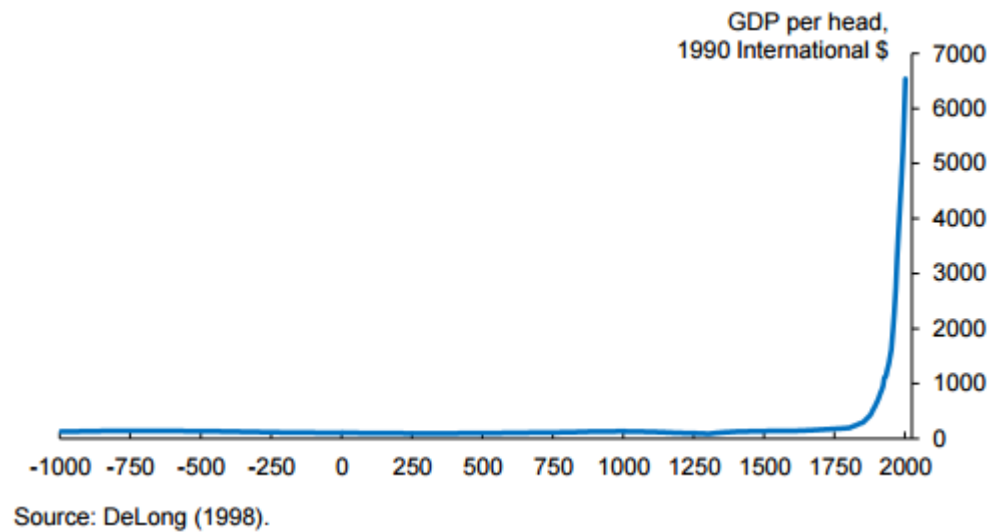


The Internet – the new helping the old

Brian Williamson
CCIA & EDiMA, Brussels
March 2015

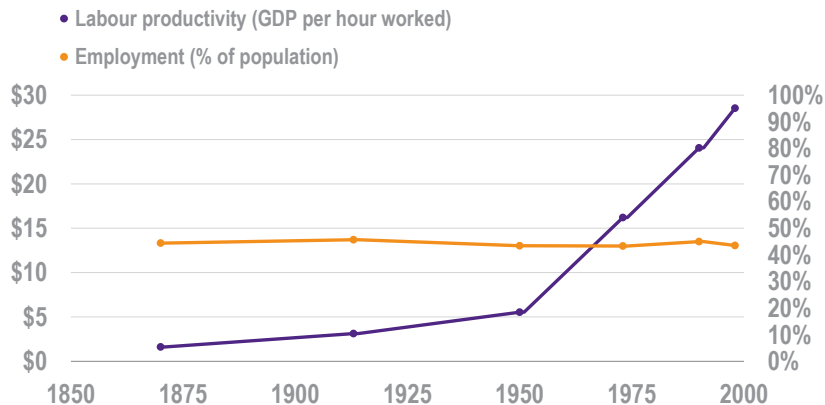
Growth is a recent phenomenon



Innovation necessary but not sufficient for growth

“Productivity isn’t everything, but in the long run it is almost everything” Paul Krugman

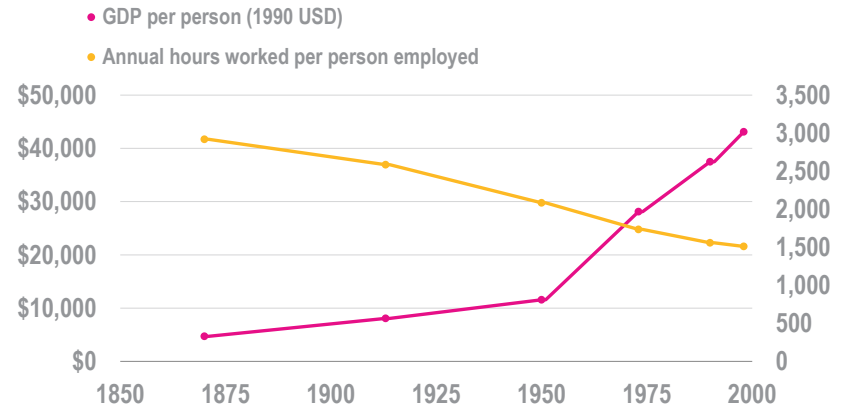
Labour productivity and employment, Western Europe



