



Mineral Intelligence: The USGS Perspective

**Dr. Steven M Fortier, Director
National Minerals Information Center
U.S. Geological Survey**

**Paris, France
Thursday, June 15, 2017**

National Minerals Information Center (NMIC)

■ Mission

- To collect, analyze, and disseminate information on the domestic and international supply of and demand for non-fuel minerals and materials essential to the U.S. economy and national security.

■ Objective

- Provide decision makers with the information required to ensure that the U.S. has an adequate supply of minerals and materials to meet U.S. needs, at an acceptable cost with regard to environmental, energy, and economic factors.

Mineral Intelligence: Definition

min·er·al
'min(ə)rəl/
noun

1. solid inorganic substance of natural occurrence.

adjective.

2. of or denoting a mineral.

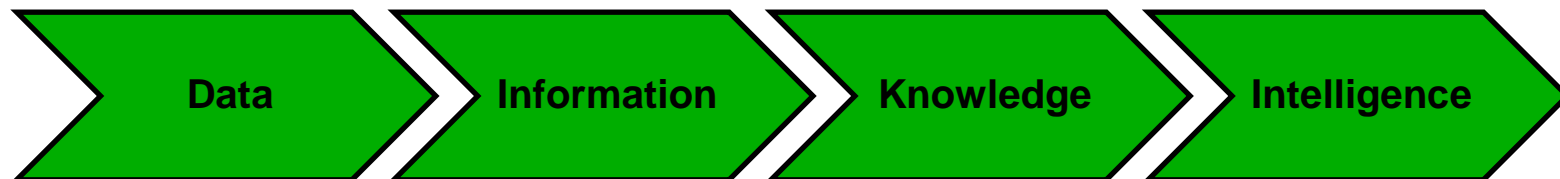
"mineral ingredients such as zinc oxide"

in·tel·li·gence
in'teləjəns
noun

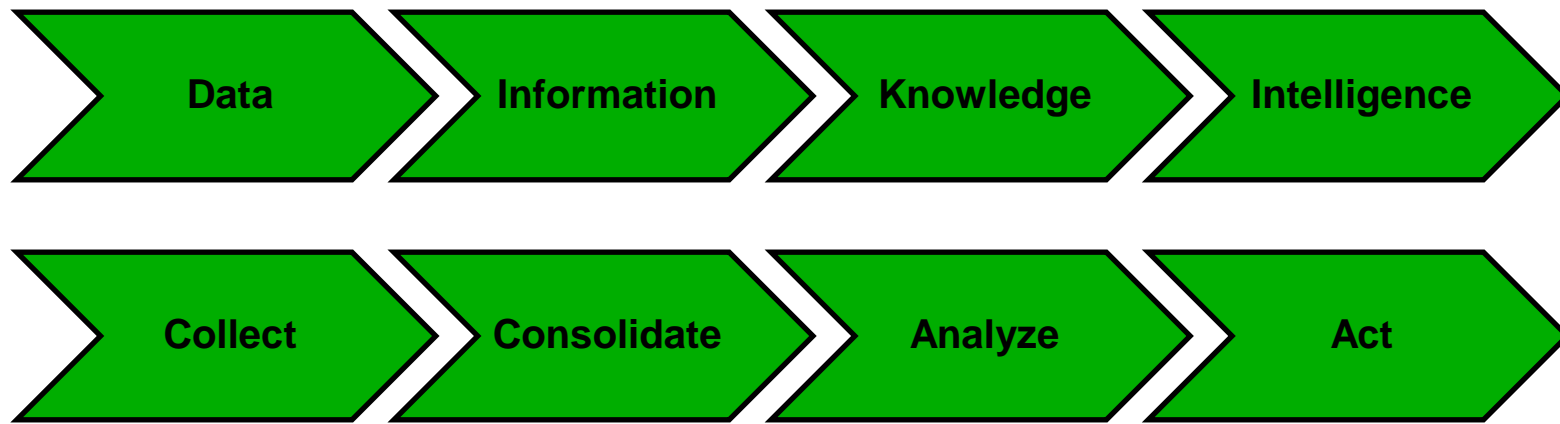
1. the ability to acquire and apply knowledge and skills; intellectual capacity, judgment, reasoning, understanding, comprehension.

2. the collection and interpretation of information of military, economic, or political value.

