



TOWARDS THE NEXT DIGITAL AGENDA FOR EUROPE: THE IMPLICATIONS OF A HYPERCONNECTED SOCIETY

Is talk about a hyperconnected society just hype, or does the growing interconnection of people and things in an Internet of Everything mark a new paradigm shift? [Colin Blackman](#), Director of the Centre for European Policy Research's Digital Forum and Visiting Senior Fellow at LSE, reports on the discussions at a [CEPS Digital Forum seminar](#) on the [implications of a hyperconnected society](#).

With a new Parliament and a new Commission coming soon, this is an appropriate time to reflect on Europe's future, particularly regarding matters around information and communications technology. With technology developing so rapidly, and society and the economy evolving, which policies are needed to address this rapidly evolving future – what issues should be the priority for the next Digital Agenda? Against this background, this seminar explored the implications of a hyperconnected society, the first in a series of forward-looking seminars intending to consider the issues that should shape the next Digital Agenda for Europe.

But what exactly do we mean by a hyperconnected world? It is a world of ubiquity, of embeddedness, a world in which the internet is becoming “like electricity”, disappearing even as it becomes more crucial in our daily lives. It means a global, immersive, invisible, ambient, networked computing environment – the so-called Internet of Things connecting smart sensors, cameras, software, databases and data centres.

But it's not just about things – it also means an Internet of People making up an Internet of Everything, with machine-to-machine, people-to-people, and people-to-machine connectivity. The number of internet-connected devices first outnumbered the human population in 2008, and they have been growing much faster than humans. There were 13 billion internet-connected devices in 2013 and, according to Cisco, and there will be 50 billion in 2020, including PCs, smartphones, tablets, smart TVs, chips, sensors, implants, wearable devices, connected cars and devices which have not yet been thought of. Cisco estimates the value of the Internet of Everything at \$14.4 trillion over the 10-year period from 2013-2024.

Some, like Ray Kurzweil, extrapolate further to predict that “The Singularity is Near”, possibly within 30 years, when artificial intelligence, human biological enhancement, or brain-computer interfaces will have progressed to the point of a greater-than-human intelligence, radically changing civilization, and perhaps human nature. Some see this as a positive vision where technology frees us from life's drudgery, while others see a dystopia, the end of humanity. Yet others ridicule these musings as “the rapture of the nerds”.

[Digital Life in 2025](#), a survey of nearly 1900 experts, found that most believe that by 2025 the Internet of Things will be a reality. Many believe there this will bring clear benefits. Some believe it will come about, but disagree about the value of benefits compared with the problems it will bring.

[Peter Harrop](#) (IDTechEx) is one of those who urges caution about the scale and speed of technology development and take-up, arguing that there will always be hype and business bubbles. Forecasts about the Internet of Things should be treated with scepticism. Nevertheless, there will be substantial business opportunities in areas such as battery technology and energy harvesting, and wearable technology – especially in health applications – as well as niche and fad products.

So what could be the consequences of a hyperconnected society? Optimistically, it could spur economic growth, and improve the quality of life for the majority – but remember, a third of the world doesn't have electricity. Could it lead to new digital divides, where only those wealthy enough will be able benefit? Or could it mean we will live in a world where things don't work properly and no-one knows how to fix them?

One area of particular concern is the challenge that a hyperconnected society might pose to current concepts of data protection and privacy, and it has become a commonplace to say that it will mean the death of privacy as data becomes easier to collect, store, share and analyse. As [Ian Brown](#) (Oxford Internet Institute) highlighted, highly concentrated information companies – and the state – seek to scoop up all the information they can in the hope it will be useful later. Without intervention, information asymmetry will increase, with data gathered ubiquitously and invisibly in a way few understand, eg privacy policies are typically long and unreadable and difficult to verify and enforce.

So do we need to think about these issues differently in the future? [Nicole Dewandre](#) (DG Connect) spoke about what it means to be human as we transition from modernity to hyperconnectivity. She described how, in a hyperconnected world, emphasis shifts from a functional view of the individual who seeks autonomy and control to a multidimensional framing of “the self”. In future, who we are will be defined more in relation to how others see us, as well as by our relationship to objects and our environment. In such a world, the need for privacy may be seen as less important than the need for intimacy.

But Ian Brown rejected the notion that privacy is dead, arguing that societies can shape the values technologies embed if they wish. He reasserted the case for “privacy by design and privacy by default”. He was optimistic that privacy-protective technologies, combined with principles of data minimization, notification and consent could uphold these fundamental rights in the future.