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NEW ZEALAND BUSINESS & PARLIAMENT TRUST

Changing communication trends and what it means for New Zealand

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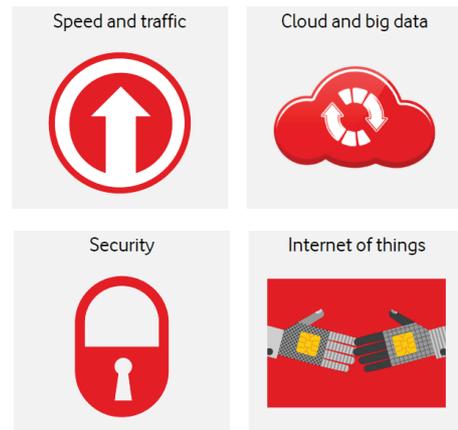


Today I want to discuss the four megatrends impacting our industry and trends which have changed and continue to change the way we live. Finally I want to sum up by considering some of the implications for policymakers.

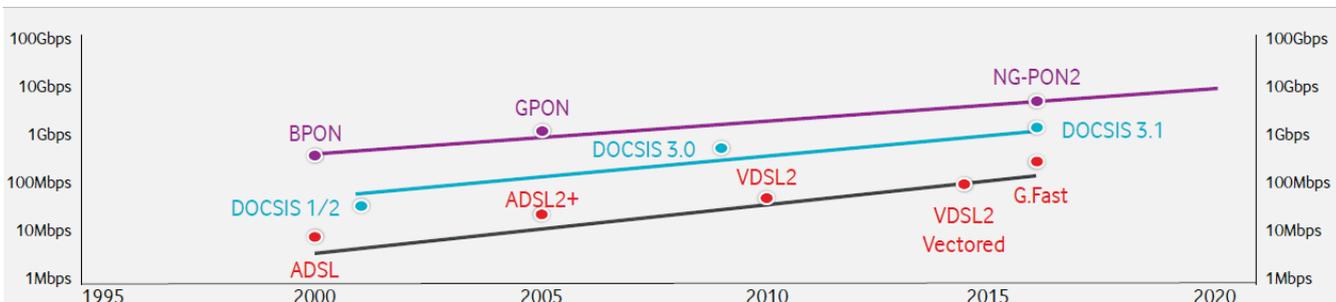
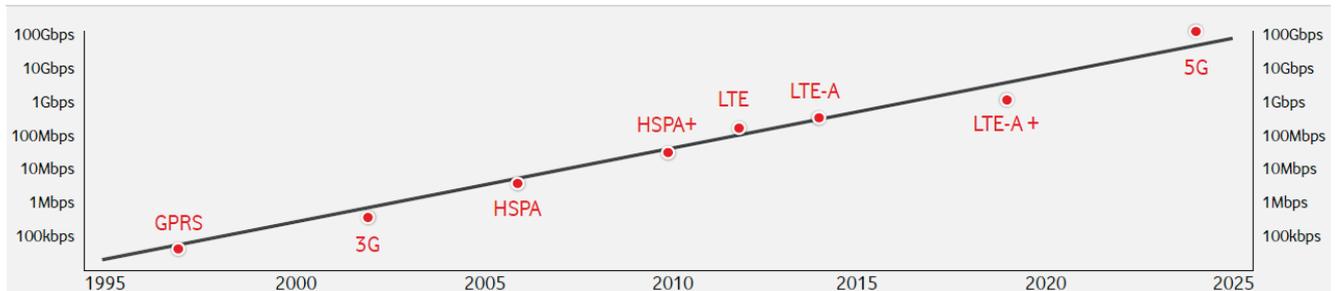
There are four megatrends impacting our industry which have relevance for households and businesses throughout the country. They are:

- The vast increase in data speed and the volume of data traffic on the networks;
- The move to data storage in the cloud;
- The rapid growth of machine to machine connectivity; and
- The importance of security in order to protect customer privacy and to prevent harm.

