INTUG

Telecoms in Australia
broadband and the bush

Ewan Sutherland

Executive Director

International Telecommunications Users Group

ewan@intug.net

ATUG, Canberra 11-12 May 2005

www.INTUG.net

INTUG agenda

- INTUG
- competitiveness
- fixed telephony
- mobile telephony
- broadband
- conclusions

INTUG what is INTUG?

- members:
  - national associations
  - corporations
  - individuals
- activities:
  - ITU and WTO
  - OECD
  - APEC TEL, CITEL and EU

INTUG our aims

- real and effective competition
- genuine choice for users
- lower prices
- higher quality
- more innovative services
- constructive co-operation with:
  - international bodies
  - governments
  - regulators

INTUG our priorities

- open access to global mobile networks
- regulatory best practice
- liberalization
- universal access
- broadband
- leased lines
- IP telephony
- numbering

INTUG benchmarking

- Australia against the rest of the world:
  - G7
  - European Union
  - OECD
  - Japan/Korea
- technologies and services:
  - economy, growth and productivity gains
  - mobile
  - prices
  - broadband

INTUG corruption perception index

- 1 Finland
- 2 New Zealand
- 3= Denmark
- 3= Iceland
- 5 Singapore
- 6 Sweden
- 7 Switzerland
- 8 Norway
- 9 **Australia**
- 10 Netherlands
- 11 United Kingdom
- 12 Canada
- 13 Austria
- 14 Luxembourg
- 15 Germany
- 16 Hong Kong
- 17= Belgium
- 17= Ireland
- 17= USA
- 20 Chile

Source: Transparency International

INTUG AT Kearney Globalisation Index

	SG	IE	CH	US	NL	CA	DK	SE	AT	FI	NZ	UK	**AU**	NO
Overall	1	2	3	4	5	6	7	8	9	10	11	12	**13**	14
Economic	1	2	9	60	5	27	29	12	10	15	36	32	**37**	35
Personal	3	2	1	40	11	8	7	10	5	20	16	12	**34**	15
Technological	11	13	7	1	8	2	5	9	14	6	3	10	**4**	12
Political	32	19	29	43	4	10	13	16	2	15	21	5	**25**	17

INTUG national competitiveness

- 12th in Public Institutions
- 13th in Business Competitiveness
- 14th in Growth Competitiveness
- 14th in Macroeconomic Environment
- 17th in Technology

Source: World Economic Forum - Davos

INTUG growth competitiveness

1. Finland (1)
2. United States (2)
3. Sweden (3)
4. Taiwan (5)
5. Denmark (4)
6. Norway (9)
7. Singapore (6)
8. Switzerland (7)
9. Japan (11)
10. Iceland (8)
11. United Kingdom (15)
12. Netherlands (12)
13. Germany (13)
14. **Australia (10)**
15. Canada (16)
16. United Arab Emirates (—)
17. Austria (17)
18. New Zealand (14)

Source: World Economic Forum - Davos

INTUG network readiness

1. Singapore
2. Iceland
3. Finland
4. Denmark
5. United States
6. Sweden
7. Hong Kong
8. Japan
9. Switzerland
10. Canada
11. **Australia**
12. United Kingdom
13. Norway
14. Germany
15. Taiwan
16. Netherlands
17. Luxembourg
18. Israel
19. Austria
20. France
21. New Zealand
22. Ireland

Source: World Economic Forum - Davos

INTUG e-government readiness

1. United States 0.91
2. Denmark 0.90
3. United Kingdom 0.89
4. Sweden 0.87
5. Republic of Korea 0.86
6. **Australia** 0.84
7. Canada 0.84
8. Singapore 0.83
9. Finland 0.82
10. Norway 0.82
11. Netherlands 0.80
12. Germany 0.79
13. New Zealand 0.78
14. Iceland 0.77
15. Switzerland 0.75
16. Belgium 0.75
17. Austria 0.75
18. Japan 0.73
19. Ireland 0.71
20. Estonia 0.70

Source: UNPAN

INTUG e-participation index 2004

- 1 United Kingdom 1.0
- 2 United States 0.93
- 3 Canada 0.90
- 4 Singapore 0.84
- 5 Netherlands 0.80
- 6= Mexico 0.77
- 6= New Zealand 0.77
- 6= Republic of Korea 0.77
- 7 Denmark 0.74
- 8 **Australia** 0.67
- 9 Estonia 0.64
- 10 Colombia 0.62
- 11= Belgium 0.61
- 11= Chile 0.61
- 12 Germany 0.59
- 13= Finland 0.57
- 13= Sweden 0.57
- 14= France 0.46
- 14= Malta 0.46
- 15 Austria 0.44

Source: UNPAN

INTUG EIU e-readiness index

1. Denmark (1)
2. USA (6)
3. Sweden (3)
4. Switzerland (10)
5. UK (2)
6. (tie) Hong Kong (9)
7. (tie) Finland (5)
8. Netherlands (8)
9. Norway (4)
10. **Australia (12)**
11. Singapore (7)
12. (tie) Canada (11)
13. (tie) Germany (13)
14. Austria (12)
15. Ireland (16)
16. New Zealand (19)
17. Belgium (17)
18. South Korea (14)
19. France (18)

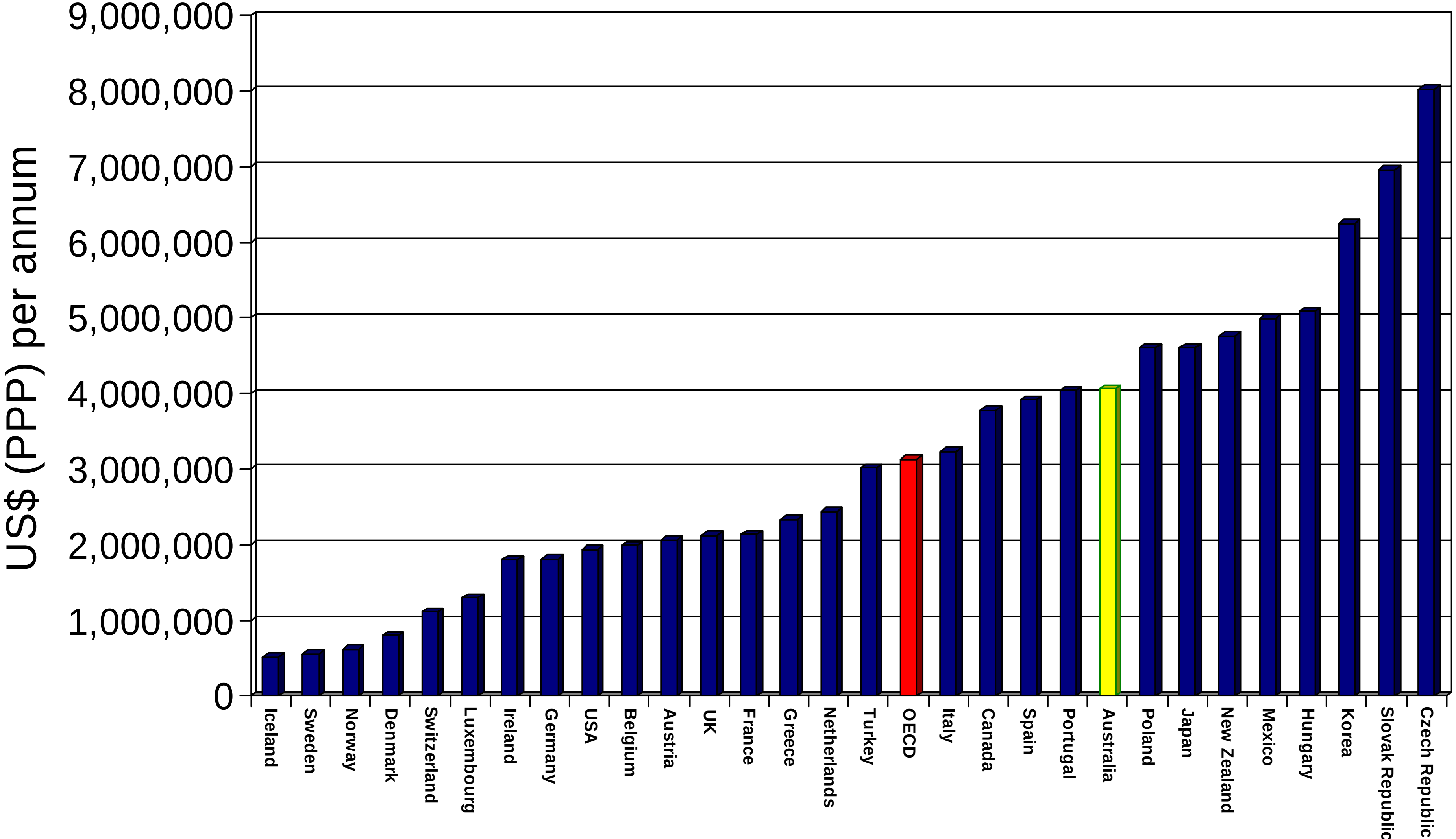
Source: EIU

INTUG costs of using telecoms

- leased lines
- business basket
- residential basket
- mobile basket

Australia is either close to average of the OECD 30 or a little worse.

