



California Agriculture and Food Board “Big Data” in Agriculture

Lance A Donny
Founder & CEO

Agenda

- Introduction to OnFarm
- Defining Big Data, IoT, and Analytics
- What does Big Data mean to agriculture?
- Issues and opportunities
 - Data privacy
 - Standards
- How OnFarm works
- Use case
- Q&A

About OnFarm

Cloud based agriculture management software that enables near plug-n-play adoption of hardware and data solutions from industry leading companies to help farmers make better decisions.

- Founded 2012
- Fresno based, team of 8
- First Internet of Things Platform for Ag
- VC backed
- IBM North American Entrepreneur of the Year





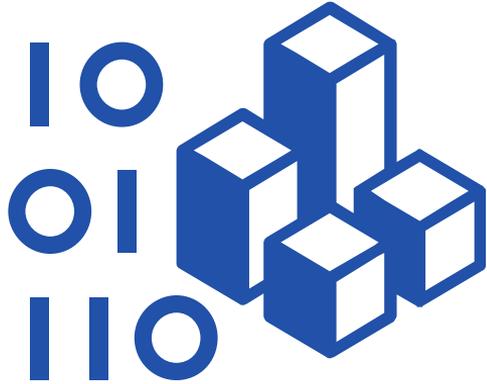
By **2050**
9 Billion people



100%
more food, and



70%
will be from
technology



IoT, Big Data, and Analytics in Agriculture

Big Data

Variety

- Sensors
- Reports
- Images
- Equipment
- Meters
- Forecasts
- Pricing
- Location
- People

Velocity

- Batch
- Monthly
- Weekly
- Daily
- Hourly
- Near Real Time
- Real Time

Volume

- Sensors
- Equipment
- Pumps
- Meters
- People
- Satellites
- Drones
- Forecasts



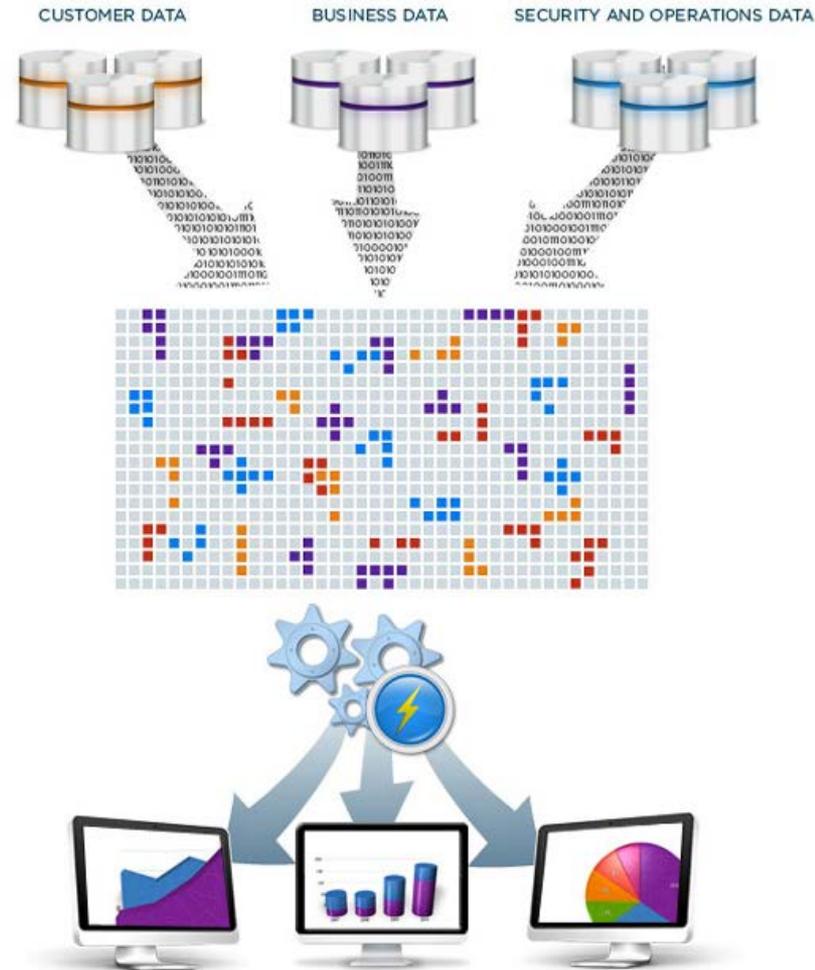
Internet of Things (IoT)

- Devices that communicate their readings, status, or events via the internet.
- Common examples
 - Nest
 - Smart Meters
 - Vehicle tracking



Analytics

- How we Build
 - Insight
 - Predictions
 - Recommendations
 - Models
- Requires
 - Modern technologies
 - Higher/new skill sets