Source: Plum Consulting, OECD

* Weighted average of 12 West European countries

GDP and hours worked per person, Western Europe



Source: Plum Consulting, OECD

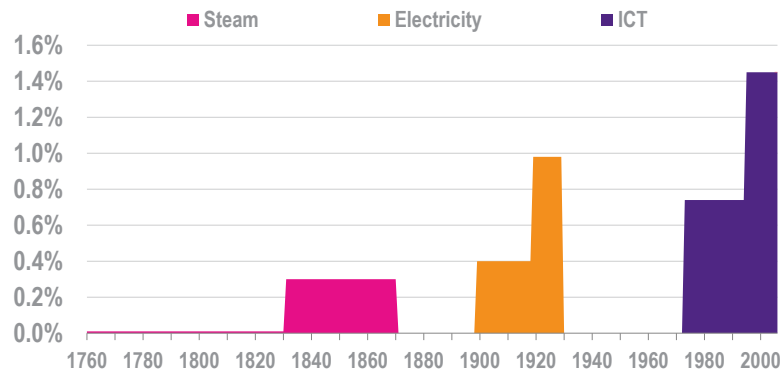
* Weighted average of 12 West European countries

"Thou aimest high, Master Lee. Consider thou what the invention could do to my poor subjects. It would assuredly bring to them ruin by depriving them of employment, thus making them beggars" Elizabeth I, 1589, refusing a patent for the knitting machine

The Internet – the General Purpose Technology (GPT)

GPT contribution to labour productivity growth

% per year



Source: Plum Consulting, Crafts (2011)

Alan Greenspan, March 2000

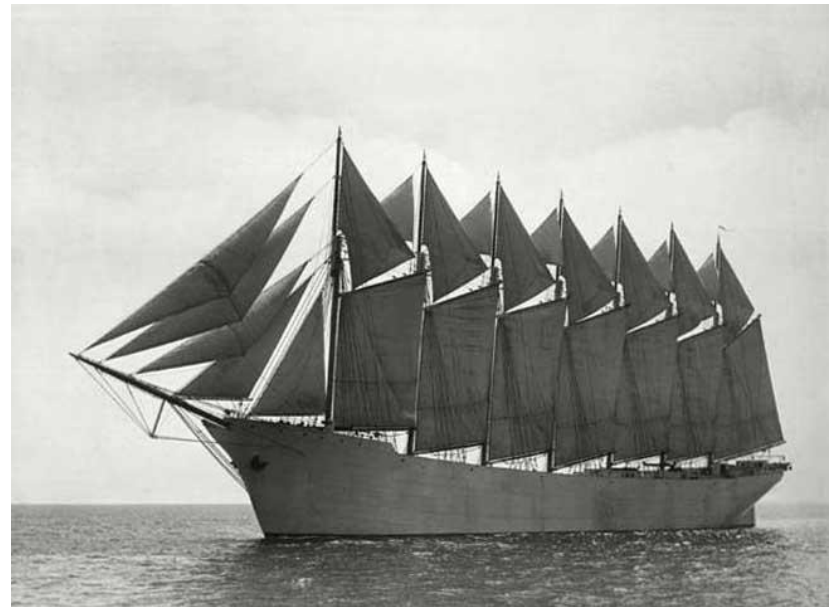
- “...until the mid-1990s, the billions of dollars that businesses had poured into information technology seemed to leave little imprint on the overall economy....”
- “The full value of computing power could be realised only after ways had been devised to link computers into large-scale networks...”

