Benefiting from the full economic and social impact of affordable ICTs

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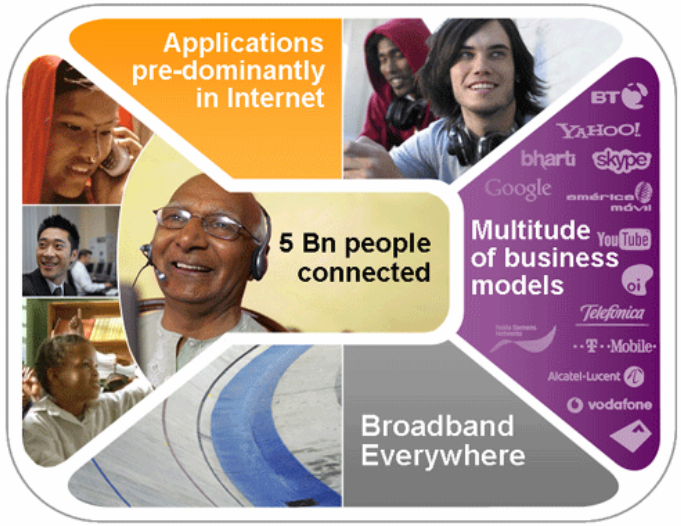
Our common vision: The world connected in 2015

Millennium Development Goals



Universal access to information and communication technologies boosts the economic and social development of nations

