



Danish Amateur Team Sends Satellite into Space

Euroluna--the Danish team participating in the \$30 million Google Lunar X PRIZE contest--has taken the first big step toward landing a small robotic mobile rover on the Moon.

In December we are launching our test satellite MiniRomit1 from the South Pacific Island of 'Eua, in the Kingdom of Tonga.

The launch is a systems test under real conditions. We will use the flight to verify computer, radio, and camera operations. Finally and most importantly, we will test our rocket engine which will subsequently be used for our lunar voyage. If the engine meets expectations, it will be groundbreaking for nanosatellites, which can then use our engine to move around in space. Small satellites cannot do that today.

If everything goes well we should, after a year's time, be out in a 700-kilometer orbit (we start in a 310- kilometer orbit). If we don't succeed in boosting our orbit, the satellite will re-enter Earth's atmosphere after a few months and burn up.

When the rocket reaches its orbital altitude, the satellite is deployed using a spring-loaded device. MiniRomit1 then powers up and conducts a systems test. The satellite must stabilize itself so that it has the right orientation (with the propulsion system pointing aft). The spacecraft will immediately start its engine so that it can begin its journey to a higher altitude, away from any traces of atmosphere that would produce drag, slow it down, and shorten its orbital lifespan.

MiniRomit1 is made up of two CubeSats. A CubeSat is a mini-satellite with the dimensions 10 x 10 x 10 centimeters. The double CubeSat has the dimensions 10 x 10 x 20 centimeters and an estimated weight of about two kilograms. The sides of the CubeSat are covered with solar cells on all surfaces except the aft end, where the rocket motor sits.

Euroluna bought two of the four available CubeSat payload slots on Interorbital Systems' **NEPTUNE 30** rocket that will carry a mixed manifest of 4 CubeSats and 26 TubeSats on its maiden launch.

One of the two CubeSat modules contains the OBC (OnBoardComputer), the communication printed circuit board, and the camera board which controls six cameras - each 1.3 megapixels. In addition, a battery will provide power when MiniRomit1 passes into the night-side shadow of the Earth.

The second CubeSat module contains Euroluna's propulsion system (rocket engine), which is an electric ion accelerator. The device accelerates metal ions across an electric field and shoots them out through a nozzle, causing the rocket to move forward and overcome drag caused by the few air molecules at the 310km orbital altitude. This thrust will move the satellite to a higher orbit (path around the Earth). The energy for the system comes from solar cells, and propulsion is achieved using only a few grams of metal.

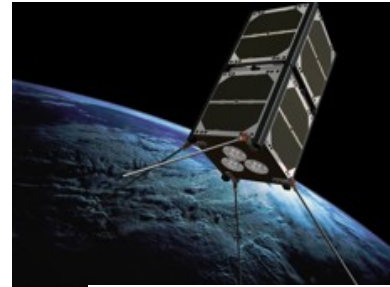


Illustration: GomSpace ApS

Euroluna was founded in 2007 by Palle Haastrup and Søren Rasmussen from Denmark.

Today Euroluna consist of mostly **family and friends** between the age of 16 and 60 – most of them with a background in ingeneering - and a passion for space.

Euroluna is participating in the 30 million dollar **Google Lunar X Prize** contest.

The first prize of 20 million dollar goes to the team that is first to land a rover on the Moon, drive 500 meters and sends images back to Earth – before the end of 2012.

Euroluna is the **only Danish team** in the competition.

We hope that radio amateurs across the world will help us to retrieve the data that we are sending down so that for example, we can gather images from the six cameras on our website www.euroluna.dk. Radio amateurs can send the pixels they receive to us, and we will assemble them into a full image.

In its 'polar' orbit, MiniRomi1 will fly over the North and South Poles. Orbit duration is approximately 90 minutes. Since the Earth is rotating under the satellite, MiniRomi1 passes over Denmark two times every twelve hours, travelling either from the south, or 12 hours later from the north. Euroluna expects to have radio contact with the satellite 5-10 minutes each time it passes over Denmark.

For further information and contact to Euroluna's team members in Italy, Switzerland, and Denmark please contact:

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Read more about Euroluna at
www.euroluna.dk
<http://www.facebook.com/pages/Euroluna/337261739568?ref=ts>

Read more about the Google Lunar X Prize at
<http://www.googlelunarprize.org/>

Read more about IOS and the launch from Tonga at
www.interorbital.com.
Interorbital is also the launch provider for Google Lunar X Prize Team SYNERGY MOON.

Public Meeting

On **April 18th** Euroluna is hosting a public meeting at our head quarters in Ballerup, Denmark.

Here you can learn more about Euroluna and our plans for getting to the Moon.

The meeting is held at **4 pm at Energivej 14, 2750 Ballerup.**

For further information, registration and directions please contact signe@euroluna.dk.