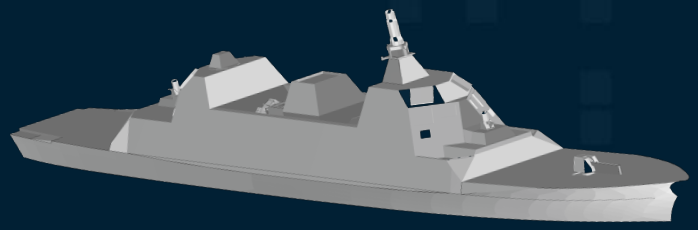
Response to Distributed Maritime Operations

Capabilities Required for Future Destroyer



ATLA
Acquisition,Technology & Logistics Agency

May 21st, 2024

Director General of Naval Systems, ATLA
VADM IMAYOSHI Shinichi

Agenda

I Maritime Defense Capability

(A2/AD Environment)

II Future Warfare

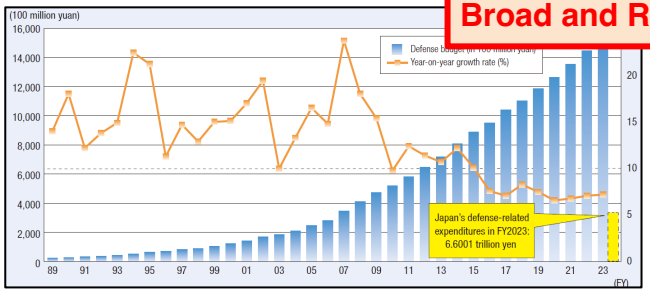
(Distributed Maritime Operation)

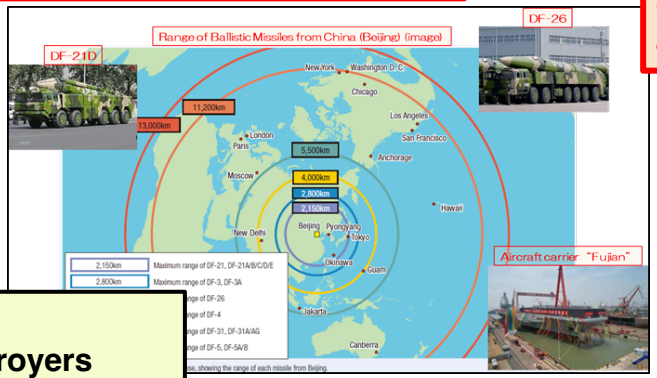
III Capabilities Required for Future Destroyer

VI Toward Construction of Future Destroyer

I Maritime Defense Capability (A2/AD Environment)

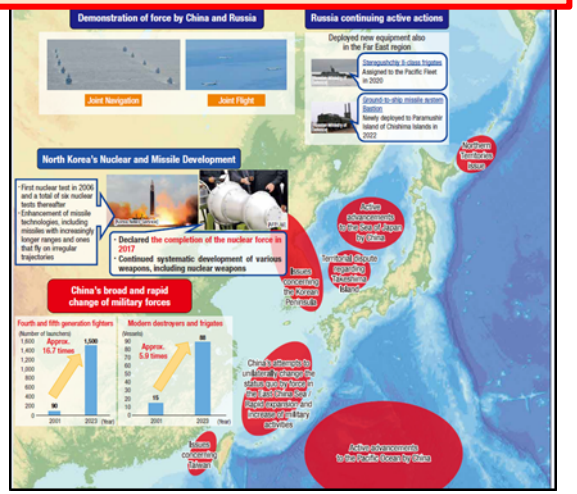
Broad and Rapid Military Buildup of China





- Increase in National Defense Budget
- Modernization of submarines and destroyers
- Introduction of fourth and fifth generation fighters

Comparison of Military Capabilities among Japan, the US and China



Key Capabilities for Fundamental Reinforcement of Defense Capabilities

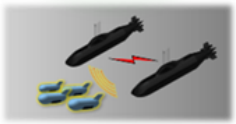
Priorities for Building a Maritime Defense Capability

Information Warfare Capabilities
Resilient C5ISRT

Underwater dominant Capabilities
According to SS+UUV, Underwater superiority

Stand-off defense capability
Supersonic and Long Range Missile

--- *Closing our kill chain & Breaking their kill chain* ---



* The figure is an image.

Strengthening the Logistics Base
Survivability, Flexibility, Mobility, Use of Civilian Power, DX

II Future Warfare (Distributed Maritime Operation)

Japan is facing strengthening of military capabilities and intensification of military activities of countries surrounding Japan: China, North Korea, and Russia.