Mineral Intelligence Value Chain



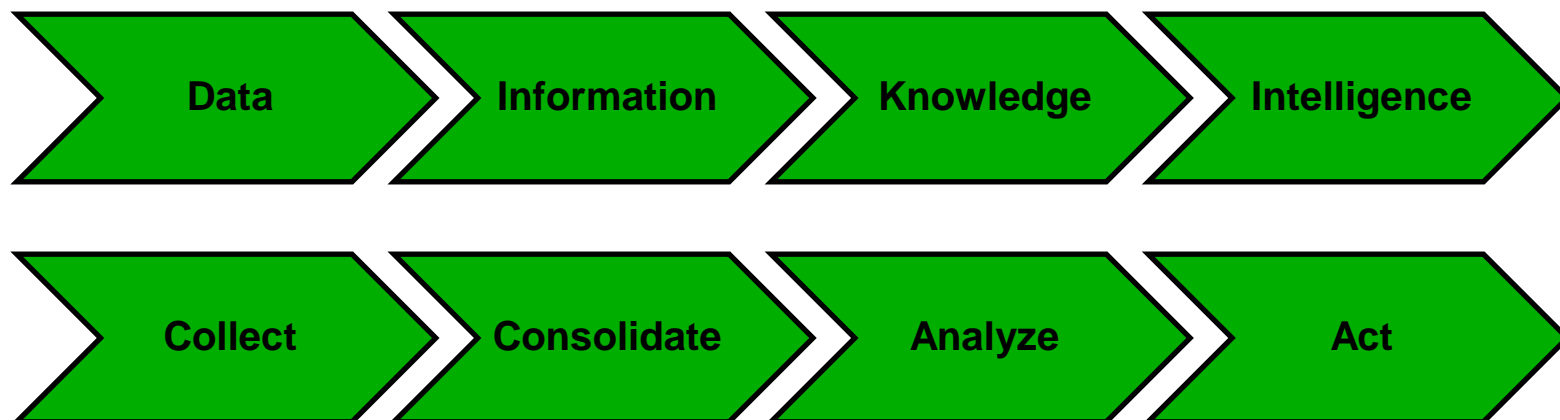
Mineral Intelligence Value Chain



Stakeholder: U.S. Federal Reserve



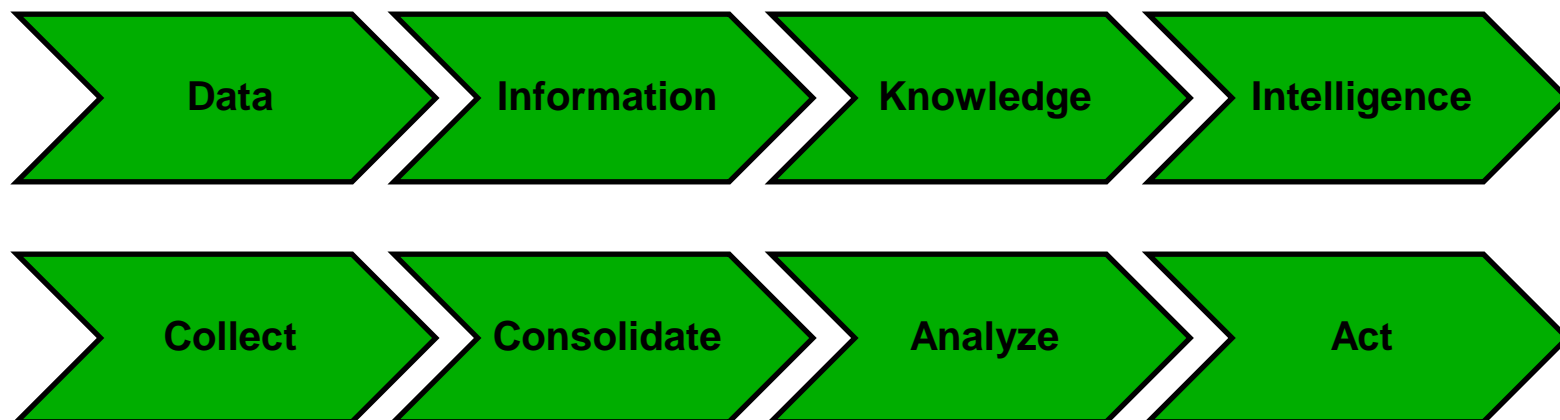
Example: U.S. Monetary Policy



Monthly Data Collection

- Aluminum
- Cement
- Copper
- Crushed stone
- Gold
- Gypsum
- Iron Ore
- Lead
- Molybdenum
- Phosphate rock
- Sand & gravel
- Silver
- Soda ash
- Zinc

Example: U.S. Monetary Policy

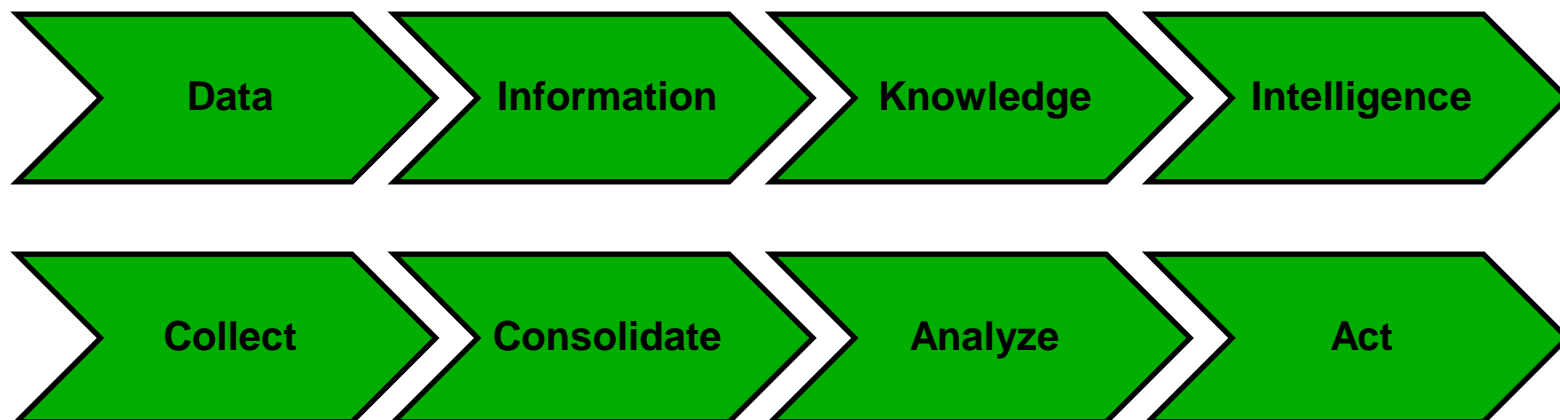


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Consolidated Monthly Report

Example: U.S. Monetary Policy



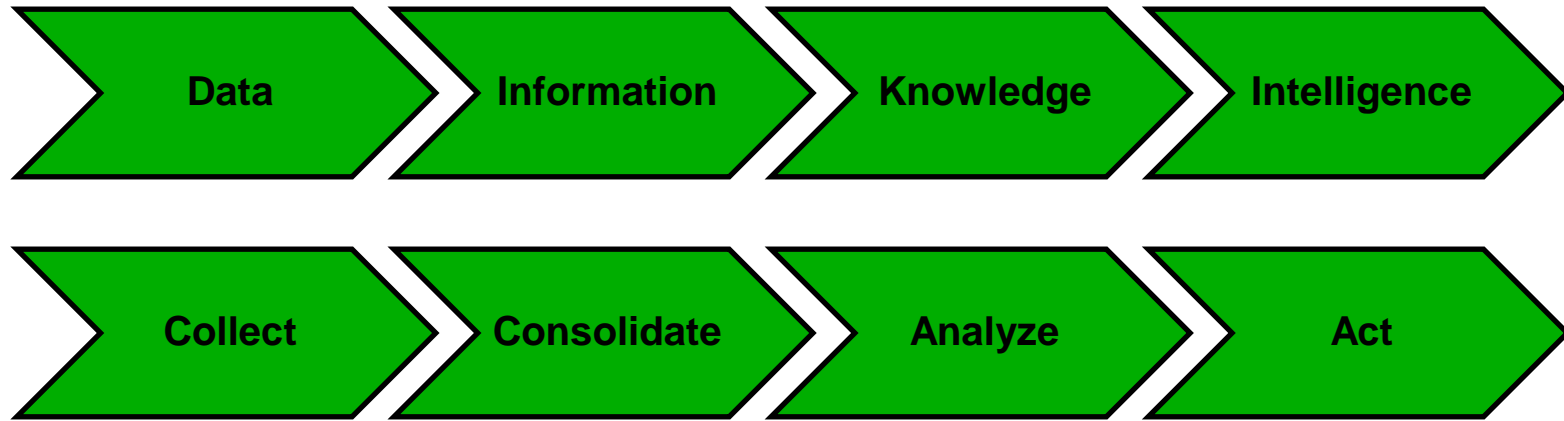
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Consolidated
Monthly
Report

Economic
Model:
U.S. Economy

Example: Economic



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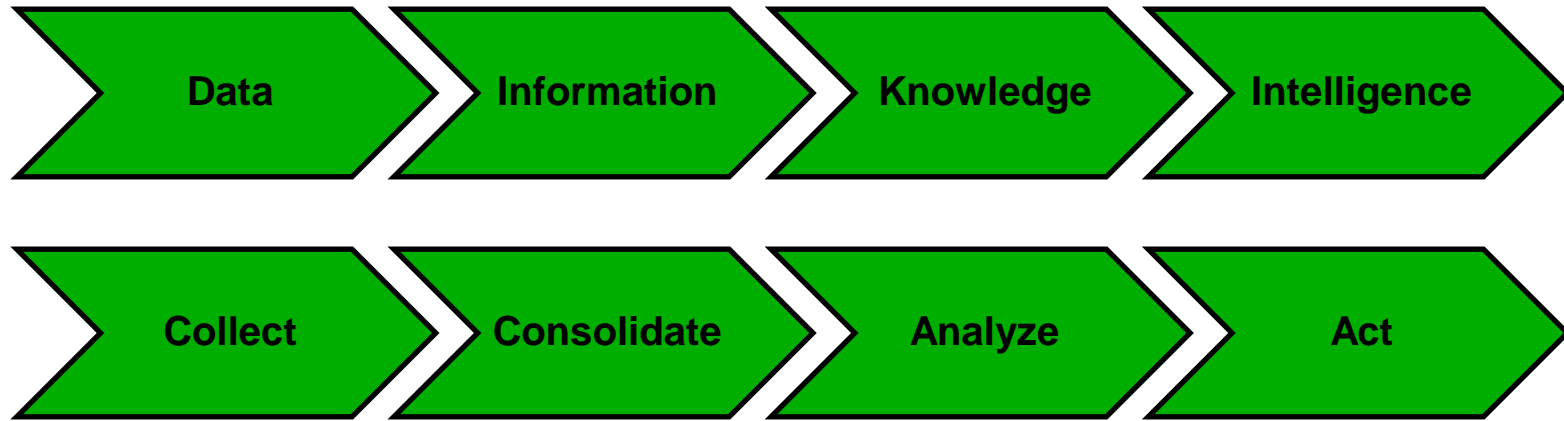
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U.S. Monetary
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Example: U.S. Monetary Policy



