George Diller/NASA Public Affairs Officer: NASA technology is at the heart of a system being developed to save lives in some of the most dangerous parts of the world. Leak detectors are used at space shuttle launch pads to warn workers of invisible dangers. A mobile unit developed at NASA's Kennedy Space Center in Florida could soon warn those living near a volcano of unseen threats. However, designers didn't intend to make a volcano monitor when they set out to miniaturize the gas detection system used for the shuttle.

Tim Griffin/Kennedy Chemical Analysis Branch Chief: A couple of us from Kennedy went out to a conference, and we presented our data and some information that we were doing for stuff for the pad work. And while we were there, a professor from the University of Costa Rica presented some, an instrument that he was trying to work on in order to monitor for gases. And we said, 'Wow, there's a lot of similarities there.'

George Diller/NASA Public Affairs Officer: Working with Costa Rica's scientific program, Griffin and his team...
modified their leak detector to specialize in volcano research.

Tim Griffin/ Kennedy Chemical Analysis Branch Chief: Embedded computer and everything we've chosen is

much smaller. And this is also a more autonomous system. On the launch pad, because it's launch critical, and

you make decisions that are life or death, we have humans intervene in it. And this one is just archiving data and things.

George Diller/NASA Public Affairs Officer: It was small enough to be carried in a variety of vehicles to

effectively sample the air around the Costa Rican mountains.

Tim Griffin/ Kennedy Chemical Analysis Branch Chief: We've put it onto three different aircraft, we've

carried it by hand into the craters of volcanoes.

George Diller/NASA Public Affairs Officer: The detector incorporates a number of innovations from Griffin's team.

Tim Griffin/ Kennedy Chemical Analysis Branch Chief: So you can see, there's a pump here, there's a pump

here and there's another pump in the back. So you can see when we talked about needing to make

the pumps a little bit smaller and less power consumption why that's one of the big keys.

George Diller/NASA Public Affairs Officer: Griffin's team aims to create more innovations, allowing many of
the mobile detectors to be strategically based around the world. That way, they can be carried by plane to an active cone for study, leading to potential warnings. With multiple surveys done over time and covering many volcanoes, Griffin said there's a better chance of specialists being able to make accurate predictions. Griffin/ Kennedy Chemical Analysis Branch Chief: The information is still a little, from a volcanologist's standpoint, is still real tough to interpret because there's not enough data worldwide and history base to know for sure exactly what's going on. George Diller/NASA Public Affairs Officer: For as much work and progress Griffin's group has made, he considers the field very young, with lots of potential. Tim Griffin/ Kennedy Chemical Analysis Branch Chief: Well, hopefully, the long-term idea of this is that we would be able to help characterize the volcanoes better. And then as, if a volcano becomes more active, we'll be able to get a better idea of what's going on, how active it is, do we think it's going to be violent or maybe gases coming out.
George Diller/NASA Public Affairs Officer: Griffin's team still is working with the test unit and they expect

several more improvements before their ultimate goal is met.

Tim Griffin/ Kennedy Chemical Analysis Branch Chief: Well the ultimate goal is a ways away because we need to make some major groundbreaking technologies. But to be able to get this, to be able to field it, what would be a useful, very useful thing, we're only a few years away from that, maybe.