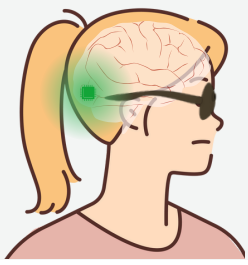
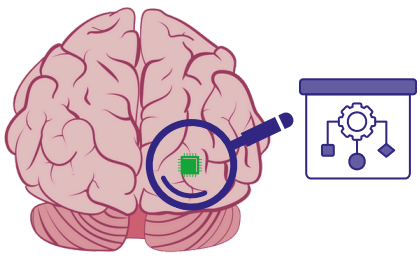
New tool brings us one step closer to visual implants

Researchers at the *Netherlands Institute for Neuroscience* have collaborated with several universities to develop a new opensource tool that can be used to optimise the placement of visual brain implants on a large scale.



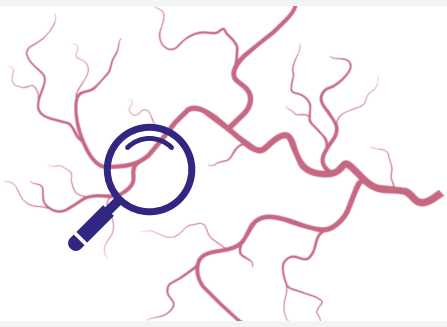
Approximately 40 million people suffer from blindness worldwide. Researchers from the NIN are working on an **implant** that placed directly onto the brain's visual cortex. Eventually this could restore a **rudimentary form of vision**.

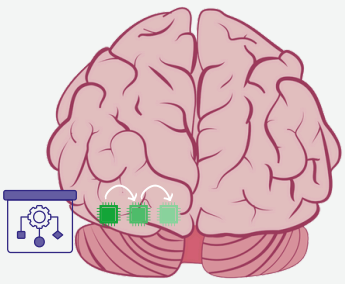
Recently, they built a tool that can **optimise the placement** of such an implant. This could become crucial once the implants reach clinical trials.



The implant's placement depends on its size, shape, and design. Some implants may mimic the human eye with a **built-in focus point** while others may **distribute the signal evenly** to give an overview of the entire environment.

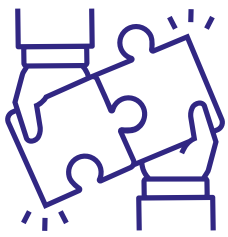
Since the visual cortex is located near important veins, the tool also incorporates a **safety constraint**. It searchers for the best visual output, while minimising the safety risks.





The tool eventually finds the best location by comparing each potential safe position to the previous one. Normally, a surgeon would do this manually, but this tool will be **much more efficient and does not require a lot of computing power**.

What is most important about this tool is that it is **freely available**, meaning that surgeons have a much easier and safer way to plan the optimal implant location per patient.



Future research

The tool will prove to be effective once implants are ready for clinical trials, aiding in the optimization of brain implant design. In the meantime the tool will be updated to accommodate for larger or multiple implants.

Read more on nin.nl

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