

# Wireless Backhaul via Satellite

7<sup>th</sup> Edition

Moving to HTS, MEO-HTS and 3G/4G Services

Report Brief

June 2013

## Report Description

In *Wireless Backhaul via Satellite, 7th Edition* NSR analyzes the upcoming programs and game changing elements in the wireless backhaul via satellite market and offers new perspective for market players looking for the inside edge.

NSR's 7th generation of WBvS assesses both 3G and 4G prospects and HTS and MEO-HTS propositions from a qualitative and quantitative perspective, giving readers a complete analytical tool to help track the development and advances of this evolving market

Specific satellite earth station equipment forecasts and picocells for wireless technology solutions are provided per region, both on Fixed Land Towers and Mobility Platforms. The evolution or move towards higher data traffic on IP is quantified as well.

*Wireless Backhaul via Satellite, 7th Edition* answers the fundamental questions about wireless backhaul satcom services:



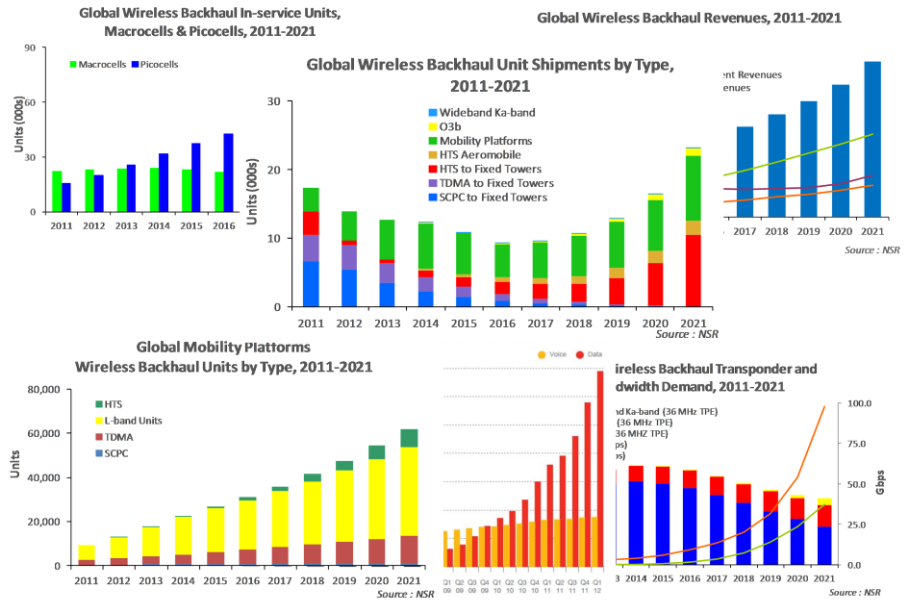
- Which technology offering or satellite program is the most compelling today? Which over the long term? Why?
- Which program or offering wins and which loses?
- Can satellites play in the 3G/4G market? If so, what solution(s) are the best fit?
- Where are SCPC and TDMA headed?
- What is the overall effect of HTS?
- What are the prospects of MEO-HTS?
- What is the overall effect of Wideband Ka-band?
- Who are the key players? What is their market differentiator? Is there one?
- What is the current and long term role of satellite backhaul for each regional market?

- Which regions provide the best backhaul prospects over the next 10 years?
- What is the expected take-up rate per wireless offering, and what are the implications for satellite-backhauled equipment?
- What level of satellite bandwidth demand is likely to be required in each regional market for the provision of wireless backhaul services?
- What is the impact of wireless broadband connectivity to the satellite backhaul market?
- How do prices affect market take-up for satellite backhaul solutions?

## **NSR's Wireless Backhaul via Satellite, 7th Edition Report Highly Detailed Forecasts and Hundreds of Data Points**

### **Unparalleled Market Forecasts**

- **Satellite Backhauled Sites, by Technology Platform**
- **Satellite Backhauled Sites, by**
  - 2G/2.5G
  - 3G/4G
- **Annual Unit Shipments of Satellite-based Equipment**
- **Installed Base & Unit Shipments of Backhaul Earth Stations**
  - Legacy SCPC
  - Legacy TDMA
  - Next-Generation Systems
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- **Ku-band Transponder Demand**
- **The HTS Impact**
- **MEO-HTS Demand**
- **Wideband Ka-band Demand**
- **Picocells**
  - Land
  - Maritime
  - Aeronautical



