GRIPEN NG FOR THE NETHERLANDS

EXECUTIVE OVERVIEW
Gripen International is pleased to present a comprehensive response to the Royal Netherlands Air Force (RNLAf) F-16 fighter replacement Questionnaire. Our solution provides:

Eighty five (85) fully compliant NATO interoperable Gripen Next Generation (NG) multi-role fighter aircraft with unrivalled availability, tailored for the future Net Centric Warfare (NCW) operational environment. In addition, we offer a support solution that includes optimised key functions such as maintenance, training, supply and clearly defined support resources.

We believe in partnership of equals and offer the Netherlands direct involvement in the Gripen continuous development programme guaranteeing future growth. With full support from the Swedish Government and international cooperation with other NATO nations and Gripen users, Gripen offers a weapon system designed to ensure ease of deployment with European and US weapons flexibility. Thereto, we offer cost effective integrated logistics support.

Choosing Gripen offers significantly lower acquisition and operational costs as well as access to a government supported finance package over 10 to 15 years, with deliveries to the Netherlands from 2015. Our offer includes 100% industrial cooperation that maximizes the use of Dutch defence equipment and technology as well as transfer of technology.

In summary, Gripen fulfils all Dutch requirements and will keep the RNLAf at the leading edge of military capabilities through 2050. Gripen is a balanced system solution combining the very best equipment at an affordable and known Life Cycle Cost including acquisition cost.

Johan Lehander
Managing Director
GRIPEF INTERNATIONAL
GRIKEN NEXT GENERATION – A Multi-Role Fighter For The Multi-Role Force
A COMPLETE SOLUTION

The solution described in the response is fully compliant with the RNLAF operational requirements. The key elements can be summarized as:

WEAPONS SYSTEM

Weapons including new generation European and US NATO compatible weapons.

Fully integrated advanced sensors and weapon fusion, including AESA based radar and IRST.

A high level of survivability achieved through a balance between a low signature and a highly advanced modular Electronic Warfare and Self-Protection system with built-in growth potential.

OPERATIONAL USE

A fully NATO interoperable multi-role fighter with the range, payload and built-in Net Centric Warfare capability to meet the roles as defined by RNLAF; national, regional and global expeditionary.

Outstanding proven inherent operational availability at a substantially reduced operating cost.

Optional two-seat aircraft that provides future flexibility through the support for the “Airborne Battle Space Commander” concept.

COMMERCIAL

Credible acquisition costs based upon firm orders and known programme timescales. Actual operational costs that are significantly lower than the known, or predicted, operating costs of alternative platforms.

LOGISTICS & TRAINING

The proposed logistics concept maximizes the advantages of commonality of equipment with other Gripen User Air Forces in a Gripen Partnership Air Force Programme (GPAP).

A flexible training programme for pilots, technicians and others that balances the use of synthetic training aids and the aircraft to maximize the training benefit and to minimize costs.

FUTURE ENHANCEMENTS

A ‘low risk’ platform with ample future growth capability and guaranteed enhancements available through continuous development.

Fully funded ongoing development programme.

INDUSTRIAL COOPERATION

Genuine commitment to delivering real industrial cooperation in high defence technology areas. Industrial Cooperation equivalent to 100% of contracted value.

Meets all of the RNLAF operational requirements

The most cost effective proposal compared to the competition

Leading edge Net Centric solutions

An effective and flexible logistics support solution delivered through the Gripen Partnership Air Force Program (GPAP)

Future enhancements guaranteed

Industrial Cooperation equivalent to 100% of the contracted value
Gripen Next Generation (NG) is an enhanced version of the already proven Gripen true multi-role fighter that has an unbeatable availability and is tailored for the Net Centric Warfare (NCW) environment of the 21st century. The continuous development process is based on flexible and iterative development, modular design and the management of available growth potential and new technology.

Technology insertion will continue throughout the service life of the aircraft through 2050.
The RNLAF will derive substantial benefit from the fact that Sweden and other customers’ governments are committed to keeping the Gripen at the leading edge of technology through their investments in a continuous development programme.

Gripen NG is an enhanced version of the already proven Gripen true multi-role fighter that has unbeatable low acquisition, operation and support costs.

