

# Emerging Issues for Conflict and Security, 2017

## Introduction

Each year Vision Foresight Strategy (VFS) produces the *Emerging Issues for Conflict and Security* report (EI4CS), which identifies *future* issues that may play a role in shaping the nature and conduct of human conflict in the years ahead. In the *EI4CS* we are looking for *emerging issues*, which can be future technologies, potential policy issues, and new ideas that may be fringe or experimental today, but which might evolve to have a significant role in shaping the future. These emerging issues are identified through a combination of year-long environmental scanning, original emerging issues analysis, and surveys of defense and foresight professionals.

## Emerging Issues

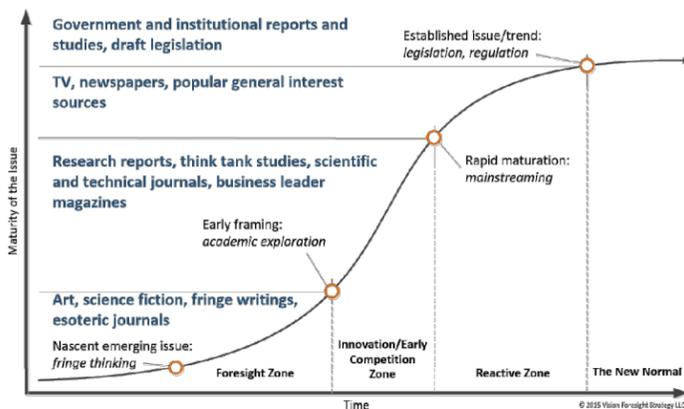
Of the 127 emerging issues identified by VFS's research, twenty-five are featured here in the report in greater detail, exploring their possible evolution and implications. The issues range from very provocative, very early-stage possibilities such as "eternal martyrdom" to more mature and imminent issues like "gray zone" strategies, issues around which institutions are now beginning to develop policies and responses. Being "emerging" issues, they also run the gamut from things that are well documented at this point to those things that more closely resemble to intuitive leaps.

## How to Use This Report

The *EI4CS* is intended as a prompt for analysts and policy makers and it is intended as an input into longer-range and more rigorous foresight work. Given its role as an input into other foresight and strategic conversations, there are a number of ways that organizations can use the information in the report:

- Use the twenty-five featured EI as part of a broader environmental scan
- As a starting point for additional emerging issues analysis
- As building blocks for scenario forecasting
- To test and validate internal assumptions about time horizons and the range of potential challenges

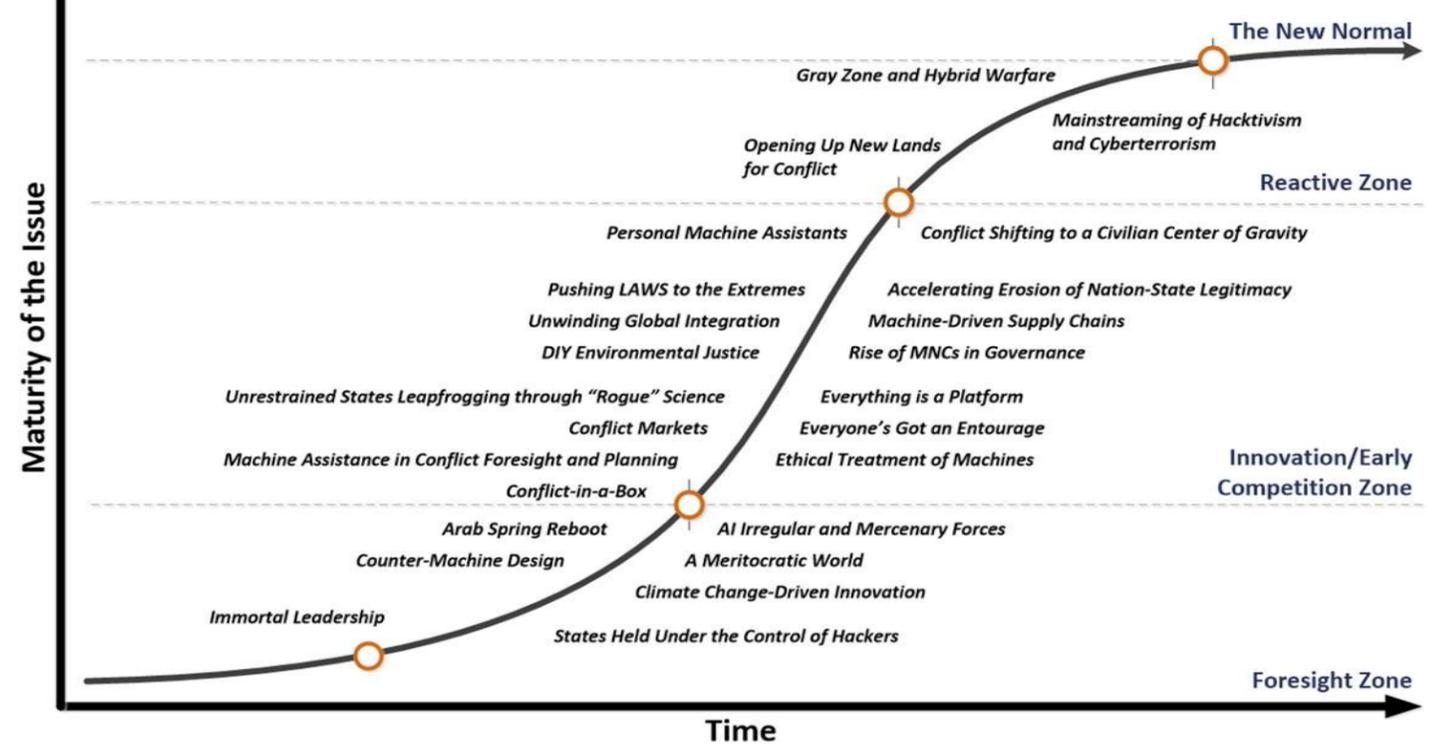
As with all good foresight work, the intent with the *EI4CS* is not to try to predict the future; rather to flush out more of the future possibilities currently obscured in the "intellectual underbrush."



