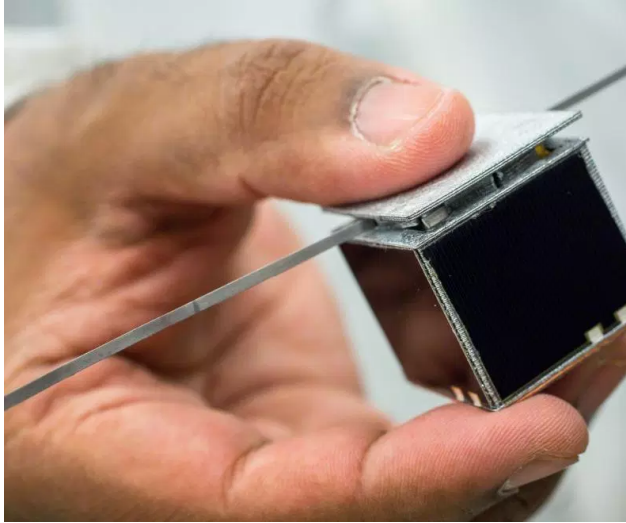


# Student-designed 'FemtoSats' aim to bring cost of satellite deployment below \$1,000

**Devin Coldewey**

@techcrunch / 3 years ago



Got a grand burning a hole in your pocket? You could go and send this tiny, palm-sized satellite to space. That's what State hope, anyway: their "FemtoSats" are meant to be platform as has ever been devised.

At just 3cm per side and 35 grams (that's about 1.2 inches in the Imperial system), [the SunCube 1F is the prototype for](#) salvaged scrap of solar panel (they don't make them so tiny unit includes propulsion, imaging, communication, and

"The design standard bootstraps from the Cal Poly Cubesat, which is highly extensible, allowing major customization," wrote Jekan Ram, a professor who heads up the project, in an email to TechCrunch.



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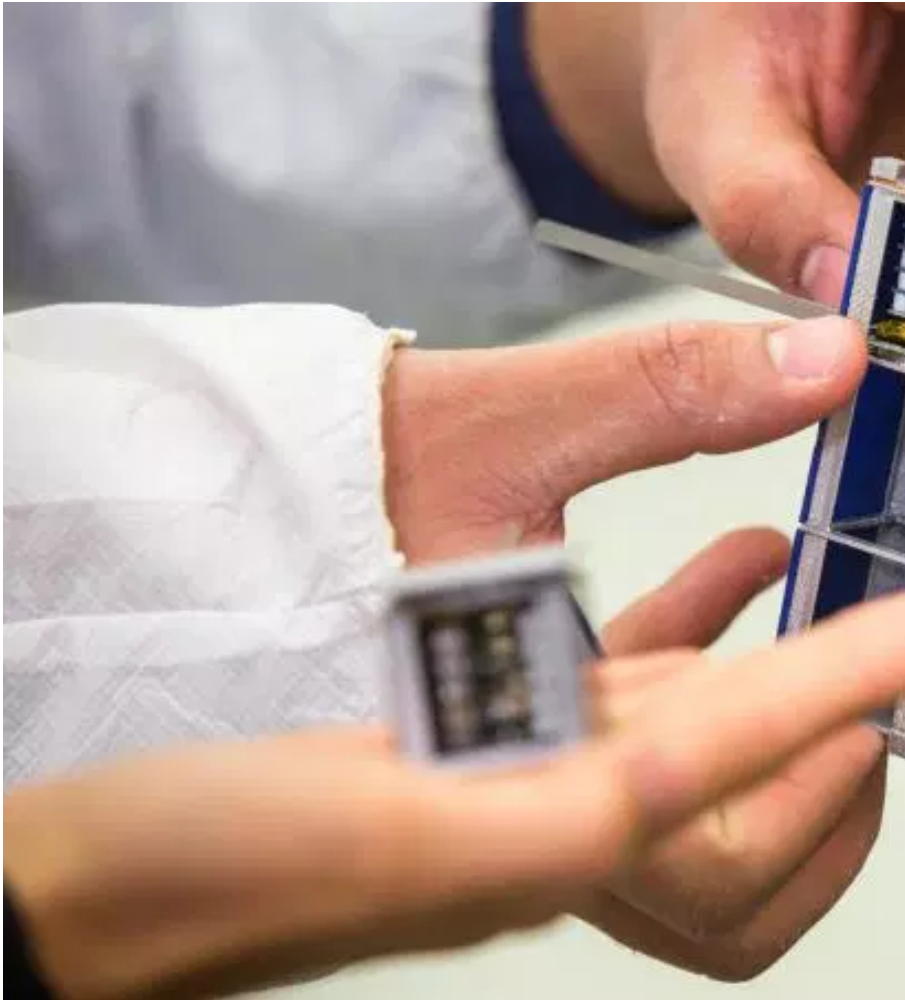
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The larger 3F version stacks 3 of the cubes together, for a stick of butter. This one has room for a payload, though volume will end up setting you back considerably more.

The size is a mixed blessing. It's cheap to send up, but that fits in a 3cm cube is difficult. They're working on "in-situ" sublimating powder to extend themselves, though the team is also testing a wireless chipset that fits in the FemtoSat (it's UHF and 3.5GHz).

At current prices, the team estimates a SunCube 1F could be launched to ISS for under \$1,000, where microgravity and other space experiments could be carried out. Low Earth orbit would cost about \$300.



## SunCube miniature satellites

from **ASU Now**



01:17 |



Still, it's a bargain compared with launching even the most expensive satellite, which could cost a hundred grand or more, depending on demand. (Here's hoping [reusable first stages](#) will bring that cost down.)

"Because of the low launch cost, we can test and space hardware without having to take it on a CubeSat or even dedicated space launch vehicle that will lead to fast turnaround times in space hardware qualification."

Lowering the barrier to entry will almost certainly encourage the expansion, just as it has in many other areas of tech. But it's not just about say, mass manufacture or commercial availability. They're also launching FemtoSats in order to test and qualify them for deployment. You can launch them as pint-sized science laboratories, or include them as essentially disposable general-purpose orbiters. If you're interested, see [this](#) available [here](#).

If you're near the ASU campus and have the night free, head to the [Exploration Theater](#) to hear Thanga present the SunCult. The [SpaceTREx](#) Lab has been working on it. It starts at 6, so

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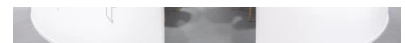
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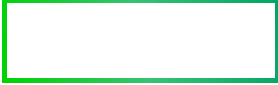
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