

# Transparency and Confidence-Building Measures (TCBM) For Space Security and the EU Draft Code of Conduct

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# 1. Background

- There are various challenges to long-term sustainability of space -- growing attention to both natural and man-induced threats
- Incidents in space, including 2009 Iridium 33 - Cosmos 2251 collision, underscored need for concrete measures to enhance safety and security of space activities
- Development of overarching space security framework has been slow
- TCBMs have limitations, but will play essential role in securing space for future generations:
  - they can serve as a link or connective tissue between space situational awareness (SSA) and the efficient management of space activities
- Existing framework for space activities as a baseline for future measurement of TCBM effectiveness
- EU Draft Code of Conduct as the main diplomatic initiative by Europe that needs further reinforcement through operative TCBMs
- With the Member States' strong competence, national Parliaments need to be aware of this issue area and strengthen their engagement

## 2. ESPI's TCBM Project

- In-house, open source research and expert interviews
- Conference in Lincoln, Nebraska (U.S.) entitled “Space Security and Space Tourism, the first day of which was dedicated to “Transparency and Confidence-Building Measures: Alternative Vehicles to Advance Space Security”.
- ESPI Conference Report on “Prospects For Transparency and Confidence-Building Measures in Space“
- Panel Presentation on “Confidence-Building, Compliance and Verification“ during “Transatlantic Space Cooperation III“ Workshop at ESPI
- ESPI Study entitled “The Role of Transparency and Confidence-Building Measures in Advancing Space Security”

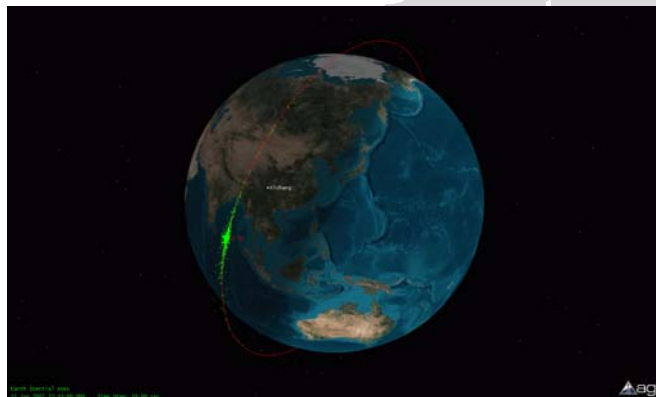


### 3. Leading “Terrestrial” TCBM Precedents

- The 1963 PTBT was first nuclear transparency initiative
- The 1972 Strategic Arms Limitation Talks (SALT I) and subsequent agreements established norm of non-interference with national technical means (NTM)
- The 1987 INF and START I Treaties obligated the US and USSR to reduce nuclear weapons but not destroy warheads
- The 1990 CFE treaty embodied detailed verification mechanisms

## 4. Need for Space TCBMs

- Space-related benefits are accompanied by significant risks
- Space vulnerability is of asymmetric nature
- Areas of high concern include:
  - Environmental threats (e.g. orbital debris, space weather, etc.)
  - Crowding of satellites in geostationary orbit (GEO)
  - Limited availability of radiofrequency spectrum
  - Man-induced threats (e.g. jamming and spoofing, counterspace capabilities)
  - Adverse terrestrial geopolitical developments



Feng Yun 1C debris 5 minutes after impact  
(Source: T.S. Kelso, 10 Feb 2007)



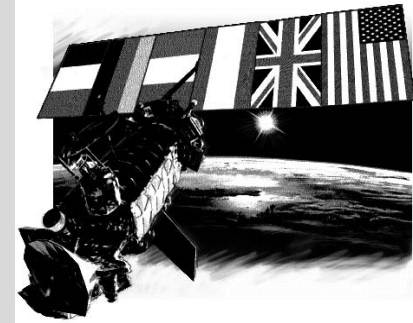
(Source: MIT Haystack Observatory)

## 5. Proposals for Efficient Management of Space Activities

- **Top Down:**
  - Draft Treaty on the „Prevention of Placement of Weapons in Outer Space (PPWT)
  - Canada’s 2009 Working Paper on „Merits of Certain Draft Transparency and Confidence-Building Measures and Treaty Proposals for Space Security“
  - **EU Draft Code of Conduct for Outer Space Activities (Dec 2008/Sep 2010)**
  - Improved SSA
- The 2009 Canadian proposal is viewed as the middle ground between the PPWT and EU Draft Code of Conduct.
- A useful bottom-up initiative is embodied in „best practices guidelines“ prepared by UNCOPUOS.
- **Bottom-Up:**
  - Space Debris Mitigation Guidelines
  - Codes of Conduct/Rules of the Road
  - Best Practices Guidelines
  - Advancing the Safety of Space Activities
  - Space Traffic Management (STM)
  - Commercial initiatives

