



**SIEMENS**

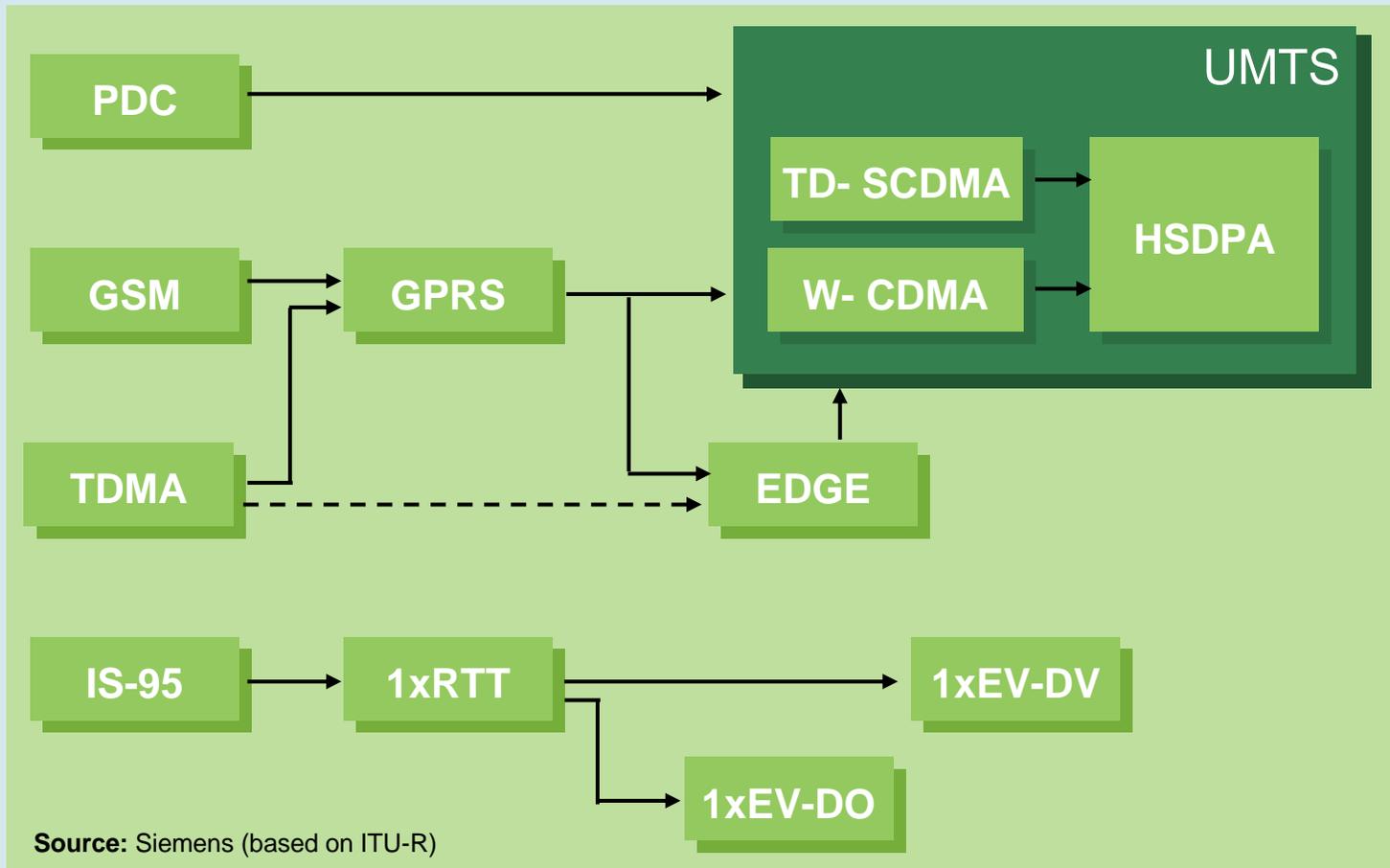
**m**obile

**10<sup>th</sup> German-Japanese Symposium**  
Tokyo / April 2<sup>nd</sup>, 2003

## **From GSM to 3G in Europe**

**Dr. Klaus-D. Kohrt**  
Strategic Product Management  
