

# Innovation: O3b's New Satellite Technology & Services in the Pacific



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# **O3b's customer's customers**





# O3b's Non-GSO Satellite Constellation – Fiber without the Cable



- Circular equatorial orbit at 8062 km altitude (MEO)
- O3b's global spectrum use today:
  - Uplink: 27.6-28.4; 28.6-29.1 GHz
  - Downlink: 17.8-18.6; 18.8-19.3 GHz
- 12 satellites in non-geostationary orbit at 8062 kilometers
- Beam size: ~700 km diameter on the ground



## O3b Delivers "Fiber Speed, Satellite Reach"





9 gateways connect customers to the internet

**O3b Networks Proprietary** 

Fiber-like latency and capacity: - Under 150 ms roundtrip - 2 Gbps per beam





# This drives end-users to our customers



# **Prioritizing Satellite Sweet Spots**



Satellite's ability to cost-effectively provide coverage and capacity will be extended to 5G

# O3b serves large customers and governments



O3b provides the "middle mile" to connect local operators to the internet via one of our 9 world-wide gateways

Islands and Remote Cities



ISPs , Telcos and Governmental Demands

Universities

Fiber Redundancy



 Resiliency Option for Larger City ISP and MNO O3b Networks is the Fastest Growing Satellite Operator in History

Corporate (private networks)



- Resorts, Remote Factories & Datacenters
- Big Events

Oil, Gas, Mining



 Latency is Key in the Digital Oilfield and remote operations

# **A Revolution in Backhaul**



#### Digicel, Papua New Guinea



**Telecom Cook Islands, Cook Islands** 

#### **Oi/Timor Telecom, East Timor**



**ASTCA, American Samoa** 



Improved QoE



PNCC, Palau



#### Improved Reliability

Increased ARPU

### Reduced Churn





O3b currently serves Royal Caribbean Cruise Lines (RCCL) which operates Asian and South Pacific cruises

Other cruise lines are considering using O3b & SES capacity on their fleets



# O3b connects oil & gas platforms





# **O3b connects remote cities**



#### Peacekeeping forces are using O3b in 8 sites in Central Africa





An ISP in Brazil's Amazon river basin is using a single O3b beam to connect nearly 500,000 people

# **O3b connects islands**



#### Most of the South Pacific island nations now use an O3b beam:

American Samoa FSM - Yap Cook Islands Christmas Island **East Timor** Kirbati Nauru Norfolk Island Palau Papua New Guinea Samoa Solomon Islands Vanuatu



The Galapagos and Easter Island both have O3b coverage, also.

#### The challenge:

#### A disbursed population still needs connection



#### East Timor:

- Latency decreased
- Throughput increased
- QoE increased

#### Palau:

- spike in Internet adoption
- Helped create new solutions for consumers, schools, the tourism industry

#### Solomon Islands:

- fiber-equivalent throughput capability has led to rapid uptake in data usage
- University of the South Pacific and Solomon Islands National University have enabled:
  - distance education
  - live ultra-HD video streaming
  - high-speed downloads
  - cloud-based applications
  - crystal clear voice calls

# **Globally Harmonized Spectrum**





O3b efficiently reuses Kaband spectrum and protects GSOs/terrestrial services

- Satellite is a truly international industry and harmonized allocations allow it to take advantage of economies of scale
- Stable global access to set frequency bands will bring down the cost of service and encourage innovation
- Regulatory certainty is necessary for new technologies

# **Innovative Technology requires Innovative Regulatory Approaches**



"Groundbreaking" technology will bring broadband to all – but will require Regulators to break new ground as well:

- New orbits (Non-geostationary)
- New frequency bands (Ka, Q, V)
- New services (ESIMs)

#### **Every country regulates differently...**

- Some have minimal/no regulations
- Some have complex regulations:
  - Formal application;
  - Public consultation
  - Homologation/type approval
  - Local permits; import reg's
  - Initial/monthly/annual fees
  - Annual/quarterly reporting

## **Regulators can be Efficient and Effective with:**

- Harmonized rules;
- Common application forms;
- Free circulation of terminals;
- A common register of operators

