

Trends in Satellite Financing

Commercial Space Transportation Advisory Committee

Federal Aviation Administration Headquarters

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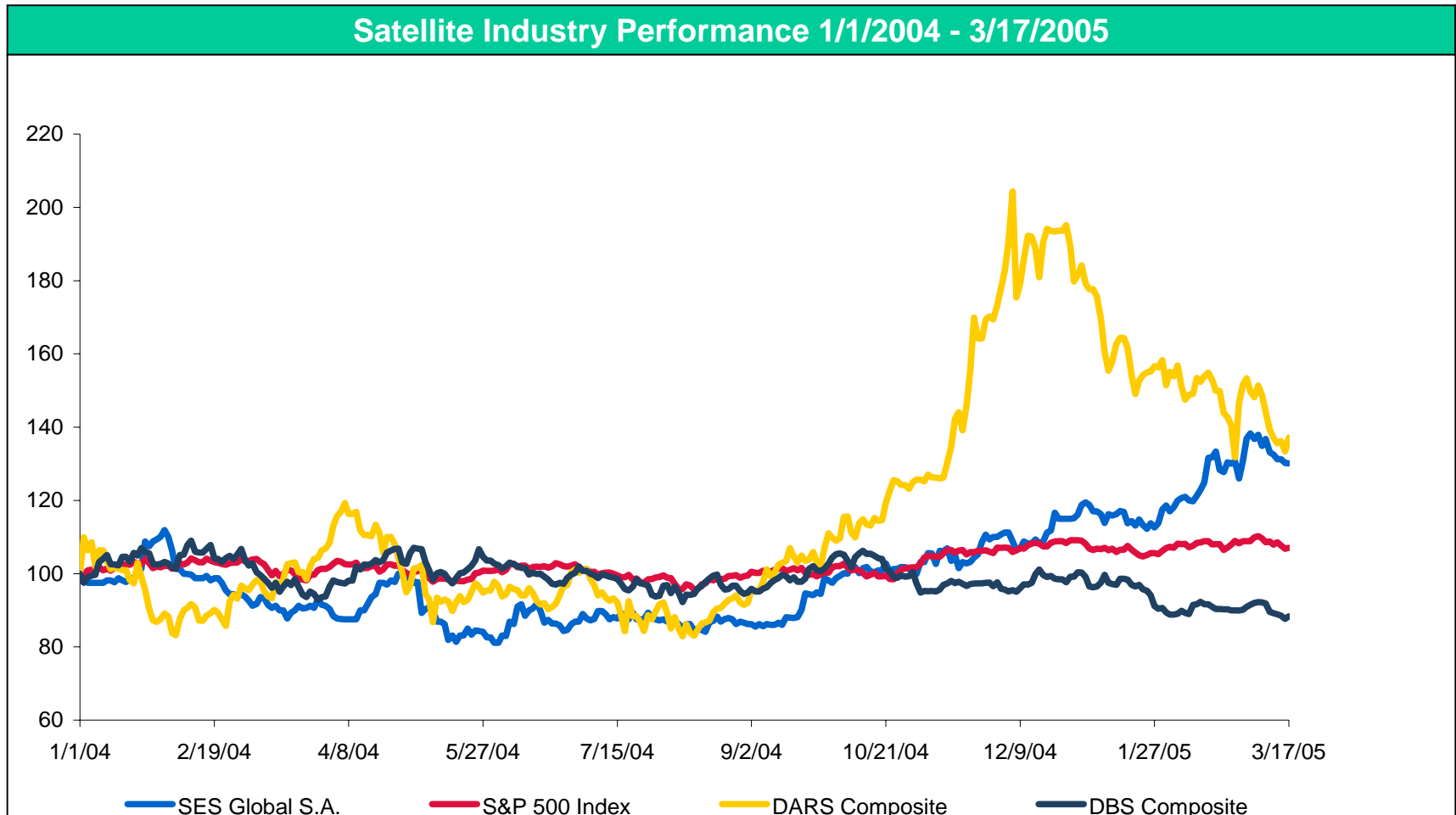
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Executive Summary