2023 Defense White Paper, Japan

- Broad and rapid military buildup
- Rapid progress in nuclear and missile development
- Modernization of various military equipment and intensified joint activities with China

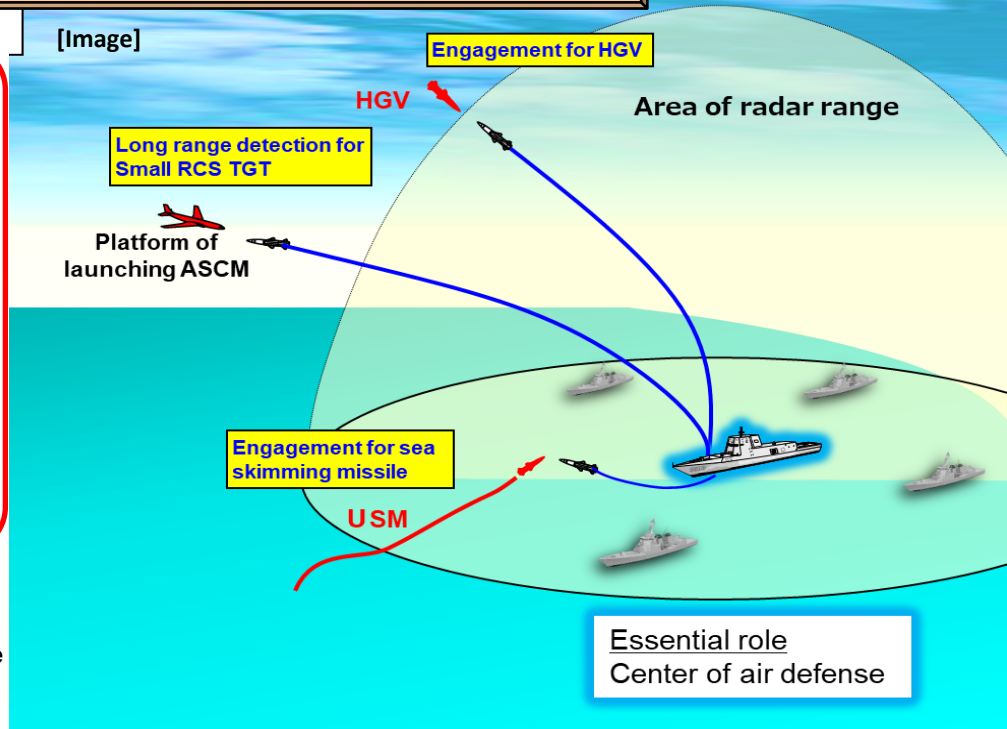
→ Strengthening A2/AD Capabilities

Distributed Maritime Operations (DMO)

【 Concept of DMO in MSDF 】

To utilize distributed maneuvered maritime units so as to oppose the concentration of and the movement of the PLA forces under an A2 / AD environment; while imposing the cost of adversaries, and buying time for the formulation of flexible deterrence options (FDO) and Joint Task Force.

[Image]



(Source)
Yoshimitsu Sato, "Three Operations of the U.S. Navy and Marine Corps to Counter A2/AD - Overview of DMO, EABO, and LOCE (Column 169)," Maritime Self-Defense Force officer School, July 15, 2020

III Capabilities Required for Future Destroyer (1/2)

Future Goals for JMSDF

Response to
Diverse Operations Including
Distributed Maritime Operations (DMO)

=>

- Improve air defense and EW capabilities
- Increase the number of air defense destroyers including Aegis system-equipped destroyers

