



**LEADING THE WAY.  
GET ON BOARD**

**North American Investor Relations Forum  
Boston  
August 14, 2008**



## Safe Harbor Statement

This presentation contains forward looking statements. Such statements are based on our current expectations and are subject to certain risks and uncertainties that could negatively affect our business. Please read our earnings reports and our most recent annual report for a better understanding of these risks and uncertainties.

A blue sailboat is shown from a low angle on the left side of the frame, with its mast and rigging visible. The boat is on a body of water, and another sailboat with a white and orange sail is visible in the distance on the right. The sky is bright and overcast.

# **The New MediaCom World**

## *An Industry Outlook*

**Torbjörn Nilsson**  
Senior Advisor  
to Ericsson CEO and Group

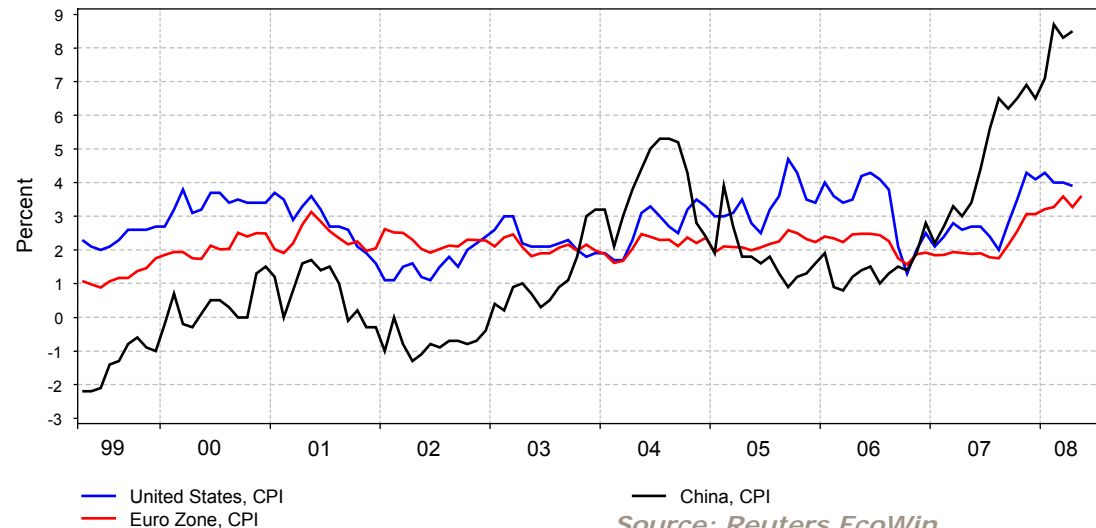
# New worrying signs in the economy

World, ICE, Crude Oil Index, USD



- Record oil prices
- Increasing inflation
- Weakened US economy
- Falling house prices

Inflation



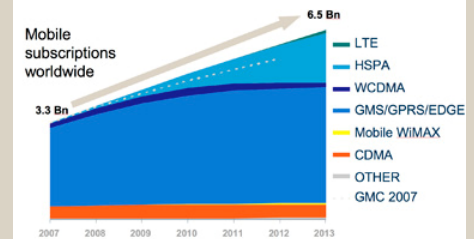
Source: Reuters EcoWin

# Global trends

Asia – economic center of gravity  
One billion more middle-class consumers



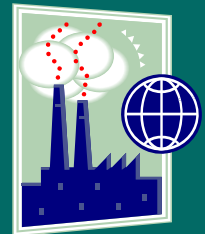
Strong growth in mobile and broadband  
More than 6b mobile and 3b broadband subscriptions



The Internet and TV revolution  
Going mobile, new opportunities



Sustainability  
High on all agenda



# Power of users

*Changing behaviour with time, place and device shifts*

66 billion  
online searches  
conducted worldwide  
in December 2007.  
Google about 2/3.

Social and  
personal  
networking

More than  
100 million  
blogs –  
1.6 million new  
every day

Over 8.6 million  
articles and over 5.7  
million registered  
contributors on  
Wikipedia globally



45%  
of US and European  
workers are away from  
their desks more than  
20% of their time -  
85% of digital natives  
never leave home  
without their mobile

More than 100 million  
video views are  
generated on YouTube  
but also YouKu (China)  
every day

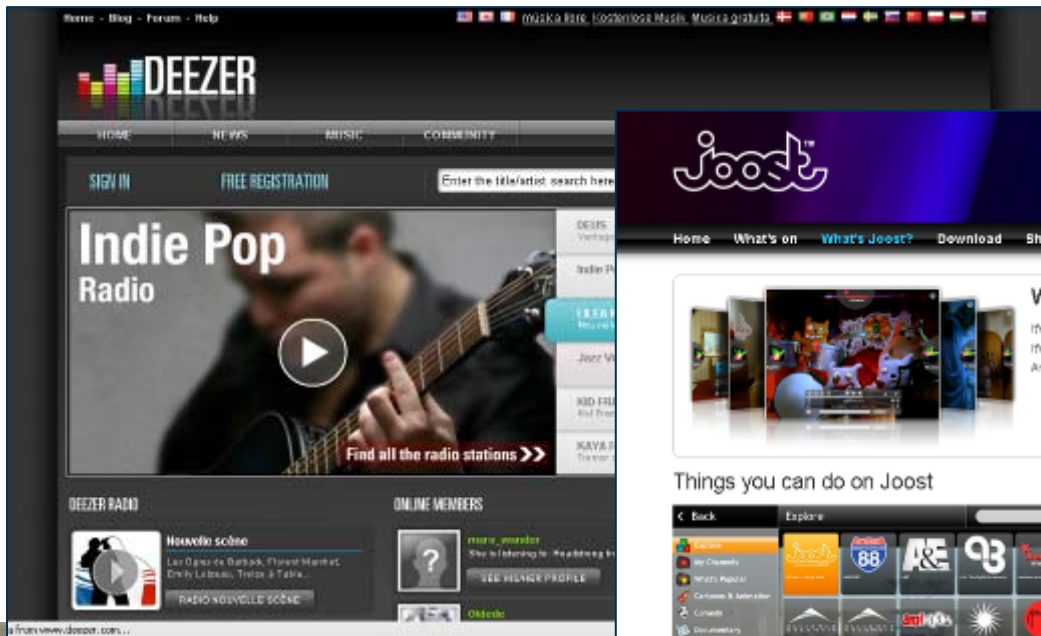
Over 4 billion songs,  
125 million TV episodes  
and 7 million movies  
have been purchased  
and downloaded from  
iTunes. Video game  
sector is growing

# Advertising is the business model

*Searches, free content and communication are the bait*

**Music**  
Free to listen

**TV**  
Free to watch



# TV as we know it is changing

**Passive & analogue**



Traditional scheduled TV

**Interactive & digital**



**Two-way** IPTV & Web TV From Prime Time to My Time

**Two-way** 3G Unicast

**One-way** 3G Broadcast (MBMS)

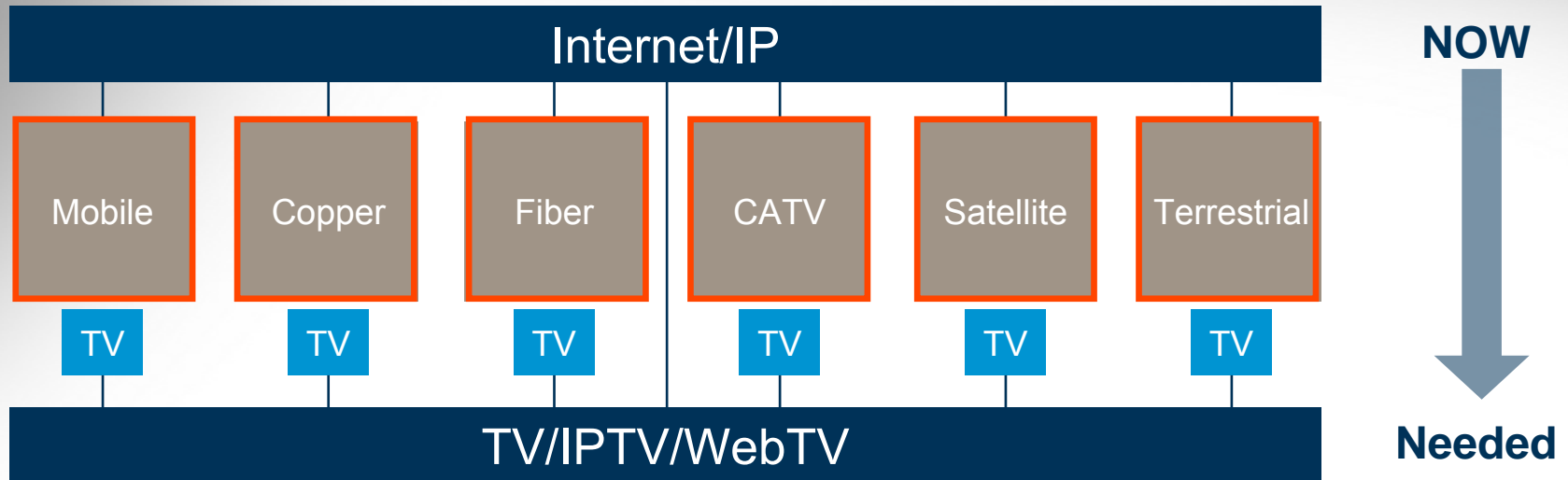
**One-way** Dedicated broadcast (DVB-H...)





# Holistic regulation is necessary

Ex. Broadband access (TV/Internet)



- Take away silo regulation (competition vs. monopolies)
- Service regulation, not technology regulation
- Same type of services should be seen as a common market (I.e. TV/Internet above) – technology neutral
- Common/converged regulator in all countries

# Over the top players

## *End-to-end integration and control*

**”New networked devices” - (with member controlled ecosystems)**

BlackBerry/RIM	↔	Applications etc.
MS/Windows	↔	Applications (MSN/Content etc.)
Apple (iPhone)	↔	Applications (iTunes etc.)
Qualcomm/Brew	↔	Applications etc.
Google etc/Android	↔	Applications (Search/Ads etc.)
Nokia etc (Symbian/Series 60/UIQ/MOAP)	↔	Applications (OVI etc) etc.
Amazon/Kindle	↔	Applications

**Battle for brands and all inclusive (different worlds?)**

# Key industry trends

## Economies of Scale & Scope

Megaplayers/consolidation

Convergence

Cost reduction/operational excellence

## Growth & Innovation

Emerging markets

Triple- and quad-play bundling

Segmentation/changing behaviors

New business models

## Next Generation Networks

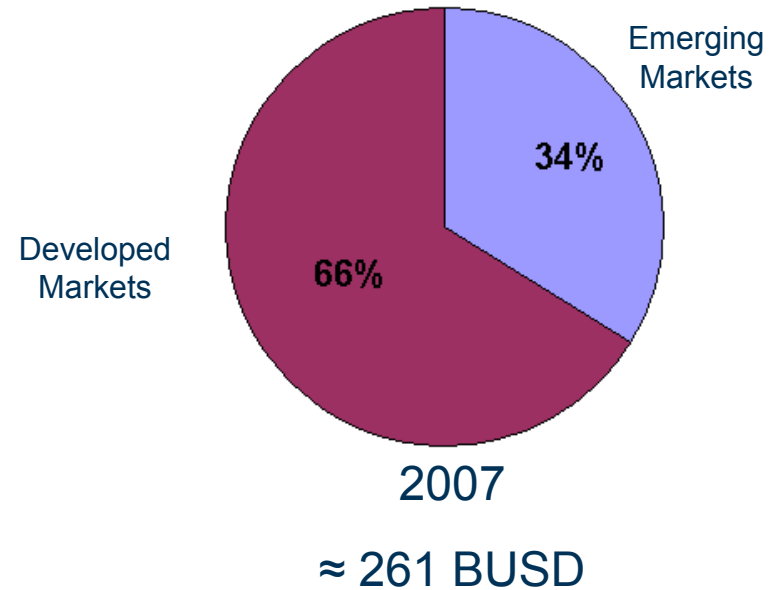
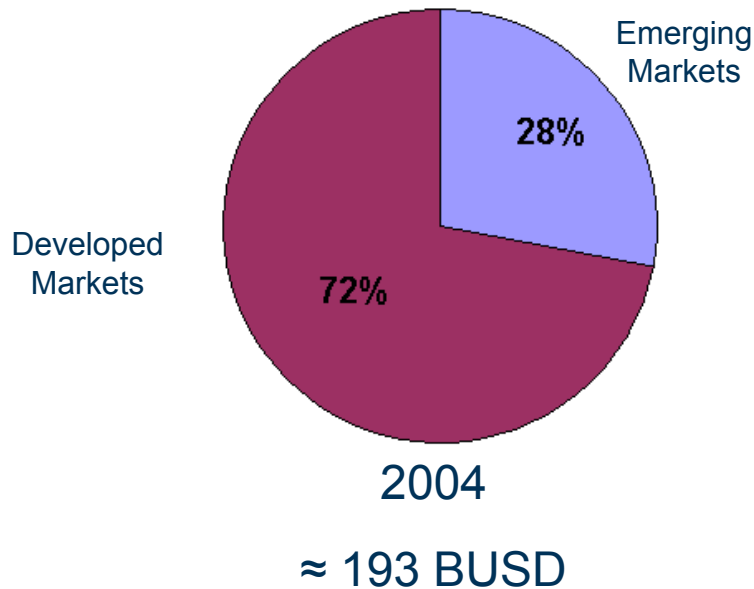
Trusted services – End-to-End

Multimedia broadband/regulation

IP everywhere

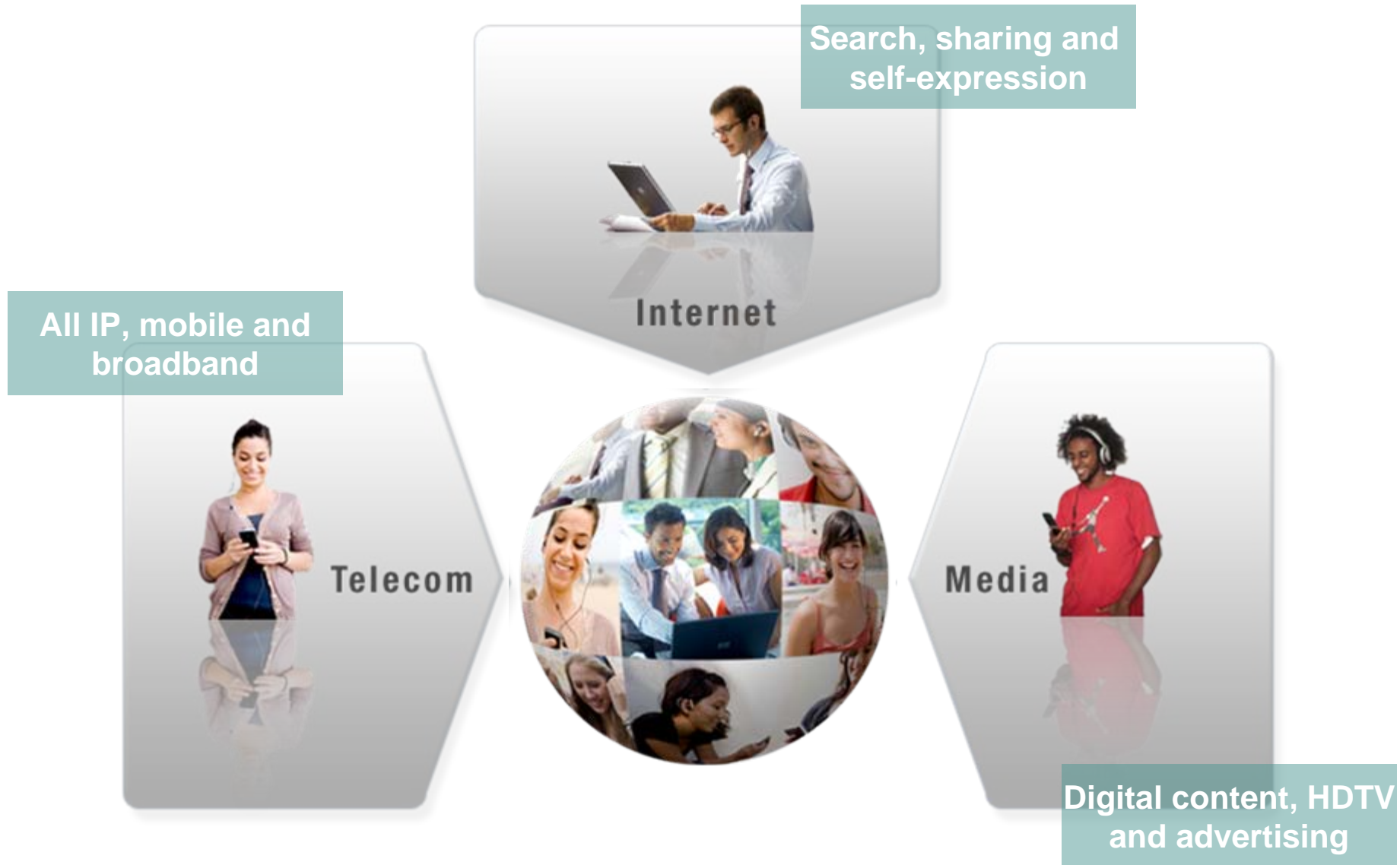
Service convergence (Web 2.0/Telco2.0) - UGC

# Operator CAPEX growth



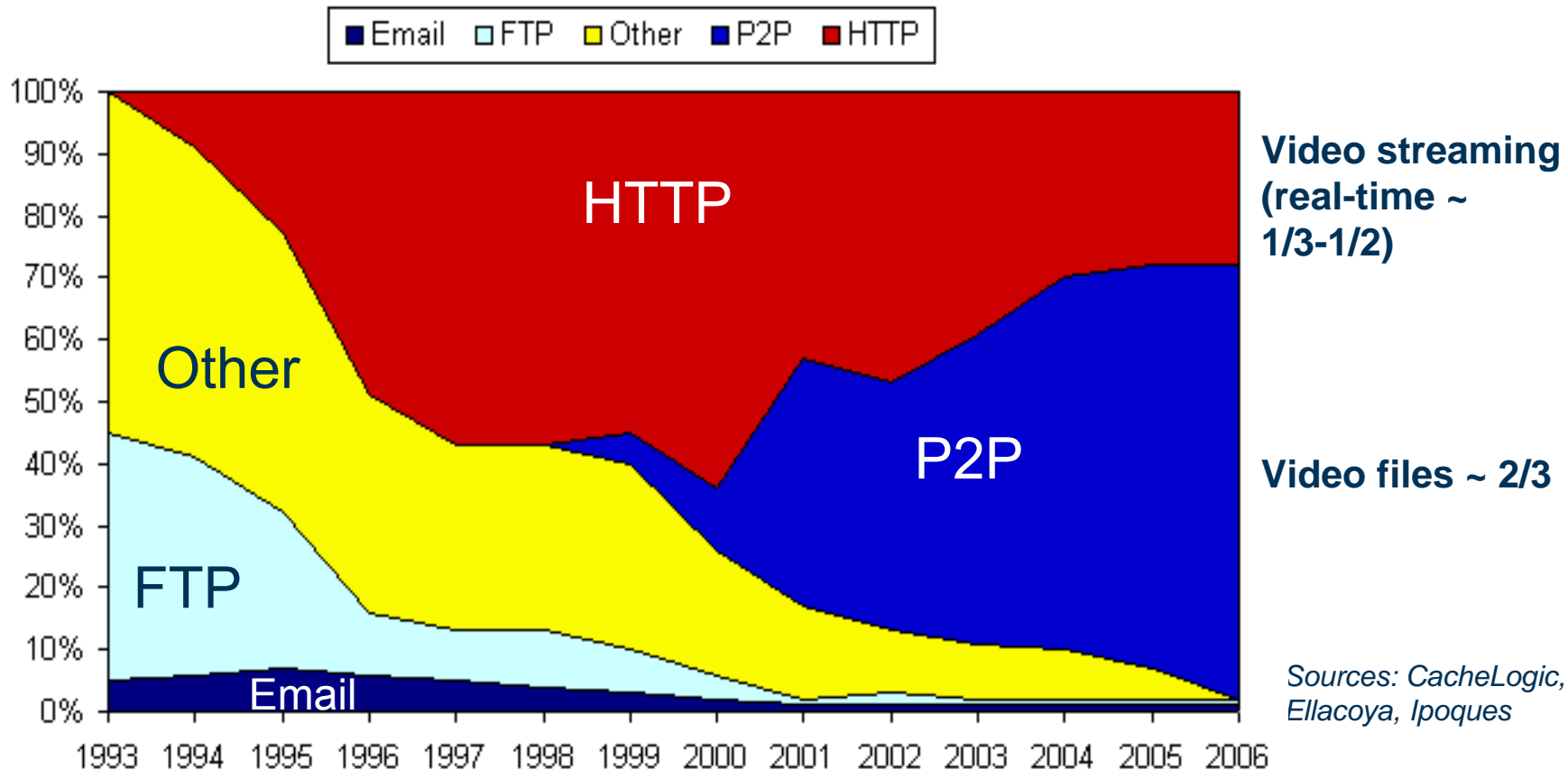
Emerging markets, double digit growth, driven by wireless  
Wireline CAPEX somewhat higher than wireless

# Next generation networks and services



# Internet traffic is highly interactive

*Video drives volume*



**2007 YouTube (HTTP) is about 10% of all Internet traffic  
5% generates 45% of traffic**

# The digital home

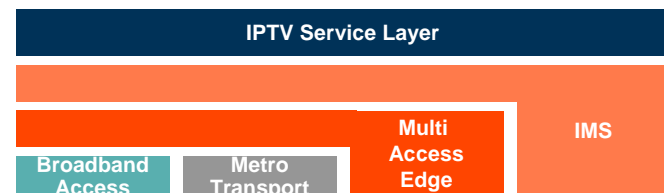
Driving connected home and remote access (fiber/wireless)

Open IPTV Forum: 37 members

Operators	CE vendors	network vendors	Set-top box	Other
    TeliSonera	<b>SONY</b>  <b>TOSHIBA</b> Leading Innovation >>>  <b>PHILIPS</b> sense and simplicity <b>Panasonic</b>  <b>SHARP</b>	<b>ERICSSON</b> Nokia Siemens Networks  <b>HUAWEI</b> <b>ZTE中兴</b>	  	   accenture ASTRA The Quality Link   



Driving convergence and a converged architecture



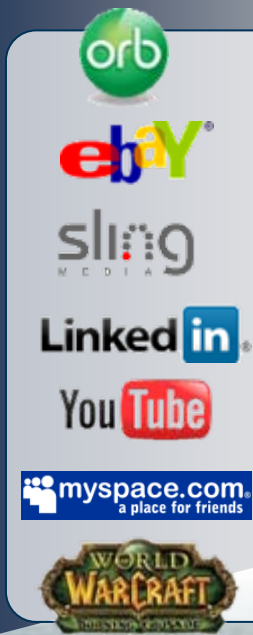
Rapid growth of IPTV and quad-play market

# Internet & TV experience going mobile

- Targeting the mobile volume market
- New types of devices

## Communities

## Communication

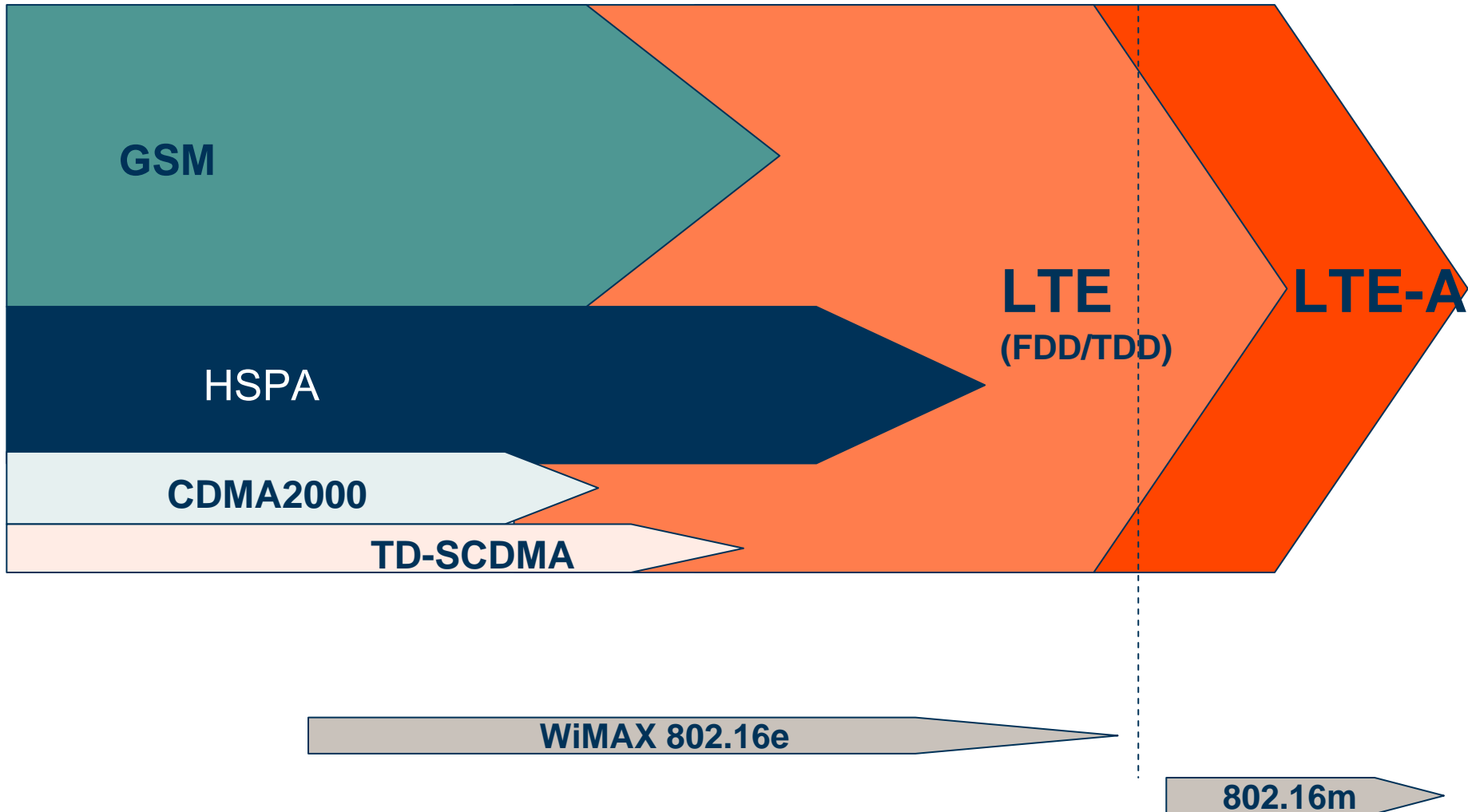




# LTE the global broadband choice

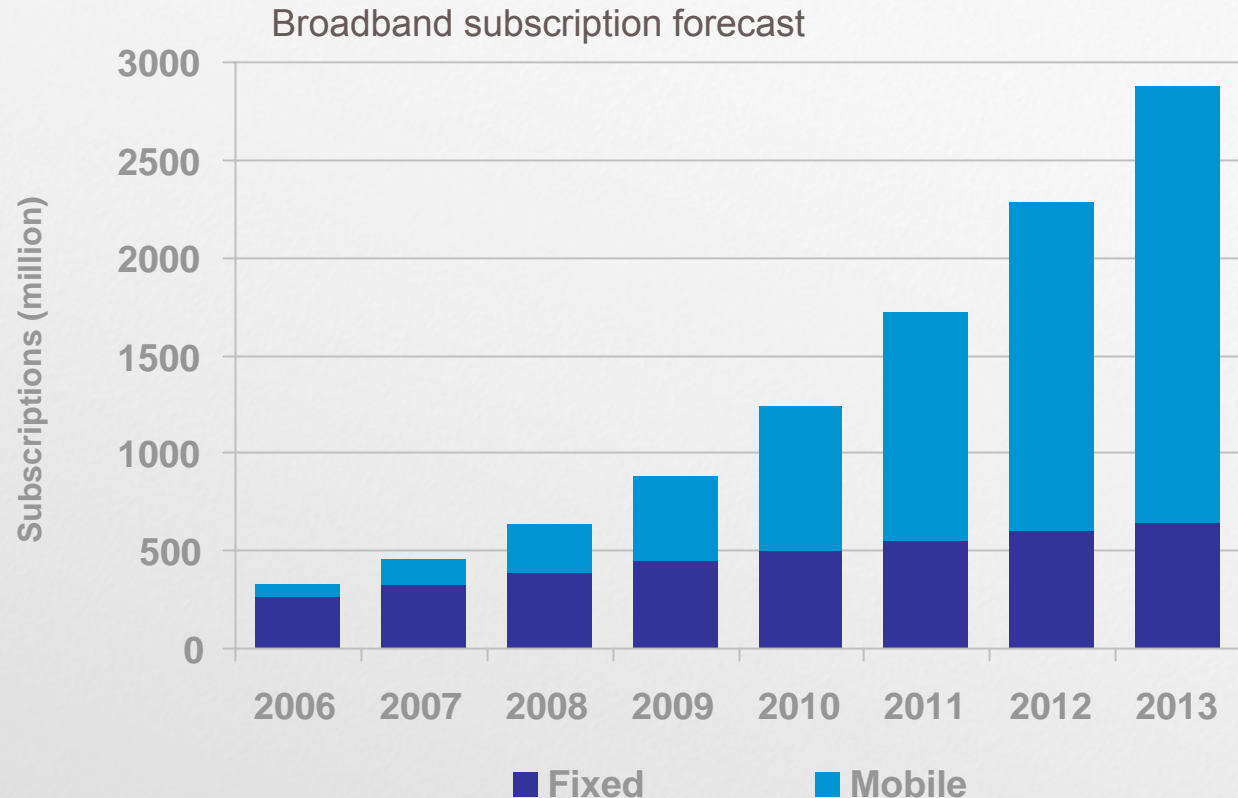
*Standard harmonization and spectrum are key to success*

**IMT-Advanced  
4G**



# Rapid broadband growth

- More higher-speed access connections
- Triple-play/video driver
- More than 207 HSPA networks
- 724 HSPA devices (50% phone, 50% PC)
- Approaching 150 million smart phones/year



Mobile Broadband includes: CDMA2000 EV-DO, HSPA, LTE, Mobile WiMAX & Other

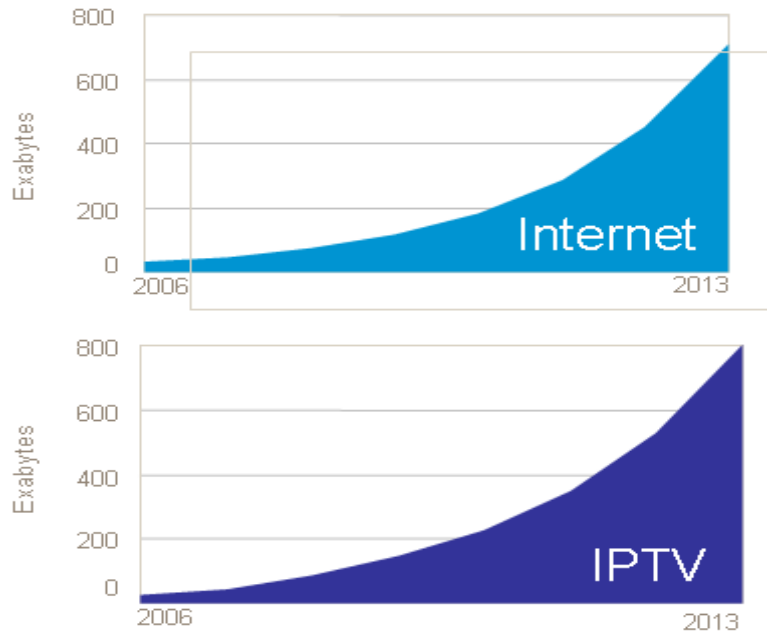
Fixed broadband includes: DSL, FTTx, Cable modem, Enterprise leased lines

Source: Internal Ericsson

# The Exabyte Era

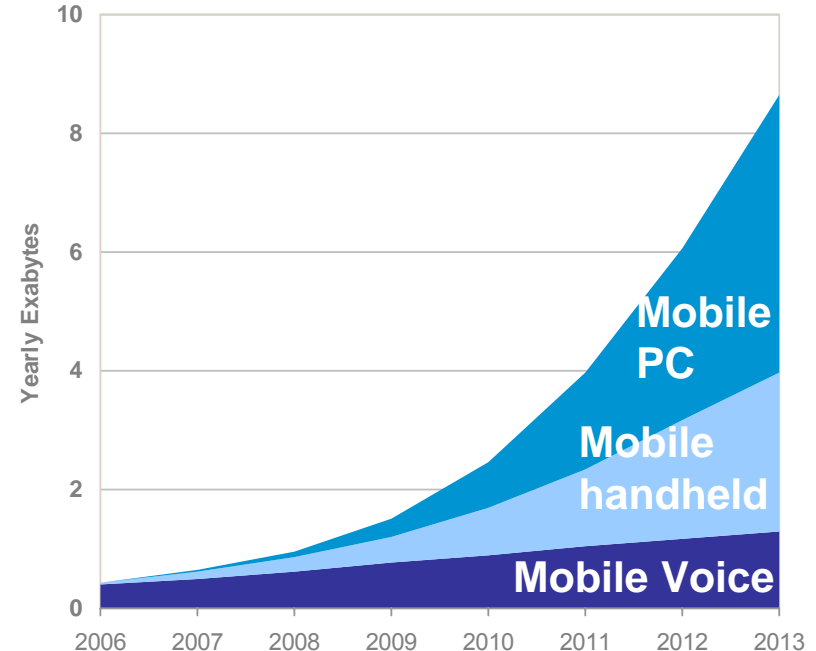
## *Tenfold traffic growth in access networks*

Subscriber traffic in fixed access networks



- IPTV and Internet drive access traffic
- Connected home and enterprise
- Flat rate experience

