New trends and challenges in ICT

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European Commission
Information Society and Media

ICT expenditures per capita in 2006*, in euro

Country	Euro
Sweden	2,473
Denmark	2,464
UK	2,059
Netherlands	2,056
Finland	1,925
Belgium / Lux.	1,784
Austria	1,779
Ireland	1,649
Germany	1,620
France	1,607
EU	1,344
Italy	1,218
Spain	1,136
Portugal	915
Slovenia	828
Greece	783
Czech Republic	675
Estonia	610
Hungary	608
Latvia	476
Slovakia	450
Poland	410
Lithuania	367
Bulgaria	268
Romania	213
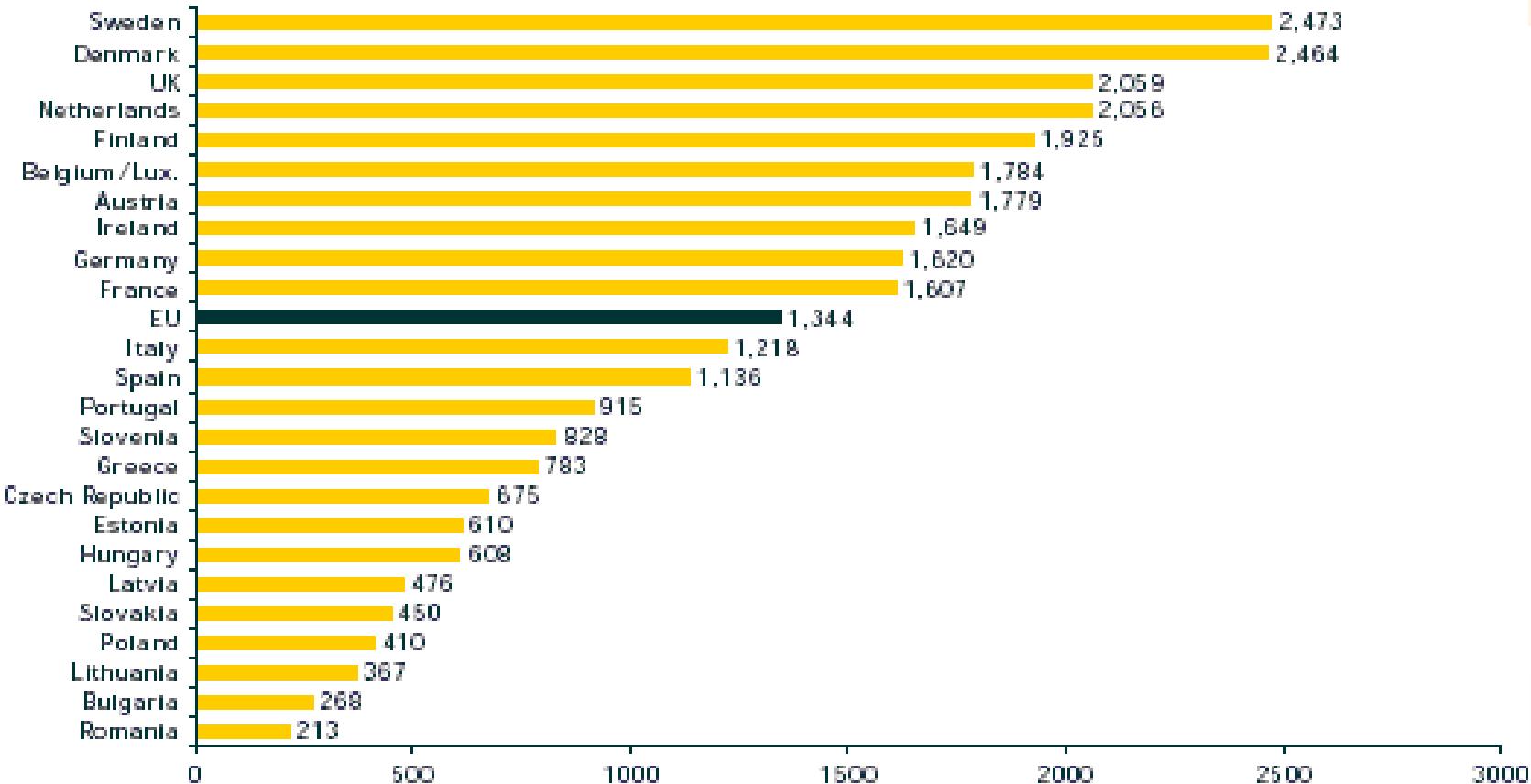
(*) Excluding Malta and Cyprus (source: EITO Report 2006)