Required Capabilities

To respond to emerging new ways of warfare

- Large-Scale missile strike
- Asymmetric attacks
- Hybrid Warfare

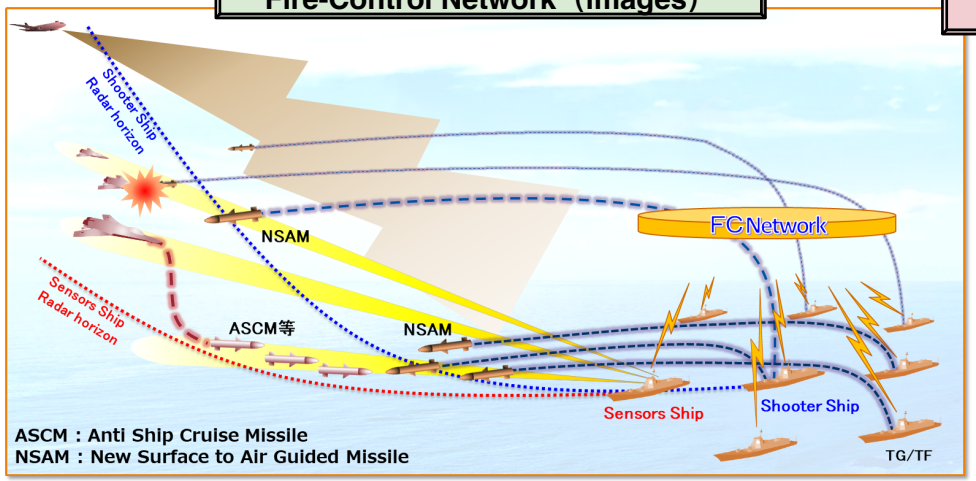
=>

- Capability for DMO = F
- Capabilities to respond to HGV/HCV
  = 高
- Stand – off defense capability = New Surface to Air Guided Missile (NSAM)
- Directed Energy Weapons(DEWs) = Laser, HPM Weapons
- Manpower saving / Unmanned operation = Autonomous NAV, Remote automatic control technologies, Support decision-making
- Integrated Power & Energy System = IPES

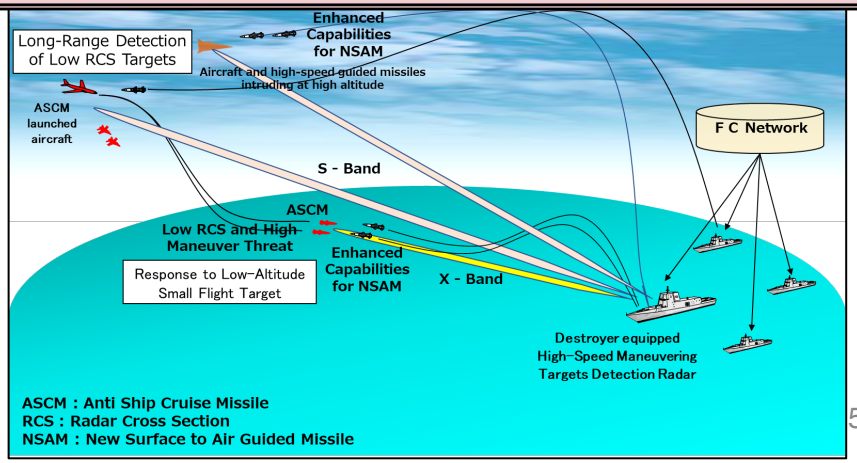
Fire-Control Network

High-Speed Maneuvering Targets Detection Radar

Fire-Control Network (images)



High-Speed Maneuvering Targets Detection Radar(images)



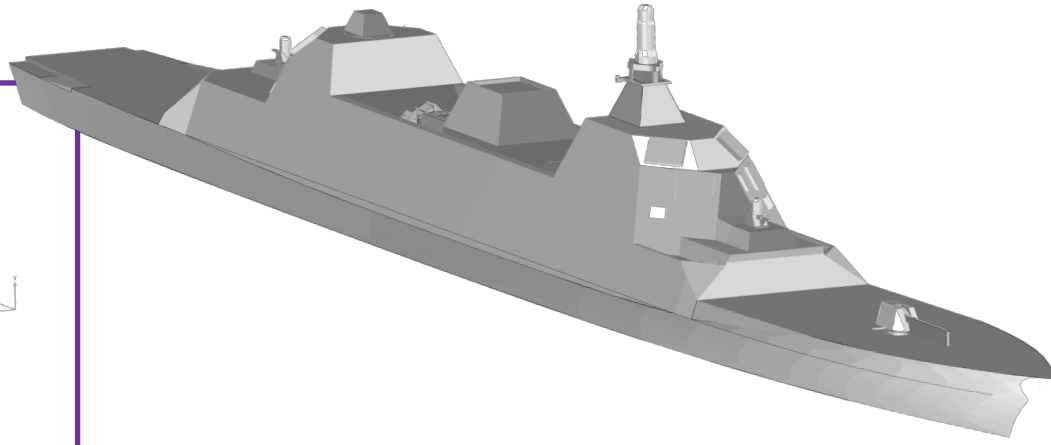
III Capabilities Required for Future Destroyer (2/2)

Air Defense Capabilities

- New Ship to Air Missile(NSAM)
- High-Speed Maneuvering Targets Detection Radar
- Rail-gun
- HPM weapons
- Active homing short range SAM
- Laser (100KW class)
- Guided missile for HGV/HCM

➢ Stand-off defense capabilities
➢ IAMD capabilities
➢ Cross-domain operations capability