Steam complemented sail from around 1850

1838: SS Great Western – first purpose-built transatlantic steamship



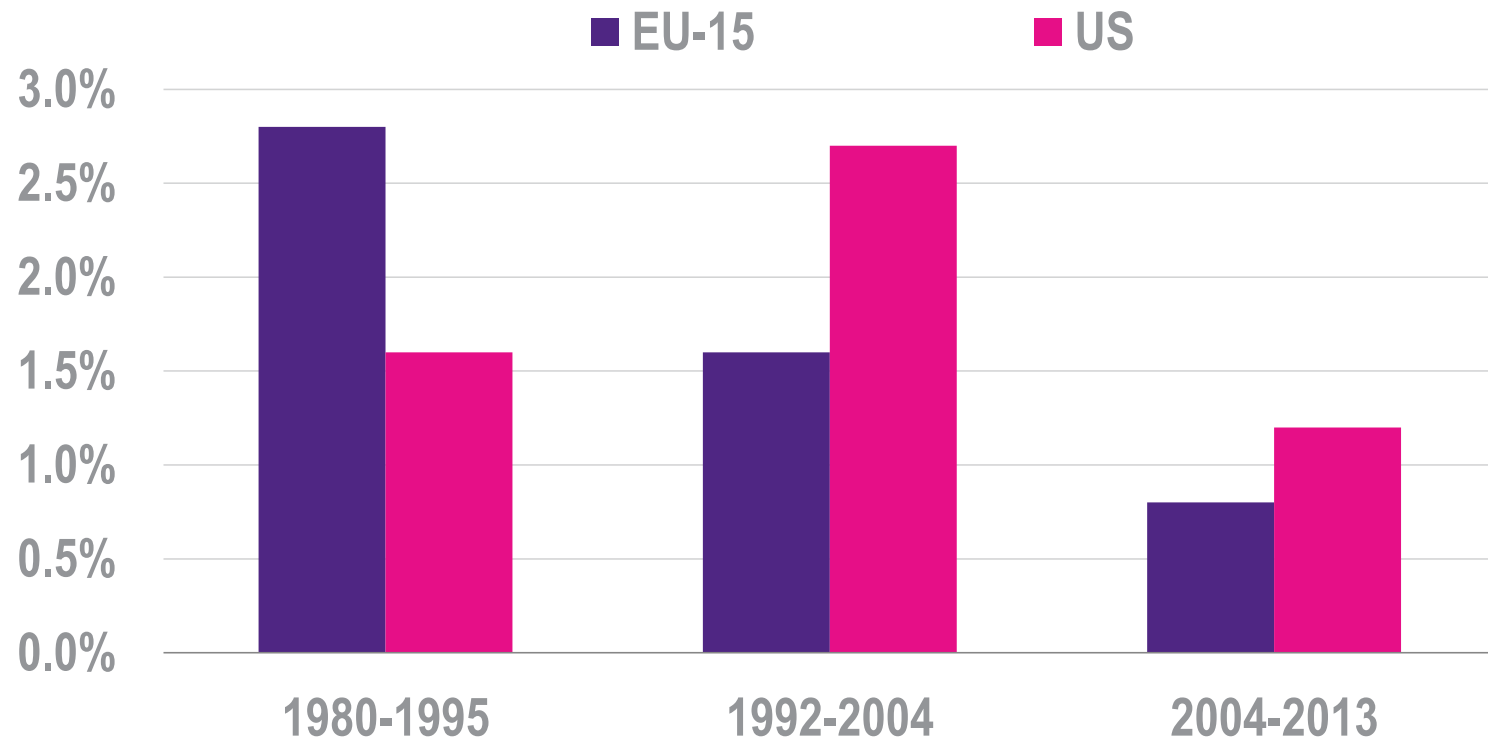
1902: Thomas W. Lawson - Sailing ship with steam & electric winches - coal & oil freighter



