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Bringing competition to the region

The Middle East satellite market is going from strength to strength, especially in the broadcast sector. Satellite Evolution looks at the major satellite operators to track the new developments.

The Middle East is at an exciting point in its satellite evolution. There is an interesting mixture of firmly established operators in the region and also very new and upcoming operators waiting to launch their own satellites bringing further competition to the region.

Satellite capacity is in huge demand in the Middle East region, in fact, it is exponential. Demand for sat TV broadcasting capacity is constantly growing. The Middle East has a high penetration of homes receiving satellite TV and there are no signs of this demand slowing. Recently, the Arab League has made it clear that regional operators should take precedence over foreign operators and this has seen the emergence of new regional operators such as Yahsat and Noorsat aiming to provide those in-demand services.

Due to state-owned terrestrial television, DTH has proved to be very popular and is the biggest area of growth in the region. Along with HDTV, cellular and TV backhaul, Internet trunking, VSAT and corporate and government networks, the demand for satellite bandwidth is set to grow and grow.

ArabSat

ArabSat was founded by the 21 member states of the Arab League in 1976 and has grown to be the world's 10th largest satellite operator and a leading satellite service provider servicing millions of homes on over 100 countries across the middle East, Africa and Europe.

Arabsat owns and operates a fleet of four satellites at present but that is soon set to grow to five with the construction and launch of BADR-6 scheduled for the second quarter of 2008. Arabsat offers customers a full range of broadcast, telecommunications and broadband services and supplies these services to media and entertainment companies, corporates and government entities.

The company is very conscious of the need to evolve and develop to meet the needs of a changing world of communications and therefore is in the process of constructing its second fourth generation satellite and has announced its intention to launch three new 5th generation satellites over the coming 36 months.

From a technical perspective, Arabsat currently operates capac-



ity on four satellites either owned or leased at its 26° East and 30.5° East orbital positions, and has two new satellites lined-up for launch in the near future:

- BADR-3, BADR-4 and BADR-6 which is due for launch in the second quarter of 2008, all co-located at Arabsat's 26°E DTH "Hot Spot" in Ku-band;
- BADR-C, also at 26°E but operating in C-band, mainly for DTH broadcasting towards Africa; and
- Arabsat-2B at 30.5°E, essentially carrying Telecommunications services in both bands.

This variety of satellites enables Arabsat to provide the highest downlink power and the widest coverage area over the MENA region compared to any other satellite operator.

In addition, through a series of strategic partnerships with the world's leaders in satellite communications, Arabsat also provides seamless connectivity with the rest of the world via its "Global Bouquet" digital platforms, enabling its Broadcast customers to reach their final audiences 24/7 wherever they are.

The next generation of ArabSat satellites

In June 2007, Arabsat selected a consortium of European companies, EADS Astrium and Thales Alenia Space, to build the first two of its 5th Generation satellites programme. A firm contract for manufacturing *Arabsat-5A* and *BADR-5* was signed in Riyadh on 16 June 2007.

Complementary contracts were also signed on the same day for the launch of these two new satellites, to be handled by France-based Arianespace and US-based International Launch Services (ILS), between Q3-2009 and Q1-2010. The spacecraft will be

launched by an Ariane-5 rocket from the Guiana Space Centre, Europe's Spaceport in Kourou, French Guiana, on a Proton Breeze M vehicle from the Baikonur Cosmodrome in Kazakhstan.

Arabsat 5th Generation fleet consists of three satellites with a total of 130 transponders of all Ku-, C-, and Ka-, bands to be positioned at ARABSAT three orbital locations, including the new 20° East. Its core missions will be to make it possible for Arabsat to execute on its aggressive deployment strategy over the Middle East and North African markets, and well beyond, by ensuring continued expansion to the neighbouring countries and protection of the existing services for the forthcoming 20 years with very powerful state of the art technology introducing the new Ka-band for specialised 2-way services; the third spacecraft, Arabsat-5C, will be ordered in the coming months.

The European consortium of Astrium and Thales Alenia Space is building the satellites, and is responsible for delivering them in orbit. Astrium, the leading partner, will supply the two Eurostar E3000 platforms and integrate the satellites. Thales Alenia Space will design and build the communications payloads. The team will also upgrade the ground control segment for the extended Arabsat satellite fleet.

