

**ITU-T SSG:
“IMT-2000 and Beyond”
Sofia, Bulgaria
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Objective and Outline

- **Objective:**
 - provide overview of ITU-T SSG activities on “IMT-2000 and Beyond”
- **Outline:**
 - Brief historical review: why create the SSG
 - SSG Mandate
 - SSG Work structure
 - Results so far
 - Going forward
 - Referencing
 - OHG, 3GPPs and Harmonization
 - Vision beyond IMT-2000
 - Summary

Dramatic Growth Forecast for Worldwide 3G Revenues

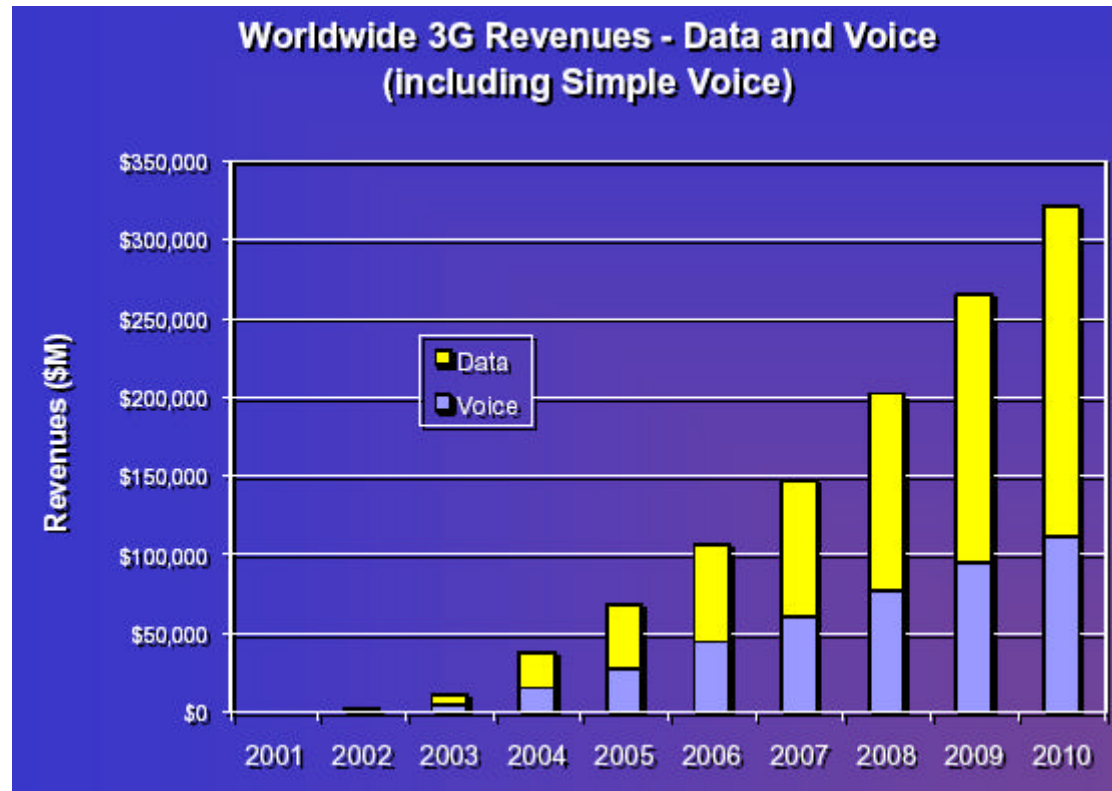


Data Subscriber Growth

Data Traffic Growth

Applications Growth

Subscriber Growth



“Realistically Forecasting 3G Users and Revenues”

