

CNE
FARNBOROUGH
MAY 24



Materiel and IT Command
Ministry of Defence

ROYAL NETHERLANDS NAVY

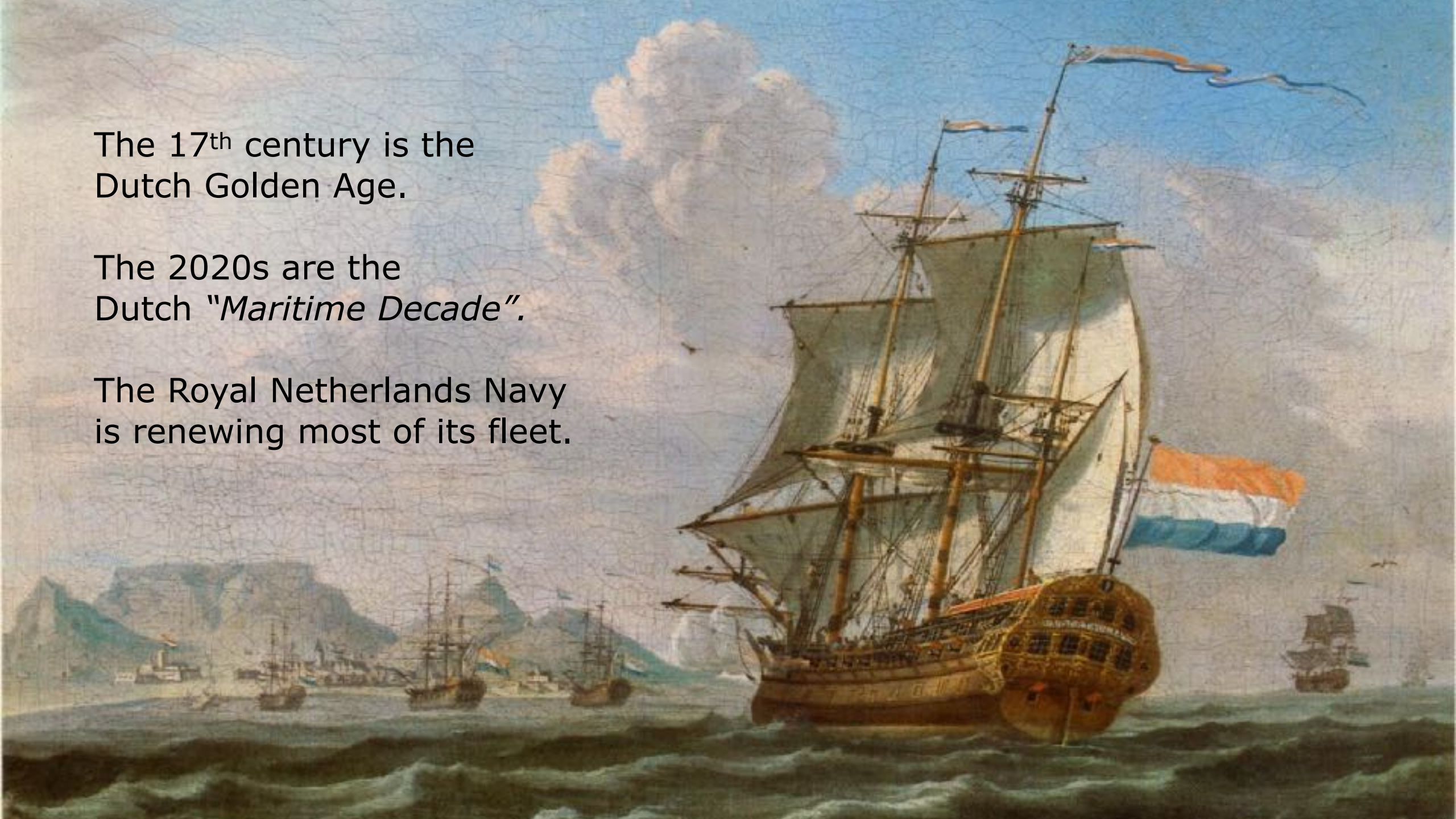
Replacement &
Modernisation
programme

COMMIT
Projects
Andre van der Kamp
Head of Maritime Projects

The 17th century is the
Dutch Golden Age.