Mr. Khalid Balkheyour, Arabsat's President & CEO declared "We are extremely excited with the kick-off of our 5th Generation programme which marks a key milestone in the deployment of Arabsat's long-term strategy to consolidate its leading position in the Arab world and expand aggressively with cutting-edge technologies coupled with the highest level of reliability. The introduction of the first-ever in orbit "hot" back-up in the MENA region, as well as Ka-band, will allow us to offer to our customers an unprecedented level and unrivalled range of services. Our partnership with the Astrium and the Thales Alenia Space teams is not new and we are proud to renew it with two of our



ArabSat Riyadh earth station.



MEASAT expands coverage into Africa

MEASAT Satellite System has announced the expansion of the MEASAT satellite network into Africa with the commissioning of the AFRICASAT-1 satellite at the 46.0E orbital location.

"The commissioning of AFRICASAT-1 is a major step for the organization" said MEASAT COO, Paul Brown-Kenyon. "While we have been able to serve customers in Eastern Africa from MEASAT-3, AFRICASAT-1 will enable MEASAT to serve the whole of this fast growing and dynamic region of the world, providing connectivity for the region to key European teleports."

Operating in inclined orbit, AFRICASAT-1 provides twelve (12) high powered C-Band transponders, and up to four (4) high powered Ku-Band transponders, for telecommunication and broadcasting applications. The satellite will be operated from the MEASAT satellite control facility located just outside of Kuala Lumpur, Malaysia.

Capacity on AFRICASAT-1 will be marketed through both the MEASAT sales team and select partners in the region. "We are seeing robust demand for the capacity and expect to announce the first lease agreement soon." concluded Paul Brown-Kenyon.

5th Generation satellites."

While the first two 5th Generation satellites are being built, Arabsat will launch BADR-6 as soon as Q2-2008, the second of its 4th Generation satellites, also built by Astrium and Thales Alenia Space, on an Ariane-5 rocket.

Arabsat-5A, a multi-mission satellite, will take over from Arabsat-2B and provide additional capacity at 30.5° East for a large range of satellite communications services such as television backhauling and broadcasting, telephony, business communications, Internet trunking and the provision of VSAT and other interactive services, over sub-Saharan Africa, the North-Africa and Middle East (MENA) region, and beyond. A Eurostar E3000 model equipped with a payload featuring 24 active equivalent 36Mhz transponders in C-band and 36 in Ku-band, Arabsat-5A will have a launch mass of 4,800kg and a spacecraft power of 11kW at the end of its 15-year designed lifetime.

BADR-5 (technically Arabsat-5B), will be co-located with the rest of Arabsat's BADR constellation of Direct-To-Home satellites at its 26° East video "hot-spot", primarily providing full in-orbit back-up capacity both for BADR-4 and BADR-6 television services, now reaching an audience of 164 Million viewers, from Morocco to the Gulf, by far MENA's leading television neighbourhood. Covering a stretched zone encompassing the entire Middle East and North Africa (MENA) region, and beyond, BADR-5 will guarantee to Arabsat's core direct TV broadcasting customers a unique "hot" redundancy, the highest level ever in the region. Complementary missions will include supporting the expected boom of HD-TV and, thanks to its Ka-band capacity, the development of new and sophisticated interactive television services from broadcasters. Also a Eurostar E3000 model, equipped with a payload featuring 56 active transponders in Ku-band and Ka-band, BADR-5 will have a launch mass of 5,400kg and a spacecraft power of 14kW at the end of its 15-year service lifetime.

NOORSAT

NOORSAT Global Satellite Communications Company is the upcoming Satellite service provider in the Arab World. NOORSAT was established to cater for the Arab world satellite-based service requirements with special focus to satisfy the increasing demand for the DTH TV service. With ample capacity at the only "HOTSPOTS" serving the Arab World from 25.8° E and 7° W, NOORSAT offers the opportunity to the TV channels to guarantee the instant reach to all satellite TV dishes in the Arab World through one contract, one company and one invoice.

NOORSAT, the only satellite operator with access to both TV Hotspots serving the Arab World and all existing TV dishes in the region need no re-pointing, additions or modifications to receive NOORSAT transmitted TV channels.

