


GSM Evolution towards a 3G Environment




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**GSM Evolution
towards a
3G Environment**

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The image shows a slide layout. At the top left, there is the Ericsson logo in blue. Below it is a thick blue horizontal line. The main content area is white and contains the title "GSM Evolution towards a 3G Environment" in bold black text, centered. At the bottom, there is a thin grey horizontal line, followed by the number "2" and the text "GSM Evolution towards a 3G Environment" in a smaller font.

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GSM Evolution towards a 3G Environment




AGENDA

- Introduction
 - GSM Position & Vision
- System Evolution
- Performance Enhancements
- Conclusion

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GSM Evolution towards a 3G Environment



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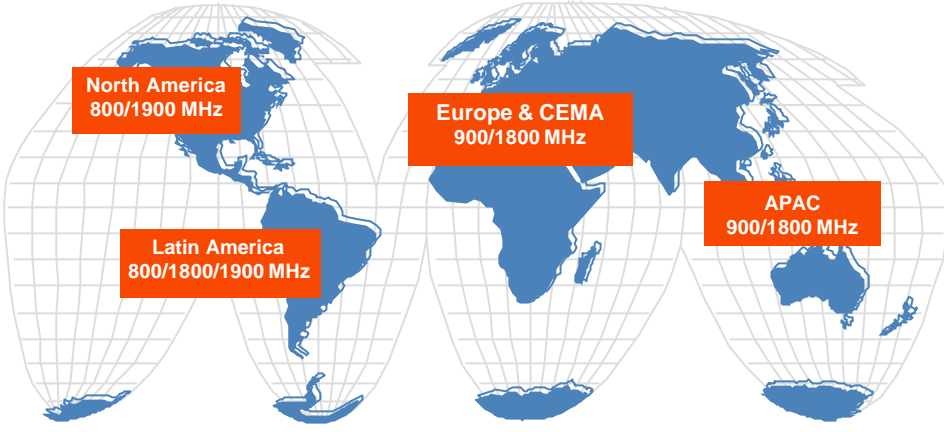
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ERICSSON Introduction

