

# Global Bit Discussion Materials

May 2014

# Summary of Valuation Methodologies

	<b>Description</b>	<b>Spectrum Value - Sensitized Case</b>
<b>IRR Analysis</b>	<ul style="list-style-type: none"><li>▪ Industry standard valuation methodology (AKA "Greenfield Approach")</li><li>▪ Primary methodology used in the absence of "good" comps</li><li>▪ Google's review and endorsement of the financial projections narrows the discussion items<ul style="list-style-type: none"><li>– We've sensitized the analysis for higher discount rates</li><li>– We've assumed that 20% of Global Bit's ("GB") equity will be set aside for employees</li></ul></li></ul>	<ul style="list-style-type: none"><li>▪ \$300 million - \$700 million</li></ul>
<b>GEO Slot Equivalent Valuation</b>	<ul style="list-style-type: none"><li>▪ Geostationary satellite spectrum rights have become increasingly scarce in recent years<ul style="list-style-type: none"><li>– Whereas historically satellite spectrum rights were granted for nominal fees, more recently satellite operators have paid up to \$90mm per slot</li></ul></li><li>▪ GB's spectrum provides coverage that is more comprehensive than geostationary spectrum and provides significantly more bandwidth</li><li>▪ GB's spectrum can be converted into geostationary spectrum slot-equivalents based on coverage and bandwidth</li><li>▪ We have valued GB's spectrum by applying average purchase prices paid for geostationary satellite spectrum slots to GB's spectrum slot-equivalents</li></ul>	<ul style="list-style-type: none"><li>▪ \$702 million</li><li>▪ 32 GEO slot equivalents at \$21.7mm/slot</li></ul>
<b>Franchise Fee Valuation</b>	<ul style="list-style-type: none"><li>▪ In theory, an orbital spectrum right is a government granted license to provide a particular service in a certain market</li><li>▪ Franchise licenses in the US cable industry provide an analogous economic model<ul style="list-style-type: none"><li>– Cable operators in the US must obtain franchise licenses and pay franchise fees from each municipality where they wish to offer cable service; these fees are ~5% of revenue</li></ul></li><li>▪ We applied the same percentage to the revenues generated by GB's business model as a proxy for the value of the spectrum</li></ul>	<ul style="list-style-type: none"><li>▪ \$400 million - \$600 million</li><li>▪ NPV of 5% franchise fee of revenue discounted at 10% with 0% perpetuity growth</li></ul>

# Summary of Valuation Methodologies (cont'd)

	Description	Spectrum Value - Sensitized Case
License Value of Mature Businesses (Wireless, Cable, Satellite)	<ul style="list-style-type: none"><li>We have reviewed the license/franchise/spectrum book value as a percentage of total enterprise value for various industries (wireless, cable, satellite)</li><li>We have applied this ratio to the total "mature" enterprise value of GB's business model, valuing GB using a 10% WACC<ul style="list-style-type: none"><li>Must value company's business model under the assumption that is a mature business with significant going-concern, brand, goodwill, customer-relationship and other intangible value</li></ul></li></ul>	<ul style="list-style-type: none"><li>\$300 million - \$425 million</li><li>12.5-17.5% spectrum value of total enterprise value calculated on a "mature" basis</li></ul>
Developing Markets Wireless License Proxy	<ul style="list-style-type: none"><li>GB's business model is fundamentally a broadband play which is much more analogous to the terrestrial wireless business model rather than the traditional FSS business model<ul style="list-style-type: none"><li>Therefore, can use terrestrial spectrum valuations to provide a proxy for the value of GB's spectrum</li></ul></li><li>Industry standard practice is to value spectrum on a MHzPOP basis in order to account for amount of spectrum and size/density of coverage area</li><li>Valuation metric can be adjusted to take into account varying economic and technical qualities of the spectrum</li></ul>	<ul style="list-style-type: none"><li>\$45.3 billion</li></ul>

# IRR Analysis

- An IRR or DCF analysis (mathematically equivalent) is an industry standard methodology for determining the value of a cash flow generating asset
- For a start-up venture such as GB, there are significant assets that need to be acquired and/or developed in order for the business to function
  - If the costs for acquiring/developing these assets are captured by the cash flows then, those assets are not a part of what is being valued by the analysis. Specific examples include:
    - Satellites – captured through capital expenditures
    - Manufacturing facilities – captured through capital expenditures
    - Intellectual property – captured through NRE spend
    - Management talent – captured through the options pool and stock grants
    - Capital – captured through required rate of return / WACC
  - The valuation (or purchase price in the case of an IRR framework) resulting from the analysis needs to be allocated amongst all the assets whose costs are not captured in the cash flows
    - The only assets that aren't accounted for in the cash flows are the spectrum rights and landing rights**
      - Landing rights in the Ku-band have historically been very easy to acquire and require nominal administrative fees

