INTUG

broadband

wired and wireless

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EC IST 2004, Den Haag 16 xi 2004

www.INTUG.net

INTUG contents

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- japan and korea
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INTUG what is INTUG?

- members
  - national associations
  - corporations
  - individuals
- activities
  - ITU and WTO
  - OECD
  - APEC TEL, CITEL
    and the European Union

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 priorities

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

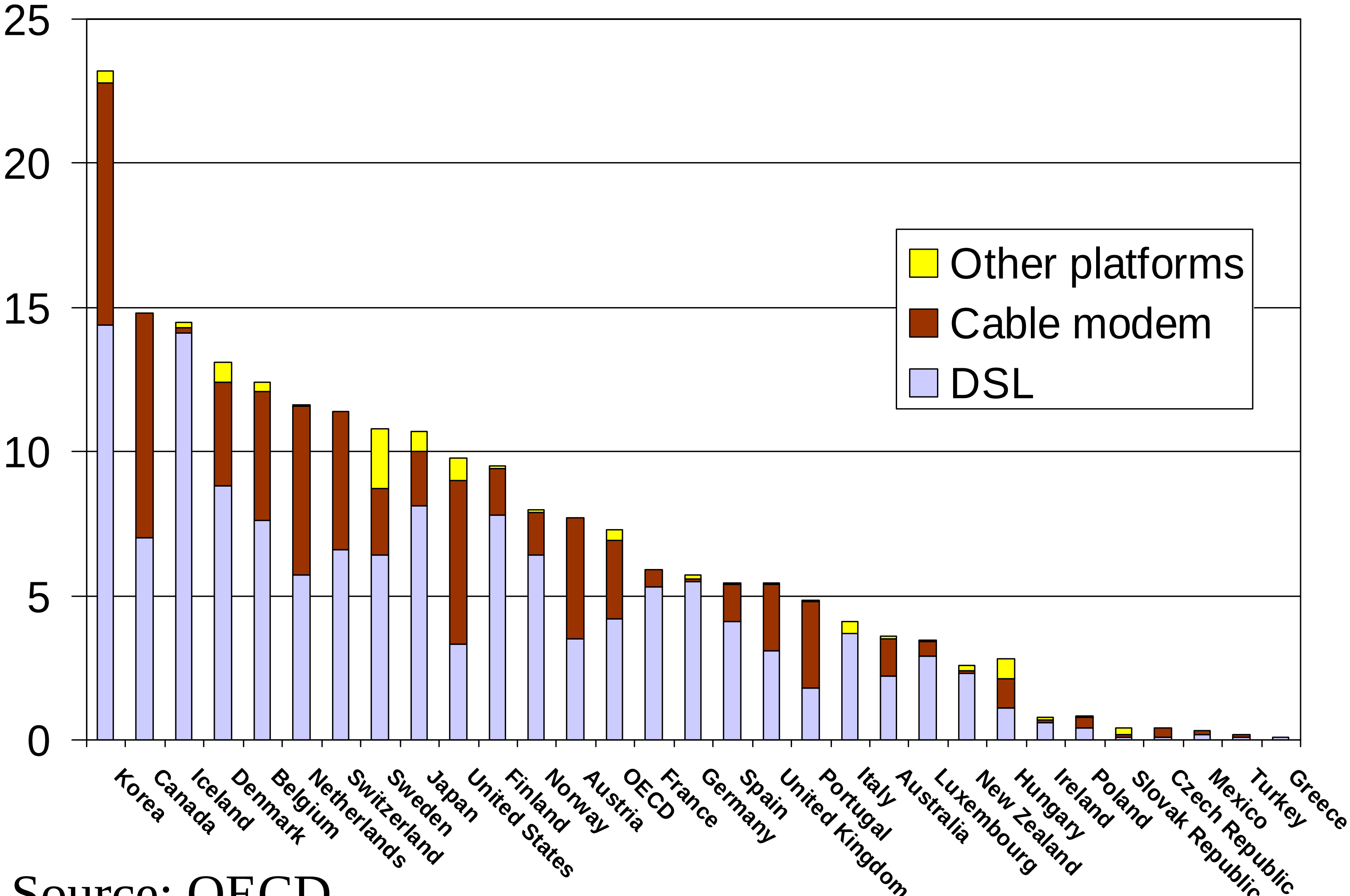
INTUG broadband priorities

- access to incumbent operator networks
  - advocacy of local loop unbundling
  - support for wholesale broadband products
- infrastructure competition
  - separation of the ownership of potentially competitive networks, such as cable television and the PSTN
  - ensuring that licensed and unlicensed spectrum is available for operators and users
- statistics
  - rapid reporting of numbers of lines and users
  - regular reporting and review of quality of service

