

Thaxted Astronomical Society

News

Features

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Who Owns The Most

Space<sub>n</sub> Junk?

<https://www.dailymail.co.uk/sciencetech/article-8308543/Who-owns-space-junk-Russia-14-000-pieces-debris-orbiting-Earth-next.html>

## Who owns the most space junk? Russia has 14,000 pieces of debris orbiting Earth - more than twice that left by the second worst offender - the US

Daily Mail 11<sup>th</sup> May 2020 >

- **A new infographic reveals which countries owns the garbage floating in space**
- **In 2018, the US had the most with 4,037 and Russia followed with 4,035**
- **Now, Russia has owns more than 14,000 pieces and the US owns 8,734**

Space junk is littering the final frontier and Russia has contributed more to the collection than any other country.

A new infographic reveals which countries owns the garbage floating in space and Russia is responsible for 14,403 pieces and the US comes in second with 8,734.

The compiled data shows more than 30,000 particles from satellites, rockets and other man-made devices are orbiting Earth, which is more than double what was found in orbit two years ago.

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Space junk left behind after missions can be as big as spent rocket stages or as small as paint flakes.

With fragments able to travel at speeds above 16,777 mph, even tiny pieces could seriously damage or destroy satellites.

Data from Space-Track.org allowed Corby-based electronic company RS Components to analyze just how many bits of debris are currently orbiting Earth and which country they belong to.

In 2018, the RC Components compiled the same data and found the US had contributed the most space junk with 4,037 and Russia followed with 4,035.

However, in just two years, Russia moved to the top spot with 14,403 pieces.

The US is in second with 8,734, followed by China 4,688 and France with just 994.

India saw an increase with 124 more particles in the past two years, bringing its total to 517.

There are more countries on the list, such as Italy, Germany and the UK, but most have just one piece floating around in orbit.

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Efforts to clean up space have been underway for a number of years, but there's still a long way to go - and, until then, it seems like Israel and Italy are the countries to follow,' reads the report from RC Components.

'Although they have in the past, these two countries don't currently have any debris in orbit due to junk that has since decayed.' 'The UK's efforts are significant too, with one piece of junk currently in orbit (although four that have been in orbit but since decayed), they're one of the countries working towards an improved and cleaner space.'

As Russia has contributed the most in the past two years, the country has recently dumped 65 more pieces into orbit.

A rocket used to launch a scientific satellite into space has broken apart after nine years in orbit broke apart earlier this month and left dozens of pieces of debris around Earth.

The Fregat-SB is a type of space tug and its upper stage was left floating after it helped deliver the Spektr-R satellite in 2011, according to Roscosmos.

Spektr-R was a radio telescope launched by the Russian space agency but it stopped responding to ground control last year and was declared dead in May 2019.

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Roscosmos confirmed the breakdown of the rocket happened on May 8 between 06:00 and 07:00 BST somewhere above the Indian Ocean.

The Russian space agency is studying data to find out how many parts it broke up into and where they are currently orbiting the planet.

The US18 Space Control Squadron that tracks all objects in Earth's orbit say there are at least 65 pieces from the rocket in orbit.

US18 wrote on Twitter: 'Confirmed that the breakup of FREGAT DEB occurred on May 8, 2020, between 0402 and 0551 UTC. Tracking 65 associated pieces – no indication caused by collision.'

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There could be more than 128 million tiny fragments of debris in Earth orbit >

- Rocket launches since 1957: 5450
- Number of satellites in orbit: 8950
- Number still in space: 5000
- Number still functioning: 1950
- Number of debris objects: 22300
- Break-ups, explosions etc: 500
- Mass of objects in orbit: 8400 tonnes

Prediction of the amount of debris in orbit using statistical models

- Over 10cm: 34 000
- 1cm to 10cm: 900 000
- 1mm to 1cm: 128 million

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### WHAT IS SPACE JUNK?

Scientists point to two events that have badly worsened the problem of space junk.

The first was in **February 2009**, when an Iridium telecoms satellite and Kosmos-2251, a Russian military satellite, **accidentally collided**.

The second was in **January 2007**, when **China tested an anti-satellite weapon** on an old Fengyun weather satellite.

Experts also pointed to **two sites that have become worryingly cluttered**.

One is **low Earth orbit** which is used by satnav satellites, the ISS, China's manned missions and the Hubble telescope, among others.

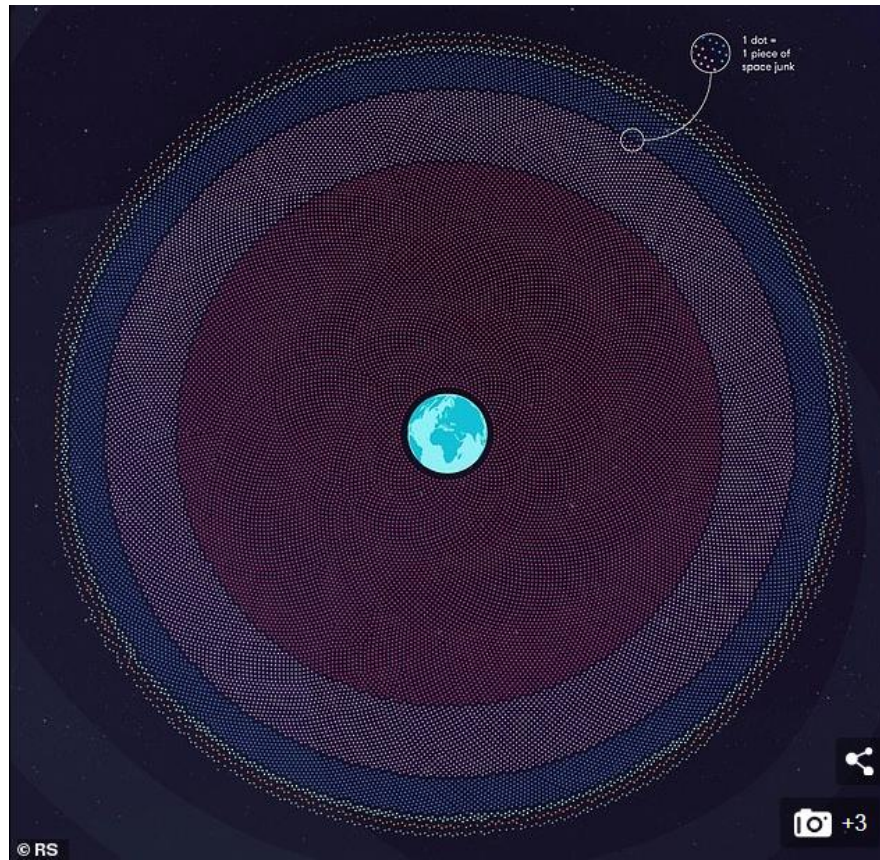
The other is in **geostationary orbit**, and is used by communications, weather and surveillance satellites that must maintain a fixed position relative to Earth.

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Around 500,000 pieces of human-made debris (artist's impression) currently orbit our planet, made up of disused satellites, bits of spacecraft and spent rockets

