

Big Data and Open Source Information at EUCOM

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Prepared for presentation at the 8th Annual
Strategic Multi-Layer Assessment Conference, 28 October 2014



Big Data: Premises

- When is data “big”?
 - When its structural characteristics (e.g., Laney’s “volume, velocity, & variety”) become issues themselves (storage, algorithmic efficiency, unstructured data management, etc.)
- Such data requires a paradigm shift
 - From *data* sharing to *access* sharing
 - Private sector leads this with APIs and SDKs
 - Intel is not very good at this; we must improve
 - We can learn using *open-source information*



Big Data: Premises (Cont.)

- Big data (and associated TTPs) is generally best for:
 - Automation of simple and/or formulaic tasks
 - Augmentation of analyst capabilities
- Big data is not (currently) good for:
 - Automation of complex, adaptive, and/or high-stakes tasks
 - Replacement of human analysts/human reasoning
 - ...but it's getting better.



Big Data: Dangers

- Big data can be dangerous because:
 - Use of “normal” statistical techniques without compensating for data “bigness” can yield erroneous results
 - With a large enough dataset, anything can be shown to be related to anything (statistical significance)
 - Results can be highly sensitive to variable definition (operationalization)
 - Results must be interpreted (substantive significance); this requires:
 - Knowledge of context and contextually-appropriate theory
 - Training to recognize and avoid fallacious reasoning
 - *There is no substitute for clear thinking.*



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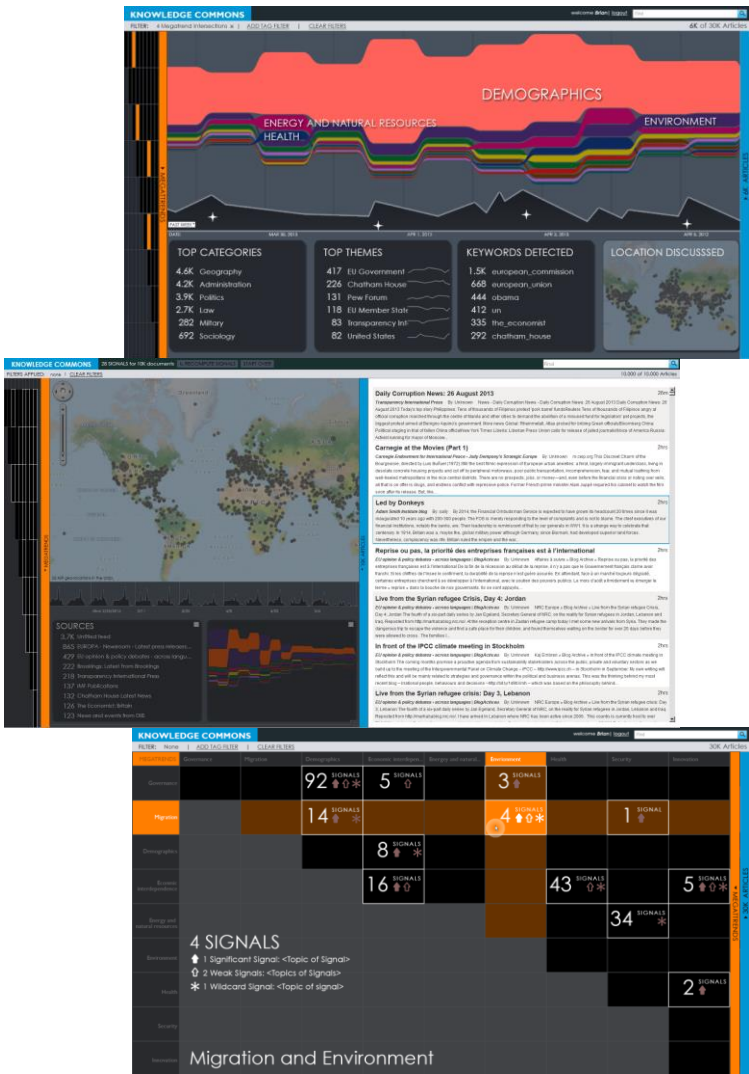
United States
European Command

