



## **SUPPORT FROM INDUSTRY AND INVESTMENT COMMUNITY PARTICIPANTS**

***KERRISDALE CAPITAL'S CLAIMS ARE WRONG  
AND ARE DRIVEN SOLELY TO NEGATIVELY IMPACT  
GLOBALSTAR'S SHARE PRICE FOR ITS OWN BENEFIT***

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“FCC staff cares more about public interest arguments than market-driven arguments... Kerrisdale does not appear to make a public interest argument, whereas the core of Globalstar’s plan is that its technology could represent a new, small competitor in an industry defined by goliaths... Takeaways from our research and interviews suggest that the Kerrisdale report likely contains certain exaggerations and questionable assumptions... The Kerrisdale report makes a number of broad assumptions and statements. The report at times plays fast and loose with explanation of spectrum/device policy.”

- **As reported by *The Capitol Forum* (16 October 2014)**

“We suspect the real purpose of the [Kerrisdale] letter is to create additional uncertainty and doubt for bulls since it creates the impression a short seller, quite late to the NPRM process, could have an impact on the FCC’s decision... We continue to believe the thesis is seriously flawed from a regulatory, market and technical basis and reiterate our Buy recommendation and \$6 price target.”

- **James McIlree, Analyst, Chardan Capital (14 October 2014)**

“Globalstar’s rebuttal led by CEO James Monroe and accompanied by spectrum expert John Dooley of Jarvian Wireless completely refuted key allegations presented by Kerrisdale on 10/6... We would remind investors of the unique timing of Kerrisdale’s announcement on 10/1 and presentation on 10/6, which was the first Monday after the ‘blackout period’, which lasts from quarter end on 9/30 until the next 10-Q filing... We think the timing speaks to the short term nature and “bear raid” tactics Kerrisdale has employed.”

“Kerrisdale’s thesis reveals a material misunderstanding of what the TLPS opportunity is all about – their basic argument is the wifi of today works - is free (misconstrued) and there’s plenty available – so why would there be any value to Globalstar’s spectrum... Nothing could be further from the truth... GSAT is far from Sino-Forest. They have a billion dollars’ worth of new satellites providing service every second to hundreds of thousands of users.”

- **Jason Bernstein, Analyst, Odeon Capital (10 October 2014 in a report, 6 October 2014 as reported in *The New York Times*, respectively)**

“We disagree on most of Kerrisdale’s points... On the 5GHz of unlicensed spectrum that the FCC freed up earlier this year – Kerrisdale spent a lot of time on the positive aspects of the 5GHz spectrum and how it it’s free and unlicensed – but seemed to gloss over the fact that 5GHz wireless signal propagation characteristics are inferior to those of 2.4GHz spectrum.”

- **Steve Sweeney, Analyst, Elevation (7 October 2014)**

**WI-FI CONGESTION IS REAL AND MUST BE ADDRESSED  
REGULATORS, MAJOR INDUSTRY PLAYERS AGREE:  
CURRENT WI-FI CAPACITY IS AT OR NEAR EXHAUSTION –  
AND IS ALREADY CARRYING SUBSTANTIAL PORTION OF MOBILE-ORIGINATED DATA**

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“[T]he 2.4 GHz band will continue to be an important source of unlicensed spectrum for the foreseeable future because ... the demand for Wi-Fi is projected to outpace the Commission's ability to allocate additional spectrum resources, and because the 2.4 GHz band is the only globally harmonized unlicensed band suitable for Wi-Fi.”

- **Comments of Cisco Systems, Inc., IB Docket No. 13-213, (5 May 2013)**

“But this growth may mean that getting on the Internet through your Wi-Fi connections will soon be like trying to drive in rush hour traffic on too narrow a road - frustrating and slow-moving.”

- **WiFiForward Coalition**

“Wi-Fi has become a victim of its own popularity, and now faces congestion issues of its own.”

- **Tom Wheeler, Chairman, FCC, ET Docket No. 13-49 (1 April 2014)**

“The 2.4 GHz band, while critical to the success of Wi-Fi and other unlicensed technologies, is increasingly congested particularly in major cities.”

