1000x Capacity Challenge…

Dimitris Kolokotronis

5th Infocom Mobile World 2015

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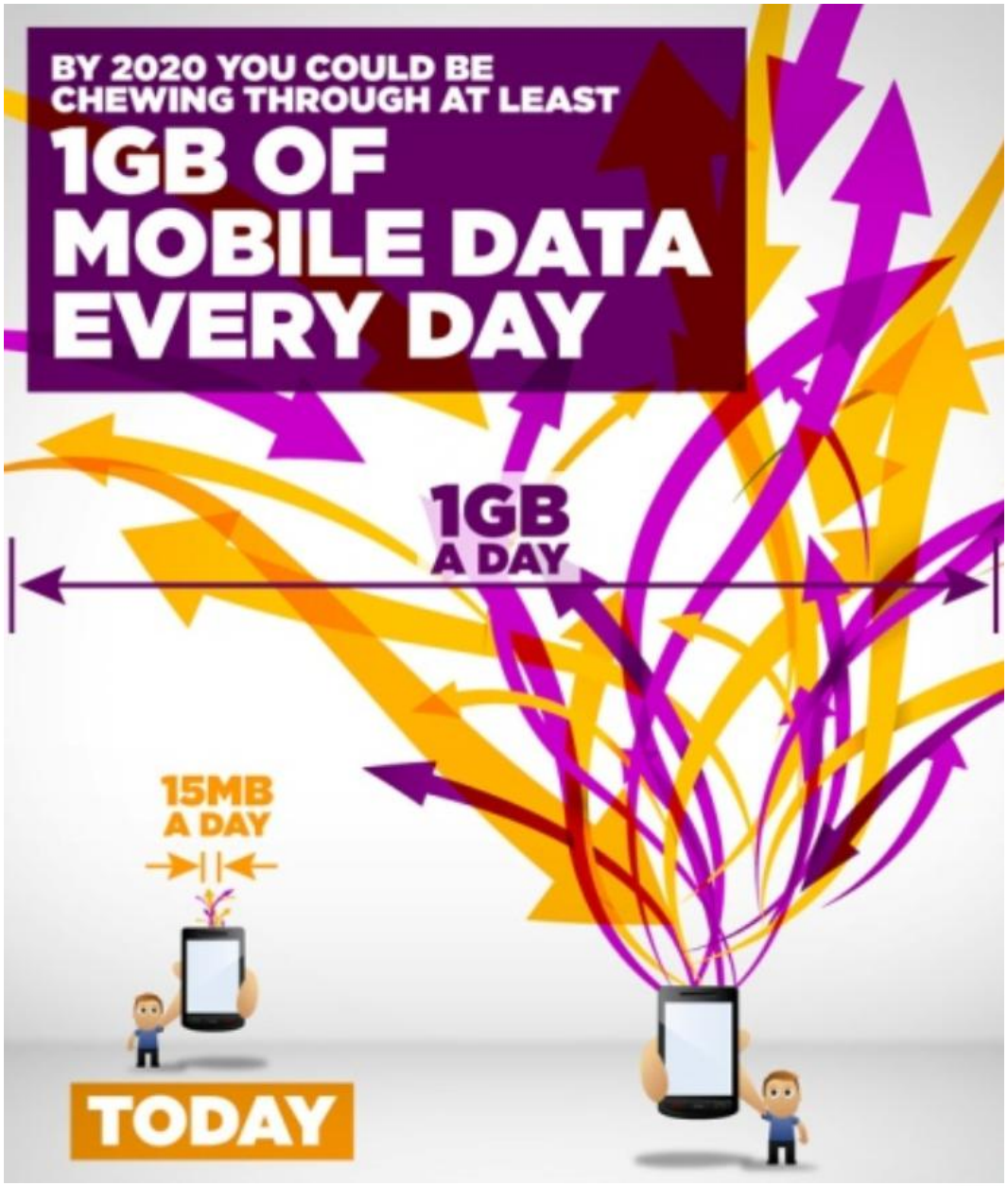
Nokia Siemens Networks



