

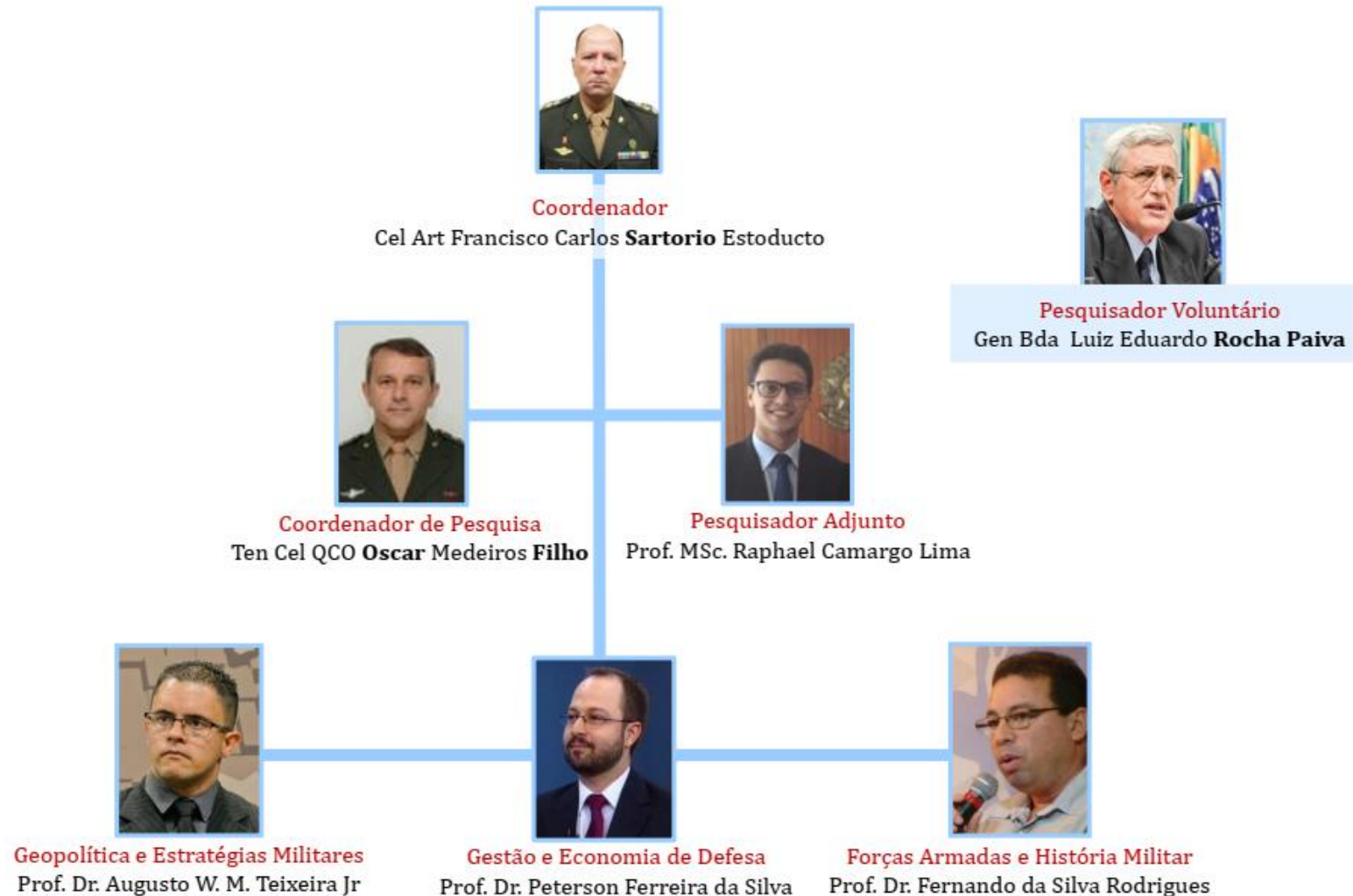


**XX CURSO DE EXTENSÃO  
EM DEFESA NACIONAL  
MONTES CLAROS/MG**

# *As Guerras do Século XXI e a Modernização das Forças Armadas*

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Pós-doutorando em Ciências Militares (ECEME)

## Núcleo de Estudos Prospectivos (NEP/2018)











A guerra nada  
mais é que a  
continuação da  
política por outros  
meios.

Carl Von Clausewitz



PENSADOR

## *Para Pensar a Guerra do Século XXI: Clausewitz*

- A guerra é uma expressão violenta e instrumental da política: antagonismo de vontades;
- O fenômeno bélico não é apenas militar, mas estrutura-se pela “trindade da guerra”;
- A guerra deve ser vista em seus níveis essenciais: política (objetivos), estratégia (ponte entre fins e meios) e tática (emprego da força no campo de batalha).

