

# Space Traffic Management: A Policy Basis

*Ben Baseley-Walker*

The State of Space Security,  
Managing Space Traffic Panel  
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# Overview

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- **Space Traffic Management Rationale**
  - The economic approach
  - The defense approach
  - The scientific approach
  - The foreign policy and national security approach
- **Policy questions**
  - Inter-agency working group
  - International data gathering capability issues
  - Data-sharing and analysis issues

# Space Traffic Management Rationale

# The Economic Approach

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- Debris proliferation and increased utilization of space resources is likely to put space assets in danger through a higher risk of collision
- Such a collision could result in direct losses to a domestic space industry as well as higher consumer costs due to increased insurance levies.
- This could eventually lead to orbits becoming economically unfeasible to operate in.

# The Defense Approach

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- While it is feasible for the US to continue on a uni-polar space dominance track, it cannot prevent others from developing the technologies and abilities to counter its capabilities
- Any destructive military action in space is likely to “salt the Earth” for both enemy and friendly space forces as well as commercial development
- STM offers the opportunity for space control without weaponization.

# The Scientific Approach

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- Continued utility of space
  - decrease in likelihood of potential conflict which could lead to significant increase in the debris population and thus, decrease in access to space resources.

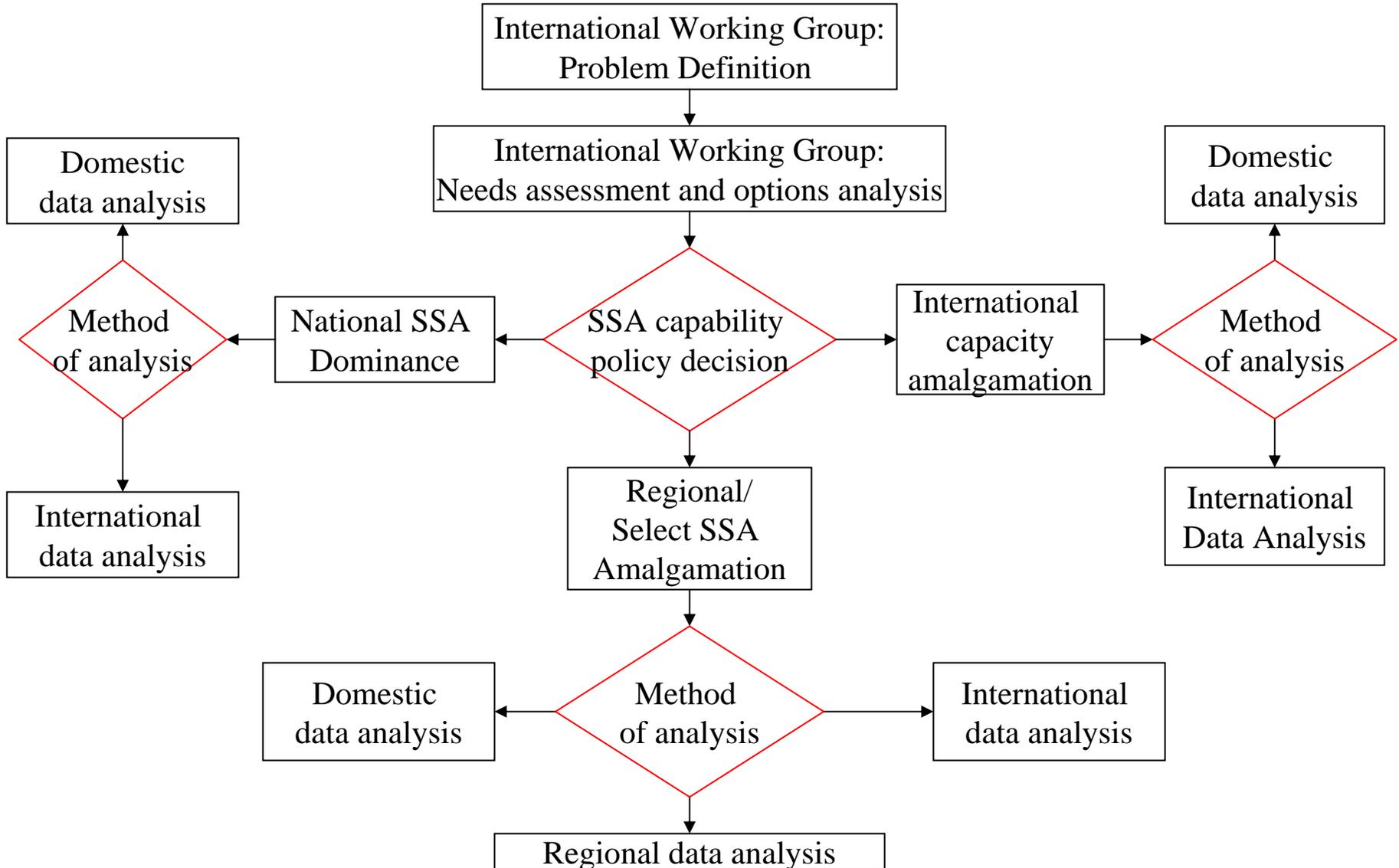
# The Foreign Policy and National Security Approach

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- Knowledge builds bridges. The more one knows of a situation, the less likely a Dr. Strangelovian scenario may result.
- The more all parties involved in space know movements in the space environment, the less likely it is that other actors feel threatened, transparency foundations are built and proliferation of offensive capabilities is less likely to occur.

# Policy Questions

# A Roadmap



# Inter-agency working group

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- Following the IADC model
- Representative group of key space actors focusing on science to define the space traffic problem
  - Advantages:
    - Low cost
    - Proven track record
    - As apolitical as is realistic
    - Output of a clearly defined initial problem to present to the international community.

# International data gathering capability issues

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- No State, including the USA, has capability to monitor current space traffic to the required extent
- World-wide network of data gathering sensors needed. An amalgamation of the current international sensor capabilities would be a first start
  - NB. US dominance in SSA physically possible (estimated cost (1.8 Billion USD))
- First step: Geo-stationary owner/operator data disseminated on a voluntary basis.

# Data sharing and analysis issues

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- Geo-political issues affecting willingness to share data
  - Potential of bilateral data-sharing agreements?
- Analysis
  - Multi-lateral collection, bi-lateral distribution domestic analysis?
    - Human capacity issues
  - Multilateral collection, multi-lateral distribution, domestic analysis?
    - Geo-political concerns
  - Multi-lateral collection, international analysis
    - Organizational legitimacy and organizational proliferation issues.

# Way forward

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- Focus on autonomous action with international application
- SSA coordination as a first step
- Aim to promote a multi-stranded approach which does not alienate key partners but also continues to breed development.
- Domestic assessment of need and direction needed by key States.