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# BENEFITS OF UMTS 900 DEPLOYMENTS

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# What is it?

- It's 3G in GSM band!
- A proposal from European Commission.
- On July 27, 2009 the Council of Ministers followed the European Parliament and approved a proposal from EC.
- Co-existence of 2G/GSM and UMTS systems on GSM frequencies
- Making 900 MHz available for 3G use



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# UMTS 900

- One of the most used bands in the world.
- UMTS900 deployments attractive in rural, suburban, and urban morphologies

## Prerequisites:

- NRA allow the deployment of UMTS in the 900MHz band
- re-farming of 900MHz spectrum band is needed.



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# UMTS 900 drivers (1)

- Users needs service everywhere
- Service should be seamless
- HSPA (or mobile internet) should work everywhere
- Users needs are more and more bounded to Internet access.
- Mobility is getting more and more important



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# UMTS 900 drivers (2)

- HSPA coverage demands, in rural areas as well
- UMTS2100 is large business case with considerable CAPEX
- UMTS900 coverage is cheaper and suits very well in this scenario
- Telecoms says focus on consistent user experience is even more important than connection speeds promises for rural broadband;



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# UMTS 900 benefits (1)

- Network costs for HSPA coverage at 900 MHz can be only about one third compared to the costs for HSPA coverage at 2100 MHz
- Relatively easy rollout for an existing GSM900 operator
- Especially attractive for rural area HSPA coverage
- Better indoor coverage in urban areas (10 .. 20 dB)
- Possible to reuse existing GSM900 sites and infrastructure.



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# UMTS 900 benefits (2)

- Mobile network costs are proportional to the number of sites
- Larger coverage means **less costs**
- Better coverage indoor= **larger data market**
- Accelerate the penetration of mobile services
- Increase the participation of 3G as a percentage of the total mobile connections



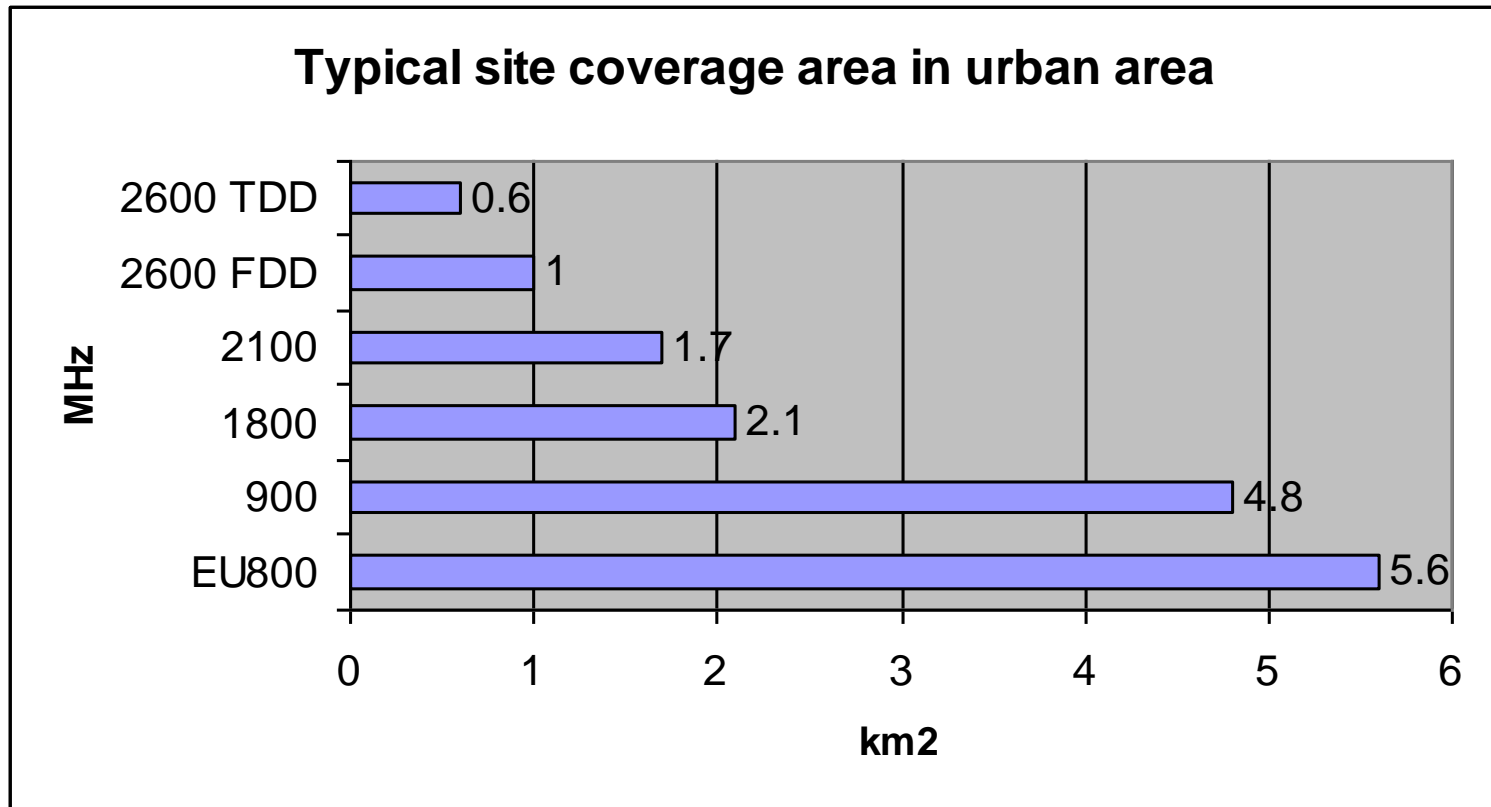
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**24 commercial UMTS900 networks****Source: GSA**