*Tal como no passado,*

*a Guerra do Futuro será caracterizada pelo primado da política.*

**A natureza da guerra é imutável.**

# *As características da guerra do Século XXI*

- *A guerra muda sob as influências do tempo e do espaço.*





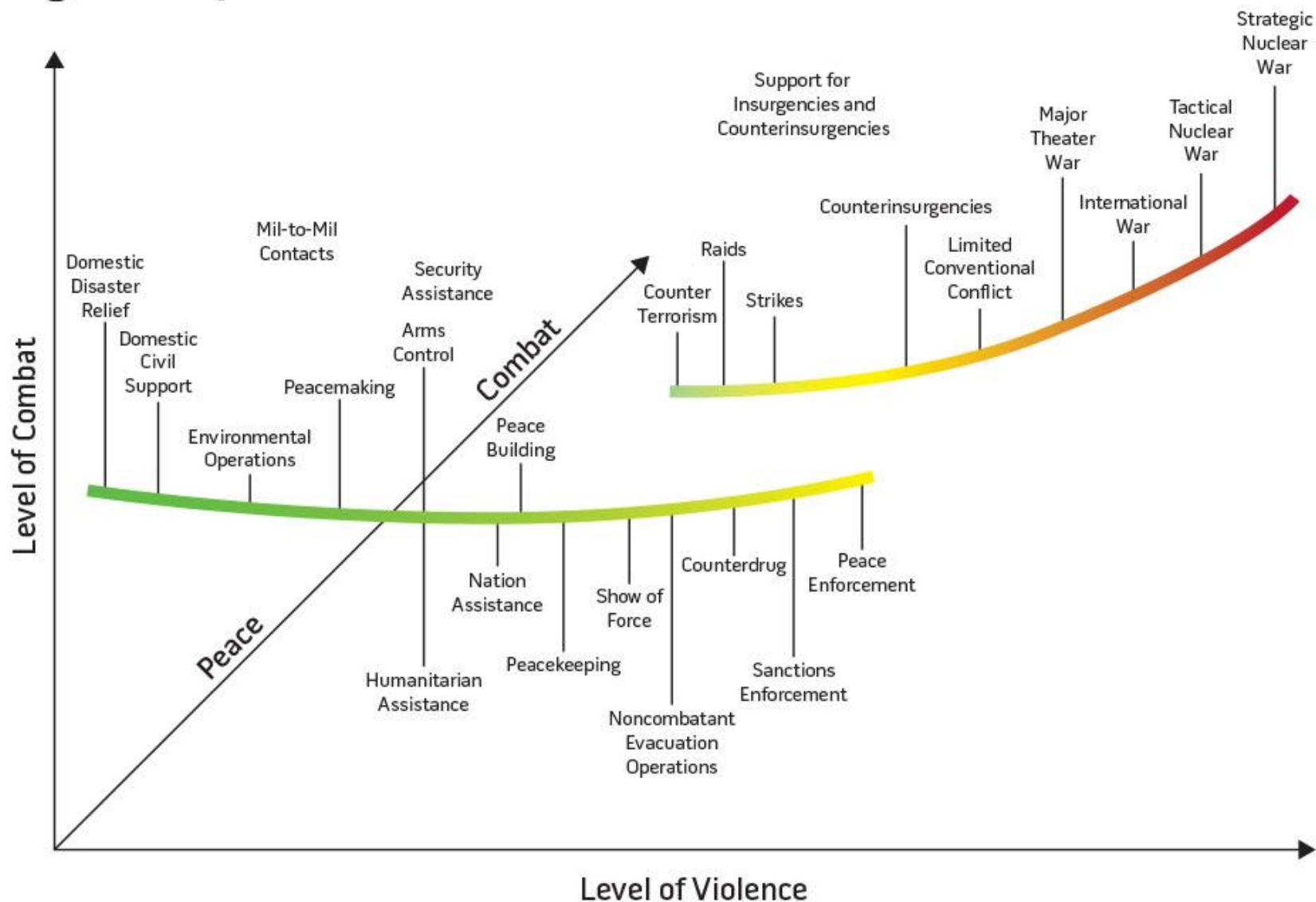


# *Por que países buscam Mudança Militar?*

- Pressões sobre o Estado e as Forças Armadas:
  - política,
  - orçamento,
  - razões culturais,
  - Razões operacionais.



