

# Team SkyGuardian



# Proven Pedigree

- 3.1 million MQ-9 flight hours
- Over 400 aircraft produced
- 22 (soon 36) MQ-9s operated by European NATO allies
- Over 90% system operational availability





# MQ-9B SkyGuardian



**Certifiable  
All Weather  
Over 40 Hours Endurance**

**MQ-9B is the only RPAS that meets Canada's interoperability requirements while seamlessly integrating with Canada's closest Allies**



# Team SkyGuardian Canada



- CAE
  - Employing CAE's core capabilities in Training and Air System Sustainment while providing opportunities for growth into new markets
- MDA
  - Extensive experience in surveillance and intelligence systems in land, maritime, and Arctic
- L3Harris Wescam
  - Advanced EO/IR sensor systems for extreme environments and weather conditions





# Team SkyGuardian Puts Canada First

- Canadian industry involvement in MQ-9 SkyGuardian ensures sovereignty
- Providing industrial benefits across Canada in the growing RPAS market
- Inclusive Team
  - Invitation to large and small companies across all regions of Canada to join Team SkyGuardian



# Real Work Opportunities Now and Future

- More than 2,500 Canadian companies are already working with members of Team SkyGuardian.
- Opportunities
  - EO/IR Technologies
  - Integrated Training & Sustainment
  - Communications
  - Avionics
  - Composite manufacturing
  - Artificial Intelligence
  - R&D
  - Propulsion Systems





