SAAB’S RANGE OF WORLD LEADING PRODUCTS
GRIPEN – **SUPERIOR COMBAT EFFECTIVENESS**

- Airframe
- Communications
- Sensors
- Weapons
- HMI

- Combat Performance
- Reliability
- Maintainability
- Supportability
- Fleet Size

- Availability
- Combat Effectiveness

- Acquisition Cost
- Upgrade Cost
- Life Support Cost

- Life Cycle Cost

4000 Hostile Fighters within 15 minutes
GRIPEN OPERATORS

Sweden
Thailand
South Africa
Hungary
Czech Republic
ETPS
Brazil*
*Contracted 2015

Flight hours
>250,000

Flight hours
GRIPEN – ALWAYS LATEST GENERATION
LATEST GRIPEN UPGRADE
RAPID DEPLOYABILITY

Gripen is designed to remain operational in a high intensity, high-threat environment

- Short take-off and landing
- Operates from ordinary bases as well as standard road surfaces
- Rapid turnaround (Air-to-Air / 10 minutes)
- No specific ground support equipment needed during deployed operations
- Designed for worldwide climate operations

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Standard Runway
(150 x 8000 ft)

Gripen requirement for deployment Runway
(56 x 2600 ft)
OPERATIONAL RANGE
(EXCLUDING AIR-TO-AIR REFUELLING)
CUSTOMISED SUPPORT

With Gripen, each operator is assured a support solution that balances the need for maximum availability and air power with affordable acquisition and operational costs throughout the entire life of the system.

Each support solution is defined and packaged together with Saab to take account of:

- Level of customer self-reliance
- Existing facilities and infrastructure
- Capability at local industry
- Military doctrines
- Operational scenarios
THE **COST EFFECTIVE** SOLUTION

**FLIGHT HOUR COST**

Source:
- Jane's

Includes:
- Operational and Depot level support
- Spares & consumables
- Fuel, oils and lubricants

RAAF F-35A estimated cost over 30 year operational service at 200 hours per year per aircraft

Difference of USN Projected B/C model cost by 2029

Jane's estimated Eurofighter supplies and scheduled maintenance cost. The Eurofighter cost given by UK Parliament appears to cover fuel usage only per hour.
GRIPEN FOR INDONESIA
THE COMBAT EFFECTIVE SOLUTION

- True multi-role combat effectiveness
- Full weapons flexibility/easy integration
- Sovereign air power
- Rapid deliveries and compliant to Law No.16/2012

- Unmatched availability
- System of systems
- Future growth guaranteed
- Lowest operational cost
GLOBAL EYE
WORLD-LEADING PERFORMANCE

- Covering all domains
  - Air
  - Maritime
  - Land
- New radar system – Erieye ER
- New aircraft – Bombardier G6000
GLOBAL EYE EXTERIOR OVERVIEW

- Erieye ER Radar
- IFF/ADS-B
- Data Links
- Self-Protection System
- Satcom
- Voice Communication
- Maritime Surveillance Radar
- AIS
- ESM/ELINT
- EO/IR Sensor
GLOBAL EYE INTERIOR OVERVIEW
THE WORLD HAS CHANGED - NOT ONLY MILITARY TASKS

- Backup of ATC
- Society disaster
- Conflicts
- Network Centric Warfare
- Piracy
- Search & Rescue
- Evacuation/Mass exodus
- Solitary war action
- Drug enforcement
- VIP
- Terror
- Sabotage
- Protect fishing zones
- Refugees
- Guerillas
- Hijack shadowing
- Event protection
- Search & Rescue
- Guinea
- War
INDONESIAN CHALLENGES

1) Air & Maritime surveillance of South China Sea in order to gather military information/intelligence
2) Ship security for transportation and anti piracy
3) Illegal fishing
4) Smuggling and refugees by sea and air
5) Search and rescue support in vast waters and jungle
INFLUENCE OF THE EARTH’S CURVATURE

