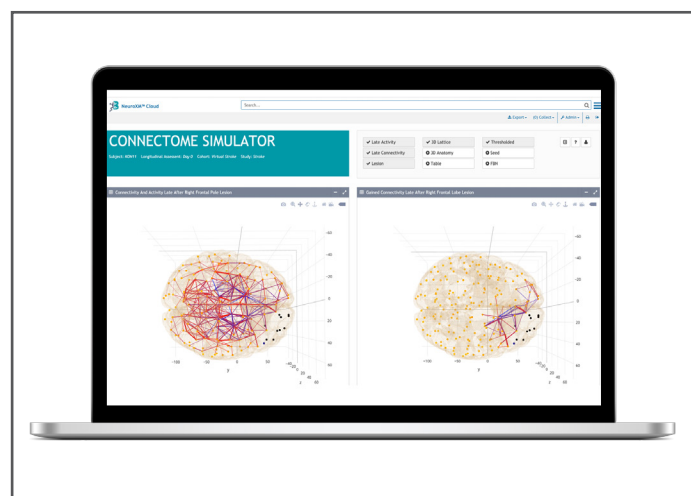


## The Connectome Simulator

The NeuroXM™ Connectome Simulator enables the user to predict rewiring of the connectome after white matter and grey matter damages such as MS, Stroke, TBI, Alzheimer's disease or surgical tissue resection. The Connectome Simulator includes the Model of Structural Plasticity with large experimental evidence for biological plausibility.\*



*Connectivity and activity late after right frontal pole lesion*

You can use the Connectome Simulator to build simulation models directly from individual connectome datasets from public data sources such as HCP, Biobank UK or ADNI without any neuroinformatics knowledge being required. Predicted connectomes by the Connectome Simulator can be further assessed by using the Connectome Comparator, the Connectome Analyzer or the Connectome Editor.

### Integrated Components

- > Easy to use workflows and predefined parameter settings for starting brain simulations through the NeuroXM Cloud web portal
- > Brain simulation organizer to manage past simulation runs and parameter settings

### Required Input

- > Patient or healthy control datasets from the Connectome Browser
- > Defined grey or white matter lesions through the Connectome Cutter
- > Simulation model and parameters

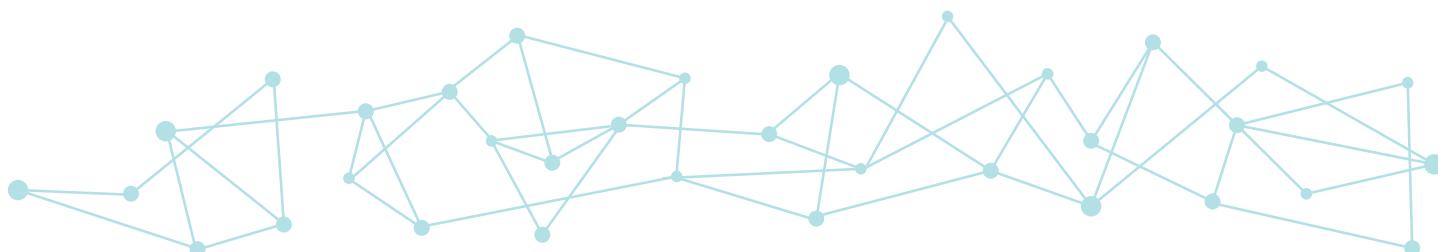
### Generated Output

- > Predicted structural connectome acutely after the lesion indicating secondary effects of primary lesions (so-called 'diaschisis')
- > Predicted long-term changes in the structural connectome up to three months after the lesion
- > Predicted connections and areas of particular risk to degenerate or of highest potential to regenerate



*Connectivity and activity before/with white matter damage*

\*Butz and Van Ooyen, 2013, PLoS Comp Biol.,  
The Rewiring Brain, Van Ooyen and Butz (eds.), Academic Press, 2017



## The NeuroXM™ Cloud

The NeuroXM™ Cloud, consisting of the Connectome and the Transcriptome Clouds, is a novel and unique solution for everyone working with brain data. With it, dealing with multimodal brain data becomes easy and straightforward; it reveals new insights into the brain as never before.

