Overview of the International Security and Stability Challenges of On-Orbit Satellite Servicing and Active Debris Removal

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Who is Secure World Foundation?

- Private operating foundation

- Focused on promoting *cooperative* solutions to *space sustainability*

- **Space sustainability**: ensuring that we can continue to use space in the long-term

- Sustainability threatened by an increasingly crowded space environment
• On-Orbit Servicing (OOS) and Active Debris Removal (ADR) are categorized as Rendezvous and Proximity Operations (RPO)

• OOS and ADR are not just technical problems
  – Political, legal, and economic concerns are deeply embedded in the concepts and will affect mission success

• For RPO to contribute to, and not undermine, space sustainability, non-technical issues must be addressed

Central Question:
How do we address these non-technical challenges *now* so that they do not hinder technological development or undermine sustainability?
Non-technical Challenges of OOS/ADR

• Political and security challenges
  – Dual use nature of technology
  – Potential malicious or hostile use
  – Potential to disrupt strategic stability

• Legal challenges
  – Liability
  – No definition of “space debris”
  – Protecting sensitive information and intellectual property

• Economic challenges
  – Cost/benefit analysis
  – Risk and insurance premiums
  – Little economic incentive to clean up debris
Overcoming the Challenges

• One way forward: *responsible use of space*

1. Define responsible behavior

2. Pursue *transparency and confidence building measures*

3. Improve and share better *space situational awareness*
THANK YOU

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