GSM - a world-wide success



North America
800/1900 MHz

Latin America
800/1800/1900 MHz

Europe & CEMA
900/1800 MHz

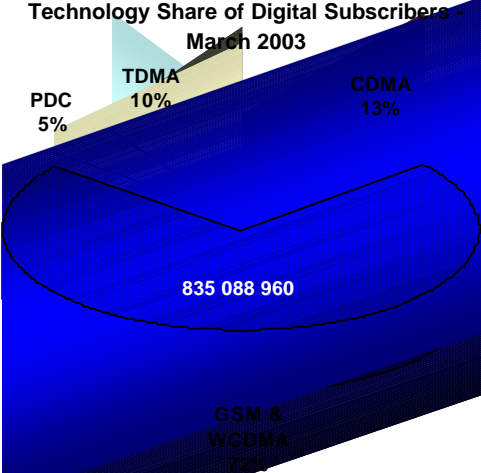
APAC
900/1800 MHz

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ERICSSON Introduction

GSM & WCDMA Dominant Global Standards

Technology Share of Digital Subscribers -
March 2003



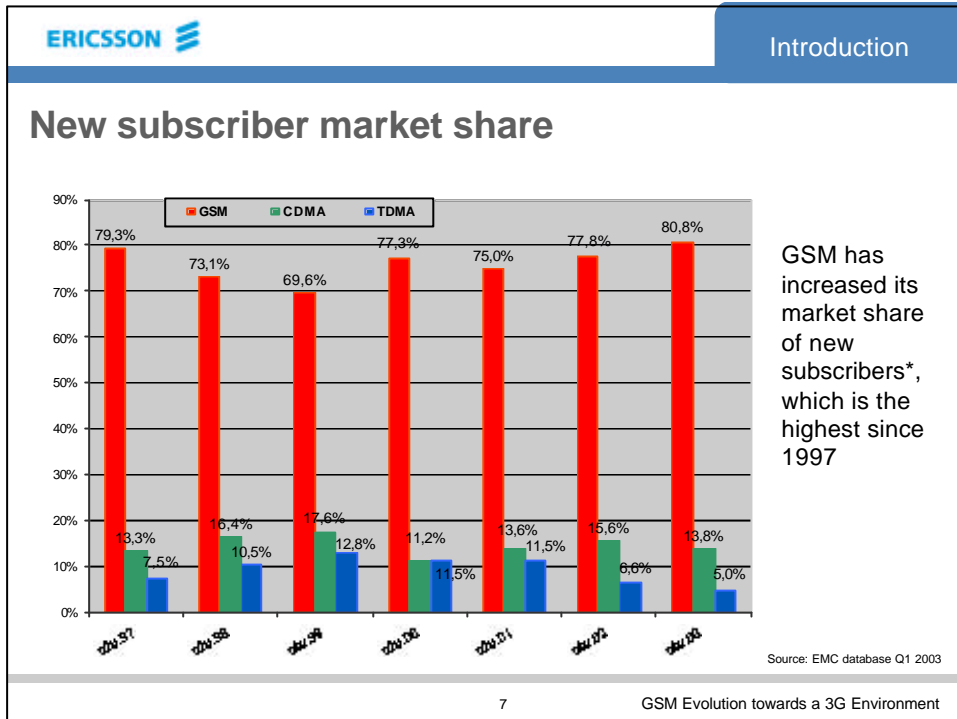
Technology	Share (%)
GSM & WCDMA	72%
CDMA	13%
TDMA	10%