Paola Tonelli, UMTS Forum Operators' Group Chairperson

UMTS 2001, Barcelona, 17 October, 2001

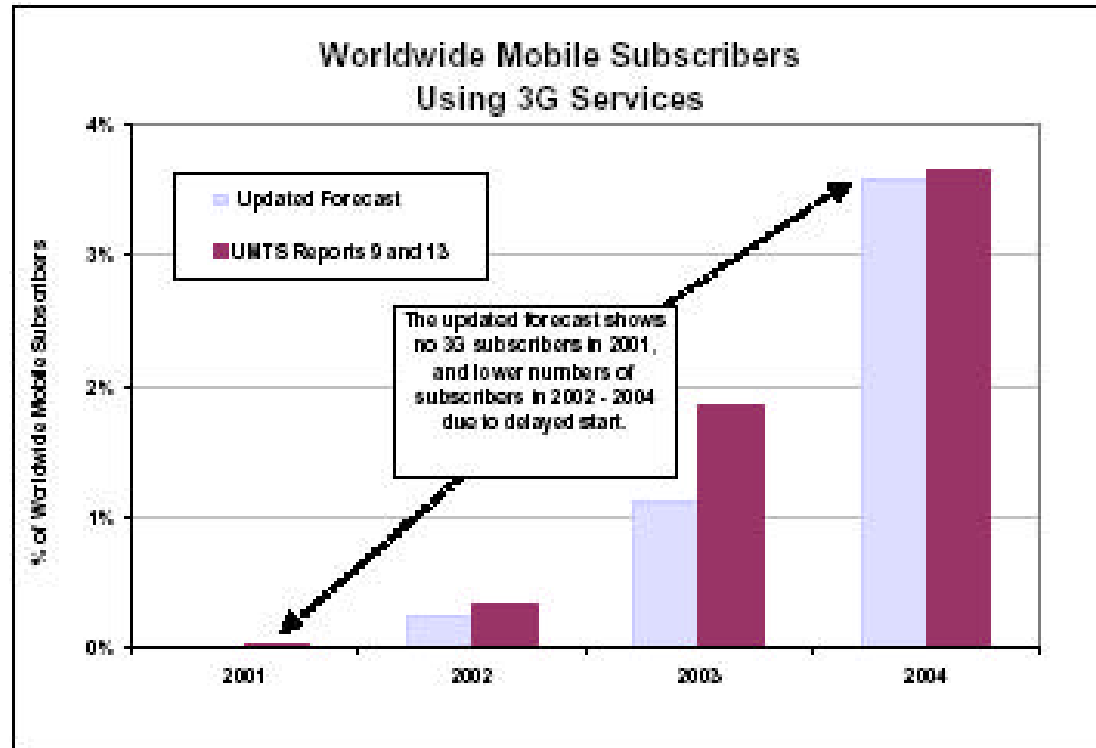
<http://www.umts-forum.org>

Revised forecasts with industry downturn



“The continuing economic downturn and the catastrophic events of September 11th last year have given rise to concerns about the viability of mobile data services and in particular 3G. These concerns have been exacerbated by the slowdown in subscriber growth and the announcements by many operators of reduced capital expenditures. These developments have prompted The UMTS Forum to re-examine its 3G market forecasts published in August 2001. The results appear in the Forum’s Report No 18. The conclusion of this report is that there is no necessity to revise growth figures projected in the August 2001 report, which, in any event, were built on an assumption of slow adoption for the first five years of 3G availability.”

Source: *Mobilennium*, June 2002 (http://www.umts-forum.org/mobilennium_online/2002.06/index.html)





Why is this Study Group special?

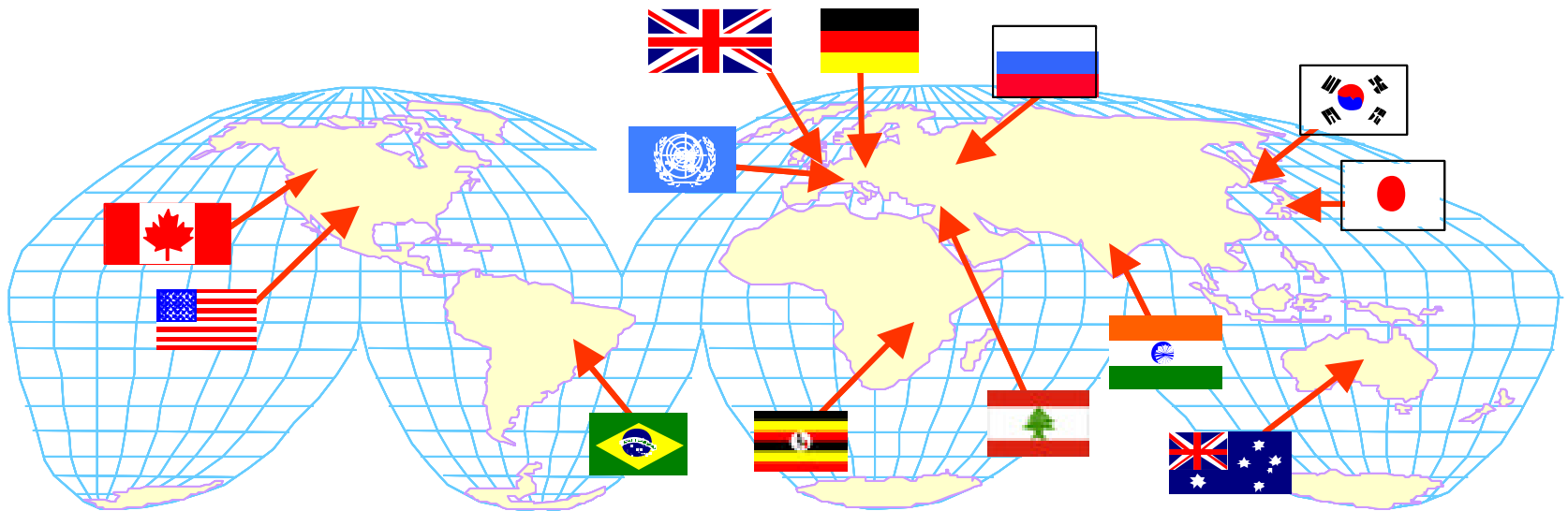
- **Given significant freedom in conducting its business:**
 - Paperless meetings to maximum extent possible
 - Reduced meeting notice requirements
 - Reduced contribution submission deadline
 - All documents made available on ITU web site
 - Formal meeting reports made available quickly
 - Use of e-meetings, teleconferences, other means to conduct work
- **Plus has the usual powers of a Study Group:**
 - Create and approve Recommendations
- **Must report to TSAG regularly:**
 - On progress of work, and on effectiveness of new procedures and working methods



Why is this Study Group special?