New may complement the old, even though it may eventually substitute for it

Convergence, then divergence in internet age

Labour productivity growth

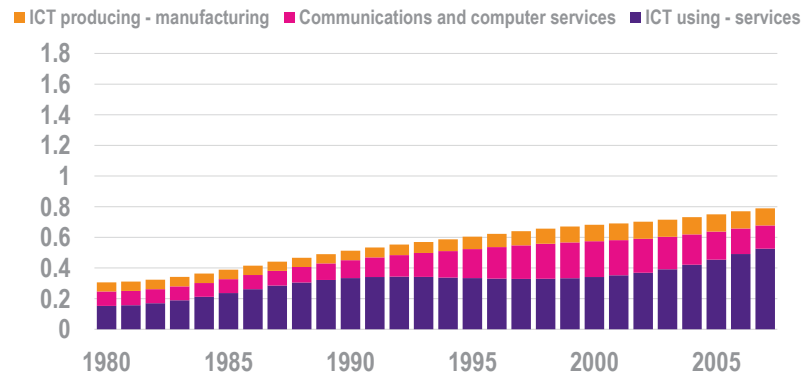


Source: Plum Consulting, ITIF

Internet use dominates benefits

ICT contribution to productivity growth, EU15

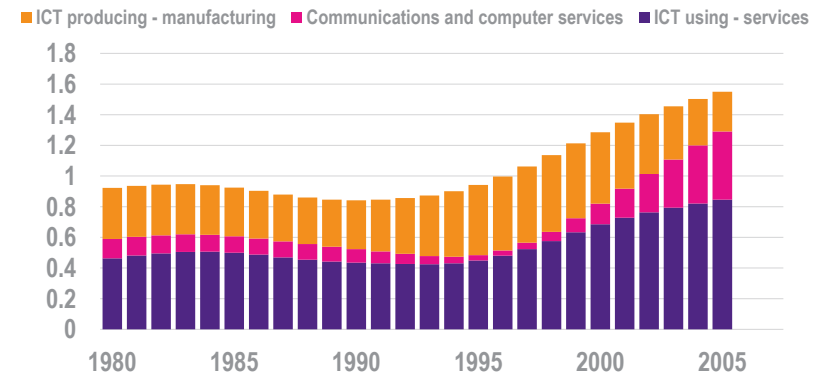
Percentage points per annum (smoothed data)



