

Medical devices

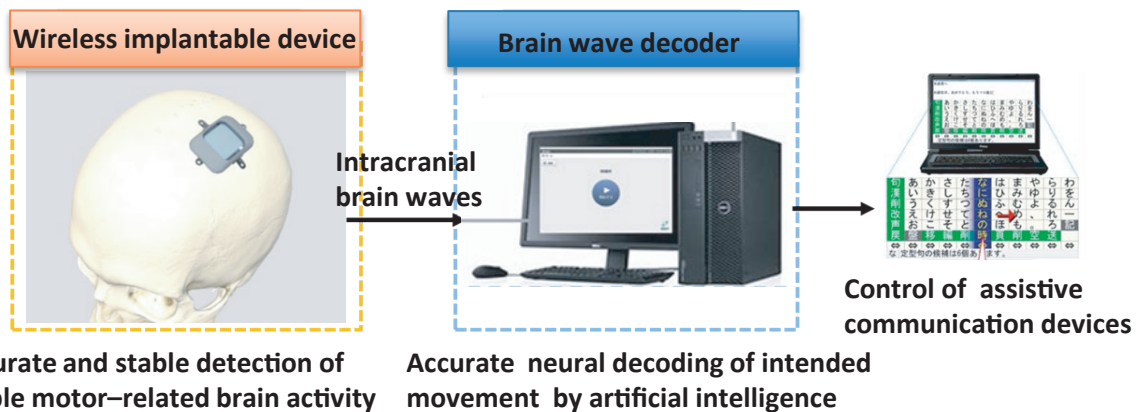
Restoration of Motor and Communication by Wireless Implantable Brain Machine Interfaces

Principal Investigator

Department of Neurological Diagnosis and Restoration, Graduate School of Medicine, Osaka University

Specially Appointed Professor Masayuki HIRATA

Project Outline



A brain-machine interface (BMI) is a technology used to read the contents of motions and communication from brain signals and to control robot arms and communication devices. This is expected as a technology to restore the impaired functions of disable people. In this project, we aim to perform a clinical trial of an implantable BMI device that records accurate brain waves using brain surface electrodes and to license it to a medical company.

In our previous clinical research using wired BMI system, a severely disabled patient with ALS successfully controlled a robot hand. We also developed an implantable wireless device, and completed non-clinical tests. We aim to start a pivotal clinical trial of the implantable wireless device in 2024.



We have developed the implantable device collaborating with Nihon Kohden Corporation and Murata Manufacturing Corporation. We established a start-up company, JiMED Co.Ltd. and now proceed technological transfer, aiming to commercialize the device .

Target diseases : Amyotrophic lateral sclerosis , muscular dystrophy , spinal cord injury

Patents : patented 5, published 1, applied 7 , ; PCT 2, USA 4, EU 2, Japan 5

Technologically appealing points : innovative implantable device, Japan quality, high entry barrier, high added value, sustainable profitability