Project Design Phase Solution Architecture

Date	23 March 2025
Team ID	PNT2025TMID06680
Project Name	Global Food Production Trends and Analysis A
	Comprehensive Study from 1961 to
	2023 Using Power BI
Maximum Marks	4 Marks

Solution Architecture:

The solution architecture for **Global Food Production Trends and Analysis** integrates historical and real-time data from sources like FAO, IoT sensors, and weather APIs. Data is ingested, cleaned, and processed using AI/ML models for predictive analytics and anomaly detection. Power BI dashboards provide dynamic visualizations, enabling researchers, policymakers, and agribusinesses to make data-driven decisions.

Example - Solution Architecture Diagram:

Power BI-based Plant Growth Prediction System Architecture A DATA SOURCES DATA STORAGE DATA PROCESSING SQL Historical Azure SQL Google Growth Data Power Query DAX Dataset Calculations Environmental Data CSV Files ANALYTICS & VISUALIZATION USER INTERACTION 0 Data **Farmers** Analysts Agritech Researchers Power BI Power BI Dashboards 0 0 Pest and Reports Agricultural Farm Managers Extension Decomposition

Figure 1: Architecture and data flow of the voice patient diary sample application