The 2020s are the
Dutch "*Maritime Decade*".

The Royal Netherlands Navy
is renewing most of its fleet.





NLD situation (Defence)

Increase of Defence budget in total to €21,4 bn
Almost meeting NATO spending target in 2024 (1,95%)

Orientation towards international cooperation (NATO/EU/BILAT)




Increase readiness
Enlarge agility of the force
Improve combat power

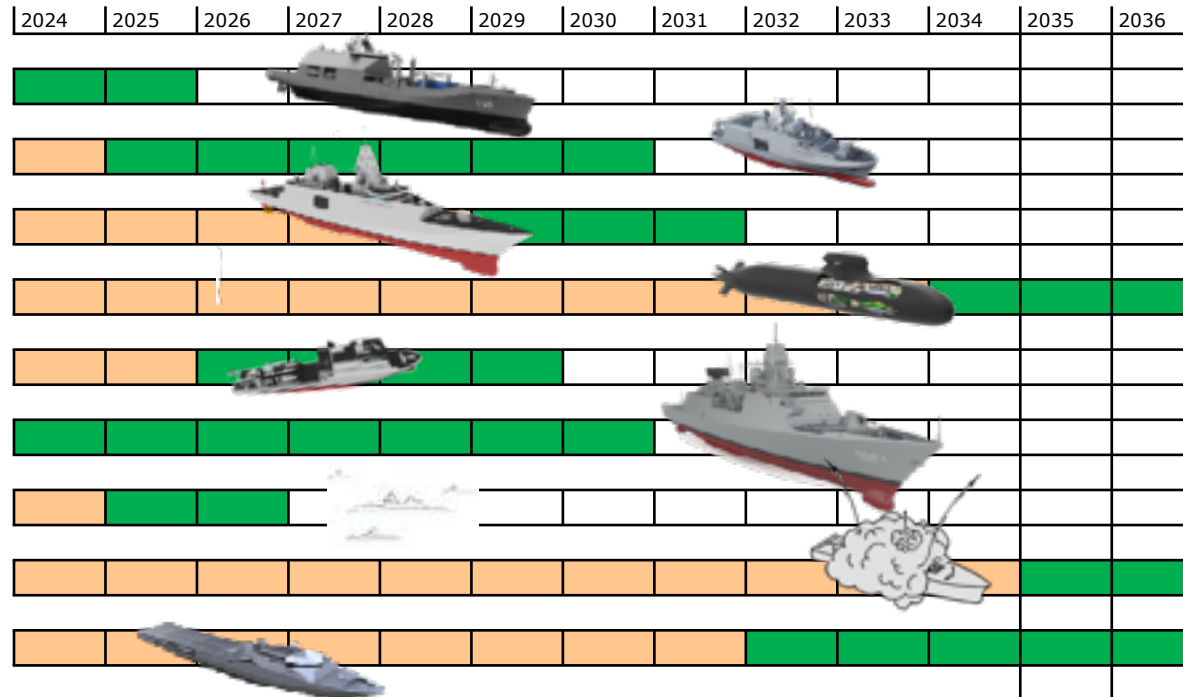
Continued support for Ukraine





Renewal of Royal Netherlands Navy fleet

- Combat Support Ship (1)
- MCM vessels (6 + 6  + 
- ASW frigates (2 + 2 )
- Submarines (4)
- Auxiliary vessels (8)
- ADC-frigate update (4)
- Low Manned Surface Vessels
- Future Air Defender
- LPD & Patrol Vessel replacement





Combat Support Ship

Built by Damen (DSNS)

IOC 2024, FOC 2025

Innovation:

- Engines; low emission & consumption
- Low consumption by hull & propellers
- Durable paint
- Cyber protection
- VR training
- RAM/76MM/guided ammunition/FC