INTUG leased line charges (2Mbps)



INTUG European Union

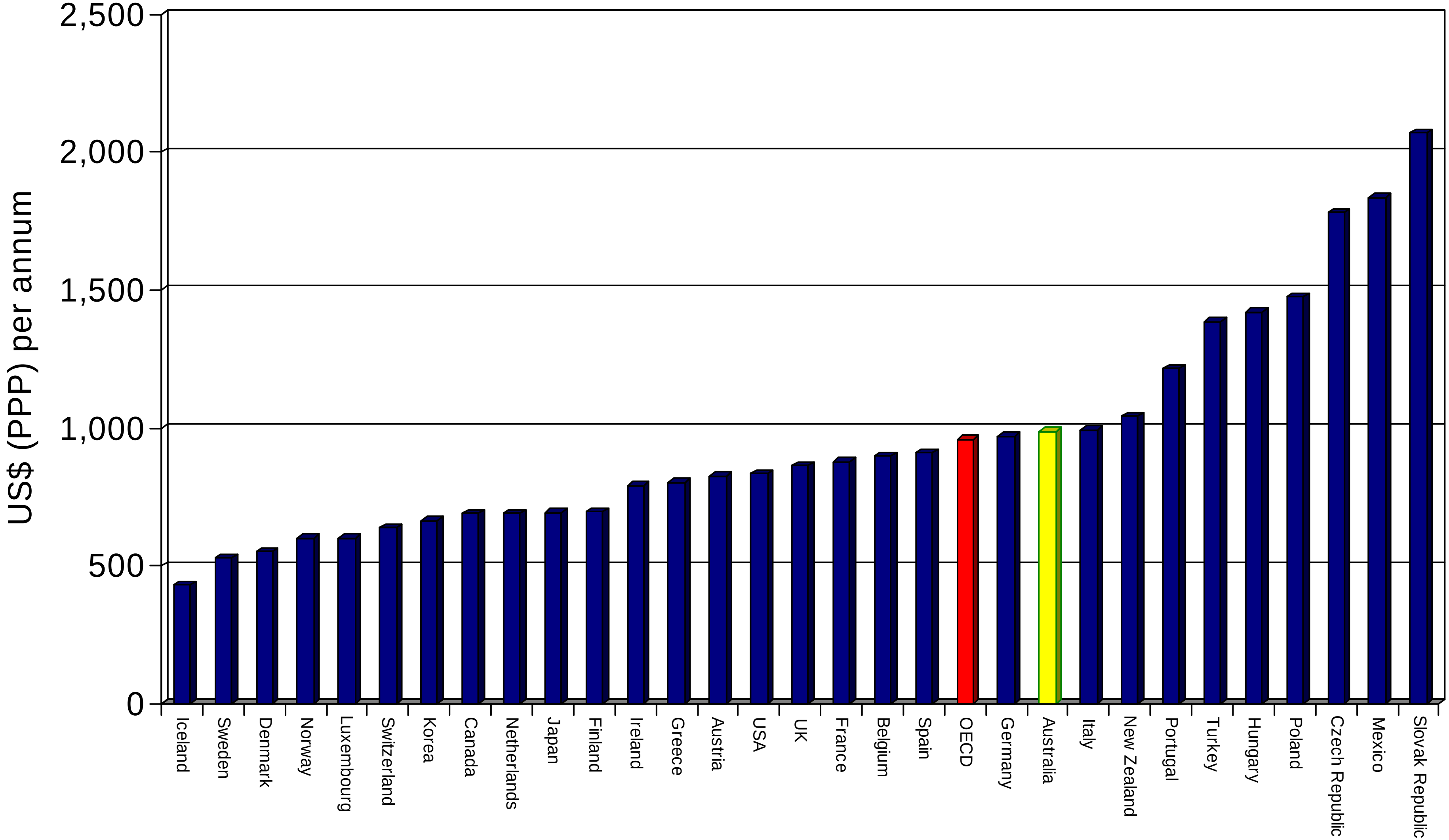
- legislation:
  - requires analyses of leased line markets
  - also of local access and broadband markets
  - provision for unbundled and bitstream access
- European Commission:
  - annual implementation reports
  - annual leased line reports
  - Recommendation on quality and prices

INTUG EU maximum prices

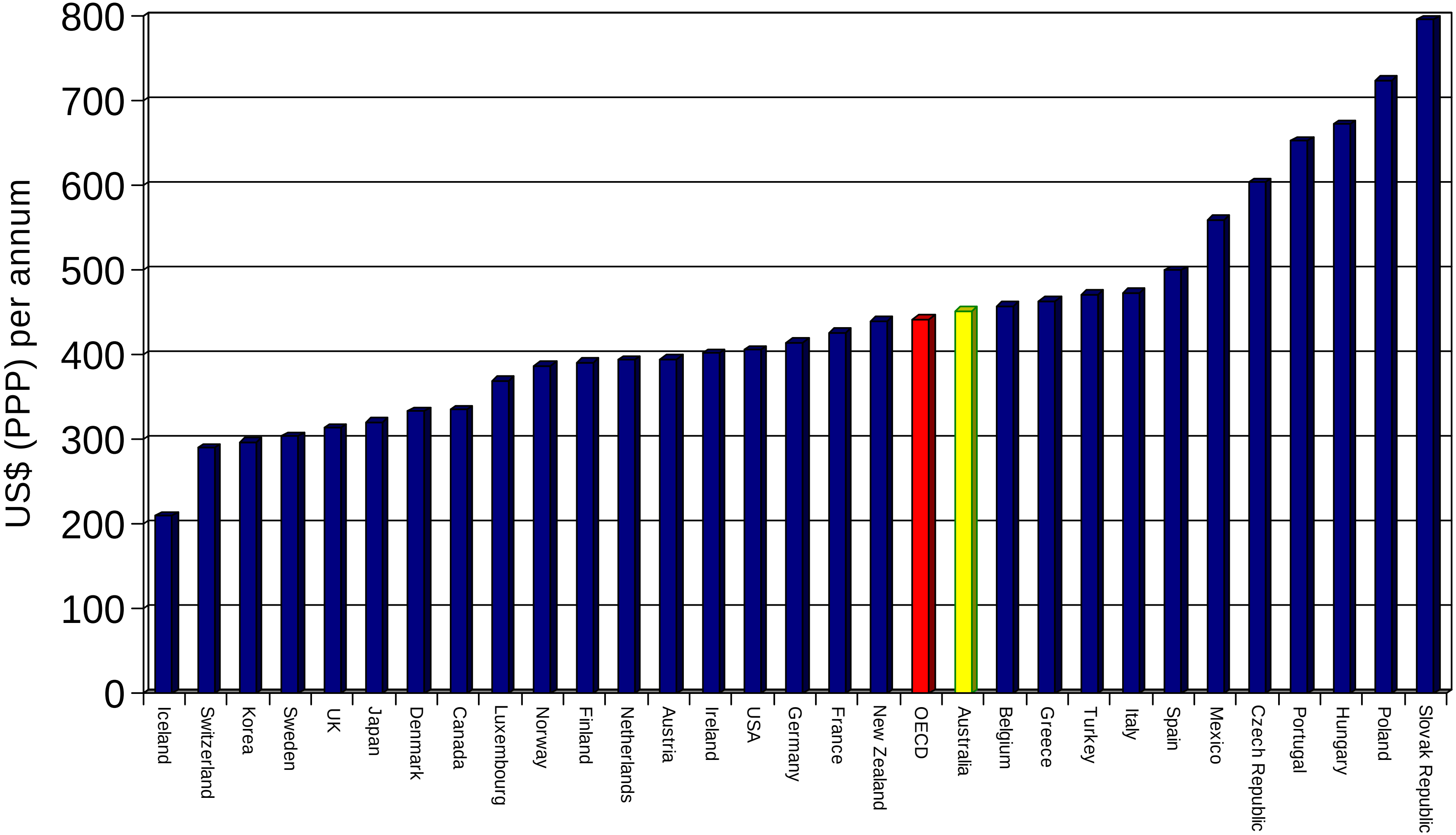
distance (km)	*up to 2*	*2-5*	*5-15*	*15-50*
64 kbits/s	€ 61	€78	€ 82	€ 99
2 Mbits/s	€ 186	€ 248	€ 333	€ 539
34 Mbits/s	€ 892	€ 963	€1597	€ 2539
155 Mbits/s	€ 1206	€ 1332	€1991	€ 4144