world summit on the information society
Geneva 2003 - Tunis 2005

NOKIA

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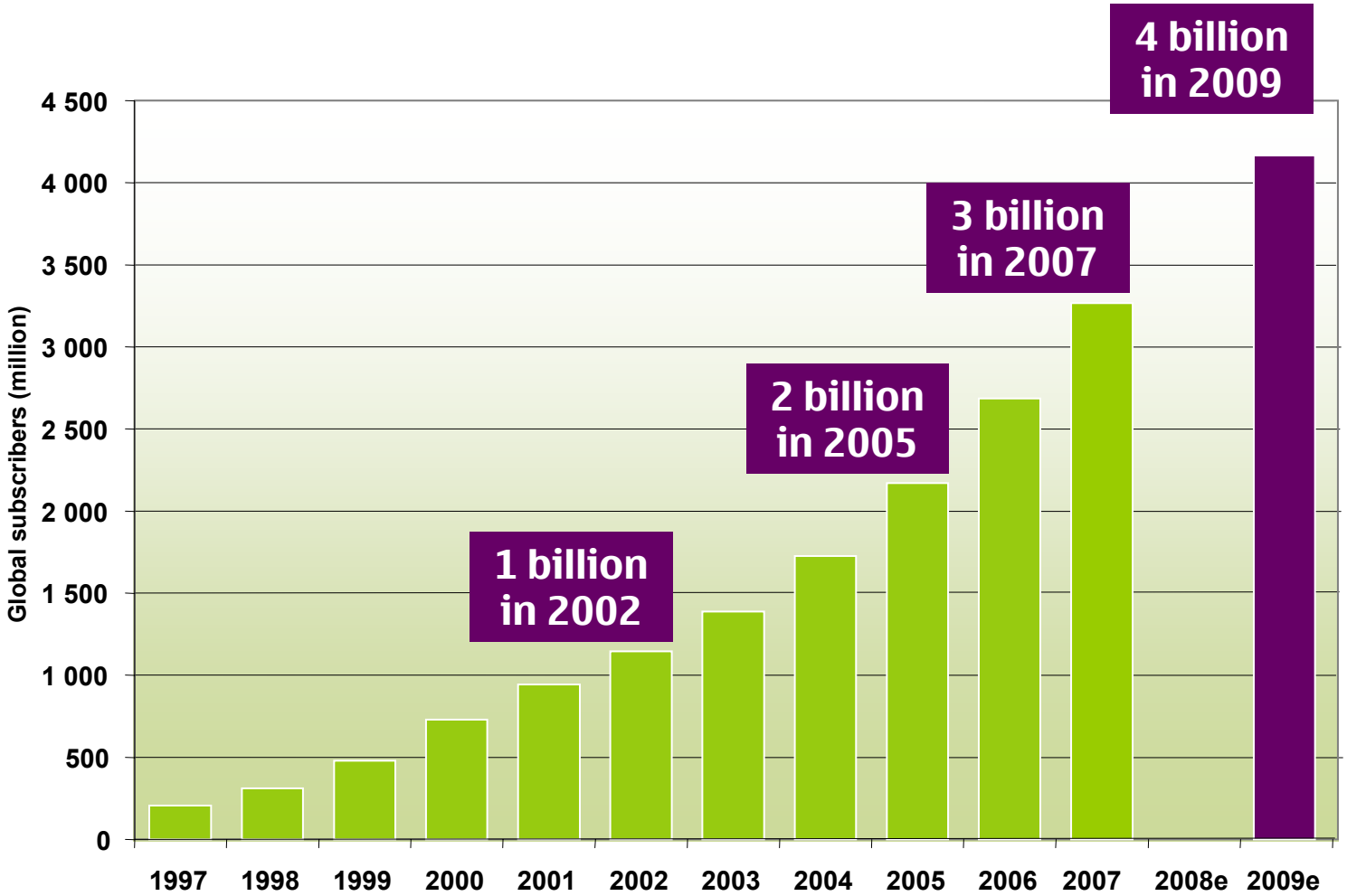
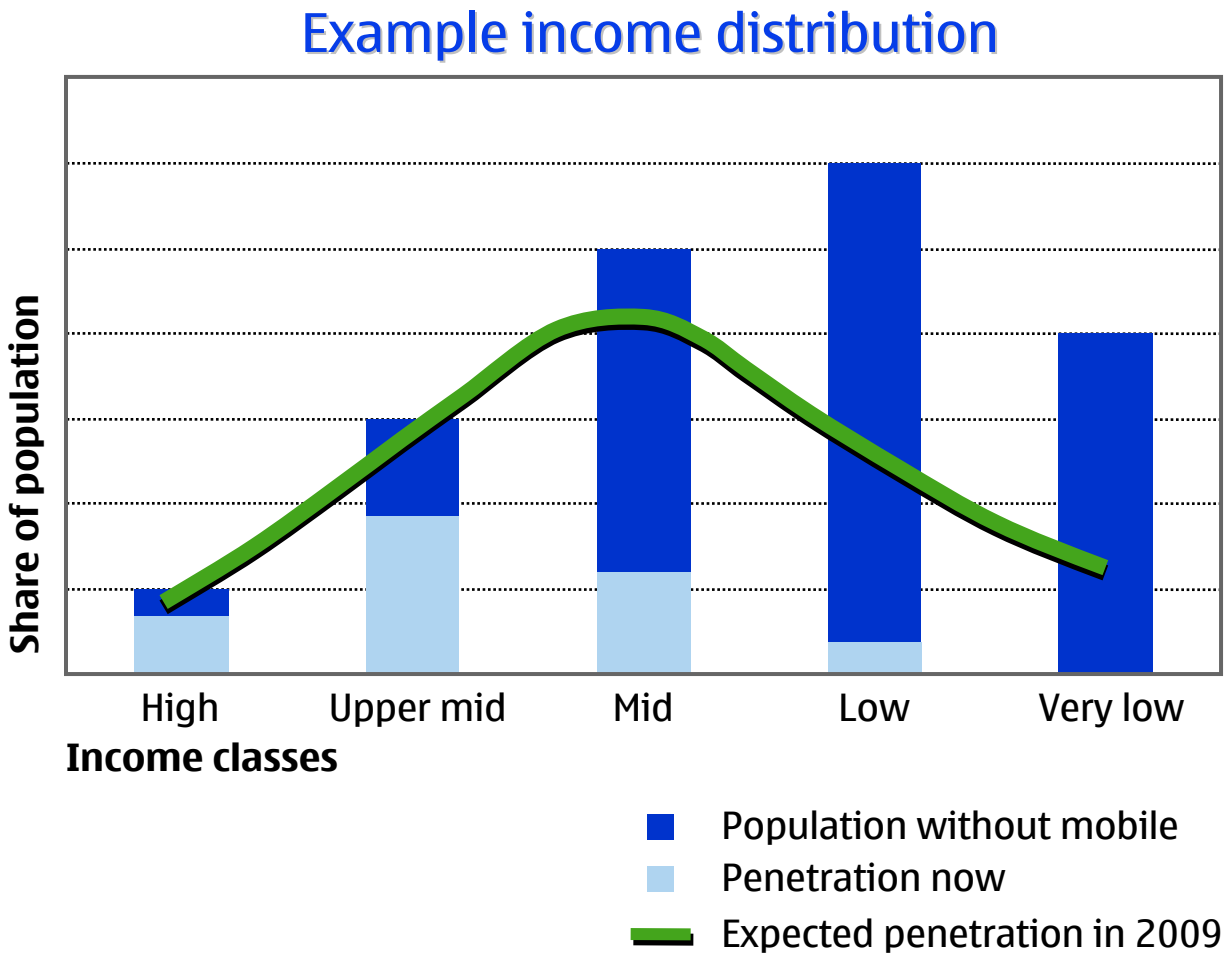
Towards Universal Access