# The World's Benchmark

**Over 6 Million total flight hours  
2019 - 639,117 flight hours**



**Every second of every day, 69 Predator-series  
aircraft are airborne worldwide**

**Long Endurance**

**Mission Flexibility**

**Best Value**



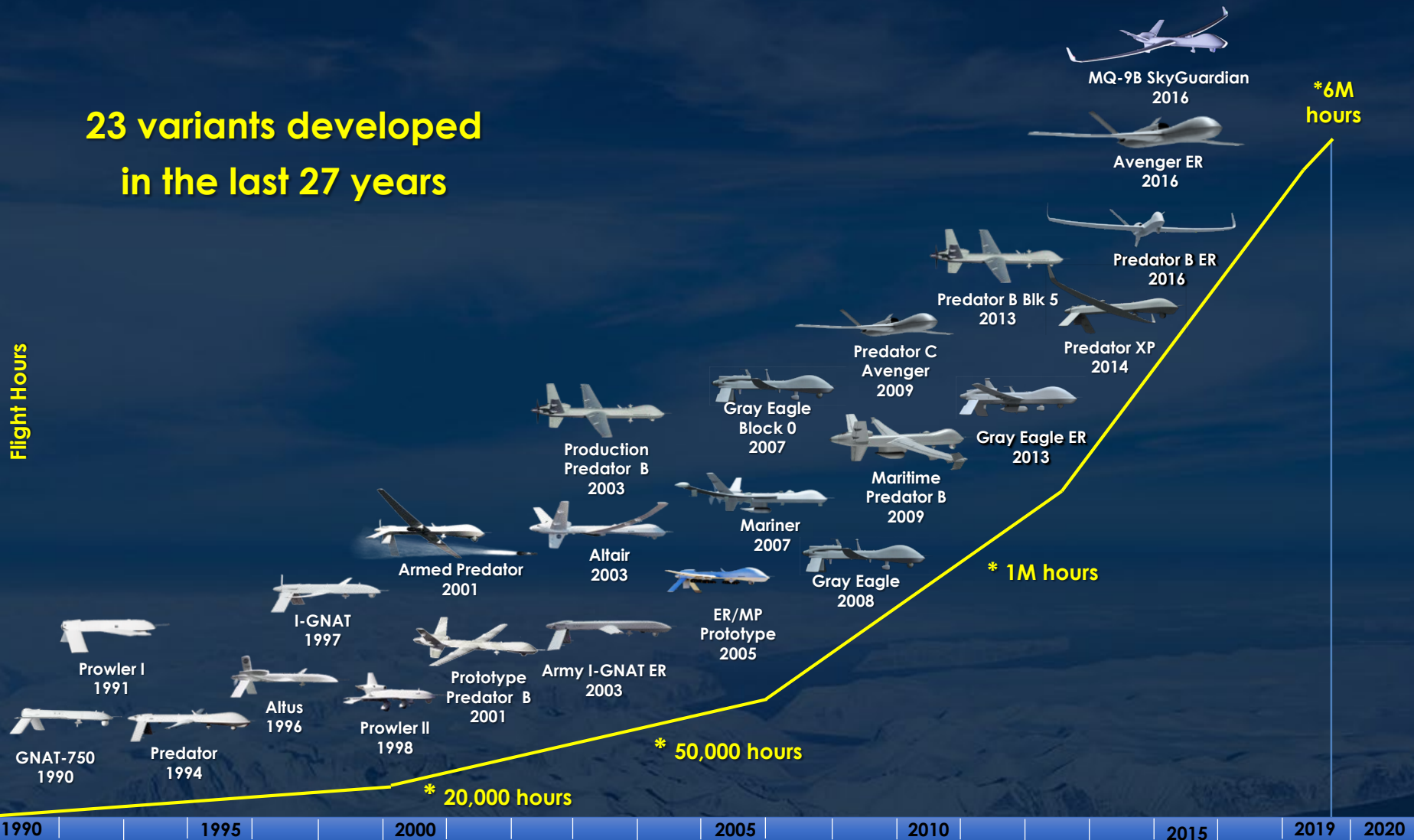


# GA-ASI Company Overview



# Aircraft Growth and Evolution

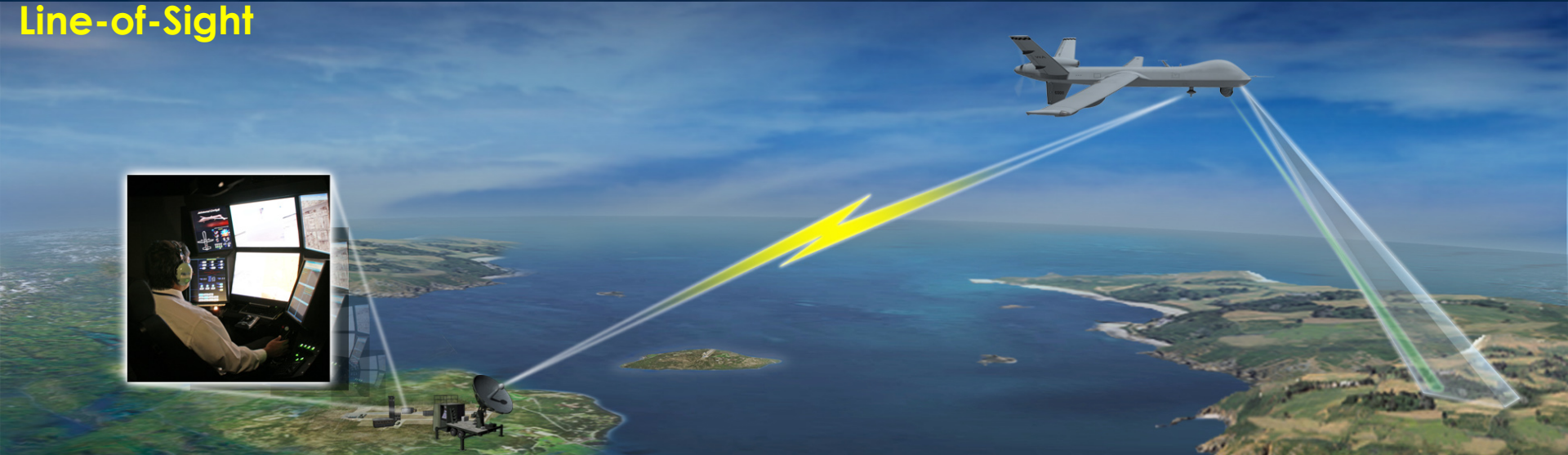
**23 variants developed  
in the last 27 years**



