

Structuring Your Precision Business for Prolonged Profitability

Precision Farming Dealer Summit
Indianapolis, Indiana
January 5, 2016

Dr. Thomas L. Krill
Precision Strategy, LLC.



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Highlights



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Scope of Precision Agriculture



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Definition: Precision Agriculture

- A management concept which recognizes variability within the soil environment and maximizes economic agricultural production while minimizing environmental impact for a specific location.
– (Krill 1994)



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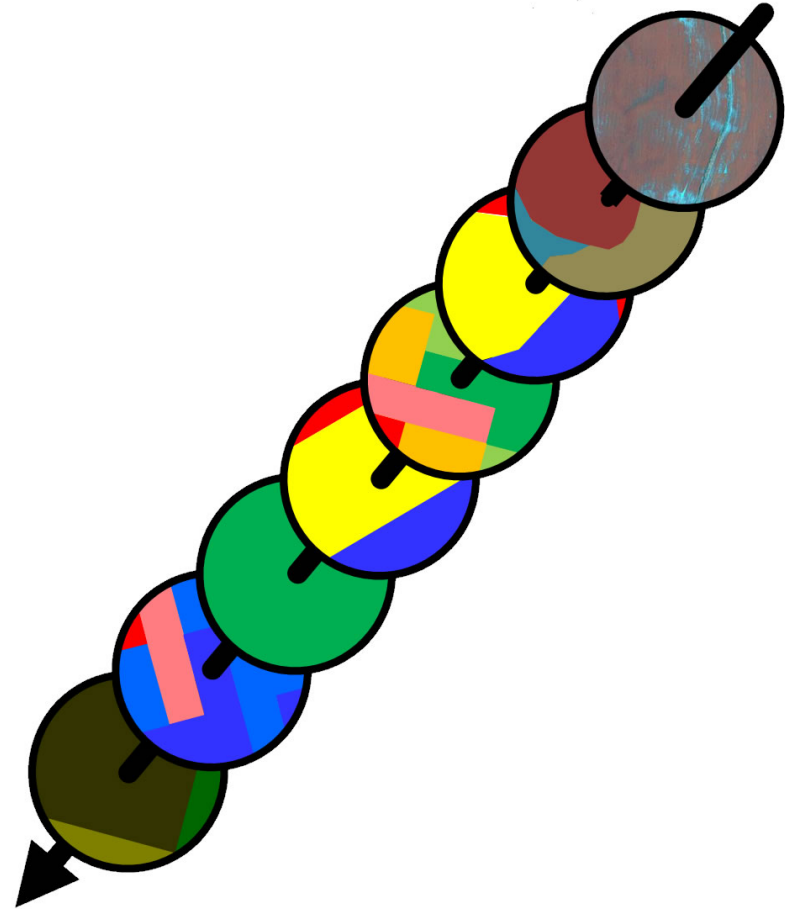
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Variability

Required

- Variability has to exist for Precision Agriculture
- Variability is identified in data
- No variability, no need for Precision Agriculture



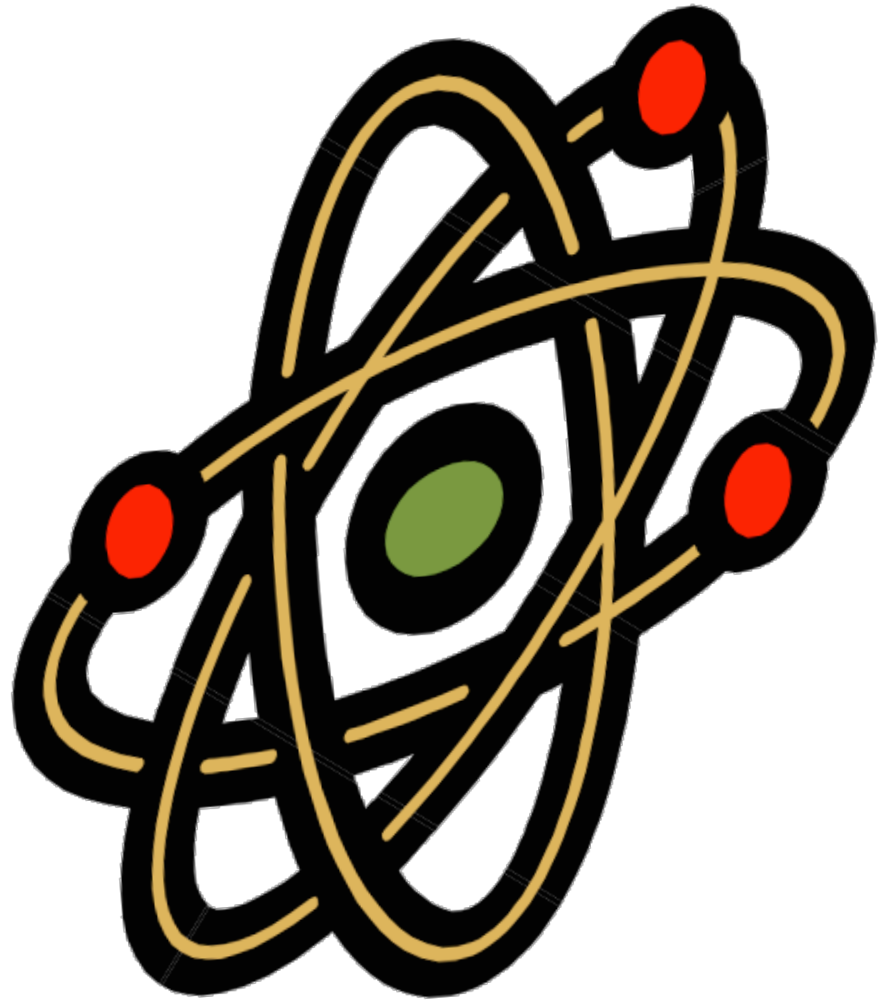
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Technology