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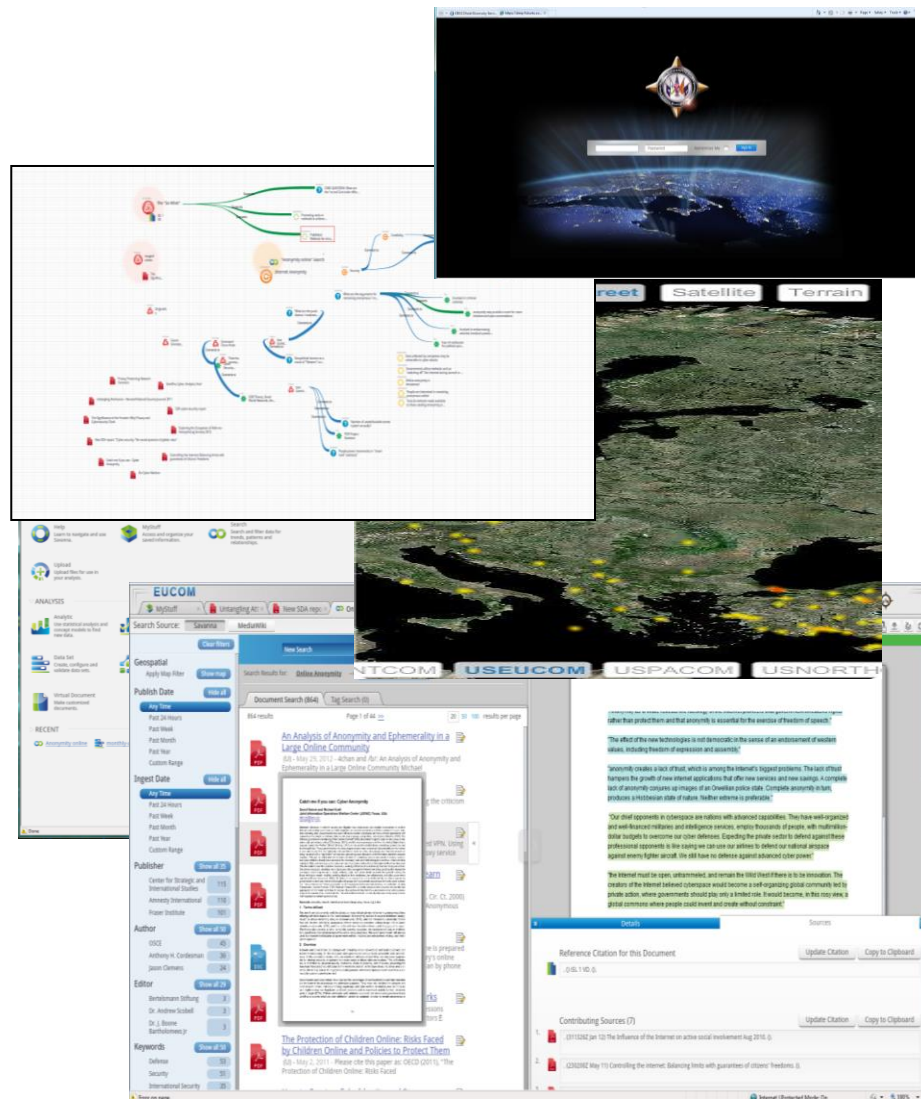
Knowledge Commons

- Big data, open source repository
 - Aggregator and reader for content
 - Provides situational awareness on topics without forcing user to read all content
 - Object Based Production - semantically categorizes content against topics being tracked
- Environment sensor/scanner
 - Discerns trends and events from noise
 - Alerts users to surprises and developments
 - Open source indicators and warnings
- Analysis to rapidly understand topics
 - Extracted entities used to reduce user need to read source content
 - Temporal and faceted filtering
 - Highly visual aggregate analytics



Savanna

- Analyst workspace focusing on information synthesis and production
- Focuses on the relationships between items
- Explicitly represents analysts' thoughts in mind maps
 - Enables review, collaboration, and oversight
 - Links conclusions to contributing factors – if factors change affected conclusions are obvious
- All data is “live” – changes propagate to all products
- Highly visual and interactive