- **Management Team**

- Larger than usual
- Strength in diversity:
 - viewpoints from vendors, operators and regulators
 - viewpoints from developed and developing countries

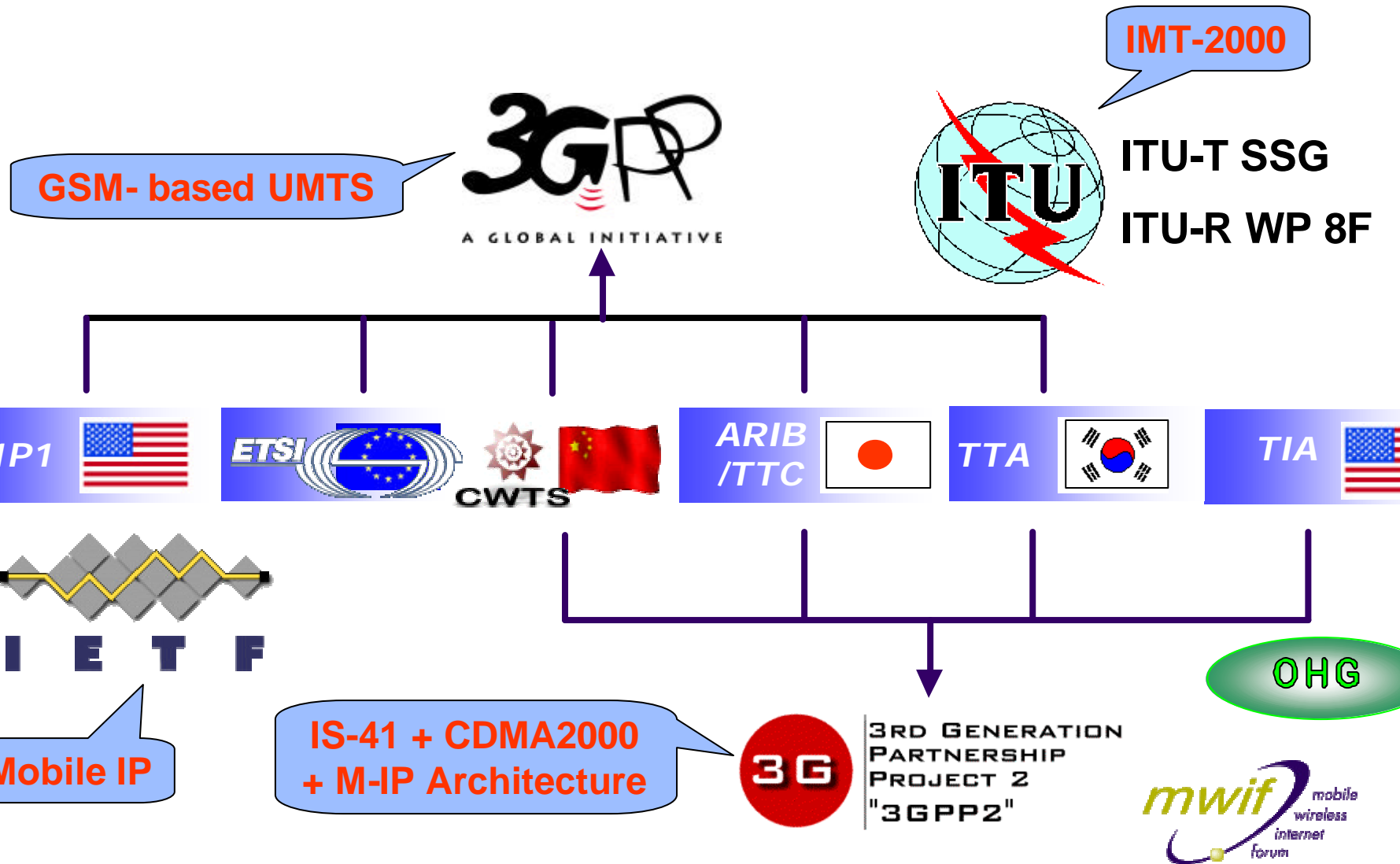




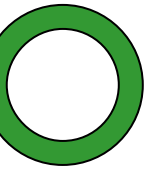
Summary of SSG Mandate

- **Lead SG on IMT-2000 and beyond and for mobility**
 - Primary responsibility within ITU-T for overall network aspects of IMT-2000 and beyond
- **To study:**
 - Vision for IMT-2000 and Beyond (circa 2010)
 - Identification and globalization of IMT-2000 Family members
 - Support harmonization of evolving IMT-2000 Family members
 - Convergence of fixed and wireless networks
- **To assist developing countries in applying IMT-2000**
- **Emphasis on strong cooperative relations and complementary programs with SDOs, 3GPPs**
- **Make use of provisional working procedures specific to SSG:**
 - Recommendation A.9: Provisional working procedures for SSG

