SAAB HX UPDATE

GRIPEN AND GLOBALEYE FOR FINLAND

WEBINAR PRESENTATION for Finnish media

February 16th 2021



Agenda

- Peter Hultqvist Sweden's Minister for Defence
- Brigadier General Anders Persson
 Deputy Commander of the Swedish Air Force
- Micael Johansson
 President and CEO of Saab
- Magnus Skogberg Saab's Campaign Director, HX programme
- Q&A session with the four speakers





Finnish-Swedish defence cooperation



Peter Hultqvist Sweden's Minister for Defence

REGERINGSKANSLIET



Finnish-Swedish defence cooperation



Anders Persson Brigadier General, Deputy Commander of the Swedish Air Force



THREAT SITUATION

- HIGHLY ADVANCED AIR AND SURFACE
 THREAT SURROUNDINGS
- SWEDEN AND OUR REGION IS OF STRATEGIC GEOGRAPHICAL IMPORTANCE
- AIR-TO-AIR ENCOUNTERS ON A
 WEEKLY BASIS
- NEED FOR HIGHLY CAPABLE DEFENCE FORCES, WITH FOCUS ON TECHNICAL AND TACTICAL SUPERIORITY



NORDIC GEOGRAPHY FROM AIR FORCE VIEW

- South-North direction
- "Better" with East-West
- Finlands long border
- The Baltic sea (The Moat)





FINNISH AIR FORCE AS A STRATEGIC PARTNER

FÖRSVARSMAKTE

GRIPEN – designed for the highly demanding requirements of sweden and our region

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DANGER

AREAS OF COOPERATION

- CAPABILITY AND SYSTEM DEVELOPMENT
- SECURITY OF SUPPLY
- ENHANCED TRAINING AND LOGISTICS

LONG-TERM COOPERATION THROUGHOUT HX LIFE-CYCLE

QUESTIONS?!



FÖRSVARSMAKTEN

Saab overview with Finland in focus



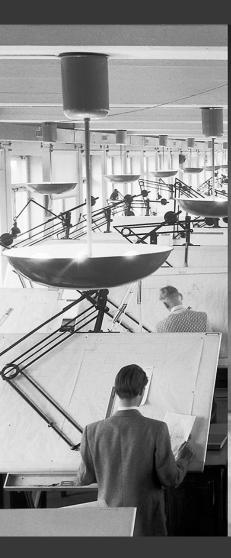
Micael Johansson President and CEO of Saab



Finland - Important partner to Saab

- Established in 1946
- Growth from 70 to 160 employees since 2015 and further recruitments ongoing
- Operations at six locations
 - Helsinki HQ Saab Finland
 - Tampere Saab Technology Centre, Combitech
 - Espoo Saab Research Centre, featuring extensive co-operation with Aalto University, Combitech
 - Turku SQ2020 Programme office
 - Jyväskylä Combitech
 - Säkylä Combitech





Saab was founded in 1937 with the aim to ensure Security of Supply

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More than 80 years of experience and over 5500 aircraft built







