

# Building the Cloud-Optimised Satellite Ecosystem

What it takes to deliver **Cloud Applications** anywhere

## ONLINE TODAY:

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**Ewald Schrap**  
VP Cloud Segment  
SES



**Stewart Sanders**  
EVP O3b mPOWER Program  
SES

## MODERATOR

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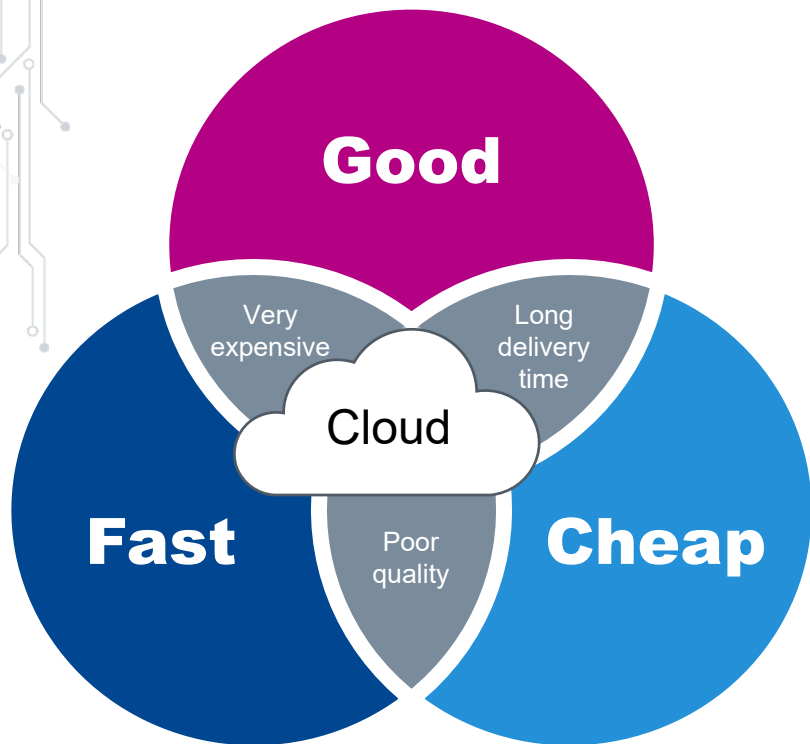
**Jeffrey Hill**  
Chairman of Aerospace Events  
& Via Satellite Executive Editor

Presented by:

**Via Satellite**

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More than **\$1.3 TRILLION** in IT spending will be affected by the shift to the cloud by 2022

