



## Bridging the Security Divide

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World Federation of Scientists  
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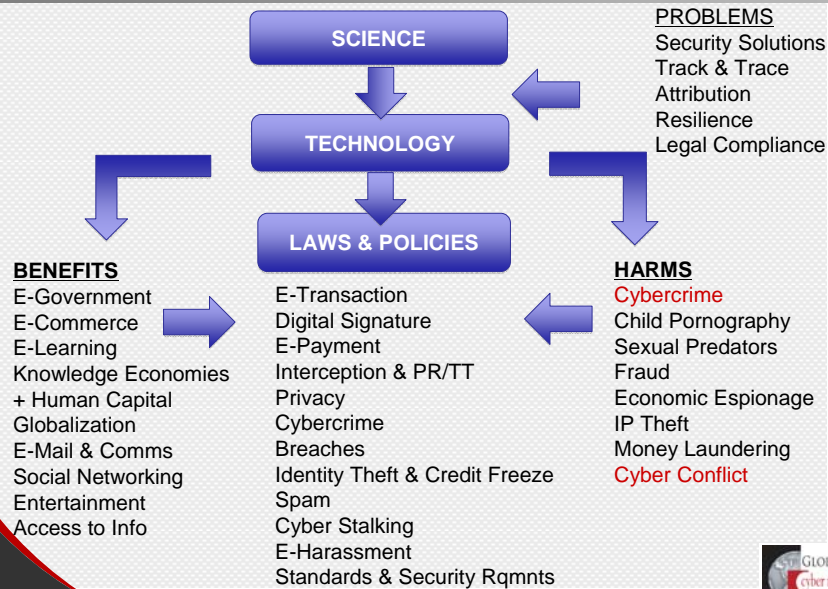
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### The Security Divide

- 1.97 billion people Internet users and 233 countries & territories
  - Systems deployed without proper security controls
  - Security best practices & standards not implemented
  - Cybercrime laws are inconsistent; substantive & procedural
  - Many countries are without cybercrime laws or laws have low civil penalties
  - Many countries do not have a CERT or security professionals
  - 24/7 Points of Contact Networks: only 50 countries since 1997
  - Lack of trained law enforcement personnel for investigation, cooperation, and search & seizure assistance
  - Judges and prosecutors are not trained in cyber considerations
- Leaves open opportunities for cyber conflict



## Security Divide: Intersection With Science & Technology



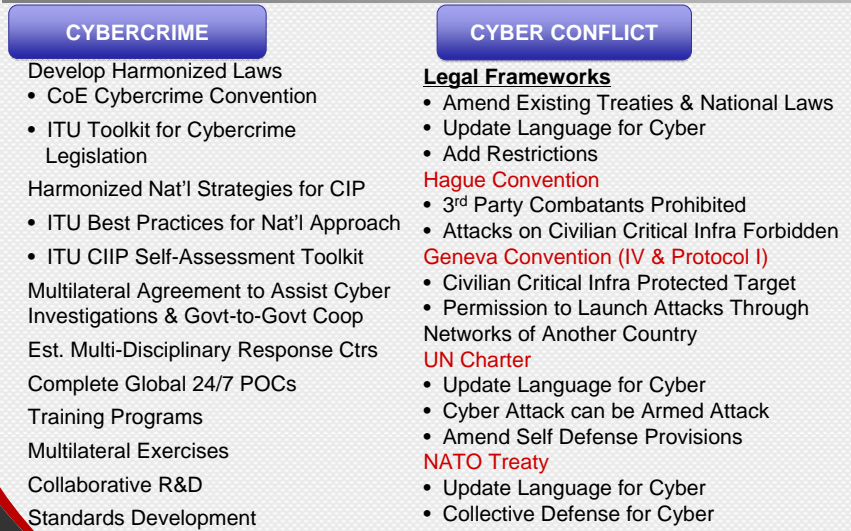
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## Steps to Take



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## Law of Armed Conflict

- Regulates Conduct of Armed Hostilities
- Applies to Conduct of Military Operations & Related Activities in Armed Conflict
- Who Is **Lawful Combatant** – **Person authorized by governmental authority to engage in hostilities.** May be an irregular force. Must be commanded by person responsible for subordinates, have distinctive emblems recognizable at distance, carry arms openly, and conduct operations according to Law of Armed Conflict.
- Armed Conflict (Necessity, Distinction, Proportionality)
- Prevent Unnecessary Suffering & Destruction in War
- Protects Civilians, Prisoners, Wounded, Sick, Shipwrecked,
- Military Must Plan & Execute Operations Within Law of Armed Conflict