## Disruptive Combos: Mashing Up Individual EI

	<b>Biomalware</b> Given the potential for biocomputing, powerful genetic tools such as CRISPR will lead to the development of tailor-made biological computing viruses.
	<b>Just-in-Time Conflict</b> Conflict Markets combined with the global proliferation of infinitely customizable Conflict-in-a-Box "solutions" will enable the timely delivery of conflict resources.
	<b>DIY Bio Pandemic</b> The mainstreaming of powerful genetic tools like CRISPR raises the very real specter of young students setting loose dangerous new synthetic pathogens.
	<b>Magnificent Machines</b> As non-profits and citizen networks take environmental protection and restoration into their own hands, hiring AI mercenary forces will be a powerful next step.
	<b>Involuntary Militia</b> As civilian society is increasingly targeted, personal digital entourage will necessarily engage in defense and counter-IO, creating <i>engaged civil combatant</i> status.

## Featured EI Mapped on the S-Curve



## Maturing Developments: a growing set of signals

- *Pushing Lethal Autonomous Warfare Systems (LAWS) to the Extremes\**
- *Gray Zone and Hybrid Warfare\**
- *Mainstreaming of Hactivism and Cyberterrorism\**
- *Opening Up New Lands for Conflict\**
- *Accelerating Erosion of Nation-State Legitimacy\**
- *Machine-Driven Supply Chains\**
- *Personal Machine Assistants\**
- *Crypto-shrouded resource Flows*
- *Biocomputing*
- *Human-Machine teaming*
- *Crumbling critical Infrastructure*
- *International conventions on cybercrime and cyberwarfare*
- *Unraveling of participation in post-WWII institutions*
- *Persistent youth unemployment*
- *Shifting economic center of gravity*
- *Drug-Resistant Diseases and Bacteriological Threats*
- *Drone Warfare*
- *Self-Driving Cars*
- *Advancing Abilities in Genetic Modification*
- *Policies/international agreements on LAWS*
- *Increasing Rise of Anti-Establishment Movements*
- *Long-term constraints on Western defense budgets*

## Strengthening Signals: fewer signals, but clear potential

- *States Held Under the Control of Hackers\**
- *Unrestrained States Leapfrogging through "Rogue" Science\**
- *Arab Spring Reboot*
- *Unwinding Global Integration\**
- *Everything is a Platform\**
- *Rise of MNCs as Major Governance Actors\**
- *Conflict Markets\**
- *Everyone's Got an Entourage\**
- *A Meritocratic World\**
- *Conflict Shifting to a Civilian Center of Gravity\**
- *Machine Assistance in Conflict Foresight and Planning\**
- *AI Irregular and Mercenary Forces\**
- *Ethical Treatment of Machines\**
- *Medical advances in human augmentation*
- *Revolution in transportation governance*
- *Biohybrid Robots*
- *Soft Robotics*
- *Affordable Desalination*
- *Machine companions for learning*
- *Distributed lethality*
- *Autonomous machine learning*
- *AI cyberdefense forces*

