[Roughly 10,000](https://www.forbes.com/sites/ericmack/2024/07/19/theres-now-10000-active-satellites-in-orbit-most-belong-to-elon-musk/" \t "_blank) satellites are orbiting our planet right now, at speeds of up to 17,000mph (27,000km/h). Every one of these delicate contraptions is in constant free-fall and would drop straight back down to Earth were it not for the blistering speeds at which they travel. It's their considerable sideways momentum, perfectly stabilised against the Earth's gravitational pull downwards, that keeps satellites in orbit.

A new class of satellites are aiming to push the limits of this balancing act and plough a much more precarious, lower orbit that would skim the top of Earth's atmosphere. Known as Very Low Earth Orbit (VLEO), spacecraft at these altitudes have to battle against the significantly greater drag from the air in the upper reaches of the atmosphere [than their loftier cousins](https://www.swpc.noaa.gov/impacts/satellite-drag), lest they get pushed out of the sky. Should they manage it, however, such satellites might achieve something even more jaw-dropping – they could potentially fly forever.