



# ITU-D Seminar on IMT 2000 and beyond Systems Warsaw, 2 – 4 October 2001



## Migration Paths 2G to 3G Planning the Evolution to IMT 2000

by

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## **Migration Paths 2G to 3G**

### **Planning the Evolution to IMT 2000**

- 1. Introduction**
- 2. Development in Markets and Services**
- 3. Planning the Evolution of the GSM Platform**
- 4. Migration Paths**
- 5. Global Standardisation**
- 6. New Services in Mobile Networks**
- 7. Conclusions**

- **International and independent**  
committed through consensus to the successful introduction and development of UMTS / IMT 2000 systems
- **Unique focus**  
delivery of market-focused recommendations aimed at the successful commercial realisation of UMTS / IMT 2000 globally
- **Over 260 members from 43 countries worldwide**  
including mobile operators, manufacturers, regulators, consultants, IT and media/content communities

# Major Achievements



- **Delivery of market-focused Reports**  
14 reports up to date
- **Detailed spectrum recommendations**  
successful contributions to WRC-2000
- **A regulatory framework for licensing**
- **Co-ordination of market requirements**  
First Market Representation Partner (MRP) of 3GPP  
Recommendations delivered to 3GPP
- **Licensing database**  
> 110 licences to be expected by end 2001

# The GSM Platform - Statistics of Success



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	Users	GSM MoU Members	Countries	Networks on air
1991	Trials only	43	23	0
1995	12.5 mio	156	86	117
1997	70 mio	256	110	239
2000	440 mio	≥ 436	≥ 162	≥ 375
2005 Forecast	≥ 1000 mio			

