



The Middle East Satellite Market

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Markets for satellite communications equipment and services have expanded to fill the gaps in terrestrial broadcasting and telecommunications networks. Nowhere is this more apparent than in the Middle East, which is the focus of this MarketBrief report. Comprising this picture are satellite operators, such as Arabsat and NileSat; teleport operators in particular countries such as Dubai, Egypt and Jordan; and service providers who utilize these facilities to deliver applications to their Middle Eastern customers. An example of the latter would be companies that provide Very Small Aperture Terminal (VSAT) services in a two way satellite communications format that use a particularly small dish (70 cm to 1.2 m) to transmit credit card transactions and provide medium/high data rate Internet services. Satellite TV is a very important service for the region as it occupies most of the available satellite transponders in the region.



Photo: Cabsat/Satellite MENA

Overview of the Middle East Satellite Market

The geography and population dispersion in the Middle East seem tailor-made for satellite communication solutions, and possibly vice versa. The population is centralized in fewer cities than in the Americas and Europe and those population centers are separated by vast stretches of desert. While some efforts have been put forth by various national governments to invest in fiber optics, cost and logistics limit the fiber networks to the most important and largest centers. A satellite footprint covers its service area like a blanket and access by the end user is limited only by their ability to move equipment to a desired location within the area of coverage and keep it running properly.

Climate, geography, population distribution and culture combine together to create the good demand for satellite capacity, ground equipment and services in the Middle East market. At first blush, television and radio broadcasting lead the pack with hundreds of channels available on any of a dozen satellites serving the region; more channels are cropping up on an almost monthly basis. Satellite broadband Internet is gaining ground while backhauling for commercial cellular phones and enterprise networks maintain a respectable pace behind.

The majority of satellite television, roughly 75%, is offered Free-To-Air (FTA) with revenue generated through advertising or subsidized for some other purpose such as education. Availability and low cost make satellite television more important in the Middle Eastern market than most other applications, but we anticipate broadband Internet to gain more prominence in the future.

This is the backdrop for our discussion of this satellite market and the organizations that currently or will shortly concentrate their energies on this region. The two primary operators, Arabsat and NileSat, are indigenous to the Middle East as they provide optimum coverage and maintain a direct presence where the bulk of the users exist. Along with them, Eutelsat, Intelsat and SES are growing a presence through joint ventures with and direct challenges to the indigenous operators. We observe that to counter the threat of international competition moving into the MENA market, Arabsat and NileSat have adopted world-class operating modes and business practices that both foreign and regional customers understand and appreciate. This market will be further affected by the launch of YahSat 1 in 2011, introducing Ka band capacity and services to an already robust Ku band market.

Thuraya is another important operator based in the UAE that provides mobile satellite service (MSS) from the geostationary orbit.



NileSat 201, constructed by Thales Alenia Space scheduled for launch in mid-2010 by Arianespace.
(image from Thales Alenia Space)

Their small satellite phone is a unique product that has gained good penetration throughout the broader MENA and South Asian regions. The transition to Internet Protocol (IP) transmission for all information types will increase the attractiveness of Thuraya's versatile system, which can serve both fixed and mobile users.

The Main Players: Satellite Operators in the Region

Most of what is transmitted over satellite in the Middle East is at Ku band, which is more effective than C band in signal strength and the small antenna size that relates to it. In the United States, C band is the standard for cable and over-the-air network TV because it is less susceptible to disruption from heavy rainfall. Even in the Jordan Valley, the wettest part of the Middle East, the average annual rainfall indicates that even a particularly heavy storm is within the acceptable limits of Ku band. The rest of the Middle East is one of the driest regions of the world and so Ku and Ka bands are nearly an optimum fit. We focus, then, on the latter as this is the portion of the spectrum best able to deliver broadband services throughout the region.

In 1976, the Arab League (which, at the time was made up of representatives from Egypt, Iraq, Jordan, Lebanon, Saudi Arabia, Syria, Yemen, Libya, Sudan, Morocco, Tunisia, Kuwait, Algeria, United Arab Emirates, Bahrain, Qatar, Oman, Mauritania, Somalia, and the newly admitted Palestine) founded Arabsat with the express purpose of creating and operating the first Arab satellite communications system. As time progressed, the benefits of satellite communications in the Middle East revealed themselves to governments

and individuals both in the region and abroad. Where media providers once had to broadcast to the region from the outside (generally out of London), there are now a variety of locations, including the "media cities" discussed below, that permit both international and local content providers to be closer to their audience within the Middle East.

