

# Team aims to use Android smartphone in orbit to control satellite

January 25 2011, by Lin Edwards

---



(PhysOrg.com) -- A British team of engineers is planning to send a mobile smartphone into orbit on a satellite for the first time to test its ability to control the satellite and take photographs in the hostile environment of space.

The mission is called [STRaND-1](#) (for Surrey Training Research and Nanosatellite Demonstration number 1) and is run jointly by engineers from Surrey Satellite Technology Limited (SSTL) and the University of Surrey's [Space](#) Centre (SSC) in the UK.

The mobile phone will be running the Google Android operating system, but the exact model of phone is not yet known. What is known is that it will be a standard [smartphone](#) available commercially, and with no physical modifications. Also on board the 4 kg nano-satellite will be a camera to take pictures of the [smartphone](#) screen.

SSTL's project manager, Shaun Kenyon, said smartphones are “pretty amazing” but they have not yet been tested in an [orbit](#) several hundred kilometers above the Earth's surface. The team wants to find out first if a smartphone will work in orbit, and if it does they want to find out if it can be used to control a satellite, and to test as much of the phone's capability as possible.

The phone will be afforded some protection from the radiation and the large temperature variations by being mounted within the satellite casing, with a hole cut in the side for the camera lens. All pictures and messages from the phone will be transmitted back to Earth via the satellite's radio.

In the initial stages of the mission, the satellite's micro-computer will be in charge of operations, with the smartphone acting as a backup, but at some stage in the mission these roles will be reversed. Operations overseen by the computer and then the smartphone include the GPS, navigation systems, miniature reaction wheels, and the pulse plasma thrusters that propel it.

Google's [Android](#) was chosen because it is open-source, which means the engineers could modify the software as required for their mission. In the future, if the phone works in orbit, relevant apps could be developed for the phone's use in space.

A smartphone has never before been sent into space, but Google has used high-altitude balloons to successfully test smartphones at 18 kilometers, and a [father and son team sent an iPhone up on a weather](#)

[balloon](#) last year.

If the STRaND-1 mission works, using a smartphone in space could make operations in orbit far less expensive than using custom-designed equipment. In fact, the cost of the entire STRaND-1 [satellite](#) and its payload was less than a family car.

Surrey Space Centre lead researcher Dr Chris Bridges said if the smartphone works in space it could be “a real game-changer” for the industry.

© 2010 PhysOrg.com

Citation: Team aims to use Android smartphone in orbit to control satellite (2011, January 25) retrieved 25 April 2024 from <https://phys.org/news/2011-01-team-aims-android-smartphone-orbit.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.