UMTS
Universal Mobile Telecommunication Services

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Chairman ETSI SMG
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Let us work together to create high Speed Global Mobile Multimedia

• Let us use the window of opportunity to create an IMT2000 family member with global acceptance based on UTRA and GSM core network (CN) evolution.

• Let us work together intensively with all parties committed to the UTRA/GSM CN based IMT2000 family member.

• Let us co-operate with the communities supporting other IMT2000 family members to specify functions requested by identified business needs.
The GMM Concept, endorsed by the GA in July 96, is the Basis of ETSI’s UMTS and IMT2000 Work

- GMM (Global Mobile Multimedia) provides a standardization framework for multimedia mobility in the information society
  - Plurality to allow market differentiation
  - Co-ordination to allow roaming/interworking
  - Definition of Domains: applications, terminals, access and core transport networks (plural)

- UMTS priorities agreed:
  - 1) define one new UMTS terrestrial radio access network
  - 2) evolve current core network standards: ISDN & GSM
UMTS Terrestrial Component: Working Network in ETSI (GA July 96)

- UMTS Services
  - SMG 1 with widest participation (e.g. NA 1/2)

- Generic UMTS terrestrial Radio Access Network
  - SMG 2

- GSM Core Network Evolution
  - SMG 3

- ISDN Core Network Evolution
  - NA 6 UMTS

- BRAN?
  - EP BRAN

- GMM Co-ordination Group
  - GMM CG
UMTS Satellite Component Concept:
Agreement between SMG and SES
endorsed by ETSI’s Board

**Standard Concept**
- No market requirement for a complete S-UMTS system standard identified
- Standardization should focus on dualmode terminals and roaming between T- and S-UMTS

**Work Distribution**
- S-UMTS specs will be developed as part of UMTS under leadership of SMG
- SES will develop specs requested by the satellite directive and the type approval directive
To meet Market Needs the Focus of UMTS was changed

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<tr>
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<th>„Old“ UMTS</th>
<th>„New“ UMTS</th>
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<td>Core ideas</td>
<td>Integration of all existing and new services into one new universal network</td>
<td>1) Focus on innovative new services 2) Support of GSM services</td>
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<td>Introduction</td>
<td>Migration from existing networks</td>
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<td>Evolution of GSM roaming, MAP based</td>
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<td>FPLMTS as one monolithic standard in ITU</td>
<td>IMT 2000 family in ITU and ANSI, ETSI, ARIB/TTC</td>
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UMTS will secure the longterm Competitiveness of GSM Operators

- Mobile telephony with international roaming
- Messaging (SMS) and 9.6 kbit/s data/fax
- Wide range of supplementary services
- Services customization & portability
- 64 kbit/s data circuit and packet
- Quality and capacity enhancements
- Global roaming: 900/1800/1900/MSS

- 1997
- 1999
- 2002

Phase 2
Phase 2 +
UMTS
**Highspeed mobile Multimedia by UMTS Phase 1 in 2002**

| Services                                                                 | 1) multimedia [144 - 512] kbit/s for wide area mobility, 2M bit/s for restricted mobility  
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<td>2) high quality speech using low bitrates</td>
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<td>3) advanced addressing mechanisms</td>
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<td>4) virtual home environment for service creation and service portability</td>
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<td>5) seamless indoor, outdoor and far outdoor</td>
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<td>6) dual mode/band of operation of GSM/UMTS in one network</td>
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<td>7) roaming between GSM and UMTS networks</td>
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<td>Terminals</td>
<td>dual mode/band GSM/UMTS</td>
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<td>Access network</td>
<td>new BSS in the UMTS/FPLMTS spectrum</td>
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<td></td>
<td>spectrum efficient</td>
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<td>Core transport</td>
<td>evolution of GSM and ISDN</td>
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<td>mobile/fixed convergence elements</td>
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Evolution in annual phases after phase 1
UMTS Standardisation Work fulfills major Milestones

- GMM concept, UMTS priorities mid 96
- ETSI reorganisation end 96
- New Focus for GSM based UMTS mid 97
- UMTS concept & basic parameters end 97
- UMTS phase 1 standards end 99
- UMTS “phase 0” trials 2001
- UMTS phase 1 operation 2002
UTRA and the GSM Core Network Evolution are the Cornerstones of a competitive IMT2000 Family Member

- UTRA Decision in SMG#24bis in Paris on 29 January 1998
  - W-CDMA in paired spectrum
  - TD-CDMA in unpaired spectrum
- GSM core network evolution: GPRS evolution for highspeed packet transmission
- UMTS/GSM Specifications Release 99 will contain GSM phase 2+ and UMTS phase 1
Different emerging IMT 2000 Systems serve different Market Needs

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<th>Business Community</th>
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<th>Radio concept: paired spectrum</th>
<th>Radio concept: unpaired spectrum</th>
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<td>GSM core network evolution</td>
<td>W-CDMA</td>
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<td>Japan/ NTT DoCoMo</td>
<td>GSM core network evolution</td>
<td>W-CDMA</td>
<td>[TDD]</td>
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<td>AMPS TDMA (IS 54/136)</td>
<td>ANSI 41 evolution</td>
<td>IS 136 evolution</td>
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<td>AMPS CDMA (IS 95)</td>
<td>ANSI 41 evolution</td>
<td>CDMA One evolution</td>
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Standards Organizations adopt the Concept of an IMT 2000 Family of Systems (IFS)

**IFS Concept**
- IFS should define few essential elements only
- Commonalties between IFS members should be sought, to enable roaming & volume

**Work distribution**
- ITU should focus on framework standards
- ETSI, ARIB & TTC, ANSI T1 etc. should work on detailed standards
The Way Forward for UMTS and IMT2000

• Focussed support of the ITU IMT2000 family of systems concept
• Intensified co-ordinated specification work in order to complete the detailed specifications by the end of 1999
• Globalization of the detailed specification work