Source: Plum Consulting, KLEMS

ICT contribution to productivity growth, US

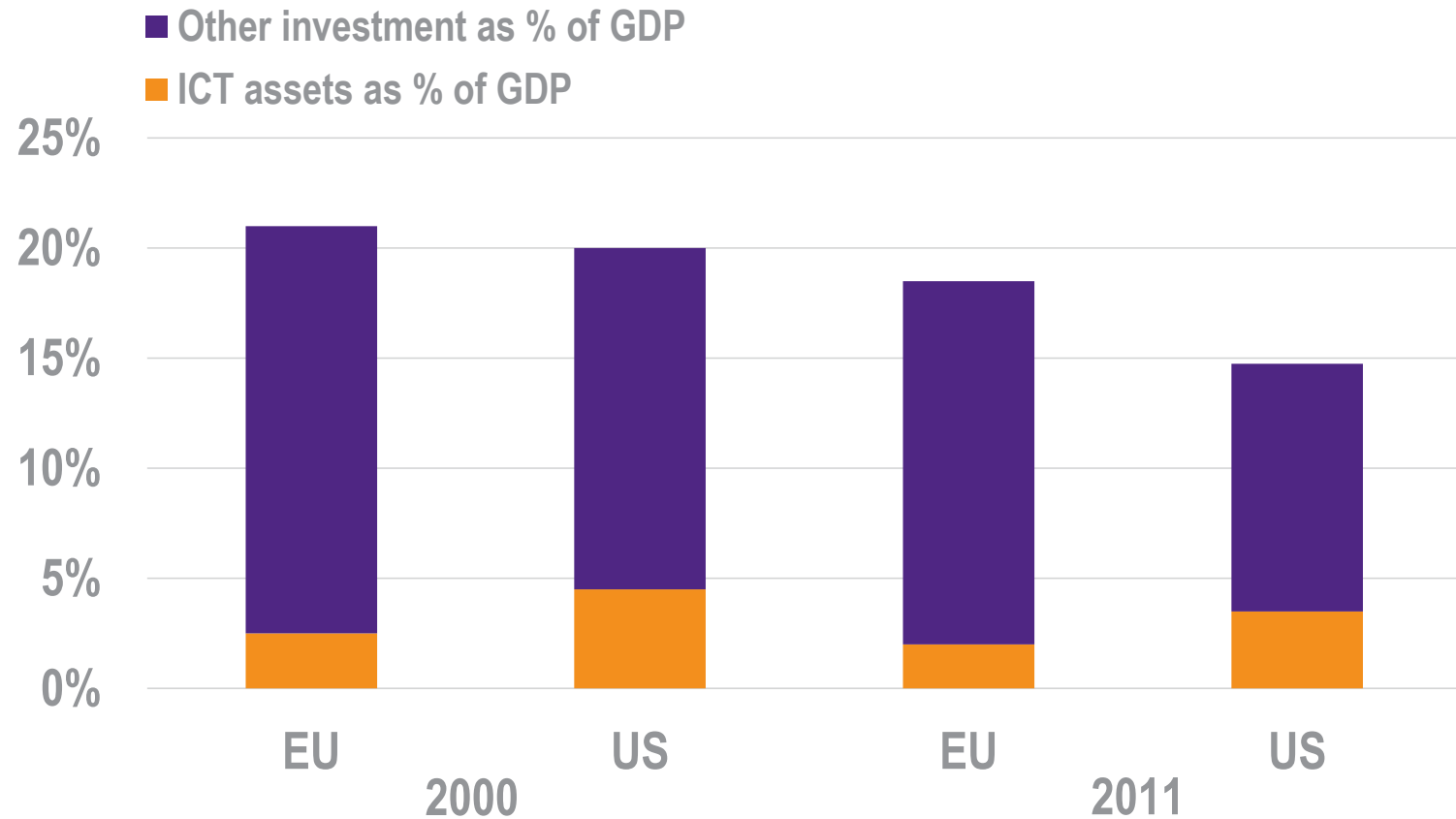
Percentage points per annum (smoothed data)



