Future Technologies
(Third generation)

Some objectives:

• Provide a seamless radio infrastructure
• Customer should see services, not technology!
• Maximize commonality of radio interfaces
• Enable cost-effective dual mode operation
• Universal personal mobility
• Evolution from 2nd generation technologies
Future Technology Activities

- FPLMTS : Future Public Land Mobile Telecommunications System. (Global)

- UMTS : Universal Mobile Telecommunications System. (Europe)

- MBS : Mobile Broadband System. (Europe)

- PCS : Personal Communications System (US)
UMTS

- Standardisation in ETSI (SMG5)
- Draft standards planned in 1998
- Alignment with FPLMTS
- Evolution of GSM, DCT1800, DECT
- Support from RACE project up to 1995
- From 1996 support from ACTS: trials and demos
  - pre-competitive
  - pre-regulatory
FPLMTS

• Global activity
• Standardisation by ITU
• Draft standards planned in 1997
• Evolution of GSM, DCT1800, DECT, IS54, IS95
• Proposed frequency bands by WARC’92:
  • 1885-2025 MHz
  • 2110-2200 MHz
PCS

- Standardisation by JTC (TIA/T1)
- PCS band:
  - Licensed (2 x 60 MHz)
  - Unlicensed (20 MHz)
- 7 standards for licensed band (high tier/low tier)
- 1 standard for unlicensed band
- Competitive bidding of licensed spectrum
- Ballotting to be finished 95/96
Licensed PCS standards

- New: CDMA/TDMA/FDMA - TDD
- IS-95 based
- PACS
- IS-54 based
- DCS based
- DECT based (PWT-L)
- W-CDMA
Unlicensed PCS standard

PWT standard

• Standardised by TIA TR41.6
• Business wireless applications
• Compliance with FCC rules
• Similar to DECT (other PHL)
• PE phase passed; Publication end 1995
# PCS technologies

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Third generation technology positioning

Data rate (kbit/s)

Cell size

FPLMTS
UMTS
PCS

Digital cordless

Digital cellular

Analog Cordless

Analog Cellular

100 m 1000 m 10 km