Headquartered in the capital city of Riga, the Latvian Rural Support Service (RSS) is responsible for implementing European Union (EU) policy in the sectors of agriculture, forestry, fisheries, and rural development across the Eastern European country that is home to more than 2.2 million people.

One of the organization’s primary tasks is to oversee the EU’s Single Area Payment Scheme, a subsidy program designed to provide direct payments to farmers who cultivate crops and maintain farmland in an environmentally friendly way.

For the Latvian Rural Support Service, this means carefully and continually monitoring land parcels throughout the country, including identifying land borders and keeping track of precisely how much area is farmed on a parcel of land.

To do so, inspectors rely on GNSS technology to make on-the-spot checks (OTS) for claimant farms.

“We have been using Trimble® GeoExplorer® handhelds since 2003, and it simplified our data collection and management work,” said Edgar Bordāns from Rural Support Service. “This summer, we upgraded again, purchasing 35 of the new Trimble GeoExplorer 6000 series GeoXT™ handhelds, with a larger screen size, longer battery life, and built-in camera.”

The Trimble GeoXT 6000 series is a rugged GNSS handheld receiver with Trimble Floodlight™ technology for satellite shadow reduction that dramatically improves position availability and accuracy in difficult GNSS environments, which is particularly important for Latvian RSS inspectors.

“Forests are one of Latvia’s natural characteristics,” said Bordāns. “Agricultural area measurements are very often made in difficult GNSS conditions near and surrounded by trees, woods, bushes and other situations under canopy, and it’s important that we get accurate data even in these conditions.”

With the GeoXT handhelds, field inspectors can collect data quickly and easily in the field and achieve submeter accuracy with postprocessing.

“Farmers are getting financial support for agricultural activity, so it’s important for both the farmer and the EU to have very accurate measurements of the land that is being farmed,” said Bordāns. “At the same time, it’s important to us to have technology that is easy to learn and use and is reliable and durable in the field. The GeoXT handheld meets all of these requirements.”

Each field inspector has a Trimble GeoXT 6000 series handheld, loaded with Esri® Shapefiles, reference parcel data from the Land Parcel Identification System (LPIS), and land property boundary data (cadastre). Once they reach the farm in question, the field inspectors record the GNSS position, area, perimeter, shape, and size of the different agricultural crops. As they move through the forms loaded on the handheld, they record attributes such as parcel number, crop type, and remarks as necessary.
Using the Trimble GeoXT 6000 series handheld’s built-in camera, the field inspectors can also add photos of ineligible features like roads, trees, ponds, ditches, bushes, and other land features that are excluded from the agricultural footprint of the parcel. Once the field measurements and data collection are complete, the field crew proceeds to the next location on the list of that day’s assignments.

Back in the office, postprocessing is done using Trimble GPS Pathfinder® Office software, Trimble’s easy-to-use software package of GNSS postprocessing tools designed to develop GIS information that is consistent, reliable and accurate from GNSS data collected in the field.

Using the differential correction system available from LAPTOPS—the GNSS reference station service provider in Latvia— the inspectors are able to achieve submeter positioning accuracy. Once the data is postprocessed, it is checked for data quality and then transferred to the organization’s Agricultural Area Register GIS (AARGIS), and at the same time, the updated Shapefiles are uploaded to the GIS.

“The entire system is streamlined and easy to use, which saves us time both in the office and in the field,” said Bordāns. “With the GeoXT handheld, we can gather data faster, with greater accuracy than ever before, and we have the peace of mind knowing we’re working with reliable equipment that provides precise measurements.”

One of the other benefits Bordāns and the rest of the RSS team are seeing from the Trimble GeoXT 6000 series handheld include the new sunlight optimized display that makes it easier to use the handheld in outdoor conditions, even in bright sunlight.

“The new GeoXT handheld is incredibly fast with a strong signal and works better than any other handheld I’ve tried both in bright sunlight and under tree cover,” said Bordāns. “There’s no question this new handheld is saving us time and money, while also making our work more efficient and more accurate. We can’t wait to find more ways to implement it into other parts of our workflow.”