



Introduction

In 2009, the NATO Cooperative Cyber Defence Centre of Excellence (NATO CCD COE), a renowned research and training institution based in Tallinn, Estonia, invited an independent group of experts to produce a manual on the international law governing cyber warfare. In doing so, it followed in the footsteps of earlier efforts, such as those resulting in the 1880 *Oxford Manual*, the International Institute of Humanitarian Law's 1994 *San Remo Manual on International Law Applicable to Armed Conflicts at Sea*, and the Harvard Program on Humanitarian Policy and Conflict Research's 2009 *Manual on International Law Applicable to Air and Missile Warfare*. The project brought together distinguished international law practitioners and scholars, the so-called 'International Group of Experts' or 'Experts', in an effort to examine how extant legal norms apply to this new form of warfare. In 2013, the effort resulted in the publication of the *Tallinn Manual on the International Law Applicable to Cyber Warfare*. That product has served as an invaluable resource for government legal advisors and scholars since its publication.

The *Tallinn Manual*'s focus was on cyber operations involving the use of force and those that occur in the context of armed conflict. Although such cyber operations will typically be more worrisome from a national security perspective than those that occur in peacetime, States have to deal with cyber issues that lie below the use of force threshold on a daily basis. Therefore, in 2013, the NATO CCD COE launched a follow-on initiative to expand the Manual's scope to include the public international law governing cyber operations during peacetime. To do so, it convened a new International Group of Experts consisting of scholars and practitioners with expertise in the legal regimes implicated by peacetime cyber activities.

Following the format of the original *Tallinn Manual*, these Experts adopted additional rules that have been added to the original ones to produce this *Tallinn Manual 2.0 on the International Law Applicable to Cyber Operations*. Accordingly, *Tallinn Manual 2.0* supersedes the first

Tallinn Manual. Several modifications to the original *Tallinn Manual* rules, including complete renumbering, and commentary have been made and one new rule has been added. A Table of Concordance is included to facilitate cross-referencing between the *Tallinn Manual* and *Tallinn Manual 2.0* rules.

As was the case with the original *Tallinn Manual*, *Tallinn Manual 2.0*'s primary audience consists of State legal advisers charged with providing international law advice to governmental decision makers, both civilian and military. However, it is hoped that *Tallinn Manual 2.0* also will prove valuable in academic and other endeavours.

Authority of the Manual

It is essential to understand that *Tallinn Manual 2.0* is not an official document, but rather the product of two separate endeavours undertaken by groups of independent experts acting solely in their personal capacity. The Manual does not represent the views of the NATO CCD COE, its sponsoring nations, or NATO. Nor does it reflect the position of any other organisation or State represented by observers or of any of the States involved in the 'Hague Process', which is described below. Finally, participation as members of the International Group of Experts or as peer reviewers by individuals who hold governmental positions in their respective countries must not be interpreted as indicating that the Manual echoes the viewpoints of those countries.

Ultimately, *Tallinn Manual 2.0* must be understood only as an expression of the opinions of the two International Groups of Experts as to the state of the law. Modifications to the original *Tallinn Manual* text, and the new rule on individual criminal responsibility, were approved by members of the first International Group of Experts. Therefore, the original rules and commentary, as modified for inclusion in *Tallinn Manual 2.0*, represent the views of that International Group of Experts and not those of the Experts convened for the *Tallinn Manual 2.0* project. Analogously, the rules and commentary concerning the peacetime international law governing cyber operations represent only the understandings of the second International Group of Experts. They were not vetted by the original group. Of particular note is the fact that the first nine rules of the original *Tallinn Manual* have been superseded by rules and commentary drafted and approved by the second International Group of Experts.

This Manual is meant to be a reflection of the law as it existed at the point of the Manual's adoption by the two International Groups of

Experts in June 2016. It is not a ‘best practices’ guide, does not represent ‘progressive development of the law’, and is policy and politics-neutral. In other words, *Tallinn Manual 2.0* is intended as an objective restatement of the *lex lata*. Therefore, the Experts involved in both projects assiduously avoided including statements reflecting *lex ferenda*.

