Project Design Phase-I
Proposed Solution

Date	11 October 2022
Team ID	PNT2022TMID29629
Project Name	Project - Estimate the crop yield using Data Analytics
Maximum Marks	4 Marks

S.No.	Parameter	Description
1.	**Problem Statement (Problem to be solved)**	**CROP YIELD PREDICTION ANALYSIS:** Soil quality analysis to achieve high crop yield throughout technology solution. To increase quality and yields, it is crucial to understand the current nutrient levels of the soil. Analyze pH to check for soil acidity and alkalinity, Conductivity to determine optimized fertilizer usage as well as Sodium, Potassium, Nitrate and Calcium levels. Fertilizer manufactures understand the importance of particle size. It directlyaffects certain aspects including release rates, fertilizer potency and also hazardous dust generation. To ensure quality and consistency, a minimum frequency of measurements must be made and our Particle Analyzers are ideal for this task.
2.	**Idea/Solution description**	**ICP-OES and LaquaTwin** ICP-OES is an analytical technique that is widely utilized throughout the agricultural industry and within research and development institutions. It is an ideal agriculture analysis technique to determine major and minor elements in soils and plants as well as detecting heavy metal contents. Our Ultimate has been used in many crop science institutions to undertake such important content detection.

3.	**Novelty/Uniqueness**	**How ICP-OES is used:** • Drinking water quality and safety • Soil analysis • Environmental impact assessments • Food safety • Pharmaceutical analysisLquaTwin • Detection systems used with ICP-OES.
4.	**Social Impact/Customer satisfaction**	The main objectives of this technique in prediction of crop-yield which can be extremely useful to farmers in planning for harvest and sale of grain harvest. Increasing crop yields is a high priority for growers.
5.	**Business Model (RevenueModel)**	The introduction of technology into the agricultural sector has led to a major rise in productivity. Technology improvements have made new concepts like precision agriculture and have observed and analyzed the several crops that are grown, as well as their area and production rates in various states and Districts.
6.	**Scalability of the Solution**	• Production rate averaging seasons. • Experience a rise in productivity. • Yield average in seasons. • Boots the crop productivity.