*Gartner*

**83%** of enterprise workloads will be in the cloud by 2020

*Forbes*

**94%** of enterprises use cloud

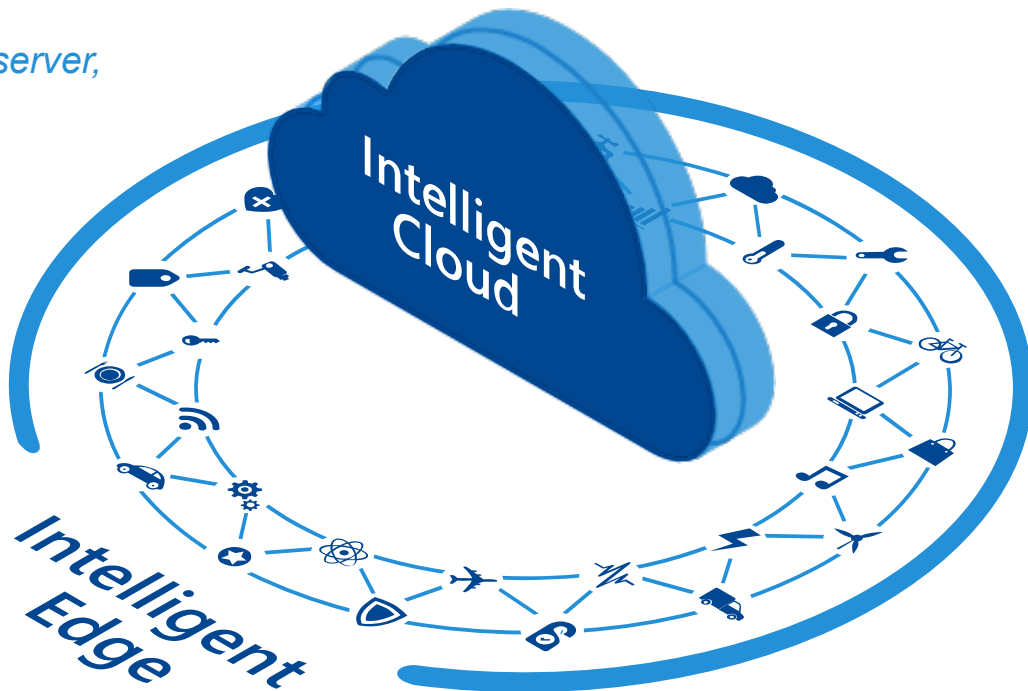
*Flexera*



*"I've lived through the client-server,  
the web, mobile, cloud."*

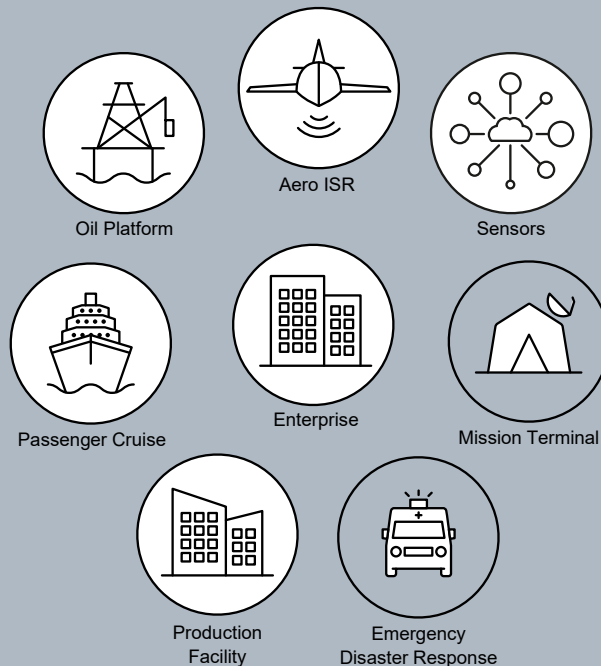
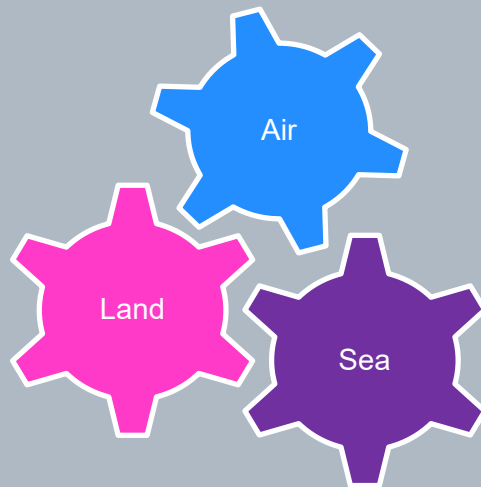
*As we look forward...  
this new era of  
the intelligent cloud  
and intelligent edge  
is far greater."*

**Satya Nadella**  
CEO Microsoft  
Inspire 2018



Source: Microsoft Azure

# Underserved markets need intelligent cloud & edge solutions





Ramon Millan  
SVP & CIO,  
Carnival Corporation

*"In the cruise industry, where most of the data centers are on a ship, floating and moving, cloud services face the additional challenges of connectivity"*



# Government ISR



*"When you build a system where any remote pilot can fly any drone supported by unlimited analysts anywhere, the game changes."*