Saab's broad portfolio

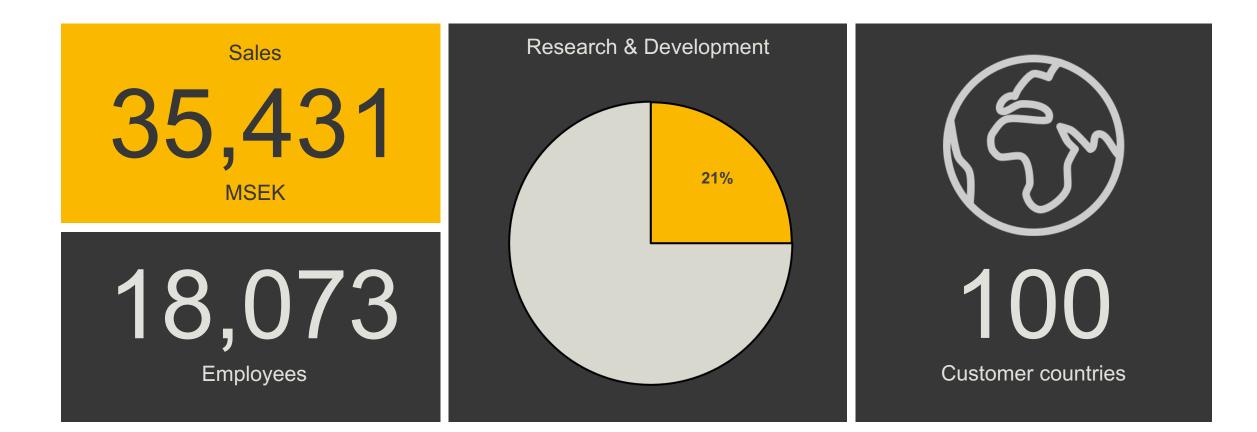








Saab today – 2020





Meeting customers' airpower demand

○ Three programmes in progress

Future Combat Air System (FCAS) ensures Gripen to be operational 2060 and beyond



December 20, 2016 Lead time ~3 years



June 15, 2017 Lead time ~5 years



March 14, 2018 Lead time ~2,5 years



Gripen & GlobalEye for Finland

- Force multiplier
- Long-term commitment to Finland
- Gripen & GlobalEye are designed for the task
- Meeting Finland's needs for Security of Supply

 Securing autonomy and operational relevance over time
- Technology transfer
- Close co-operation with local industry
 - Support and MRO build up
 - No black boxes





Thank you!

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Saab and the HX programme



Magnus Skogberg Campaign Director, HX programme



Supporting the HX Programme

- Saab is committed since years back
- HX evaluations and updated offer in 2020
- Preparing for Best-And-Final Offer in April





A strong HX offer

Highly capable Gripen fighters in combination with the GlobalEye Airborne Early Warning & Control system.

Together they provide a substantial contribution to the joint operational capability of the Finnish Defence Forces



Gripen E/F

GlobalEye

A large number of highly capable fighters with excellent availability and high sortie-generation rate

GlobalEye as a strategic force multiplier for 24/7 surveillance for situational awareness and territorial integrity

- Both systems support advanced co-operative engagement
- ✓ All mission equipment and a substantial weapons package
- Industrial Participation and System Centre establishment for Security of Supply and national independence



Gripen E/F The Game Changer

In an age where software beats hardware and where adaptability beats predictability, Gripen has the capabilities to determine the rules of engagement – from one mission to the next.

- True multi-role
- Designed for the operational context
- Most recent technology
- Future-proof



Designed to defend against a superpower

Present threats: SU30/SU35

- Long ranging sensors and weapons
- High performance platforms
- Great numbers

⊘ Future threats: SU-57

- Adding Low observability (stealth)
- Challenging Ground-Based Air Defence (GBAD) environment: S-400
 - Long range detection and engagement
 - Sensors in a wide spectrum



Designed to defend against a superpower

☑ Information Advantage

- Better sensors and systems than adversary
- Human Machine Collaboration
- Advanced networking

Ability to operate within denied airspace

- to counter advanced GBAD systems
- The best weapons
 with high Probability to Kill

Sorce projection

- superior availability and more aircraft in the air



Gripen E/F The latest available

Based on a proven and mature Gripen legacy With latest available technology inside

- Sweden and Brazil contracts for E/F 2013-2014
- First flight in 2017

- We fly 9G and max supersonic speed
- Testing focus on sensors, weapons, tactical functions
- Eight aircraft in use for test operations at three sites

✓ First deliveries to Brazil and Sweden in 2019

 Deliveries are speeding up and a production plant in Brazil is now also in operation





Joint Test & Evaluation with Swedish customer

Joint Test & Evaluation with Brazilian customer

Choose your weapon

Gripen has the most flexible weapon system on the market. It embraces weapons for all types of missions, from the best suppliers world-wide.

Weapons from the best suppliers world-wide - for all types of missions.

From guided bombs for precision strike, to long-range air-to-air and heavy antiship missiles.

High flexibility for efficient integration of new weapon systems to affordable cost.





An Electronic Warfare (EW) system designed to ensure Gripen avoids detection, acquisition, tracking and guidance. Gripen was created to get close, engage, attack, and evade.