IMT-2000 Standards: a Global Partnership



SSG Approach



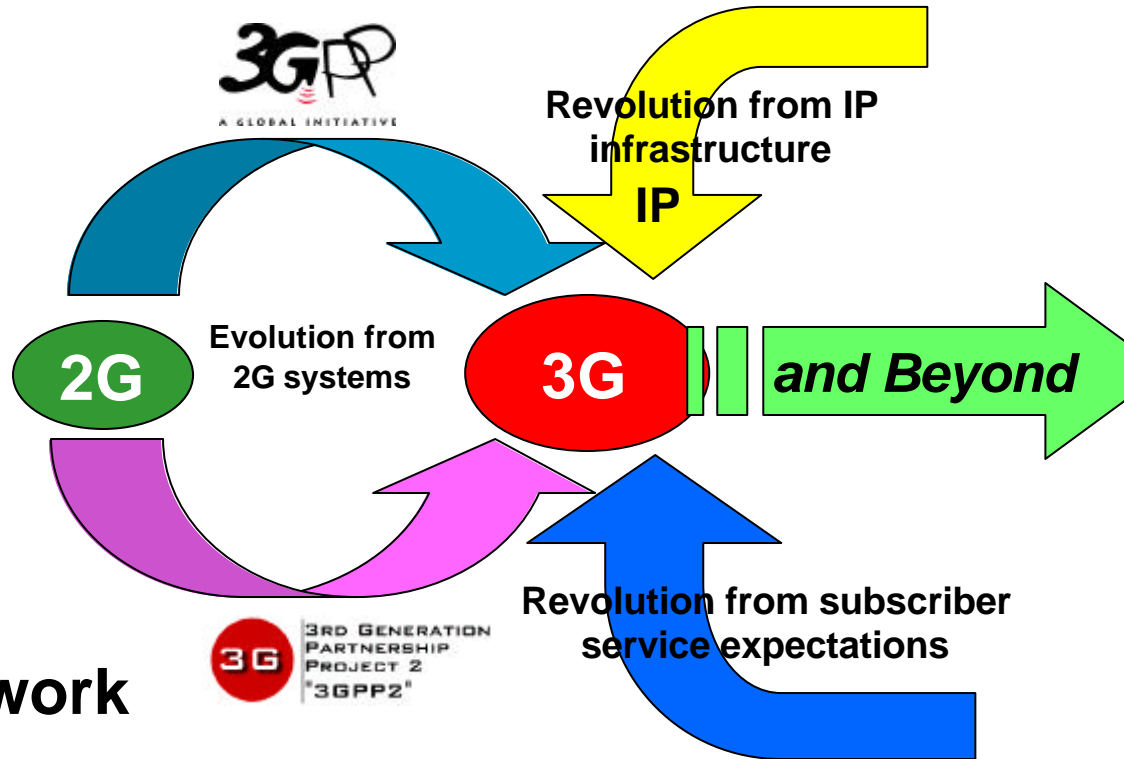
EMPHASIS ON:

- Collaboration
- Cooperation
- Partnering



BUT NOT:

