

The Human Brain Project: An Overview

Thursday, 21 May 2015 09:00 (35 minutes)

Understanding the human brain is one of the greatest scientific challenges of our time. Such an understanding will lead to fundamentally new computing technologies, transform the diagnosis and treatment of brain diseases, and provide profound insights into our humanity. The goal of the HBP is to pull together all our existing knowledge about the human brain and to reconstruct the brain, piece by piece, in supercomputer-based models and simulations. The models offer the prospect of a new understanding of the human brain and its diseases and of completely new computing and robotic technologies. The HBP infrastructure will consist of a tightly linked network of six ICT platforms, which will operate as a resource both for core HBP research and for external projects, chosen by competitive call. The HBP will drive innovation in ICT, creating new technologies for interactive supercomputing, visualization and big data analytics; federated analysis of globally distributed data; simulation of the brain and other complex systems; objective classification of disease; scalable and configurable neuromorphic computing systems, based on the brain's principles of computation and cognition and its architectures.

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