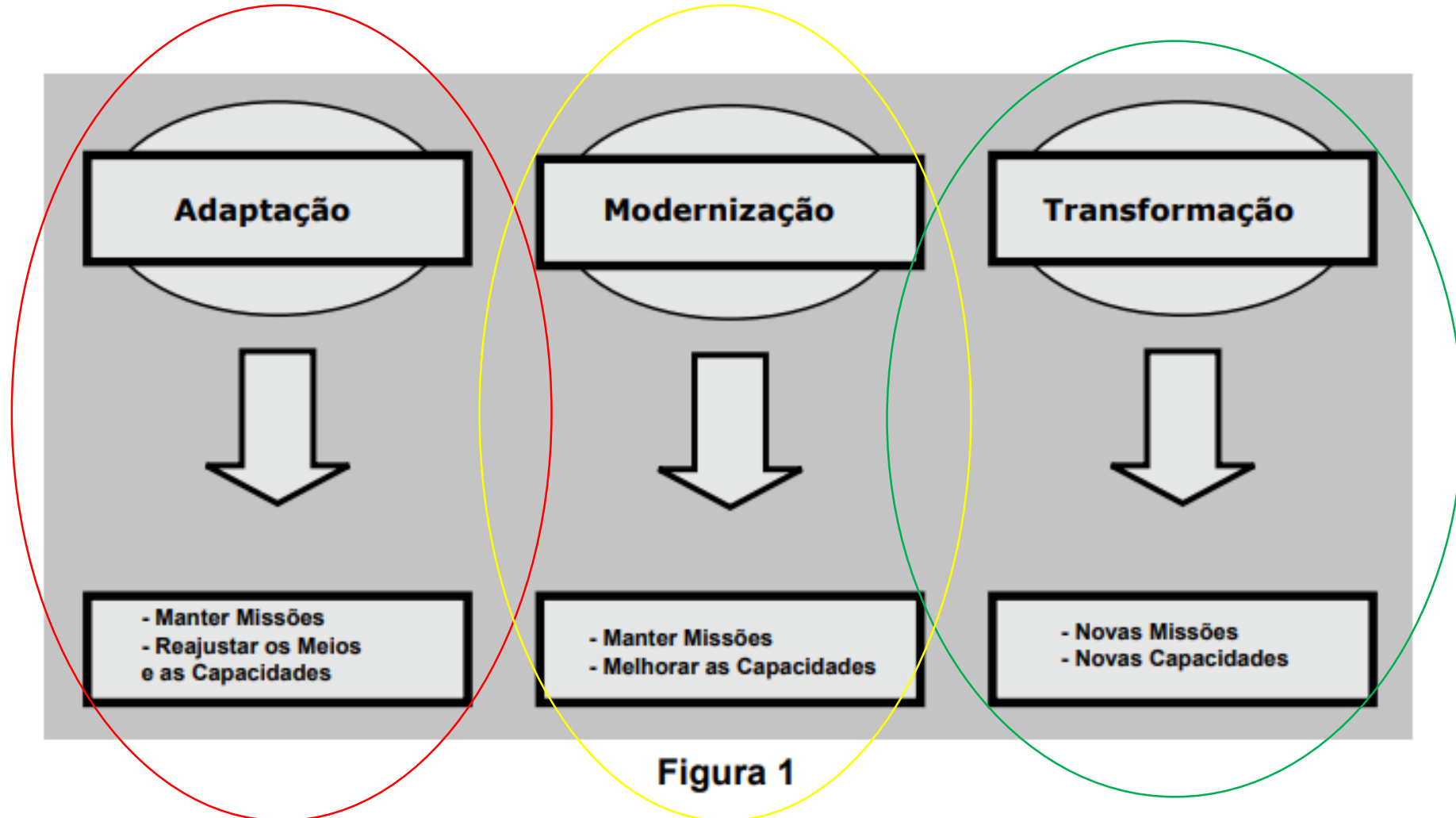
# Figure 1. Spectrum of Conflict



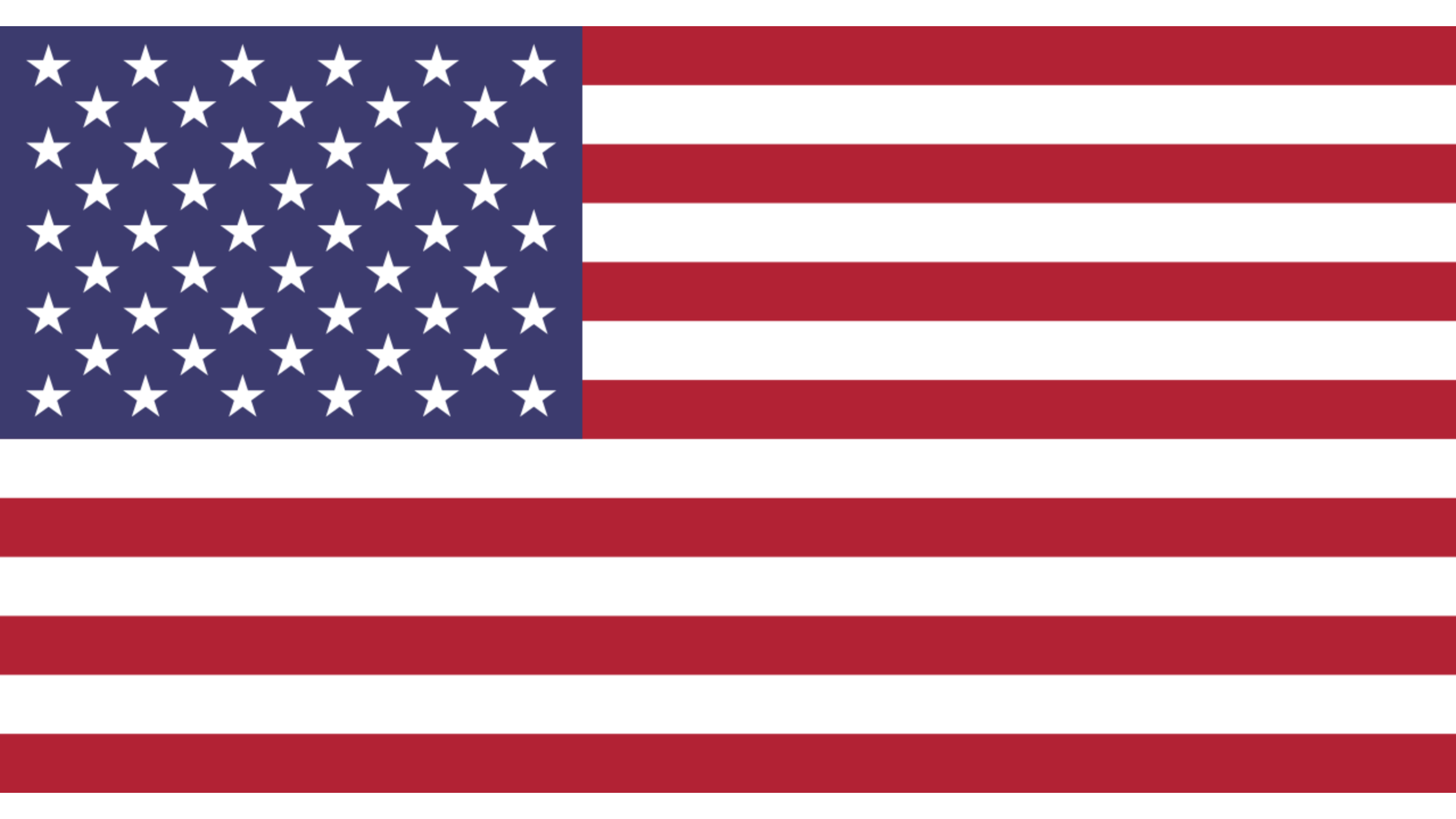
Note: Figure adapted from *Army Vision 2010* (Washington, DC: Headquarters Department of the Army, n.d.), 5, available at <[https://rdl.train.army.mil/catalog-ws/view/100.ATSC/CE5F5937-49EC-44EF-83F3-FC25CBOCB942-1274110898250/aledc\\_ref/army\\_vision\\_2010.pdf](https://rdl.train.army.mil/catalog-ws/view/100.ATSC/CE5F5937-49EC-44EF-83F3-FC25CBOCB942-1274110898250/aledc_ref/army_vision_2010.pdf)>.



# *Distintas Concepções de Mudança Militar*



**Figura 1**





# *Tecnologias*

- PGM – Mísseis Guiados de Precisão
  - amplificação da capacidade de projeção de força em distâncias variadas com alto grau de precisão
- ISR – Inteligência, vigilância e reconhecimento (consciência situacional)
- C4I – comando, controle, comunicações, computadores e inteligência (domínio do espaço de batalha e capacidade de processamento)
- **Composto C4ISR**



## *“Fricção” e a “Névoa da Guerra”*



# *Mudanças Doutrinárias*

- Mudança da concepção da condução da guerra baseada em “**platform centric**” para “**network centric**”
  - Mobilidade
  - Capacidade expedicionária
  - Plataformas militares mais leves
  - A importância da Interoperabilidade

# Mudanças Organizacionais da RMA

- Unidades menores: brigada
- Aumento da capacidade combatente, com menos “Manpower”
- Profissionalização crescente

## Armed forces personnel, total

International Institute for Strategic Studies, The Military Balance.

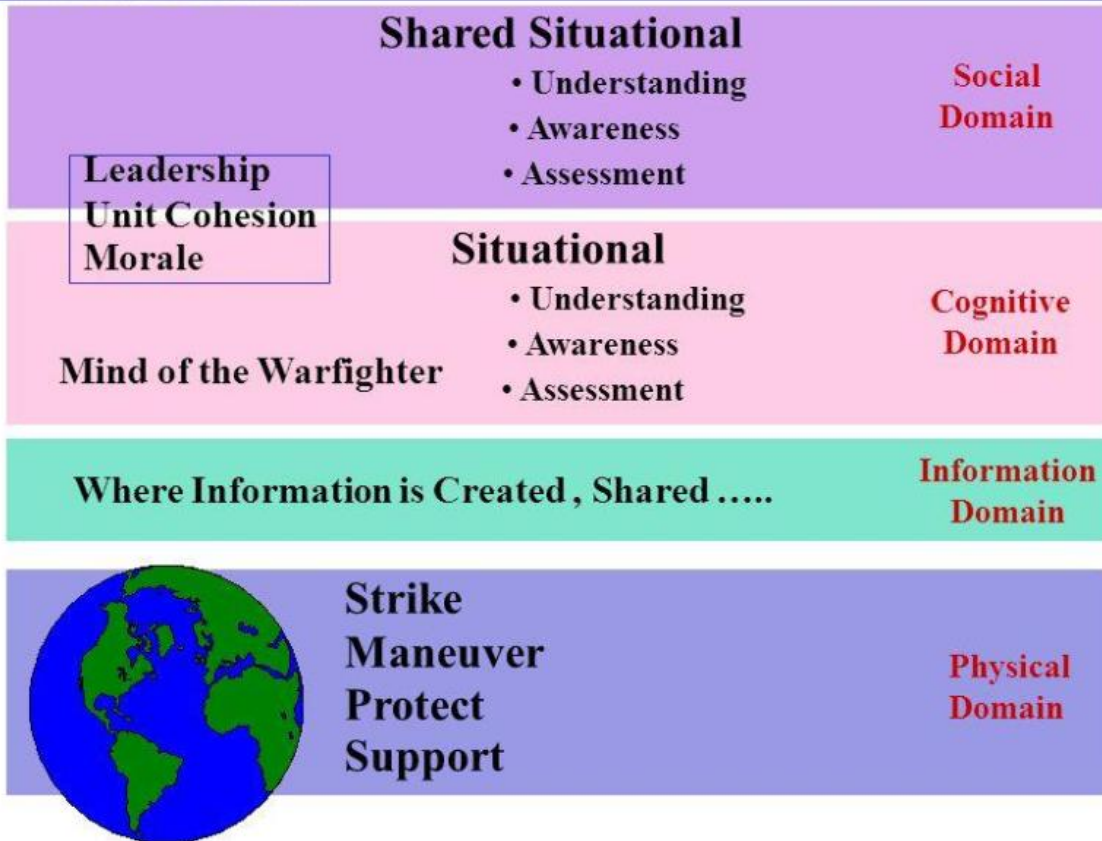
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# Interoperabilidade

