Point: The International Community Should Take Stronger Action to Prevent Space Pollution

Thesis

Space pollution places critical resources at risk and must be addressed on a global scale.

Talking Points

- The rising number of private and government launches has drastically increased the risk of debris collisions.
- Space pollution endangers critical satellites used for navigation, weather forecasting, communications, and national security.
- With more countries and industries relying on satellite-based technologies, coordinated international action is essential to ensure the sustainability of space as a shared resource.

Summary

For those who believe space pollution must be addressed on an international level, a key area of concern is the risk of debris collisions, which they argue drastically increased due to the rising number of private and government launches in the 2010s and 2020s. Proponents of a global response to space pollution support that argument with data presented by entities such as the European Space Agency (ESA), which noted on an informational webpage devoted to space debris that "more than 6,050 launches have resulted in some 56,450 tracked objects in orbit, of which about 28,160 remain in space." Of those, the ESA noted, "only a small fraction—about 4,000—are intact, operational satellites," with the remainder being decommissioned, fragmentary, or otherwise unused debris. The agency noted that as launch rates continue to rise and existing pieces of space debris break down into smaller fragments, the number of individual objects in orbit will experience a corresponding increase. "The probability for catastrophic collisions will also grow progressively," the agency added, noting that "doubling the number of objects will increase the collision risk by approximately four times."

Advocates of international responses to space pollution argue that such pollution endangers critical satellites in orbit, including those used for navigation systems, communications, military applications, and other high-priority functions. Writing for *Scientific American* in 2024, Aneli Bongers and José L. Torres of Spain's University of Málaga made that argument, explaining that "essential satellites delivering navigation, weather forecasts, the internet and other services face this threat daily." Bongers and Torres went on to cite the example of a 2009 collision between two satellites, the communications satellite Iridium 33 and the decommissioned military

satellite Kosmos 2251. In addition to destroying Iridium 33, which had been in active service up to that point, “that single collision created more than 2,200 pieces of new debris measuring over five centimeters in diameters,” thus contributing substantially to the total accumulation of debris in orbit. Rather than allow such collisions to occur, Bongers and Torres wrote, stakeholders must work to create “a clean, safe and regulated space environment.”

In light of the demonstrated risks posed by space pollution, proponents argue that coordinated international action is essential to ensure the safety of Earth’s artificial satellites, spacecraft, and space stations. Forms of international action could include mandating adherence to the recommendations made by the Inter-Agency Space Debris Coordination Committee (IADC) in their *IADC Space Debris Mitigation Guidelines*. The 2025 edition of the IADC guidelines was based on three common principles found in mitigation guidelines developed by the world’s spacefaring nations: deactivation of stored energy on a spacecraft that has the potential for explosion; post-mission retrieval and disposal; and limiting the release of objects during normal operations. While adherence to those guidelines was not internationally mandated, the IADC encouraged “operators of existing spacecraft and orbital stages . . . to apply these guidelines to the greatest extent possible” and likewise urged space agencies and corporations “to use these Guidelines in identifying the standards that they will apply when establishing the mission requirements for planned spacecraft and orbital stages.”

Ponder This

- The author has presented the fundamental positions for this perspective in the debate. Outline the strengths and weaknesses of each perspective.
- If asked to begin forming an argument for this position, what sources would you need to build your case? What fundamental information do you need? What opinion leaders in this debate would you look to in solidifying your argument?
- What are the weakest aspects of the position outlined by the author? How might those weaker arguments help you prepare a counter argument?
- What additional Talking Points could you add to support this position?

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