Innovation lump sum

Project #70

Project Partner: Fernando Sarría Agrotechnologies
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~ Innovative smart sensor technology for ecient water management ~

HYDROBALL, developed by Fernando Sarría Agrotechnologies S.L. with support from the CircInWater program, is an innovative solution that integrates advanced soil sensors and a digital platform to enhance water management in agriculture. It addresses persistent inefficiencies in irrigation that lead to significant environmental and economic losses. By providing data-driven insights, HYDROBALL helps farmers optimize resource use, boost productivity, and reduce over-irrigation.

The system includes probes that measure volumetric water content, tension, temperature, and electrical conductivity. This data is visualized through the ZERO platform, which generates automated weekly prescriptive reports to simplify decision-making. The design is durable, energy-efficient, and suitable for small and medium-sized farms.

With CircInWater's support, HYDROBALL achieved key technological milestones: a 200% increase in wireless communication range, over 30% battery efficiency improvement, and dynamic soil suction curve generation to classify soil texture and refine irrigation strategies. The system also features remote irrigation control via solenoid valves and sends real-time alerts when soil conditions deviate from optimal levels.
Field trials and partnerships, such as with Grupo AN, validated HYDROBALL's performance under real conditions. Feedback led to hardware and software enhancements and streamlined installation protocols. Results showed up to 30% water savings and improved crop health.

HYDROBALL's presence at events like Expo Agritech boosted its visibility, attracting interest from over 100 potential clients. Communication efforts through blogs, social media, and forums helped highlight its sustainability impact.
Future plans include expanding to water-stressed regions, integrating AI for advanced analytics, and adding nutrient sensing capabilities. Miniaturization of probes will widen its applicability. Backed by a strong commercialization strategy, HYDROBALL is poised to lead the next generation of precision agriculture solutions.

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