## Domains of Warfare

Office of Force Transformation

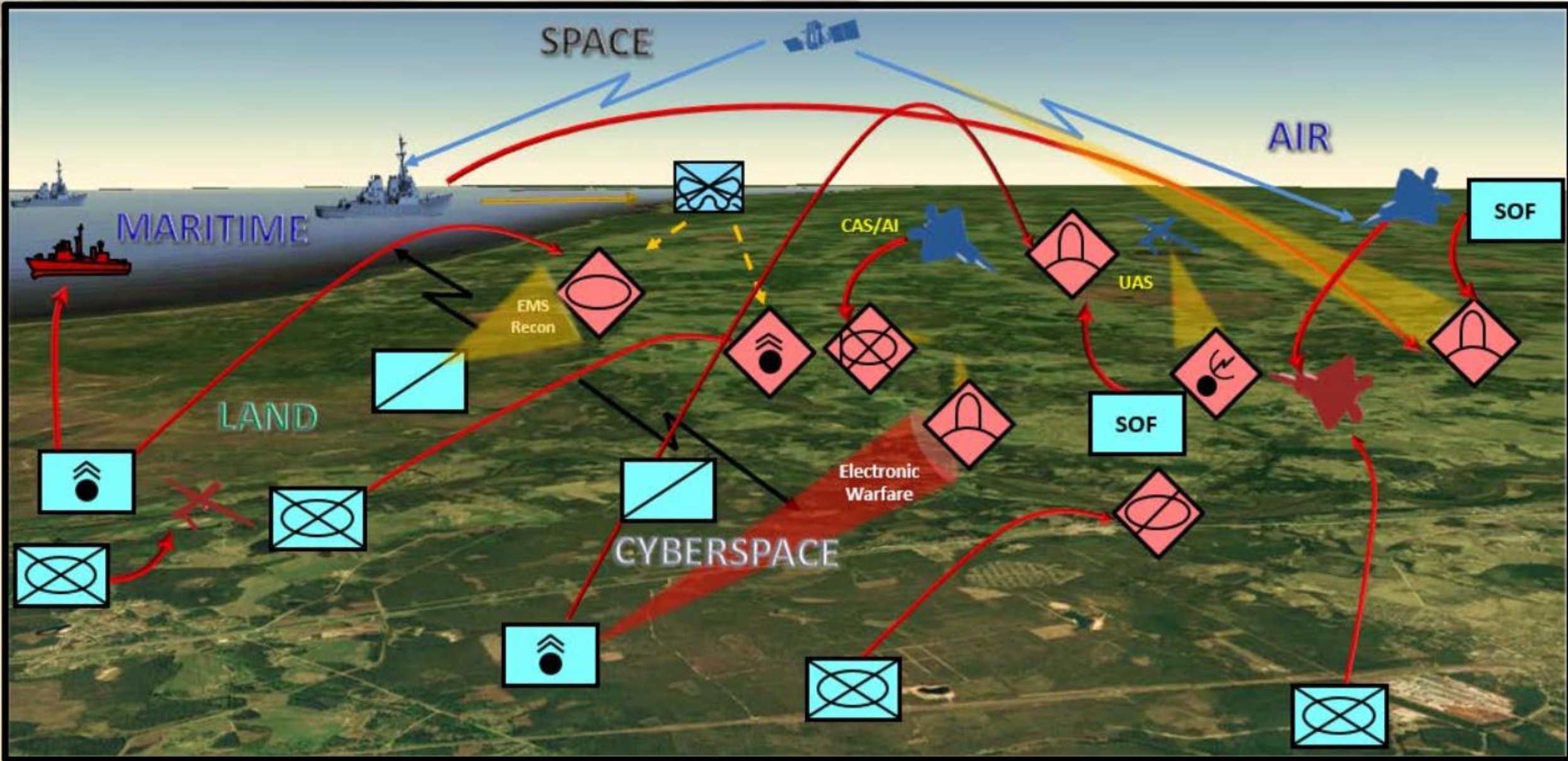


*Espaço cibernético*

*Humana*



# Multi-Domain Battle: Combined Arms for the 21st Century





**TASS** RUSSIAN NEWS AGENCY



**Russia's hypersonic anti-ship Zircon missile reaches eight times speed of sound**

# German army uses 3D printers to produce spare parts in operations

weapons defence industry military technology UK

POSTED ON THURSDAY, 22 MARCH 2018 13:07

Ads by Google

Company Event

Air Defence

35 Printer



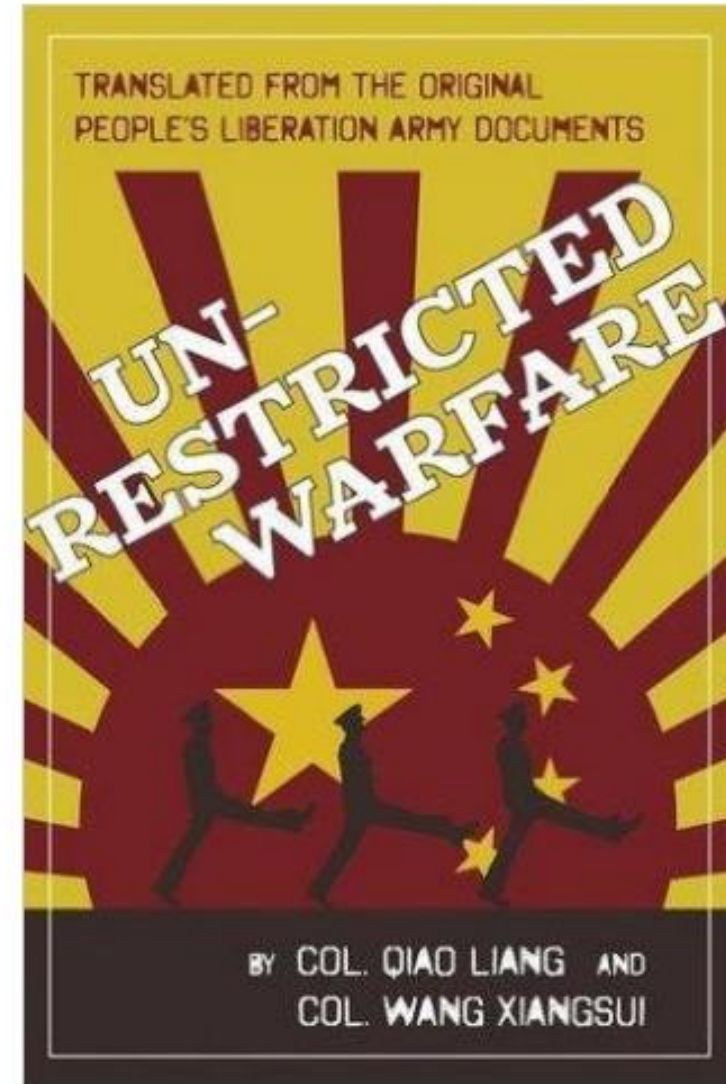
This is something that US aircraft carrier crew members have been knowing for a while: a spare part is not available on site and cannot be procured in time, neither by logistics nor by industry? Just print it!







