GILAT – BOUNDLESS COMMUNICATIONS

MOBILE
- 4G/5G
- 2G/3G

MOBILITY
- Air
- Sea
- Land

RURAL BROADBAND
- Consumer
- Enterprise

MOST ADVANCED TECHNOLOGY
Terrestrial-grade user experience

END-TO-END SERVICE
Most stringent service levels

GLOBAL PRESENCE
20 sales offices

Established 1987

NASDAQ / TASE: GILT

~1,100 employees
# GLOBAL FOOTPRINT – EXPANDING A DIVERSE CUSTOMER BASE

<table>
<thead>
<tr>
<th>SATELLITE OPERATORS</th>
<th>CARRIERS &amp; SERVICE PROVIDERS</th>
<th>SYSTEM INTEGRATORS</th>
<th>GOVERNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SES, China SATCOM, Inmarsat, Intelsat, Avanti, Gazprom, Synterone</td>
<td>Sprint, SoftBank, KDDI, EE, gogo, Bharti, Claro, Telstra, Vodafone, Telefonica</td>
<td>Honeywell, Lockheed Martin, Boeing, Airbus Defence &amp; Space, General Dynamics, L3 Communications</td>
<td>Fitel, Inatel, Compartel, Nbn</td>
</tr>
</tbody>
</table>

- 300+ customers
- 500+ Networks
- 90+ countries

*Proprietary and Confidential*
AFFORDABLE INTERNET EVERYWHERE IS BECOMING A “BIRTH RIGHT”


Self-actualization
Creativity, Problem Solving, Authenticity, Spontaneity

Esteem
Self-Esteem, Confidence, Achievement

Social needs
Friendship, Family

Safety and Security

Physiological needs (survival)
Air, Shelter, Water, Food, Sleep, Sex

SATELLITE DELIVERS Affordable, Plentiful, Terrestrial-grade User Experience

Mobile
Mobility
Broadband
**CONSTELLATIONS AND NETWORKS ARE GETTING MORE COMPLEX**

<table>
<thead>
<tr>
<th>Multi-satellite</th>
<th>Multi-orbit</th>
<th>Multi-beam</th>
<th>Multi-band</th>
</tr>
</thead>
<tbody>
<tr>
<td>1K-10K/constellation</td>
<td>GEO/MEO/LEO</td>
<td>Thousands per satellite</td>
<td>Ku, Ka, C</td>
</tr>
</tbody>
</table>

**Next-Gen Technologies Needed – Complex NMSs, Strong Modems, ESA**

- GEO: 35,786 km
- MEO: 2,000-10,000 km
- LEO: 500-2,000 km
ORDER OF MAGNITUDE MORE SUPPLY COMING

HTS capacity supply to exceed 16 Tbps by 2023 compared to ~1 Tbps today

Source: EuroConsult 2018
COST BASE OF HTS SATELLITES IS FALLING DRAMATICALLY

<table>
<thead>
<tr>
<th>LAUNCH YEAR</th>
<th>SATELLITE</th>
</tr>
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<tbody>
<tr>
<td>2013-17</td>
<td>Inmarsat GX (I5)</td>
</tr>
<tr>
<td>2016</td>
<td>Intelsat 26e</td>
</tr>
<tr>
<td>2012</td>
<td>Hylas-2</td>
</tr>
<tr>
<td>2015-16</td>
<td>NBN-1A/1B</td>
</tr>
<tr>
<td>2013-14</td>
<td>O3b (first 12)</td>
</tr>
<tr>
<td>2015</td>
<td>IPSTAR</td>
</tr>
<tr>
<td>2017</td>
<td>Al Yah 3</td>
</tr>
<tr>
<td>2018</td>
<td>O3b (extra 8)</td>
</tr>
<tr>
<td>2011</td>
<td>KA-SAT</td>
</tr>
<tr>
<td>2018</td>
<td>Telstar-19V</td>
</tr>
<tr>
<td>2019</td>
<td>TCStar-1</td>
</tr>
<tr>
<td>2012</td>
<td>Echostar-17</td>
</tr>
<tr>
<td>2011</td>
<td>ViaSat-1</td>
</tr>
<tr>
<td>2017</td>
<td>ViaSat-2</td>
</tr>
<tr>
<td>2016</td>
<td>Echostar-19</td>
</tr>
<tr>
<td>2020</td>
<td>ViaSat-3</td>
</tr>
<tr>
<td>2020</td>
<td>OneWeb</td>
</tr>
<tr>
<td>2020</td>
<td>SpaceX</td>
</tr>
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</table>

