A significant demand for XL satellites before the end of the decade

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Over the next five years, we believe that prospects for XL satellites are not particularly attractive. Our forecast shows that only 72 satellite orders are expected to be placed over 2002-2006, and that very large satellites would not exceed 17% of these orders.

However, five years from now, prospects for XL satellites are more promising. Over 2007-2011, the increased needs for replacement of FSS/DBS satellites should boost the number of orders, and new mobile and broadband projects are expected to emerge again. We forecast that 115 satellite orders could be placed over 2007-2011, and that 30 of them (26%) would be XL satellites. Even more compelling is the analysis in dollar value: XL satellites could make up as much as one third of the total satellite procurement market in the 2007-2011 period.

Both satellite operators and manufacturers could greatly benefit from the introduction of XL satellites. The former may become more competitive, while the latter may diversify their revenue stream. However, little might happen unless manufacturers clearly demonstrate that they can produce reliable XL satellites within reasonable delays.

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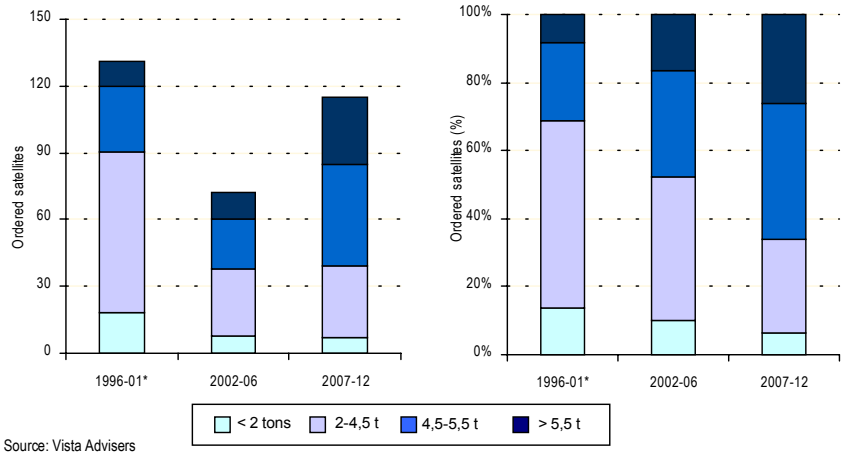
Satellite market forecasts by size class 1996-2012



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Vista viewpoint

Issue 3 - May/June 2002

Vista Advisers

Vista's experience in...
Satellite products assessment

Having developed a thorough expertise covering both the service side and the manufacturing side of the satellite sector, Vista has surveyed satellite services in most regions of the world and assessed market opportunities for a number of satellite products.

Major satellite manufacturers are currently developing very large satellite platforms (Boeing with the 702 Plus, Alcatel and Astrium with Alphabus). We at Vista, therefore, found it relevant to conduct specific research on large satellite platforms and forge our own view on the subject. For this purpose, we interviewed a number of satellite operators, manufacturers, insurers and bankers on their assessments of pros and cons of large satellite platforms.

The featured article highlights the major concerns of satellite operators with regard to investing in Big Birds (>15 kW). We utilized our satellite database to cross analyze how key parameters, such as economies of scale or manufacturing cycle, could evolve with large satellites.

Based on our discussions with the industry and our analysis of key parameters, the article concludes with an assessment of the market potential for large satellite platforms over the next decade.

Content

Spotlight

Editor: Laurence Journez.
Publisher: Eric Le Proux de La Rivière. Printed by Vista Advisers. Legal registration: pending.

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Is there a future for extra large telecommunications satellites?

by Eric Le Proux, President & CEO, Vista Advisers

Introduction

Since 1965, when Early Bird, the first commercial satellite, was launched, the size of commercial telecommunications satellites has been steadily increasing, to reach an average mass of 1.9 metric tons in 1990 and 3.3 metric tons in 2000. Today, high-end satellites reach a mass of 5.5 metric tons and carry in excess of 90 transponders. The current crisis affecting the telecommunications industry globally has raised questions about the actual need or relevance of extra large (XL) satellites for operators. Are advantages outweighed by risks? Can satellite manufacturers expect a significant share of their revenues from extra large satellites?

