SES's growth markets:
Global government
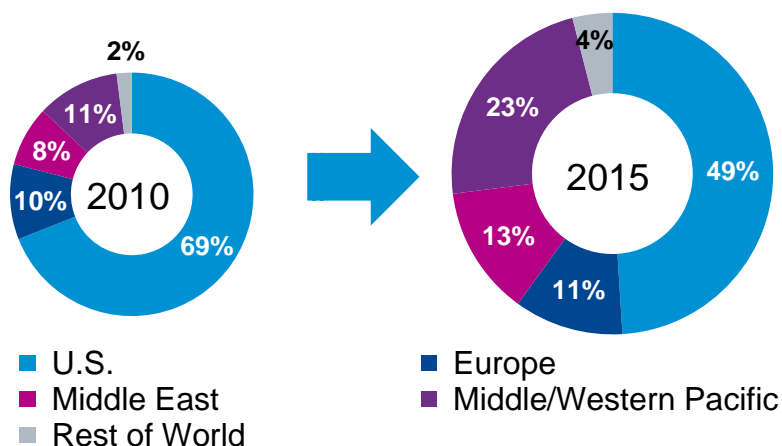
Nicole Robinson, VP & MSC Leader for Government

Global government market perspective

Global government/military capacity growth[1]

	2014	2024
FSS capacity	470 TPE	615 TPE
FSS revenue	USD 0.8 billion	USD 1.2 billion
HTS capacity	2.0 Gbps	82.3 Gbps
HTS revenue	USD 49 million	USD 550 million

Demand for UAV solutions diversifying[2]

2010: 69%, 10%, 8%, 11%, 2%
2015: 49%, 11%, 13%, 23%, 4%

- ■ U.S.
- ■ Middle East
- ■ Rest of World
- ■ Europe
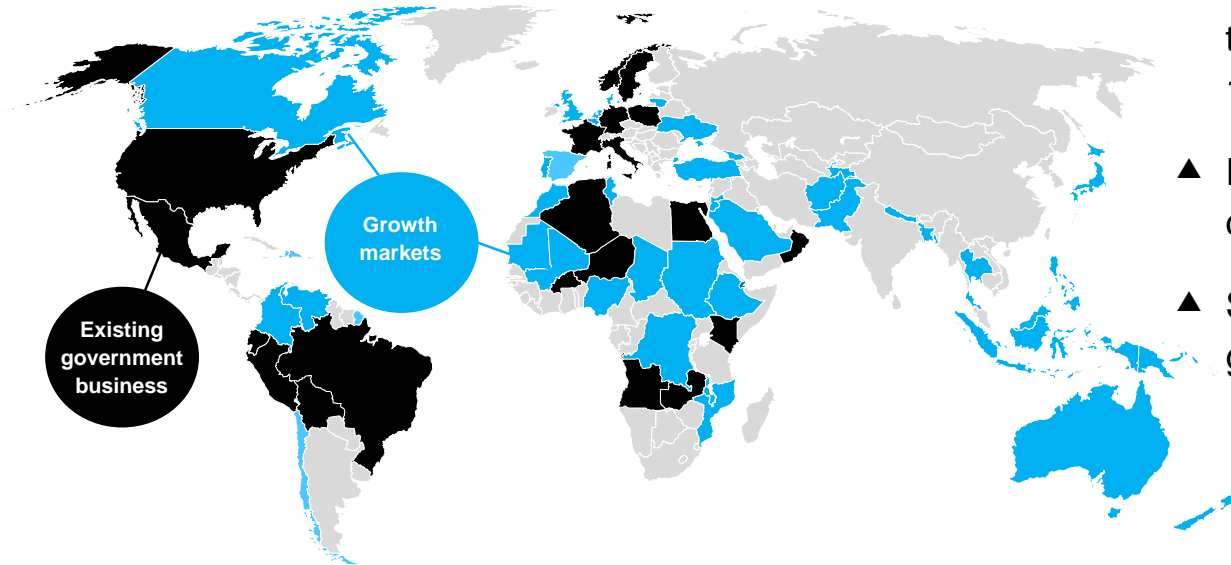- ■ Middle/Western Pacific

1) Source: NSR
2) Source: Teal Group

▲ Diversifying SES's global government portfolio to support growth

▲ Adapting channel strategy to varying procurement systems

- Provision of end-to-end solutions increasingly important for global governments

- Potential for full or partial outsourcing opportunities of national satellite programs

- Establishing a framework for invigorating products and solutions development and market-facing resources within SES to share expertise and maximise results