*ENABLER of
Precision
Agriculture, NOT
the DRIVER of
Precision
Agriculture*



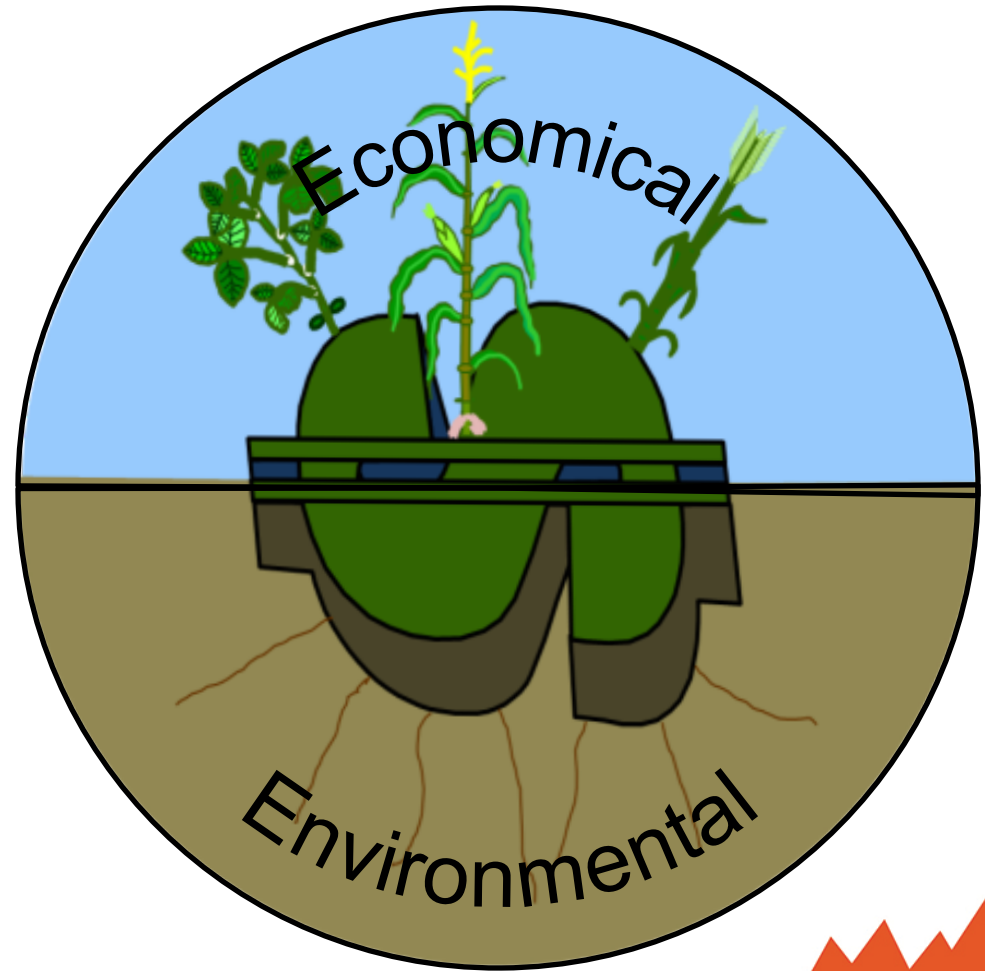
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Criteria

- **Economical**
 - Maximum return
- **Environmental**
 - Minimal impact
- *Precision Agriculture needs to have measurable objectives of performance for evaluation by management*



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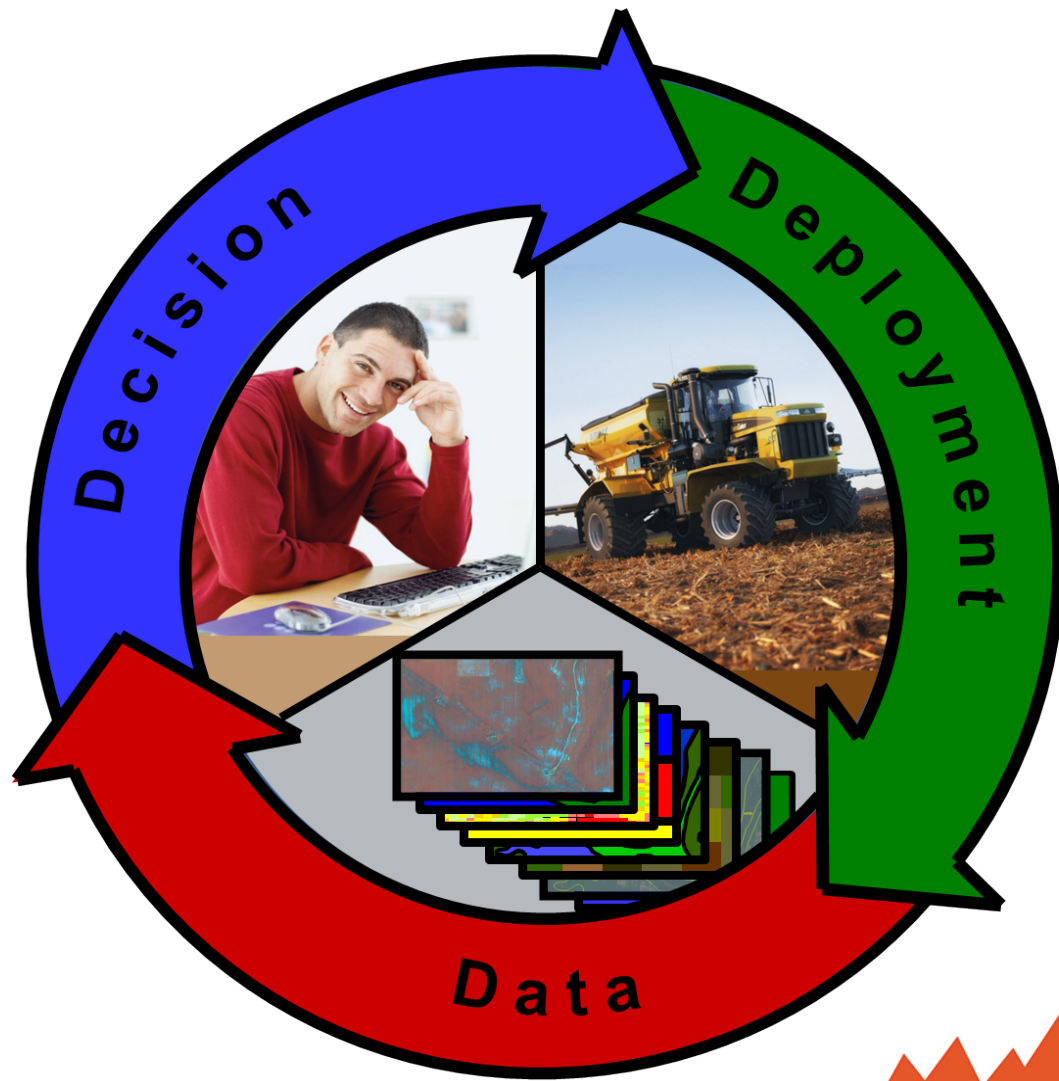
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Decision

- Management Concept

- Basing decisions upon DATA
 - Analyzing the facts and information (variability)
- Making DECISIONS
 - Based on criteria
 - Maximize Economic Production
 - Minimize Environmental Impact
- DEPLOYING those decisions
 - Enabled by technology