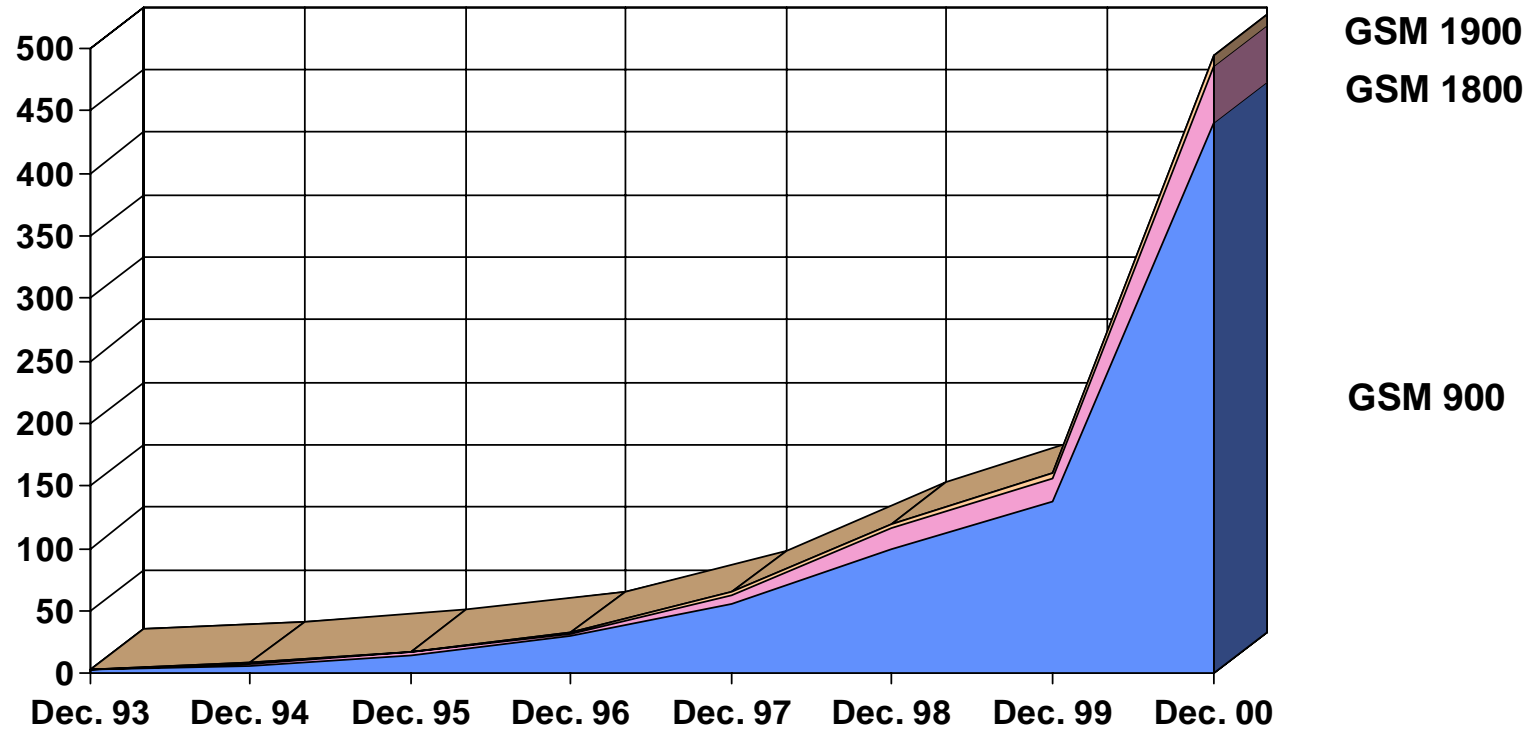
Source: GSM Association 02/01

# GSM Subscriber Forecast



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Mio Subscribers

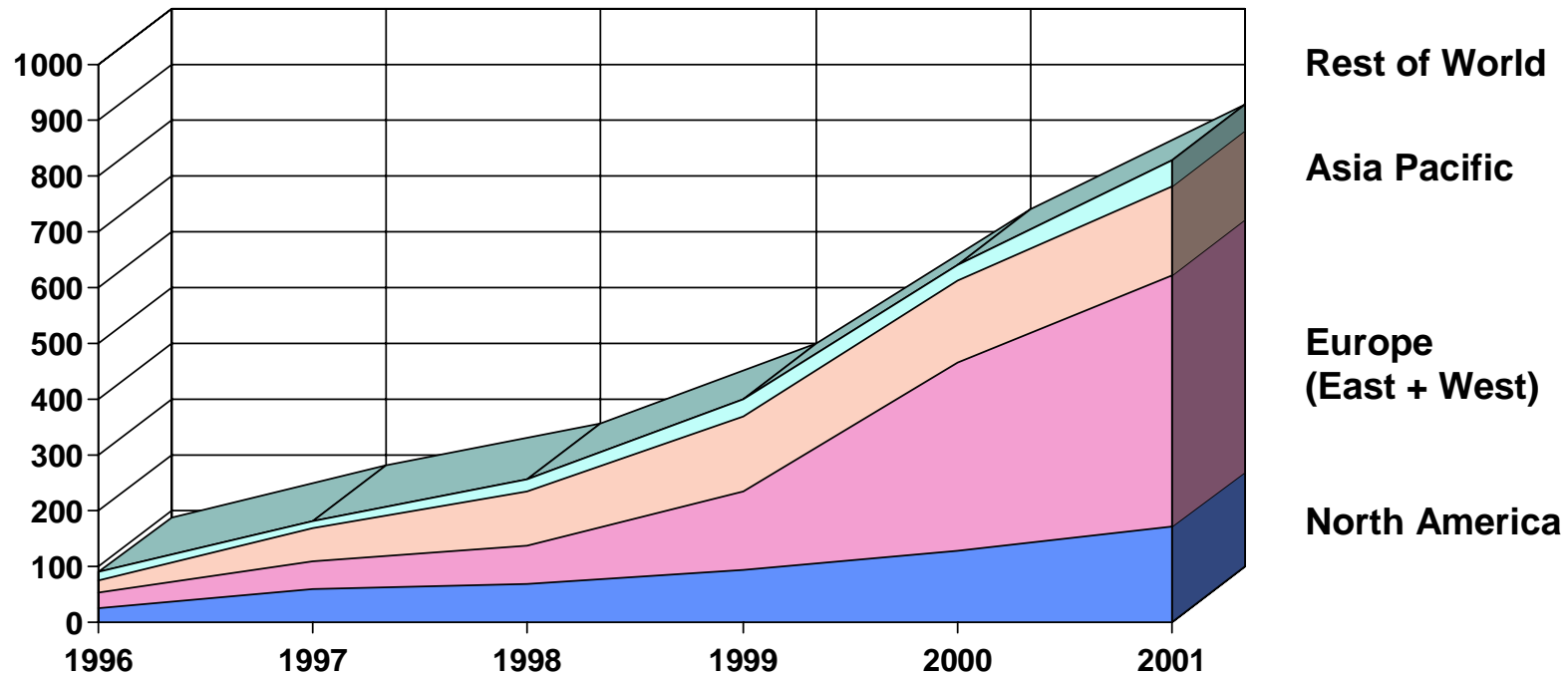


Source: GSM Association 02/01

# Distribution of World Cellular Subscribers by Regions



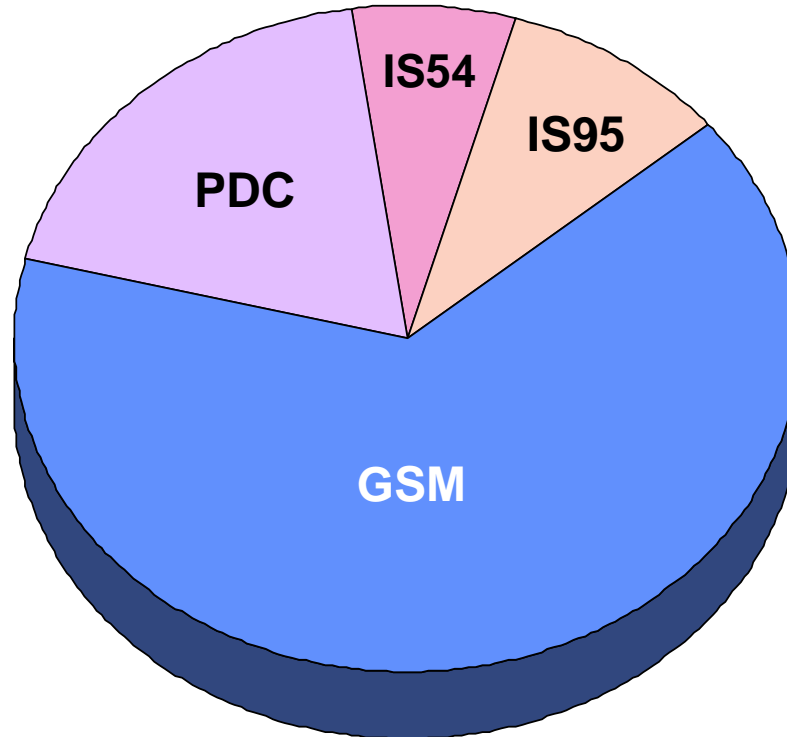
Mio Subscribers



Source: GSM Association 12/00

