



Digitally Reimagine Sea Power

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Allied warship



Not an allied warship



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1. Everything is *digital* in the 21st century

2. Including states' Sea Power

- Naval power is now defined by digital kill chains
- Seagoing character of its people (digital natives)
- Commercial maritime interest in a digital economy

3. We are behind in realizing all of this...



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“Software is eating the world.”

Google – Marc Andreessen, 2011



Apple (\$3 Trillion)

Italy

Brazil

Canada

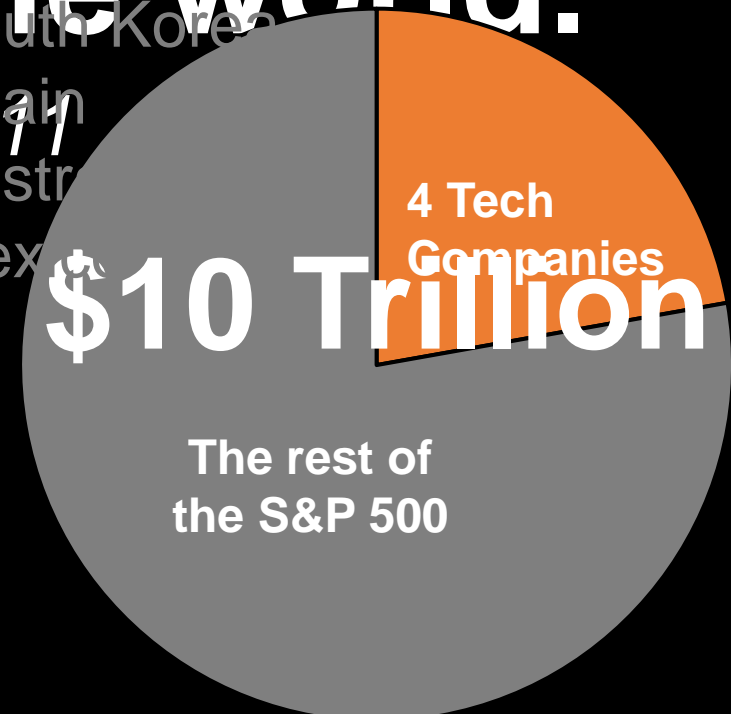
Russia

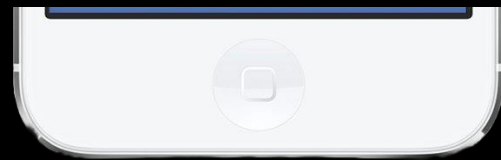
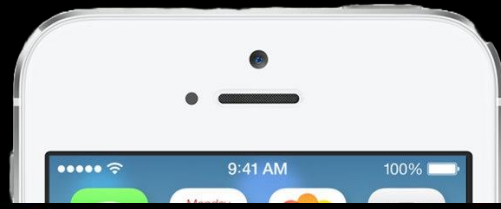
South Korea

Spain

Australia

Mexico





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By 2024, the digital divide is creating a digital gap

