

Fix for Mars lander 'mole' may be working

June 8 2020, by Bob Yirka



Representatives from NASA's InSight project have reported via Twitter that efforts by the team at the German Aerospace Center (GAC) to push a probe called the Heat Flow and Physical Properties Package (more affectionately known as "the mole") down into the Martian soil has finally met with some success. The group at GAC has been documenting the work being done to overcome problems with deploying the probe on the [project website](#).

The InSight Lander is a robotic landing platform sent to Mars by NASA to learn more about the interior of the Red Planet. The Lander has several probes that were deployed shortly after landing on the surface of the planet on November 26, 2018. One of those probes was the [mole](#) (made and operated by GAC)—it was supposed to hammer itself down into the soil five meters below the surface and once there, relay underground temperatures via a tether to the Lander. Unfortunately, things did not go as planned. The mole failed to dig itself into the ground. Testing showed the digging/hammering apparatus was working as designed, but the [soil conditions](#) on Mars were not as expected. As the device hammered, soil kept falling back into the hole, preventing the mole from descending.

After studying the problem, the team at GAC attempted last October to give the mole an assist by having the Lander press a scoop on its top as it hammered below. The approach was initially promising, but then, inexplicably, the mole backed up out of its hole when the scoop was removed. After more study of the problem, the team changed its approach and tried again this past February. And now, it appears the effort has been working.

The mole is now fully underground, though still far short of the five meters the team had been hoping for. The team at GAC is once again

reevaluating the situation and will decide soon whether to leave the probe in its [current position](#), or have the mole try hammering itself deeper into the hole with no assist—a move that could wind up backfiring if the mole backs itself out of the hole as it did before.

More information: [www.dlr.de/blogs/en/all-blog-p ... mission-logbook.aspx](http://www.dlr.de/blogs/en/all-blog-p...mission-logbook.aspx)

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