PDC	5%

835 088 960

Source: EMC

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ERICSSON Introduction

GSM

The way forward

- Continuous voice growth
- Services beyond voice take-off
- Operational efficiency
- Seamless evolution
GSM/GPRS/EDGE/WCDMA

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ERICSSON System Evolution

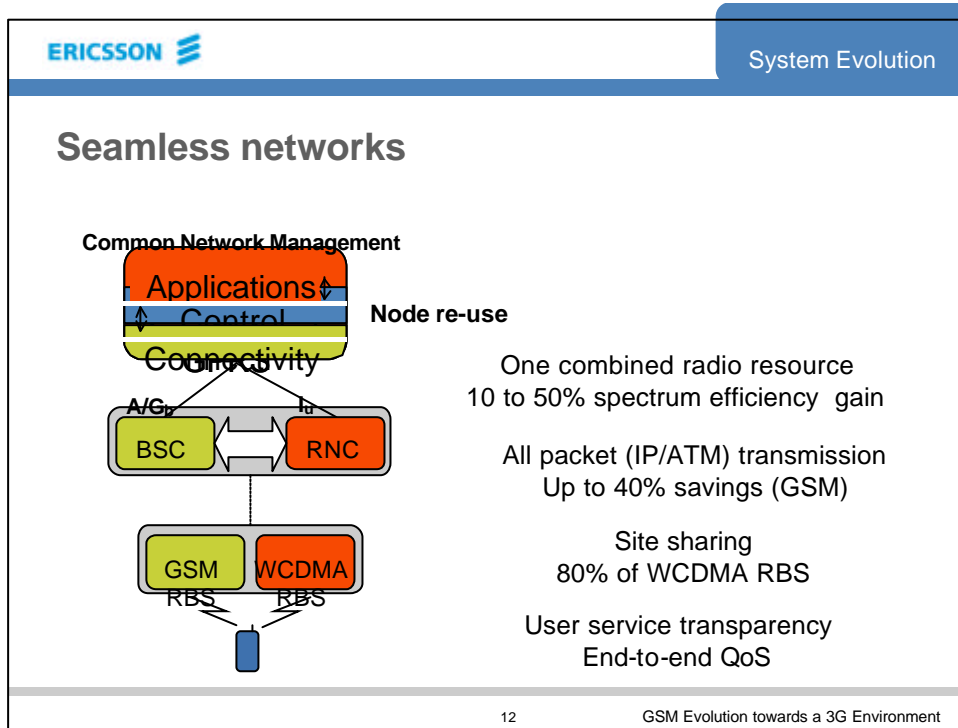
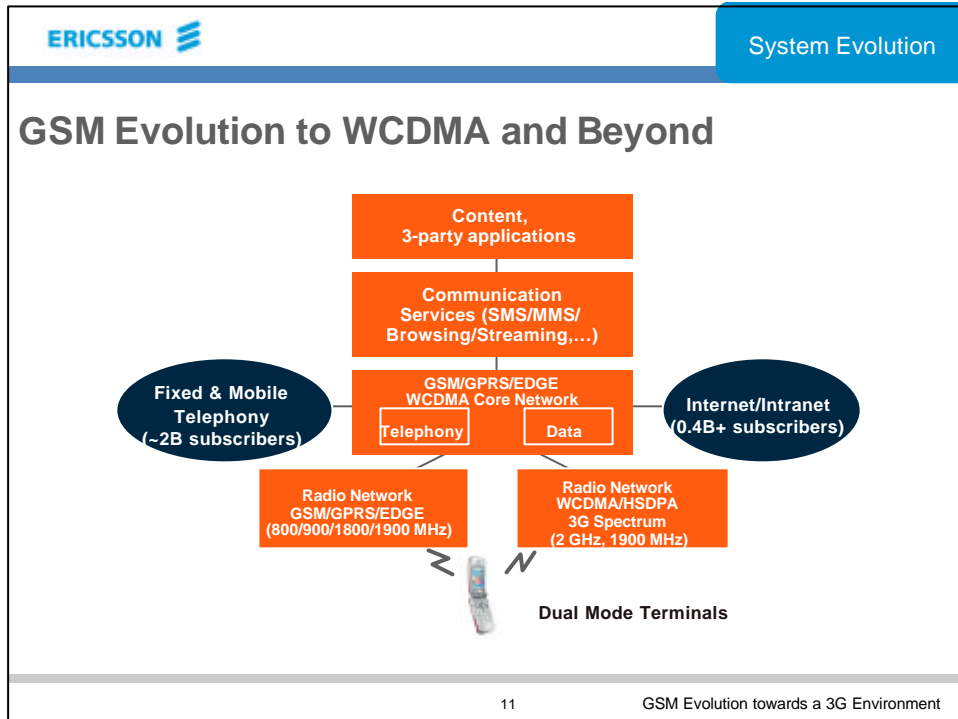
Two main evolution paths