Siemens Mobile Networks

# Technology Migration Options towards 3G



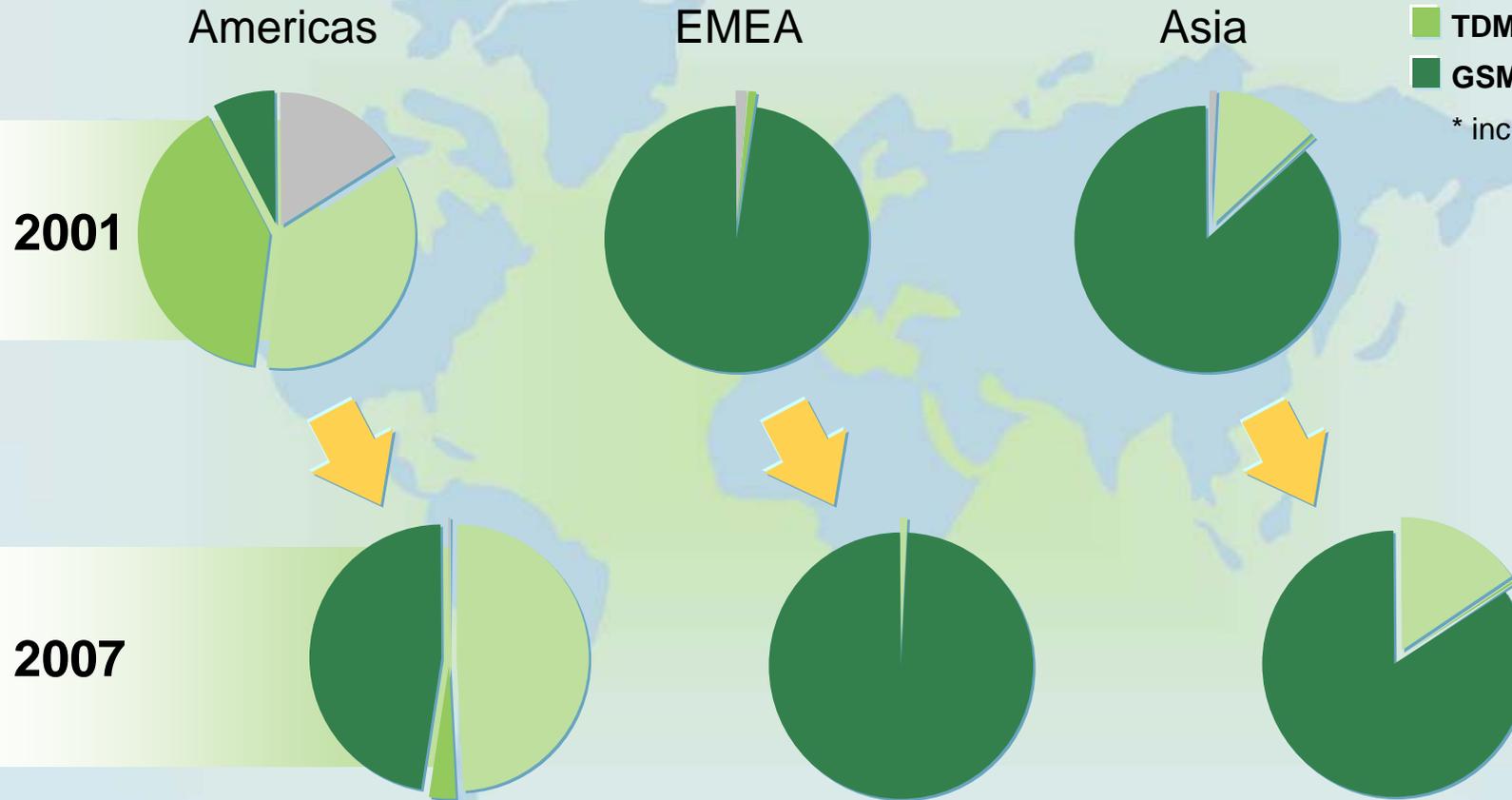
HSDPA – High Speed Downlink Packet Access



# Mobile Subscriptions:

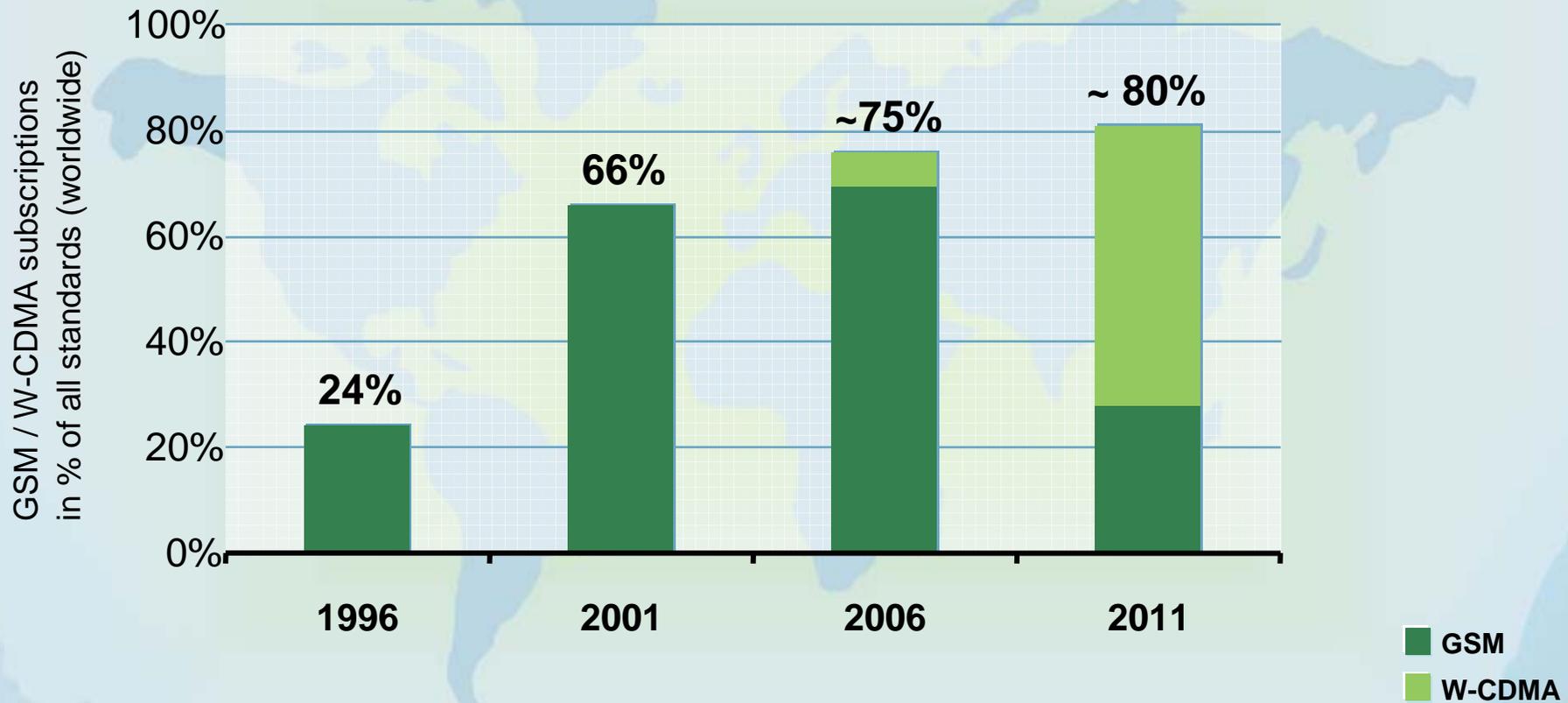
Year End 2001 to 2007 by Region & Standards

