



Monitoring and Control Systems Integrators

# Four Main Parts to Monitoring/Control System

- ▶ 1) User Interface
  - ▶ A) tractor display
  - ▶ B) simple field display/lcd
  - ▶ C) computer screen
  - ▶ D) Web interface/phone
- ▶ 2) Field Smarts/brains & communication modules
  - ▶ A) plc-logger
  - ▶ B) modems - cell, Ethernet, radio

# Four Main Parts to Monitoring/Control System

- ▶ 3) Sensors -
  - ▶ A) Soil sensors - moisture, tension
  - ▶ B) Flow & pressure
  - ▶ C) Pond/Water levels
  - ▶ D) Weather parameters - temp, etc.
- ▶ 4) Controlled Device -
  - ▶ A) Valves
  - ▶ B) Pump starts
  - ▶ C) Fertigation pumps
  - ▶ D) Electric ON/OFF Switches

What used to cost hundreds of thousands of dollars...





Now costs much less, and the control room is your phone...



All of us look at field data remotely, how do you check the weather?

All of you, in time, will be turning things on and off remotely:

- \* whether it's a manual toggle
- \* automatically based on time
- \* or based on a monitored variable like temperature, moisture, etc

It simply makes financial sense!

# It makes financial sense for three main reasons

- ▶ **#1 Labor is the issue** - We've got to get more efficient, reducing windshield time alone can save tens of thousands of dollars. Checking on systems, turning pumps, valves, on/off, etc.
- ▶ **#2 Efficiencies of resource utilization- Water, Fertilizer, Pesticides** - If you've got fertilizer's flushed below the active roots, you've just reduced your profit. Easily seen with soil EC sensors. Active use of ET data to schedule irrigations is commonly shown to reduce irrigation by 20%, which in turn means less power use, fertilizers sit higher, ...
- ▶ **#3 Quality of Grown Product** - Harder to monetize with ROI, but very significant. If Field Manager A consistently yields exceptional results, how can you transfer this to the rest of the organization? With data.



## Don't Box Yourself In!

*You will learn from your system, you don't know what data you'll want next - make sure the system is versatile*

System should allow different sensor types, different sensor manufacturers



































Don't Leave Out Control, you will want to go there...

33-48

North Pond Northern Blocks

Menu

11/02 09:34 AM

1: Blk 1 Gala West Drip  Auto	2: Blk 1 Gala West Overhead  Auto	3: Blk 1 Gala East Drip  Auto	4: Blk 1 Gala East Overhead  Auto
5: Blk 2 Gala North Drip  On	6: Blk 2 Gala North Overhead  On	7: Blk 3 Gala West Drip  On	8: Blk 3 Gala West Overhead  On
9: Blk 3 Gala West Center Drip  On	10: Blk 3 Gala West Center Overhead  On	11: Blk 3 Gala East Center Drip  On	12: Blk 3 Gala East Center Overhead  On
13: Blk 3 Gala East Drip  Auto	14: Blk 3 Gala East Overhead  Auto	15: Blk 4 Gala North West Overhead  Auto	16: Blk 4 Gala North West Drip  Auto
17: Blk 4 Gala West Center Overhead  Auto	18: Blk 4 Gala Center Drip  Auto	19: Blk 4 Gala Center Overhead  Auto	20: Blk 4 Gala East Center Overhead  Auto
21: Blk 4 Gala East Pond Drip  Auto	22: Blk 4 Gala East Overhead  Auto	23: Blk 5 Gala North West Drip  Auto	24: Blk 5 Gala North Overhead  Auto
25: Blk 45 Lady Alice West Drip  Auto	26: Blk 45 Lady Alice West Overhead  Auto	27: Blk 45 Lady Alice Tower Drip  Auto	28: Blk 45 Lady Alice Center Drip  Auto
29: Blk 45 Lady Alice Center Overhead  Auto	30: Blk 45 Lady Alice NE SE 2 Tower East Drip  Auto	31: Blk 45 Lady Alice NE SE 2 Tower East Overhead  Auto	32: Not Used  Auto

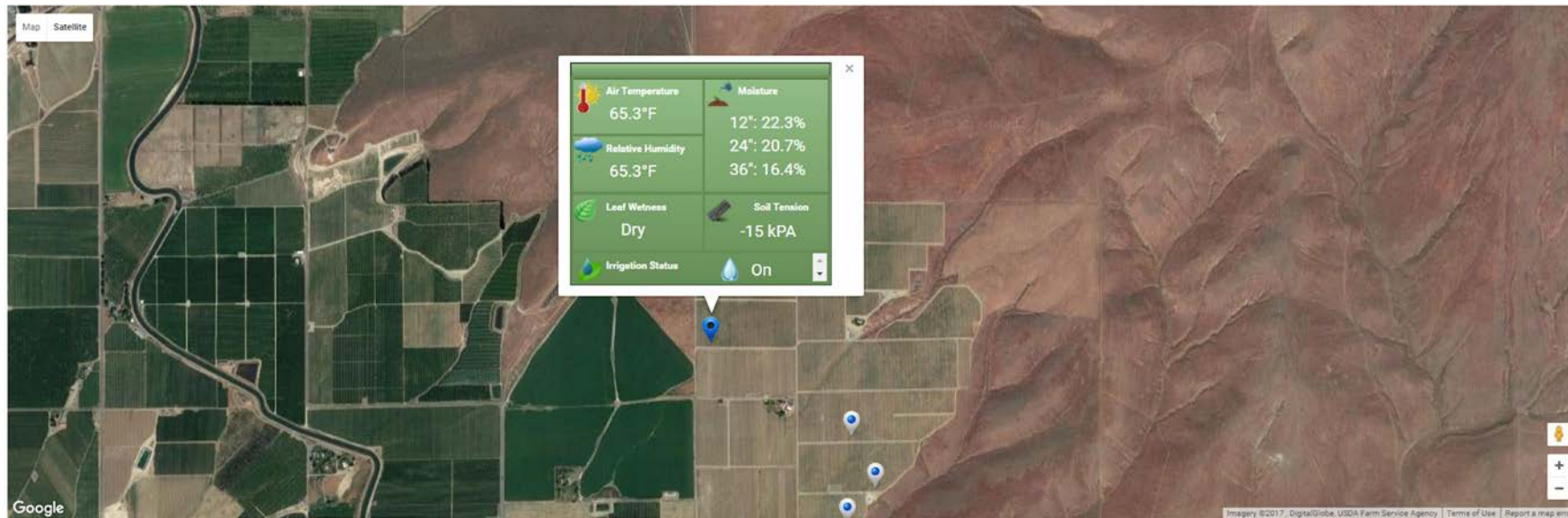


Non proprietary systems are out there - seek them out!

There is not one company that has all the tools or answers, look for systems that are capable of including many different products, as well as future products we don't even know about yet

# User Interfaces –

- \* Should be travelling with you
- \* Ease of use – more benefit
- \* Should do more than just display numbers or graphs



# THE Only Real Question

- ▶ “What value does the system give to your business?”