

EGNOS for smart irrigation in agriculture with Proxima Systems' devices

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Figure 1: Smart agriculture irrigation equipment using a Proxima Systems' EGNOS-enabled controller / Credits: Proxima Systems

Global Navigation Satellite Systems (GNSS) are nowadays the key positioning technology in the smart irrigation sector, having replaced former methods of estimating position information, which were based on mechanical switches, resolvers and encoders. Farmers currently employ GNSS-based control systems for both linear irrigation machines and centre pivots due to their high performance and ease of operation. In this context, [Proxima Systems](#) is a Spanish enterprise that has contributed to the development and adoption of smart irrigation solutions, among both industry and farmers for many years. Proxima Systems' products, based on sensors, controllers and programming devices, make use of [EGNOS](#) to enable the automation and remote control of irrigation systems, allowing farmers to enhance their yields while saving costs.

Proxima System's [iControl Remote](#) is an easy installation system to control centre pivots remotely, by means of a web browser, so farmers can monitor and command in real time their irrigation equipment with a computer, laptop, tablet or smartphone. iControl Remote includes an EGNOS enabled GNSS receiver, facilitating the performance of variable rate irrigation, i.e. the application of different amounts of water per sector,

depending on specific soil's or crop's needs. Emiliano Muñoz, CEO of Proxima Systems, explains that they "discovered EGNOS in 2018, while studying the documentation of a new u-blox GNSS receiver intended to be integrated in the second version of iControl Remote, and realised that it could improve the position accuracy and, therefore, general performance of the product".

EGNOS is an efficient technology for smart agriculture irrigation, as its satellites provide correction messages that improve GNSS accuracy anywhere in Europe at no cost and without the need of any additional ground infrastructure. The technical and economical suitability of EGNOS for Proxima Systems is confirmed by Emiliano, asserting that "EGNOS allows us to increase the positioning accuracy of the irrigation systems, without needing to invest in more complex solutions". Furthermore, "a better positioning means an optimized irrigation, allowing farmers to obtain higher yields while reducing the water consumption", highlights Emiliano. Thus, the use of EGNOS for smart irrigation is beneficial not only in terms of cost efficiency but also from the environmental point of view, contributing to a more [sustainable agriculture](#).