



KONGSBERG



**NASAMS**  
Air Defence System

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# WORLD CLASS

- through people, technology and dedication

Kongsberg Gruppen ASA (KONGSBERG) is an international technology corporation that delivers advanced and reliable solutions that improve safety, security and performance in complex operations and during extreme conditions.

KONGSBERG is a customer focused organization with a worldwide performance culture. KONGSBERG works with demanding customers in the global defence, maritime, oil and gas and aerospace industries.

# EXTREME PERFORMANCE FOR EXTREME CONDITIONS





## NASAMS

### - The Network Centric Air Defence System

NASAMS is the world's first operational Network Centric Medium Range Air Defence System. Its unique features with net centric architecture, multiple-simultaneous engagement and beyond visual range (BVR) capabilities, closely integrated and adapted to a country's adjacent weapons and command and control systems, expands the defended area and enhances the total fighting capability of the force.

Since the introduction in Norway, another six countries have acquired NASAMS, including four NATO and/or EU members. NASAMS is renowned for its use of the Raytheon AMRAAM missile, but is furthermore operational with command and control of a range of guns and short and medium range missiles, such as e.g. L-70 guns, RBS 70 and HAWK. It has also proven interoperability with directed-energy weapons (DEWs) and longer range systems, such as Patriot. A total of eleven nations have acquired the KONGSBERG command and control solution adapted to their requirements.

#### THE SYSTEM

A standard NASAMS unit has a modular design comprising a command post FDC, an active 3D radar AN/MPQ-64F1 Sentinel, a passive electro-optic and infra-red sensor and a number of missile canister launchers with AMRAAM missiles. Normally, four NASAMS units are netted in a battalion network.

The system is tied together with a uniquely designed "hard-real-time" communication network to ensure minimum latency over large distances for maximum performance of the AMRAAM missile.

This modular design permits mission oriented task force organization of NASAMS, allowing the operators to maximize the effect of the components and tailor the system to the task.

#### CONTINUED ACTIVE MISSION DEPLOYMENT TO WASHINGTON, DC, UNITED STATES

Washington DC has since 2005 been protected 24/7 by NASAMS. This ongoing operation has proven low system life cycle cost and showing NASAMS as extremely reliable and demonstrated very high availability.



NASAMS IS DESIGNED FOR OPERATIONS  
IN ARCTIC, SUB TROPIC AND WARM-DRY  
CLIMATIC CONDITIONS. IT IS TESTED AND  
PROVEN UNDER ALL CONDITIONS





# STRONG PERFORMANCE CULTURE

## VALUE OF NASAMS

KONGSBERG/Raytheon proposes a fielded and proven NASAMS configuration able to protect several areas and high-value assets separated by large distances. Endurance, stamina and flexibility are typical NASAMS characteristics enabled by the relatively small and agile components comprising the system. The NASAMS' ability to protect static and highly mobile assets with the same type of equipment opens for a range of both military and civilian roles and missions.



### DUAL USE AMRAAM MISSILE

NASAMS uses the Raytheon AMRAAM missile, identical to the AMRAAMs used on fighter aircraft. This dual-use concept has operational advantages and reduces logistics cost.

### DEFENDS A LARGE GEOGRAPHICAL AREA

The radar and launcher elements can be deployed over a large area separated by up to 25 kilometres, providing an extended coverage with few elements. Dispersed elements increase its survivability against enemy air and ground attacks.

### AN INTERNATIONAL SYSTEM

The KONGSBERG command post and networking technology are selected by several nations in NATO and the EU. Experience and practical knowledge from these programs are embedded in NASAMS and ensure proven interoperability with a nation's higher echelon unit and allied, NATO/EU forces.

NASAMS is in operational use in Norway, Spain, USA, the Netherlands, Finland, and one undisclosed customer, and in production for Oman. In addition Poland, Greece, Sweden and Turkey operate the KONGSBERG command and control solution for various weapon systems.

### NASAMS EVOLUTION

NASAMS is designed to evolve with the development of technology and can integrate with or utilize future technology when available. This can be future active or passive radars and sensors, Sense & Warn capability, and a wide range of effectors (e.g. longer and shorter range missiles, C-RAM, etc.).





## NASAMS FEATURES

|                                     |  |
|-------------------------------------|--|
| Status of NASAMS                    | In production and in operational use                                   |
| NASAMS Tests & tactical firings     | 184 (91,8 % success)   |
| AMRAAM Dual use (identical missile) | Fighter Aircraft and NASAMS  |
| AMRAAM combat kills                 | >9   |
| Target sets                         | Aircraft, UAVs, helicopters, cruise missiles, UCAVs                    |
| NASAMS Architecture                 | Open SW & HW architecture, COTS, Network Centric                       |
| Simultaneous multiple engagements   | 72   |
| Engagement modes                    | Active and/or Passive  |
| Mission of Reference                | > 80 000 hours demonstrated<br>(continuous operations (24/7), ongoing) |
| Transportability                    | Air (C-130 and helicopter), Sea and Land                               |
| Data links (implemented and in use) | Link 16, JRE, Link 11, Link 11B, LLAPI, ATDL-1                         |
| Mission Planning Tool               | Embedded and stand alone (PC)  |
| NASAMS User nations                 | 7  |
| Air Defence C2 (FDC) User nations   | 11   |
| AMRAAM User nations                 | 37   |

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## Kongsberg Defence Systems

P.O. Box 1003  
N-3601 Kongsberg  
Norway

Phone: + 47 32 28 82 00  
Fax: + 47 32 28 86 20  
E-mail:  
[office.kda@kongsberg.com](mailto:office.kda@kongsberg.com)

## Headquarters:

Kirkegaardsveien 45  
P.O.Box 1003  
N-3601 Kongsberg  
Norway

Telephone:  
+47 32 28 82 00