prices in Euros per month (AU$ 1 = €0.60)

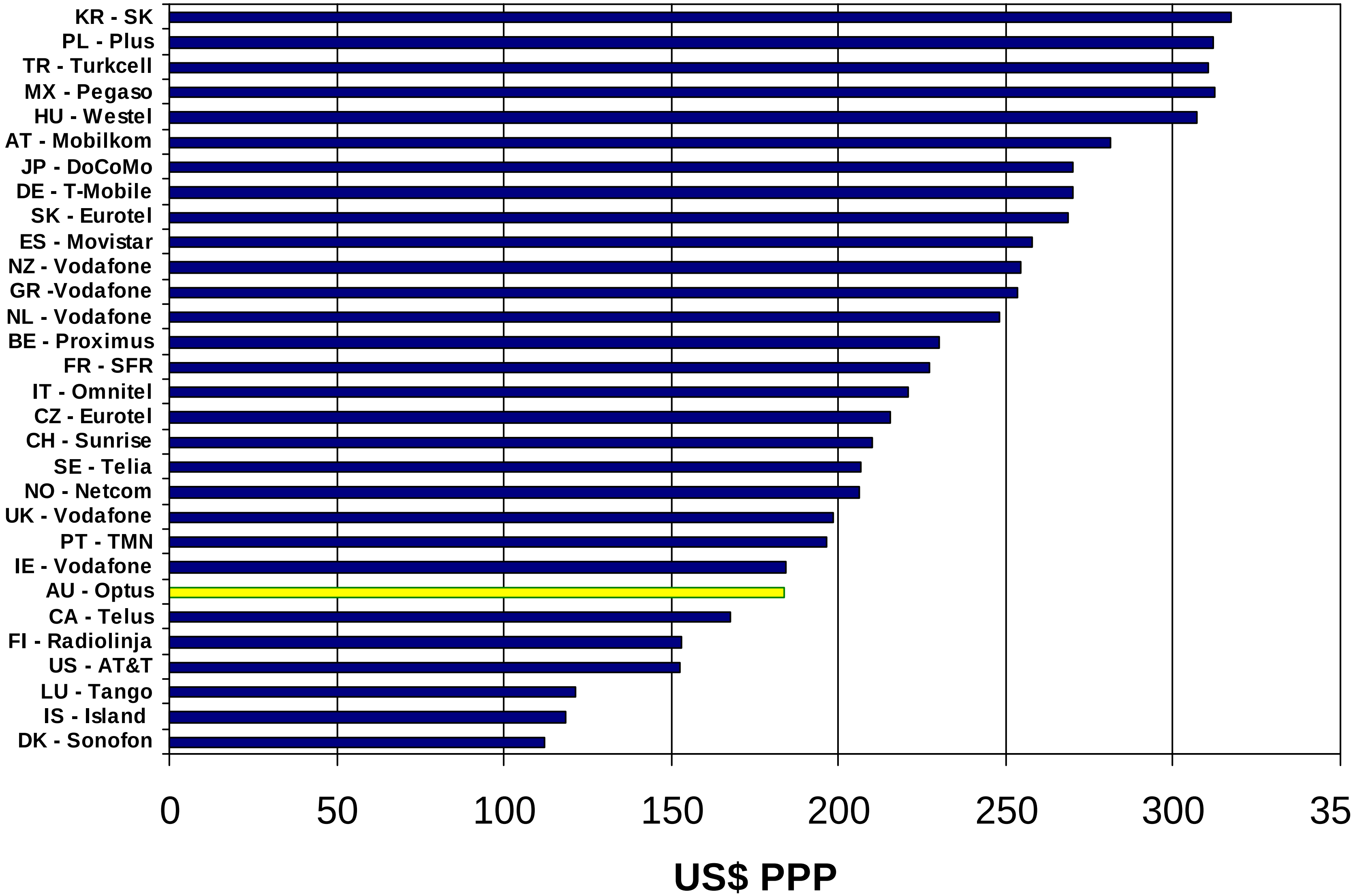
INTUG basket of business charges



INTUG basket of residential charges



INTUG basket of mobile charges



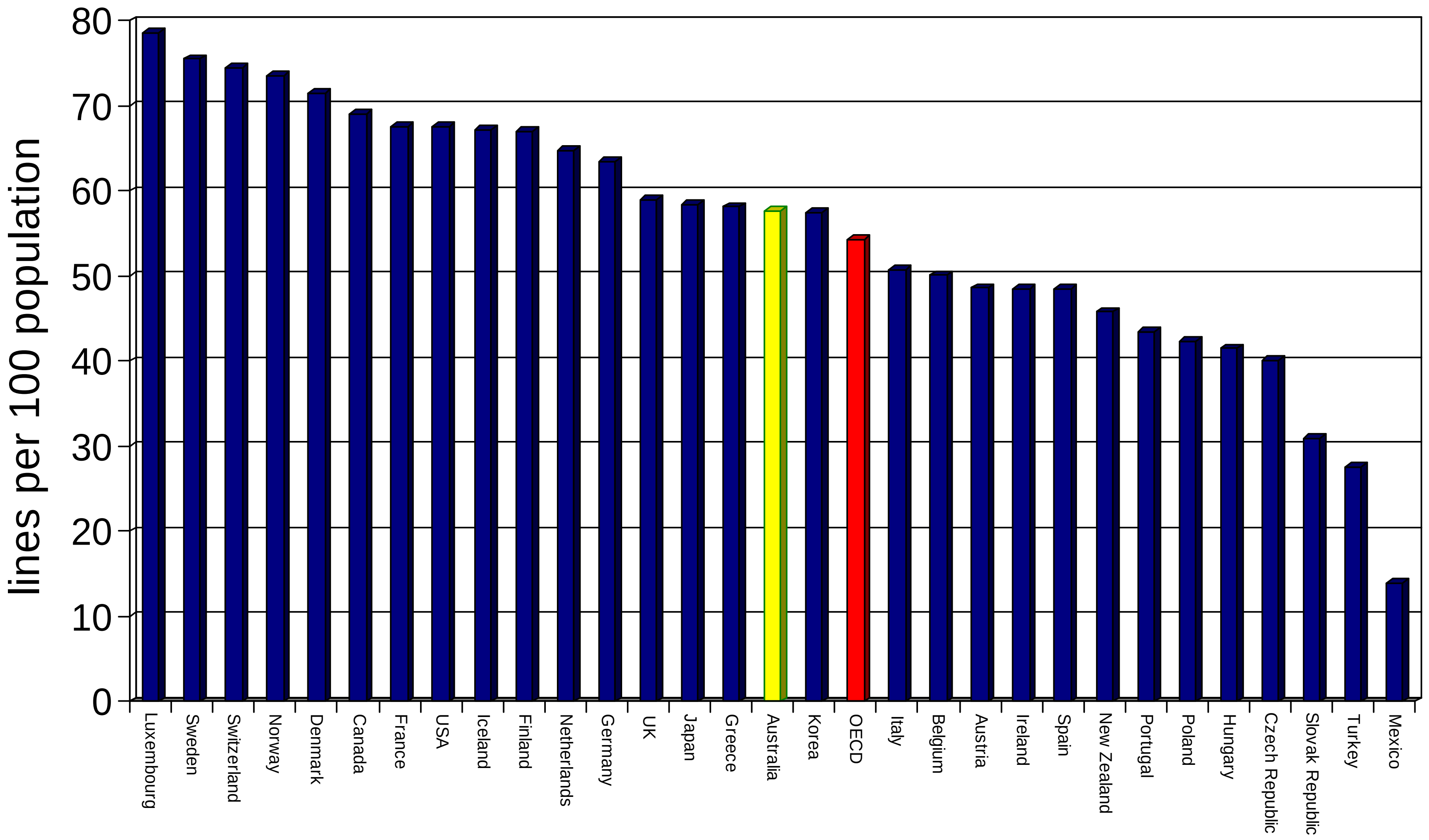
ATUG, Canberra 11-12 May 2005

www.INTUG.net

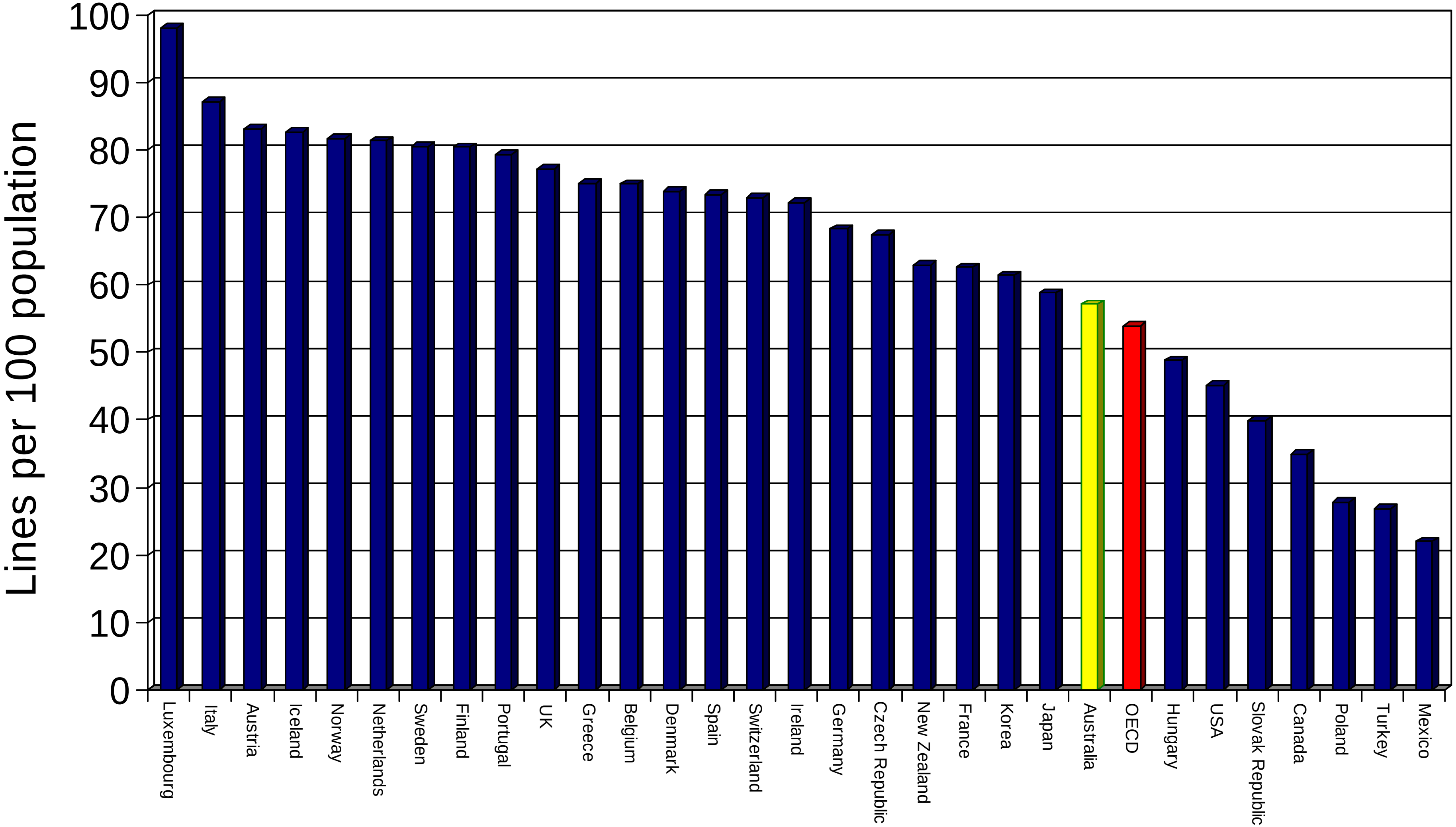
INTUG network development

- not a leader, tracking close to OECD averages
- Australia looks more European than Asian
- fixed telephone networks:
  - ITU world rankings
    - 1990 18th
    - 2000 28th
  - persistent dominance by Telstra
- mobile telephone networks:
  - ITU world ranking
    - 1999 – 24th
    - 2000 – 29th
  - modest competitive dynamics driving the market
  - far from rapid growth
- poor performance on cable TV

