Precision farming improves accuracy in agriculture by introducing smart agricultural practices and advanced techniques. John Deere is providing guidance system solution which has higher accuracy in navigation positioning. StarFire™ is a navigation system network from John Deere which is used for various positioning applications.

The StarFire6000 receiver web-interface have RTK configuration settings which includes RTK radio settings. A database management is created for RTK base user management. For handling Rover Access List (RAL) of RTK base, it is easier and simpler via web-interface. Additionally, diagnostic options were included in the web-interface. Since, ionospheric activity influences GNSS signal propagation speed and have severe impact on GNSS positioning, a concept of estimation of Total Electron Content (TEC) was implemented. TEC values are calculated out of raw measurements (GPS L1, L2 frequencies and Pseudorange differences) from GNSS receiver. The estimated values are shown in the web-interface for better management.

A remote access setup for StarFire6000 receiver was made via John Deere mobile RTK modem (M-RTK uses cellular network for RTK correction signals) 4G LTE. Now, it is possible to have RTK base Remote access and make configuration changes.