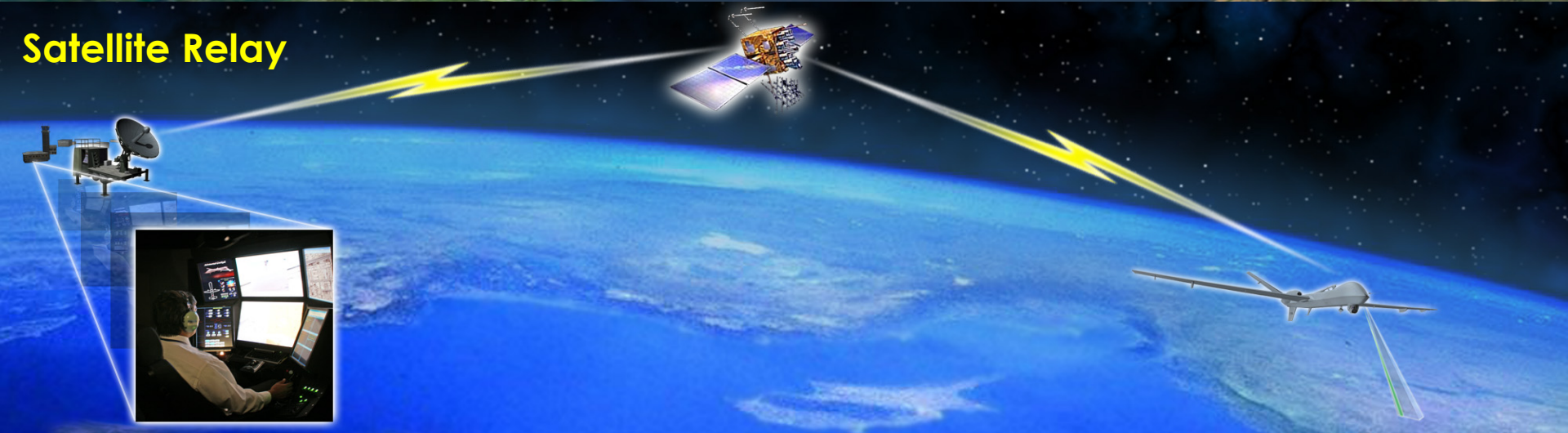


# Worldwide Control

## Line-of-Sight



## Satellite Relay





# Airspace Integration



**MQ-9B SkyGuardian**

**Ikhana**



**Certifiable Ground  
Control Station (CGCS)**

- MQ-9B SkyGuardian/SeaGuardian – Built for Certification
- NASA Ikhana MQ-9A with DAA System



# Aircraft





# GA-ASI Family of Aircraft

**919 aircraft delivered**

**469 GCS delivered**

**647 Lynx Radar delivered**

**6,100,000+ flight hours**

– 90% combat hours

**Worldwide Control**

– Ku-SATCOM data link





# Remotely Piloted Aircraft (RPA) System

C Band Data Link



3-5 Aircraft



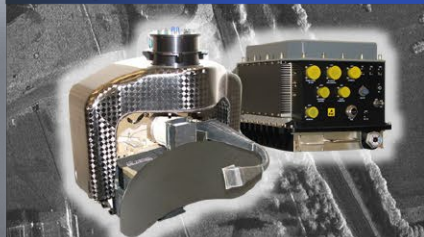
Advanced Cockpit GCS



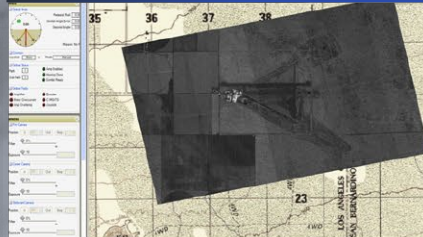
Ku-Band SATCOM Data Link



Lynx Multi-mode Radar



Claw



Ground Support Equipment



# MQ-9B SkyGuardian

- Built for Type Certification
- Designed for NATO airspace
- Compliant with NATO flight certification standards
  - STANAG 4671/UK DEFSTAN 00-970
- 40 hr endurance
- First flight: November 2016



# MQ-9B SeaGuardian



## *Expanding the Versatility of the Predator-series*


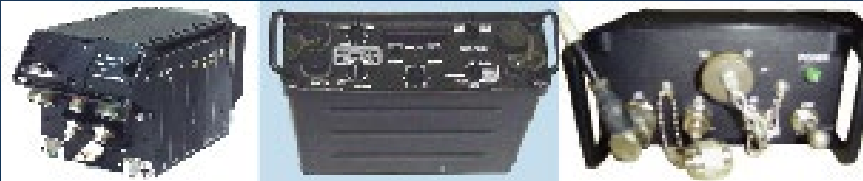

- **Predator-series Maritime Surveillance**
  - Multimode 360° Maritime Radar
- **Anti-Submarine Warfare (ASW) Capable**