- Focus is commercial satellite financing and impacts on launch industry
 - Impact of military, intelligence and civilian space programs not addressed
- Capital markets supportive of FSS industry and consumer satellite firms
 - Stock performance and financings by sector and type are presented
- Commercial Launch Demand
 - FSS:
 - Fewer large GEO launches next 3-5 years, growing small GEO launch demand
 - Consumer (DBS, DARS, Broadband, Voice):
 - U.S. & Europe: Steady then declining launch rates after 3-5 years
 - Rest of World: More launches, but mostly in 3-5 years
 - Ground Segment Products/Services:
 - U.S. & Europe: Increasing transponder demand for IP-based services
 - Rest of World: Increasing transponder demand for government services
 - Both: Slowly growing need for higher resolution satellite imagery
 - Space Tourism:
 - Impressive demand, but not tested by failure
 - Significant technical breakthroughs needed to make it affordable and safe
 - Exciting work ongoing, but don't hold your breath

Satellite Stock Price Performance

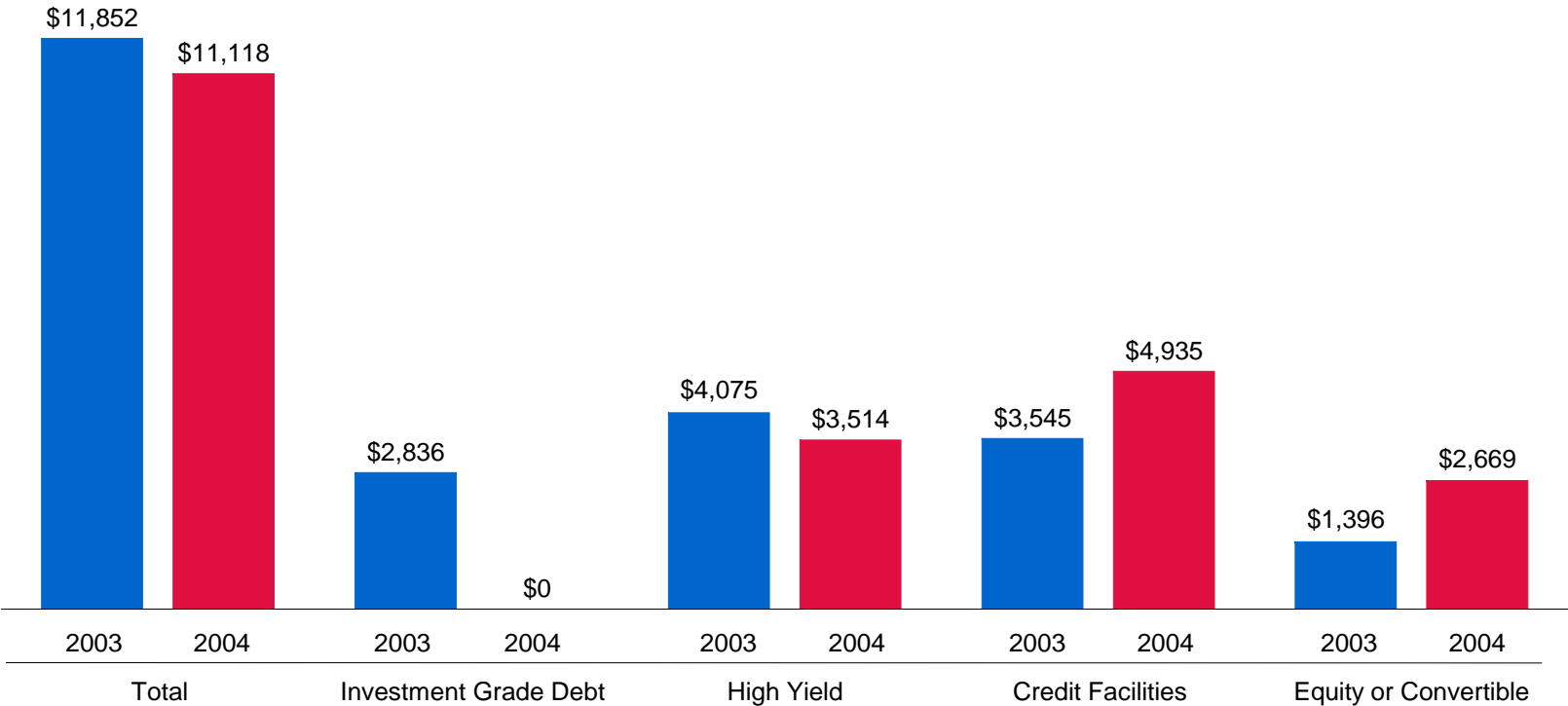


Note: DARS Composite includes XMSR and SIRI. DBS Composite includes DTV and DISH.

Again in 2004, DARS stocks outperformed other satellite sectors and the broader market. DBS lagged reflecting intensifying competition for video households.

2003 vs. 2004 – Major Satellite Financings: by Type

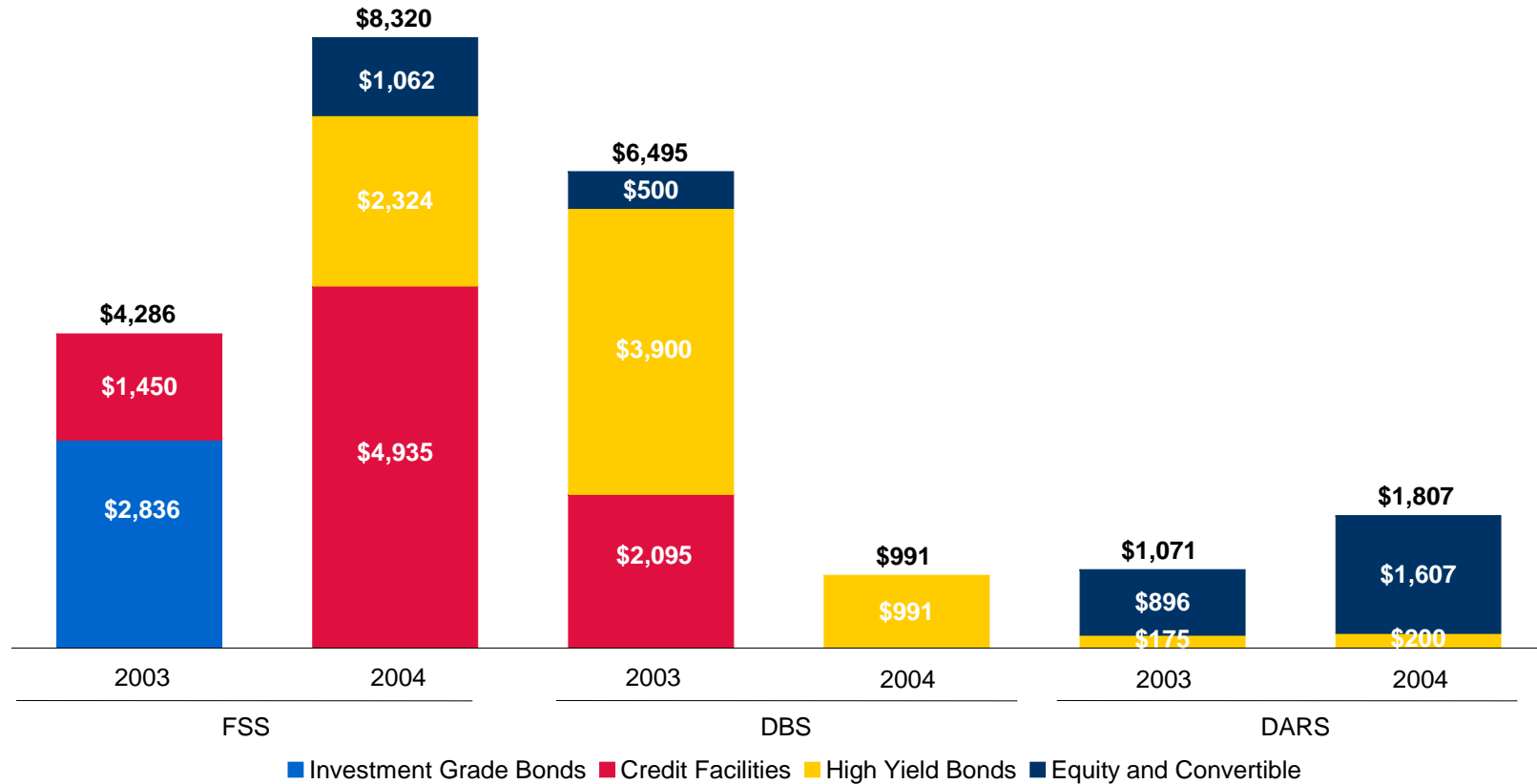
(\$ in millions)