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Consolidated
Monthly
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Policy





DEFENSE LOGISTICS AGENCY

AMERICA'S COMBAT LOGISTICS SUPPORT AGENCY



DLA STRATEGIC MATERIALS

ANNOUNCEMENT

October 3, 2016
DLA-SM-17-3117

ANNUAL MATERIALS PLAN FOR FY 2017

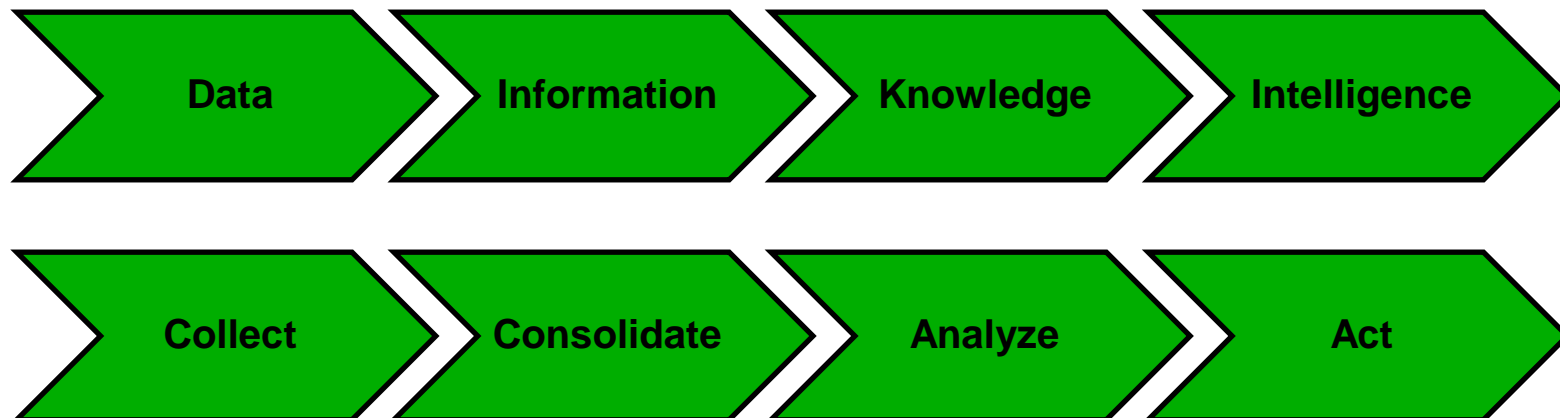
The Defense Logistics Agency-Strategic Materials today announced the Fiscal Year 2017 Annual Materials Plan (AMP). The FY 2017 AMP is effective October 1, 2016 and will expire September 30, 2017.

Annual Materials Plan for FY 2017 (Potential Sales)		
Material	Unit	Crilling Quantity
Chromium, Ferro	ST	23,500
Chromium, Metal	ST	200
Manganese, Ferro	ST	50,000
Platinum	Tr Oz	8,380
Tungsten Metal Scrap	LB	190
Tungsten Ores & Concentrates	LB W	3,000,000
Zinc	ST	7,593

Annual Materials Plan for FY 2017 (Potential Upgrades/Disposals)		
Material	Unit	Crilling Quantity
Beryllium Metal	ST	2
Germanium	Kg	5,000
Manganese, Metallurgical Grade	SDT	322,025
Nickel Based Alloys	LB	150,000
Platinum - Indium	Tr Oz	489
Tantalum Carbide Powder	LB Ta	3,777
Tin	MT	804
Titanium Dioxide Alloy	MT	75,000
Tungsten Metal Powder	LB W	77,433

The inventory of materials available for sale can be viewed at the
DLA-Strategic Materials website
www.dla.mil/acquisition/dlastrategicmaterials