Subscriber traffic in mobile access networks



- Internet goes mobile
- Mobile broadband complement/ substitute classic ADSL

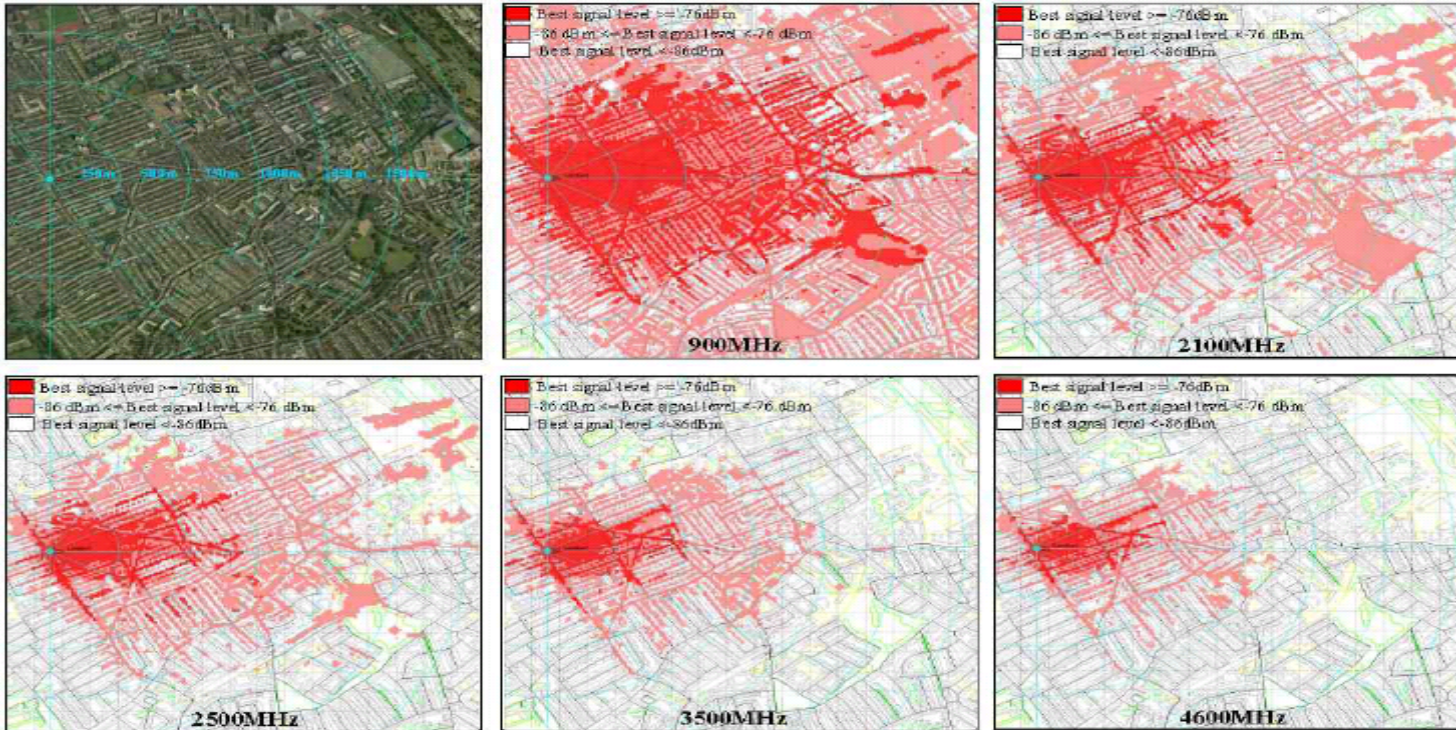
Voice will be noise

Source: Ericsson, IPTV  
140 Millions subs 2013

# Importance of spectrum

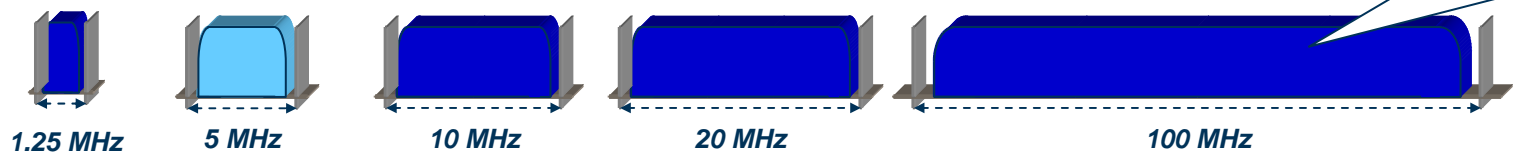
*Network cost is a function of frequency*

20 x log Kxf = Double the frequency and you loose 6 dB

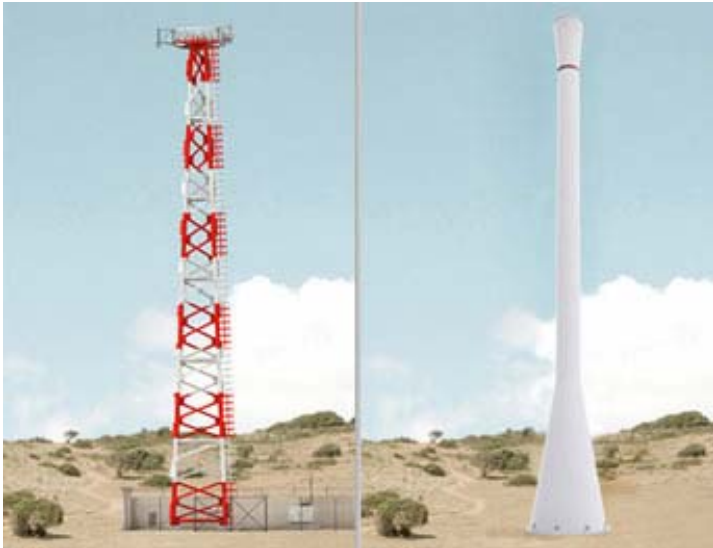


Spectrum sub 1Ghz- Important for cost effective rural and indoor coverage.

Channels are getting wider to support higher bit rates.



# Sustainable innovation



## Ericsson Tower Tube

Lower operation cost

Up to 40% less energy/CO2

Lower manufacturing cost

About 30% less energy/CO2



## Solar village charger

Prototype for use in Millennium Villages

Charges up to 20 phones overnight



## Green Site Solutions

Complete portfolio: Solar, biofuel, hybrid, fuelcell, wind

# Summary

## The power base is shifting

- Consumers and content owners
- Media and internet business models

## Regulation key to success

- Holistic regulation
- Right spectrum allocation
- Green requirements

## Next-generation network requirements

- Trusted interactive services
  - Bandwidth for HDTV/Video
  - Mobile Internet
-



# **Market and Industry Trends:** *The User and Business Perspective*

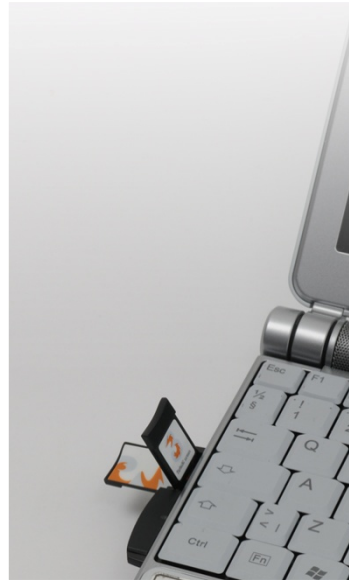
Johan Bergendahl  
Vice President  
and Chief Marketing Officer

# Ericsson's next growth opportunity

We personalized communication

We are personalizing broadband

We will personalize television-based communication





# All-communicating world

**Media anywhere  
anytime**



**Televisionary  
in everyday life**



**Everything  
connected**



**World's  
creativity  
Tool**



**Sustainability**



**Telecommunications - The world's growth engine**

# Telecommunications

*The world's growth engine and a must for sustainability*

## Consumers



Quality of life  
through  
communications

## Industry



Growth and  
profits through  
communications

## Country

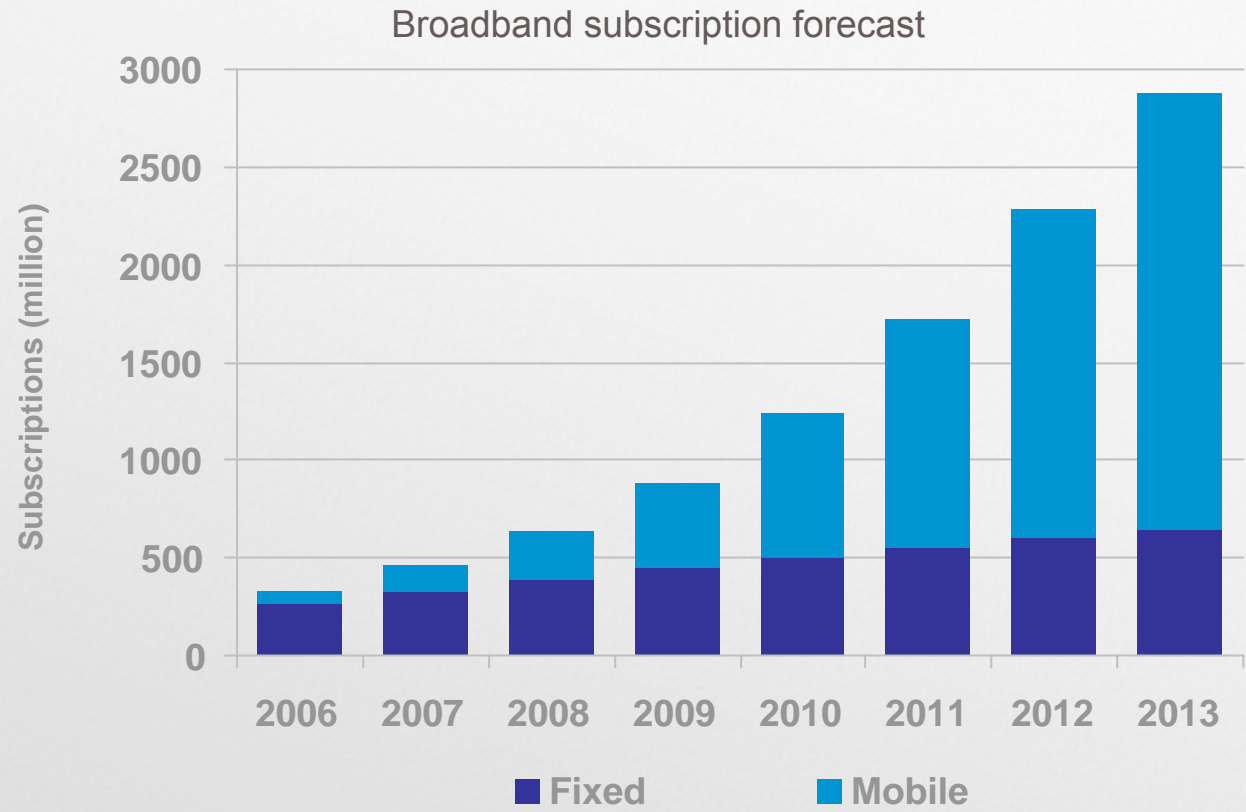


Public services  
through  
communications

SUSTAINABILITY

# Broadband subscriptions

*Fixed and mobile, 06-13*



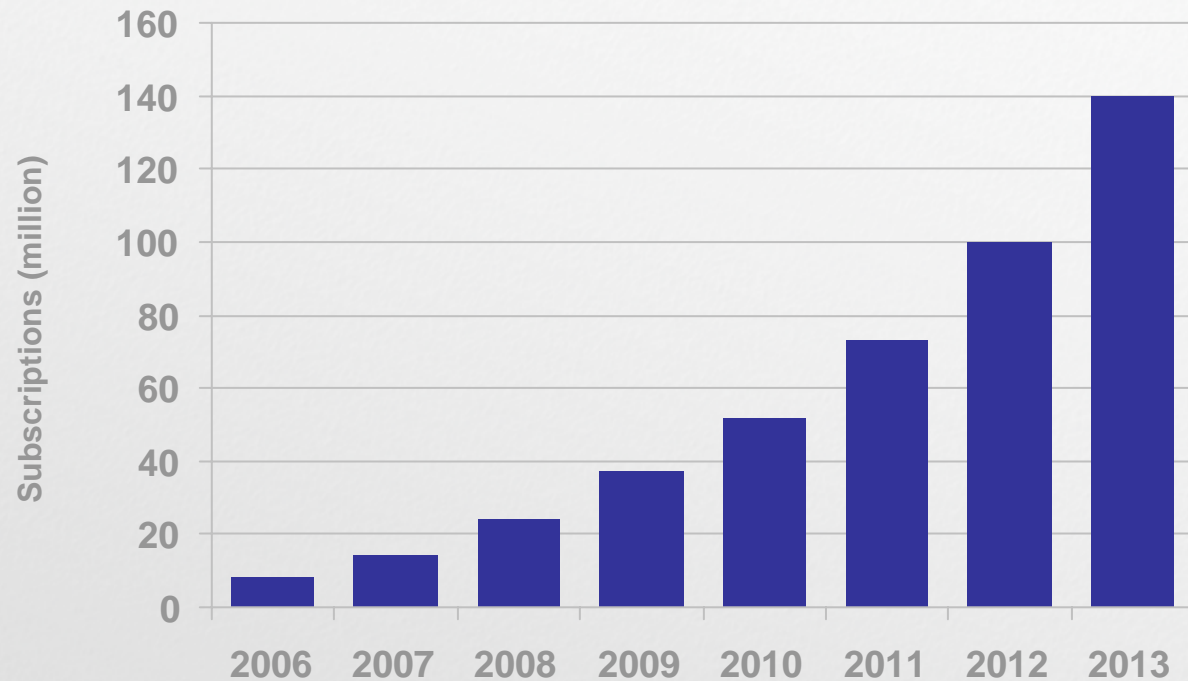
Mobile Broadband includes: CDMA2000 EV-DO, HSPA, LTE, Mobile WiMAX & Other

Fixed broadband includes: DSL, FTTx, Cable modem, Enterprise leased lines

Source: Internal Ericsson

# Fixed IPTV subscriptions

## *Managed by operators, 06-13*

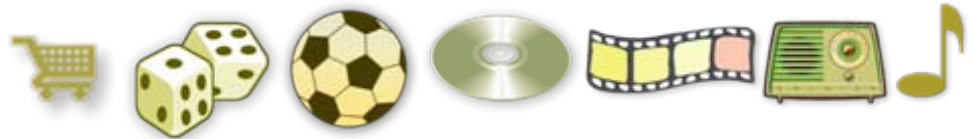


Source: Internal Ericsson

# Operators are in pole position

*But forget business as usual*

Applications and content



Connectivity



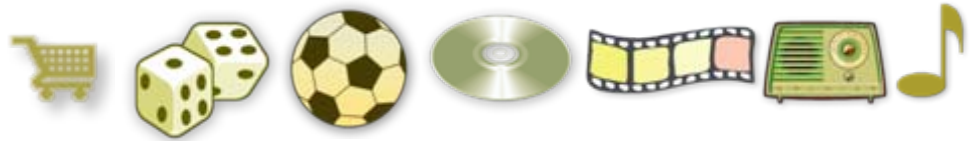
In the home, in the office  
and on the move



# This is what it will take

## *Key performance indicators*

Innovation  
Mastering "ecosystem"



Stability  
Openness



Hype factor  
Upgradeability



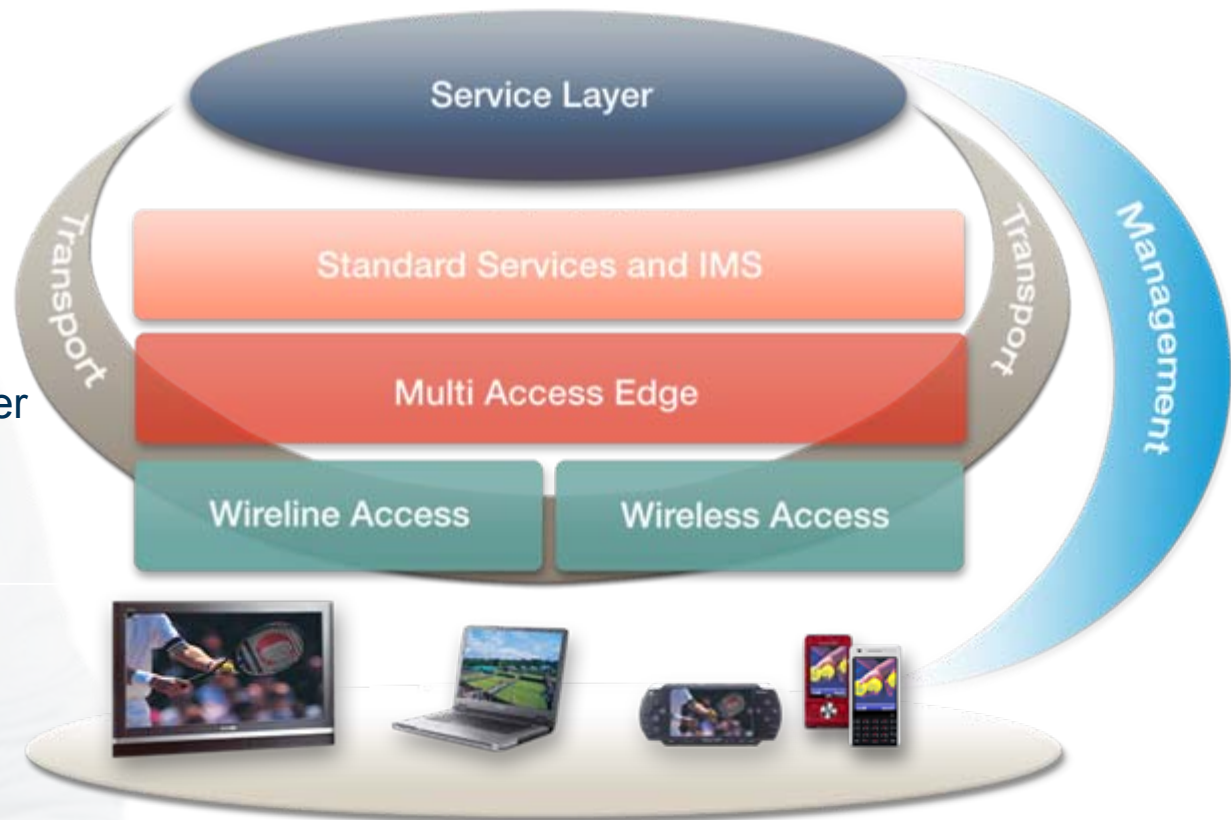
# Ericsson's proposition

Prime Integrator & Managed Service

Consumer multimedia  
Enterprise multimedia

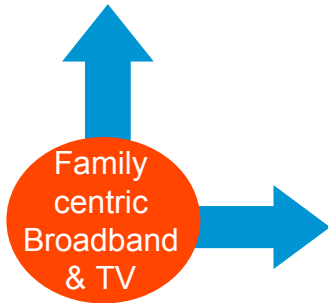
Full Service Broadband  
Communications Expander

Consumer multimedia  
Enterprise multimedia

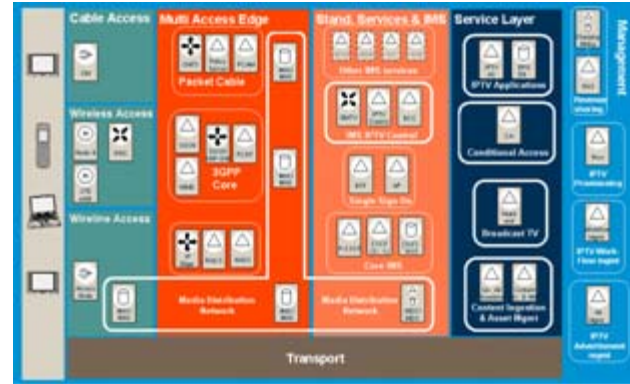


# Full Service Broadband - Recap

Personal (Mobile)  
Internet Broadband

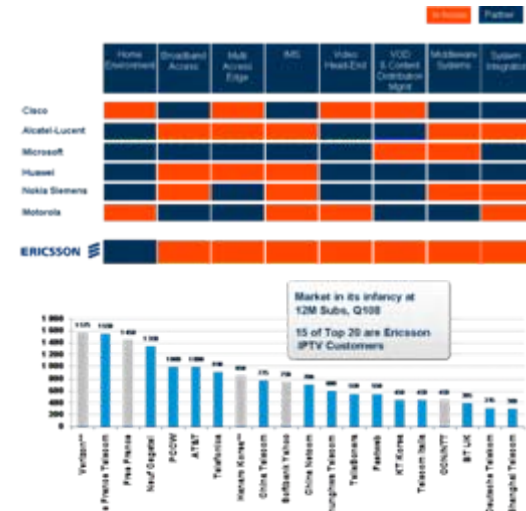


Personal  
TV Broadband



Redefining broadband

Target architecture



Closing the gaps

Complete offer and references



# Redback business update Q208

- Redback Deployed Base
- Ericsson/Redback Deployed Base

## ■ Customers

- Added 35 new customers (APAC 15, EMEA 13, Americas 7)
- Revenue from 15 of top 20 wireline carriers
  - AT&T, China Telecom, China Mobile, China Unicom, DT, FT, KT, CHT

## ■ Products and solutions

- SM 480 Carrier Ethernet Switch launched to unify fixed and mobile networks
- Integration of SmartEdge into Ericsson end-to-end solutions
  - MPBN, IPTV, Backhaul/PRAN, SASN

## ■ Redback expansion

- Ericsson continues investment in IP and Silicon Valley campus

Joint customer wins - *125 carriers in 60 countries*

# Ericsson Silicon Valley campus

Ericsson + Redback  
+Tandberg + Entrisphere

Ericsson executive  
assignments

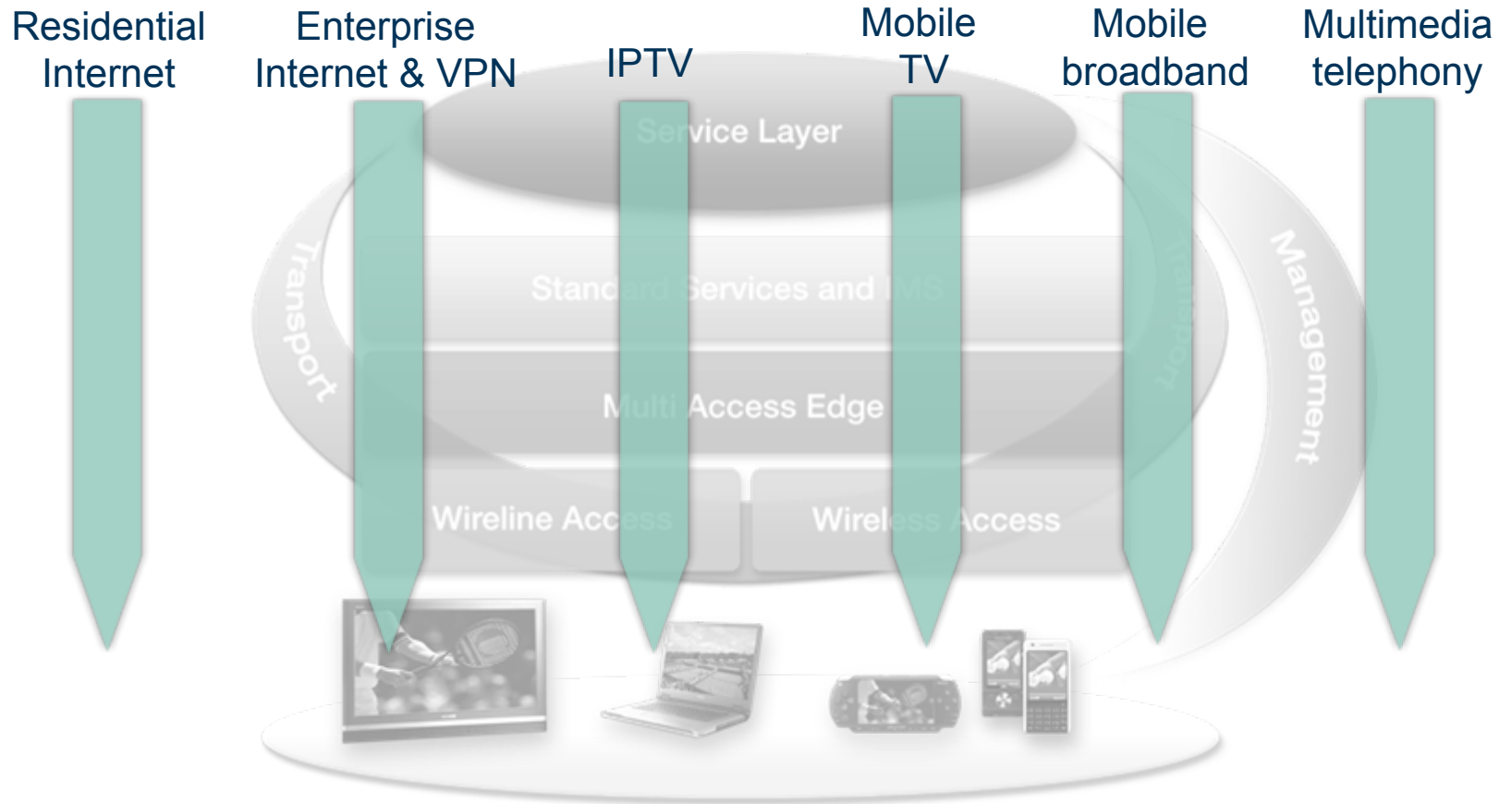


Ericsson Research  
Silicon Valley

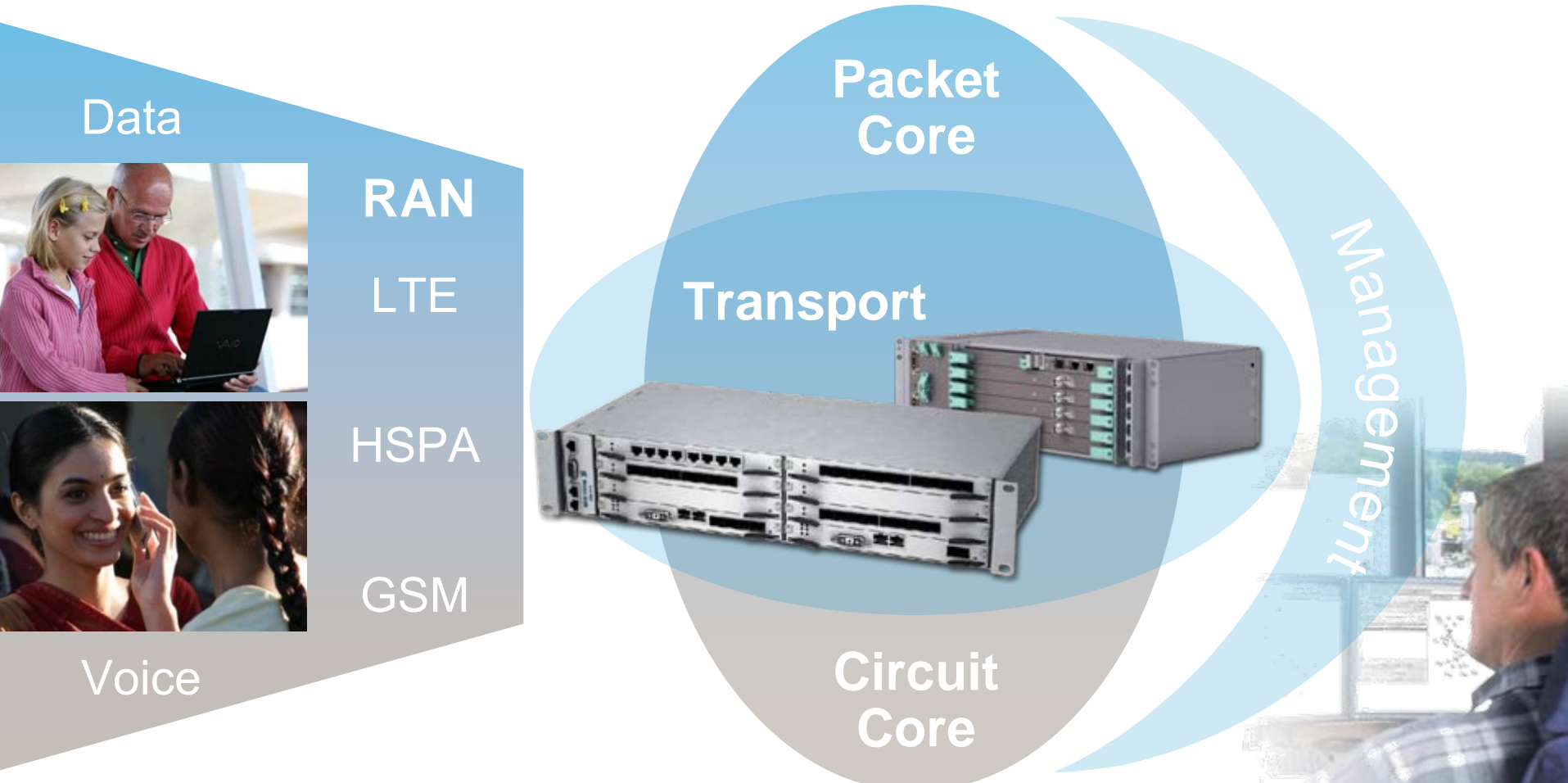
New PAPN focus  
fixed and mobile

# Grow with revenues

*Focused Full Service Broadband solutions*



# Secure continued leadership in mobility



Leading evolution to high-performing optimized common network

# Ericsson multimedia capabilities



## Devices

Sony Ericsson

Device platforms

## Enablers

Networked media & msg

Service delivery platforms

IMS

Revenue management

Enterprise applications

## Services

Brokering

Business consulting

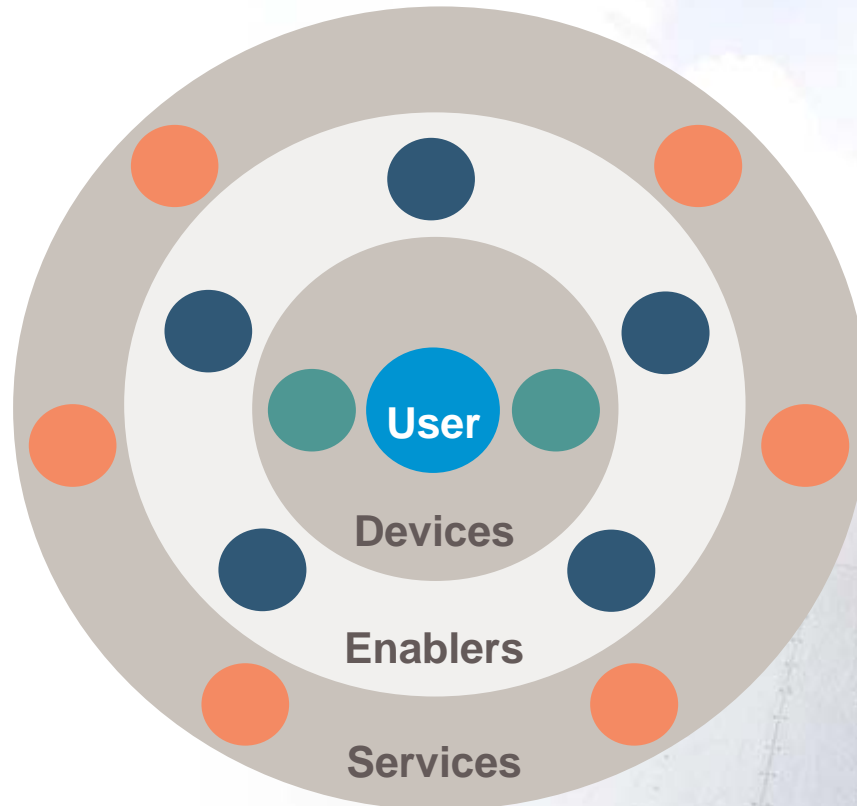
Partnering

Systems Integration

Consumer Lab

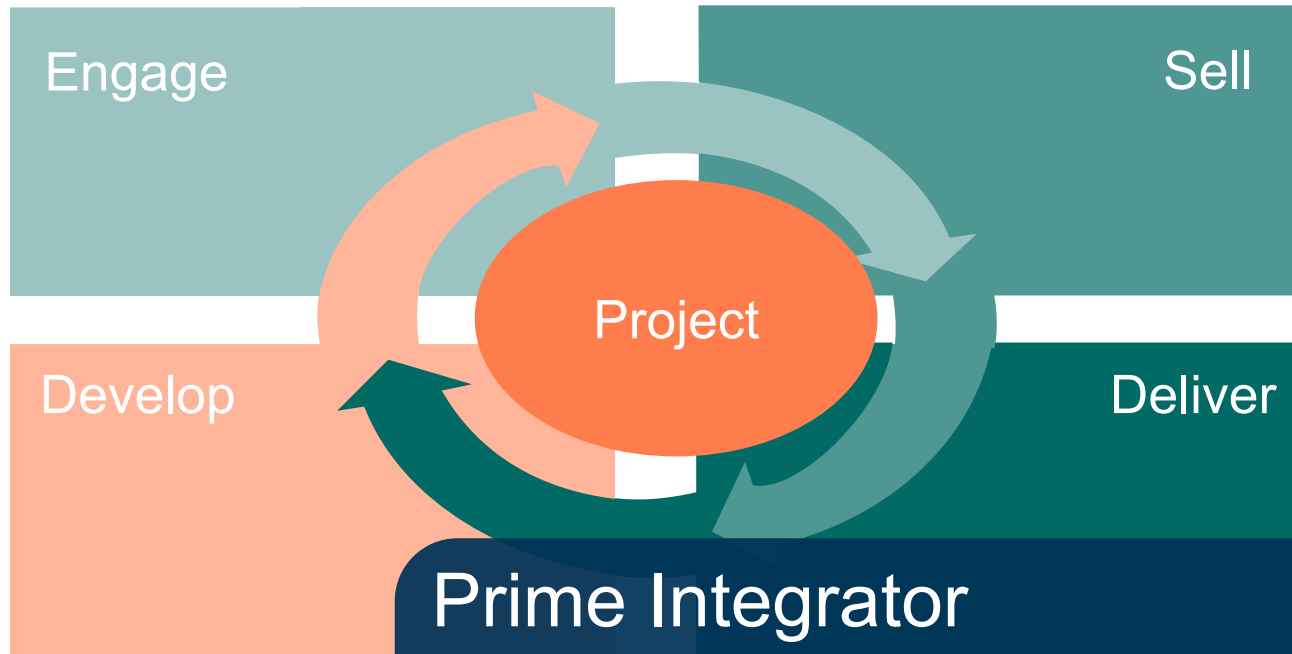
Mobility World

Hosting



# Operators' challenge:

*Network complexity multiplies*



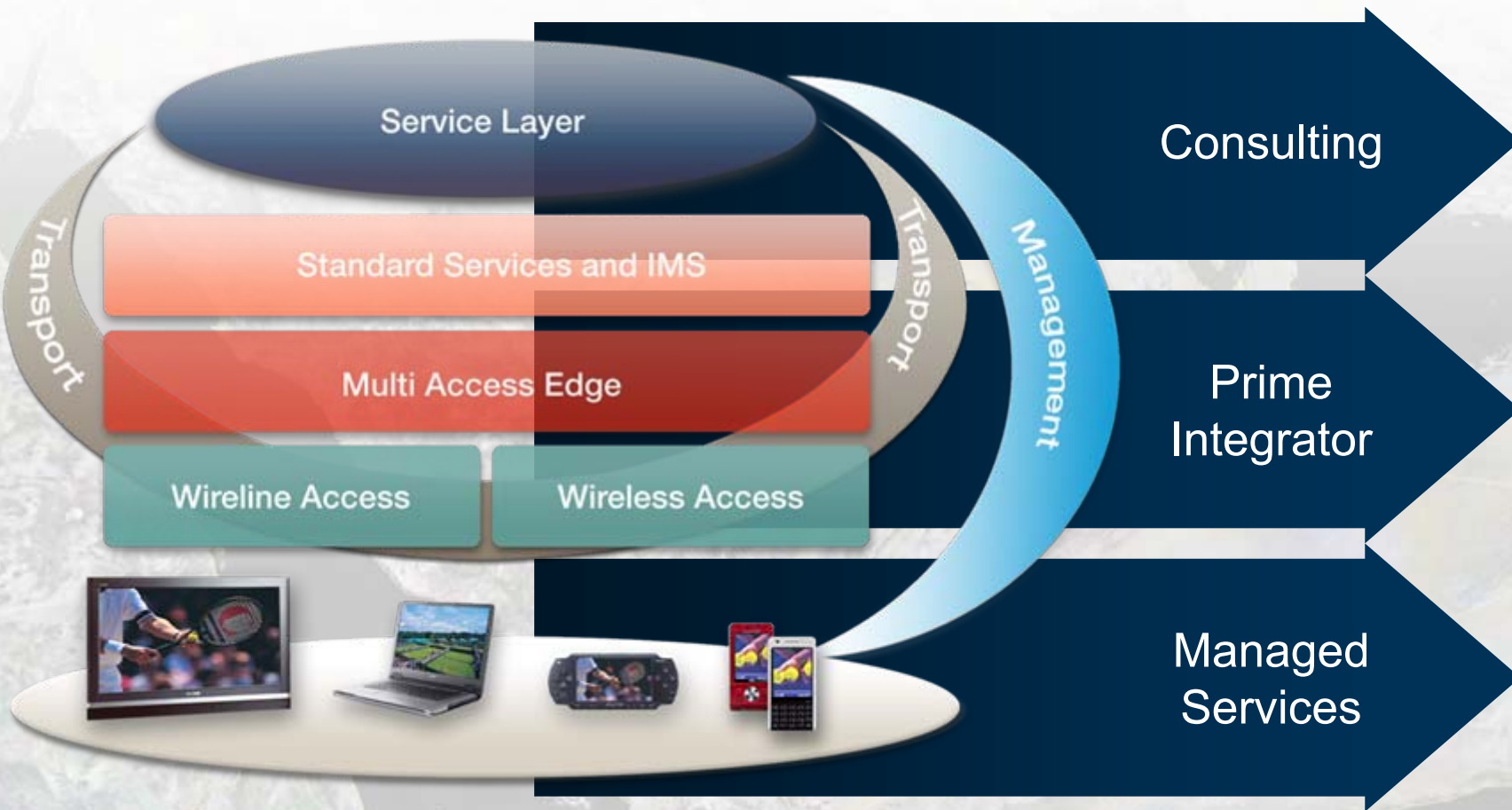
## Prime Integrator

- Manage e2e complexity
- Reduce risk
- Integrate Ericsson products/solutions
- Front various third parties

Ericsson as Prime Integrator

# Commitment. Technology. Services.

*Our end-to-end proposition*

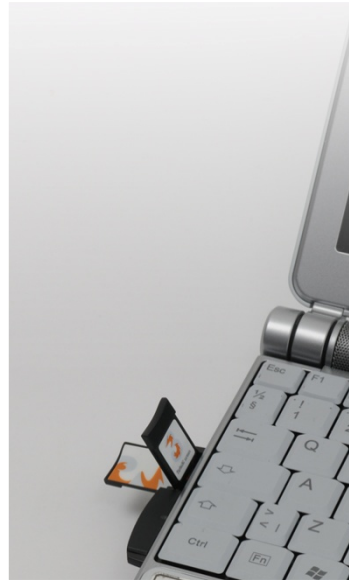


# Ericsson's next growth opportunity

We personalized communication

We are personalizing broadband

We will personalize television-based communication





A photograph of a sailboat on the ocean, viewed from the side. The boat's mast and rigging are visible in the foreground. In the distance, another sailboat with a tall mast and a yellow and orange sail is visible on the horizon. The sky is bright and overcast.

