

## **Neuroethics: Addressing the Ethical, Legal, Social, and Cultural Implications of Neurotechnology**

### **Work and Employment Preamble**

Much of life in modern society is organized by relations of work. Neurotechnology has the potential to change how we think about the meaning of work as well as the definition of the workplace. Some neurotechnologies may extend the work-day, blurring the distinction between work and leisure time. The same could be true for the 'place' of 'workplace.' With portable neurotechnologies, the workplace may no longer refer to a fixed physical location (a social shift that has already begun with the COVID-19 pandemic). In these and other ways, we anticipate that neurotechnologies will have a dramatic impact on work and employment as these technologies evolve and become more mainstream.

Neurotechnologies for work include methods, devices, and systems for augmenting, optimizing, monitoring, facilitating, or mediating human behaviors or expressions in order to replace, improve, or enhance tasks and performance in employment contexts. Yet, given that such technologies are diverse and versatile, and that deep inequalities continue to exist across and within different sectors of the economy, it is reasonable to expect that the impact of these technologies will be uneven. Workers might find themselves in different ethical conundrums depending on many factors, including their status in the workplace, the profitability or productivity associated with a neurotechnology, and the availability of legal protections and regulations for employees who use neurotechnologies.

Major actors in almost all application domains (physicians, athletes, teachers, soldiers, law enforcement officials, etc.) are workers. They enter into contractual relations with their employers to become employees. In the United States, for example, soldiers whose war-making capabilities are enhanced by neurotechnology would be employees of the Department of Defense. Similarly, a neuro-enhanced super-athlete could be an employee of a sports team, or work in a contractual relationship with an athletic product company. In order to avoid overlap with other application documents, the focus here is on issues that emerge from relations between employees and employers and among employees.

While this document highlights the potential ethical, legal, social, and cultural implications (ELSCI) that are directly connected to neurotechnologies in work and employment, we recognize that asymmetrical relations in the workplace (e.g., employee vs. employer, supervisor vs. subordinate) can exacerbate these issues or even create new ones.