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Connect1™

Augmentative and Alternative Communication (AAC) system
based on Brain-Computer Interface Technology

Teknologiseminar
December 2018

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Purpose of this presentation

- Introduction of me and Dianova A/S
- Introduction to Brain-Computer Interface technology
- Introduction to the **Connect1**™ AAC system
- Demonstration of the system

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About us

Dianova is a company that transform and translate cutting edge technology and unique knowledge into products, services and healthy ventures.

One of our projects is the creation of the company **Braintell** specialized in Brain-Computer Interface technology. An area researched for more than 12 years at the Technical University of Denmark.

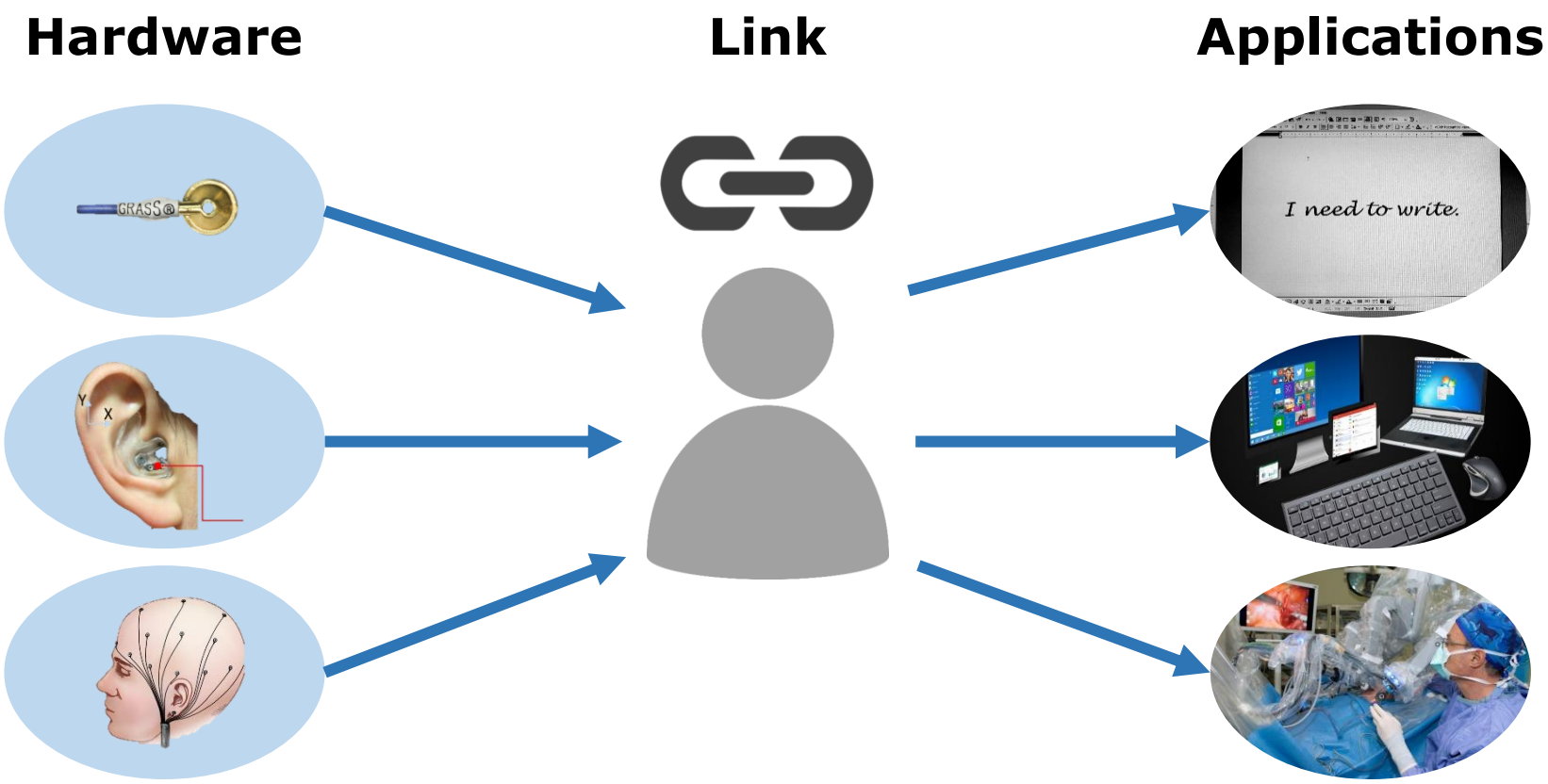
- Marie-Louise Little, CEO
- Rasmus Lundby Pedersen, Lead R&D Engineer
- Jan Bertholdt Hansen, Commercial Lead