▲ UAV-ISR requirements a key driver of global government bandwidth demand, fueled by multi-sensor and higher resolution payloads
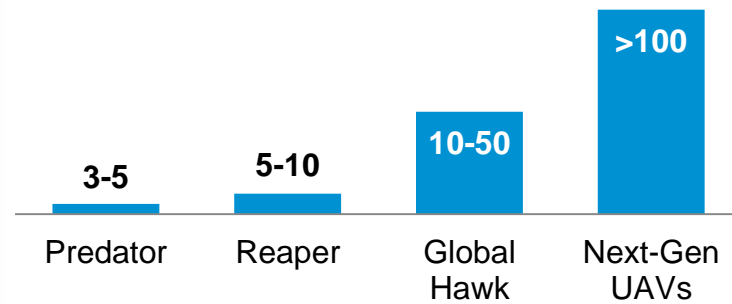
SES's Global government reach

- ▲ Serving 57 government entities today in 28 countries (including 13 U.S. government agencies)

- ▲ International government portfolio doubled from 2014 to 2015

- ▲ Strategic focus on growing in new government markets

Growth markets

Existing government business

Developing a complete ISR catalog

- ▲ ISR a key growth driver

- ▲ SES building a catalog of offerings and expertise globally

Satellite bandwidth required for UAV platforms
Mbit/s

Predator	Reaper	Global Hawk	Next-Gen UAVs
3-5	5-10	10-50	>100

Tier II+ (Group 5)
High Altitude
Long Endurance
(HALE)

NATO Global Hawk: SES is supporting the implementation phase of the Global Hawk program for NATO as well as in the design and development of the system along side Northrop Grumman

U.S. Global Hawk: SES GS supports U.S. Global Hawk training and research missions in the Americas

Tier II (Group 4)
Medium Altitude
Long Endurance (MALE)

Predator XP: SES is working with the one of the first countries to receive the XP in the Middle East

HTS SATCOM Suite: SES is collaborating on the next generation SATCOM suite on board select UAVs to ensure HTS capability

Predator/MQ-9 Reaper: SES supports the Netherlands Reaper program as well as the US Government separately through SES GS

Tier II (Group 4)
Medium Altitude
Long Endurance
- NEW -

New European UAV: SES is working to demonstrate the capability of a new type of Ku/Ka antenna on a brand new UAV platform developed in Europe and recently exported to governments in the region and in the Middle East. New capability will open up additional pipeline for SES

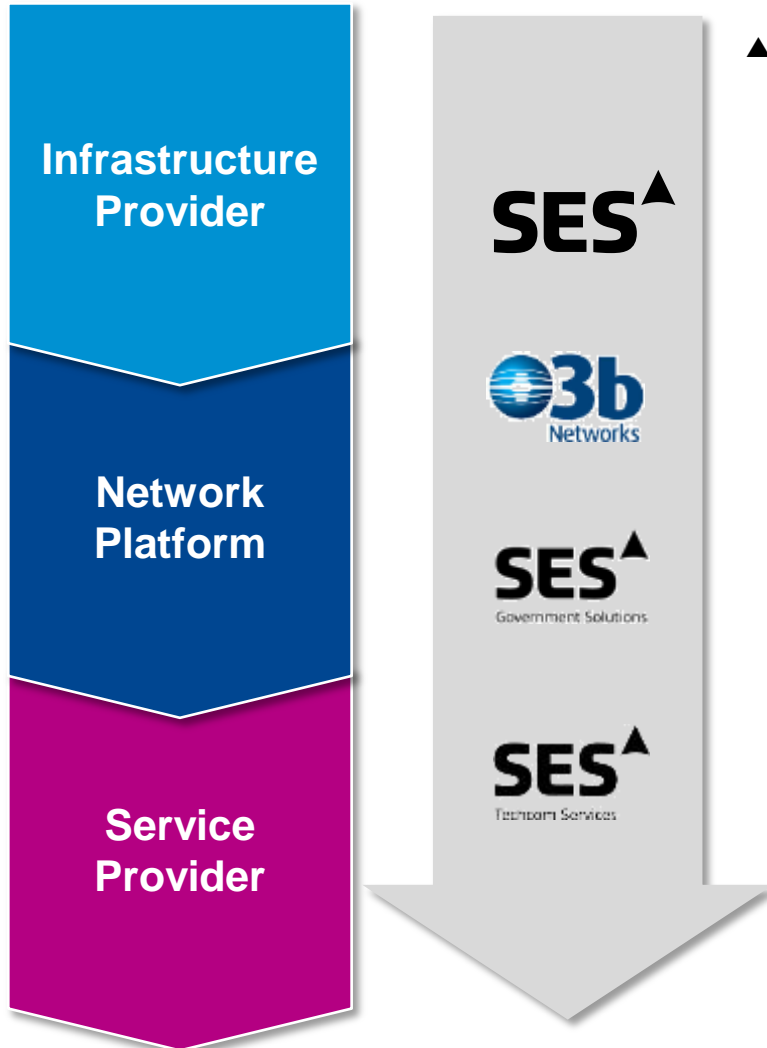**Optionally Piloted**
SATCOM-enabled
ISR aircraft

