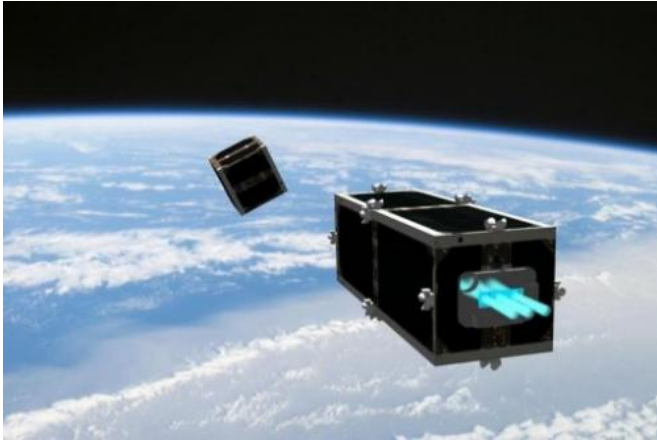


Swiss craft janitor satellites to grab space junk

15 February 2012, By JOHN HEILPRIN , Associated Press



A handout image released by Swiss Space Center shows an artist's impression of a CleanSpace One satellite chasing a piece of debris. The Swiss Space Center at the Ecole Polytechnique de Lausanne (EPFL) announced today the launch of CleanSpace One, a project to develop and build the first installment of a family of satellites specially designed to clean up space debris.

The tidy Swiss want to clean up space. Swiss scientists said Wednesday they plan to launch a "janitor satellite" specially designed to get rid of orbiting debris known as space junk.

The 10-million-franc (\$11-million) satellite called CleanSpace One - the prototype for a family of such satellites - is being built by the Swiss [Space Center](#) at the Swiss Federal Institute for Technology in Lausanne, or EPFL.

EPFL said Wednesday its launch would come within three to five years and its first tasks are to grab two Swiss satellites launched in 2009 and 2010.

The U.S. [space agency](#) NASA says over 500,000 pieces of spent rocket stages, broken satellites

and other debris are being tracked as they orbit Earth.

The debris travels at speeds approaching 17,500 miles per hour (28,000 kilometers per hour), fast enough to destroy or inflict costly and time-draining damage on a satellite or spacecraft. Collisions, in turn, generate more fragments floating in space.

"It has become essential to be aware of the existence of this debris and the risks that are run by its proliferation," said Claude Nicollier, an astronaut and EPFL professor.

Building the satellite means developing new technology to address three big problems, scientists say.

The first hurdle has to do with trajectory: The satellite has to be able to adjust its path to match that of its target. EPFL said its labs are looking into a new ultra-compact motor that can do this.

Next, the [satellite](#) has to be grab hold of and stabilize the debris at high speeds. Scientists are studying how plants and animals grip things as a model for what would be used.

And, finally, CleanSpace One has to be able to take the [debris](#), or unwanted satellites, back into Earth's atmosphere, where they will burn on re-entry.

Swiss Space Center's director, Volker Gass, said it hopes to someday "offer and sell a whole family of ready-made systems, designed as sustainably as possible, that are able to de-orbit several different kinds of satellites."

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