- **Mignon Clyburn, Former Interim Chairwoman, Current Commissioner, FCC (1 April 2014)**

“The Nation’s demand for unlicensed services has increased so dramatically that we need more spectrum to support these services. The 2.4 GHz band, while critical to the success of Wi-Fi and other unlicensed technologies, is increasingly congested particularly in major cities. Densely populated centers are the most expensive geographic areas to deploy licensed networks.”

- **Mignon Clyburn, Former Interim Chairwoman, Current Commissioner, FCC**

“The spectrum that is used for unlicensed Wi-Fi is also experiencing congestion, which will only increase in the coming years if we do not make appropriate bands, like the 5 GHz band, more attractive for investment and innovation.”

- **Robert McDowell, Former Commissioner, FCC (20 February 2013)**

“The focus has been on the mobile spectrum crunch. But there is also a *WiFi traffic jam*. When you see what is going on the CES exhibit floor, you realize we have to do something about this. WiFi is such an integral part of the ecosystem.”

- **Julius Genachowski, Former Chairman, FCC (28 May 2013)**

“As consumer adoption of wireless devices continues to soar, Wi-Fi congestion is becoming a critical problem for consumers and innovators.”

- **Julius Genachowski, Former Chairman, FCC (10 January 2013)**

“[C]apacity constraints [are] already being felt in the 2.4 GHz band.”

- **Comments of Cisco Systems, Inc., ET Docket No. 13-49 (28 May 2013)**

“Consumers are likely to experience reduced coverage and throughput,” and “Wi-Fi will become less useful, particularly for high bandwidth services like video.”

- **WiFi Spectrum: Exhaust Looms, Rob Alderfer, CableLabs ( 28 May 2013)**

“Given congestion and capacity constraints in existing unlicensed bands and the demand for fixed broadband services in rural areas where other broadband service is often not available, increasing the amount of unlicensed spectrum is perhaps the most important action the Commission can take.”

- **Comments of the Wireless Internet Service Providers Association, ET Docket No. 13-49 (28 May 2013)**

“2.4 GHz unlicensed spectrum “has become saturated during certain times of day in heavily trafficked areas such as city centers, apartment buildings, and public events. This congestion imposes a large cost on consumers because Wi-Fi is the most heavily used method of wireless broadband connectivity and the 2.4 GHz band is the core Wi-Fi band today.”

- **Comments of Google, Inc. and Microsoft Corporation, ET Docket No. 13-49 (28 May 2013)**

**WI-FI CONGESTION WILL CONTINUE TO INTENSIFY  
INDUSTRY FORECASTS SUBSTANTIAL FUTURE GROWTH IN MOBILE DATA TRAFFIC,  
AVERAGING BETWEEN 50 -100% ANNUAL COMPOUND GROWTH**

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“As the volume of wireless data traffic increases, the risk of congestion in the airwaves is increasing as well. Wireless broadband needs radio spectrum to function, and the spectrum currently allocated to wireless is not sufficient to handle the projected growth in demand... The surging demand for wireless services cannot be met without additional spectrum. Spectrum is an essential input into wireless services, the “invisible infrastructure” that makes wireless communication possible.”

- **The President’s Council of Economic Advisers (June 2012)**

“Four decades later we have more than 7 billion mobile devices around the world. By any measure, that’s a lot. But we are only getting started. Because mobile data traffic is projected to increase by 11 times in the next five years. By the end of the decade we will be deep in the Internet of Things, with 50 billion machine-to-machine devices communicating wirelessly worldwide... The world has gone wireless.”

- **Jessica Rosenworcel, Commissioner, FCC (2 October 2014)**

“There will be close to 7 billion mobile subscribers in the world this year – the equivalent of almost one device for every person on the planet.”

- **International Telecommunications Union (ITU) (June 2012)**

“Globally, mobile data traffic will increase 11-fold between 2013 and 2018. Mobile data traffic will grow at a CAGR of 61 percent between 2013 and 2018, reaching 15.9 exabytes per month by 2018.”