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Our vision

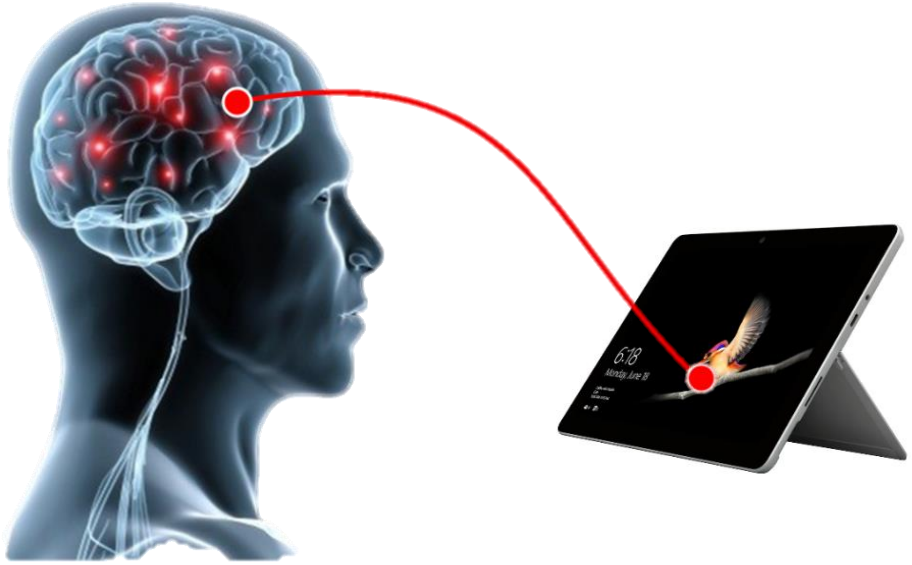
Become the leading

Brain-Computer Interface Platform
connecting EEG hardware and applications



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Brain-Computer Interface technology



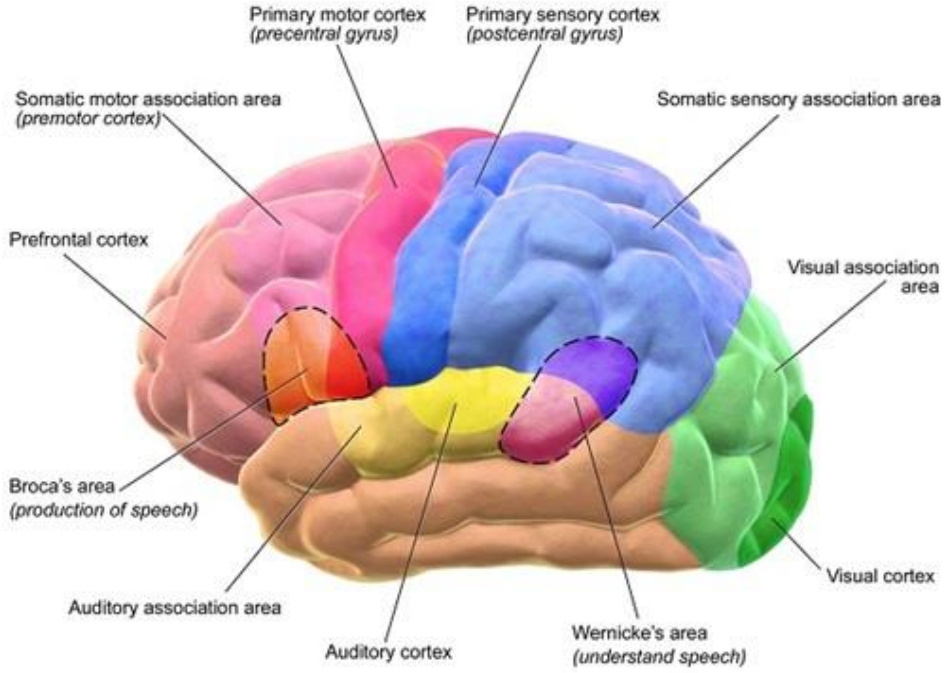
Brain-Computer Interfaces (BCI) are systems that interpret brainwaves to allow communication with, or control of, external devices

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BCI paradigms

Patterns in the neuroelectrical signals can be measured and recognized in several ways.