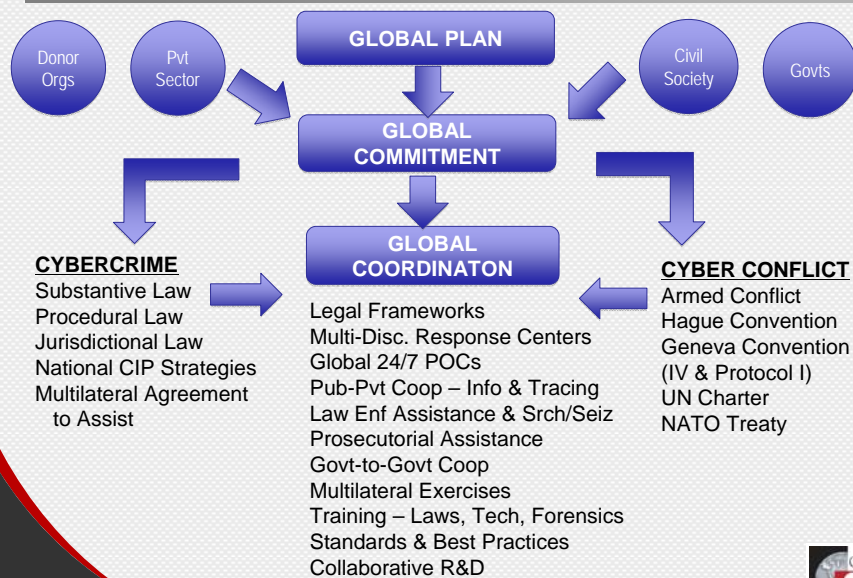
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## Solving the Problem: 5 Year Plan



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## Challenges

- Multilateral Actions Time Consuming, May Not Reach Consensus
- Definitions Can Be Problematic, Culture & History Factors
- Current Lack of Coordination Between Law Enforcement, Homeland Security, and Military
- Attacks by Terrorists & Rogue Actors
- Authority of Public Officials Uncertain & May Conflict With Corporate Fiduciary Duty to Protect Assets of Organization

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## GOAL: GEO-CYBER STABILITY

- **Geo-Cyber Stability** – The Ability of All Countries to Utilize the Internet for Both National Security Purposes and Economic, Political, and Social Benefit While Refraining From Activities That Could Cause Unnecessary Suffering & Destruction
- Depends on Rule of Law to Assure Agreed Upon Level of Geo-Cyber Stability Through Mutual Cooperation & International Law
- Depends on Science & Technology
- Means Country's Critical Infrastructure Shall Not Be Disrupted In Manner Inconsistent With the Laws of Armed Conflict & Other Applicable Treaties and Conventions

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THANK YOU!

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## LAW OF ARMED CONFLICT: What

**Military Targets** – Targets that by their nature, location, purpose, or use make effective contribution to an **enemy's military capability and whose total or partial destruction or neutralization at the time of attack** enhance legitimate military objectives.

**Protected Targets** – Some **targets protected, such as hospitals, transportation of wounded or sick, religious or cultural sites, safety zones** of Geneva Convention. But if objects used for military purposes they may be attacked.

## LEGAL FRAMEWORK: UN CHARTER

**Art. 2(4):** Members refrain from threat or use of force against **territorial integrity and political independence**

**Art. 41:** Security Council may decide what measures **not involving the use of armed force** are to be employed

**Art 42:** If Security Council considers actions pursuant to Art 41 inadequate, it may take **action by air, sea, or land forces**

**Art 51:** Nothing impairs inherent right to self-defense if armed attack occurs

**Art 99:** Secretary-General may bring to the attention of the Security Council **any matter which in his opinion may threaten the maintenance of peace and security**

## LEGAL FRAMEWORK: NATO TREATY

**Art. 3:** Parties separately & jointly maintain and develop individual and collective capacity to resist **armed attack**

**Art. 4:** Parties will consult when **territorial integrity, political independence, or security** of any of the Parties is threatened

**Art 5:** Parties agree **armed attack** against one or more of them shall be considered attack against all

**Art 6(1):** Armed attack means

- On **territory** of any of Parties in Europe or North America
- On **territories or on islands** of any of Parties
- On the **forces, vessels, or aircraft** of any of the Parties

**Art 12:** After 10 years in force, Parties shall, if any of them requests, **consult together for the purposes of reviewing the Treaty, having regard for the factors then affecting peace and security**

## LEGAL QUESTIONS

- What Constitutes an Act of Cyber Warfare?
- Can Critical Infrastructure Be Targeted?
- If Infrastructure Supports Targets Protected by Geneva Convention, Can These Be Targeted?
- Are Infrastructure Attacks Necessary to Achieve Military Objectives?
- Is Damage Proportional to Military Objectives?
- How Are Cyber Soldiers Distinguished?
- How Is It Determined If Third Parties Are Acting for Nation State?
- What is Excessive Force In Cyberspace?
- What Cooperation & Assistance Do Governments Have to Provide?
- What Permission From Other Countries Is Required?
- Can Governments Take Over Private Sector Network?
- Is More Than One Network Required? How Is This Negotiated?