INTUG creating a market for services

- pursuit of a mass market
- recognition of the enduring threat of new and disruptive technologies
- helping your customers to migrate to new services (and technologies)
- learning how customers use those services and the much higher bandwidth
- accepting that bandwidth is only a commodity
- recognising the limitations of your own company's core competences

INTUG broadband at the end of 2003



Source: OECD.

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Japan-Korea

- Republic of Korea is the world leader
- Japan is chasing very hard
- both have economies of scale, but quite different housing densities
- users get low prices and high speeds
- many customers are already on 3G and VDSL, they are ready for the next generation
- given the mass market, new services and new revenues are emerging

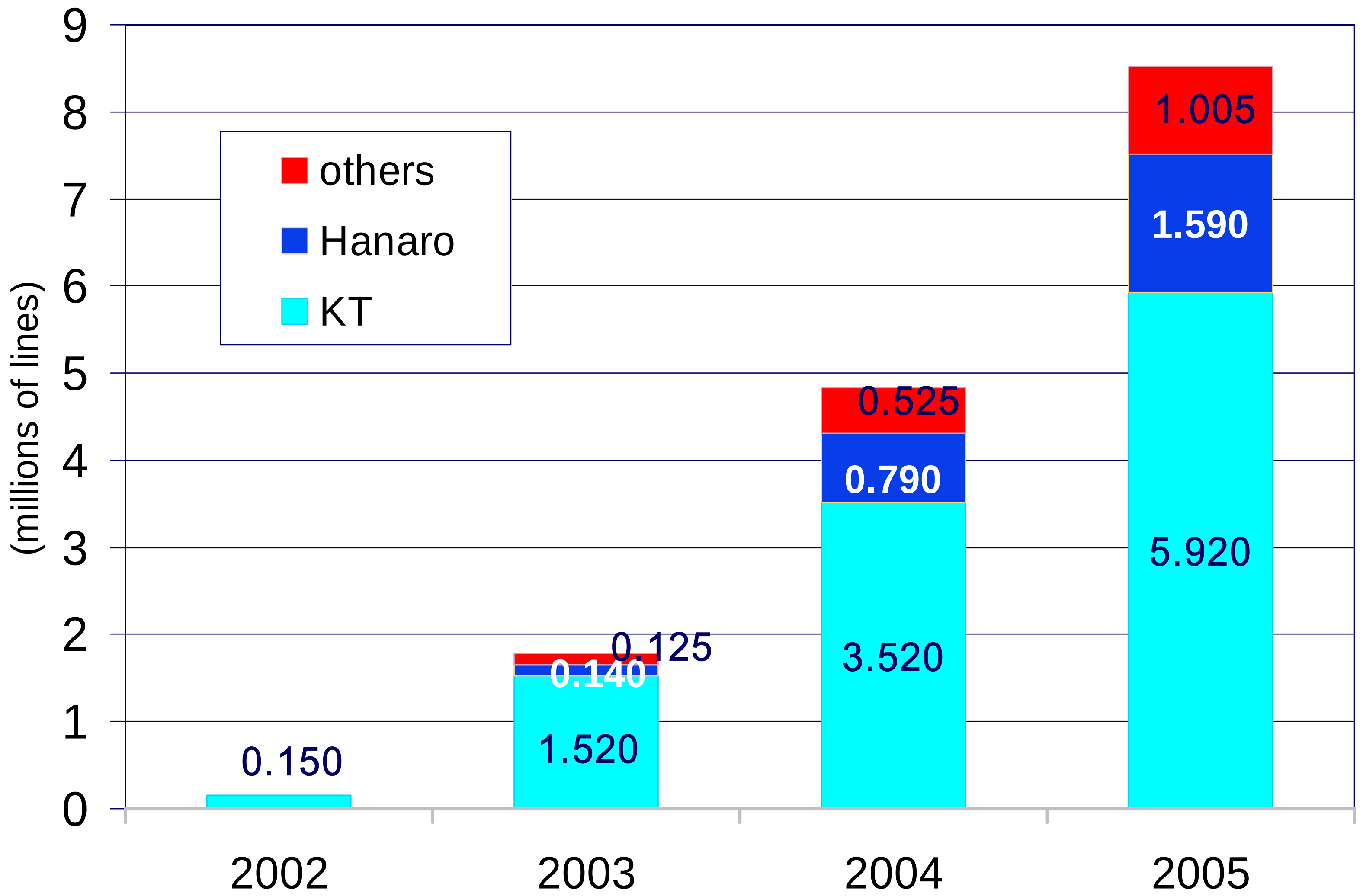
INTUG Republic of Korea

- economic growth since Korean War
- strength and depth in electronics
- handset exports in 2003 were US$ 50Bn
- global broadband leader:
  - market saturated Q4 of 2002
  - 11M lines at 8Mbps at US$ 25 per month
  - very high proportion of high-rise apartments
  - very high level of home PC ownership
  - plus 25,000 WLAN hot spots

INTUG Korea next generation

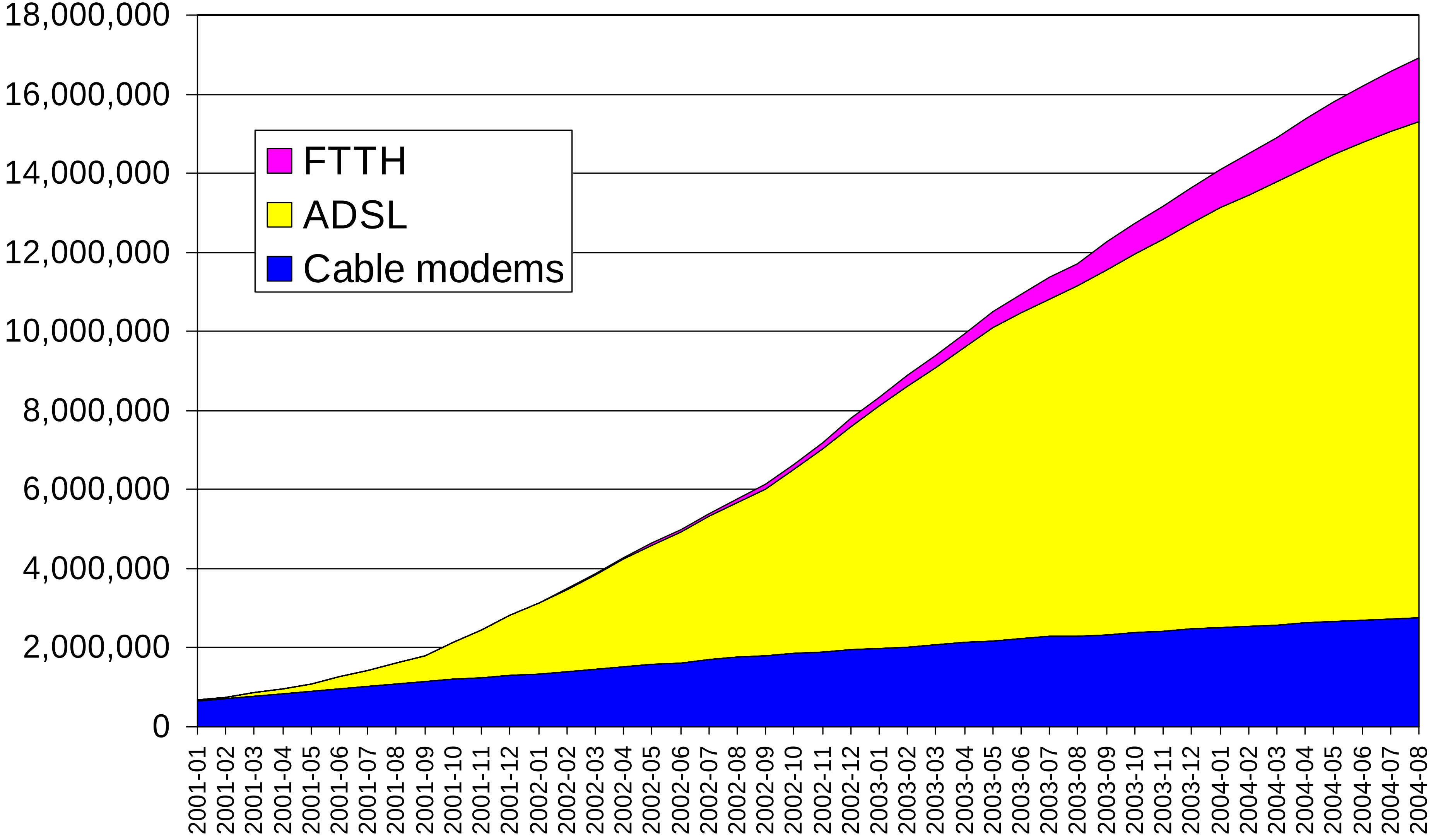
- ‘IT 839’ strategy
  - 8 services
  - 3 infrastructures
  - 9 new growth engines
- 3G deployed and fully operational
  - “all you can eat” data tariffs
- migrating from ADSL to VideoDSL
  - same price as ADSL €25 per month
- broadband convergence network:
  - licences for IEEE 802.16 on 2.3 GHz due in February 2005

