Satellite Markets and Technology Trends
- High Throughput Satellites -
## ViaSat Products and Services

### Commercial Networks
- Broadband Infrastructure
- Broadband Enterprise Services
- Microwave Products
- Antenna Products
- Satcom
- Earth Observation and Surveillance

### Government Systems
- Global Mobile Broadband
- Command & Control / Situational Awareness
- Secure Network Systems
- Tactical Data Links
- Tactical Satellite Networks

### Satellite Services
- Network Operations
- Sales and Marketing
- Customer Care
- Satellite Operations
Ka-band Fleet

US Ka Beams
~2 Gbit/s
~5900 kg.

~7 Gbit/s
~4700 kg.

~140+ Gbit/s
~6700 kg.

ViaSat-2 Launching in 2017 –
Another Performance Breakthrough

» 7x the coverage of ViaSat-1
» 2x the bandwidth economics advantage

ViaSat
ViaSat Ka Customers
Rest of Industry
WildBlue-1 Coverage / Bandwidth
ViaSat-1 Coverage / Bandwidth

ViaSat-1

20x Speed
2x Subscribers
ViaSat-2 Coverage / Bandwidth

ViaSat-2

Better Fit to Demand
>2x Bandwidth
~7x Coverage
Flexibility
ViaSat-3 – True Visible Earth Coverage
ViaSat-3 Global Constellation

ViaSat-3
Multi-Tbit/s Flexible
Global Broadband
Satellite Productivity Comparison
Smaller, Lower Cost Gateways
Gateway Productivity

Gateway Infrastructure Productivity

- GW’s
- GW $M / Gbps

WB-1
VS-1
VS-2
VS-3
Most Popular Broadband Systems in the World

» Over 2 M terminals shipped
  › Fixed, mobile, portable
  › Consumer, enterprise, government

» Designed for internet use competitive with DSL, fixed site 4G…even some cable

» Vertically integrated space & ground system delivers best satellite bandwidth economics

» Embedded acceleration mitigates latency for fast page loads, media-rich content

» New Flexible Broadband System for Regional Operators
In-Flight Internet

» First Ka-band in-flight Internet
  › Live on over 200 JetBlue and United aircraft
  › Rated “Best Wi-Fi” by Routehappy

» 500+ global aircraft in Ku and Ka-bands

» Millions of operating hours

» Civilian and government VIP services

» High performance government ISR missions
Outperforming Take Rates

» Over 4x the average number of passengers using the service on each flight compared to nearest competitor

» Over 2.5 million devices connected in first year of service
Wireless Extension: GSM Access to Underserved Areas

» Integrated cellular and satellite backhaul network
» Voice, messaging, application, & data services
» Lowest cost per minute for small cell sites
» Consistent call-by-call voice quality
» Highly efficient satellite backhaul
» Solar powered; low power consumption
Wireless Extension: Managed Wi-Fi Services

» Plug-n-play hotspots for single and multi-site networks
» End-to-end management:
  › Network design
  › Installation
  › Reporting
  › Monitoring
Bringing Internet to the Unserved

Rural WiFi Video Here
Conclusion

- High throughput is not the same as high capacity
- High capacity satellites and smaller more productive gateways permit High Economic Return on Invested Capital
- High capacity satellites enable services to previously unserved markets at urban performance levels
- Access to Ka and V band spectrum is needed to support high capacity satellite networks
- Access to unlicensed spectrum is needed to facilitate local distribution of service in some markets