Compute
72 Trillion

Operations per Second



Software



TESLA

Networks
400 Billion

Operations per Second



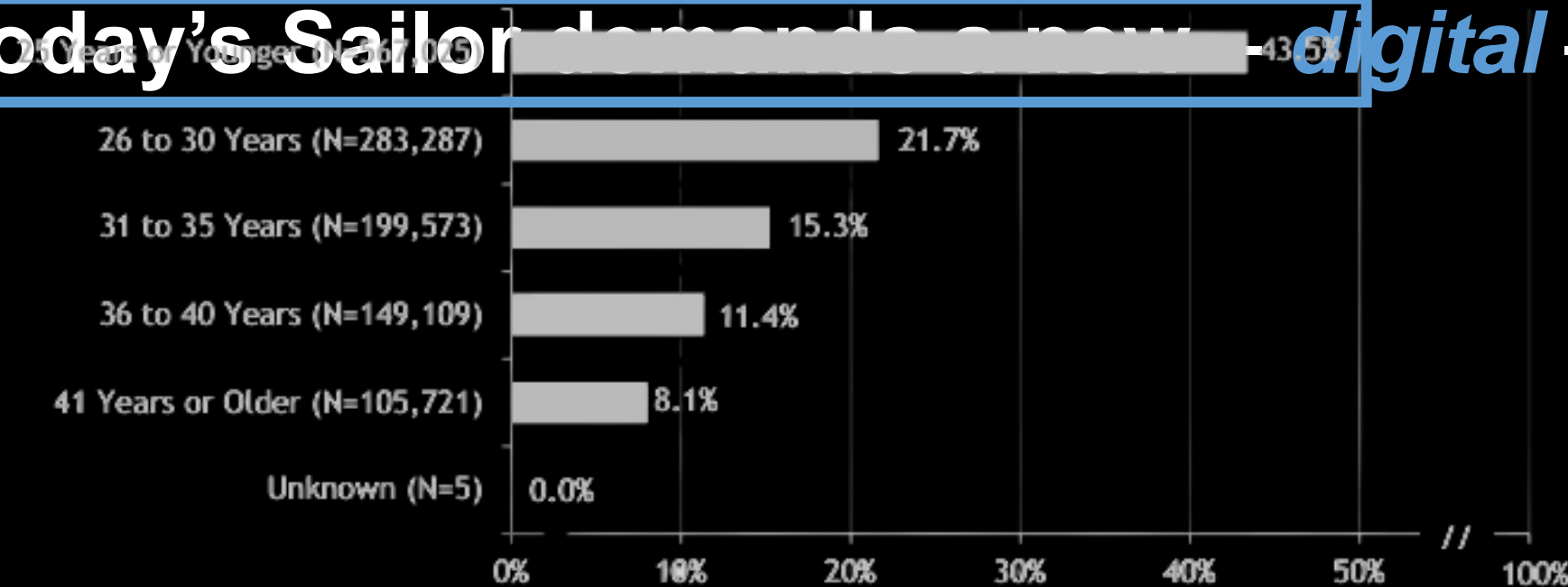
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digital

