

GT Briefing November 2015: Inspirational insights

AUGMENTED REALITY: PEOPLE 2.0

Sci-fi is here. As intelligence breakthroughs continue, expect more questions about how humans manage the race with – and against – the machines. Will we be outnumbered, outdated, and outthought, or can we harness new forms of intelligence for positive change?



HUMANS & TECHNOLOGY – A REALITY CHECK

Nanotechnology, biotechnology, neuroscience, genomics, clean technologies, space sciences, smart materials, ubiquitous computers and sensors, artificial intelligence, geoengineering and information technology are driving innovation helping the world to address critical global issues such as resource constraints, food security, water access, pandemics, infant mortality and climate change. These advances are no longer the realm of science fiction but moving rapidly towards commercialization and application, not in the distant future, but in many cases much sooner. Today, many people including experts are worried about the potential impact of breakthrough, untested technologies such as artificial intelligence. In this briefing we ask, does augmentation threaten humanity or will the benefits outweigh the risks?

Check out our curated articles on the subject:

- GE Reports: [Stuart Armstrong: Will artificial intelligence destroy humanity?](#)
- Forbes: [Stanford expert says AI probably won't kill us all](#)
- Wired: [AI has arrived, and that really worries the worlds brightest minds](#)
- Yahoo: [Facebook's AI chief: No the machines are not coming to kill us](#)



THE INFLUENCERS

Cross-disciplinary approaches, visionary entrepreneurs and companies are driving scientific breakthroughs that could change not just our lives and work but also our bodies and intelligence. “Augmented humanity” is no longer a futuristic vision but will soon be a part of modern living. As the technologies evolve, our private and professional lives will change dramatically – and forward-thinking companies want to be part of the next stages of the revolution. Companies including Google, Baidu, Apple and Facebook are showing tremendous interest and are investing heavily in this field.

Check out our curated articles on the subject:

- The World Post: [Ray Kurzweil: In The 2030s, Nanobots In Our Brains Will Make Us 'Godlike'](#)
- TechWorld: [Google DeepMind: What is it, how does it work and should you be scared?](#)
- Bloomberg: [Baidu Embraces Artificial Intelligence to Build a Better Search Engine](#)
- VentureBeat: [Mark Zuckerberg explains why Facebook is investing in artificial intelligence and virtual reality](#)

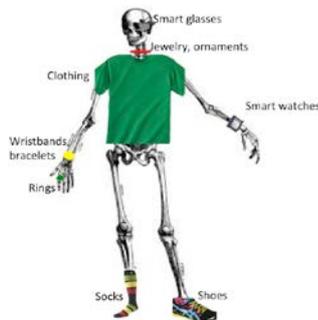


AUGMENTED INTELLIGENCE

For humans, neuroscience advances offer the possibilities of thought-controlled objects, and new ways to influence behaviors. Ultimately, technological advances may enhance human capacity and intelligence to deal with radical change and complexity through new human-machine interfaces – dramatically impacting how we think, live and work in the future. Imagine a world where computers do all the logical thinking for us leaving us free to do creative and conceptual thinking?

Check out our curated articles on the subject:

- WEF: [5 brain technologies that will shape our future](#)
- FT: [Computer algorithm created to encode human memories](#)
- The Guardian: [Are you thinking what I'm thinking? The rise of mind control](#)
- Phys.org: [AI machine achieves IQ test score of young child](#)



AUGMENTED BODIES

Genomics and biotechnology breakthroughs offer the potential to treat, if not prevent, neurological illnesses, such as dementia, more effectively in future. Taking control of minds and machines a step further, new human-machine interfaces could offer soldiers superhuman strength or manage patients' health in real time. Increasingly, we are wearing useful technologies. The next step will be taking them inside the body to gather and process vital data – perhaps externally, or perhaps by our own augmented intelligence.

Check out our curated articles on the subject:

- Mashable: ['Ingestibles' could become the new wearables faster than you think](#)
- PSFK: [Contact Lens Augments More Than Your Vision](#)
- Examiner: [Wearables and artificial intelligence extends enterprise capabilities](#)



AUGMENTED WORKPLACES

Increasingly, robots are able to absorb data, recognize objects, and respond to information and objects in their environment with greater accuracy. This will increase both the number and complexity of the tasks that they can take on – or take over from human workers. Harnessing intelligence can also mean cutting out the human link. The internet of things, a burgeoning machine-to-machine “second economy,” is already creating billions of dollars of output and realizing significant productivity gains without the need for human workers – and has many more areas of potential application.

Check out our curated articles on the subject:

- Pew Research Center: [AI, robotics, and the future of jobs](#)
- Yahoo: [Meet the New Boss: The World's First Artificial-Intelligence Manager?](#)
- Singularity Hub: [How Robots and Sensors Will Transform Transportation, Agriculture, and Elder](#)

Care

- TechRepublic: [Virtual reality and augmented reality in the workplace: A primer for CIOs](#)

**AUGMENTED HUMANITY IS A REALITY – WHAT CAN WE DO ABOUT IT?
FROM STRATEGIC INSPIRATION TO ACTION**

Science is making the impossible, possible. While the world’s governments, businesses and organizations should – and will – take advantage of new technologies including artificial intelligence, they should also consider the ethical implications of this technology. More and more people are wondering when the thinking machines – inside and outside our bodies – will become self-aware and a potential danger for humanity.

The articles below – and many others – explain, explore and offer points of view that can serve as starters for discussions among policy leaders, the scientific and technology communities, businesses and society more broadly on how we can realize the benefits from augmented humanity while overcoming the challenges and potential dangers of intelligent machines. How can your organization be part of the discussion?

- TEDTalk: [We can now edit our DNA. But let's do it wisely](#) asks the scientific community to pause and discuss the ethics of this new tool.
- TIME: [How can we overcome the risks of AI?](#) points out that it is long overdue to have a conversation between technology and policy leaders about the ethics, legalities and real life disruptions of AI.
- DefenseOne: [The military's New Year's resolution artificial intelligence](#) asks if we should be afraid of AI and wants a real answer by end of 2015.
- TEDTalk: [What happens when computers get smarter than we are?](#) Philosopher Nick Bostrom asks us to think hard about the world we're building right now, driven by thinking machines.
- The Guardian: [The ethics of AI: How to stop your robot cooking your cat](#) points out that ethics in AI should not be an afterthought but should be discussed now.

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