In addition to Arabsat, there are a number of other operators that offer transponder capacity to the ME region. European regional operator Eutelsat expanded its coverage to include the Middle East and Africa. SES New Skies launched in October 2009 its NSS-12 satellite which will provide coverage over the Middle East, Africa and most of Asia. Egyptian satellite operator NileSat launched NileSat 101 in April of 1998 and a month later began broadcasting over Africa, the Middle East and Southern Europe. A startup operator called Yahsat has been established in the UAE and its first satellite is planned to be launched in 2011.

"In just a few years, the region has experienced great demand growth for broadcasting and data transmission bandwidth," according to industry veteran Scott Sobhani. "This demand has contributed to a severe shortage of regional transponder capacity, as evidenced by the rapid escalation of market rates on leases. The imminent introduction of Ka-band and potentially S-Band services by the satellite operators will serve to fulfill some of the demand, especially that resulting from the rapidly growing data traffic (3G/4G, mobile TV) requirements of regional mobile network operators." Scott has made many contributions to satellite communications development in the region, including the recent commitment of Arabsat to a Proton rocket launch by International Launch Services.

Each of these fleets provides a range of services, generally including television and radio broadcasting, data services and cellu-

lar backhaul. For the most part, these companies, including Eutelsat, are the products of national governments investing to advance the technology and culture of their region; this creates a unique mix in the broadcast content of state and privately controlled channels. The following discussion reviews the key regional players and their respective service mixes.

Arabsat

Headquartered in Riyadh, Saudi Arabia, Arabsat has been covering the region for well over thirty years. Currently, they operate a fleet of five GEO communications satellites (located at 26° E and 30.5° E), the most recent of which was BADR-6 launched in 2008 with another new launch planned every year until at least 2011. Arabsat carries DTH TV services for public and private sectors, consisting of regional governments, international organizations, corporations and local businessmen. Also addressed is the range of telecom operators, including Internet service providers and operators in telephony trunking, cellular backhaul, as well as the provision of VSATs and MSS terminals.

Arabsat has ordered two major new satellites, Arabsat 5A and BADR 5, from a consortium of EADS Astrium and Thales Alenia Space. To properly address Arabsat's markets for the next 20 years, Arabsat 5A will have 16 C-band and 24 Ku-band transponders to replace Arabsat 2B. BADR-5 (in essence, Arabsat 5B) and provide full in-orbit back-up for BADR-4 and BADR-6 at Arabsat's 26 degrees East hot spot covering the Middle East.

By mirroring and possibly improving upon the business and technical styles of foreign companies, Arabsat has maintained its position in the delivery of satellite TV. Importantly, they have shown strong commitment to the technology and business by continuing to invest in new satellites. This is the same strategy used successfully in the US by the Galaxy System (now owned and operated by Intelsat), which persevered through challenges in the 1980s and 1990s brought by competitors and other technologies. The same can be said of the SES Astra system in Europe, which started along the same lines as Galaxy to become

the focal point of TV programming within its coverage region.

NileSat

NileSat was founded in the early 90's and focuses primarily on DTH broadcasting services. Of the 450 channels offered over its three current satellites at 7° W, roughly 75% of them are broadcast in the clear to NileSat set-top boxes while the remaining 25% are subscription based. Over the past several years, NileSat has partnered with European service provider Eutelsat to provide coverage for the MENA region from that location. With the launch of NileSat 201 in 2010, the two companies will boost capacity in the 7° W neighborhood by 30%. This partnership should provide stability and investment, allowing NileSat to control its market. We provide a specific discussion of the NileSat programming bouquet in a subsequent section of this article.