Issues and Opportunities

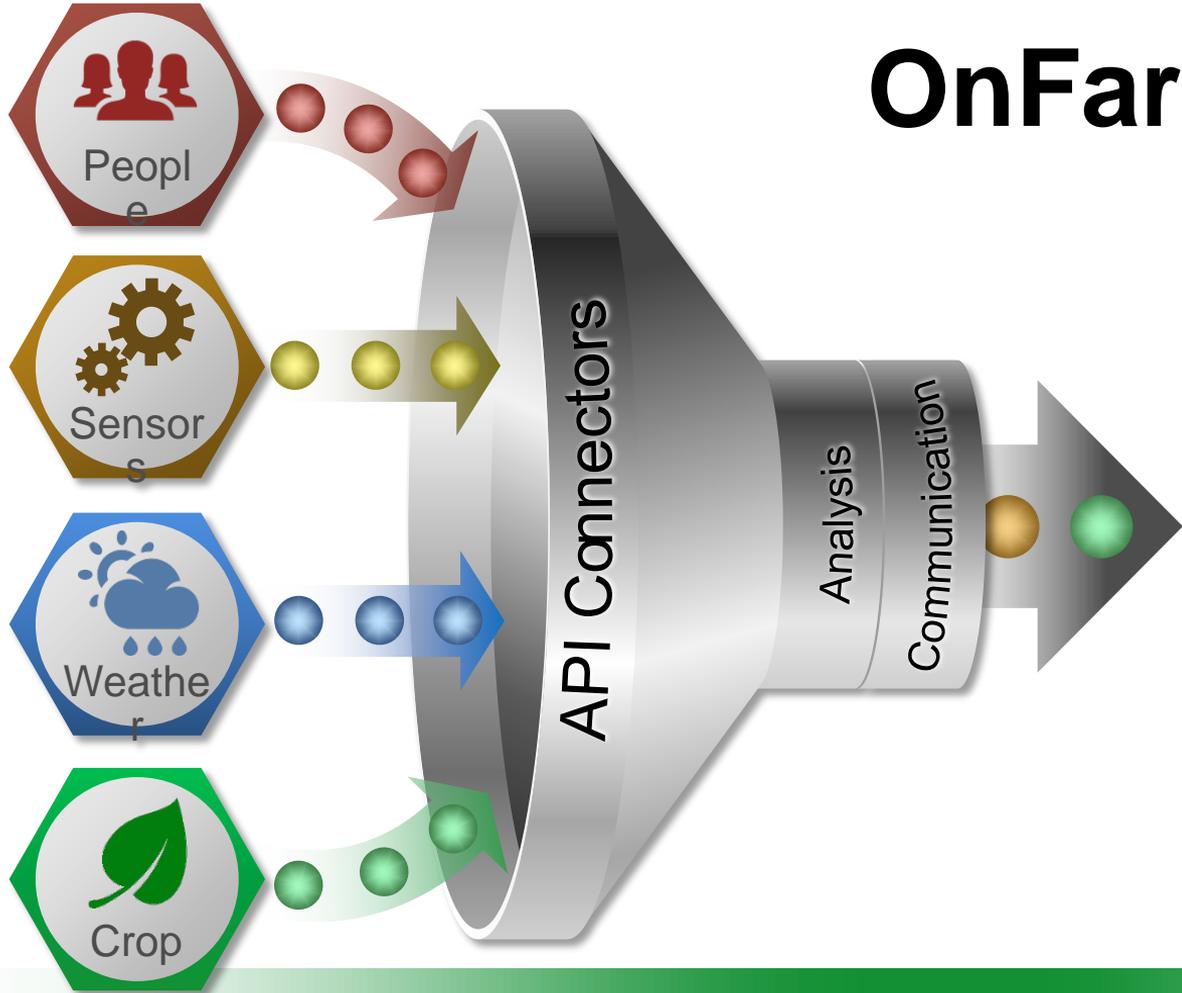
- Data Standards

- No standard today
- Makes data use/cooperation a challenge
- There are groups working on it (AgGateway, OADA)

