Activity Based Intelligence (ABI)

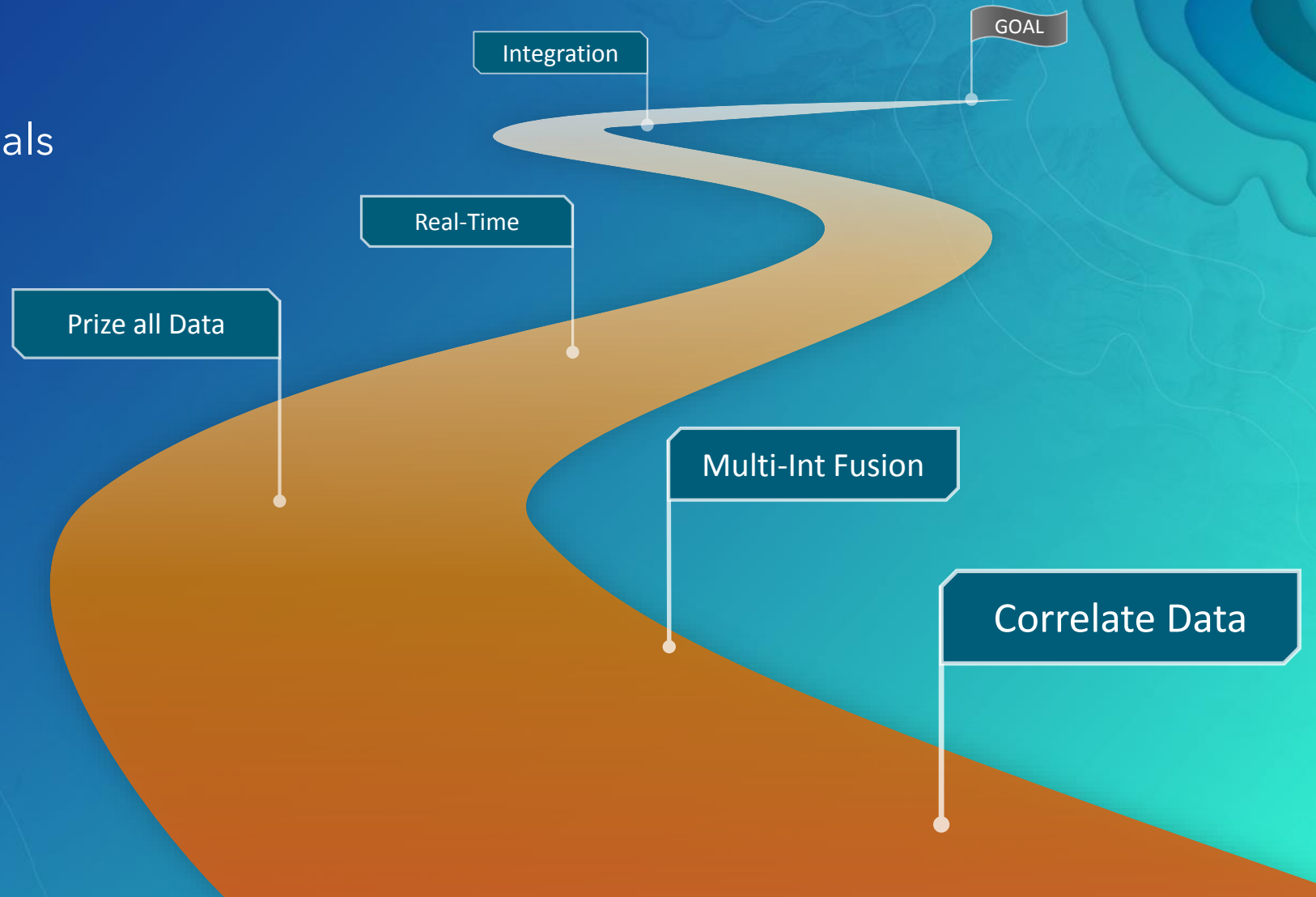
A Perilous Journey to Intelligence Integration

Presented by: Ken Mitchell / Kyle Talbot

Activity Based Intelligence

A Perilous Journey to Intelligence Integration

- Leverage new technology
- Role of GEOINT Professionals
- Avoid Common Pitfalls

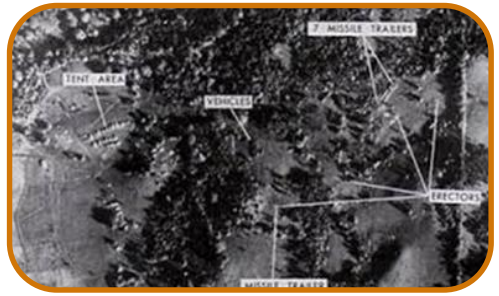


"A discipline (method) of intelligence, where analysis and subsequent collection is focused on the activity and transactions associated with an entity, a population, or an area of interest."

