

PROSPECTS FOR SATELLITE COMMUNICATIONS & BROADCASTING IN AFRICA

2015 Edition | A Euroconsult **Strategic Review**

A detailed assessment of strategic trends in one of the most promising but competitive satellite markets.

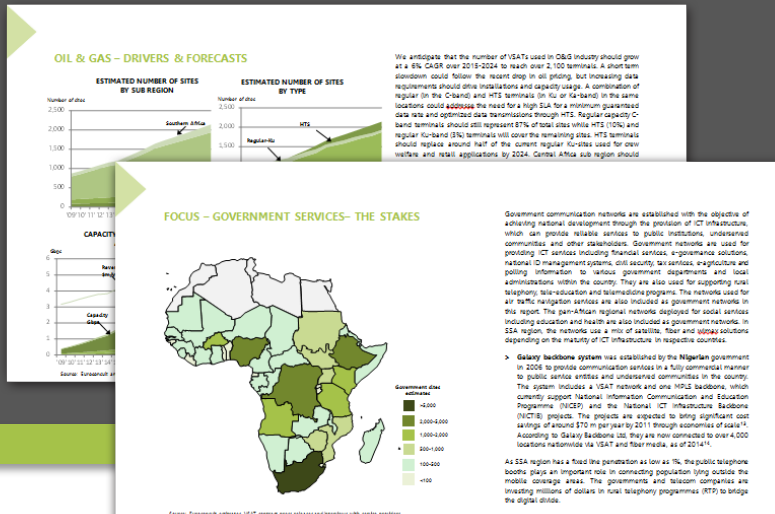
- ✓ Nearly 100 pages
- ✓ Over 120 graphs & tables
- ✓ Thousands of data points
- ✓ Comprehensive PDF & Excel digital files
- ✓ Price starting at € 4,500

Overall usage for satellite capacity in Sub-Saharan Africa increased at an 11% CAGR over 2009-2014 despite the spread of terrestrial fiber networks and the decrease of international trunking. Euroconsult further anticipates an 11% CAGR for capacity leased over the next decade, for a total of close to 200 Gbps of traffic flowing over satellite.

Multiple drivers support a strong future increase in the use of satellite communication services, including:

- Digital TV growth is still only in its early phase; the transition process to digital terrestrial television has just begun. In parallel, satellite pay-TV, despite the signing of more than 10 million subscribers in the last ten years, is only beginning to penetrate the market
- Mobile penetration keeps increasing along with universal access requirements, while 3G and potentially 4G expansion will create new connectivity requirements
- A variety of segments, such as oil & gas, banking, mining, and government networks will require more connectivity as operations either diversify or expand geographically
- A number of new enterprise hot spot markets are evolving particularly in East and West Africa in addition to the historically strong VSAT markets like South Africa, Nigeria, Angola, Kenya and Tanzania. This should contribute to overall market growth across Sub-Saharan Africa
- Broadband access for consumers and enterprises offers new opportunities on the back of new HTS capacities and services. Also, the usage of HTS capacity for trunking should increase for landlocked countries like DR Congo and South Sudan at least in the short to medium term as fiber availability remains limited and unreliable.

For operators, the ability to create new differentiators will be key in a context of large capacity supply, which includes the development of video neighborhoods, of selected service platforms and the co-development of projects with local service providers and end-users. For service and equipment providers, the rollout of more sophisticated solutions and a potential consolidation of service providers should contribute to market growth. The emergence of new free-to-air and pay-TV platforms should also shape the future African TV market.



ABOUT PROSPECTS FOR SATELLITE COMMUNICATIONS & BROADCASTING IN AFRICA 2015

HIGHLIGHTS OF THE REPORT:

The strategic review is a detailed assessment of strategic trends in Africa's competitive satellite market. It includes a review of the complete value chain, from service development and equipment rollout in eight key vertical segments to the supply and use of satellite capacity. In addition to regional trends within four sub-regions, the report includes 10 profiles of key national markets in Sub-Saharan Africa.