Source: Plum Consulting, KLEMS

Europe invests more than US, but not in ICT

Investment as a % of GDP



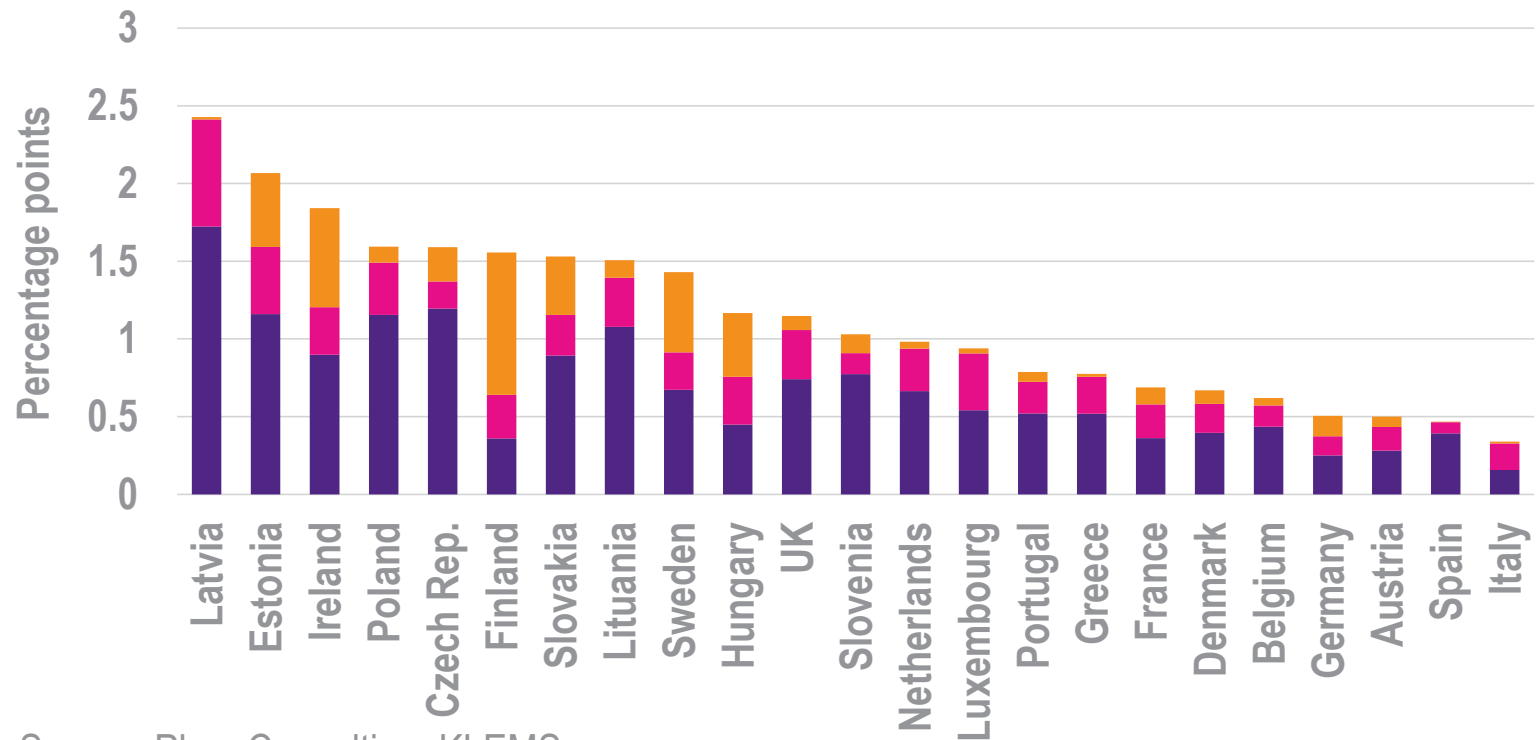
Source: Plum Consulting, ITIF

Substantial variation across Europe

ICT-driven productivity growth

Average 1997-2007

■ ICT producing - manufacturing ■ Communications and computer services ■ ICT using - services