Because they are digital natives

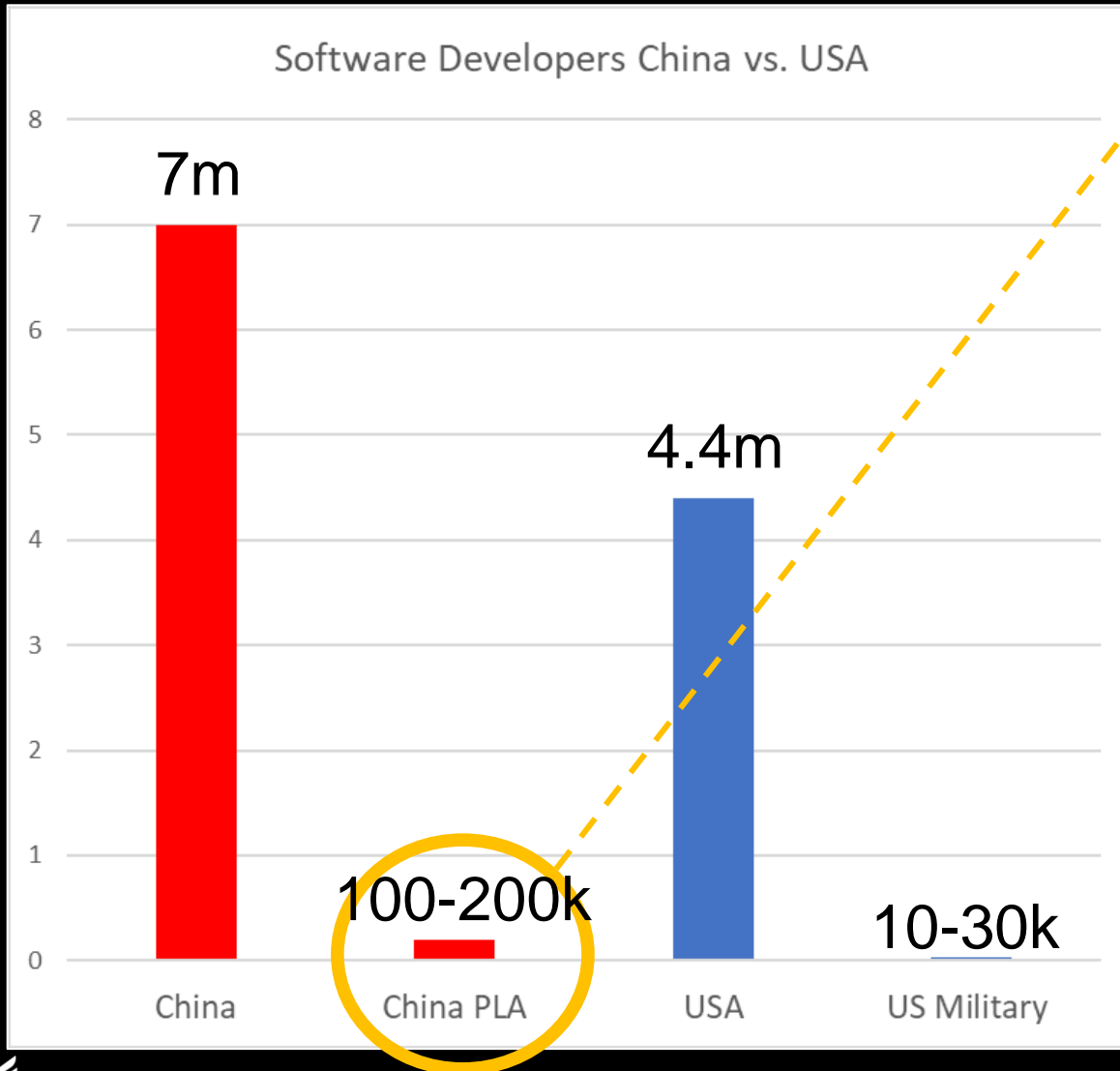
Today's Sailor demands a new *digital* — experience



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Leveraging digital talent is a national security imperative



PLA Support Force (SSF)

5th PLA Branch (Ground, Navy, Air, Rocket (Nuke)), Established in 2015

Rapidly develop & integrate digital tech

Cyber
Electronic Warfare
Software / Data
AI/ML
And more

Internal Operational Modernization: develop new applications and tools to improve efficiency, effectiveness, and responsiveness of SSF and other military branches.

Source: Official PRC and U.S. gov reporting (various)

