Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	17 October 2022
Team ID	PNT2022TMID20275
Project Name	Estimate the crop yield using data analytics
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Data Exploration	Be able to execute user –friendly queries across diverse and distributed datasets of different types and store their results. Desired subsets of whole datasets can be saved & used in latter data analytics.
FR-4	Data Management	Access to parcel-specific soil data, crop parameters, crop calendars, historical weather archives, regional statistics & historic yield data (parcel-specific N/A but desired) in order to correlate them to conduct analysis and feed them to crop models.
FR-5	Data Storage	A private cloud storage is required with fine-grained access control. Encryption of data on the private cloud storage.
FR-6	Data Process	Be able to manage the resources being used by the experiments [e.g. Workflow management dashboard (edit, pause, delete, view consumed sources)] in order to be aware and be able to manage resources used respectively to the workload of each task.

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Generic and intuitive interfaces providing interpretable data. The various data types should be queried via a single interface. Visualisation interfaces should present data in multiple common formats. Well documented to assist in the reduction of system ambiguity and entropy, and to allow for system extensibility, component, replacement, user

		training etc.
NFR-2	**Security**	Compliant with legislative and regulatory requirements. Compliant with enterprise security policies.
NFR-3	**Reliability**	Intolerant of data and event loss. Recovery of persisted data is necessary. Speed of system recovery from faults and the resumption of the functions is important.
NFR-4	**Performance**	Typically, this is in the order of 10s of Gigabytes per day.
NFR-5	**Availability**	Data acquisition, storage systems, and event processing and reporting should have the highest guarantees for availability.
NFR-6	**Scalability**	The system should scale to accommodate geographically dispersed sources/sinks.