## 6. Bottom Lines on Space TCBMs (1)

- Space TCBMs are here to stay in search of blending complementary elements of existing proposals on management of space activities
- TCBMs can act as connective tissue or link between SSA and a code of conduct or other behaviour modifiers
- Past precedents can be a useful guide to effective space TCBMs
- Receiving priority attention in global space community



Source: Air&Space Power  
Journal, Summer 2010



## 6. Bottom Lines on Space TCBMs (2)

### TCBM Strengths:

- Can help reverse present deterioration of overall space security environment
- Can provide policy framework to advance specific behavioural objectives
- Can reinforce a space culture of cooperation and peer review
- Can preempt or deter disruptive counterspace actions

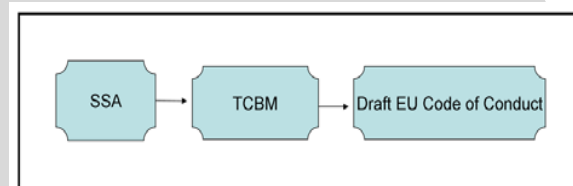
### TCBM Limitations:

- An uneven track record of past success
- Have been used for suspect national purposes (e.g. a signatory with hidden agenda, a delaying tactic, etc.)
- Are difficult to negotiate multilaterally on select space security topics (e.g. prohibiting weapons in space, required notification and disclosure of security-sensitive developments, etc.)
- Can be unresponsive to breaking developments in space because of longer negotiation and implementation time periods

## 7. TCBMs and EU Draft Code of Conduct for Outer Space Activities (1)

- The Code is voluntary and designed to serve as alternative to legally-binding proposals for prevention of arms race in outer space or bans on space weapons (e.g. PPWT).
- Includes transparency and confidence-building measures as basis for consultations with key third countries involved, or interested, in outer space activities.
- Currently structured outside of traditional multilateral institutions like UN and the CD.

- Calls on subscribers to:



- *„implement national policies and procedures to minimize the possibility of accidents in space, collisions between space objects or any form of harmful interference with other States‘ rights to the peaceful exploration and use of outer space“*
- *„refrain from any intentional action which will or might bring about, directly or indirectly, the damage or destruction of outer space objects“*

## 7. TCBMs and EU Draft Code of Conduct for Outer Space Activities (2)

- TCBMs already established in treaties and/or proposed norms, including:
  - Outer Space Treaty (OST)
  - Registration Convention
  - ITU Constitution
  - UNGA Resolutions (e.g. UNGA Res. 47/68, UNGA Res. 55/122, UNGA Res. 59/115, UNGA Res. 62/101, UNGA Res 62/217, UNGA Res.63/90, UNGA)
  - IADC Space Debris Mitigation Guidelines
  - UNCOPUOS “Long-term sustainability of outer space activities“ initiative
- The EU Draft Code seeks to gain widespread support among international space actors by setting relatively low-level commitments, particularly the military uses of space
- A new draft of the EU Code was released in September 2010
- Proposed norms, especially the EU Code of Conduct, needs to be reinforced by TCBMs

*Europe should establish itself as a fair and credible mediator of space TCBMs.*

## 8. Conclusion

- Need to forge international agreements, reinforced by TCBMs to achieve greater transparency, accountability, compliance and space governance.
- TCBMs are an important policy tool in preserving both terrestrial and space security.
- TCBMs help define and encourage behaviour of the type called for by various proposals, especially the EU Code of Conduct.
- Absence of TCBMs puts at risk the safe and reliable use of space.
- There is presently international momentum behind the formulation of more comprehensive TCBMs.

## 9. Recommendations

### General Measures:

- Raise overall awareness of space security concerns
- Build space TCBMs with like-minded partners
- Strengthen debris mitigation regime, improve information exchanges related to collision avoidance and adopt measures to mitigate interference with space activities
- Improve compliance with OST and other obligations

### Specific Measures:

- Establish international centre for sharing SSA data
- Institutionalize guidelines for information-sharing on interference events

### EU Code of Conduct-Relevant TCBMs:

- Establish Joint Centre of European Organisations and forge cooperative venue among European militaries
- State subscribers to the EU Code of Conduct should lead by example
- Utilise special EU negotiating skills
- Launch Dialogue on Implementation of Code of Conduct for outer space

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