



AgroW Smart

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CDAC





AgroW Smart™ Digital

Globally businesses and lifestyles are constantly evolving creating unprecedented demands in terms of digital experiences, cutting-edge products/services, and world-class connectivity. Several industries are embracing 5G ecosystem solutions to address their own set of unique needs/issues. Agriculture, one of the oldest industries globally and in India has the right opportunity to embrace digital ecosystem solutions.

While agriculture globally and in India market still has a long way to go in terms of technology adoption, the lack of such adoption today presents challenges that result in lower yield, higher cost of yield, and non-viable time to market of the produce.

Key challenges faced by the agriculture industry in India are showcased in the Illustration 1.

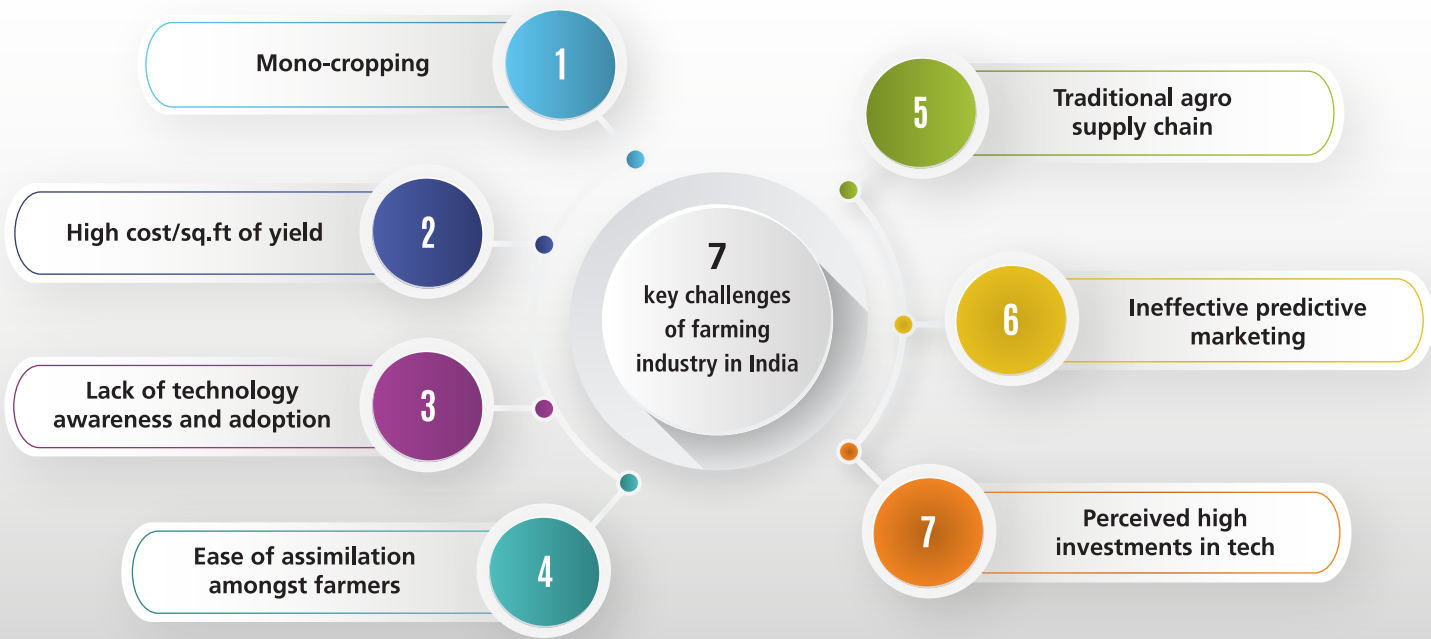


Illustration 1. Key Challenges in Agriculture Industry

AgroW Smart™ Digital



Research gave us insights that farmers in India predominantly continue to use traditional methods of farming, which presents low yields and higher operating expenditure in terms of power and water usage. At L&T Smart World and Communication we saw an opportunity to enhance technology adoption in one of the oldest industries of our country, and thereby unlock a larger business value for our farmers. Thus, L&T Smart World and Communications has conceptualized a smart agriculture solution called AgroW Smart™ and brought it to life along with our partners Airtel & C-DAC.