Global Bit Operating Projections													Purchase Date	6/30/14		
(\$ millions)	Purchase	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TY	Terminal Value Calculation	
Total Subs (mm)		0.0	0.0	0.0	1.0	4.9	14.6	27.3	42.6	60.7	81.0	103.3	103.3			
Revenue		\$0	\$0	\$0	\$186	\$1,119	\$3,730	\$8,358	\$13,666	\$24,310	\$34,187	\$44,461	\$49,851			
% Growth		n/a	n/a	n/a	n/a	500.0%	233.3%	124.1%	63.5%	77.9%	40.6%	30.1%	12.1%			
Less: Total Costs		(68)	(107)	(158)	(325)	(669)	(1,567)	(3,120)	(4,804)	(8,144)	(11,241)	(14,467)	(16,150)			
EBITDA		(\$68)	(\$107)	(\$158)	(\$139)	\$450	\$2,163	\$5,238	\$8,862	\$16,166	\$22,946	\$29,995	\$33,701			
% Margin		n/a	n/a	n/a	n/a	40.2%	58.0%	62.7%	64.8%	66.5%	67.1%	67.5%	67.6%			
Less: D&A		(47)	(135)	(159)	(232)	(261)	(272)	(412)	(383)	(418)	(410)	(353)	(340)			
EBIT		(\$115)	(\$242)	(\$317)	(\$371)	\$189	\$1,890	\$4,825	\$8,479	\$15,749	\$22,536	\$29,642	\$33,361			
Less: Taxes		0	0	0	0	0	(473)	(1,206)	(2,120)	(3,937)	(5,634)	(7,410)	(8,340)			
Plus: D&A		47	135	159	232	261	272	412	383	418	410	353	340			
Less: CapEx		(318)	(621)	(168)	(517)	(206)	(79)	(996)	(114)	(859)	(114)	(114)	(114)			
Less: A Net Working Capital		3	2	3	(13)	(50)	97	83	83	153	95	86	(438)			
Unlevered FCF		(\$384)	(\$726)	(\$324)	(\$669)	\$194	\$1,708	\$3,118	\$6,711	\$11,523	\$17,293	\$22,556	\$24,809			
eFCF		(500)	(384)	(726)	(324)	(669)	194	1,708	3,118	6,711	11,523	17,293	22,556	24,809	111,102	
Spectrum Purchase Price																
IRR																

## IRR Sensitivity Analysis

		Incremental SAC				
Purchase Price	\$0	\$75	\$150	\$225	\$300	
	\$300	66.9%	64.5%	61.6%	59.0%	55.9%
	400	65.2%	62.9%	60.2%	57.7%	54.8%
	500	63.6%	61.5%	58.9%	56.5%	53.7%
	600	62.2%	60.2%	57.7%	55.4%	52.7%
	700	61.0%	59.0%	56.6%	54.4%	51.8%

		Satellite CapEx Increase				
Purchase Price	0.0%	20.0%	40.0%	60.0%	80.0%	
	\$300	66.9%	65.7%	64.6%	63.5%	62.5%
	400	65.2%	64.1%	63.0%	62.0%	61.1%
	500	63.6%	62.6%	61.7%	60.7%	59.8%
	600	62.2%	61.3%	60.4%	59.5%	58.7%
	700	61.0%	60.1%	59.3%	58.5%	57.7%

		ARPU Reduction %				
Purchase Price	0%	15%	30%	45%	60%	
	\$300	66.9%	63.0%	58.8%	53.2%	46.1%
	400	65.2%	61.4%	57.3%	51.9%	44.9%
	500	63.6%	59.9%	55.9%	50.6%	43.9%
	600	62.2%	58.6%	54.7%	49.5%	42.9%
	700	61.0%	57.4%	53.6%	48.5%	42.0%

		Implied 2025 EBITDA Margin				
Purchase Price	67.6%	67.4%	67.0%	66.5%	65.5%	
	\$300	66.9%	64.5%	61.6%	59.0%	55.9%
	400	65.2%	62.9%	60.2%	57.7%	54.8%
	500	63.6%	61.5%	58.9%	56.5%	53.7%
	600	62.2%	60.2%	57.7%	55.4%	52.7%
	700	61.0%	59.0%	56.6%	54.4%	51.8%

		IRR Sensitivity				
Purchase Price		Incremental Churn %				
		0%	8%	15%	23%	30%
	\$300	66.9%	65.4%	63.8%	62.0%	60.2%
	400	65.2%	63.7%	62.1%	60.4%	58.6%
	500	63.6%	62.2%	60.6%	59.0%	57.2%
	600	62.2%	60.8%	59.3%	57.7%	56.0%
	700	61.0%	59.6%	58.1%	56.5%	54.8%
		NRE CapEx Increase				
Purchase Price		0.0%	25.0%	50.0%	75.0%	100.0%
	\$300	66.9%	65.3%	63.8%	62.4%	61.1%
	400	65.2%	63.7%	62.3%	61.1%	59.9%
	500	63.6%	62.3%	61.1%	59.9%	58.8%
	600	62.2%	61.0%	59.9%	58.8%	57.8%
	700	61.0%	59.8%	58.8%	57.8%	56.9%
		Costs Increase %				
Purchase Price		0%	15%	30%	45%	60%
	\$300	66.9%	64.5%	62.1%	59.9%	57.2%
	400	65.2%	62.9%	60.6%	58.5%	55.9%
	500	63.6%	61.5%	59.2%	57.2%	54.7%
	600	62.2%	60.2%	58.0%	56.0%	53.6%
	700	61.0%	59.0%	56.9%	54.9%	52.6%
		Implied 2025 EBITDA Margin				
Purchase Price		67.6%	62.9%	58.2%	53.5%	48.8%

		Deployment Delay (months)				
Purchase Price	0	6	12	18	24	
	\$300	66.9%	65.3%	60.4%	57.6%	52.4%
	400	65.2%	63.5%	58.8%	56.1%	51.0%
	500	63.6%	61.9%	57.3%	54.7%	49.8%
	600	62.2%	60.5%	56.0%	53.4%	48.6%
	700	61.0%	59.3%	54.9%	52.3%	47.6%

		Employee Ownership				
Purchase Price	10%	15%	20%	25%	30%	
	\$300	67.6%	67.2%	66.9%	66.5%	66.2%
	400	65.8%	65.5%	65.2%	64.8%	64.4%
	500	64.3%	64.0%	63.6%	63.3%	62.9%
	600	62.9%	62.6%	62.2%	61.9%	61.5%
	700	61.7%	61.3%	61.0%	60.6%	60.3%