**Americas: analog and TDMA will vanish**



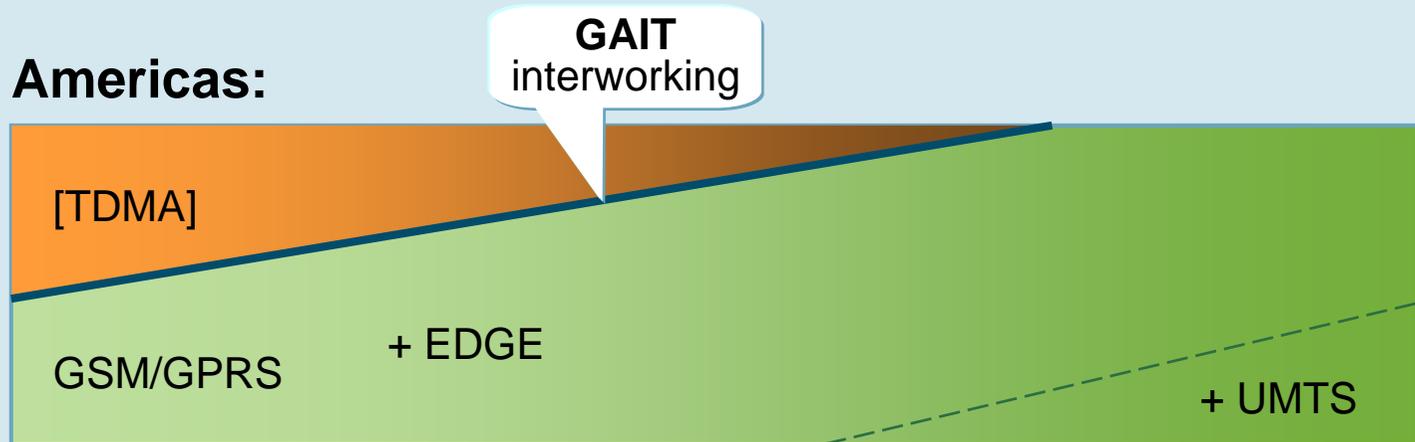
# GSM's Road to Success

Proportion of market served by GSM/W-CDMA operators keeps growing

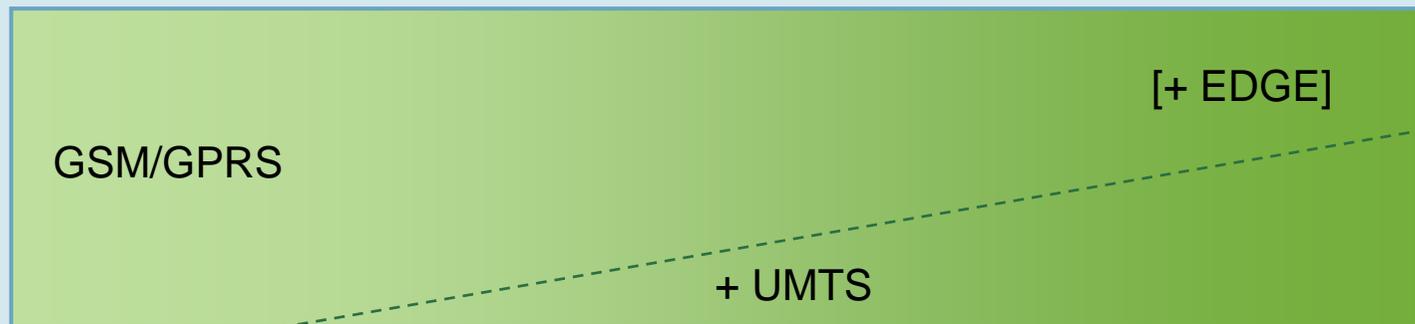


# Roadmaps of Transition towards 3G

## Americas:



## Western Europe:



GAIT – GSM ANSI Interoperability Team

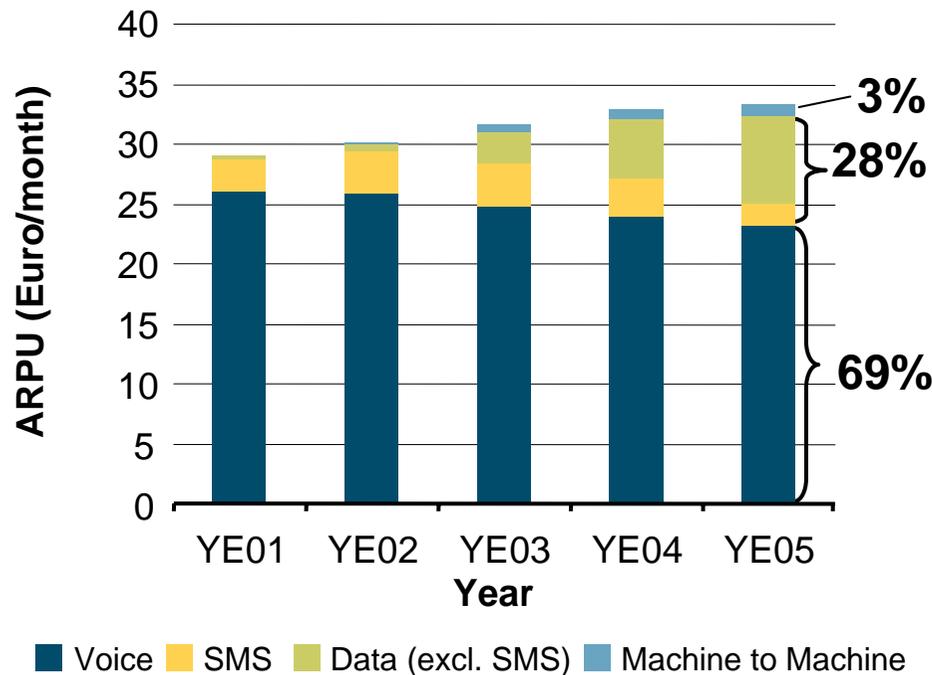
**Note:** not drawn to scale



# Mobile Data Service Revenues

**From 2003 on, revenue from data (excluding SMS) will start having a noticeable impact on the ARPU.**

Western European ARPU (Euro/month)



Up to 2002, mainly SMS will constitute the voice-additional ARPU source.

From 2003 on, data ARPU will increase and partly replace SMS ARPU.

Data together with SMS will more than compensate the stagnating mobile voice revenues.