The absence of investment grade debt offerings largely reflected Intelsat’s recent non-investment grade status and increased preference for bank credit facilities. Satellite operators opportunistically accessed the reinvigorated equity markets as well.

2004 Major Satellite Financings: by Sector

(\$ in millions)



For the first time in years, the FSS sector unseated DBS as the biggest consumers of capital. FSS financings related to M&A activity dominated the financing landscape.

2004 – Year of FSS Acquisitions

(USD in millions)

Date Announced	Acquiror / Target	Enterprise Value ⁽¹⁾	Percent Acquired	LTM Revenue ⁽²⁾	LTM EBITDA ⁽²⁾
12/13/04	Nebozzo and Eurazeo / Eutelsat	\$5,292	20.7%	5.1x	6.5x
12/3/04	Cinven / Eutelsat	5,264	11.0%	5.0x	6.4x
11/26/04	GS Capital Partners / Eutelsat	5,509	15.8%	5.3x	6.8x
8/16/04	Zeus Consortium / Intelsat	4,936	100.0%	5.1x	6.3x
6/6/04	Blackstone / New Skies	907	100.0%	4.2x	7.7x
4/20/04	KKR / PanAmSat	4,170	100.0%	5.0x	7.1x
Mean				5.0x	6.8x
Median				5.1x	6.6x

(1) Based on stock prices as of date of announcement.

(2) Based on LTM Revenue and EBITDA at deal announcement.

The acquisition of FSS operators by financial investors dominated the industry agenda in 2004.

The New FSS Landscape

SES GLOBAL

PanAmSat

Intelsat

eutelsat

NEWSKIES
SATELLITES



KKR
KOHBERG KRAVIS ROBERTS & CO.

Apax
PARTNERS

DeAGOSTINI

The Blackstone Group

THE
CARLYLE
GROUP

APOLLO
MANAGEMENT, L.P.

EURAZEO

LEHMAN BROTHERS

MDP

SPECTRUM
EQUITY INVESTORS

PROVIDENCE EQUITY

Permira

TEXAS
PACIFIC
GROUP

The FSS Sector

- Characteristics:
 - Low-growth, high cash flow
 - significant overcapacity
 - 65%-70% capacity utilization
- Promising growth sectors:
 - Government services
 - HDTV
 - Broadband
- Large fleets controlled by private equity firms
 - Except SES and national/regional players
 - Great access to capital, but fully levered
 - Going public to return capital to owners
 - PanAmSat & New Skies (below filing ranges), Intelsat and Eutelsat expected
 - Significant interest and dividend burdens
 - Capital expenditure requirements will be low for 3-5 years
- Small national and regional operators in a quandary
 - Impacted by overcapacity and low transponder pricing
 - Poorer access to capital
 - National pride blocking consolidation (may change at replacement time)

The FSS Sector

Focus & Launch Industry Impacts

- Asset rationalization (increasing ROA)
 - Consolidation of smaller players into larger fleets
 - Swapping of satellite capacity
 - Sharing of satellite capacity
 - Launching one satellite to replace two or two to replace three
 - Increasing use of smaller GEOs for emerging markets
- Cost Reductions
 - Most operating reductions already done or in progress
 - Self insuring of larger fleets to lower insurance costs
- Deleveraging of balance sheets
 - Use of cash flow from asset rationalization and cost reductions to pay down debt before fleet replacement cycle returns

