



## Tomorrow's Network and the Internet of Things



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Tomorrow's Network  
Today

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# What is the “*Internet of Things*”?

## Different definitions

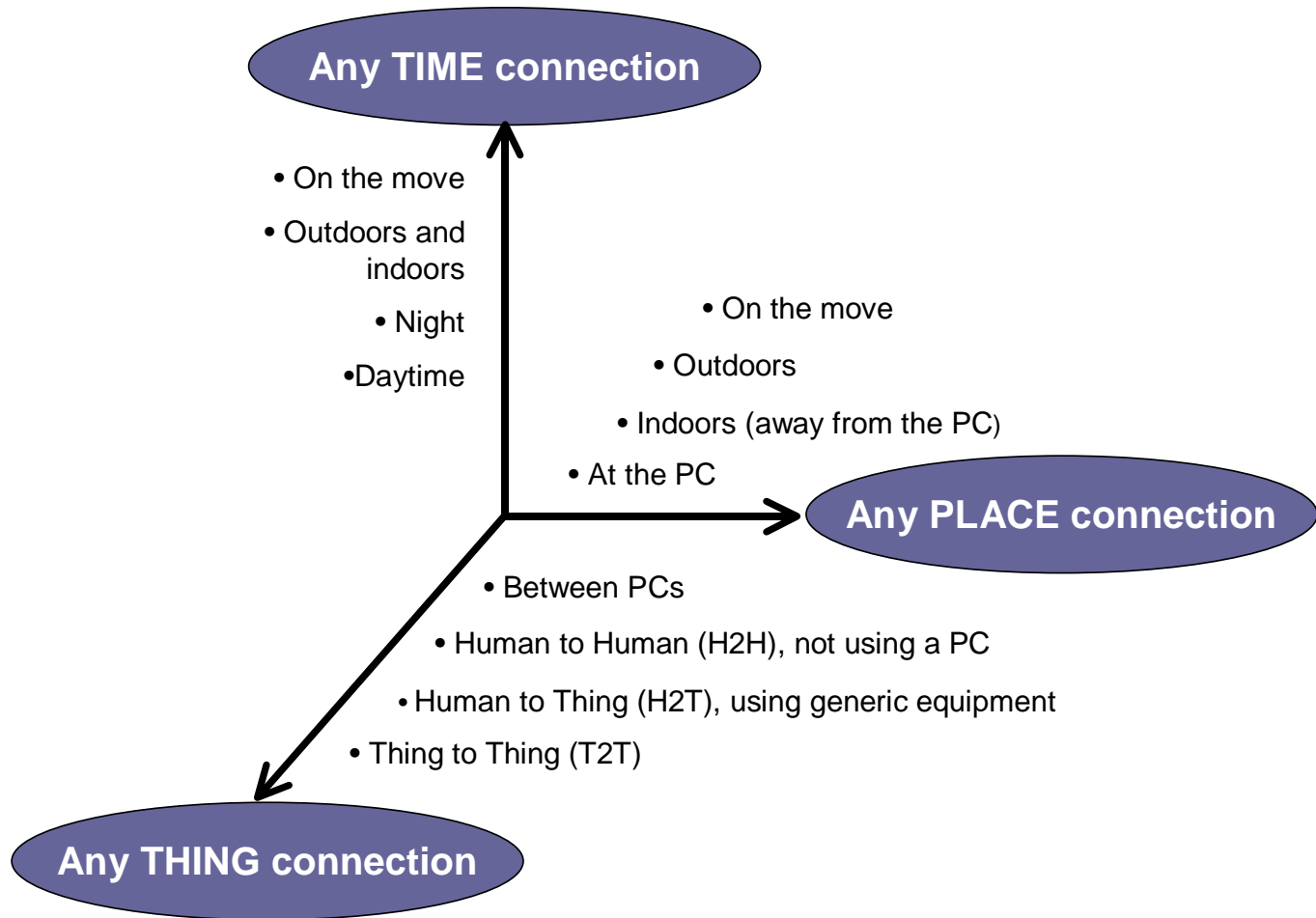
- **Ubiquitous network societies** “*anytime, anywhere, by anything and anyone*”
- **Ubiquitous computing**: “*The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it.*”
- **Next Generation Networks**: “*packet-based network able to provide telecommunication services and make use of multiple broadband [...] transport technologies in which service-related functions are independent from underlying transport-related technologies*”