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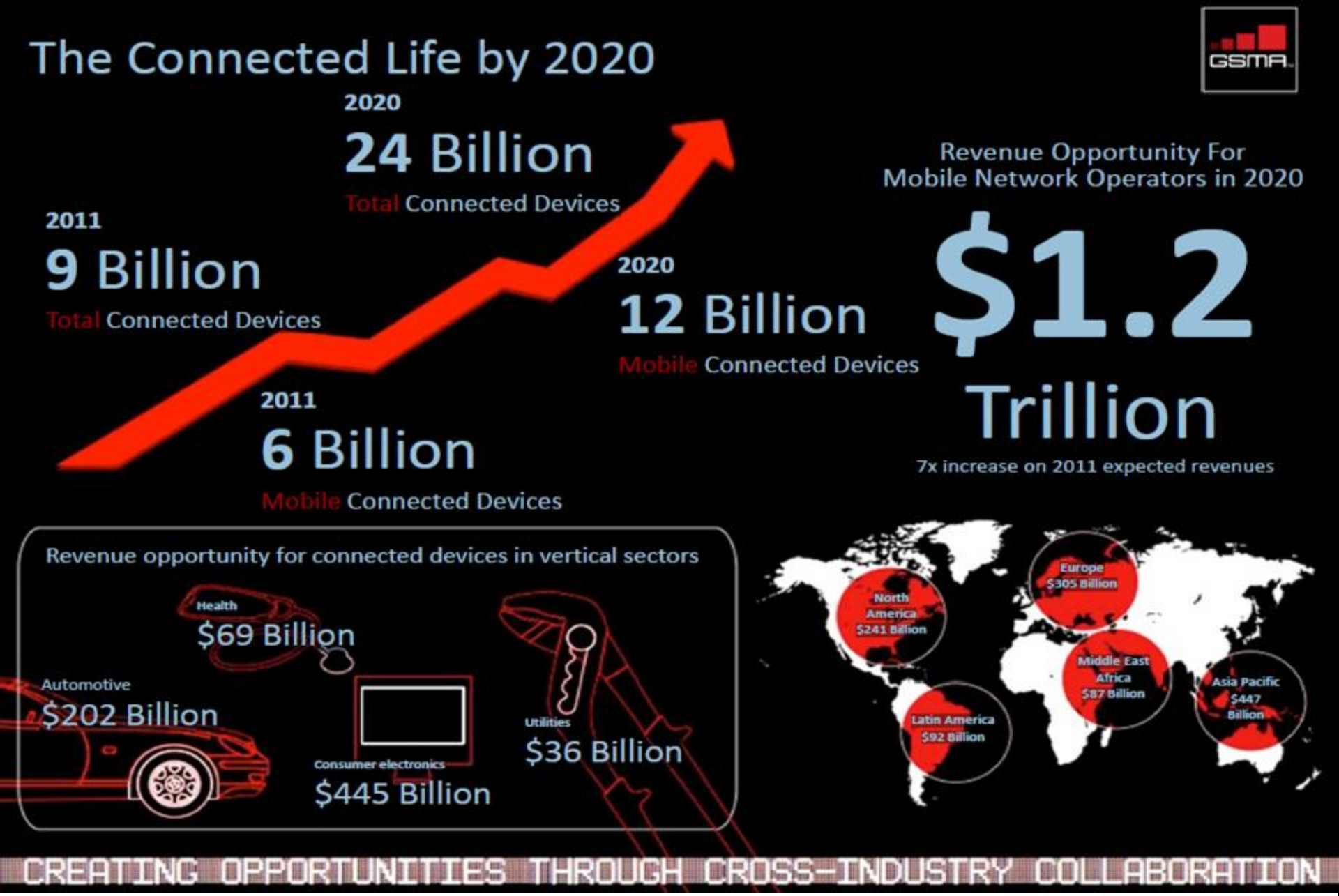
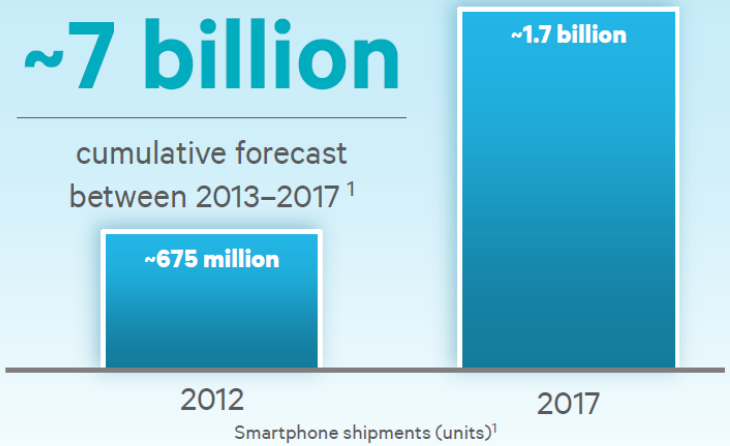