# Mobile Technologies

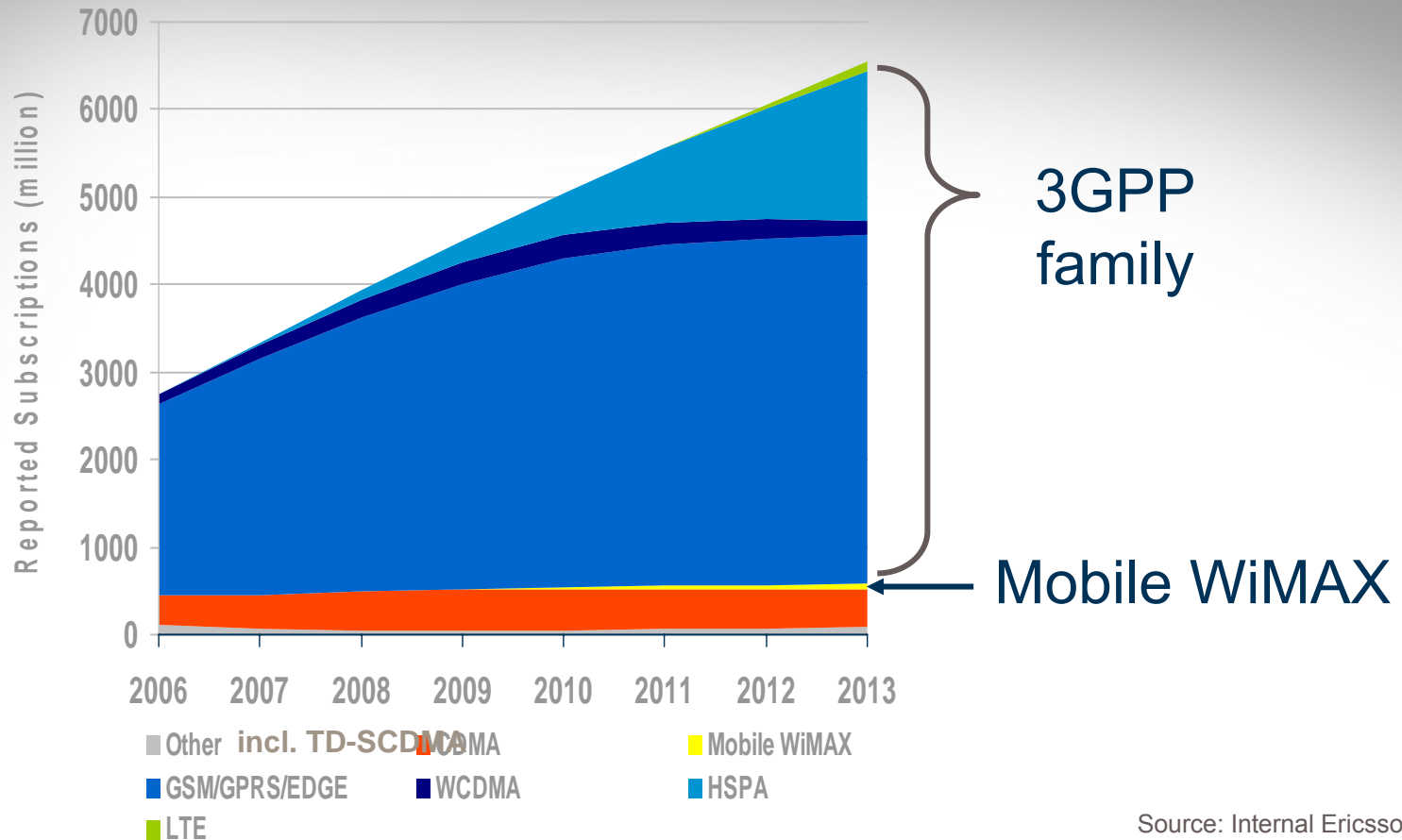
Håkan Eriksson  
Chief Technology Officer

# HSPA is mobile broadband

- 228 WCDMA operators in 94 countries, of which
  - 207 HSPA operators in 89 countries
  - 240 million WCDMA/HSPA subscribers
  - 724 HSPA devices by 115 suppliers

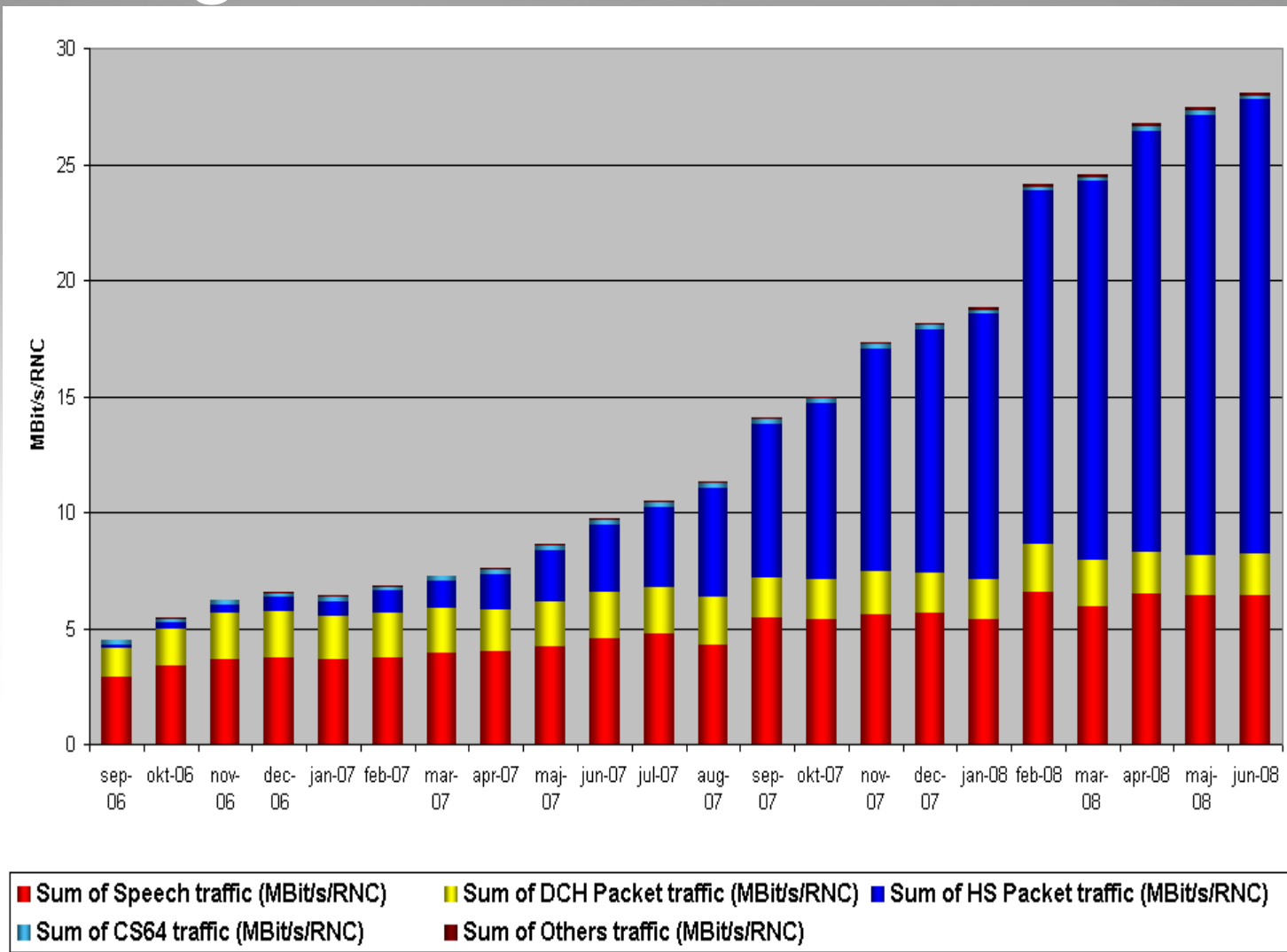
# Reported mobile subscriptions

## *By system standard, 2006-2013*



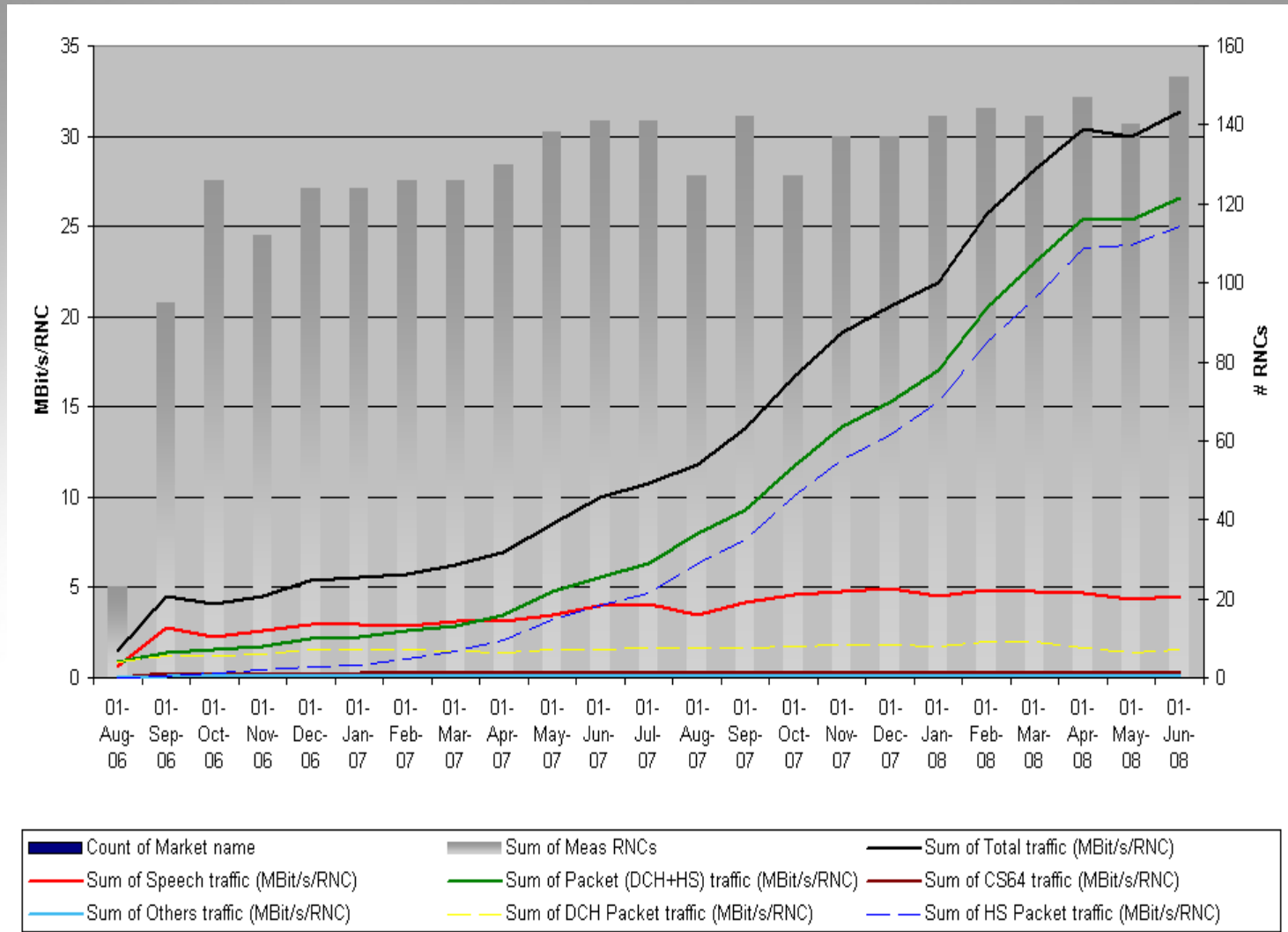
GSM, WCDMA/HSPA and LTE dominance gives economy of scale

# Traffic growth – All markets



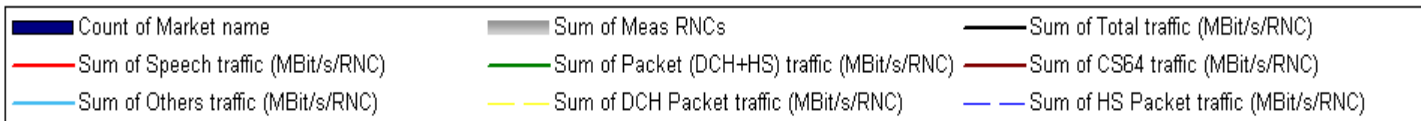
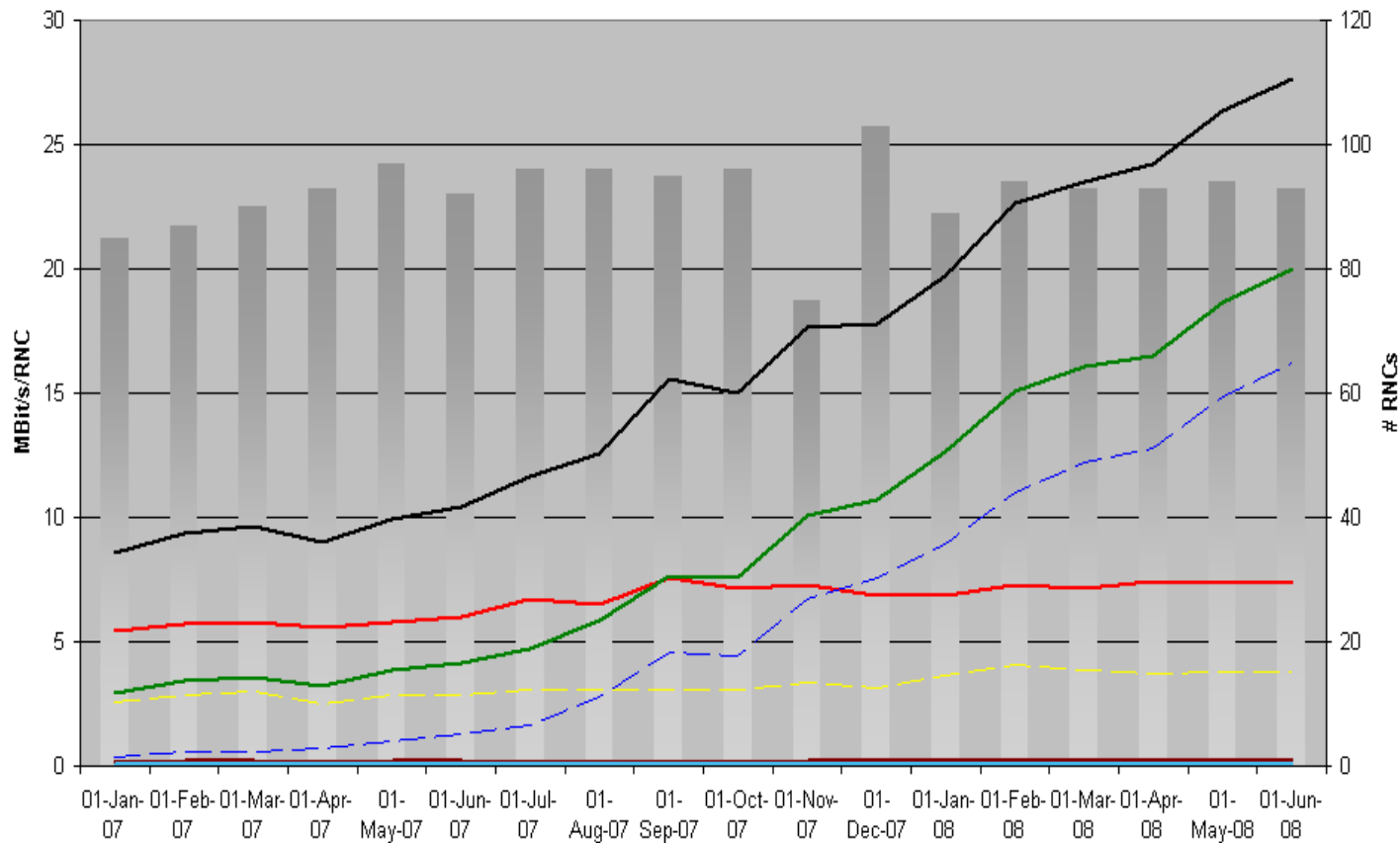
Source: NetQB

# Average traffic in Western Europe



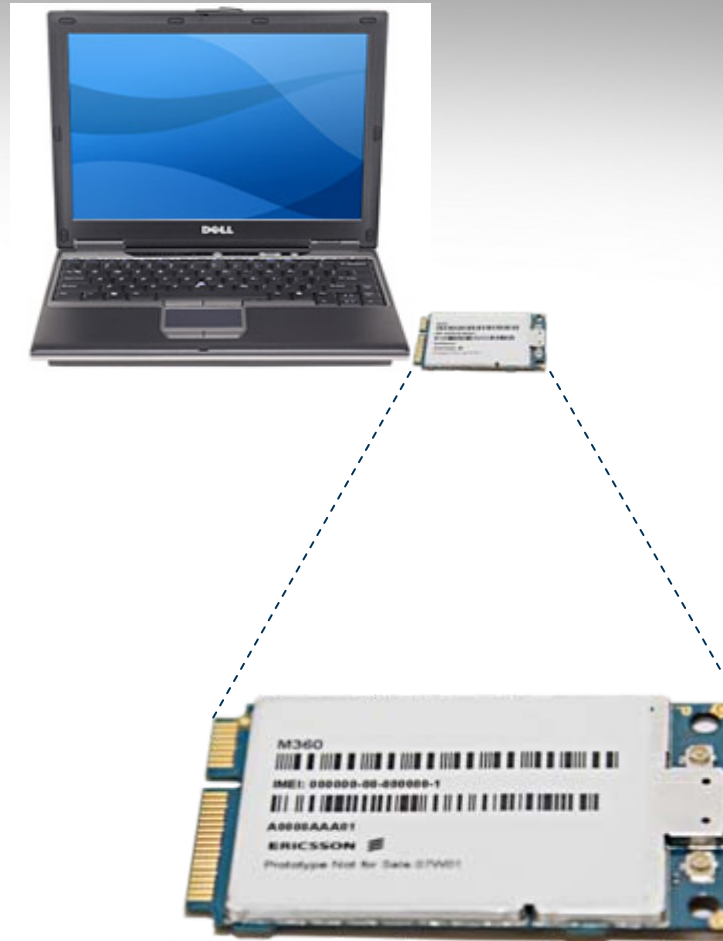
Source: NetQB

# Average traffic in Asia-Pacific



Source: NetQB

# Mobile broadband positioned for take off



All major notebook manufacturers ready for embedded HSPA

# Mobile broadband FAQ

- *"Why doesn't the data increase show up in Base Station sales?"*

or

How does the increase in data traffic affect the need for radio resources?

- *"Does going from 3 Mbps to 300 Mbps lead to a 100-fold increase in data capacity?"*

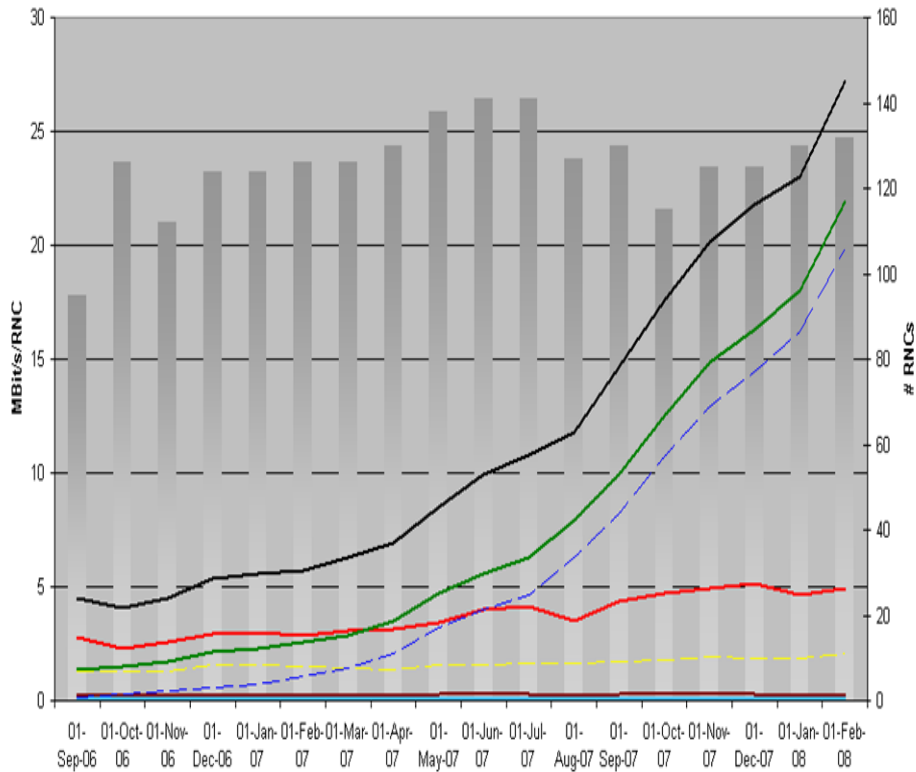
or

How does data rate (Mbps) relate to data capacity (Bits/Hz)?



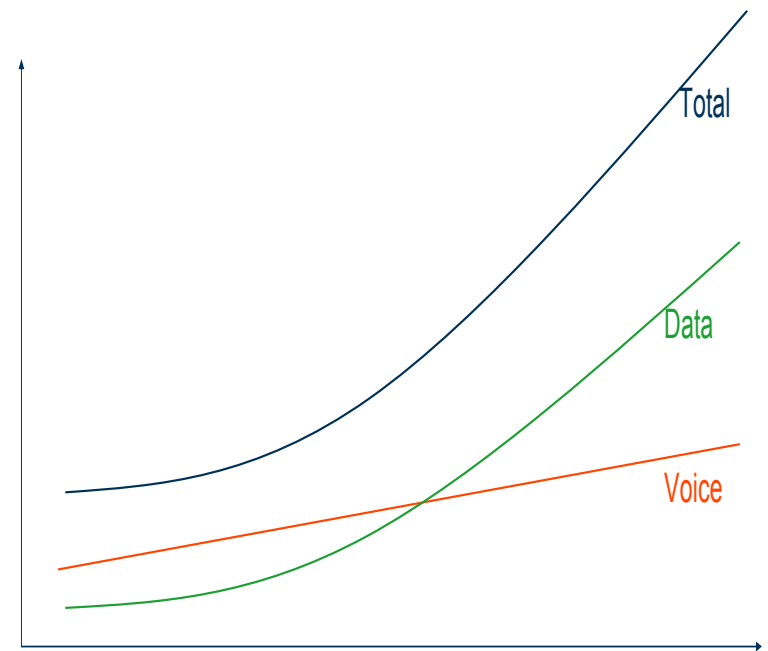
# Data taking off

## Average traffic in Western Europe



— Total traffic   
 — Sum of Packet   
 — Speech   
 — Packet HS   
 — Packet DCH

## Traffic growth - simplified



# Big difference between voice and data

## **Voice** capacity in one carrier of 5 MHz

- 60-70 simultaneous users
- 8 kbps per user
- Gives about 500 kbps = **0.5 Mbps**

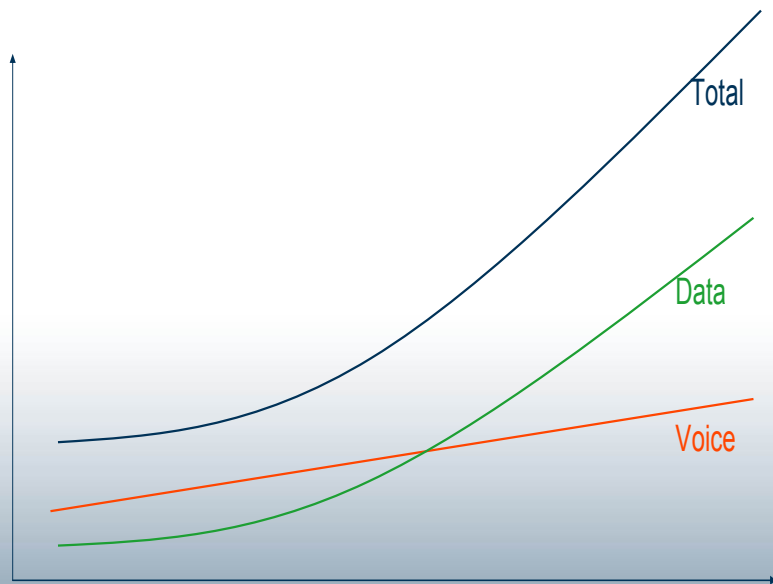
## **Data** capacity in one carrier of 5 MHz

- Efficiency of 1 bit / Hz due to HSPA
- Gives about **5 Mbps**

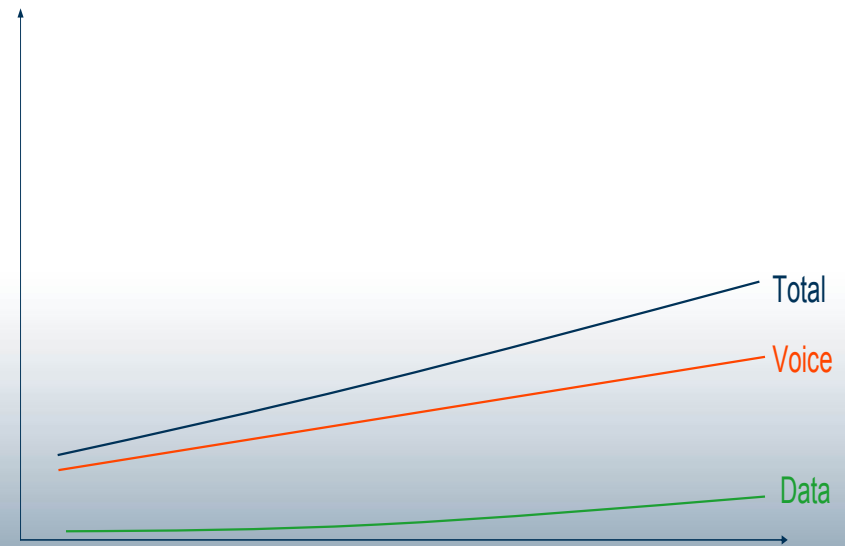
HSPA makes data bits 10 times lighter in the air

# Data growth and radio resources

Traffic growth -simplified



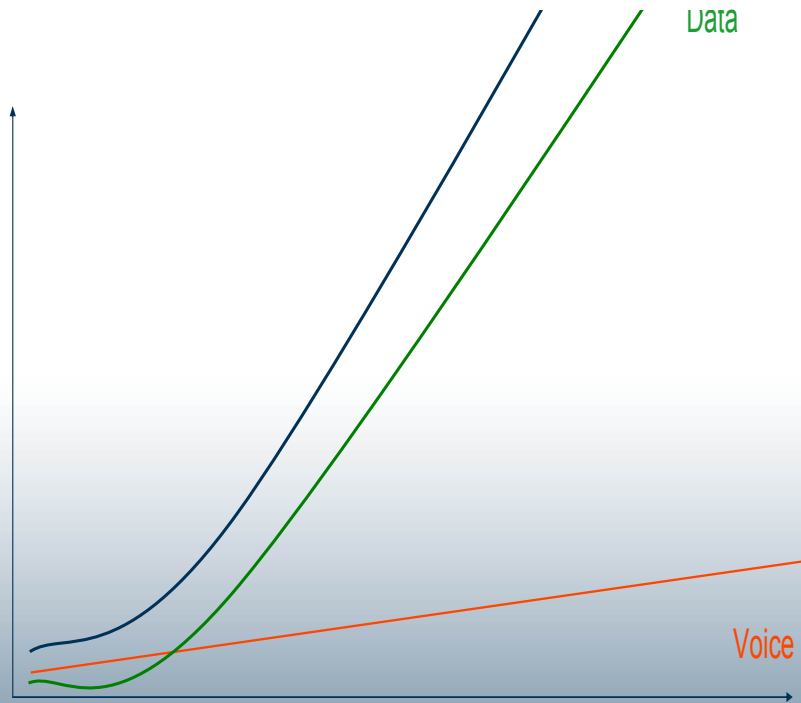
Perceived growth in air interface



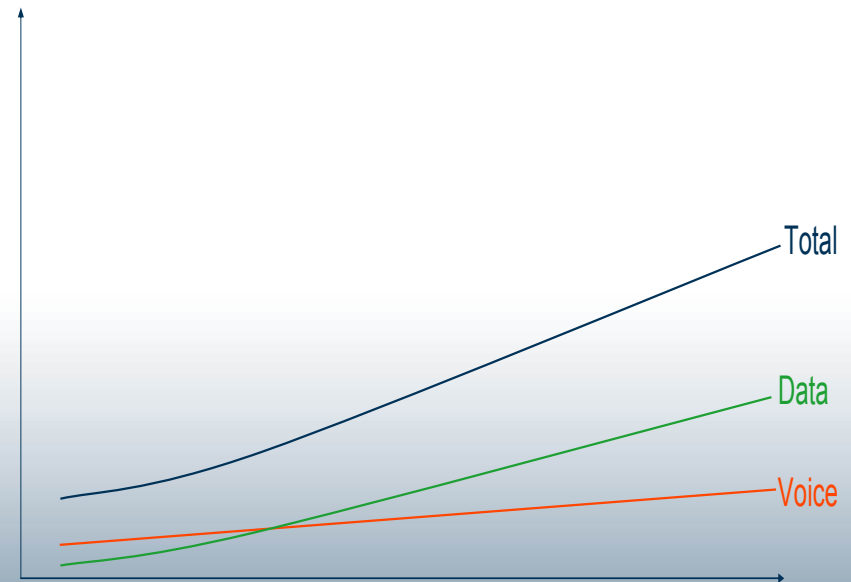
Data growth initially absorbed by HSPA efficiency

