



# Legal aspects of commercial activities in the field of manned space flights

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# Commercial activities in manned space

- First visible example – contract between NASA and Russian Space Agency for flights of Shuttle to Russian Mir station (1993).
- Strong boost made by the ISS Program: *enhancement of commercial use* of outer space is one of the objectives of the ISS (Article 1 of Intergovernmental Agreement of 1998).
- Commercial services and deliveries *support* the governmental scientific and technological goals.

# What has been purchased and sold?

- ISS resources and supplies like crew time, habitation services, extravehicular capacity, waste removal services.
- Delivery to the ISS, rescue and return to Earth of professional astronauts and spaceflight participants.
- Delivery to the ISS and return of cargo to Earth.
- Space advertising.
- Implementation of ISS-related scientific experiments, both ground and onboard.

# Figures and Facts

- To the ISS onboard the Russian “Soyuz” under *commercial contracts* - more than 70 professional astronauts from at least 13 countries and 8 space tourists.
- To the ISS onboard the U.S. *commercial* space cargo vehicles Dragon and Sygnus - supplies to support the activities of the ISS crewmembers from Canada, European Union, USA and Japan.
- Near future - start of manned flights to the ISS of US *commercial* space vehicles: SpaceX’s Crew Dragon and Boeing’s CST-100 Starliner.

# Spaceflight Participants

- The ISS Crew Criteria Document provides for two types of crew members: (1) professional astronauts/cosmonauts and (2) spaceflight participants (SFPs).
- Professional astronauts/cosmonauts - members of the astronaut or cosmonaut corps of space agencies of the ISS Partners.
- SFPs are individuals sponsored by ISS Partners on a commercial, scientific or other program who are:
  - employees of non-partner space agencies;
  - non-space professionals (engineers, scientists, teachers, journalists, film makers);
  - space tourists.

# Spaceflight Participants (continued)

- Legal status of SFPs differs from legal status of professional astronauts/ cosmonauts.
- Common: members of the ISS single and integrated crew. Up to now SFPs have been visiting crew members under short-term contracts. SFPs may be members of the increment or permanent crew under a long-term contract.
- Limitations for SFPs :
  - may not be assigned as crew commanders, segment leads, pilots, flight engineers, station scientists or mission specialists;
  - generally, will not be assigned to ISS assembly, operations or maintenance activities; in case of an SFP's long-term flight may be exceptions upon recommendation of the sponsoring agency.

# Cross-waiver of liability in ISS non-commercial agreements

- Article 16 of Intergovernmental Agreement 1998 (IGA) provides for a cross-waiver of liability by the ISS Partner States (incl. Cooperating Agencies) and their related entities.
- Cross-waiver applies to claims based on damage arising out of *Protected Space Operations*.
- Protected Space Operations: all launch vehicle activities, Space Station activities, and payload activities on Earth (before the flight), in outer space, or in transit between Earth and outer space.
- Applies to *non-commercial agreements*: IGA, Memoranda of Understanding between the Cooperating Agencies and implementing arrangements.

# Cross-waiver of liability in ISS-related commercial contracts

- Article 16 of IGA excludes: claims between a Cooperating Agency and its related entity or between its own related entities.
- Cross-waiver of liability under IGA does not apply to commercial contracts between Cooperating Agencies, where one of them represents a customer and another one a contractor/subcontractor (as its related entity).
- In practice Cooperating Agencies include *cross-waiver of liability into their commercial contracts* both in relations between themselves and with their commercial customers.



# Claims made by natural persons

- Article 16 of IGA excludes: claims made by a natural person, his/her estates, survivors or subrogees (except a subrogee is a Partner State). It means: cross-waiver of liability is not applicable to claims from the ISS crewmembers.
- Different solution with regard to professional astronauts/ cosmonauts and spaceflight participants.
- For professional astronauts and cosmonauts risks of death or damage to their health are covered by national laws and employment contracts.
- Russian Law on Space Activities provides for *mandatory insurance of life and health of cosmonauts*.

# Claims made by spaceflight participants

- In space flight contracts :
  - an SFP gives an informed consent that he/she fully understands and assumes the risks connected with the preparation and implementation of the space flight;
  - an SFP takes an insurance policy to cover risks of claims against ISS Partners and their related entities on the part of an SFP, his/her estates, survivors or subrogees; the ISS Partners and their related entities are named as insureds.
- Some countries passed space legislation which established the obligation and/or right of space flight operators to agree on cross-waiver of liability with spaceflight participants/non-professional astronauts (France in 2008 and USA in 2015).

# Focus on barter agreements

- Article 15.5 of IGA prioritizes the use of barter agreements.
- Barter - preferable option to facilitate own space industry.

# Future development

- Deeper involvement of commercial space sector into the exploitation of the ISS.
- Expectation of new initiatives from private industry (public-private partnerships, privately owned modules, new commercial vehicles).
- Further enhancement of legal basis for the ISS-related commercial activities.
- International Space Station - a “laboratory” for legal innovations in manned space activities, a trigger for development of national space laws and a sample for legal framework of future international manned space projects.



Thank you

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