One Family

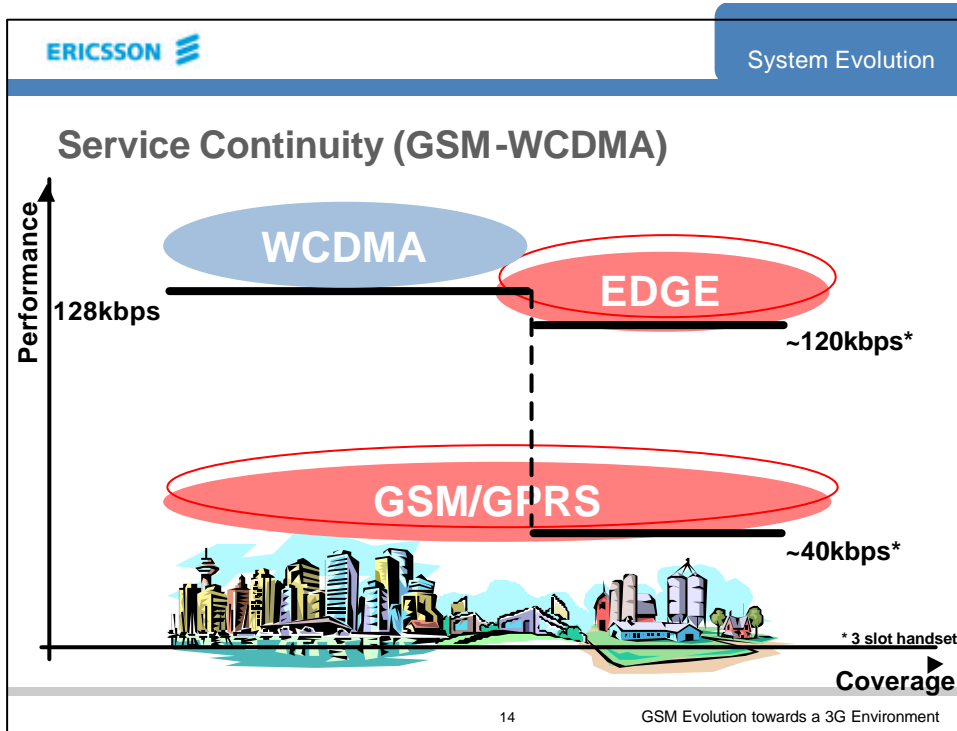
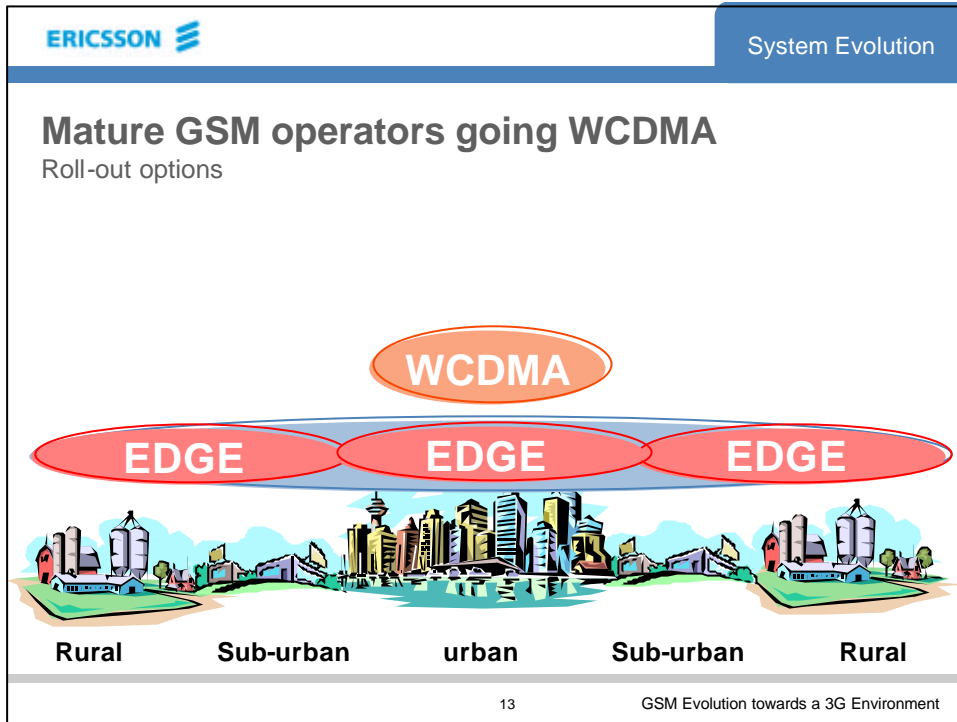
2G	First Step into 3G	3G	Evolved 3G
£ 28.8 kb/s	64 - 144 Kb/s	384 Kb/s - 2 Mb/s	384 Kb/s - 10Mb/s+
	2001/2002	2002/2003	2004+ ▶ Time