Example: U.S. Strategic Material Stockpile

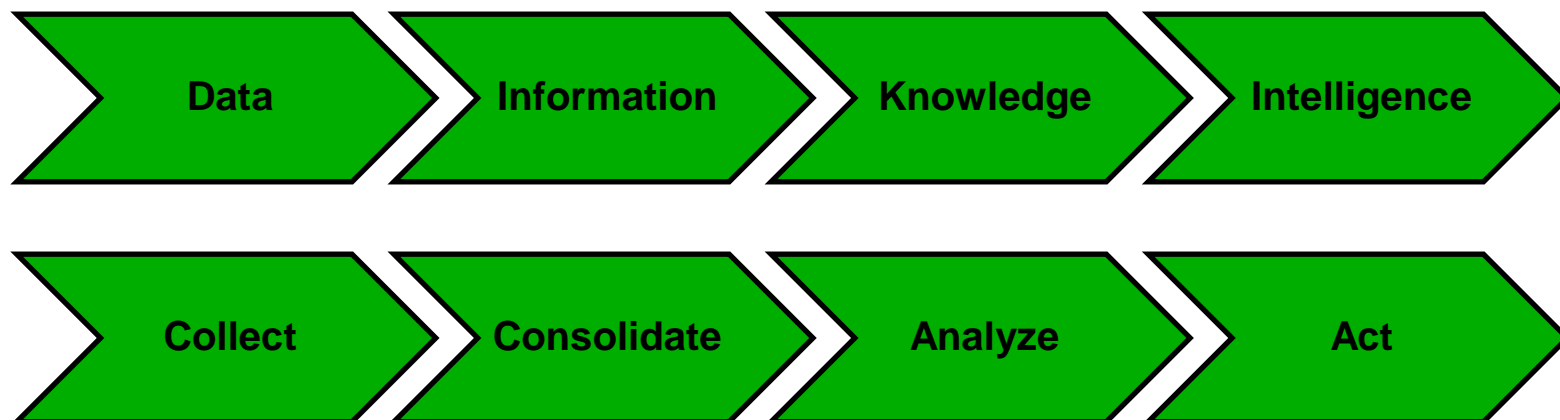


Pre-Publication
Data

50-60 Mineral
Commodities

Latest Available
Information

Example: U.S. Strategic Material Stockpile



Pre-Publication
Data

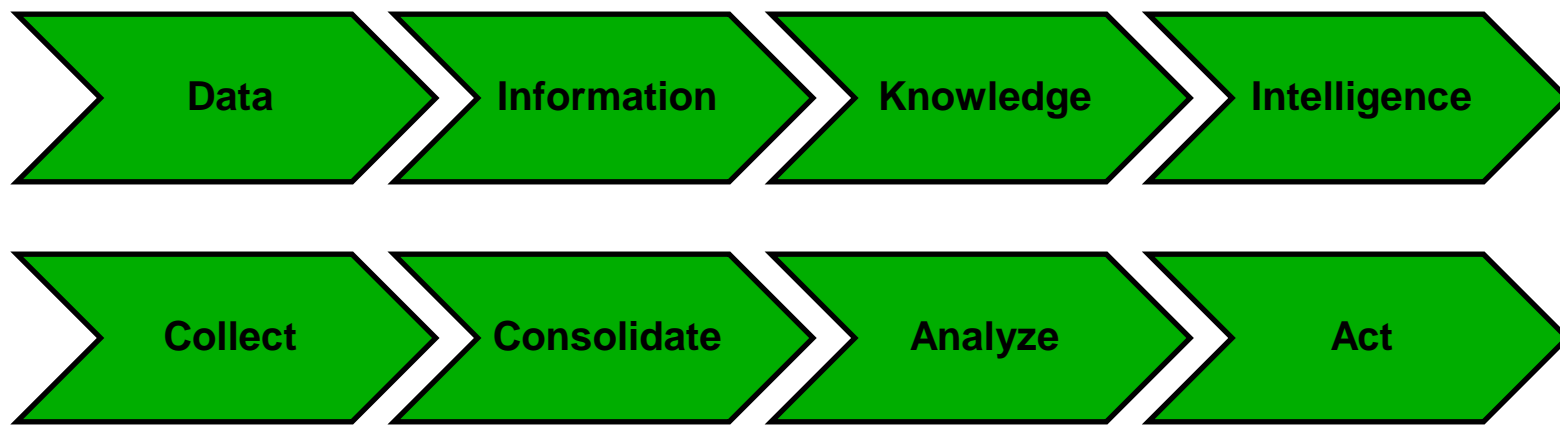
53 Mineral
Commodities

Latest Available
Information

Data Template

Pre-formatted
for Model Input

Example: U.S. Strategic Material Stockpile



Pre-Publication
Data

53 Mineral
Commodities

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Identify
Potential
Shortfalls

Annual
Material Plan /
Biennial report
to Congress

Example: U.S. Strategic Material Stockpile



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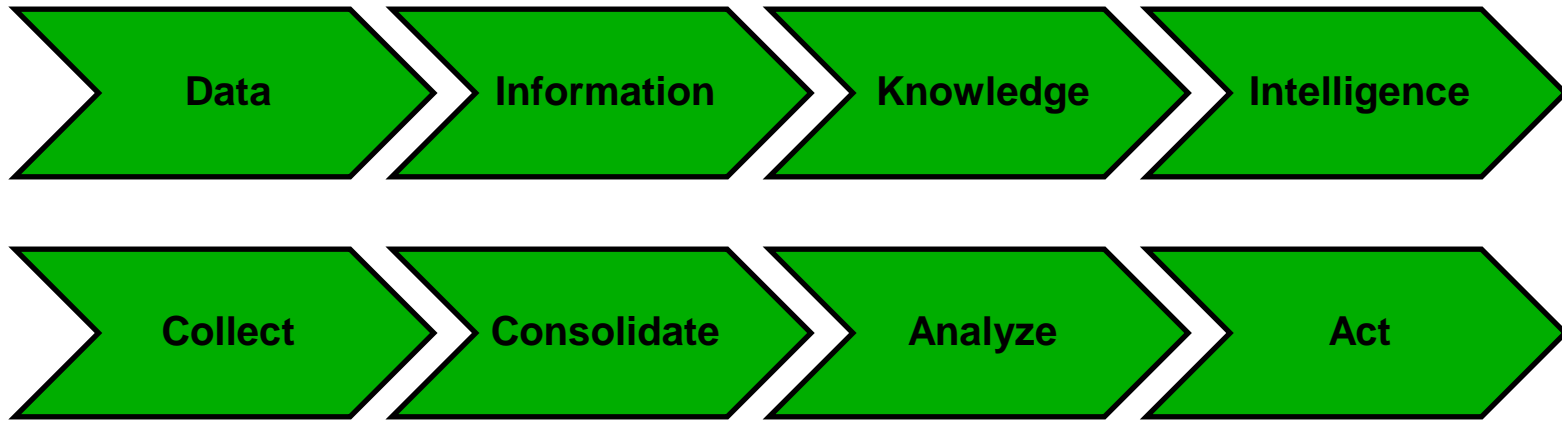
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Potential
Shortfalls

Annual
Material Plan /
Biennial report
to Congress

Authorize
Purchases /
Disposals

Adjust stockpiles

Example: U.S. Strategic Material Stockpile



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Identify
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Annual
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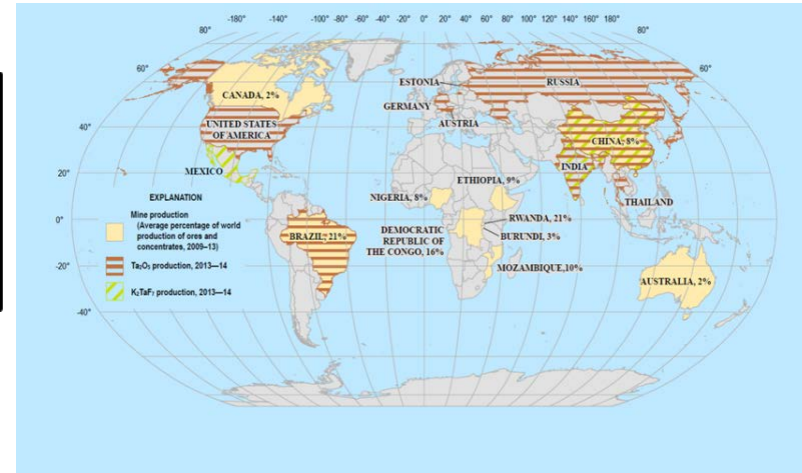


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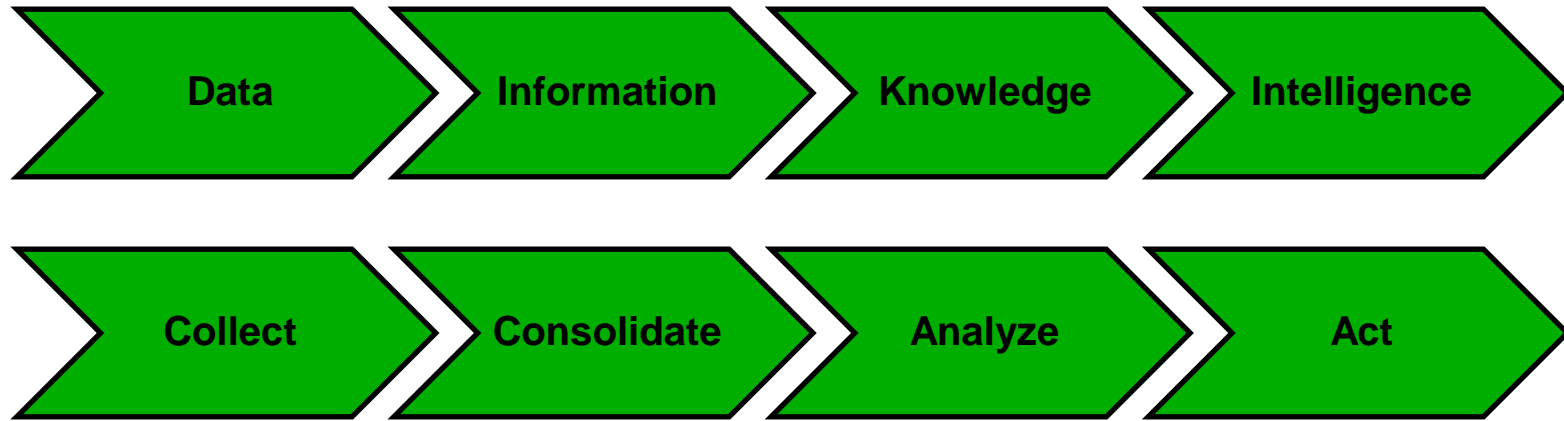
Stakeholders: U.S. Department of Commerce / Private Sector



