



1
00:00:06,720 --> 00:00:10,200

NARRATOR: It's a long way to Mars or any other world,

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00:00:10,200 --> 00:00:11,660

at but that isn't stopping researchers

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00:00:11,660 --> 00:00:15,980

NASA's Kennedy Space Center from evaluating a small set of robots for potential work on

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00:00:15,980 --> 00:00:19,279

other worlds in the future.

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00:00:19,279 --> 00:00:25,960

The robots are called Swarmies and it's not so much their machinery that is under scrutiny,

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00:00:25,960 --> 00:00:29,109

but rather the software in their brains.

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00:00:29,109 --> 00:00:34,220

Swarmies are programmed to search for resources and summon other robots when one finds a

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00:00:34,220 --> 00:00:36,070

plentiful trove.

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00:00:36,070 --> 00:00:39,730

Unlike other robots that are told to search basically in a pattern reminiscent of the

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00:00:39,730 --> 00:00:41,240

way it might

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00:00:41,250 --> 00:00:45,610

mow a lawn, the Swarmies are programmed to search an area randomly

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00:00:45,610 --> 00:00:47,080

on in a technique used

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00:00:47,090 --> 00:00:49,480

Earth by ants.

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00:00:49,480 --> 00:00:52,720

Kurt Leucht: I am becoming a very good expert on ants. I knew nothing about ants when we

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00:00:52,730 --> 00:00:53,990

started this project.

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00:00:53,990 --> 00:00:58,760

NARATOR: When it comes to deep space exploration, the prospect of dispatching a large

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00:00:58,760 --> 00:01:03,990

number of robots to search a landscape for materials that can be made into air,

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00:01:03,990 --> 00:01:05,540

water or fuel is tantalizing.

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00:01:05,540 --> 00:01:13,940

Kurt Leucht: This project, it could be used in space exploration, for example Mars exploration.

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00:01:13,940 --> 00:01:17,890

Before we send people there, it would be a really good idea to send robots there to collect

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00:01:17,890 --> 00:01:20,080

resources like water-ice.

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00:01:20,080 --> 00:01:25,110

A biologically-inspired search technique like we are developing in this project could be

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00:01:25,110 --> 00:01:28,690

really useful especially if humans aren't there yet.

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00:01:28,690 --> 00:01:33,760

NARRATOR: The robots and their unique programming have been refined during recent months

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00:01:33,760 --> 00:01:38,200

to the point where they can be evaluated outdoors in a parking lot at Kennedy near the Vehicle

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00:01:38,200 --> 00:01:39,049

Assembly Building.

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00:01:39,049 --> 00:01:44,979

Kurt Leucht: When we got them into the parking lot, they just weren't acting like we expected

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00:01:44,979 --> 00:01:49,970

them to. It took a lot of troubleshooting and debugging and a lot of detective work

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00:01:49,970 --> 00:01:51,479

to figure it out.

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00:01:51,479 --> 00:01:52,330

But we're getting close.

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00:01:52,330 --> 00:01:56,950

NARRATOR: There are many more tests ahead for the Swarmies and their coordinators know

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00:01:56,950 --> 00:02:00,690

the robots will continue to offer surprises throughout development.

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00:02:00,690 --> 00:02:05,210

Kurt Leucht: When you're working with real robots, they surprise you every single day