IAMD : Integrated Air Missile Defense



Common Basic Capabilities

- Power storage, high-voltage power distribution, Integrated Power & Energy System（IPES）
- Enhancement of survivability ＝ Reduced Signature（RCS, IR etc. ）
- Manpower saving ＝ Autonomous NAV, Automated Damage Cont. Support decision-making
- Future Scalability ＝ Standardization of S/W, Modularization of H/W

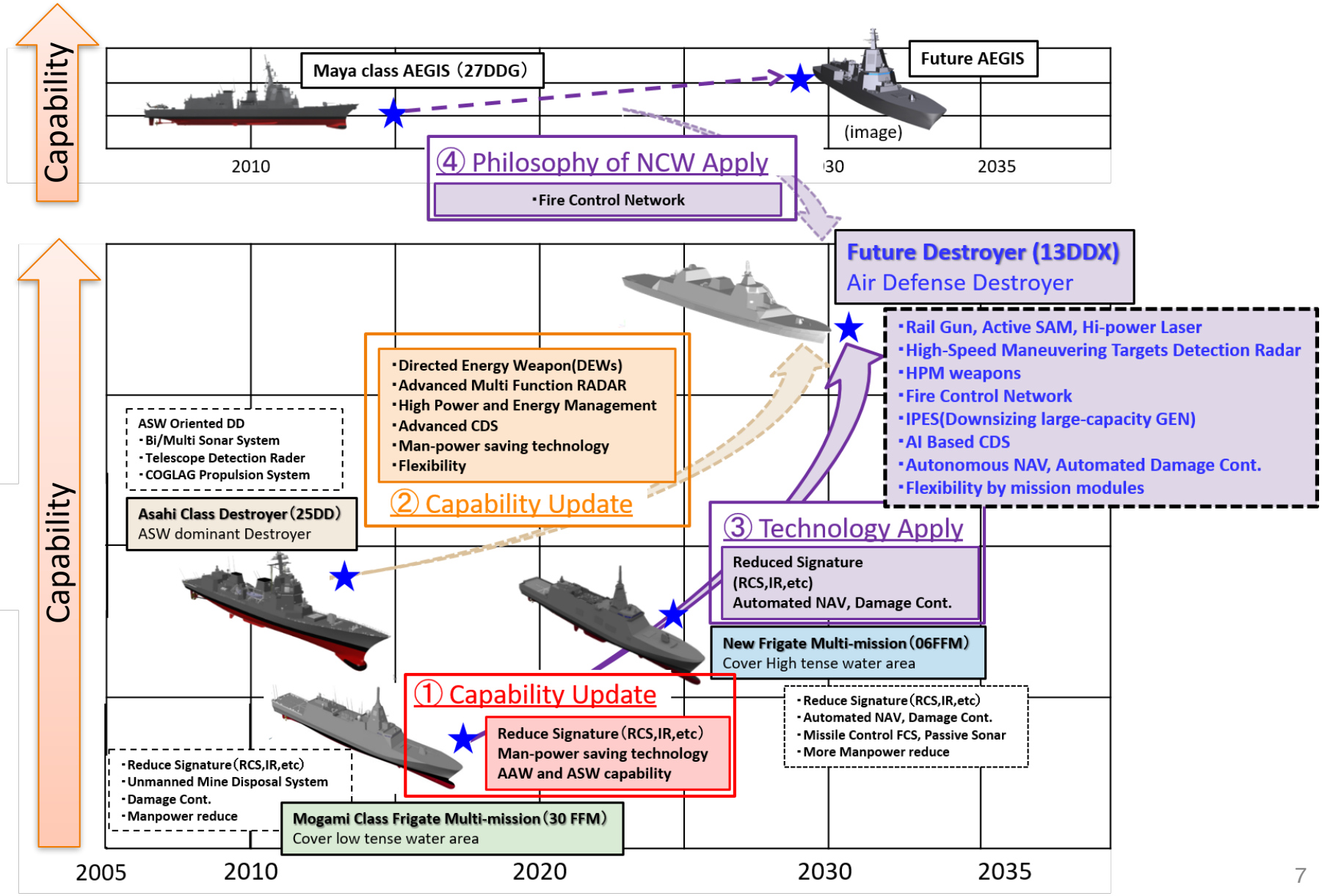
➢ Maneuver and deployment capability
➢ Sustainability and Resiliency

IW/EW Capabilities

- AI based Combat Direction System (CDS)
- FC Network
- Capability for EMW

➢ C5ISRT and IW capability
➢ Sustainability and Resiliency

VI Toward Construction of Future Destroyer



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