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Performance Enhancements

GSM Capacity Road Map - Voice

Voice capacity in Erlang/sector/10 MHz spectrum

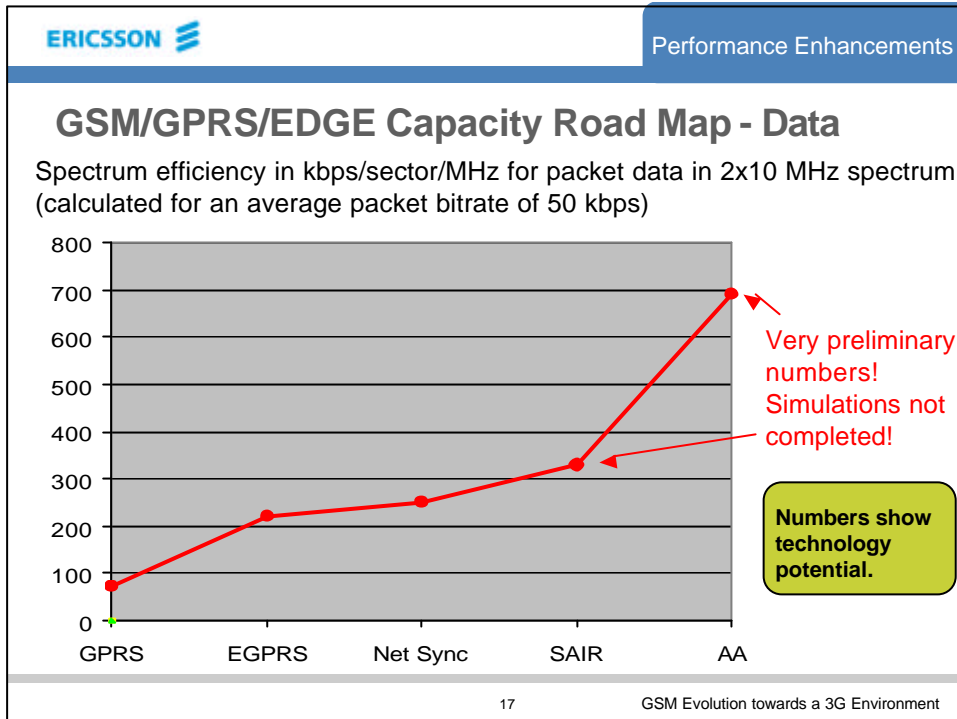
Technology Stage	Voice Capacity (Erlang/sector/10 MHz)
EFR 4/12	~30
EFR 1/1	~70
AMR FR	~130
IRC & Net Sync	~190
SAIC	~260
AA	~500

2 x 10 MHz Spectrum
FL > 100% through CHAT*
FL = 100%

Numbers show technology potential.