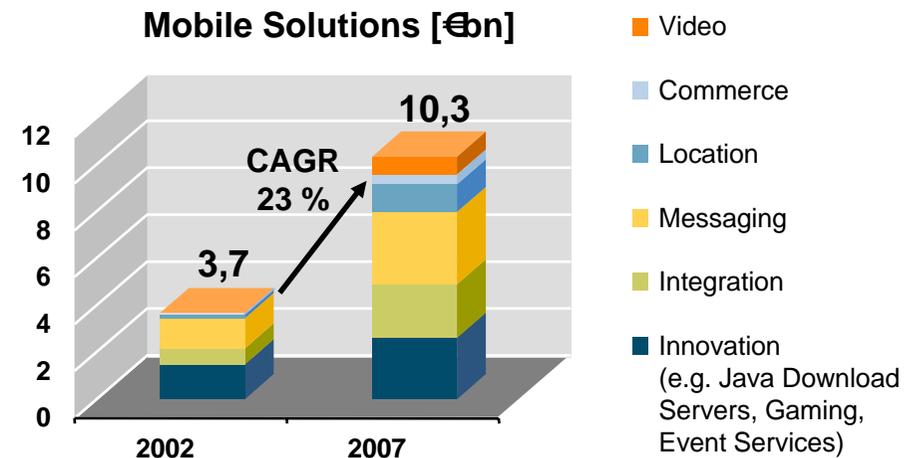
Source: Siemens ICM N M (2002)

# Successful Mobile Applications

- Location dependent services
- Emergency services
- Travel services
- Messaging
- Entertainment
- Mobile banking / shopping



## Market Segmentation by Application Area



Source: ICM S, ICM N; UBSW, JPM, ARC 2002

# Real Life 3G Applications

**SIEMENS**  
mobile

UMTS live demo in Monaco  
in July 2002:  
Daimler Chrysler Car  
with UMTS Infrastructure  
and Applications



- Traffic Cam
- E-Mail and access to the corporate network
- Live Video
- City Guide (Map with Points of Interest)
- Web Browsing  
(Mercedes-Benz portal & Internet access )
- Multiplayer-Game (Soccer League)
- Web Radio (international radio channels)
- Audio Books (access to a library)
- Music on Demand (MP3)