Impact on Launch Industry:

Fewer large GEO launches near-term, moderate small GEO demand

The Consumer Sectors (DBS, DARS, Voice & Broadband)

- Characteristics:
 - High-growth, low cash flow
 - Spectrum constrained
- Promising growth sectors:
 - HDTV
 - Niche content
 - Satellite broadband (fixed and mobile)
 - Enhanced mobility
- Large players controlled by publicly traded firms
 - Good access to capital unless capital markets weaken
 - Moderate interest and no dividend burden
 - Satellite fleets mostly in place for core markets
 - Capital expenditure requirements are lessening until next replacement cycle
- Restructured LEOs privately held (Iridium, Globalstar)
 - No major fleet replacement for many years (if then)



The Consumer Sectors

Focus and Launch Industry Impacts

- Building subscriber base
 - Easiest subscribers onboard, but still significant growth ahead
 - Market willing to fund subscriber acquisition if business model works
- Enhancing content offerings
 - More niche content, HDTV and local-into-local to be added near-term
 - Will require more space segment capacity
- Adding bundled services
 - Broadband needed to compete with cable modems/DSL (Wildblue?)
 - Rolling out mobile voice/broadband (Inmarsat I-4, MSV?)
- Geographic expansion
 - Growing interest in Latin American, Asian and African projects
- Increased mobility
 - DBS to the car, DRS to the cell phone & PDA, 2nd generation voice

Impact on Launch Industry:

U.S. and Europe: Steady then declining launch rates after 3-5 years (unless satellite broadband or hybrid networks succeed)

Rest of World: More launches, but mostly in 3-5 years

Ground Segment Sectors

- Includes:
 - Satcom equipment/software vendors
 - System integrators
 - Teleport owners/operators
 - Space segment capacity resellers (fixed and mobile)
 - Remote sensing value added resellers
- Characteristics:
 - Massive overcapacity
 - Profit margins in low single digits
 - Typical firm is engineering “hobby shop” owned by founders
 - Roll-up opportunities waiting for strategic consolidators
 - Small sizes, low growth and low margins make leveraged acquisitions difficult for private equity firms
- Promising growth sectors:
 - Government products & services
 - IP video services
 - IP datacasting
 - Geospatial information



Ground Segment Sectors: Focus and Launch Industry Impacts

- Government Products & Services
 - Mobile/portable remote and rugged satellite access
 - Integrated communications, broadband data and imagery
- IP video services
 - MPEG-4 video delivery via satellite to rural cable and niche institutional markets (colleges, hotels, hospitals)
 - Digital cinema
- IP datacasting services (one-way and two-way)
 - Private networks, Telemedicine, Digital signage
- Geospatial information
 - Enhanced telematics (real time location, traffic, weather and diagnostics)
 - Higher resolution web-based imagery (Microsoft, Google)

Launch Industry Impact:

U.S. & Europe: Increasing transponder demand for IP-based services
Rest of World: Increasing transponder demand for government services
Both: Slowly growing need for higher resolution satellite imagery

Issues

- Cost of space access (incl: insurance) remains a huge burden
 - Users have enjoyed a period of more moderate pricing due to overcapacity
 - \$55-\$70 million versus \$90-110 million
 - Merger of Boeing and Lockheed services may shift pricing power back to providers
 - Higher launch costs will negatively impact launches for higher risk applications, markets and new entrants
 - Progress on small sats (SpaceDev) & smaller launch vehicles (SpaceX) encouraging
- High U.S. launch costs pushing companies to overseas providers
 - Can also push satellite manufacturing decision overseas
- High regulatory burden also pushing companies away from U.S.
 - Sea Launch has 10 FTEs for ITARS not counting management time

Conclusion

- Public capital markets open for proven commercial satellite businesses
 - Over \$20 billion raised in 2004
- Private capital markets funding select new entrants and technologies
 - Mostly “angels” versus venture capital
 - NASA and DOD contracts very helpful, more support needed
- Launch reliability is back, need low prices and lower regulatory burden to expand market
 - Especially true in U.S. if it is to regain its #1 market share