		Costs Increase %				
ARPU Reduction %	0%	15%	30%	45%	60%	
	0%	63.6%	61.5%	59.2%	57.2%	54.7%
	15%	59.9%	57.8%	55.9%	53.5%	51.0%
	30%	55.9%	53.8%	51.5%	49.1%	46.6%
	45%	50.6%	48.5%	46.2%	44.2%	41.6%
	60%	43.9%	42.0%	39.6%	37.2%	34.8%

Note: Assumes \$500/mm Spectrum Purchase Price

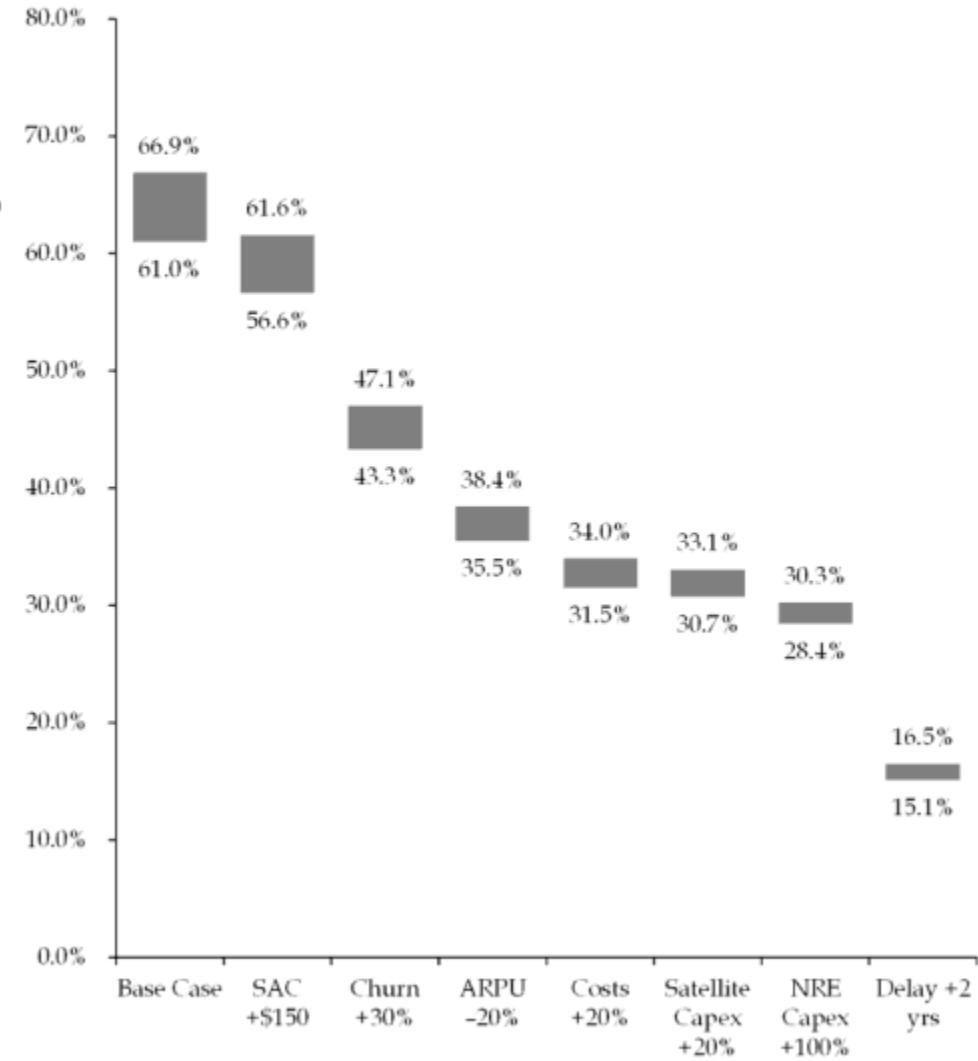
ARPU Reduction %	EBITDA Margin Sensitivity				
	Costs Increase %				
0%	15%	30%	45%	60%	
0%	67.6%	62.9%	58.2%	53.5%	48.8%
15%	67.4%	62.6%	57.9%	53.1%	48.4%
30%	67.0%	62.2%	57.4%	52.6%	47.8%
45%	66.5%	61.6%	56.7%	51.8%	46.9%
60%	65.5%	60.5%	55.5%	50.4%	45.4%

# IRR Sensitivity Analysis (cont'd)

Even with draconian haircuts to the business plan, Google would still significantly exceed its cost of capital

IRR Waterfall w/ Purchase Price Range of \$300-700mm

1. The business case contemplates a partnership approach where local distributors carry the burden or subscriber acquisition in exchange for a revenue share
  - We assumed an incremental \$150/sub SAC cost in addition to the revenue share
2. Churn costs (in the form of SAC and hardware subsidies) will be borne by distributors in exchange for a revenue share; take rate projections were developed on a "net adds" basis
  - We assumed 30% incremental churn resulting in increased SAC costs and lower revenue
3. Current plan ARPUs are based on detailed market analysis; they offer better service for lower prices than competitors
  - We reduced ARPU by 20%; this is incremental to the revenue reduction as a result of churn
4. Current operating costs are based on a detailed, bottoms-up cost model with significant cushion built in (15% of revenue in excess of scheduled costs)
  - We increased fixed and variable costs by 20%, thereby reducing EBITDA margins
5. Satellite, launch and NRE capital expenditures have been based on detailed discussions with and proposals from vendors
  - We increased manufacturing and launch capex by 20% and NRE capex by 100%, significantly increasing required capital
6. Satellite and commercial launch based on a detailed schedule developed by management and Google
  - We delayed commercial launch by 2 years to provide additional buffer for delays



# GEO Slot Equivalent Valuation

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- Historically, orbital spectrum rights were assigned for nominal fees
- As high-quality orbital spectrum rights have become scarce, valuations have gone up dramatically
  - Recently, satellite operators have paid upwards of \$90mm for satellite orbital slot licenses

