



# The Russo-Ukrainian War: GEOINT's New Epoch

Todd S. Bacastow

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# Bottom Line Up Front

We are entering a new epoch calling for a different GEOINT

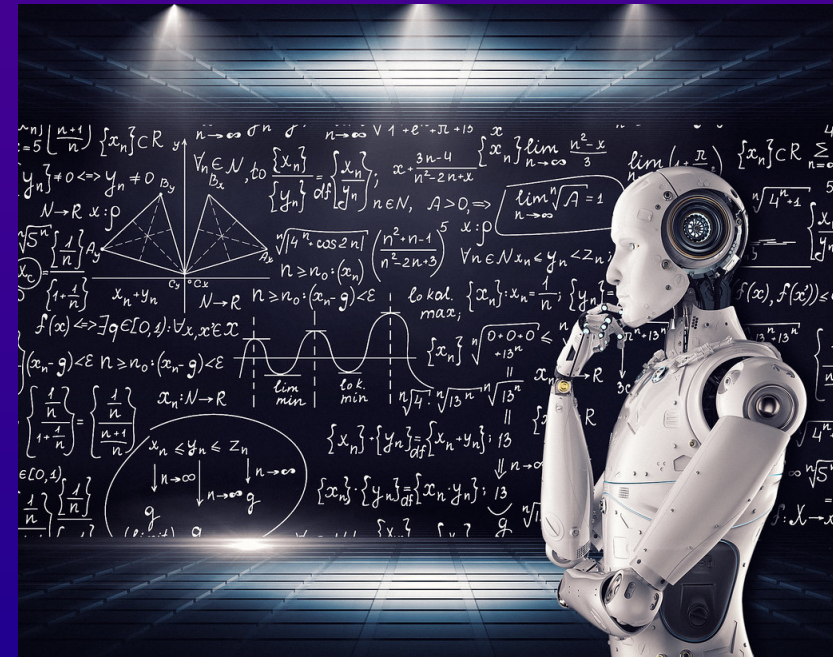
This “New GEOINT” will be driven by technological innovation that will have significant implications and challenges including what Schumpeter called “the gale of creative destruction.”



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# Definition of the New GEOINT

The human-led training, management, and leadership of a network of machines designed to gather, evaluate, and analyze geospatial information that produce actionable intelligence for users.



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# How did we get here?

- Revolution in Military Affairs
- Commercial GEOINT
- AI crossed the Tipping Point
- Russo-Ukrainian War
- Digital Native Workforce
- Democratization of GEOINT

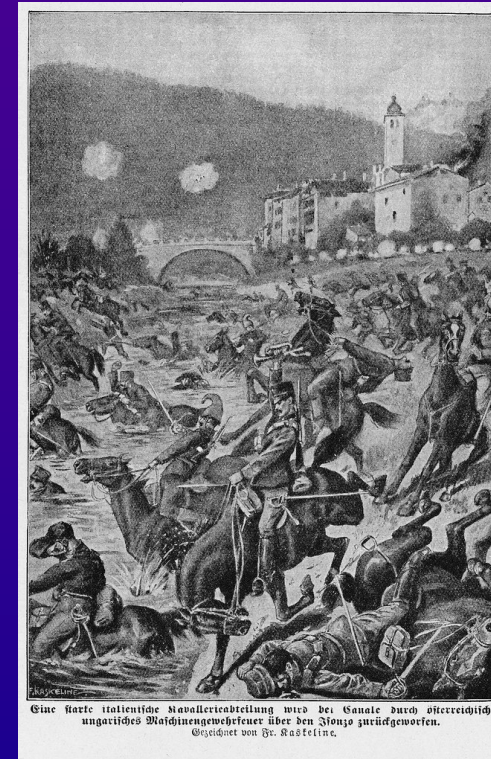


"File:Tulun town (Irkutsk province, Russia), Sentinel-2 satellite image, 2019-06-19.jpg" by European Space Agency is licensed under CC BY-SA 3.0.

# Revolution in Military Affairs (RMA)

Times are changing

- A theory that some new military technologies led to irreversible change in the conduct of warfare.
- The changes compel an accelerated adaptation of new doctrines, strategies, technologies, and organizations.



Italian cavalry charging into Austro-Hungarian machine-gun fire in 1915

Italian cavalry mowed down by Austro-Hungarian machine-gun fire on the Isonzo - Soča - River 1915" by quinet is licensed under CC BY 2.0.



# Revolution in Military Affairs (RMA)



We are in the midst of a revolution in military affairs, as modern warfare transitions to the unmanning of considerable portions of power projection. Our adversaries—ascending powers and declining ones—are accepting of more remote applications of combat power and are forcing us to do the same. This environment underlines the urgency to address a dynamic and increasingly complex threat environment and the critical need for our national decision makers to have accelerated effects and decision advantage—at the right time, every time.

We are in the midst of a revolution in military affairs, as modern warfare transitions to the unmanning of considerable portions of power projection.

Frank D. Whitworth VADM, USN Director

# Commercial GEOINT

## Delivering quantities of data beyond Big Data

- Diverse suppliers - no place on Earth that is not sensed daily by multiple systems.
- New sensors.
- Partnerships for analysis and production.
- Challenging supply chain and collection planning issues.