NOORSAT has developed a new digital DTH TV platform carrying a Bouquet of a variety of attractive Arabic, public and private, TV channels targeting the Arab and Ethnic expatriates in Europe

Their satellites' capacity is optimum for video broadcasting, direct to homes, or to cable-head ends, satellite newsgathering and TV programs exchange. It serves the needs for broadband access,

as well as corporate data networks.

From multiple prime orbital locations, NOORSAT satellites capacity provides solutions to the Arab World, Europe and neighbouring countries.

Thuraya

Abu Dhabi-based company Thuraya offers cost-effective satellite-based mobile telephone services to nearly one third of the globe. Through its dynamic dual mode handsets and satellite payphones, Thuraya enhances freedom of movement and connectivity. Thuraya's US\$1 billion regional mobile telecommunications via satellite (GMPCS) system will help meet the need for affordable, high-quality mobile phone services to urban hubs as well as remote communities.

Through partnership with leading national telecom and mobile communications companies, Thuraya provides blanket coverage to more than 110 countries in Europe, North, Central Africa and large parts Southern Africa, the Middle East, Central and South Asia: a landmass inhabited by an estimated 2.3 billion people.

Subscribers can access Thuraya's mobile satellite system through service providers, who are either national GSM network companies or local telecom operators. Thuraya in fact, complements national GSM networks, allowing subscribers to remain connected to their national mobile networks, and to access Thuraya's system whenever their preferred national network is out of reach.

Thuraya offers satellite, cellular (GSM) service and location determination system (GPS) in a single dual mode handset that is lightweight, elegant and easy to use. The dynamic handset offers voice, data, fax and short messaging services.

The company was founded in the UAE in 1997 by a consortium of leading national telecommunications operators and international investment houses. The turnkey project was built by US satellite manufacturer Boeing Satellite Systems.

The Thuraya-1 satellite was successfully launched on board a Sea Launch Zenit-3SL rocket from the equator in the middle of the Pacific Ocean on 21st October 2000. The launch was a record success, as it was the first satellite initiated from the Middle East and also the satellite was the heaviest ever to be launched.

Thuraya's second satellite Thuraya 2 was launched on the 10th of June 2003. The Thuraya 2 satellite was deployed into geosynchronous transfer orbit by Sea Launch, which was also the launching vehicle for Thuraya's first satellite. Designed for a 12-15 year lifespan, the Thuraya 2 satellite is positioned in Geosynchronous Orbit, 35,786 km (22,236 miles) above the Earth, at 44 degrees East Longitude and inclined at 6.3 degrees.

Sea Launch successfully launched the Thuraya-3 mobile communications satellite on January 15 2008 with a perfect flight of the Zenit-3SL vehicle. The achievement marked Sea Launch's 25th mission, since the international team began operations with its first launch in 1999. Thuraya's CEO Mr. Yousuf Al Sayed says, "The launch of Thuraya-3 is a significant milestone in the Company's progress towards realizing its strategic vision of becoming a dynamic, world lead-



ing, multi-regional mobile satellite operator". He also added that the Company has already completed all Ground network preparations for Thuraya-3, and set up commercial infrastructure with several promising partners in East Asia, and hence all is set for commercial launch very early in 2008.

Once operational, the new satellite will commercially double Thuraya's current coverage to include all Asia-Pacific countries, enabling it to offer its cutting-edge handheld, fixed, broadband and maritime services in such major markets as China, Japan, Australia, Korea, Indonesia, Malaysia and the Philippines.

The Primary Gateway in Sharjah, UAE, serves the entire Thuraya coverage area, and plans are underway to establish additional national gateways at other locations as necessary.

Focus on Africa

As part of its continued focus on core African markets, Thuraya launched a commercial service in the Democratic Republic of Congo in November 2007. With partners, Fort Info Technology, Thuraya will provide a service with one hundred percent telecom coverage in the Democratic Republic of Congo, including remote and rural areas. Potential customers include the UN, NGOs and corporations.

As Thuraya's Service Partner, Fort Info Technology will be marketing and selling the whole range of Thuraya's products and services in the African country. These include Thuraya's second-generation handsets and Payphone and Rural Telephony solutions as well as ThurayaDSL broadband data service.