Recent Brazil Orbital Slot Auction Results				
Year	Company	Price (\$ mm)	Bands	Longitude
2014	Hispasat	\$29.3	Ku	61 W
2014	SES	14.9	C, Ku, Ka	48 W
2014	SES	12.1	Ku	64 W
2014	Eutelsat	12.8	C, Ku	69.45 W
2011	Hughes Network Systems	91.6	Ku, Ka	45 W
2011	Hughes Network Systems	22.2	Ku, Ka, X	68.5 W
2011	Star One	23.3	Ku, Ka	84 W
2011	Star One	23.3	Ku, Ka, X	70 W
<b>Average Price/Slot</b>		<b>\$28.7</b>		
<i>High</i>		91.6		
<i>Low</i>		12.1		

# GEO Slot Equivalent Valuation (cont'd)

Additionally, when orbital spectrum rights have been acquired in M&A transactions, the acquirer is required to mark to market the value of those rights, providing a market-based valuation for orbital rights

## Intelsat-Panamsat

- Panamsat merged with Intelsat Bermuda (subsidiary of Intelsat) in 2005, making the world's largest commercial satellite company
  - Leading global FSS provider of video, corporate, Internet, voice and government communications services
  - Had a fleet of 23 active satellites (including 2 backup satellites)
- Allocated \$1.1 billion of the \$3.3 billion purchase price to orbital slot value
  - 34% of total value attributable to orbital slots
  - **\$59 million per slot over 19 orbital slots**

## Loral/PSP-Telesat Canada

- Telesat Canada acquired by Loral Space & Communications and the Public Pension Investment Board of Canada in 2007; subsequently, was merged with Loral Skynet
  - Satellite services operator and provider of global communications services to broadcast, telecom, corporate and government customers
  - Had 13 GEO satellites in operation
- Allocated \$494 million of the \$3.3 billion purchase price to orbital slot value
  - 15% of total value attributable to orbital slots
  - **\$45 million per slot over 11 orbital slots**

## Viasat-WildBlue

- WildBlue acquired by Viasat in 2009
  - Premier Ka-band satellite broadband service provider
  - Didn't own any orbital slots, but had 2 satellites that were providing service under colocation agreement
- Allocated \$8.2 million of the \$574 million purchase price to satellite co-location rights
  - 10 year agreement set to expire in 2019
  - Extrapolating \$8.2 million per 10 years as a DCF (at 3% inflation) to estimate perpetual rights yields an **NPV of the slot of \$21.7 million**, at a discount rate of 8%

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# GEO Slot Equivalent Valuation (cont'd)

We valued GB's spectrum by converting it into "geo slot equivalents" and applied the range of prices paid for orbital spectrum rights

Slot Values				
Year	Company	Price (\$ mm)	Bands	Longitude
2014	Hispasat	\$29.3	Ku	61 W
2014	SES	14.9	C, Ku, Ka	48 W
2014	SES	12.1	Ku	64 W
2014	Eutelsat	12.8	C, Ku	69.45 W
2011	Hughes Network Systems	91.6	Ku, Ka	45 W
2011	Hughes Network Systems	22.2	Ku, Ka, X	68.5 W
2011	Star One	23.3	Ku, Ka	84 W
2011	Star One	23.3	Ku, Ka, X	70 W
2009	Wildblue	21.7	Ka	111.1 W
2007	Telesat Canada	45.0	various	various
2005	Panamsat	59.0	various	various
Average Price/Slot		\$32.3		

GEO Slot Equivalent Calculation			
(Bandwidth in Gbps)	First Constellation	Second Constellation	Total
Bandwidth / Spot Beam	0.59	[1.97]	
Spot Beams / Satellite	19	[19]	
Satellites / Constellation	1,560	1,560	
<b>Total Bandwidth</b>	<b>17,347</b>	<b>58,406</b>	<b>75,754</b>
<i>% of Capacity over Land</i>	25%	25%	25%
<b>Total Bandwidth Over Land</b>	<b>4,337</b>	<b>14,602</b>	<b>18,938</b>
ViaSat-1 Bandwidth	134	134	134
<b>ViaSat-1 Slot Equivalents</b>	<b>32</b>	<b>109</b>	<b>141</b>

Base Case	
Average Price/Slot	\$32.3
Total Slot-Equivalents	141
<b>Global Bit Spectrum Value (\$mm)</b>	<b>\$4,563</b>

Sensitized Case	
WildBlue Price/Slot	\$21.7
1st Constellation Slot-Equivalents	32
<b>Global Bit Spectrum Value (\$mm)</b>	<b>\$702</b>

# Franchise Fee Valuation

- In theory, an orbital spectrum right is a government granted license to provide a particular service in a certain market
- Franchise licenses in the US cable industry provide an analogous economic model
  - Cable operators in the US must obtain franchise licenses and pay franchise fees from each municipality where they wish to offer cable service; these fees are ~5% of revenue
- Apply the same percentage to the revenues generated by the Company's business model as a proxy for the value of the spectrum
- The comparison is imperfect:
  - GB's rights are fundamentally superior to franchise rights as franchise rights are generally non-exclusive whereas GB will have exclusive rights to provide high-bandwidth, low-latency Ku-band broadband access from a LEO orbit
  - Comparison does not account for CapEx/OpEx differences in the broadband vs. MSO business model

Cable Co Franchise Fee Analysis			
(\$ millions)	Franchise Fee Paid	Video Revenue	Fr. Fee as % Video Revenue
Comcast	\$1,259	\$19,936	6.3%
Time Warner Cable	490	10,183	4.7%
Charter	190	3,840	4.9%