VERTICAL SEGMENTS

- Trunking/Backhaul
- Government Networks
- International Organizations & NGOs
- Oil & Gas
- Mining
- Banking
- Broadband Access
- Broadcasting Services

COUNTRY PROFILES

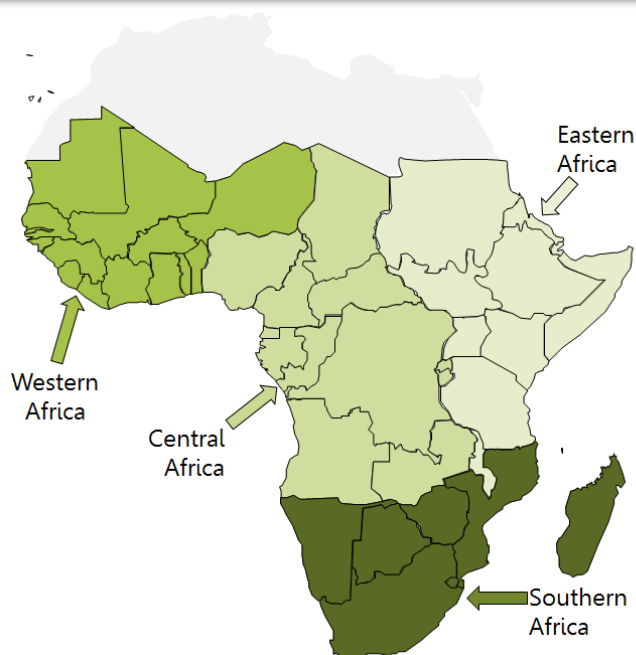
- South Africa
- Namibia
- Nigeria
- Democratic Republic of Congo
- Ethiopia
- South Sudan
- Kenya
- Senegal
- Angola
- Ivory Coast

METHODOLOGY

The analysis, data and estimates for this report relied on two complementary approaches:

- Primary research involving interviews with over 35 stakeholders operating in the Sub-Saharan Africa region
- Secondary research involving a broad review of public information, including reports from government organizations, press releases, articles and other sources, some of which are listed at the end of the report.

THE FOUR REGIONS CONSIDERED IN THE AFSAT REPORT



EXECUTIVE SUMMARY

01\ DEVELOPMENT DYNAMICS IN AFRICAN COUNTRIES

- > DIVERSE GEOGRAPHIES AND WEATHER CONDITIONS
- > POWERFUL DEMOGRAPHICS IN MOST COUNTRIES
- > CONTINUOUS BUT UNSTABLE ECONOMIC GROWTH
- > OVERVIEW OF POLITICAL REGIME AND SECURITY STATUS

02\ DRIVERS AND FORECASTS FOR KEY MARKET VERTICALS

- > OVERVIEW OF THE COMMUNICATION MARKET IN SSA
- > COVERAGE OF COMMUNICATION NETWORKS IN SSA
- > MOBILE SUBSCRIPTIONS – PUSHING THE LIMITS
- > EMERGING INTERNET/BROADBAND ACCESS
- > MNOS - COMPETITION, INVESTMENT & CONSOLIDATION
- > VSATS IN SERVICE AND SHIPMENTS
- > SATELLITE CAPACITY SUPPLY AND DEMAND
- > OVERVIEW OF THE SATCOM SERVICE MARKET
- > SATCOM VERTICAL – CELL BACKHAUL AND TRUNKING
- > SATCOM VERTICAL – GOVERNMENT SERVICES
- > SATCOM VERTICAL – INTERNATIONAL ORGANISATIONS AND NGOS
- > SATCOM VERTICAL – OIL & GAS
- > SATCOM VERTICAL – MINING
- > SATCOM VERTICAL – BANKING
- > SATCOM VERTICAL – BROADBAND ACCESS
- > SATCOM VERTICAL – TELEVISION