- **Cisco Systems (10 June 2014)**

“Cisco is seeing a “perfect storm” in both Wi-Fi availability and customer acceptance that is resulting in a worldwide rise in the popularity of Wi-Fi. Almost half of all households in the world are predicted to have Wi-Fi by 2016, or 83 percent of all broadband households. The amount of mobile data offloaded to Wi-Fi networks is projected to reach 21 exabytes (or 21 billion gigabytes) by 2017.”

- **Cisco Systems (1 June 2013)**

“By 2018, more than half of all traffic from mobile-connected devices (almost 17 exabytes) will be offloaded to the fixed network by means of Wi-Fi devices and femtocells each month. Without Wi-Fi and femtocell offload, total mobile data traffic would grow at a CAGR of 65 percent between 2013 and 2018 (12-fold growth), instead of the projected CAGR of 61 percent (11-fold growth).”

- **Cisco Systems (5 February 2014)**

**2.4 GHZ WILL CONTINUE TO BE PRIMARY BAND FOR WI-FI - 5 GHZ IS NOT A PANACEA  
THE INDUSTRY IS EXPANDING INTO 5 GHZ OUT OF NEED, NOT WANT –  
THERE IS NO OTHER SPECTRUM AVAILABLE FOR IMMEDIATE USE**

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"It took the cellular industry around 20 years to build a mobile voice network that freed us from our fixed voice lines. We are now in the midst of mobilizing the internet and everything connected to it at home, work and in between. In this transition the mobile industry will need 10x-100x more licensed and unlicensed spectrum to support this continued growth in mobile data demand. It is doubtful that the Government can free up new spectrum fast enough to keep up with the demand, and new spectrum policies will be needed. Wi-Fi and the 2.4GHz unlicensed band showed the world the power of new spectrum policies and was where most of us got our first taste of the mobile internet. 2.4GHz spectrum has become the global neutral host band for most of us as we travel the world. This new mobile internet world is going to need us to find new ways to use the spectrum available to us and the 2.4GHz band is going to continue to be a key part of our new world."

- **Bob Friday, CEO and co-founder, Mist Systems and former Chief Technology Officer, Cisco Mobility (17 October 2014)**

"802.11ac is a widely understood standards reference to 5 GHz use. However, within device chipsets both 2.4 GHz and 5 GHz are resident. It would be incorrect to say that future deployments of Wi-Fi handsets and other end user devices would use 5 GHz exclusively rendering 2.4 GHz obsolete."

- **Robert Azzi, former Senior Vice President, Network, Sprint Corporation (17 October 2014)**

"Kerrisdale simply asserts 5GHz UNII channels are equivalent to 2.4GHz ISM, ignoring the significant differences between the two bands while Globalstar (and the laws of physics) points out the major differences between the 2.4GHz ISM band and the 5GHz UNII bands."

- **James McIlree, Analyst, Chardan Capital (14 October 2014)**

"2.4GHz Wi-Fi is worth billions. Within the last week commissioners have commented on its value. According to FCC Commissioner Jessica Rosenworcel, Wi-Fi contributes more than \$140B to the U.S economy annually, and "most of this Wi-Fi traffic uses the 2.4GHz band."

- **Jason Bernstein, Analyst, Odeon Capital (8 October 2014)**

"The issue of 2.4 GHz vs. 5 GHz for Wi-Fi is not a zero sum game. Each has its benefits, and challenges. There is still a huge installed base of 2.4 GHz-only routers out there. We expect 2.4 GHz and 5 GHz to co-exist for the foreseeable future. The FCC's activities around Wi-Fi, whether it's the consideration of Globalstar's TLPS proposal or the added channels at 5 GHz, are focused on adding Wi-Fi capacity, which as any Wi-Fi user will attest, is sorely needed."