## Prerequisites for Successful Mobile Data Services:

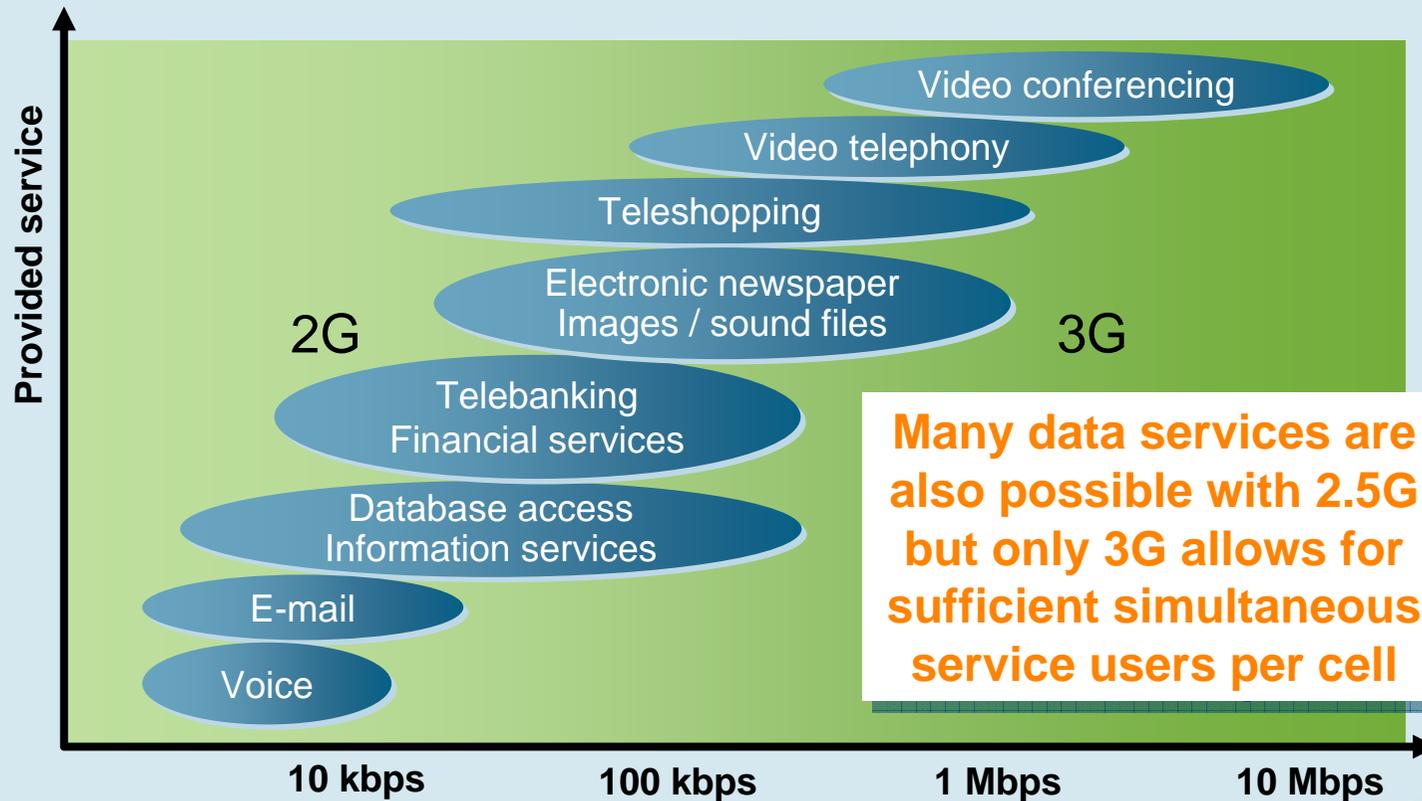
- 📱 Personalized and highly customized
- 📱 More individual bandwidth
- 📱 Always-on
- 📱 Global roaming
- 📱 Seamless network, UMTS-GPRS-GSM
- 📱 Rich multimedia services:  
Information, transaction, entertainment

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**= my services, anytime, anywhere, on my device**