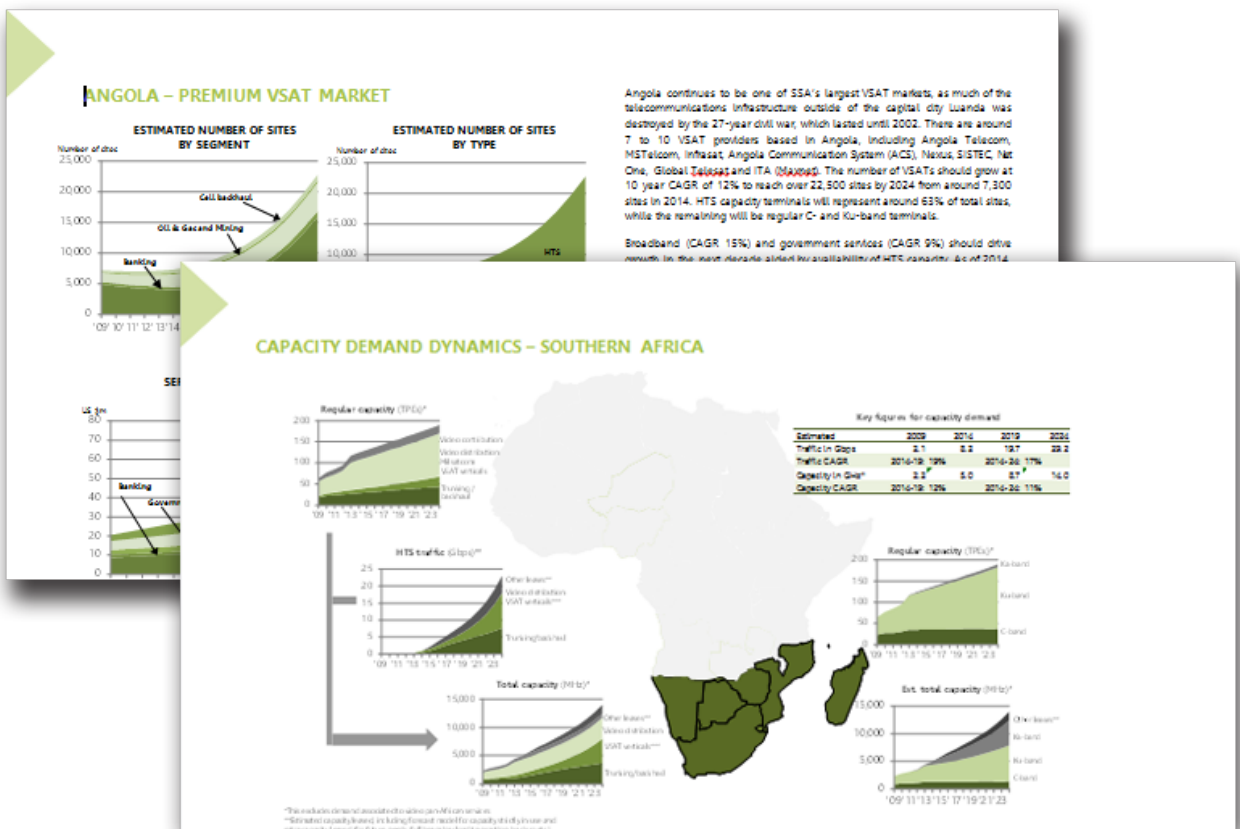
03\ PROSPECTS FOR CAPACITY AND USAGE

- > CAPACITY SUPPLY IN AFRICA STILL ON THE RISE
- > DIVERSIFIED SUPPLY
- > CAPACITY DEMAND – overview
- > CAPACITY DEMAND DYNAMICS
 - WESTERN AFRICA
 - CENTRAL AFRICA
 - EASTERN AFRICA
 - SOUTHERN AFRICA
- > FILL RATES AND CAPACITY PRICING

04\ COUNTRY FOCUSES

NIGERIA
DEMOCRATIC REPUBLIC OF CONGO
ANGOLA
SOUTH AFRICA
NAMIBIA

ETHIOPIA
KENYA
SOUTH SUDAN
IVORY COAST
SENEGAL



01\ DEVELOPMENT DYNAMICS IN AFRICAN COUNTRIES

DIVERSE GEOGRAPHIES AND WEATHER CONDITIONS:

POWERFUL DEMOGRAPHICS IN MOST COUNTRIES

- TOTAL POPULATION (MILLION) & RURAL POPULATION OF TOTAL POPULATION (%) IN 2013
- SUB REGION POPULATION (MILLION) (2005, 2010, 2015, 2020) - WESTERN, CENTRAL, EASTERN & SOUTHERN AFRICA BREAKDOWN

CONTINUOUS BUT UNSTABLE ECONOMIC GROWTH

GDP PER CAPITA, PPP, 2003 & 2013
(COVERING WESTERN, CENTRAL, EASTERN & SOUTHERN AFRICA)