Satellite images by Maxar Technologies, Nov. 15, 2022,  
<https://www.nytimes.com/interactive/2022/12/14/world/europe/russian-trench-fortifications-in-ukraine.html>

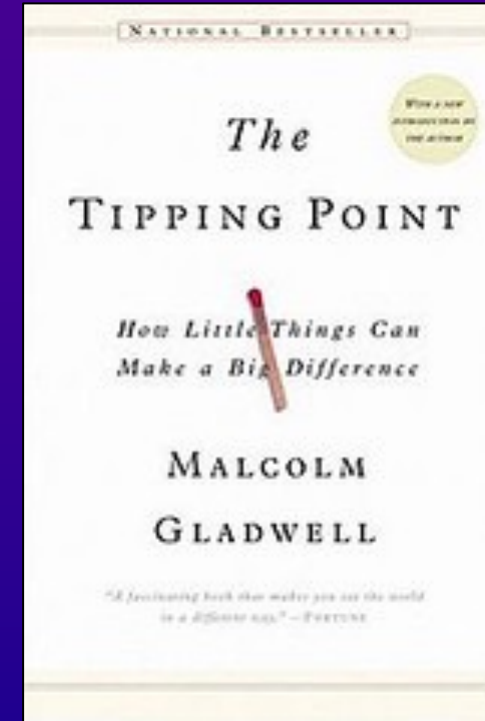
NGA (2018). Commercial GEOINT Strategy.  
[https://www.nga.mil/assets/files/COMMERCIAL\\_GEOINT\\_STRATEGY\\_PR18-426.pdf](https://www.nga.mil/assets/files/COMMERCIAL_GEOINT_STRATEGY_PR18-426.pdf)



# ChatGPT - A Tipping Point for AI

## GEOINT will have multiple tipping points

- A long history of useful AI in general before we arrived here.
- The “AI tipping point” for a GEOINT task occurs when GeoAI is perceived to offer better results than humans.



# Russo-Ukrainian War “Laboratory”

## Testing ground for new methods and technologies

- Report to the USGIF:
  - Hybrid Warfare
  - New Platforms & Sensors
  - Precise Positioning
  - Information and Organizational Fusion
  - Battlefield Big Data
  - Human & Machine
  - X-Factor

St. Javelin



Ukraine 2022



Bacastow, T., S. Fleming, J. O'Connor, and K. Barber. (February 6, 2023). The Russia-Ukraine War: Possible Implications to the GEOINT tradecraft and the USGIF EBK. Unpublished report to the USGIF.

St. Javelin - Ukraine Patron Saint For This War" by Ronald Douglas Frazier is licensed under CC BY 2.0.

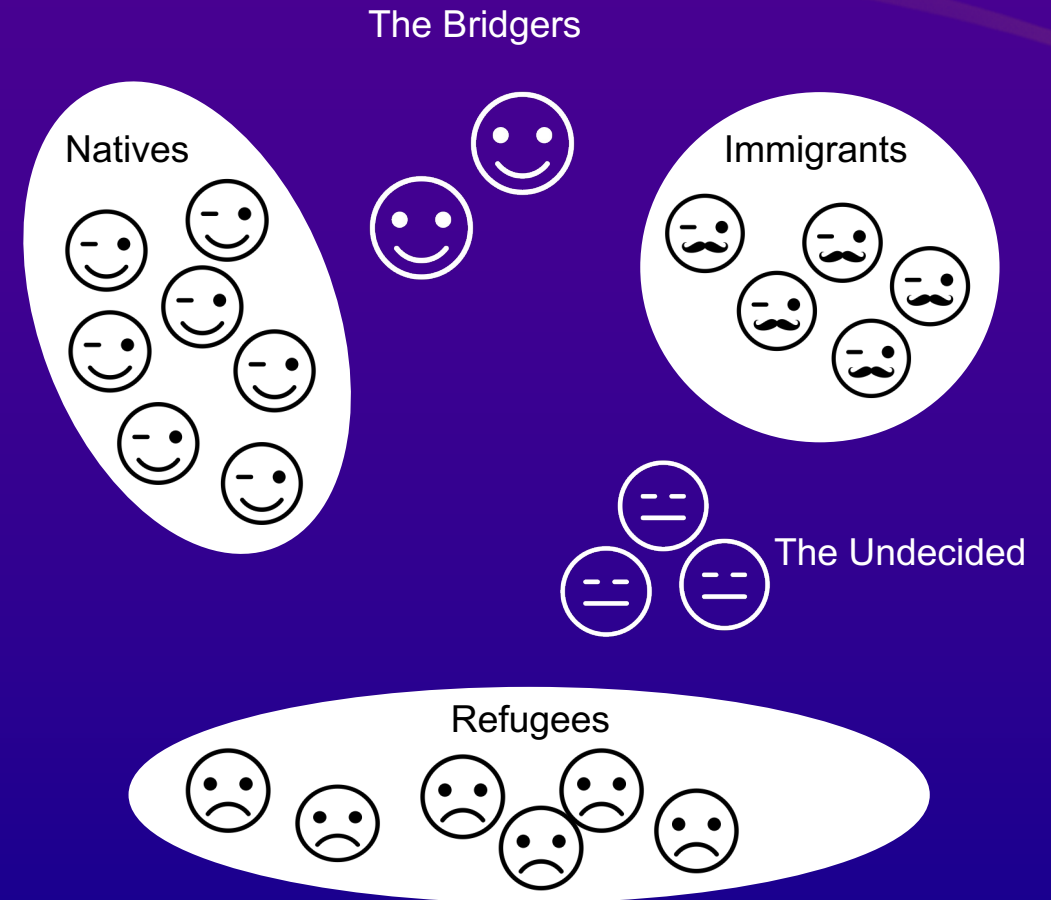
Russia Ukraine War by manhhai is licensed under CC BY 2.0.