The NeuroXM™ Cloud provides our customers with various software modules for building up, browsing, comparing, analyzing and editing large data volumes.

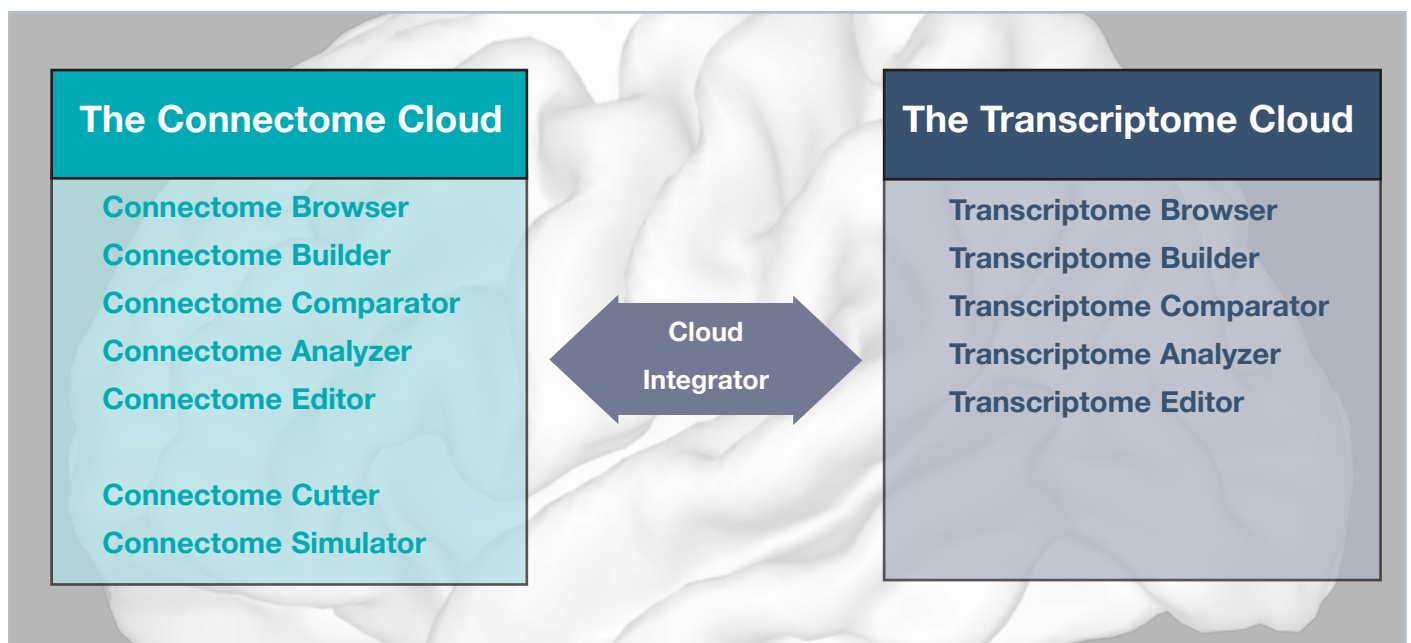
Via the NeuroXM™ Cloud Integrator data from both clouds can be exchanged and combined.

The basis modules for the NeuroXM™ Connectome and Transcriptome Clouds are the Connectome Browser and the Transcriptome Browser.

These basis modules can be licensed alone or in combination with any other software module of the respective cloud.

The Cloud Integrator can only be licensed with the basis modules of both clouds together.

Get in touch with Biomax to receive your individual offer for an attractive bundle including one or two basis modules and additional components.



*The NeuroXM™ Cloud from Biomax*



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