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

at but that isn't stopping researchers

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

other worlds in the future.

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

but rather the software in their brains.

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

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

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

on in a technique used

Earth by ants.
Kurt Leucht: I am becoming a very good expert on ants. I knew nothing about ants when we started this project.

NARRATOR: When it comes to deep space exploration, the prospect of dispatching a large number of robots to search a landscape for materials that can be made into air, water or fuel is tantalizing.

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

Before we send people there, it would be a really good idea to send robots there to collect resources like water-ice.

A biologically-inspired search technique like we are developing in this project could be really useful especially if humans aren't there yet.

NARRATOR: The robots and their unique programming have been refined during recent months to the point where they can be evaluated outdoors in a parking lot at Kennedy near the Vehicle Assembly Building.

Kurt Leucht: When we got them into the parking lot, they just weren't acting like we expected.
them to. It took a lot of troubleshooting and debugging and a lot of detective work.

But we're getting close.

NARRATOR: There are many more tests ahead for the Swarmies and their coordinators know
the robots will continue to offer surprises throughout development.

Kurt Leucht: When you're working with real robots, they surprise you every single day
and it's really exciting, the possibilities, when you think about them.