## Intuitive Possibilities: few data points, but compelling

- *AI Middlemen*
- *DIY Environmental Justice\**
- *Climate Change-Driven Innovation\**
- *Counter-Machine Design\**
- *Immortal Leadership\**
- *"Conflict-in-a-box"\**
- *Weaponized genes*
- *Brain rental*
- *Advertising for violence*
- *Mandatory augmentation*
- *Localism and localization gone wild*
- *Respectable racism*
- *Tech haves and have-nots as the central disparity in society*
- *Synthetic ecosystems*
- *Legislation against virtual violence and crime*
- *Complexity demands contextual adaptation*
- *Slow swing back towards humanitarian intervention*
- *Automation and autonomy backlash*
- *Crowd-augmented cognition*
- *Shapeshifting robots*
- *Vampirical life extension*
- *VR mental health problems*

## Sample Emerging Issue: DIY Environmental Justice

Communities and networks leveraging access to technology, data, and each other to create intrusive and innovative monitoring, reporting, and governance of the environment.



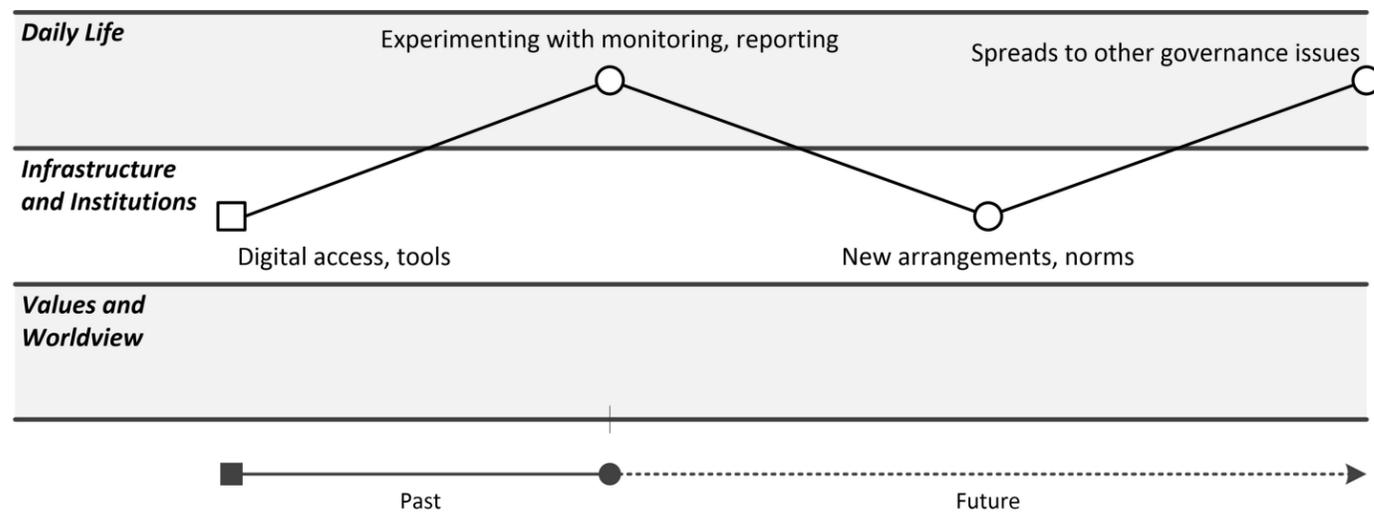
Advances in technology are making available to ordinary citizens the kinds of data gathering and analytical capability once reserved for governments and large corporations. Capabilities provided by services such as commercial satellite imagery, distributed (crowdsourced) data collection via mobile devices, retail drones, and pervasive internet access are allowing communities and environmental organizations to consider taking a more direct hand in the protection and management of habitats and natural resources. Partly a response to the need for more effective governance in the face of growing overconsumption of key resources, examples of non-governmental groups taking matters into their own hands include Google's collaboration on monitoring overfishing and cases such as the *Sea Shepherd* actively pursuing fishing vessels in blatant and repeated violations of the law.

### Things to Consider

Which issues and regions are most likely to engender a strong and effective "DIY" response from communities? How blurry will become the line between non-governmental monitoring and actual enforcement of environmental protection? To what adjacent issues of concern to communities (outside of environmental protection) will this DIY spirit and empowerment likely spread?

### Evolution of the EI

The following is a simple "future timeline" showing the anticipated evolution of this emerging issue.



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Vision Foresight Strategy is a foresight and strategic analysis firm headquartered in Honolulu.

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The work presented in this document is the result of *futures studies* methodologies and is intended to assist readers with thinking about and exploring future *possibilities*. Nothing in this work should be construed as a prediction of the future and none of the emerging issues identified in the work should be taken as individual or specific predictions of future events.

# EMERGING ISSUES FOR CONFLICT AND SECURITY

2017 Report Highlights