Scope

The rules and commentary drawn from the original *Tallinn Manual* address two subjects – the *jus ad bellum*, which regulates the use of force by States, and the *jus in bello*, the law that governs how States may conduct their military operations during an armed conflict and provides protection for various specified persons, objects, and activities. The remainder of *Tallinn Manual 2.0* examines key aspects of the public international law governing ‘cyber operations’ during peacetime. It is not comprehensive in this regard. For instance, the Manual does not deal with international criminal law, trade law, or intellectual property. Nor does the Manual deal with either private international law or domestic law. Rather, the topics selected for inclusion include public international law regimes that the second International Group of Experts deemed most likely to be encountered by State legal advisors *vis-à-vis* cyber activities.

Rules and commentary

There are very few treaties that directly deal with cyber operations and those that have been adopted are of limited scope. Similarly, because State cyber practice is mostly classified and publicly available expressions of *opinio juris* are sparse, it is difficult to definitively identify any cyber-specific customary international law. This lack of cyber-specific international law does not mean, however, that cyber operations exist in a normative void. Both International Groups of Experts were unanimous in their estimation that existing international law applies to cyber operations, an assessment now shared by most States and acknowledged by, *inter alia*, NATO and two United Nations Groups of Governmental Experts on Information Security in 2013 and 2015. Accordingly, the task of the International Groups of Experts was to determine how such law applies in the cyber context, and to identify any cyber-unique aspects thereof.

The rules were adopted employing the principle of consensus within the International Groups of Experts. All of the Experts agreed that, as formulated, they reflect customary international law (unless they expressly reference a treaty) as applied in the cyber context. To the extent the rules accurately articulate customary international law, they are binding on all States, subject to the possible existence of an exception for persistent objectors.

At times, the text of a rule closely resembles that of an existing treaty norm. In such cases, the respective International Group of Experts concluded that the treaty text represents a reliable and accurate restatement of customary international law. Users of this Manual are cautioned that States may be subject to additional rules of international law set forth in treaties to which they are Parties.

Although the observers participated in all discussions, the unanimity that was required for adoption of a rule was limited to the International Group of Experts. Accordingly, no conclusions may be drawn as to the position of any entity represented by an observer as to the validity of any particular rule.

The commentary accompanying each rule is intended to identify the rule's legal basis, explain its normative content, address practical implications in the cyber context, and set forth differing positions as to scope or interpretation. Of particular note is the fact that both International Groups of Experts diligently sought to capture all reasonable positions for inclusion in the commentary. When a clear majority and minority position was apparent in their deliberations, such positions are reflected in the commentary. The commentary also highlights issues upon which the Experts were evenly split and singles out various positions held by only a few of them. Finally, the International Groups of Experts attempted to capture the views of various States on particular issues with which none of the Experts agreed. As neither treaty application nor State practice is well developed in this field, the groups considered it of the utmost importance to articulate all competing views fully and fairly for consideration by *Tallinn Manual 2.0's* users.

Terminology posed a particular obstacle during the drafting of *Tallinn Manual 2.0*. Many commonly used words and phrases also have specific military or legal meanings. For instance, the word 'attack' refers in common usage to a cyber operation against a particular object or entity, and in the military sense it usually indicates a military operation targeting a particular person or object. However, attack in the *jus ad bellum* sense, qualified by the word 'armed', refers to a cyber operation

that justifies a response in self-defence (Rule 71), whereas the term as used in the *jus in bello* indicates a particular type of military operation that involves the use of violence, whether in offence or defence (Rule 92). Users of this Manual therefore are cautioned that it employs most terminology in its international law sense, subject to particular meanings of commonly used terms set forth in the Glossary. With respect to Glossary terms, the definitions are meant solely to describe how the terms are used for the purposes of the Manual. They do not necessarily represent consensus definitions in the field of information technology.

Drafting process

Members of both International Groups of Experts were carefully selected to include legal practitioners, academics, and technical experts. Additionally, several organisations were invited to provide observers to the process. The observers participated fully in the discussions and drafting of the Manual, but their consent was not necessary to achieve the unanimity required for adoption of a rule. Despite the invaluable active participation of the observers in the process, it must be emphasised that *Tallinn Manual 2.0* is not intended to reflect the legal positions or doctrine of any of these organisations.

