

Hughes Network Systems in **Africa**

HUGHES
NETWORK SYSTEMS



Network Solutions to Support
Africa's Advance
into the **Future**

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An Introduction to Hughes Network Systems.

Hughes Network Systems (HNS), Inc., a wholly owned subsidiary of The DIRECTV Group, Inc., is a world leader in broadband satellite and wireless networking solutions. HNS holds more than 50 percent of the global market for very small aperture terminal (VSAT) systems, with over 800,000 terminals ordered or shipped worldwide. HNS provides more than 500 organizations in 85 countries with broadcast video communications; two-way data, voice and multimedia; and telephony systems. HNS employs over 1,800 people worldwide.

HNS has long offered satellite communications solutions for urban and rural applications, both throughout the African continent, and as a gateway for international applications. HNS presently holds more than 60% share of the African VSAT market.

HNS' advanced satellite systems transmit high-speed IP multimedia, data, video and voice to support a wide array of industries and entities:

- Banking and Financial Services
- Retail
- Petroleum
- Distance Learning/Education
- Manufacturing
- Telecommunications Service Providers
- PTTs
- Government Agencies
- Rural Telephony



DIRECWAY® Services: Flexible, Scalable Networks that Are Ready to Meet Future Demands.

As Internet Protocol (IP) is rapidly becoming the standard protocol for data, video, and audio delivery, companies and organizations around the world are challenged to integrate the resulting complex interactive and multimedia applications into their existing communications systems. HNS, through its advanced satellite solutions, offers solutions that support fully integrated wide area networking and the high-speed delivery of content-rich information to support applications such as:

- High-speed Internet access/broadband Intranet
- Training and distance learning
- Corporate video broadcasting and communications
- Video advertising/point-of-sale TV
- Audio broadcasting
- IP multicast
- Data distribution



TES *Quantum*®: A Family of Satellite Telephony Solutions.

Satellite transmission is insensitive to distance, terrain, and numbers of geographically dispersed locations, making it an exceptional fit for Africa. HNS designed its TES *Quantum* family of meshed telephony products to provide a range of very cost-effective telephony solutions:

- High-speed digital telephony services for both public and private networks
- Single-user access to satellite-based telephone service
- Payphone, pre-paid “smart-card”, and other revenue-generating services
- Universal Service Obligations/rural telephony
- Intelsat/Eutelsat-compatible gateway connections for international circuits

Mobile eCommunications: Bringing the Internet to Wherever You Are.

HNS’ new mobile satellite data terminals combine the vast capabilities of the Internet with the global reach of satellites to bring you “Internet Everywhere.” These terminals provide intercontinental, multinational, wireless broadband telecommunications for Inmarsat Ltd.’s regional service covering Europe, most of Africa, India, and the Middle East. Whether in cities or in rural or remote areas without reliable terrestrial communications, you are able to access the Internet and your Intranet by satellite to send email and transfer files. This is one of the most advanced high-speed packet data systems for critical business applications on an intercontinental scale.

Broadband Wireless Access Solutions.

HNS’ AIReach® broadband networks give telecommunications carriers a powerful platform for offering their customers fiber-quality, “last kilometer” wireless solutions. These highly efficient networks extend voice, video, data, multimedia, and Internet services via point-to-multipoint radio airlinks from the fiber drop point of switching center to small and medium-sized businesses needing cost-effective, high-bandwidth applications. For the carrier, benefits include increased speed of system implementation, reduced capital and operating expenditures, increased revenue opportunities, and protection of spectrum investment.





Hughes Professional Services: Transforming Technical Know-how into Business Results®.

Hughes Professional Services (HPS) helps HNS clients—enterprises and service providers—leverage their technology investment to deliver next-generation applications over their satellite networks.

HPS provides clients with a comprehensive understanding of the satellite network with the objective of enabling quick-service creation and instant time-to-revenue. This includes defining the service, architecture, engineering, operations, and cost models.

HPS also helps clients create new revenue opportunities and develop sustainable growth strategies. HPS identifies and implements new value-added services for the client and defines a viable business model—including pricing strategy and structure—as well as the technology and investment required.

