

## GOGO - A Monopoly in the Making

Date: March 20, 2014

### Gogo Inc (GOGO)

Stock Price: \$22

Diluted shares: 84.2MM

Market cap: \$1.85BN

Cash: \$266MM

Working capital deficit, ex-cash: \$54MM

LT Debt: \$236MM

Other Liabilities, not including Deferred Taxes and Lease Incentives: \$14.4MM

EV: \$1.89BN

One of my [secular investment themes](#) is mobility (which I plan on covering in detail in a future note). GOGO is a pure-play on this theme and happens to be a really interesting story in a largely untapped niche. While I am a value investor and generally avoid overpaying, I do make exceptions when I believe a company is in the process of building a monopoly-like position in a large market. GOGO fits this profile which is why I'm a buyer post the 4Q13 earnings drop. Here are my notes:

GOGO brings the mobile internet age to aircraft via 3 products: [Gogo Wifi](#), [Gogo Vision](#), and [Gogo Text & Talk](#). Each of these products could stand on its own; together, they make Gogo the communications nerve center for an aircraft and the undisputed leader in the industry. Some specifics on each product:

1. Historically, Gogo Wifi has used a network of mobile broadband cellular towers that are beamed up instead of beamed down to deliver internet connectivity to aircraft passengers in the US (known as Air-to-Ground). However, recently Gogo developed a proprietary hybrid technology that combines Gogo's Air-to-Ground network with the best aspects of existing satellite technologies (known as Ground-to-Orbit). This new Ground-to-Orbit (GTO) technology represents a leapfrogging of standard satellite service capabilities, expanding Gogo's network capacity 20 fold from 3 megabits per second to 60 mbps (and that 60 mbps will only go up as newer satellites are launched). What Gogo has developed is a low profile antenna with high spectral efficiency and low latency. For consumers, nothing in the market is faster, more efficient or more reliable (for a technical discussion, see [here](#) – the video starts at 5:30 and ends at 24:30). For airline partners, Gogo's GTO means they save tens of thousands of dollars each year in fuel burn versus the larger and heavier antennas on the market today. It's a win / win. And finally, what this new GTO technology means for Gogo's shareholders is that Gogo is now ready to begin its worldwide expansion. The network will be ready to launch in 2H14 and the first Gogo customer to commit to the service is Virgin America.
2. Gogo Vision provides on demand entertainment and content streaming for airline passengers (TV shows / movies / etc). Compared to traditional seatback in-flight

entertainment, Gogo's technology offers airlines significant savings on installs while reducing fuel burn (e.g., instead of the expense of installing a screen in the back of each chair, airlines simply install Gogo's wifi connectivity solution, which is 1 device and weighs about the same as two suitcases versus in-flight entertainment seatback systems that can weigh one ton in total). Really, it's the whole "cloud versus installed software" debate – with the cloud, airlines don't have to worry about maintaining the system or fixing broken screens, nor do they have to worry about content procurement, digital rights management, payment processing, customer service, etc. Gogo handles all of that and passengers get to use their own devices, which they nearly universally prefer (bigger screens, higher def, etc).

3. Gogo's Text & Talk allows passengers to make and receive calls and texts in the air just as they would on the ground, with **their own phone number** (this is an important selling point). Gogo is launching Text & Talk with commercial partners soon, perhaps as soon as a few months from now (it's been in beta with approx. 2,000 customers; in the Company's business aviation segment, they have already achieved >25% penetration with this product into their existing customer base). To use it, passengers simply install Gogo's Text & Talk app and start texting (note: in certain markets like the US you are prohibited from making calls on commercial airlines; it's my guess that texting will be enough to drive significant consumer adoption). Techcrunch's Ryan Lawler recently [reviewed the product](#) saying, "I did a lot of cool things at SXSW 2014, but one of the coolest things I got to do was go for a trip in a private jet and test out some cool new technology from Gogo." The entire video is worth a quick watch (click [here](#)).

I hope the above sheds a little light on the Company's rather brilliant strategy which is, quite simply:

- Sign up early adopter airlines
- Get early adopter consumers to use the product (in Gogo's case, business professionals and tech geeks)
- Reinvest that margin into improving the technology
- Sign more airline partnerships to increase the number of aircraft in the network
- Introduce new products that lead to rising consumer usage and penetration rates on each flight
- Refine pricing to maximize margin
- Sign up more airlines
- Take over the industry

This cycle of better technology ? more airplanes / partners ? better products will lead – I believe – to one eventuality: **a monopoly-like position for Gogo.**

If this strategy sounds familiar to you, it's the same playbook used by Elon Musk at Tesla – see [The Secret Tesla Motors Master Plan](#):

*Almost any new technology initially has high unit cost before it can be optimized and this is no less true for electric cars. The strategy of Tesla is to enter at the high end of the*