Undersecretary of Defense for Intelligence (USD(I)) 15 Sept 2010

First Age
1944-1962

- Rise of communism
- Human intelligence
- Single threat focus



Second Age
1962-2001

- Cold war; nation-states
- Technical collection
- Single threat focus

Third Age
2001-2014

- Terrorism and regional conflict
- Info tech, UAV's and web tools
- Threats on the homeland

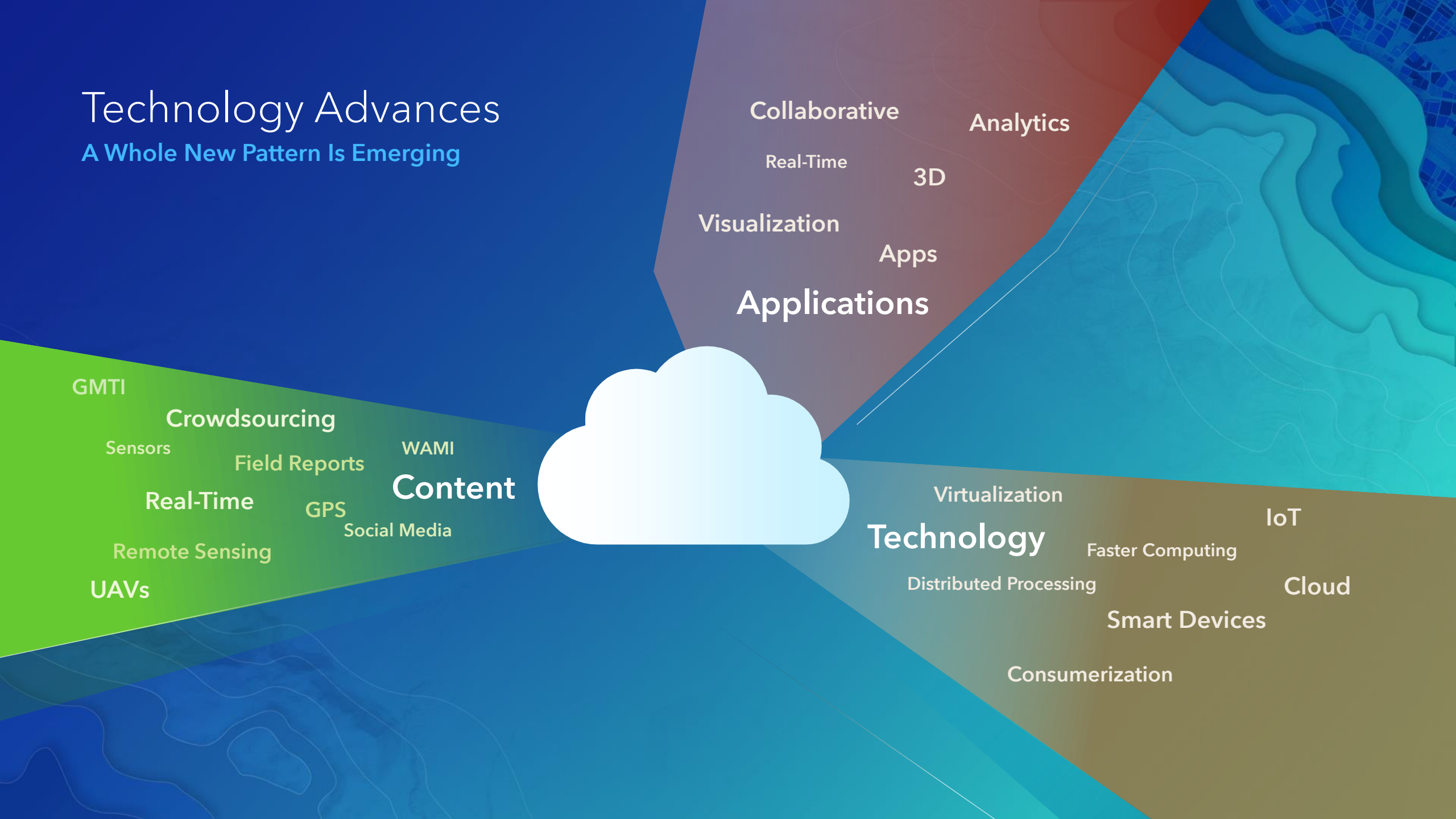
Fourth Age
2014+

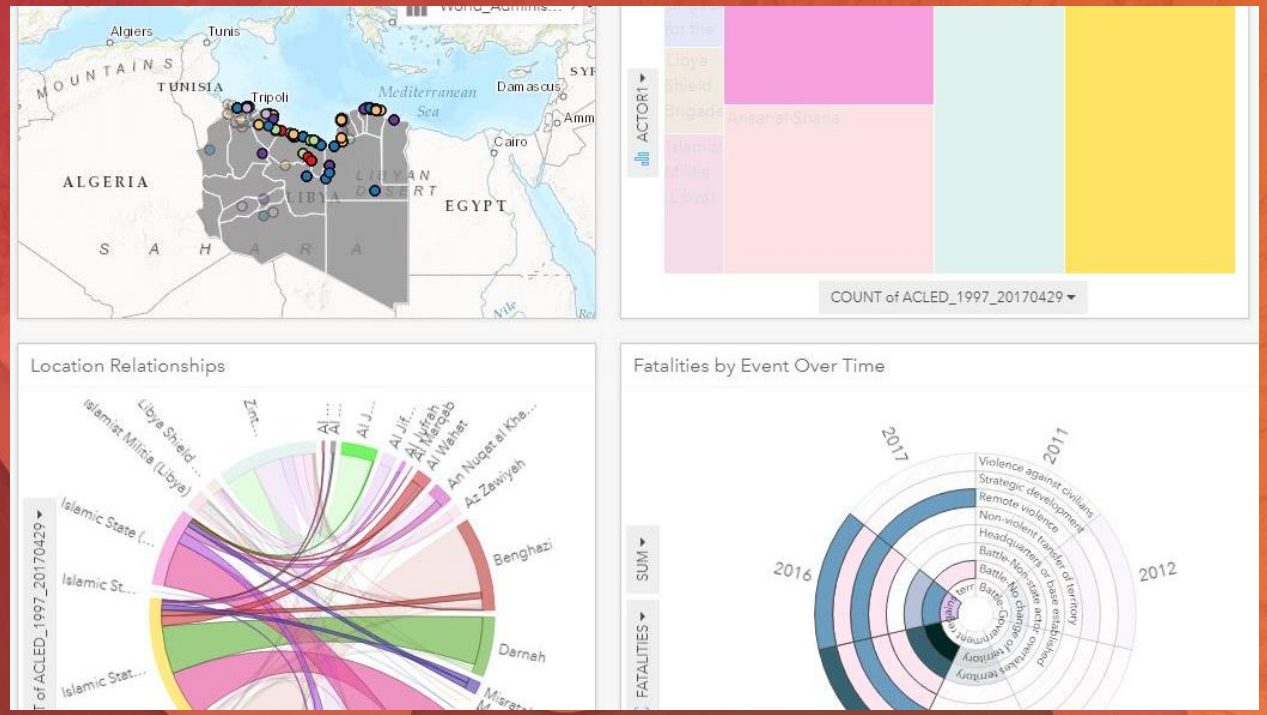
