



UMTS update and perspectives

A review of deployment & regulatory developments

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Session: Signposting the future of wireless

About The UMTS Forum



Mission & Objectives

- The world's only cross sector industry body – comprising operators, manufacturers, regulators, application developers, research organisations and IT industry players from 40 countries worldwide – uniquely committed to promote the global success of UMTS
- A strong lobbying voice with access to public authorities and high-level decision makers, targeting key world regions
- Delivery of market focused inputs to key stakeholders e.g. financial community, standardisation bodies (ETSI/3GPP, ITU) and the media
- Regular publication of reports and white papers on key topics including market, technology, spectrum and regulation



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About The UMTS Forum



Principal areas of study

- Studies on availability and harmonization of global spectrum for IMT-2000 and beyond (e.g. recommendations to WRC 2003)
- The roles of 'complementary' technologies such as WLAN and use of TDD spectrum for mobile solutions by operators
- Mobile evolution to UMTS
- "Social shaping"... factors influencing consumer acceptance of UMTS
- Terminal devices
- IP in a mobile environment (IMS)
- Security
- Billing and charging issues



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UMTS: The benefits to operators



Network Optimisation

- UMTS builds on investments in GSM providing a network optimisation opportunity for operators. Operators can retain legacy 2G core network, IT and service platforms; can also re-use existing sites and implement site sharing

Cheaper Additional Capacity

- UMTS gives operators additional capacity compared with 2G to support more subscribers (especially in urban centres) as well as greater speeds and ability to support new multimedia services including video...
- UMTS allows operators to add additional network capacity at a cost up to 8 times lower than providing incremental 2G capacity. This gives operators the opportunity to reduce the proportion of investments in relation to total turnover

Medium to Long-term Increase in Revenues

- UMTS may not in itself significantly increase ARPU in the short term, but it will provide an opportunity for operators to strengthen their free cash flows
- UMTS will generate new revenues in the medium/long term when all actors (clients, operators, service providers, media/content developers,...) have assimilated this new technology



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The UMTS Proposition



UMTS: Designed as a complete, end-to-end mobile SYSTEM



- UMTS offers cost efficient, WIDE AREA network coverage
- UMTS is universally standardised via 3GPP, using licensed radio spectrum, globally harmonised in common bands (paired and unpaired)
- UMTS offers user bit rates up to 384 kbps in high mobility situations / 2 Mbps stationary, with a roadmap to >10 Mbps for low mobility/indoor use
- UMTS supports a rich choice of services and applications optimised for fully mobile environments
- UMTS supports international roaming, with a wide range of handheld terminals
- UMTS offers integrated charging and billing functions
- UMTS offers integral security



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2003! Worldwide UMTS Update



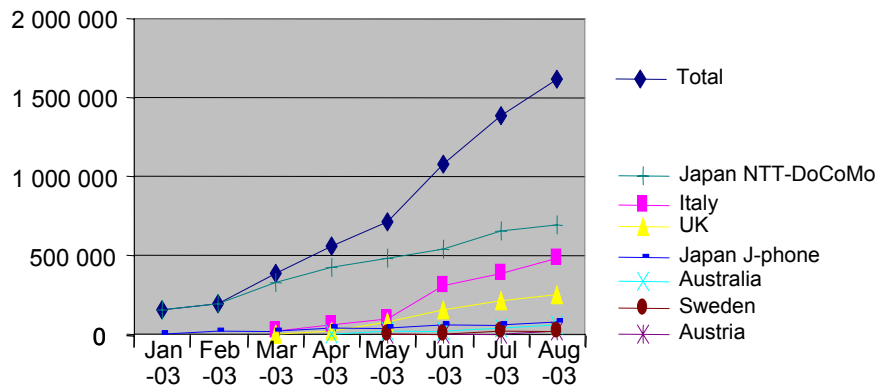
UMTS is happening now

- UMTS customers already exceeding 1.7 million worldwide... First networks deployed in Japan (FOMA) and Europe, soon to be joined by Korea
- Licensing largely complete in Europe. >98% of 3G licenses awarded so far (approaching 120 operators) specify WCDMA
- 3G licensing continues in other world regions. E.g. China anticipated 2004
- European operator deployment plans characterised by soft launches, followed by commercial introductions during 2003/2004/2005
- Currently, seven EU Member States are reviewing license conditions in a process of flexible dialogue with operators



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Rapid Growth for UMTS/WCDMA



[source: EMC]



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Europe: Launch Roadmap



Hutchison '3' – the first mover in Europe

- 2003: Launches in Italy, UK, Austria and Sweden

Other European launches: alignment in 2003/04 timeframe

- France: Technical testing before "soft" launches during end 03 - 04
- Germany: Launches likely from mid 04
- Italy: First soft launches expected by end 03. Further operator launch announcements likely during 1H 04
- Spain: Launches anticipated during 04
- UK: Launches anticipated during 04

Information from public operator announcements



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European 3G Regulation



Factors influencing changes to regulatory timetable...