Combat Support Ship

Primary Functions

Maritime and Amphibious Lack Group

Replenishment (Solids and Liquids)

Role - Medical Support

Classification

UNVGL +1A Naval Support (RADHAZ) E0

RP (A, 50%) DPR (I) TMON (Open loop water)

Comms- NAUT (OC) NBC (A) HF1 DK (B, H, F)

COMF (Vs, Co) DWM (T) DIS

Dimensions

Length (a.a. (approx.))	179.9 m
Beam mid	26.4 m
draught (design)	8.3 m
Depth to Helicopter Dock	16.8 m
Displacement (approx.)	22300 ton

Performance

Speed (service)	18+ knots
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Propulsion

Propulsion System	Diesel Electric, Twin Shafts
Propulsion Motors	2 x 7900 kWm
Diesel Generators	4 x 1880 kW @ 720 rpm
Propellers	2 x FPP @ 5.4 m
Bow Thrusters	2 x FPP
Stern Thrusters	2 x FPP

Crew

Accommodation 75 Crew + 05 Special Personnel

Equipment

2 x RAS Masts Liquid and Solid capable

2 x Cargo Cranes 40 tonnes @ 12m

1x Stores Crane 1.5 tonnes @ 12m

2 x Ammunition Elevators

2 x Mast IHB

Navical Equipment

Navigationl Equipment, GMDSS A4, Navigation
Radars (X-band, S-band), Loco Sounder, Speed Log,
Voyage Data Recorder, Time System, Power and
Ship's Management System with ECDIS

Transport capacities

Flight Deck Landing Spot 1x NH100 or 1x F1101
Hangar 2 x NH100 (Rotor Blades folded)
or 1 x NH90 Helo spreaded

Container Capacity 20 TEU

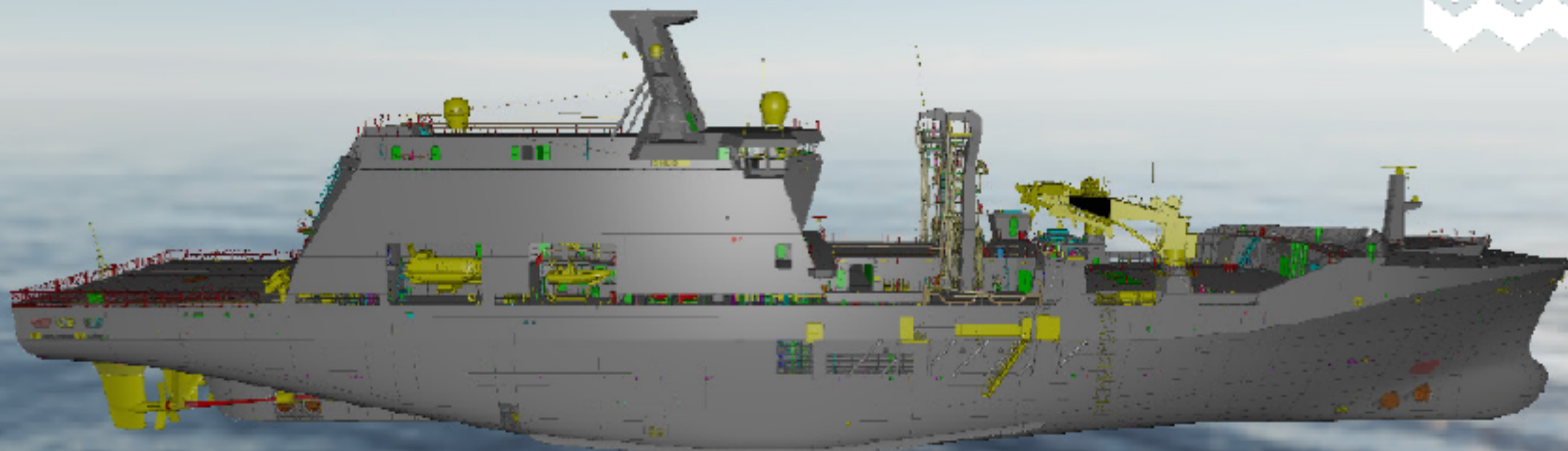
Ammunition Storage Protected Cargo Holds