YahSat

Al Yah Satellite Communications Company (Yahsat) is a subsidiary of Mubadala Development Company and the newest entrant to the Middle Eastern satellite communication systems industry. The two satellites Yahsat will operate are being constructed as a joint effort between EADS Astrium and Thales Alenia Space. Current plans announced by Yahsat have the first satellite going up into an orbital position of 52.5 degrees East in 2011 with the second following within a few months. Yahsat will lease capacity to existing content and service providers with a focus on broadband services as well as broadcast and corporate networking. Use by the UAE government is also planned. In their first public statement of August 16, 2007, Yahsat president Jassem Al Zaabi stated that strong demand for satellite capacity has led to an opening for a new player such as Yahsat, even though there are many satellite operators present in the Middle East. A partnership with SES

ASTRA established YahLive, a new DTH satellite television service. The satellite broadband service, YahClick, will launch when Yahsat 1b does in 2011. YahClick will offer broadband interactive services using ViaSat SurfBeam technology at Ka-band. It is believed demand will still be sufficient to support YahLive and YahClick as well as two other YahSat brands providing backhauling services and government applications to fixed and mobile users.

Thuraya

The majority of regional satellites provide Ku-band transponder capacity for use in



Evolution of Thuraya hand-held satellite phones, including the new slim-line dual mode GSM and satellite phone. (Photo courtesy of HighSpeedSat and Thuraya)

broadcast and broadband applications. However, our discussion of the Middle East would not be complete without a brief review of Thuraya, the mobile satellite service provider that pioneered satellite phones from geostationary orbit.

Thuraya has moved into the broadband Internet market to serve specialized applications for use by oil and gas, news gathering, disaster relief and military users. This includes Thuraya DSL, an “always-on” class of IP based service akin to the familiar terrestrial version of Internet access service.

Teleports, Media Cities and Ground Service Providers

A teleport is a ground-based facility located in or near a major city or economic zone and containing one or more satellite communications earth stations. Its purpose is to serve multiple user organizations that may operate independently to broadcast and/or receive information from one or more satellites. Teleports are often found in an economic zone called a “media city” dedicated to serving the needs of mass media companies in proximity to each other. The media city designation would likewise apply to London, Hollywood, and Singapore. In the Middle East, a “media city” is an area identified by the national government and designated as a tax-free zone where media companies can enjoy various benefits for doing business and originating their Middle Eastern-directed content. In addition to the tax free status, content suppliers and operators may enjoy a more accommodating regulatory environment.

By meeting with the key management and touring several facilities, we confirmed that the two leading media cities in Dubai and Amman are world-class service providers with state-of-the-art facilities and qualified staff. Also, they meet the expectations of their customers who originate and/or deliver programming throughout the Middle East. The business

flourishes because satellite TV is a key foundation of the region's information infrastructure and the media cities provide essentially a turn-key solution to organizations wishing to broadcast their content to the Arab world.

Focus on Dubai

Dubai Media City (DMC) showed itself to be the biggest and best equipped video services facility in the region, with the ability to offer its broadcast customers uplink to 25 different orbit positions through its service partner du that owns and operates the Samacom teleport. We met with the original architect and manag-

ing director of this business, Yatinder Mahajan, who continues as Executive VP – Technology for Emirates Integrated Telecom-Communications Company. The latter company, also known as du, is the second carrier in the UAE and the owner of the Samacom Teleport that I visited. Samacom started out small and grew to an 85% ME region market share, as they convinced media companies serving the region to move from the UK and Italy to Dubai. The entire DMC facility is an extensive office park serving well known broadcasters including CNN, NBC and Showtime.

The teleport earth station is located some miles away in an area more suitable to this very extensive antenna farm. The teleport is well laid out and provides for access to all equipment and antennas, allowing engineers to make changes and perform maintenance with minimum disruption to existing services. A plan has been developed to move the teleport to a much larger site with a new building designed for further expansion. In addition to the full breath of video services, Samacom also provides collocation services for VSAT network providers.

At the site, I was hosted by Ahmed Al Muhaideb, Senior Director – Samacom Operations Technology, an engineering graduate of the University of Pittsburgh. There is a high degree of expertise represented in the staff, which includes many graduate engineers. The video uplinks through 25 antennas are all of modern design and include normal amounts of redundancy in terms of spare HPAs, modems and multiplexers. Yatinder made special mention of the contribution of their systems integrator, Globecomm Systems, Inc. (Globecomm) of Hauppauge NY who built most of the uplinks. All of the equipment and downlinks are monitored through automated monitor and control systems pro-

vided by Globecomm, with Samacom staff vigilant 24/7.

