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Kennissamenwerking met onvrije landen in een tijd van harde competitie tussen grootmachten: de militaire dimensie

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Technologieoverdracht en de modernisering van het Volksbevrijdingsleger

China's militaire opkomst gaat razendsnel: het Volksbevrijdingsleger bezit het meest geavanceerde conventionele raketarsenaal ter wereld, een grote en moderne vloot en de breedste industriële basis om meer militaire middelen bij te produceren. Tegelijkertijd speelt "hereniging" met Taiwan een grote rol in Xi's lange termijnvisie voor de "grootse wederopstanding van de Chinese natie" die in 2049 volbracht moet zijn. De VS treedt steeds harder op tegen China en zal zijn militaire middelen richten op Oost-Azië. Een Amerikaans-Chinees militair conflict in China's achtertuin is niet langer ondenkbaar.³

Waarom is dit een probleem voor Nederland en Europa? De VS kunnen nu (of op termijn) niet meer Europa's veiligheid garanderen tegenover Rusland als gevolg van China's groeiende assertiviteit en militaire modernisering. Een Taiwan-crisis bezorgt Europa een acuut veiligheidsprobleem, zeker als de VS ons verzoekt hierin met haar militair te interveniëren in Oost-Azië. Maar ook als zo'n crisis uitblijft heeft Europa een steeds groter wordend gat in de verdediging. Die trend is tegen ons.

We kunnen de trend echter remmen. Het Volksbevrijdingsleger lijdt nog steeds aan fundamentele, technologische gebreken in zijn militaire middelen, zoals anti-onderzeeër- en straaljagertechnologie (zie Tabel 1). Tevens hebben veiligheidsanalisten, zoals mijn collega's Hugo van Manen en Dr. Jack Thompson, een beeld welke technologieën waarschijnlijk de toekomst van oorlogsvoering medebepalen. Dit betreft in eerste instantie big data, fotonica, robotica en autonome systemen (RAS) en halfgeleiders (of 'chips') (zie Tabel 2). Ook kunstmatige intelligentie is relevant.

Nederlandse en Europese kennisinstellingen moeten voorkomen dat het Chinese Volksbevrijdingsleger zijn capaciteiten uitbreidt via kennissamenwerking met onze kennisinstellingen. Het *Made in China 2025* programma en *China's 14^{de} Vijfjarenplan* (2021-2025) laten zien dat China dit weldegelijk ambieert.⁴ Dit betekent niet nooit meer samenwerken. Echter is het wel belangrijk praktische checks-and-balances in te bouwen.⁵ Daarnaast moet de overheid in de echt gevoelige sectoren – eerder genoemd – beperkingen opleggen. In een nieuw tijdperk van harde competitie tussen grootmachten is het voorkomen van technologieoverdracht voor Europa's veiligheid van belang.

³ Joris Teer and Tim Sweijjs, "Stel, China Valt Taiwan Aan. Wat Doen Wij Dan?," *NRC*, October 8, 2021, <https://www.nrc.nl/nieuws/2021/10/08/stel-china-valt-taiwan-aan-wat-doen-wij-dan-a4061203>.

⁴ Simon Rabinovitch, "'Made in China 2025' Is Dead. Long Live 'Made in China 2025'! China's New Five-Year Plan Is Not Nearly as Detailed as Its Controversial MiC 2025 Plan, but It Targets All the Same Sectors & Technologies, plus a Few More. <https://t.co/Y8GrzReXis> <https://t.co/TJksmdV0nV>," Tweet, @s_rabinovitch (blog), March 12, 2021, https://twitter.com/s_rabinovitch/status/1370214528571514884.

⁵ Frank Bekkers, Willem Oosterveld, and Paul Verhagen, "Checklist for Collaboration with Chinese Universities and Other Research Institutions" (The Hague Centre For Strategic Studies (HCSS) and the LeidenAsiaCentre (LAC), January 31, 2019), <https://hcss.nl/wp-content/uploads/2021/01/BZ127566-HCSS-Checklist-for-collaboration-with-Chinese-Universities.pdf>.