# Today's and tomorrow's networks

Today's PSTN network	Next Generation Networks
<ul style="list-style-type: none"><li>• Circuit-switched.</li></ul>	<ul style="list-style-type: none"><li>• Packet-based, based on Internet Protocol (IP).</li></ul>
<ul style="list-style-type: none"><li>• Limited mobility of end-user services.</li></ul>	<ul style="list-style-type: none"><li>• Broad-based 'generalised mobility'.</li></ul>
<ul style="list-style-type: none"><li>• Vertical integration of application and call control layers, with dedicated networks.</li></ul>	<ul style="list-style-type: none"><li>• Horizontally-integrated control layers, with simultaneous delivery of applications. Service-related functions independent of transport-related technologies.</li></ul>
<ul style="list-style-type: none"><li>• Non-responsive network.</li></ul>	<ul style="list-style-type: none"><li>• NGN will be able to identify and adapt to user needs in real-time.</li></ul>

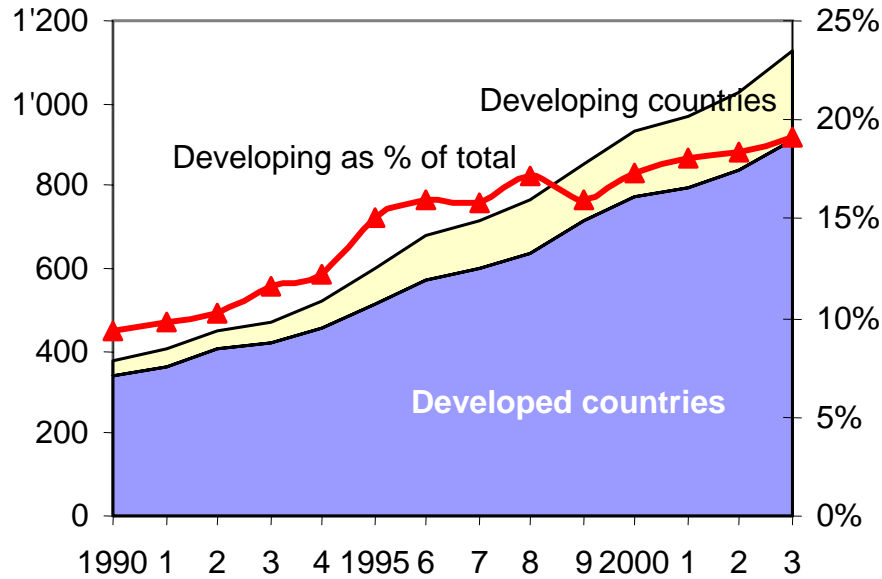
# Connecting things



# What's driving the market? (1)

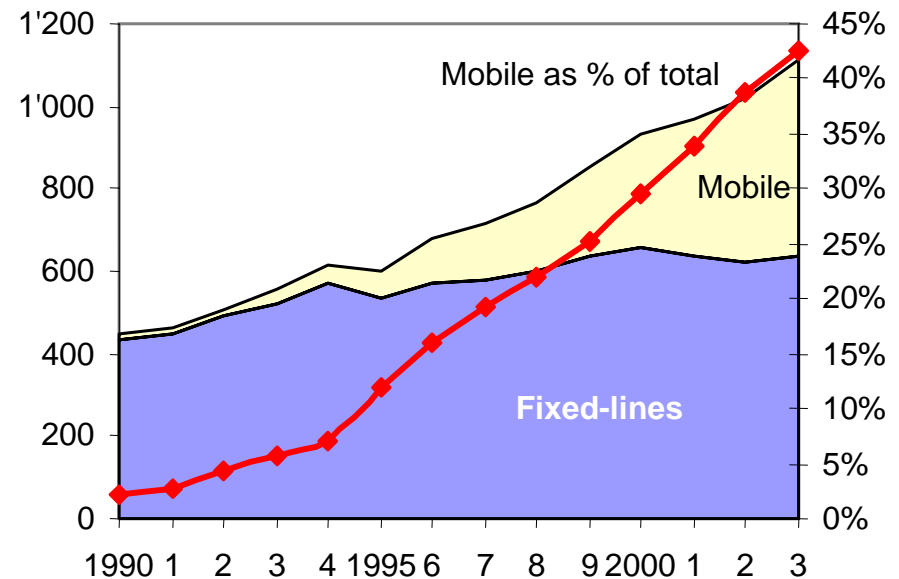
## Near saturation of traditional markets

