

R E P O R T E X C E R P T

The Global Mobile Capex Index

Analyzing the Big MNO Spenders

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Pyramid Research
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Overview

New technologies and changing business models are affecting the capital expenditures of mobile network operators and thus the fortunes of equipment vendors. In a Capex landscape that is evolving faster than ever, and in new directions, it is imperative to know what main MNOs around the world are doing, how their Capex budgets have evolved, and what plans they have for their budgets and deployments. To provide this information, Pyramid Research has analyzed Capex levels, trends, and drivers for 15 of the leading MNOs globally and created the Pyramid Research Global Mobile Capex Index.

This analysis and the Index are available in the report *The Global Mobile Capex Index: Analyzing the Big MNO Spenders*, which is part of an ongoing study of capital spending trends by Pyramid Research. This report marks the first analysis built around the Pyramid Research Global Mobile Capex Index.

In *The Global Mobile Capex Index: Analyzing the Big MNO Spenders*, we look at 15 MNOs, carefully selected from all main markets in the world, both emerging and mature, to provide maximum insight into business opportunities for mobile network vendors as well as benchmarks for operators globally. We calculated the Index by tracking Capex for each company on an annual and quarterly basis from 2004 to 2006 and forecasting for 2007. According to our figures for 2006, the Index accounted for 63% of the world's total MNO Capex and 70-75% of overall MNO service revenue.

The companies in our Index are América Móvil, AT&T Mobility, Bharti Airtel, China Mobile, China Unicom, MTN, MTS, NTT DoCoMo, T-Mobile, 02, Orange, Sprint Nextel, Telefónica Móviles, Verizon Wireless, and Vodafone.

Key Objectives

- In the report *The Global Mobile Capex Index: Analyzing the Big MNO Spenders*, Pyramid Research analyzes capital expenditure levels, trends, and drivers, and compares the strategies of the 15 MNOs that make up the Index.
- We examine investments made by the MNOs to maintain existing networks, to increase coverage and capacity, and to support network enhancements, including software and hardware upgrades.
- We profile each of the 15 MNOs in the Index, analyzing their past Capex activities, determining their Capex-to-service revenue ratios, and looking forward to their upcoming Capex projects.

Target Audience

Operators

This report offers a comparative analysis of technological performance, Capex, and Opex for fixed and mobile broadband technologies, including WiMAX, DSL and 3G+. This should help operators get a deeper understanding on how WiMAX can impact their business model as they make investment decisions.

Equipment vendors

The report assists vendors in evaluating the market potential of the respective network technologies and in positioning products and services for the broadband opportunity.

Financial institutions and investors

By evaluating the network performance and economics behind WiMAX in comparison to the other broadband technologies, the report helps financial institutions and investors determine the business cases of service providers and vendors.

Executive Summary

- An analysis of capital expenditure levels, trends, and drivers, this report provides top-level Capex profiles for 15 of the leading mobile operators in the world, offering insight into the business opportunity for mobile network vendors as well as benchmarks for operators across the world.
- We created a Capex Index comprising 15 MNOs from a mix of emerging and mature markets; we calculated the Index by tracking Capex for each company on an annual and quarterly basis from 2004 to 2006 and forecasting for 2007. According to our figures for 2006, the Index accounted for 63% of the world's total MNO Capex and 70-75% of overall MNO service revenue.
- Capex usually includes additions to property, plant, and equipment; more specifically, mobile network Capex is allocated to infrastructure, civil works, applications (including software and hardware), backhaul, and professional services.
- The companies in our Index are América Móvil, AT&T Mobility, Bharti Airtel, China Mobile, China Unicom, MTN, MTS, NTT DoCoMo, T-Mobile, O2, Orange, Sprint Nextel, Telefónica Móviles, Verizon Wireless, and Vodafone.
- The MNO Capex Index volume, which was \$56bn in 2004, increased by double digits in 2005 and 2006, but we expect the trend to change course in 2007.
- Infrastructure combined with civil works has accounted for most Capex, we have found, but as 3G network Capex shifts from expanding coverage and capacity to upgrading software and hardware capabilities, this is beginning to change.
- Generally, Capex is increasing faster in emerging markets than in mature markets. Our profiles of the 15 MNOs in the Index show that in developing markets, Capex is spent to support rapid increases in subscriber growth as well as greenfield network rollouts—increases in coverage that often lead to high Capex-to-service revenue ratios. While additions to coverage are also made in mature markets, Capex in developed markets today often has a different focus, as the report's profile of AT&T Mobility illustrates.
- The report also provides specific figures on such items as the aggregate Capex of the companies in the Index in 2004-2006 with an estimate for 2007, the current and projected spending on applications as a percentage of aggregate Capex, seasonal patterns in Capex, the aggregate Capex-to-service revenue ratio for the Index over time, the total Capex of the 15 MNOs in the Index in 2004-2006 with an estimate for 2007, Capex-to-service revenue ratios for each MNO, important past and future deployments for each MNO, and major contracts with specified vendors.

