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Broadband Summit, DC April 2003

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Wireless broadband user demand & global experiences

Ewan Sutherland

Executive Director

International Telecommunications
Users Group

ewan@intug.net

INTUG contents

- INTUG
- FWA/WLL
- WLAN/Wi-Fi
- 2G, 2.5G and 3G
- conclusions

INTUG what is INTUG?

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

INTUG our aims

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

INTUG priorities

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1. open access to global mobile networks
2. regulatory best practice
3. liberalization
4. leased lines
5. IP telephony
6. digital divide
7. universal access
8. numbering

INTUG fixed broadband

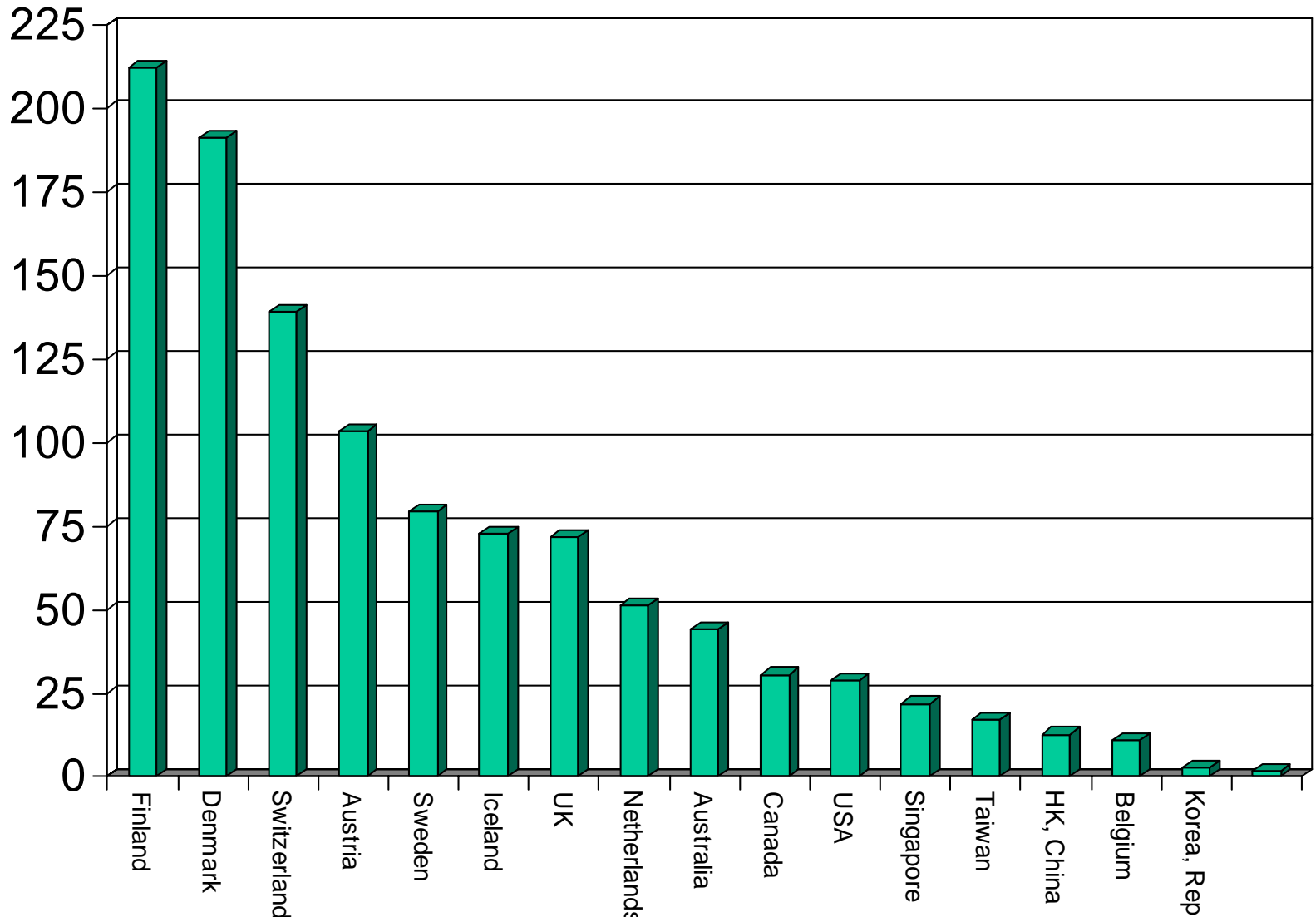
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- South Korea
 - saturated at 12 million lines of 8Mbit/s
 - trials of VDSL at 13-50Mbit/s
- Japan
 - added 1.4 million lines in Q1 at 8 or 12Mbit/s (60% non-incumbent on UNE)
 - US\$ 29/month for 12Mbit/s plus WLAN
- Hong Kong SAR
 - 1.5Mbit/s, 3Mbit/s and 6Mbit/s at one tenth the unit price of Verizon

Price (US\$) per 1Mbit/s per month, April 2003

Source: ITU.