The Dodd-Frank Act and 3TG Conflict Minerals in the Democratic Republic of Congo



Example: Regulatory Compliance



Mining &
Processing
Facilities
Database

Facilities
Capable of
Processing
3TG
Concentrates

Example: Regulatory Compliance

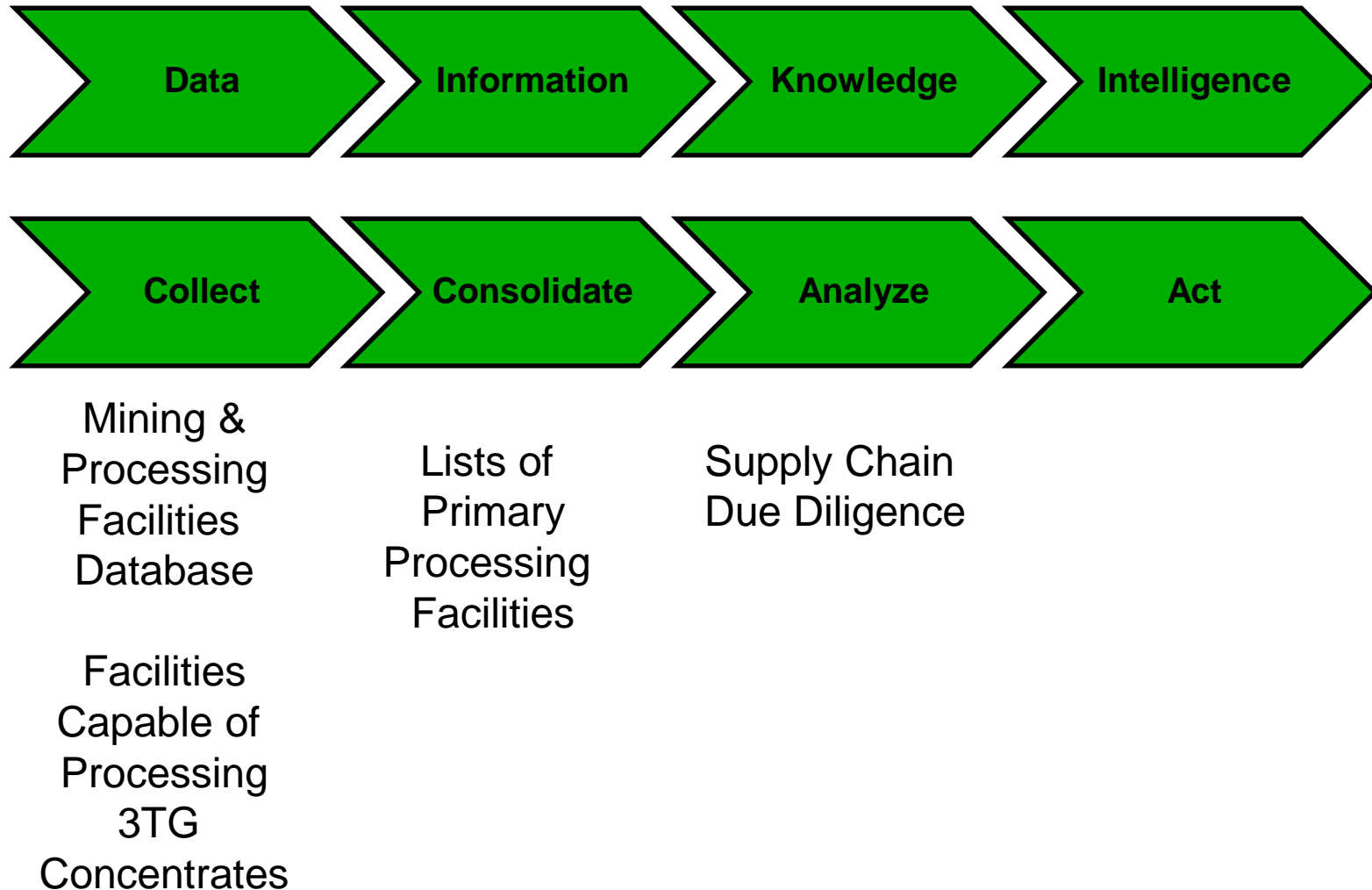


