

# CAPTAIN'S TABLE

By Darryl Edwards

**The convergence of communications and the internet is creating complex, cross-cultural networks that are rapidly outpacing the ability of regional policymakers to adapt.**

With the advent of 'hyperconnectivity', where the number of connected devices far exceeds the number of people in the network, the complexity of policy decisions and the pace of change will increase rapidly. Meanwhile the virtual nature of the internet will make local controls less and less effective. Broader cooperation across regional and global markets is essential to ensure consistent policy that fosters rather than limits innovation.

We are already experiencing the challenges of establishing standards at the regional level in areas such as information privacy and security. Complex problems in the areas of copyright and patent law continue to make headlines as the market for information exchange grows increasingly global, and increasingly virtual.

The stark reality is that the trend of hyperconnectivity, where everything that can be connected, will be connected to the network, is creating a virtual communications environment unlike anything we've ever experienced. Already in parts of the EU and Asia, mobile phone penetration exceeds 100 percent. Innovation in consumer electronics is creating new categories of connected devices at an accelerating pace. As an example, home entertainment systems like Sony's Playstation, Microsoft's Xbox, or Nintendo's Wii, are already capable of networking users into online gaming communities.

In the hyperconnected future we will each represent many connections to the global network. We will each connect through our phones, laptops, and PDA's. But increasingly the machines around

us – the refrigerator, vending machine, parking meter, or car – will begin to communicate independently on our behalf. In the process the network's potential for benefit, and for misuse, will begin to multiply. And our ability to exert unilateral local control will diminish.

Tomorrow's network will not be constrained by borders. It will be hyperconnected. It will host virtual communities that will be simultaneously everywhere and nowhere. And it will require new approaches to regulation, and global cooperation, to guide its evolution and to maximise its benefits.

An indicator of internet growth, Metcalfe's law, reminds us that the value of a network increases in proportion to the square of the number of nodes on the network. But this is only half of the equation: it does not take into account the network's span, either in distance or in the diversity of the nodes connected. Nor does it account for the fluidity created by the increasing percentage of nodes that are constantly moving within and among networks over wireless connections.

Policy choices are only indirectly impacted by the number of nodes on the network. A large number of constituents may make decisions more difficult, or increase their societal impact, but the number of nodes does not directly drive the complexity of the task. The span and fluidity of the network have a direct impact on complexity, however. No single region will have complete oversight of tomorrow's networks, and roving users will no longer be tied to the laws of a single jurisdiction.

The review of the EU's e-communications regulatory framework presents a timely opportunity to establish new policy directions in anticipation of the growing promise and complexity of the



**'More and more, the machines around us will begin to communicate independently on our behalf, increasing the network's potential for benefit – and for misuse'**

global network. To start, we should work with our global partners to put in place flexible but consistent radio-spectrum management policies in advance of the rapid rollout of wireless broadband across the region.

But more importantly, we should move quickly to establish policies that promote innovation and competition across the EU. For although the pace of change is increasingly set in the virtual market, winners and losers emerge at a local and regional level. Tomorrow's winners will likely come from future-looking jurisdictions with innovation-friendly policies.