Technology evolution shaping our landscape



Data speeds are increasing

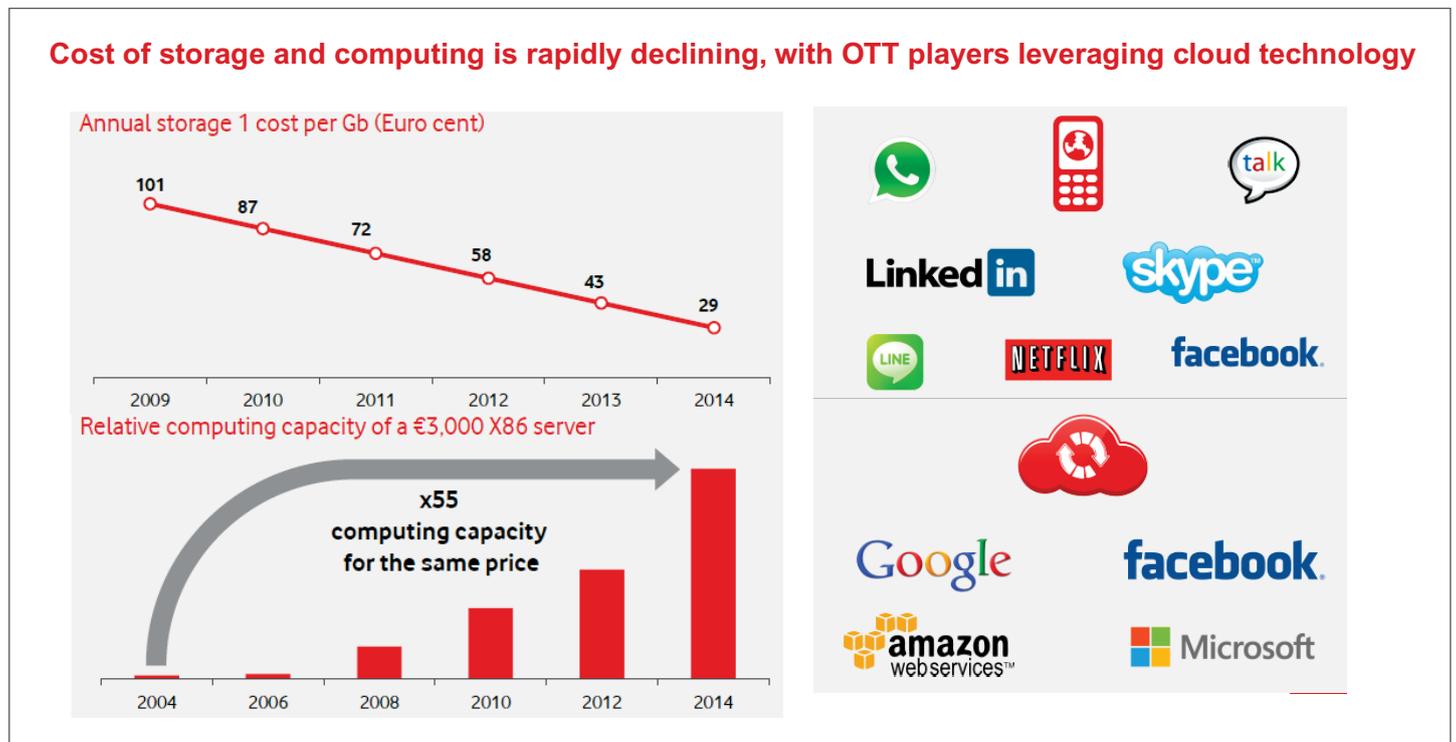


Data speeds on the mobile networks have increased from around 0.1 Mbps on the GPRS network in the mid 1990s to 100 Mbps on the LTE-enabled network in 2014. The technology roadmap has networks being capable of delivering up to 100 Gbps using 5G technology.

On fixed line networks data speeds have increased from 10 Mbps and 1Gbps in 2000 to just under 100 Mbps and 5Gbps in a few years time.

Storage power of computers is increasing

At the same time the unit cost of data storage is declining. The annual cost of storage per Gb has declined from 101 eurocents in 2009 down to 29 eurocents in 2014. In parallel the power of computers has also increased by around 55 times between 2004 and 2014.



Security risks are growing

In the news in recent years we have seen examples of security breaches: from the massive data breach on e-bay, through the resignation of Target's CEO due to a security breach; to the theft of information affecting 1 million customers on the Orange network.

Internet of things explosion

It's not just people using mobile devices today. Increasingly mobile connections are being made with motor vehicles to help monitor product performance; Wearables is another area of connectivity - think about Google glasses or Google watches; Smart cities are increasingly using mobile connectivity for monitoring public transport service in real time. Connectivity with devices in the home is increasingly commonplace - think about smart meters which track electricity usage and security alarms which can be monitored remotely.

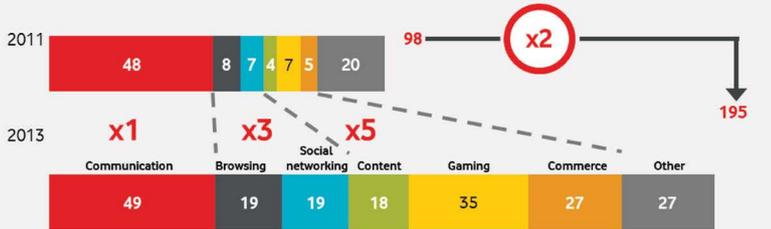
Excluding mobile phones there are now almost 1 billion devices are connected to the Internet through mobile networks worldwide. By 2019 its forecast that there will be 10 billion devices connected to the Internet. In other words we are looking at a ten-fold increase in the Internet of things.

In addition to these four megatrends we are also seeing five technology trends which are driving customer behavior. These are:

1. Acceleration of a digital lifestyle;
2. The impact of social media driving content and commerce;
3. Over The Top (OTT) players such as Facebook, Google and Twitter are billion dollar businesses which are increasingly driving convergence and gaining momentum.
4. Growing customer privacy and security concerns;
5. Cloud and mobility is increasingly shaping enterprises.