# A Workforce of Digital Natives

## Machine augmentation is expected

- Workers that grew up with and expect the presence of digital geospatial technology.
- A new class of “AI Natives”?

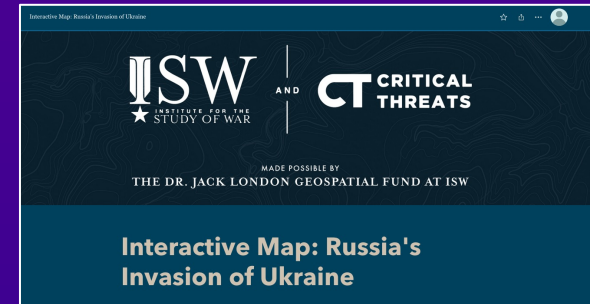


# Democratization of GEOINT

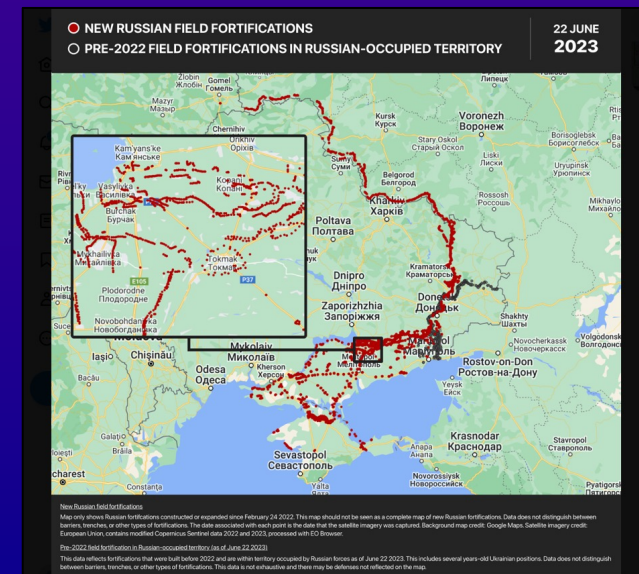
## The emergence of “Citizen GEOINT”

- GEOINT is accessible, available, and understandable to a broad range of users.
- “Citizen GEOINT” is the active involvement of citizens in the collection, analysis, and utilization of GEOINT.

Democratized GEOINT  
Institute for the Study of War “Geospatial Fund”