- **Mark Lowenstein, Managing Director, Mobile Ecosystem (8 October 2014)**

"All spectrum has high value as an increasingly scarce natural resource. Further, for most applications, low band (that is, frequencies below 5 GHz) has greater value than higher frequency spectrum. More specifically, the 2.4 GHz band is and will remain an important part of the unlicensed spectrum mix. On the coverage side, 2.4 GHz access points have greater range because signals at 2.4 GHz experience less attenuation and penetrate obstacles such as walls better than 5 GHz signals. This means that fewer 2.4 GHz access points are needed to provide service in a particular area, for either homes or businesses. Wireless Internet Service Providers (WISPs) can get a larger service area with a 2.4 GHz site than with a 5 GHz site. On the capacity side, where 2.4 GHz is the best option due to coverage or cost, the addition of TLPS and channel 14 adds as much as 33% capacity to the 2.4 GHz band. Considering throughput to a user device, the ability to use Globalstar's Terrestrial Low-Power Spectrum (TLPS) together with the existing 2.4 unlicensed spectrum also creates the ability to deploy two, higher throughput 40 MHz Wi-Fi channels in the 2.4 band. Without TLPS, only a single, 40 MHz channel can be deployed. Bottom line, TLPS adds value to the 2.4 GHz band."

- **Dennis A. Roberson, CEO, Roberson and Associates (8 October 2014)**

"2.4 GHz band involves better propagation than the 5 GHz band by a factor of 4.3X... 5 GHz may suit some, but not all, of their needs. Namely, if suitable rules are established 5 GHz may provide substantial capacity, but not coverage."

- **National Cable & Telecommunications Association (28 May 2013)**

"It takes high-band, mid-band, and low-band spectrum. High-band spectrum provides the large channels necessary for high-definition video at short distances—think streaming video from your laptop to your television. Mid-band spectrum sacrifices some of that throughput, but gives you further reach. Low-band spectrum can go far and wide, and as a result is ideal for larger-scale Wi-Fi deployments and machine-to-machine communications. To build powerful wireless communications systems, you need a playbook that includes all three."

- **Jessica Rosenworcel, Commissioner, FCC (6 May 2014)**

"...2.4 GHz is usually the better choice for home and other wireless local networks...Some people mistakenly believe 5 GHz network technology is newer or somehow more innovative than 2.4 GHz. In fact, both types of signaling have existed for many years and are both proven technologies."

- **Bradley Mitchell, Engineer, About.com Technology**

"Although 5GHz is technically faster, this may not show up in real-world performance. The 5GHz signal may have about half the range of 2.4GHz Wi-Fi, or less. Worse, 5GHz has more trouble penetrating solid objects such as walls and floors, as you have found. Wi-Fi "range extenders" only seem to work at 2.4GHz, so there may not be much you can do about this, though you might get better performance from a different router."

- **Jack Scofield, Editor, The Guardian UK (28 July 2011)**

"5GHz and 2.4GHz are simply different frequencies, each with its advantages and disadvantages....5GHz offers higher throughput at a shorter distance, while 2.4GHz offers increased coverage and higher solid object penetration.

- **Speedguide.net**

"However, 802.11n will not be displaced by 802.11ac. The two standards will coexist in enterprise wireless networks to continue to support legacy devices in the 2.4 GHz band."

- **Meru Networks (September 2012)**

"...2.4 GHz networks cover a substantially larger range than 5 GHz wireless networks...5GHz networks are not necessarily faster than 2.4GHz. There are 2.4GHz products using 802.11g that can match or can be faster than 5GHz 802.11a by using paired radios inside access points instead of one which can increase capacity up to 108Mbps."

- **Alternative Wireless**

"Saying 2.4 GHz holdings are worthless for WiFi is ridiculous. Is not either/or."

- **Mark Lowenstein, Managing Director, Mobile Ecosystem (2 October 2014)**

**TLPS IS A PREMIUM SERVICE FOR A CARRIER-GRADE EXPERIENCE AT LOWER COSTS. TLPS OFFERS CLEAR PUBLIC AND COMMERCIAL BENEFITS THAT THE INDUSTRY WANTS ENTERPRISES IN EVERY INDUSTRY AND INDIVIDUALS WILL PAY FOR SUPERIOR SERVICE, AND WI-FI INDUSTRY IS NO DIFFERENT.**