**Base Case**



**Sensitized Case**



Discount Rate	Franchise Fee %				
	3.0%	4.0%	5.0%	6.0%	7.0%
10.0%	\$6,641	\$8,855	\$11,069	\$13,282	\$15,496
15.0%	3,250	4,334	5,417	6,501	7,584
20.0%	1,830	2,440	3,050	3,660	4,270
25.0%	1,121	1,494	1,868	2,241	2,615
30.0%	727	970	1,212	1,455	1,697

Discount Rate	Franchise Fee %				
	3.0%	4.0%	5.0%	6.0%	7.0%
10.0%	\$2,013	\$2,684	\$3,355	\$4,025	\$4,696
15.0%	943	1,258	1,572	1,886	2,201
20.0%	508	677	847	1,016	1,185
25.0%	297	397	496	595	694
30.0%	185	246	308	369	431

# License Value of Mature Businesses

- Companies across the wireless, cable and satellite industries assign a carrying value to license/franchise/spectrum rights on their books
  - Unlike young companies, mature businesses have spent significant capital building up hard assets, intangibles (other than license/spectrum/franchise rights) as well as going-concern value. These assets are already paid for and thus the enterprise value needs to be allocated among these assets
- The percentage of license/franchise/spectrum value of enterprise value of these companies can be applied to GB's enterprise value to value spectrum assets. Analysis only applies if GB is valued on a "mature" basis. Two possible approaches:
  - Estimate the value of hard assets, intangibles, and going concern-value the business would develop once it reached steady state – very difficult, if not impossible, to do
  - Value the company on a DCF basis using a steady-state WACC (we used 10%)

License Value Across Industries					License Value Across Industries				
(\$ millions)	Country	License Value	Enterprise Value	% LV of EV	(\$ millions)	Country	License Value	Enterprise Value	% LV of EV
<b>Mobile Carriers</b>									
AT&T	USA	\$59,584	\$166,987	35.7%	Comcast	USA	\$56,364	\$182,364	30.9%
Verizon	USA	72,713	260,301	27.9%	Time Warner Cable	USA	26,934	64,056	42.0%
Sprint	USA	41,978	62,898	66.7%	Charter	USA	6,009	28,101	21.4%
T-Mobile	USA	17,383	39,464	44.0%	Cablevision	USA	732	13,416	5.5%
China Mobile	China	222	142,677	0.2%	Shaw Communications	Canada	7,476	14,802	50.5%
Vodafone	United Kingdom	43,991	102,552	42.9%	<b>DBS</b>				
Bharti Airtel	India	3,013	32,732	9.2%	Dish	USA	\$3,297	\$30,234	10.9%
America Movil	Mexico	9,433	118,679	7.9%	DirecTV	USA	785	55,918	1.4%
Telefonica	Spain	27,238	145,411	18.7%	<b>FSS</b>				
Axiata	Malaysia	580	20,809	2.8%	SES	Luxembourg	\$1,011	\$18,391	5.5%
Vimpelcom	Netherlands	6,797	39,210	17.3%	Intelsat	Luxembourg	2,388	17,301	13.8%
Etisalat	UAE	2,191	25,045	8.7%	<b>Other</b>				
Telenor	Norway	5,962	45,015	13.2%	Sirius XM	USA	\$2,084	\$25,750	8.1%
TeliaSonera	Sweden	1,252	45,521	2.8%	Iridium	USA	14	1,323	1.1%
Deutsche Telekom	Germany	48,476	141,020	34.4%	<b>Average<sup>(1)</sup></b>				
Reliance Communications	India	4,282	10,557	40.6%	17.8%				
Idea Cellular	India	1,730	10,719	16.1%	<b>Median</b>				
MTS	Russia	182	23,731	0.8%	13.8%				
Telecom Italia	Italy	8,803	61,933	14.2%					
Tata Teleservices	India	366	1,266	28.9%					
Turkcell	Turkey	1,112	9,261	12.0%					
Megafon	Russia	1,905	24,529	7.8%					
<b>Base Case</b>									
Global Bit Enterprise Value of \$69,620					<b>Sensitized Case</b>				
Spectrum Value as % of EV									
10.0%	12.5%	15.0%	17.5%	20.0%	10.0%	12.5%	15.0%	17.5%	20.0%
\$6,962	\$8,703	\$10,443	\$12,184	\$13,924	\$243	\$303	\$364	\$425	\$485

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(1) Excludes top 4 and bottom 4 observations

# Developing Markets Wireless License Proxy

- GB's business model is fundamentally a broadband play which is much more analogous to the terrestrial wireless business model rather than the traditional FSS business model
  - Traditional FSS uses wide coverage beams (often encompassing entire continents) thereby broadcasting identical information to a wide geographic footprint (perfect for some applications, such as DTH video)
  - GB's business model uses many small spot beams each carrying unique data which is well suited for broadband service
  - Therefore, can use terrestrial spectrum valuations to provide a proxy for the value of satellite spectrum
- Industry standard practice is to value spectrum on a MHzPOP basis in order to account for amount of spectrum and size/density of coverage area
- Valuation metric needs to be adjusted for varying economic and technical qualities of the spectrum
  - Terrestrial spectrum, under optimal conditions, can theoretically reach spectral efficiencies of 30 bits/Hz, although real world values are closer to 1-7 bits/Hz
  - GB's first generation constellation will have a spectral efficiency of 1.2 bits/Hz
  - The build-out costs for terrestrial networks, on a per covered POP basis, are orders of magnitude higher than for satellite networks – this has not been reflected in the valuation analysis

Average Price/MHzPOP <sup>(1)</sup>	\$0.12
Median	0.08
<b>Global Bit Spectrum</b>	
Spectrum (MHz)	2,050
Population (mm)	7,046
MHzPOP (mm)	14,444,300
Wireless Spectral Efficiency	30.00
Global Bit Spectral Efficiency	1.20
Efficiency Factor	0.04
Adjusted MHzPOP (mm)	577,772
Median Price/MHzPOP	0.08
<b>GB Spectrum Value (\$mm)</b>	<b>\$45,319</b>