- Duplication of work



SSG Mandate translated into Study Questions

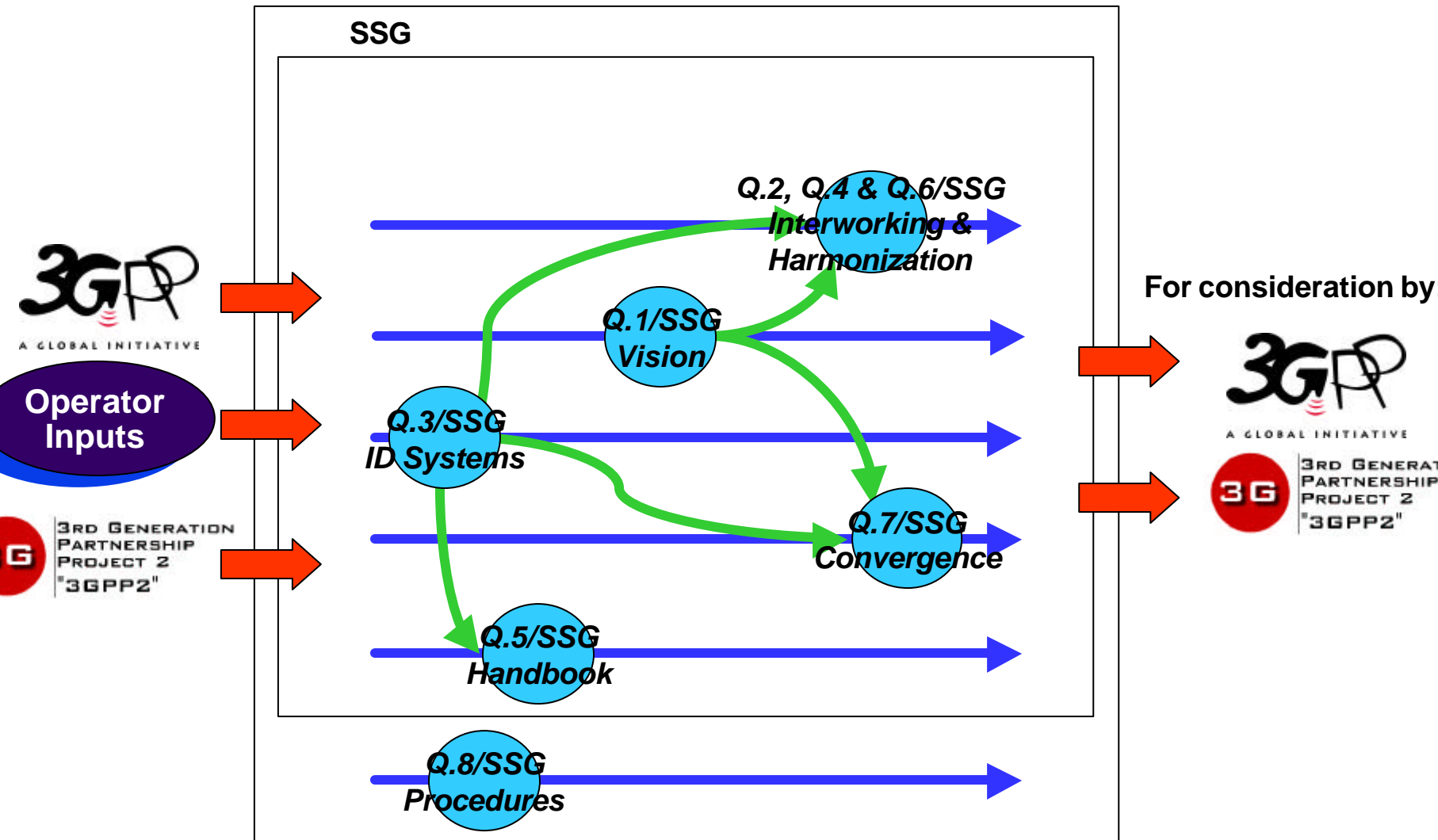


- **Q.1/SSG** **Service and network capability requirements and network architecture (“Vision”)**
- **Q.2/SSG** **NNI mobility management protocol**
- **Q.3/SSG** **Identification of existing and evolving IMT-2000 Systems (“ID Systems”)**
- **Q.4/SSG** **Interworking functions to be used with existing and evolving IMT-2000 systems**
- **Q.5/SSG** **Preparation of a Handbook on IMT-2000 (“Handbook”)**
- **Q.6/SSG** **Harmonisation of existing IMT-2000 Systems**
- **Q.7/SSG** **Convergence of fixed and existing IMT-2000 systems (“Convergence”)**
- **Q.8/SSG** **Special Study Group working procedures (“Procedures”)**

Question details are available at: <http://www.itu.int/ITU-T/studygroups/ssg/questions.html>



SSG Work Topics and Relationships



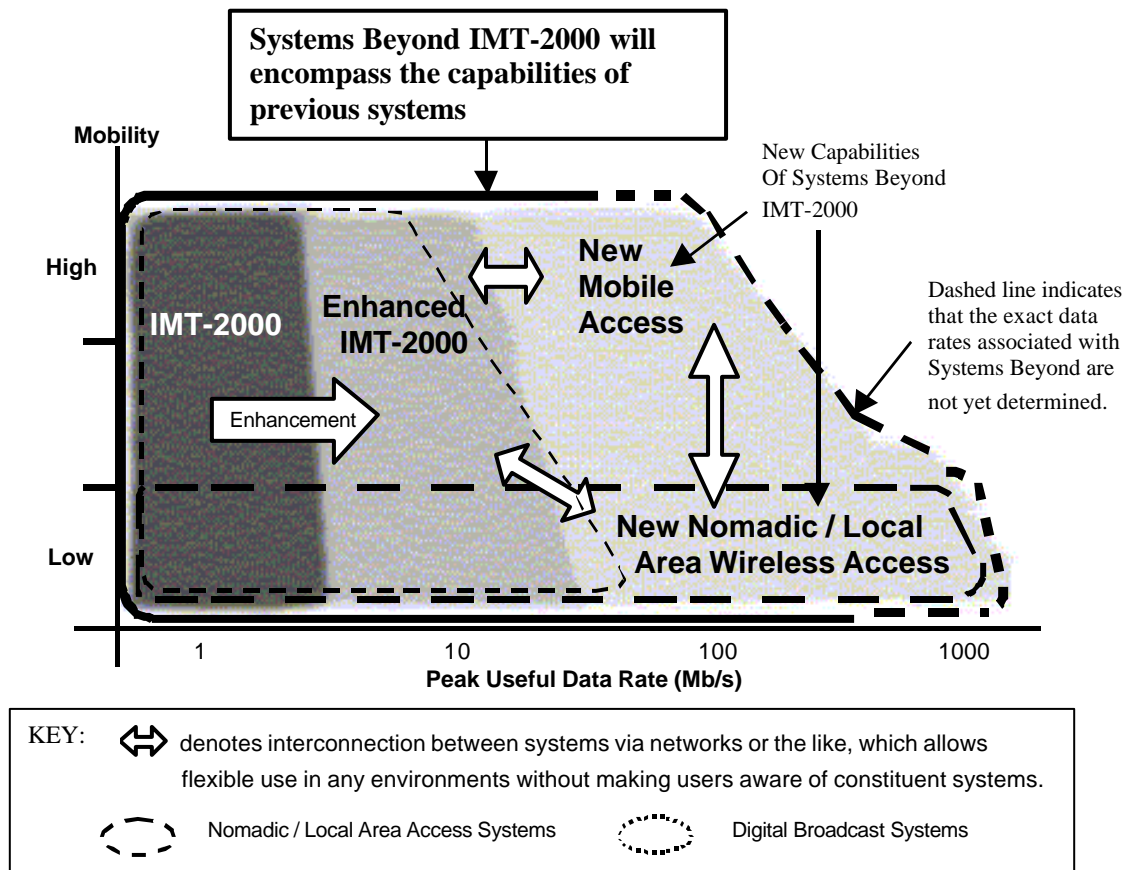
Q.1/SSG: “Vision” – Key results to date



- **Closely coupled with ITU-R WP 8F efforts towards their PDNR IMT.VIS**
 - SSG represented at WP 8F meetings, vice versa
 - Working together to ensure consistency between Radio and Core Network views: describe a single, common ITU “Vision”
 - Recommendation Q.1702 (“Long-Term Vision of Network Aspects for Systems Beyond IMT-2000”) approved 4 July 2002