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“Kerrisdale repeats its straw man argument, that TLPS won’t be freely available to everyone so it shouldn’t be regarded as a public benefit and therefore can’t alleviate Wi-Fi congestion (which it denies exists anyway). These arguments remind us of William F. Buckley’s characterization of John Kenneth Galbraith as a pyromaniac in a field of straw men. The FCC must be scratching its metaphorical head over this claim. TLPS has never been proposed as a service open to all. The FCC recognizes some spectrum is unlicensed and some licensed and thus some spectrum will be freely available and some not. The FCC’s goal is an increase in the amount of spectrum available for broadband use and knows it will come from a mixture of licensed and unlicensed spectrum and knows broadband use will vary based on operators’ roll-out and pricing.”

- **James McIlree, Analyst, Chardan Capital (14 October 2014)**

“Their Wi-Fi will be better than any other Wi-Fi because of the uniqueness of the spectrum... Globalstar spectrum is trading at a premium to other spectrum because you don’t have to develop a standard setting system to get current devices to utilize it.”

- **Spencer Kurn, Analyst, New Street Research, as reported in *The Deal* (6 October 2014)**

“Not all spectrum, licensed or not, is created equal and we think the propagation and attenuation characteristics of the Globalstar spectrum is more attractive than the 5GHz unlicensed spectrum that exists and will enter the market in the future. There is also ample evidence to demonstrate operators want the certainty and protection of licensed spectrum even if they could, technically, offer the same service over unlicensed spectrum.”

- **James McIlree, Analyst, Chardan Capital Markets (1 October 2014)**

“By permitting Globalstar to offer a terrestrial low power service (TLPS), for example, the Commission could free-up much-needed spectrum for new-and-improved broadband access points for consumers and for broadband offloading by terrestrial carriers... By taking these steps, the Commission will stimulate manufacturer interest and thereby speed the deployment of innovative new equipment and services in this spectrum.”

- **Comments Of Samsung Electronics America, Inc. and Samsung Telecommunications America, LLC (4 June 2014)**

“TLPS works. Both GSAT and Ruckus Wireless (“RKUS”), an independent public company, have demonstrated and reported their results, and the public comments on the docket do not challenge them. Further, both GSAT and RKUS tests reveal TLPS has superior propagation versus unlicensed Wi-Fi. We remind readers the FCC has not asked for additional testing of TLPS.”

- **Jason Bernstein, Odeon Capital (8 October 2014)**

“[TLPS would be] a premium version of traditional Wi-Fi, providing dedicated capacity over a clear channel, resulting in as much as 5-7 times the performance of more crowded channels. Faster Wi-Fi speeds and greater capacity are a huge part of meeting consumer demand--whether it’s OTT content options such as Netflix, the Cable Wi-Fi initiative, or the use of Wi-Fi by mobile operators to expand coverage, capacity, and improve the economics of mobile broadband. TLPS represents an exciting opportunity to offer consumers another competitive mobile broadband option that sits somewhere in between the “wild west” of traditional unlicensed services and comparatively expensive, but licensed, cellular data services.”

- **Mark Lowenstein, Managing Director, Mobile Ecosystem (23 September 2014)**

“The increase in Wi-Fi capacity resulting from the FCC proposal would lead to an increase in U.S. economic output, as measured by Gross Domestic Product (GDP). By 2015, a single MHz of broadband spectrum can be expected to generate \$510 million in service-related revenues. If new Wi-Fi capacity could generate just half of this revenue per MHz, the addition of 22 MHz would yield \$5.6 billion in service revenue by 2015. Using multipliers from the Bureau of Economic Analysis (BEA) for the Internet and Information Service industry, the addition of 22 MHz for Wi-Fi services will add \$9.8 billion to GDP by 2015, including direct, indirect and induced effects.”

- **Steve Pociask, President, American Consumer Institute Center for Citizen Research (6 October 2014)**

***TLPS IS IMMEDIATE SOLUTION THAT CAN BE EFFICIENTLY DEPLOYED  
COMPARED TO ALTERNATIVES, TLPS IS AN IMMEDIATE SOLUTION, SUCCESSFULLY  
DEPLOYABLE WITHIN MONTHS***

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“Given that Channel 14 is already available in Wi-Fi chipsets at the hardware level, the time to deployment is vastly shorter in comparison to alternative bands being considered for the broadband inventory. TLPS also opens the possibility for unique and innovative services, delivered by both incumbent operators and new entrants.”