Illustrative Comparison of Build-Out CapEx			
(\$ millions)	Build-Out CapEx	Population Coverage (mm)	Implied Cost/POP
Myanmar (Ooredoo)	\$15,000 <sup>(2)</sup>	56	\$269.08
U.S. (AT&T Wireless)	65,952 <sup>(3)</sup>	319	206.81
U.S. (Industry Estimate) <sup>(4)</sup>	3,750	319	11.76
Global (Global Bit)	3,210	7,046	0.46

(1) Excludes top 4 and bottom 4 auction results; see Appendix for full dataset  
 (2) Source: <http://online.wsj.com/news/articles/SB10001424052702303743604579352310422552966>  
 (3) AT&T disclosures indicate that 24% of its PP&E (of \$275bn) is related to the wireless business  
 (4) Industry insider/expert estimate for de novo spectrum build out

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# Appendix

# Financial Projections – Base Case

Base case model: no SAC or churn; revenue, costs, capex and timing as projected

Global Bit Operating Projections														
(\$ millions)	Purchase	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TY
Total Subs (mm)		0.0	0.0	0.0	1.0	4.9	14.6	27.3	42.6	60.7	81.0	103.3	103.3	
<b>Revenue</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$186</b>	<b>\$1,119</b>	<b>\$3,730</b>	<b>\$8,358</b>	<b>\$13,666</b>	<b>\$24,310</b>	<b>\$34,187</b>	<b>\$44,461</b>	<b>\$49,851</b>	
% Growth		n/a	n/a	n/a	n/a	500.0%	233.3%	124.1%	63.5%	77.9%	40.6%	30.1%	12.1%	
Network Ops & Transmission		\$8	\$14	\$18	\$43	\$53	\$87	\$150	\$212	\$335	\$442	\$530	\$584	
Sat Manufacturing		8	15	30	63	32	32	64	35	66	36	36	36	
Billing & Care		0	1	1	16	86	274	587	926	1,512	2,124	2,762	3,096	
Revenue Share		0	0	0	15	90	298	669	1,093	1,945	2,735	3,557	3,988	
Bad Debt		0	0	0	2	11	37	84	137	243	342	445	499	
Variable Costs		\$16	\$30	\$49	\$139	\$272	\$730	\$1,553	\$2,403	\$4,101	\$5,678	\$7,329	\$8,203	
Mktg & Prod Dev		\$6	\$14	\$34	\$65	\$96	\$107	\$109	\$120	\$131	\$142	\$154	\$154	
Research & Dev		17	21	23	24	37	49	62	67	83	94	104	105	
G&A		29	42	53	97	264	681	1,395	2,214	3,828	5,327	6,880	7,689	
Fixed Costs		\$52	\$77	\$109	\$186	\$396	\$837	\$1,567	\$2,401	\$4,043	\$5,563	\$7,138	\$7,947	
Subscriber Acquisition Costs		0	0	0	0	0	0	0	0	0	0	0	0	
Gross Adds		0	0	0	1	4	10	13	15	18	20	22	0	
Cost per Gross Add		n/a	n/a	n/a	116	58	46	64	80	113	139	161	n/a	
Less: Total Costs		(68)	(107)	(158)	(325)	(669)	(1,567)	(3,120)	(4,804)	(8,144)	(11,241)	(14,467)	(16,150)	
<b>EBITDA</b>		<b>(\$68)</b>	<b>(\$107)</b>	<b>(\$158)</b>	<b>(\$139)</b>	<b>\$450</b>	<b>\$2,163</b>	<b>\$5,238</b>	<b>\$8,862</b>	<b>\$16,166</b>	<b>\$22,946</b>	<b>\$29,995</b>	<b>\$33,701</b>	
% Margin		n/a	n/a	n/a	n/a	40.2%	58.0%	62.7%	64.8%	66.5%	67.1%	67.5%	67.6%	
Less: D&A		(47)	(135)	(159)	(232)	(261)	(272)	(412)	(383)	(418)	(410)	(353)	(340)	
<b>EBIT</b>		<b>(\$115)</b>	<b>(\$242)</b>	<b>(\$317)</b>	<b>(\$371)</b>	<b>\$189</b>	<b>\$1,890</b>	<b>\$4,825</b>	<b>\$8,479</b>	<b>\$15,749</b>	<b>\$22,536</b>	<b>\$29,642</b>	<b>\$33,361</b>	
Less: Taxes		0	0	0	0	0	(473)	(1,206)	(2,120)	(3,937)	(5,634)	(7,410)	(8,340)	
Plus: D&A		47	135	159	232	261	272	412	383	418	410	353	340	
Less: CapEx		(318)	(621)	(168)	(517)	(206)	(79)	(996)	(114)	(859)	(114)	(114)	(114)	
Less: Δ Net Working Capital		3	2	3	(13)	(50)	97	83	83	153	95	86	(438)	
<b>Unlevered FCF</b>		<b>(\$384)</b>	<b>(\$726)</b>	<b>(\$324)</b>	<b>(\$669)</b>	<b>\$194</b>	<b>\$1,708</b>	<b>\$3,118</b>	<b>\$6,711</b>	<b>\$11,523</b>	<b>\$17,293</b>	<b>\$22,556</b>	<b>\$24,809</b>	
<b>eFCF</b>		<b>(500)</b>	<b>(384)</b>	<b>(726)</b>	<b>(324)</b>	<b>(669)</b>	<b>194</b>	<b>1,708</b>	<b>3,118</b>	<b>6,711</b>	<b>11,523</b>	<b>17,293</b>	<b>22,556</b>	<b>24,809</b>
														<b>111,102</b>
Spectrum Purchase Price		\$500												
IRR		63.6%												