The Connected Life by 2020
GSMA
2020
24 Billion
Total Connected Devices
2011
9 Billion
Total Connected Devices
2020
12 Billion
Mobile Connected Devices
2011
6 Billion
Mobile Connected Devices
Revenue Opportunity For
Mobile Network Operators in 2020
$1.2
Trillion
7x increase on 2011 expected revenues
Revenue opportunity for connected devices in vertical sectors
Health
$69 Billion
Automotive
$202 Billion
Consumer electronics
$445 Billion
Utilities
$36 Billion
North America
$241 Billion
Europe
$305 Billion
Middle East
Africa
$87 Billion
Asia Pacific
$447
Billion
Latin America
$92 Billion
CREATING OPPORTUNITIES THROUGH CROSS-INDUSTRY COLLABORATION

QUALCOMM®

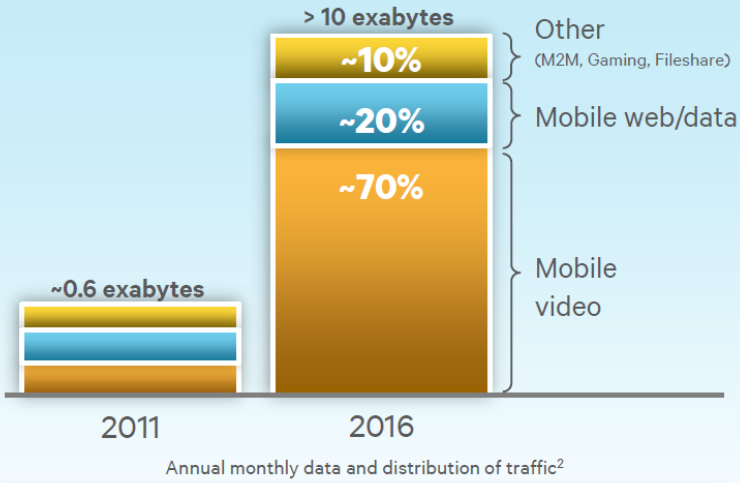
Clear trends: accelerated smartphone growth and more video

Smartphone growth



- Drives more traffic per device
- Need to address 'chatty' application signaling challenges

More mobile video



- Drives overall traffic
- Need video optimizations, efficient delivery channels, broadcast.

[1]Source: Gartner, March '13; [2]Source Cisco VNI Mobile 2012

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On top… People do not stay still