- Terror, cyber and WMD
- Multi-int & big data analytics
- Diverse distributed groups

Increasing Change and Rates of Change

Technology Advances

A Whole New Pattern Is Emerging





Leveraging New Technology

Answering an Intelligence Question

Activity Based Intelligence

A set of spatiotemporal analytic methods to:

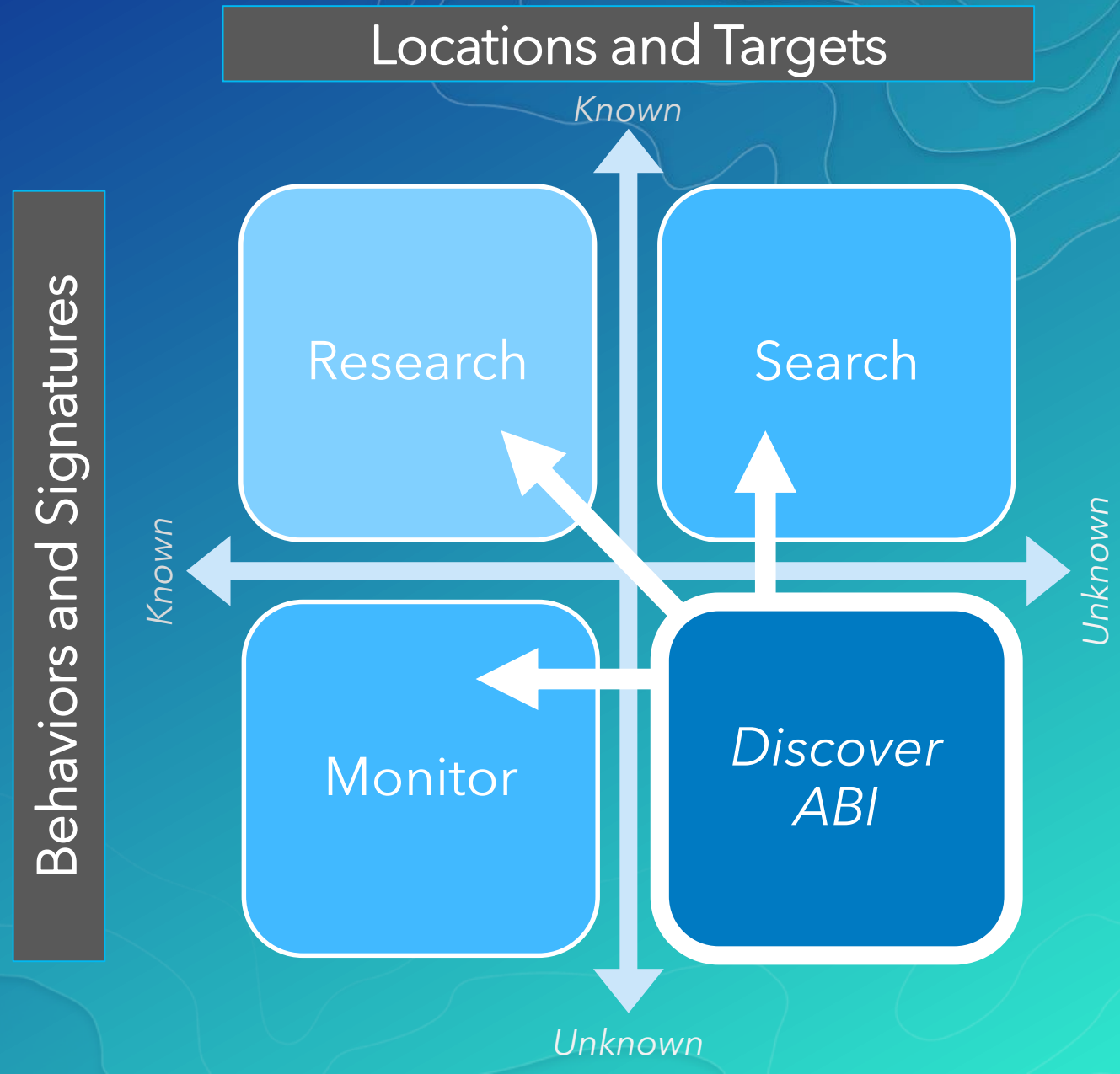
- Discover correlations
- Resolve unknowns
- Understand Networks
- Develop Knowledge
- Drive Collection