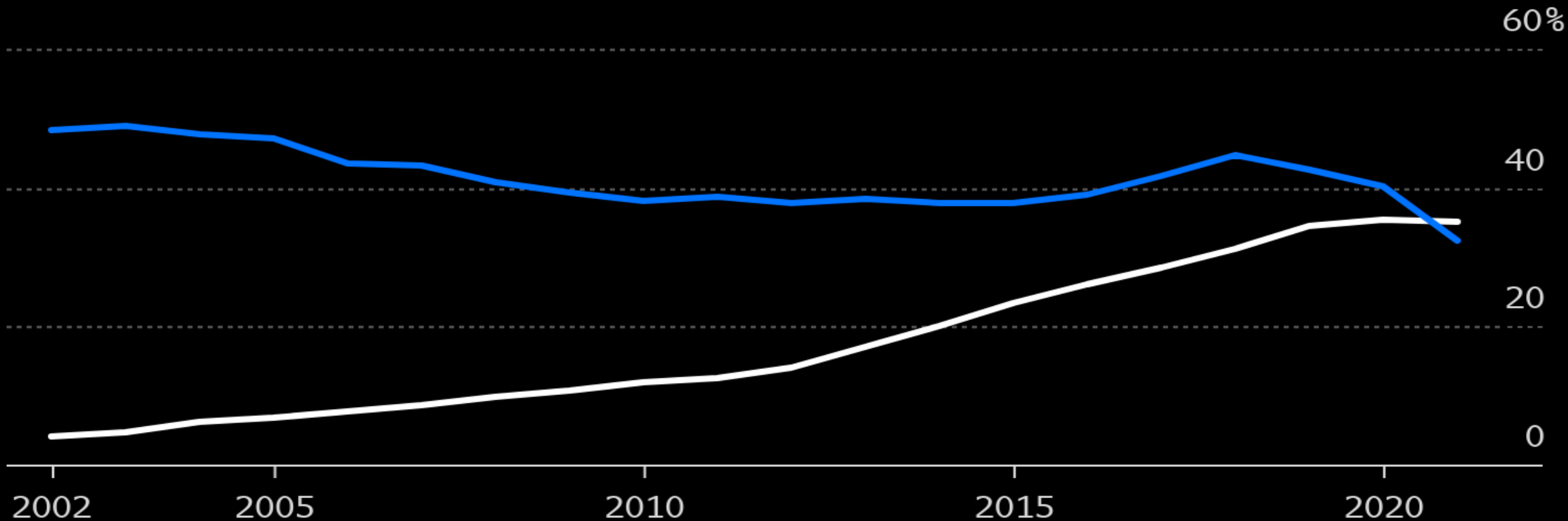
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Brain War

China overtakes the US in global share of high-impact AI papers

China US



Source: Allen Institute for Artificial Intelligence

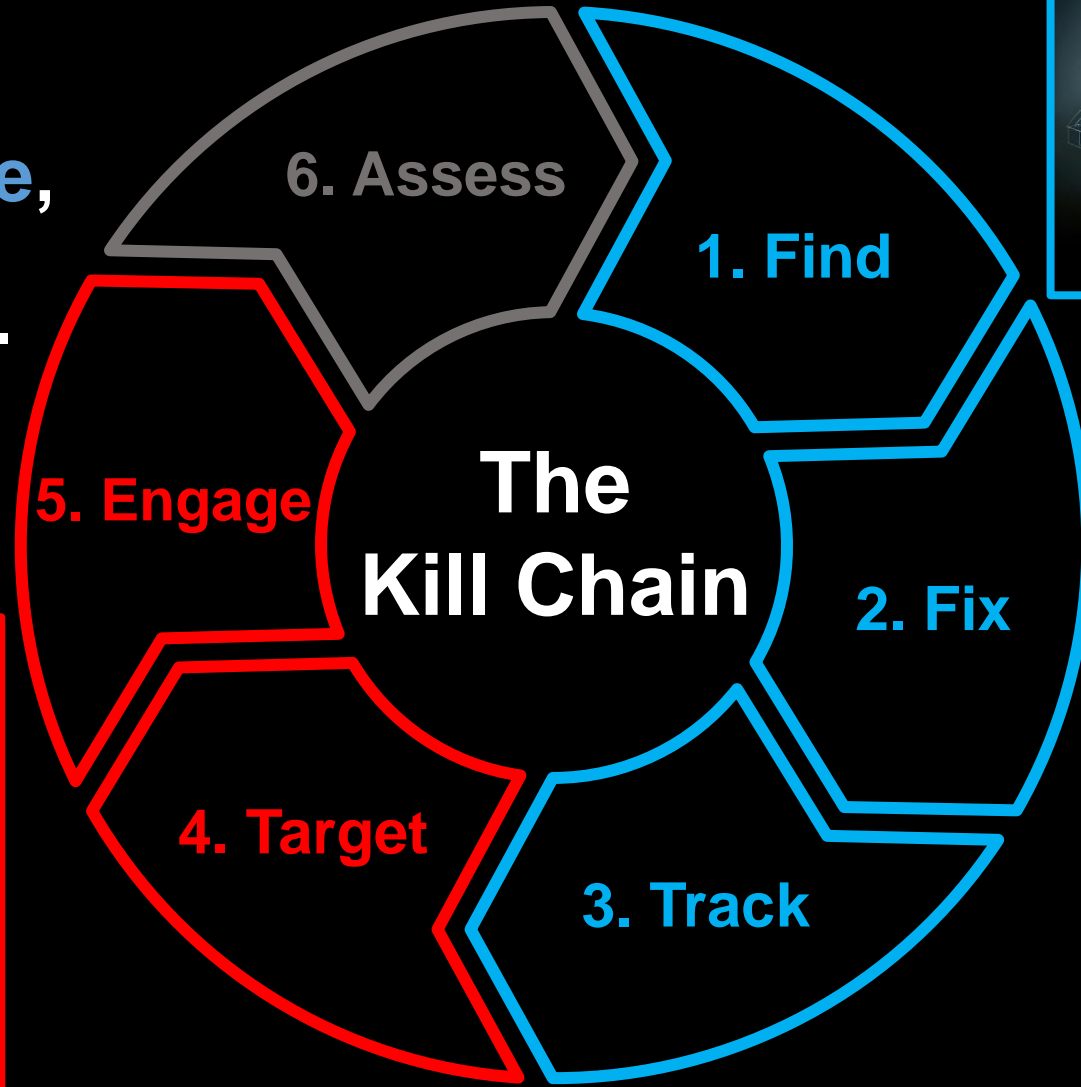
* Most-cited 10% among 2 million academic papers on AI since 1980

