* BCIs are developing more than ever with companies such as Neuralink, Synchron, and Braingate putting more and more money and effort into research and development
* BCIs have lately been a hot topic in the biomedical fields and could have multiple useful applications. According to a report written by Dewen Hu et al from BioMed engineering there is a real possibility of application of BCIs in the field of aids for paralysation patients, in e.g., smart BCI- actuated wheelchairs
* Another possibility of usage with BCIs is neurorehabilitation after strokes, in which BCIs can be used in tandem with other technologies such as AR and VR to reconstruct neurological pathways related to motor function.
* A stroke is defined as “rapidly developing clinical signs of focal (or global) disturbance of cerebral function, with symptoms lasting 24 hours or longer or leading to death, with no apparent cause other than vascular origin” by WHO
* Stroke has serious complications, according to WHO, it can have “life-threatening consequences”, since a stroke affects, the brain, which controls all the vital functions in the body. Without blood flow, the brain cannot be active and keep the body running properly.
* Examples of complications given by WHO:
  + Behaviour changes: Stroke can contribute to depression and anxiety as well as impulsivity and social capability
  + Linguistic impairment: If the stroke damages parts of the brian controlling speech and communication, there can be difficulty in writing, reading, hearing, and speaking a language
  + Paralysis, since the brain controls motion directly through neural pathways, motor function can be severely damaged if mentioned pathways are negatively affected by the event
* There are multiple technologies including, but not limited to BCI-FES and BCI-VR. BCI-FES is a technology that has lately been used in treatment of stroke patients, however another technology that is on the rise is BCI-VR. BCI-VR combines BCIs with VR technology, where a patient controls a virtual character using their own neurological pathways. This leads to increased brain plasticity and neurological reconstruction, helping the brain regain its motor function.
* The main problem with BCIs is that experimentation and development is close to impossible without experimenting on humans since a human brain is required to engineer BCIs for humans.
* However, the incredible medical potential of BCIs justify a program of experimenting on volunteers.