*market, where customers are prepared to pay a premium, and then drive down market as fast as possible to higher unit volume and lower prices with each successive model.*

I think what most people are missing here – particularly the ones who have been vocal opponents of Gogo's service (see Hartevelde's and Brancatelli's comments [here](#)) – is (1) how entrenched Gogo is once its installed and (2) how a virtuous cycle of product improvement leads to a bigger airline network which leads to more capital availability which leads to a bigger network. There are also a few other reasons why I think there is a reasonable chance the business winds up as a natural global monopoly:

1. Gogo signs 10 year exclusive contracts with its airlines partners, creating a significant and valuable moat.
2. With every OEMs partnership or fractional jet owner partnership, Gogo becomes even more entrenched.
3. Becoming a certified airline partner is a non-trivial task that provides more barriers.
4. Heavy upfront capital expenditures (for product development, antennas, operating licenses, etc) virtually guarantee that once Gogo reaches a critical mass, no new competitor will want to enter the market.
5. Securing satellite contracts requires significant payment guarantees and access to capital.
6. The operational, technological and regulatory expertise required to get started in this market is tremendous.

I am not the only one that recognizes the beginning signs of a future monopoly. A class-action lawsuit that was originally dismissed is now back on with the plaintiffs accusing Gogo of overcharging for its service. According to the suit, Gogo "unlawfully obtained and/or maintained monopoly market power in the United States market for inflight Internet connectivity on domestic commercial aircraft by resort to anti-competitive conduct that includes a series of long-term exclusive contracts with the major domestic airlines in the United States. These exclusive contracts have the purpose and effect of thwarting competition on the merits and on price, and [they] have permitted Gogo to charge consumers like Plaintiffs and the members of the class they seek to represent supra-competitive prices."

District Judge Edward Chen wrote that the court is also "not persuaded" by Gogo's argument that it's easy for airlines to get out of the contracts they have signed with Gogo. Gogo also tried to argue that – despite being installed in 80% of the wifi enabled planes in the North American commercial aviation market – it is a competitive space. They cited Global Eagle's [Row 44 unit](#) (partner of Southwest Airlines), [Viasat](#) (JetBlue), [OnAir](#) (British Airways and more internationally), [Panasonic Avionics](#) (United Airlines), and [Thales Group](#) (LAN Airlines) as competitors. If you care, you can read more about the case [here](#).

Personally, I am encouraged by this news because it confirms my thesis (Gogo's alleged "overcharging" also happens to check off one of Warren Buffett's investment boxes: "The single most important decision in evaluating a business is pricing power."). Does it make me fearful of the Government breaking up Gogo because it has a monopoly position on a captive audience for a few hours on a flight? Not. One. Bit.

I believe the Gogo story is in its very early stages. There are three reasons why I think it's inevitable that every major airline will be connected over next 5 – 10 years (I've already stated above why I think Gogo will likely be the provider of choice):

1. **Government rule changes:** The FAA [recently changed its rules](#) around the use of personal electronics, a rule which allows wifi to be used during all phases of a commercial flight, but still prohibits the transmission of data via cellular signals (4G, LTE, etc). This is a powerful tailwind for the industry and for Gogo specifically. "Passengers will eventually be able to read e-books, play games, and watch videos on their devices during all phases of flight, with very limited exceptions."
2. **Consumer demand:** Michael Small, CEO of Gogo [said it best](#): "... the [FAA] rule was changed because of customer pressure to have more access to the devices. [...] The world wants to be connected everywhere. The ruling is a political (and) regulatory expression of that."
3. **Airline demand:** Airlines view in-flight Wi-Fi as a "[huge competitive advantage](#)". At some point, it will become a huge competitive disadvantage if they don't offer it. A side note: this will be an important point in the future when Gogo goes from paying for an airplane installation to getting paid for the installation by the airline.

All three of these elements are working together to the benefit of Gogo. The FAA rule change stokes consumer demand (the thought being that consumers are less likely to stow their devices in the overhead bin for the duration of the flight) ? consumer demand stokes airlines to partner with Gogo ? Gogo's network expands.

If I'm right and 75% of commercial aircraft worldwide get connected over the next few years, and if Gogo can capture 50% of that market (they have 80% today), what is this business worth?

To answer that question, you must first piece out Gogo's business aviation segment, a hidden gem in an already interesting story. In its business segment, Gogo operates as [Aircell](#) where they have been providing telecom services to business jets for more than 20 years. What started out as a simple analog telephone product has evolved into the most trusted communications platform on the market. Gogo's Aircell is so entrenched that they are now offered at the factory floor by every major business aviation OEM.