AgroW Smart™ is a high-quality, cost-effective, multi-tenant, cloud-based, Airtel 5G technology-enabled, accessible, and affordable solution for our farmers offered on subscription bases.

AgroW Smart™ tracks 8 key attributes related to smart farming through digitization and digitalization techniques as described in Illustration 2.

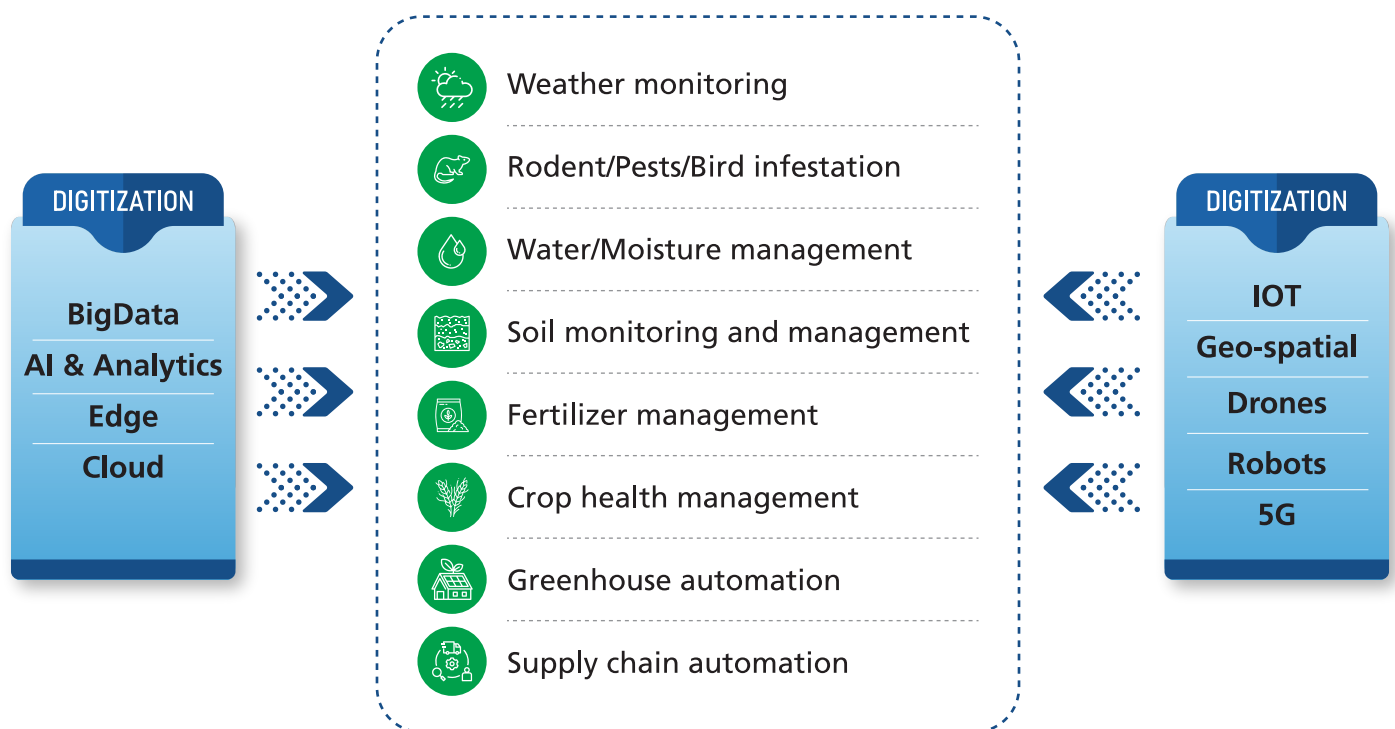


Illustration 2. Eight key attributes related to smart farming that AgroW Smart™ tracks



AgroW Smart™

as an Accessible and Affordable solution



Affordability:

The following business model and architectural considerations have helped shape AgroW Smart™ as an affordable and accessible solution for our farmers.

Key tenets of Affordability:

L&T Smart World and Communication have enabled a multi-tenant, cloud-based solution that makes this solution highly cost-effective.

AgroW Smart™ also has a high-quality, indigenous cost-effective controller that is provided by C-DAC to enable the solution. And uses high-quality sensors.

Key tenets of Accessibility:

AgroW Smart™ Will leverage Airtel's pan India's 5G network to be available for our farmers. This ensures a highly accessible and stable network for the solution.