”Citizen GEOINT”  
Brady Africk Blog

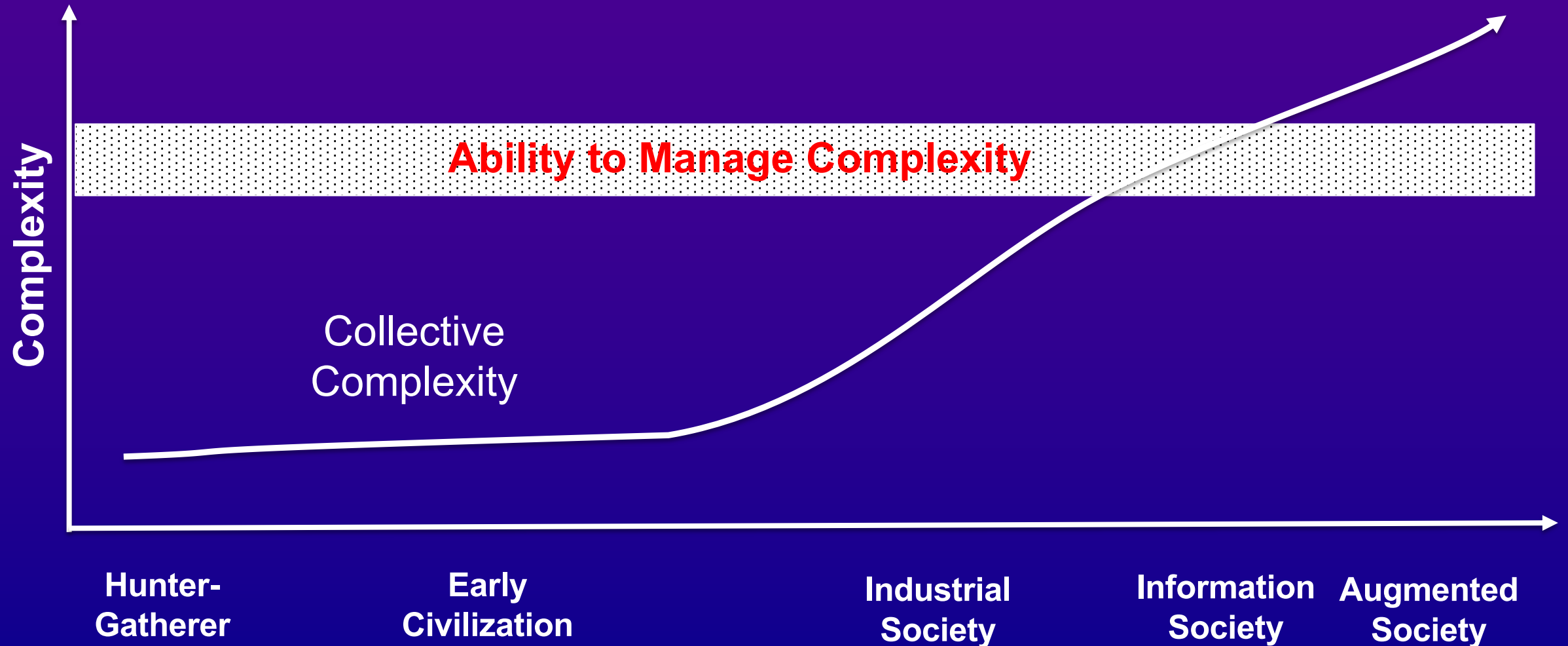


<https://storymaps.arcgis.com/stories/36a7f6a6f5a9448496de641cf64bd375>  
<https://twitter.com/bradyafr/status/1672029376001753091/photo/1>



# What Does All of this Mean?

Complexity has increased beyond what can be managed

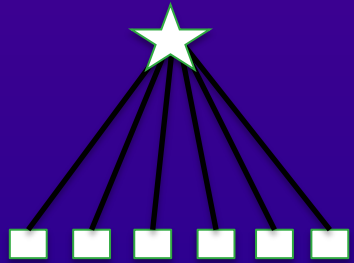


# Evolution of Organizational Structures

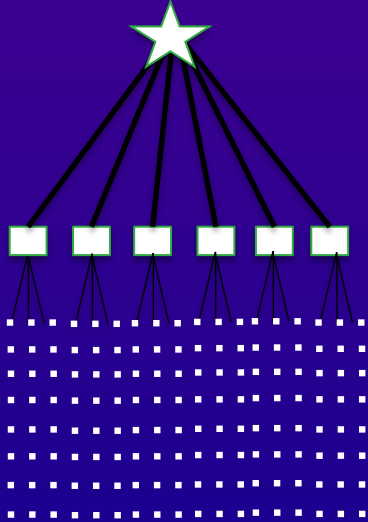
A new structure for the New GEOINT community

