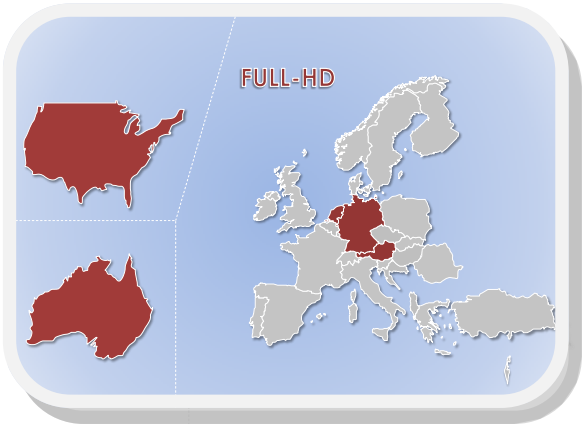
JPND research
EU Joint Programme – Neurodegenerative Disease Research

FULL-HD

Full exploitation of High-Dimensionality in brain imaging

High-throughput technology can now provide rich information on a person's biological makeup and environmental surroundings. Important discoveries have been made by relating these data to various health outcomes in fields such as genomics, proteomics, and medical imaging. Cross investigations between several high-throughput technologies remained impractical due to demanding computational requirements (hundreds of years of computing resources) and unsuitability for collaborative settings (terabytes of data to share). In HD-READY, our previous JPND Working Group, we developed methods that successfully overcome both of these issues. However, one key outstanding issue in neuroimaging is that these high-dimensional phenotypes (i.e., voxels, vertices) require a dedicated approach to harmonization, since they are not straightforward to compare between neuroimaging studies.

In the Full-HD Working Group, we focus on this harmonization of high-dimensional neuroimaging phenotypes in combination with other omics data, and on how to make the resulting ultra-high-dimensional data easily accessible in neurodegeneration research. Results from Full-HD will open the way for emerging –omics technologies to be fully exploited.



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