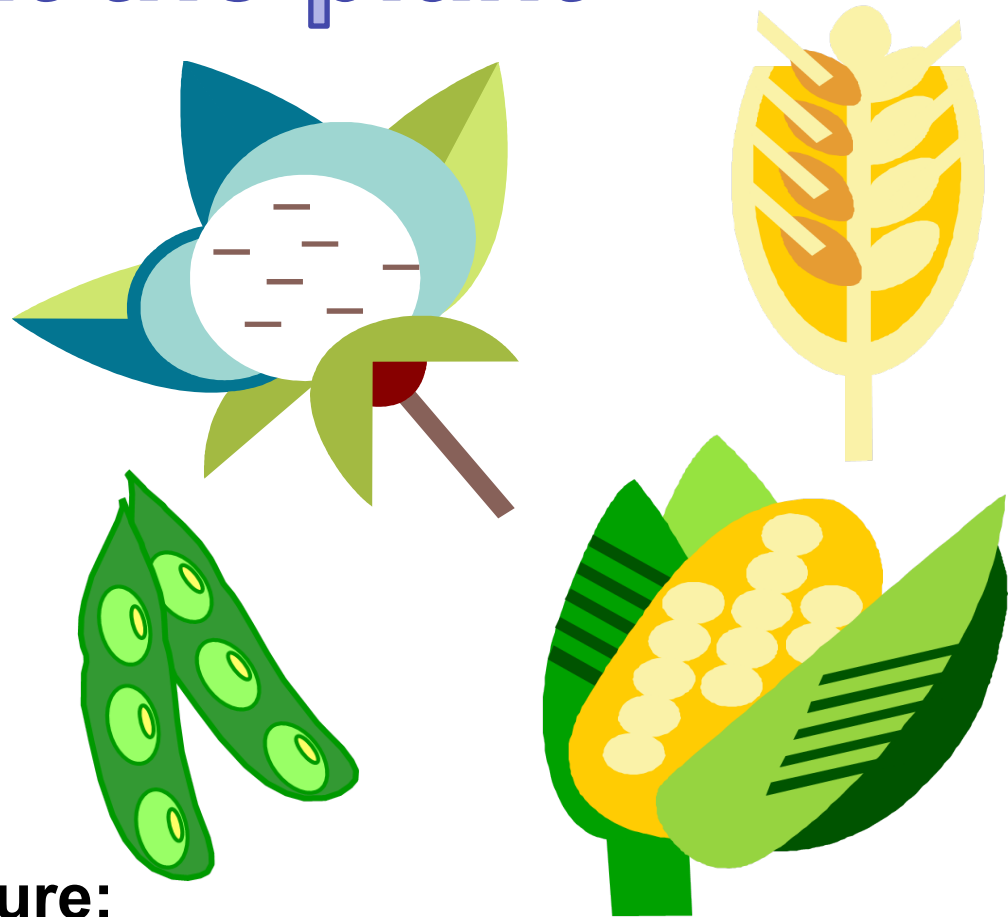
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It's about the plant

- Agronomy:
 - The science and technology of producing agricultural (agricultural production) crops for food, fiber, and energy
- Requirements:
 - Maximize economic production
 - Minimize environmental impact



Definition Precision Agriculture:

A management concept which recognizes variability within the soil environment and maximizes **agricultural** economic **production** while minimizing environmental impact for a specific location.



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It's about the plant

- It is not about the equipment



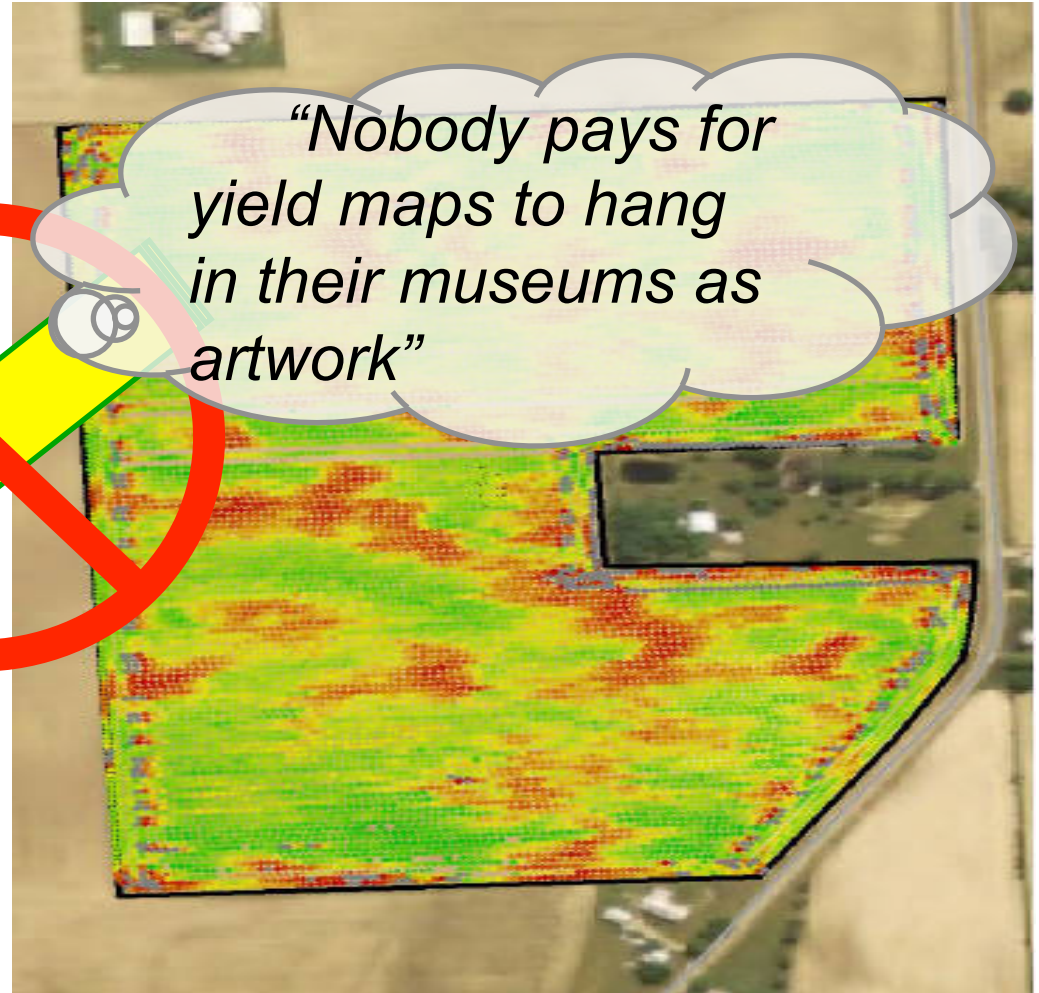
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It's about the plant

- It is not about the technology



“Nobody pays for yield maps to hang in their museums as artwork”



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It's about the plant

- All the return comes from the plant



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It's about economics

- It is about money not yield.