Bloomberg



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The Kill Chain, and by extension our tactics, are now defined by software, networks, and computing power.



Over-the-air software + AI updates

Sections **DefenseNews** Air Warfare Land Naval Space Cyber C4ISR Pentagon Congress Glob


Featured: [Coverage: Modern Day Marine](#) > [Webcast: Installation Modernization](#) > [Whitepa](#)

Naval

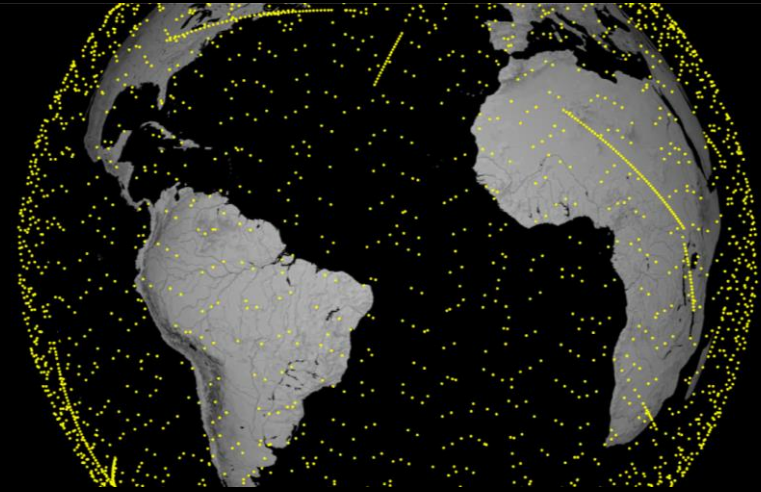
US Navy making Aegis updates, training changes based on Houthi attacks

By [Megan Eckstein](#) Thursday, Mar 21, 2024

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proliferated Low Earth Orbit (pLEO) Satellites for internet at sea