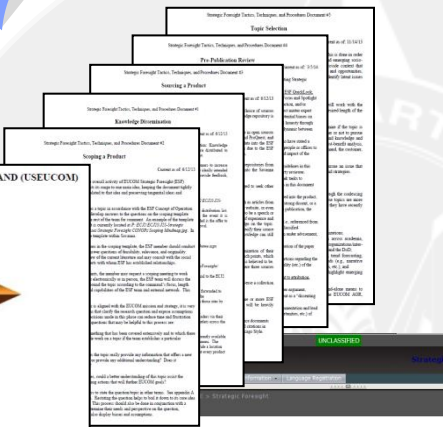
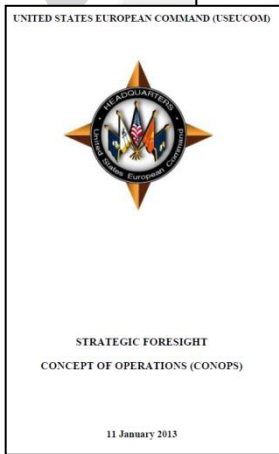


The ESF Vision: A Community of Practice

Partner #1



Partner #2



Strategic Foresight

Provide insight to US European Command, NATO, and other US and European partners through which explain and contextualize political, socio-cultural, economic, and military trends and issues in the area of interest. These products will provide decision-makers, operators, planners, and analysts with armed scenarios and perspectives on events and sentiments that will take shape over the coming two years and that could hinder, or provide opportunity for, achievement of USEUCOM goals, objectives, and priorities.

Tool Links

Savanna Analyst Workspace

Savanna provides an integrated workspace of visualizations, content management, and analysis tools. Sourcing and linking between artifacts is automatic, and products are dynamic and their associated analysis transparent.

[Link to request an account](#)

Knowledge Commons

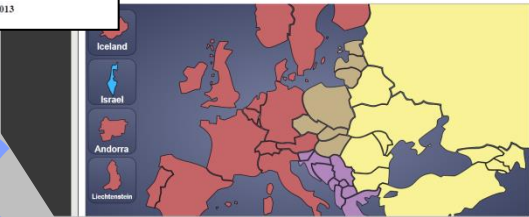
The Knowledge Commons aggregates OSINT into topic areas, alerts users to signals in those areas, and provides tools supporting fast understanding of content and situational awareness.

[Link to request account](#)

Partner #3



Partner #4



A EUCOM-Wide Effort

- In the last month, ECJ2 has been leading an effort to systematically:
 - Understand, codify, and verify process/doctrine regarding the use of open-source information
 - Requires getting legal findings on differences between OSINT and “open source research”
 - Assess the potential for collaboration/coproduction with NATO allies and partner nations in an open-source environment
 - Engage in a dialog to convince others in the Intel establishment that open-source info has intrinsic value—it’s more than just another input to “all-source analysis”



Questions?