… Using diverse multi-INT data sets

Shift to Discovery Focus

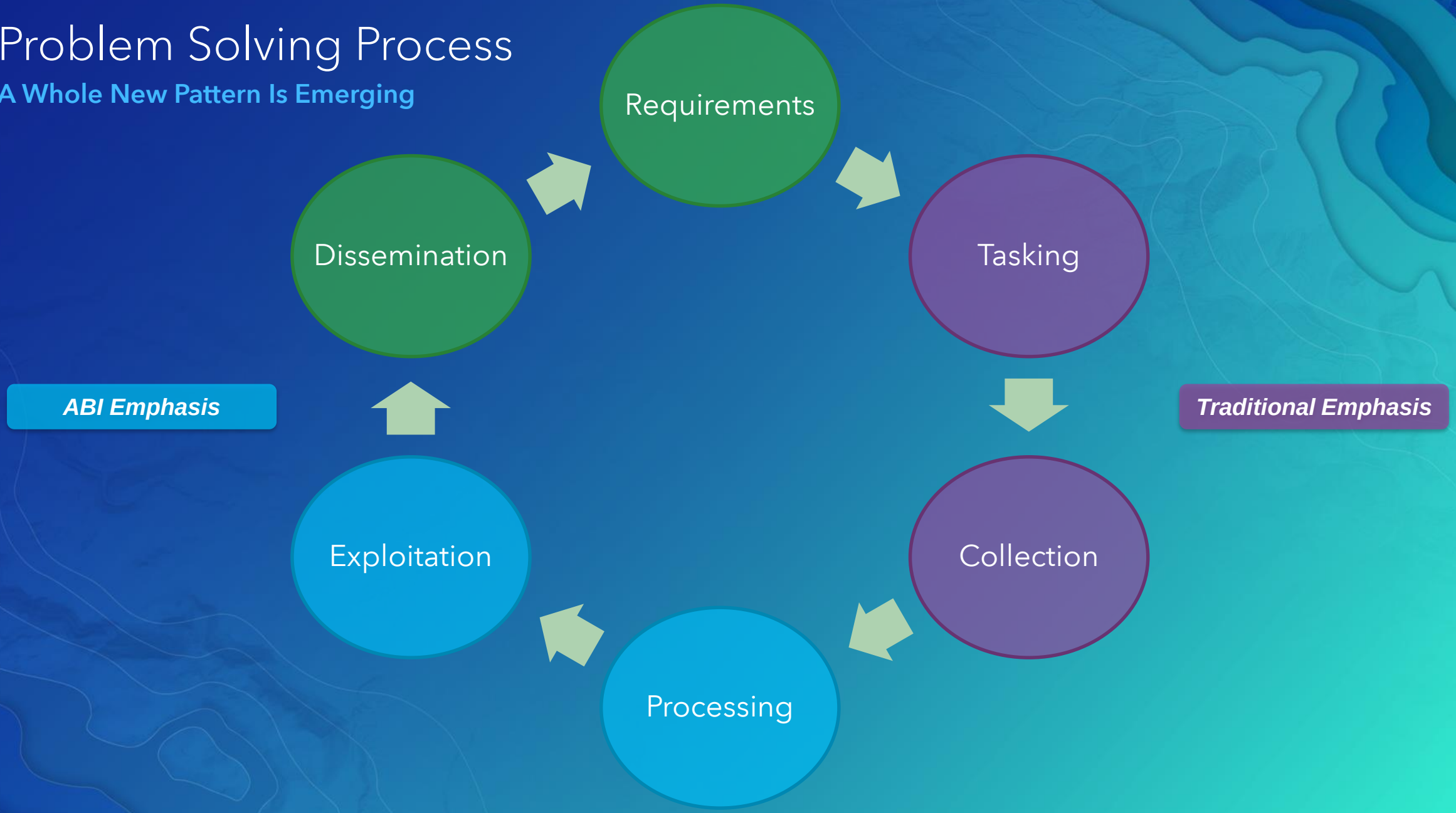
There are known knowns. These are things we know that we know. There are known unknowns. That is to say, there are things that we know we don't know. But there are also unknown unknowns. There are things we don't know we don't know.