<b>Country</b>	<b>Operator</b>	<b>Service launch</b>
Finland	Elisa	November 2007
Estonia	Elisa	January 2008
Thailand	AIS	May 2008
Australia	Optus	May 2008
Belgium	Mobistar	May 2008
Belgium	Proximus	July 2008
New Zealand	Vodafone	July 2008
Finland	DNA	October 2008
Iceland	Siminn	October 2008
Venezuela	Digitel	March 2009
Finland	TeliaSonera	June 2009
Croatia	Tele2	July 2009
Australia	Vodafone	August 2009
Faroe Islands	Faroese Telecom	November 2009
Armenia	Orange	November 2009
Latvia	LMT	November 2009
Poland	Aero2	November 2009
Ghana	MTN	December 2009
Hong Kong	CSL Limited	January 2010
Romania	Vodafone	April 2010
Estonia	EMT	June 2010
Greenland	TELE	August 2010
South Africa	MTN	March 2010
South Africa	Cell C	September 2010

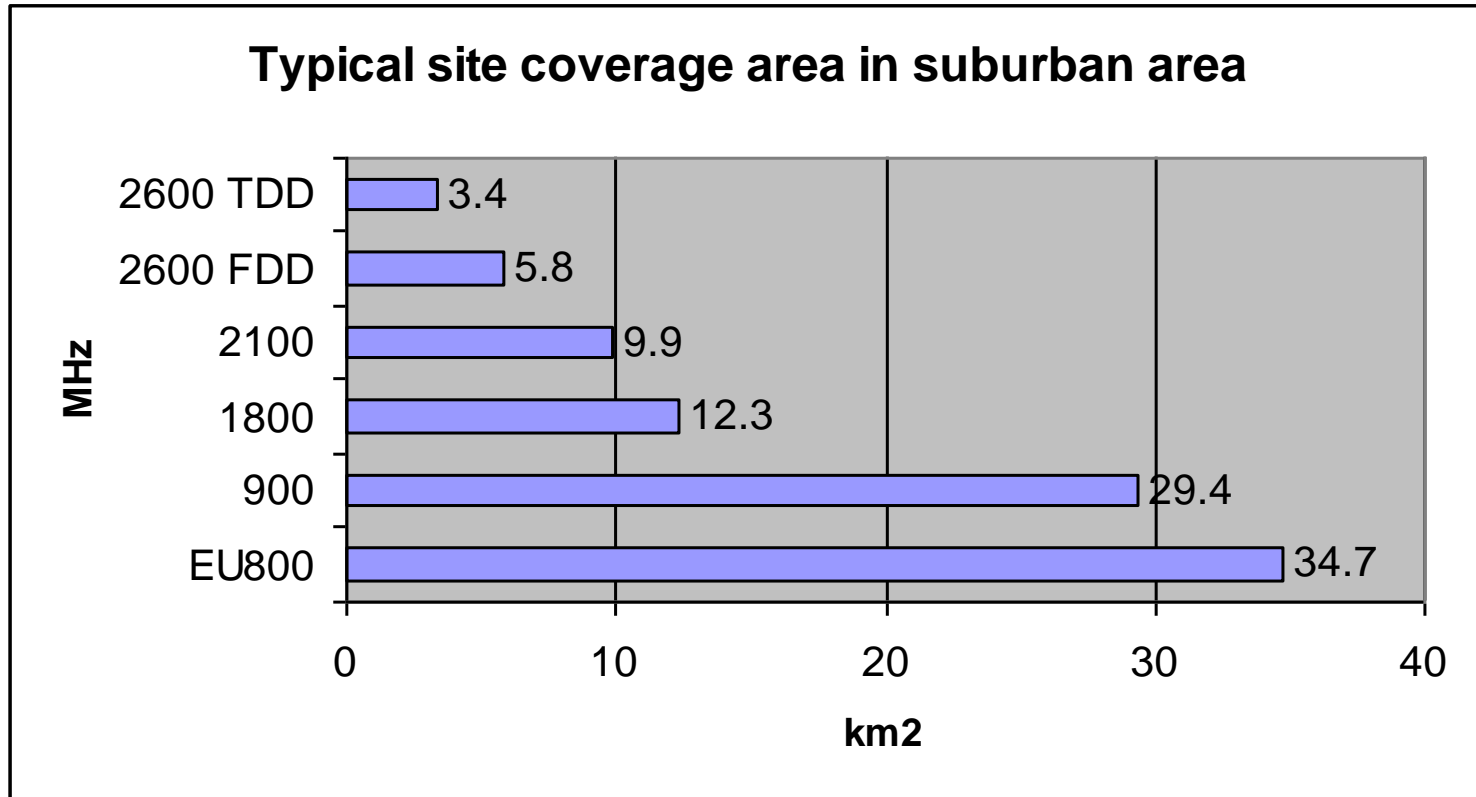
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# UMTS 900 coverage