L&T Smart World and Communication have also developed a simple yet intuitive mobile app that gives the farmer visibility to real-time parameters of his farm right at his palm, making AgroW Smart™ an accessible solution for farmers by helping them in the following ways:

- Improve their yield.
- Reduce their cost-to-yield
- Improve time to market of produce
- Improve quality of produce

The app is accessible in English and other vernacular languages.

Illustration 3 describes the key tenets of AgroW Smart™ and the business outcomes that it can enable.

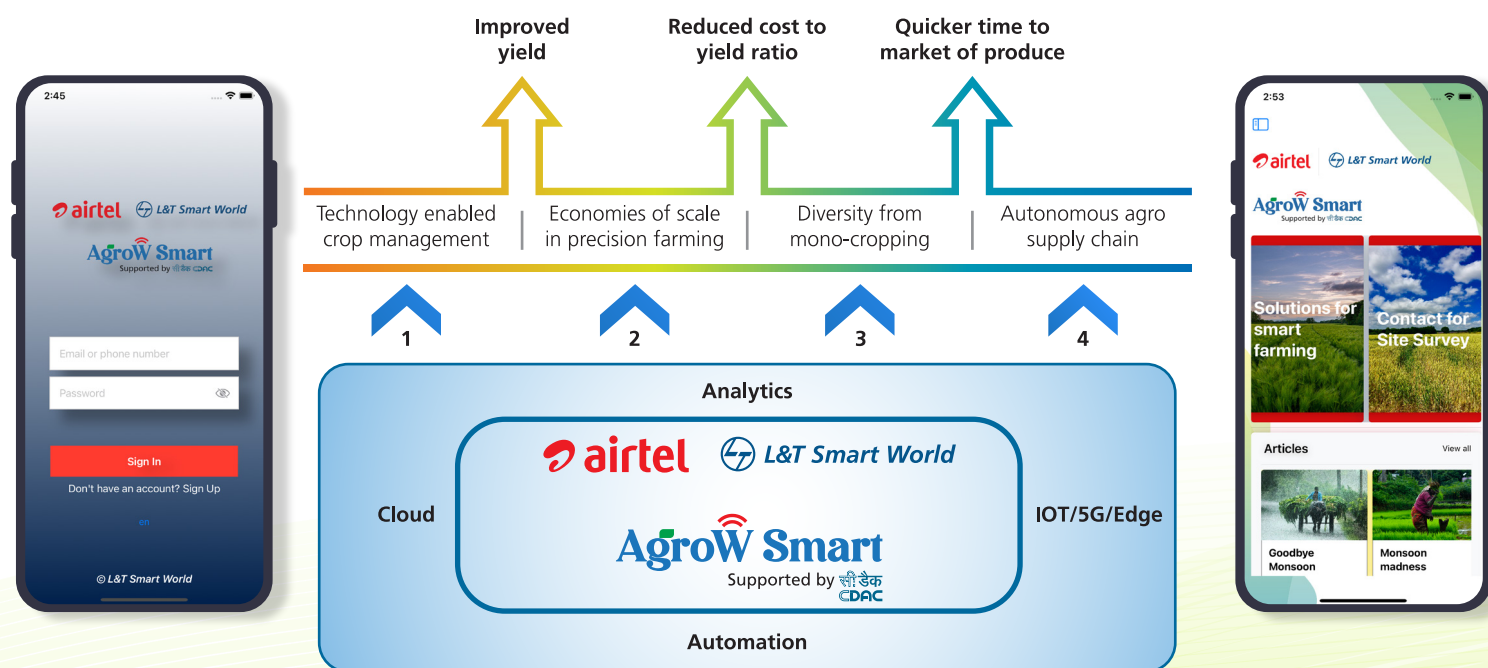


Illustration 3. Three key tenets of AgroW Smart™ and its business outcomes

Technology Architecture:

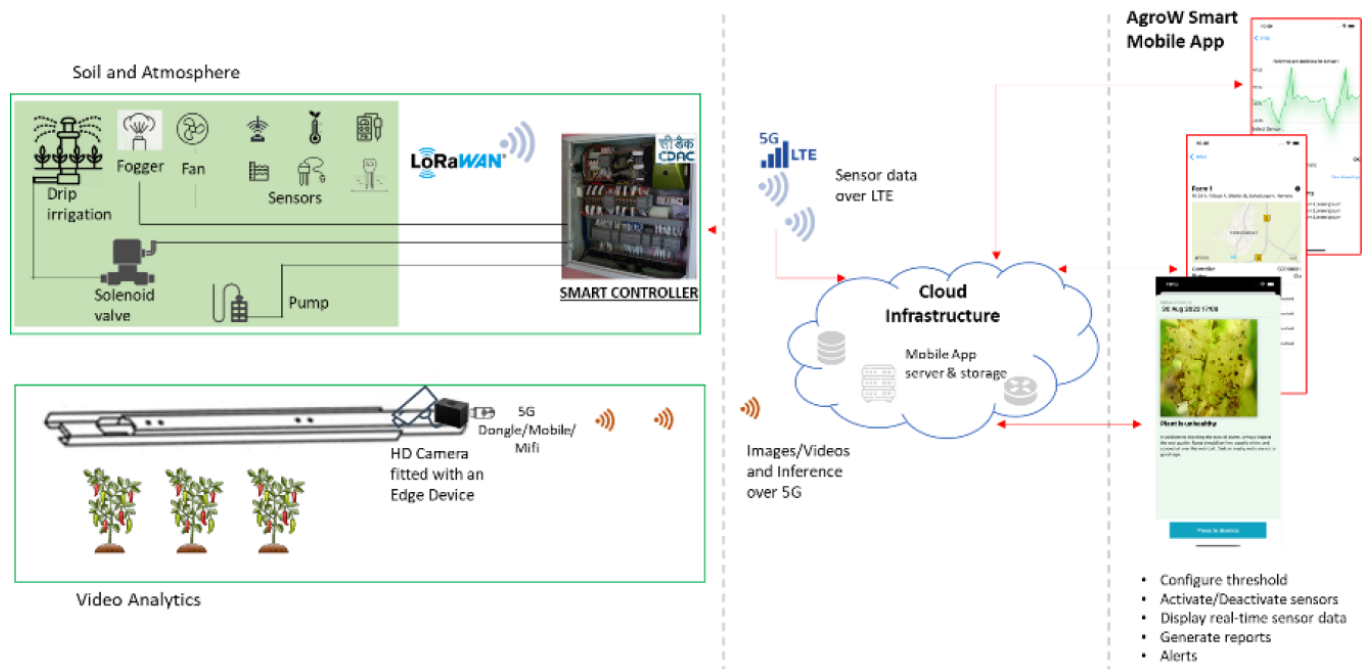


Illustration 4. Technology Architecture of AgroW Smart™

The above Illustration 4 depicts the technology architecture of AgroW Smart™ solution. Where The sensors collect continuous values (soil temperature, soil moisture, leaf temperature, atmospheric temperature, and atmospheric humidity) on a milli-seconds basis and communicate to the controller. This in turn triggers an automated action (ON/OFF) for drip irrigation, foggers, and fans as soon as the value of any parameter breaches the threshold set by the farmer. The controller displays the real-time values of the sensors that are transmitted to the cloud server through Airtel 5G network and stored in the database.

The AgroW Smart™ mobile app calls the sensor's information from the cloud server and provides an intuitive interface to display it to the farmer in real-time. It sends a notification to the farmer in case of an automated action is taken by the controller (e.g., switching on/off the drip irrigation). The mobile app also enables the farmer to view reports on historical data and plan required actions accordingly. This app also enables the farmers to operate the controller i.e. manual mode and configure the mode

of operations (Manual/Automatic). In the manual mode of operations, the farmer can activate/deactivate any sensor through the mobile app and configure the threshold values for connected sensors.

The AgroW Smart™ mobile app provides a notification along with images of the crop to the farmer as soon as it detects an unhealthy plant and recommends the required action to monitor the crop health using a moveable HD camera connected through an edge device at the farm for the farmer.

We believe AgroW Smart™ can revolutionize the way smart farming is made accessible and affordable for farmers throughout the country. The close partnership of L&T Smart World and Communication, Airtel 5G, and C-DAC will empower and enrich the expertise across horizons to make AgroW Smart™ a high-quality, cost-effective indigenous solution, that aligns to 'Make in India' objectives.





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