## *Lições da Guerra do Golfo e a Modernização Militar Chinesa*

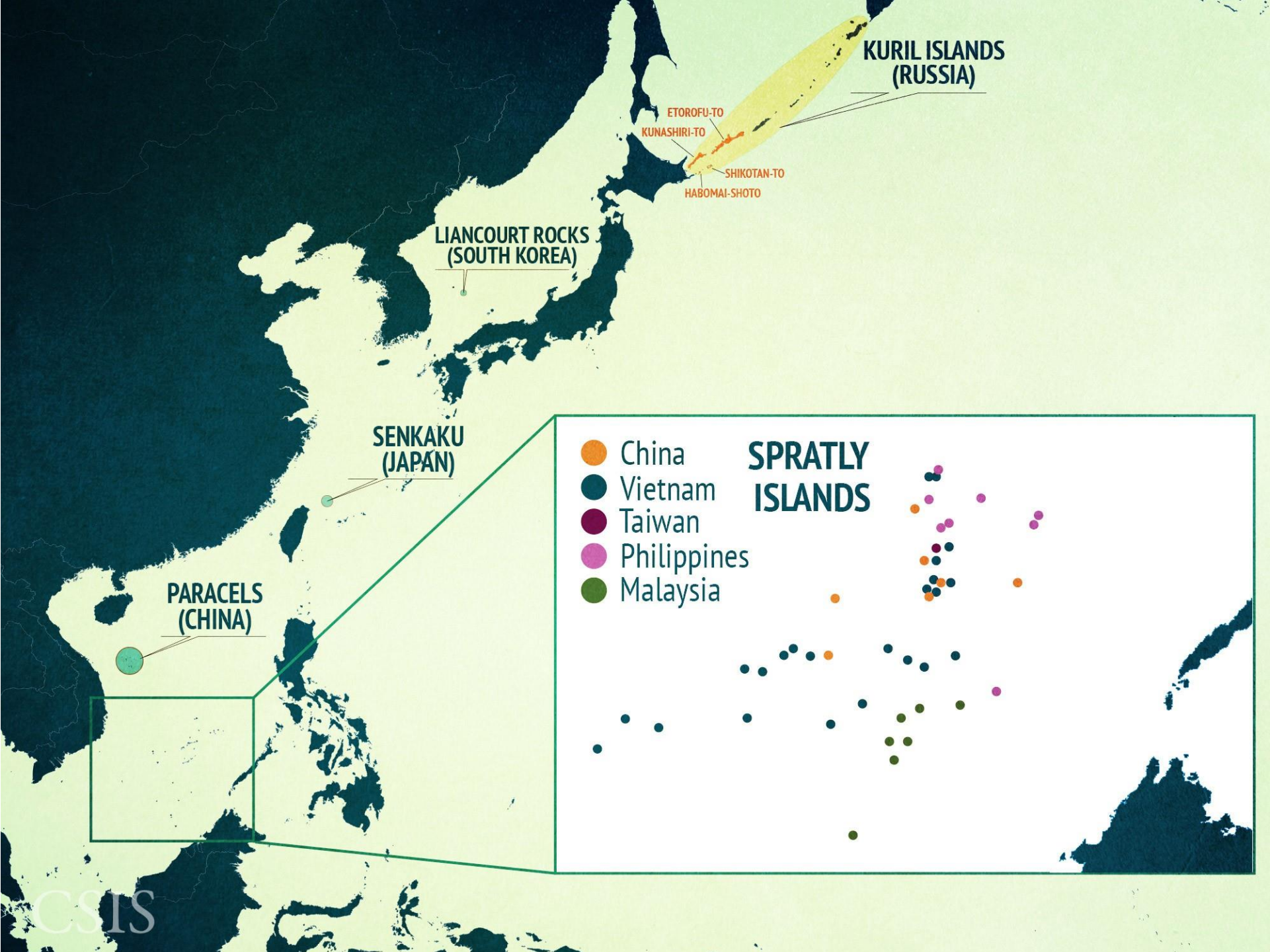


# China's One Belt, One Road initiative



Source: BLOOMBERG STRAITS TIMES GRAPHICS





# Airstrip Comparison *in the South China Sea*

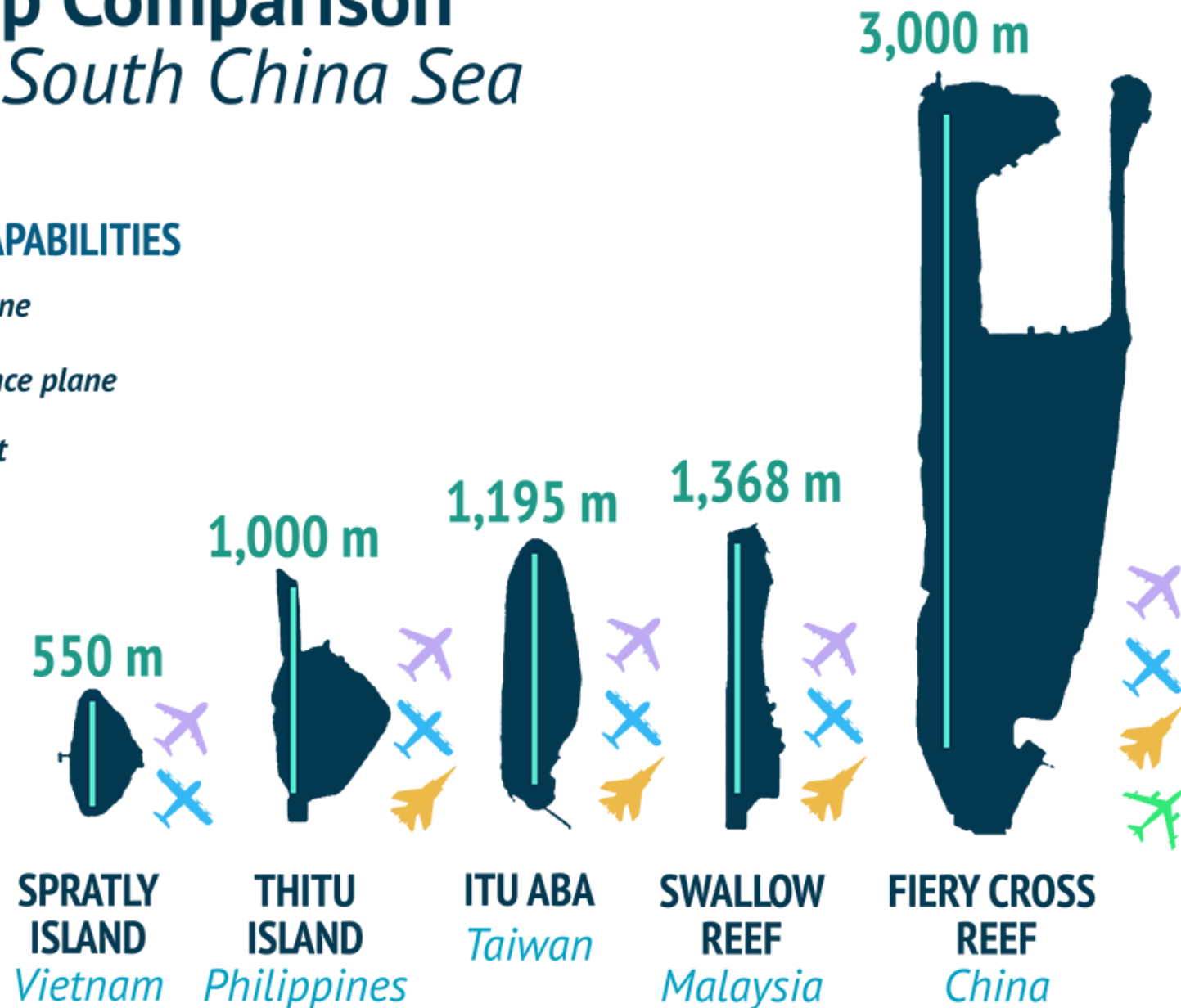
## AIRCRAFT CAPABILITIES

 Cargo plane

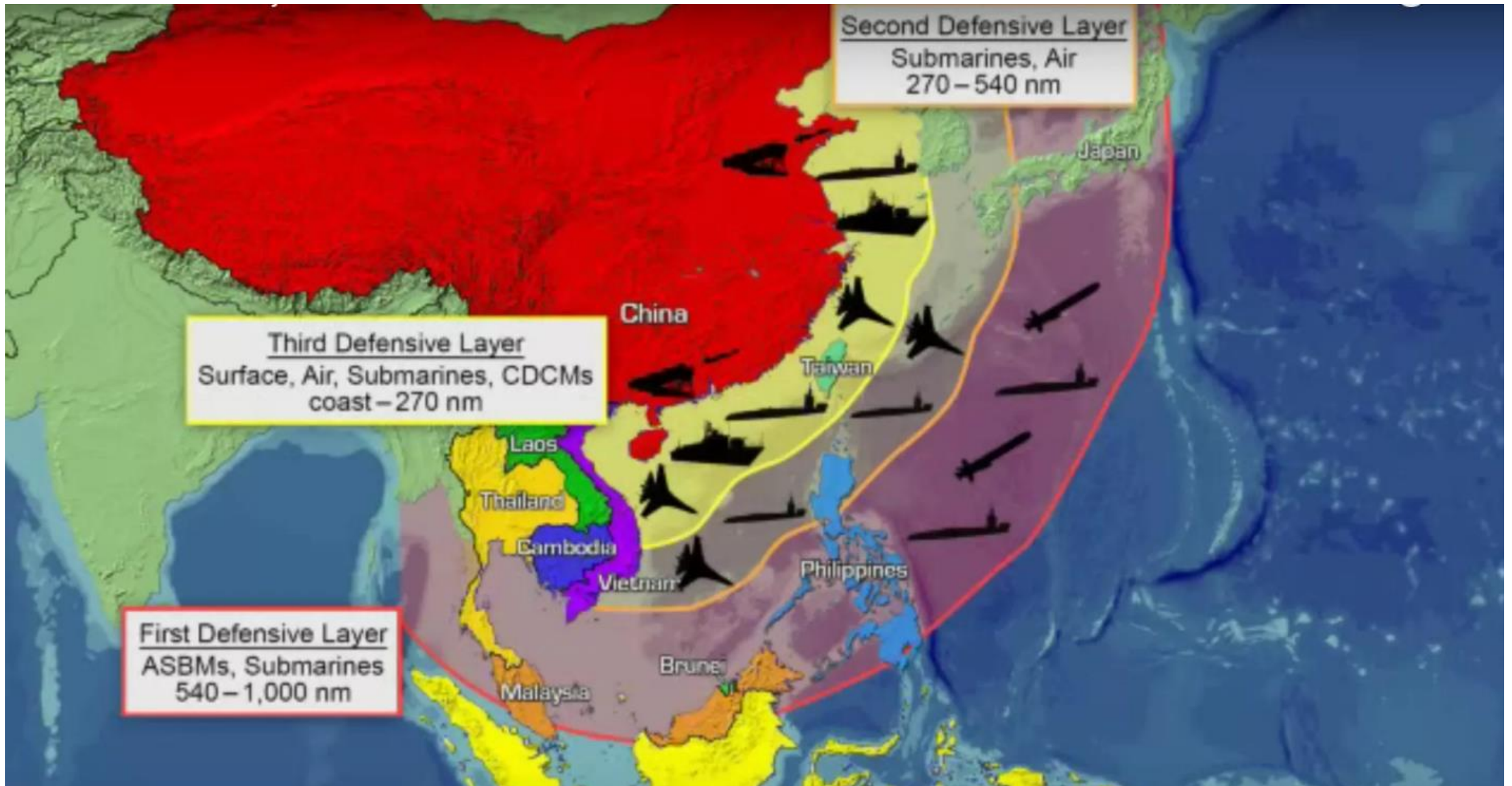
 Surveillance plane

 Fighter jet

 Bomber



# Modernização militar e o Anti Access/Area Denial (A2/AD)



# Integrating laser weapons

BAE Systems is funding a £30m programme to facilitate the introduction of laser weapons into UK military service platforms

1. There is a growing need for a new type of high-precision weapon to counter evolving threats to platforms and systems
2. Laser Directed Energy Weapons (LDEW) could provide the solution, and work by emitting focused light energy to neutralise or disable targets
3. LDEWs can be integrated on to land, sea and air platforms, and have the potential to provide Armed Forces with a technological advantage whilst changing the nature of warfare



## BAE Systems' LDEW programme

- Focusing on how to integrate LDEWs onto military aircraft, ships and land vehicles
- Utilising BAE Systems' long history of incorporating new systems and capabilities onto platforms
- A £30 million programme aims to accelerate the introduction of LDEW capabilities by building confidence in their utility
- Working in collaboration with the Ministry of Defence and drawing on the global expertise of BAE Systems and its partners

## The advantages of LDEW technology

- A scalable effect – the ability to neutralise or disable critical targets
- Multiple potential uses – ranging from mine clearance to missile defence and more
- Providing protection for platforms with accuracy and precision
- Increased capability against swarm attacks
- Improved training capability through removal of training ordnance and use at 'safe' power levels
- Cost-effective response to improvised threats



