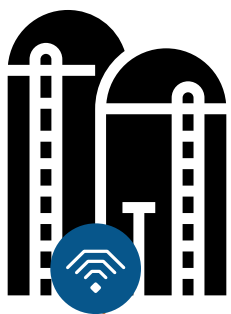


TELESENSE BUILDS ADVANCED WIRELESS GRAIN MONITORING SYSTEM WITH IOT



Executive summary

TeleSense is transforming how grain operators measure and monitor stored grains with the Internet of Things. With the Particle IoT platform, TeleSense has built a range of cellular-enabled grain monitoring devices that enable farmers to predict spoilage before it happens with actionable alerts that are sent straight to a smartphone or laptop through the TeleSense cloud-based app. With these grain storage monitoring devices, TeleSense is leading the post-harvest data revolution by making grain storage profitable again for operators around the world.



24/7

Real-time monitoring

TeleSense notifies operators immediately if grain starts to spoil.

Millions

of bushels monitored

TeleSense is making it easy for operators to monitor bushels easily.

100%

Wireless management

Operators can manage their grain operations with the TeleSense app.



Temperature



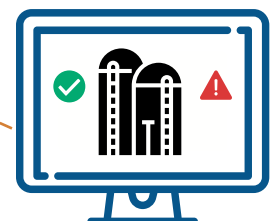
Usage



Power



Mechanics



Monitoring

The challenge

Monitoring grain storage takes a lot of time and resources. Even when using storage solutions with temperature cables, grain operators typically have to physically inspect each grain storage site to ensure everything is fine, which can take all day when they are spread out across a site.

The challenge (continued)

TeleSense wanted to build a smart solution that would allow grain operators to monitor grain storage sites without having to physically inspect each one. Specifically, they wanted to build a wireless device that could help them do this, but they had trouble finding the right cellular connectivity hardware that could work for them.

Particle enables the path to scale

After much research, TeleSense partnered with Particle because they provided everything TeleSense would need to build a connected product at scale.

With the Particle IoT platform, TeleSense had all the connectivity hardware, software tools, and network infrastructure they needed to manage a reliable and scalable wireless grain monitoring solution at scale.



Particle E Series

When TeleSense started building, they used the Particle E Series, which allowed them to connect their devices to the Internet over LTE. The E Series took care of the cellular connectivity for them, which allowed them to focus on their product and less on cellular reliability. And with Particle's development tools, TeleSense could easily reprogram their devices to monitor certain variables such as temperature and humidity. And with the Particle Device Cloud, TeleSense could manage all their wireless devices from a central interface and ensure reliability for all their customers.

The solution – wireless grain monitoring sensors

TeleSense has developed an advanced suite of wireless sensors that allows operators to monitor grain anywhere, such as in ground piles, grain bags, far-away remote storage sites, transport barges, and trailers. For instance, one of the products they have developed is a cellular spear that can be used to monitor large piles of corn, wheat, hay, barley, and more. They have also developed TeleSense SensorBalls that are effective for monitoring grain used in ground piles, silos, and elevators.

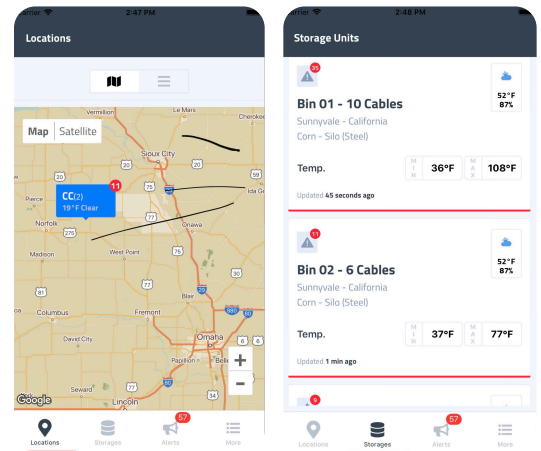


TeleSense SensorSpear

TELESENSE CASE STUDY

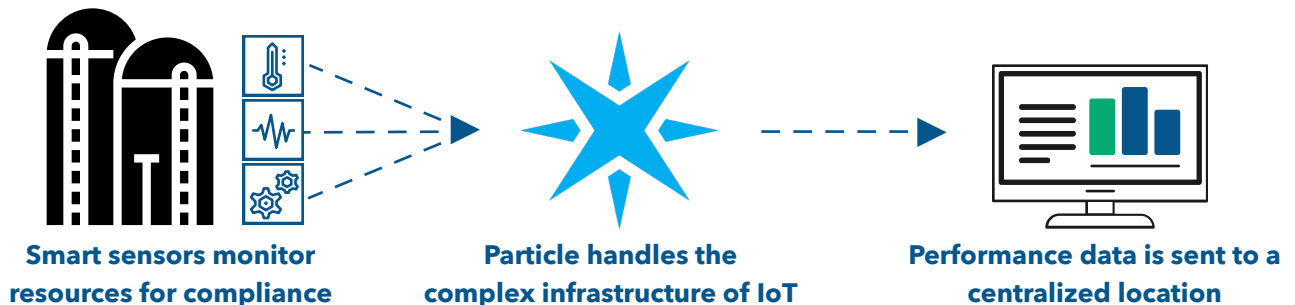
TeleSense build a wireless grain monitoring command center

Customers can easily access detailed information about their grain operations through the TeleSense mobile app. TeleSense's dashboards enable customers to monitor essential operations, such as temperature and humidity, with ease. The app even has map views so customers can view storage and environmental conditions at each location. Customers can also zoom-in on individual sensors and examine their entire history for issues and irregularities.



TeleSense and Particle exceed expectations

For Particle and TeleSense, this IoT project has proven immensely successful. The building process was simplified by Particle's handling of the complex IoT infrastructure, which enabled TeleSense to focus on providing a great product and service.



Particle has helped many companies like Jacuzzi, Watsco, and Opti to build smart solutions that increase visibility and improve compliance. As a trusted partner, Particle can help you manage your smart solutions to significantly improve your service and customer experiences.

Contact Particle

If you are looking to build profitable IoT solutions, consult our team of experts at [Particle.io/sales](https://particle.io/sales).



Particle Store

Start your IoT journey by checking out our industrial hardware on the [Particle Store](https://particle.io/store).