**BUSINESS AVIATION****Original Equipment Manufacturers****Gulfstream****BOMBARDIER****Fractional Jet Operators****NETJETS****FLEXJET**  
BY BOMBARDIER**citationair**  
by Cessna

At YE13, Gogo's Aircell served 7,222 business planes (5,175 with Iridium satellite communications systems [basically voice service and SMS / light email data] + 2,047 Gogo Biz systems [voice, internet, email and more... about what you'd get at a coffee shop]). Of the business planes outfitted with communications technology, Aircell has an estimated 63% share in narrowband and an estimated 93% share in broadband. As more planes adopt broadband technology (only ~10% of business aircraft in North America have it), Gogo will benefit with higher revenues and even better operating margins.

Let's have a look at the numbers... in 2013, the BA segment generated over \$127MM in revenue and \$51MM in EBITDA (40% margins), up 30% and 42% Y/Y respectively.

Management has said the business aviation segment has "low capital requirements" and "generates lots of free cash flow". While I'm waiting for management to get back to me on those specifics (you can see my questions below – feel free to email me or comment below if you have any others; I'll add them and report back after my call with the Company), let's make some general assumptions. Let's assume this business segment grows at 18% next year (which can be achieved through a combination of new plane builds, higher broadband penetration within the existing business aircraft market and via pricing power; management has guided to 27% growth so I'm haircutting that a bit here). At 18% top line growth, 40% EBITDA margins and \$10MM in CapEx, this business will generate \$50MM in pre-tax free cash flow next year. I believe a monopoly business with significant and growing free cash flow is worth 12x – 20x FCF. If you put a 15x multiple on the after-tax FCF (~7% FCF yield) then the business aviation segment alone is worth nearly \$500MM.

So what about the commercial aviation segment... what's that worth?

Let's assume long term that Gogo can convince one out of every 10 passengers to use Gogo during their flight (in 4Q13 they had a 7.23% take rate; my assumption is that the FAA rule change combined with Gogo's Text & Talk product combined with better GTO technology lifts the take rate to 10%). Further assume that the average revenue per session falls from \$10.29 to \$9.00 (I am assuming that a combination of lower price and mix shift brings the average price down 13% from 4Q13 levels). The only assumption left to make is the number of aircraft Gogo has in its network. At YE13, there were 2,032 commercial aircraft in the Gogo network (via 9 major airline partners). There are approximately 17,000 commercial aircraft worldwide, expected to grow over 100% to 36,000 over the next couple decades. Let's assume 20k aircraft, 75% of which get connected and Gogo can capture 50% of the market. Using these assumptions, Gogo will generate over \$1BN in service revenue alone (not including equipment revenue or upside from new product introductions or new revenue sources such as advertising).

#### Revenue Model

No. of Aircraft	7,500
Passenger opportunity per aircraft per month	12,922
No. Months in period	12
Connectivity Rate	10.0%
Average Revenue per Session	\$9.00
<b>Total Annual Service Revenue</b>	<b>\$1,046,648,629</b>

What is \$1BN in future service revenue worth today? For this business I'd be willing to put a 3x multiple on it (feel free to use your own judgment based on SaaS comps or early growth telecom comps).

By my math, Gogo's EV should be \$3.5BN. Take out the \$40MM in net liabilities and you get an equity value of \$3.46BN, **representing upside of almost 90%. I believe Gogo is worth over \$40 / share.**

You can test your own sensitivities in my simple model [here](#).

#### Other notes

- As with any investment, there are future unknowable unknowns such as: Will there be any impact / disruption from Google's [Loon](#) or [Titan Aerospace](#). There are others I likely haven't considered.
- Gogo's first significant international contract was signed with Japan Airlines [in Oct '13](#) (it covers all 77 planes in their fleet); Gogo expects to go live in the middle of this year.
- Internationally, only about 200 commercial aircraft are installed with broadband

connectivity with only a couple hundred more committed. There are currently about 13,000 international commercial aircraft operating today.

- Management has stated that advertisers have said they want to participate in Gogo's "captive, upscale, and engaged audience". It's possible that some sort of network advertising / media platform model can provide further upside to Gogo's current monetization strategy.
- Management has stated that their texting product is an "extraordinarily profitable product" with "much higher margins than connectivity products". This makes sense to me given [carrier texting margins](#). In addition, once you have created a new product and are installed on a plane, the incremental margins should approach SaaS margins.
- Over time, I expect Gogo's CapEx to decline dramatically for a couple of reasons: (1) Gogo has been building out their communications network; once this cycle is over, only maintenance CapEx will be required, and (2) over time, Gogo is planning to charge airlines for their installations (versus paying for them today).
- 3Q13 is [here](#); 4Q13 is [here](#); the S-1 is [here](#).

### **Questions for Management**

1. What is the historical CapEx in business aviation segment? Breakdown between growth and maintenance CapEx?
2. Same question for the consumer aviation segment.
3. Can you describe the timeframe to a transition to a CapEx-lite business model? What are your assumptions around that?
4. Provide some insight into the underlying cohort metrics ... are you noticing that when someone becomes a customer, their spend over time increases? Are new customers today spending more than new customers from 12 months ago?