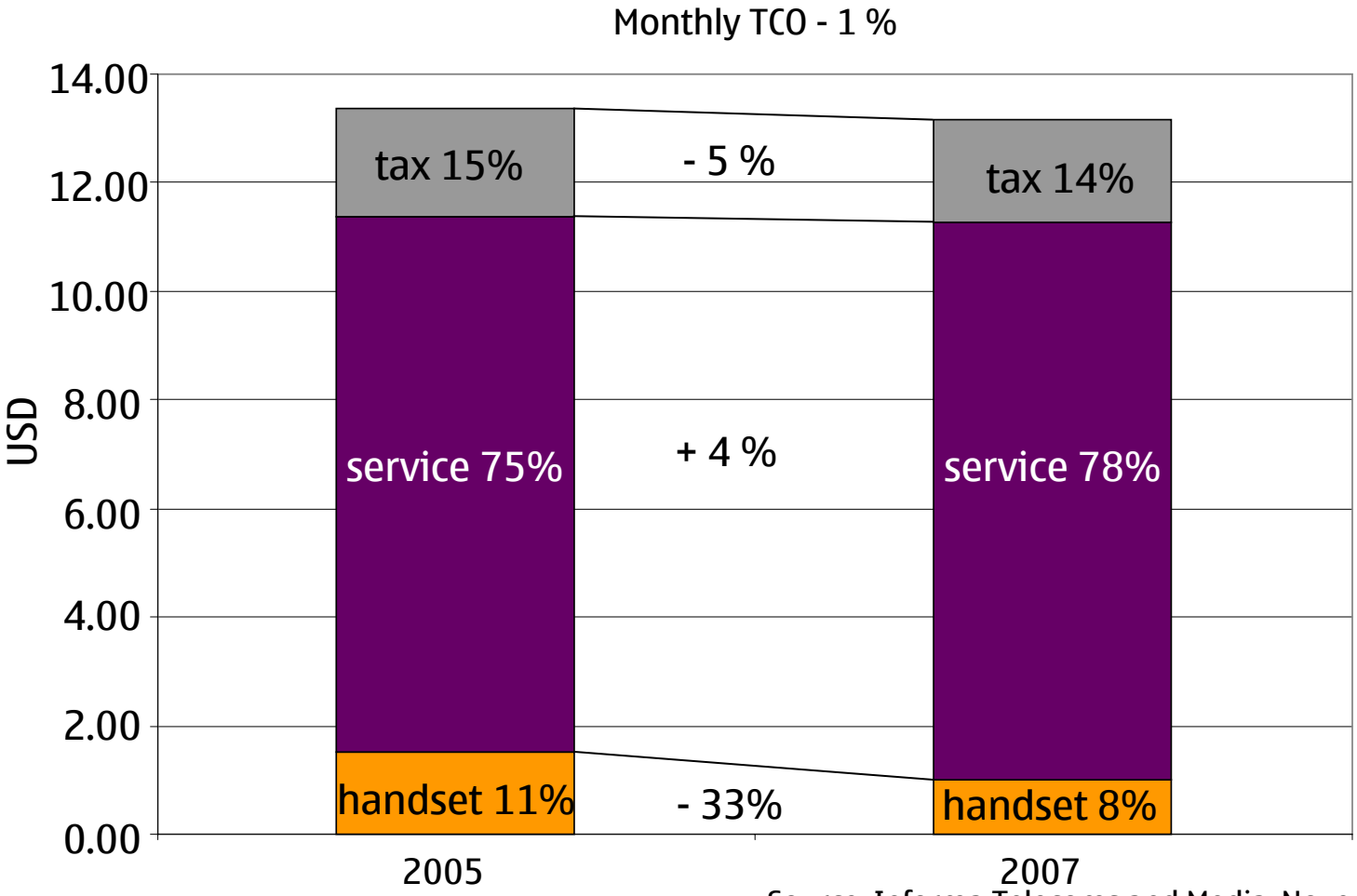


Over 1,5 million mobile subscribers every day, mostly coming from emerging markets