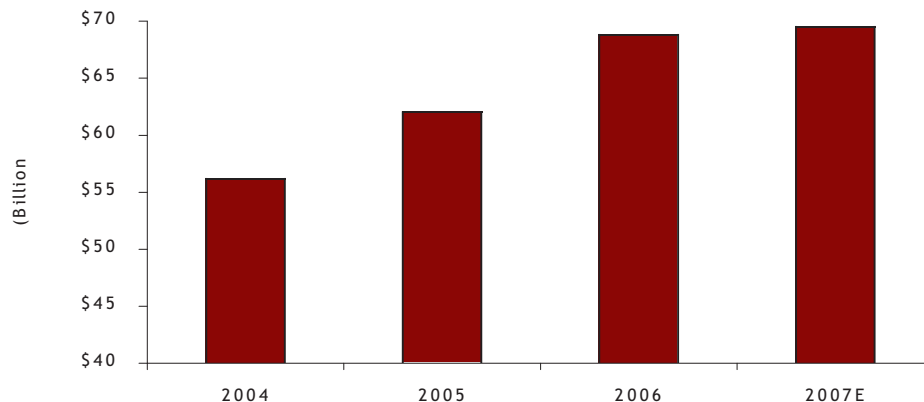
Report Extract

Capex growth slows among leading MNOs

MNO Capex is determined by a range of factors, including coverage, capacity, customer demand, the trend toward convergence and all-IP next-generation networks (NGNs), responses to competitors' network enhancements, and simply the need to create competitive advantage. To offset declining voice revenues, mobile operators have increasingly turned to data, and we believe that Capex, particularly in mature markets, will focus more on expanding capacity rather than coverage to support traffic based on the emerging mobile Internet. To provide a reliable indicator of the evolution of global MNO Capex, Pyramid Research has created an MNO Capex Index comprising a mix of the top mobile operators in the world.

- In 2006, the Index exhibited double-digit growth for the second consecutive year, reaching \$69bn (see Exhibit 1). Not surprisingly, Capex grew the most among companies operating in emerging markets. For example, India's leading mobile operator Bharti Airtel tripled Capex to US\$1.8bn in 2006, driven by revenue growth of 58% in 2005 and 62% in 2006. Also, leading spender China Mobile, with approximately 20% subscriber growth during 2006, increased Capex by nearly \$2.3bn to support more than 300m subscribers using its network.

Exhibit 1: Capex Index, 2004-2007E



Source: Operators, Pyramid Research estimates.

- After two consecutive years of stable double-digit growth, we believe the Index will stabilize in 2007 at only 1-2% growth. In some mature markets, we expect Capex to subside, particularly for those operators that have completed the bulk of their 3G investments. For example, NTT DoCoMo, which launched W-CDMA services in 2001, already covers 99% of the population with its 3G services, labeled FOMA. We expect a decline in the company's Capex, which will be allocated partly to a software upgrade to HSDPA labeled 'FOMA High-Speed' as well as to adding indoor and outdoor base stations providing enhanced coverage at government agencies, educational institutions, and train stations.

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Dan Locke is an Analyst with Pyramid Research's Communications, Media and Technology team. He is based out of Pyramid's headquarters in Cambridge, Massachusetts. As a member of the CMT Research Group, Dan is responsible for conducting in-depth research about emerging technologies. Dan's work is focused on mobile broadband, and he tracks the US and Canadian mobile markets. Recently, Dan completed several internships and consulting engagements where he embraced roles as an Information Technology Research Analyst for BrassRing, a Financial Analyst for Eurovest Development and a project management intern for Blue Cross Blue Shield. He also has experience working as a Research Assistant on Psychological experiments conducted at the Veterans Administration Hospital as well as experience as a diamond salesman working for a start-up diamond wholesaling company.

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