

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 :
 - Licenced (2 x 60 MHz)
 - Unlicenced (20 MHz)
- 7 standards for licenced band (high tier/low tier)
- 1 standard for unlicenced band
- Competitive bidding of licenced 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

	Licenced							Un- licenced
	TAG1	TAG2	TAG3	TAG4	TAG5	TAG6	TAG7	PWT (WCPE)
	New	IS95	PACS	IS54 based	DCS based	DCT based	W- CDMA	DECT based
Access	CDMA/ FDMA/ TDMA	CDMA	TDMA	TDMA	TDMA	TDMA	CDMA	TDMA
Duplex method	TDD	FDD	FDD	FDD	FDD	TDD	FDD	TDD
Carrier width	5 MHz	1.25 MHz	300 kHz	30 kHz	200 kHz	1728 kHz	5 MHz	1728 kHz
Equalizer	No	No	No	Yes	Yes	No	No	No
Modulation	CPQM	OQPSK/ QPSK	$\pi/4$ DQPSK	$\pi/4$ DQPSK	GMSK	GFSK	OQPSK/ QPSK	$\pi/4$ DQPSK

Third generation technology positioning