The Gripen continuous development programme covers major sensors, avionics, data communication, propulsion and self-protection systems and will negate the need for costly mid-life update programmes in the future.

As one of the major users of Gripen, the Netherlands will have the opportunity to be actively involved in future enhancements, updates and development programmes in partnership with other Gripen users. Functionality upgrades is performed every three years and minor software upgrades performed every year to ensure that Gripen remains at the leading edge of technology through 2050.

Gripen NG will have a completely new avionics systems structure which will guarantee over 50% spare computing capacity and 30% spare capacity in the major aircraft systems.

The new avionics structure makes it very easy and cost-effective to incorporate new functionality or integrate new hardware which in turn ensures that Gripen maintains its world beating capability throughout its service life.

Designed to maintain operational superiority against present and future threats
Continuous development through a government funded programme
Built-in growth capacity
Dutch involvement in future enhancement requirements and programmes
INFORMATION DOMINANCE

NEXT GENERATION FIGHTER AIRCRAFT

Gripen was the first of the new generation aircraft to enter full operational service utilizing many technologies that have yet to be integrated into other new generation aircraft; some of which have yet to enter service. This operational experience has been implemented during the design of Gripen NG.

Inherent state-of-the-art Net Centric Warfare (NCW) capabilities makes Gripen NG interoperable with all operational elements and Command & Control nodes of the national and international force structures.

From the outset, Gripen was designed to undertake air-to-air, air-to-surface and reconnaissance missions. Gripen NG includes Air-to-Air refueling, increased internal and external fuel providing extended range.

Flexibility is further enhanced by an increased weapons carriage capability.

Gripen NG gives an operational capability above and beyond current RNLAF F-16s and fulfills all defined requirements for future operational environments.

Achieving More Through Advanced Technology

Gripen design heritage incorporates the latest aerodynamics, new materials, advanced production technology and integrated computer systems.

Gripen NG features advanced sensors/sensor fusion, weapons and systems. The result is a weapon system with the highest levels of effectiveness across all roles.

Superior Situation Awareness

Gripen NG has a superior cockpit interaction and adopts a ‘don’t need don’t show’ principle, which reduces the pilot’s workload and enhances operational flexibility and situation awareness.

The air-to-air data link enables data to be shared between Gripen aircraft in the air and on the ground. Link 16 and SatCom expands existing net centric capabilities and maintains superior situation awareness. Sweden has used datalinks in the Air Force since the 1960’s and continues today to be the world leader in the area.

A true multi-role/swing-role aircraft in operational service

Latest state of the art sensors, weapons, tactical data links and sensor fusion

Further increased internal and external fuel, range and payload compared to the current Gripen C/D

Cockpit interaction and data link enhances operational flexibility and superior situation awareness

Tailored for the future Net Centric Warfare operational environment
OPERATIONAL DOMINANCE AND FLEXIBILITY

Outstanding Air-to-Surface Capability

In support of NATO or other coalition operations, Gripen’s offensive capability is achieved by the use of advanced precision-guided weapons, targeting sensors and tactical data links.

In the air-to-surface role, Gripen’s range of modern precision weapons ensure Gripen is highly effective in a wide range of missions, including Close Air Support.

This capability is further supported by a highly effective tactical reconnaissance capacity using the advanced high resolution Synthetic Aperture Radar (SAR) technique available in the advanced Active Electronically Scanned Array (AESA) radar, various optional sensor pods, and the IRST.

The continuous development of the weapon system includes integration of all of the RNLAF defined future air-to-surface stores.

Dominant Air Superiority

Whether supporting NATO, regional or expeditionary operations, or operating in a Dutch national defence role, Gripen’s excellent Beyond Visual Range (BVR) operational capability is achieved through its highly integrated weapons system, the radar, data link systems, and advanced BVR missiles.

At close range, the operational capability of Gripen is assured by unrivalled aircraft agility coupled with highly effective advanced short-range missiles.

Combining highly agile weapons with the Gripen AESA radar, Helmet Mounted Display (HMD), IRST and the aircraft’s inherent agility, produces a formidable and unbeatable air power solution.

The highly advanced fully integrated Electronic Warfare Suite provides self-protection and extensive electronic counter-measures capability. This, when combined with the low visible, IR and Radar cross-section characteristics, provides Gripen with outstanding Survivability.