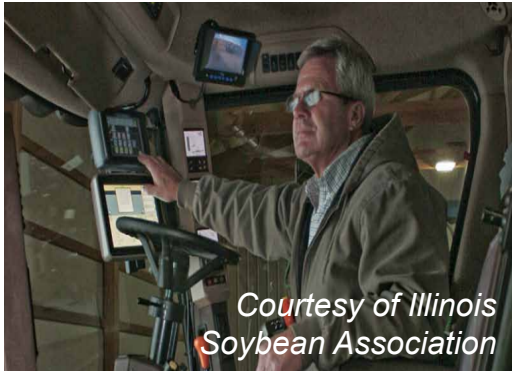
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It's about management

- Variability is there to be managed
- Decisions are there to be made



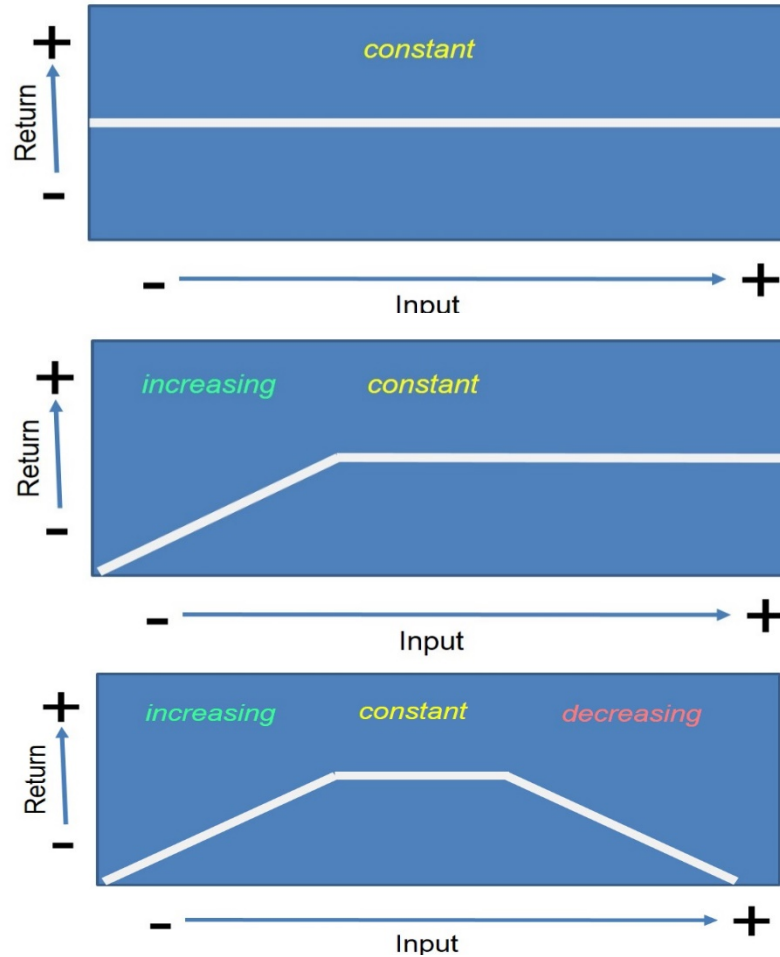
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Where is the Return?

- Crop response will dominate potential return
 - Penalty for under application
 - Penalty for over application
 - Sweet Spot exists



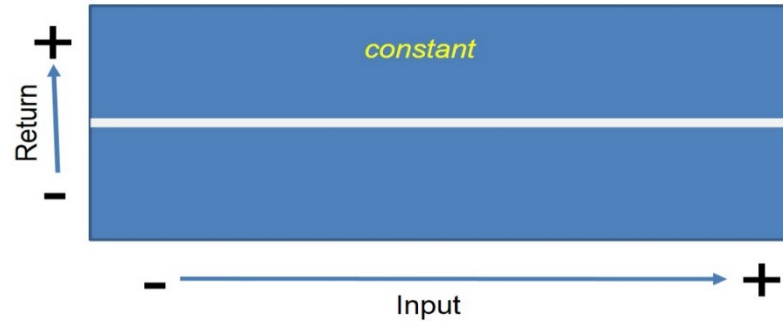
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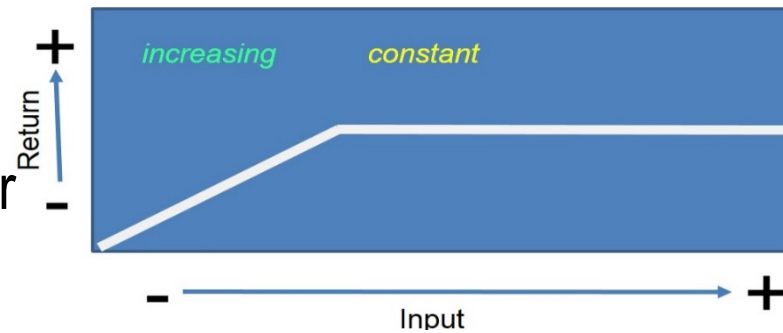


Where is the Return?

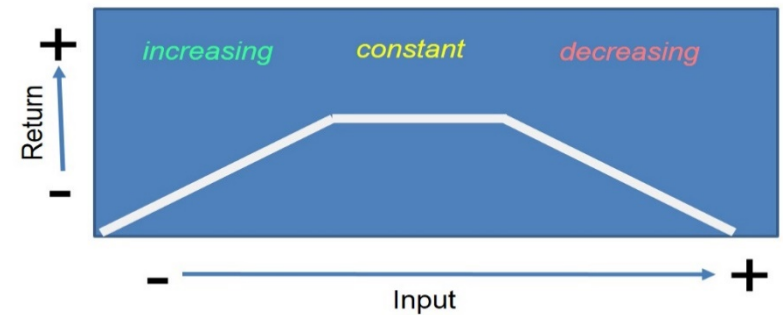
On/Off controls
dominate



VRT control
if technology is cheaper
than product



VRT controls
dominate



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Where is the Return?