Tank capacity

Total Liquid Capacity 8600 m³

Military Design Features

IRN Reduction, Shock Protection, Blast Protection,
Vulnerability Reduction Measures, Ballistic
Protection, ILS Package





Finishing touch



MCM Vessels

BEL/NLD (BEL 'lead nation')+ FRA (MOU)

6 BEL + 6 NLD identical vessels

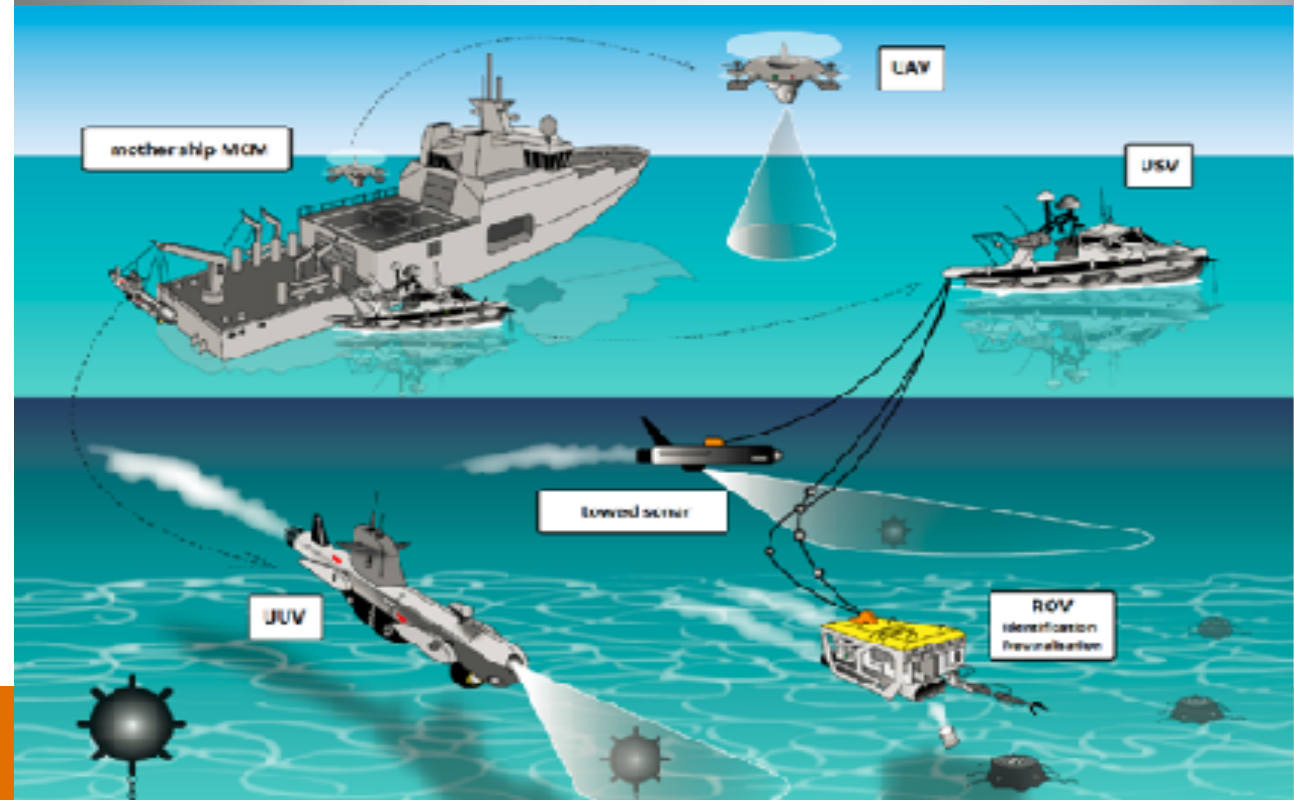
Ships delivered between 2025-2030

Built by Naval Group (French)