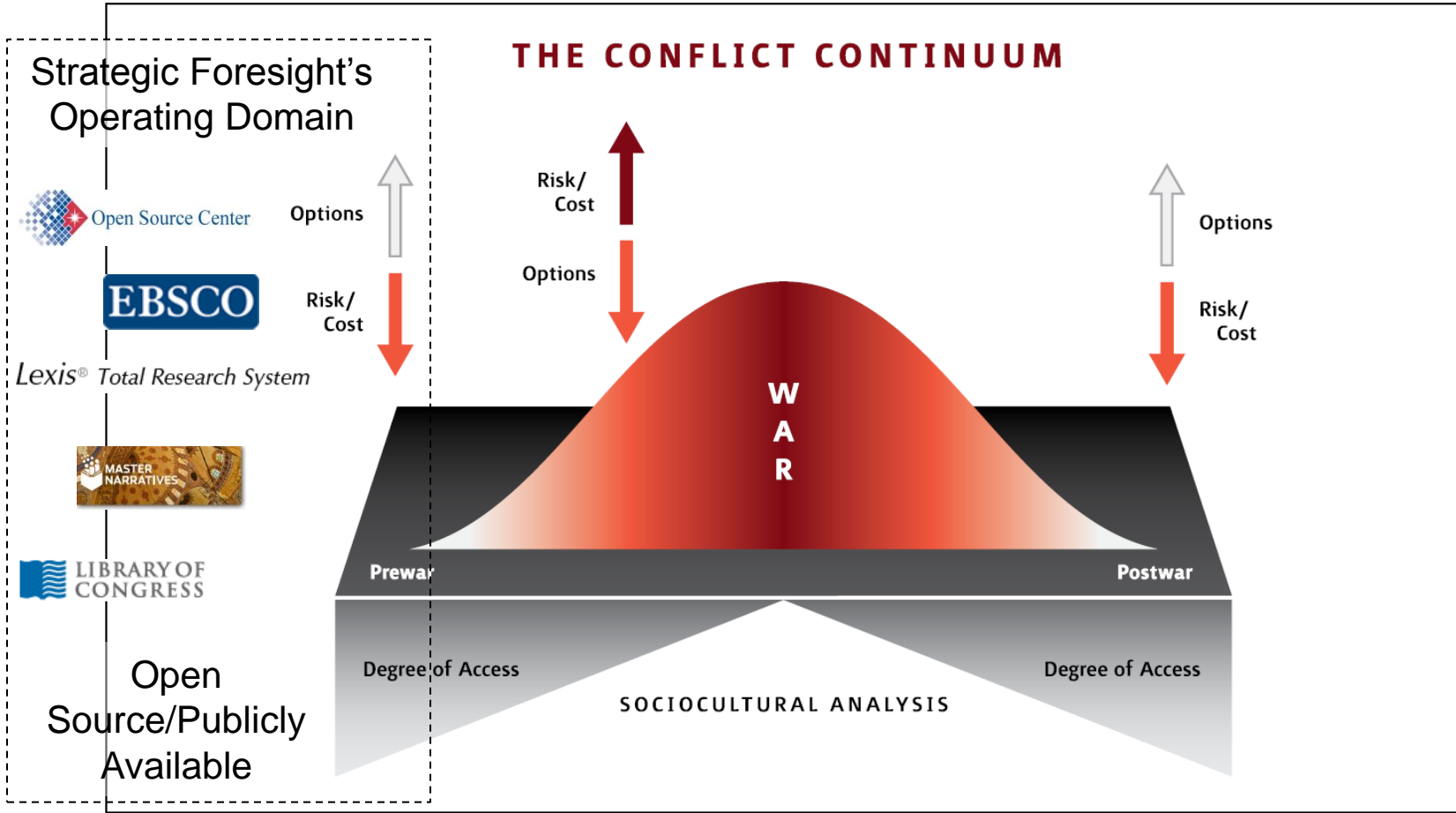


Backup Slides



The Need: Why Strategic Foresight?

Figure. The Conflict Continuum



From "Left of Bang: The value of socio-cultural analysis in today's environment," *National Security Challenges: Insights from Social, Neurobiological, and Complexity Sciences*, White Volume, Jul 2012.



Strategic Foresight Publications

Deep Futures

Spotlight: Direct Tasking in Pursuit of Insight

Not finished intelligence. Derived primarily from scholarly sources.

February 27, 2013

Cyber Vulnerabilities in the EUCOM AOR

Industrial Control Systems (ICS) and SCADA Systems

Deep Futures

QuickLook: Emerging Phenomena in the Operational Environment

Not finished intelligence. Derived primarily from scholarly sources.

February 5, 2013

Game-changing Developments in the Proliferation of Small Arms and Light Weapons

Strategic Foresight

inSightline: Emerging Insight into the Operational Environment

December 11, 2013

Iranian Influences

Part 3 of 3: The Diaspora

EUCOM Strategic Foresight

inFocus: Partnership in the Pursuit of Insight

October 23, 2013

Global Future 2030: Russian & American Views

... at U.S. European Command



SharePoint Portal

EUCOM Partners Site > Directorate of Intelligence

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Documents

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Lists

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- Tool Links
- Product Recipients

Discussions

- General Discussions
- Proposed Topic Discussions

Sites

- People and Groups
- Recycle Bin

Strategic Foresight

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Iceland

Israel

Andorra

Liechtenstein

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Documents

Type	Name	Publication Date
	Conference Info	
	Country Master Narratives	
	DeepLooks	
	inFocus	
	inSightlines	
	QuickLooks	
	Research	
	Spotlights	
	Vision Documents	
	ESF Catalog	3/5/2013
Add new document		

Proposed Topics - Start a new discussion to request product!