**James Poss**  
Maj Gen (Ret)



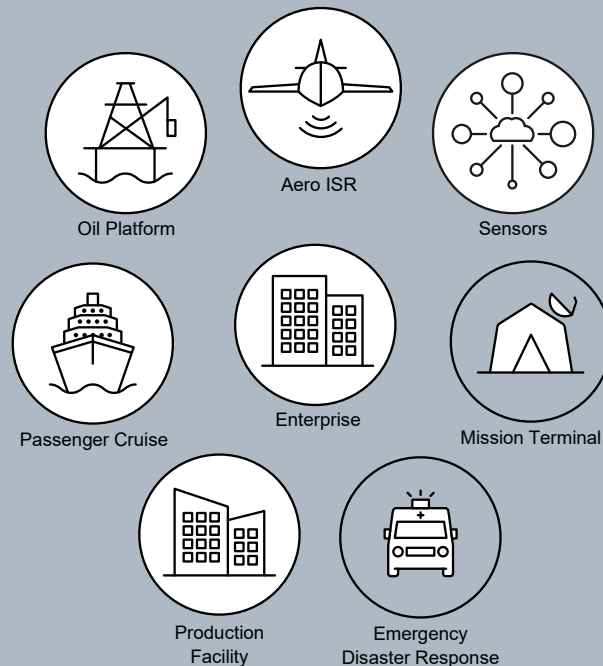
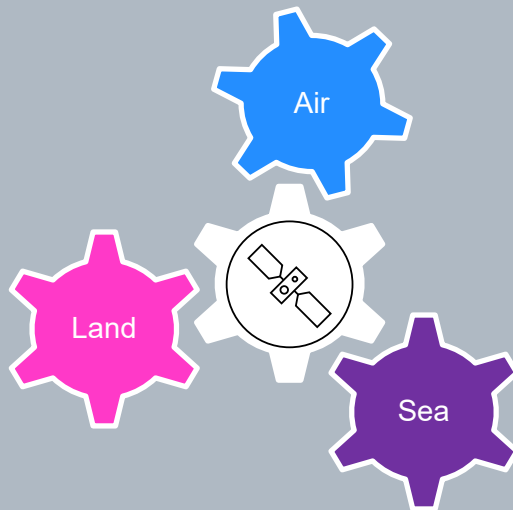


Supporting high-performance cloud applications for:

- ▲ Efficient exploration
- ▲ Extraction automation
- ▲ Regulatory compliance
- ▲ Facility optimisation
- ▲ Crew welfare & training