INTUG over-priced and slow

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- defending revenues
 - leased lines
 - ISDN
 - extra PSTN lines
- waiting for competitors to die
- waiting for the results of lobbying

So people try to bypass incumbents
using IEEE 802.x

INTUG Fixed Wireless Access

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- great promises but
 - some voice success
 - very little success in data
- could be costs of
 - sites (inspections and preparation)
 - equipment
- but horrible clashes of CDMA/WLL with cellular in:
 - India
 - South Africa

INTUG Wireless LAN

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- global best practice:
 - unlicensed
 - failing which, broad class licences
 - 2.4GHz and 5GHz should both be opened
- household PCs and appliances
- extensive business use
- public service at “hot spots”

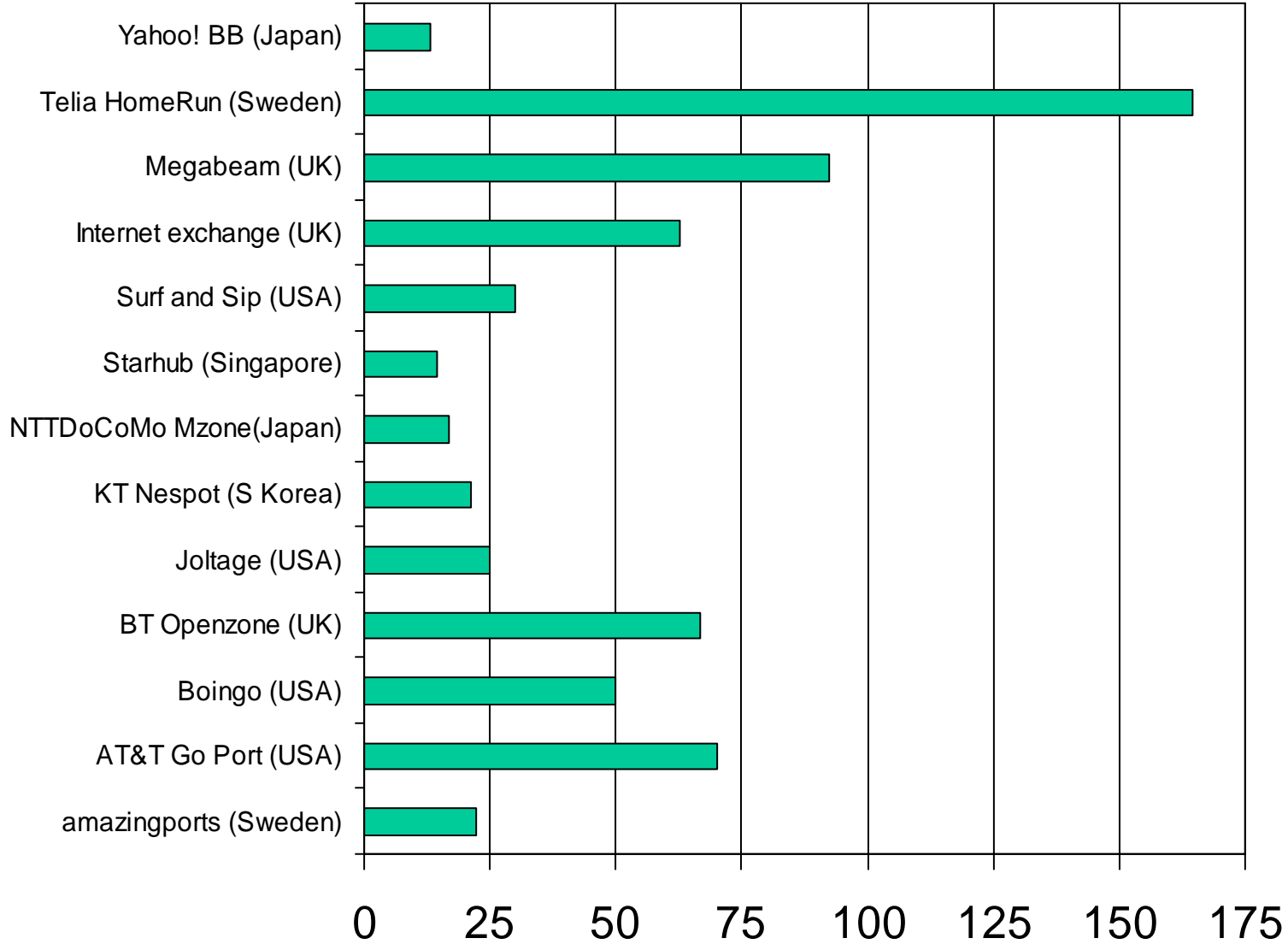
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one month of PWLAN (US\$)