INTUG telecommunications channels



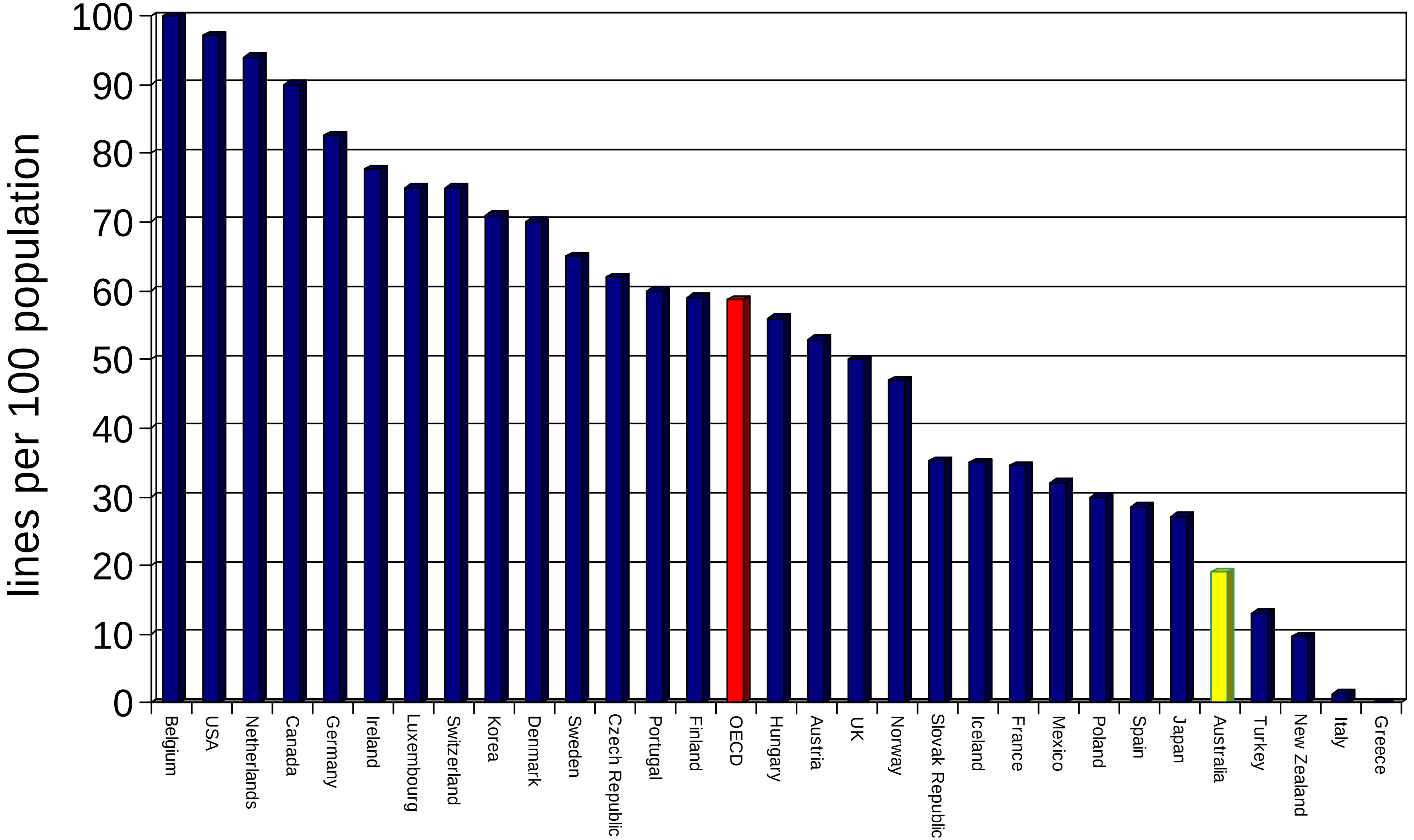
INTUG mobile penetration



INTUG 3G

- corporate users only now getting affordable 2.5G (also some Blackberry users)
- Games, Gambling and Girls/Guys
- Greed, Gullibility and Grief
- some success in Japan/Korea
- elsewhere painfully slow roll-out with very little evidence of revenues
- upgrade from GSM to UMTS is much harder than from CDMA unlikely (ever) to reach rural areas
- DXB rivals for entertainment may have better coverage, especially satellites

INTUG cable television

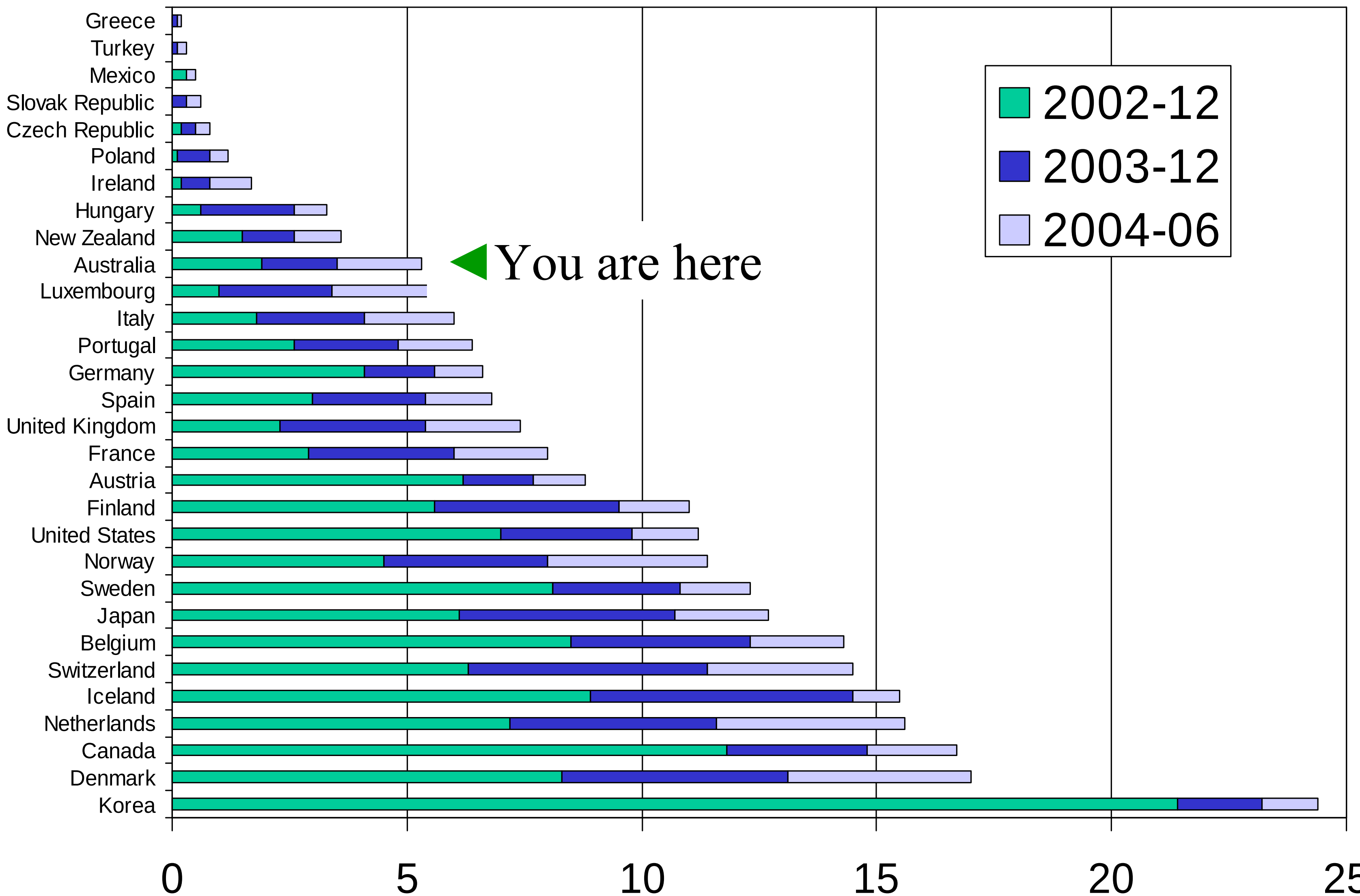


INTUG broadband

- infrastructure competition is critical
- very, very rapid diffusion worldwide
- faster than VCRs, colour TVs, etc.
- already in North Africa:
  - e.g., Maroc Telecom
    128 kb (199 DH) to 1 Mbps (499 DH)
- bundling with telephony and television
- wide range of national "stories"
- yet the variations in these stories are still poorly understood

