Microsoft

FarmBeats – Microsoft Digital Agriculture Platform

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Need for Digital Transformation

Rising demand for food

- Growing population (9.7B by 2050)
- Expanding global middle class

Climate uncertainties

- Increasing rainfall variability
- Increasing yield volatility

Unfavorable economics

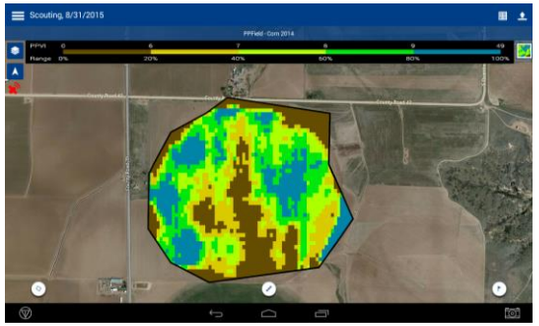
- Farm incomes dropping
- Fluctuating crop prices

Source: Farmers Business Network: The Voice of the Farmer, United Nations projections, FAO 2016 "Climate Change and Food Security"

Industry Response

Connected Farms

Data collection with sensor deployments, drone flights, and farm equipment



AI-based Advisory

Real-time, actionable insights based on the ground conditions combined with remote sensing and weather patterns

Precision Farming

Irrigation, Fertilizing, Weeding and Spraying applications

Traceability

Use of blockchain to track usage & compliance

Key Challenges

Sensors & IoT

- Internet connectivity at farms
- Sensor standardization, cost, and placement algorithm

Geospatial Data

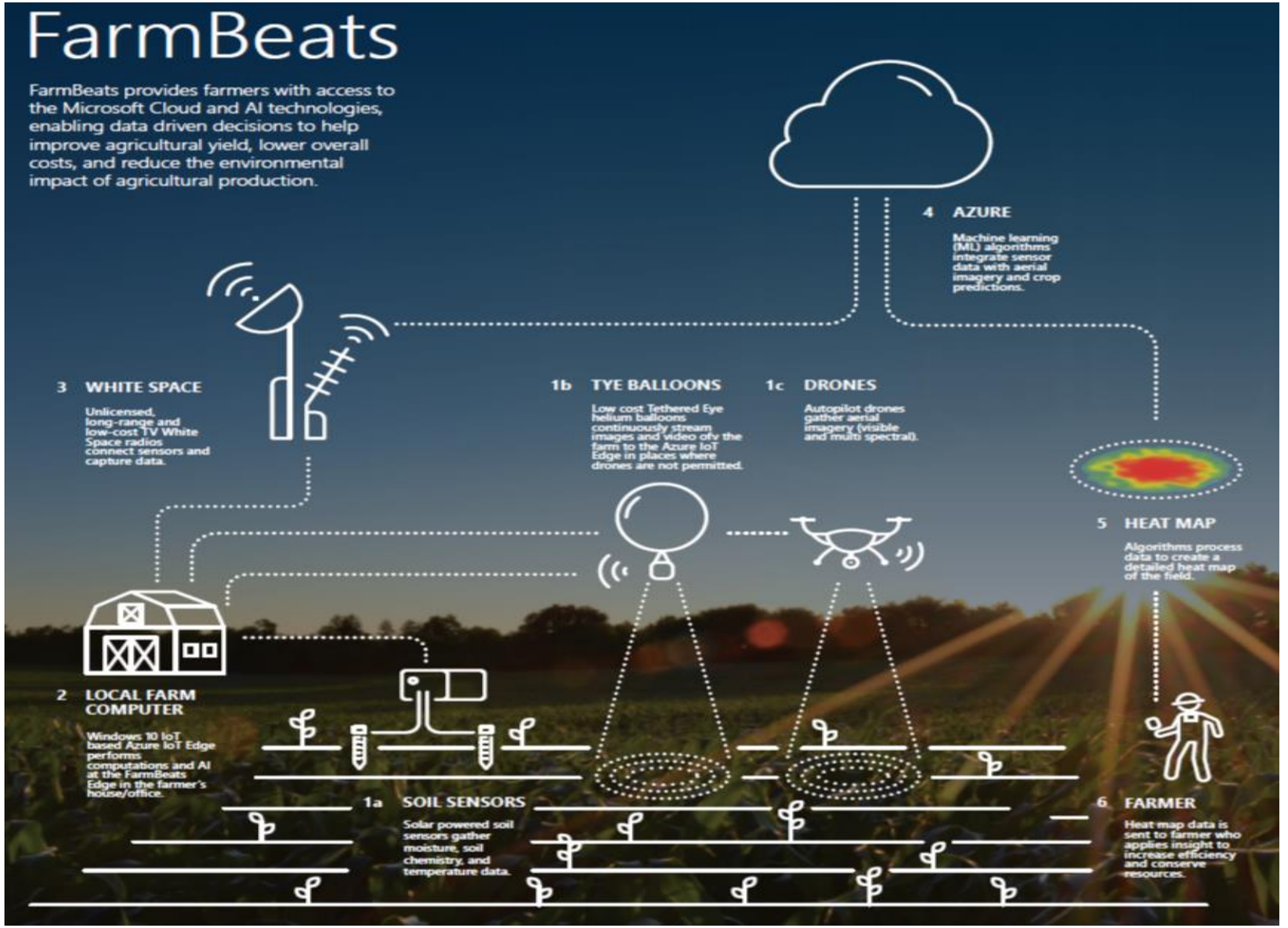
- At-scale ingestion of satellite, weather, and sensor data
- Efficient processing of varied datasets for actionable insights
- Availability of basic AI/ML models to jumpstart building differentiated models

Infrastructure

- At-scale processing for plant genome analysis
- Accelerators to build traceability & verification in food supply chain


Satellite Data
Weather Data
Microsoft Digital Agriculture Platform
INSIGHTS + ADVISORY
Farm Sensors
Phone Captures
Drone Imagery
Mobile Messages
Smart Equipment
Supply Chain
Insurance & Schemes

Microsoft Research - FarmBeats



Source : FarmBeats – Ranveer Chandra

Thank You