Donald Rumsfeld



Problem Solving Process

A Whole New Pattern Is Emerging



Activity Based Intelligence

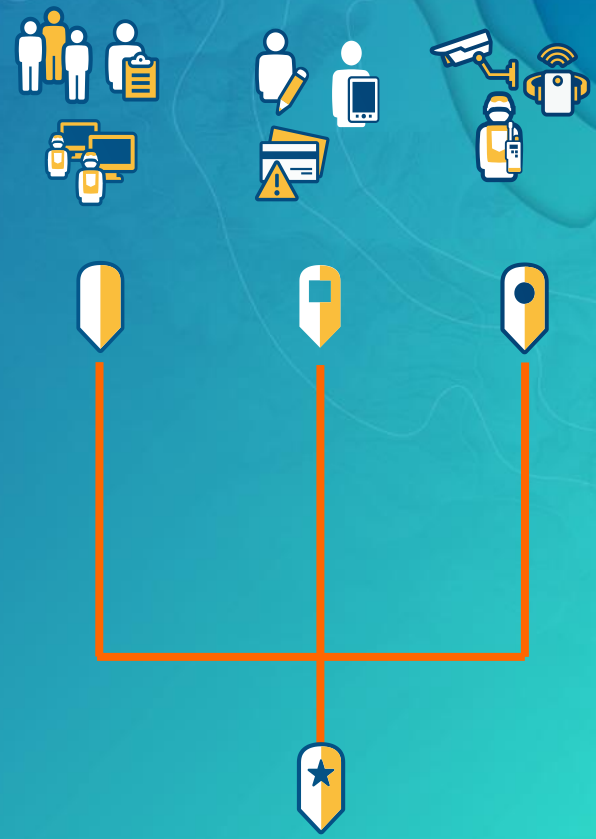
Attribute	Traditional Intel	ABI
Adversary	Nation-states; predictable; doctrine-based	Asymmetric threats; unpredictable; motivation-based
Signature	Durable; physical; definite	Non-durable; proxies
Smallest Unit	Class of equipment/object	Individual entity with unique identifier
Analytic Reasoning	Inductive; linear	Deductive; non-linear
Target model	Facilities & targets; coordinate; targeted	Area of interest; population; region; incidental collection
Motivation	Collection-driven	Analysis-driven
Reporting	Finished serial reporting	In-work products; layers; files
Collection frequency	Scheduled; deck based	Persistent and pervasive; multi-INT

A Perilous Journey to Integration

Activity Based Intelligence

Journey Start	Step 1	Hazards	Enabling Technology
	• Take the right steps along the journey	• Avoid Pitfalls	

