

# Better than BGAN?

## Inmarsat's handheld MSS opportunity

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Inmarsat's recently announced entry into the handheld MSS sector highlights that satellite phones have finally been recognized as an attractive and sustainable opportunity, albeit one much smaller than the tens of millions of users projected by system promoters in the late 1990s. As noted by Inmarsat, the handheld MSS market now generates around \$550M in annual revenues, and by our estimate continues to add subscribers at a rate of almost 100,000 per year, reaching around 600,000 users at the end of 2005. This makes it the single biggest segment of the MSS market, generating roughly the same revenues as the maritime MSS sector (served mainly by Inmarsat with its mini-M, B and Fleet terminals) and significantly exceeding any other MSS segment in terms of the number of terminals in use. While BGAN is a necessary development, not least to defend Inmarsat's existing customer base against potential future threats from increasingly portable and flexible VSAT terminals, we expect handheld MSS to continue to grow, and, in our view, it represents a potentially larger revenue upside for Inmarsat in the medium term than its new BGAN data service.

While handheld MSS does not (and will never) provide service which can substitute for cellular telephony<sup>1</sup>, a growing number of users find the service useful for communications in remote areas. The same could of course be said for data services such as BGAN and R-BGAN, but there are a number of fundamental differences in the user experience with handheld phones and laptop-sized data terminals. For example, while a handheld MSS phone must be used outdoors (and the antenna raised above the head to make a call), which can cause some initial confusion for users who are accustomed to the flexibility offered by cellular telephony, the form factor and other usage characteristics of the phone are generally familiar. In comparison, making use of a BGAN or R-BGAN terminal requires much more adaptation on the part of a laptop data user, because the terminal must be positioned outdoors and pointed at the satellite and then connected either wirelessly or by cable to the customer's laptop. For a user familiar with PCMCIA card-based 3G data services, this is

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<sup>1</sup> Although ATC will be capable of providing cellular-like service quality (in terms of building penetration) within the area covered by ATC base stations

a much greater imposition, not least because using your laptop outside is rather less frequent than using your mobile phone outdoors<sup>2</sup>.

Admittedly Inmarsat is targeting BGAN at a specialist niche market, who have a strong need for communications and therefore will be prepared to carry the terminal and make the compromises necessary to use the service. However, handheld MSS has the potential to attract a wider market of occasional and emergency users, not least because its price point is much closer to consumer expectations for cellular services. This becomes clear when we compare the price elasticity of demand seen for R-BGAN and handheld MSS. The price of R-BGAN terminals was reduced very sharply around 18 months ago, to as little as \$600, compared to the original \$1500 retail price, but this did not lead to any substantial surge in demand. Recent reductions in the usage prices for R-BGAN have supposedly led to increased usage, but did not appear to stimulate overall growth in Inmarsat's land-based revenues. Furthermore, if BGAN users were price sensitive, then we would expect to see continued demand for the R-BGAN product, given its substantially lower price than the new BGAN products, when in fact Inmarsat has stated that users were deferring their purchases in anticipation of the BGAN launch<sup>3</sup>. In contrast, even though its current phones are quite large, Globalstar has grown its handheld business very strongly over the last two years (adding close to 50,000 handheld voice subscribers each year), by offering a low priced handset (typically around \$500 although refurbished handsets have recently been sold for as little as \$300) in conjunction with aggressively tiered bundles of voice minutes, with a headline rate as low as 14 cents per minute (for a very large bundle).

Finally, we believe handheld MSS has the opportunity to get closer to potential customers' terrestrially-derived pricing and form factor expectations over the next few years. Thuraya and Globalstar will launch improved handheld phones during 2006 and in 2007 ICO may offer an even smaller phone for its North American service<sup>4</sup>. Price points for these phones are in the range of \$500-

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<sup>2</sup> Compare the plausibility of publicity photos for BGAN usage (<http://www.qmpcs-us.com/products/inmarsat/bgan.htm>) and handheld MSS usage ([http://www.qmpcs-us.com/products/iridium/iri\\_9505.htm](http://www.qmpcs-us.com/products/iridium/iri_9505.htm))