Stand-off MCM:

Mothership + MCM Toolbox:

- Unmanned underwater vehicle
- USV
- UAV

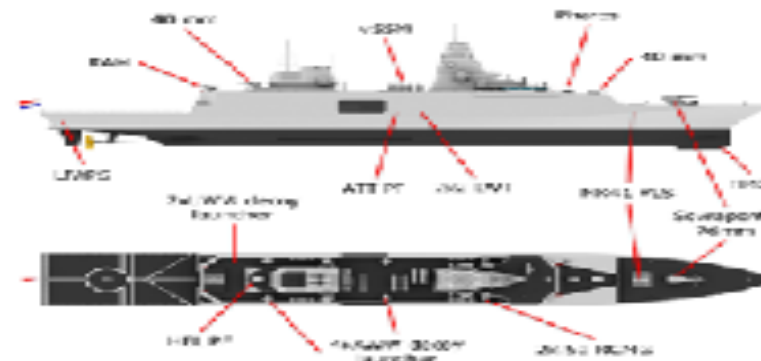


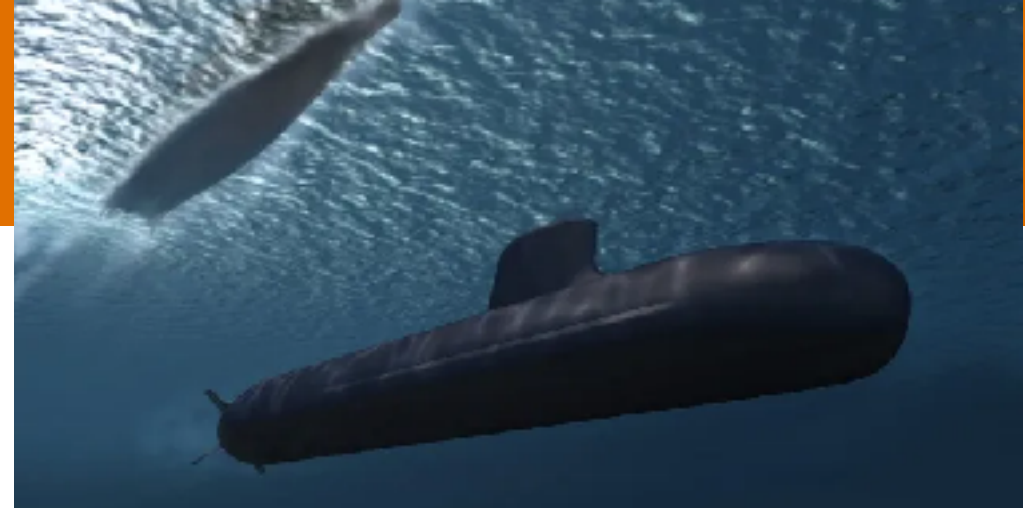




ASW Frigates

- NLD/BEL NLD 'lead nation'
- 2 NLD + 2 BEL identical ships
- First of Class 2029
- Platform built by Damen (DSNS) (contract signed)
- AWW-Fire Control System & X/S radar built by Thales Netherlands
- Underwater Warfare Sensor Suite (UWWSS) by TNO
- Torpedo Defence System incl. Anti-Torpedo Torpedo
- High Energy Laser (P.F.)
- D:6400 / L:145 / Crew:117
- Prop: Diesel Electric / 25 kts