⊘ World-Class 360° Self-Protection

- Radar Warning Receivers, Missile Approach Warning System (MAW) and internal jammer
- Active Electronic Countermeasures
- Chaffs, hot chaffs, flares and active decoys

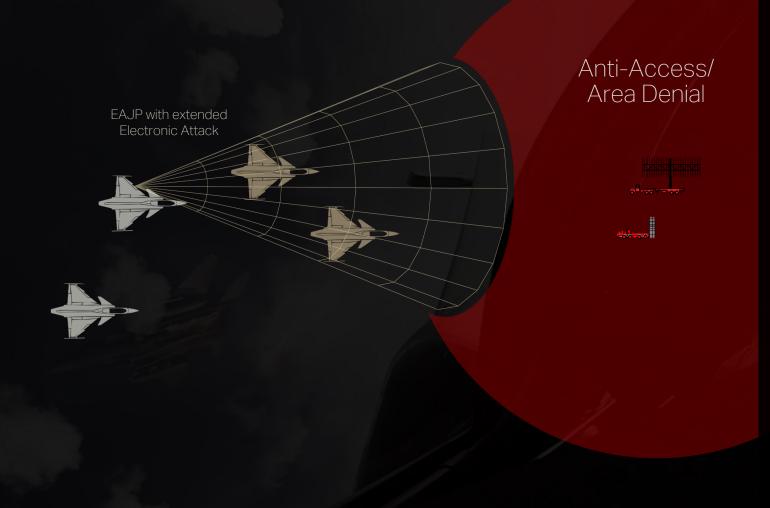
Powerful Electronic Attack

- Suppression of Enemy Air Defence (SEAD) systems, without specialised platforms
- Built in with on-board EW system and may be complemented by jammer pods and decoys.



Anti-Access/ Area Denial



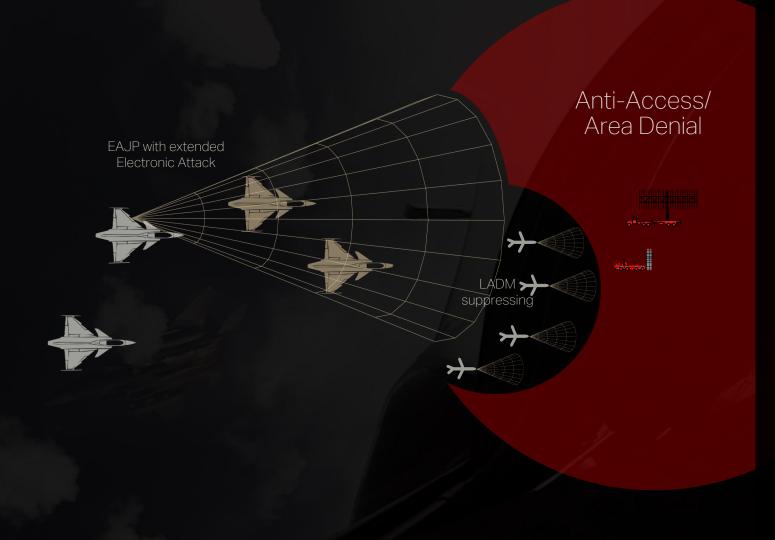




Electronic Attack Jammer Pod, EAJP A highly capable escort jammer

Additional jamming capability to the on-board EW system - increased frequency range and higher output power







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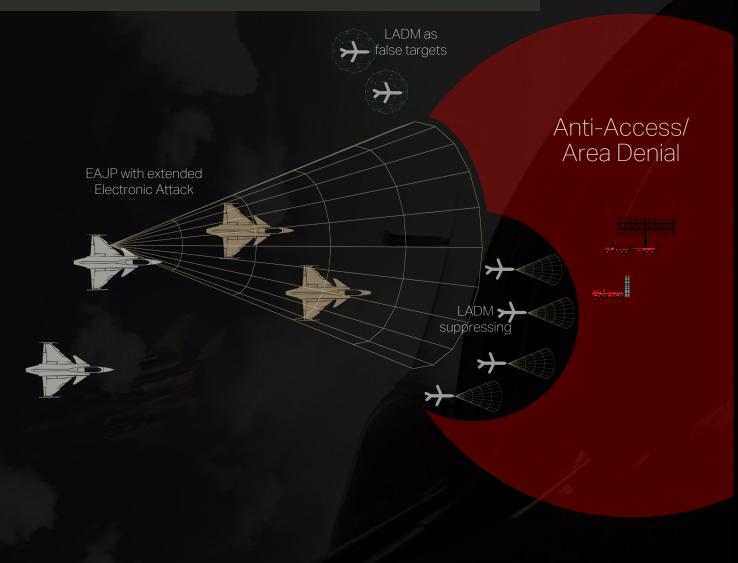


