

***“RESPONSIVE SSA”
RESPONDING TO NEW SPACE
AND OLD PROBLEMS***

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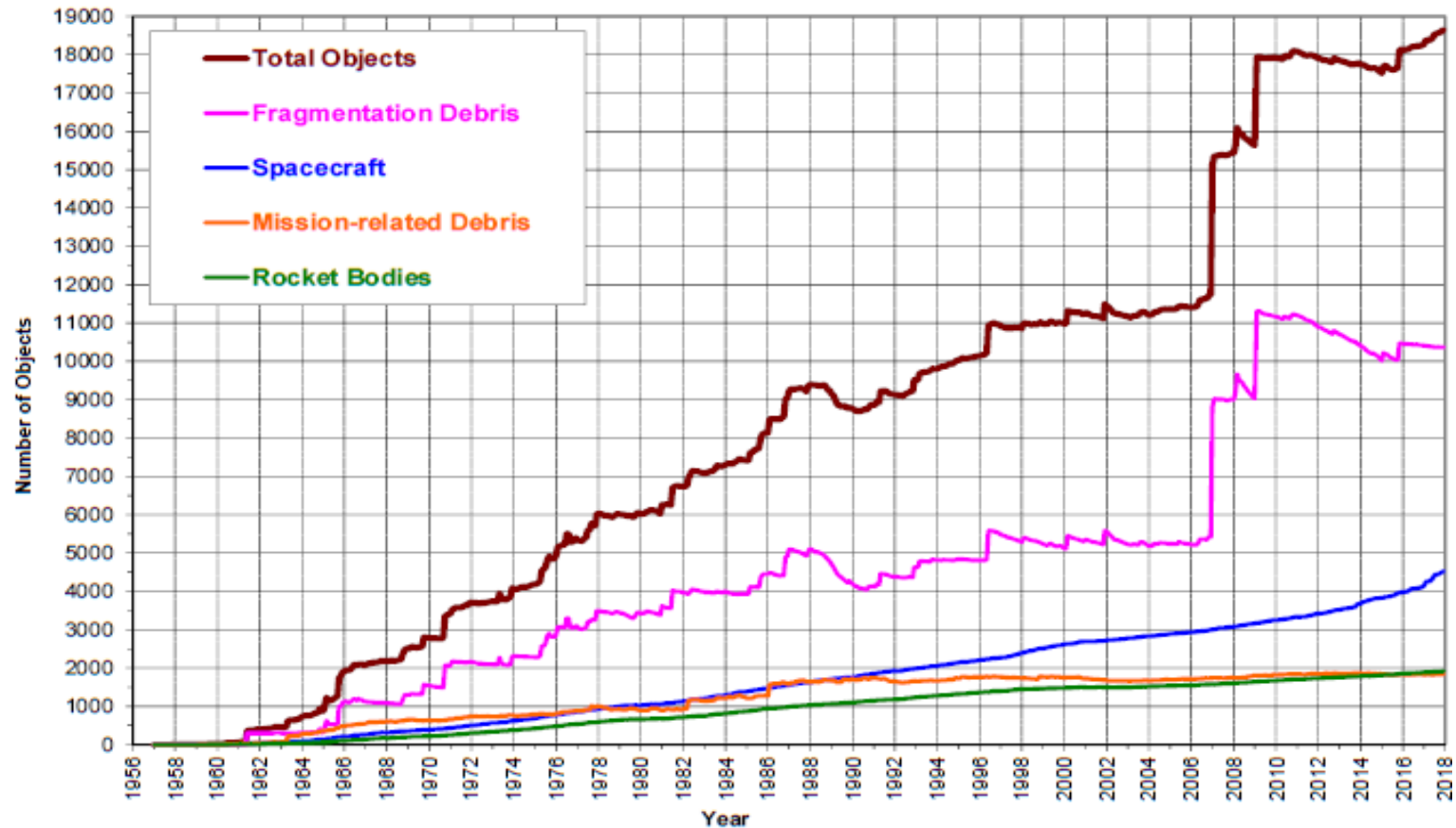
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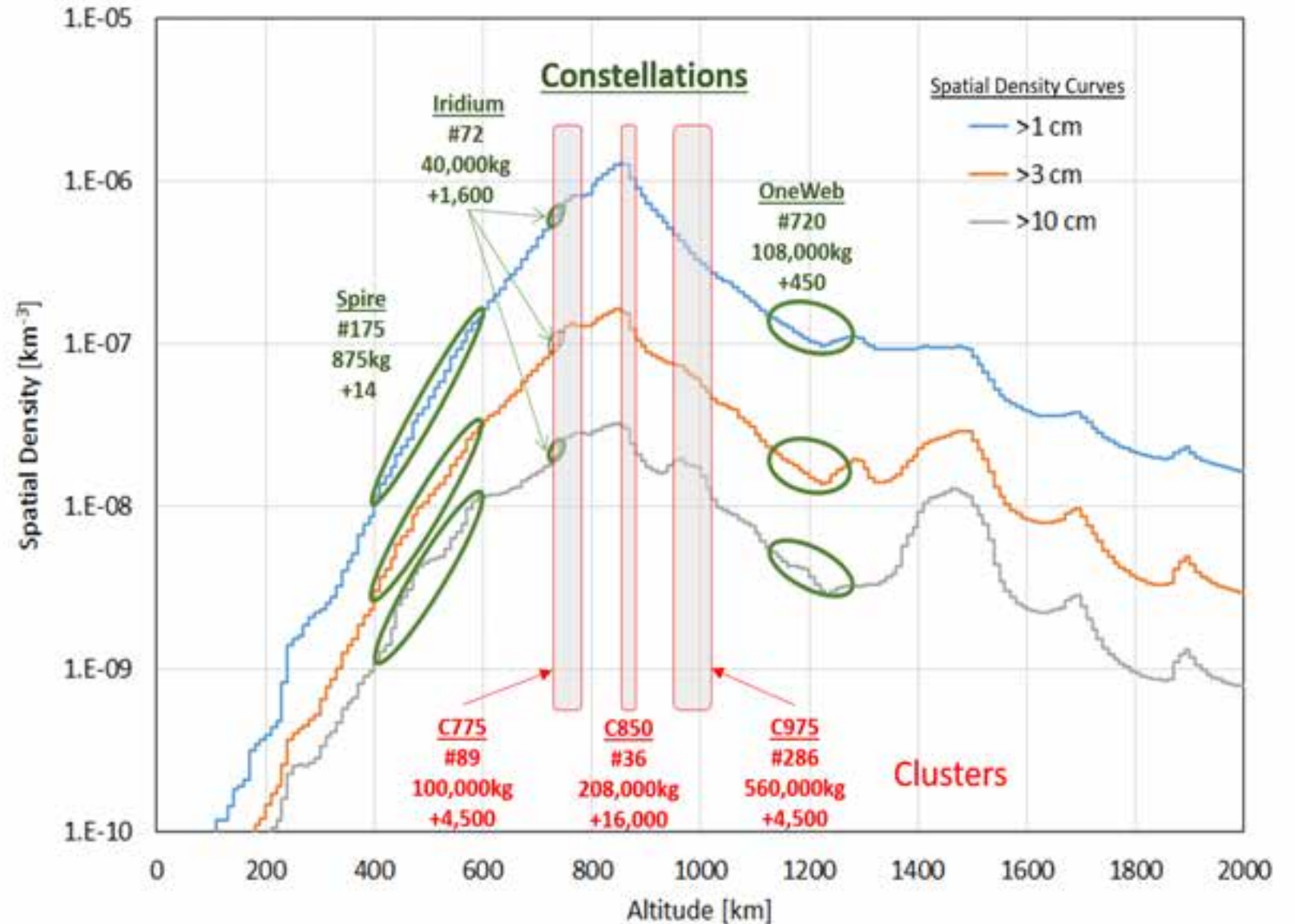
Orbital Debris