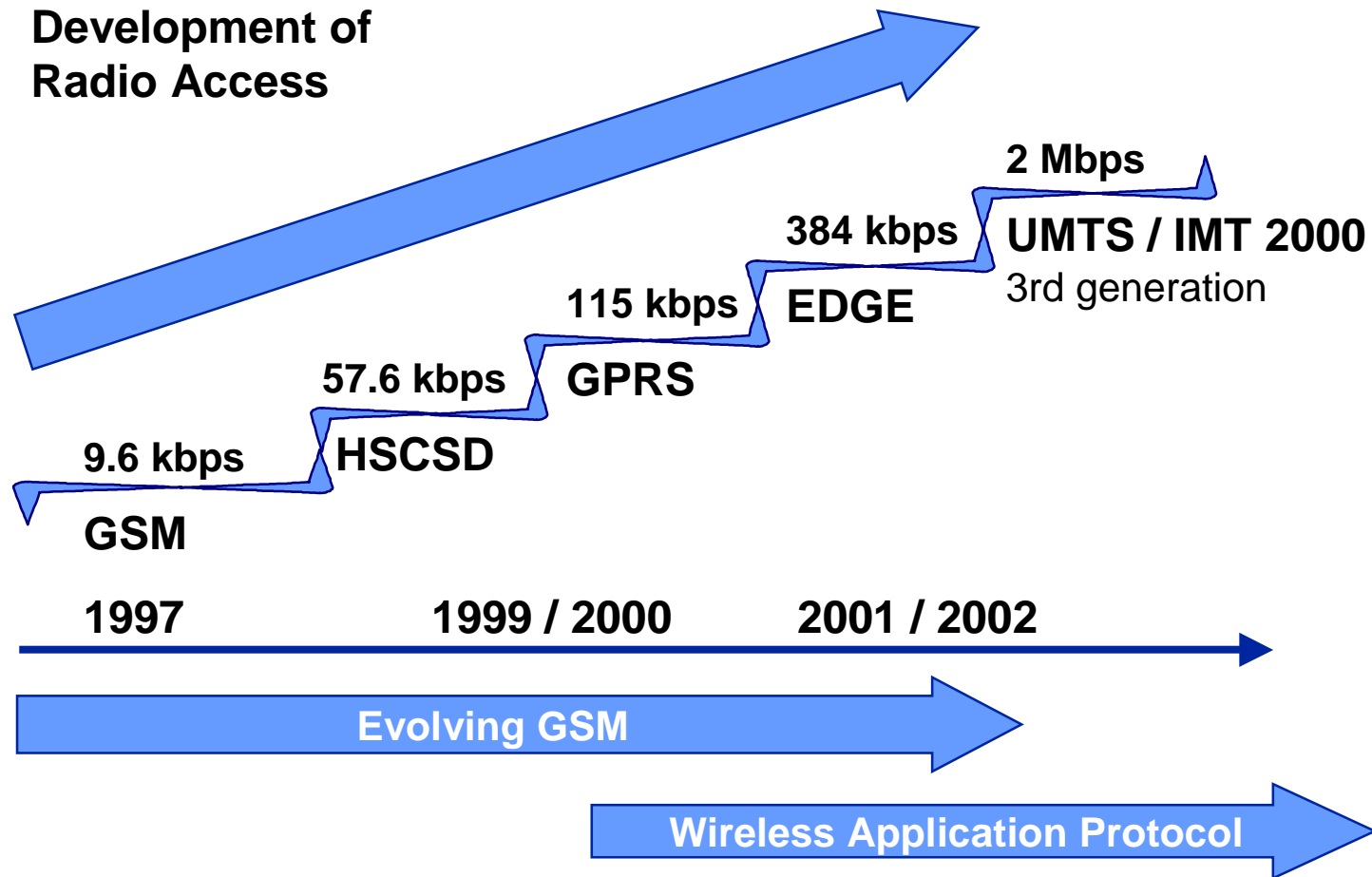
# Distribution of World Cellular Subscribers

**GSM is the best Footprint for 3G / UMTS,  
since GSM is preferred by 70 % of all digital Users**





# GSM Evolution Towards 3rd Generation Systems



Source: GSA

# Technologies vs Timeline

Integrated solution for  
future service demands

Frequency re-planning, Coverage problem  
Support of EDGE and non-EDGE terminals is complex