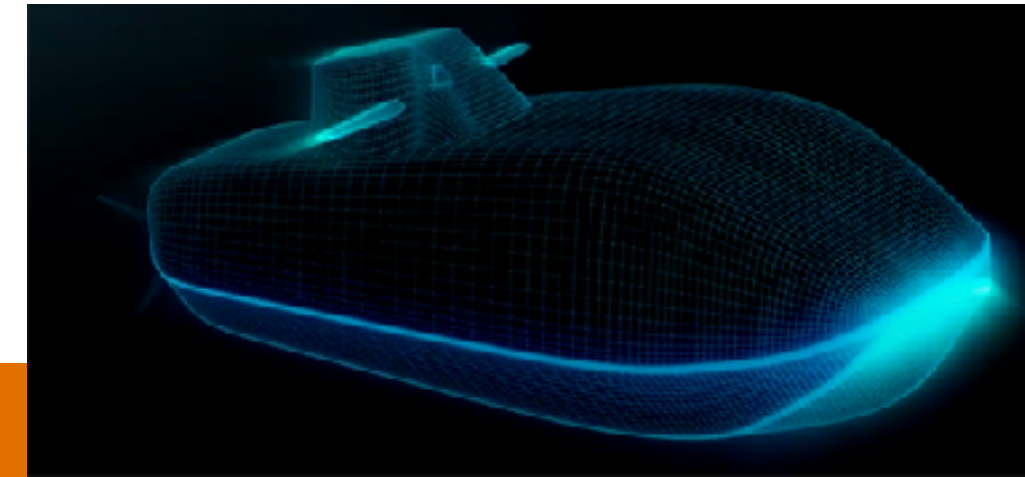


Submarines

4 boats to replace WALRUS class (conventional)

RFQ to 3 ship yards: NAVAL (FRA) wins

First two boats FOC 2034/2035





Auxiliary Vessels

- Single class to replace 10 ships
- 4 seagoing + 4 non-seagoing
- In service: 2026-2031
- Low emission propulsion (dual fuel / green methanol)
- Multi-purpose:
 - *Hydrographic survey*
 - *Submarine support*
 - *Training*
 - *Caribbean support*
 - *Diving support*





Air Defence & Command Frigate upgrade

- End-of-life technical & operational upkeep
- Mk54 torpedo
- ESSM bl 2
- 127 mm gun (PGM)
- New CIWS (RAM)
- ESM/ECM
- Naval Strike Missile
- Tomahawk



GUN 127 MM



CIWS



Leonardo 127/64 LW-kannon. (Foto: Leonardo)

GUN
(Leonardo)
for ADCF &
FuAD

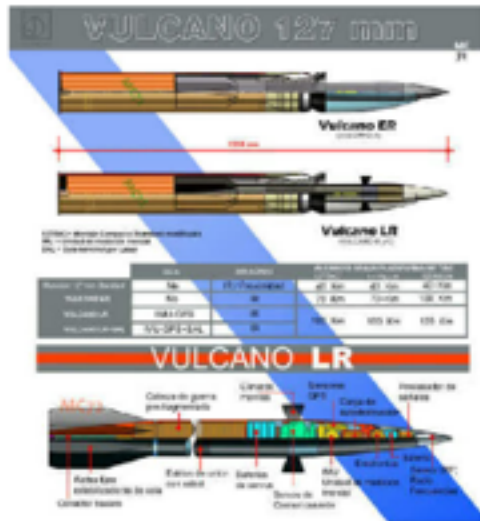
vCIWS
1.GUN (Leonardo) 2. Rolling
Airframe Missile (RAM)
(RAMsys) 3. Pharos-radar
(Thales) 4. FC integration
(Thales) 5. DART ammo



DART. (Foto: Leonardo)



1. Masa principal del cañón
2. Muroresaca y soporte de la Masa
3. Sello radial con cubierta del montaje
4. Borneo en la varilla de integración con sistema de disparo
5. Arma de Cañón reforzado múltiple, con sistema de enfriamiento
6. Cámara de la boca
7. Mecanismo de cierre Masa
8. Arco de rotación izquierda
9. Transmisor de la munición
10. Brazo cargador izquierdo
11. Cubierta frontal en metal anodizado y furo anodizado
12. Soporte estructural en aluminio
13. Soporte hidráulico
14. Soporte fijo del montaje en la cubierta
15. Elevador superior
16. Elevador de entrega
17. Mecanismo de alimentación
18. Unidad automática de disparo
19. Placa de control
20. Elevador inferior desde depósito principal