- Potential Return exceeds the cost of adaptation/practice

A 20% saving of a 2% cost equals 0.2% overall savings (\$2.80/acre assuming \$700/acre cost)

A 10% saving of a 17% cost equals 1.7% overall savings (\$11.90/acre assuming \$700/acre cost)

Expense		Cost
Land		36%
Fertilizer	N	17%
	P	2%
	K	2%
Seed		18%
Crop Protection		8%
Equipment		13%
Labor		4%



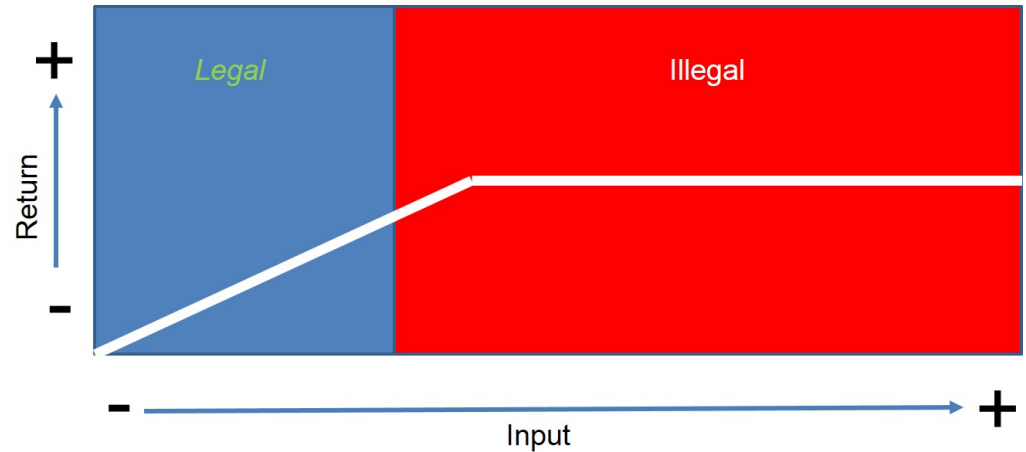
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Where is the Return?

- Regulation
 - Can change the entire ballgame



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Where is the Return?



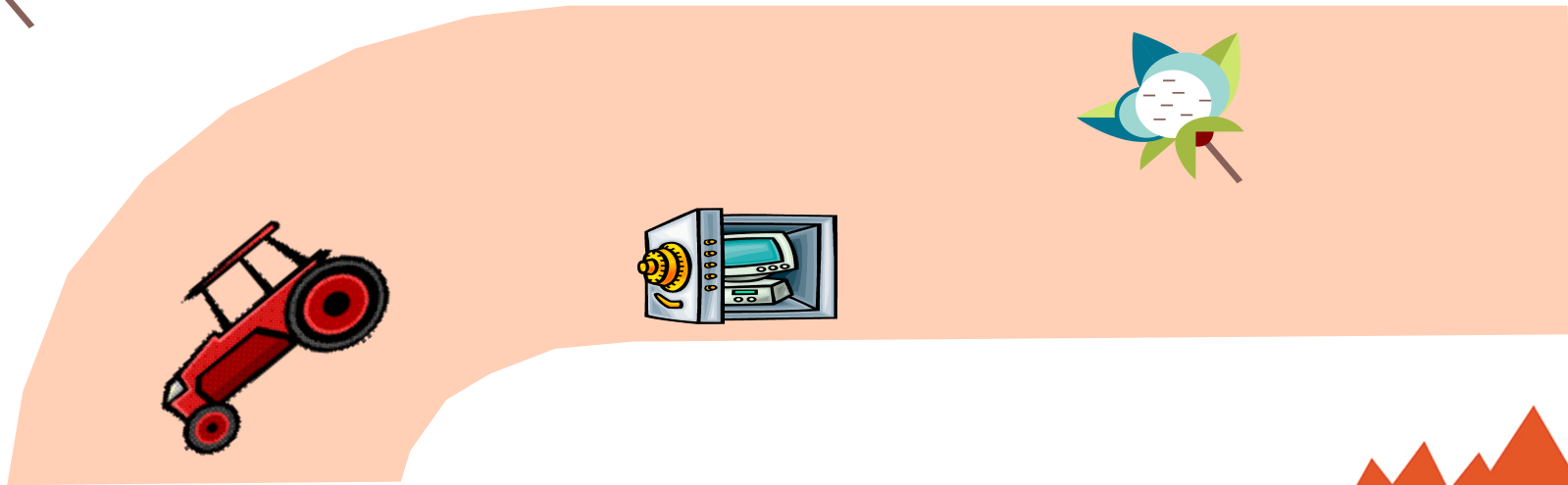
Deployment – way out front early (mechanical, guidance)



Data – gaining ground (storage, communication, standards)



Decision – rough time getting out of the gates (black box)



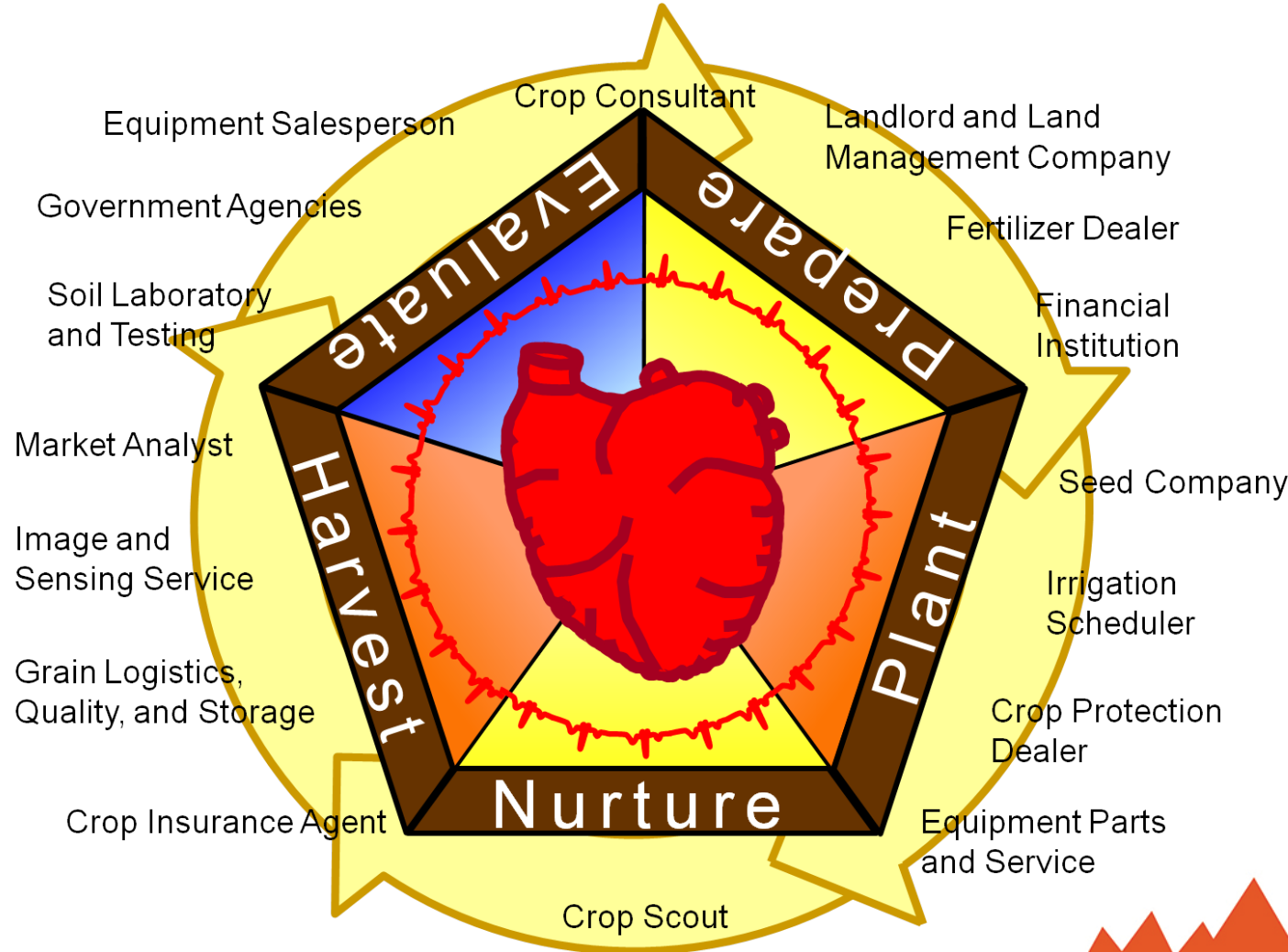
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It's about the system