Unparalleled advantages of XL satellites

In this paper, we consider that satellites with a mass greater than 5.5 tons and with an onboard power of 15 kilowatts and higher belong to the XL class. To give an idea, these satellites can easily accommodate 120-190 transponders.

XL satellites provide two compelling advantages over all other smaller satellites: (a) economies of scale and (b) enhanced performance and flexibility.

In the current context where market growth for transponders has slowed in many regions, economies of scale, hence the possibility for operators to reduce transponder prices, are probably the best way to revitalize a sluggish sector. With a cost per transponder five times lower than for small satellites, XL satellites can significantly contribute in this area.

The most recent technological developments confirm that this indicator should continue improving with the introduction of the XL satellite class, possibly bringing costs down as much as seven to ten times less than small satellites within five to seven years.

Enhanced performance and flexibility are key to adapting to a changing market. Not only do they let operators target a very diversified client base, but even more important, they can mitigate market risks by allowing sophisticated coverage reconfigurations while satellites are in orbit.

With their onboard power greater than 15 kilowatts, XL satellites provide the ability to extend the footprint coverage while increasing the eirp and can carry complex onboard technical functions, all features that drive technical design trade-offs made by operators.

From an application standpoint, these functions, such as onboard switching, onboard processing and onboard multiplexing, enable operators to simultaneously tap broader geographic markets and secure new and less wealthy customers, while reducing their business risks.

XL satellites are far from a panacea

Unfortunately, many other factors considerably diminish the above advantages, to the extent that a great number of satellite operators could be deterred from buying XL satellites.

Cash requirement is the dominant obstacle. The cost of an XL satellite can easily reach US $250 million, compared to US$100 million for a medium-sized satellite. If the launch and the insurance costs are added to the satellite cost, the cash requirement is approximately US$400 million, just to start operations. Unless operators have deep pockets or have already established a substantial client base, the financial community will balk at financing XL satellite-based projects in the current context.

Unreasonable manufacturing time is also a major concern for operators contemplating XL satellites. The last five years have shown that manufacturers need between 27 and 50 months to deliver a 5-ton satellite. In the current telecommunications context, 2.5 years (30 months) is an eternity and the most carefully prepared business plan could become obsolete by the time the satellite is delivered. The issue is thus very simple for manufacturers: if XL satellites cannot be produced in a reasonable standard time frame (e.g. less than 30-34 months), the market might remain a small niche.

Other parameters may be even more constraining for several operators. For example, slots with enough frequency spectrum to accommodate an XL satellite, or the ability to secure underwriters for insuring one at a reasonable premium, are not minor issues. Concerns have also been expressed regarding an operator's ability to reposition an XL satellite into a different orbital slot if the need occurs, or to negotiate an acceptable launch price if only one or two providers can technically launch an XL satellite.

Few operators can afford XL satellites

The typical profile of XL satellite operators is, therefore, relatively simple to identify. There are two different families: large deep-pocketed FSS/DBS operators, and mobile and broadband operators.

Large FSS/DBS operators are by far the most likely users of XL satellites as they have the capability to market, finance and bear the risks of large satellite projects. More important, these operators have the ability to migrate customers from a full satellite that is being retired to an XL satellite slated to replace it. This migration, which can be made transparent to customers, may permit filling an XL satellite by one-third to one-half of its capacity from the start of commercial operations. These migration opportunities will likely multiply with the current consolidation of satellite operators across the world that manage big fleets of satellites and huge customer bases.

Geo-mobile and broadband operators have no choice but to use XL satellites to meet their technical requirements: high power transponders, onboard processing and connectivity of a large number of beams. This was observed over 1996-2001, when as much as 80% of mobile and broadband projects were based on the largest existing satellites. Although most projects for these applications are currently on hold or have been cancelled for a number of well-known reasons, we strongly believe that they could become substantial users of XL satellites in the medium term, as soon as the telecommunications and capital markets become more rational.

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