Pure packet solution  
no guaranteed quality

UMTS/2Mbit

GSM

HSCSD

GPRS

EDGE

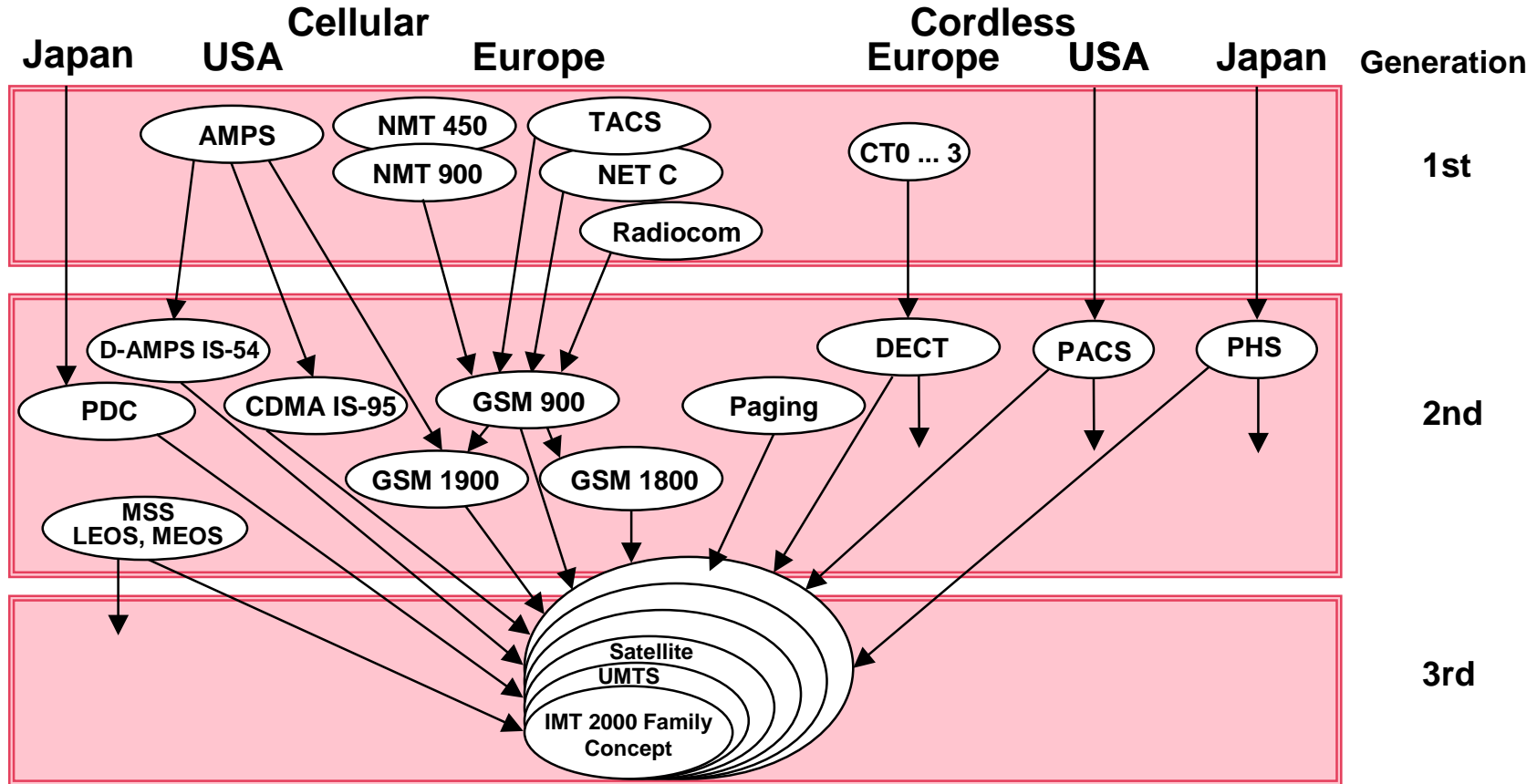
Now

2000

2001

2002

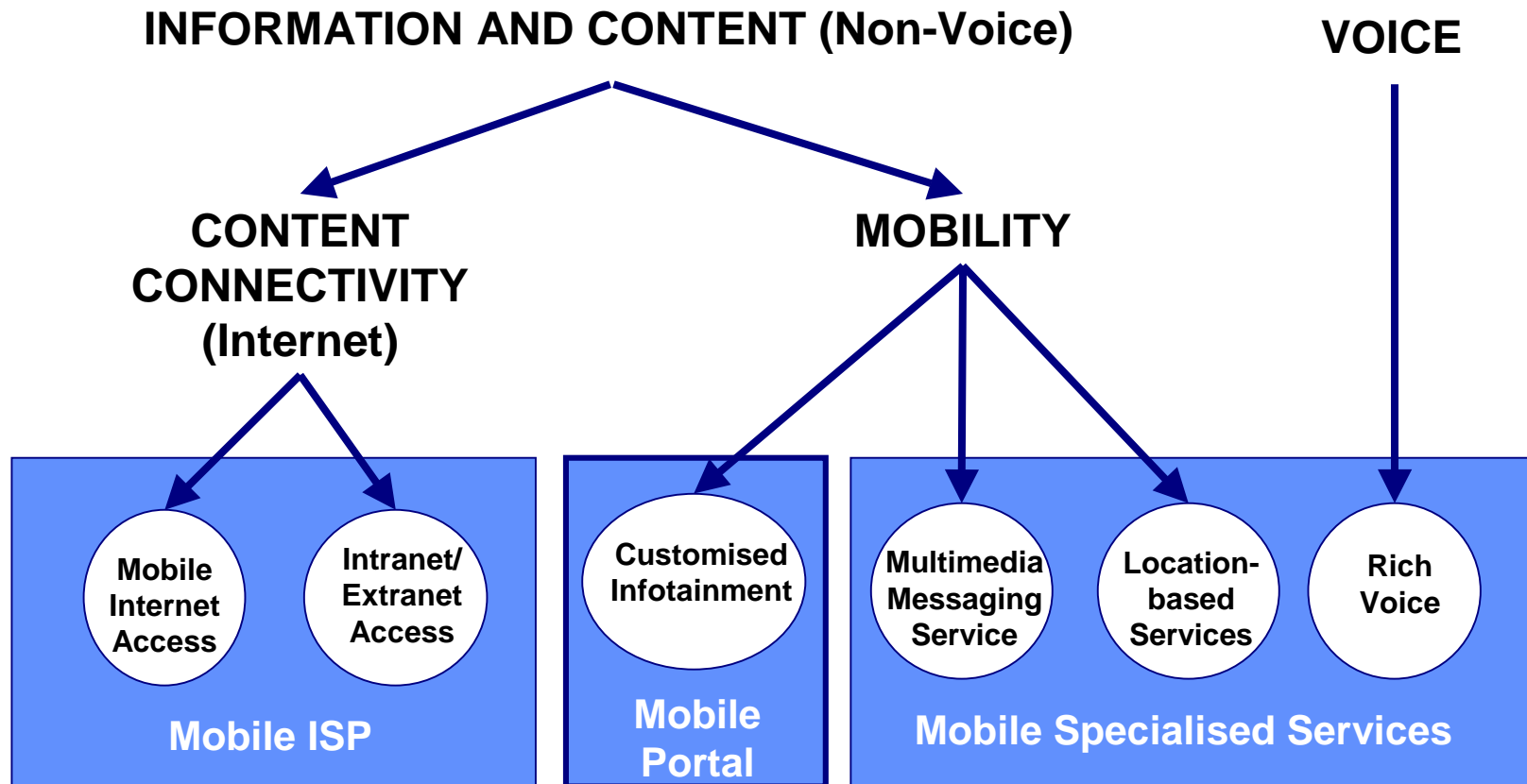
# Evolution to 3rd Generation Mobile Systems