AU$ 1 = 6.69 Moroccan Dirham

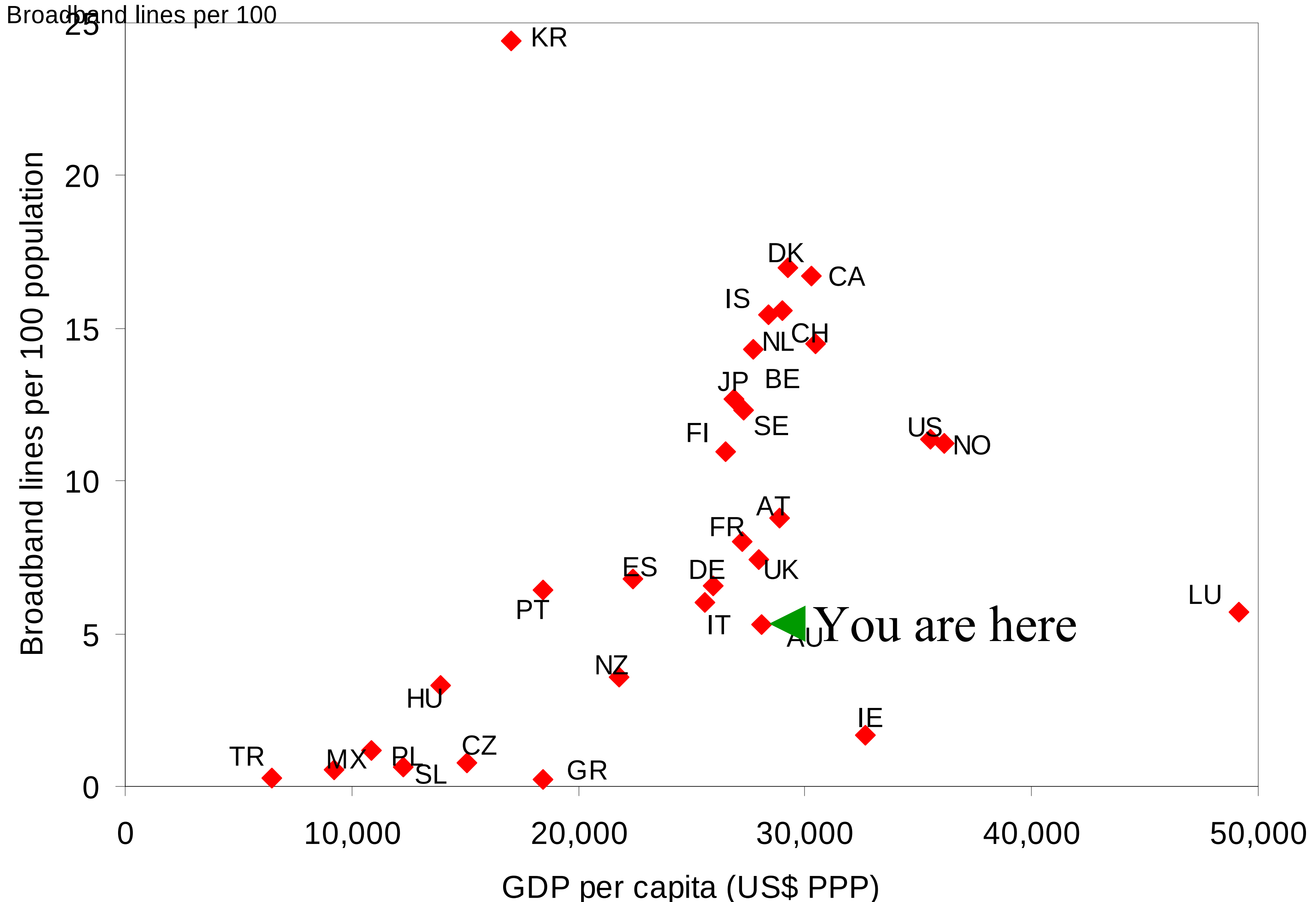
INTUG broadband in the OECD



ATUG, Canberra 11-12 May 2005

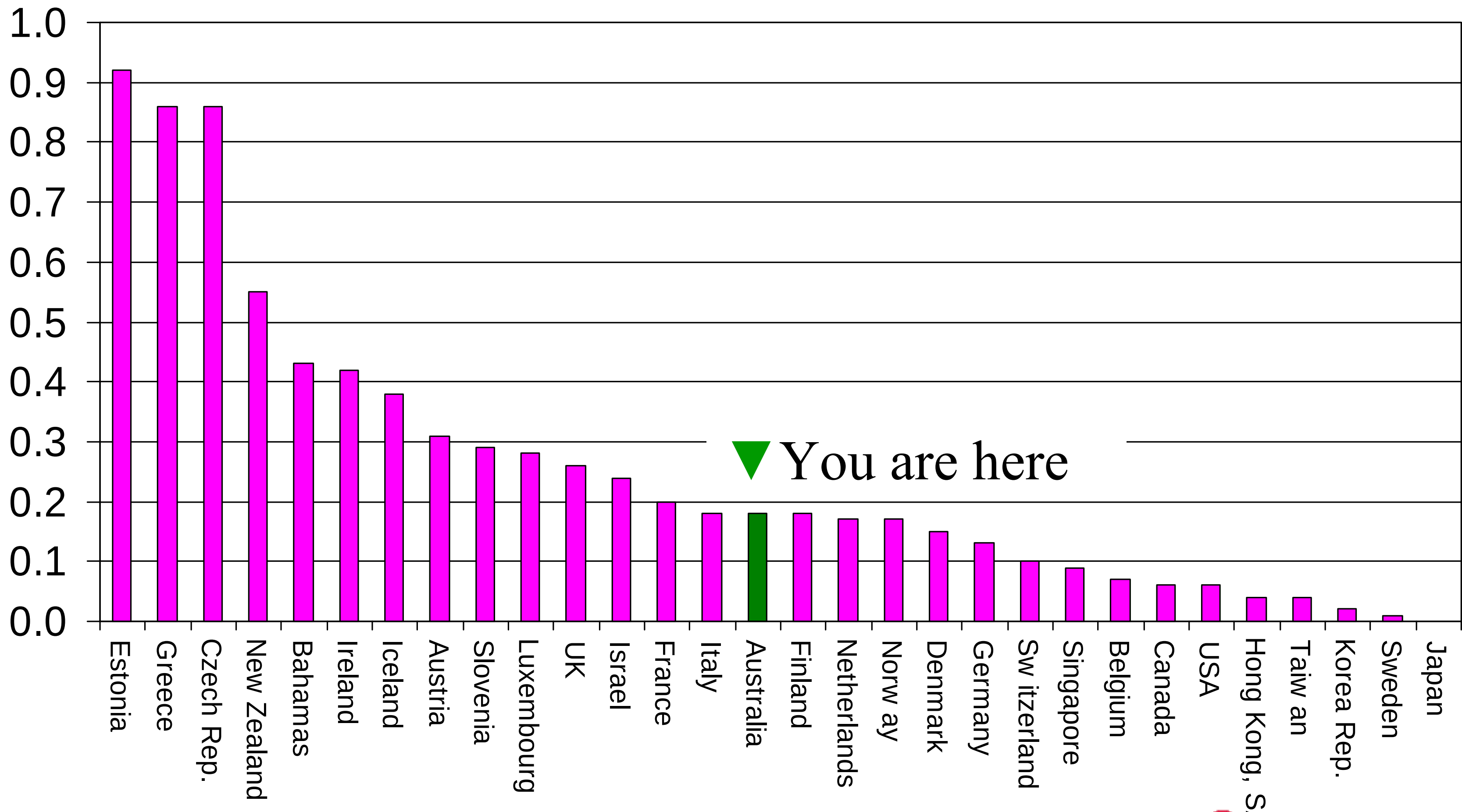
www.INTUG.net

INTUG broadband and GDP



ATUG, Canberra 11-12 May 2005
www.INTUG.net

INTUG 100 kbit/s as % of monthly income



Source: International Telecommunication Union

INTUG France

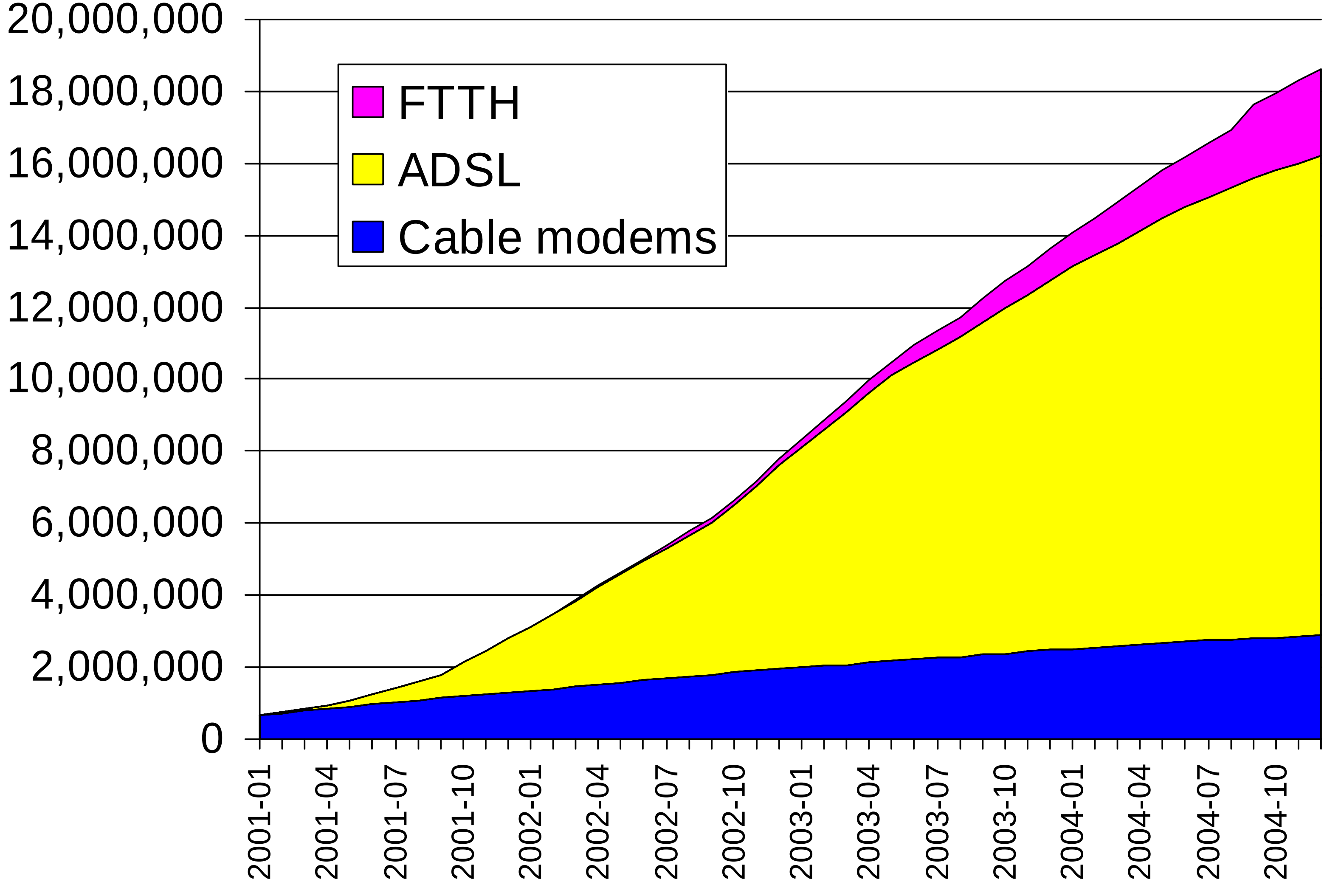
- a surprisingly competitive market
- often includes flat rate charge for calls to fixed numbers in France (not mobile or premium)
- Cegetel
  - € 14.90 for 20 Mbits/s plus € 10 for calls
- Free.fr
  - €29.99 for 20 Mbits/s down, 1 Mbits/s upstream
  - 100 TV channels + telephone calls
- France Telecom wanadoo.fr
  - €29.90 for 8 Mbits/s (after 6 months €39.90)
- Telecom Italia *Alice*
  - in France €29.95 for 8 Mbit/s unlimited download including calls
  - in Italy €39.95 for 4 Mbit/s