Overall, Dubai, which operates as a free port, is a bustling city with many newly-constructed high-rise buildings, shopping malls and expressways; and it is surprisingly easy to get around. A modern rapid transit system further enhances the attractiveness of Dubai as a center for media operations like Samacom.



Dubai from the perspective of media services.
(Courtesy of du and Samacom)

The Jordan Option

The Jordan Media City (JMC) is very substantial by global standards, offering the full range of video services from studio through uplink. Their transmissions currently deliver over 200 DTH TV channels to ME viewers principally over ArabSat satellites. While less extensive in terms of the number of antennas, JMC offers the same degree of one-stop-shopping that DMC is so well known for. JMC was engineered, developed and continues to be run by Hani Al-Kararbeh, Teleport Manager. Hani explained that JMC began on the initiative from Engineer Radi Alkhas, who, as general manager, grasped the potential

of this Jordanian teleport, driving the program from its start as a single and simple uplink earth station to the impressive facility evident today.

Amman may seem a bit off the beaten track, but a visit to this flourishing city makes clear that it is one of the bright spots in the region. Telecommunications are well developed as witnessed by the ready availability of 3G wireless services, DTH TV (including a considerable range of US cable services such as ESPN, CNBC and Fox News Channel), and submarine

cable (which terminates in Aqaba on the Red Sea). Roads are very good in Amman and down to the Red Sea at the southern end of the country. The world-class teleport at JMC is fully capable of serving literally any satellite TV need, with modern equipment, facilities and highly-qualified and attentive staff.

JMC expanded its horizon through an agreement with Globecast, putting Jordan on the Globecast global fiber ring. The joint effort makes TV services available through the AsiaSat 2 satellite in the Indian Ocean region. Hani also expressed pride in the overall availability record of 99.9% of his service, including propa-

gation. The uplink is also being expanded to include MPEG 4 and DVB-S2 transmission for customers requiring this capability.

Egyptian Media Free City

The Egyptian Media Free City was founded in 2000 and is located near Cairo, between the NileSat facilities and Egypt's "Media Production City" (MPC) in an area called "6th of October City". The "private free zone" was created by an investment law to offer a number of attractive benefits such as a tax free environment, freedom from the Egyptian production code for

product not intended to air in Egypt, and, of course, access to the MPC facilities.

Applications Driving Demand for Services

Essentially the same mix of services and applications that are available in Europe and North America are likewise produced and employed in the Middle East. The following discussion delves into the services that have the greatest penetration throughout this region.

Satellite TV

Satellite TV is the biggest source of revenue for the overall satellite industry, creating investment, subscriber base and ultimately wealth. It rests on a footing from a food chain that ranges from the end user paying for subscriptions to networks that collect from advertisers and affiliates like TV stations and cable systems. However, we are witnessing a new business model that provides a free service to end users who only need to buy reception equipment consisting of a dish with a digital set-top-box. This is not unlike C-band backyard dishes of the US from the early 1980s, before HBO began to scramble their signal.

Today, Free to Air (FTA) satellite TV relies on the same digital TV platforms that made DIRECTV, DISH and BskyB into mega-businesses, but allows viewers to watch the programming without paying programming charges. Markets appeared primarily in Asia, Central Europe, and the Middle East; but, the size and participation in the FTA segment has yet to be appraised in scope and monetary terms. Payment for satellite capacity comes from the program or network provider, who leases bandwidth and arranges for the uplink. The source of their money depends on the region and content, which can be derived from advertisers, governments, religious groups or other organizations that wish to transmit a message.