In light of the divergent scope of the *Tallinn Manual* and *Tallinn Manual 2.0* processes, their drafting approaches differed. In the former, all members of the International Group of Experts were tasked with researching and preparing proposed rules and the draft commentary that might accompany them. Their drafts were then split among teams of experts led by group facilitators that refined the drafts for consideration at plenary sessions of the International Group of Experts. In all, eight plenary meetings of three days each were held in Tallinn between 2010 and 2012. Upon completion of the plenary sessions, an editorial committee drawn from among the International Group of Experts worked on the Manual to ensure the accuracy, thoroughness, and clarity of the commentary. The resulting draft was then divided among peer reviewers with deep expertise in the various subjects addressed by the Manual. The editorial committee considered their comments and revised the Manual as appropriate. In July 2012, the International Group of Experts convened for the last time in Tallinn to consider the final draft, make any last changes, and approve the rules and commentary.

Whereas all members of the *Tallinn Manual* International Group of Experts possessed expertise in its subject matter, *Tallinn Manual 2.0*'s

wide array of topics necessitated a different process. That process began with experts in the respective subjects that were to be included in the Manual preparing initial drafts of rules and commentary. Many of these drafters were also members of the International Group of Experts. The initial drafts were refined by the editors and then submitted to a rigorous peer review process. The revised drafts were subsequently considered and revised by the International Group of Experts in three one week-long sessions held between 2015 and 2016. Further peer review and editing followed. In April 2016 the last plenary meeting was held and all of the draft chapters were vetted for a final time and adopted by the International Group of Experts.

In addition to the formal meetings, workshops were held by the NATO CCD COE on various subjects addressed in *Tallinn Manual 2.0*. In 2014, a workshop was conducted in collaboration with the University of Tartu to discuss cross-cutting issues such as the law of State responsibility. The NATO CCD COE also co-hosted two workshops in collaboration with Syracuse University Law School in 2015 – one on cyber espionage and another on international human rights law in cyberspace.

During the first *Tallinn Manual* process, States maintained a distance from the work of the International Group of Experts. However, with respect to *Tallinn Manual 2.0*, the Netherlands Ministry of Foreign Affairs hosted the so-called ‘Hague Process’, whereby it convened States to unofficially comment on the working drafts of the Manual in a Chatham House environment. Three two-day sessions in The Hague were attended by delegations from over 50 States and international organisations. Some States also provided unofficial written comments that in many cases resulted in additional refinement of the text of the Manual. This ‘Hague Process’ proved invaluable to the initiative, as the International Group of Experts was uniformly of the opinion that international law is made and authoritatively interpreted by States. It must be emphasised, however, that the views expressed in this Manual are solely those of the International Group of Experts and do not necessarily reflect those of States that participated in the Hague Process.

Supporters of the projects

Both projects were generously sponsored by the NATO CCD COE, which hosted all sessions of the International Groups of Experts, as well as meetings of the drafting and editorial teams. The Centre engaged its highly professional staff in managing the complex logistical challenges

INTRODUCTION

7

associated with convening the meetings. The International Group of Experts is especially grateful for the freedom afforded them in preparing this Manual. At no time did the NATO CCD COE or anyone associated with the organisation attempt to influence the groups' conclusions.

Support for various workshops that buttressed the process was kindly provided by the University of Tartu, Syracuse University Law School, Cardozo School of Law, and the *Journal of Law and Cyber Warfare*. Creighton University Law School, Emory University Law School, and the University of Tartu made available gifted and dedicated law students to conduct research for the project. Of particular note is Harvard Law School's Program on International Law and Armed Conflict, which funded a team of law students to substantively review all of the drafts and assist in their editing.

The Netherlands Ministry of Foreign Affairs generously convened States in the Hague Process and has agreed to further support dissemination of the *Tallinn Manual 2.0* following its publication. This contribution by the Dutch Government helped ensure the Manual is grounded in State understandings of the law and that it addresses the practical challenges States face on a daily basis.

The International Groups of Experts is deeply appreciative of all the support received by these entities, without which the publication of *Tallinn Manual 2.0* would not have been possible.

Finally, as Project Director, I also want to commend the dedication displayed by the individual members of the International Groups of Experts. All of them contributed selflessly to the successful completion of their respective Manuals. Moreover, the work of peer reviewers proved invaluable and on behalf of the International Group of Experts, I thank them for their contributions. Finally, any success of the *Tallinn Manual* and *Tallinn Manual 2.0* initiatives is in great part the direct result of the diligence and commitment, as well as the legal acumen, displayed by our Project Manager and Managing Editor, Ms. Liis Vihul. Her contribution to the process is inestimable.

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