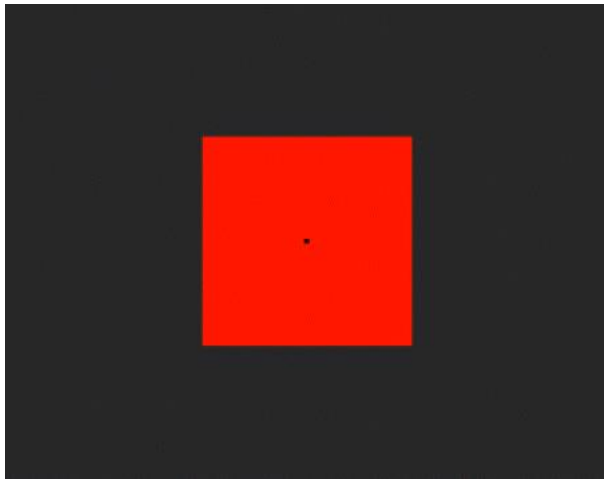
Visually Evoked Potentials (VEP)

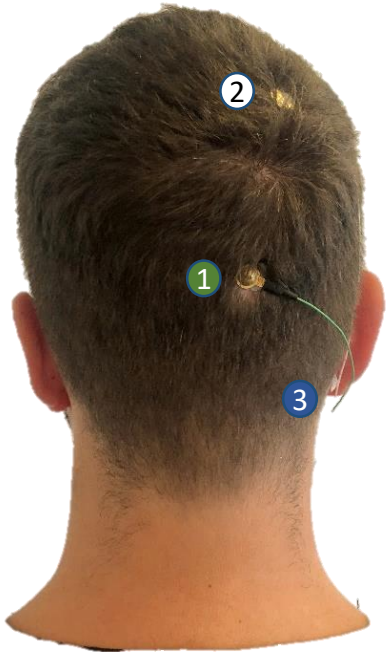
Figure: Motor and Sensory Regions of the Cerebral Cortex. Blausen.com staff (2014). "Medical gallery of Blausen Medical 2014". WikiJournal of Medicine 1 (2). DOI:10.15347/wjm/2014.010. ISSN 2002-4436.

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Visually Evoked Potentials (VEP)

- Re-active paradigm (stimuli generated response)
- 3 electrodes
- 16 classes (16 distinct targets in current version)





Single electrode positioned over the area of the visual cortex

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Augmentative and Alternative Communication (AAC)
system based on Brain-Computer Interface Technology.

The BCI System is a low risk (class I) medical device (MD)
under the Medical Device Directive (MDD, 93/42/EEC).

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The system consists of three hardware elements - the electrodes, the signal amplifier and a tablet computer - and the software.



The electrodes



The signal amplifier



The tablet computer

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Further development



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BCI paradigms

Patterns in the neuroelectrical signals can be measured and recognized in several ways.

Motor Imagery (MI)