The power of FTA in MENA was summed up by Jawad J. Abbassi, founder and general manager of Arab Advisors Group: "In other parts of the world, the 'Information Revolution' was played out on the Internet,

The Middle East at a Glance

Country	Population
Algeria	32,930,091
Bahrain	698,585
Egypt	78,887,007
Iran	68,688,433
Iraq	26,783,383
Israel	7,026,000
Jordan	5,153,378
Kuwait	2,418,393
Lebanon	3,874,050
Libya	5,900,754
Morocco	33,241,259
Oman	3,102,229
Palestine	3,889,248
Qatar	885,359
Saudi Arabia	27,019,731
Sudan	41,236,378
Syria	18,881,361
Tunisia	10,175,014
Turkey	70,413,958
UAE	2,602,713
Yemen	21,456,188
Total	465,263,512



The region known as the “Middle East” is home to nearly 500 million people spread over three continents (Europe, Asia and Africa).

Source: CIA World Factbook, 2009.

but in the MENA region, it took place over Satellite TV.” During the early 1990’s, a media organization wanting to broadcast via satellite to the Middle East would need to do so from London. There were already satellite communication service providers in the Middle East at this time, but they were still relatively young companies. The Middle East Broadcasting Center (MBC) in the UK became the first free-to-air broadcaster over satellite to the Middle East. Most of the content on MBC was licensed or syndicated media of both Arabic and international origin.

Currently, there are over 450 FTA channels broadcasting on Arabsat, NileSat and Eutelsat. For the price of a low cost receiver, households can tune into FTA services. Operating costs are covered by various governments and private groups who are entering the market strategically; as a result, they may currently not be viable from a financial point of view. As a result of the plethora of FTA services in MENA, the adoption rate for satellite TV is upwards of 90%. Like Cable-Walla in India, viewership increases because the satellite signals also are picked up by local providers and distributed to homes over ad-hoc terrestrial networks. The adoption rate for

satellite TV systems in Lebanon and Egypt appears to be lower than other parts of MENA, due in part to the more densely populated parts of these countries.

The number of FTA channels in the MENA region has grown in recent years; however, advertising revenues are relatively minor and may represent an untapped potential for new formats and operators. A selection of key providers and services are reviewed in the next paragraphs.

NileSat Thematic Channels

The Egyptian Radio and Television Union (ERTU), which describes itself as a public corporation but reports directly to the Egyptian Department of Information, created a series of thematic channels for the launch of NileSat. Each was themed on a particular topic, including a number of channels that focused on various general levels of education. In the late 1990s, NileSat switched these channels from “free-to-air” to “free-to-view”. When something is free-to-air, it means that any set-top-box (STB) capable of picking up the signal can read and permit the user to view the content. In the free-to-view approach, no subscription is required, but customers need to purchase a branded NileSat STB to view the free content. NileSat quoted in a press release that 500,000 units were sold. In 2000, NileSat’s thematic channels were switched to a subscription model to garner more revenues.

Dream TV

Dream TV was Egypt’s first private television channel, founded in 2001 by businessman Ahmed Bahgat who named it for his dream of having a media provider that was not under government guidance and censorship. Dream consists of two free-to-view channels: Dream 1, conceived as catering to a youth market and currently bills itself as a music channel; and Dream 2, a movie channel that also shows

“variety” content as well as a popular news program called “10 PM”.

Showtime Arabia

Showtime Arabia was founded in 1996, and is provided by subscription over the NileSat 101 satellite. Showtime Arabia produces 20 different channels of their own under six different brands: ShowKids, ShowShasha, ShowSeries, ShowSports, ShowMovies and ShowCinema. Along with these offerings, subscribing to a Showtime bouquet of channels gives access to a wide variety of international content such as Cartoon Network Middle East,



An explosion of programming is driving demand for satellite services in the Middle East. (Photo taken at the SAMACOM Teleport in Dubai).

MTV Europe, Hallmark Channel Russia & Middle East, BBC Food, Disney Channel Middle east, and Al Jazeera Children’s Channel. A September, 2009, press announcement stated that Showtime Arabia merged with Orbit Group.

Arab Radio & Television Network

Arab Radio & Television Network (ART) was founded in 1993 as a private network and is currently held by the Arab Media Corporation (AMC). With a focus on family entertainment, most of ART’s channels are subscription, though two of those, ART Teenz, which is a cartoon channel, and Iqraa, which provides religious programs, are not encrypted.

Al Jazeera

Al Jazeera is a highly visible broadcasting group that operates out of Doha, Qatar. Its influence stretches beyond MENA into literally every continent. Programming consists of news and entertainment, the Al Jazeera Children’s Channel having been mentioned under Showtime Arabia.