OVERVIEW OF POLITICAL REGIME AND SECURITY STATUS:

- REFUGEE HOSTING COUNTRIES MAPPING (2013)

02\ DRIVERS AND FORECASTS FOR KEY MARKET VERTICALS

OVERVIEW OF THE COMMUNICATION MARKET IN SSA

COVERAGE OF COMMUNICATION NETWORKS IN SSA

- MOBILE COVERAGE BY SUBREGION IN TERRITORY AND POPULATION
- SHARE OF COUNTRIES WITH AT LEAST ONE 3G NETWORK IN SERVICE
- ESTIMATED MOBILE BASE STATIONS BY SUBREGION ('000)

MOBILE SUBSCRIPTIONS – PUSHING THE LIMITS

(COVERING WESTERN, CENTRAL, EASTERN & SOUTHERN AFRICA)

EMERGING INTERNET/BROADBAND ACCESS

(COVERING WESTERN, CENTRAL, EASTERN & SOUTHERN AFRICA)

MNOS - COMPETITION, INVESTMENT & CONSOLIDATION

- NUMBER OF OPERATORS BY SUBREGION
- LEADING MNOS: SUBSCRIBERS AND COUNTRY PRESENCE
- LEADING MNOS: MONTHLY MOBILE ARPU

VSATS IN SERVICE AND SHIPMENTS

- ESTIMATED VSATS IN SERVICE BY SUB REGION
- ESTIMATED VSATS IN SERVICE BY VERTICAL MARKET
- ESTIMATED VSATS IN SERVICE BY TYPE OF CAPACITY

SATCOM SERVICES

- ESTIMATED SERVICE REVENUES BY SUB REGION
- ESTIMATED BREAKDOWN OF REVENUES BY MARKET VERTICAL
- KEY REGIONAL SERVICE PROVIDERS (PRESENCE, NB OF MARKET VERTICALS)

FOCUS– CELL BACKHAUL AND TRUNKING – THE STAKES

CELL BACKHAUL AND TRUNKING – SATCOM SERVICES

- ESTIMATED NUMBER OF BTS SITES BY SUB REGION
- IP AND VOICE TRUNKING TRAFFIC BY TYPE
- RECENT SATELLITE CAPACITY AND SERVICE CONTRACTS

CELL BACKHAUL AND TRUNKING–DRIVERS & FORECASTS

- ESTIMATED NUMBER OF BTS SITES BY SUB REGION
- ESTIMATED NUMBER OF BTS SITES BY TYPE
- CAPACITY-USAGE BY SUB REGION AND REVENUES–CELL BACKHAUL & TRUNKING
- ANNUAL SERVICE REVENUES BY SUB REGION–CELL BACKHAUL

FOCUS – GOVERNMENT SERVICES– THE STAKES

GOVERNMENT– SATCOM SERVICES

- ESTIMATED NUMBER OF SITES BY SUB REGION
- USAGE PATTERNS OF SITES
- RECENT SATELLITE CAPACITY AND SERVICE CONTRACTS

GOVERNMENT SERVICES-DRIVERS AND FORECASTS

- ESTIMATED NUMBER OF BTS SITES BY SUB REGION
- ESTIMATED NUMBER OF SITES BY TYPE
- CAPACITY-USAGE BY SUB REGION AND REVENUES
- ANNUAL SERVICE REVENUES BY SUB REGION

FOCUS– INTERNATIONAL ORGANISATIONS AND NGOS – THE STAKES AND SATCOM SERVICES

INTERNATIONAL ORGANISATIONS AND NGOS – DRIVERS AND FORECASTS

- ESTIMATED NUMBER OF BTS SITES BY SUB REGION
- ESTIMATED NUMBER OF SITES BY TYPE
- CAPACITY-USAGE BY SUB REGION AND REVENUES
- ANNUAL SERVICE REVENUES BY SUB REGION

FOCUS – OIL & GAS – THE STAKES

OIL & GAS – SATCOM SERVICES

- ESTIMATED NUMBER OF SITES BY SUB REGION
- USAGE PATTERNS OF SITES
- RECENT SATELLITE CAPACITY AND SERVICE CONTRACTS

OIL & GAS – DRIVERS & FORECASTS

- ESTIMATED NUMBER OF SITES BY SUB REGION
- ESTIMATED NUMBER OF SITES BY TYPE
- CAPACITY-USAGE BY SUB REGION AND REVENUES
- ANNUAL SERVICE REVENUES BY SUB REGION