- **Mark Lowenstein, Managing Director, Mobile Ecosystem (23 September 2014)**

“While newly purposed spectrum normally takes years to bring into use, the FCC proposal would use 2.4 GHz spectrum that is already accessible with existing Wi-Fi chipsets, which means that consumers could potentially use and benefit from this Wi-Fi spectrum soon after the proposed rules are effective.”

- **Steve Pociask, President, the American Consumer Institute Center for Citizen Research (6 October 2014)**



**CONFIDENTIAL IN OUR REGULATORY POSITION AND ABILITY TO LEVERAGE TLPS  
TO CREATE VALUE FOR OUR STAKEHOLDERS AND PUBLIC AT LARGE**

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“After taking public comments, the FCC has proposed allowing one satellite provider, Globalstar, to use its frequency for Wi-Fi services in markets where it has excess capacity, primarily in more urbanized areas. This provides a unique opportunity for more fully utilizing this bandwidth for terrestrial broadband services in more densely-settled areas. If adopted, the FCC’s proposal would increase 2.4 GHz Wi-Fi capacity in the U.S. by one-third (22 MHz) and allow the satellite operator to deploy network access equipment, thereby permitting more efficient use of the band, as well as alleviating Wi-Fi congestion. The FCC proposal would also permit the deployment of 20,000 access points to schools, colleges and hospitals at no cost, as well as providing free satellite service to customers in federally declared disaster areas. While newly purposed spectrum normally takes years to bring into use, the FCC proposal would use 2.4 GHz spectrum that is already accessible within existing Wi-Fi chipsets, which means that consumers could potentially use and benefit from this Wi-Fi spectrum soon after the proposed rules are effective.”

- **Steve Pociask, President, American Consumer Institute Center for Citizen Research, as reported in *The Hill* (9 October 2014)**

“We believe, as the Company has stated, that the Terrestrial Low Power Service (TLPS) Notice of Proposed Rule Making (NPRM) approval is on track and may be announced by the end of the year....Within the last several days, the FCC has reiterated they are focused on innovation in Wi-Fi, which TLPS clearly represents, and that they are prepared to act...We don’t think the FCC wastes their time on worthless endeavors. While the Kerrisdale report contains some interesting points, their overall argument that TLPS is worthless and not viable is deeply flawed. Tellingly they do not doubt FCC approval of TLPS, they merely think approval is a non-event. However, we see approval as a major catalyst that speaks to viability and paves the way for value creation.”

- **Jason Bernstein, Analyst, Odeon Capital (8 October 2014)**

“The increase in Wi-Fi capacity resulting from the FCC proposal would lead to an increase in U.S. economic output, as measured by Gross Domestic Product (GDP). By 2015, a single MHz of broadband spectrum can be expected to generate \$510 million in service-related revenues. If new Wi-Fi capacity could generate just half of this revenue per MHz, the addition of 22 MHz would yield \$5.6 billion in service revenue by 2015. Using multipliers from the Bureau of Economic Analysis (BEA) for the Internet and Information Service industry, the addition of 22 MHz for Wi-Fi services will add \$9.8 billion to GDP by 2015, including direct, indirect and induced effects...This ConsumerGram finds that the FCC’s proposal to add 22 MHz to support Wi-Fi would provide sizable economic benefits for consumers – generating \$11 billion in GDP per year and creating nearly 90,000 jobs – all while alleviating congestion for broadband users and continuing to maintain satellite services.”

- **Steve Pociask, President, American Consumer Institute Center for Citizen Research (6 October 2014)**

“We believe the FCC’s final rule on TLPS (terrestrial low power service) will broadly follow the NPRM issued earlier this year and enable Globalstar to engage partners and monetize the spectrum.”

- **James McIlree, Analyst, Chardan Capital Markets (1 October 2014)**

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