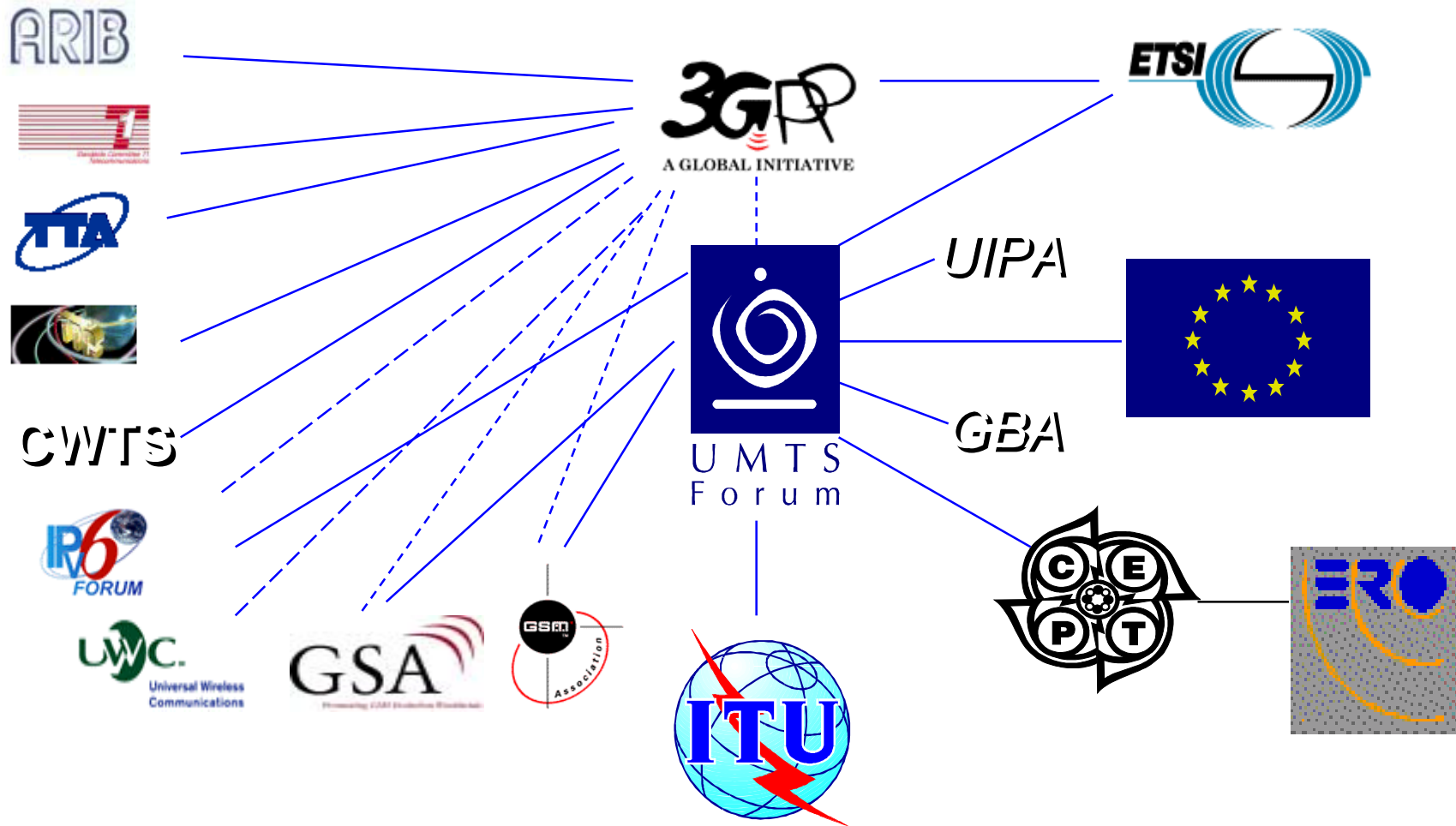
- Report # 1 A Regulatory Framework for UMTS**
- # 2 The Path towards UMTS -  
Technologies for the Information Society**
- # 3 The Impact of Licence Cost Levels on the UMTS Business Case**
- # 4 Consideration of Licensing Conditions for UMTS  
Network Operations**
- # 5 Minimum Spectrum Demand per Public Terrestrial  
UMTS Operator in the Initial Phase**
- # 6 UMTS / IMT 2000 Spectrum  
Assessing Global Requirements for the Next Century**
- # 7 Candidate Extension Bands for UMTS / IMT 2000**
- # 8 The Future Mobile Market Global Trend and Developments**

- Report # 9** The UMTS 3rd Generation Market:  
Exploring the Services Revenue Opportunity (Part 1)
- # 10** Shaping the Mobile Multimedia Future  
An Extended Vision from the UMTS Forum
- # 11** Enabling UMTS (3G) Services and Applications
- # 12** Naming, Addressing and Identification Issues for UMTS
- # 13** The UMTS 3rd Generation Market  
Exploring the Services Revenue Opportunity (Part 2)
- # 14** Services, Applications and Devices (expected end 2001)
- # 15** Opportunities, Advantages and Disadvantages for operators  
when acting in traditional business or as an ISP  
(expected end 2001)