FOCUS– MINING – THE STAKES AND SATCOM SERVICES

MINING – DRIVERS AND FORECASTS

- ESTIMATED NUMBER OF BTS SITES BY SUB REGION
- ESTIMATED NUMBER OF SITES BY TYPE
- CAPACITY-USAGE BY SUB REGION AND REVENUES
- ANNUAL SERVICE REVENUES BY SUB REGION

FOCUS – BANKING – THE STAKES

BANKING – SATCOM SERVICES

- ESTIMATED NUMBER OF SITES BY SUB REGION
- USAGE PATTERNS OF SITES
- RECENT SATELLITE CAPACITY AND SERVICE CONTRACTS

BANKING – DRIVERS & FORECASTS

- ESTIMATED NUMBER OF SITES BY SUB REGION
- ESTIMATED NUMBER OF SITES BY TYPE
- CAPACITY-USAGE BY SUB REGION AND REVENUES
- ANNUAL SERVICE REVENUES BY SUB REGION

FOCUS – BROADBAND ACCESS – THE STAKES

BROADBAND ACCESS – SATCOM SERVICES

- ESTIMATED NUMBER OF SITES BY SUB REGION
- ISP BROADBAND SERVICE BY TYPE- NIGERIA
- CONSUMER BROADBAND PACKAGES

02\ DRIVERS AND FORECASTS FOR KEY MARKET VERTICALS

CONTINUED...

BROADBAND ACCESS – DRIVERS AND FORECASTS

- ESTIMATED NUMBER OF BTS SITES BY SUB REGION
- ESTIMATED NUMBER OF SITES BY TYPE
- CAPACITY-USAGE BY SUB REGION AND REVENUES
- ANNUAL SERVICE REVENUES BY SUB REGION

FOCUS – TELEVISION – OVERVIEW

TELEVISION – EVOLUTION OF TV ECOSYSTEM

- AVERAGE NUMBER OF TV SIGNALS AND CAPACITY USAGE FOR SATELLITE PAY-TV IN AFRICA
- ZUKU: EVOLUTION OF TV SIGNALS DISTRIBUTED AND CAPACITY USAGE
- STARTIMES TV: EVOLUTION OF TV SIGNALS DISTRIBUTED AND CAPACITY USAGE
- BENCHMARK OF AFRICAN FREE-TO-AIR SATELLITE AND DTT SERVICES (1Q2015)

TELEVISION – DRIVERS & FORECASTS

- TV HOUSEHOLDS BY SUB REGION
- PAY-TV SUBSCRIBERS BY SUB REGION
- PAY-TV SUBSCRIBERS BY DELIVERY NETWORK
- SATELLITE PAY-TV SUBSCRIBERS BY COUNTRY

TELEVISION – TV CHANNELS DYNAMICS

- SATELLITE TV SIGNALS BY FREQUENCY BAND
- SATELLITE PAY-TV CHANNELS BY SUB REGION
- ORBITAL POSITIONS USED BY SATELLITE PAY-TV CHANNELS
- TOP 5 ORBITAL POSITIONS USED BY CHANNELS BROADCAST OUTSIDE OF SATELLITE PAY TV PLATFORMS

TELEVISION – CHANNEL AND CAPACITY FORECASTS

- SATELLITE TV SIGNALS BY FORMAT
- CAPACITY DEMAND FOR VIDEO DISTRIBUTION SERVICES
- CAPACITY DEMAND BY FREQUENCY BAND
- AVERAGE NUMBER OF CHANNELS PER SATELLITE PAY-TV PLATFORM

03\ PROSPECTS FOR CAPACITY AND USAGE

CAPACITY SUPPLY IN AFRICA STILL ON THE RISE

DIVERSIFIED SUPPLY

- REGULAR CAPACITY SUPPLY BY SUB REGION
- HTS CAPACITY SUPPLY BY SUB REGION
- ESTIMATE OF TOTAL CAPACITY SUPPLY BY SUBREGION