Mining &
Processing
Facilities
Database

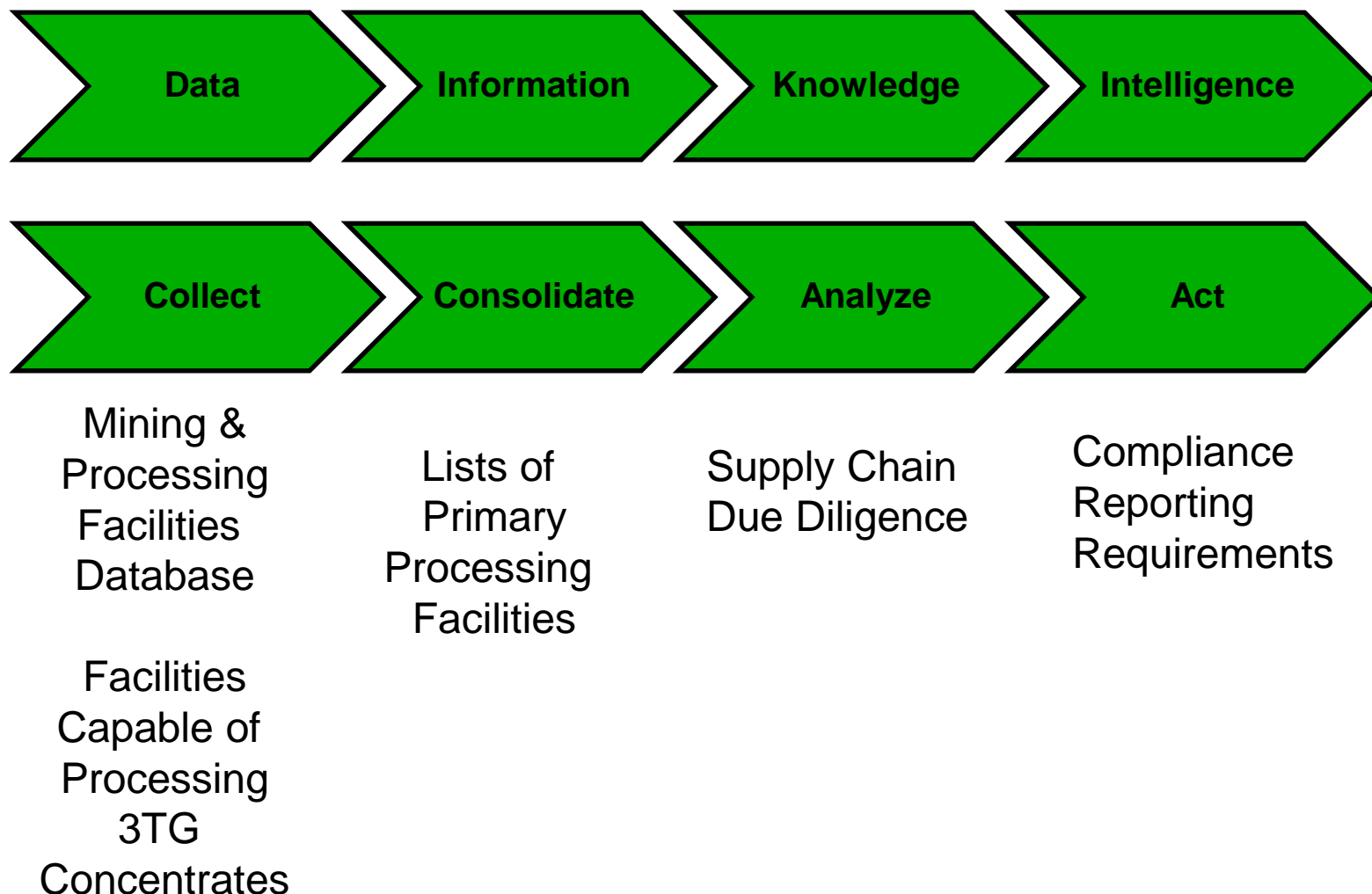
Lists of
Primary
Processing
Facilities

Facilities
Capable of
Processing
3TG
Concentrates

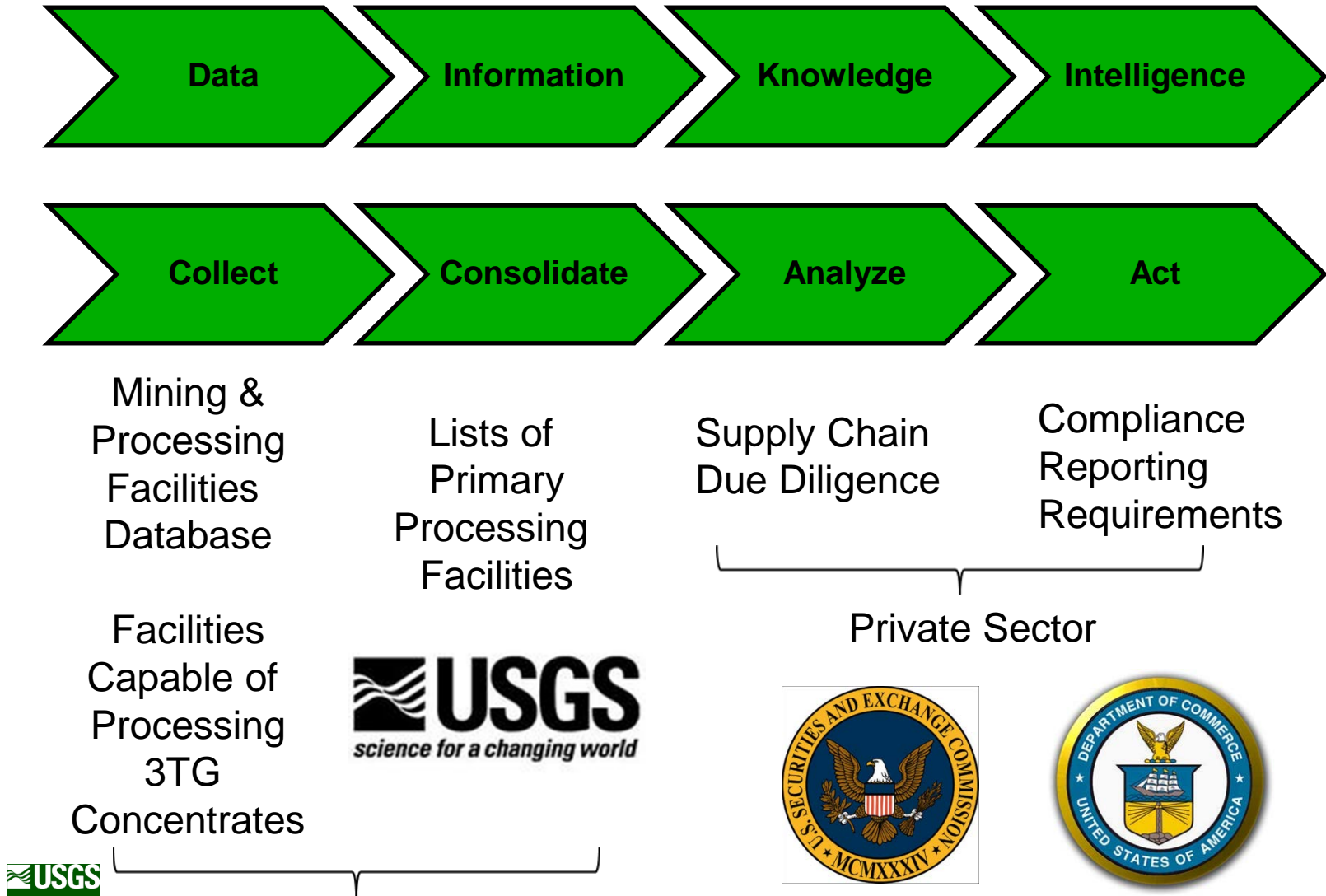
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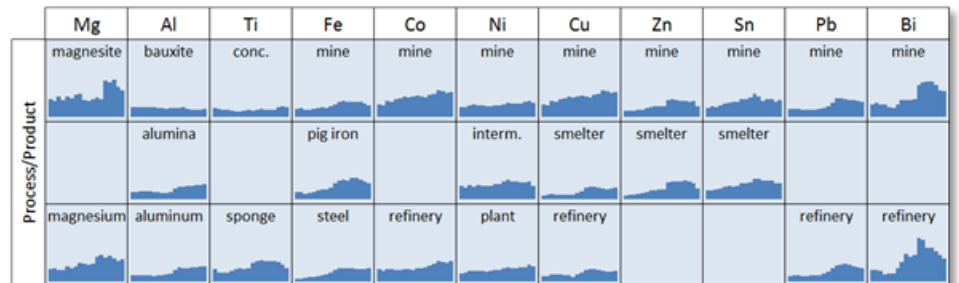
