FARMING IN A CONNECTED WORLD

Today telecom service providers are looking for new and innovative ways to earn revenues. Smart Farming is one such opportunity which is creating new services to improve production and farming practices. Dairy, livestock, viticulture, precision agriculture and farm equipment monitoring present an attractive value proposition for IoT enabled farming services for both telecommunication companies and the farming industry.

Challenges in the wine industry

Variability in climate and uncertainty of irrigation has affected the viability of some large wine grape production regions across the globe. The economic impact caused by pests and crop diseases is another significant challenge faced by the industry. The annual cost of worldwide crop loss due to plant disease is estimated at $60 billion USD, whilst in Australia, the impact of pests & diseases to the Australian Wine industry is estimated at $251 million AUD.

Sustainable and precision viticulture are **influencing consumer purchase motivation and ultimately the growing practices**. Regulatory compliances for supplying to the international markets adds to the growing complexity in this industry.

IoT can help address these challenges by connecting the farms, making them **intelligent to sense and communicate climatic, environmental and other operational practices** and risks. Some

of the crucial areas of viticulture where IoT can make a difference include the following:

- Irrigation Management and Control
- Crop Input Management and Control
- Diseases and Pests: Infection Risk Monitoring and Management
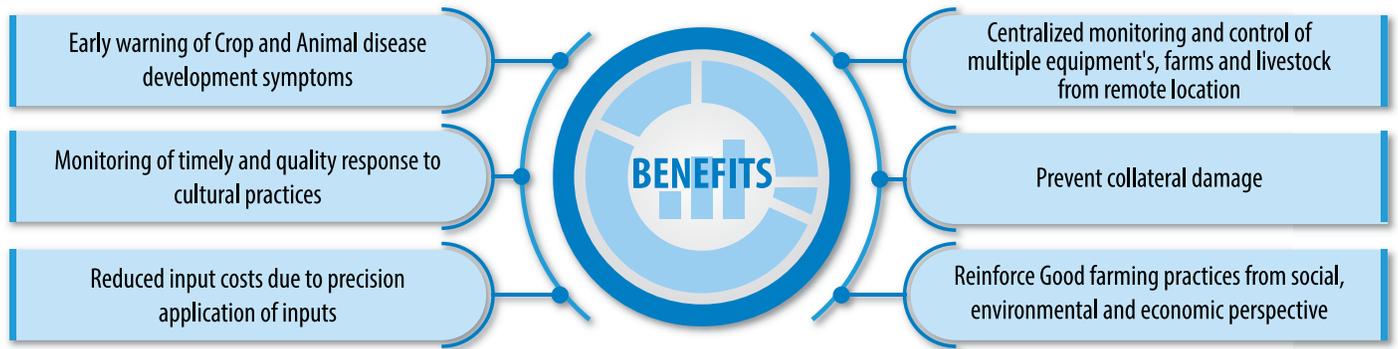- Wine Quality Monitoring
- Soil and Sub-Soil Monitoring

Smart Farming – Speaking Vineyard solution

'Speaking Vineyard' is essentially about monitoring and predicting the risk of grape crop diseases. To begin with we have developed the concept for Downy Mildew disease which is one of the top three diseases causing significant economic impact. By equipping the vineyard with sensors to monitor important parameters like ambient temperature, wind speed, relative humidity, leaf wetness, soil moisture and rainfall etc, the early warning system can sense and communicate the disease risk on an hourly basis. It provides necessary **insights to various stakeholders of viticulture**. This includes insights centered on farm economics and commercial produce in case the risk manifests into the disease. Other insights include essential components for strategic management of Downy Mildew, prediction of infection based on weather events, monitoring the vineyard for symptoms of infection, predicting the disease cycle, and can be integrated with the know-how of cultural management practices and available fungicides impact on disease control.

We are working on the concept to offer a fully integrated platform solution to the viticulture industry. The idea is to incorporate all aspects of vineyard management in a cost effective manner by providing flexibility in how data is captured to provide insights to growers

BENEFITS

- Early warning of Crop and Animal disease development symptoms
- Monitoring of timely and quality response to cultural practices
- Reduced input costs due to precision application of inputs
- Centralized monitoring and control of multiple equipment's, farms and livestock from remote location
- Prevent collateral damage
- Reinforce Good farming practices from social, environmental and economic perspective

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