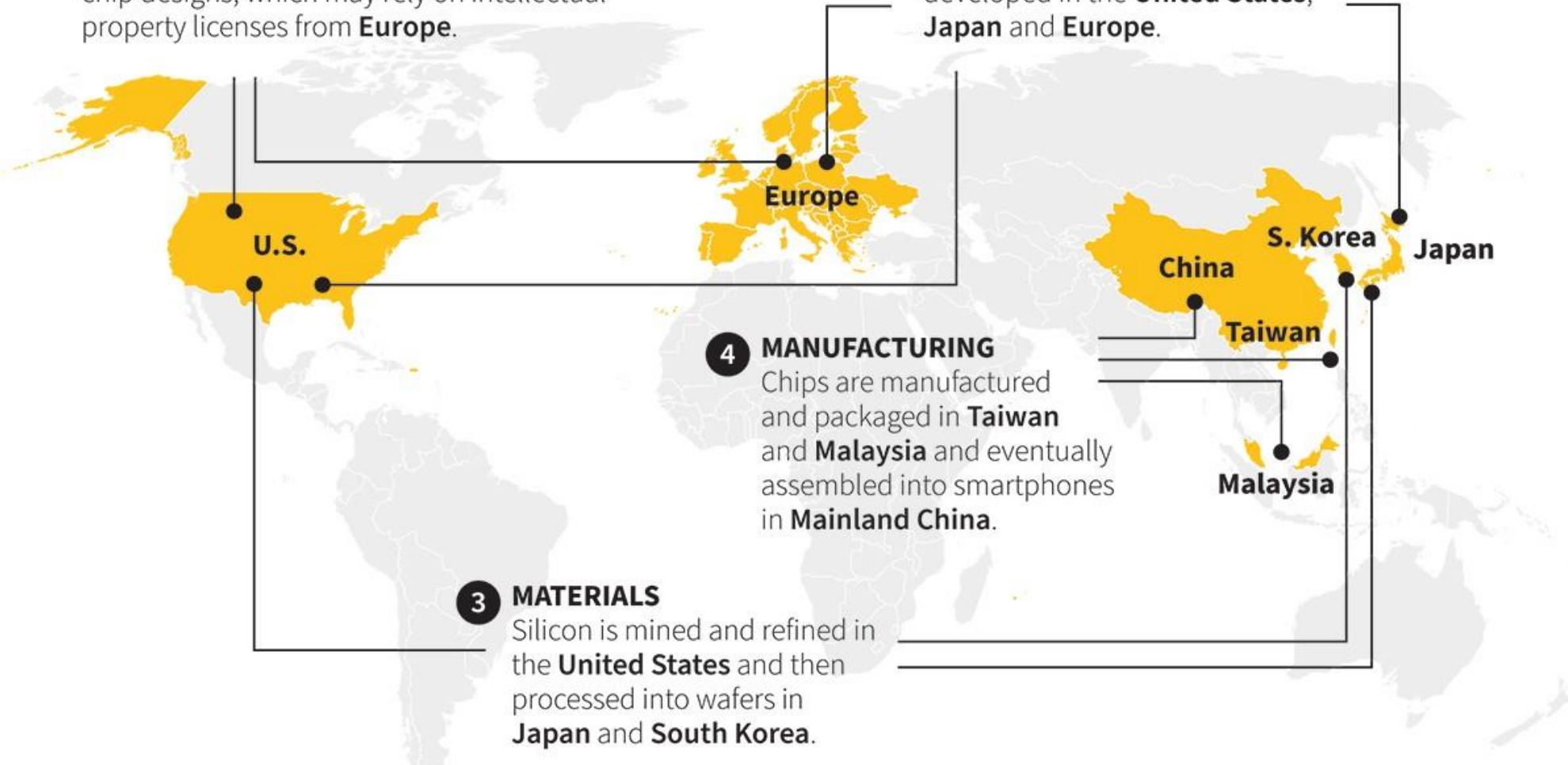
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1 DESIGN

United States firms provide software for chip designs, which may rely on intellectual property licenses from **Europe**.

2 EQUIPMENT

Manufacturing equipment is developed in the **United States, Japan and Europe**.