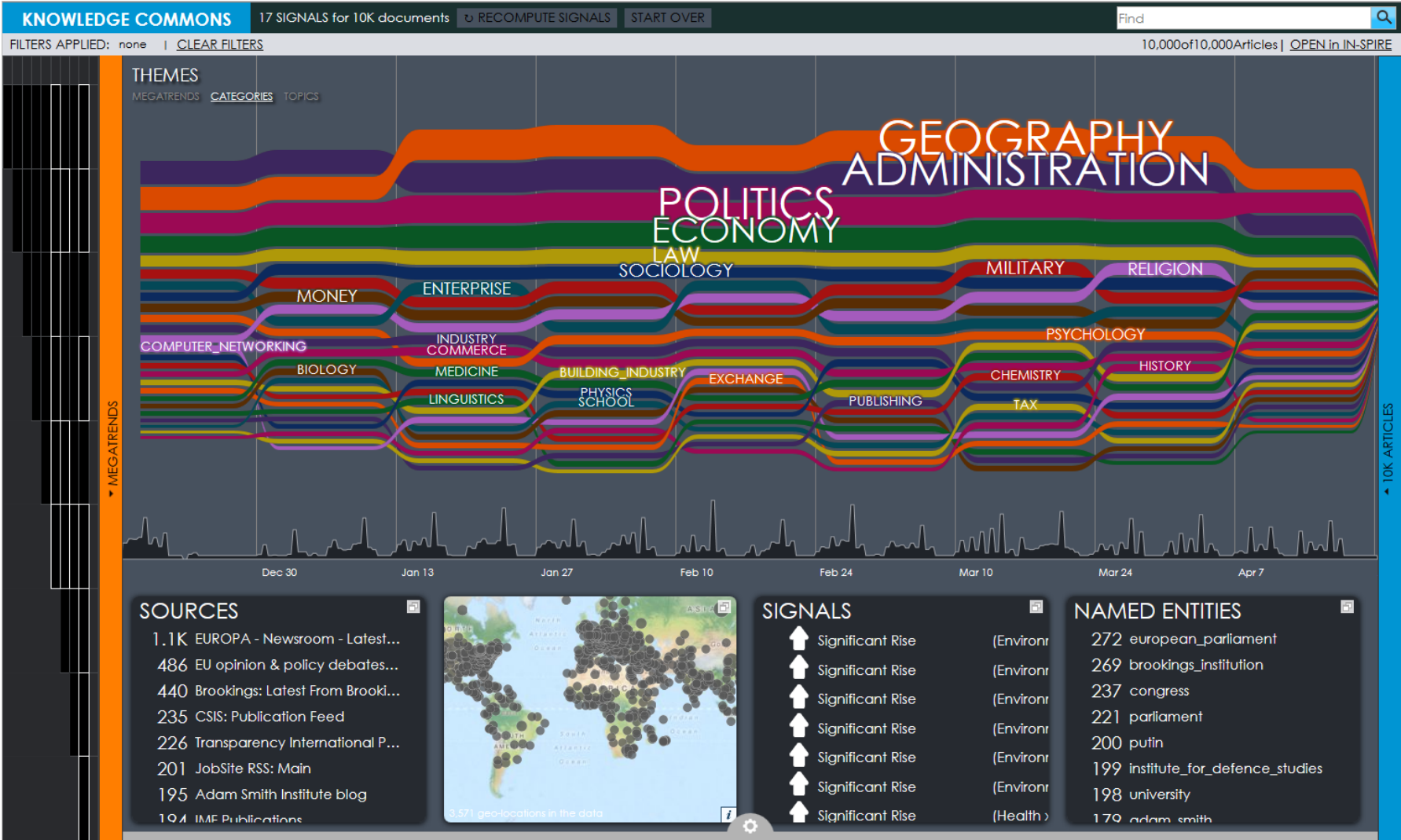
Subject
Eastern Mediterranean Energy Tensions
Social fracturing in Russia - Russia for Russians, stop feeding Caucasus
Law of the Sea in the Eastern Med
Israel seeking new partners in Turkey's backyard
Rhetoric as a harbinger of conflict
Smart cities

United States
European Command

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Theme River Analysis - Categories





Analytic Process Management