# UMTS Forum Market Study Business Models



# Who do we deliver to ? Building bridges around the world



# IMT 2000: what's different from 2G?

Moving from voice communications  
to a rich, interactive multimedia-based  
personal and business environment -

...the complete **Wireless**  
**Information Society**  
**experience**

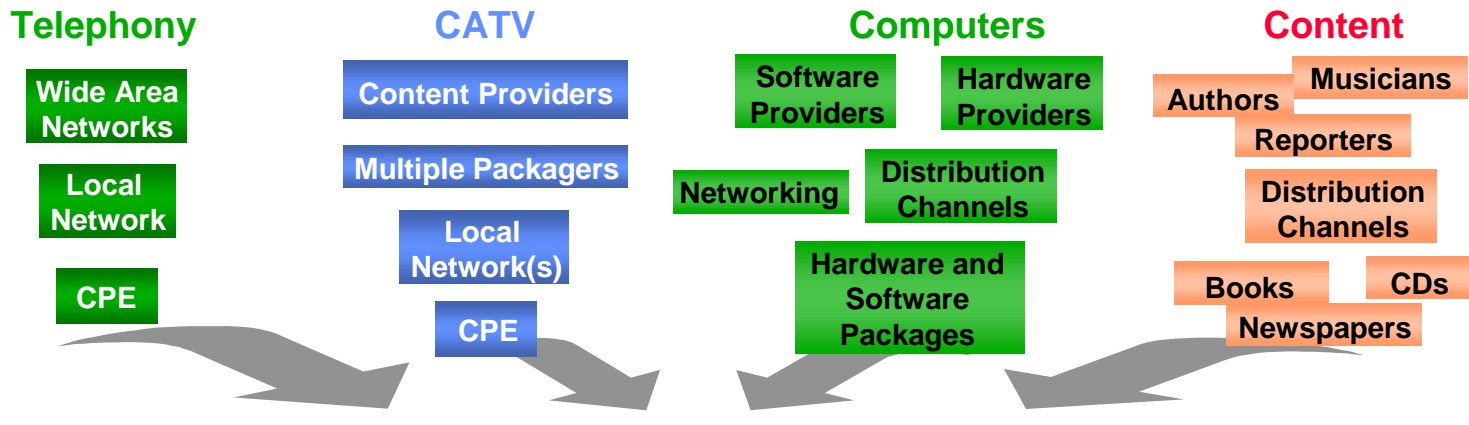
*Services*  
*Transmission*  
*Switching*  
*Method*  
*Charging*

	2G	3G
<i>Services</i>	Voice, messaging low-speed data	Multimedia Applications
<i>Transmission</i>	14.4 Kb/s	2Mb/s
<i>Switching</i> <i>Method</i>	Circuit switching	Packet routing
<i>Charging</i>	Time and/or location based	Many options

