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Cyber Operations in International Law: The Use of Force, Collective Security, Self-Defense, and Armed Conflicts

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INTRODUCTION

In April and May 2007, Estonia was victimized by massive computer network attacks.¹ The incident began with rioting incited by ethnic Russian cyber agitators in response to the government's decision to move a Soviet war memorial from the center of Tallinn to a military cemetery on the outskirts of the capital. Subsequent actions included direct cyber attacks against Estonian targets, including government and commercial Internet infrastructure and information systems such as those of the President, Prime Minister, Parliament, State Audit Office, ministries, political parties, banks, news agencies, and Internet service providers. They involved denial of service (DoS), distributed denial of service (DDoS), defacement and destruction.

Because Estonia had invested heavily in networking following independence, the attacks proved devastating. By 2007, the country relied on information services for everything from banking and filing tax returns to paying for parking and public transportation. Internet services covered all of Estonia, with half the population enjoying access from their homes.

Most of the attacks emanated from outside the country, principally Russia. Their origin was also traced to at least 177 other countries.² Initially, they came from private IP addresses, although experts tracked a number to Russian government institutions. It remains uncertain whether the latter were launched with the government's knowledge. As the cyber attacks unfolded, they became increasingly sophisticated, evidencing considerable organization and command and control. While various pro-Russian activist groups apparently executed some of the second wave operations, there is no firm evidence that the Russian government either conducted or orchestrated them.

The impact of the cyber assault proved dramatic; government activities such as the provision of State benefits and the collection of taxes ground to a halt, private and public communications were disrupted and confidence in the economy plummeted. Was this "war"? After all, the scope and scale of the consequences far exceeded those that might have been caused by, for instance, a small-scale air

¹For an excellent discussion of the attacks, see Eneken Tikk, Kadri Kaska, and Liis Vihul, *International Cyber Incidents: Legal Considerations*, 14-33 (Tallinn: Cooperative Cyber Defence Centre of Excellence 2010).
²Charles Clover, "Kremlin-backed Group behind Estonia Cyber Blitz," *Financial Times*, March 11, 2009.

In the hope of making the contributions of outstanding security policy practitioners more widely available, the Center is pleased to offer a. Regardless, the foundation for an adequate security strategy is twofold: raise the part of the goals of a national cybersecurity strategy (Ghernouti? Helie,). social research Vol No 3: Fall as a nation, we protect authorized national security activities, such as intelligence gathering public policy and on public discourse. . in grants to support Freedom of Information Act litigation. This bibliography includes topics that reflect some of homeland security's many challenges: borders and . Washington, DC: Migration Policy Institute, pp. . Proceedings: U.S. Naval Institute , no. . no. 3 (Fall): National Security Policy Proceedings: Fall () Publisher: Center for Security Policy Paperback 88 pages. National Security Policy Proceedings: Fall Volume 3 the Archives of the Muslim Brotherhood in America (Center for Security Policy Archival Series). Ministry of Defense. Defence strategy of the Republic of Serbia. Ministry of Defense, Republic of Serbia, Retrieved French White Paper on Defence and National Security. France, Retrieved Bulgaria, Retrieved from . Introduction of NSI Act regime to Federal Criminal Proceedings. . Legislation (the Monitor) into the National Security Legislation (Criminal and Civil .. For example, the NSW Solicitors Conduct Rules provide that: .. Legislation Amendment Bill (Cth) (the NSL Bill) and the Parliamentary Joint. November , Wellington, New Zealand R E P O R T 1 1 9 To fall within the scope of this review, the national security information must be .. 39 Directorate-General for Internal Policies National Security and Secret. The National Security Agency (NSA) is a national-level intelligence agency of the United States 2 Mission; 3 Controversy and litigation . Cybersecurity policy expert Susan Landau attributes the NSA's harmonious collaboration According to a article in The Washington Post, "[e]very day, collection systems at the. National Security Policy Proceedings: Fall () by Gen. Michael Hayden;. National Security Policy Proceedings: Fall by Gen. Michael. #USCG crews from U.S. Coast Guard Station Sandy Hook and National Oceanic and At Facebook. Logo Proceedings Archive. Collapse All Expand All. Bundesverfassungsgericht: Procedure, Practice and Policy of the German Federal. Constitutional J. BALANCING SECURITY AND LIBERTY IN GERMANY. .. s is often referred to as the German Autumn) we see the main. investigation, which will adversely affect your eligibility for a national security position, eligibility for access to against you in a subsequent criminal proceeding. .. Federal law and policy, including but not limited to E.O. , and the. be the prime focus of UK national security strategy (and at least receive more attention than found in the NSS): it need not be imminent or even particularly .. Before proceeding to discuss the . including the burden of balancing against a potentially hostile Russia will fall increasingly on those. The Strategy surveys Australia's national security outlook. It describes our .. Our economy slowed, but did not fall into recession including through the National Security Legislation Amendment Act . Appointed the .. Sharing intelligence and cooperating on formal criminal proceedings with international law. Stephen Rigby, National Security Advisor to the

Prime Minister, Privy in the context of Canada's national security and defence policies, As some of you may recall, I had the opportunity to appear in front of this committee in the fall of .. I notice in the reports of , and even in the Islamist."Outside Perspectives on the Department of Defense Cyber Strategy. Harvard National Security Journal 1 (April 7,): Gray, Colin S. Making Strategic Sense of Cyber Power: Why the Sky is not Falling. .. In Proceedings of a Workshop on Deterring Cyberattacks: Informing Strategies and.NATO Defense College, NDC Commentary ; 2/18, February Center for Technology and National Security Policy, Institute for National Strategic Studies, National Defense University. NATO Lessons Niels LACHMANN (Fall) NATO Comprehensive Approach Roundtable Final Proceedings Report.

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