CAPEX per GBPS (in US$ millions)

HTS cost base is going under $1M per Gbps

Source: EuroConsult 2017

*Generally includes satellite, launch, insurance and ground infrastructure costs
BOOMING CAPACITY – GEO + LEO/MEO

Global HTS Bandwidth Supply, Demand and Price per Mbps

~16 times today

Source: Euroconsult, NSR, 2017

ABUNDANCE OF CAPACITY UNLOCKS NEW MARKETS
NGSO DEVELOPMENT – GENESIS CONSORTIUM
Israel Innovation Authority

**Genesis** – Global Earth, Low Latency, Extreme Broadband Satellite Access

- Develop technologies for **Extreme Throughput Constellation Systems**
  - Ground segment – hubs and terminals
  - Radio Resource Management (RRM)
  - Phased array antennas

- Multi-year program with Industry & Academy

- 3 Main Working Groups:
  - **Architecture** – Define efficient architecture for NGSO constellations that combines programmable ground & space segment
  - **Network Algorithms** – Define algorithms for resource management in highly dynamic distributed constellation systems
  - **Air Interface** – Define new communication waveforms and techniques to handle the highly dynamic constellation systems
AT THE FOREFRONT OF ELECTRONICALLY STEERED ANTENNA (ESA) DEVELOPMENT

**ESA Technology**
- RFIC technology
  - Single Die SiGe, Rx And Tx
- Status
  - Ka Chips already in lab
  - Tx & Rx
  - Using ST FAB

**ESA Systems and Projects**
- Integrated Aero ESA
  - Integrated in wing – fuselage airframe fairing
  - For Airbus

- Commercial Aviation Antenna
  - Better-than-industry spectral efficiency
    - Higher G/T
    - Higher EIRP
  - Dual simultaneous Rx channels

ESA is imperative for LEO/MEO satellites
Broadband Terminal for LEO Satellites

- Develop a prototype terminal to operate and tested over Telesat phase-1 LEO satellites
- Develop a waveform and broadband modem to meet the communication challenge of the LEO constellation
- Overcome all Doppler effects
  - Time synchronization, symbol duration changes, and frequency changes
ACCELERATING CONNECTIVITY – GROWTH AREAS

Mobile
Cellular Backhaul, Network Resilience, Public Safety

Mobility
In the Air, at Sea, on the Ground

Broadband
Broadband to the Unserved and Underserved
“Gilat continues to unlock new opportunities and capture a bigger share of the pie…”

Source: NSR, April 2018
5G-READY SATELLITE CONNECTIVITY
WHAT IS 5G?

- Next generation of wireless networks
- Will provide higher speeds and capacity, deeper coverage and lower latency
- Will be capable of supporting billions of connected devices and ‘things’
- Distributes intelligence throughout the network

Source: Qualcomm
GILAT DRIVING HIGH IMPACT IN 5G SATELLITE FUTURE
Collaborating to accelerate satellite role, technology, and standards

5G Backhauling and Mobility – GEO & LEO

- Delivering 5G backhauling via satellite to cellular towers, enterprises, commercial and business aviation, maritime and high-speed trains
- Leveraging upcoming LEO constellations to deliver low latency and extreme throughput 5G mobile backhauling
- Technology innovation includes:
  - Advanced phase array terminals for IoT aggregation and connected cars
  - Close integration of 5G core, ground infrastructure and satellite
  - Virtualization, SDN/NFV to simplify operations and increase service flexibility
  - Gigabit multi-orbit terminals

5G Fixed Backhaul | Moving Platforms | Content Delivery | IoT & Connected Cars

H2020
GILAT DELIVERS BEST USER EXPERIENCE ON THE PATH TO 5G
Leveraging a strong 4G foundation

- Delivering “terrestrial-grade” User Experience
- Expanding network coverage from rural to metro-edge and metro areas
- Powering cellular backhaul, network resilience and public safety deployments
- Expertise in integrating mobile and satellite networks
- Experience with tier-1 MNOs worldwide
EXTENDING 5G SERVICES VIA SATELLITE