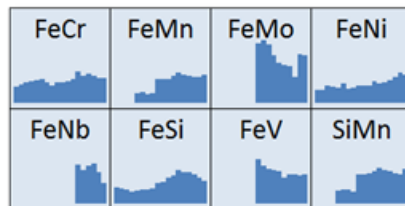
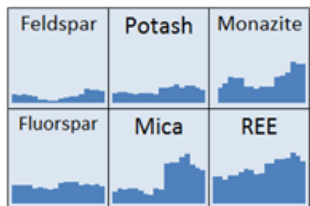
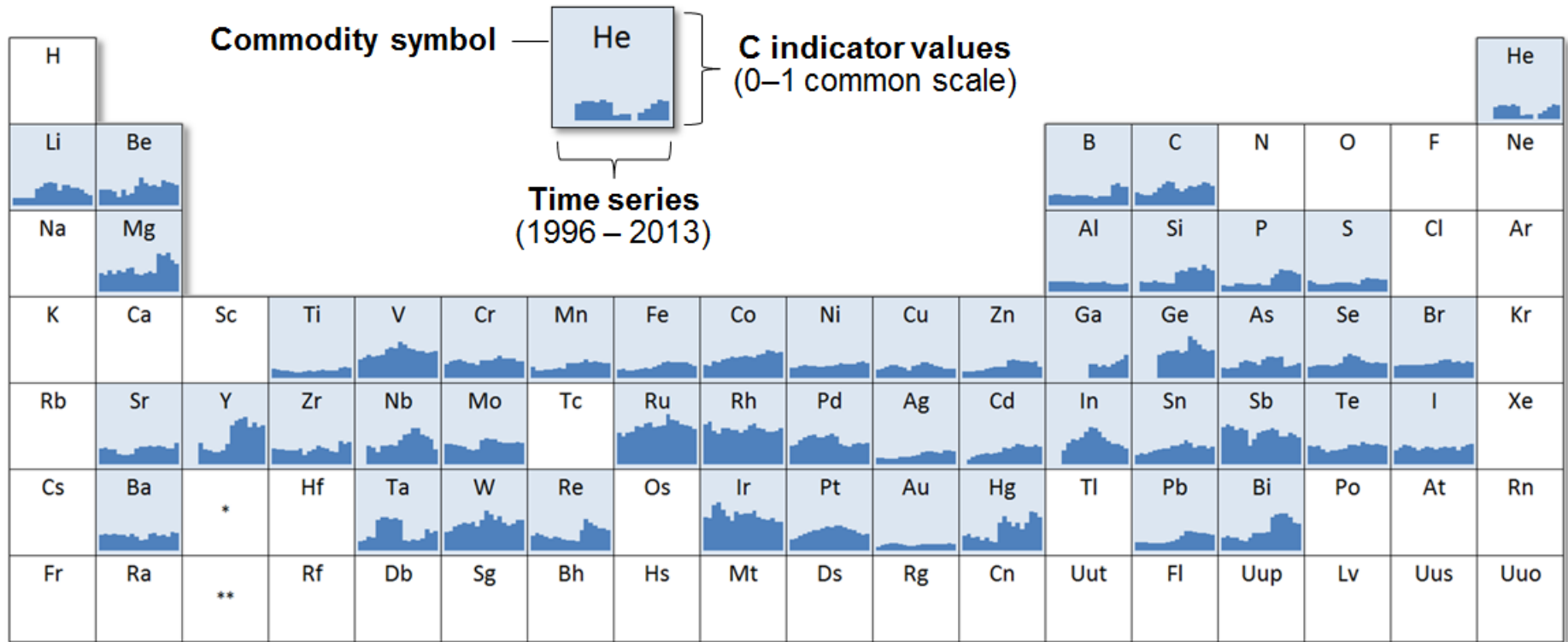
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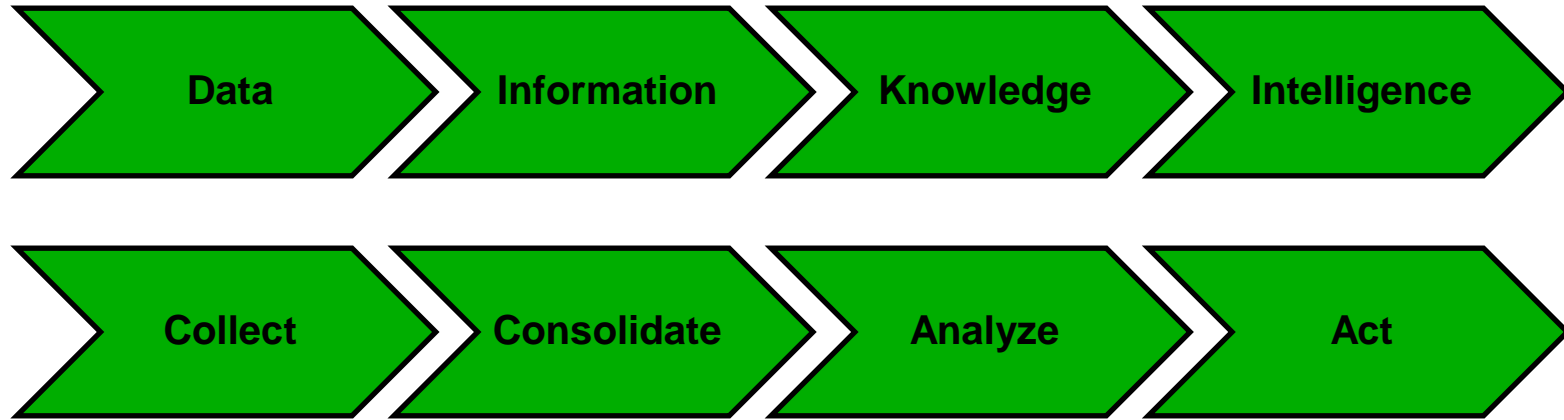
Example: Regulatory Compliance