Powerful AESA technology based radar
Wide range of highly effective precision guided weapons
Highly effective in Close Air Support
Integration of latest European and US weapons
DESIGNED FOR EASE OF DEPLOYMENT

One of the cornerstones of Gripen’s design is its ease of deployment to Forward Operating Bases (FOB) or short satellite strips that have minimal support infrastructure and facilities.

With the proposed logistics package, that enables on-aircraft maintenance to be performed with a minimal amount of ground support equipment and personnel, Gripen NG is ideally suited for international operations.

NATO compatible and cleared for use worldwide, Gripen is ideal for global expeditionary and multinational operations. Key features which will enable Gripen NG to support the RNLAF global expeditionary roles are:

- Extremely high reliability, testability and maintainability along with superior supportability
- An on-board Auxiliary Power Unit (APU) that provides the aircraft with on-ground electrical and hydraulic power
- A minimal logistics footprint resulting in reduced cost to support deployed operations
- The ability to take-off and land on a 17m x 800m strip during all weather conditions, day and night
- Rapid turnarounds with fewer personnel – one technician and five flight line mechanics can turnaround the aircraft including re-armament in under ten minutes
- More time in the air and less time on the ground – higher levels of sustained operations than its competitors

An effective and flexible logistics support solution
Fully NATO interoperable
Minimal logistics footprint
Fully supports RNLAF expeditionary role
Gripen is Operational in NATO Today
The Gripen NG proposal to the Netherlands is fully supported by the Government of Sweden, the Swedish Air Force and Swedish industry. This support will provide the following benefits to the Netherlands:

- Training of aircrew and support personnel in Sweden
- A maintenance concept that maximizes the close geographical proximity to Sweden and other European Gripen Operators
- Opportunities for continued training with the Swedish Air Force.
- Access to Saab’s and the Swedish Air Force’s extensive training facilities, and firing ranges.

Gripen is already operational in Sweden, the Czech Republic and Hungary. Deliveries to the South African Air Force have started, and will start to Thailand in 2010. Gripen will remain the backbone of these Air Forces for the next 40 years.

Gripen NG is being evaluated by a number of NATO nations such as Norway, Denmark, Canada, Greece, Romania and Bulgaria and is expected to be operational in an increased number of countries worldwide by 2015 and will therefore provide significant international co-operation opportunities.

Full support from the Swedish Government, Air Force and industry

Long-term support for the RNLAF Gripens

Shared logistics and future integration costs reduced

Access to the Gripen User's Group

An increased number of NATO Gripen operators expected by 2015
As a result of considerable improvements in reliability and maintainability, Gripen has a high level of availability and sortie generation rate.

In addition, Gripen's modern diagnostics and test system have substantially reduced the time, personnel and equipment needed for fault localization.

Through optimized supportability and our responsive supply service, Gripen offers competitive Life Support Cost (LSC) resulting in significantly lower projected LCC over 40+ years of operation.

With experience from over 100,000 flight hours, current Gripen users have proven the unbeatable Life Cycle Cost of Gripen, which will be further improved in Gripen NG.
GRIPEN INDUSTRIAL COOPERATION
- A PROVEN TRACK RECORD

**COMMITMENT**

Gripen International, through Saab AB, guarantees to deliver more than 100% of the contract value.

Gripen International, through Saab AB and the Swedish Government, offer a significant partnership on Gripen which gives Dutch industry direct involvement in the Gripen programme including the option of Final assembly.

**GRIPEN PARTNERS**

The companies directly involved in the Gripen program are among others Saab AB, General Electric, Thales and Honeywell. Together with the Investor network they will provide substantial opportunities for Dutch industry across a wide variety of businesses.

**TRACK RECORD**

Saab AB has a track record from more than 20 countries and has always succeeded to fulfill industrial cooperation commitments, as proven in for example, the Netherlands, Denmark, Hungary, Czech Republic, South Africa and Norway.

In the Netherlands, Saab has cooperated with over 90 Dutch companies directly or through industrial networks, with an offset delivery of 181 MEUR to date.