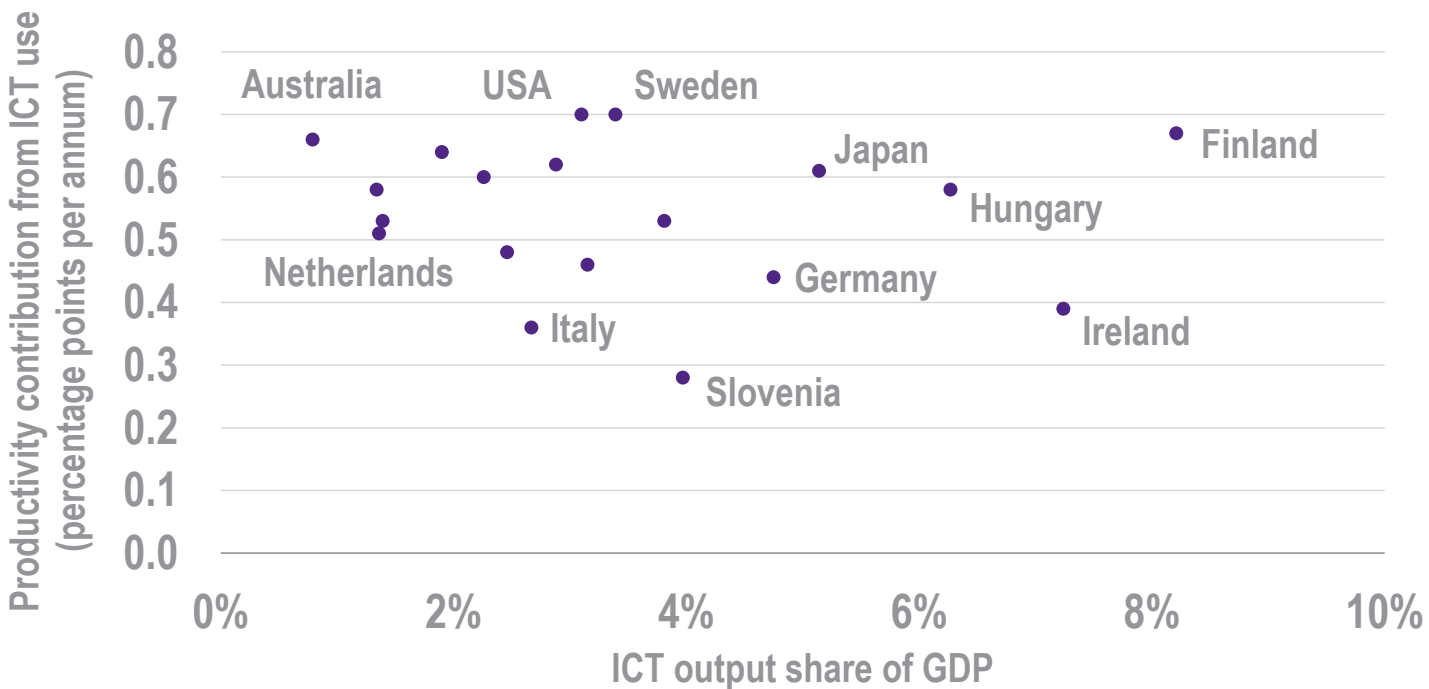


Source: Plum Consulting, KLEMS

You don't need to make IT to use IT

ICT share of output vs. productivity contribution

1997-2007



Source: Plum Consulting, Oulton (2010)

Sandvik – the ‘servification’ of industry

- Sandvik (Swedish)
 - Mine automation
 - Vehicles equipped with wireless communication & navigation systems
 - Automated or operated remotely
 - Proactive maintenance
 - Real time monitoring
 - Equipment fixed before it breaks
 - Logistics enhancement & productivity



Neuroathome – remote rehabilitation

- Uses Microsoft Kinect to rehabilitate patients with neurological injuries & disorders e.g. Parkinson's
- Allows clinicians to prescribe physical and cognitive exercises to patients at home, and to monitor patients remotely
- Better health outcomes at lower cost