Hierarchy  Network

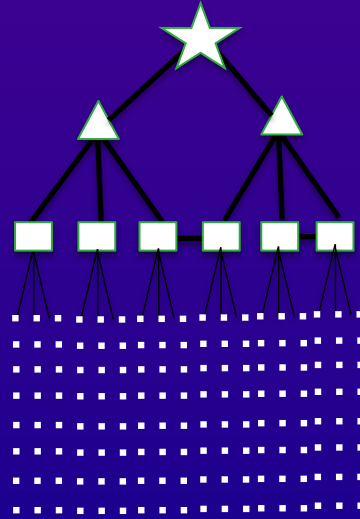
Hunter-Gatherer



Early Civilization

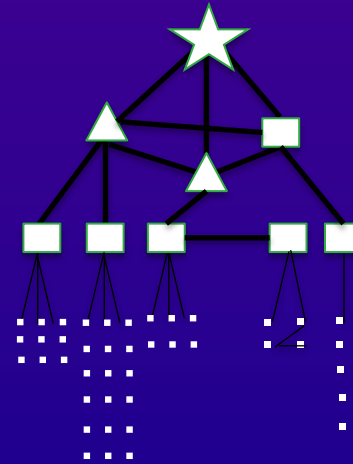


Industrial Society

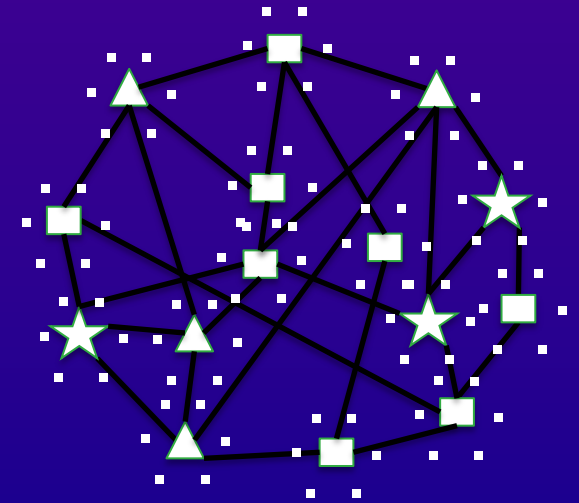


Battlefield Control  
of 1862

Information Society

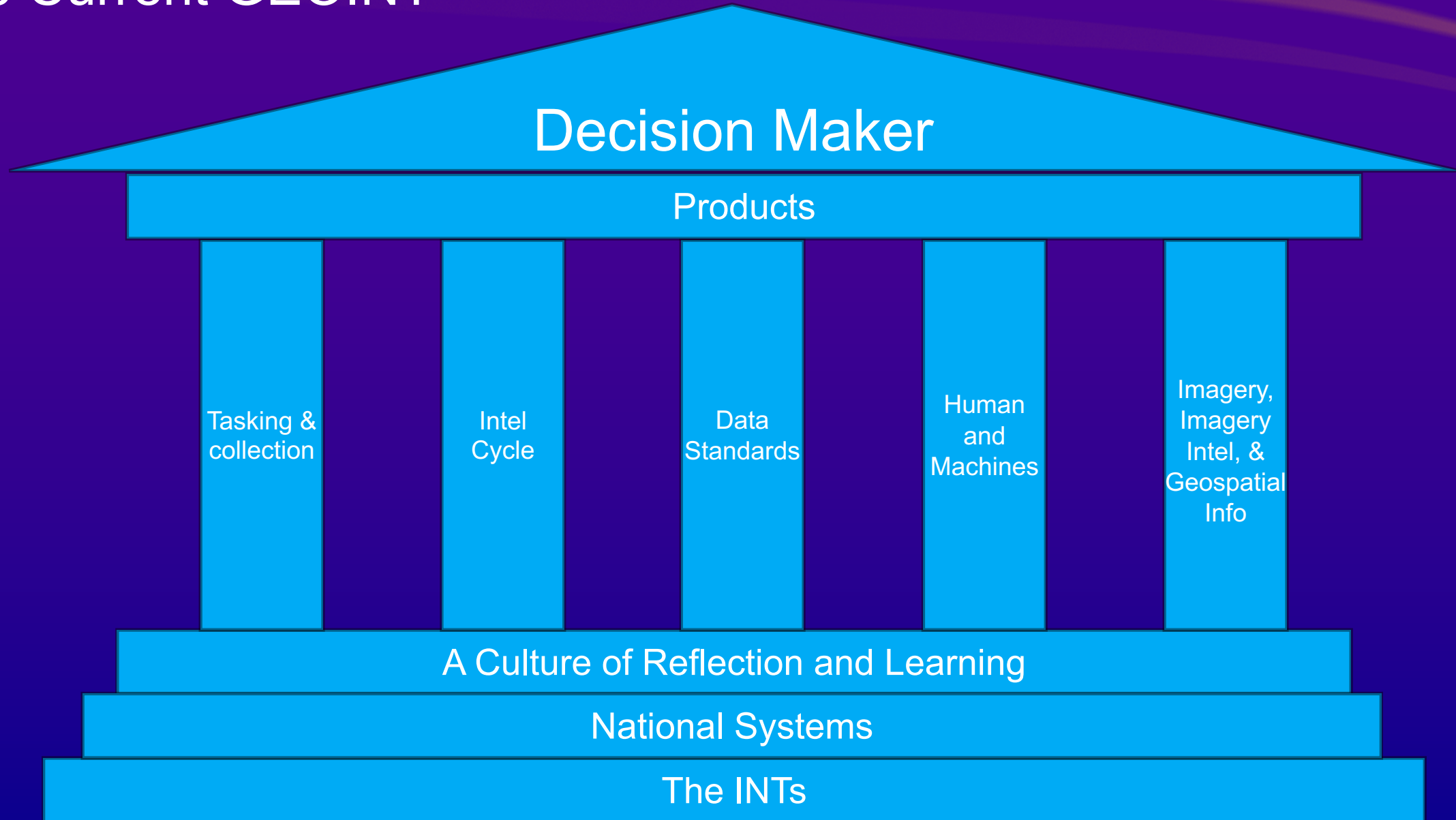


Augmented Society



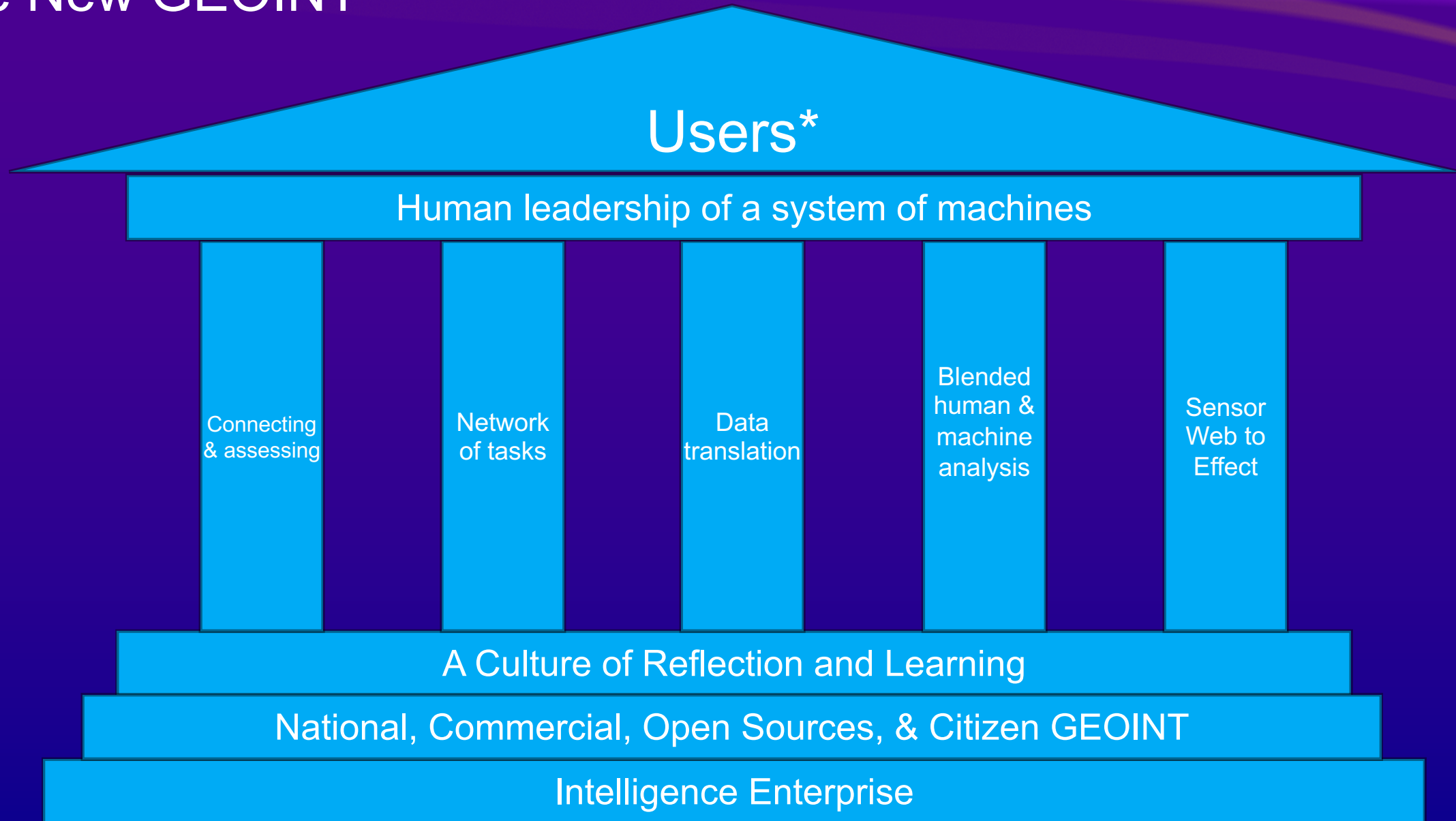
Battlefield Control  
of 2023

# The Current GEOINT





# The New GEOINT

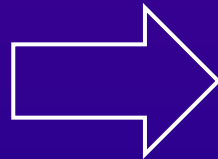


\* Users include human decision makers and machines.

# Comparison: The Current & New GEOINT

## Current GEOINT

Decision Maker  
Products  
Tasking & Collection  
Intel Cycle  
Data Standards  
Human & Machine  
Imagery, Image Intel, & GI  
Reflection & Learning  
National Systems  
The INTs



## New GEOINT


Users\*  
Leading a systems of machines  
Connecting & Assessing  
Network of Tasks  