INTUG korea – vdsl forecast



Source: Telson I&C

INTUG Japanese broadband



Yahoo! BB - Softbank

- latest ADSL offer
  - 50Mbps (downstream)
  - 3Mbps (upstream)
  - ¥ 4,130 per month
- 26Mbps ¥ 4,025
- 12Mbps ¥ 3,535
- 8Mbps ¥ 3,128
- Reach (0.96/0.96 Mbps) ¥ 3,135
- Hikari (FTTH) 100Mbps ¥ 7,234
- add ¥1,000 to any for 802.11g network

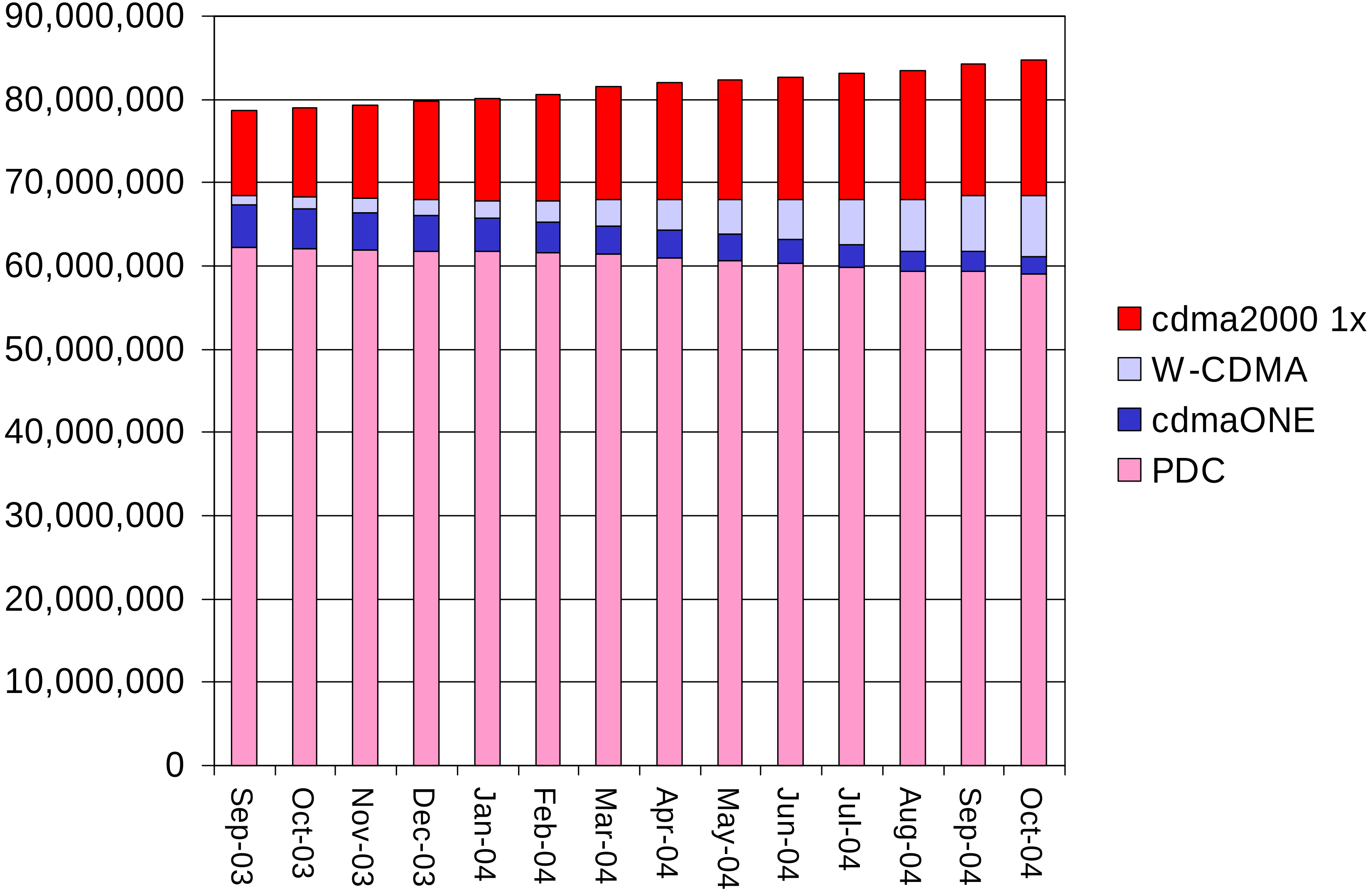
¥ 138 = € 1

INTUG japanese 3G

- flat rate prices for data