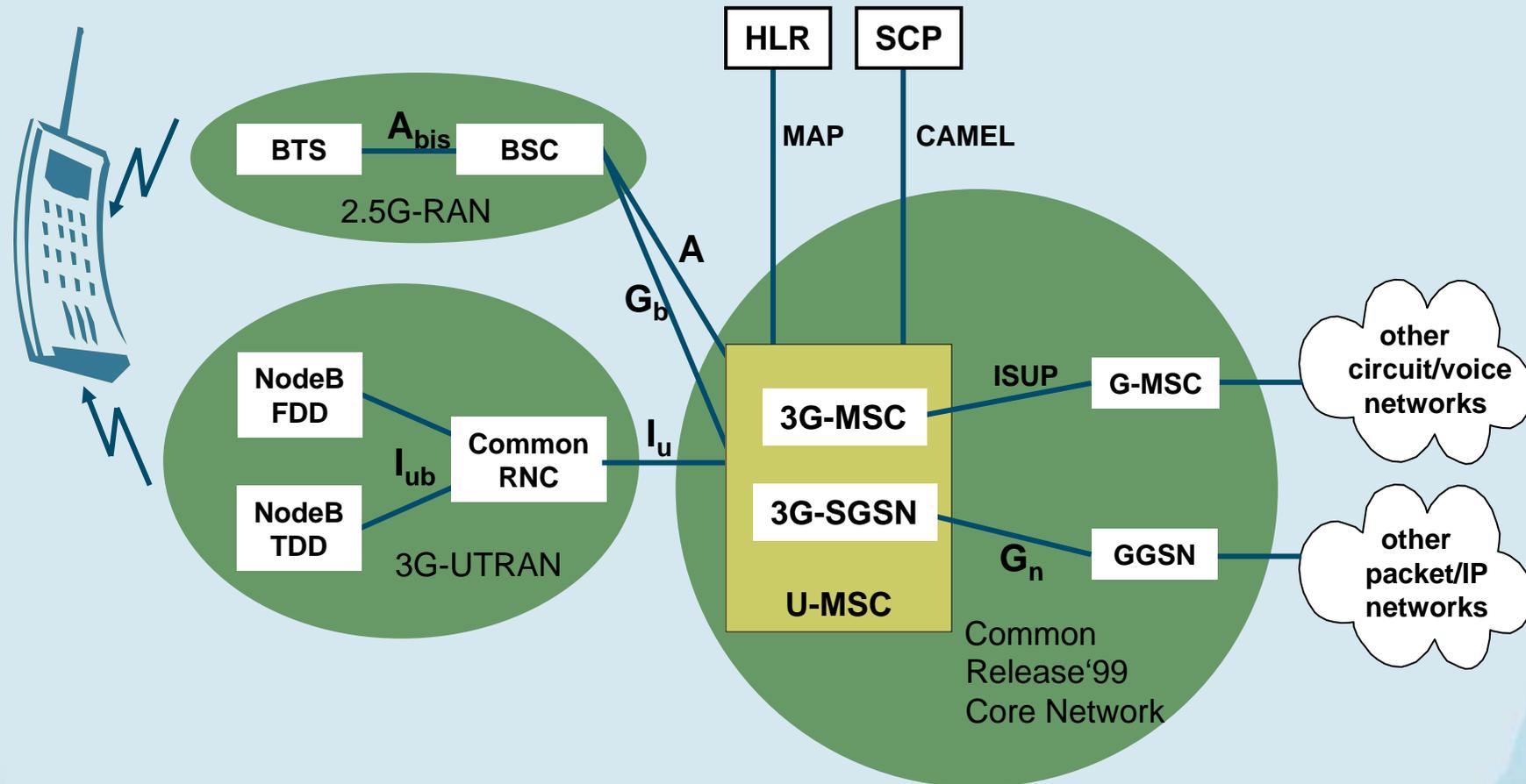
# The Future has already started: many mobile data services can be deployed today



**Many data services are also possible with 2.5G but only 3G allows for sufficient simultaneous service users per cell**

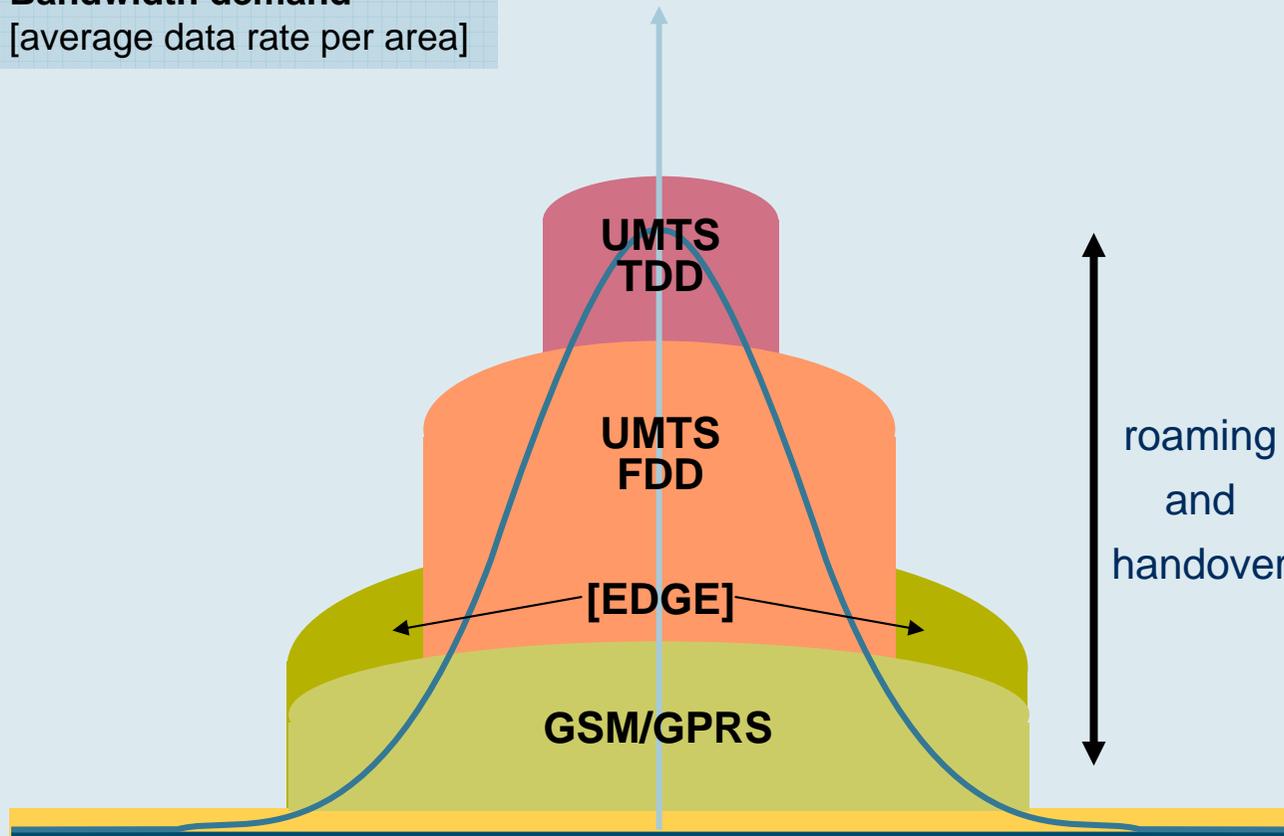
- **3G delivers seamless services from narrowband to broadband and will support flexible bandwidth on demand up to 2 Mbps**