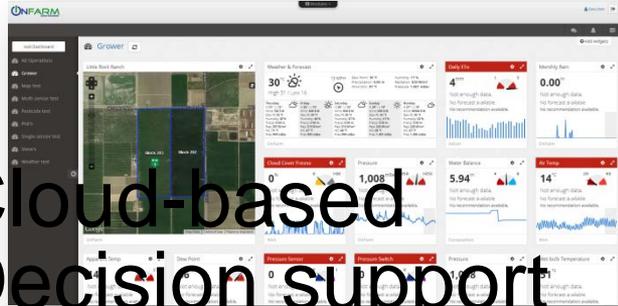
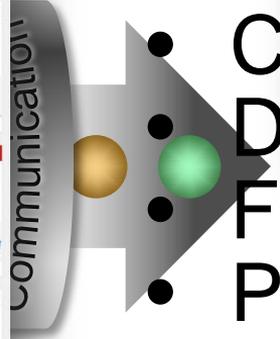
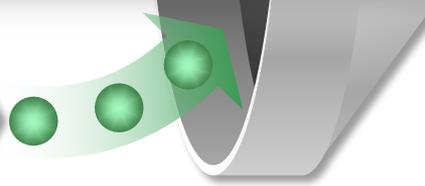
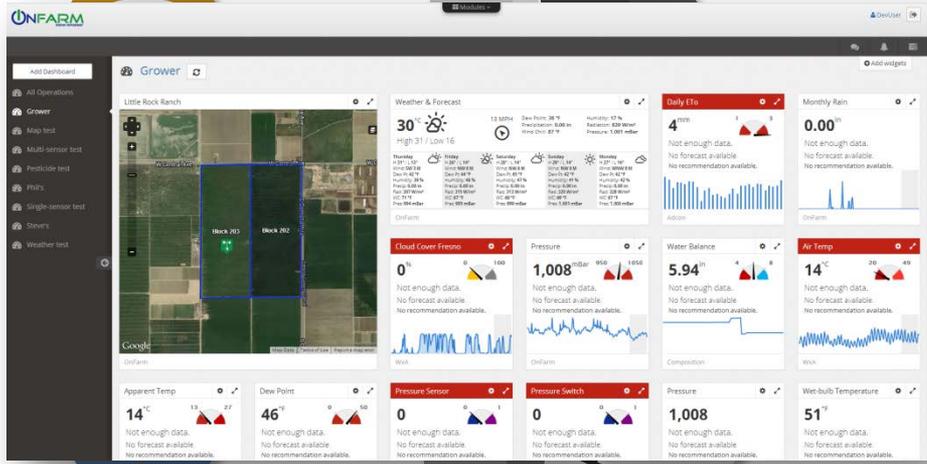
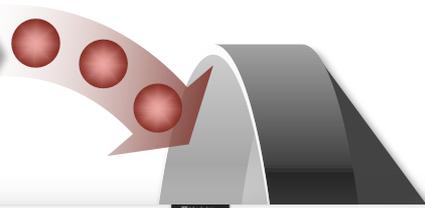
- Data Privacy/Ownership

- Who owns the data?
- Who controls the data?
- Is there intellectual property in the data?

OnFarm Platform



OnFarm Platform



- Cloud-based
 - Decision support
 - Forecasting
 - Execution
- Cloud-based
Decision support
Forecasting
Execution

Flint River Basin, GA

- 1M acres of cropland
- \$2B in annual revenue
- 40% of the land is used for agriculture
- Impacted water use due to environmental concerns





Field



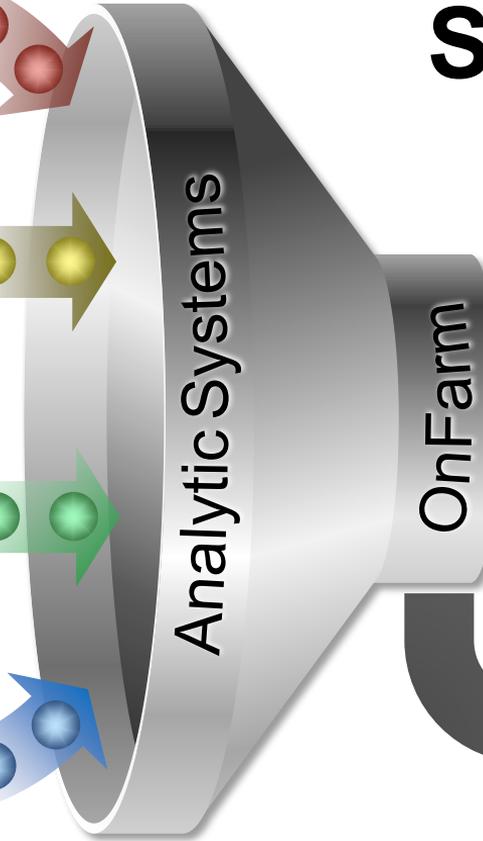
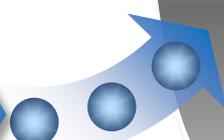
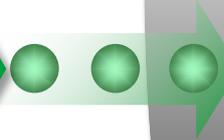
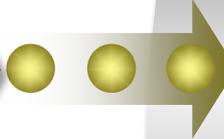
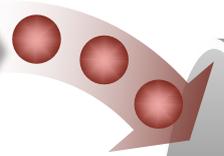
Sensors



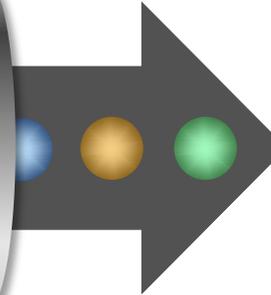
Crop



Deep
Thunder



OnFarm



Results

Analytics for Smarter Irrigation



Q&A