AU$ 1 = €0.60, so €30 = AU$ 50

INTUG Japan/Korea/China

- Korea is the world leader:
  - saturated Q4 2002 10Mbps for about US$ 25
  - customers moving to Video DSL
  - Rapid adoption of 3G
  - also Broadband Convergence Network (WiBro)
- Japan is chasing very fast
- rapid diffusion in Asia of:
  - technologies
  - business models
- China is growing rapidly:
  - multiple technologies
- India is ready for growth:
  - ISPs can build own last mile

INTUG broadband in Japan



INTUG Hong Kong, SAR

- very densely populated
- competition through access to the wiring cabinets of apartment buildings
- highly competitive market
- HKBN launched **residential** Gigabit Ethernet in April 2005:
  - 1Gbit/s for HK$ 1,680
  - 100 Mbits/s for HK$ 268
  - 10 Mbits/s for HK$ 148
- also pressing forward on wireless technologies

AU$ 1 = HK$ 6.08

INTUG residential Wi-Fi

- additional rental revenues for operators
- a way to fill the fat pipes
- a local point of distribution to reach beyond the PC to other devices enabled for IP and Wi-Fi: radios, television sets, games consoles, domestic appliances, etc.
- needs mass markets for low unit costs, so must be:
  - easy-to-use
  - secure
- may have multiple external connections: FTTH, satellite, etc.

also personal and car networks

INTUG Fibre To The Home (FTTH)

- already some FTTH deployments:
  - significant in Japan and USA
  - patchy in Sweden and Italy
- sometimes just near to the home, then copper or WiMAX
- do the access and unbundling regulations for copper networks work for fibre?
- or, do we need something different to ensure investment and competition?
- can we avoid a decade of lobbying and litigation?
- which countries will achieve mass markets for:
  - services
  - equipment

INTUG where is Australia?

- OECD (30 countries)
  - June 2001 – 12th
  - June 2002 – 18th
  - June 2003 – 20th
  - June 2004 – 21st
- world rankings:
  - 20 OECD members
  - plus Hong Kong, Taiwan, Singapore & Estonia, etc.

INTUG general telecoms reviews

- Australia
  - DCITA
- Ireland
  - Commission for Communications Regulation
- New Zealand
  - Ministry of Economic Development
- United Kingdom:
  - OFCOM
  - review of the review by Parliamentary Select Committee

seems to be a popular activity in Anglophone countries, not elsewhere

INTUG the (other) commonwealth

- Canada
- Hong Kong, SAR
- United Kingdom
- India
- Ireland
- New Zealand

INTUG Canada

- best comparison for Australia:
  - a post-imperial, former dominion
  - large spaces, small population, few cities
  - but diffusion from an important near neighbour
- long history of success in broadband
- competition in urban areas
- aggregated purchasing in rural areas
- satellite and FWA in "outback"
- SSI Skyline – Northwest Territories
  - 1.5/0.25 Mbps, 5GB/month for CA$59.95+GST
  - 90 per cent of homes in Yellowknife with 20 miles radius using 2.5GHz band non-directional

AU$ 1 = CA$ 0.975

INTUG Canada *versus* Australia 2004

• Telus ADSL		• Telstra Bigpond
• basic offer		• basic offer
– 1.5/0.5 Mbps	6x and 9x	– 0.256/0.06 Mbps
– 6 GB download	30x	– 0.2 GB download
– CA$ 24.95/month	0.8x	– AU$ 29.95/month
• office offer		• highest offer
– 2.5/0.6 Mbps		– 1.5/0.256 Mbps
– 15 GB download		– 20 GB download
– CA$ 79.95/month		– AU$ 149.95/month

AU$ 1 = CA$ 1.045

INTUG Canada versus Australia 2005

- Telus ADSL
- basic offer:
  - 1.5 Mbps
  - CA$ 29.95
- office offer:
  - 4.0/1.0M Mbps
  - 30GB
  - CA$ 159.95

- Telstra Bigpond
- basic offer:
  - 256k/64k
  - 200 MB then 0.15 per MB
  - AU$ 29.95
- highest offer:
  - 1.5/0.256 Mbps
  - "unlimited", but penalty after 10 GB
  - AUS$ 99.95

AU$ 1 = CA$ 1.045

INTUG United Kingdom

- in the middle of the OECD pack
- "leads" the G7 in "availability" 96%
- lagging European leaders, but:
  - speeds rising (slowly)
  - prices falling (slowly)
  - ranking not moving
- UK has a digital strategy in place
- regulatory processes are:
  - painfully slow and expensive
  - incomprehensible proposals on "equivalence"
- OFCOM has a strategic review underway
- Scotland extra 4% coverage for £16m over 5 years
- government aggregation initiative has faltered
- Marconi/GEC seems to be failing

INTUG United Kingdom users

- UK users continue to report:
  - lack of availability
  - poor quality
  - absence of SLAs
  - unresponsiveness and lack of care
  - reality is not at all like the hype
- many users still waiting for broadband
- SMEs confused by broadband, not aware of benefits
- after twenty years of liberalisation, rural areas want government aid, not competition

Don’t follow us. We’re lost.