Telecom services revenue, in US\$ bn



Developing countries growing faster than developed ones

Fixed-line and mobile services revenue, in US\$ bn



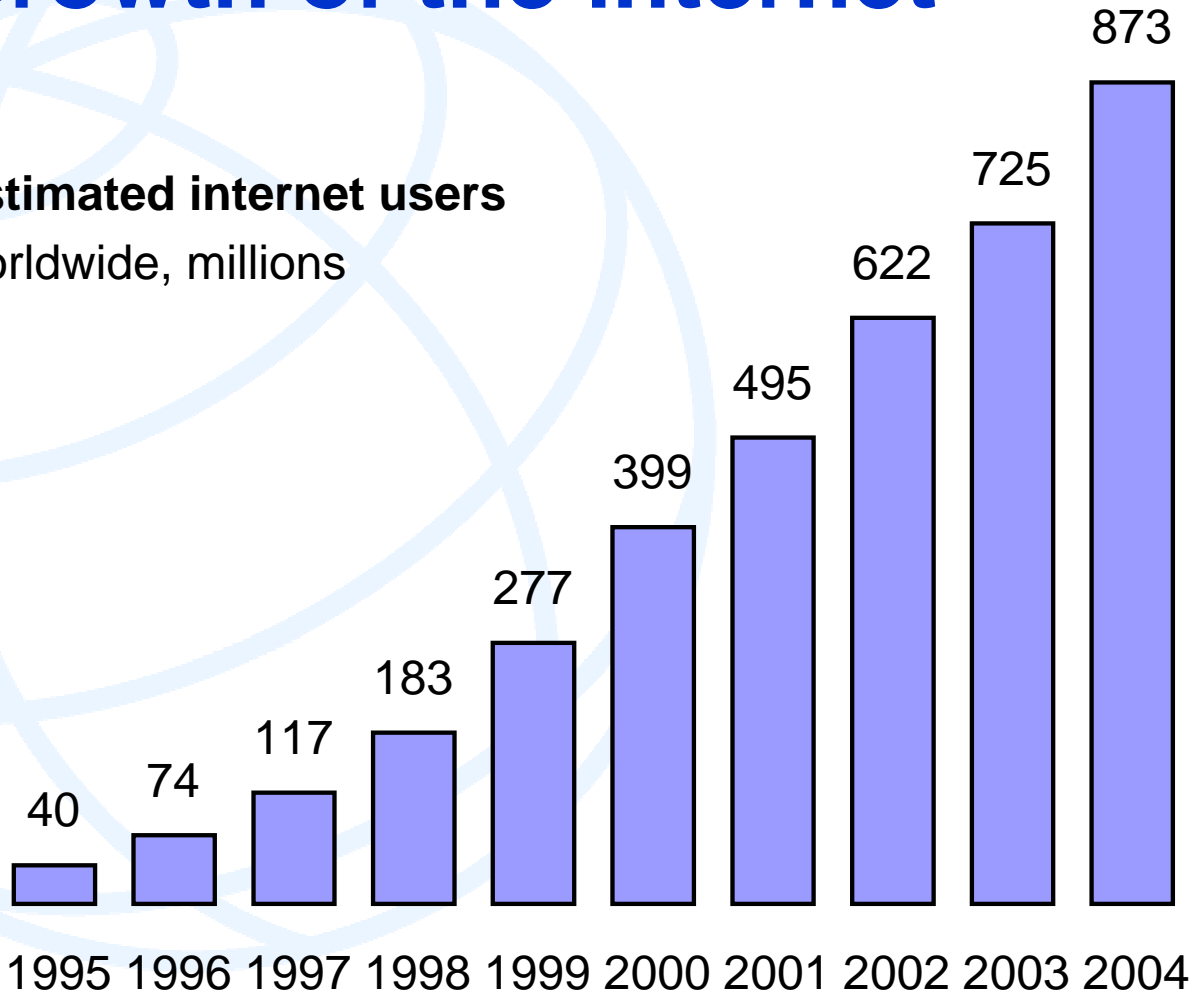
Mobile markets growing faster than fixed-line markets