- KDDI “au” using cdma2000 1x
  - up to 2.4 Mbps downlink and 144kbps or more uplink (best efforts)
  - ¥4,200 (plus tax) for “all you eat” voice and data
- NTT DoCoMo using FOMA
- little few customers of Vodafone KK
- active anti-spam measures

¥ 138 = € 1

INTUG japan – switching to 3G



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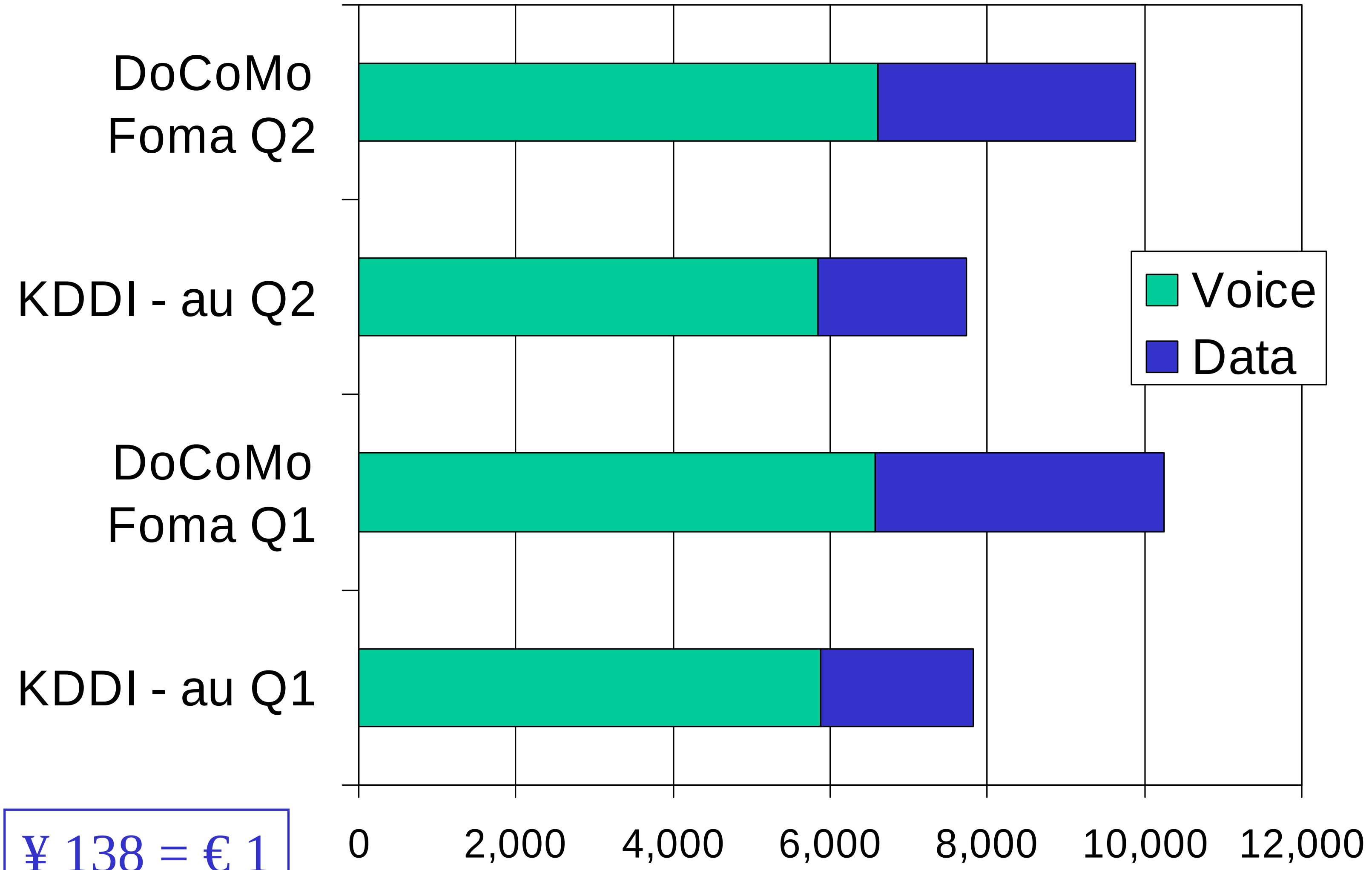
INTUG japan – 3G arpu in 2004