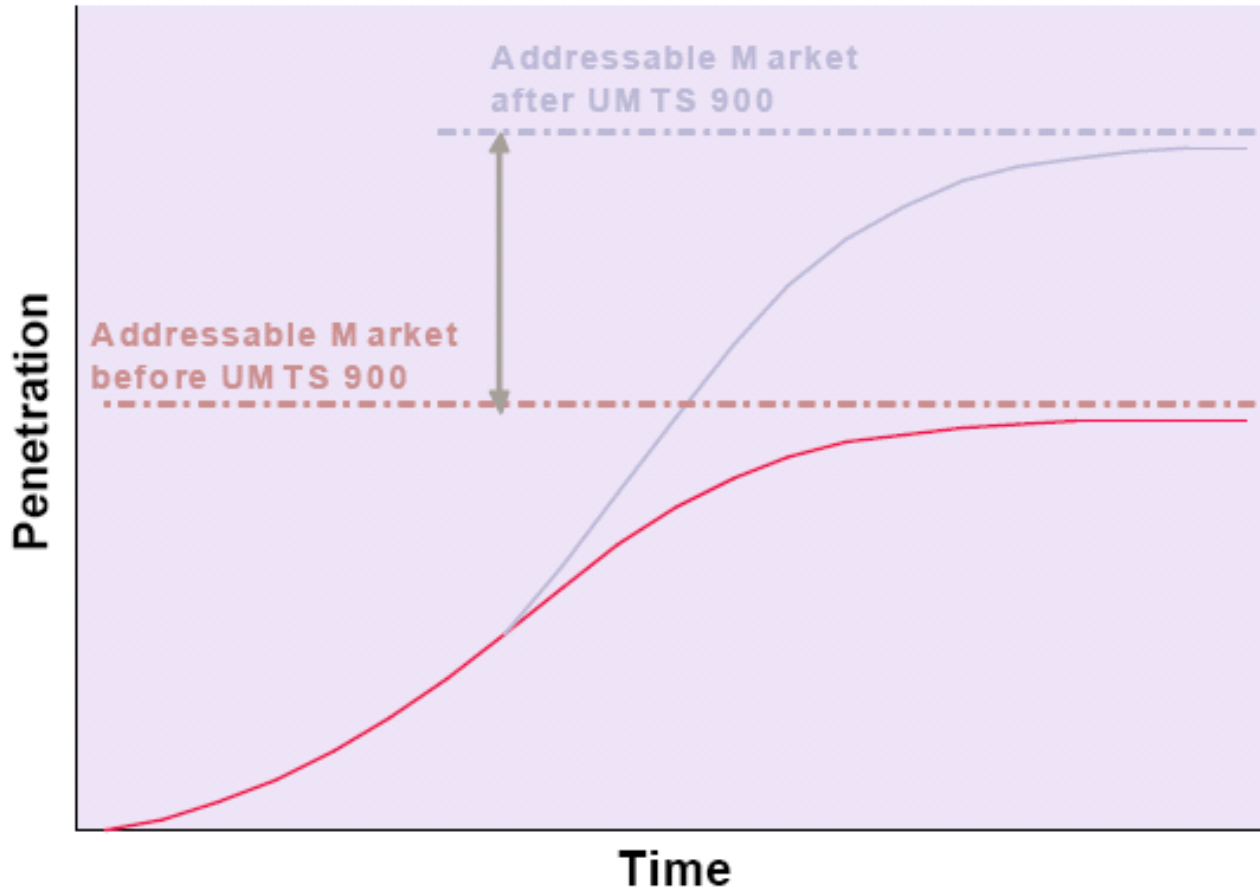
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# UMTS 900 coverage