MASI: SES is working to develop an institutional service in conjunction with industrial partners to SATCOM-enable capabilities such as sea border surveillance, traffic monitoring and piracy from these optionally-piloted aircraft

Persistent Surveillance
Aerostat-based
sensing

Tactical Persistent Surveillance (TPS): SES has developed a SATCOM-enabled surveillance and communications capability via aerostat - portable in tow with 1,000 ft. tether. Ideal for security and first responders

Delivering differentiated, holistic solutions

Infrastructure Provider

Network Platform

Service Provider

SES▲

3b Networks

SES▲
Government Solutions

SES▲
Techcom Services

▲ Delivering scalable solutions from space segment to end-to-end secure network solutions to dedicated satellite design

- **Critical infrastructure**

  Kativik Government: delivering 12 txps of SES capacity to enable critical connectivity for hospitals, government facilities, schools and internet services in the northern Quebec region

- **End-to-end**

  Burkina Faso: enabling secure elections with a network powering biometric voter validation and connectivity to 45 districts

- **Custom satellite and ground solutions**

  EGNOS Hosted Payload: providing European navigation services with two hosted payloads, ground segment and fully redundant ground network

  GovSat1: delivering a military frequency satellite, dedicated for government applications in partnership with the Luxembourg government
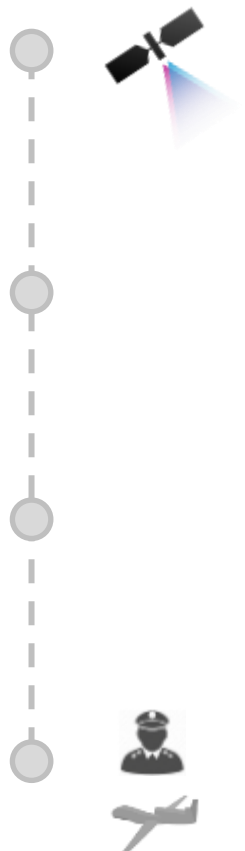
Case study: enhancing connectivity for the Kativik government

▲ Kativik Regional government in Canada awarded SES a contract for the delivery of new satellite services across the northern Quebec region

▲ Displacing long-time incumbent, to deliver critical C-band communications capability to more than 14 remote communities

▲ Tripling the amount of bandwidth currently available across the Nunavik region

▲ Along with providing faster internet and other services to the region, the capability enables essential connectivity for schools, hospitals, government buildings and other important facilities

Shaping the future by innovating at all levels

SES

Space
- ▲ **SES** GEO HTS platform (equivalent to 250 TPEs)
- ▲ **O3b** unique MEO HTS constellation
- ▲ Military frequency satellite GovSat-1 for government missions
- ▲ Five hosted payloads for four government agencies

Platform
- ▲ Protecting live networks to deliver high quality, uninterrupted service for critical communications
- ▲ Developing levels of security that go beyond encryption, masking traffic fluctuations and authenticating terminals

Ground
- ▲ Ensuring telemetry, secure data links and ground systems security for government customers
- ▲ Custom development and delivery of secure ground infrastructure and gateways (i.e. WGS) for government networks

Application
- ▲ Suite of solutions to expand services on UAVs and ISR ground products
- ▲ Health+ and Education+ capabilities to enable first responders and institutional customers in remote regions
- ▲ Secure, end-to-end networks for defence and diplomatic users

Accelerating SES's future-proof differentiation

Three key principles:

Distinct infrastructure to holistic solution

- ▲ Sharply informing fleet development plans to meet growing needs of global government customers (frequency, coverage and throughput)
- ▲ Building products and catalogues of requirements-driven capabilities to deliver complete solutions

Yield management to value management

- ▲ Building each solution with the customer requirement first – mission tailored revealing scalability and flexibility
- ▲ Beyond bandwidth – bundling equipment, services and expertise to add value with more complete solutions

Relevance to resilience

- ▲ Providing global governments with the most resilient network
- ▲ SES's frequent launch pipeline and distributed architecture of hosted payload offerings at GEO and MEO are compelling value propositions to the important mission of resilience for national satellite programs