	Number / Mass (million kg)			
Orbital Regime	Operational Payloads	Non-Operational Payloads	Rocket Bodies	Total
LEO	~950 / 0.5	~1,100 / 1.8	~1,250 / 1.2	~3,300 / 3.4
HEO	~250 / 0.3	~50 / 0.1	~300 / 1.5	~600 / 1.9
GEO	~500 / 1.5	~650 / 1.6	~250 / 0.5	~1,400 / 3.6
Total	~1,700 / 2.3	~1,800 / 3.4	~1,800 / 3.2	~5,300 / 8.9

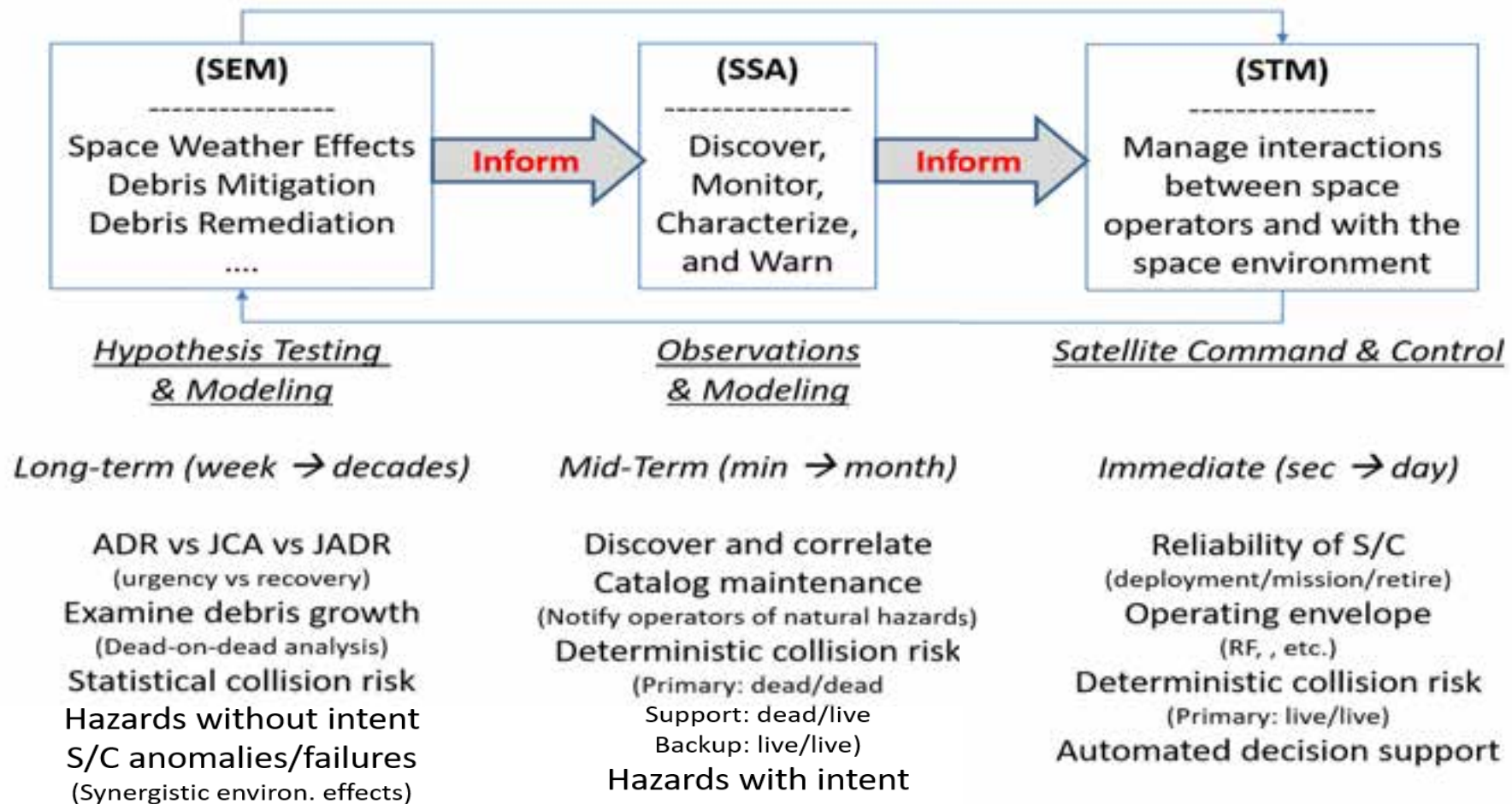


Perspective:

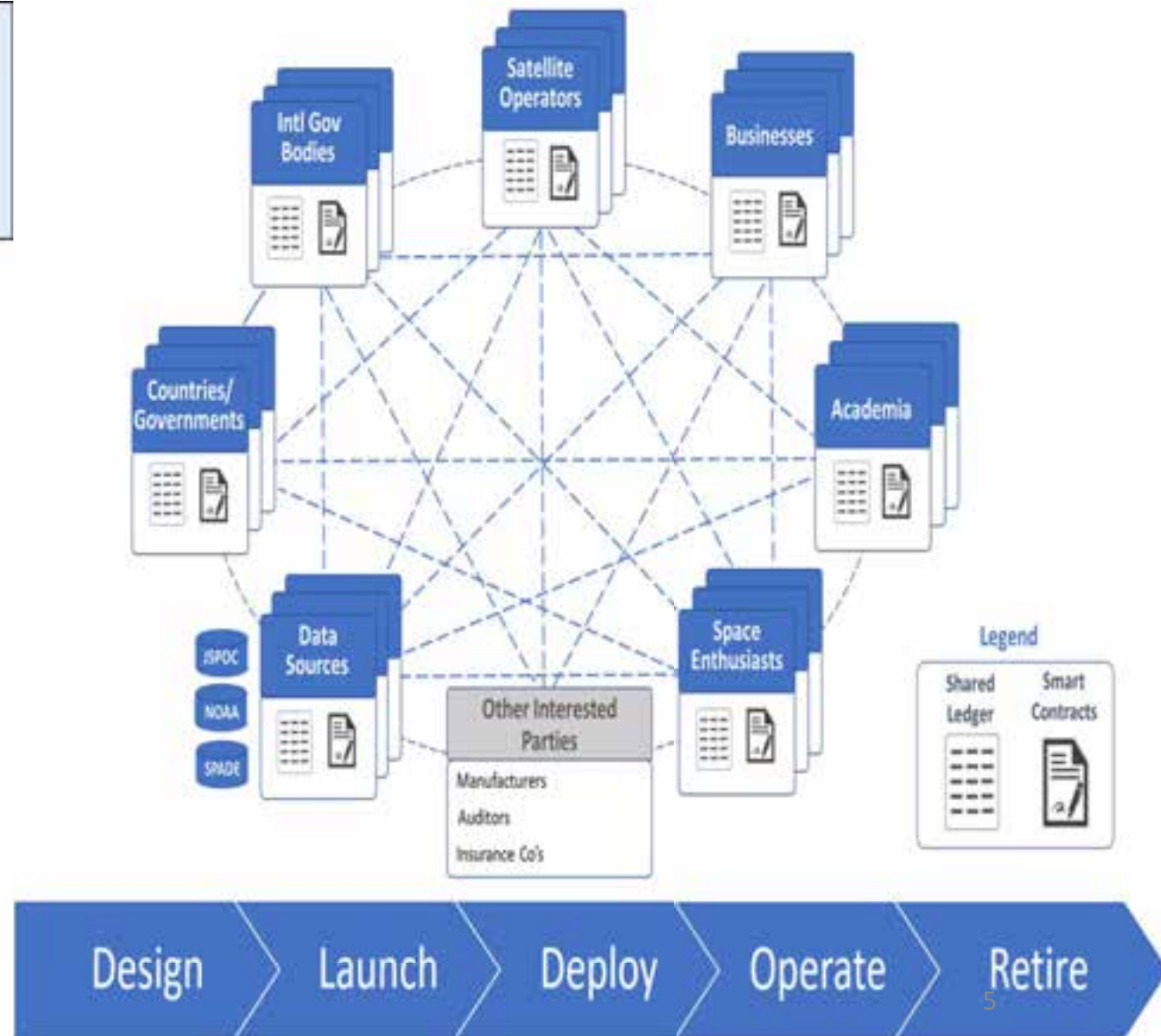
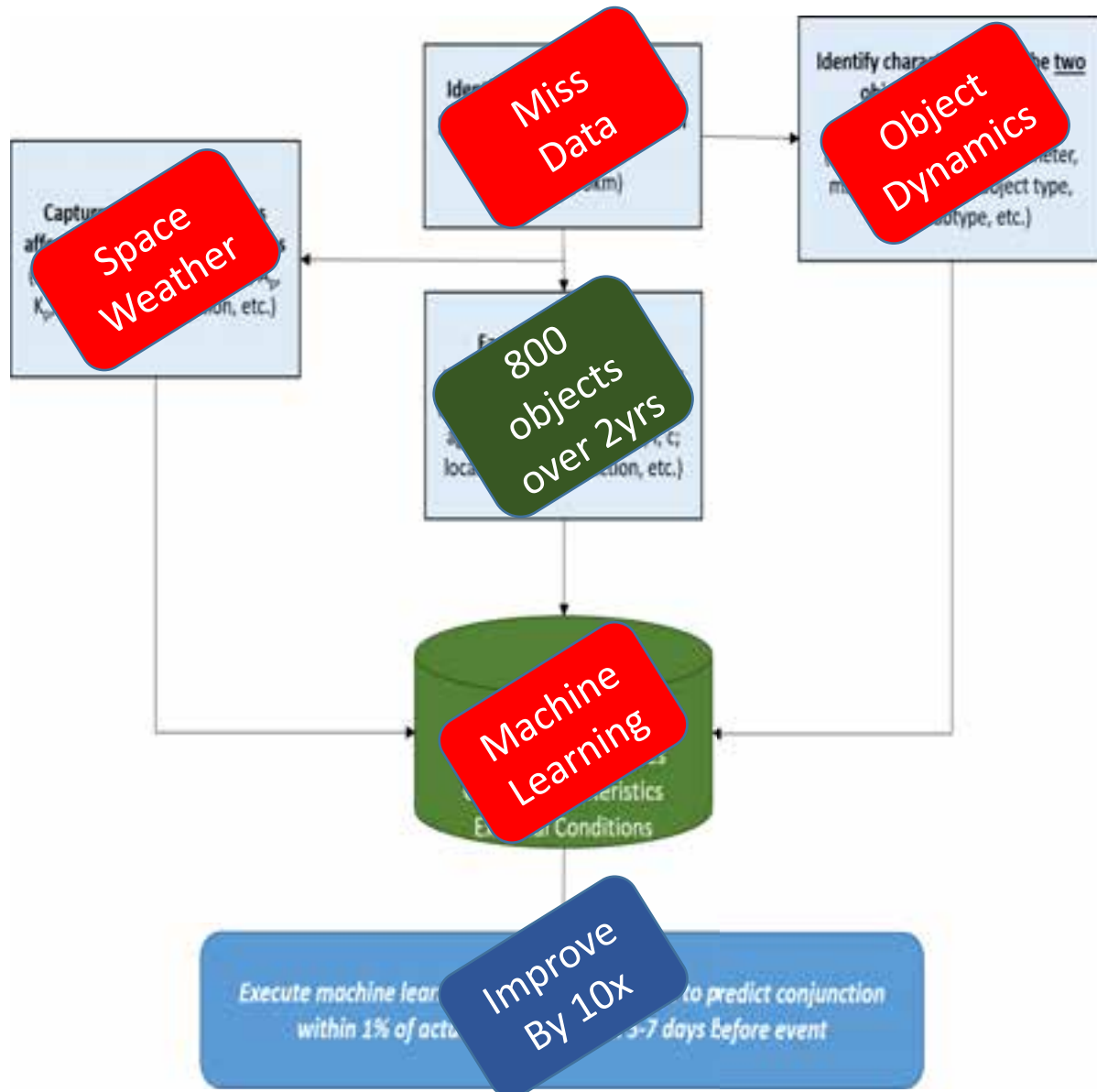
Constellations *vs* *Clusters*



Framework for Action: Space Operations Assurance



“Responsive SSA”: More Accurate Conjunctions to Everyone



This is an Experiment

- Machine Learning
 - Better understanding of potential catastrophic collision events
 - Creates new options to manage risk
 - Examine integrating more available data
 - Object characteristics and space weather
- Blockchain
 - Adaptive, Multi-Path Secure Communications
 - Decentralized database
 - Immutable source
 - Smart contracts
 - Just a part of the solution...