

***An Institute
for
Space Debris Prevention and Control***

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The Skills Gap

Licensing of commercial safety/environmental risky activities is traditionally performed by a government regulatory body that has the responsibility for:

- levying requirements
- performing surveillance activities, and
- certifying compliance

However, considering the **ever-widening technical skills gap between high-tech industry and traditional government regulatory organizations**, such a manner of operations is becoming impractical in many advanced technological fields.

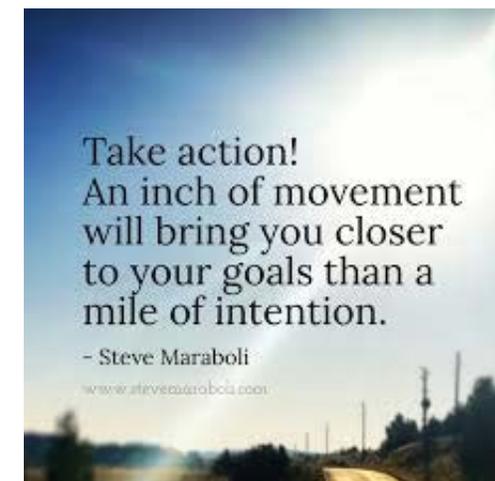
Space has some additional challenges: 1) skills gap between countries with long tradition of government space programs, and countries which are newcomers in the space arena; 2) skills gap within a country with specialized knowledge mainly residing in non-regulatory government organizations (e.g. NASA, DoD).



*Industry to take the lead in
bridging the skills gap
between countries*

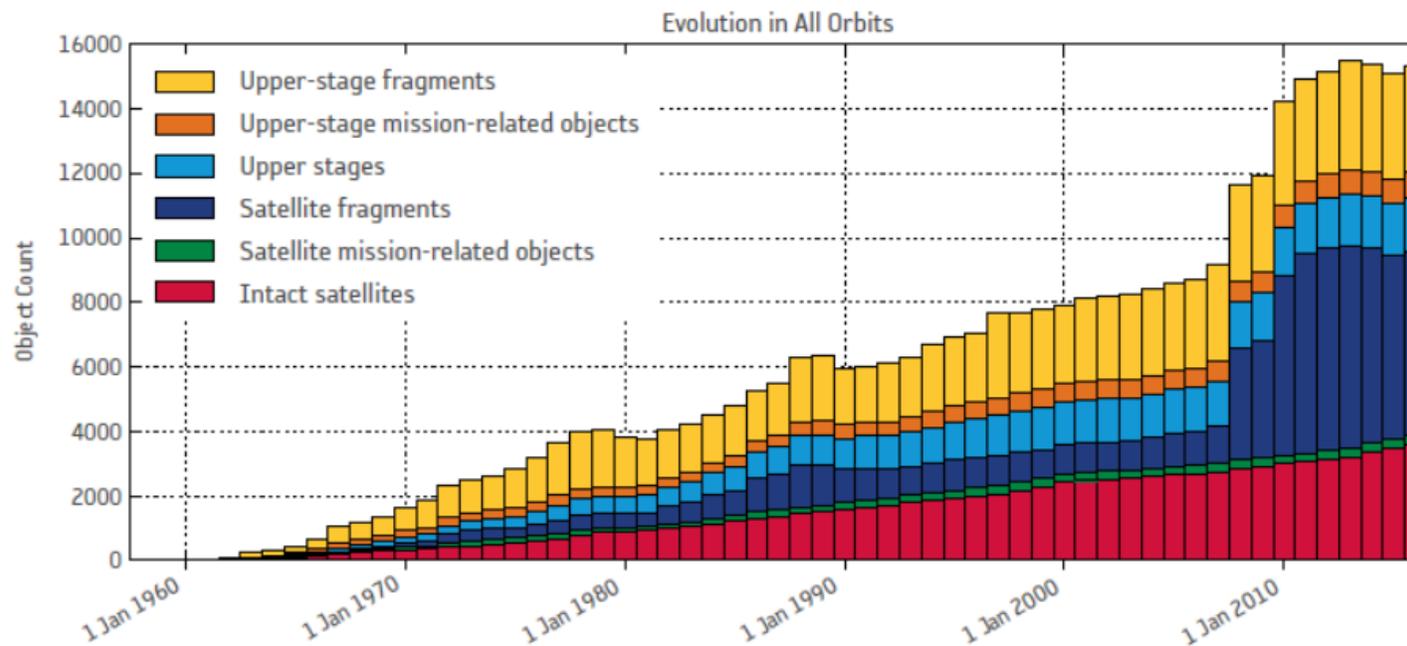
Good intentions –inadequate action!

With regards to space debris, **we are still in the phase of promoting awareness, collecting information, and issuing guidelines.** In 2007, the UN General Assembly endorsed the COPUOS Space Debris Mitigation Guidelines. In 2011, ISO standard 24113 on “Space Debris Mitigation” was issued. These policy guidelines state ‘what’ needs to be done but not ‘how’ to do it. **While some countries and organizations have already taken the step of mandating their implementation in their national space programs (e.g., the French Space Operation Act), worldwide implementation is still largely pending.**



Good intention – inadequate action!

At a minimum, we can say that the progress made until now does not match the seriousness of the problem. And it is a growing problem, that the arrival of new entrants, such as the increasing number of launches of CubeSats, and plans for large LEO constellations, will further exacerbate.



As of January 2017
(Source ESA)

Verifying/enforcing compliance: the IAQG example

The establishment of an international inter-governmental organization to verify/enforce compliance is not on the table. The alternative is to look for an industry initiative, and the IAQG is an interesting model.

In 1998 major aerospace primes having recognized that they were often sharing the same supply chain, decided to set up a non-profit organization, the International Aerospace Quality Group (IAQG), with the responsibility of adapting the ISO quality standard (ISO 9001) to the needs of the aerospace industry, to develop supporting ‘best-practices’, and to establish a unique system of compliance verification and enforcement through shared auditing. Nowadays AS/EN 9100, the IAQG aerospace quality standard, is used worldwide, recognized by major government regulatory bodies, and implemented by suppliers and primes as well.



Establishing the Institute for Space Debris Prevention and Control (ISDPC)

Solving the issues of space debris mitigation is not only a matter of political will but also of **access to skilled human resources which are rare outside major space agencies and industry.**

In 2013, the IAASS presented at the 50th COPUOS STSC session the concept of setting up a non-profit organization (on the model of IAQG), as a collaborative consortium of industry, open to the participation of experts from government organizations, for implementing processes for verifying compliance with ISO space debris standard. The Institute would also make available to all stakeholders engaged in space activity, whether large or small, expert assessments for safe space operations.

Conclusion

Future space governance should move away from classical model of separation of roles between government regulatory bodies and industry, and move towards a closer collaboration.

*The space industry should develop a notion of space sustainability as their own collective national and international responsibility. **Industry should establish a specialized institute for space debris prevention and control, as industry created, independent, self-policing entities aimed at developing, adopting, and enforcing standards of excellence to ensure continuous safe access and operational integrity of space operations***.*

** Paraphrase of the recommendation of the Presidential Committee that investigated the 2010 Deepwater Horizon oil rig disaster in the Gulf of Mexico.*