

LEGAL DEVELOPMENTS

For the rich and adventurous, the idea of flying to the International Space Station as a space tourist may seem the ultimate thrill. But, as [Peter Pettibone](#) explains, there are all sorts of barriers to achieving the dream

The final frontier

Space has become the final frontier for a new breed of adventure tourist. Unlike earth-bound exploits, however, those who boldly go into orbit around the planet face a variety of intriguing and complex legal issues before they get there.

To date there have been three individuals who have flown to the International Space Station (ISS) on a commercial basis — Dennis Tito in 2001, Mark Shuttleworth in 2002 and Greg Olsen in October this year. Each of them flew to the ISS through the Russian space programme. Hogan & Hartson was fortunate to represent all three in their negotiations to fly into space and, in doing so, dealt with some of the major legal issues in the emerging field of space tourism.

Prior to Tito's flight, all persons visiting the ISS did so either as professional astronauts/cosmonauts or as invited guests who did not pay for their flight. Tito had been scheduled to fly to the Russian MIR space station on a commercial basis and when the Russian space agency determined that MIR had outlived its useful life and had to be scrapped, Tito was invited by the Russian space agency to negotiate with the agency to fly to the ISS on a Russian launch vehicle.

At that time, there were no rules or regulations dealing with commercial visits to the ISS by private individuals and, in fact, NASA had significant objections to Tito's flight. However, because the various segments of the ISS are considered as belonging to the particular space agency that had paid for it or constructed it, Tito's flight was considered by the Russian space agency as a flight to the Russian segment of the ISS and entirely within Russia's territorial jurisdiction, so Tito was able to fly to the ISS despite objections from NASA.

Following Tito's flight, the five partners of the ISS (NASA, along with the Russian, European, Japanese and Canadian space agencies) agreed on a set of draft principles for the selection, assignment, training and certification of professional astronauts/cosmonauts and spaceflight participants. These draft principles specifically include 'space tourists' in the definition of 'spaceflight participant'.

The draft principles set forth the criteria for sponsoring a spaceflight participant: the selection standards that must be met by an individual in order to be approved as a spaceflight participant by the partner and the ISS's Multilateral Crew Operations Panel (these standards include: general suitability, medical qualifications, behavioural



Before becoming a space tourist there are a number of legal issues to consider

suitability and linguistic ability); the procedures for assignment to a specific crew; the training required to become a spaceflight participant; and the certification procedures for crew readiness for flight.

The draft principles have opened the door to space tourism, but the barriers to becoming a space tourist are extremely high. Currently the only way for an individual to reach space is to fly to the ISS on a Russian launch vehicle. Even then, the amount of time a space tourist spends in space is little over one week.

The first barrier to flying to the ISS on a Russian launch vehicle is the limited number of seats that are available to be sold to space tourists, particularly in light of the decision by NASA to suspend shuttle flights.

A second barrier is cost — the purchase price of a seat is more than \$20m (£11.5m).

A third barrier is the lengthy period required for training — the amount of training time for one week in space is at least six months of full-time training

at Star City, the Russian cosmonaut training centre located outside Moscow.

A fourth barrier is the physical challenges and discomfort of space flight and the medical qualifications that must be met.

And a fifth barrier is dealing with the inherent dangers of space flight.

There are not many people who have the money, the time and the desire to undergo this experience. But for those who do, the first step is to determine whether the Russian space agency has a seat on a flight that is available for sale. At present, Virginia-based Space Adventures acts as the broker for the Russian space agency to sell seats to private individuals. Thus, it is likely that an applicant will have to purchase his seat through Space Adventures.

In terms of contracts, there will be a contract between the space tourist and the broker and also separate contracts with the Russian space agency. At

the outset, approvals will have to be obtained from the Russian space agency's medical committee and from the cosmonaut training centre at Star City. Once the applicant passes these hurdles, they will begin the six months training programme at Star City.

Although almost by definition the space tourist will be a very wealthy individual, they will likely have to provide bank guarantees to the broker and the Russian space agency guaranteeing the timely payment of the installments of the purchase price, which are normally paid depending on certain 'milestones' having been reached.

If the space tourist suffers a disqualifying illness or injury during training, they will be obligated to pay the full purchase price, and therefore will want to consider at the outset insuring this risk. Such insurance policies are unusual, written only in the London market, and need to be carefully drafted and negotiated.

Before going into space, the space tourist will have to agree in writing to be bound by the ISS's code of conduct and will be obligated to follow the orders of the crew commander.

The experiments and other activities that the space tourist plans to conduct in space will give rise to another set of legal issues. In the first place, they must be planned well in advance of the flight and must be approved by the Russian space agency and co-ordinated with the work of the professional astronauts and cosmonauts on the ISS.

All equipment the space tourist wants to take to the ISS must be approved by the Russian space agency as meeting Russian specifications, regardless of where manufactured. Technically, all of the tourist's equipment becomes the property of the Russian space agency from the time of lift-off to the time of return (and this, in turn, may raise export control issues in the home country of the space tourist). There are significant restrictions both as to time and location where these activities may be conducted and, technically, the space tourist may be physically limited to that part of the ISS which is designated as the Russian segment of the ISS.

Finally, when the space tourist returns to earth, there may be legal issues regarding the export of data from their experiments and the re-export of their equipment.

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