- Ground based radar cannot detect low level targets at long distances
- AEW&C extends the low level coverage 10 times
- Early warning time is thus increased by 20 min with AEW&C
- Reduce own fighter on CAP – Force multiplier
FORCE MULTIPLIER

Detection line
Decision line
Intercept line

50 100 150 200 NM

Low altitude targets

Your time = < 5 min
Your time = > 25 min
Startup of system ~15 min
Transit time 45 min
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= Total 1 hour
**WIDE AREA SURVEILLANCE**

- Traditional MPA pattern to complete a surveillance area can be slow and inefficient
- Patrol altitude ~2000 feet
- MPA speed ~180 knots
- Sensor coverage 50 km
- Total time to complete area – 7 hours (2400 km / 1300 nm)

GlobalEye surface coverage flying at 30,000 feet greatly increases the MPA efficiency by providing wide area surveillance
ONE SOLUTION
MULTIPLE ROLES

1. AIR
2. MARITIME
3. LAND
GlobalEye will detect, identify and prevent military and civilian threats:

- Illegal fishing, piracy, illegal logging, illegal immigration and drug smuggling
- National border control over land and sea
- Security of national shipping and trade lines

GlobalEye surveillance capability will support:

- Indonesian Armed Forces (TNI-AU, TNI-AL, TNI-AD)
- Indonesian Coast Guard and Maritime Police
- Ministries of Fishery, Energy and Transportation

Saab AEW&C systems are operated by **eight countries**

**Proven - The BIGGEST CUSTOMER BASE in the world**
Industrial Cooperation successfully delivered to more than 30 countries

**Thailand**
- Partnership with local defence industry
- ToT in C2, data links, naval systems

**Czech Republic**
- >1BUSD in export and revenue
- >50 Local companies

**Australia**
- 350 jobs in Saab Centre of Excellence
- Software design & MRO

**Brazil**
- Design Centre as part of ToT programme
- Innovation centre, CISB
- Joint Sweden Brazil Triple Helix projects

**Hungary**
- Job creation in export industry
- EUR700 million and 5% of annual exports

**South Africa**
- Job creation in civil and defence industry
- Flight test and EW Centre

**Korea**
- Cooperation with Korea defence industry
- ToT and cooperation in radar technology
PARTNER IN A HIGH TECH PROGRAMME
CAPABILITY TO DEVELOP, PRODUCE AND MAINTAIN IN BRAZIL

DEVELOPMENT CENTRE
Gavião Peixoto

FLIGHT TEST CENTRE
Gavião Peixoto

AIRCRAFT & AEROSTRUCTURES
PRODUCTION
Gavião Peixoto & São Bernardo do Campo

Systems Integration
Airframe Design & Aerodynamics
Simulation
Maintenance Optimisation
Weapon Integration
Future Fighter Design
BRAZIL PROGRAMME **FULL SPEED AHEAD**

- The technology transfer is divided into over **50 key projects**
- **More than 100** engineers including family members arrived within first year of contract
- Over time, **350 Brazilian engineers** will be trained in Sweden
Industrial Cooperation operates as an integrated part of Saab Business Development

- **The Saab market oriented approach**
  - Utilizes offset as a tool in Saab business development process
  - Operates as commercial risk sharing partner to the projects
  - Once initiated projects grows on their own commercial merits

- **Traditional approach**
  - Forced or subsidized business
  - Fully controlled by defense supplier
  - Dies once obligation is fulfilled

Economic Value

Long term National Economic contribution

Limited National Economic contribution

Offset Obligation

High Saab responsibility and support

High Indonesian industry responsibility and control

Time
SAAB’S OFFER TO INDONESIA

Full compliance with Law No. 16/2012 stipulating industrial cooperation and technology transfer for Indonesia

Saab’s offer will result in the creation of a strong and viable defence industry, with over 1000 qualified job opportunities and university graduates.

