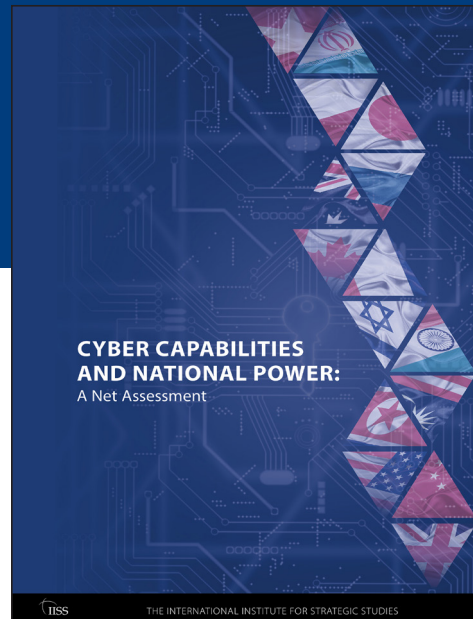New IISS Research Paper

CYBER CAPABILITIES AND NATIONAL POWER:
A Net Assessment

Executive Summary

This report sets out a new methodology for assessing cyber power, and then applies it to 15 states:

- Four members of the Five Eyes intelligence alliance – the United States, the United Kingdom, Canada and Australia
- Three cyber-capable allies of the Five Eyes states – France, Israel and Japan
- Four countries viewed by the Five Eyes and their allies as cyber threats – China, Russia, Iran and North Korea
- Four states at earlier stages in their cyber-power development – India, Indonesia, Malaysia and Vietnam

The methodology differs from the index-based approaches developed by other organisations because it is broader and principally qualitative, analysing the cyber ecosystem of each state and how it intersects with international security, economic competition and military affairs. The states are assessed in seven categories:

- Strategy and doctrine
- Governance, command and control
- Core cyber-intelligence capability
- Cyber empowerment and dependence
- Cyber security and resilience
- Global leadership in cyberspace affairs
- Offensive cyber capability

THREE TIERS OF CYBER POWER

We have divided the 15 states into three tiers of cyber power.

Our first tier is for states with world-leading strengths across all the categories in the methodology. We conclude that only the **United States** merits inclusion.

Our second tier is for states that have world-leading strengths in some of the categories. The states we place at that level are, in alphabetical order, **Australia**, **Canada**, **China**, **France**, **Israel**, **Russia** and the **United Kingdom**.

Our third tier is for states that have strengths or potential strengths in some of the categories but significant weaknesses in others. We conclude that **India**, **Indonesia**, **Iran**, **Japan**, **Malaysia**, **North Korea** and **Vietnam** are at that level.

Any attempt at a more granular ranking within the second and third tiers would depend on the degree of importance attributed to each category.

In the second tier, if a combination of world-class cyber security, world-class cyber intelligence, sophisticated offensive cyber capability and powerful cyber alliances were deemed key, Israel and the UK would probably be top. Alternatively, if the decisive factors were the amount of resources – both human and financial – devoted to cyber, unrestrained operational boldness and day-to-day experience of running cyber-enabled information operations, China and Russia would probably be the leading second-tier states. But overall, mainly because of its large and growing indigenous digital-industrial capacity, we conclude that only China is currently on a trajectory to join the US in the first tier.

In the third tier, Malaysia would be top if core strength in cyber security were the most important criterion. If operational boldness and experience were key, Iran would lead. However, given its world-leading internet-related high-tech industry, we conclude that Japan is best placed, in the long term, to rise into the second tier.

This report provides confirmation of the likely durability of US digital-industrial superiority, including through international alliances, for at least the next ten years. There are two strands to this judgement. The first is that in advanced cyber technologies and their exploitation for economic and military power, the US is still ahead of China. The second is

that since 2018 the US and several of its leading allies have agreed to restrict, with differing degrees of severity, China's access to some Western technologies. By doing so, these countries have endorsed a partial decoupling of the West and China that could potentially impede the latter's ability to develop its own advanced technology. How robustly the US continues this strategy, and how China responds, will dictate the future balance of cyber power.

Tiers of cyber power: A qualitative assessment

Categories of analysis

Strategy and doctrine – Governance, command and control – Core cyber-intelligence capability – Cyber empowerment and dependence – Cyber security and resilience – Global leadership in cyberspace affairs – Offensive cyber capability

Tier One   ① ② ③ ④ ⑤ ⑥ ⑦

World-leading strengths in all the categories:
UNITED STATES

Tier Two   ① ② ③ ④ ⑤ ⑥ ⑦

World-leading strengths in some categories:
AUSTRALIA, CANADA, CHINA, FRANCE, ISRAEL, RUSSIA, UNITED KINGDOM

Tier Three   ① ② ③ ④ ⑤ ⑥ ⑦

Strengths or potential strengths in some categories but significant weaknesses in others:

INDIA, INDONESIA, IRAN, JAPAN, MALAYSIA, NORTH KOREA, VIETNAM

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