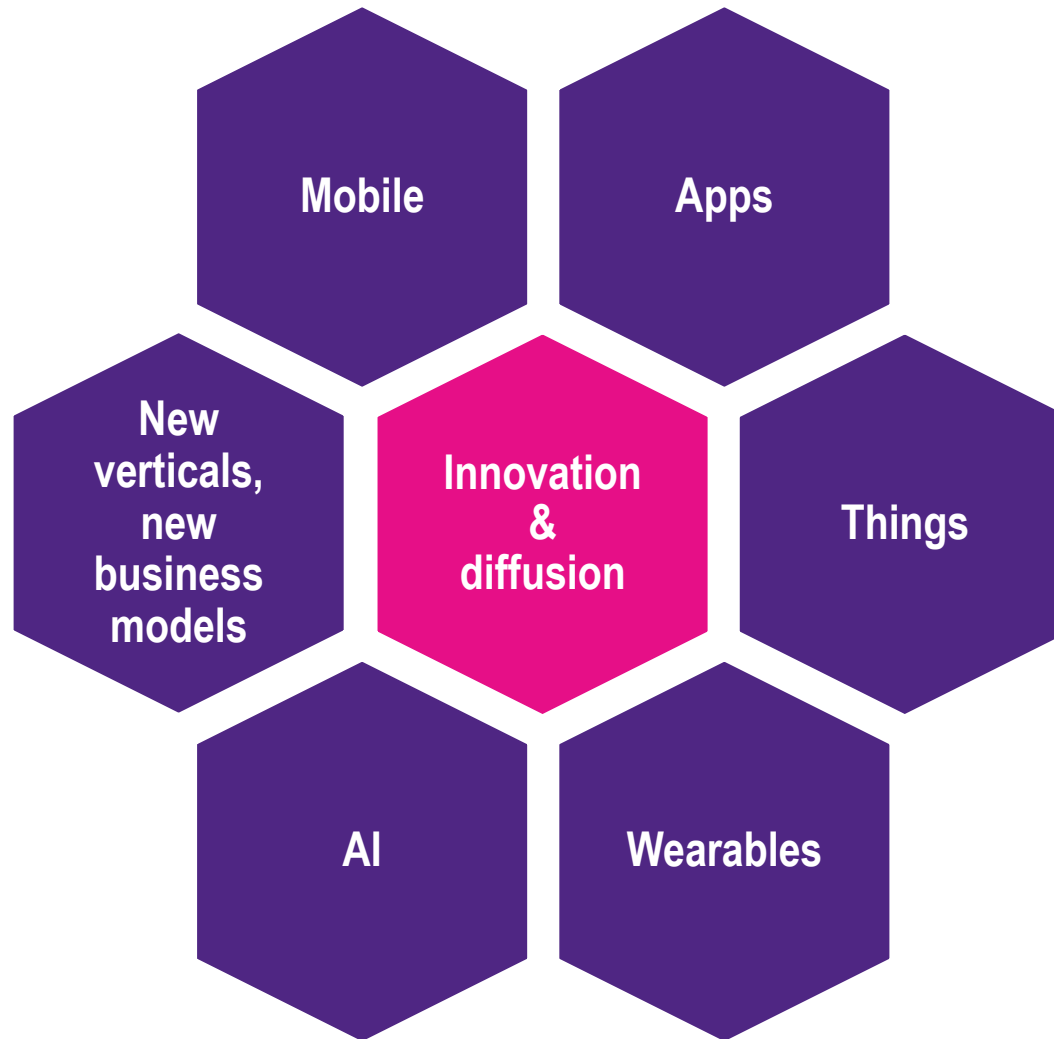


Cuckoo clocks – reaching global customers

- The internet helps businesses reach new markets
- German wood sculptor Gerhard Schmeider takes orders for his cuckoo clocks from the Far East, Australia and the USA.
- Gerhard's business relies on the internet to survive since the local market is too small.



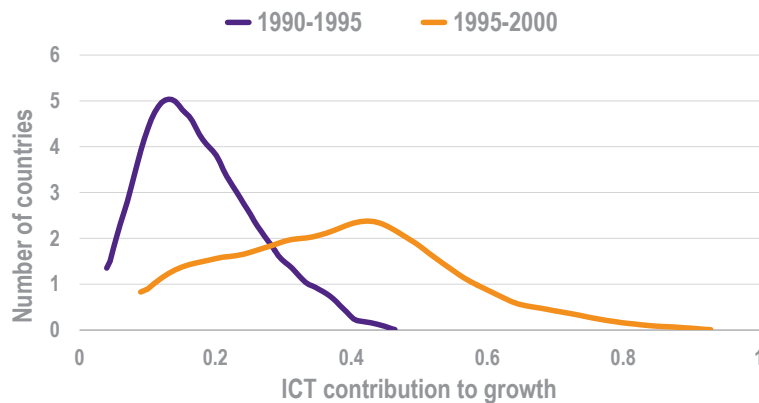
The internet continues to extend its reach



Benefits of internet are not assured

Divergence with internet

ICT contribution to growth



Source: Plum Consulting, Vu (2005)

Policy matters

Long history of efforts to block innovation

- Gutenberg's printing press by the sultans of the Ottoman Empire from 1485
- Steam railways by Austro-Hungarian emperor Francis I

Comes at a cost, arguably even higher now

- "*...it takes all the running you can do, to keep in the same place*" The Red Queen in *Through the Looking-Glass*
- "*The opportunity cost of security and preservation of the status quo ...has risen greatly in recent times*"
James Heckman

A new game requires new rules