CAPACITY DEMAND – OVERVIEW

- CAPACITY DEMAND BY SUBREGION
REGULAR CAP. IN TPES, HTS TRAFFIC IN GBPS, CONSOLIDATED (MHZ EQ.)
- CAPACITY DEMAND BY APPLICATION SEGMENT
REGULAR CAP. IN TPES, HTS TRAFFIC IN GBPS, CONSOLIDATED (MHZ EQ.)
- CAPACITY USAGE FOR VSAT VERTICAL SEGMENTS (EXC. BROADBAND ACCESS AND BACKHAUL/TRUNKING)
REGULAR CAP. IN TPES, HTS TRAFFIC IN GBPS, CONSOLIDATED (MHZ EQ.)
- HTS TRAFFIC FOR BROADBAND ACCESS IN GBPS

CAPACITY DEMAND DYNAMICS :

- WESTERN AFRICA
- CENTRAL AFRICA
- EASTERN AFRICA
- SOUTHERN AFRICA

FILL RATES AND CAPACITY PRICING

- REGULAR CAPACITY AND DEMAND (TPES, 2014)
- REGULAR CAPACITY FILL RATE IN SSA
- ANTICIPATED TREND FOR CAPACITY PRICING IN SUB-SAHARAN AFRICA (\$/MHZ/MONTH)

04\ COUNTRY PROFILES

NIGERIA

- ❑ MOST POPULATED COUNTRY IN SSA
- ❑ VSAT SERVICES IN TRANSITION PHASE

DRC

- ❑ IMPROVED DEVELOPMENT RATE
- ❑ MODERNIZATION OF TELECOM INFRASTRUCTURE
- ❑ STRONG POTENTIAL OF VSATS FOR B2B SERVICES

ANGOLA

- ❑ ECONOMIC GROWTH VS. PUBLIC BENEFIT
- ❑ UPGRADING & EXPANDING BROADBAND
- ❑ PREMIUM VSAT MARKET

SOUTH AFRICA

- ❑ FACING ECONOMIC SLOWDOWN
- ❑ EXTENSIVE BACKBONE CONNECTIVITY
- ❑ SUSTAINED GROWTH IN VSAT ROLLOUT

NAMIBIA

- ❑ CHALLENGES TO ECONOMIC GROWTH
- ❑ VSAT SERVICES

ETHIOPIA

- ❑ RURAL AREAS AS STRONG PRIORITY
- ❑ STILL LOW MOBILE PENETRATION
- ❑ SOLID POTENTIAL FOR SATELLITE SERVICES

KENYA

- ❑ NEW CHALLENGES TO ECONOMIC GROWTH
- ❑ STRONG COMPETITION AND FIBER NETWORK
- ❑ BROADBAND AS NEW DRIVER FOR SATELLITE

SOUTH SUDAN

- ❑ MOST RECENT COUNTRY IN SSA
- ❑ MOBILE PENETRATION STILL LIMITED

IVORY COAST

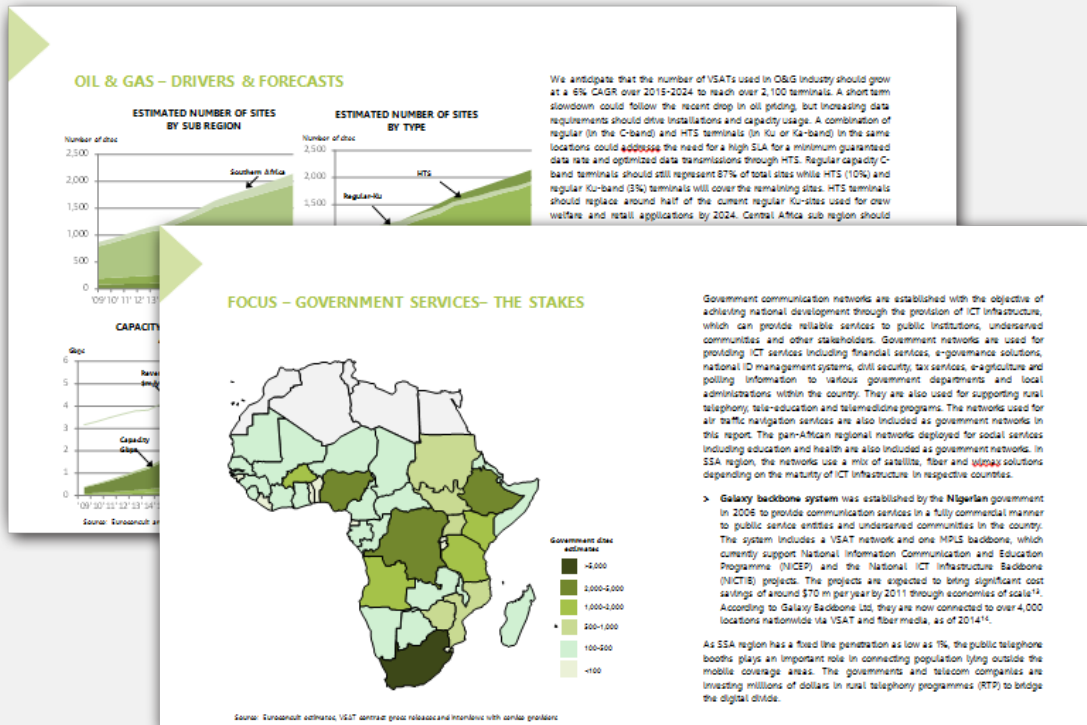
- ❑ ROBUST ECONOMIC GROWTH
- ❑ NEW FIBER & BROADBAND INITIATIVES
- ❑ SEVERAL SEGMENTS FOR VSAT GROWTH