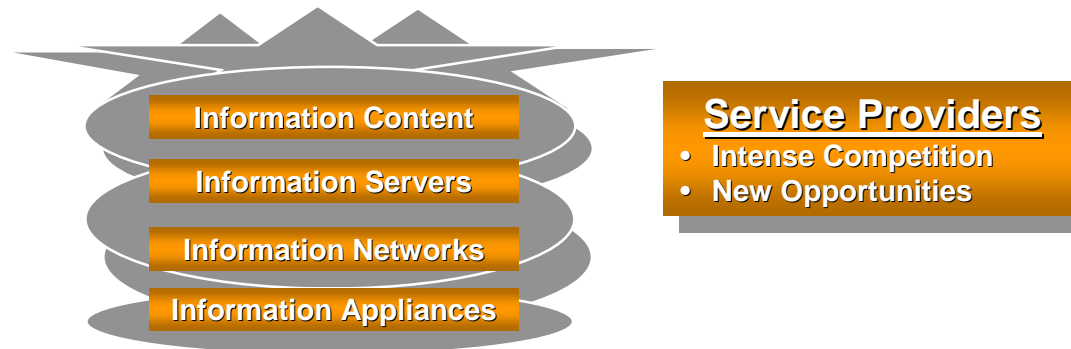


# An Industry in Change

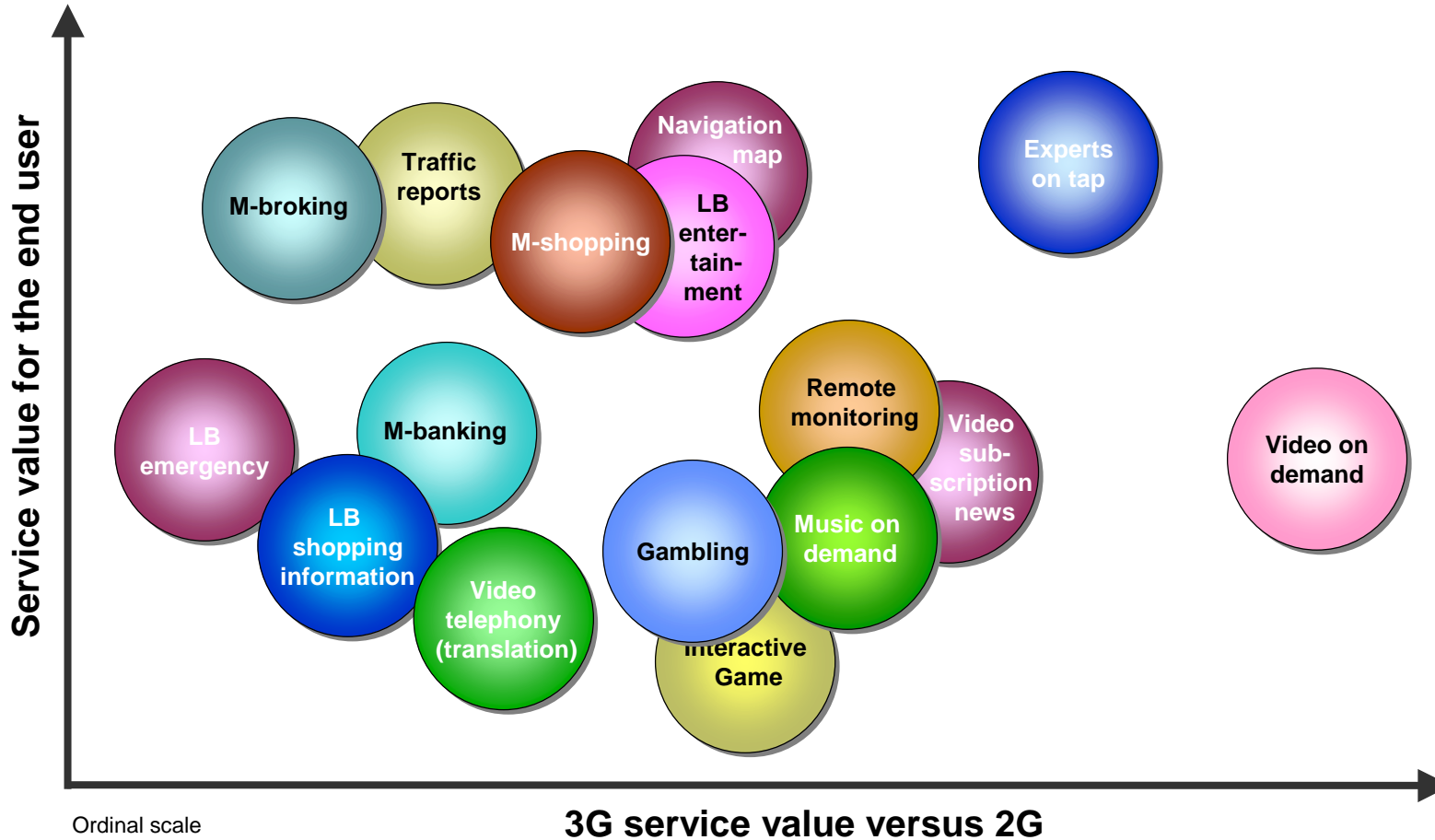
## Today: Separate Vertical Industries



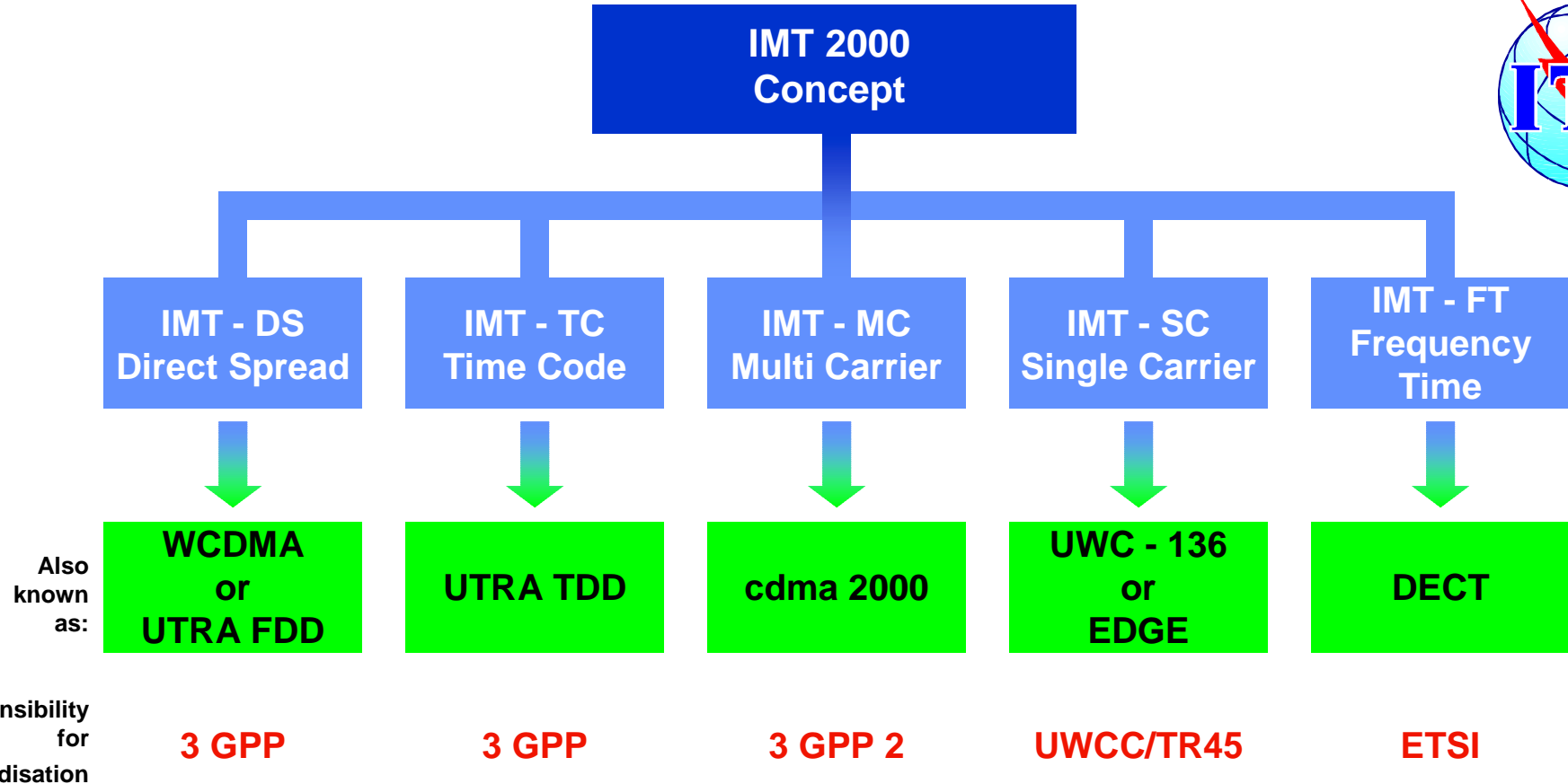
## Future: Information Industry



# Service Value 2G versus 3G



# IMT 2000 – Terrestrial Radio Interfaces

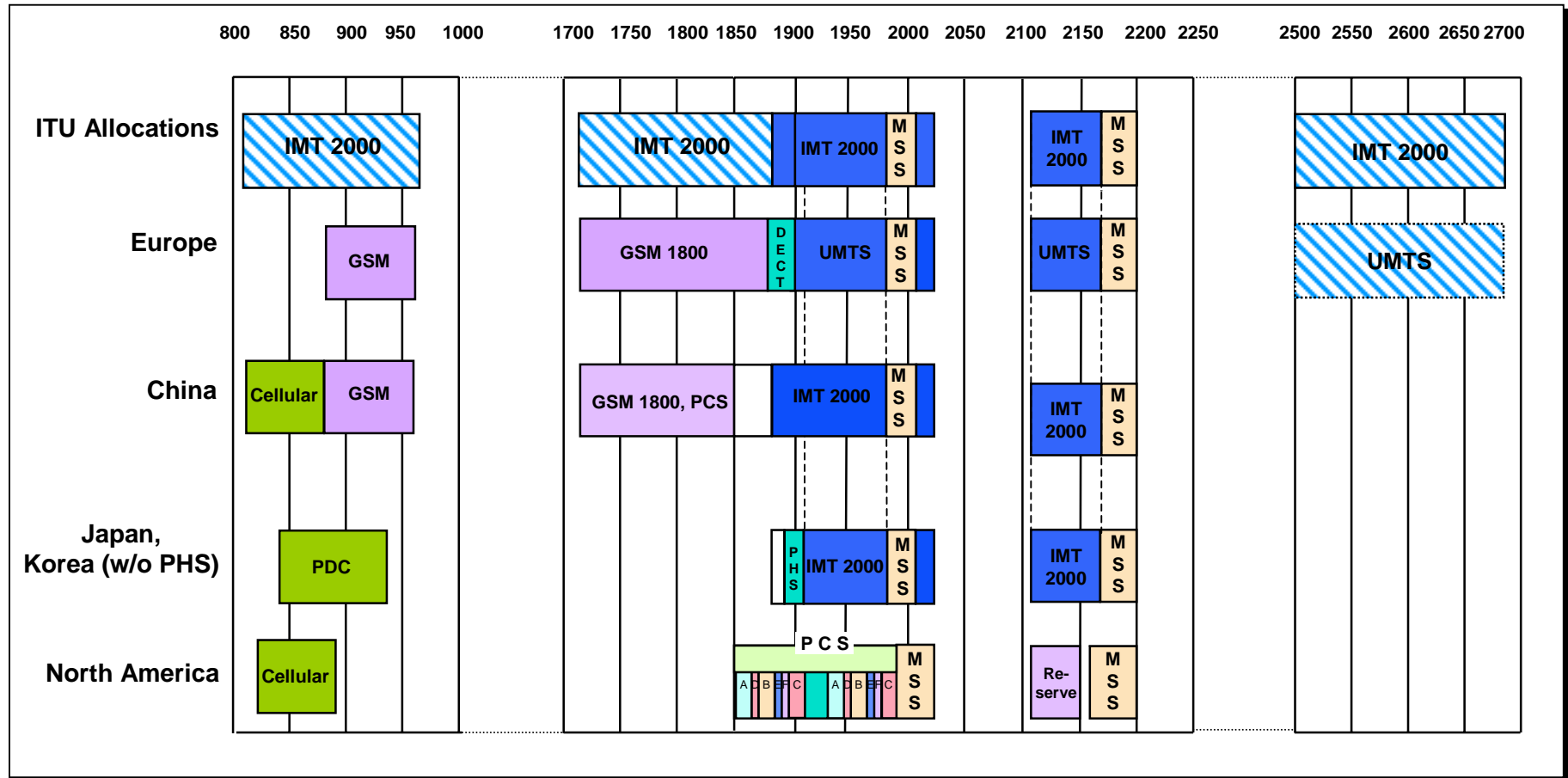


Source: 3 GPP

# New IMT 2000 / UMTS Spectrum (WRC 2000)



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# The multimedia future

**A few years from now, billions of people worldwide will be talking, listening, watching, buying, playing and learning with their mobile phones**



**Tomorrow's phones will be much more than just *phones***

# Fast forward to the future

**... tomorrow's mobile users will use exciting new pocketable communications devices to view high-quality video clips, work with graphics-rich document files, browse, buy and enjoy a whole new world of information and entertainment services.**



# Conclusions



- **Mobile communications will continue to be among the fastest growing market segments in telecommunications**
- **3G systems based on the evolution of the GSM platform are on the way to leading positions worldwide**
- **Next generation systems with the paradigm shift to high speed data and mobile multimedia services will change the world we live in**
- **Convergence of networks, technologies and services will be the key to a seamless mobility for the users and the key for opening mass markets in mobile communications**

⇒ **The UMTS Forum will continue to pave the way for a smooth introduction of IMT 2000 / UMTS**

⇒ **Lucent Technologies is prepared to provide Total System Solutions for 3G / IMT 2000 Business**



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# Information about the UMTS Forum



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