# Taiwan targets former gang leader over 'China funding'

## Facções criminosas miram influência em eleições nas 5 regiões do país

Leandro Prazeres e Luís Adorno

Do UOL em Brasília e em São Paulo 22/09/2018 | 04h01

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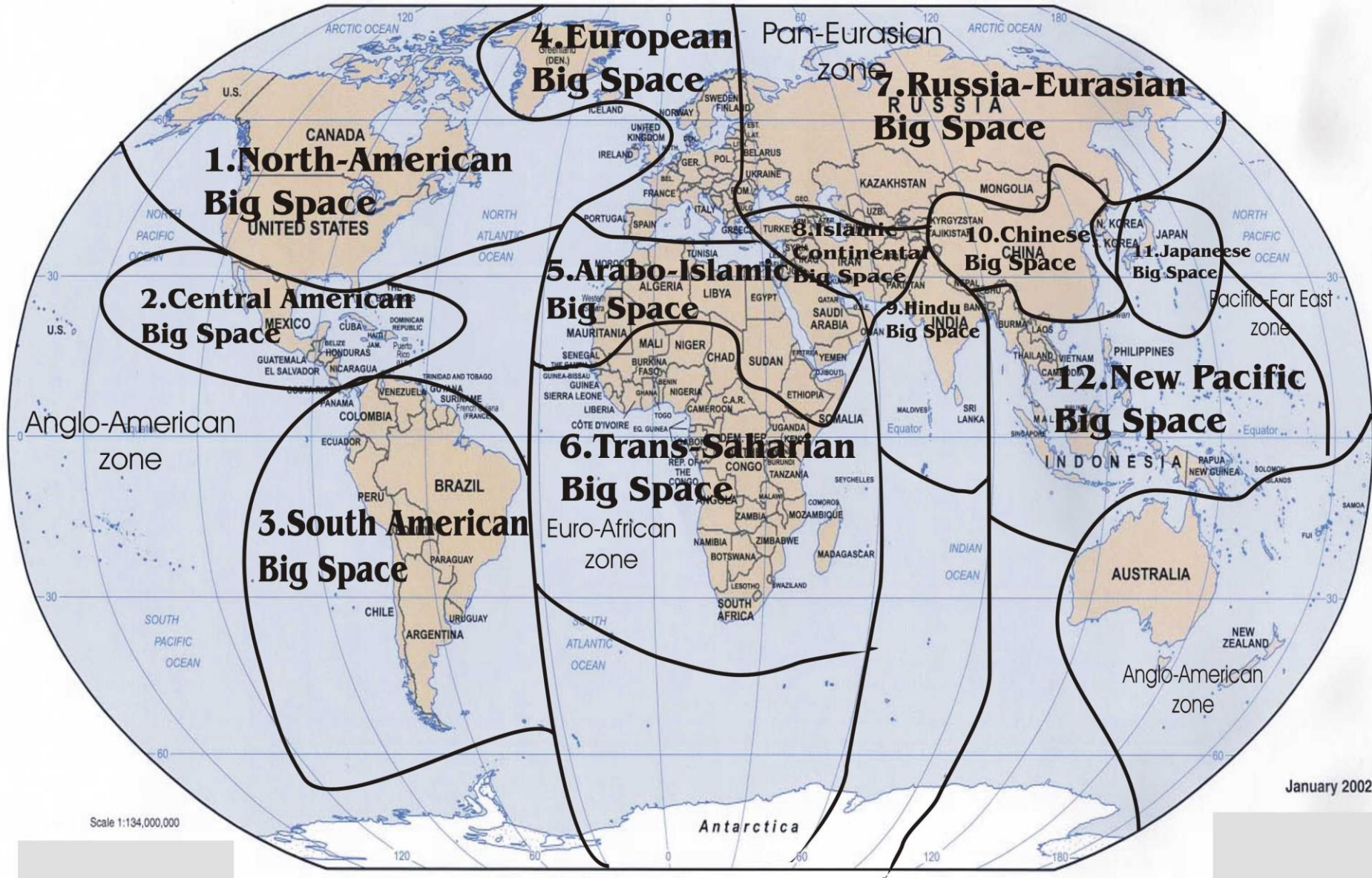
J Imprimir F Comunicar erro

Arte UOL









2-d map of multipolar world. Four zones - big spaces.

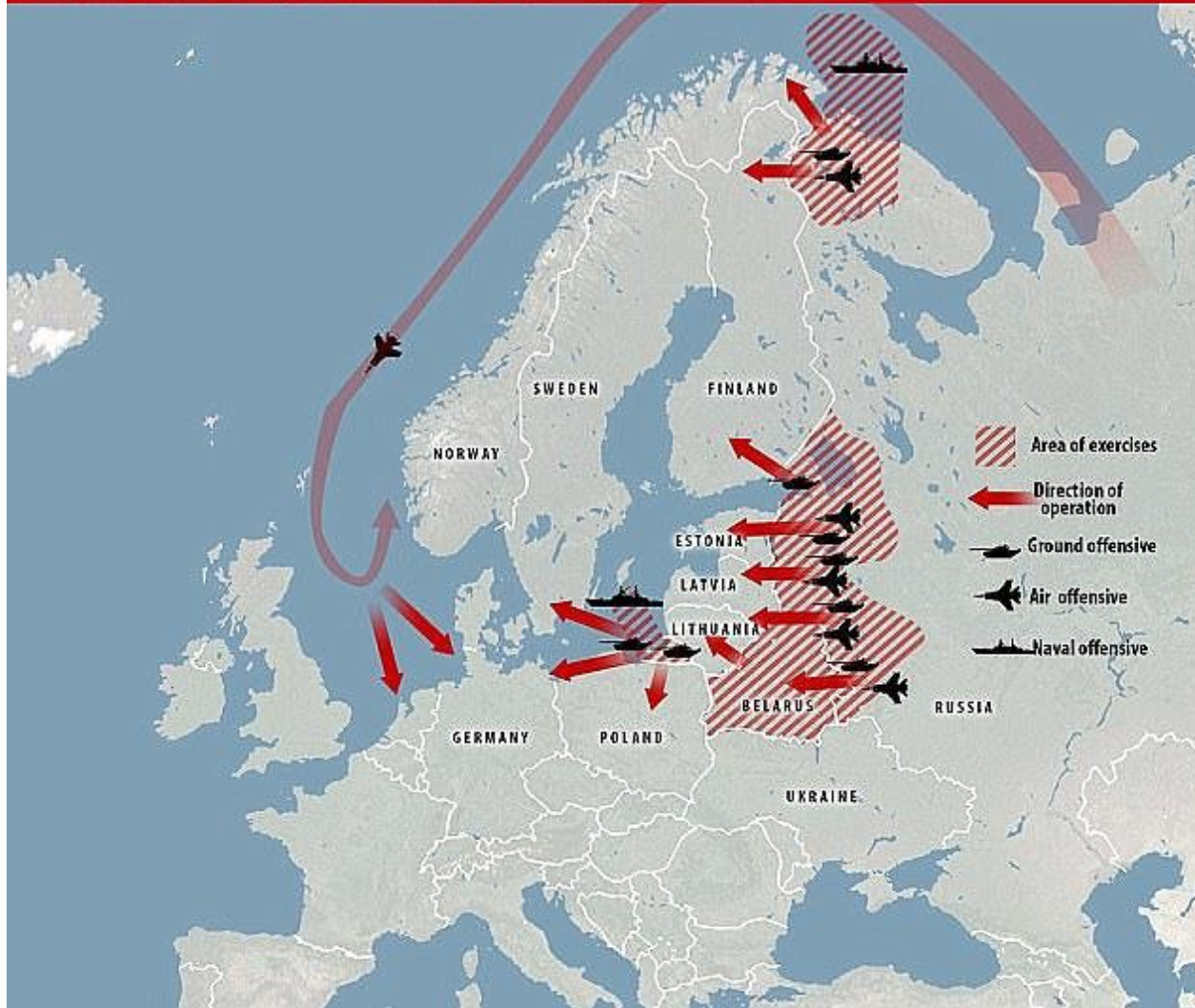
1. North-American big space 2. Central American big space 3. South American big space 4. European big space