# Payloads



# Payloads are Key Systems Integration — Core Competency

Payload Types		System Modes
EO/IR/LD		<ul style="list-style-type: none"> <li>Wescam MX-15, MX-20, M-12, M14TS</li> <li>IAI – TAMAM/MOSP s80/770</li> <li>Raytheon Camera Systems</li> <li>+ Others</li> </ul>
Radar		<ul style="list-style-type: none"> <li>GA-ASI Lynx Multi-mode Radar</li> <li>Raytheon SeaVue</li> <li>Telephonics APS143V#</li> <li>ELTA/EL/M2022A(V3)</li> <li>+ Others</li> </ul>
Comm		<ul style="list-style-type: none"> <li>ARC-210 and Extender Comm Relay</li> <li>RVT Air-to-Air and Air-to-Ground Video</li> <li>Indium Low Data Rate Data Link</li> <li>Harris PRC-117 Radio Relay</li> <li>+ Others</li> </ul>
Specialized and Scientific Sensors		<ul style="list-style-type: none"> <li>Finder Mini UAV</li> <li>CSAR (Personnel Locator Beacon)</li> <li>NASA ACES (lightning sensors)</li> <li>RAF DB-110</li> <li>NASA AMS (wild fire sensor)</li> <li>+ Others</li> </ul>
Classified Programs		<ul style="list-style-type: none"> <li>Numerous Payloads</li> </ul>



# Current ISR Capabilities

## Electro-Optic/Infrared

## GA-ASI Lynx Multi-mode Radar



- Full-motion video
- EO/IR
- Laser illuminator



- Provides wide-area imagery
- Ground Moving Target Indicator
- Maritime Wide Area Surveillance
- Precision geolocation
- All-weather – sees through clouds

# Wide-Area Sensor Capabilities



Complementary cueing sensor suite:

- Wide-area SAR/GMTI radar
- Ground Moving Target Indicator (GMTI)
- Maritime Wide Area Search (MWAS)
- High-resolution EO/IR video

EO/IR

GMTI

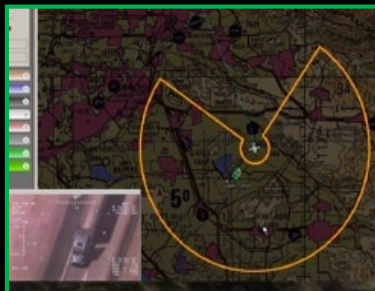
SAR

MMTI

All-weather SAR imagery



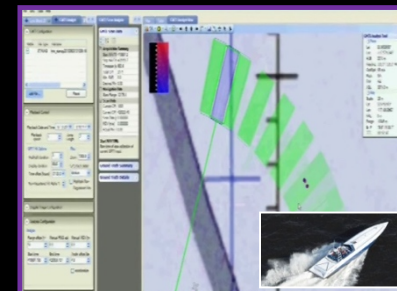
GMTI and EO/IR cross-cueing



EO/IR



MMTI and EO/IR cross-cueing





# Missions



# Payload Capacity = Multi-Mission Capability

Military Operations



Civilian Missions



Border Protection/Disaster Assistance



Maritime Surveillance





# Domestic Border Protection Missions



# Disaster Recovery

## Post-Earthquake Search and Rescue



### Haiti Earthquake





# Disaster Recovery – Firefighting





# Disaster Recovery – Hurricanes and Flooding





# Predator B Maritime Configuration

**Operational with the U.S. Government**

**Universal pod supports Sea Vue/Sea Spray maritime radars**

**Equipped with Automatic Identification System (AIS)**



**Endurance**  
23 hr

**Speed**  
240 KTAS

**Altitude**  
45,000 ft

**Payload Capacity**  
Internal 850 lb  
External 3,750 lb



# Maritime Predator B – Guardian

- Able to detect, track, and identify
  - Military Vessels
  - Commercial Vessels
  - Go-fast boats
  - Life rafts
  - Semi-submersible craft





# GA-ASI Proven Aircraft Systems

- Supporting forces overseas, in homeland defense and civilian missions
  - Military persistence, strike & ISR – land or sea
  - Border security
  - Civilian missions (fire mapping & disaster assistance)
- Expanding mission capabilities
  - Continuing Predator-series RPA upgrades
  - New aircraft and Advanced Cockpit development
  - Advancing sensor technology (e.g. EO/IR, SAR, GPS, laser)
- Providing interoperable RPA capability worldwide