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# Penetration increase



Source: Ovum – theoretical model



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# UMTS 900 brings benefits to users in rural areas



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# UMTS 900 operator benefits

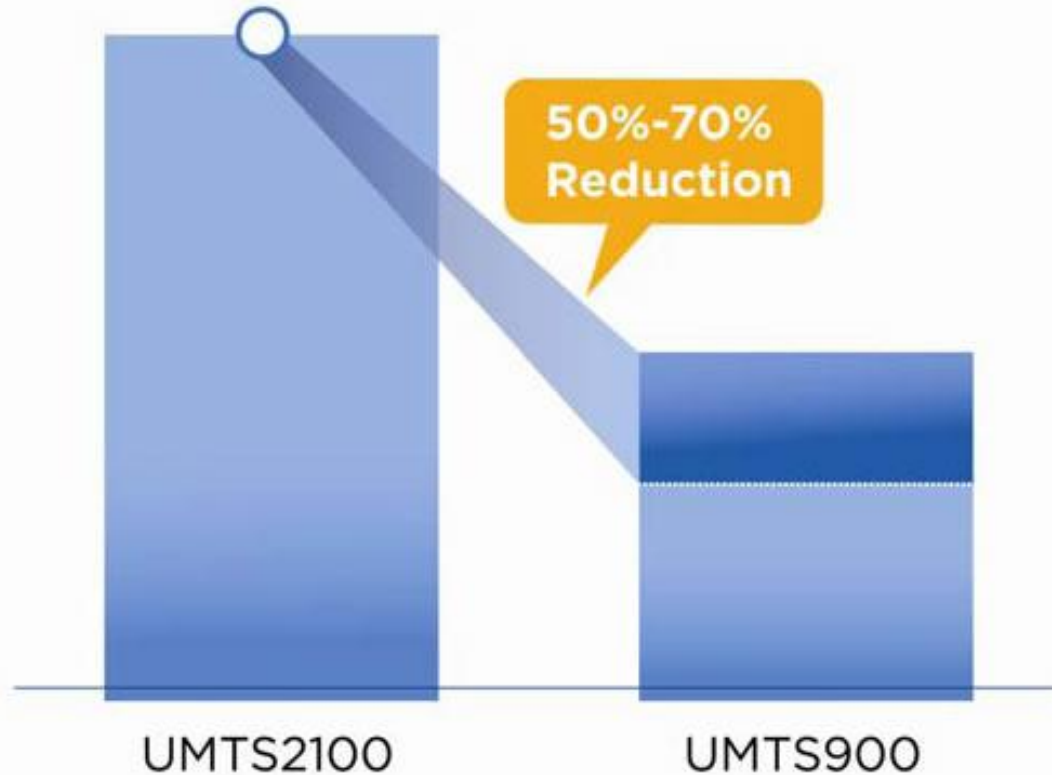
- Less number of cells in region increase the UMTS footprint with less cost.
- Improved mobility management
- Improved spectral efficiency
- Lowering number of gaps between cells
- Less handover problems



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# UMTS 900 CapEx & OpEx reduction

Cost of Rural/Suburban Coverage  
(CapEx & OpEx)



UMTS900: max. 50-70% cost reduction for the same coverage



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# UMTS 900 user devices

- **401 UMTS900-HSPA devices have been launched in the market by 65 suppliers** (source: GSA, July 12, 2010)
- All major chipset and handset manufacturers agreed that UMTS900 will happen.
- They are all either currently developing or planning to develop UMTS900 chipsets and handsets.



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# UMTS 900 brings benefits to users in rural and urban areas

- Always best connected
- Seamless experience through the use of single handset
- Broadband access spread
- Improvement in individual productivity
- New services in rural and suburban areas (m-commerce, e-Learning, e-government, e-Health etc.)



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# Potential difficulties

- Benefits not recognized on time
- National Regulatory Authority does not issue the licence on time
- User devices not present on market in time of deployment
- The main difficulties are in countries with later entrants
- Reducing the GSM spectrum will need careful planning



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# UMTS 900 commercial launch

- UMTS 900-compatible user devices should be encouraged in order to build penetration
- Operators should encourage bundle offers, at least user device + special tariff plan
- Urban, suburban and rural areas should be adequately covered with aggressive marketing campaign
- Offer has to be focused on services, not network.



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# Society benefits

- Increased Internet penetration
- Ubiquitous connectivity have an impact on innovation
- More rural coverage, more remote business oportunities
- Reducing the digital divide:

**Developing**

< >

**Developed**

**Rural**

< >

**Urban**

- Broad impact in the ICT sector as a whole.



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Thank you for your attention!



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