Satellite Broadband in the Region

Much attention is being paid to consumer broadband service via satellite as this has the potential to match the penetration of DTH TV and Satellite Radio (DARS).

However, there is still a very substantial ongoing business using various types of VSATs to serve commercial and government needs in developed and developing regions like MENA. After all, satellite communications is the best alternative if modern terrestrial infrastructure is poor or not available.

Several factors that are making this form of communications more readily available at acceptable costs: the coverage ability of the new generation of GEO satellites at Ku and Ka bands; the remarkable new performance and features of the VSAT terminals for fixed, transportable and mobile installation; and the array of service providers who have invested in hubs and support organizations in MENA.

For the purpose of this report, we define broadband satellite service as one capable of at least 1 Mbps data rate on the forward and return links. The general trend is to offer asymmetrical bandwidth, with the forward link providing download speeds up to 10 Mbps and the return link upload rate between 500 kbps and 2 Mbps. Pricing is dictated by these data rates, and generally speaking, you pay in proportion to data rate.

The broadband VSAT in this article is actually not the VSAT that you see attached to someone’s home or on the typical petrol station. The technology has been totally revamped and now benefits from innova-

tions in solid state power amplifier technology, DVB-S2 functionality, and dynamic networking. Taken together, these improvements increase the effective data rate for the same dish diameter, and provide greater protection from heavy rain and interference. We are seeing a divergence between the consumer market focus on low cost Internet access and the industrial/international market demand for reliable broadband IP services to extend the corporate backbone to previously-underserved locations.

A large part of the investment and operating cost is due to the hub station; satellite bandwidth is another relatively-high monthly expense. The substantial hurdle has been reduced by low-cost hub solutions from iDirect, ND SatCom and Newtec. New investment in hub capabilities includes MENOS and Internet Start, two relative new ventures that market VSAT equipment and operation to end users in the public and private sectors.

Cellular Backhaul

Cellular backhaul refers to satellite services for a public wireless network that comprise bi-directional point-to-point satellite links between remote base stations and the switching center used to establish mobile telephone calls. More recently, cellular operators are also providing various forms of data communications, including Internet access and email. These are carried over backhaul links as well. Every satellite communications provider lists cellular backhaul as a function their fleet is able to perform; and many cellular operators obtain this satellite capacity and combine it with their own earth stations. ArabSat, YahSat and Intelsat identify cellular backhaul as an important segment.

Prospects and Opportunities in the Market

As a result of the efforts of key satellite and teleport operators, the satellite marketplace and technical environment in the Middle East are essentially on a par with Europe and North America. The global recession has probably affected the appetite for new satellites and service provid-

ers, but the existing base is quite strong and moving ahead in terms of adopting modern technology like DVB-S2 and HD. VSAT services to enterprises and ultimately directly to the consumer are not developed to the scope of what is found in the Americas. However, there is growing demand for high speed Internet access outside of major cities like Dubai and Kuwait and this can only be addressed in the near term by satellite. The situation then is one where supply looks favorable in an environment of growing demand.

A brief report from the field clearly shows that both DMC and JMC are world class service providers to the broadcasting industry in the Middle East. A choice will depend on the usual factors, which include the geographic location, availability of off-the-shelf transmission for the desired function, an overall sense of how the teleport is positioned to support the customer, and finally the price.

FTA satellite TV is potentially a powerful disruptive force in coming years, primarily

because of the allure to the viewer in developing and developed regions. If a third party is willing to pay for the content and transmission, the receiving end is going to be there in ever-increasing numbers. Nowhere is this more evident than in MENA.

Like the history of satellite communications in other regions, the MENA experience is rich in experience and unique in its perspective. As indicated by Scott Sobhani, there is a vibrant demand for current and evolving services, and some new operators are finding opportunities for investment. Currently, nearly all requirements are met through standard Ku-band satellites using the resources of media cities and a mix of local and foreign ground resources. MSS L-band is provided through Thuraya in a focused manner, and Ka band is arriving on the scene in the next year. These can further shape the telecommunications scene in MENA in ways much different from North America and Western Europe. 



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