Challenge: Correlate all Intelligence Information

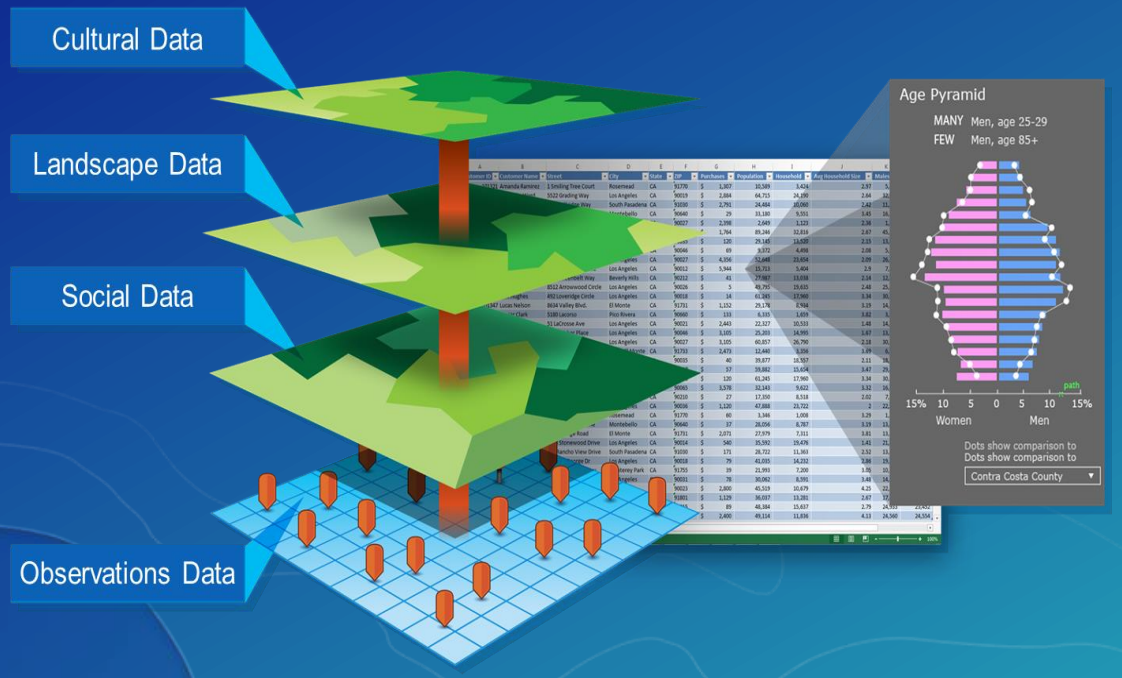


Correlate Data	Large Databases	Data Lakes	Search Solutions
• Single consistent method	• Complex ontology	• Unstructured data	• Key-Word • Faceted

Reduce Analyst Burden

- Reduce timelines

Georeference To Discover



Spatial Correlation

Dots on Maps

- Visualize spatial relationships
- Ask questions

Geo-Enrichment

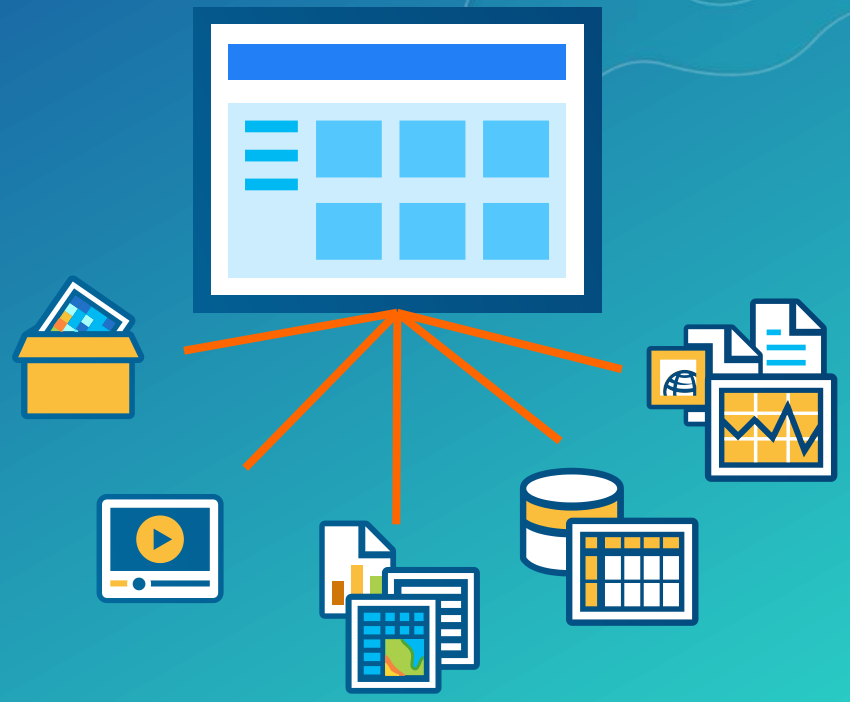
Leverage Foundation Data

- Understand spatial relationship

ABI Pillar

Georeference To Discover

From Single-Source to Multi-Intelligence Integration



Integrate Multiple Sources	Exploit Single Source First	Application Level Integration
• From all sources of data	• Miss key events	• Visual integration • Limited analysis