Digital lifestyle shift accelerating: social, content and commerce key drivers

Average daily minutes spent on a smartphone



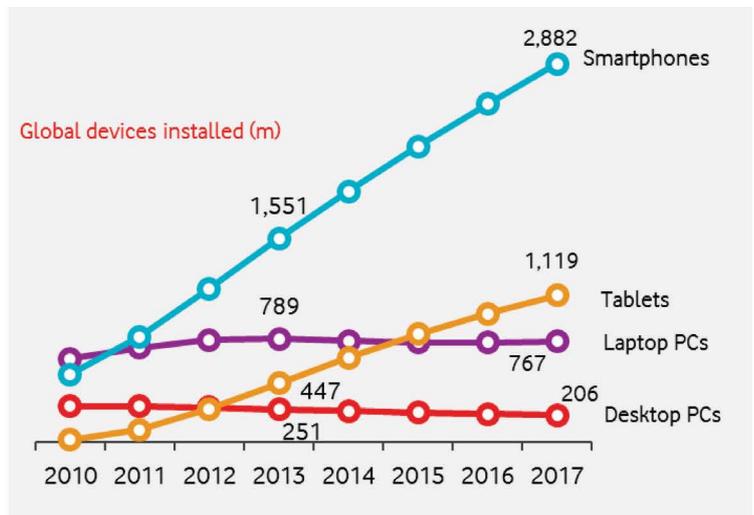
These changes are happening very rapidly. The smartphone revolutionized the way we work and live. Remember the Apple i-phone is only seven years old. The first i-phone was launched in 2007. The 3G version was available in 22 countries in 2008.

Today we are using our smartphones differently to the way we used them even three years ago. In 2011 the average amount of time we spent on a smart phone was 48 minutes per day. It was mainly for texting and making calls. In 2013 - just two years later - we spent 195 minutes per day on our smart phone.

We are not making more calls or sending more txts but we are doing new things on our smart phones such as browsing the Internet, participating in social media and networking, among the biggest increases over the last two years have been the growth in gaming and in commerce - including shopping on line.

Increasingly people are not waiting till they get home to post their thoughts on a business or shopping experience. They connect with people on Facebook or Linked In and they do reviews of the café they just visited, in the moment, using their smartphones.

Smart phone and tablet penetration is exploding



The way we connect to the Internet is continuing to change. The areas of rapid growth in terms of devices installed globally is in smartphones and tablets. Laptops and desktops are flat-lining. The prices of these devices is also declining which makes them more affordable for more consumers worldwide.

Growing impact of social networks online and offline

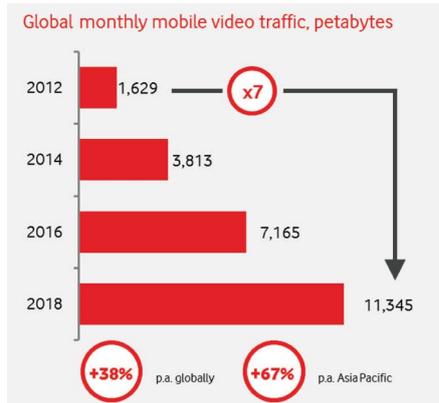
Social media is huge and growing. They enjoy 60% penetration in developed markets and 80% penetration in emerging markets.

Social media players such as Facebook and Google are now moving into telecommunications offering services which provide phone calls and txt messaging over the Internet.

Social media is important for your business. 40% buy an item in the store or online after having "liked" or "shared" the item on social media.

83% stopped a purchase after seeing a negative review on social media.

Video going mobile, TV more on demand



Video going mobile and TV more on demand

There have been profound changes in the way we watch TV and video. Increasingly people want to watch on demand content - rather than wait until the time and date the broadcast networks determine.

48% of TV viewing has shifted to on demand viewing. Among those under 35 yrs of age the figure is 70%. Among those over 55yrs the figure is 35%.

Global monthly mobile video traffic is forecast to grow seven fold between 2012 and 2018. In 2012 the volume of video data was 1629 petabytes. By 2018 the forecast is 11,345 petabytes.

m-commerce is accelerating

Mobile funds transfer: transaction value (€bn)



Mobile commerce is accelerating in every part of the world. The highest areas of growth for mobile commerce are in Asia-Pacific and Africa. Many countries in these regions did not use fixed lines but leap-frogged straight to mobile networks. They are now enjoying higher rates of growth in m-commerce.

These trends are impacting business as well.

- **New customer relationship:** 86% of customers are happy to pay more for a better experience.
- **Borderless enterprise:** 87% believe partnerships are better than innovating alone.
- **The changing role of IT:** 90% of technology control will be outside IT.
- **The connected revolution:** 78% expect machine to machine connectivity to drive success.
- **The mobile imperative:** 73% believe the impact of mobile will be greater than or equal to the impact of the Internet.

Implications for NZ Inc.

- The global digital lifestyle era is not on its way - it's here - and it is evolving fast and unpredictably
- Communications is constantly redefining itself, with new leaders emerging
- While total digital usage doubles every year & infrastructure investment increases year on year, overall telecommunications industry revenues are declining.
- Security is a critical issue for us all
- The global internet does not recognise sovereign territories & institutions of society - implications for tax, intellectual property, privacy, law enforcement.