# Data growth for aggressive operator

Traffic growth - simplified



Perceived growth in air interface



When data is 20 times voice, you need 3 times the radio resources

# HSPA speed evolution

## Downlink

3.6 Mbps

15 codes

14 Mbps

64QAM

2x2 MIMO

21 Mbps

28 Mbps

Both

42 Mbps

Multi Carrier

**80Mbps +**



## Uplink

0.4 Mbps

HSPA on the uplink

1.4 Mbps

2 ms TTI

6 Mbps

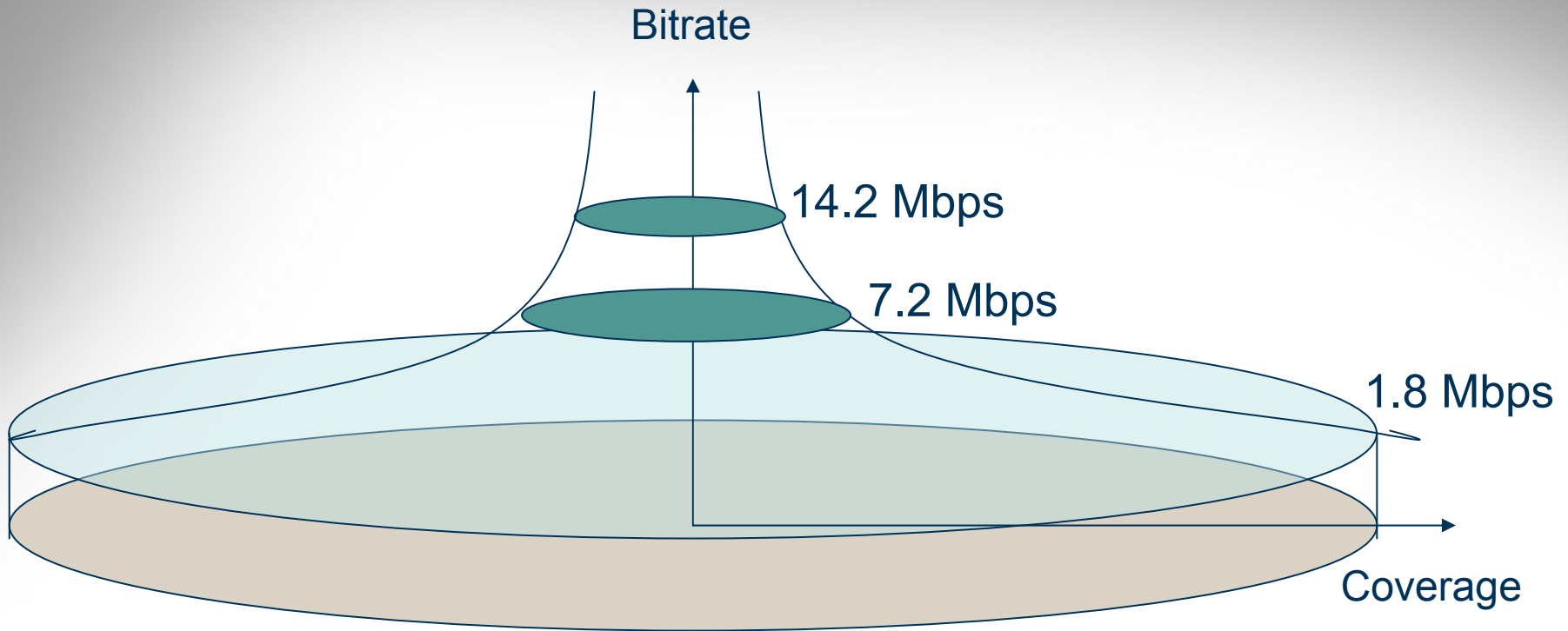
16QAM

12 Mbps

Multi Carrier

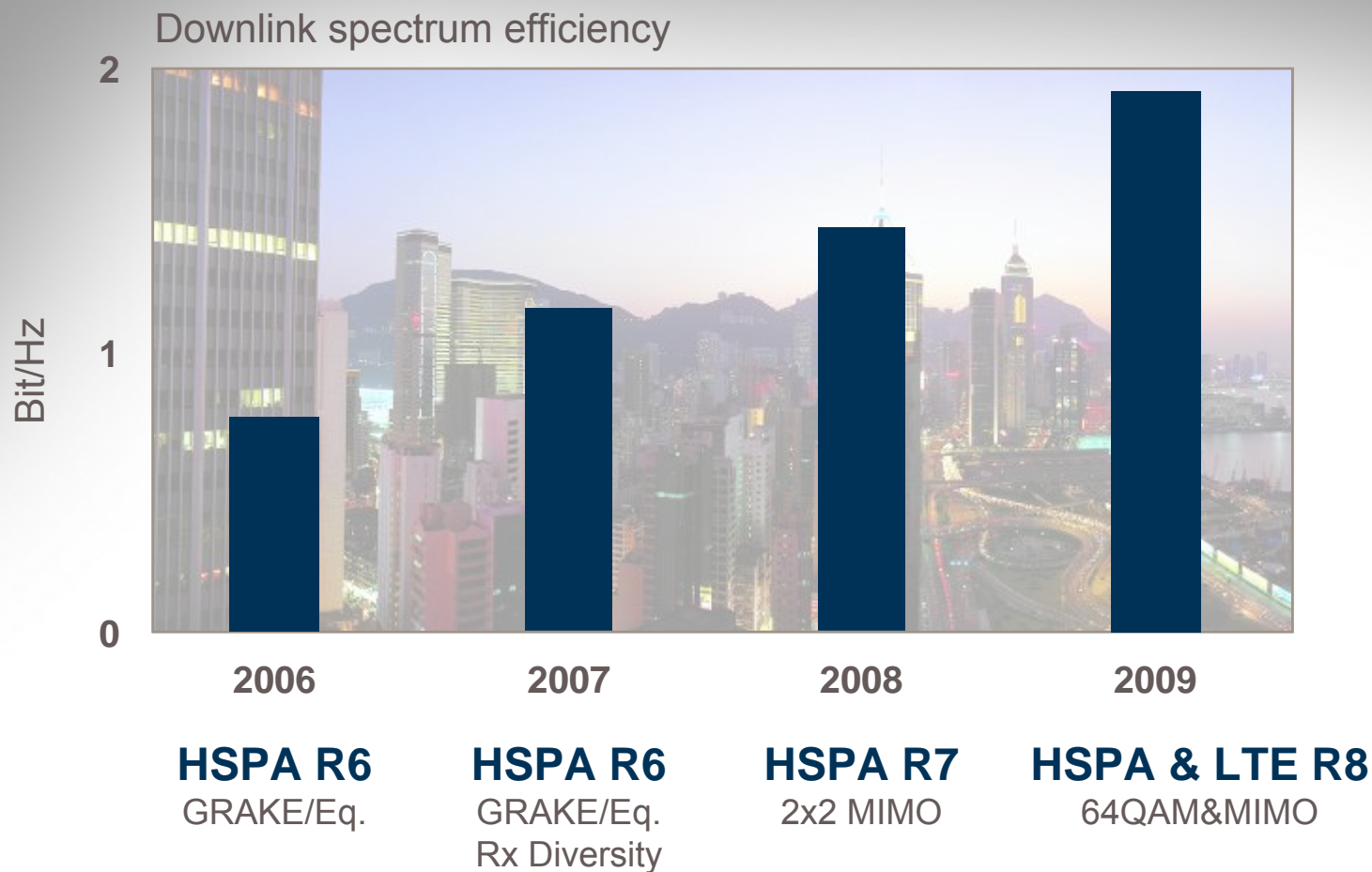
**20 Mbps**

# Coverage vs. bitrates



Tenfold peak rate does not correspond to tenfold capacity

# HSPA and LTE capacity evolution



Simulated under normal radio conditions

Twice the capacity with HSPA evolution and LTE

# Mobile broadband FAQ

*Q: "Why doesn't the data increase show up in Base Station sales?"*

A: HSPA is 10 times more efficient than WCDMA. This temporarily absorbs the current data increase. Over time more data capacity is needed.

*Q: "Does going from 3 Mbps to 300 Mbps lead to a 100-fold increase in data capacity?"*

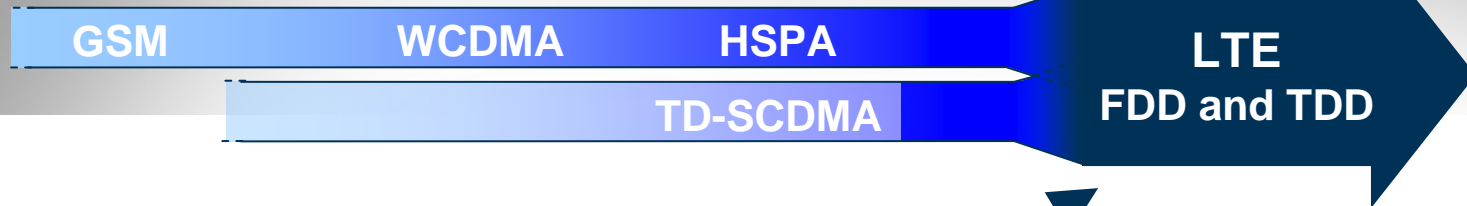
A: No. The increase in peak rate will result in a twofold capacity increase.



# Common LTE evolution

Alignment for WCDMA/HSPA, TD-SCDMA (China) and CDMA

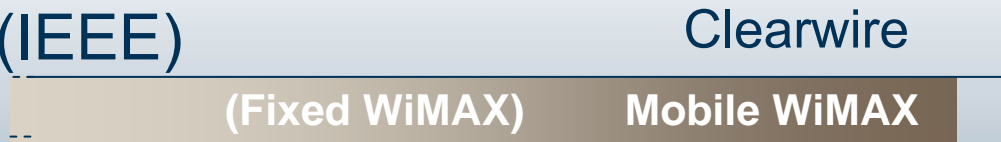
## GSM Track (3GPP)



## CDMA Track (3GPP2)



## WiMax Track (IEEE)



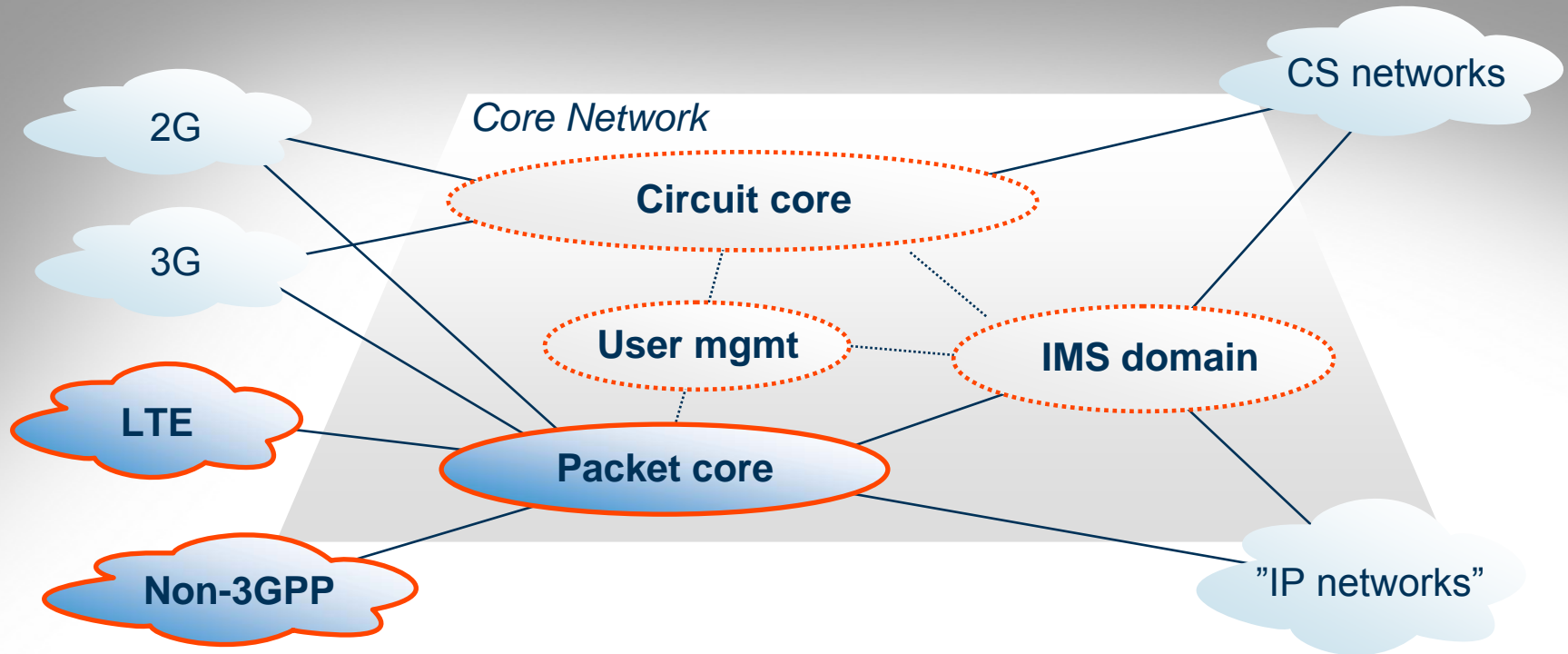
DoCoMo  
Vodafone  
AT&T  
Telstra  
China Mobile  
TeliaSonera  
NGMN  
Others....

Verizon  
China Telecom / "Unicom"  
KDDI (?)

2001 2005 2008 2010

LTE the global standard for next generation (4G)

# SAE and LTE



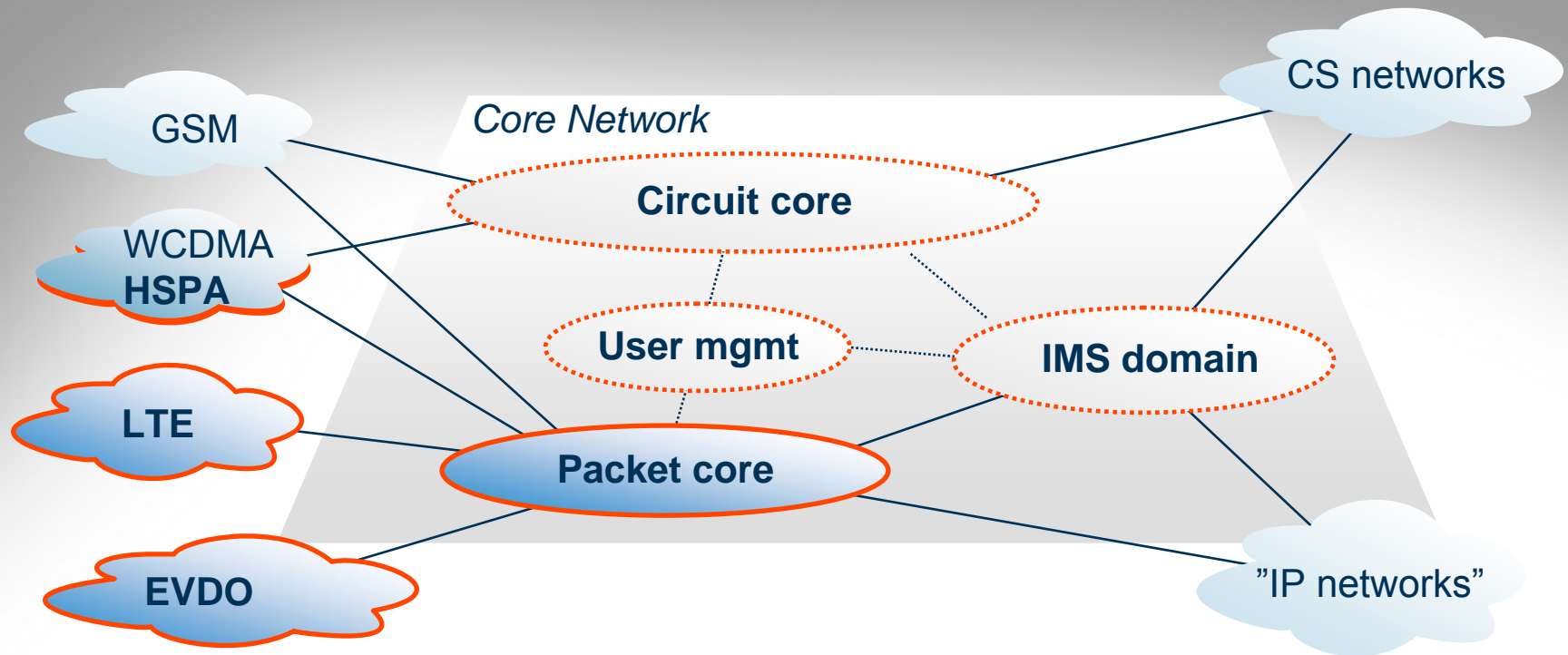
## Terminology

**LTE** Long Term Evolution (also known as eUTRAN)

**SAE** System Architecture Evolution (3GPP study item)



# SAE and LTE



## Terminology

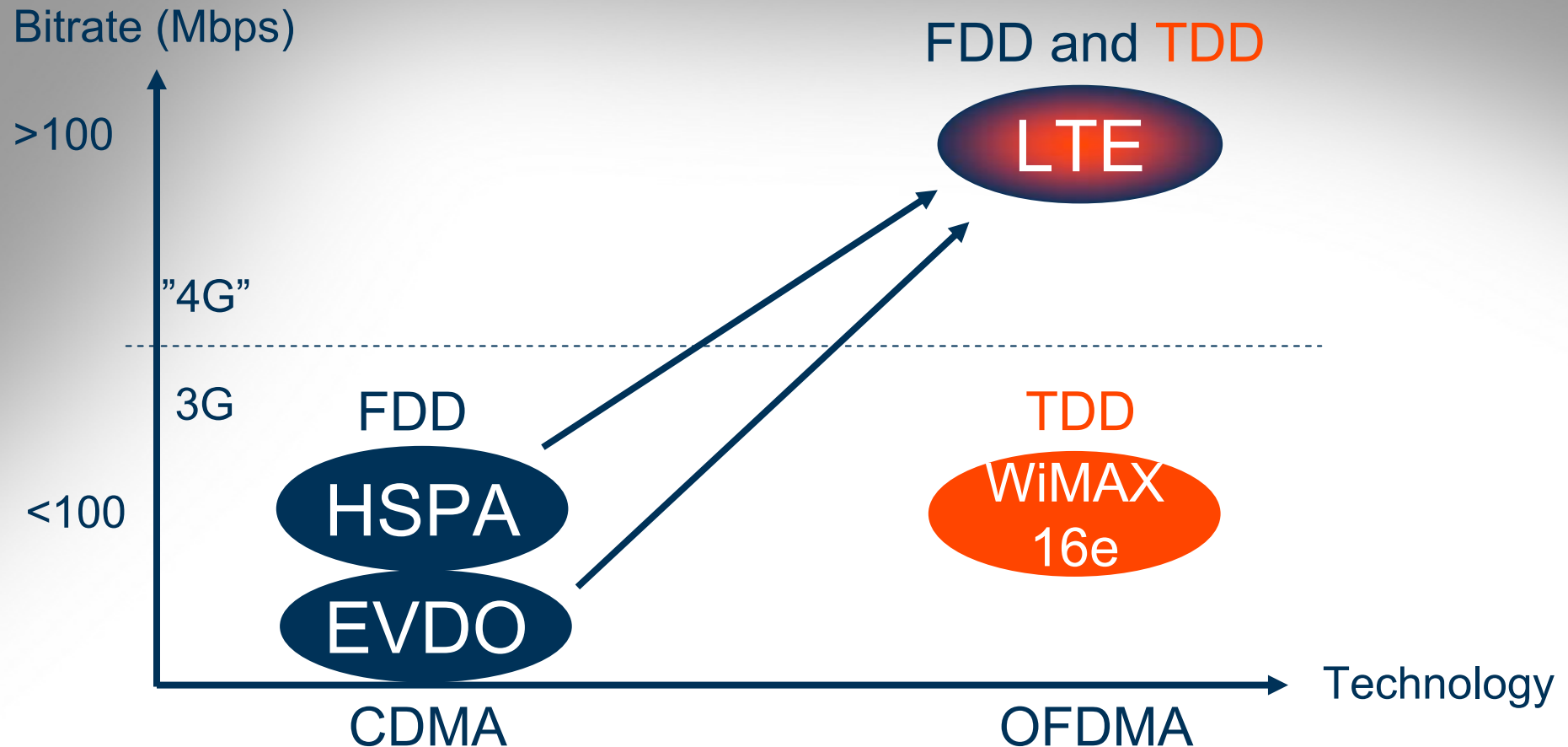
**LTE** Long Term Evolution (also known as eUTRAN)

**SAE** System Architecture Evolution (3GPP study item)



# Bitrates and technologies

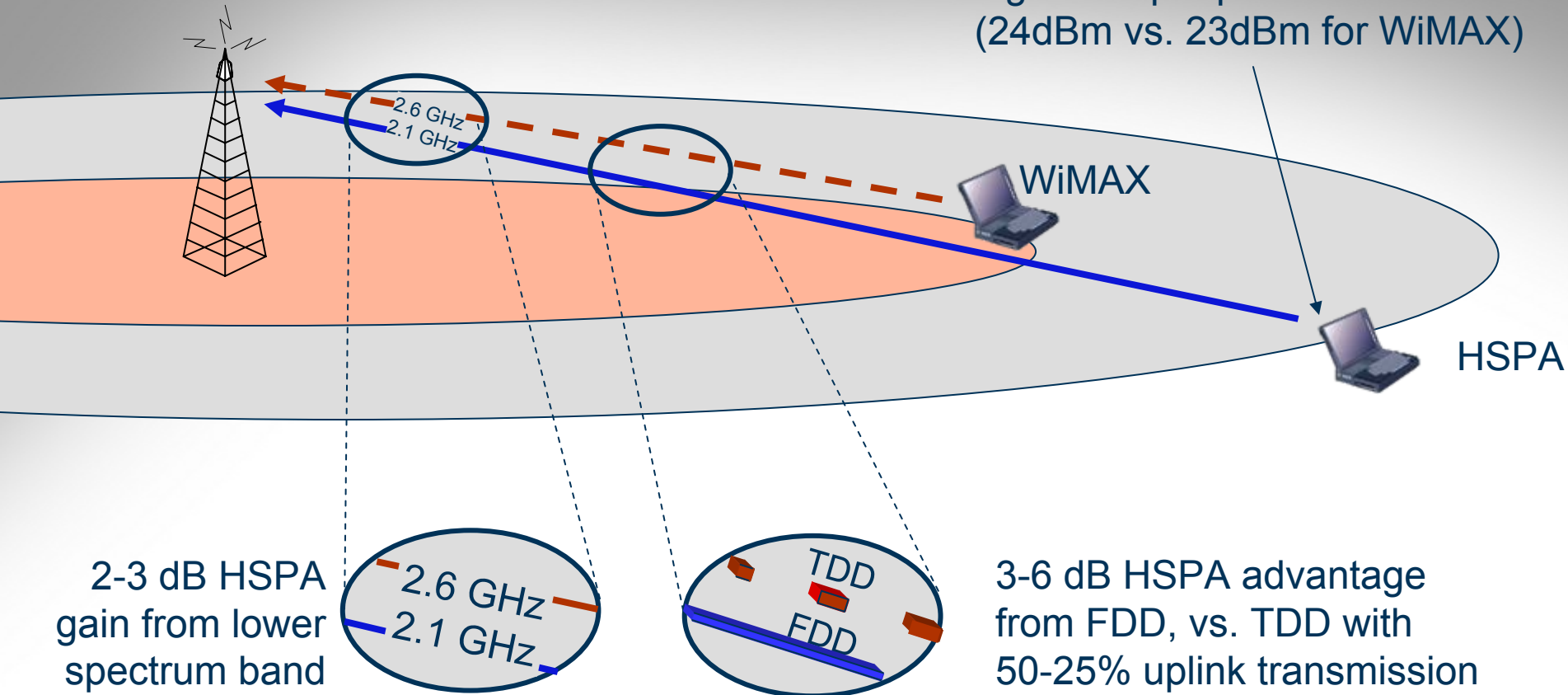
*OFDMA does not mean 4G*



4G relates to IMT Advanced, over 100 Mbps - not to OFDMA

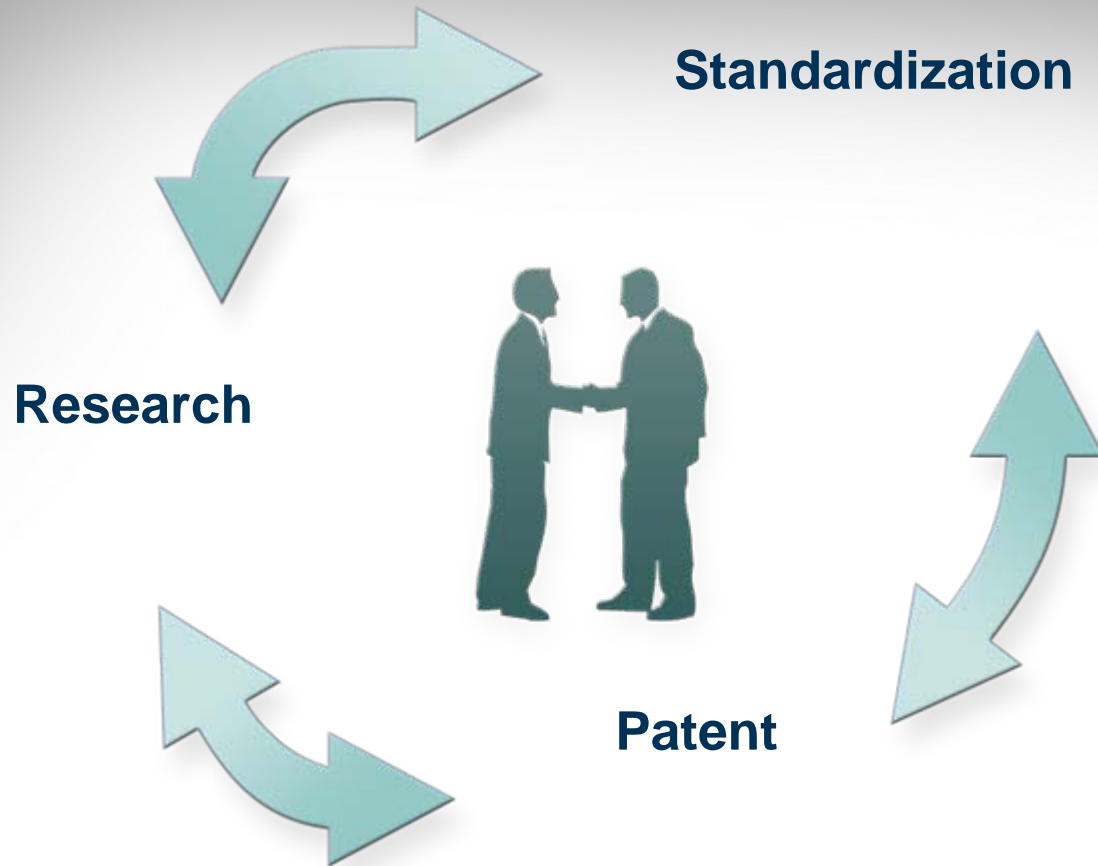
# HSPA and WiMAX uplink coverage

1 dB HSPA advantage from higher output power (24dBm vs. 23dBm for WiMAX)



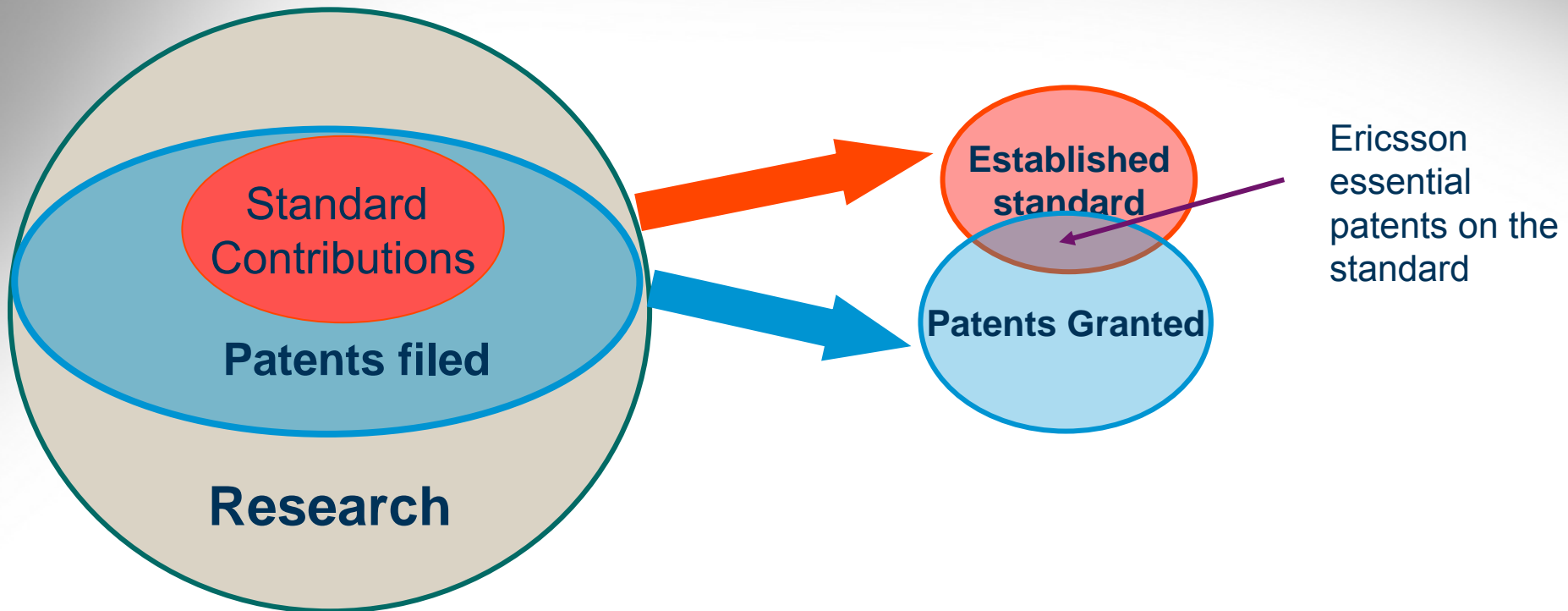
For realistic deployment, WiMAX needs a factor ~3 more sites

# Research, standardization and patents



Everybody needs a license on a patent in a standard

# Contributions - essentiality



# FRAND framework for LTE/SAE IPR

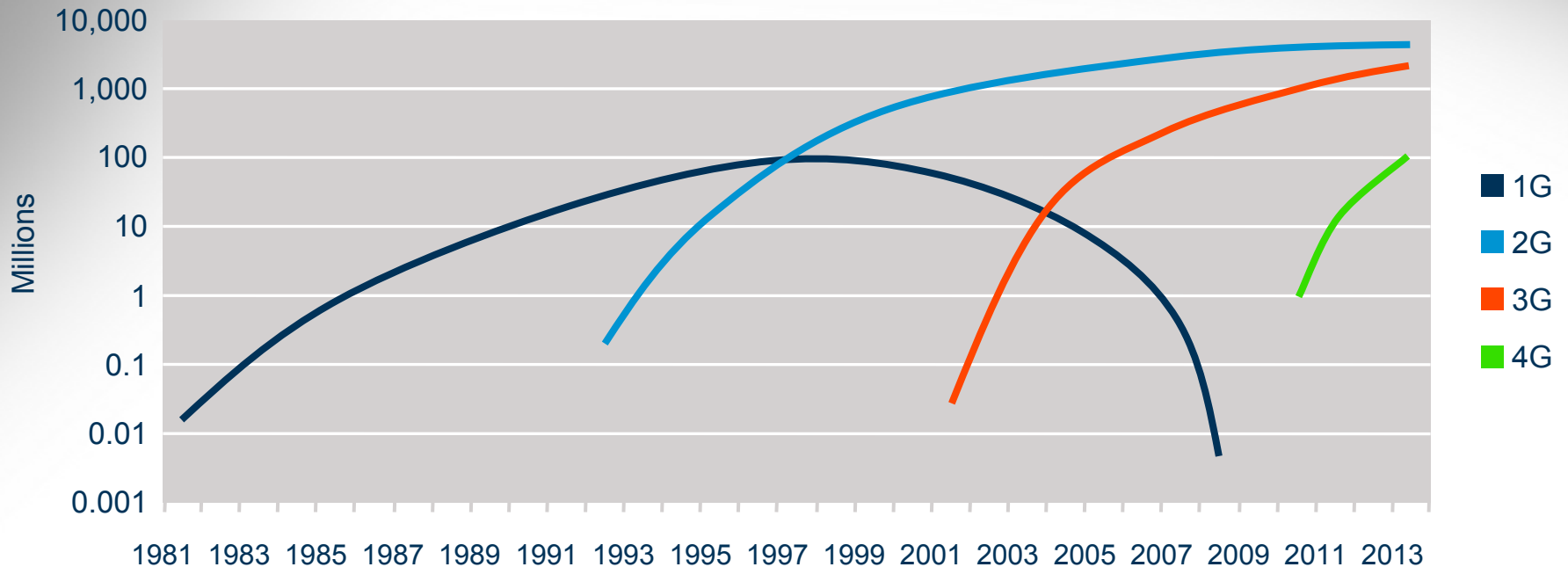
- Alcatel-Lucent, Ericsson, NEC, NextWave Wireless, Nokia, Nokia Siemens Networks and Sony Ericsson
- Fair: Proportional share of all standard essential IPR
- Reasonable: Reasonable maximum aggregate royalty rates
  - Single-digit percentage of the sales price for handsets
  - Single-digit dollar amount for notebooks with embedded LTE capabilities