# Cloud and network service providers

Look to space to reach underserved markets



# Cloud-optimised connectivity requirements

Dynamic high bandwidth allocation

Consumption based services

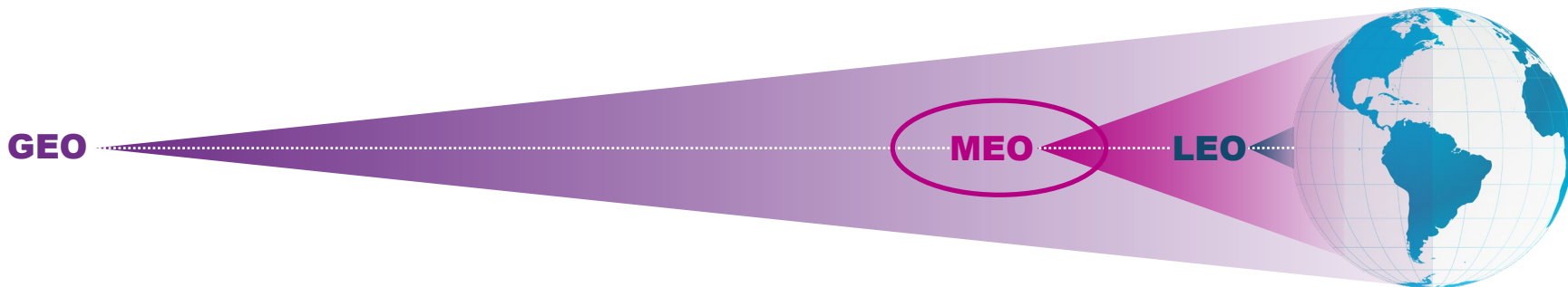
Low latency

Reliable security

High availability & resiliency



# Not all satellites are cloud-optimised



	GEO	MEO	LEO
<b>Target Applications</b>	Video Broadcast Web Browsing Global Reach B2B/C	Business Internet Cloud Services Data, Voice, Video B2B	Consumer Internet Web Browsing Gaming / VR B2C
<b>Data Rates/User</b>	10s-100s Mbps	100s-10,000s Mbps	10s-100s Mbps
<b>Latency</b>	High (~700 msec)	Low (~150 msec)	Very Low (~50 msec)