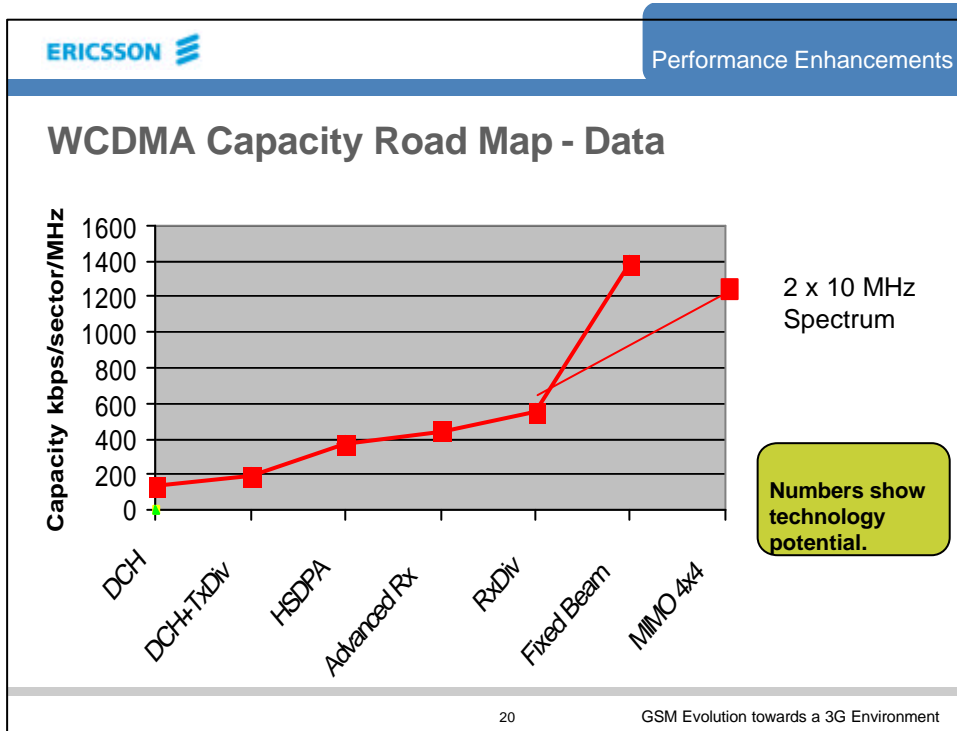
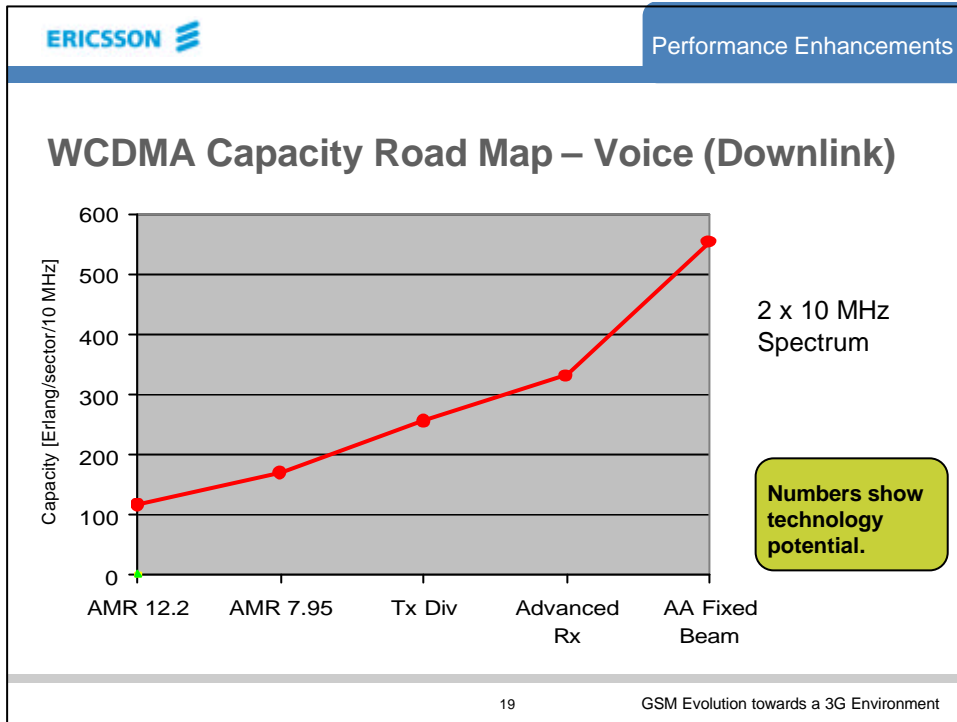
* CHAT, Channel Allocation Tiering. A concept for GSM allowing a frequency reuse < 1


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- ERICSSON** Performance Enhancements
- ### Summary of GSM Capacity Roadmap
- GSM voice capacity can be increased
 - More than 16 times compared to EFR in 4/12 reuse
 - More than 8 times compared to EFR in 1/1 reuse
 By the introduction of AMR, synch and IRC, SAIR and AA
 With CHAT good performance in reuse <1
 - EGPRS data capacity can be increased
 - More than 2 times with AA
 - Around 50% with SAIC when interfered by GMSK
 - EGPRS performance in a full CHAT concept is currently being investigated.
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Performance Enhancements


Summary of WCDMA Capacity Roadmap

- WCDMA voice capacity can be increased
 - More than 5 times compared first release
 - By the introduction of lower AMR rates, Txdiv, Advanced Receiver and AA
- WCDMA data capacity can be increased
 - 2-3 times with Release 5 (HSDPA)
 - 2-3 times with AA
- WCDMA peak rate is enhanced to 14 Mbps with Release 5
 - Even higher peak rate is possible with MIMO
- Further evolution of WCDMA is ongoing
 - Improved uplink
 - Reduced latency

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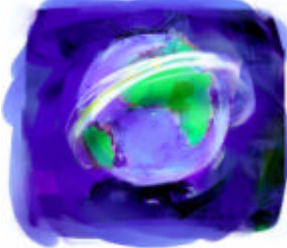
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Conclusion

Conclusion



- GSM/WCDMA will stay world's leading standard in mobile communications
- System evolution is based on synergy of GSM and WCDMA
- GSM and WCDMA guarantee further performance improvements in the future

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