¥ 138 = € 1

INTUG china

- 11 million ADSL lines at end of 2003:
  - 7.4M China Telecom Group
  - 3.5M China Netcom
  - 0.3M China Railcom
- adding 1 million each month in 2004
  - could add 15-20 million lines in 2005
- cable modems (1-2 M?)
- BWA on 3.5GHz (1-2 M “lines”?)
- still adding a lot of dial-up users
- immense growth potential

INTUG india

- rivalry with China
- competition worked with GSM
- to be repeated with broadband
- aiming at an initial 10 or 20 million lines
- ISPs authorised to build own last mile
- low prices, e.g.,
  Hathway 512kbps Rs 250/month (€4.30)
- could be second largest English language broadband market by 2006
- now being chased by Pakistan

INTUG european union

- goal is to be the most dynamic knowledge-based economy
- no evidence or hope of a “single market”
- deeply divided and entrenched national markets and regulation
- many member states are slow-starters or no-shows in broadband
- unbundling local loop is taking years
- 3G is slow, uncertain and increasingly likely to be overtaken by other technologies
- telecommunications is holding back the achievement of the Lisbon goals

INTUG europe - unbundling

- local loops unbundled on 2 January 2002
- results mediated by performance of:
  - (weak) national regulatory authorities
  - (strong) incumbent operators
- operators played 3D – Deny, Delay, Degrade
- mostly “bonsai” broadband 256k or 512k
- few member states have robust competition
- absence of cross-border market entry
- new regulatory framework very slow in being put into place

INTUG europe – mobile

- leadership in 2G has been lost:
  - North America has caught up
  - Asia is ahead and growing
  - limited mobility services are increasingly important in developing and emerging markets
- 2G market abuses will continue to be addressed by regulators for years
- operators are desperate to retain revenues from SMS, roaming and termination rates
- because there are tiny revenues from 2.5G
- 3G has been severely delayed
- often not *n+1* but *n-1* market players

INTUG ubiquitous network

- at any time
- in any place
- with any object

- its construction will have a major effect on the revitalisation of the Japanese economy
- the idea is a rediscovery of “ubiquitous computing” conceived at Xerox PARC
- a paradigm and not an element

INTUG issues about ubiquity

- Quality of Service (QoS)
- privacy and data protection
- promotion of competition:
  - between networks
  - between providers
  - between services
- legal liability
- attitude of financial markets

INTUG looking ahead

- the target is **not** ADSL,but the stage after!
- certainly **not** 0.25 to 2Mbit/s
- it is ubiquitous networks:
  - wired and wireless
  - 50 to 100 Mbits/s (250Mbits/s and more)
- it has revenue from:
  - subscriptions
  - content
  - services
- it will generate jobs and economic growth

INTUG conclusions

- competition is *the* prerequisite, but is still missing
- economies of scale are essential for viability
- Europe needs to recognise that it has fallen behind
- there is a lot of work just to begin to catch up

INTUG thank you

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