# Our journey with cloud-optimised MEO satellite communication systems



2014

O3b MEO start of service w/ 12 satellites

2016

Offer hybrid GEO/MEO solutions

2018

Scale O3b MEO w/ 8 more satellites

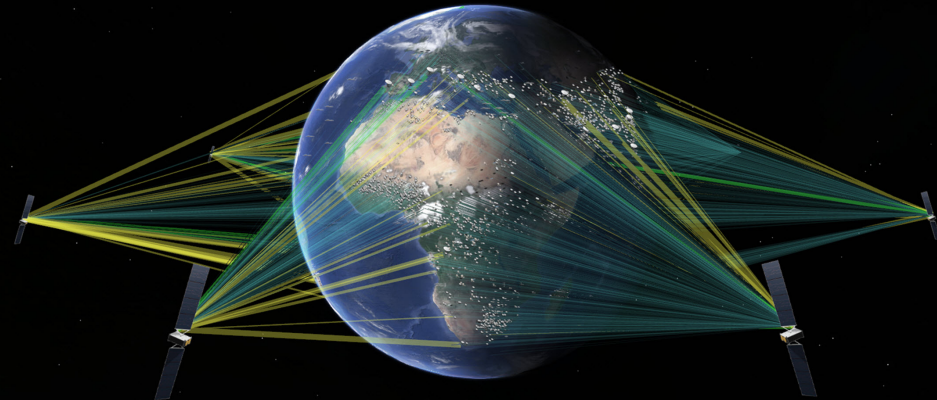
2020

First cloud partnerships

Deploy network intelligence

2022

O3b mPOWER start of service



**O3b mPOWER evolution**  
massive throughput, flexibility & scale

## O3b **mPOWER** cloud-ready capabilities

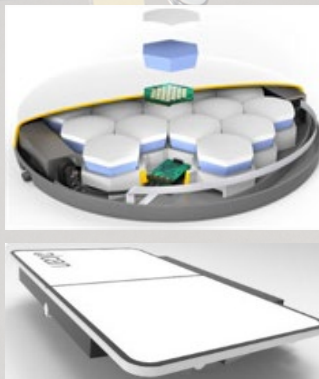
**SES**<sup>▲</sup>

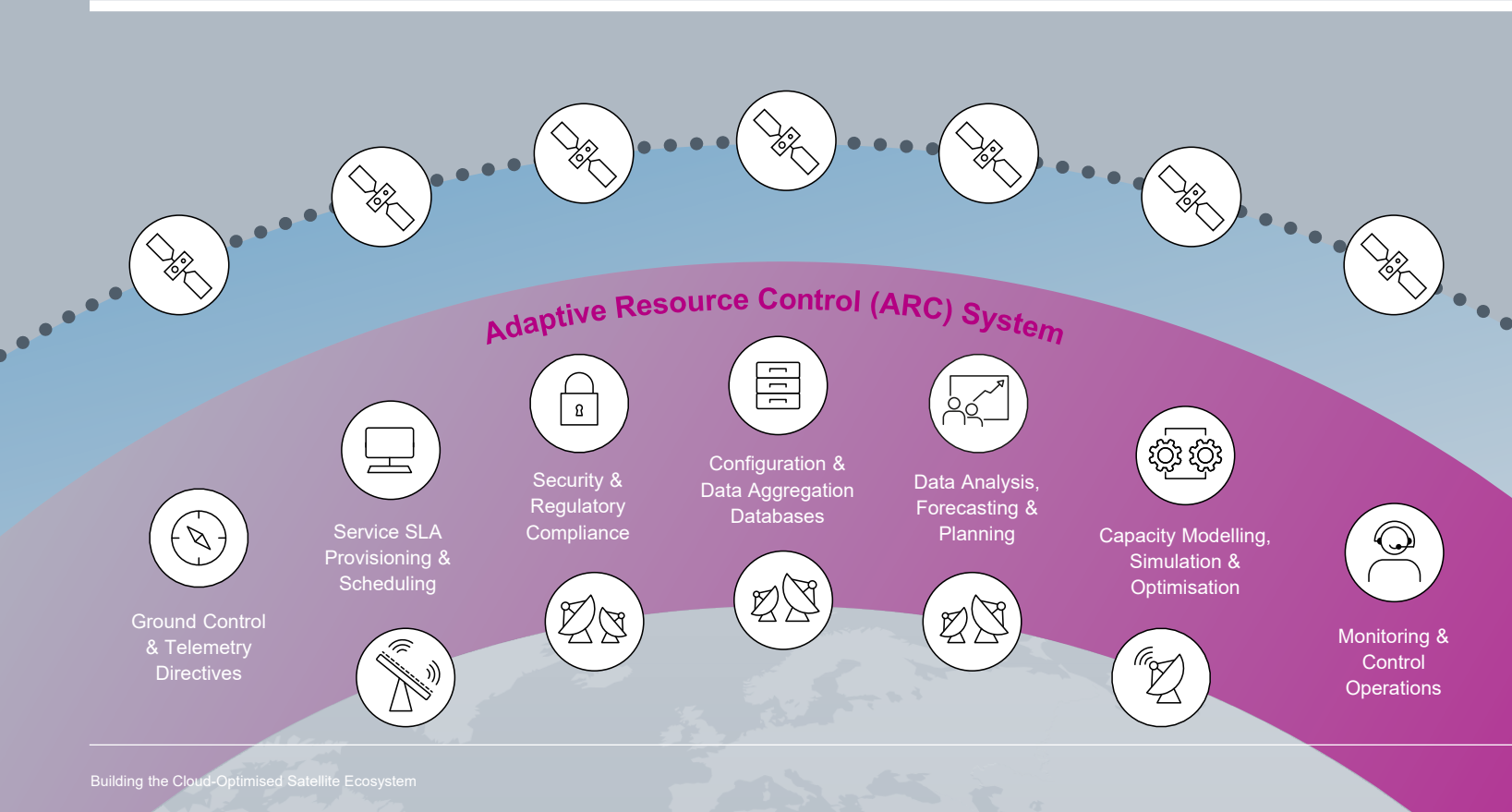
- ▲ Fully digitised payload with
- ▲ Electrically steered beam-forming
- ▲ High throughput (10Mbps+ to 10Gbps+) per end user
- ▲ Terabit per second scalable system
- ▲ Flexible forward-to-return throughput ratio
- ▲ Low latency MEO (<150msec)
- ▲ Inherent security & flexibility

