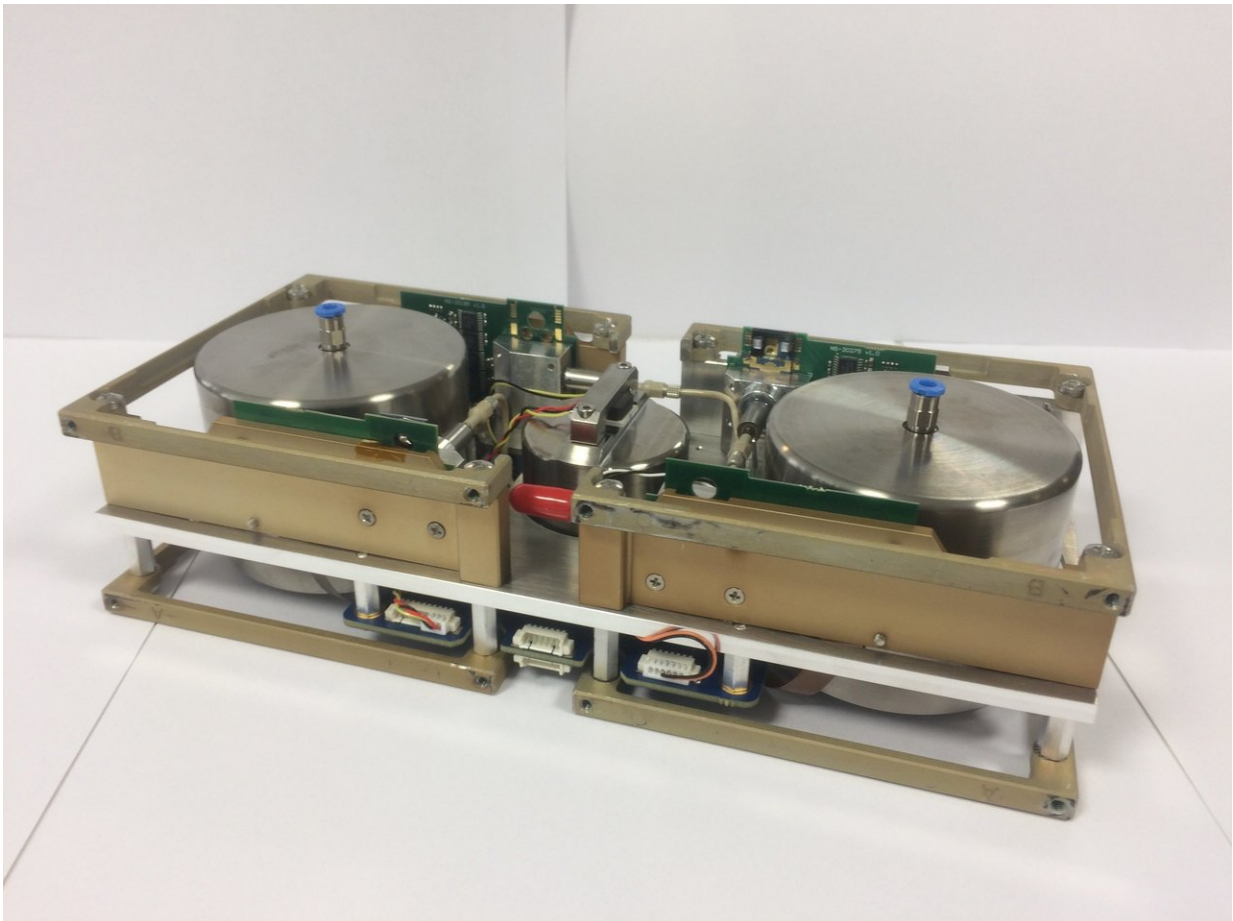


# The size of a cereal box—ESA's first satellite of 2018

February 5 2018

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GomX-4B's cold-gas thruster system takes up two half-CubeSat units at one side of the nanosatellite, with two spherical titanium tanks filled with liquid butane. It has four 1 mN thrusters, typically to be fired in pairs while keeping one set in reserve. Credit: Nanospace

ESA's first mission of the year was launched today: GomX-4B is the Agency's most advanced technology-tester yet, featuring a hyperspectral camera and tiny thrusters to manoeuvre thousands of kilometres from its near-twin to try out their radio link.

These CubeSats are built around standard 10x10 cm units by GomSpace in Denmark. As 'six-unit' CubeSats they are as big as [cereal boxes](#) – but double the size of their predecessor GomX-3, released from the International Space Station in 2015.

"ESA is harnessing CubeSats as a fast, cheap method of testing promising European technologies in orbit," comments Roger Walker, heading ESA's technology CubeSat efforts.

"Unlike GomX-3, GomX-4B will change its orbit using cold-gas thrusters, opening up the prospect of rapidly deploying future constellations and maintaining their separations, and flying nanosatellites in formations to perform new types of measurements from [space](#)."

The pair was launched at 07:51 GMT (08:51 CET) from Jiuquan, China, piggybacking on a Long March 2D rocket carrying a Chinese satellite to detect electromagnetic disturbances that might offer early warnings of earthquakes.

The focus of Denmark's GomX-4A on imaging includes monitoring Arctic territory. It carries no thrusters but the agile GomX-4B will fly behind it, allowing the pair to test their radio link across various distances up to 4500 km.



ESA's biggest small satellite yet: the GomX-4B six-unit CubeSat will demonstrate miniaturised technologies, preparing the way for future operational nanosatellite constellations. Credit: GomSpace

"While these two CubeSats are closely related, they have different goals – but by flying them together we all gain extra opportunities for demonstrations in space," adds Roger.

Some four hours after launch, they flew over their mission control centre – GomSpace's premises in Aalborg, Denmark – at which point their early operations could begin.

"Just as in the case of a full-size mission, the two must be switched on and checked ahead of full operations."

GomX-4B's work can then begin for ESA. It will also monitor the performance of off-the-shelf computer parts in the harsh space environment, and test a new startracker for Dutch CubeSat manufacturer ISIS.

Provided by European Space Agency

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