Gebreken in China's militaire capaciteiten

Realm	Capability	Kind	Shortcoming
Air	Next-generation fighter (J-20)	Technological	Cannot be used to protect sea-faring naval assets, as it cannot land on aircraft carriers and helicopter carriers; No Vertical Take-Off and Landing (VTOL) ability
Air	Fixed-wing aircraft (J-15 and J-20)	Technological	Limited air fighting capabilities; Even the newest Chinese fighter/ground attack aircraft (J-15 and J-20) suffer engine issues
Air	Helicopters	Technological	CSGs are vulnerable to submarine warfare; As PLA helicopters have limited Anti-Submarine Warfare (ASW) capabilities
Sea	Carrier-strike group	Numerical	Lacks the number of aircraft carriers and cruisers required to project power extra-regionally; as it (as of May 2021) only has two (Liaoning and Shandong) carriers and three commissioned cruisers (with five on the way)
Sea	Aircraft carrier	Technological	Carriers have limited sea-faring range before refueling is required; the PLAN's first two carriers and the third one (on the way) are diesel-fueled , putting severe limitations on how far they can sail without refueling
Sea	Aircraft carrier	Technological	PLAN's current aircraft carriers have limitations in force projection; as they are relatively small as compared to American carriers
Sea	Aircraft carrier	Technological	Carriers have limited situational awareness or "ISR capabilities", as they cannot launch Airborne Early Warning & Control Aircraft; have ski-jump ramps/lack CATOBAR launch systems
Sea	Aircraft carrier	Technological	Limited naval aviation offense and defense as it cannot launch fully fueled aircraft or only with a limited amount of missiles; Has a ski jump ramp; lacks a CATOBAR launch system
Sea; Air	Aircraft carrier	Technological	Limited naval aviation offense and defense; as the PLAN's carriers are protected by the older J-15 and not by China's newest J-20
Sea; Air	Combined	Operational	The PLAN lacks the operational experience (or "tribal knowledge") necessary to operate highly complex Carrier Strike Groups and battle groups even in situations of peace/low-intensity combat – let alone during high-intensity conflict
Missile	Ballistic Missile	Technological	Cannot be used with sufficient precision and safely over long distances; No anti-ship application over longer distances/using ballistic missiles against ships or bases in the Indian Ocean and adjacent waters to shoot over (nuclear-armed) countries

Tabel 1 Overview of impediments to the PLA's ability to effectively use its Far Seas military capabilities⁶

⁶ Deze tabel is onderdeel van het aankomende HCSS rapport "China's Military Rise and the Implications for European Security" (oktober 2021).

Hoogwaardige nieuwe technologieën en de toekomst van oorlogsvoering

Technology	Military vs Economic	Estimated Impact ¹	Estimated Timing ²
AI	Military	Revolutionary	Long Term
	Economic	Revolutionary	Now
Big Data	Military	Revolutionary	Soon
	Economic	Modest	Now
Bio and Human Enhancement Technologies (BHET)	Military	Modest to Significant	Soon
	Economic	Significant	Now
Chemical Technologies	Military	NA	NA
	Economic	Modest to significant	Now
Photonics	Military	Significant	Now to Soon
	Economic	Significant	Now
Quantum Technologies	Military	Revolutionary	Soon to Long Term
	Economic	Significant to Revolutionary	Soon
Robotics and Autonomous Systems (RAS)	Military	Significant to Revolutionary	Soon
	Economic	Significant to Revolutionary	Now
Semi-conductor Lithography	Military	Significant	Now
	Economic	Significant to Revolutionary	Now
Sensor Technologies	Military	Modest	Long Term
	Economic	Modest	Now
Space Technologies	Military	Modest to Significant	Soon to Long Term
	Economic	Significant to Revolutionary	Now to Long Term
Weapon Technologies	Military	Modest (directed energy weapon – DEW) to Significant (Hypersonics)	Soon
	Economic	NA	NA
3D printing and advanced materials	Military	Modest to Significant	Soon to Long Term
	Economic	Significant to Revolutionary	Now

Tabel 2 Sensitive technologies' impact on international security and prosperity⁷

1 **Modest** indicates that the technology will lead to a limited increase of the performance of military equipment or systems or increase economic growth only by a few percent. **Significant** suggests a much larger increase in performance or growth, at a minimum in the double digits. **Revolutionary** signifies that the technology will potentially render current military equipment/systems obsolete or create entirely new economic categories or processes. See Box 3.

2 **Now** indicates that the technology currently has a substantial impact. **Soon** suggests a substantial impact by 2030. **Long-term** predicts a substantial impact after 2030. See Box 3.

⁷ Deze tabel werd eerder gepubliceerd in Hugo van Manen et al., "Taming Techno-Nationalism: A Policy Agenda" (The Hague Centre for Strategic Studies (HCSS), September 2021), p. VII, <https://hcss.nl/report/taming-techno-nationalism/>.