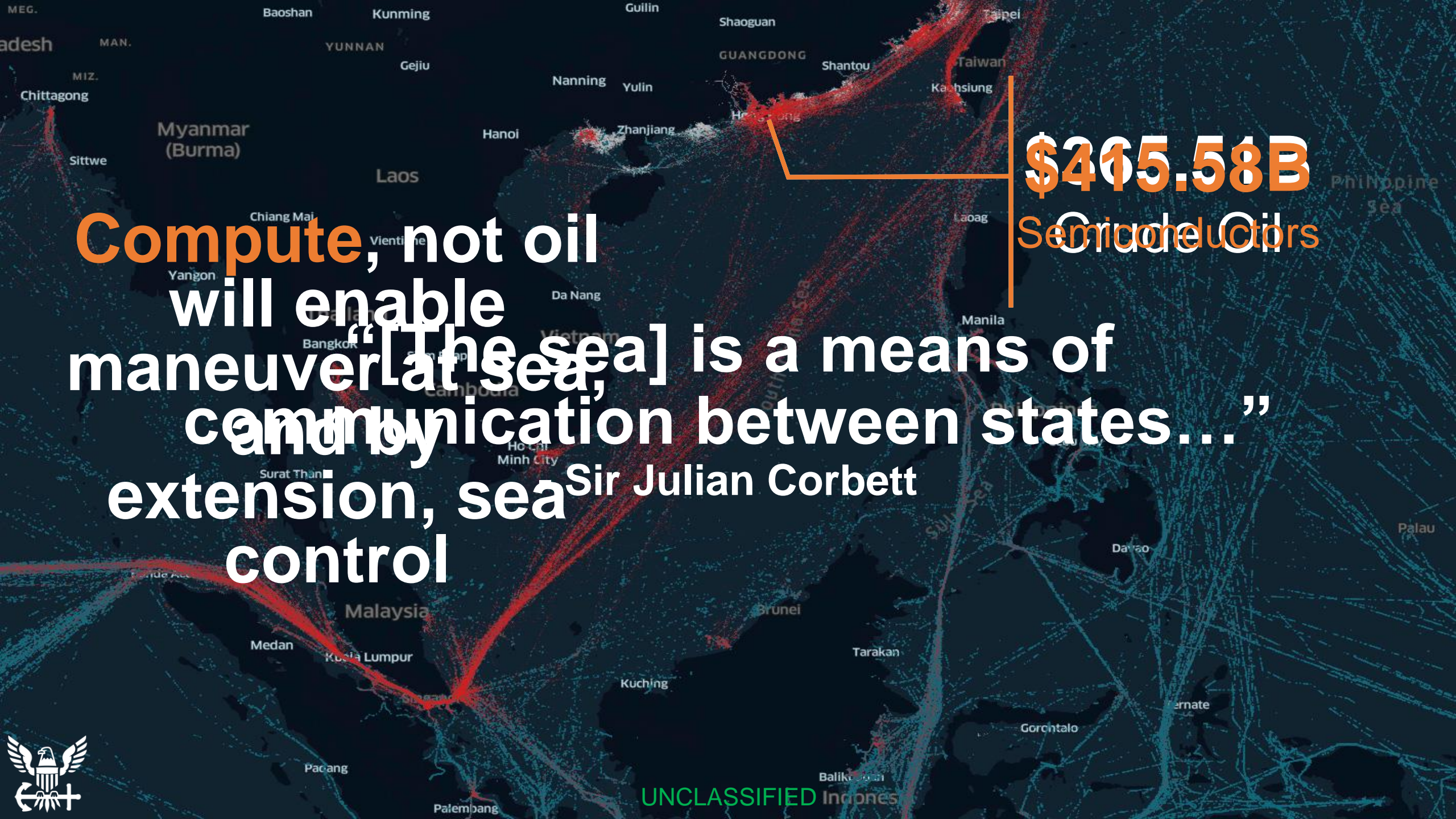
3 MATERIALS

Silicon is mined and refined in the **United States** and then processed into wafers in **Japan and South Korea**.

4 MANUFACTURING

Chips are manufactured and packaged in **Taiwan** and **Malaysia** and eventually assembled into smartphones in **Mainland China**.





Compute, not oil
will enable
maneuver at sea,
and by extension, sea
control

“[The sea] is a means of
communication between states...”

Sir Julian Corbett

\$415.58B

Crude Oil

Semiconductors



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**Cloud and
networks are the
future of naval
infrastructure**



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Warships will be floating super computers



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What should you do?

