The best solution for dealing with space junk

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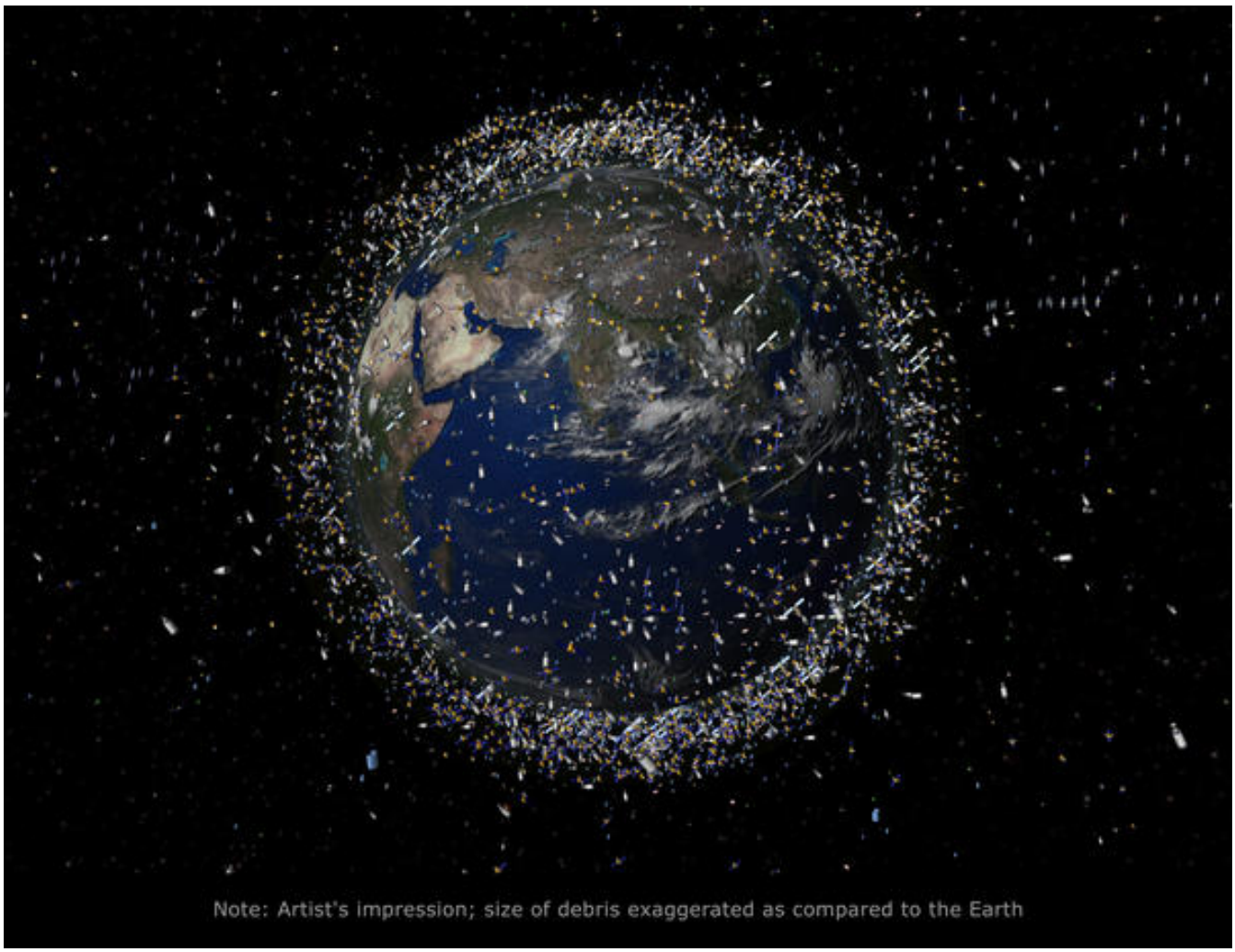
There is a lot of junk in space. There’s American junk, Russian junk, Chinese junk, and corporate junk. There are satellite pieces and discarded rocket parts and metal bits. Basically, all the junk is just floating around clonking into other junk and causing general mayhem when they get a *bit* too close to the stuff that’s not junk.

There is so much junk that they have to time rocket launches so that the new stuff (aka, soon to be junk) doesn’t hit old junk on its way up and become de facto junk. There are people who spend their entire careers tracking the 22,000 large pieces of junk and moving non-junk like weather and GPS satellites out of the way.

Plus, there is an estimated 500,000 pieces of smaller junk that isn’t tracked and even the smallest piece of junk can do major damage. The major problem is that every time two pieces crash together, they create more pieces. When China destroyed a weather satellite, they took one large piece of junk and made millions of smaller pieces.



It’s a daily problem. The European Space Agency is currently trying to decide what to do with its defunct Envisat satellite, which is now floating in space without enough power to get it back to earth. If, anytime during the next 100 plus years, the satellite crashes into anything valuable, the ESA will be responsible for the damages, according to the International Institute of Space [1] Law.

So, you may be wondering, why don’t we get rid of some of the junk?

Funny you should ask.

A team of researchers in the U.K. just came up with a pretty creative solution: a space harpoon [2].

The harpoon would feature a 30cm barb attached to a “chaser” satellite. When the “chaser” is within a certain distance, the harpoon would be fired into the junk. After it was completely latched onto the junk, the harpoon would pull the cord back and drag the space junk towards earth where it would burn up in the atmosphere.

The harpoons are in the early stages of development. They need to be designed so they don’t go all the way through the junk satellite but rather stop once they’re hooked into the “skin.” The researchers say the harpoon is designed with a crushable cylinder, so unlike a whale harpoon, it rapidly slows down upon impact, ensuring it won’t damage any fuel tanks which would cause even more damage.

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