Purchase Date	6/30/14
Terminal Value Calculation	
<b>2025 EBITDA</b>	<b>\$33,701</b>
Less: Normalized D&A	(370)
<b>EBIT</b>	<b>\$33,331</b>
Less: Taxes	(8,333)
Plus: Normalized D&A	370
Less: Normalized CapEx	(370)
<b>Net Terminal FCF</b>	<b>\$24,998</b>
Perpetuity Growth Rate	0.0%
Perpetuity Discount Rate	18.0%
<b>Terminal Value</b>	<b>\$138,878</b>
Implied EBITDA Multiple	4.1x
Employee Ownership	20.0%
<b>Net Terminal Value</b>	<b>\$111,102</b>

# Financial Projections - Sensitized Case

Sensitized model: \$150 SAC, 30% churn, ARPU -20%, costs +20%, satellite capex +20%, NRE capex +100% and 2 year delay

Global Bit Operating Projections													Purchase Date	6/30/14			
(\$ millions)	Purchase	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TY	Terminal Value Calculation		
Total Subs (mm)		0.0	0.0	0.0	0.0	0.0	0.8	4.0	11.7	21.0	32.1	45.2	59.7				
<b>Revenue</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$127</b>	<b>\$738</b>	<b>\$2,402</b>	<b>\$5,199</b>	<b>\$8,290</b>	<b>\$14,630</b>	<b>\$20,330</b>		<b>2025 EBITDA</b>	<b>\$5,410</b>	
% Growth		n/a	n/a	n/a	n/a	n/a	n/a	482.4%	225.3%	116.5%	59.4%	76.5%	39.0%		Less: Normalized D&A	(370)	
Network Ops & Transmission		\$10	\$16	\$22	\$30	\$32	\$62	\$70	\$100	\$154	\$201	\$297	\$365		<b>EBIT</b>	<b>\$5,040</b>	
Sat Manufacturing		10	18	36	38	39	76	39	42	80	43	80	43		Less: Taxes	(1,260)	
Billing & Care		0	1	2	2	2	13	67	203	396	631	1,102	1,529		Plus: Normalized D&A	370	
Revenue Share		0	0	0	0	0	12	71	231	499	796	1,404	1,952		Less: Normalized CapEx	(370)	
Bad Debt		0	0	0	0	0	1	7	24	52	83	146	203		<b>Net Terminal FCF</b>	<b>\$3,780</b>	
Variable Costs		\$20	\$36	\$59	\$70	\$72	\$165	\$255	\$600	\$1,181	\$1,753	\$3,030	\$4,092		Perpetuity Growth Rate	0.0%	
Mktg & Prod Dev		\$7	\$17	\$40	\$78	\$115	\$129	\$130	\$144	\$157	\$171	\$184	\$185		Perpetuity Discount Rate	18.0%	
Research & Dev		20	26	27	29	44	59	75	80	100	113	125	126		<b>Terminal Value</b>	<b>\$21,001</b>	
G&A		35	50	64	83	115	168	303	629	1,154	1,731	2,886	3,913		Implied EBITDA Multiple	3.9x	
Fixed Costs		\$63	\$93	\$131	\$190	\$274	\$356	\$508	\$854	\$1,411	\$2,015	\$3,196	\$4,223		Employee Ownership	20.0%	
Subscriber Acquisition Costs		0	0	0	0	0	163	705	1,921	3,033	4,409	5,532	6,604		<b>Net Terminal Value</b>	<b>\$16,801</b>	
Gross Adds		0	0	0	0	0	1	5	13	20	29	37	44				
Cost per Gross Add		n/a	n/a	n/a	n/a	n/a	347	210	186	186	185	194	199				
Less: Total Costs		(82)	(129)	(190)	(260)	(346)	(684)	(1,468)	(3,374)	(5,625)	(8,176)	(11,757)	(14,920)				
<b>EBITDA</b>		<b>(\$82)</b>	<b>(\$129)</b>	<b>(\$190)</b>	<b>(\$260)</b>	<b>(\$346)</b>	<b>(\$557)</b>	<b>(\$730)</b>	<b>(\$972)</b>	<b>(\$425)</b>	<b>\$114</b>	<b>\$2,873</b>	<b>\$5,410</b>				
% Margin		n/a	n/a	n/a	n/a	n/a	(439.2%)	(98.8%)	(40.5%)	(8.2%)	1.4%	19.6%	26.6%				
Less: D&A		(32)	(99)	(101)	(126)	(133)	(251)	(284)	(270)	(348)	(362)	(459)	(468)				
<b>EBIT</b>		<b>(\$115)</b>	<b>(\$228)</b>	<b>(\$291)</b>	<b>(\$386)</b>	<b>(\$480)</b>	<b>(\$808)</b>	<b>(\$1,014)</b>	<b>(\$1,242)</b>	<b>(\$773)</b>	<b>(\$248)</b>	<b>\$2,413</b>	<b>\$4,943</b>				
Less: Taxes		0	0	0	0	0	0	0	0	0	0	0	(1,236)				
Plus: D&A		32	99	101	126	133	251	284	270	348	362	459	468				
Less: CapEx		(427)	(921)	(16)	(209)	(54)	(973)	(282)	(114)	(1,190)	(114)	(1,008)	(114)				
Less: Δ Net Working Capital		4	2	3	5	(5)	(11)	(2)	78	37	35	107	63				
<b>Unlevered FCF</b>		<b>(\$505)</b>	<b>(\$1,047)</b>	<b>(\$203)</b>	<b>(\$464)</b>	<b>(\$405)</b>	<b>(\$1,541)</b>	<b>(\$1,013)</b>	<b>(\$1,008)</b>	<b>(\$1,579)</b>	<b>\$35</b>	<b>\$1,971</b>	<b>\$4,124</b>				
<b>eFCF</b>		<b>(500)</b>	<b>(505)</b>	<b>(1,047)</b>	<b>(203)</b>	<b>(464)</b>	<b>(405)</b>	<b>(1,541)</b>	<b>(1,013)</b>	<b>(1,008)</b>	<b>(1,579)</b>	<b>35</b>	<b>1,971</b>	<b>4,124</b>		<b>16,801</b>	
Spectrum Purchase Price																	
IRR																	