New growth will come primarily from lower income segments



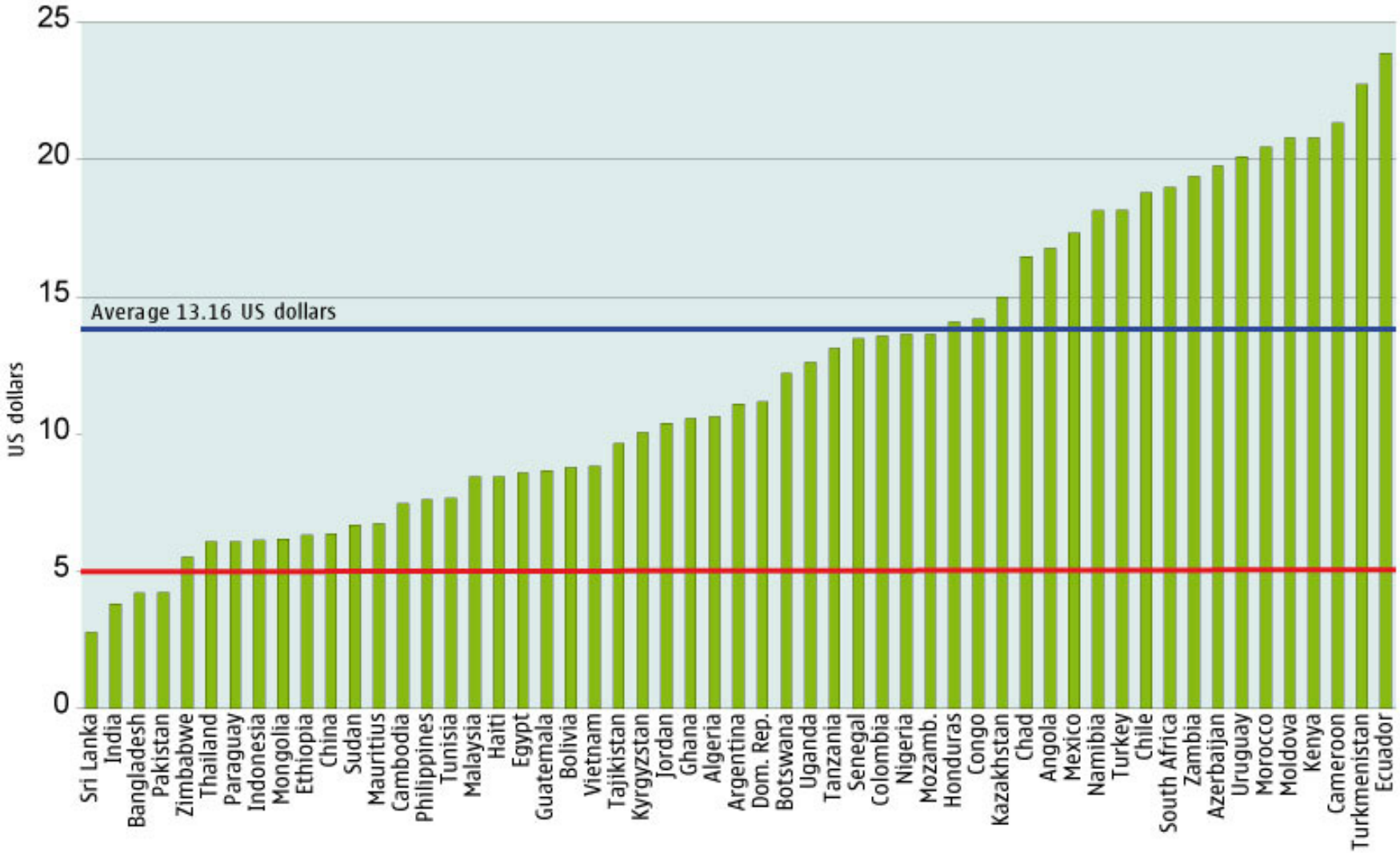
Total cost of ownership (TCO) is what matters for consumers