INTUG Ireland

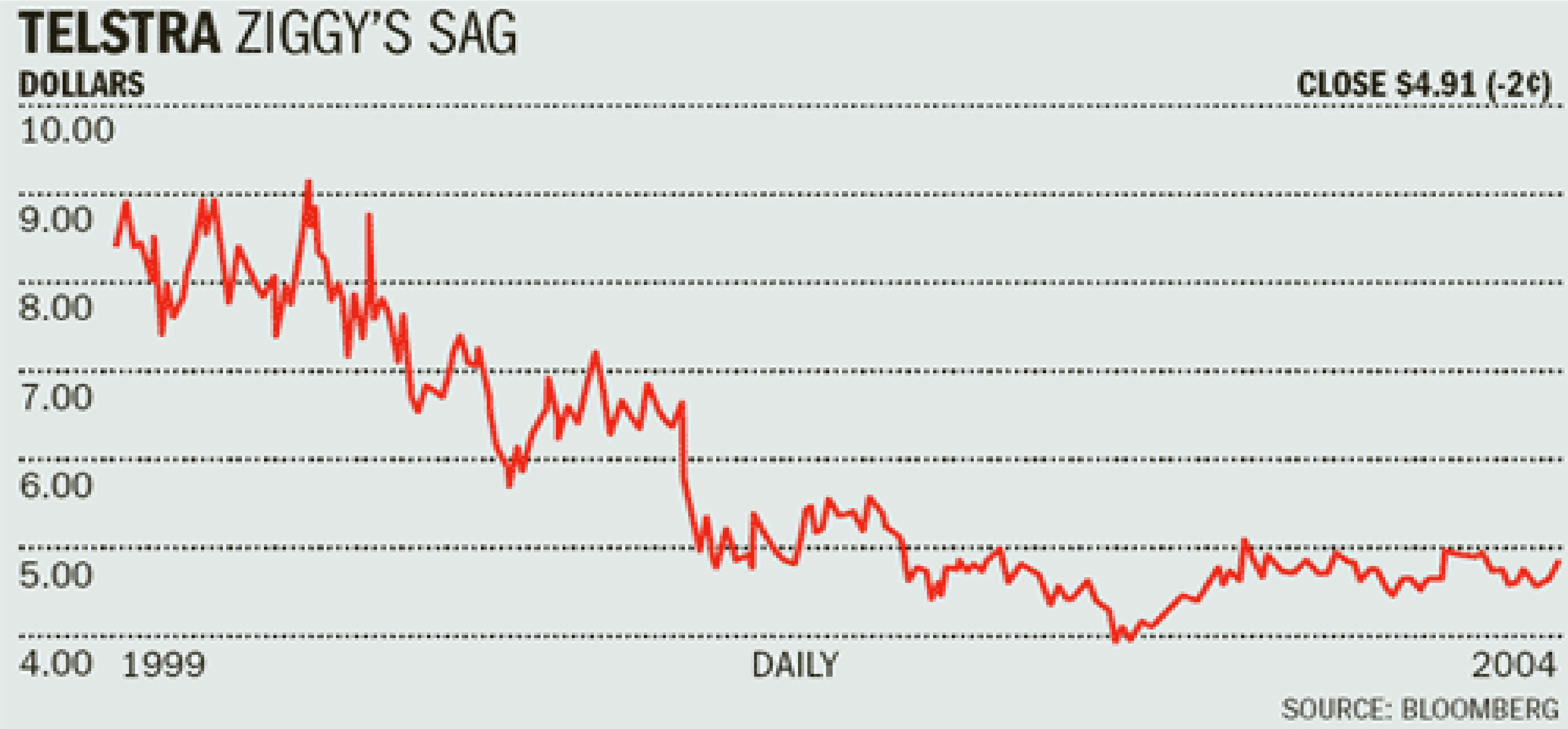
- Celtic tiger:
  - strong economic growth
  - attracting foreign direct investment
  - young population
- broadband does not match high-tech image:
  - often not available
  - expensive
- severe structural problems in the market
- despite reports and political will, little has happened

INTUG New Zealand

- unbundling omitted from the Act
- Commerce Commission gets a disproportionate volume of (very complex) submissions
- unbundling is going nowhere fast
- bitstream seems only a little better
- market entry seems highly unattractive when you have to face Telecom NZ
- seems doomed to remain at the wrong end of the ITU/OECD rankings

INTUG Telstra the national champion

- overreached itself in Asia
- underperformed at home
- lacked the discipline of domestic competition



INTUG

Telstra (2)

- long history of dominance through vertical integration
- record of anti-competitive behaviour:
  - few surviving competitors, especially in the bush
  - this is a *strong* disincentive to market entry
- globally unique in having:
  - xDSL and cable
  - CDMA and GSM/UMTS
  - satellite
- primary factor in the poor performance of Australia when compared with other countries

INTUG Telstra (3)

- finally, the privatisation
- but the prospect of its enduring dominance
- market structures:
  - uncompetitive
  - unattractive for market entry
- playing tough politico-regulatory games
- needs only a modest level of competition to pacify regulators

INTUG OECD rural broadband

- the market is:
  - generating innovative services
  - responding to increasing demand in those areas
- prices sometimes lower and speeds higher than in urban areas
- competition is emerging in rural areas
- governments should take this into account before embarking on programmes to subsidise infrastructure
- multiple answers, multiple technologies, multiple levels of economies of scale

INTUG serving the outback

- requires competitive backhaul and IP interconnections
- many new technologies and business models
- aggregation of demand can boost market entry
- leading countries are combining satellite and Fixed Wireless Access (FWA):
  - Sioux Valley Wireless (South Dakota)
  - GCI Broadband Services (Alaska)
  - Xtratyme (Minnesota)
  - Prairie Inet (Iowa & Illinois)

INTUG where are Australian FWAs?

- is the spectrum available?
- is there sufficient entrepreneurial spirit?
- is there a backhaul bottleneck?
- is the incumbent behaving anti-competitively?
- are there pilot projects?

INTUG IP traffic exchange

- a frequent problem at many levels
- Africa has major problems from incumbent operator bottlenecks
- problem of distance from the backbone:
  - no neighbours for traffic exchange
  - international leased line costs are high
- very strange domestic peering arrangements in Australia
- needs non-discriminatory provision of local interchange
- needs access to leased lines and dark fibre

INTUG municipalities

- Philadelphia:
  - initiative to build a Wi-Fi network
  - incumbent operators lobbied the state legislature to ban municipal initiatives
- genuine issue of ensuring these initiatives are pro-competitive
- need for information sharing on what works and to accommodate future advances
  - otherwise may end up locked in the past

INTUG EU regional policy

- to promote the development and structural adjustment of regions
- geographical targeting
- technological neutrality
- open to all operators and service providers:
  - closed infrastructure is subject to state aid rules (Article 87 of EC Treaty)
  - unless a "Service of General Economic Interest"
- open calls for tenders
- cost accounting rules for transparency
- evaluation and monitoring
- approval of some initiatives, e.g.,
  - GSM infrastructure for *zones blanches*
  - broadband for rural Spain and for Limousin (France)

INTUG electricity companies

- long-term investors
- large customer bases
- strong billing platforms
- skilled workforces
- Fibre To The Home (FTTH)
  - Tokyo Electric Power Company (TEPCO)
    - 100Mbps FTTH ¥6,480 (AU$ 77) per month
- Powerline Communications (PLC)
  - supporting decisions by EC and FCC
  - interference problems
  - Endesa in Spain

- cdma 450 MHz a success in:
  - Europe – Czech Republic and Romania
  - Latin America – Brasil and Argentina
- unlicensed bands:
  - 2.4 GHz for Wi-Fi and more
  - 5.8 GHz for Wi-Fi and more
- Fixed Wireless Access (FWA)
- Wireless Broadband (WiBro)
  - Now licensed in South Korea 2.3GHz

INTUG best practice for broadband

- infrastructure competition:
  - separate ownership of cable TV from xDSL
  - open up spectrum for WLAN and FWA
  - get utility companies into the market
  - allow ISPs to construct infrastructure
- service competition:
  - make local loop unbundling work
  - provide regulated wholesale products
    - bitstream access
    - Wholesale Line Rental (WLR)
- open access for content:
  - especially "must have" content (e.g., AFL)
- benchmark against the best and the most appropriate, not the weak and the convenient

INTUG conclusions

- economic growth is being held back by Telstra
- not much has changed since last year (or the year before)
- continuing slippage on broadband rankings
- too often broadband is unavailable or slow or capped
- market forces could deliver a lot more
- needs a strong policy direction:
  - setting tough goals
  - pro-competition
  - market opening
  - built on global experiences

INTUG issues

- ensuring a competitive outcome despite the privatisation of Telstra
- stopping operators using policy debates to predetermine competition
- maximising market entry
- maximising market delivery of services
- improving the ranking of Australia:
  - nationally
  - regionally

INTUG thank you

Ewan Sutherland
International Telecommunications Users Group
Reyerslaan 80
B-1030 Brussels
Belgium

+32.2.706.8255

ewan@intug.net
http://www.intug.net/ewan.html