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Sources: Broad Group, INTUG and EVUA



INTUG 2G: GSM, CDMA and PHS

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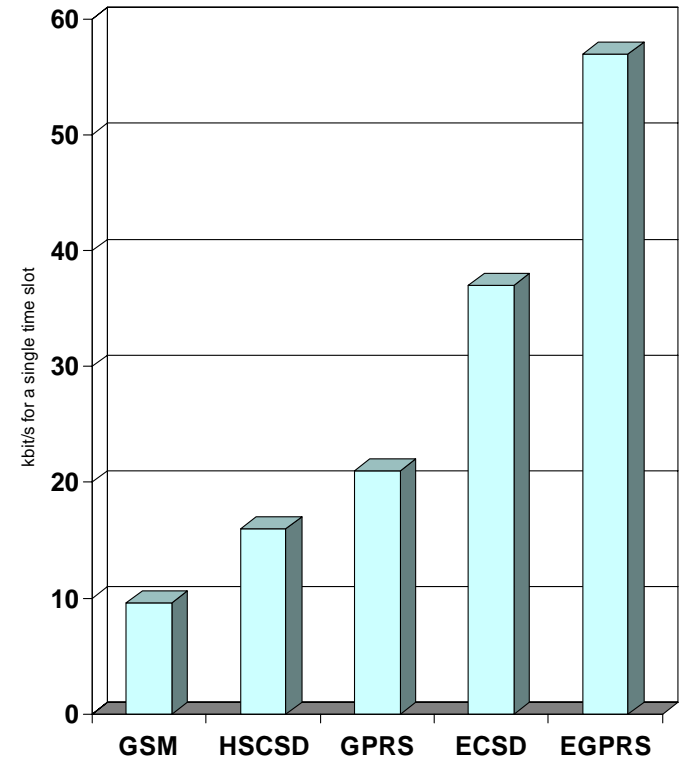
- considerable successes
- helped to close the digital divide
- market abuses
 - international mobile roaming charges
 - fixed-to-mobile call termination
 - SMS or text messaging
- tens of millions of wireless customers do not have a fixed line or cable TV to provide broadband, it will have to be wireless

INTUG 2.5G

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- GPRS
 - ISDN for cellphones
 - slow transmission speeds
 - expensive at home, horrendous abroad
- EDGE
 - still a promise
 - CapEx on GPRS not yet recovered
- cdma1000 1X



INTUG mobile data in USA

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- AT&T Wireless
 - mLIFE Local Plan - Next Generation US\$ 30 per Mb
 - mMode Mega US \$7.99 for 1 MB then US\$ 10 per Mb
 - US\$70 per Megabyte when roaming abroad
 - GoPort (WLAN) at US\$ 3 – 9 per day with a few hundred hot spots, of which 8 in DC
- T-Mobile t-zones (GPRS)
 - Service US\$ 3 per Megabyte
 - Pro first 10 MB for US\$10 then per US\$ 9.99 per MB
 - US\$ 15.00 per megabyte roaming in Europe and Asia
- T-Mobile HotSpot (WLAN)
 - US\$ 39.99 per month or US\$ 0.10 per minute or US\$ 50.00 for 300 pre-paid minutes (in blocks of 10 mins)
 - 2350 locations, of which 25 Starbucks in DC plus AA lounge at IAD

INTUG what does US\$50 buy?