ITU's Digital Opportunity Index (DOI) , top 25 countries, 20005/06
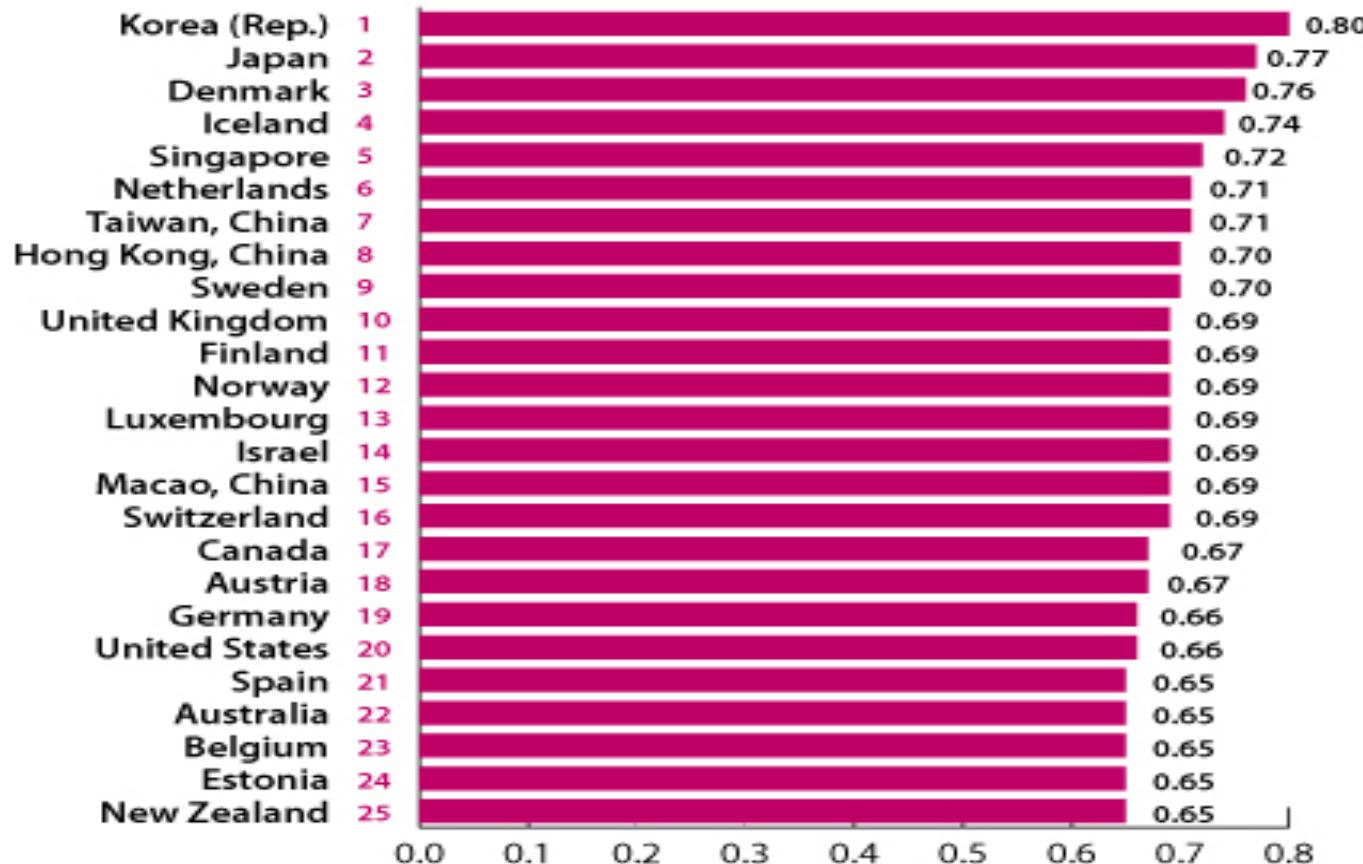
Source: The World Information Society Report 2007, ITU

Limits of the current Internet architecture and protocols

- **Scalability**
  - Devices (users ... es, mostly wireless) will outnumber h... ns by several orders of magnitude
  - Not only ... ce-centric networks invalidate the ... ination approach of the Inter... essing, space-aware models…)
  - N... e the intrinsic limitations of a centralised contro... t, self-organisation), mu... ary approaches to cope with complexity (e.g. bio-inspire...)
  - Multi... points of attachments to the infrastructure
  - Routing

- **Suitability for ad-hoc/multi-ho... networking**
  - disconnected operation is co... istic, trust and privacy, …)

- **Mobility**
  - Mobile IP (or MIPv6) not effective, overhe...

- **Transparency**
  - Qo...
  - W...

- **Security**
  - How to embed ... cope with heterogeneous networks
  - Balance between security and privacy

- **Machine-to-machine communication**

patches patches patches patches patches

Dimensions of the Future Internet

Technological

- **Fast optical networks**
- **Mobility**
- **Internet of things**
- **Complex systems**
- **…**
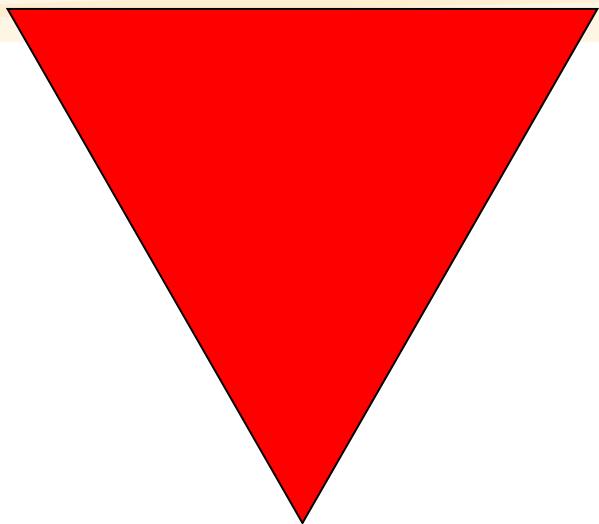
Socio - Economic

- **Changes to the Internet not neutral to societal / economic structures**
- **Preserve innovative force / support investment in Infrastr & Services**
- **Social responsibility**
- **Balance Security / Accountability / Trust / Privacy**
- **...**

Regulatory / Political

- **Act where market forces fail**
- **Consumer protection / empowerment**
- **National security**
- **Protection of the private sphere**
- **OECD process on the future of the internet economy**
- **...**

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Thank you

More information:

http://ec.europa.eu/information_society/research/index_en.htm

http://cordis.europa.eu/fp7/ict/