- Production Agriculture does not operate in a vacuum

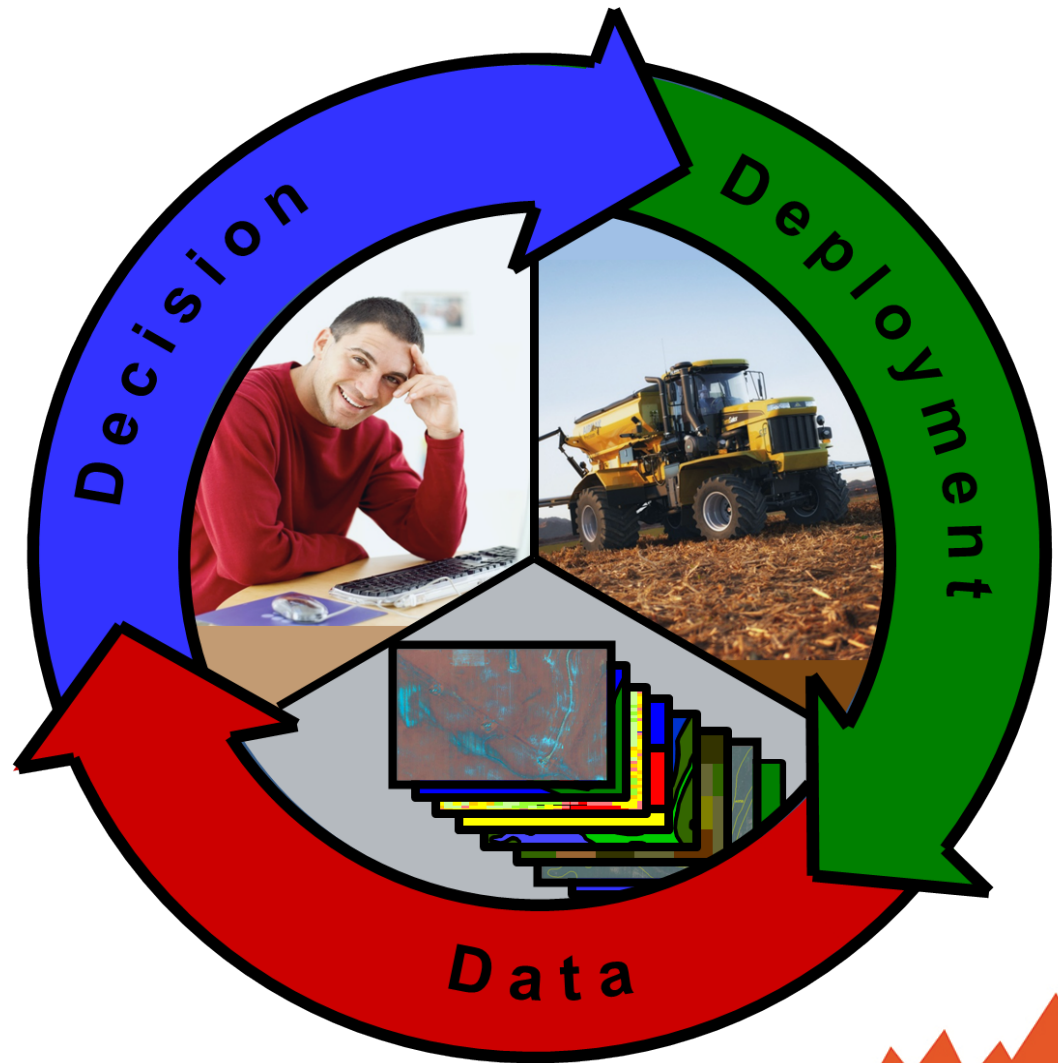


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It is a Process

- Management Concept
 - Basing decision upon DATA
 - Analyzing the facts and information (variability)
 - Making DECISIONS
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 - Maximize Economic Production
 - Minimize Environmental Impact
 - DEPLOYING those decisions
 - Enabled by technology