PHAROS
Multi Target Tracking with
Guided Ammunition Control

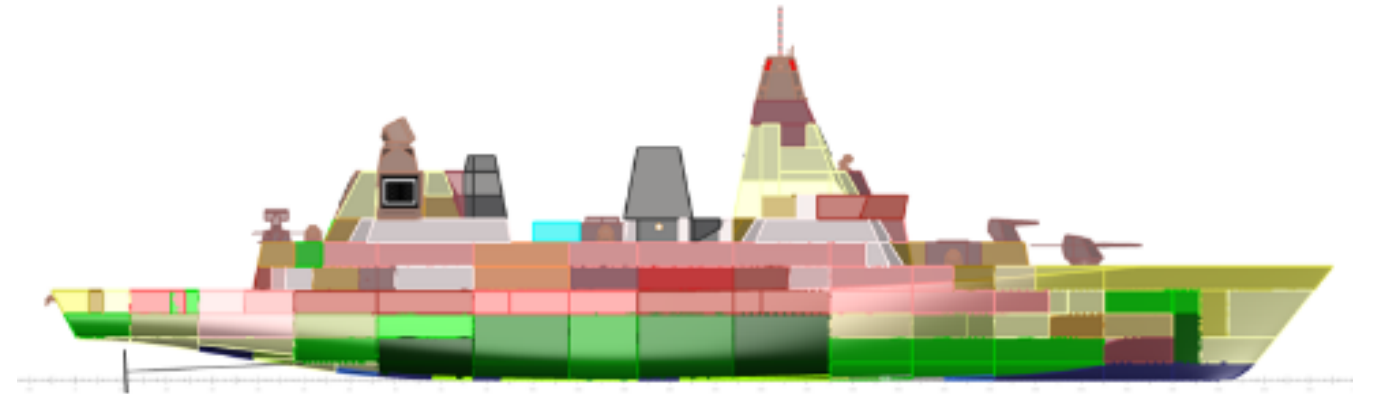


RAM. (Foto: DLR/Sea Marine)



Future Air Defender

- 4 units
- Replacement of 4 ADCF
- Role of Germany?



- Priority tasks RNLN:
 - Integrated Air & Missile Defence for Force Defence
 - Maritime Strike (Tomahawk)
 - Ballistic Missile Defence for (NATO) territory



Concept Future Air Defender (FuAD)

- Endo-atmospheric Ballistic Missile Defence interceptor
- Thales NLD developed L/S/X-band multifunction radar
- Gun (127mm) / APAR (2) / vCIWS (?) from ADCF
- NSM / TOMAHAWK
- Family of missiles (separate project)



Maritime Air and (ballistic) Missile defence



Air defence for short, medium and long range threat

Threat:

- Air Breathers
- Hypersonics
- UAV's
- Loitering munition
- Rockets Artillery Mortar
- Anti-ship ballistic missiles
- Ballistic missiles against (NATO) territory (endo- atmospheric)

FuAD





RNLN-Naval Strike Missile project

1. Replacement of Harpoon on ADC & ASW frigates
2. Supplier: Kongsberg (NOO)
3. First Of Class Launch in Q1 2026 (ADCF)
4. In contact with NOO-GER-BEL-DEN-UK NSM-Program Office for:
 - a) Collaboration Type Classification (TC)
 - b) Collaboration In Service Support (ISS)





RNLN-Tomahawk project

1. First Of Class Launch in October 2024 (ADCF)
2. Scope 1: current & future ADCF frigates
3. Scope 2: current subs & future subs, both Torpedo Tube Launched (TTL).