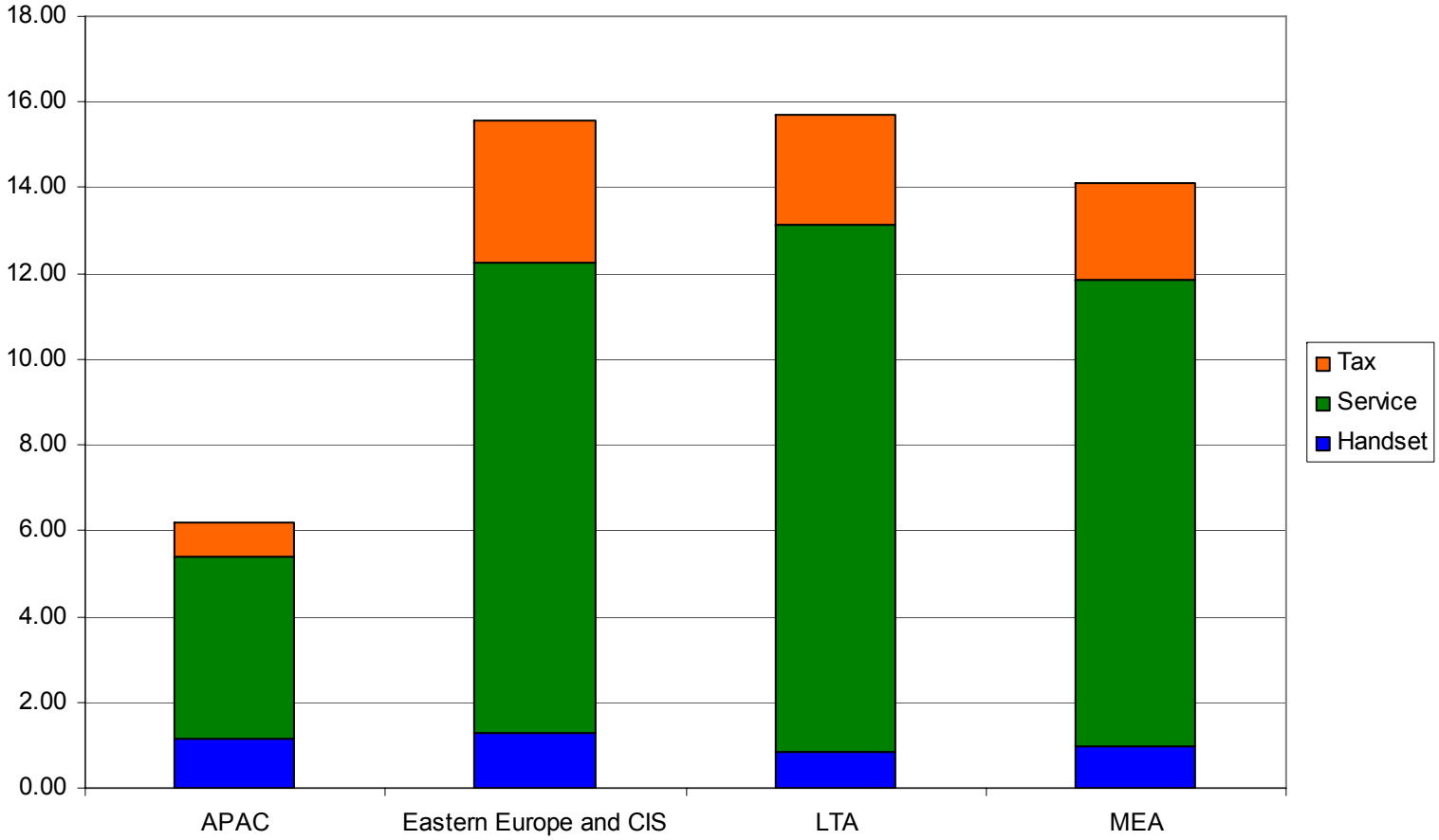
Source: Informa Telecoms and Media, November 2007