Turnkey Networks with Comprehensive Service and Support.

HNS backs its networks with a range of customer service and support.

- Network design and planning
- Installation and commissioning
- System testing and optimization
- Network operations
- Applications support
- User training and documentation

Looking to the Future.

SPACEWAY™, a next-generation, satellite broadband communications system, presents exciting new opportunities for customers in the region. The SPACEWAY Ka-band platform will support both consumer and business users with a variety of applications from high-speed Internet access to corporate Intranets and virtual private networks to multimedia broadcasting and high-speed data delivery via “mesh” or point-to-point connectivity.

HNS' Commitment to Africa.

HNS has been supporting Africa's telecommunications needs since the early days of the company, designing networking solutions to meet the unique requirements of African companies. We maintain staff on the continent to ensure the highest level of service for both English- and French-speaking customers. Let us show you how HNS network solutions can work for you. Contact the HNS office in your region today.



Hughes Network Systems Customers throughout Africa

Telecommunications Service Providers

■ Telkom South Africa Ltd.

Domestic Ku-band VSAT service is being provided by Telkom South Africa Ltd. (Telkom SA) via more than 4,000 terminals in use throughout South Africa. This service supports applications such as distance learning, ATM, SAP R/3, credit card verification, and new-generation high-speed IP multimedia networks for entities such as:

- ABSA (Bank)
- Independent Electoral Commission (IEC) – South Africa
- JD Group (Retailer)
- Lewis Stores (Retailer)
- Pioneer Foods (Milling and Bakery)
- Standard Bank of South Africa (Bank)
- South Africa Police Services (Law Enforcement)
- Sentraal Wes Coop (Retailer)

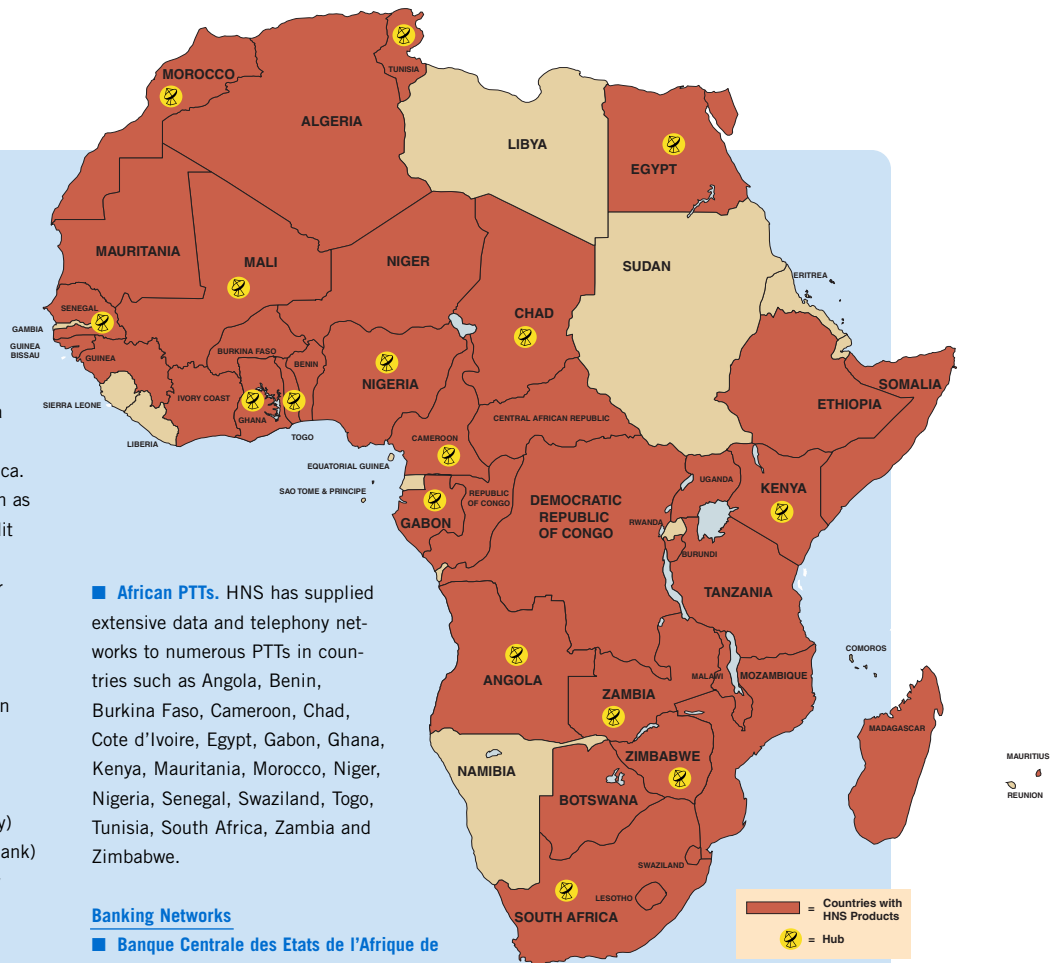
In addition, Telkom SA provides C-band VSAT data and telephony service, supporting oil companies, banks, furniture retailers, and mission-critical air traffic control networks in countries such as Mozambique, Zimbabwe, Botswana, Tanzania, Angola, Lesotho and Swaziland.