1. Close the commercial-defense *digital gap*
2. Leverage a new generation of digital talent
3. Create digital kill chains to maximize naval power
4. Build resilient digital supply chains

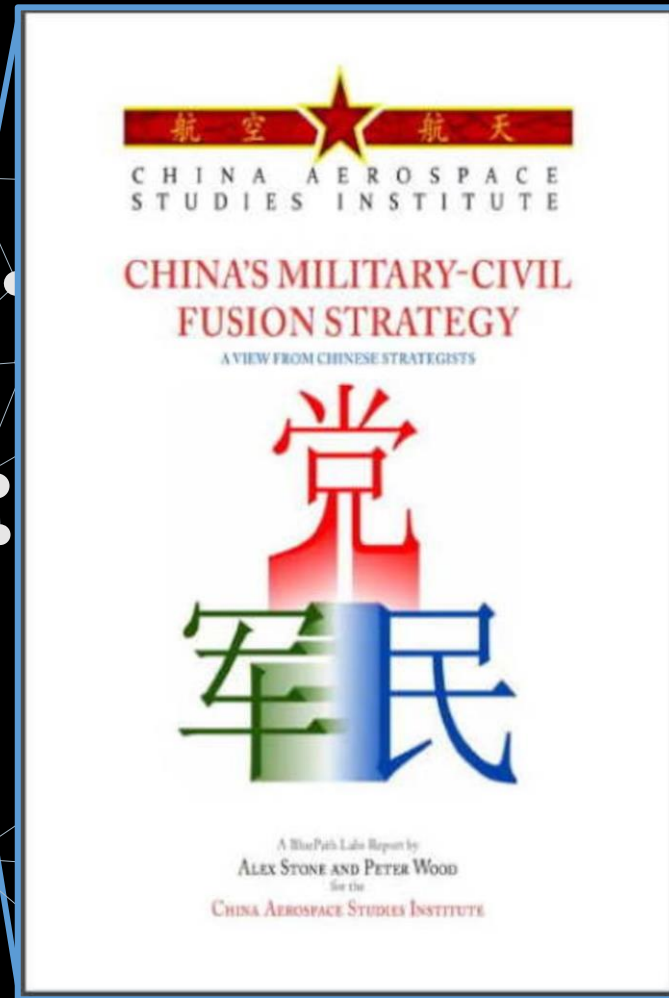
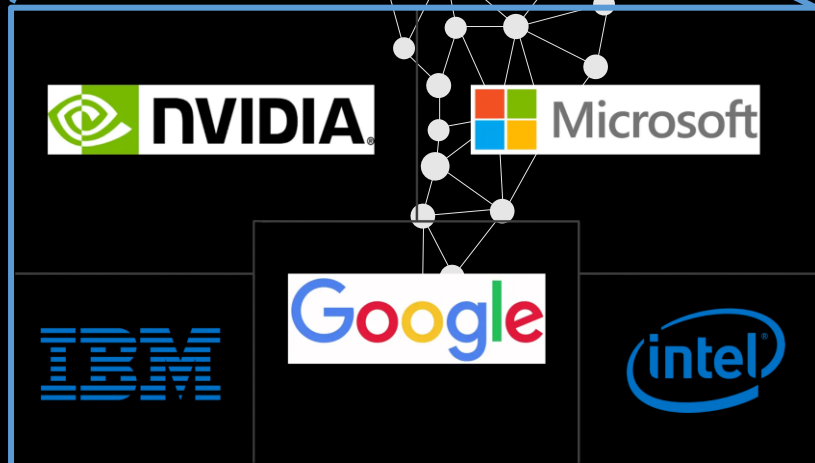


**The most
damaging phrase
in the language is
“It’s always been
that way.”**

- Rear Admiral Grace Hopper



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thank you

LT Artem Sherbinin
Chief Technology Officer, Task Force Hopper
U.S. Naval Surface Forces

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