High-Flying Tiny Satellites Could Get Boost From FCC

By Tara Jeffries

(Bloomberg Law) -- Regulators are turning their attention to a space industry tool gaining in commercial popularity:
shoebox-size satellites.

The Federal Communications Commission will propose in its April 17 monthly meeting rules to ease small satellites'
paperwork requirements, such as requiring a shorter "narrative"
about operations than what's now required from companies. The agency will also consider lowering application fees, and increasing airwaves frequency access. The rules would apply to satellites that are less than 180 kilograms, according to the draft proposal.

The commission's proposal is in keeping with its GOP-majority's mission to loosen regulations for telecom industries. But it also reflects a surging interest in space from companies such as Elon Musk's Space Exploration Technologies Corp.

New FCC rules could entice small satellite operators, such as Planet Labs Inc. and Pumpkin Inc., to expand the use of their devices and attract more customers and investors. They could also prompt other industries to consider using less-expensive satellites to comb the planet for profit-boosting opportunities—from insurers busting fraudsters to farmers tracking crop changes.

The interest in small satellites—which can range in size from postage stamp to small refrigerator—has grown rapidly in recent years. There were 335 small satellites launched in 2017, six times the total in 2012, according to a 2018 report from consultancy Bryce Space and Technology. Small satellites typically hitch a ride on rockets with other items, and their stints in space are short.

"More satellites mean more regulatory reviews. Hence the
problem: our current regulations weren't designed with these smaller satellites in mind," FCC Chairman Ajit Pai wrote in a March 26 blog post.

The agency's proposal also raises the question of space junk, a term that refers to millions of used fragments of rockets and satellites that crowd earth orbits. Loosening rules to allow more satellites, even small ones, could heighten such concerns.
The FCC, in its deliberations, will address "limiting orbital debris," Pai said in the blog.

The measure is "reflecting the state of the industry—it's changing," Lisa Ruth Rand, a technology historian who researches space debris, told Bloomberg Law.

Regulators should keep in mind that extremely small satellites—too small for tracking technology to detect—can endanger other satellites and cause crashes, Rand said.
"Hopefully these regulations will acknowledge the fact that, very literally, the landscape of outer space is changing," she said.

Cheaper, more easily-launched satellites could generate new business opportunities for companies that deliver customized data to clients. For example, Spire Global Inc. uses shoebox-size satellites, CubeSats, to chart the paths of ships, planes, and weather. The San Francisco-based company tracks by listening to radio frequencies, rather than by taking pictures.

Getting a CubeSat—which made up 87 percent of all small satellites launched last year—a seat on a rocket costs about
$200,000 to $300,000, Jordi Puig-Suari, an aerospace engineering professor at California Polytechnic State University, San Luis Obispo, who helped design CubeSats, told Bloomberg Law.

NASA also launched a CubeSat last year with E. coli bacteria on board to learn more about how to treat astronauts who get sick in space.

“One of the things that I hope we’ll see is spacecraft being developed to solve very specific local problems by local people,”
Puig-Suari said. “In the past, space was so expensive that you could only attack very global problems with large markets where you could make enough money to justify the investment.”

The FCC has addressed other issues this year in the fast-changing satellite business. Last month, it approved SpaceX’s application to provide satellite-based internet service in the U.S. in the hope that it would spread high-speed broadband to hard-to-reach rural and tribal areas. The FCC granted similar access over the last year to OneWeb, Space Norway, and Telesat Canada.