# Key Assumptions – Base Case

Global Bit Operating Assumptions												
(\$ millions, except per unit amounts)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>RF Satellite Launches:</b>												
Phase 1	1560 satellites								2017–2024			
Phase 2			1560 satellites						2020–2027			
Phase 3						1560 satellites			2022–2029			
<b>Coverage:</b>												
Land Coverage	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Capacity Utilization	0%	0%	0%	1%	5%	15%	16%	25%	21%	28%	40%	40%
Business Customers (based off total)	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
Overall Utilization	0%	0%	0%	1%	7%	20%	22%	34%	28%	38%	54%	54%
<b>Provisioning (at lowest residential package):</b>												
240 Kbps Allocation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	60.0%	60.0%	60.0%	60.0%
180 Kbps Allocation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	90.0%	90.0%	35.0%	35.0%	35.0%	35.0%
60 Kbps Allocation	0.0%	0.0%	0.0%	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
60 Kbps Allocation (Entry)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	10.0%	5.0%	5.0%	5.0%	5.0%
Customer Care / Sub / Year	\$0	\$0	\$0	\$7	\$6	\$5	\$4	\$3	\$1	\$1	\$1	\$1
<b>Residential ARPU:</b>												
<b>Capacity:</b>		<b>Costs:</b>		<b>CapEx:</b>								
240 kbps	\$20	Phase 1 Gbps / Sat	11.12	Backhaul/Circuits %	1.0%	Manufacturing CapEx / Sat						
180 kbps	15	Phase 2 Gbps / Sat	37.44	Revenue Share %	8.0%	Launch CapEx / Sat						
60 kbps	15	Phase 3 Gbps / Sat	55.50	Other G&A % of Rev	15.0%	Total NRE CapEx (\$mm)						
60 kbps (entry)	5			SAC	\$0	Ongoing CapEx / Year (\$mm)						
Business	80 – 100					114						

# Franchise Fee Valuation Model

Base Case												
Spectrum Cash Flows Based on CableCo Franchise Fee Structure												
(\$ millions)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	TY
Revenue	\$0	\$0	\$0	\$186	\$1,119	\$3,730	\$8,358	\$13,666	\$24,310	\$34,187	\$44,461	
Franchise Fee %	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Spectrum Cash Flows	\$0	\$0	\$0	\$9	\$56	\$186	\$418	\$683	\$1,216	\$1,709	\$2,223	\$22,231
PV of Spectrum Cash Flows	\$0	\$0	\$0	\$7	\$38	\$116	\$236	\$351	\$567	\$725	\$857	\$8,172
NPV	\$11,069		Discount Rate 10.0%		Perpetuity Growth 0.0%							

Sensitized Case												
Spectrum Cash Flows Based on CableCo Franchise Fee Structure												
(\$ millions)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	TY
Revenue	\$0	\$0	\$0	\$0	\$0	\$127	\$738	\$2,402	\$5,199	\$8,290	\$14,630	
Franchise Fee %	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Spectrum Cash Flows	\$0	\$0	\$0	\$0	\$0	\$6	\$37	\$120	\$260	\$414	\$732	\$7,315
PV of Spectrum Cash Flows	\$0	\$0	\$0	\$0	\$0	\$4	\$21	\$62	\$121	\$176	\$282	\$2,689
NPV	\$3,355		Discount Rate 10.0%		Perpetuity Growth 0.0%							

Note: calculated using 10% discount rate

# Developing Markets Wireless License Proxy

Recent Developing Market Spectrum Auction Results					
Country	Year	Price (\$mm)	MHz Bought	Population (mm)	\$/MHzPOP
India	2014	30,081	10	1,009	\$2.98
Croatia	2013	31	10	5	0.67
Czech Republic	2013	136	20	10	0.66
Czech Republic	2013	122	20	10	0.59
Czech Republic	2013	114	20	10	0.56
Croatia	2013	19	10	5	0.41
Myanmar	2014	500	30	56	0.30
India	2014	2,627	12	1,009	0.22
India	2014	1,887	14	1,009	0.13
India	2014	2,108	20	1,009	0.10
India	2014	2,168	21	1,009	0.10
Pakistan	2014	307	20	174	0.09
Pakistan	2014	301	20	174	0.09
Pakistan	2014	148	10	174	0.08
Pakistan	2014	148	10	174	0.08
Czech Republic	2013	2	2	10	0.08
Czech Republic	2013	3	4	10	0.08
Czech Republic	2013	2	2	10	0.08
Czech Republic	2013	2	2	10	0.08
Czech Republic	2013	7	10	10	0.06
Pakistan	2014	210	20	174	0.06
Slovakia	2014	9	30	5	0.05
Czech Republic	2013	16	40	10	0.04
Czech Republic	2013	16	40	10	0.04
Czech Republic	2013	16	40	10	0.04
India	2014	143	3.6	1,009	0.04
Lithuania	2013	0	20	3	0.03
Chile	2014	13	30	17	0.02
Chile	2014	8	20	17	0.02
Lithuania	2013	1	20	3	0.01
Lithuania	2013	0	20	3	0.01
Latvia	2014	0	20	2	0.00
Chile	2014	\$1	20	17	0.00

Excluded from Average

Excluded from Average

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