Data Translation  
Blended Human & Machine Analysis  
Sensor Web to Effect  
Reflection & Learning  
National, Commercial, OS, & Citizen GEOINT  
Intelligence Enterprise

\* Users include human decision makers and machines.

# Implications

- Tradecraft
- Education & training
- System development
- Organizational

**Dictionary**  
Definitions from [Oxford Languages](#) · [Learn more](#)

 **im·pli·ca·tion**

*noun*  
plural noun: **implications**

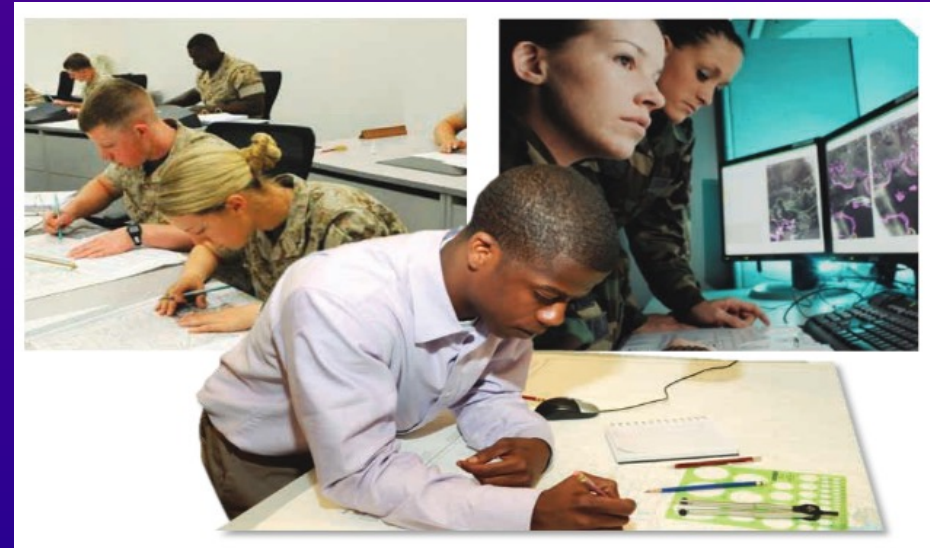
1. the conclusion that can be drawn from something although it is not explicitly stated.  
"the implication is that no one person at the bank is responsible"  
**Similar:** suggestion inference insinuation innuendo hint intimation
2. the action or state of being involved in something.  
"our implication in the problems"  
**Similar:** incrimination involvement connection entanglement association