Under Development



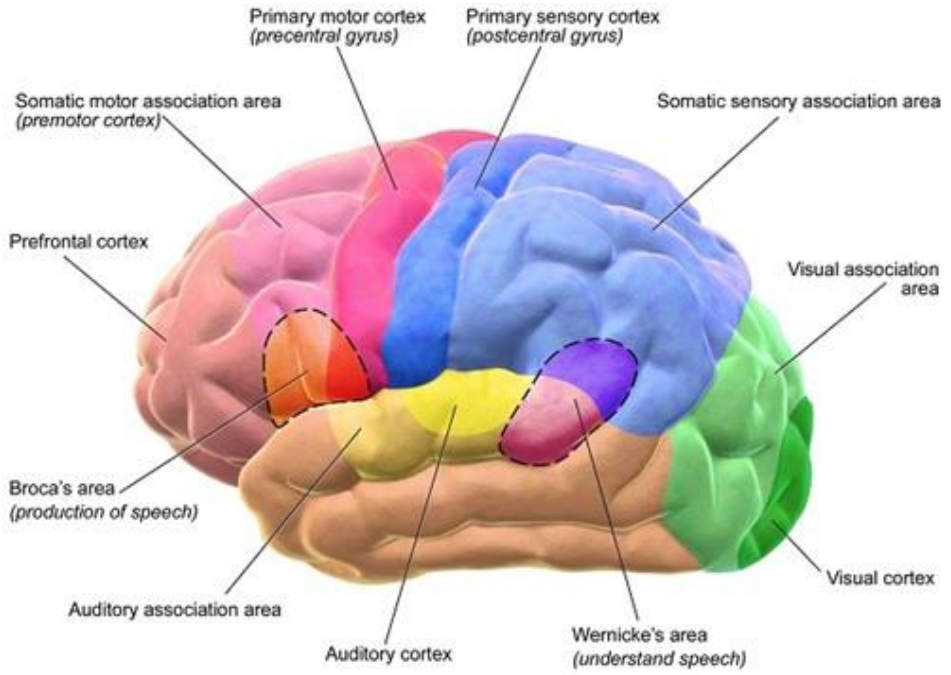


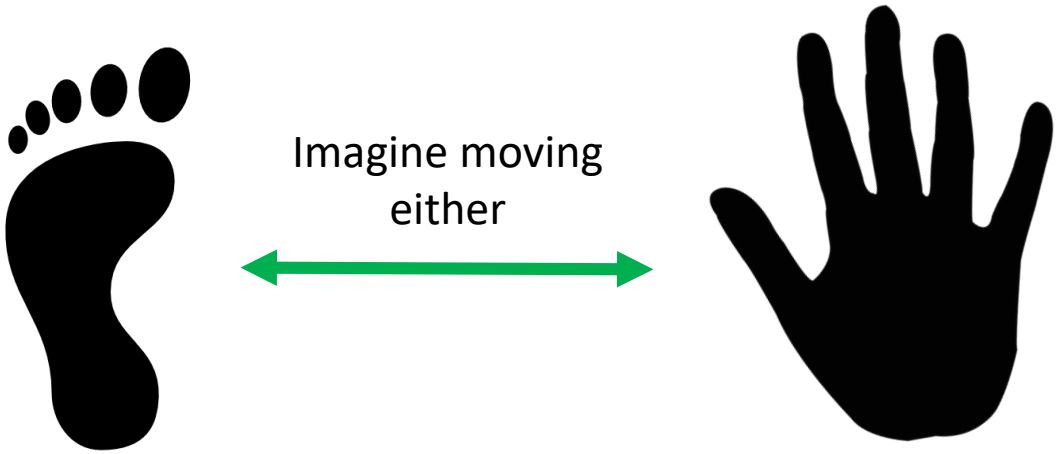
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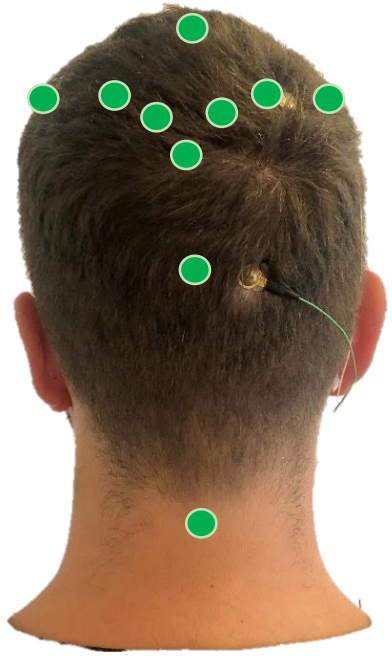
Motor Imagery (MI)



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- Active paradigm (thought generated response)
- 9 electrodes
- 2 classes (two choices like a switch)





V-shaped positioning of electrodes placed over the area of the motor cortex

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Thank you for your attention

You are welcome to contact us at

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