# What's driving the market? (2)

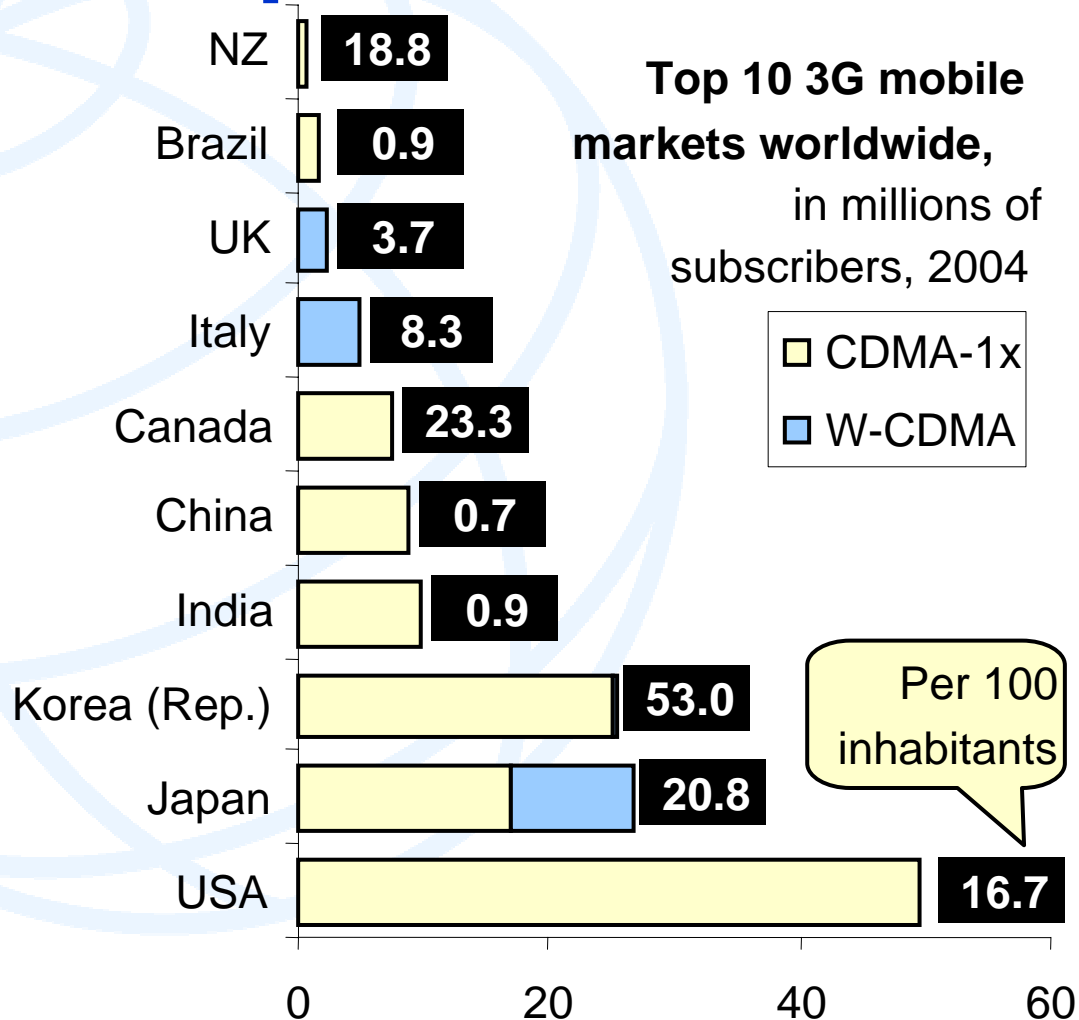
## Growth of the internet

**Estimated internet users**  
worldwide, millions



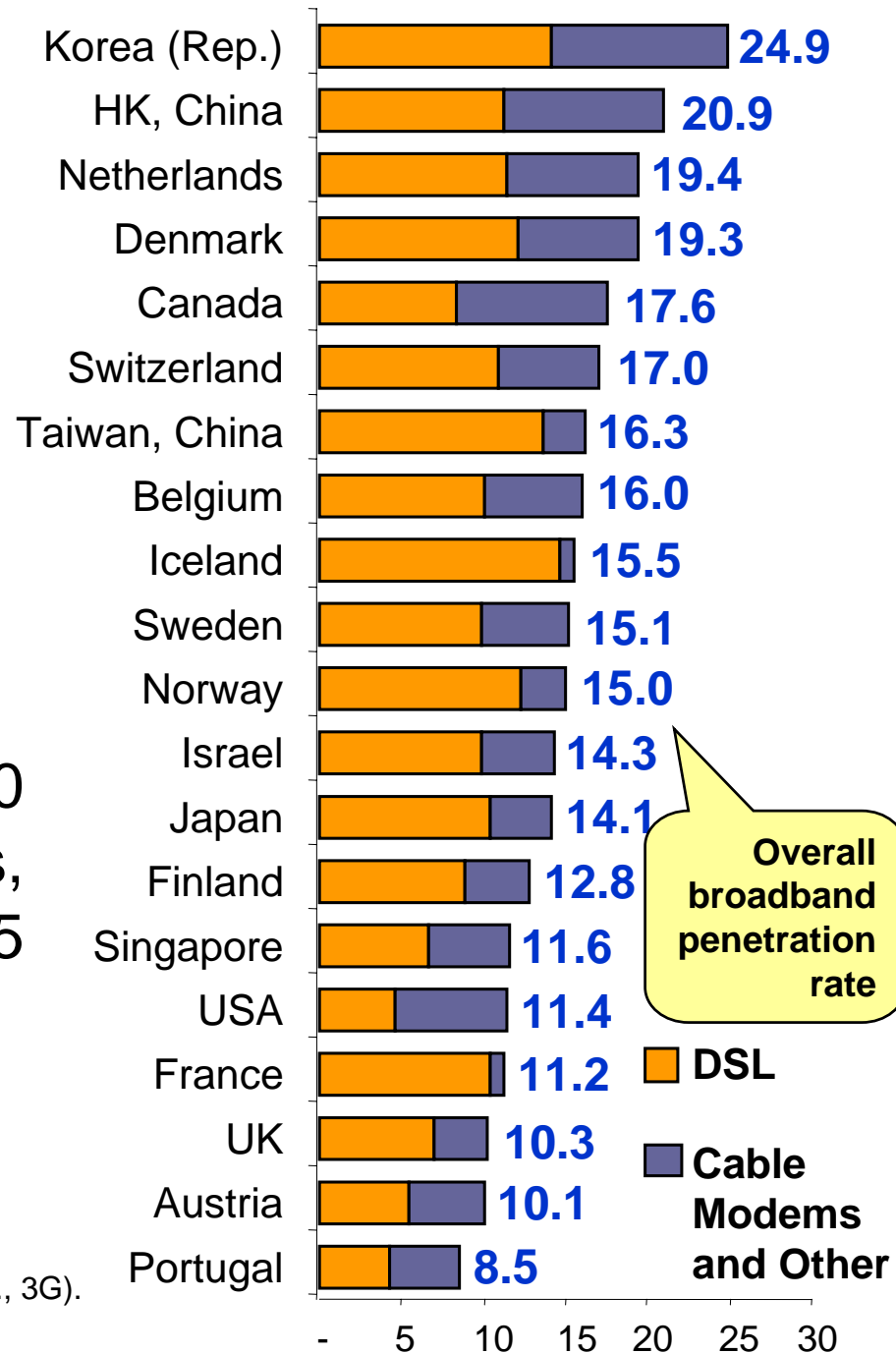
# What's driving the market? (3)

## Development of 3G mobile



# What's driving the market? (4) Broadband

Broadband subscribers per 100 inhabitants,  
Top 20 nations, 1 Jan 2005



Note: Figures used in slide do NOT include wireless broadband (e.g., 3G).  
Source: ITU World Telecom Indicators Database.





## **We have the platform ....**

- **Pervasive Internet and mobile networks**
- **Increasingly higher speeds available**
- **Pricing trending towards lower usage costs**

**... now give us the applications**

- **Home automation**
- **Automotive telematics**
- **RFIDs and Sensor Technologies**
- **Logistics and distribution**
- **etc**



# Thank you

The “Internet of Things” report will be released in November 2005 at <http://www.itu.int/internetofthings>

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