SENEGAL

- ❑ ECONOMIC REMAINS BELOW SSA AVERAGE
- ❑ SUSTAINED BROADBAND GROWTH
- ❑ ROBUST VSAT CONNECTIVITY MARKET

EACH REGION PROVIDES GRAPHS FOR:

- ❑ POPULATION GROWTH 2009 - 2020
- ❑ GDP : TOTAL VS. PER CAPITA
- ❑ LOCAL ECONOMY: TOP 3 SECTORS
- ❑ BROADBAND ACCESS AS OFFICIAL PRIORITY
- ❑ NETWORK COVERAGE: 3G VS. OPTICAL FIBER
- ❑ MOBILE PERFORMANCE 2009-2019
- ❑ ESTIMATED NUMBER OF SITES BY SEGMENT
- ❑ ESTIMATED NUMBER OF SITES BY TYPE
- ❑ SERVICE REVENUES BY SEGMENT



EUROCONSULT THOUGHT LEADERSHIP

Celebrating over **30 years** of expertise

Euroconsult is the leading global consulting firm specializing in space markets. As a privately-owned, fully independent firm, we provide first-class strategic consulting, develop comprehensive research, and organize executive-level annual summits for the industry. With more than 30 years of experience, Euroconsult is trusted by 600 clients in over 50 countries. We rely on a multi-cultural team of over 30 full-time experts. Euroconsult is headquartered in France, with offices in the U.S., Canada, and Japan.

EUROCONSULT RESEARCH

Over the past 30 years, Euroconsult has maintained an unparalleled expertise in assessing trends in satellite services and in the digital broadcasting industry. We collect, update and assess on a yearly basis detailed market, industry, policy, program and financial information internationally. We have developed proprietary databases and forecast models that are systematically applied and are central to the publication of thematic research reports. The consistency of the approach is an essential quality trusted by leading organizations that are regular users over the years.

Euroconsult research focuses on the assessment of the industry including its structure, market players, revenues and dynamics. Research reports include long-term trends, commercial/ programmatic

and economic benchmarking, up-to-date information, and ten year forecasts supported by key ratios. With research published on an annual and biennial basis, these surveys have been used as reference tools by most public and private stakeholders involved in our sectors of expertise.

- ✓ Industrial companies
- ✓ Government programs & policies
- ✓ Satellite communications
- ✓ Earth observation
- ✓ Digital broadcasting
- ✓ and more...

We are trusted experts in the satellite industry, advising the world's leading businesses and governments.

