

# Can you use a payment card IN SPACE?

Consumers can use a payment card nearly everywhere they want to make a purchase, but what about space? As recently as 2013, many thought payments in the outer atmosphere were a decade-plus away. Today, First Data and Nationwide are proud to beat these predictions and make extraterrestrial transactions a reality.

Could payment processing in the stratosphere actually work? Here's what we learned after a First Data Clover Point-of-Sale device linked to a Nationwide payment card was sent up, up, and away.

**MADE IT!** The biggest challenge in the stratosphere is the subzero temperature – it's  $-35^{\circ}\text{C}$  up here.



The device's plastic wrap conserves heat.

But plastic traps humidity, so the screen remains exposed with anti-glare treatment.

Payment happens. It's an offline transaction similar to most transactions for small amounts.

**25km**

The device begins its descent.

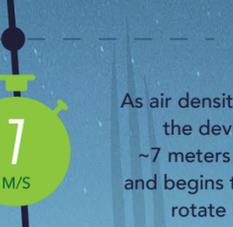


**20km**

The payload reaches 20km after an hour. Ascent speeds are ~5 meters per second. That's nearly two stories of rapid rise in one click of your watch!



The initial descent reaches speeds up to 60 meters per second (12 building stories every second) due to the lack of wind resistance.



**15km**

As air density increases, the device slows to ~7 meters per second and begins to twist and rotate in the wind.



"Near space" starts here.

**13km**

Cruising altitude for passenger aircraft. Here's where the highest-altitude payments have already taken place – inside an airplane.

**10km**

**8.8km**

Altitude of Mount Everest, highest point on Earth. Highest-flying birds also reach this height.

The payload could not exceed 2kg to reach its maximum height.

Height of Burj Khalifa, tallest skyscraper in the world.

**0.8km**

**TAKEOFF!**

**5km**

A parachute deploys, and brings the device to rest on the ground. It's taken a 3-hour journey into the stratosphere.

**LANDING!**

This out-of-this-world undertaking has practical implications for merchants on earth. Well before take-off, the First Data Clover teams worked with Nationwide Building Society to ensure the Clover Mobile device would work in harsh conditions in the outer atmosphere. Having been put to the test, the Clover device can now go to the ends of the Earth and beyond.

While space flight and payments business may not appear to share a lot of common ground, the possibilities are astronomical. Just as today's passengers can pick up train tickets on board with a quick tap, one day commercial space travellers will purchase last-minute necessities as they ascend the atmosphere.

That's one small step for payments, one giant leap towards buying that first intergalactic coffee.