**Technology Development Centre** hosting aerospace technologies to enhance the aviation engineering capabilities
- Technology support to the IF-X programme and future system upgrades
- Transfer of advanced radar technologies with acquisition of GlobalEye

**Local production of Gripen in Indonesia.**
Gradual ramp-up of an indigenous capability with the first Gripen squadron

**Indonesian Swedish Innovation Centre**, a Triple Helix model for University cooperation, education in entrepreneurship and innovation management.
- Initial focus areas: Aeronautics, Defence & Security, Infrastructure, Logistics, Transportation
FUTURE AIRPOWER MODEL FOR INDONESIA

- Command & Control data link
- Fighter – fighter data link

Enhanced situational awareness
- Air picture
- Surface picture
- Mission assignments
- Targets (air, surface, ground)
- Threats
- Position, altitude, speed, heading
- Combat status (fuel, weapons,..)
- Text messages
- Pointers
QUESTIONS?
COMPLEMENTARY SLIDES
KNOWLEDGE FROM EXPERIENCE

Almost 80 years of experience

More than 4000 aircraft

1937
SAAB DEFENCE AND SECURITY

SALES

~USD3 billion (2015)

14,700

EMPLOYEES

100

CUSTOMER COUNTRIES

Geographic sales distribution

- AIR: 45%
- LAND: 22%
- NAVAL: 14%
- CIVIL SECURITY: 10%
- COMMERCIAL AERONAUTICS: 8%
HIGHER ADVANCED SENSOR SUITE

- Long range multimode radar
  - Air-to-Air
  - Air-to Ground
  - Reconnaissance
- Electronic warfare system
- Reconnaissance pods
- Precision targeting pods
- Fighter-Fighter data link
- Command & Control data link
- Secure comms and IFF
- Sensor and data fusion
- Advanced Human-Machine-Interface
STATE-OF-THE-ART WEAPONRY

Air-to-Air
- Meteor (Long-range for BVR)
- AMRAAM (Medium-range for BVR)
- IRIS-T (Short-range for WVR)
- A-Darter (Short-range for WVR)
- Sidewinder (Short-range for WVR)
- BK 27 Gun

Air-To-Surface
- Small Diameter Bombs (SDB)
- Guided Bombs (GBU-49, -10, -12, -16)
- Unguided Bombs (Mk 82, Mk 83, Mk 84)
- AGM-65 Maverick
- KEPD 350 (Very long-range for TAURUS various ground targets)
- RBS15 (Very long-range for anti-ship and ground targets)
- BK27 Gun
WORLDWIDE CUSTOMERS

- **Czech Republic Air Force**
  - Leased 12 Gripen C and 2 Gripen D

- **HUNGARIAN AIR FORCE**
  - Leased 12 Gripen C and 2 Gripen D

- **Thai Air Force**
  - Purchased 8 Gripen C and 4 Gripen D

- **UK Empire Test Pilot School**
  - Leased 1 Gripen D

- **SOUTH AFRICAN AIR FORCE**
  - Purchased 17 Gripen C and 9 Gripen D

- **SWEDISH AIR FORCE**
  - Purchased 105 Gripen A and 13 Gripen B
  - Purchased 75 Gripen C and 25 Gripen D
  - Purchased 60 Gripen E

- **Brazilian Air Force**
  - Purchased 28 Gripen NG and 8 Gripen F
ONE SOLUTION MULTIPLE ROLES

• Air, sea and ground surveillance in a single solution

• Can change role dynamically, while airborne during on-going missions

• **Air Domain**
  – 70% longer detection range than previous generation of radar
  – Unique detection of hovering helicopters
  – Jammer resistant

• **Maritime Domain**
  – Detects targets out to the horizon ~400 km
  – Target detection and identification for small targets such as jet-skis and periscopes

• **Land Domain**
  – Long range GMTI and SAR imaging