OTHER SELECTED RESEARCH PROVIDED BY EUROCONSULT

Visit our Online Store at euroconsult-ec.com/shop

Prospects for the Small Satellite Market, 2015 edition

Satellite Value Chain: The Snapshot, 2014 edition

Satellite Communications & Broadcasting Markets Survey, 2014 edition

Company Profiles: Analysis of FSS Operators, 2014 edition

Trends & Prospects for Emerging Space Programs, 2014 edition

VISIT EUROCONSULT-EC.COM FOR CONSULTING SERVICES, TRAINING & SUMMITS



ORDER FORM

(1/2) (COPYRIGHT ON REVERSE SIDE IS MANDATORY)

PROSPECTS FOR SATELLITE COMMUNICATIONS & BROADCASTING IN AFRICA, 2015 EDITION

Please complete this form and return by e-mail to reports@euroconsult-ec.com or by fax to + 33 1 48 05 54 39. If you have any questions about ordering, would like to enquire about specific corporate licenses or would like to order for multiple locations and/or legal entities, please contact reports@euroconsult-ec.com or call +1 (514) 903-1001. **All prices are in Euros. All orders must be prepaid** (if not possible, please contact us). Applicable VAT taxes will be added in Euros.

1

Product		Price	Total
eFiles (Including additional Excel tables for key figures and a PDF of the report)	X	€ 4,500	
Additional eFiles license(s)	Qty:	€ 450	
Enterprise license	X	€ 11,250	
VAT if applicable companies based in France must add VAT 20%			
Product Total in Euros (€)			_____

3

Accounting Dept. E-mail: _____

4

Invoicing Address (Please use capital letters)

First name _____
 Last name _____
 Company name _____
 Occupation _____
 Address _____
 Zip Code _____ City _____
 State _____ Country _____
 Phone _____ Fax _____
 E-mail _____

5

Delivery Address (If different from invoicing address)

First name _____
 Last name _____
 Company name _____
 Occupation _____
 Address _____
 Zip Code _____ City _____
 State _____ Country _____
 Phone _____ Fax _____
 E-mail _____

2

Payment Information

Company VAT n° (required for all companies)

Credit Card

VISA Mastercard AMEX

Cardholder Name (as it appears on card)

Cardholder Number

Expiration Date (month/year) | Cryptogram (last 3 digits on the back)

Cardholder's Signature

Bank Transfer

(All bank charges are to be paid by the sender)

to EUROCONSULT, please NOTE IMPERATIVELY:

Swift-BIC code: CC FR FR PP

IBAN: FR76 3005 6007 9407 9403 1853 321

Account n° 07940318533

HSBC, 171 Rue de Rennes, 75006 Paris, France.

Cheque or Money Order Enclosed

Payable to Euroconsult:

86 Blvd. Sebastopol, 75003 Paris, France



COPYRIGHT AGREEMENT

(2/2) FOR REPORT FILES:

PROSPECTS FOR SATELLITE COMMUNICATIONS & BROADCASTING IN AFRICA, 2015 EDITION

Please complete and return the order form & copyright agreement by e-mail to reports@euroconsult-ec.com or fax to + 33 1 48 05 54 39. Each team user must sign a copy of the copyright agreement. Please complete the information below for each user of the research files.

Please read this license agreement carefully.
By using the report files, you are agreeing
to adhere by the terms of this license.

SINGLE USER LICENSE

- a) This product is licensed only for a team working together on a project, working on the same site in the same company. The person signing this agreement is responsible for the use of the research files. Euroconsult must be informed of all users of the research files before use. The information may not be shared with other company sites or other work teams in the same or other companies in any form, neither photocopied nor reproduced, including for internal use. The content of the report files may not be stored, transferred, or copied to any type of electronic storage device.
- b) No part or extract, in any format whatsoever, must be transmitted to any other organization, including cooperative entities and subsidiaries. All licenses purchased at the additional license price are for internal use only by the organization ordering (same company name, same location as indicated on original order form). Euroconsult must be informed of the users of the additional licenses purchased.
- c) All data or information extracted from the report files for use in other documents must rightfully use the copyright reference: *Euroconsult, name of report, year*. Before any other use of the information contained in the report files, prior written consent by Euroconsult is required.
- d) This Agreement shall in all respects be governed by the laws of the Republic of France. The user agrees that the proper jurisdiction and forum for the resolution of any claim arising under this license shall be at Euroconsult's sole option.

Research Report User

First name _____

Last name _____

Company _____

Occupation _____

E-mail _____

Date _____

SIGNATURE: _____

Research Report User (For additional user)

First name _____

Last name _____

Company _____

Occupation _____

E-mail _____

Date _____

SIGNATURE: _____