# Mobile generations

## Subscription forecast



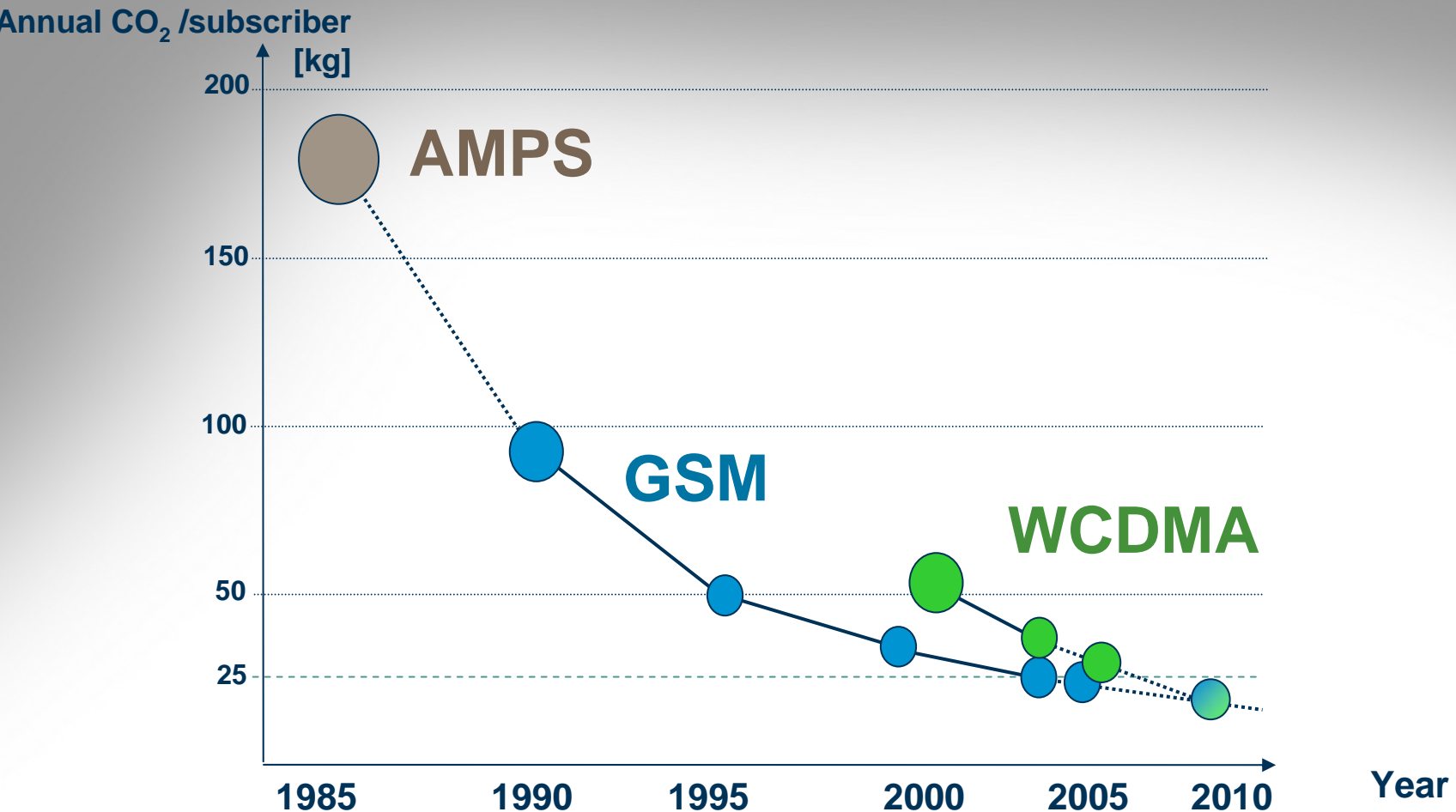
10 years between each generation – but faster uptake each time

# Telecom, ICT and CO<sub>2</sub>

<b>2007</b>	<b>Share of global CO<sub>2</sub> emissions</b>
Mobile telecom (3.3 billion subscriptions)	<b>0.2%</b>
Other ICT (PCs, data centers, fixed telecom)	~ 1.8%
<b>TOTAL ICT:</b>	<b>2%</b>

Total ICT sector only contributes 2% of total CO<sub>2</sub> emission

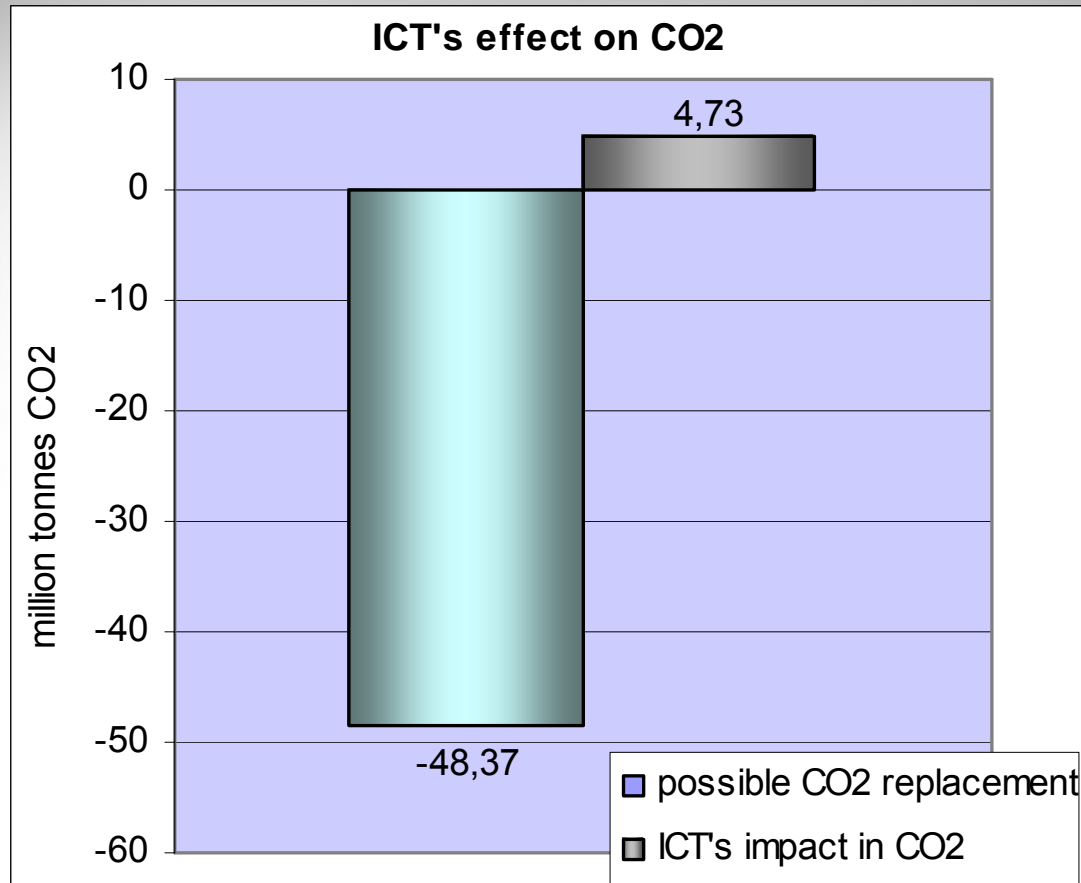
# CO<sub>2</sub> per subscriber, Ericsson networks



Mobile subscription now 25 kg CO<sub>2</sub> per year – Same as driving car for 1h

# Telecom's potential in CO<sub>2</sub> reduction

*From problems to solutions*



Source:  
WWF, ETNO

10 times payback in CO<sub>2</sub> reduction

# Summary

- HSPA is mobile broadband today
- LTE is the global choice for next generation (4G)
- Mobile broadband important tool for:
  - Efficiency and fun across people and industries
  - Bridging the digital divide
  - Reducing global warming

**We did mobile telephony – Now we do mobile broadband**

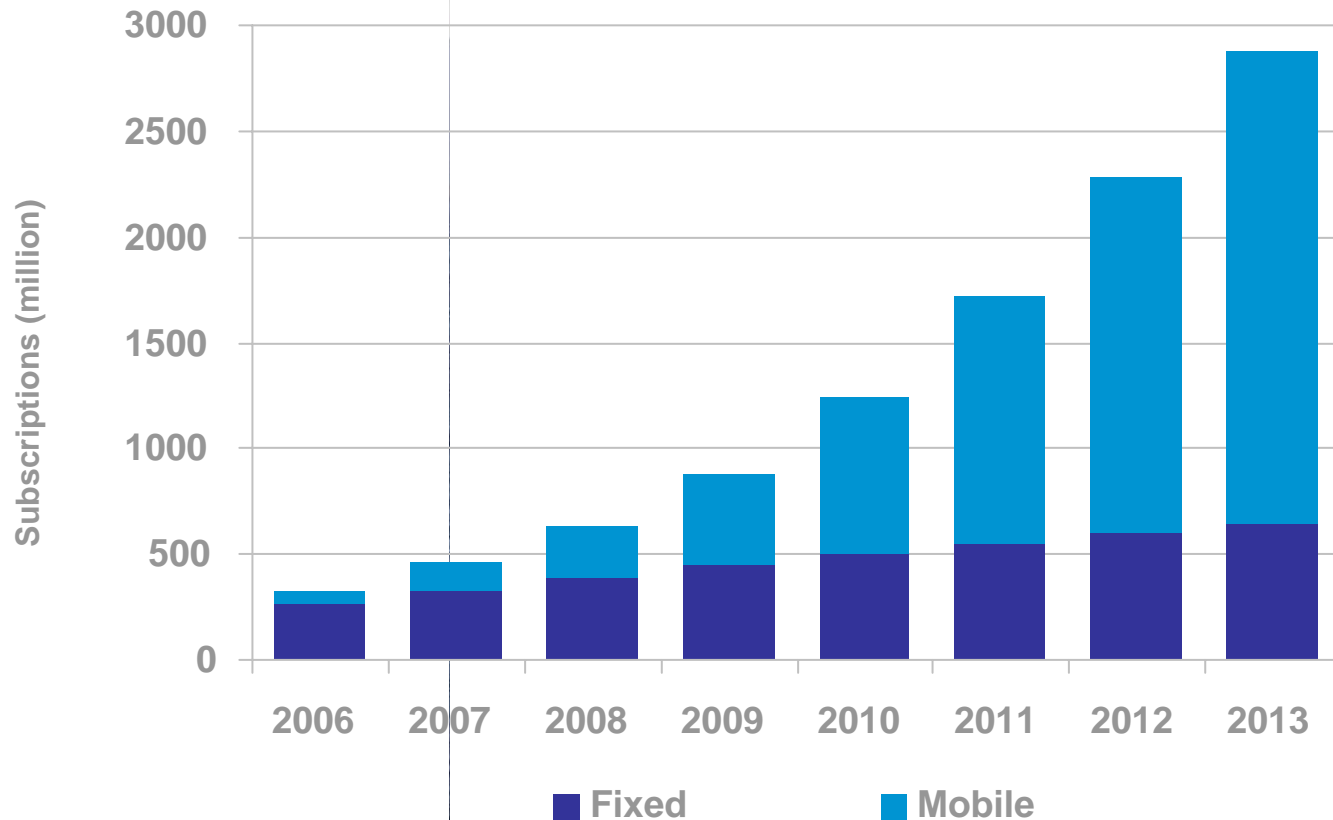


# Mobile Broadband

Magnus Ewerbring Ph. D.  
Director, Product Line WCDMA RAN

# Impressive broadband growth

## *Mobile broadband overtakes fixed*



Mobile Broadband includes: CDMA2000 EV-DO, HSPA, LTE, Mobile WiMAX, Other

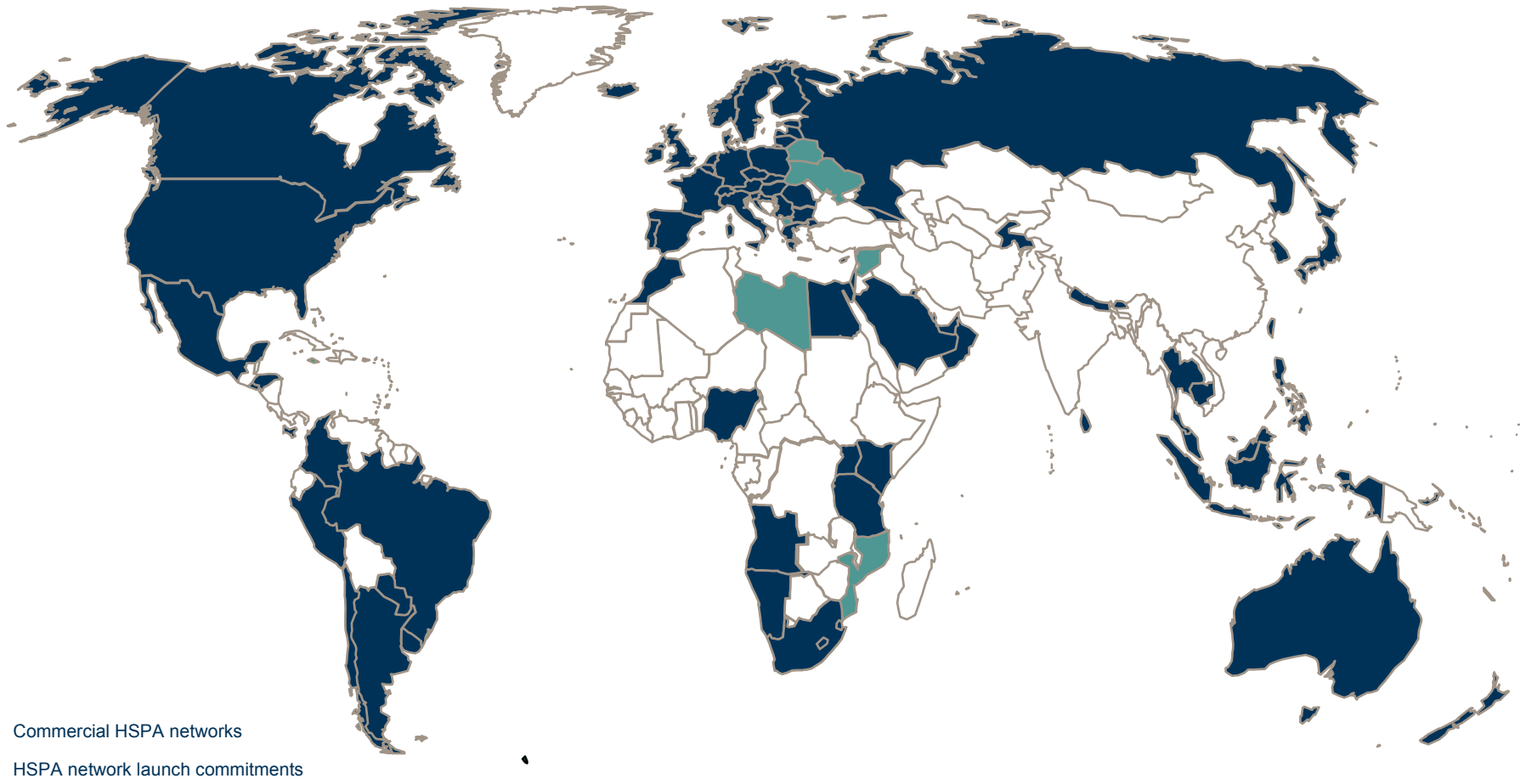
Fixed broadband includes: DSL, FTTx, Cable modem, Enterprise leased lines and Wireless Broadband

Source: Internal Ericsson

## The Internet goes mobile



# 207 commercial HSPA networks



Source: GSA – Global mobile Suppliers Association: May, 2008



# More than 600 HSPA devices

*150 percent annual growth*

- More than 300 HSPA phones, media players, cameras
- More than 100 PC data cards/modules
- More than 100 notebooks
- More than 50 wireless routers



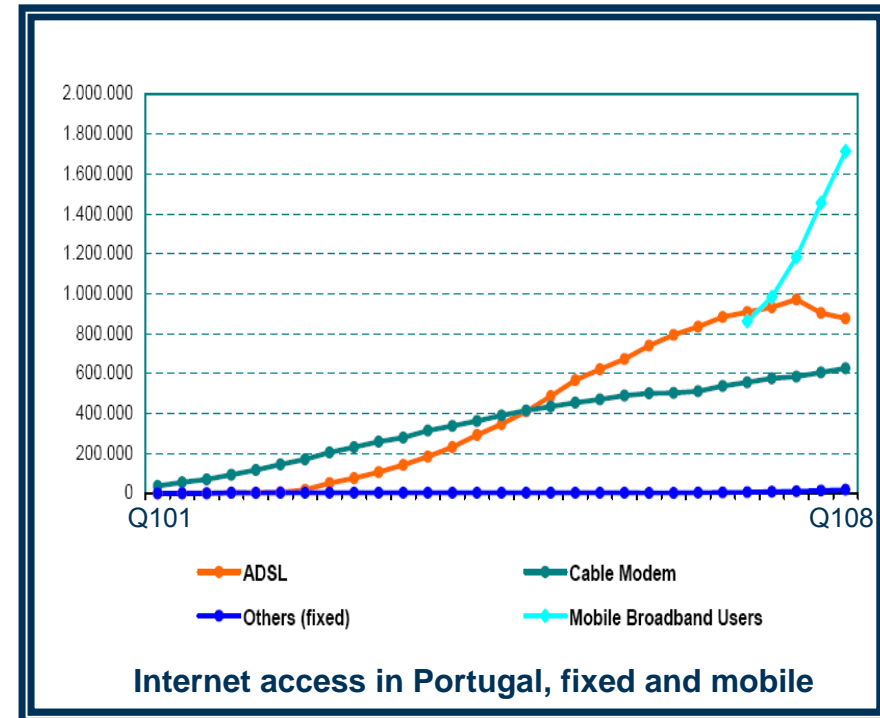
(GSMA Apr. '08)

Five times more devices, three times more suppliers in one year

# Strong mobile broadband growth

Portugal		
	Mobile Access	Fixed Access
Subscribers	1.7 million	1.6 million
Q108 growth	+18%	-2.5%

Sweden
437,000 mobile broadband subscribers added 2007
More than 1 million forecast by end of 2008
Higher growth rate than fixed ( <i>DSL: 231,000 in 2007</i> )




Source: ANACOM

Mobile broadband access is larger than fixed in Portugal

# Excellent speed, HSPA benchmark

## *Average speed tests, Sweden*

	ERICSSON 	Vendor A
	Operator 1 [Mbps]	Operator 2 [Mbps]
<b>Stockholm</b> 70 spots, inner city & suburbs	3.9	1.4
<b>Gothenburg</b> 50 spots, inner city & suburbs	3.8	1.9
<b>Malmö</b> 40 spots, inner city & suburbs	3.8	1.3

<http://www.aftonbladet.se/pryl/tele/article2252094.ab>

Higher speed and better coverage with Ericsson

# Ericsson MBB modules in the field

## Stockholm 2008

**bredbandskollen** TPTEST

Testa ditt bredband Om bredbandskollen Äldre versioner Ipv6

Bredbandskollen TPTEST är ett enkelt sätt för dig att testa din bredbandsuppkoppling. Har du rätt hastighet?

**KONTROLLERA**

Nedan följer ditt resultat. Tänk på att med en ADSL- eller 3G-uppkoppling kan hastigheten du tar emot trafik med vara betydligt högre än den när du skickar. Detta är fullt normalt.

skicka **1.13 Mbit/sek**  
ta emot **5.84 Mbit/sek**

Svarstid: 68 ms Mätserver: Stockholm

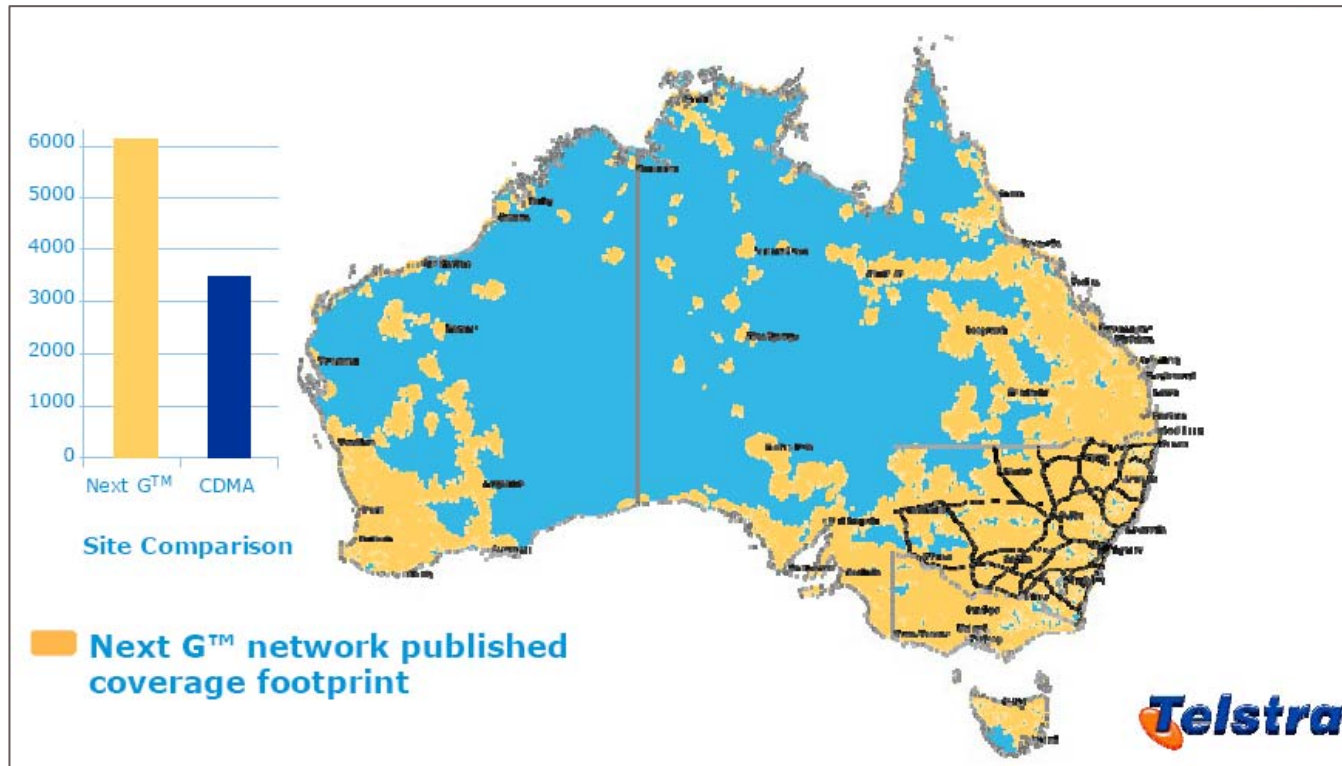
Result	
Uplink	1.13 Mbps
Downlink	5.84 Mbps
Response time	68 ms

*Device peak capability: 7.2/1.4 Mbps*

Fast Internet access anywhere

# Complete coverage (99% pop.)

*HSPA 14/1.4 Mbps, up to 125 mile range*



Telstra Investor Day, Nov. 1 '07

Strong uptake with superior coverage and speed

# Attractive HSPA pricing

## *On par with fixed broadband*

**\$34** per month

3.6 Mbps

3 GB

Maxis Malaysia



**\$32** per month

7.2 Mbps

unlimited

3 Sweden



**\$31** per month

7.2/1.4 Mbps

3 GB

Mobikom Austria



**\$56** per month

7.2 Mbps

Notebook included

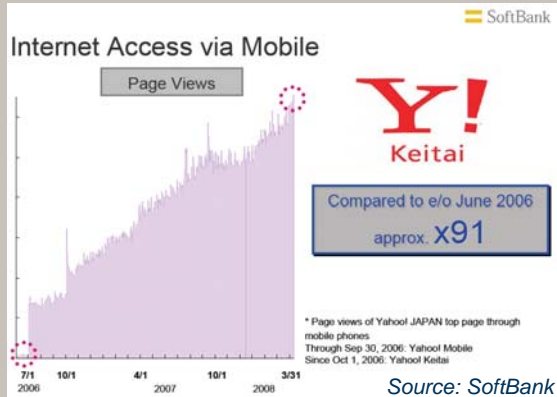
The Phonehouse Sweden



**Rapid uptake in consumer segment**

# Operator opportunity

## Mobile Media



## Mobile Broadband



Any service  
anywhere  
One network  
one investment

## Mobile Voice



## Fixed Broadband

KPN to use HSPA for broadband in rural areas

Published: Thursday 8 November 2007 | 10:51 AM CET



Source: Telecompaper

Add new revenue streams; less OPEX and CAPEX

# Ericsson—the leader in HSPA

	Launched networks	
	Ericsson	World
HSDPA	99 (50%)	198
HSDPA 7.2 Mbps	31 (69%)	45
Enhanced Uplink	26 (72%)	36



Source: GSA – Global Mobile Suppliers Association, May '08 & Ericsson internal

Continents		
N. America	Europe	Asia
S. America	Africa	Australia

Frequency bands		
2100	850	17/2100
900	1900	17/1800

First in all frequency bands



# Ericsson HSPA leadership

- Coverage

  - Extended range, up to 125mi

  - Co-site GSM850/900 & HSPA1900/2100

- Capacity

  - Superior radio resource handling

  - User/Service priority handling

- Performance

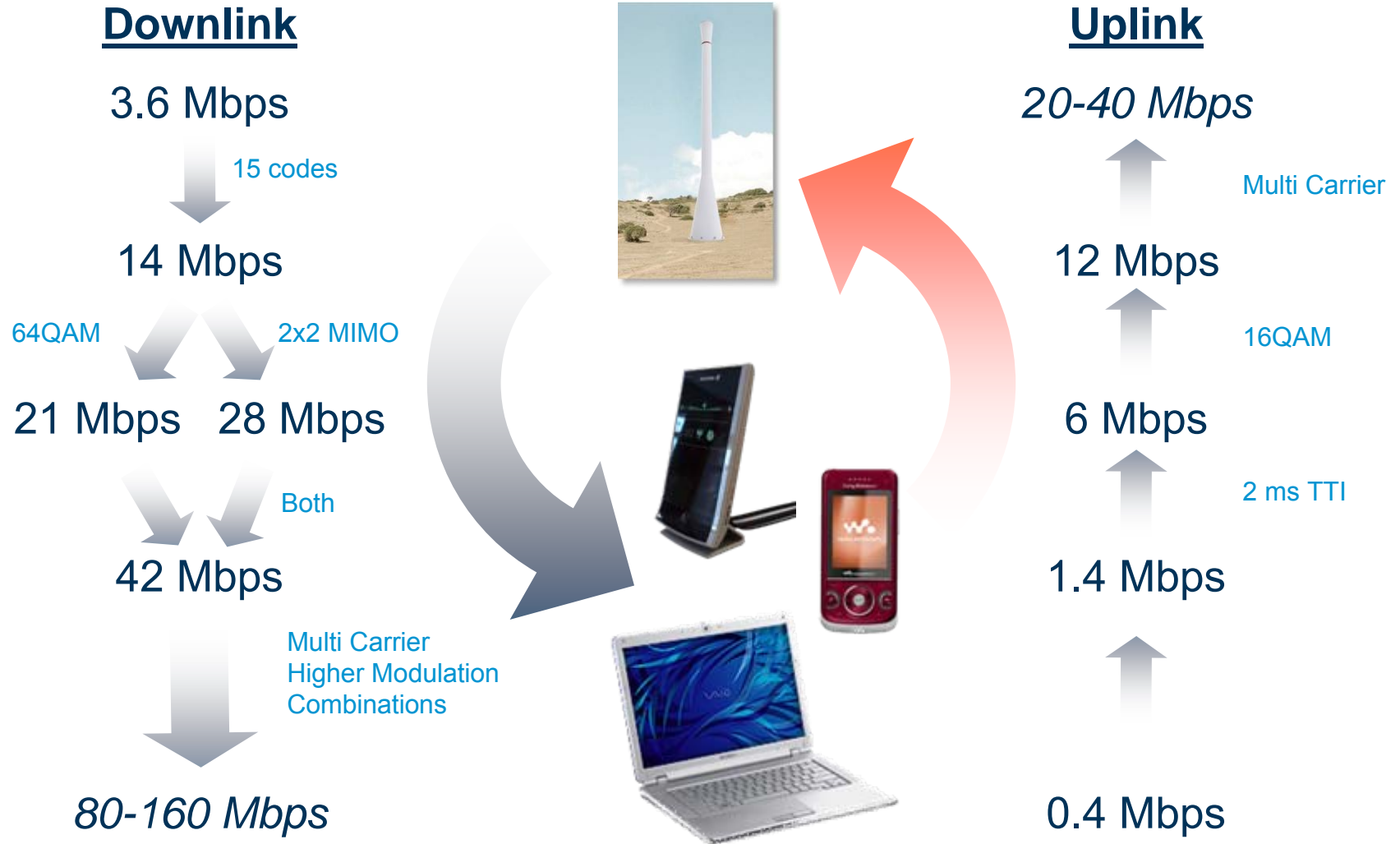
  - Highest peak rates

  - Lowest latency



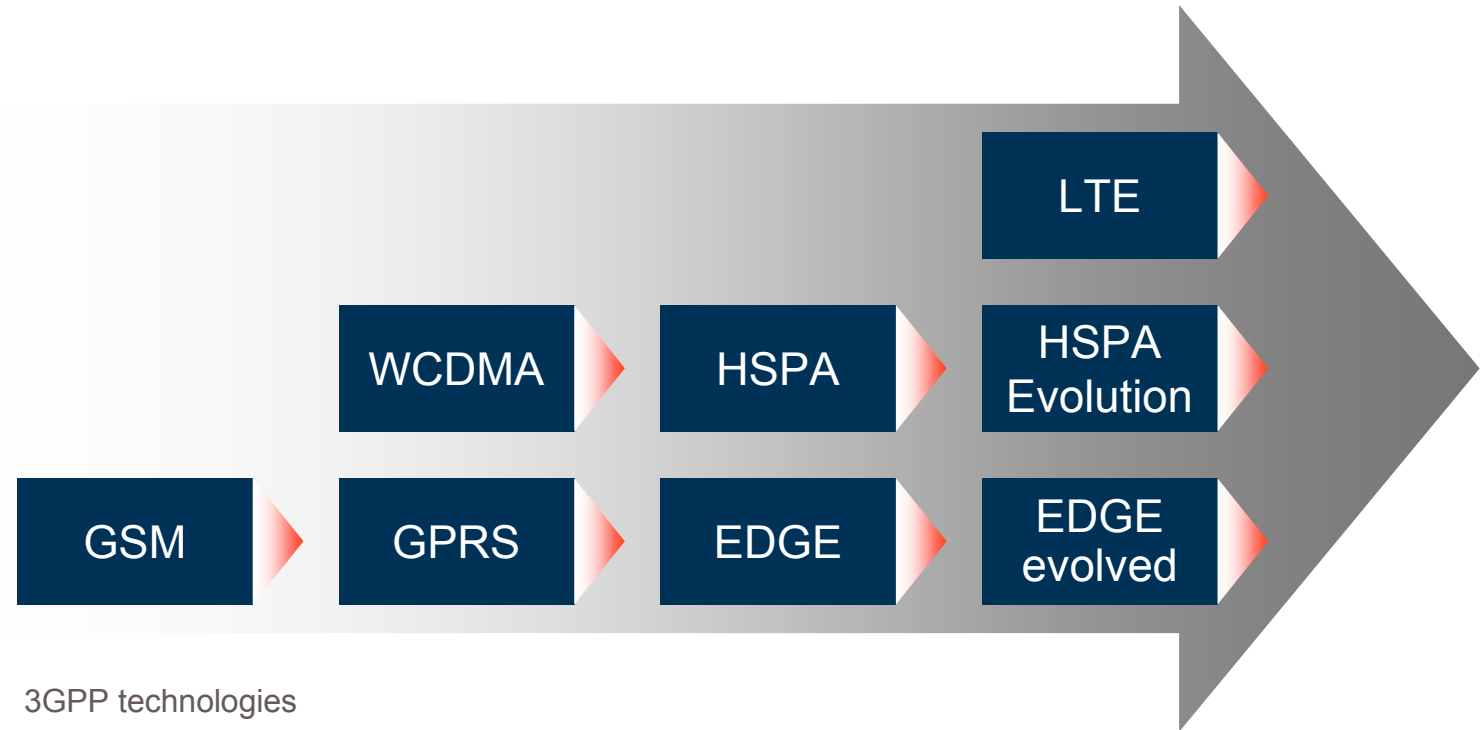
Smooth upgrade to HSPA Evolution

# HSPA evolution



>100× speed, 10× capacity, HSPA compared to WCDMA Rel.99

# Radio evolution path



Strongest evolution path

# Multi-standard RBS site

*GSM/WCDMA/LTE*



Quarter size

Double capacity

Integrated site power

Integrated transmission

Example, 1 cabinet:

3×6 GSM

6×4 WCDMA

3×4 LTE



Higher efficiency, lower OPEX

# Summary

- HSPA in wide commercial use
- Fast growth of mobile broadband
- Excellent Internet experience with HSPA
- Ericsson leads HSPA evolution
- Ericsson multi-standard products provide smooth evolution



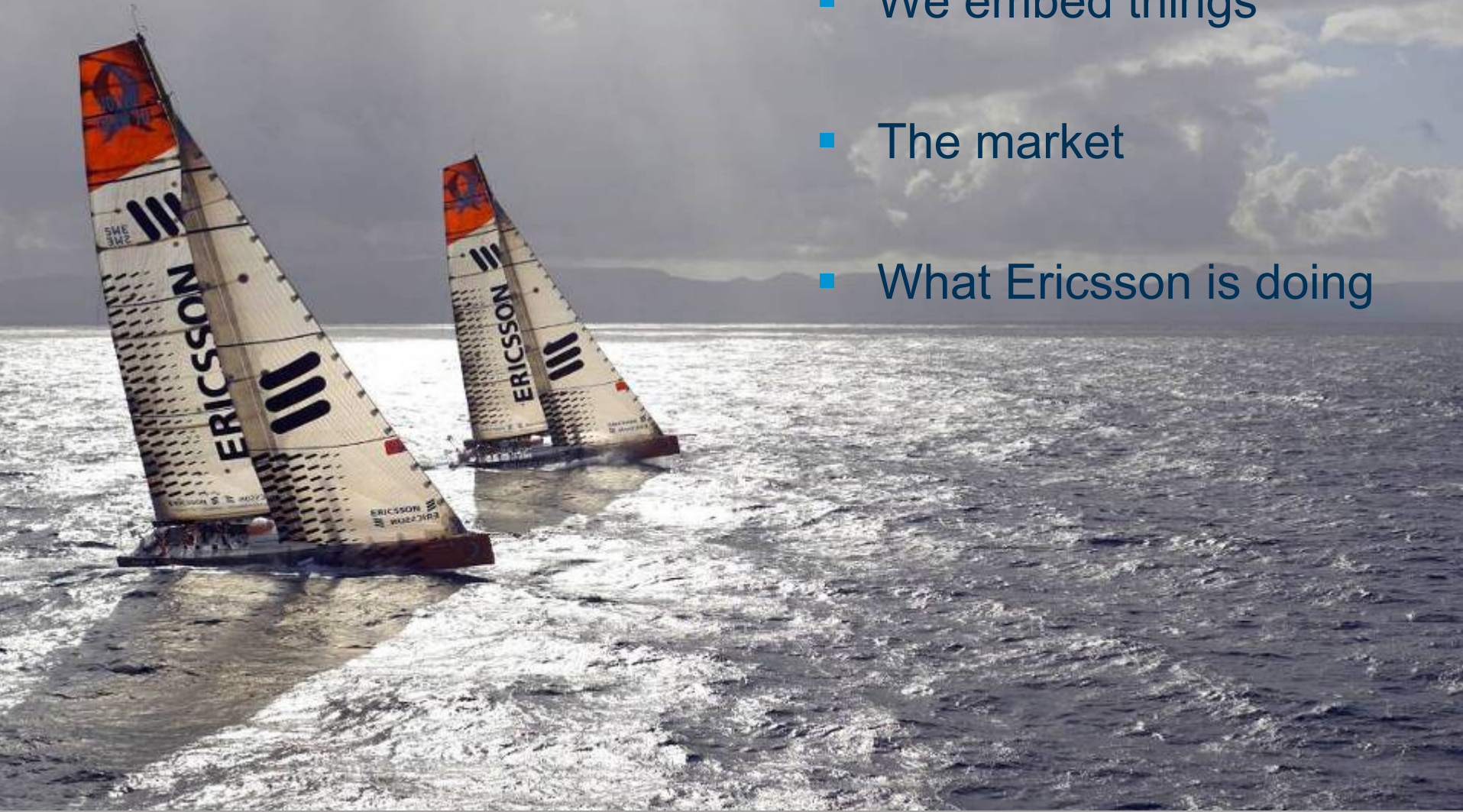
A blue sailboat is shown from a low angle on the left side of the frame, with its mast and rigging visible. In the background, another sailboat with a white and orange sail is visible on the horizon. The water is a deep blue, and the sky is a pale, hazy blue.