TCO has decreased only by 1% between 2005 and 2007

Monthly TCO per country

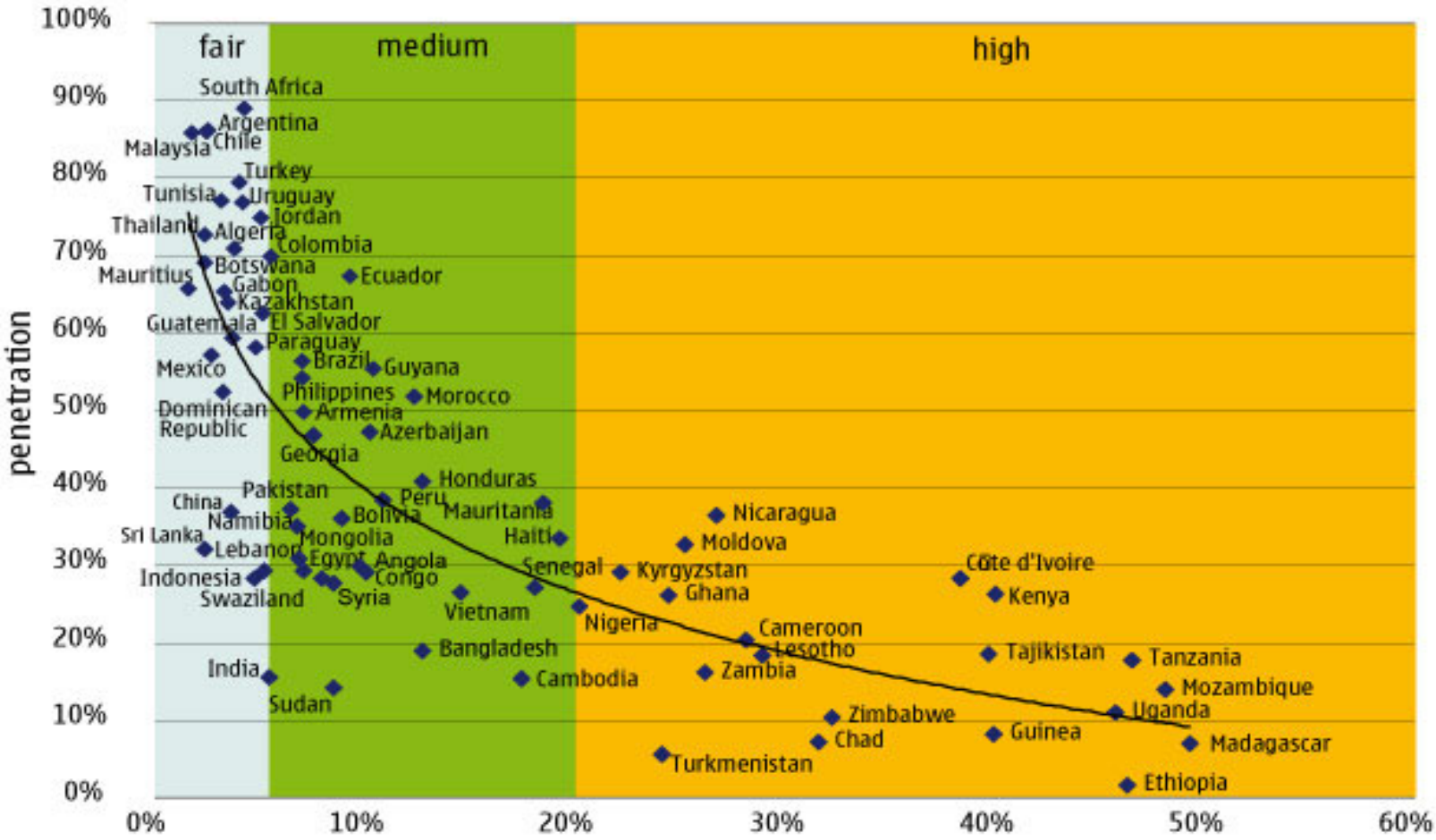


Monthly TCO across regions



Asia Pacific region has clearly the lowest TCO across regions

High TCO/GDP per capita ratio = low penetration



TCO to GDP per capita ratio

Lowering total cost of ownership via innovative solutions – Village Connection

Nokia Siemens Networks Village Connection: Revolutionary Business Model

Operator

- Capturing the rural market potential
- Savings enable a profitable business case in rural villages
- Larger subscriber base generates additional traffic

Entrepreneur

- Possibility to become a business owner
- Contributor to the village community

Villager

- Connectivity to the outside world
- Privacy to place calls from their home
- Improved efficiency and well-being

It is giving us a good source of income and villagers are getting great coverage as well.

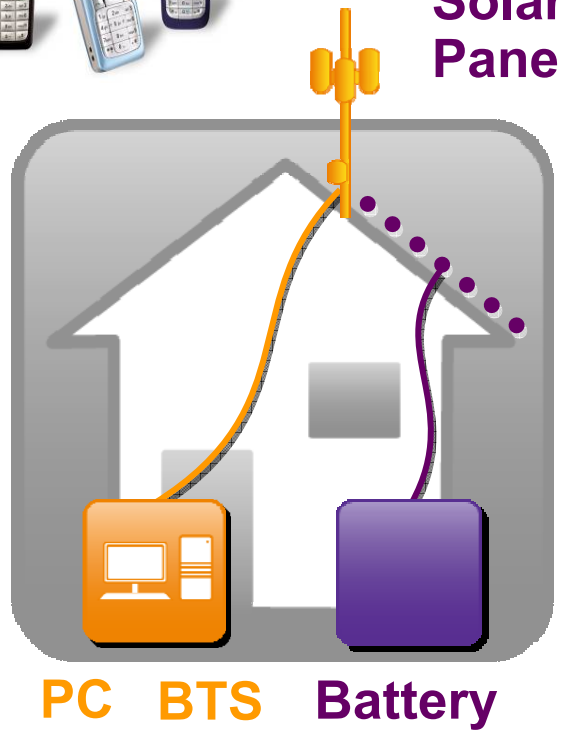
- entrepreneur

Innovation:

Nokia Siemens Networks Village Connection

GSM Access Point in a village

- GSM handsets used
- Cost-effective “mini” network: village internal calls are connected locally
- Enables local operation and subscriber management
- Successful pilots in India
- Reference Vodacom Tanzania 02/08
- Ready for global roll-outs



A new solution
A new business model

Utilising the full potential of ICTs

Key Findings from the Connectivity Scorecard

What is The Connectivity Scorecard?

Groundbreaking study that ranks countries on approximately 30 indicators of connectivity contributing to social and economic prosperity

Created by Leonard Waverman, professor of economics at London Business School

Conducted under his direction by global economic consulting firm LECG and commissioned by Nokia Siemens Networks

Why The Connectivity Scorecard?

Modern market economies are “information economies”

- Even in poorest of economies, lack of information prohibits participation in wider markets

Scorecard asks: What is the potential for broadband connectivity and mobility to transform…

- Business growth and efficiency?
- Government productivity?
- Quality of life for citizens?

First study to rank countries not only on deployment of telecom and IT infrastructure, but also on extent to which they are put to good use

Methodology

Studied 9 of World Economic Forum's "Resource or Efficiency Driven" economies and 16 "Innovation driven" economies

Approximately 30 indicators of connectivity contributing to social and economic prosperity used in calculations

- Indicators grouped into government, business or consumer categories; weighted individually by country
- More detail and weighting on business, since it is a key contributor to productivity growth

Category/Dimension	Sub-Categories	Basis for weighting
Consumers	Consumer Infrastructure	Contribution to consumer utility
	Consumer Usage	
Business	Business Infrastructure	Contribution to business productivity
	Business Usage	
Government	Government Infrastructure	Contribution to government productivity
	Government Usage	

Results: Innovation driven economies

Innovation driven economies	Connectivity Score
United States	6.97
Sweden	6.83
Japan	6.80
Canada	6.50
Finland	6.10
UK	6.10
Australia	5.93
Germany	5.52
France	5.07
Korea	4.78
Hong Kong SAR	4.46
Italy	3.85
Spain	3.56
Hungary	3.18
Czech Republic	3.11
Poland	2.18