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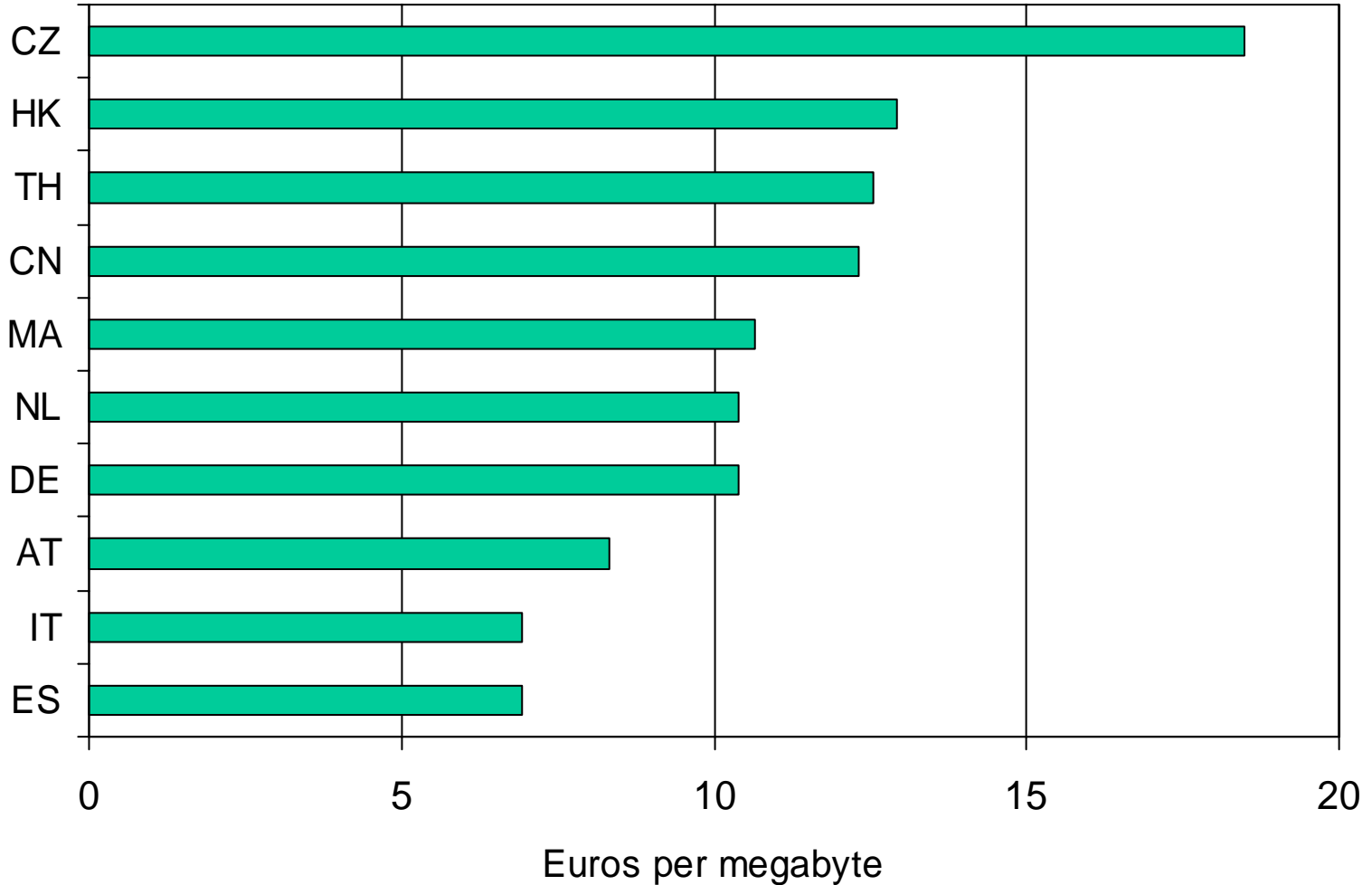
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- AT&T Wireless
 - 1.6 Mbytes on mLife (GPRS)
 - 16 days on GoPort (WLAN)
- T-Mobile
 - 16 Mbytes on t-zones service (GPRS)
 - 300 pre-paid minutes on HotSpot (WLAN)
- Verizon
 - just over a month at 320kbit/s ADSL

INTUG SingTel GPRS roaming rates

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Source: Singtel. Currently "free" in Australia, Denmark, Finland, Indonesia, Malaysia

INTUG 3G

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- Games, Gambling, Girls/Guys
- Gullability, Greed, Grief
- Going, Going, Gone...

"We believe the advantages of the mobile phone as a personal and discrete device for viewing pornography are overstated. The value of the mobile channel to the porn industry will be greater as a CRM-tool than as a distribution medium." Philip Taylor

<http://www.strategyanalytics.com/press/PR00059.htm>

INTUG conclusions

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- need to seek out global best practice
- 802.11 has killed HomeRF and Hiperlan
- 3G severely (fatally?) self-injured
- Wi-Fi looks much cheaper than GPRS
- VoWiFi will be killer app
- wireless is a useful way round the regulatory barriers created by incumbents

INTUG thank you

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Ewan Sutherland

INTUG

Boulevard Reyers 80

B-1030 Brussels

+32.2.706.8255

<http://www.intug.net/talks.html>