# Creating a Mass Market for Mobile Broadband

Magnus Kristersson  
Head of Product Management  
Mobile Broadband Modules

# Agenda

- We embed things
- The market
- What Ericsson is doing



# Consumer electronics is going mobile

*Three waves of embedding mobile broadband*

**1**

*Bundled offerings  
with notebook  
and mobile broadband*



**2**

*Netbook/consumer  
notebook*



**3**

*Navigation, car  
entertainment,  
gaming, cameras,  
MIDs*



2008 is the tipping point between niche and mass market



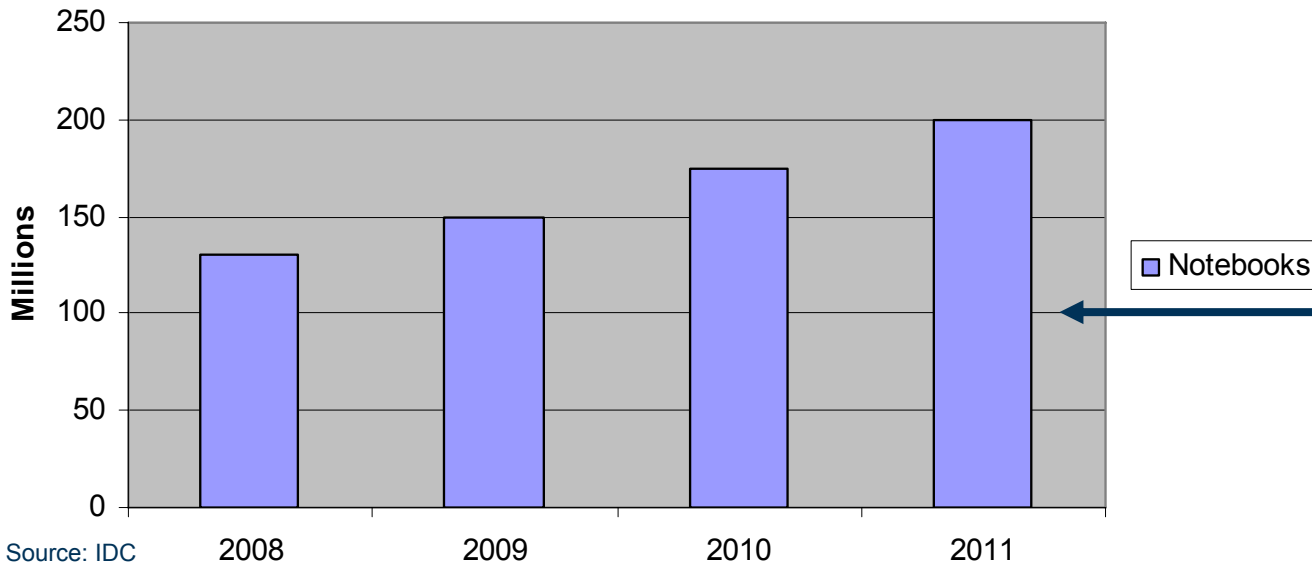
# Notebook – (R)evolution



**Thinner, lighter, connected**

# Notebooks

Notebooks sold

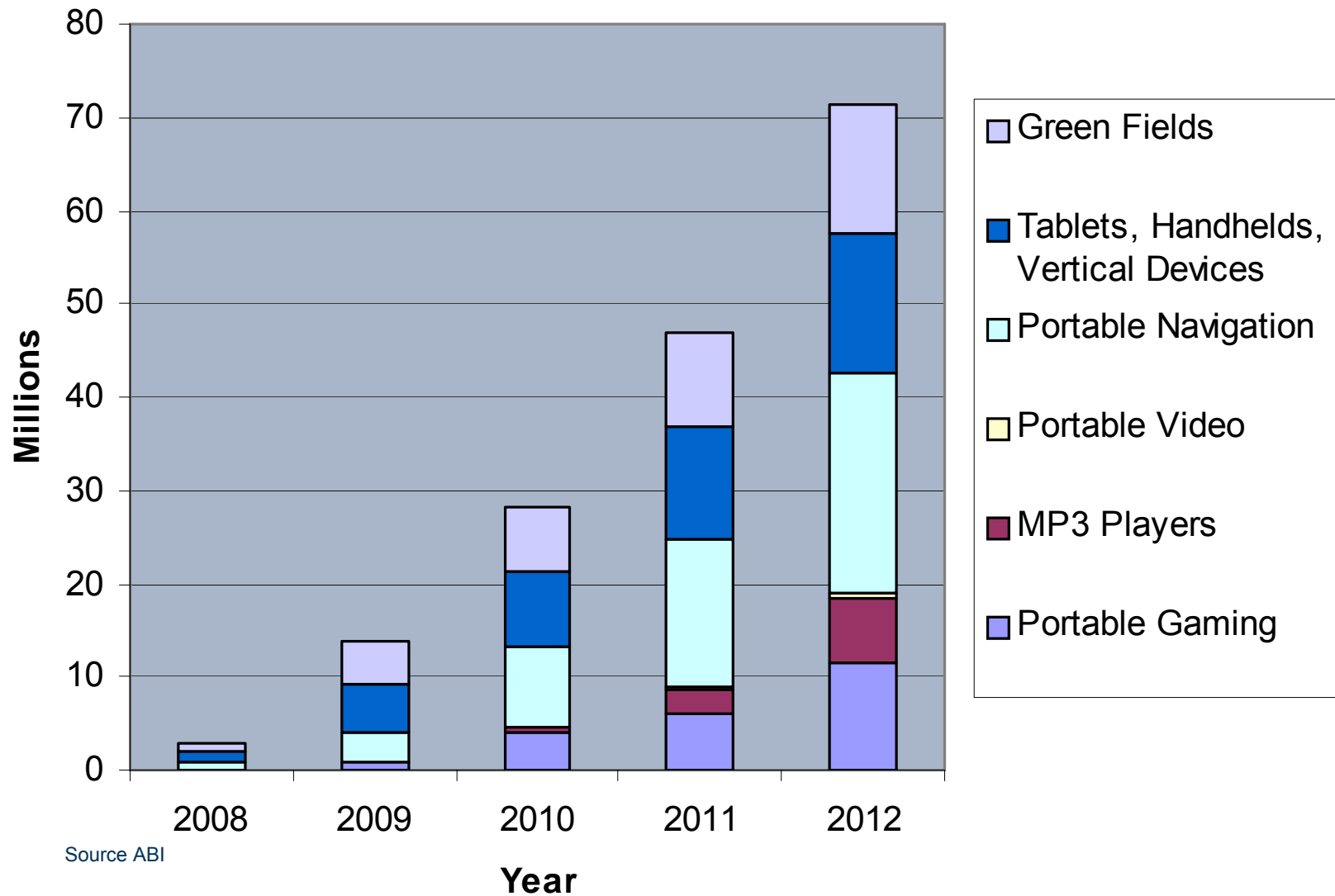


**50% with inbuilt mobile broadband by 2011**

Ericsson target

- The notebook is the primary device to consume data and drive traffic
- Half of all PCs purchased are notebooks

# Mobile Internet devices



Source ABI

# The mobile broadband devices

- From 8 kbps to 7 Mbps
- From large modems to embedded modules
- From expensive units to cost-efficient chipsets



# Ericsson Mobile Broadband Modules

- Objectives:
  - Being a catalyst in creating the mobile broadband ecosystem with high-performing products at competitive prices.
  - More than half of notebooks shipped in 2011 will have mobile broadband modules. Ericsson will be the market leader.
- The product, available now:
  - **Form Factor:** PCI Express Mini Card  
*Smaller form factor for CE devices in 2009*
  - **Modes:** HSPA/WCDMA/EDGE  
*LTE module in 2010*
  - **Bands:** WCDMA triple band  
GSM/EDGE quad band



Vision: Mobile broadband in all notebooks and other connected devices

# Benefits of inbuilt mobile broadband

## Simple

Ready to go  
Connection automatically resumed after standby mode

## Secure

Can't lose or break the modem  
Built-in theft deterrence, protection of data

## Superior

Worldwide coverage  
Optimized wireless performance and enhanced battery life  
Optimized with Intel's processor technology  
Built-in GPS

## \$avings

Fewer assets to handle  
One-call ordering and support  
No local, user-based, purchasing decisions  
Worldwide coverage

# Expanding business

## *Faster to market*

- Established relationships with operators worldwide
- Long experience in radio testing
- Simple business model and strong IPR position
- Optimized with Intel's notebook platforms





3 of the top 5  
PC brands are  
Ericsson customers

***lenovo***

**DELL**

PROLOGIC

**TOSHIBA**



# The Result - Wireless Innovation and Leadership

- 3G WMobile Broadband in every ThinkPad
  - Mobile Broadband availability for targeted markets
  - System price with Mobile Broadband ~ to ThinkPad without Mobile Broadband
  - Leveraging common global standard (HSPA)
- Game changing business model
  - 3G the default wireless alternative
  - Enables carrier and channels to harvest subscribers
  - Live out of box connectivity with 30 day trial
- Strategic Alliances with industry leaders to drive business model change
  - Ericsson
  - Service providers
- Catalyst for change
  - Changes the way Mobile Broadband goes to market



# Summary

- Mobile broadband is here now
- Embedded will be the norm
- Embedded will be part of devices of many form factors
- Ericsson has a complete ecosystem and is driving the market development
- 2008 is a tipping point between niche market and mass market



A racing yacht with 'ERICSSON' and 'TAKING YOU FORWARD' branding is shown on the water. The yacht's hull and sails feature the Ericsson logo and text. The background is a bright, slightly overexposed view of the sea and sky.

# Built-in mobile broadband

Simple

Secure

Superior

\$avings



# ***Television powered by Full Service Broadband***

***The individual TV experience***

Arpit Joshipura  
Head of IP Solutions  
Ericsson Sales and Marketing

Eugene Sarmiento  
Head of Sales Development, IPTV  
Ericsson Multimedia

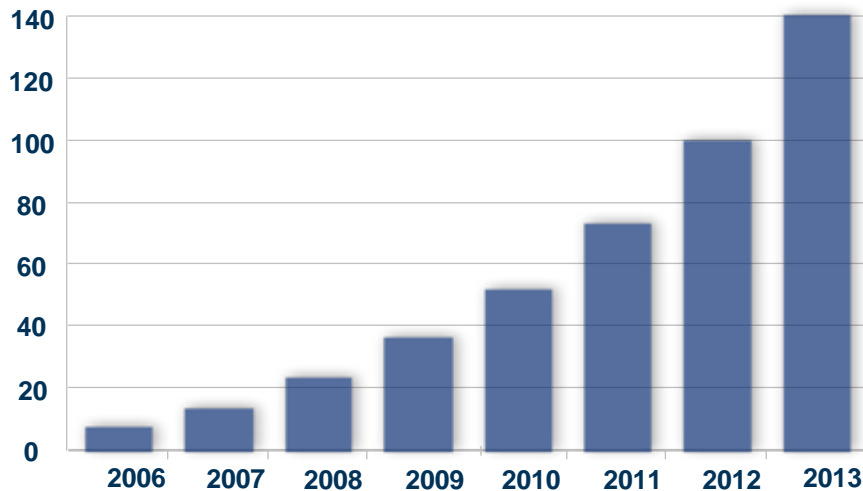
Peter Linder  
Director, End to End Network Solutions  
Ericsson Networks

# Topics

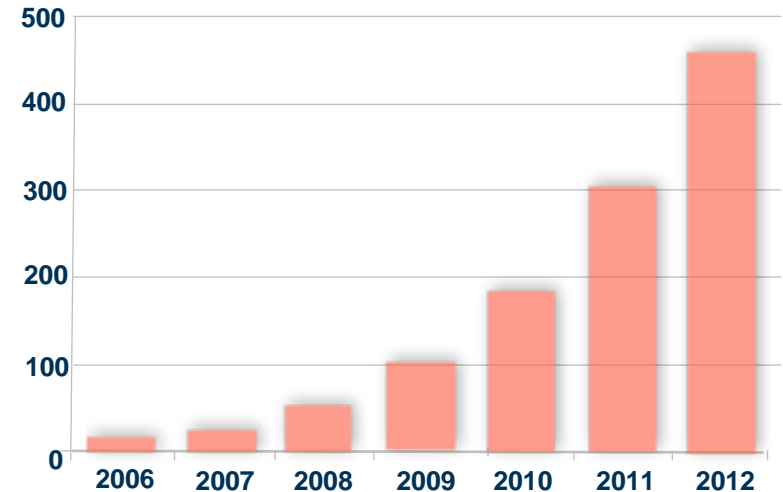
- Ericsson TV – Vision, Differentiators & Leadership
- Ericsson TV Solution – Service Layer
- Ericsson TV Solution – Network Layer

# Fixed Facts - Why TV ?

*IPTV Subscribers to grow from 12M in 2007 to 140M in 2013*



*Mobile TV Subscribers to grow from 20M in 2007 to 460M in 2012*



IPTV - The only “**Efficient**” way to get:

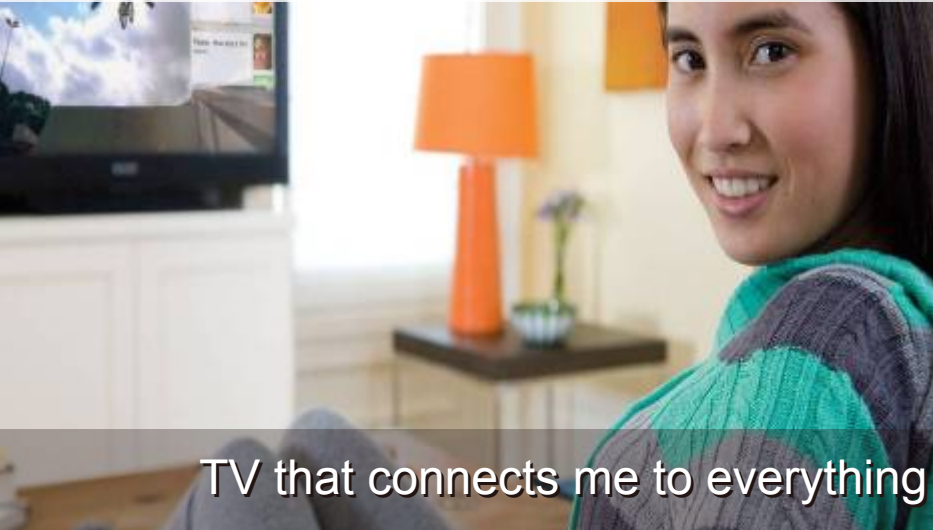
- Interactivity, Integrated Communications and On Demand for Video/TV
- HDTV/Video Ready differentiated Network offering using NextGen Fixed Network

**Offensive/Complementary** Strategy for Telcos with Internet Players

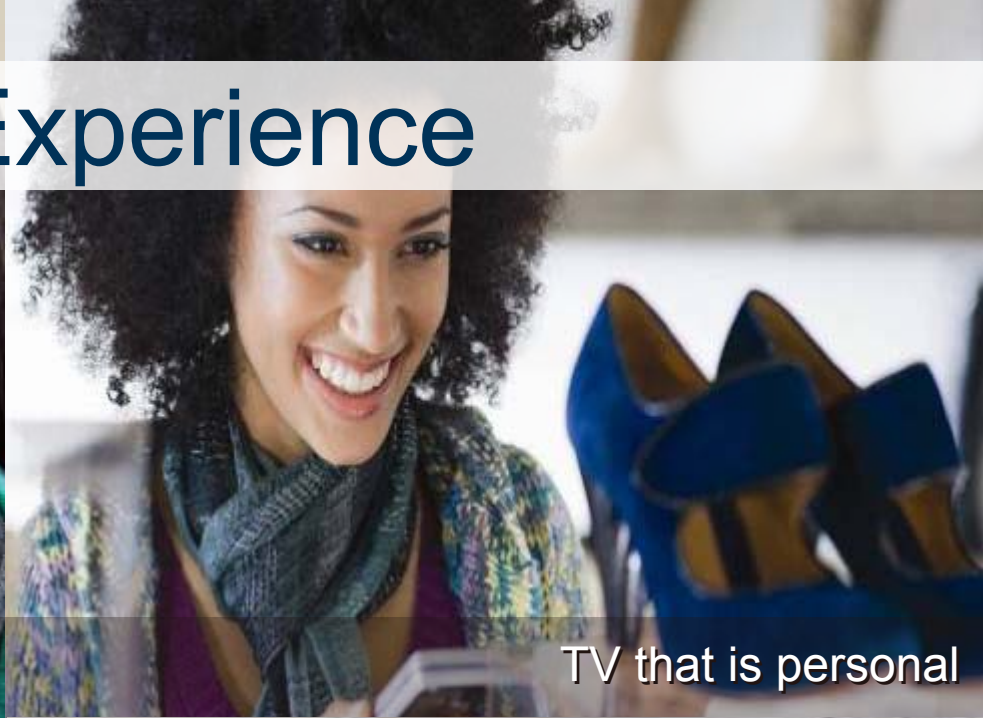
**Defensive** Strategy for Telcos against Cable and Satellite Operators

- Get a \$90 ARPU customer without losing \$30 Voice & \$25 Data Customer

# The Individual TV Experience



TV that connects me to everything



TV that is personal



TV has to be High Quality



TV that is worth the money

# Towards a converged world

## The Individual TV Roadmap

### Yesterday

#### Interactive Communications



### Today

#### Convergence



### Tomorrow

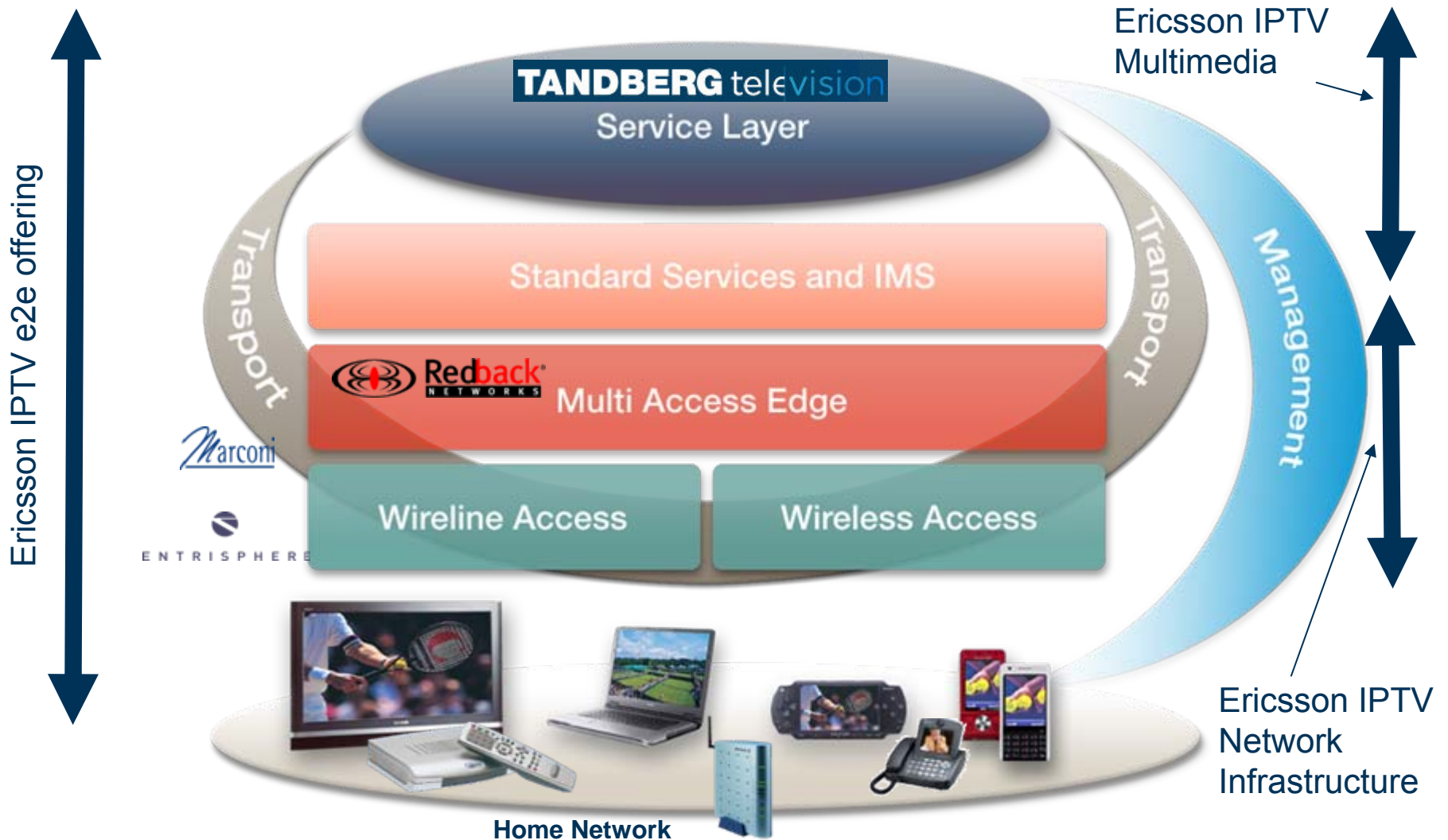
#### Media Anywhere





# Ericsson Entry into TV

Acquisitions in 2007, now integrated into end to end solution



# Perception established in 2007



## Overall Rankings

Vendor	Ranking	Score (Max of 80)
Cisco	1	73.5
<b>Ericsson</b>	2	65.8
Alcatel-Lucent	3	57.8
Nokia-Siemens	4	45.9
Juniper	5	44.2

Fixed and Mobile TV  
(Multi-Platform Video)



## Overall Rankings

Vendor	Ranking	Score (Max of 10.0)
Cisco	1	6.8
<b>Ericsson</b>	2	6.1
Alcatel-Lucent	3	5.9
Motorola	4	5.5
Juniper	5	5.4

IPTV and CableTV

# Perception Continues into 2008



Overall Rankings		
Vendor	Ranking	Score (%)
Microsoft	1	50%
<b>Ericsson</b>	2	30%
Cisco	3	20%
Alcatel-Lucent	4	10%
Nokia-Siemens	5	10%



Overall Rankings		
Vendor	Ranking	Score
Cisco	1	
<b>Ericsson</b>	2	
Alcatel-Lucent	3	
Motorola	4	
Nokia-Siemens	5	

IPTV and Video  
Perception Survey, Service layer

IPTV Solution  
6 Selection Criteria

# Ericsson TV Strategic Differentiators

## TV From Niche to Masses

Driving the world's **first open** ecosystem for TV that allow operators to create a **mass market** for multiple millions of Televisionary users.

## Converged TV Any Platform Any Device™

The **only** true converged solution in the world for Mobile TV & IPTV evolving existing Fixed and Mobile Networks

## Ericsson TV The numbers

Proven in 15 of Top 20 carriers and over 200+ carriers worldwide. 2-4X the scale/capacity (\*\*End to End)  
Up to 90% TCO savings (Open applications development)

# Ericsson TV Solution in a nutshell

World Leader in HeadEnd  
(31% Market Share, 16K IPTV channels deployed)  
Leading VOD and HDTV deployments  
(90% NA VOD is managed by Ericsson)

First Service Blended offering  
90% Cost Savings on New  
Application Deployments

Packet Optical  
Transport  
QoS per service



2X Scale for TV  
against competition &  
Savings of 58% TCO  
Single platform for  
different types of  
TV/Video (IPTV,  
MobileTV, NetTV,  
P2PTV, Business)

Leading Scale & Capacity  
(eg GPON is 4X Capacity  
and 4X #of Digital Video  
channels)

Set Top Box Interop, Open Ecosystem for 3  
screens with Integrated Mobile Broadband in  
Laptops & Mobile Devices

World Leader in Mobile Broadband/TV  
Common access with guaranteed evolution  
(quality, peak rates, broadcast capabilities)

## Leading Architecture & Prime Integrator

# Ericsson TV - deployment Proof

85% of the US cable operators use Openstream VoD Backoffice  
 225+ Head End Contracts with 15K+ IPTV channels  
 12+ End-2-End IPTV Contracts

**Comcast** **TimeWarner**

**france telecom** **PCCW** **OTE** **CANAL+**

**Chunghwa Telecom** **Telefonica**

Optical Platform for IPTV

**Deutsche Telekom** **belgacom**

4 Top Tier 1 Telcos with Ericsson GPON/VDSL2 Access

**at&t** **Deutsche Telekom**



**Chunghwa Telecom** **KT**

5 of 10 largest IPTV deployments use Ericsson IP

**PCCW** **中国电信 CHINA TELECOM** **nguf cegetel**

60+ Mobile TV End to End >48 Use Ericsson Access

**vodafone** **Telefonica**

**CNN** **FIFA**

15 of Top 20 IPTV & Over 200 Operators use Ericsson for TV

# Ericsson TV offering

Well-positioned against the competition

In-house Partner

	Home Environment	Broadband Access	Multi Access Edge	IMS	Video Head-End	VOD & Content Distribution Mgmt	Middleware Systems	System Integration
Cisco	In-house	Partner	In-house	Partner	In-house	In-house	Partner	Partner
Alcatel-Lucent	Partner	In-house	In-house	In-house	Partner	Partner	In-house	In-house
Microsoft	Partner	Partner	Partner	Partner	Partner	In-house	In-house	Partner
Huawei	Partner	In-house	In-house	In-house	Partner	Partner	Partner	Partner
Nokia Siemens	Partner	In-house	Partner	In-house	Partner	Partner	In-house	In-house
Motorola	In-house	Partner	Partner	In-house	In-house	Partner	Partner	In-house
<b>ERICSSON</b>	Partner	In-house	In-house	In-house	In-house	In-house	In-house	In-house

The only complete, open and converged TV offering

# Ericsson TV Offering

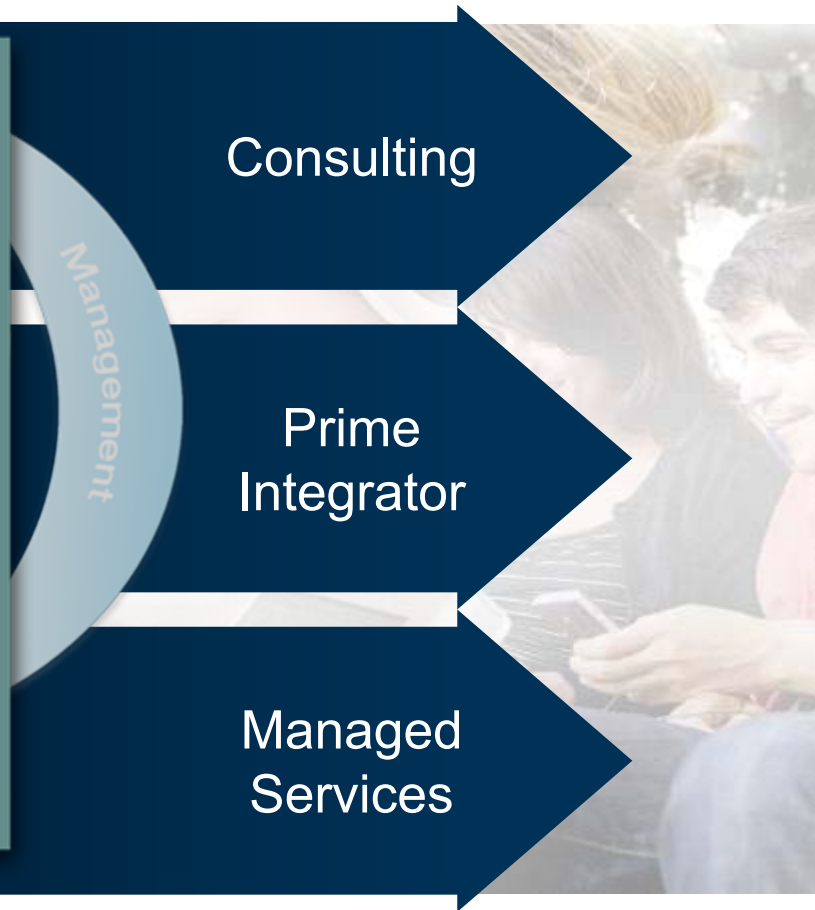
Integrated and Tested End to End





# Ericsson as Business partner

- Network rollout
- Network design
- Managed operation and hosting
- Systems integration
- Business and technology consulting
- Education
- Customer support



Global best practices - tools, methods and processes

# Topics

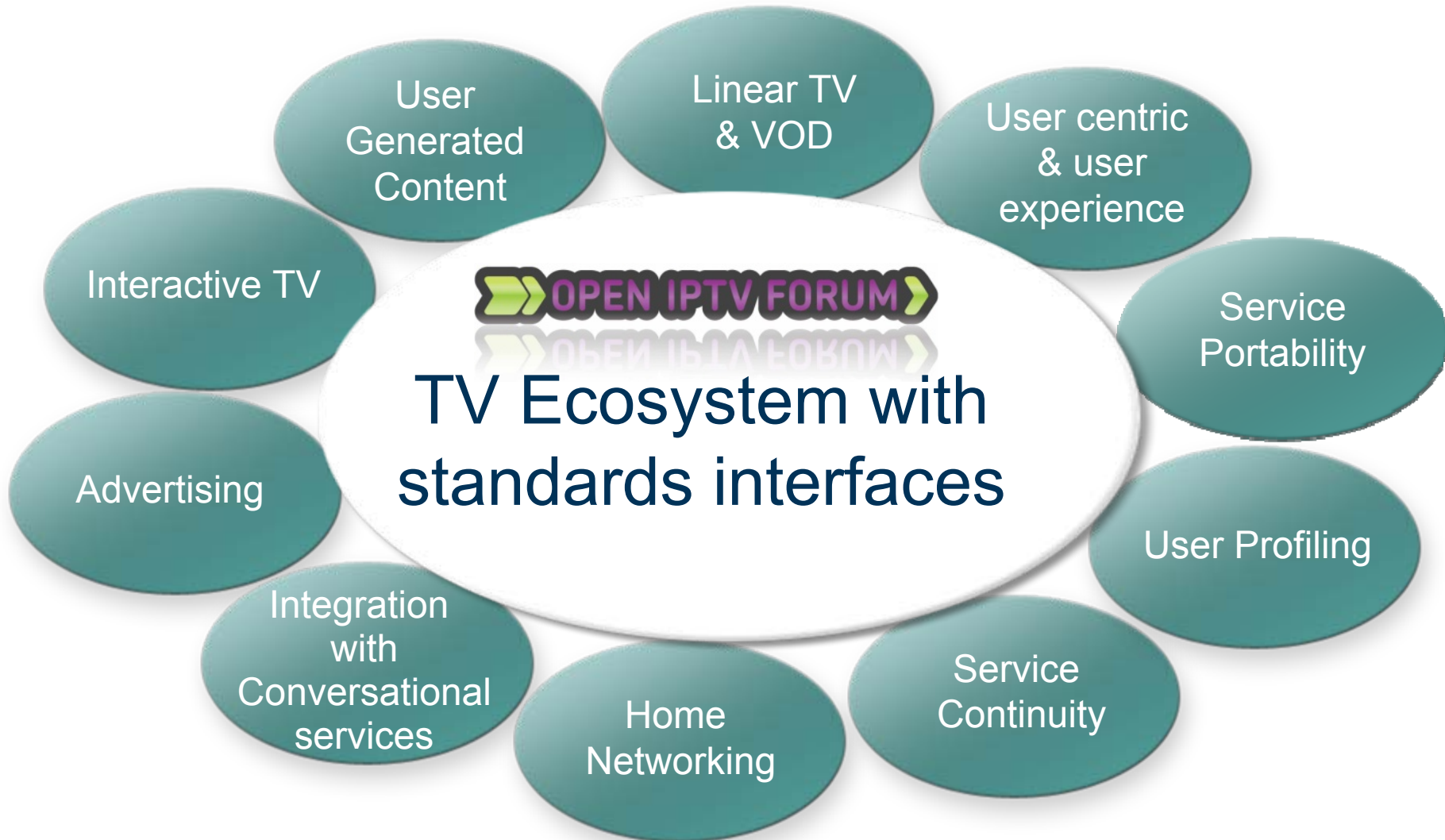
- Ericsson TV – Vision, Differentiators & Leadership
- Ericsson TV Solution – Service Layer
- Ericsson TV Solution – Network Layer

# Ericsson TV is much more than 'TV'



# TV Features

from Niche to Mass Market



# The Ericsson TV Offering



Feature Rich and Open, 250+ Multi-Media Use Cases

# Features Roadmap for Television

## Near term opportunities

- DVR Functionality
- VoD – Movies & TV
- Simple communications (Caller ID on the TV)
- Search and Navigation
- Set-top-to-PC links
- Widgets (traffic, weather, news)
- Casual games (casino, word, strategy, kids, sports)

## Mid term opportunities

- Blending of locally generated video content
- Web video blending
- Limited Internet-like features
- remote access and place-shifting content
- Targeted advertising
- Social networking enhancements
- Additional storage

## Longer term opportunities

- Motion sensing remotes
- Video calling
- Entertainment and communications blending (i.e. Voice services for gaming)
- T-commerce
- Home and health
- Community features

## Ericsson TV Unique Features (Sample)

- Cross Platform/Contextual/Dynamic Targeted Advertising
- TV Centric Social Networks through Presence and Messaging
- Automated ingest/workflow support for content catalog handling & publishing.
- SDK for blended service development.