# Evolving Proven GSM Network Infrastructure Products to 3G Supports Mix&Match Architecture and Investment Protection

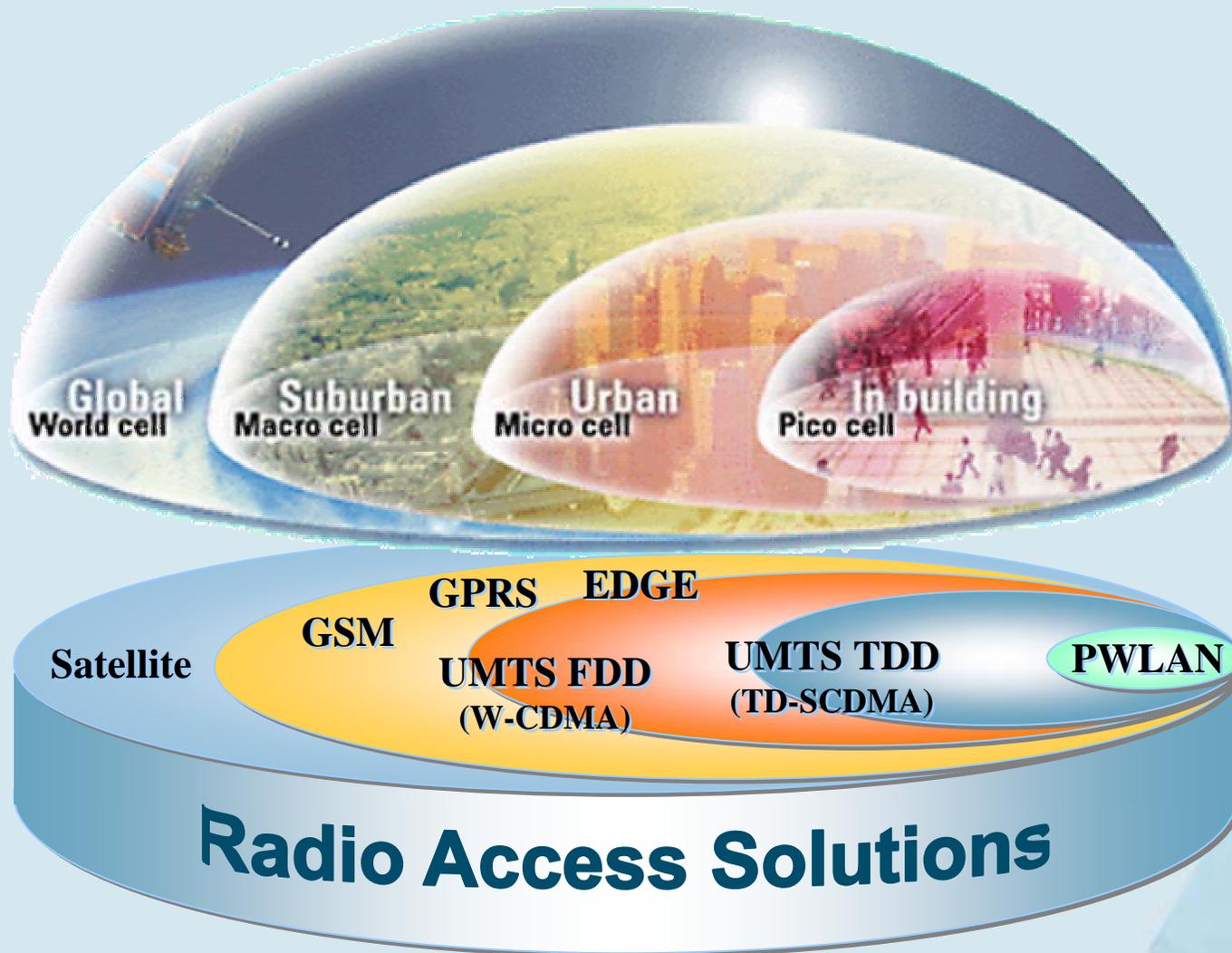


# Seamlessness is the Key to Success

**Bandwidth demand**  
[average data rate per area]

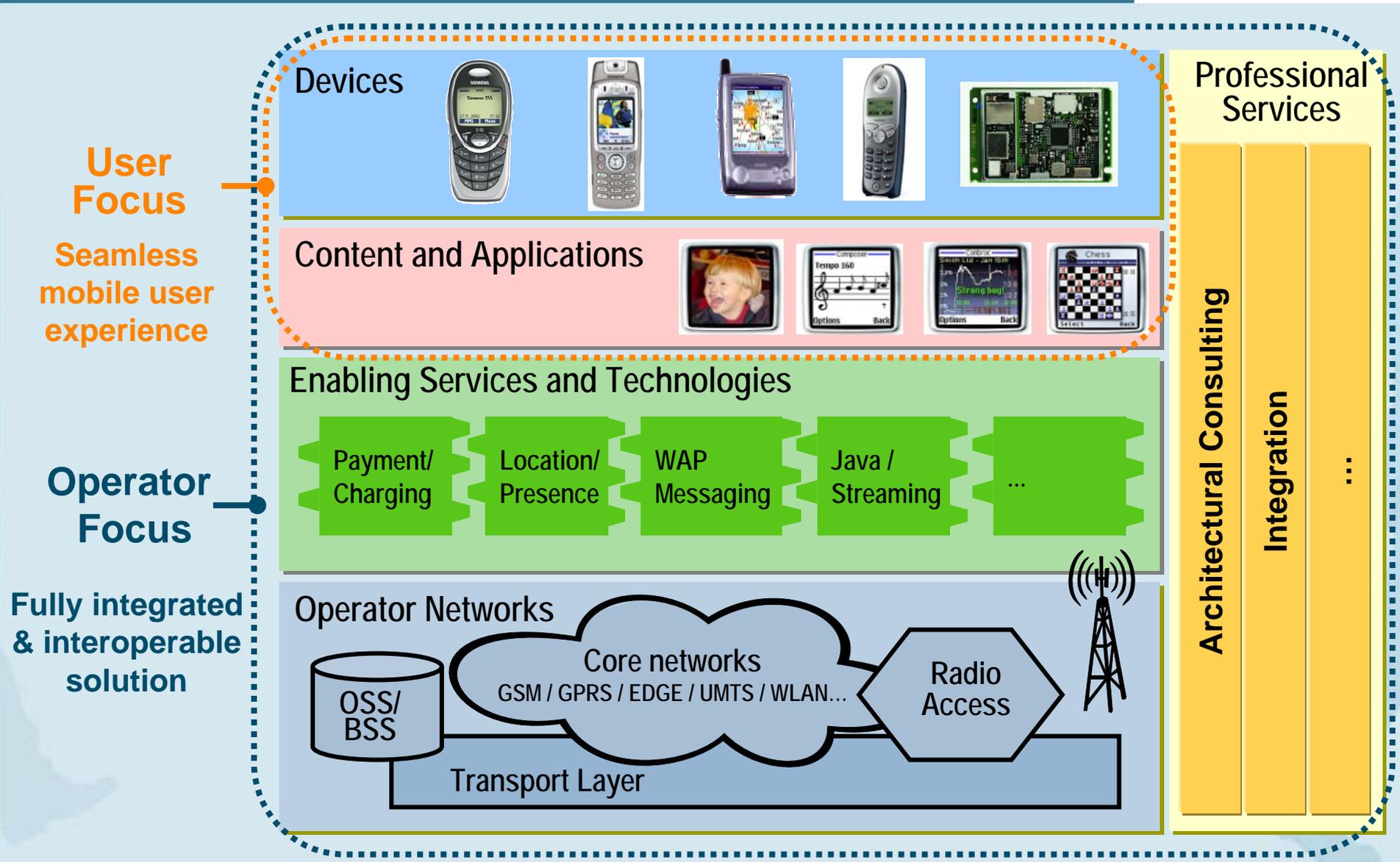


# Interoperable Radio Access Technologies Provide Optimal Response to End User Needs



# End-to-end solutions

Seamless, integrated and interoperable



# Summary / Conclusion

- **GSM / UMTS is the dominant cellular technology choice**
- **Economies of scale and ease of global roaming will continue to strengthen this leading position**
- **GSM / UMTS use a common set of network building blocks for smooth evolutionary transitions into the future**
- **Seamless coexistence of multiple generation technologies will be a fact of life for many years to come**
- **Smooth multi-mode inter-operability (roaming & handover) has been built into the 3GPP-specifications from the start**
- **Technology details are hidden from the end-user and applications are (mostly) agnostic of the transport pipe**
- **Useful applications determine the success of mobile data, because end users are not interested in technology acronyms**



# Thank You for Your Attention

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Siemens AG  
Information and Communication  
Mobile Networks  
Product Generation

Postal Address:  
Siemens AG - ICM N PG SP NS  
D-81541 München / Germany

Office Address:  
St.-Martinstrasse 76

**Dr. Klaus-D. Kohrt**

Vice President  
Strategic Product Management  
Networks and Services

Tel. +49 89 636 - 75141  
Fax +49 89 636 - 75137  
Mobile +49 172 821 93 87  
Internet [Klaus.Kohrt@siemens.com](mailto:Klaus.Kohrt@siemens.com)

