Because science can't wait

SUCCESS STORIES

Remote support

Going the distance with digital innovation

A new service and support tool uses augmented reality to help a remote lab in a time of crisis

The situation

There was no time to lose—in the immediate aftermath of a catastrophic event in East Africa in the summer of 2019, local authorities needed to quickly and accurately identify the victims to offer their families closure.

Thermo Fisher Scientific helped by providing tools and support to a local human identification (HID) lab for this disaster victim identification crisis.

The plan was to use an Applied Biosystems™ 3500 Genetic Analyzer to investigate the remains from the disaster site for DNA, in the HID lab, and then match that information to a family database of victim reference samples developed from family-donated personal items processed using an Applied Biosystems™ RapidHIT™ ID System. The Thermo Fisher Global Services and Support team traveled to the site to help with the installation of the instruments and with training on sample processing and considerations for kinship analysis.

3500 Genetic Analyzer

RapidHIT ID System

ThermoFisher SCIENTIFIC

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Field Application Support Scientist (HID)
Thermo Fisher Scientific

Tommy Van de Gehuchte

Territory Specialist (qPCR and Rapid DNA)
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> "Instead of flying somebody in and having to manage visas, costs, and time spent, we were lucky to have augmented-reality remote support to help."
>
> – Tommy Van de Gehuchte

It was a fast-moving and sensitive situation—building instant capability in a country without forensic expertise required multiple teams to work in parallel with each other. HID field application support scientist **Sarika Parmowtee** spent two weeks on site, training local technicians and scientists to collect samples and process them through the traditional capillary electrophoresis workflow with the 3500 instrument, as well as on the RapidHIT ID System.

Her work relied heavily on functional instrument and analysis software, and she depended on collaboration from Thermo Fisher Global Services and Support (both in-person and virtual remote support). Without this fast-acting collaboration, it would have been difficult to enable local scientists to identify human remains collected from the accident site and link them to the respective bereaved families.

The most groundbreaking aspect of this effort was the addition of the RapidHIT ID System. At the time the instrument was new to the Applied Biosystems™ portfolio, and the system sent to the lab was the first one installed on the African continent. But the advantages of the instrument promised to make the investigation much faster and more efficient: it requires limited bench space, is remarkably simple to use, and can provide results from samples in only 90 minutes.

Sheri Olson, director of market development for the Thermo Fisher human identification team, explains, "RapidHIT ID technology enhances the lab workflow by providing answers quickly for processing specific urgent or rush samples in a compact format that does not interfere with lab operations. RapidHIT ID technology uses the same chemistry forensics labs are familiar with; but with only one minute of hands-on time and 90 minutes to a result, it frees up valuable lab resources to spend time processing more complex disaster samples."

Once the instrument was installed, however, the team that was tasked with running the samples faced some connectivity and software challenges. What would usually be a simple matter of bringing in an experienced field service engineer (FSE) to assess the issues and get them up and running was now quite complicated. Geographical distance and the need for a quick resolution had become a barrier to accomplishing vital science.

The solution

Tommy Van de Gehuchte, territory specialist for qPCR and rapid DNA supporting field teams during complex cases, was contacted about this urgent matter, as he was responsible for this part of the world.

"Instead of flying somebody in to help, it seemed like a case for our augmented reality–enabled Smart Remote Support tool, which I've used successfully in Europe multiple times," he explains. "We were improvising—and that's the good part about Smart Remote Support: it's not our standard approach, but it's a tool that can be used creatively. In this case I was thinking, 'Okay, can it bring any value? Will it be useful to help them solve this challenge quickly?'"

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At that very moment, Van de Gehuchte was traveling through Germany on a high-speed train going 300 km per hour, and he decided to get a remote support session started by phone. Once he got home, he was able to use the tool to complete the session with an engineer end-user in Africa. By adjusting the augmented-reality image for the limited internet bandwidth, he enabled the engineer to download the app and use the tool.

"We set up a Smart Remote Support session. I showed him how to use the operating system and guided him with live digital annotations, so we could figure out what was happening," says Van de Gehuchte. As part of the session, the engineer then transferred screenshots from their live stream and log files that Van de Gehuchte was able to analyze to help quickly discover the issue.

The results

"In the end we were able to achieve a successful installation, which was really exciting," Van de Gehuchte explains. "They're now running the project. I heard that they were interested in acquiring a RapidHIT ID instrument, and the engineer said the remote support was 'an incredible tool' that he could use to help cover his large territory in the future. So in the end, instead of flying somebody in and having to manage visas, costs, and time spent, we were lucky to have augmented-reality remote support to help." Helping the lab in East Africa to get their RapidHIT ID instrument up and running wasn't just about its ability to quickly run samples—it was about helping to bring local families the answers they needed.

"As a service and support organization, we understand that instrument uptime is crucial for our customers to accomplish their missions. We are actively developing and deploying innovative tools to help expand access and minimize barriers to science," explains Jeff Journey, senior director of strategy, innovation, marketing, and sales for the Thermo Fisher Services and Support team. "We're delighted to see our digital service tools having a real impact on our customers and their local communities."

As RapidHIT ID technology continues to expand into places where access to field engineers may be limited or nonexistent, offering remote support promises to have an important impact on serving isolated communities.

Science can't wait on instrument downtime

Learn more about this and our other service and support tools at **thermofisher.com/innovations**.

Get more information about the RapidHIT ID System at **thermofisher.com/rapiddna**

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