# New Tradecraft Areas?

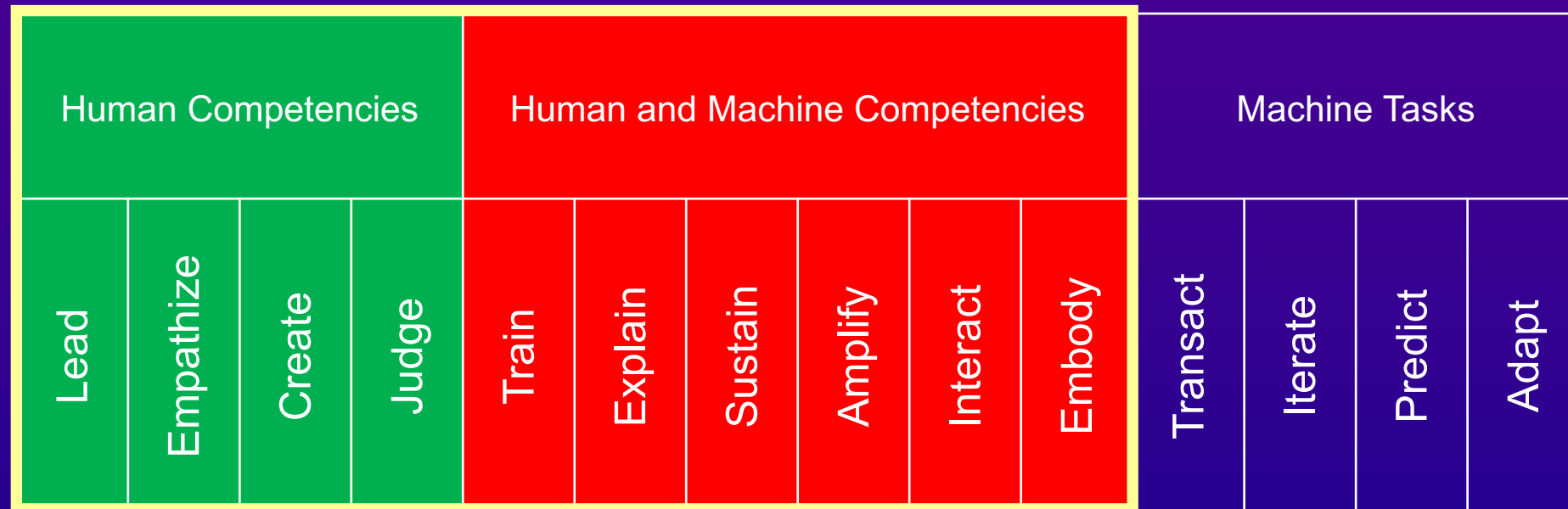
## Capturing & documenting the new tradecrafts

- AI Trainer, i.e., training the machine
- Commercial GEOINT Collection
- GeoAI Analyst
- GeoAI Science
- .....



# Education & Training

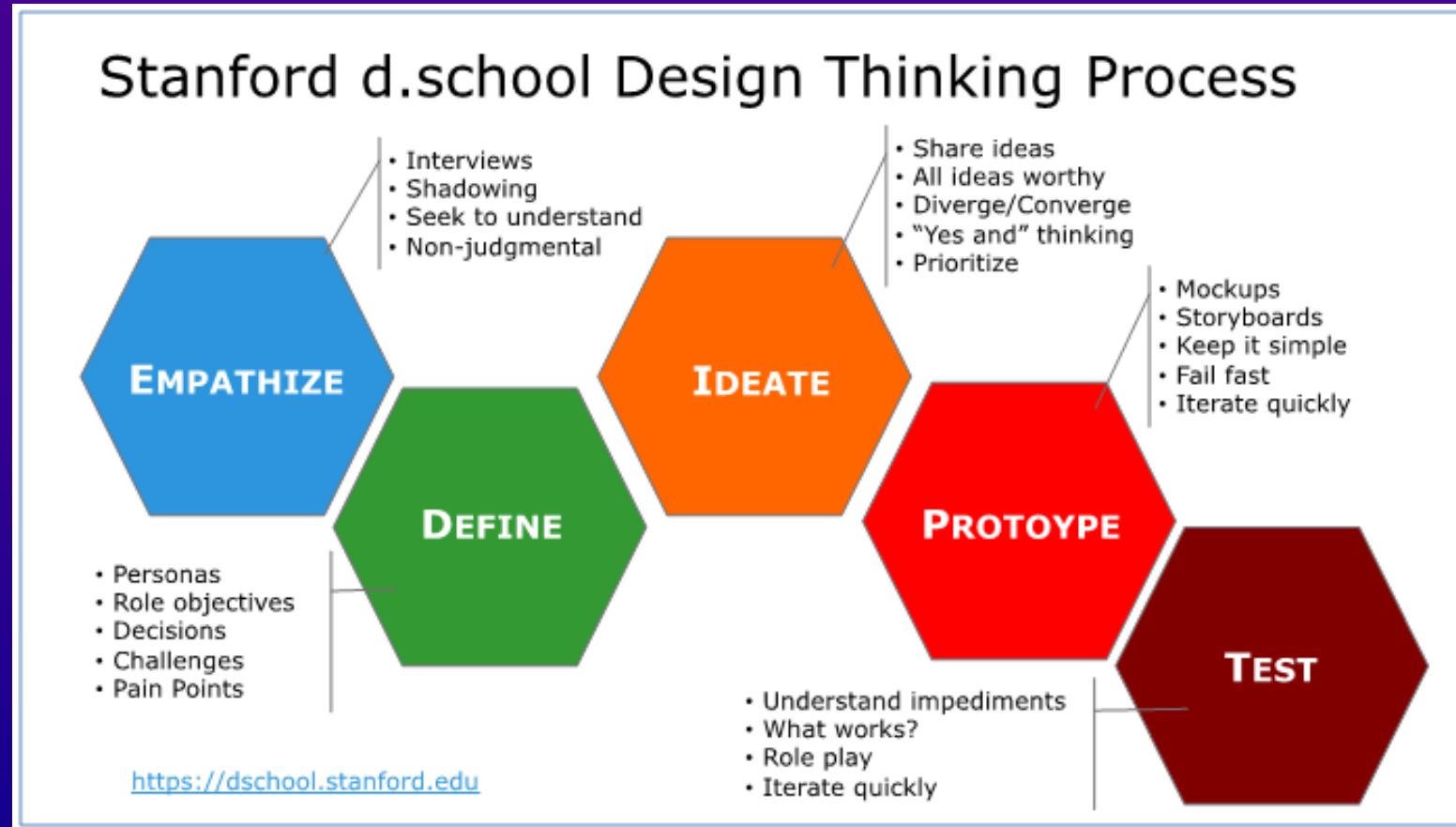
The X-Factor – developing the ability to adapt and innovate