- Fixed and on-the-move high throughput satellite backhaul
- Extending coverage for massive 5G IoT everywhere
- Content delivery to the edge via multicast
<table>
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<tr>
<th>ENABLING “TERRESTRIAL-GRADE” USER EXPERIENCE</th>
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<tr>
<td><strong>Affordable true LTE Backhaul</strong></td>
</tr>
<tr>
<td>⊗ Delivering “terrestrial-grade” User Experience</td>
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<tr>
<td>⊗ Rapid network deployment</td>
</tr>
<tr>
<td>⊗ Expanding coverage to: rural, highways, islands, tourist centers, campuses, metro-edge and metro areas</td>
</tr>
<tr>
<td>⊗ Replacing leased lines and upgrading T1s/E1s</td>
</tr>
<tr>
<td><strong>Global End-to-End Services</strong></td>
</tr>
<tr>
<td>⊗ Delivering comprehensive services</td>
</tr>
<tr>
<td>⊗ Expertise in integrating ground and sat networks</td>
</tr>
<tr>
<td>⊗ Experience with Tier-1 MNOs worldwide</td>
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<tr>
<td>⊗ Generating <strong>recurring revenues</strong></td>
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MOBILITY
MOBILITY – SUPERIOR PASSENGER EXPERIENCE DRIVES DEMAND

Satellite Broadband Connected Aircrafts

Commercial Aircrafts

27,800
(2027)

5,200
(2017)

Source: EuroConsult, July 2018

Business Aircrafts

8,800
(2027)

500
(2017)

Source: EuroConsult, July 2018
DELIVERING SUPERIOR PASSENGER EXPERIENCE

World’s Fastest Speed
In-Flight Connectivity

DOWNLOAD 112.67 Mbps
Data Used: 92.0 MB

UPLOAD 6.61 Mbps
Data Used: 6.0 MB

PING 812 ms

SERVER LOCATION
Arlington Heights, IL

CLIENT LOCATION
LAT: 40.911 - LON: -74.907

External IP: 12.130.118.0
Internal IP: 172.19.131.177

One Network

>2,200 aircrafts

Global Coverage
Over 25 Satellites
15 Teleports
Leading Performance Solutions for All In-Flight Connectivity Modules

Dual Band Ku/Ka Antenna

ESA/PAA

Ku and Ka Transceivers

400Mbps Modem
KU/KA AERO TERMINAL NOW DO-160 CERTIFIED

AeroEdge 6000 – Ku/Ka Dual Band

DO-160 Certification
Environmental Testing of Avionics Hardware

Now Qualified for Installation on Aircrafts
DEMONSTRATING WORLD’S FIRST MULTI-ORBIT NETWORK
Telesat, Global Eagle and Gilat – First Ever IFC with LEO

- Multi-orbit GEO-LEO seamless connectivity and switchover
- Live in-flight broadband connectivity
- Terrestrial-like broadband performance
BROADBAND
The Space Silk Road
One Belt, One Road, One Ground Segment

CONTINUOUS KA-BAND COVERAGE
2 Billion people
23 Million Sq. Km
30 Countries

Gilat Ground Network – From Asia to Europe
Powering China Satcom, Eutelsat and Gazprom Satellites
DELIVERING CORE INFRASTRUCTURE FOR NATIONAL BROADBAND

**Broadband to unserved & underserved**
- Bridging the digital divide
- Connecting communities and individuals to the world via broadband
- Innovating to deliver plentiful affordable Consumer and Enterprise solutions

**Large governmental projects in Peru and Colombia**
- Peru – FITEL projects
  - A $2B+ program to build terrestrial networks across Peru
  - 14 Regional Projects awarded so far - 6 to Gilat (~$553M)
    - ~$335M construction revenue
    - ~$218M operational revenue over 10 years
  - Target: Recurring revenues >$50M / year, profitable, starting 2020

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**NBN**
Connecting nationwide businesses and enterprises in regional and rural Australia

**Gazprom**
Providing broadband connectivity across Russia over new satellite – Yamal 601 Ka

**China Satcom**
Extending satellite coverage throughout China with new satellite – CS-18, sole solution to China’s HTS Ka

**JSAT**
Delivering wide range of mobility and fixed broadband applications in Japan
THANK YOU

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