## O3b **mPOWER** gateways and user terminals

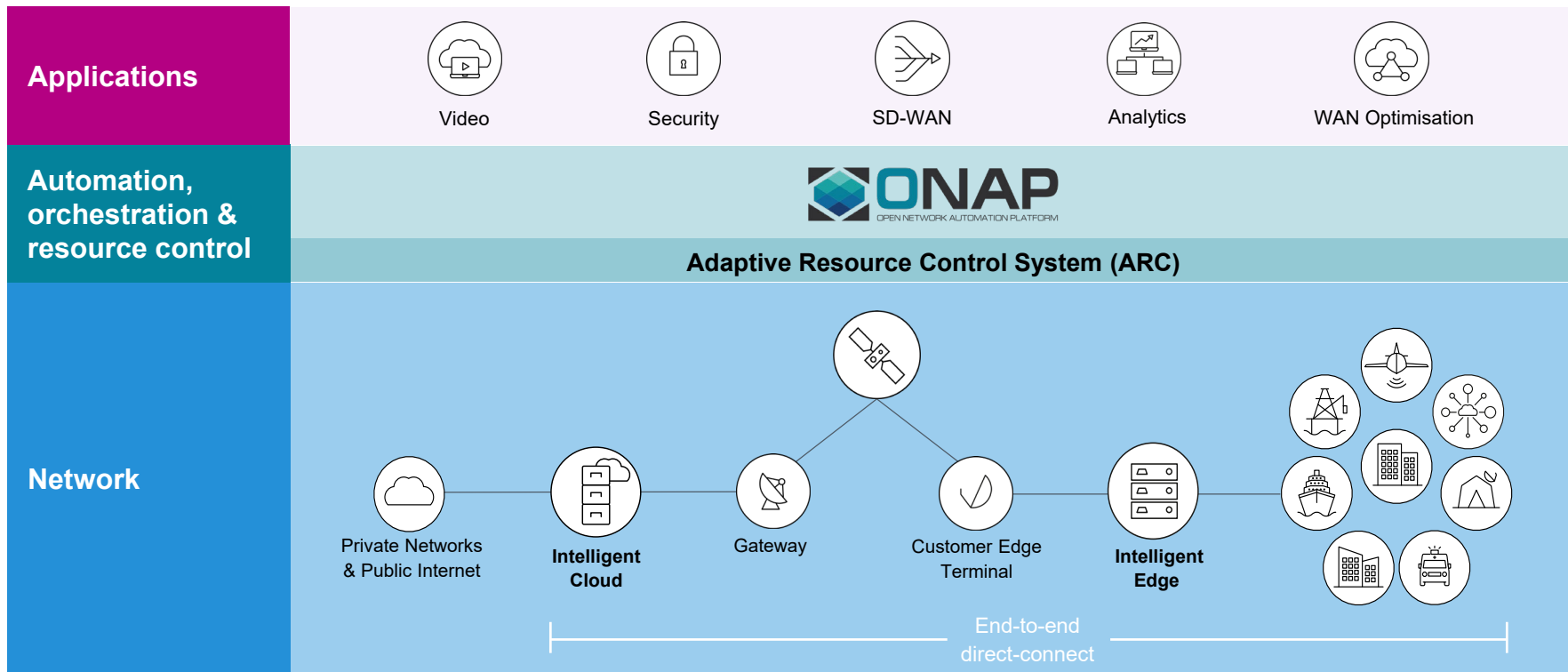
**SES**<sup>▲</sup>

- ▲ Open intelligent gateways, modems & antennas
- ▲ Advancing technologies (smaller, flat panel)
- ▲ High power, spectrum, bandwidth
- ▲ Customer Edge Terminals (CETs)





# ARC Works with ONAP to Optimise Network Resources for Virtualized Network Functions and Applications



# Building the Cloud-Optimised Satellite Ecosystem

What it takes to deliver Cloud Applications anywhere



- ▲ Underserved markets require intelligent cloud and edge solutions
- ▲ Today's satellite services fall short of cloud-scale performance
- ▲ What's needed is:
  - Dynamic low latency high-throughput connections
  - Resilient, secure networks
  - Adaptive software with network transparency
- ▲ O3b mPOWER is optimised for the cloud

We have  
**SUPERPOWERS**

**‘CLOUD-SCALE  
REACH & PERFORMANCE’**