Air-Launched Decoy Missile system, LADM A highly capable stand-in jammer

Additional jamming capability to the on-board EW system - tactical jamming flexibility for e.g. increased saturation, false targets



Survivability and Offensive Electronic Warfare Capabilities





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Born to be Airborne

Air bases are obvious, primary targets in any conflict and often among the first to be neutralised. This does not take Gripen out of the fight.



Optimized for high tempo in harsh conditions

Built for easy maintenance and conscript mechanics

Unbeatable combat turn-around in 10-15 min

☑ Designed for dispersed combat operations

- Short take off and landing
- No fixed installations required
- Can operate from unprepared roads







Always Combat Ready

Gripen availability and maintainability translates into more aircraft in the air, enabling air superiority. Designed for high availability and maintainability

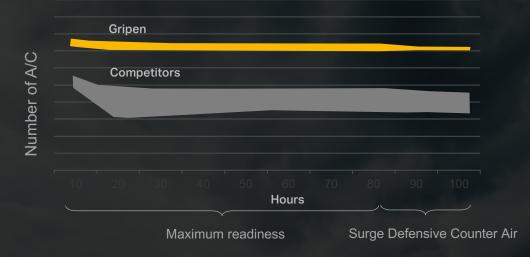
⊘ Availability

- 9 hours Mean time between failure (MTBF)

⊘ Maintainability

- 3 hours Mean time to repair (MTTR)

Gripen projects force with many fighters in the air, i.e. Front-line Availability





Adapt fast and stay relevant

The key to modern warfare is rapid adaptability - maintaining technological superiority over the adversary.

☑ Game changing avionics system

- Flight-critical s/w separated from mission functions

Adapt to new needs with Software Applications Add or change tactical functionality

 \odot What took months or years, now takes weeks or days

✓ Continuous capability growth

- not traditional Mid-Life Upgrades (MLUs)



The latest Airborne Early Warning & Control system from Saab.

Building on 25 years of AEW&C experience and 60 years of advanced radar design



- Provides vital intelligence for FDF all domains
- Provides extensive pre-warning time for firststrike survivability
- Off-loads the HX fighters for max availability
- Mission time well above 11 hours



The latest Airborne Early Warning & Control system from Saab.

Building on 25 years of AEW&C experience and 60 years of advanced radar design Ground based radars cannot detect low-level targets at long distances

200 km

0 km

400 km



The latest Airborne Early Warning & Control system from Saab.

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GlobalEye extends the low level coverage 10 times, providing +20 minutes pre-warning

400 km

200 km

0 km

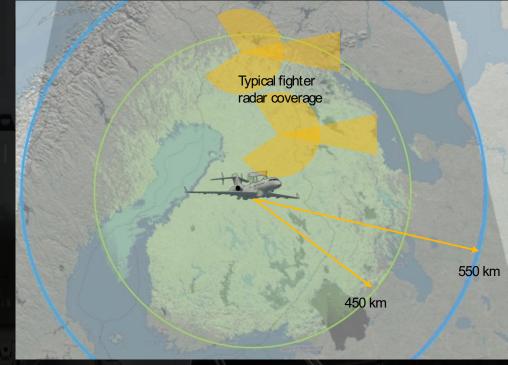
The latest Airborne Early Warning & Control system from Saab.