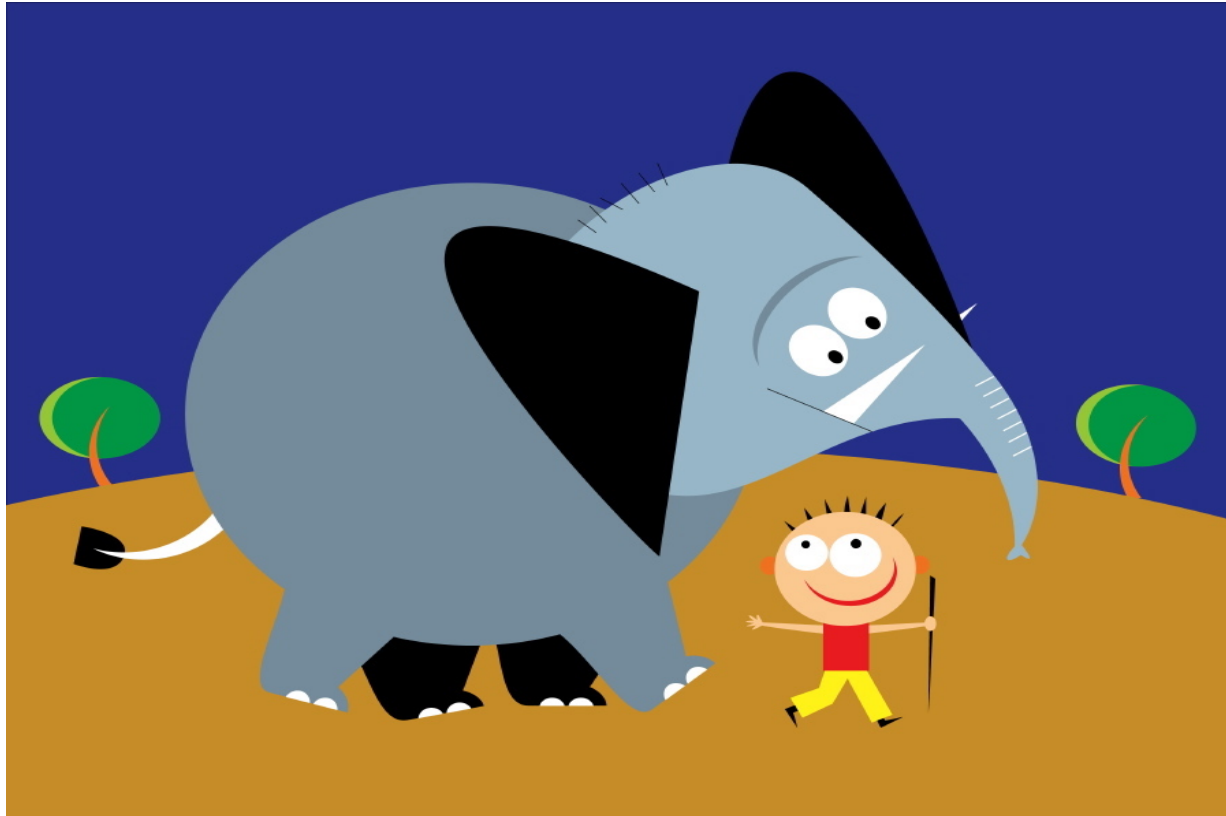


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Precision Agriculture



It is Big

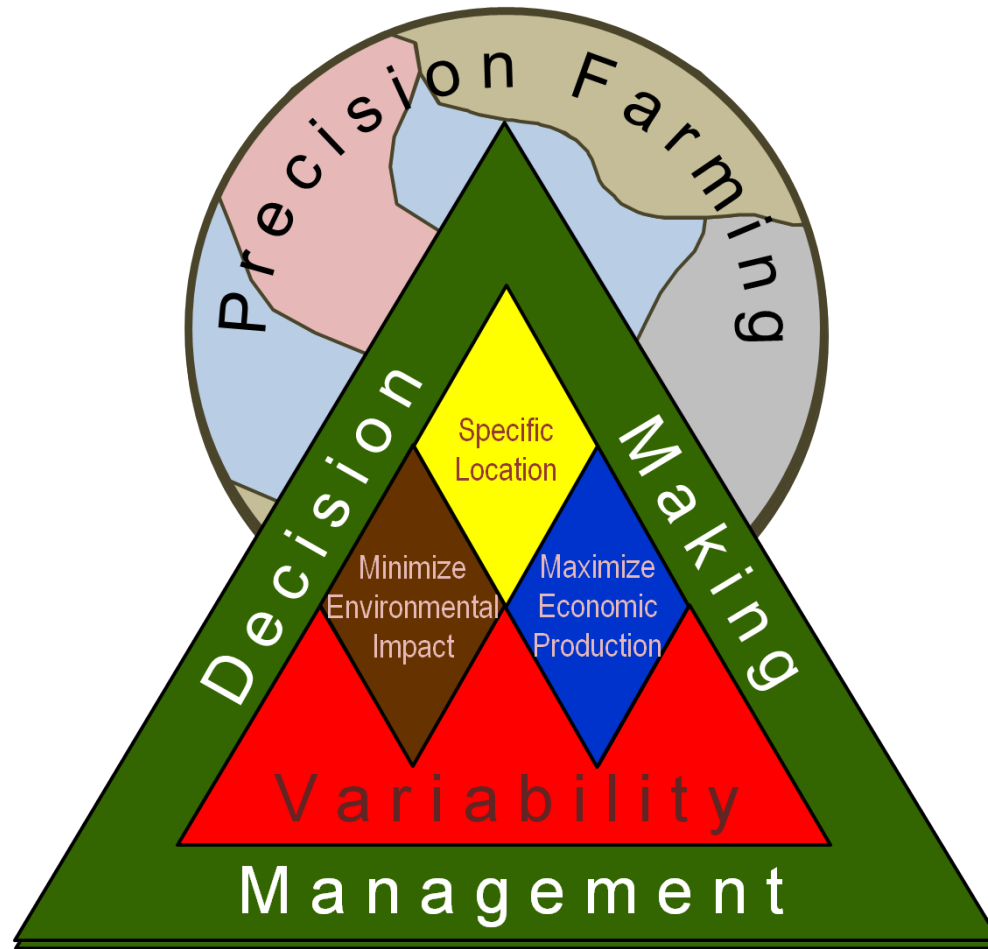


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Where do you fit in?



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Where is your organization going?