**INDUSTRIAL NETWORK**

Saab’s major shareholder, Investor AB, is the Nordic region largest industrial holding company. The company creates value through long-term committed ownership and active investments. Investor is a leading shareholder in companies such as Saab, Ericsson, AstraZeneca, Electrolux and Atlas Copco. The annual turnover of the Investor group is more than 140 Billion USD.

Real benefits to the Netherlands with more than 100% industrial cooperation for Dutch defence and civil industry guaranteed

Substantial direct participation in the Gripen programme

Saab AB has a proven track record – We keep our promises

Industrial cooperation supported by a powerful international network
COMPREHENSIVE CUSTOMIZED SUPPORT AND TRAINING

The proposed logistics concept maximizes the advantages of commonality of equipment with other Gripen User Air Forces in a Gripen Partnership Air Force Program (GPAP), and includes:

- A cost-effective two-level maintenance concept
- A tailored initial logistics package that will be delivered to the Netherlands in a time-phased manner to match the aircraft build-up in country
- A ‘Repairables Exchange Service’ that will reduce the initial spares inventory and result in rapid repairs at a fraction of the cost of alternative solutions
- Technical publications, access to drawings, and interfacing management functions that are compatible with commercially available SAP R3 Enterprise Resource Planning (ERP) networks
- Mobile and multi-purpose ground support equipment that reduces costs and eases deployment

Gripen’s training concept is based upon a safe and cost-effective approach and includes:

- Conversion training of pilots in Sweden up to a ‘mission ready’ level
- Training of technical personnel in Sweden
- Continued training for both Aircrew and Technical personnel
- Supply of synthetic training aids to support the initial training and subsequent indigenous RNLAF training requirements
- Opportunities for international cooperative training with other Gripen users
APPROACH TO INDUSTRIAL COOPERATION

Saab’s approach to industrial cooperation covers a broad range of long term sustainable business activities focused not only on the product itself but on delivering investment, technology transfer, manufacturing, technical support, training and scientific co-operation beneficial for the Dutch industry and for the Netherlands in general.

The Gripen industrial cooperation package aims at:

- securing Dutch industrial participation at an early stage of the development of the next generation Gripen
- increased Dutch capability in international aerospace and civil aviation.
- with Dutch industrial partners become truly competitive on the future international as well as joint home market
- increasing general industrial cooperation through Saab industrial network, not limited to defence

INDUSTRIAL COOPERATION AREAS

- All core avionic systems software and documentation for the Gripen, including access to source codes
- Production of Gripen parts and assemblies
- Establishment of Gripen maintenance and support capabilities
- Reconnaissance, Electronic Warfare and sensors for the international market
- Command & Control Systems including Civil security
- Energy, Environment and R & D
- Off-shore industry
Gripen International will deliver Gripen to the Netherlands beginning 2015 through to 2021. Training of pilots, technicians and other personnel will commence in 2015. This training, together with the necessary logistics package and operational and support equipment will be time phased delivered in accordance with the aircraft deliveries.

**SMOOTH TRANSITION INTO OPERATIONAL SERVICE**

85 Gripen NG delivered from 2015 to 2021

Smooth transition into the Royal Netherlands Air Force

Pilot and maintenance training available in Sweden

Time phased delivery of logistics package and operational and support equipment

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ACQUISITION AND OPERATING COST

The Gripen NG solution meets the operational requirements of the RNLAF, delivers true multi-role capability and state-of-the-art technology.

Owing to its outstanding reliability, maintainability and supportability Gripen will deliver at the most affordable acquisition and operational costs, compared to the known or predicted costs of alternative platforms.

Gripen’s credible and fixed acquisition cost is based upon firm orders and known programme timescales. For the Netherlands, this would imply significant cost savings over 40+ years of operation in comparison to alternative platforms.
SUMMARY – GRIPEN FOR THE NETHERLANDS

- Meets all of the RNLAF operational requirements
- Unbeatable low acquisition, operation and support costs
- Net Centric Warfare capabilities delivering Strategic Reach
- Designed for ease of deployment delivering exceptional capability in normal and high tempo operations
- 100% offset guaranteed
- Transfer of Technology with unrivalled access enabling autonomy and increased national security
- Cooperation with other Gripen Users.
- Fully supported by the Swedish Government and the backing of world leading defence industrial partners