■ **Gabtel/Opt.** Providing data and voice services to major banks and oil companies throughout Gabon.

■ **CAMTEL.** Providing data and voice services to major banks, oil companies, insurance companies, and soft drink companies in Cameroon.

■ **Tunisie Telecom.** Deploying a DIRECWAY satellite broadband network with 400 remote terminals to provide high-speed data transmission in select banks, corporate centers, libraries, universities, and schools.

■ **Ittilsalat al Maghreb.** Deploying a broadband VSAT network in Morocco to offer comprehensive data, telephony, and video services to private and public corporations in Morocco.



■ **African PTTs.** HNS has supplied extensive data and telephony networks to numerous PTTs in countries such as Angola, Benin, Burkina Faso, Cameroon, Chad, Cote d'Ivoire, Egypt, Gabon, Ghana, Kenya, Mauritania, Morocco, Niger, Nigeria, Senegal, Swaziland, Togo, Tunisia, South Africa, Zambia and Zimbabwe.

Banking Networks

■ **Banque Centrale des Etats de l'Afrique de l'Ouest (BCEAO).** BCEAO, the Central Bank for francophone West Africa headquartered in Dakar, Senegal, utilizes a VSAT network to provide interactive voice, fax, data, video broadcast, and desktop video-conferencing capability to BCEAO branches in: Benin, Burkina Faso, Cote d'Ivoire, Guinee Bissau, Mali, Niger, Senegal, and Togo.

■ **EcoBank.** A successful, privately owned bank in West and Central Africa, providing interactive voice, fax, and data between its headquarters and branches located in: Benin, Burkina Faso, Cote d'Ivoire, Guinee Conakry, Mali, Niger, Senegal, Togo, Ghana, Nigeria, Liberia, and Cameroon.

■ **British Telecom (BT).** Providing Barclay's Bank with a data network using HNS' VSAT systems to link all their branches in Africa, the Middle East, and the Caribbean to remote processing centers in Zimbabwe, the Bahamas, and the United Kingdom.

Rural Communications

■ **Gabtel/OPT.** The Gabtel/OPT telephony network comprises TES *Quantum* VSATs located in major villages. Each VSAT is connected to a payphone that uses prepaid billing through the use of "smart card" technology and provides fully meshed voice telephony. These payphones are directly connected through the VSAT to the country's main satellite earth station acting as the gateway to the national public switched telephone network.

In addition, HNS has provided similar rural telephony networks for Angola, Sotelma, Mali; Sonatel, Senegal; OTRT/Sotel Tchad, Tchad; and Ittilsalat Al Maghreb, Morocco.

International Gateway–TDMA/SCPC DAMA

HNS has installed TDMA and TES *Quantum* systems in countries throughout Africa for use as gateways to provide international telephony service.



For more information about Hughes Network Systems' solutions, contact HUGHES today:

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