

# AI Medical Device Software to quantify brain damage and clinical prognosis

The French NCC: CC-FR, dedicated to HPC, HPDA and AI technologies, brings together the community of technology providers and users. CC-FR federates the HPC, HPDA and AI ecosystem and supports SMEs on the use of intensive computing, high-performance data analysis and artificial intelligence.

## Organisations Involved

CC-FR, set up within the framework of EuroHPC, is managed by the European Pole of Competence in high performance digital simulation Teratec, in association with the European Center for Advanced Research and Training in Scientific Computing Cerfacs and with the participation of the Big National Equipment Intensive Computing Genci.



Braintale, [www.braintale.eu](http://www.braintale.eu), is an innovative company opening a new era in medicine by providing physicians with clinically validated prognostic solutions for the management of brain injured patients through sensitive and reliable measurements of brain white-matter microstructure alterations. Building on more than 15 years in clinical development, BrainTale's products are developed collaboratively to address medical need and fulfil expectations of healthcare professionals and patients alike. Since its inception in 2018, the company has set up a complete quality management system and is now ISO:13485:2016 certified, with a suite of products available on the European market.

**braintale**

## The Challenge

Since Fall 2021, Braintale has integrated the CC-FR tailored program as they needed to benefit from high-level support in intensive computing. Braintale needed to analyse under efficient conditions the data of more than 500 patients in order to develop their research tools to optimize brain diseases studies. They also wanted to optimize the retrospective analysis of large research cohorts that require intensive processing of very large volumes of data.

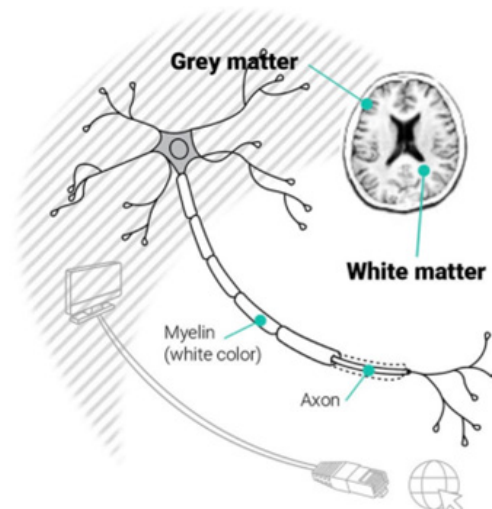


Figure 1: Concept of white matter

## The Solution

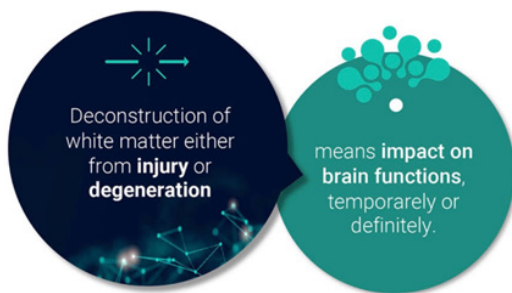
In collaboration with CRIANN (Regional Numerical Centre and Digital Applications of Normandy), Braintale was able to access to expertise and to the MYRIA supercomputer, equipped with more than 10,000 computer cores very high-speed, and capable of executing nearly 600,000 billion transactions per second.

## The Business Impact

The use of the MYRIA supercomputer and the support of CC-FR allowed Braintale to develop and produce its portfolio of AI-based digital medical device and products that aim to improve the care of patients with neurological diseases and in intensive care

## Benefits

The power and agility of MYRIA supercomputer combined with the company's servers allow it to envisage a rapid commercial deployment of its solutions while increasing its product portfolio.



Nearly all neurological and psychiatric pathologies are related to white matter alterations, directly or indirectly.



White matter integrity is **the proxy to monitor brain diseases**

Figure 2: braintale objectives

- › HPC, AI
- › Algorithm
- › Medical Devices
- › Health care
- › HPDA

› Industry Sector: Pharmaceutical

› Technology: HPC, HPDA, AI

### Contact:

Dr Karim Azoum

LinkedIn: <https://www.linkedin.com/in/karim-azoum-45011710a>

Email: [Karim.azoum@teratec.fr](mailto:Karim.azoum@teratec.fr)  
[+33 7 62 74 03 60](tel:+33762740360)