Integration before Exploitation

Logical Separation

- For all sources of data

Data

- IMINT
- SIGINT
- MASINT
- HUMINT

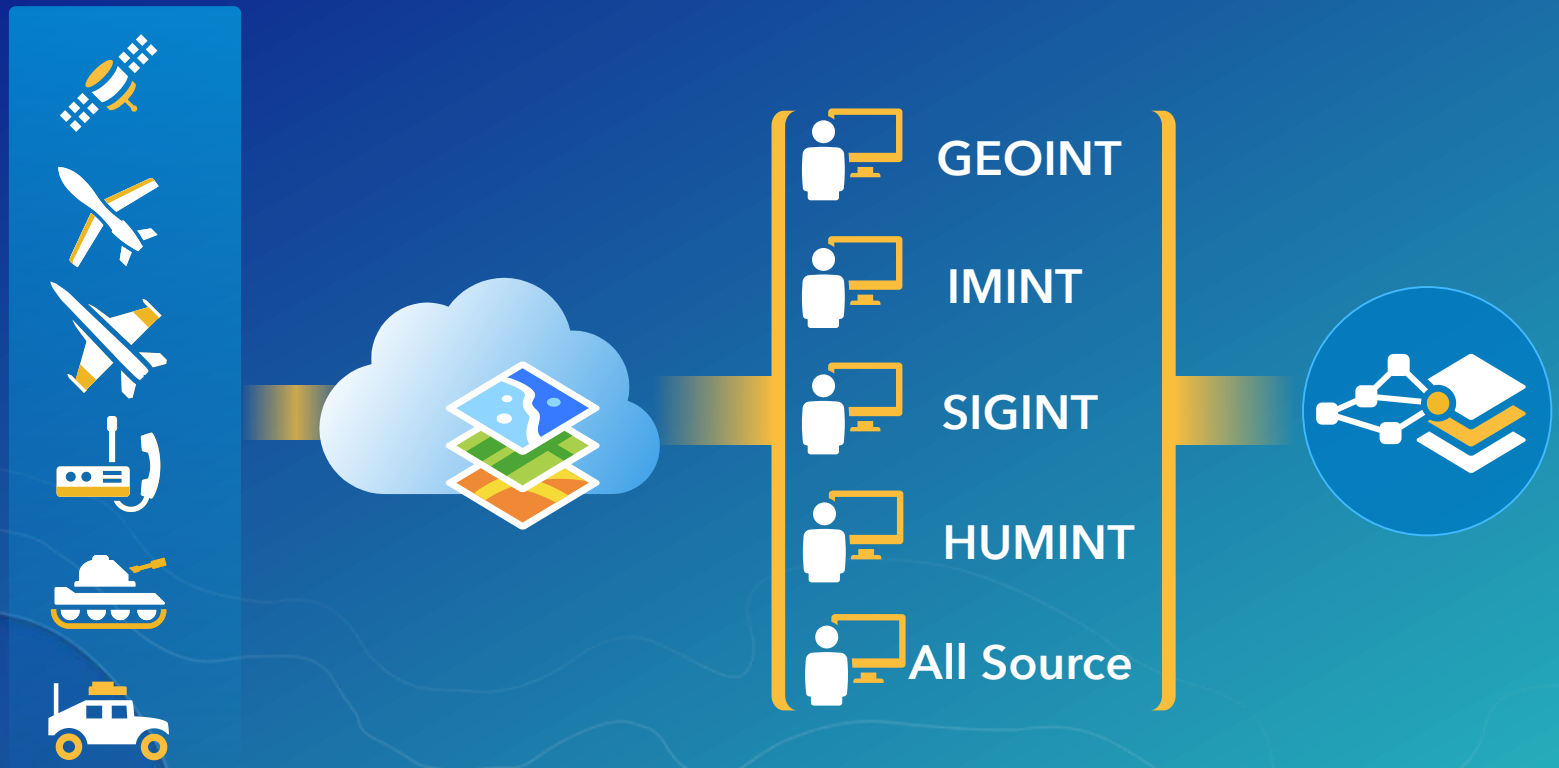
ABI Pillar

Integration Before Exploitation

Real-Time Analytics

Big Data Analytics

Prize all data



Prize All Data

- Regardless of source

Specialist ABI Tools

- WAMI exploitation

Embedded Developers

Focused Applications

Data Neutrality

Experts Configure

- Share tradecraft
- Reduce training burden

Application Frameworks

Establish Standard Practices

- Integrate data into analytic process

Leverage Commercial Tools

- Professional tools used to exploit data

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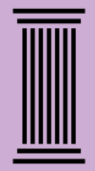
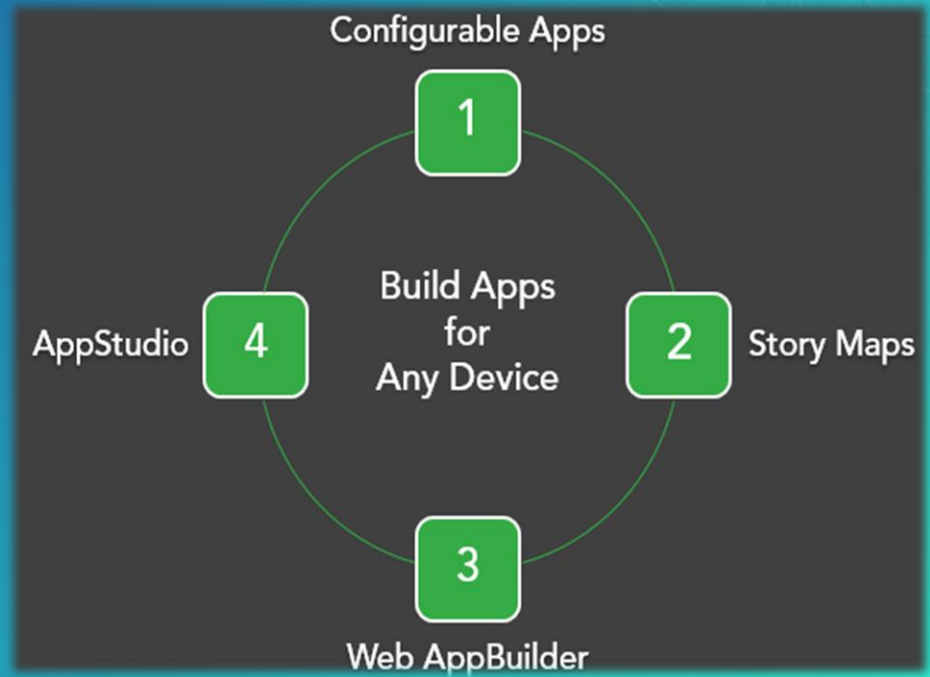