# Topics

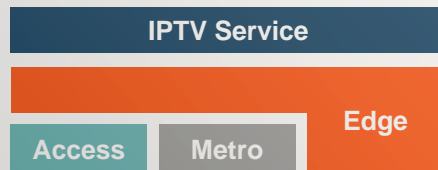
- Ericsson TV – Vision, Differentiators & Leadership
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# Ericsson TV network

The network layer brought to market in three distinct steps

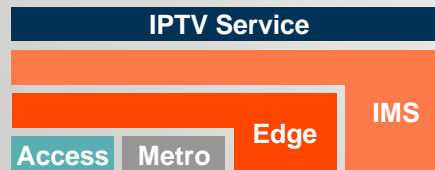
## Yesterday

IPTV capable  
Broadband



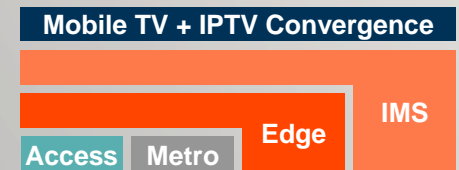
## Today

IMS Service  
Differentiation  
added



## Tomorrow

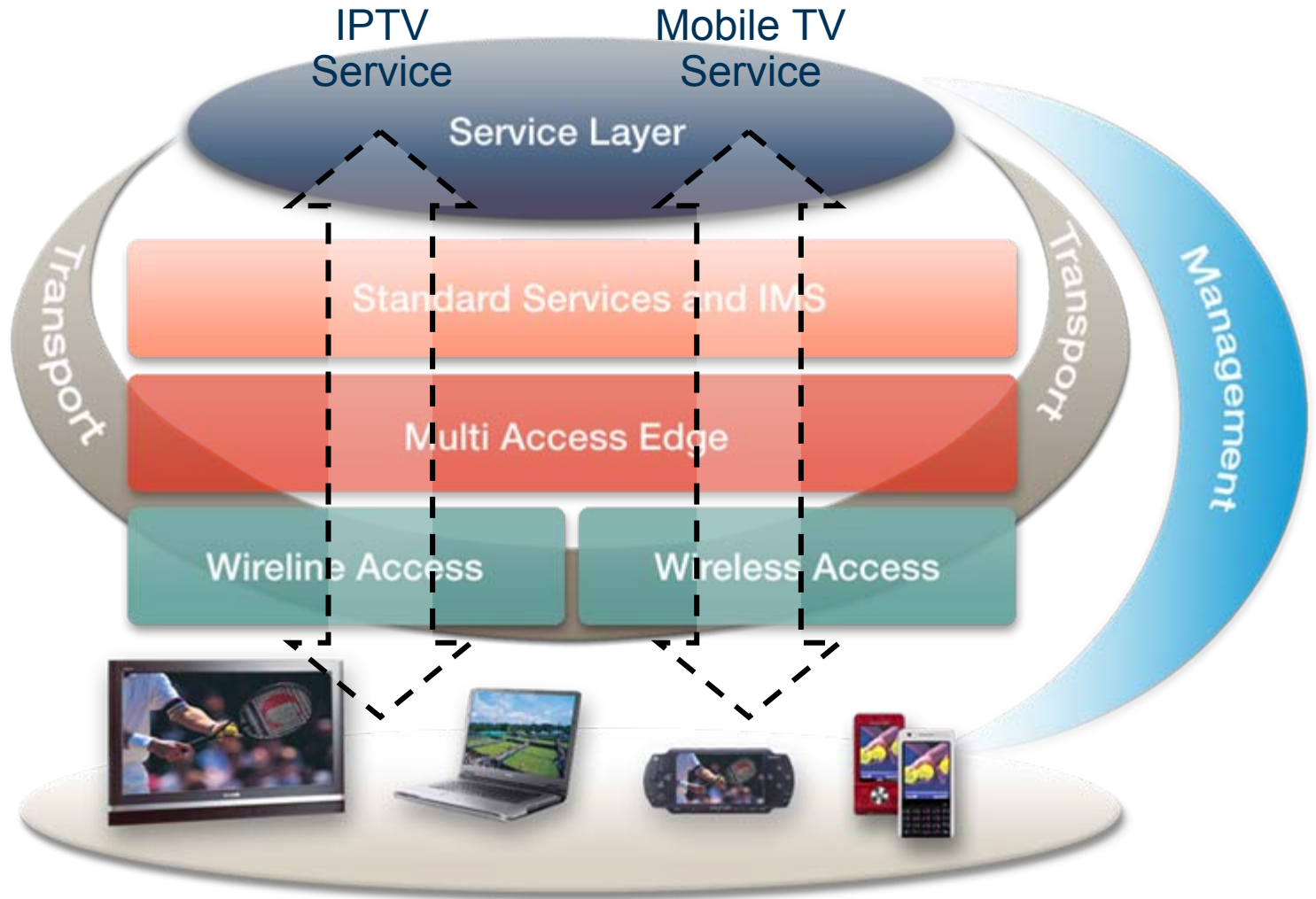
Convergence of  
MobileTV & IPTV





# TV

## Shaping fixed and mobile networks



# Two different standard worlds



**Fixed Broadband Networks**  
Many standards – No Architecture



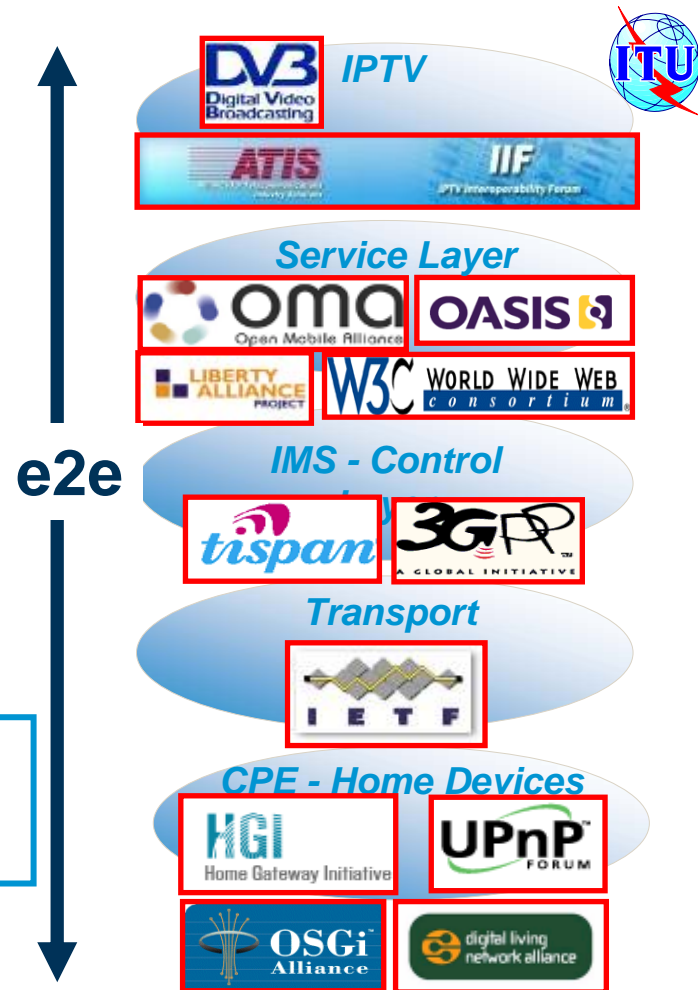
**Mobile Networks**  
One Global architecture – Annual Revisions

Marry fragmented Fixed Broadband standards with a holistic 3GPP architecture

# The standardization issue...

- Multiple Standards required by IPTV ... most already exist
- IPTV solutions also include Proprietary technology
- Integration requirements lead to limited interoperability and economics of scale





































*Open IPTV Forum works towards an interoperable IPTV solution*



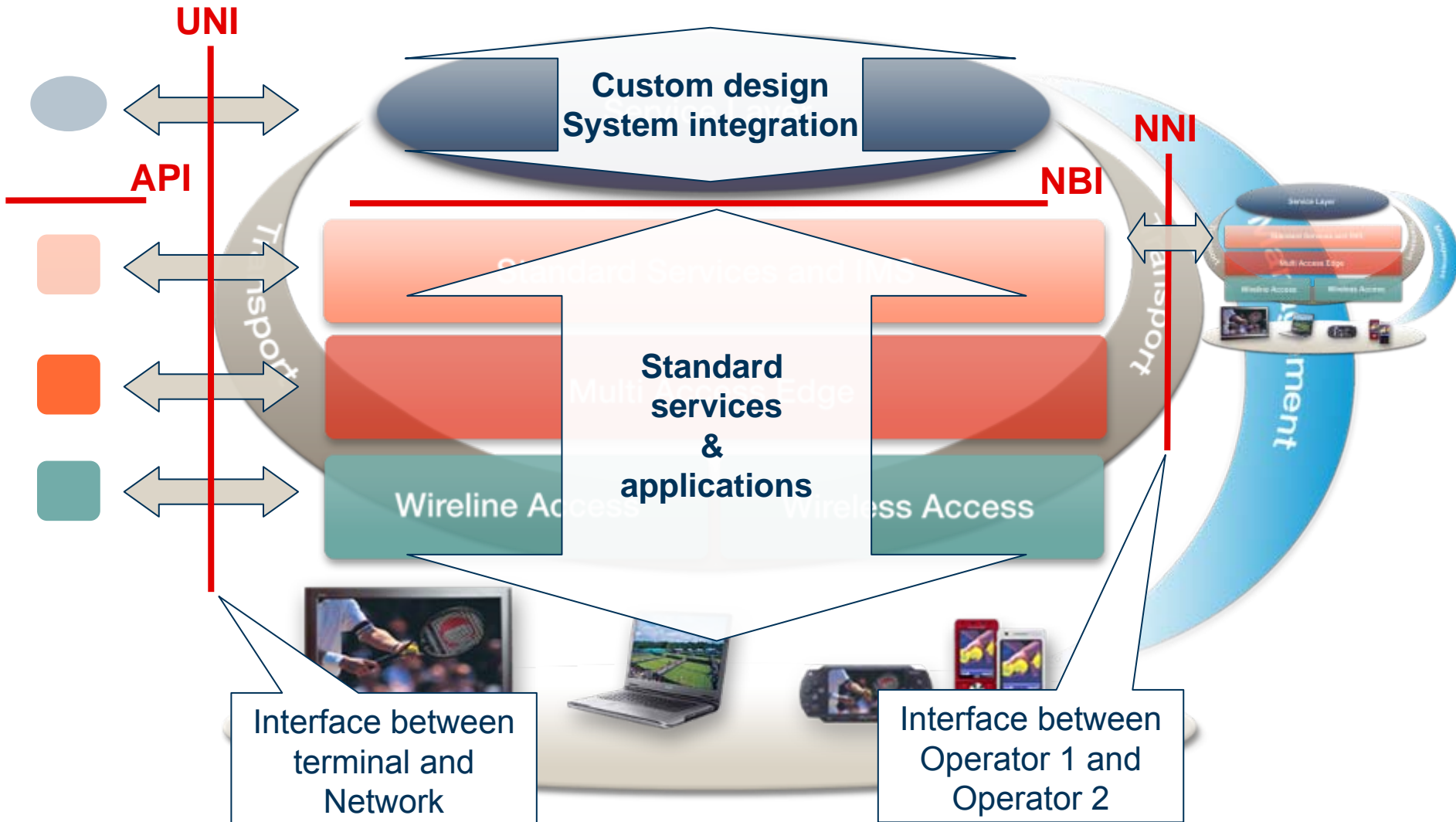
Standardization - a success factor for IPTV mass market

# OPEN IPTV FORUM

37 strong members today, more to come, (including Access Systems Europe)  
 Please observe, some are active in more than one "box" below

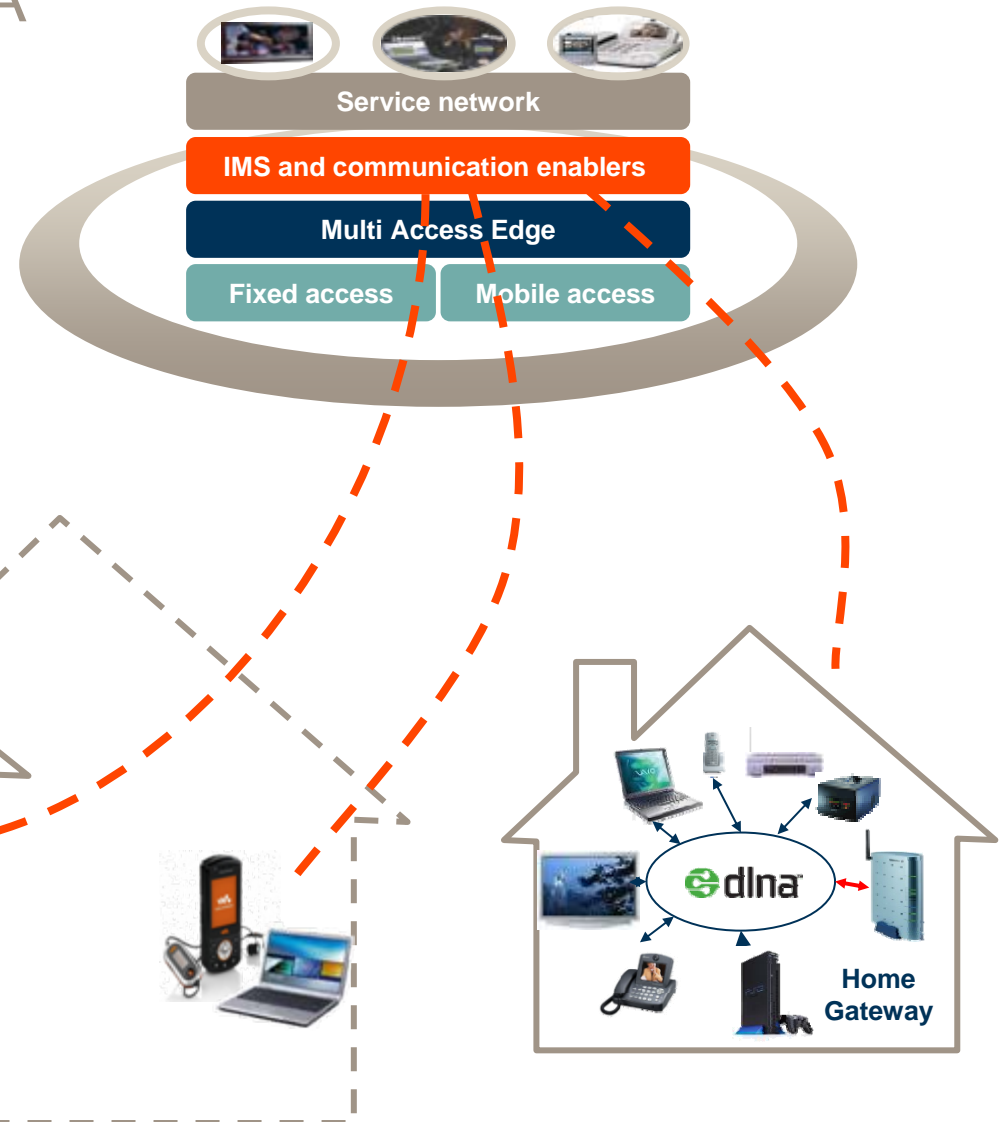
Operators	CE vendors	Network vendors	Set-top box	Middle Ware/other
      	       	    	    	          

# Full Service Broadband Architecture



# Connected Digital Home

Powered by IMS and DLNA



# Ericsson Mobile TV

“Linear TV”



“On-demand TV”



“Podcast TV”



- Traditional scheduled TV
- Selection by brand/channel
- Fast Channel Switching

- Streaming/download
- Selection by content/search
- Rewind, fast forward

- Off-line consumption
- Subscription based
- Automatic updates

- Electronic Service/Program Guide (ESG/EPG)

- Personalized & Interactive

- Advertising

Based on a Full Service Broadband Network

# The network as a TV differentiator

Four clear opportunities where capabilities varies between networks

**Service Blending** → **IMS Introduction**



**Sending to the Network** → **Broadband**



**Multi-Stream/HD/Unicast** → **Deep Fiber Access**  
**+ Transport Capacity**



**TV Convergence** → **IP Convergence**

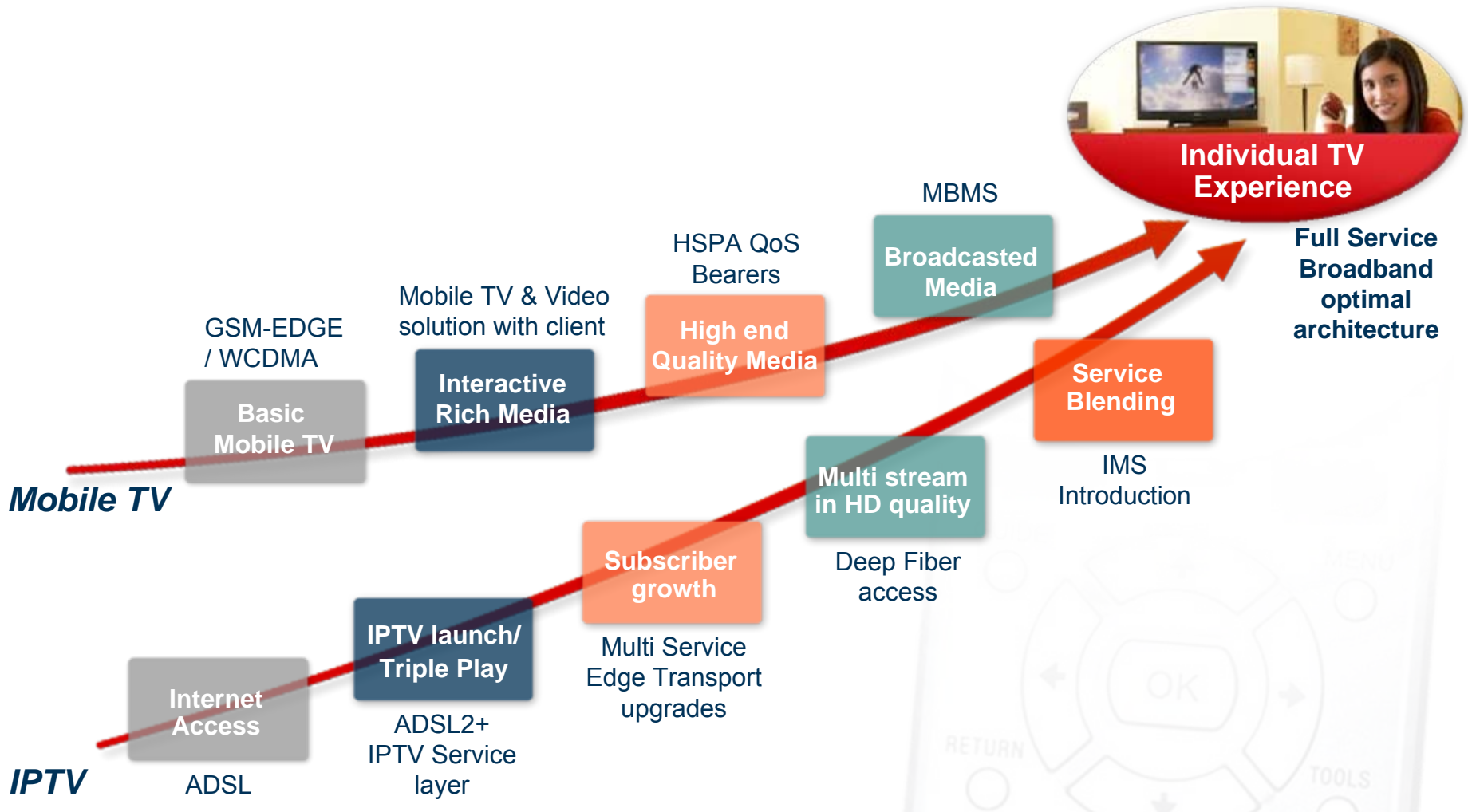


SONY



# Full Service Broadband Transformation

## Step by Step towards the Individual TV experience



# Prime Integrator for TV distribution systems

## Business Consulting

Define “TV”  
strategy

Propose solution  
Business case

## Systems Integration

Develop solution/  
architecture  
Incl. operational process

Select &  
manage  
vendors

Integrate  
components/  
solutions

## Support

Life cycle  
Management

- Ericsson Key differentiator
  - Holistic view
  - Understanding of IP consumer services
  - Technology, competence, methodes and tools to realize



Are you my Televisionary? – We make it happen!



# Ericsson TV

## Executive Summary

### ■ Strategic Differentiators

- First Open Solution – enables Niche to mass market transition
- Only Converged TV solution – Any Platform Any Device™ leveraging existing fixed and mobile networks
- Scale/Capacity of 2-4X, TCO Advantages up to 90%

### ■ Customer Proof Points

- Deployed in 15 of Top 20 IPTV Operators
- Solution Elements proven in 225+ Operators

### ■ Competitive Proof Points

- Ericsson TV Ranked #2 by Analysts Survey of Operators
- The Leading End-to-End Offering

# Our converged, open, end-to-end proposition for TV

## Multimedia

*Energizing the Individual TV Experience*

## Prime Integrator

*Bringing it all together*

## Full Service Broadband

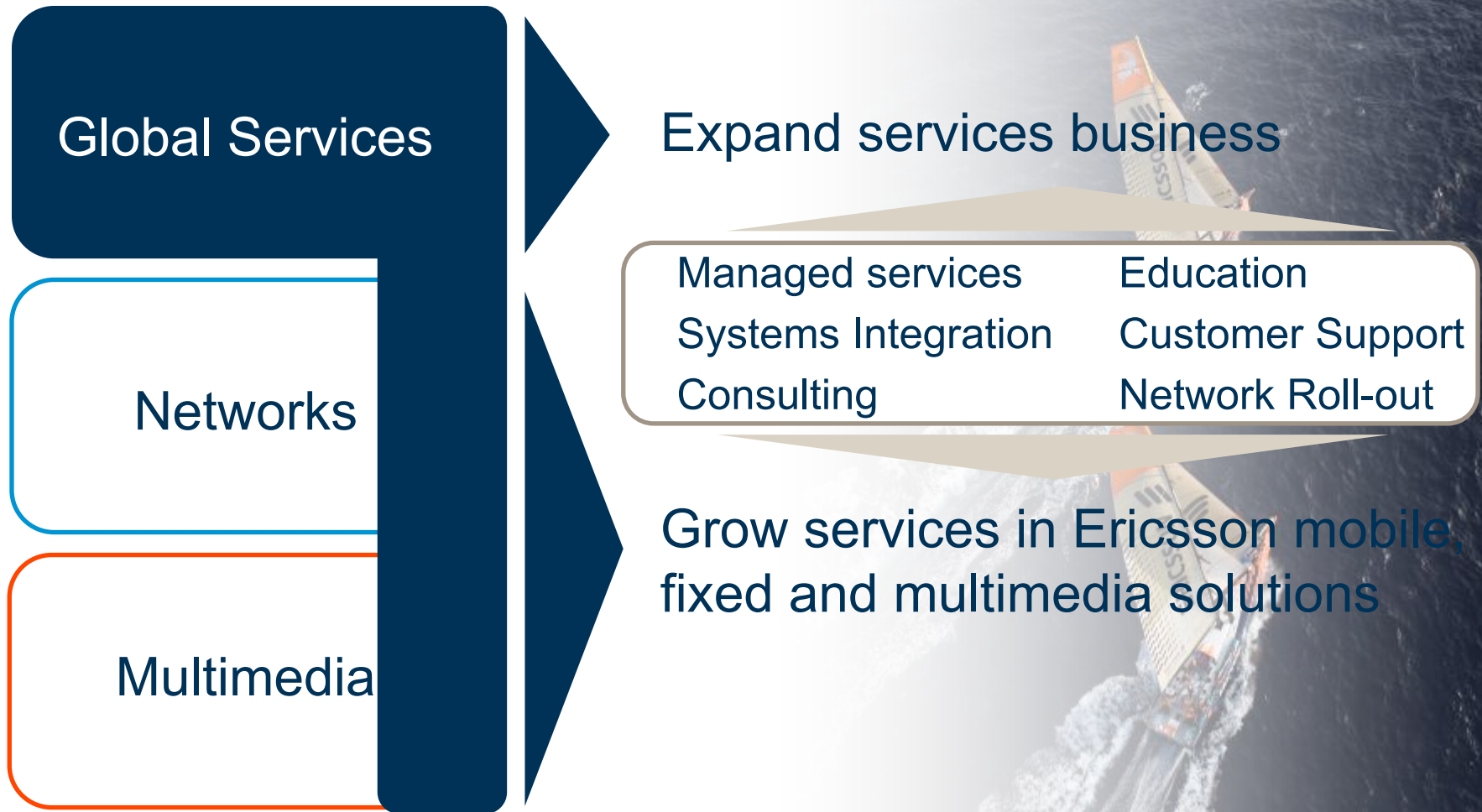
*Powering the Individual TV Experience*

A photograph of a sailboat on the ocean, viewed from the side. The boat's mast and rigging are visible in the foreground. In the distance, another sailboat with a tall, yellow and orange sail is visible on the horizon. The sky is bright and overcast.

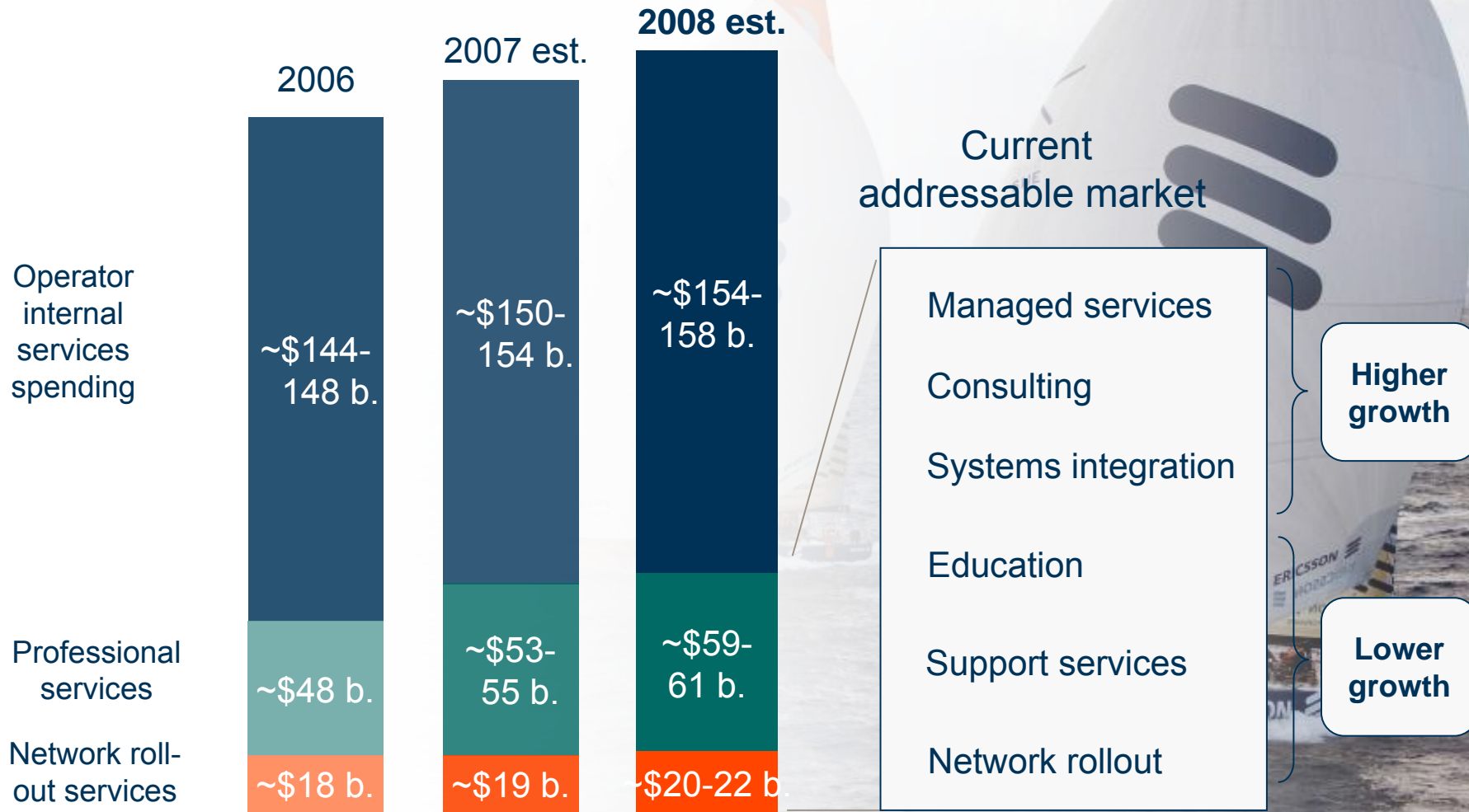
# Services and Telecom

Peter Laurin  
VP Multimedia, System Integration  
& Hosting, North America

# Global Services strategy



# Telecom services market 2008



Continued good growth in Professional Services

Actuals may be materially different.

# The leader in telecom services

- **Managed Services**

~210 million subscribers – hosting growing rapidly

- **Customer Support**

24/7 support of networks – 1 billion subscribers

- **Network Rollout**

>1,200 network build, expansions or migration projects in the past year

- **Systems Integration**

>1,000 integration projects in multi-vendor and multi-technology environments

- **Network Design and Optimization, Consulting**

>300 projects in network design, tuning, strategy consulting and security

- **Education**

300,000 student days yearly

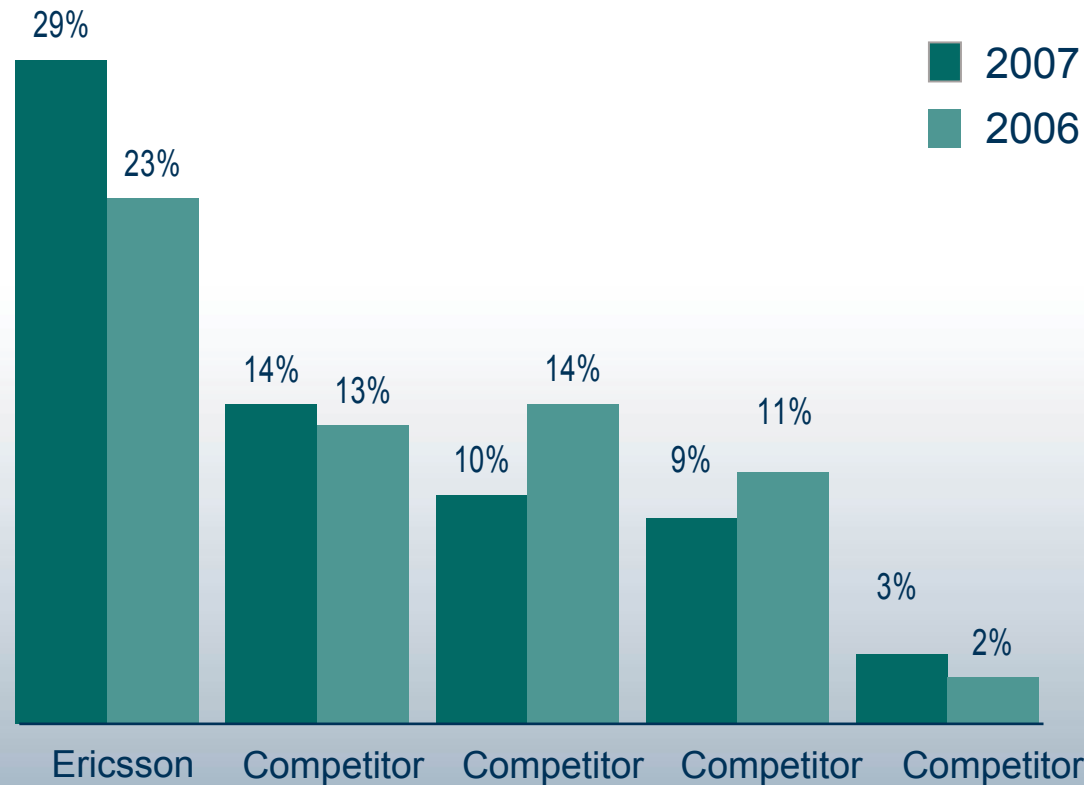


29,500 employees + 16,000 sourced = 45,500 resources



# # 1 in operator top-of-mind perception

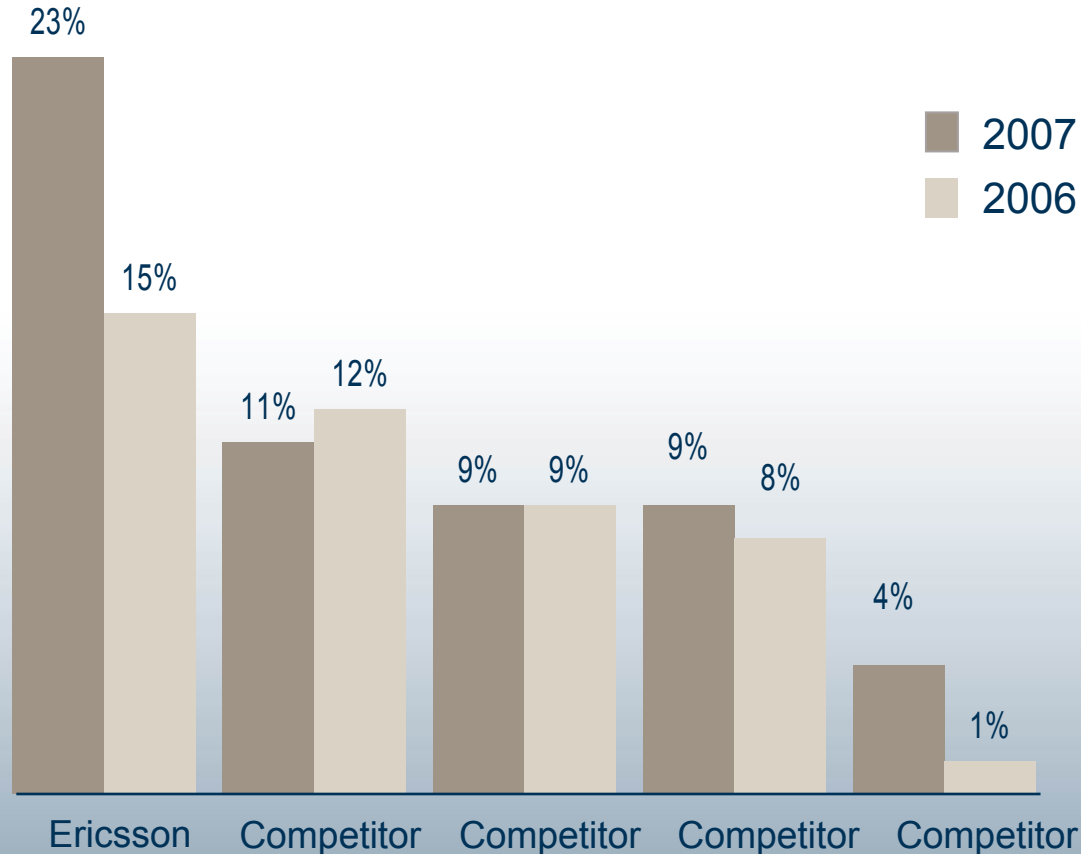
## *Telecom Services*



“Which company is the overall market leader in telecom services, such as consulting, deployment, integration, support and managed services?”