Defining the Vision: Capabilities of IMT-2000 and Systems Beyond

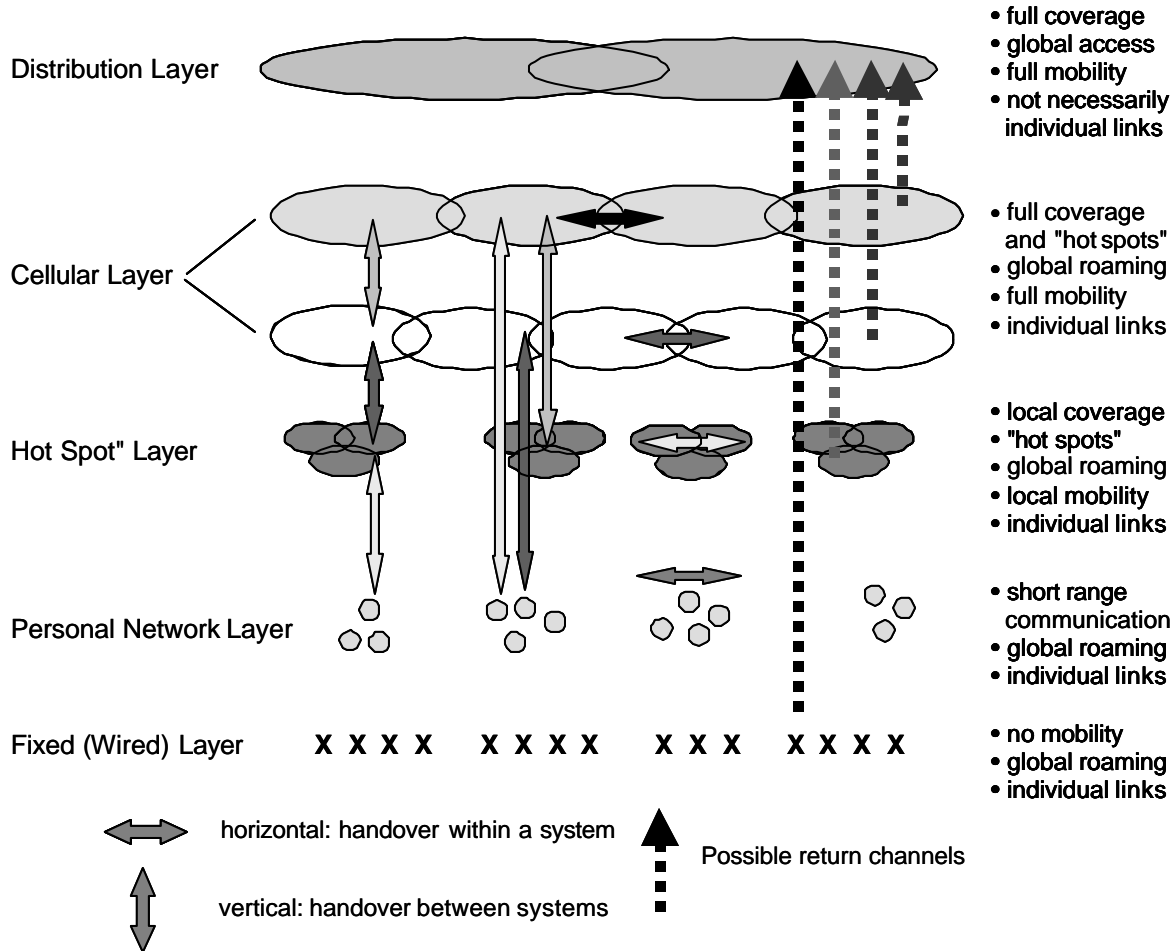


From ITU-R Doc. 8F/728-E, Report of the 8th Meeting - Ottawa, 29 May - 5 June 2002

Dark gray color indicates existing capabilities, medium gray color indicates enhancements to IMT-2000, and the lighter gray color indicates new capabilities of Systems Beyond IMT-2000.

The degree of mobility as used in this figure is described as follows: Low mobility covers pedestrian speed, and high mobility covers high speed on highways or fast trains (60 km/h to ~250 km/h, or more).

Defining the Vision: Complementary Access Systems



From ITU-R Doc. 8F/728-E, Report of the 8th Meeting - Ottawa, 29 May - 5 June 2002

Figure 4-5: Illustration of complementary access systems

Q.2, 4, 6, 7/SSG: Interworking, Harmonization, Convergence



- **Acting as a catalyst and facilitator toward global roaming, service and network interoperability**
 - Promote adoption of common approaches
 - Identify differences, identify candidate solutions if available, interact with regional bodies to facilitate agreements
 - Regional bodies remain in full control: may choose to act or not based on own decision processes as supported by membership
- **Supporting OHG initiative toward a common IP Core Network approach**
 - Operator involvement and support essential to drive agreements and achieve success
- **Deliverable outlines and initial drafts available, work progressing**

OHG All IP Core Network Harmonization



- **Toronto, 3-4 Apr 2002**
- **Participants expressed desire for:**
 - Common SIP based Call/Session control protocol to enable interoperability between 3GPP and 3GPP2 networks
 - Common approaches for SIP enhancements in IETF including collaborations on proposals to IETF
 - Common Application Programming Interfaces (APIs)
 - Common SIP based Services to enable interoperability between 3GPP and 3GPP2 networks
 - Common approaches to new IP-multimedia services