Data Neutrality

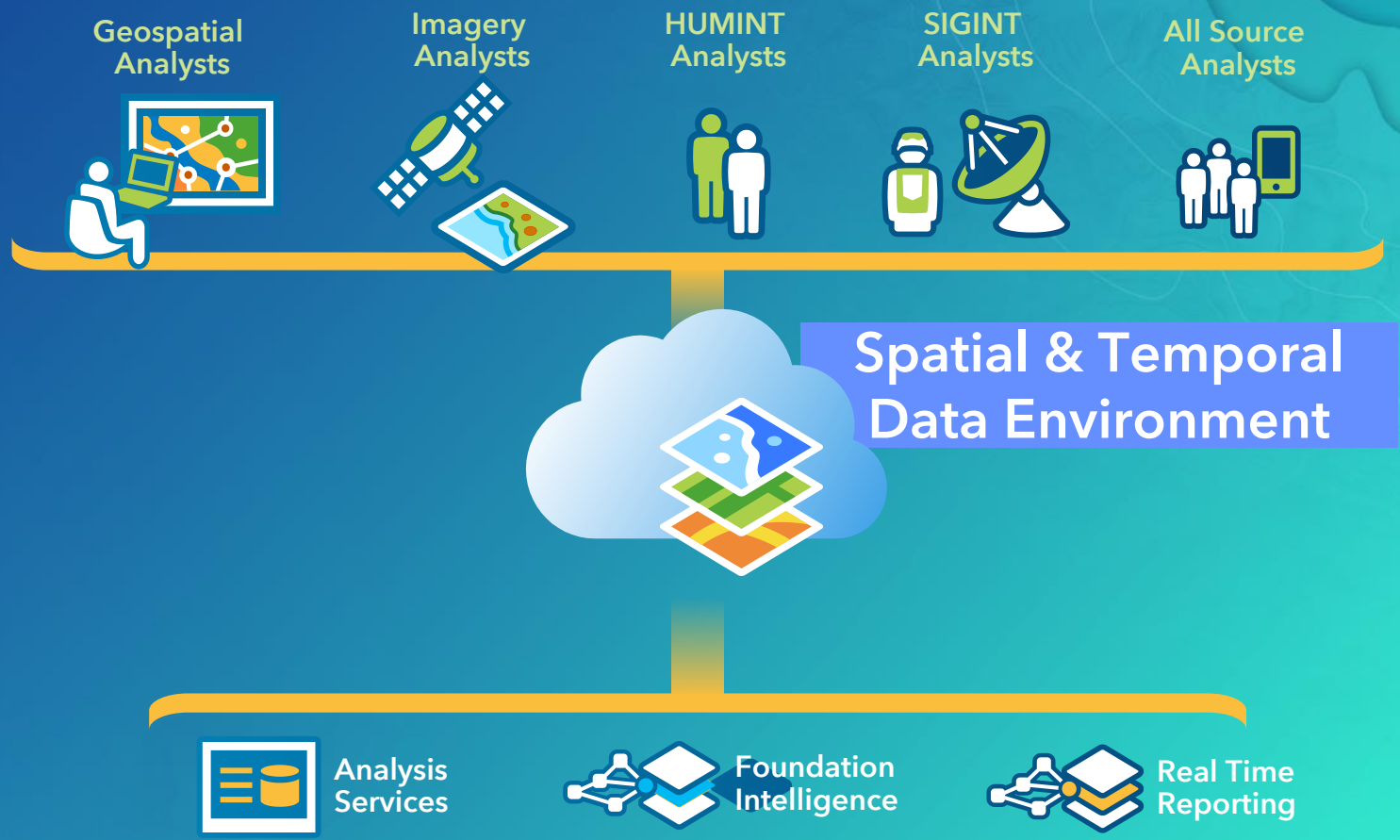


Sometimes the answer arrives before you ask the question

Collection Problem	Big Data Archive	Archive Based On Date of Information	Data Conditioning
• Answer before question			

Sequence Neutrality

- **How do we logically manage and store information and make it easy for analysts to discover and use?**



ABI Pillar

Sequence Neutrality

Intelligence Enterprise

4 Pillars of ABI

ABI Pillar

Georeference To Discover

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Data Neutrality

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Integration Before Exploitation

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Sequence Neutrality

Enabling Technology

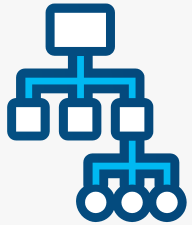
Geo-Enrichment

Real-Time Analytics

Big Data Analytics

Application Frameworks

Intelligence Enterprise



Leveraging ABI

Answering an Intelligence Question

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