"From initial market response, Thuraya services are expected to be of great demand by several industrial sectors as well as by the corporate and mass market throughout Congo," said CEO of Thuraya Yousuf Al Sayed.

He also added that Thuraya's value proposition for Congolese customers is based on providing blanket satellite coverage of the country, uninterrupted services and at the best rates, enabling even low-income groups in villages and remote areas to benefit from these advanced services.

Thuraya's commercial launch in the Democratic Republic of Congo is another step that reinforces Thuraya's strong presence and partnership with the telecom sector and telecom providers in the African continent.

Along with the aggressive marketing campaign to capture the Asia-Pacific market, we will be hearing a great deal more of Thuraya in 2008.

YAHSAT

Probably the newest operator to emerge from the Middle East is Yahsat - a telecommunications satellite project initiated and owned by Mubadala Development Company of Abu Dhabi. The Yahsat satellite will serve commercial and governmental clients in the Middle East, Africa, Europe and South-West Asia. YahSat will operate as a commercial company to develop, procure, own and operate a hybrid communications satellite.

Incorporated in January 2007, the Yahsat business concept will be focused on addressing terrestrial broadband coverage and will offer solutions for Internet trunking via satellite, corporate data networks, backhauling services to telecom operators, and the broadcasting services.

The contract to build the initial satellite has been awarded to a joint team of Astrium and Thales Alenia Space to build the US \$1.66 billion (AED 6 billion) dual satellite communications system ready for launch in the second half of 2010.

Yahsat will provide customers with innovative solutions for broadcasting services, Internet trunking via satellite, corporate data networks and backhauling services to telecom operators. The Yahsat satellites will fulfil the satellite communication requirements of both government and commercial customers in the Middle East, Africa, Europe and South West Asia. The system is designed to accommodate the trends of emerging applications in the satellite industry such

as HDTV and other broadband satellite services.

Waleed Al Mokarrab Al Muhairi, COO of Mubadala and Chairman of Yahsat, commented: "Demand for satellite communications capacity is booming in the Middle East and North Africa, and this demand is predicted to grow exponentially. This is the first time that a government in the region has openly backed such a substantial venture in the satellite communications industry. It sends out a powerful message about Abu Dhabi's emerging role as global technology hot-spot."

The dual (government and commercial) Yahsat satellite communications system includes two large satellites to be delivered in orbit, as well as the associated ground infrastructure. The operational life of the satellites is estimated at 15 years. The Yahsat system will comprise a space segment including two operational satellites - YahSat 1A and YahSat 1B. Yahsat 1A is to be stationed at the 52.5°E orbital position.

Nilesat

Nilesat is an investment Egyptian Company established in July 1996, for operating DTH broadcasting satellites and uplinking facilities. It has launched two satellites in the orbital position 7 degrees west (Nilesat 101 and Nilesat 102). Additional space segment is applied on a third satellite Nilesat 103 (Atlantic Bird 4 which was shifted to the same orbital location). Nilesat now broadcasts 385 digital TV channels in the Ku-Band, and 98 digital radio channels, in addition to data transmission and turbo Internet services. Nearly 60 percent of the TV channels are free to air. The others are encrypted. They cover entertainment, thematic distance learning, business and stock exchange services.

Using digital technology, Nilesat can broadcast Egyptian, Arabic and international channels, open and encrypted channels, general and thematic channels, educational, health and scientific channels, live news exchange anywhere within the coverage area.

The company's high speed data transmission services enable newspaper and magazine editors to send their copy to publishing houses, provides for turbo Internet, distance education, stock exchange networks, weather news, home shopping, receiver software update download for users and point-to-point and point-to-multipoint file transfers.

Thriving

2008 is going to be an exciting year for the Middle East satellite industry. The demand for satellite-based services and for DTH television will ensure that this trend continues.

The outlook is very positive and the emergence of new operators will keep everybody on their toes and will encourage a competitive environment.

The growing constellation of satellites launched to serve the region and more local operators launching their own satellites will only strengthen the position of the Middle East. High attendance at regional shows such as CABSAT proves that the appetite for satellite is already high and set to grow and grow. ●