# #1 in operator top-of-mind perception

## *Managed Services*



“Which company is the overall market leader in telecom-related managed services?”

# Trends in the telecom services market

1. Managed services a growing business opportunity
  - "Growth"-driven in high-growth markets
  - "Cost"-driven in mature markets
2. Accelerating demand for telecom systems integration
  - Network complexity
  - Multimedia services

Operators want business partners to build competitive edge

# Managed Services

## Hosted Prepaid Services



- Multi-year contract in place for prepaid services
- Supporting AT&T's GoPhone Service with
  - Around the clock operations
  - Systems Integration
  - Feature development
  - Life Cycle Management



## >70 new consumer services



Operating networks with more than 210 million subscribers

# Prime Integrator



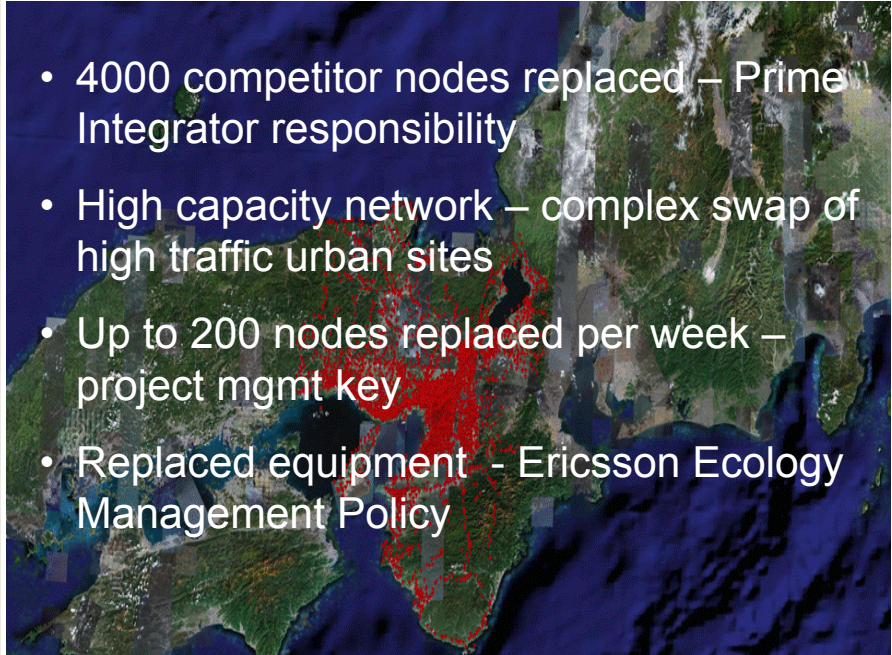
## Sprint - IMS

- Ericsson is prime integrator of multi-vendor IMS solution
  - More than 15 different vendors and equipment providers
- Push-to-talk infrastructure integration enabling a unified end-user experience across different technologies



## Softbank, Japan

Mobile broadband replacement project

- 
- 4000 competitor nodes replaced – Prime Integrator responsibility
  - High capacity network – complex swap of high traffic urban sites
  - Up to 200 nodes replaced per week – project mgmt key
  - Replaced equipment - Ericsson Ecology Management Policy

Taking a broader responsibility

# Demand for end-to-end responsibility

## Operator needs

- Deliver customer value
- Secure technology transitions
- Drive operational excellence
- Manage risks

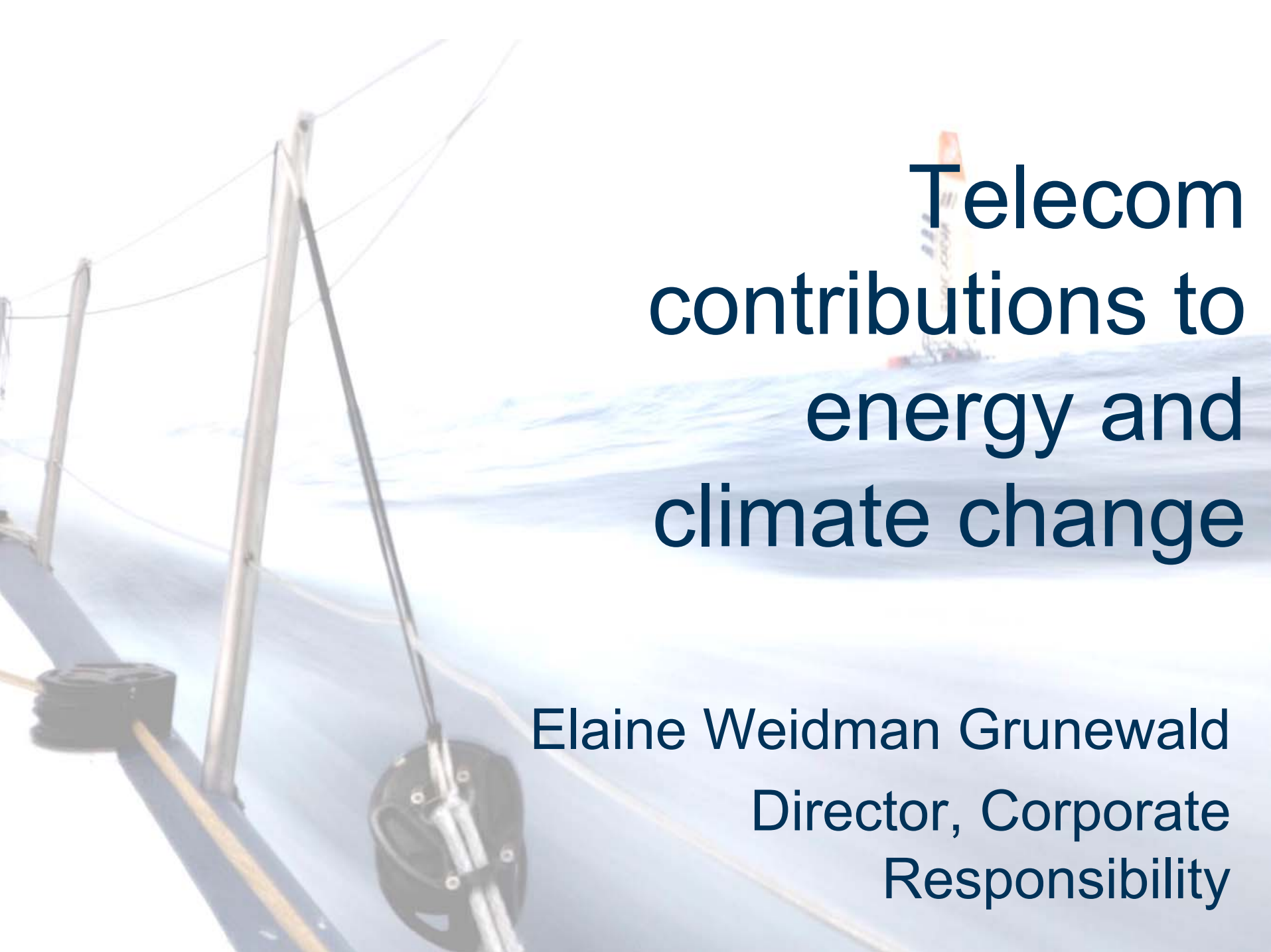
## Expectations on suppliers to take a broader responsibility

- Deliver end-to-end solution and competences
- Mitigate risks in multi-vendor environment and in technology transitions
- Manage complexity and reduce operational costs
- Orchestrate multiple suppliers

Prime Integrator

# Summary

- Ericsson is the #1 telecom service vendor, with >10% market share
- Services market opportunity is large and growing
- Higher growth in managed services and system integration

A blue sailboat is shown from a low angle on the left side of the frame, with its mast and rigging visible. The boat is on a body of water with gentle waves. In the background, a lighthouse with a red top is visible on a small island. The overall scene is bright and clear.

# Telecom contributions to energy and climate change

Elaine Weidman Grunewald  
Director, Corporate  
Responsibility



# Overview

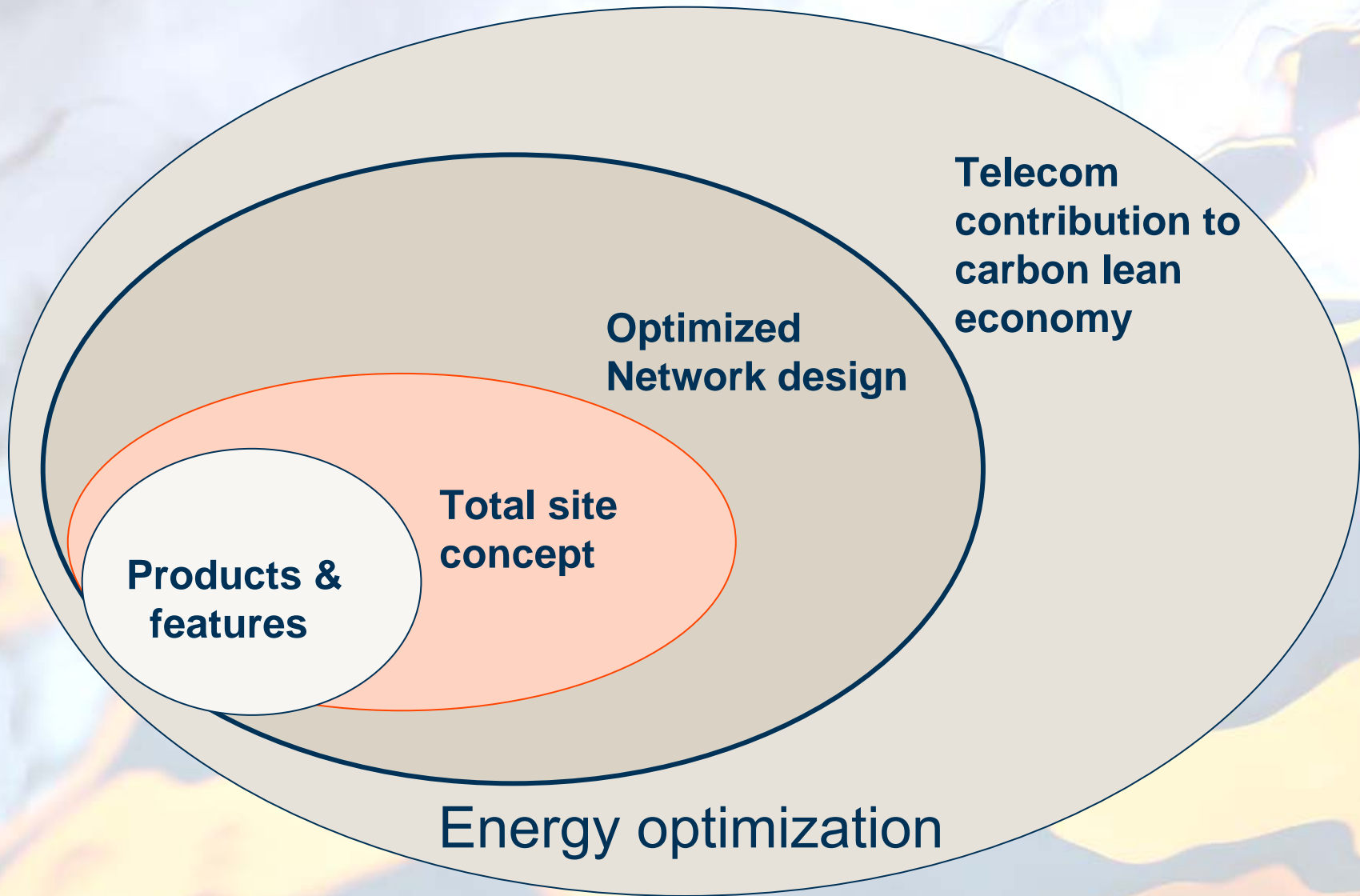
- Our approach to energy and climate change
- Energy, total cost of ownership and CO<sub>2</sub>
- Innovative solutions and services
- Mobile broadband and sustainability



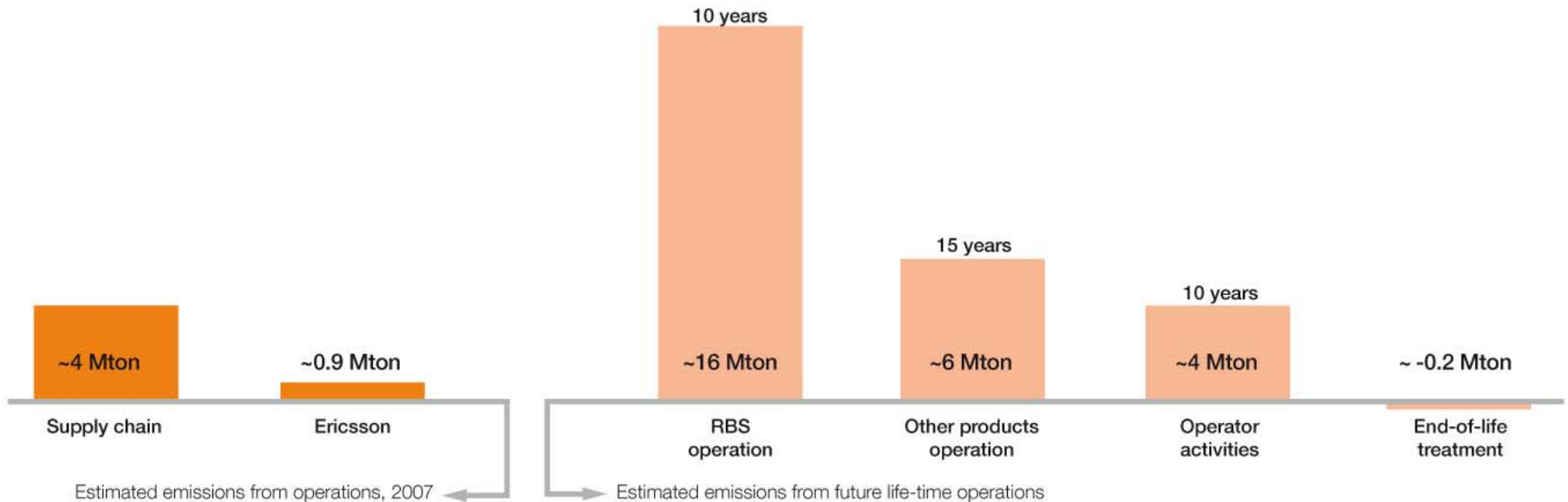
as it possible  
and the world  
to better help  
quality of life.  
We are well  
positioned and  
supply and sup-  
pliers to make  
moving world  
and Ericsson  
Chief and CEO

Our competitive advantage

# Climate change - sphere of influence



# Ericsson life-cycle carbon footprint



Supply chain

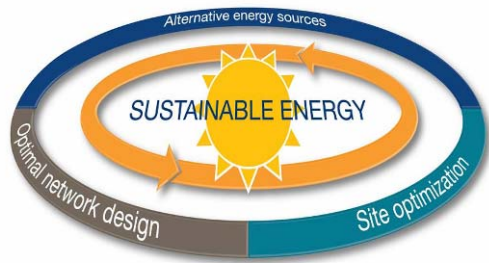
Ericsson

Use phase

End of life

Product energy consumption is priority - 80% by end 2008

# Optimizing on network and site level and introducing alternative energy sources impacts the Total Cost of Ownership

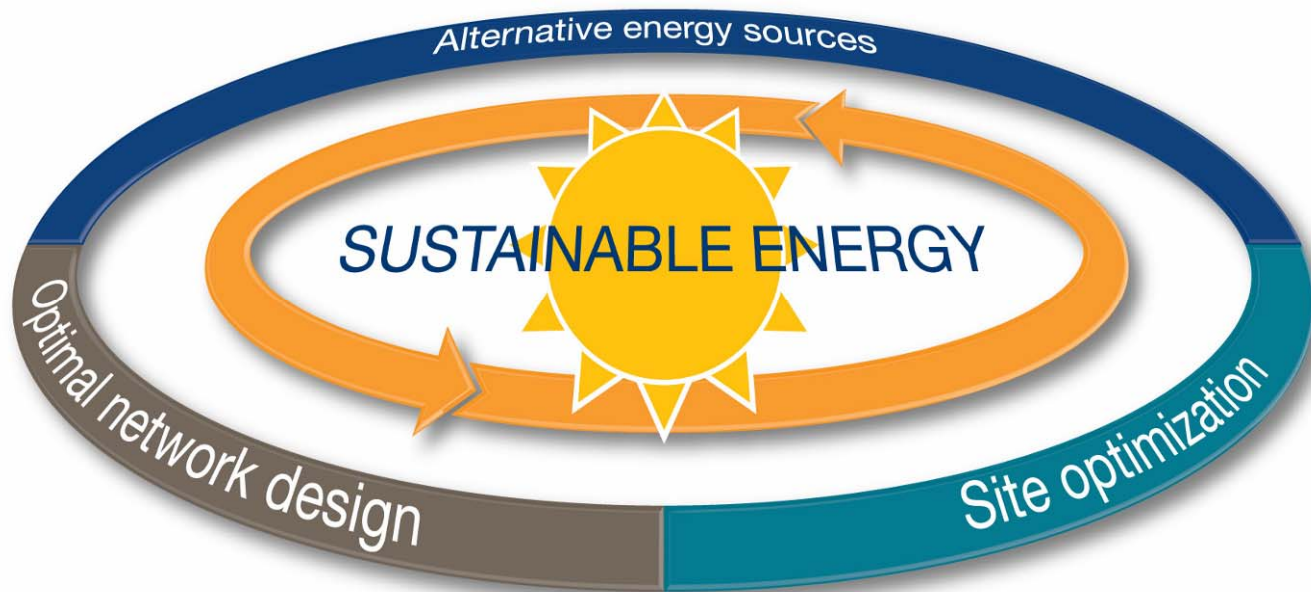


Sustainable energy solutions give a competitive advantage

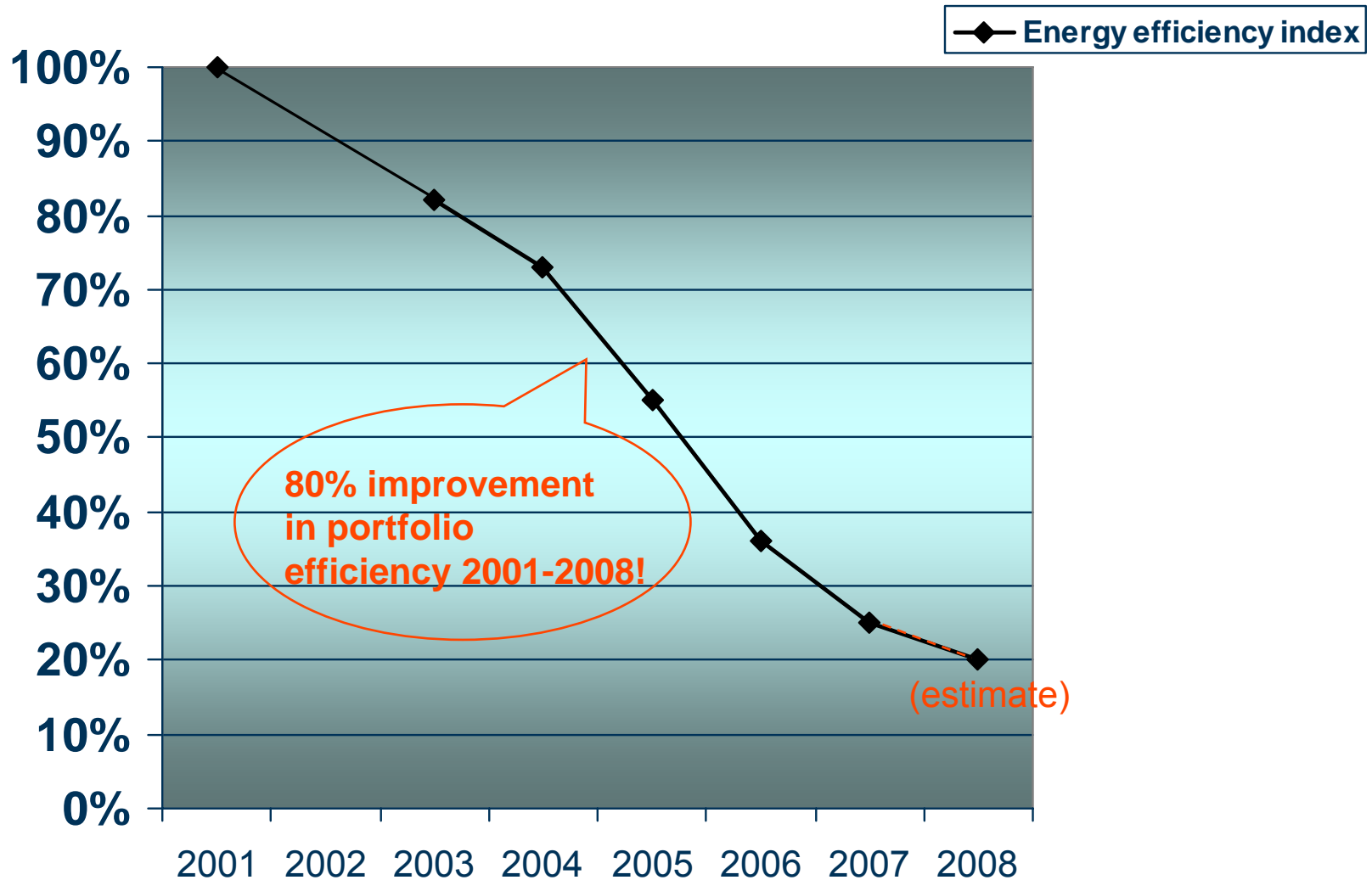


# Innovative solutions

Three-step process for energy efficient communication

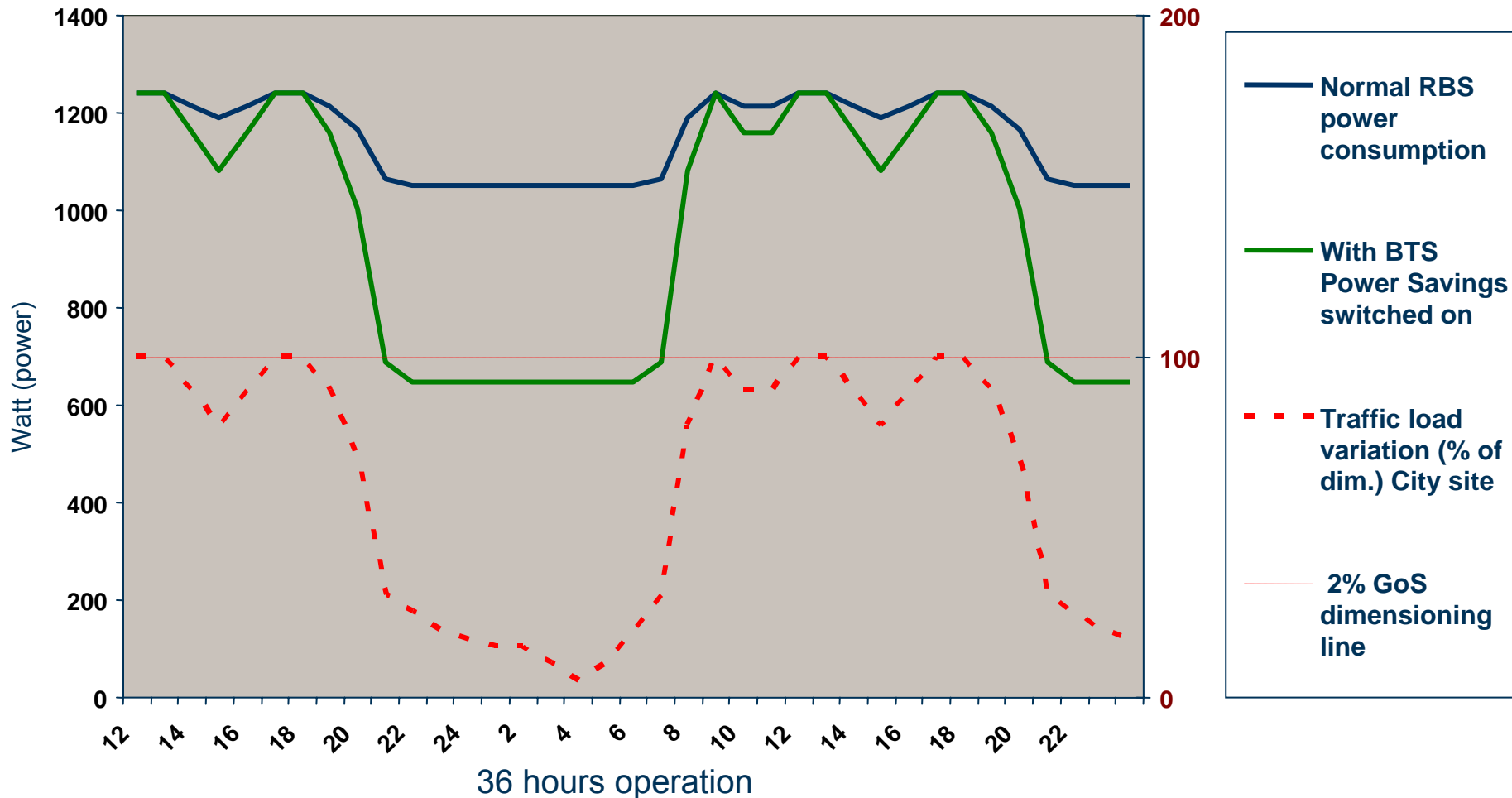


# WCDMA portfolio energy efficiency index Improvement 2001-2008



# Energy-efficient products and features

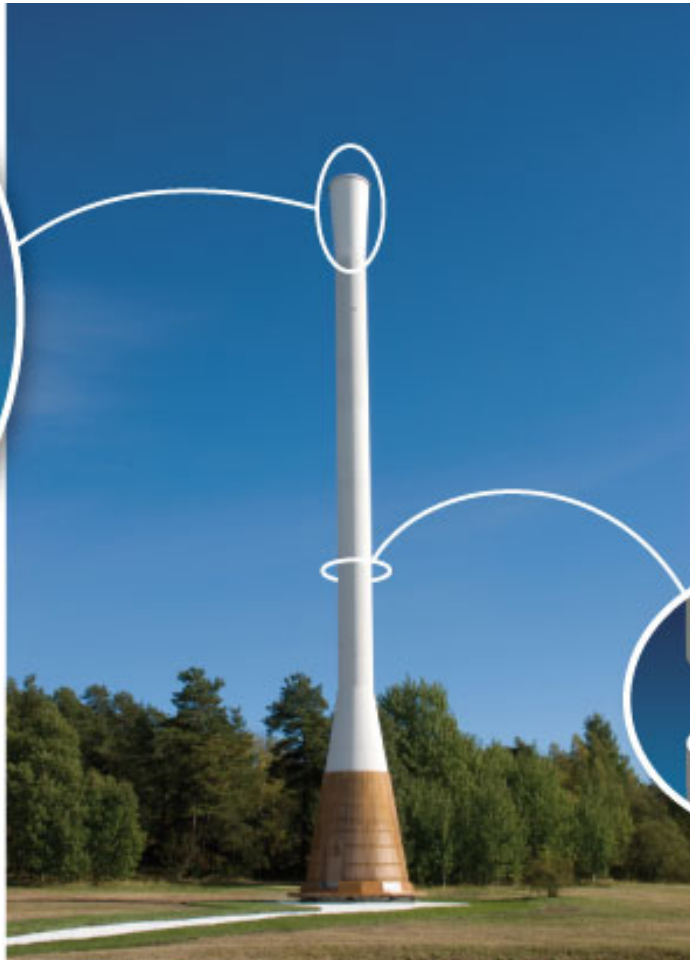
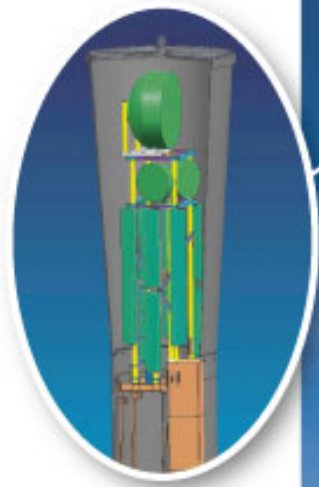
## Our power-savings solution



Potential reduction: 7.300.000 kW per year

# Innovative site solution

## Ericsson Tower Tube



Superior  
design

Cost  
effective

Reduced  
environ-  
mental  
impact



# Alternative energy sources

- Solar power
- Fuel cells
- Hybrid solutions (solar/wind/diesel)
- Wind power
- Biofuels



... are growing in importance

# Services for all energy aspects

## Optimal network design

Energy consultancy services

## Engineering

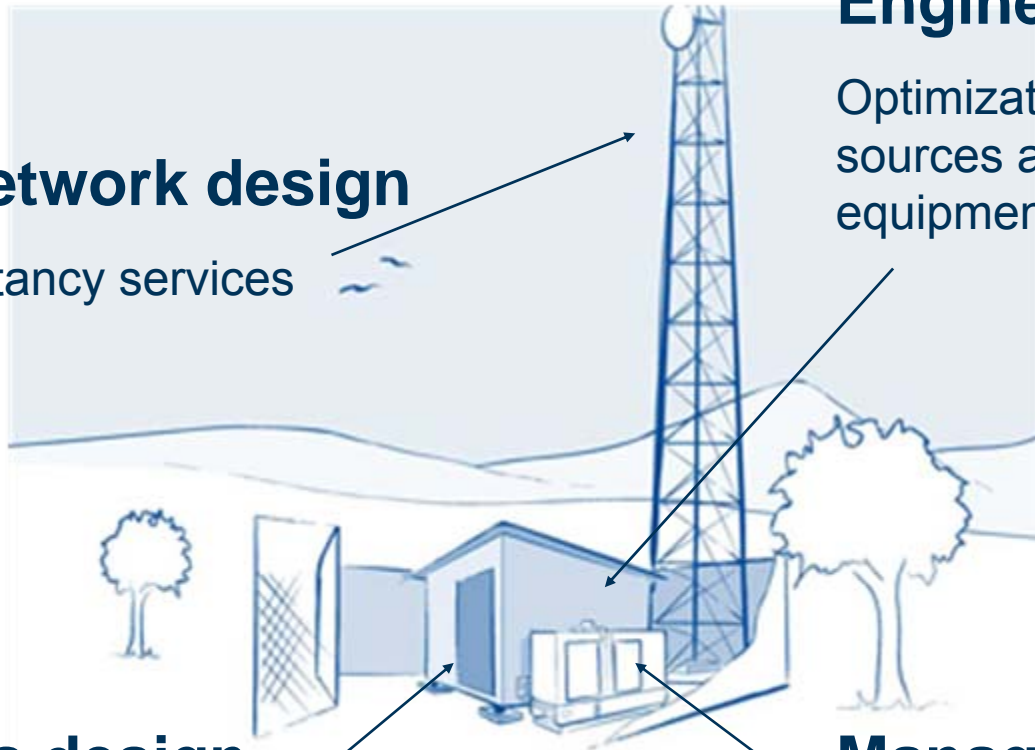
Optimization of energy sources and power using equipment and cooling

## Civil works design

Structural design for energy optimisation

## Managed Services

Power supply operations



# Mobile broadband and sustainability

## The Telstra experience

- Next G™ network is delivering voice and broadband services to 99% of the population
- Survey with 26 companies across 15 industries currently using the network
- Main environmental benefits from the use of Next G™
  - reduced travel; on average 5-10%, as high as 17%



# Conclusions

- Understanding the relationship between energy, OPEX and CO<sub>2</sub>
  - Enables us to develop efficient products and innovative sustainable energy solutions
- Energy-lean solutions create competitive advantage
- Our technology can provide solutions to address climate change
  - More energy-efficient telecom growth
  - Travel replacement
  - Dematerialization

Our competitive advantage

**ERICSSON**

