

# Experts Raise Concerns Over Superhuman Workplace

Raphael Satter, Associated Press

LONDON (AP) — Performance-boosting drugs, powered prostheses and wearable computers are coming to an office near you — but experts warned in a new report Wednesday that too little thought has been given to the implications of a superhuman workplace.

Academics from Britain's leading institutions say attention needs to be focused on the consequences of technology which may one day allow — or compel — humans to work better, longer and harder. Here's their list of upgrades that might make their way to campuses and cubicles in the next decade:

### BRAIN BOOSTERS

Barbara Sahakian, a Cambridge neuropsychology professor, cited research suggesting that 16 percent of U.S. students already use "cognitive enhancers" such as Ritalin to help them handle their course loads. Pilots have long used amphetamines to stay alert. And at least one study has suggested that the drug modafinil could help reduce the number of accidents experienced by shift workers.

But bioethicist Jackie Leach Scully of northern England's Newcastle University worries that the use of such drugs might focus on worker productivity over personal well-being.

"Being more alert for longer doesn't mean that you'll be less stressed by the job," she said. "It means that you'll be exposed to that stress for longer and be more awake while doing it."

### WEARABLE COMPUTERS

The researchers also noted so-called "life-logging" devices like Nike Inc.'s distance-tracking shoes or wearable computers such as the eyeglasses being developed by Google Inc. The shoes can record your every step; the eyeglasses everything you see. Nigel Shadbolt, an expert in artificial Intelligence at southern England's University of Southampton, said such devices were as little as 15 years away from being able to record every sight, noise and movement over an entire human life.

So do you accept if your boss gives you one?

"What does that mean for employee accountability?" Shadbolt asked.

### BIONIC LIMBS — AND BEYOND

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The report also noted bionic limbs like the one used this week by amputee Zac Vawter to climb Chicago's Willis Tower or exoskeletons like the one used earlier this year by partially paralyzed London Marathon participant Claire Lomas. It also touched on the development of therapies aimed at sharpening eyesight or cochlear implants meant to enhance hearing.

Scully said any technology that could help disabled people re-enter the workforce should be welcomed but society needs to keep an eye out for unintended consequences.

"One of the things that we know about technology hitting society is that most of the consequences were not predicted ahead of time and a lot of things that we worry about ahead of time turn out not to be problems at all," she said. "We have very little idea of how these technologies will pan out."

### THE PRESSURIZED WORKPLACE

The report was drawn up by scientists from The Academy of Medical Sciences, the British Academy, the Royal Academy of Engineering and the Royal Society.

"We're not talking science fiction here," said Geneva Richardson, the King's College law professor who oversaw the report. "These technologies could influence our ability to learn or perform tasks, they could influence our motivation, they could enable us to work in more extreme conditions or in old age, or they could facilitate our return to work after illness or disability .... Their use at work also raises serious ethical, political and economic questions."

Scully said workers may come under pressure to try a new memory-boosting drug or buy the latest wearable computer.

"In the context of a highly pressurized work environment, how free is the choice not to adopt such technologies?" she said.

Union representatives appeared taken aback by some of the experts' predictions. One expressed particular disquiet at the possibility raised by the report that long-distance truck drivers might be asked to take alertness drugs for safety reasons.

"We would be very, very against anything like that," said James Bower, a spokesman for Britain's United Road Transport Union. "We can't have a situation where a driver is told by his boss that he needs to put something in his body."

*The report:* <http://royalsociety.org/policy/projects/human-enhancement> [1]

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