- Original launch timescales (2002) specified by European governments and EC now under review
- Global economic downturn placed constraints on operators' financial plans and limited access to new capital
- Terminal availability and network refinements cited as key factors for determining commercial launch dates
- Progress still underway on interoperability between networks, terminals and services (compare with early days of SMS and MMS)



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European 3G Regulation



Country status highlights...

- Austria: Site sharing authorised
- Denmark: Operators negotiating with regulator to relax coverage requirements
- Finland: Government has extended timescale for launching networks by 1 year
- France: Sharing of UTRAN (antennas, NodeBs and RNCs) has been authorised by regulator
- Germany: Sharing of RAN (sites, passive elements and radio networks) permitted. T-Mobile / O2 and E-Plus / Quam sharing agreements
- Italy: Government has extended license terms from 15 to 20 years



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European 3G Regulation



Country status highlights...

- **Netherlands:** Sharing agreements signed between KPN/O2, KPN/Dutchtone and Dutchtone/Ben-3G Blu
- **Norway:** Site and antenna sharing authorised. Two abandoned licenses will be re-allocated and 15 month extension to opening time granted
- **Spain:** Licensees currently in infrastructure sharing discussions before submission to government
- **Sweden:** Network sharing and construction agreements between Tele2/TeliaSonera and Vodafone/H3G
- **UK:** Site sharing between O2/T-Mobile approved by EC. 2.5G / 3G roaming permitted between H3G and O2



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European licensing conditions: UMTS Forum recommendations

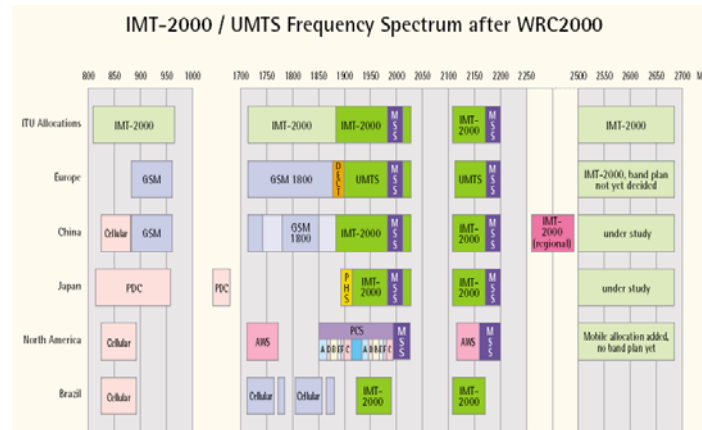


- **Spectrum pricing**
 - Large initial down-payments for spectrum will adversely affect the growth of 3G service. Yearly fees give better stimulus to efficient use than initial down-payments.
- **Coverage and roll-out obligations**
 - Roll-out of 3G networks should follow market demand. Coverage obligations must be linked to level of network service capability.
- **Sharing of facilities and infrastructure**
 - Sharing of facilities can give a rapid deployment of networks and introduction of services, but must be compliant with the goal of infrastructure competition. However, sharing should be commercial not mandatory.
- **National roaming**
 - National roaming may help achieve coverage of unprofitable regions. Licensing conditions should allow commercially negotiated roaming agreements, if infrastructure competition is maintained.
- **Global circulation of terminals**
 - The right to carry and use personal terminals is important for many users. The ITU has decided on a regulatory framework for global circulation. This should be the basis for national rules for 3G.



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Spectrum planning



Global harmonization of mobile communications spectrum reduces complexity and cost of mobile terminal equipment... giving superior economies of scale and increased customer satisfaction.



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UMTSF Viewpoint on Spectrum



Recommendations on use of other bands for IMT-2000

- Requirement for roaming means that globally harmonized frequency bands will minimize requirements for multi-mode/multi-band terminals
- Further studies within ITU will be the basis for additional identification of spectrum for the development of IMT-2000, in particular for rural areas
- The UMTS Forum urges administrations not to make 3G national allocation in bands that are not consistent with globally identified spectrum arrangements for IMT-2000
- “Unique” national allocations will not serve the interest of mobile users and the market as a whole

UMTS Forum recommends that new frequencies for UMTS / 3G services must be proposed to all operators on a transparent basis and globally harmonised



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Concluding Remarks



What can Governments do? UMTS Forum Recommendations:

- Do not use the industry as a 'cash cow'
- Set realistic roll-out and coverage obligations (quick coverage of urban areas)
- Allow co-operation between operators in suburban and rural areas (network sharing, national roaming)
- Simplify the process of site acquisition and agree on harmonised environmental conditions
- Support global circulation of terminals
- License now, using IMT-2000 spectrum bands

Governments, regulators and industry must work together with flexibility and vision to ensure market success of UMTS



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