3GPP & 3GPP2 All IP Core Network Harmonization Agreements



- **Harmonization of 3GPP and 3GPP2 IP Multimedia Core Networks is worthwhile and achievable**
 - this goal should be pursued urgently by both PPs
- **Focus harmonization efforts where synergies already exist:**
 - OSA/PARLAY based service APIs
 - IMS (3GPP IP Multimedia Subsystem and equivalent in 3GPP2 MMD)
- **Agreed that 3GPP and 3GPP2 should adopt:**
 - a single IMS reference model
 - consistent terminology to describe common IMS functional entities
- **3GPP and 3GPP2 should work to ensure:**
 - interoperability between the 3GPP IMS mobiles and 3GPP2 IMS mobiles (a 3GPP IMS mobile can set up a session with a 3GPP2 IMS mobile and vice-versa)
 - application level intersystem IMS roaming (given that the mobile supports the visited network's access network and IP transport technology, a 3GPP IMS mobile should be able to roam into a 3GPP2 network and vice-versa)

All IP Core Network Workshop documents:



www.3gpp.org - [/ftp/tsg_cn/Joint_Meetings/IP_CN_Workshop/](ftp://tsg_cn/Joint_Meetings/IP_CN_Workshop/)

[\[To Parent Directory\]](#)

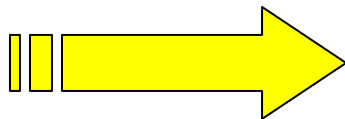
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4/4/02	9:58	PM	33269	IP_CN_2002_044.zip
4/4/02	9:58	PM	22528	IP_CN_2002_Tdoc_list.xls

#043: Workshop Recommendations

#044: Meeting Summary

Document List

Q.3/SSG: “ID IMT-2000 Systems” – Key results to date



- Q.1741.1 (Rel. 99) approved April 2002
- Q.1741.2 (Rel. 4) approved Dec. 2002

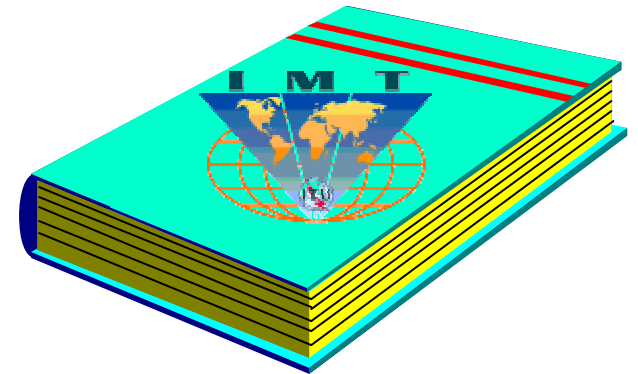
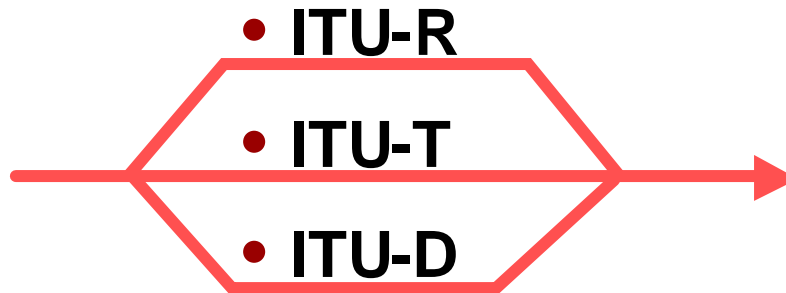


- Q.1742.1: approved Nov. 2002

Q.5/SSG: “Handbook” - Key results to date



- Outline in place, substantive inputs received
- Significant editing sessions planned in March 2003 ITU-T part for 2nd edition of the handbook
- ITU-T part of Handbook for 1st edition approved by SSG.



Q.8/SSG: “Procedures” - results to date



- **Enhanced Recommendation A.9 substantially finalized in May 2002 SSG meeting**
 - bottom-up approach on selected ITU reform aspects
 - e-meeting guidelines, other aspects, based on practical experience
- **Included proposal on Technical Specifications:**
 - must be high quality, do not require unanimity, limited lifetime
 - but no consensus: sought TSAG guidance
- **Proposed revised Rec. A.9 passed to TSAG June 2002**
 - no consensus in TSAG on Technical Specifications