<sup>3</sup> Inmarsat 2005 results call, March 9, 2006

<sup>4</sup> Inmarsat's handheld phone is expected to be similar in size to the Thuraya next generation handset and will use a relatively large extending antenna for satellite calls. In contrast MSV's proposed ATC service in North and South America will use a very much larger satellite which can communicate with a cellular-sized phone without the need for an extending antenna. We consider this is more appropriate for customers who do not have a strong need for satellite communications and are therefore unwilling to incur a penalty in terms of handset size

\$700 today, and are likely to stay at that level or less for the newly launched phones, roughly double the cost of a new cellular phone. In contrast, BGAN is constrained to its current form factor, even if smaller devices offering lower data rates are developed in the future, and could never be integrated into a PCMCIA card format. The price of BGAN terminals is now around \$2400-\$3500 (although a new low end terminal is expected to be available in late 2006 for around \$1500) and seems unlikely to fall below \$1000 in the future, equivalent to five times the cost of a 3G PCMCIA card.

What are the implications for Inmarsat's handheld business plan? Given the degree of price elasticity apparent in the handheld MSS market, it will be critical for Inmarsat to minimize the cost of its handheld phone, so it can compete with Globalstar and Thuraya. However, both of these two companies have had the advantage of a single source supplier, maximizing volumes for their new phones, whereas Inmarsat has traditionally had a number of different suppliers, including Thrane & Thrane, Nera and HNS<sup>5</sup>, which could make it more difficult to achieve sufficient volumes to bring retail prices down to say \$500 per phone. Inmarsat has also tried to position itself as a premium service in the past, given its long heritage and network reliability, but price leadership could be a more important factor for handheld MSS voice services.

We expect handheld MSS to continue to add at least 100,000 new customers per year (with associated retail airtime revenues of \$80M-\$100M), even without counting the potential boost from a US ATC deployment. Apart from Iridium, Inmarsat will be the only company offering completely global coverage<sup>6</sup> and could therefore easily achieve a 20%-30% market share amongst both new customers and the 100,000 plus customer churn pool expected annually by 2007 (or more, if, as Inmarsat assumes, one or more of the LEO constellations is not replaced when it reaches the end of its life).

Inmarsat has stated a (wholesale) revenue target of \$200M from BGAN by 2010, but 80% of this revenue is expected to come from existing customers, and (as we pointed out in an earlier article<sup>7</sup>) there is the potential for erosion of some existing revenue streams, especially in the maritime sector, during the transition to BGAN. In our view, net revenue growth from BGAN might therefore be as

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<sup>5</sup> With the exception of R-BGAN which was sole sourced from HNS

<sup>6</sup> Globalstar does not offer service in most of Africa or South Asia for example (see <http://www.globalstarusa.com/en/content.php?cid=300>)

<sup>7</sup> "Staying afloat? BGAN pricing and Inmarsat's future", February 2006, downloadable from [www.tmfassociates.com/articles](http://www.tmfassociates.com/articles)

low as \$100M by 2010. In comparison, handheld terminals are unlikely to substitute for much (if any) of Inmarsat's existing revenue streams (apart from customers who would otherwise have migrated to competitors' products), and could therefore provide an incremental revenue opportunity of perhaps \$80M-\$120M (i.e. \$120M-\$180M retail, corresponding to 120,000-180,000 customers) within three years of service launch<sup>8</sup>, with continuing growth beyond that time.

We therefore conclude that in the medium term, handheld MSS may well offer more upside to Inmarsat than BGAN. However, that does not imply BGAN will be a failure. Inmarsat's strength in the MSS market comes from its range of services, ranging from small asset tracking devices through to large maritime terminals offering high speed data. BGAN provides improved portability and lower prices to all segments of Inmarsat's customer base and therefore will be helpful in defending Inmarsat's current revenues against competition from increasingly portable VSAT terminals. However, the missing link in Inmarsat's portfolio in the last few years has been a handheld phone, and this new service will enhance Inmarsat's ability to retain its position as the largest MSS operator over the next decade.

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<sup>8</sup> Expected in late 2007 or early 2008