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# Swiss perspectives on space security and related initiatives

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# Outline

- Switzerland's situation w.r.t. space activities
- Some examples of Swiss space activities
- Use of space applications in Switzerland
- Main threats and Swiss views
- Swiss views on specific subjects:
  - the prevention of an arms race in outer space
  - the LTSSA works at UN COPUOS
  - the EU proposal for a draft international Code of Conduct on space activities
- Conclusions



# Switzerland's situation w.r.t. space activities

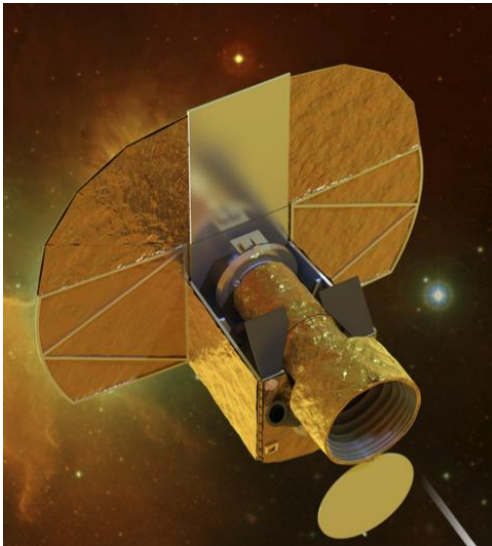
- Founding Member State of ESA (7<sup>th</sup> contributor)
- Invests ca. 165 Mio CHF per year in R&D space activities (95% of which to ESA, 5% for national activities)
- Swiss industry and universities participate in almost all ongoing ESA activities.
- No national space agency
- *Swiss Space Office*: responsible for overall Swiss space policy and representation of Switzerland to ESA
- *Swiss Space Centre*: located at EPFL, created in 2012 to federate space actors from *academic and private* sectors.
- Member of other space-related organisations: Eumetsat, Eutelsat IGO, WMO, ITU, etc.



# Examples of Swiss space activities

Scientific and technological contributions to almost all ESA programmes:

- Precision mechanisms
- Structures for satellites
- Scientific instruments
- etc.



**CHEOPS:** 1st ESA S-class mission, led by the University of Berne



**CleanSpace One:** an EPFL project to deorbit their SwissCube pico-satellite

Note: These projects are *not* governmental, but from academic and private sectors.



# Use of space-based applications in Switzerland

- Switzerland's dependence on space is similar to that of other industrialized countries with competitive economy.
- It covers all classical applications:
  - Meteorology and climate monitoring
  - Telecommunications
  - Navigation and positioning
  - Security-related applications
- Switzerland accesses these technologies through its membership in international organisations, its association to international projects (e.g. Galileo) and by buying commercial services.



# Main threats on outer space activities

- Placement of weapons in outer space
- Aggressive actions against space systems (ground to space and space to space)
- Interference with uplink/downlink and control signals
- Space debris and space weather

## Switzerland is of the view that:

- New international instruments appear to be necessary.
- The parallel development of legally binding, non-legally binding and politically binding instruments can help the overall process make progress.
- Coherence is needed among the various instruments.



# Swiss views on the prevention of an arms race in outer space (1/2)

- Switzerland stands *against the placement of weapons in outer space* and supports the development of *legally binding instruments* in this respect.
- The development of legally binding instruments could go *hand in hand* with the development of TCBMs and politically binding instruments. They can build on each other.
- Switzerland is *open* to discuss all proposals and *willing to make progress* at CD and UNGA on this subject.

TCBMs: Transparency and Confidence-Building Measures

CD: Conference on Disarmament

UNGA: United Nations General Assembly



## Swiss views on the prevention of an arms race in outer space (2/2)

- Concerning a treaty on the prevention of placement of weapons in outer space:
  - Welcomed the 2007 draft PPWT which enabled initial discussion.
  - Idea of addressing both capacity and principle is interesting.
  - A lot of additional work is necessary.
  - Looks forward to discussing updated draft.
- UNGA Group of Governmental Experts (GGE) on space TCBMs:
  - There are interesting proposals in the GGE report.
  - Expects to discuss it this year at the CD.





# Swiss views on the long-term sustainability of space activities (LTSSA) works at UN COPUOS

- The work accomplished by the four Expert Groups is of great value, including their proposals for non-binding guidelines.
- Next: consolidate draft guidelines, consider GGE report and reach consensus among UN COPUOS Member States
- The set should be *homogenous, coherent and bring added-value* to existing international instruments (UN, IADC, ISO, etc.)
- Guidelines should be *concrete and applicable*.
- Switzerland will support constructive developments at the next session in June and expects adoption by UNGA by 2015.

COPUOS: Committee on the peaceful uses of outer space

IADC: Inter-agency Space Debris Coordination Committee

ISO: International Organization

for Standardization



# Swiss views on the draft International Code of Conduct on space activities (iCoC)

- The Code should be holistic and address *all* space activities.
- It should be *coherent and complementary with* existing international instruments and *not* create duplications.
- The respect of the legal personality of international organisations should be ensured, with the *same rights and obligations* for all of them.
- The right of self-defence as mentioned in the Code should *not, in any case, justify any retaliation in space* for a conflict on the ground.
- The electronic data base should be accessible to *all* States and relevant intergovernmental organisations.



# Conclusions

- Switzerland will continue to engage in the elaboration of international instruments to ensure the stability, security, safety and sustainability of outer space.
- It hopes for significant progress at the CD, the UNGA and the UN COPUOS on these subjects.
- The recommendations of the GGE on space TCBMs should be taken into account in the elaboration of these instruments.
- Bridges should be established between the two communities: CD (“disarmament”) and UN COPUOS (“peaceful uses”).
- The iCoC project is contributing to this effort.

***Thank you for your kind attention!***