Summary

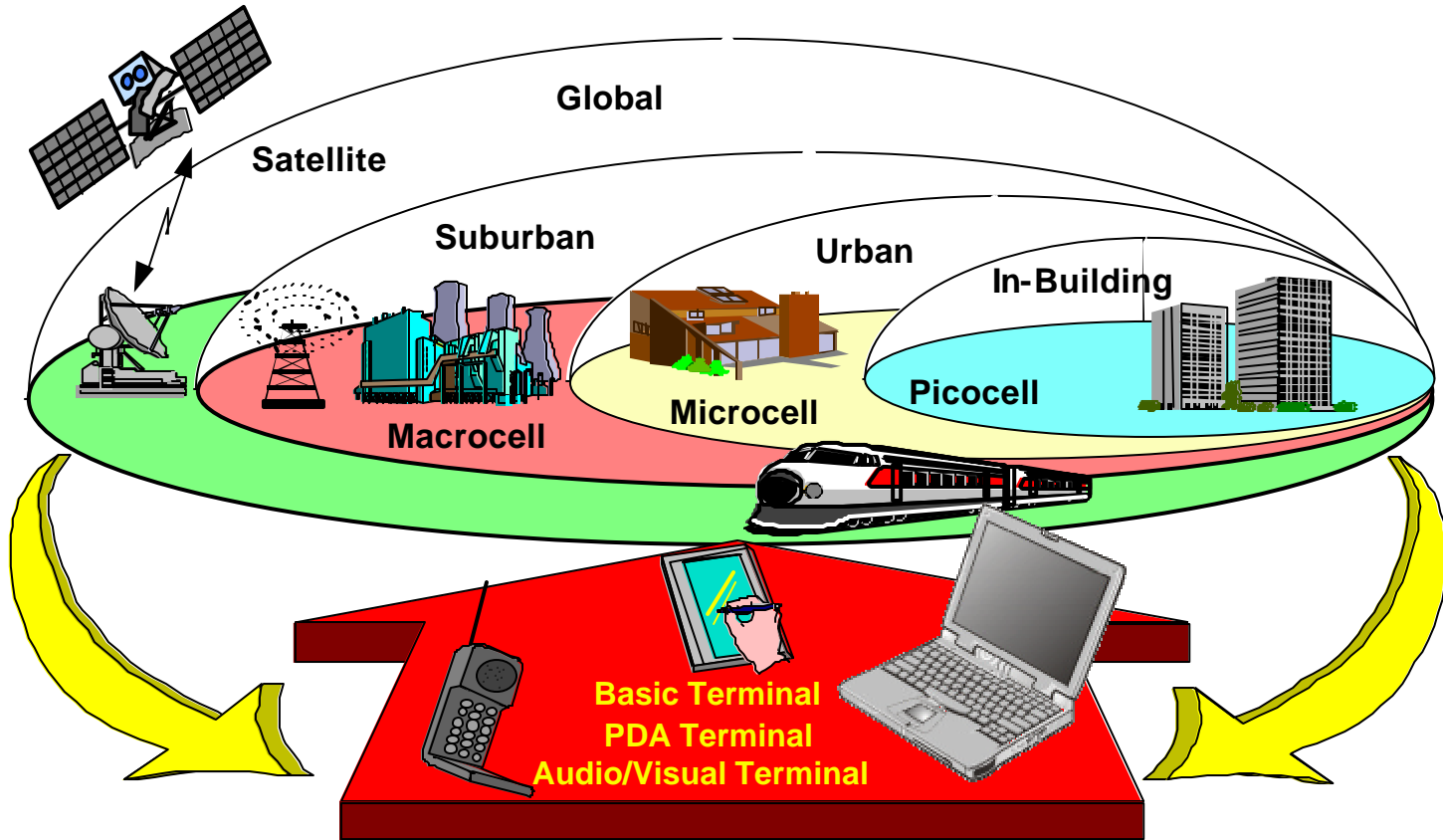
- **Meeting end user needs such that everyone wins is the essential driver for operators and vendors**
 - Global roaming, seamless service delivery, network interoperability
- **Dealing with heterogeneity is fundamental to success**
 - Evolution from and Interworking with 2G and 3G systems and beyond
- **Consistency in APIs will allow the infrastructure to evolve without rendering services obsolete**
- **3GPPs and ITU provide complementary near, medium and long term perspectives**
- **ITU-T SSG and ITU-R WP 8F add an essential global perspective to regional standards activities**

SSG adds value in global standards for “IMT-2000 and Beyond”



- **Leadership through coordination, consensus building, and collaborative working arrangements**
- **Facilitating adoption of appropriate external specifications as ITU-T Recommendations**
 - act as a single source for IMT-2000 and related standards
- **Development of requirements and architectural framework Recommendations as appropriate**
- **Identifying emerging industry needs for global standards**
- **Facilitating interoperability and interworking between IMT-2000 family members for global roaming, seamless service delivery**

IMT-2000 and Beyond...



Realizing the Vision will require a well-coordinated global effort.

Selected Acronyms



3G	Third Generation	IMS	IP Multimedia Subsystem	SDO	Standards Development Organization
3GPP	Third Generation Partnership Project	IMT-2000	International Mobile Telecommunications	SG	Study Group
3GPP2	Third Generation Partnership Project 2	IP	Internet Protocol	SIP	Session Initiation Protocol
AAP	Alternate Approval Process	IS-41	TIA Interim Standards -41	SSG	Special Study Group
APT	Asia-Pacific Telecommunications	ITU	International Telecommunications Union	TIA	Telecommunications Industry Association
ARIB	Association of Radio Industries and Businesses (Japan)	ITU-D	ITU Development Sector	TSAG	ITU-T Telecommunications Standards Advisory Group
CDMA	Code Division Multiple Access	ITU-R	ITU Radio Sector	TTA	Telecommunications Technology Association (Korea)
CPM	Conference Preparatory Meeting (for WRC)	ITU-T	ITU Telecommunication Sector	TTC	Telecommunication Technology Committee (Japan)
CWTS	China Wireless Telecommunications Standard	LAN	Local Area Network	UMTS	Universal Mobile Telecommunication System
DECT	Digital European Cordless Telephone	M-IP	Mobile Internet Protocol	UWCC	Universal Wireless Communications Consortium
ETSI	European Telecommunications Standards Institute	MWIF	Mobile Wireless Internet Forum	WP	Working Party
GSA	Global mobile Suppliers Association	OAM	Operations, Administration and Maintenance	WRC	ITU-R World Radio Conference
GSM	Global System for Mobility	OHG	Operator Harmonization Group	WTSA	ITU-T World Telecommunications Standardization Assembly
IETF	Internet Engineering Task Force	OSA	Open Services Architecture		
		PDA	Personal Digital Assistant		
		PDNR	Proposed Draft New Recommendation		
		PLMN	Public Land Mobile Network		
		PSTN	Public Switched Telephone Network		