

**ICT and Competitive Advantage in the Global Context**  
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**Speech Notes**  
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The question of whether and how Australia can have a globally competitive ICT sector has been the subject of much debate over the last decade.

I remember at the turn of the century the serious questioning of Australia's ICT trade deficit and its impact on the wider economy and our reputation as a 'clever country'.

At that time, various solutions were espoused including whether we should spend billions attracting a semi-conductor manufacturing facility to Australia.

With the tech wreck behind us and now in the midst of the GFC, it is probably good that we didn't go down that track.

We now have a better understanding of the link between ICT and Australia's wider economy and society.

ICT is characterised by unrelenting, exponential increases in computing power; by an endless plethora of devices and applications; by the internet, which has forever changed the way we communicate; and by an unstoppable mobile revolution.

ICT has become an increasingly embedded, enabling technology that is present and pervasive across virtually every aspect of our lives.

There is not a sector of the economy or a field of human endeavour, which is not reliant in some way upon ICT.

But do we have a better understanding of the role of Australia's ICT sector?

Have we worked out whether we should be ICT inventors or developers or producers or simply very smart ICT users?

We have certainly found niches.

- Games software, animation and special effects.
- Mining software.
- A range of health and community service applications.
- Environmental monitoring and management equipment.
- Smart transport systems.
- Business software in accounting, logistics and supply chains, and share registries.
- And if I could be so bold to add wireless and IP network capabilities as part of Telstra's transformation.

But do we really know where we are heading and where our focus should be?

Should we be picking winners or letting all flowers bloom?

Do we need some sort of centralised plan – after all they are all the rage?  
Or simply a whole-of-economy approach to ICT?

These are all important questions; particularly when one considers the need to strategically allocate scarce research, education and diffusion dollars in an increasingly competitive funding environment.

My thesis is that ICT is no longer a sector.

It is much more important than that. ICT has become an essential input upon which every sector of our economy relies.

If we fall into the trap of thinking of ICT as a stand-alone sector, we undervalue its fundamental importance and inevitably focus on the commoditised aspects of the computing industry.

Instead we should see ICT as the engine-room of the most important drivers of Australia's economy and society – health ICT, environmental ICT, educational ICT, financial ICT, smart ICT enabled infrastructure – and the list goes on.

We must excel in finding the opportunities to develop, integrate and utilise ICT applications that increase the competitiveness of our economy and liveability of our society.

We should not be reinventing, already-established ICT wheels that will not add value in areas that are not important.

Rather we should be focussed on harnessing the power of ICT products, applications and services – both imported and locally developed – as a fundamental means of driving forward the nation’s core economic, social and environmental priorities.

We need to be innovators in terms of developing and applying ICT applications that make our businesses processes more efficient and productive.

We need to use the power of ICT to drive the health dollar further, achieving better health outcomes through prevention and early intervention, smarter diagnosis, more effective treatments and vastly improved management of health information.

We need to understand that the success of every element of our education system relies on ICT – we must embed ICT through digital curricula, ICT-enabled global and lifelong learning, and ICT-empowered scientific discovery and research collaboration.

Physical infrastructure needs to be ‘smart infrastructure’, enabled and managed using ICT-based applications and software.

In a country so prone to climate change and where water is so scarce, ICT is pivotal in our efforts to reduce our carbon footprint, to increase our energy efficiency and to effectively manage use of our water resources.

And if you can excuse me for becoming semi parochial for a minute; the achievement of most, if not all, of the above national priorities depends upon better connecting people (and machines) through telecommunications networks.

To this end, the Federal Government’s recent announcement of a \$43 billion fibre to the premises network is bold and ambitious. It has engendered real interest and a sense of anticipation.

A lot of detail must be worked through, but the Government is determined to drive forward this massive project and Telstra has publicly committed to working constructively to see if a mutually-beneficial solution can found.

If this can be achieved, clearly it has the potential to take Australia's national connectivity to an entirely new level.

But the test won't end there. I suspect one of the real challenges lies in readying those sectors that potentially stand to gain most and deliver the greatest benefits from very high-speed national connectivity – namely, health, education, small business, community services and the environment.

Before I finish, I'd like to make two further observations.

First, on the education front, it seems clear that, just as ICT is a fundamental input across all industry sectors, it must also be both a basic learning underpinning (like literacy and numeracy) and a core learning stream across all education disciplines.

Computer science is no longer just a faculty in its own right. We need multi-disciplinary graduates who innately understand and can readily apply ICT to whatever their chosen professions might be.

There needs to be an integrated ICT learning focus and capability in every faculty or department – be it the sciences, the humanities, business or the trades.

And the same, of course, applies to every field of research and discovery.

Last, I would like to comment on how the Australian ICT sector represents itself to the wider business community, to governments and to the general public.

I am firmly of the belief that we have seriously undersold ourselves.

We have allowed ourselves to be pigeon-holed and to be perceived quite wrongly as peripheral, ironically at the very time that our products and services have become mainstream.

The importance of ICT as a fundamental economic and social driver is not sufficiently understood by those who are influential and make the big decisions – and the blame lies with us.

ICT is a productivity-enabler. Yet, research shows that, while business realises that productivity is important, it largely does not know how to measure productivity or to develop a business case for it.

ICT is also too low on the pecking orders of governments, be it for R&D funding, for using ICT to enable better health and education outcomes, or in the more cost-effective delivery of government services.

Rather than understanding and selling the ICT big-picture, unfortunately we have been too siloed and have been picked-off by decision-makers as we have argued amongst ourselves.

As those who are passionate about ICT and its future, we need to find a better way forward.