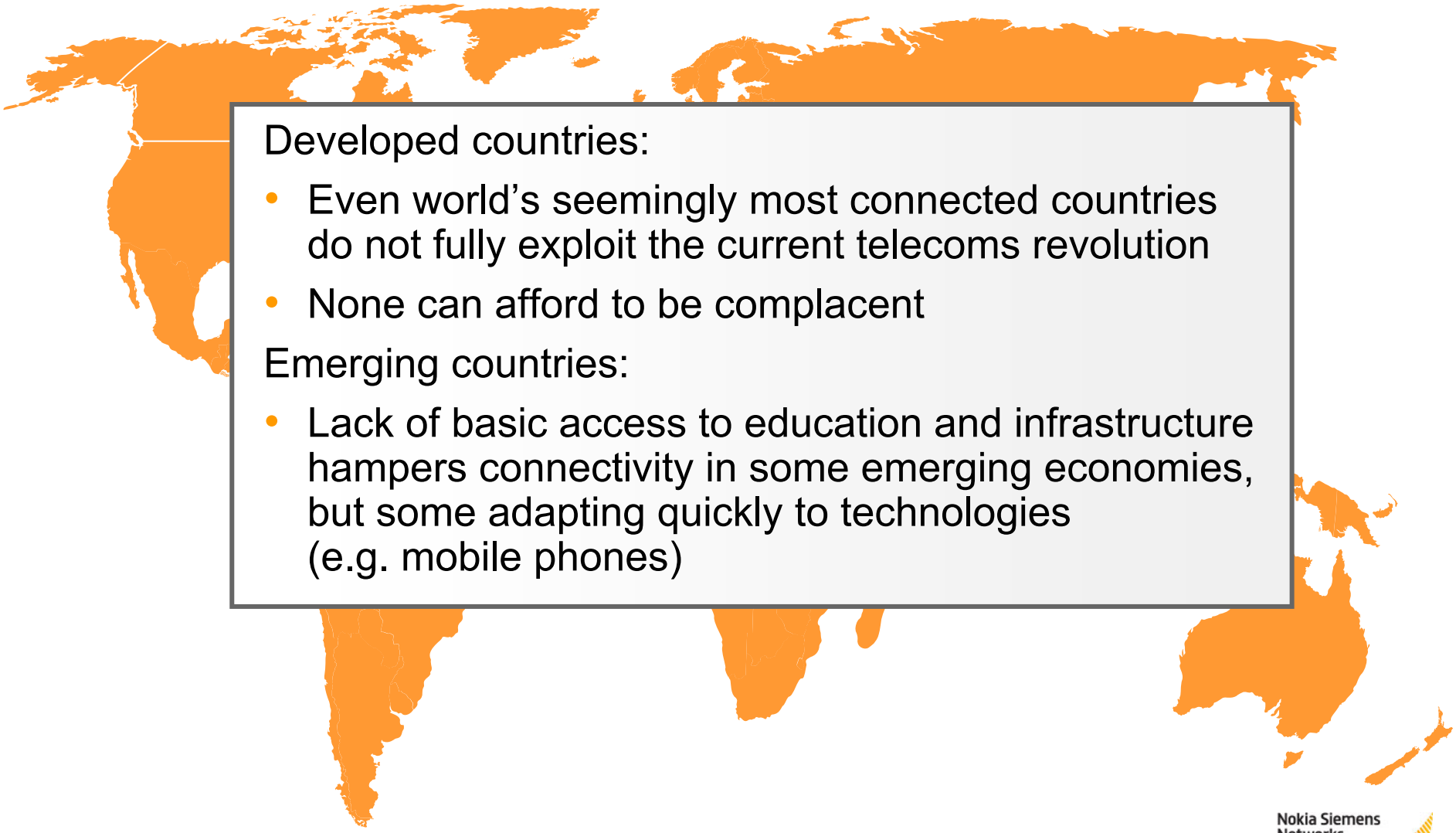
- Top-ranked United States earns only 6.97 out of possible 10
- Korea, typically high scorer on other indexes, ranks 10th
- Average is only 5.05

Results: Efficiency and resource driven economies

Efficiency and resource driven economies	Connectivity Score
Russia	6.11
Malaysia	5.82
Mexico	4.37
Brazil	4.28
South Africa	4.27
China	3.42
Philippines	2.99
India	1.68
Nigeria	1.10

- Russia is first, due to high literacy rate and good scores on several measures of usage and infrastructure, especially mobile
- China, world's fastest developing economy, came in sixth
- India, known worldwide for its tech and telecom expertise, was second-last
- Average score: 3.82

Observations



Developed countries:

- Even world's seemingly most connected countries do not fully exploit the current telecoms revolution
- None can afford to be complacent

Emerging countries:

- Lack of basic access to education and infrastructure hampers connectivity in some emerging economies, but some adapting quickly to technologies (e.g. mobile phones)

Connectivity Scorecard Summary

- First study to rank countries not only on deployment of telecom and IT infrastructure, but also on extent to which they are put to good use
- Surprising results – even world's most connected countries do not perform particularly well
- This is a call to arms
- As we move toward additional 2 billion people connected by 2015, government, businesses and citizens must work together to enable next generation of connectivity

Cooperation needed to utilizing full potential of ICTs and affordable connectivity

What can private sector do?

- Focus on the total cost of ownership
- Cost-effective end-to-end solutions
- Affordable and innovative devices and services

What can governments and regulators do?

- Independent regulator to foster healthy competition
- Compliance with global technological standards
- Imposing low or eliminating all taxes and duties on mobile devices, network infrastructure equipment and services
- Delivering a regulatory framework that facilitates convergence

Conclusions

- Majority of the next 2 billion people to be connected come from emerging markets and from the lower-income segment
- Total cost of ownership (taxation, service and the handset) is what matters most for low-income consumers
- New innovative solutions such as our Village Connection can lower the total cost of ownership and bring affordable communications to rural villages
- Connectivity Scorecard demonstrates that countries could benefit more from deployment of telecom and IT infrastructure - utilizing the full potential and benefits of ICTs
- Governments, regulators, businesses and citizens must work together towards achieving universal access

Thank you.