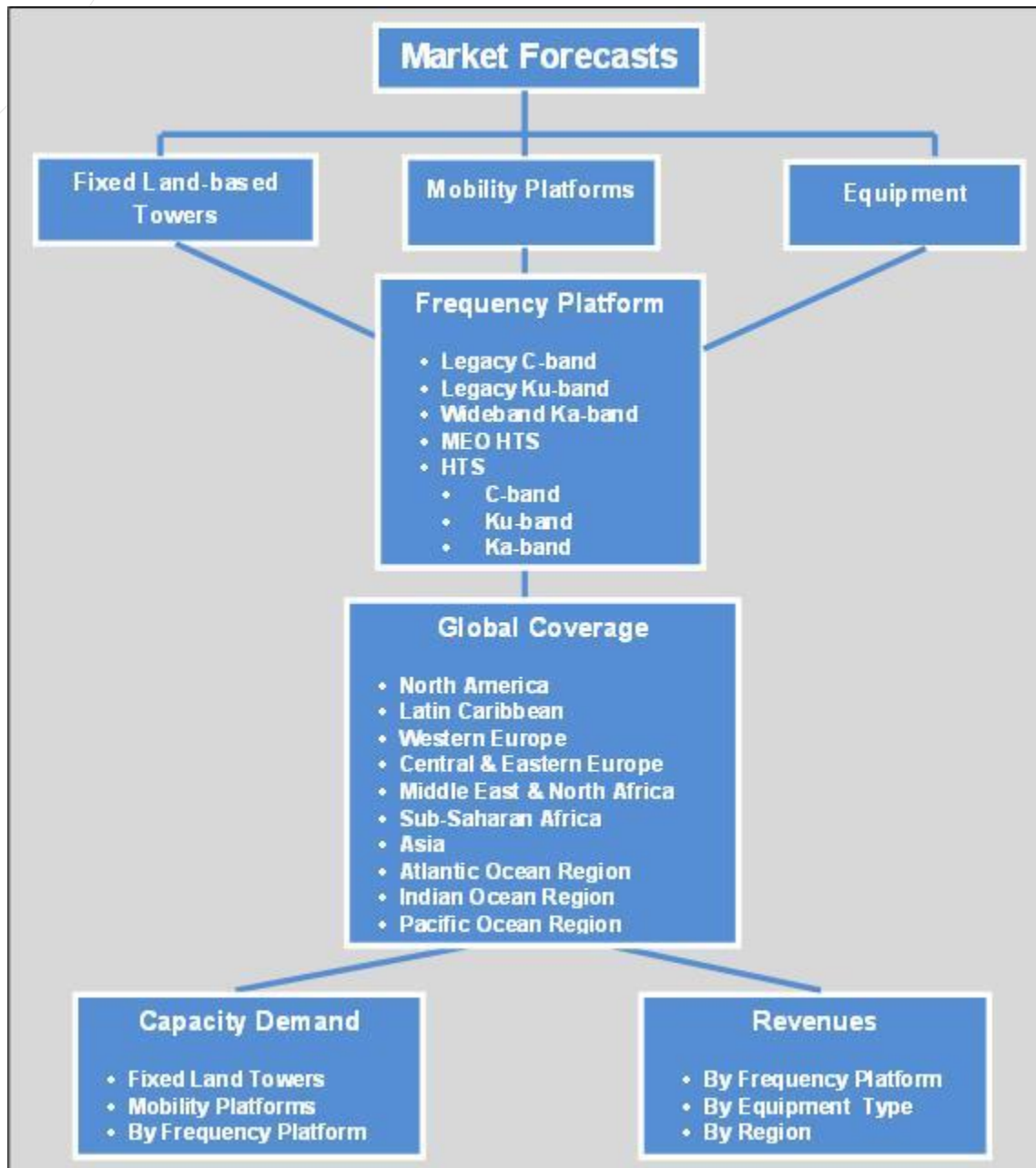
## The NSR Difference

After calling the market transition from legacy systems to next-gen programs in its 6th edition NSR’s Wireless Backhaul via Satellite, 7th Edition investigates the shift systems as well as soon-to-be-launched programs will succeed or experience serious challenges over the short to long term.

