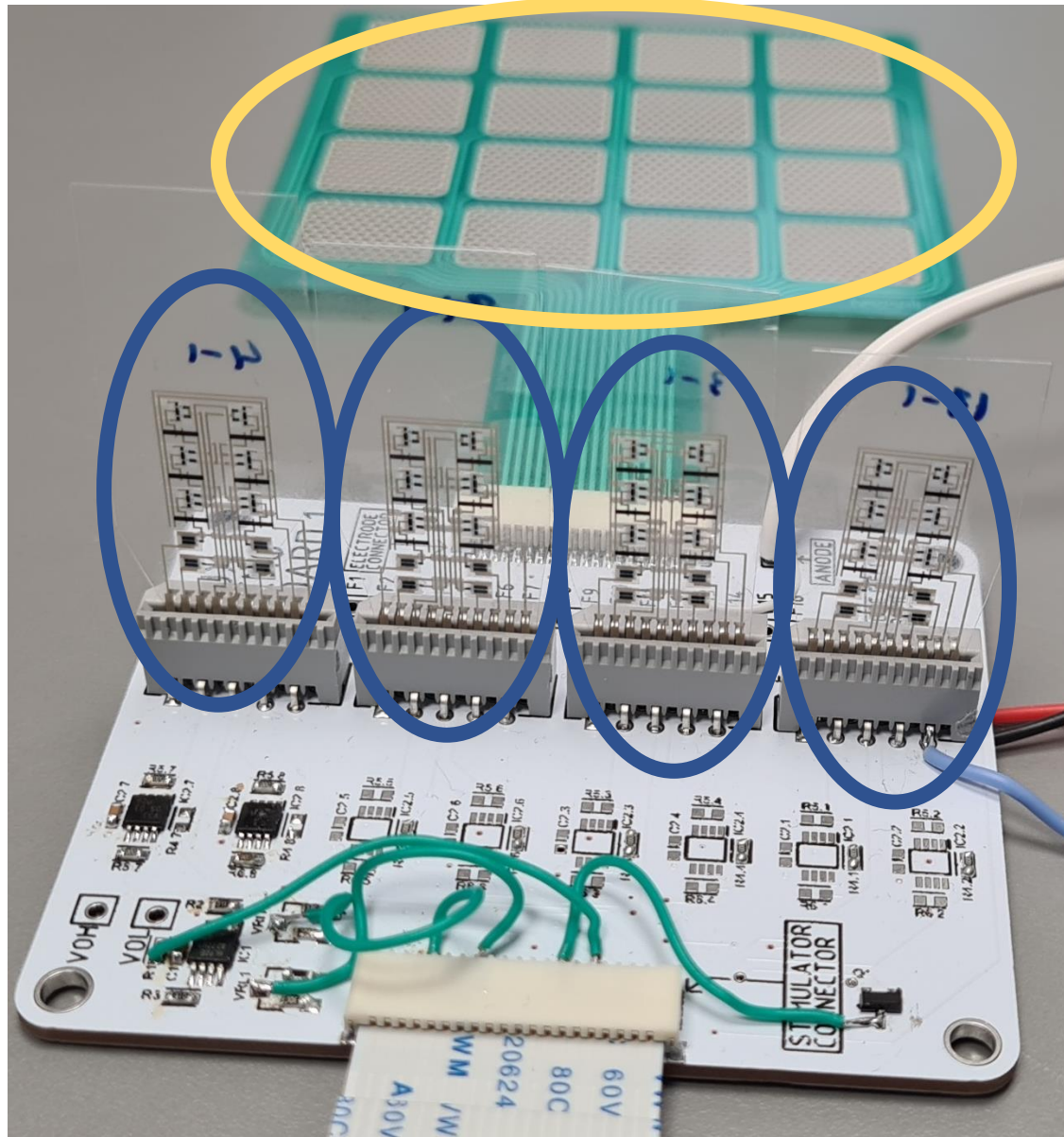
Printed electronics demultiplexing logic circuits embedded in the substrate of the electrode



Overcoming the limitations related to high number of leads  
Printed logics is based on the same technology as the state of the art for production of multi-pad electrodes



# Future developments for WEARPLEX



4 x OECD 2-4 DEMUX

16-pad stimulation electrode

Challenge is in high output currents and high voltages that are needed for FES application