Criticality indicator



Example: Criticality Modelling



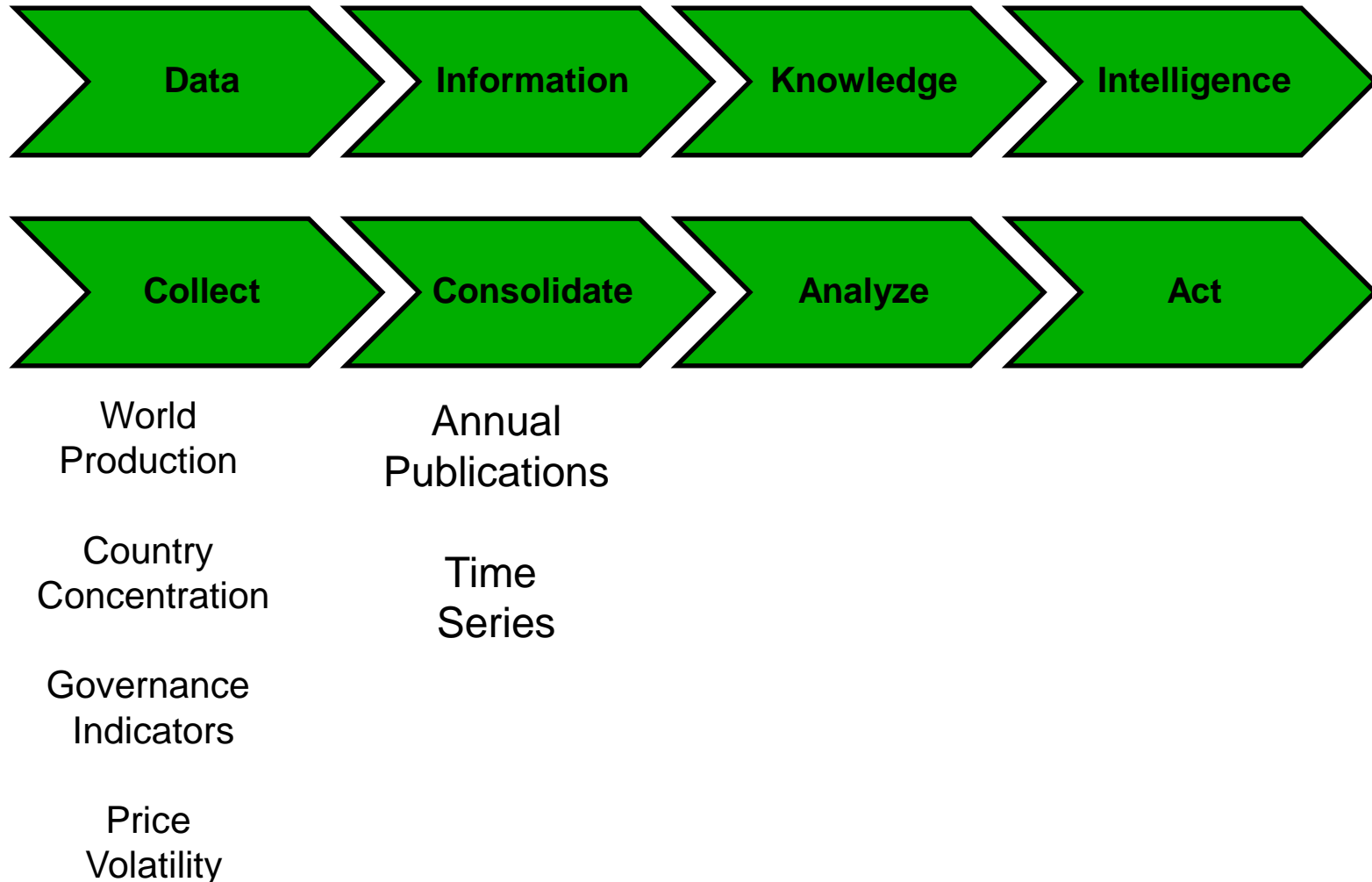
World
Production

Country
Concentration

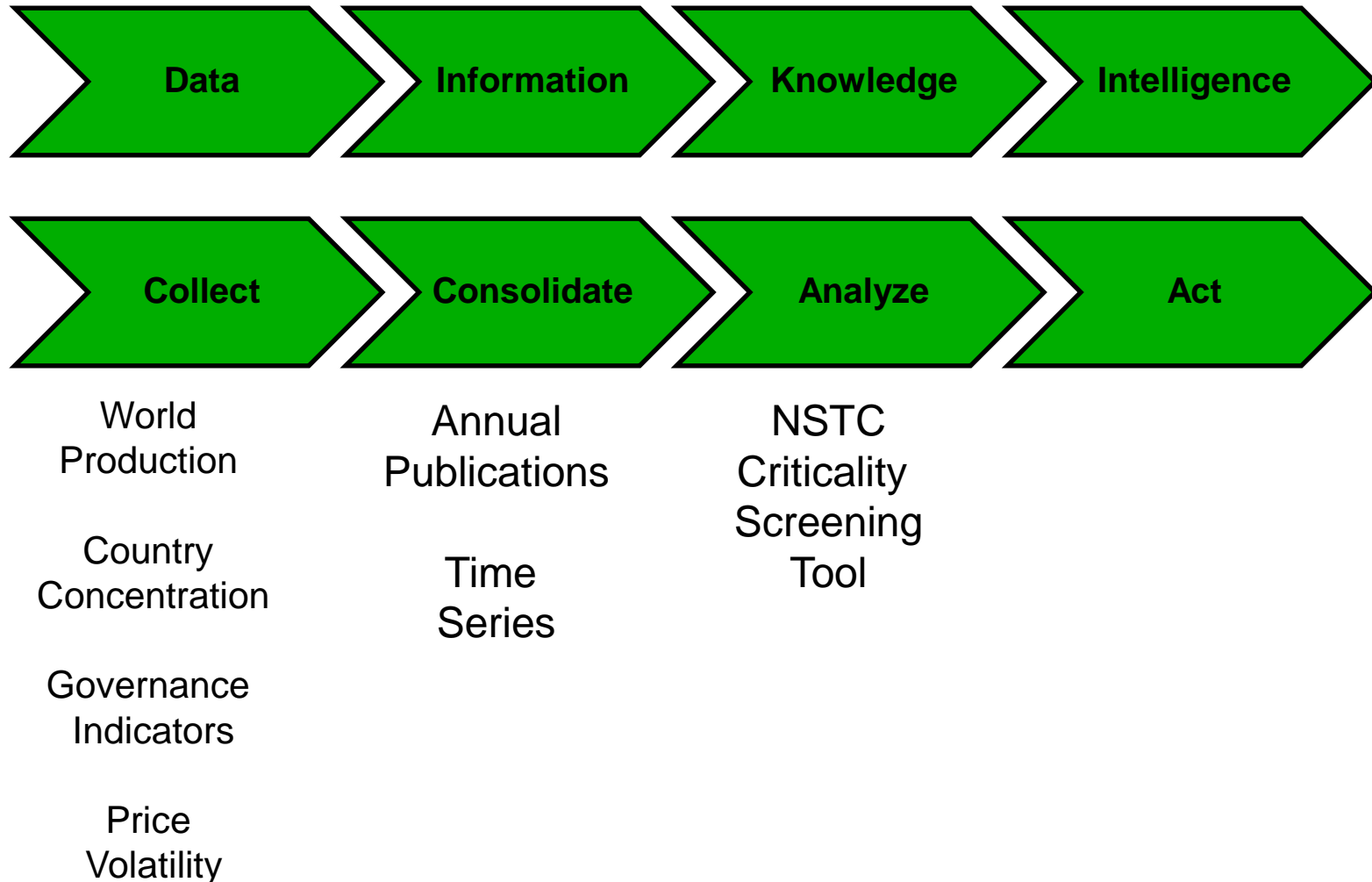
Governance
Indicators

Price
Volatility

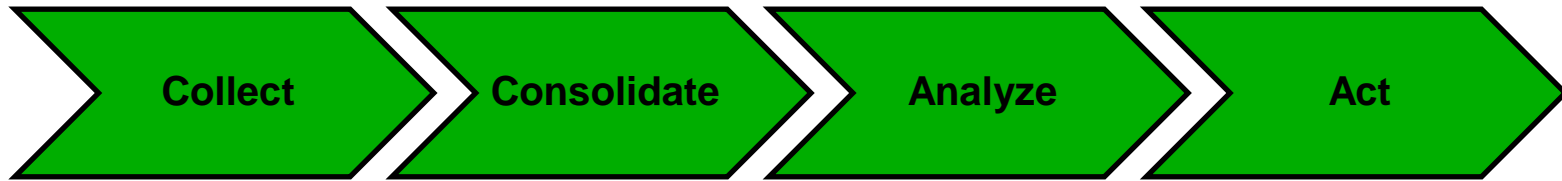
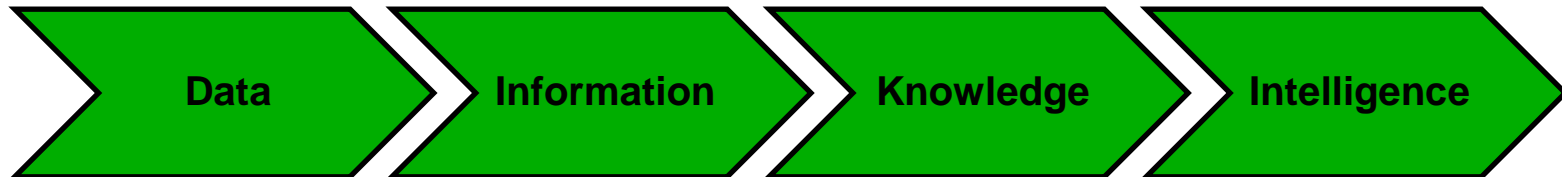
Example: Criticality Modelling



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Example: Criticality Modelling



World
Production

Annual
Publications

NSTC
Criticality
Screening
Tool



Country
Concentration

Time
Series

Governance
Indicators



Price
Volatility