WBVs7 continues the NSR tradition of providing an honest assessment of market worth by assessing and scrutinizing the value proposition of market players in Fixed Land-based Towers and the emerging Mobility Platforms segments. Wireless Backhaul via Satellite, 7th Edition assists the reader in navigating various market segments, regions and platform choices for this promising but risky business landscape.

## Key Findings

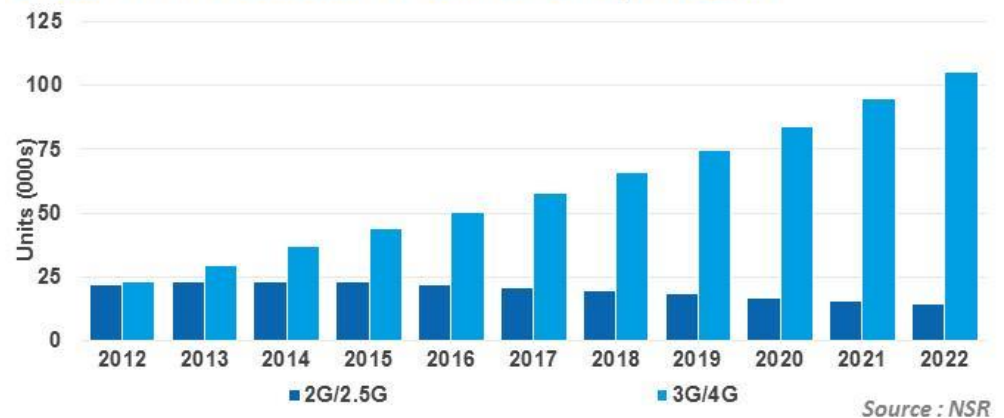
NSR's WBS7 Report Data Segmentation



## Who Should Purchase this Report:

- Satellite Operators
- Satellite Service Providers
- Satellite Equipment Manufacturers
- Mobile & Cellular Service Providers
- Mobile & Cellular Equipment Manufacturers
- Wi-Fi and WiMAX Market Players
- National Telephony Operators
- Wireless Trade Associations

## Global Wireless Backhaul via Satellite Units, 2012-2022



## Primary Elements of the Report Include:

- **Market Analysis**
  - **Vendor Analysis**- competitive positioning and NSR's analysis of those best positioned to succeed
  - **Business Case Considerations**
    - Rural/Underserved Areas Bandwidth Requirements
    - ARPU Levels

- Operator Considerations in provisioning 3G/4G in Rural/Underserved Areas
  - Data Traffic
- **Pricing Trends and Analysis**
  - Transponder Demand
  - Demand for HTS & MEO-HTS
  - BTS Equipment by Type
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- **Market Forecasts (2012-2022)**
- **Platform Type**
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    - 3G/4G
  - TDMA/ IP VSATs
    - 2G/2.5G
    - 3G/4G
- **Next-generation Systems Installed Base and Equipment Revenues**
  - Macrocells
  - Microcells, Picocells, Small Cells

## Executive Summary

With iPSTAR paving the way for the shift to next-generation platforms, soon-to-be-launched programs such as O3b, EPIC, Global Express and other regional HTS are expected to impact key regions, specifically Asia, North America, Latin America and Africa.

In 2013, the Wireless Backhaul via Satellite market is in the early stages of the transition or shift from legacy SCPC and TDMA solutions running on C-band and Ku-band transponders to next-generation solutions, specifically HTS and O3b. HTS, notably iPSTAR has proven a business case for 3G services and continues to establish a solid foothold in the market with 4G being trialed as the next step and perhaps evolution of the backhaul market via satellite.

The much awaited launch of O3b in 2013 will immediately impact the market via implementation of its pre-assigned or backlogged contracts, while Intelsat's upcoming EPIC platform appears to be aggressively positioning itself for the shift as well. Inmarsat's Global Express appears to be a game changer in the Mobility Platforms segment, while other HTS players that have not targeted wireless backhaul are now taking a more serious look at the business opportunity.

## Report Overview and Key Findings

The wireless backhaul market is expected to show varied opportunities within the forecast period. The market includes three core segments, and each one is expected to exhibit positive growth with Mobility Platforms accounting for the highest levels of market expansion as well as the highest levels of revenue.