5. Arabo-Islamic big space 6. Trans-Saharan big space 7. Russian-Eurasian big space

8. Islamic continental big space 9. Hindu big space 10. Chinese big space 11. Japanese big space 12. New Pacific big space

# Reforma militar e modernização das capacidades operacionais

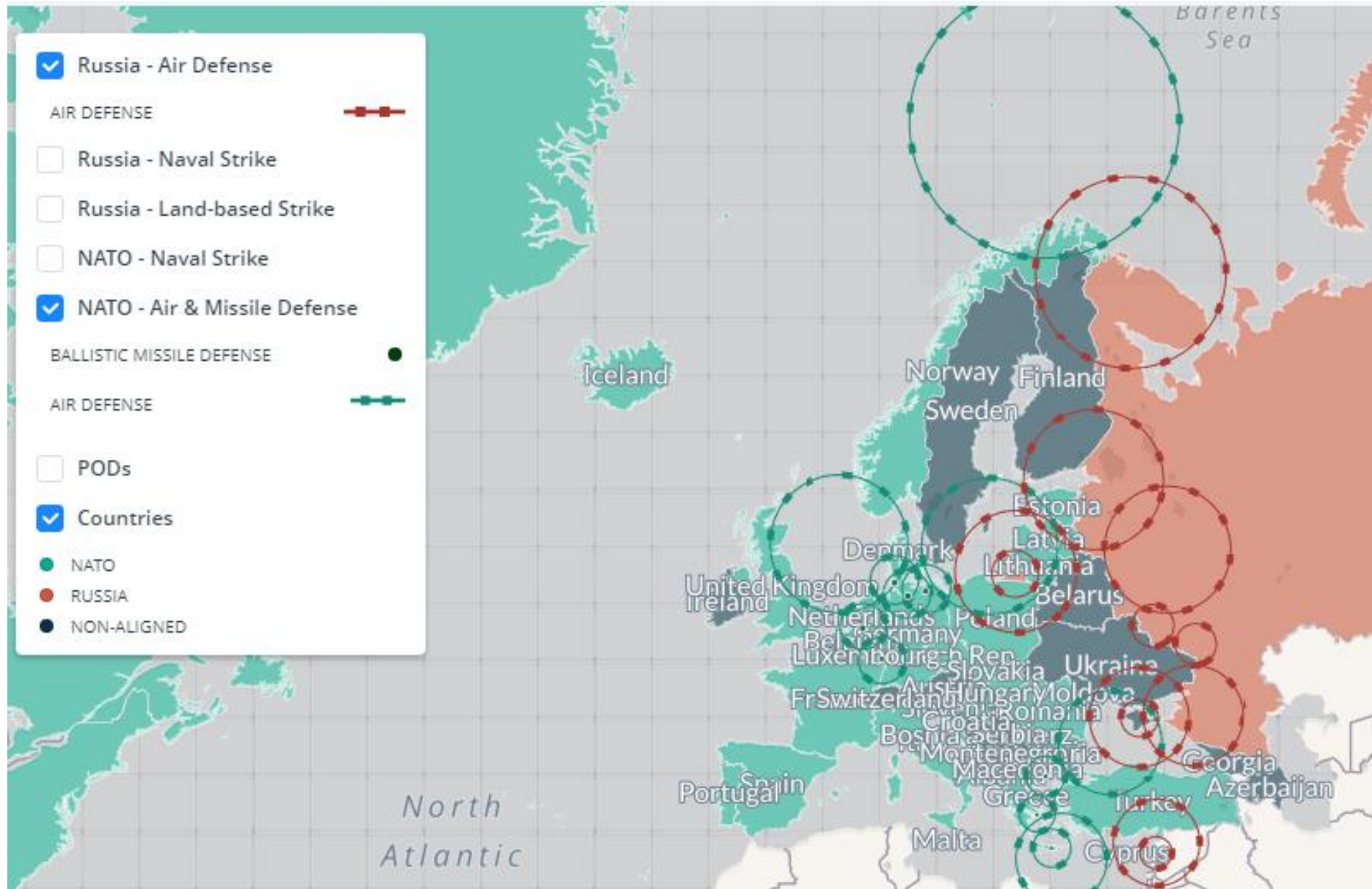
## ZAPAD 2017 MANOEUVRES



## ISW RUSSIA IN EUROPE: MAY 1-JUNE 14 2016



# Desafio A2/AD da Rússia no Teatro de Operações Europeu



Disponível em: <https://missilethreat.csis.org/russia-nato-a2ad-environment/>

# Capacidade Expedicionária para além das Fronteiras da Rússia



# *PGM - Mísseis de cruzeiro*



## Conflitos congelados da era pós-soviética

Conheça regiões da extinta URSS que ainda querem se separar

*Ameaças Irregulares,  
Guerra Assimétrica e  
Convencional nas  
Fronteiras*



🏠 > News

# Russia uses missiles and cyber warfare to fight off 'swarm of drones' attacking military bases in Syria



🔖 Save 53





# PRIVATE MILITARY COMPANIES IN RUSSIA

	RSB-GROUP	ANTITERROR	MAP	MSGROUP	CENTRE R	ATKGROUP	SLAVCORPS	PMC WAGNER	E.N.O.T.	COSSACKS
PARTICIPATING IN WARS										
UKRAINE ('DPR', 'LPR')	✓	?	✓	?	?	✓	✓	✓	✓	✓
SYRIA	?	✓	?	✓	✓	✓	✓	✓	✓	✓
OTHER CONFLICTS	?	✓ IRAQ	?	✓ PROTECTION OF SEA AND GROUND TRANSPORTS	✓ IRAQ YUGOSLAVIA CAUCASUS AFGHANISTAN	?	?	✓	✓ TAJIKISTAN NAGORNO-KARABAKH	✓ IRAQ YUGOSLAVIA CAUCASUS AFGHANISTAN CRIMEA CHECHNYA





JOURNAL ARTICLE

**Clausewitz Rules, OK? The Future Is the past: With GPS**

Colin Gray

*Review of International Studies*

Vol. 25, The Interregnum: Controversies in World Politics  
1989-1999 (Dec., 1999), pp. 161-182

Published by: [Cambridge University Press](#)

<https://www.jstor.org/stable/20097644>

Page Count: 22