LPD & Patrol Vessel Replacement (ATS)

Amphibious Transport Ship (ATS)

Replacement of LPD (amphib capability) & Patrol Vessels (MSO/MIO capability) with one class;

6 units: D: 6000/150/25

IOC: approx. 2032

ATS is important element of Royal Netherlands Marine Corps 'Future Force Design': smaller, leaner, fast, flexible

Connectors: vLCVP/vLCU
FRISC/FFI/SDV



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Amphibious Landing Craft (connector)

- Replacement of LCVP and FRISC by 20 *Future Littoral Assault Craft (FLAC)*
- 2 designs: Littoral Assault Craft (LAC) personnel (12) & *Littoral Craft Mobility (LCM)* (8) personnel & vehicles
- Future Force Design: fast and light
- FOC 2026-2028





Future Littoral All-Terrain Mobility (FLATM)

- Replacement of Bandvagn (Viking)
- FLATM-BV (94): supporting & *over-snow capable*.
- FLATM-PV (178): light, *all-terrain* patrol vehicle with *provisions for sensors and weaponry*
- FOC 2026-28





Underwater connector

Special Forces

3 x heavy underwater connector:
submersable delivery vehicle (SDV)

- Launch LPD
- Radius van 80 nm

9 x medium underwater connector

- Launch SUB
- Radius: 15 nm

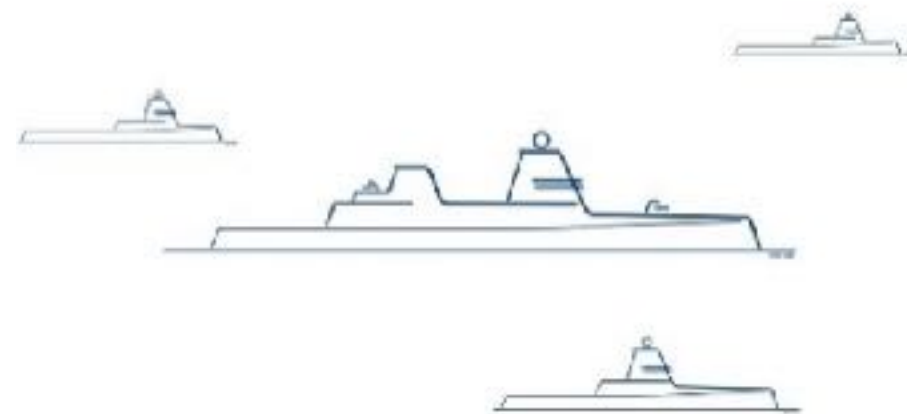




Low Manned Surface Vessel

MICAN: Modular Integrated Capability
for ADCF and North Sea

- ISR North Sea
- Increased Fire Power
- COTS/MOTS/KISS
- Commercial vessel (2 units)
- Containerized modular payload
- Remotely operated from frigate
- FOC 2027





Accelerate IAMD and Strike capabilities using **low manned** surface vessels

- Rapid increase of IAMD and Strike capabilities using low manned surface vessels
- Direct increase of capabilities of:
 - Large surface combatants
- Adaptable in FUAD concept, supports transition to unmanned
- Containerized VLS with SAM
- Loitering munition
- Containerized ECM/ESM
- Extendable with:
 - Strike missiles
 - SSM
 - UW modules
 - Extra sensors



Torpedo Defence System



- Decoy launcher (softkill)
- Towed Array sonar (softkill/hardkill)
- Anti-torpedo torpedo (hardkill)

NLD/GER research/prototype
(2028 Qualification trials)

Interest from:
ESP/POL/SWE/ITA/POR

Soft kill & hard kill





UNMANNED SYSTEMS

- Maritieme sensor pods voor MQ9A Reaper MQ9A (RNLAF), +4
- Maritime Medium Range UAV's.
- Maritime Short Range Tactical UAV's
- Maritime USV's (~11 mtr) (stand off ASW voor ASWF)
- Maritime UAV voor stand-off ASW
- Maritime small size persistent USV's
- Integration CZSK-units for Comms and C2
- IOC 2025-2027





CHALLENGES

Lack of Capacity; internal: can we deliver?

Lack of Capacity; external: can suppliers deliver?

Solutions?

- COTS/MOTS
- Realistic requirements (aim for the highest)
- Modular
- International cooperation; GOV-GOV / Industrial – Industrial



Questions ?

