

LEO Satellites in Action:

Revolutionizing Agriculture with Precision Technology

Digital technologies and broadband are revolutionizing farming and agricultural practices — from connected sensors that monitor crop yields, microclimates, storage facilities or livestock to precision seeding and autonomous vehicles, advanced technologies make farming more efficient, leading to greater yields, increasing competition in the global marketplace and decreasing food scarcity. But these [promising advances are being held back by insufficient rural broadband access](#).

Low Earth orbit (LEO) satellites will provide fast, reliable broadband to rural areas that are underserved by other technologies and enable connectivity across even expansive lands and large properties. [LEO satellites will empower farmers and producers with the modern connectivity they need to thrive](#).

Case Study / LEO Satellites in Action:

In rural regions, LEO satellites' impact on [agricultural efficiencies](#) is helping change the game in farming. [Jacquelyne Leffler](#), who runs Leffler Farms in rural Kansas, said that before LEO technology was "faster for me to download our farm data to a flash drive and mail it... Starlink has been incredible in helping us stay connected to the world - even if we are rural."



A Connectivity Drought

- Digital technologies are empowering farmers to implement more efficient, more profitable, more sustainable and safer practices. As one farmer [told](#) a journalist, in agriculture, "everything is moving to the cloud, and you need internet access for that."
- In many countries across Africa, less than 40 percent of farming households have internet access, and [research](#) shows that these disconnected areas are likely to have croplands with low yields and food-insecure populations.
- In the U.S., a 2023 USDA [report](#) found that 15 percent of farms still lack any internet access, and only 51 percent of farms with internet have broadband connections — even though an analysis from the [USDA](#) shows that realizing the full potential of precision agriculture, digital technologies and rural broadband would increase the value of U.S. farming and production by an additional \$47–65 billion annually.

Enabling Advanced Farm Management and Efficiency

- LEO satellites create a fast, affordable connectivity option in rural areas where it has been economically unfeasible or geographically impossible to extend other broadband technologies.
- LEO broadband can be accessed on small, family farms and across even vast, commercial farm lands, helping bring important efficiencies to local crop lands and enable the use of [autonomous machinery](#) and equipment — no matter the size or location.
- LEO satellite constellations can provide especially clear and accurate [location data](#) that is less susceptible to interference. This can help large-scale farmers and ranchers quickly and accurately track equipment or livestock, even in hard-to-reach areas.