Building on 25 years of AEW&C experience and 60 years of advanced radar design GlobalEye coverage is beyond comparison

Sensor range of >550 km

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Low altitude coverage out to ~ 450 km



Sensor coverage when operating at >35 000 feet



Security of Supply

We establish extensive national capabilities to support in-country operation, sustainment and capability growth over the lifecycle.



- Sor Availability
 - Extensive Support capabilities in co-operation with local industry

Sor Operational relevance over time

• A Gripen and GlobalEye System Centre for in-country sustainment and development



Industrial Participation

An extensive Industrial Participation programme is offered to ensure establishment of national capabilities to operate and keep the systems relevant over time.

Direct IP – Connected to the HX programme and Security of Supply

- MRO capabilities
- Engineering Support and sustainment
- Integration to Finnish infrastructure/systems

Indirect IP – Strengthen Finnish Defence Industries in areas critical for total defence

 E.g: C4ISTAR, Cyber, Advanced Materials, Manufacturing Capabilities (AM), Artificial Intelligence (AI), Autonomy

Actively worked with HX IP since 7+ years and dialogue with 50+ companies

Focus on direct IP and FDF strategic partners



20 companies directly engaged in IP Programme



Industrial Participation

An extensive Industrial Participation programme is offered to ensure establishment of national capabilities to operate and keep the systems relevant over time.

Direct IP 50+ projects

- Systems capabilities / System Centre
 ≈ 35 projects
- Production and final assembly 5 projects
- Aircraft and engine MRO capability ≈ 15 projects

Indirect IP 60+ projects

- C4ISTAR and Cyber ≈ 30 projects
- AI, Machine Learning, Autonomy
 ≈ 10 projects
- Advanced Materials and Manufacturing ≈ 20 projects

9 projects started and approved

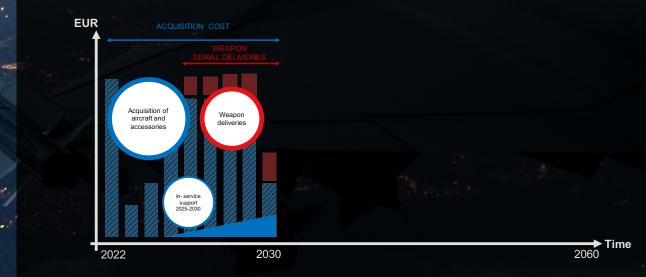


Affordability

Budget stability

We don't like surprises. Neither do our customers. Budget stability and budget predictability is a key factor for us, for our customers, and for the citizens of nations protected by Gripen.

< 9,4 BEUR for Gripen, GlobalEye and weapons acquisition</p>



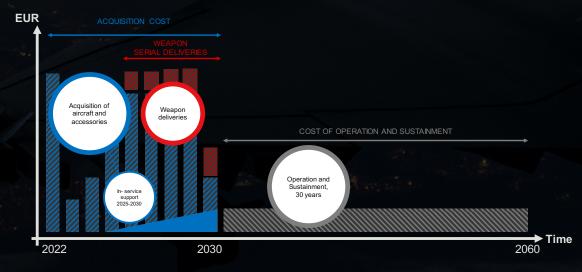


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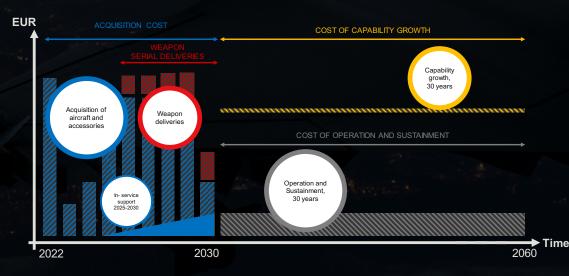
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Estimated 2 BEUR enables substantial capability growth throughout the lifecycle, thanks to our unique design





Gripen & GlobalEye The perfect match for Finland

Gripen meets the operational needs
– GlobalEye is a strong force multiplier

Unbeaten cost efficiency – max. operational effect for the budget

Extensive Security of Supply

- in close co-operation with local industry

Timing is perfect

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- Latest available technology on-board proven platforms

Long-term commitment for Finland





GLOBALEYE THE FORCE MULTIPLIER

THE SMART FIGHTER