In terms of in-service units, although the aggregate market appears steady, individual platforms and their corresponding penetration within a 10-year period show different trends. Mobility Platforms are expected to be the most stable and the most robust in terms of growth followed by HTS for Fixed Land Towers. O3b and HTS Aeromobile are expected to show steady growth in installed units as well. However, Legacy SCPC and TDMA systems are expected to decline in favor of newer technologies, which is the most pronounced manifestation of the market shift.

Regionally, the top market in revenue terms is expected to Asia. North America, Sub Saharan Africa and Latin America can be considered the second tier of regional demand where market shares are closely aligned. Asia, Sub Saharan Africa and Latin America are dominant in the Fixed Land Tower market, while North America is highly dominant in the Mobility Platforms segment. The third tier of

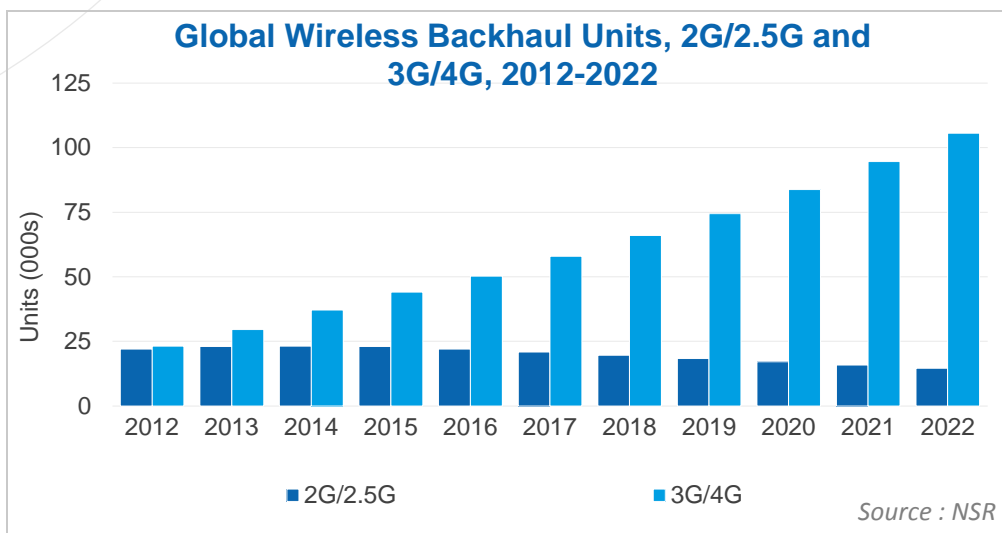
### Global Revenues 2012-2022

<b>Cumulative</b>	\$19.4 Billion
<b>Asia</b>	24.4%
<b>NAM</b>	13.9%
<b>SSA</b>	13.6%
<b>LATAM</b>	13.4%



demand can be found in Western Europe, Central and Eastern Europe, Middle East/North Africa and the ocean regions.

**Exhibit 1: Global Wireless Backhaul In-service Units, 2012-2022**



Finally, 3G/4G services are expected to take hold at a fast rate. Driven by Mobility Platforms as well as the steady increase in Fixed Land-based Tower deployments, NSR expects 2G/2.5G services to decline incrementally within the forecast period.

CAPEX and OPEX remain key factors that have to be addressed, which could ultimately lead to market dominance by a single platform

## Bottom Line

The wireless backhaul market is in transition at many levels:

- Legacy SCPC/TDMA systems running on C-band and Ku-band transponders are expected to move to next-generation systems, specifically HTS and MEO HTS;
- Demand for Macrocells is expected to be outpaced by Picocells;
- 2G/2.5G installations will give way to 3G/4G deployments.

Regionally, the market has the following dynamics:

- The Fixed Land Tower market is a developing country proposition;
- The Mobility Platforms market is mainly a developed country market offering; however, wealthy consumers in emerging and developing country markets are likewise contributing to growth;
- The development of affordable form factors as well as the bandwidth heaviness of content drives the need for 3G/4G services even in areas where ARPU levels are a fraction of developed urban markets.

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- Key Next-generation Programs – O3b

- Key Next-generation Programs – Intelsat EPIC

- Key Next-generation Programs – Inmarsat’s Global Express (IGX)

- Key Next-generation Programs – Bottom Line

#### Legacy Versus Next-generation Solutions

- Legacy SCPC on C-band and/or Ku-band Transponders

- Legacy TDMA on C-band and/or Ku-band Transponders

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- Wideband Ka-band

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