After Daugherty, Figure 1.1

# System Development - Design Anthropology

The challenge is retaining human creativity and non-linear thinking





# Organizational Impact

## ”The gale of creative destruction”

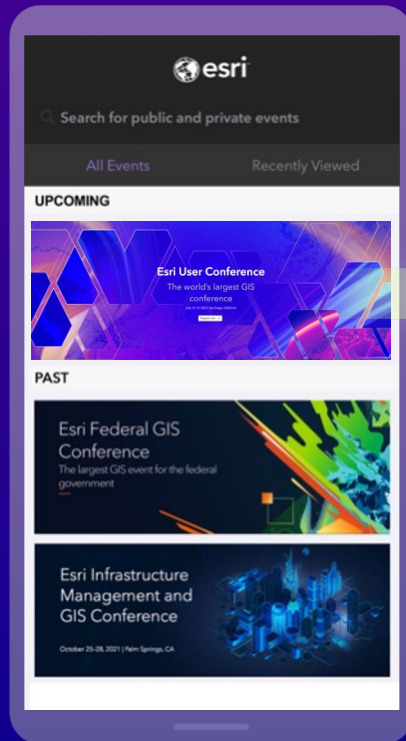
- The new epoch will alter the conditions which give us past organizations and boundaries.
- Organizational change will be opposed by those who are moved by honest skepticism in the dramatic technical changes.

Prediction: There will be a deadlock between those who seek change and those who seek to retain things as they are. This deadlock will be broken by a force removed from and unidentified with GEOINT.

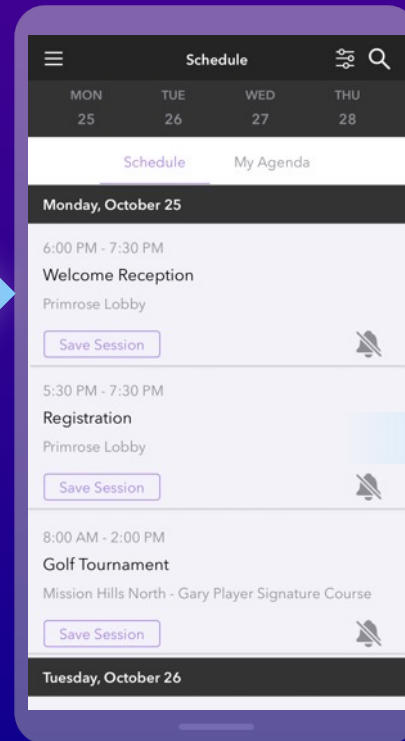
Questions & Comments?

# Please Share Your Feedback in the App

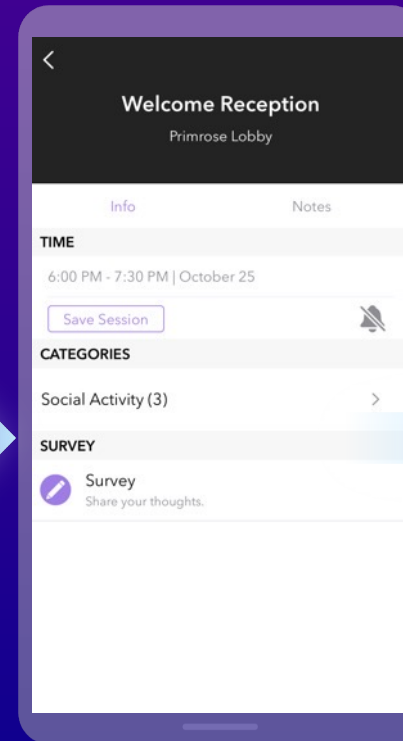
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