Intelligent Neuro-Technologies Restoring Functions of Action and Communication: an Evaluation Study, (INTERFACES)

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"INTERFACES" is an international research project on ethical, legal, and social aspects of braincomputer- interfaces (BCI). This a relatively new technology that connects the brain with a computer in such a way that people can directly control the computer and other electronic devices by their mind. The BCI technology has recently made huge progress and is ready to be used for various purposes: BCIs can assist handicapped people in moving their limbs or robotic limbs; they may offer a computeraided way of communication for some people who cannot speak; they can be used for rehabilitation of stroke patients or treatment of some psychiatric disorders; and they may be of use to enhance the performance of healthy people in aviation, military, or other areas of society. Our project aims to (1) investigate the neglected perspectives of patients, their families, health care professionals, and the public, (2) analyze the fundamental theoretical, ethical and legal questions associated with BCI and (3) utilize the resulting insights to offer orientation for medicine and society. It aims to gain new knowledge and bring it to those in society that need this knowledge. Interview studies with neurological patients and their families who have experience with BCI studies, an international survey of health care professionals and citizens will be used to collect needed empirical data. These findings will help to find orientation in difficult value questions, e.g. whether people are responsible for the actions they produce by BCI technology or how patients' autonomy and privacy can be safeguarded. Such questions will also be discussed in a workshop of international experts organized by the project. In a final phase, the research results serve to construct video and audio podcasts informing the public about the ethics of BCI and to write recommendations for policy makers how to regulate BCI.