One-off events can surge demand…

Networks are planned for “busy-hour”…

Industry preparing for

1000x

data traffic growth

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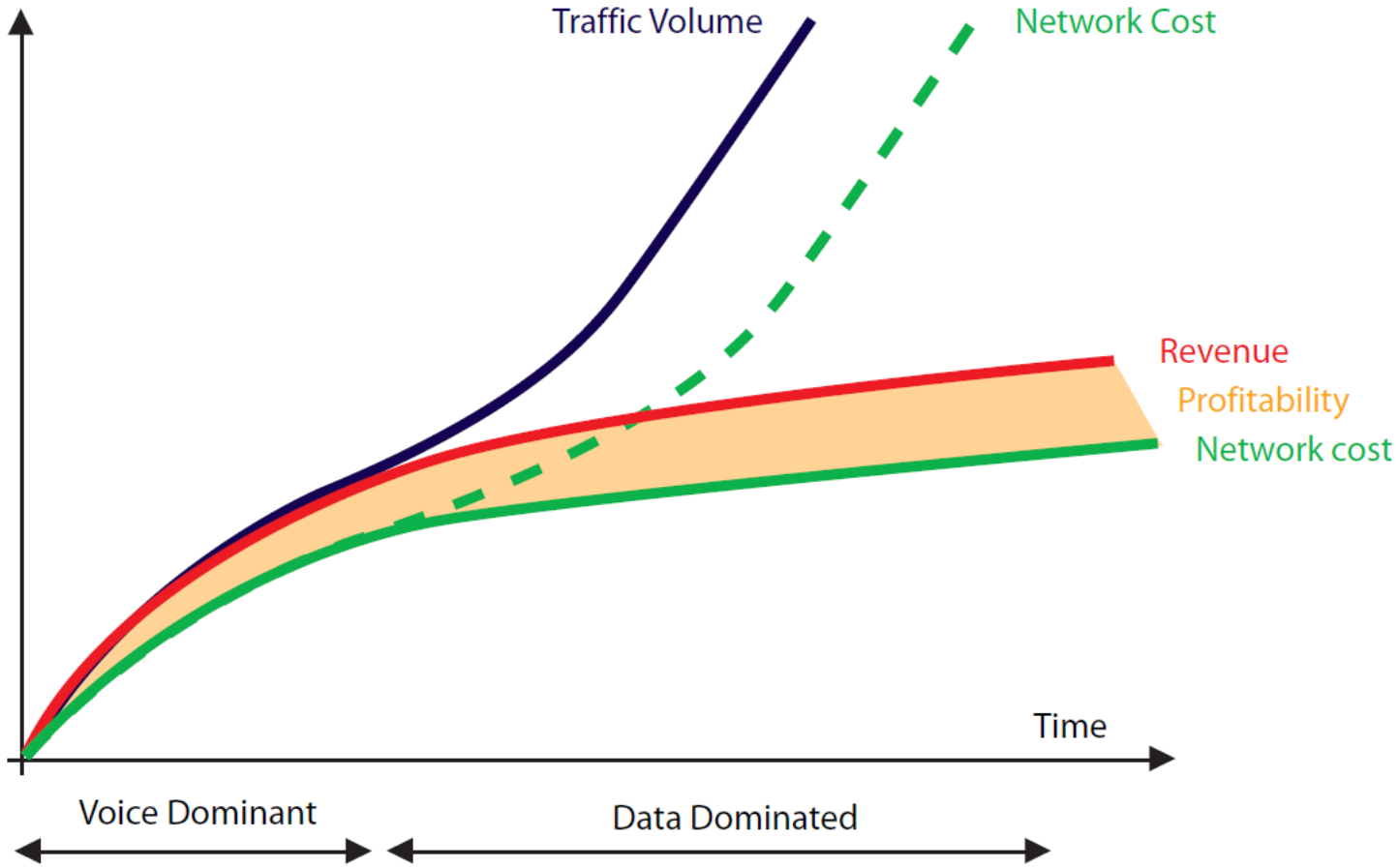

The cost per bit must be reduced for operators to remain profitable
Source: Nokia Siemens Networks

SK telecom

$$C_{Supply} = B_{MHz} \times E_{\frac{Mb}{s}/MHz} \times N_{Cells}$$

$$C_{2020}/C_{Today} = 1000 \approx 3 \times 6 \times 56$$

SK Telekom's presentation at the 3GPP workshop on "Future Radio in 3GPP"

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KEEP CALM AND INNOVATE

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1000x is not just about adding resources

With **higher efficiency** techniques

The whole is greater than the sum of the parts

1 + 1 > 2

Squeeze more out of cells

$$C_{Supply} = B_{MHz} \times E_{\frac{Mb}{s}/MHz} \times N_{Cells}$$

$$C_{2020}/C_{Today} = 1000 \approx 3 \times 6 \times 56$$

$$C_{2020}/C_{Today} = 1000 \approx 3 \times 56 \times 6$$

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