CUSTOMER:
Large Agricultural
Organization

FOCUS: Agronomic,
Production Agriculture

CUSTOMER:
Traditional,
Farm Base

ORGANIZATION:
Single Store

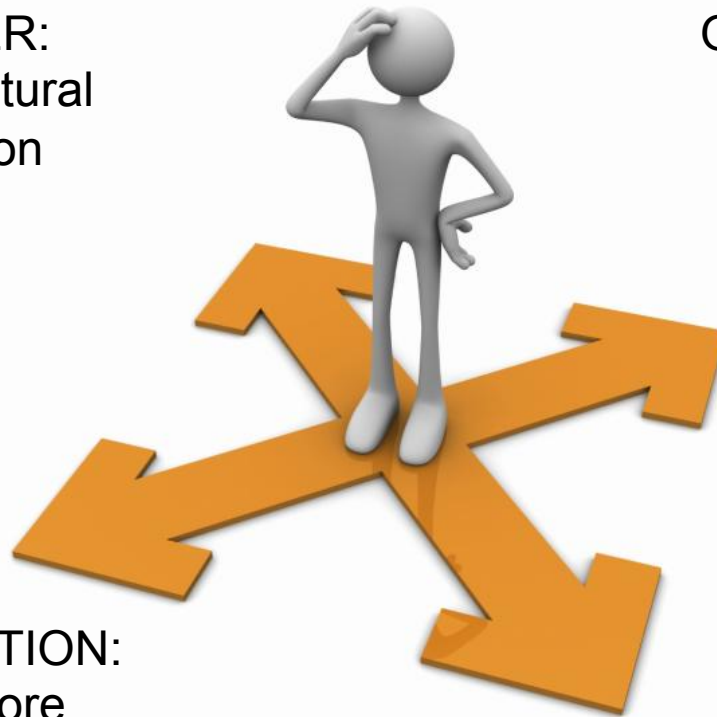
FOCUS: Consumer
Products

ORGANIZATION:
Multi-Store
Organization

CUSTOMER:
Specialty Agriculture

FOCUS: Large
Property Owner

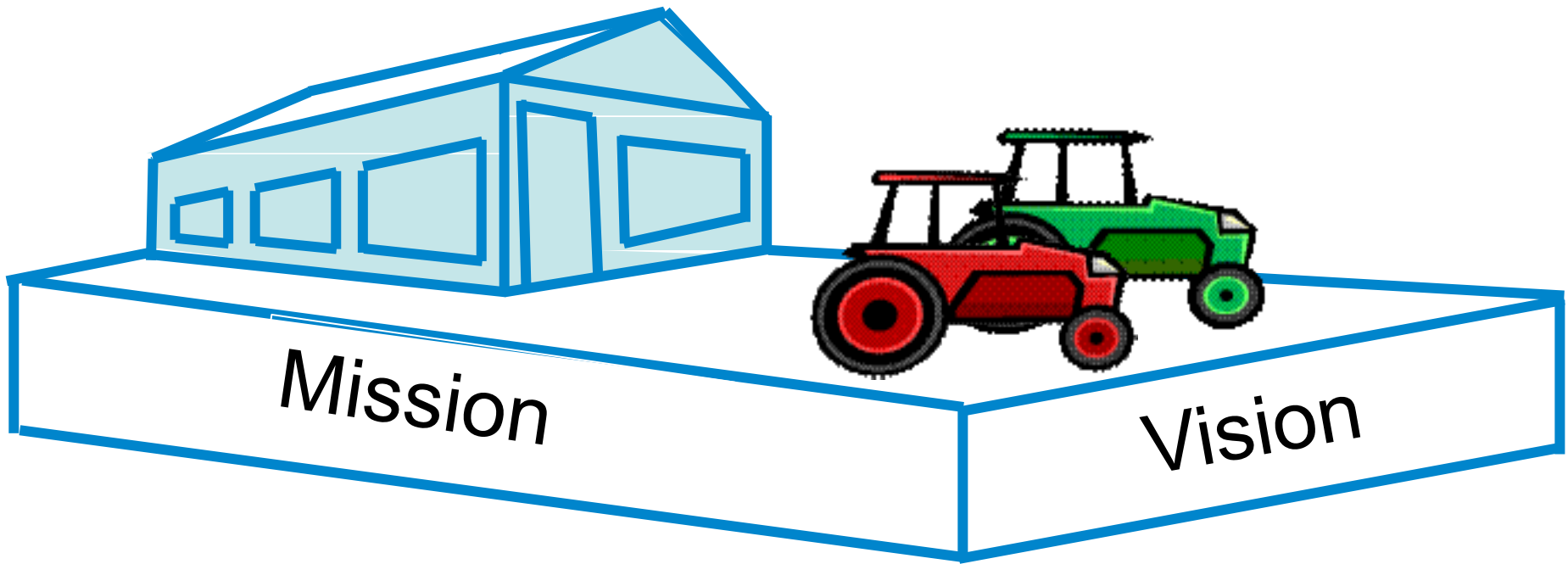
CUSTOMER:
Part-Time Farmer



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Organizational Vision and Mission



The Foundation of a Business



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Organizational Vision and Mission

goal management relationship strength solution teamwork ownership desires
strategy
Vision
corporate culture
leadership history
plan customer success innovation community direction
competition team customer empower partners
profit customer success empower partners
opportunity idea achievement
teamwork
direction
ownership desires



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ineffective management
loss of opportunity
focus
no solutions
involvement
Cause of
no innovation
motivation
Mediocrity
no plan
control
expansion
competition
no goal
lost
enablement
wandering
strategy
corporate culture
no direction
lack of vision
history
loss of direction



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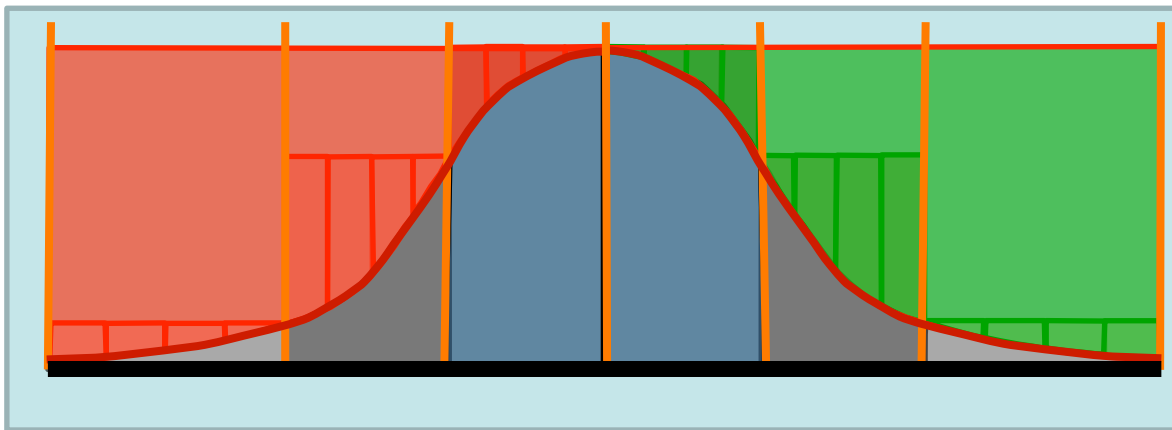
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Organizational Vision and Mission

- Today's Agriculture is not satisfied with Mediocrity
 - Six Sigma
 - Business Protocol
 - based on standard deviation

They **WANT**,
EXPECT,
and will get **THE BEST**



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Organizational Vision and Mission

Vision without action
is a daydream.

Action without a vision
is a nightmare.

Japanese Proverb

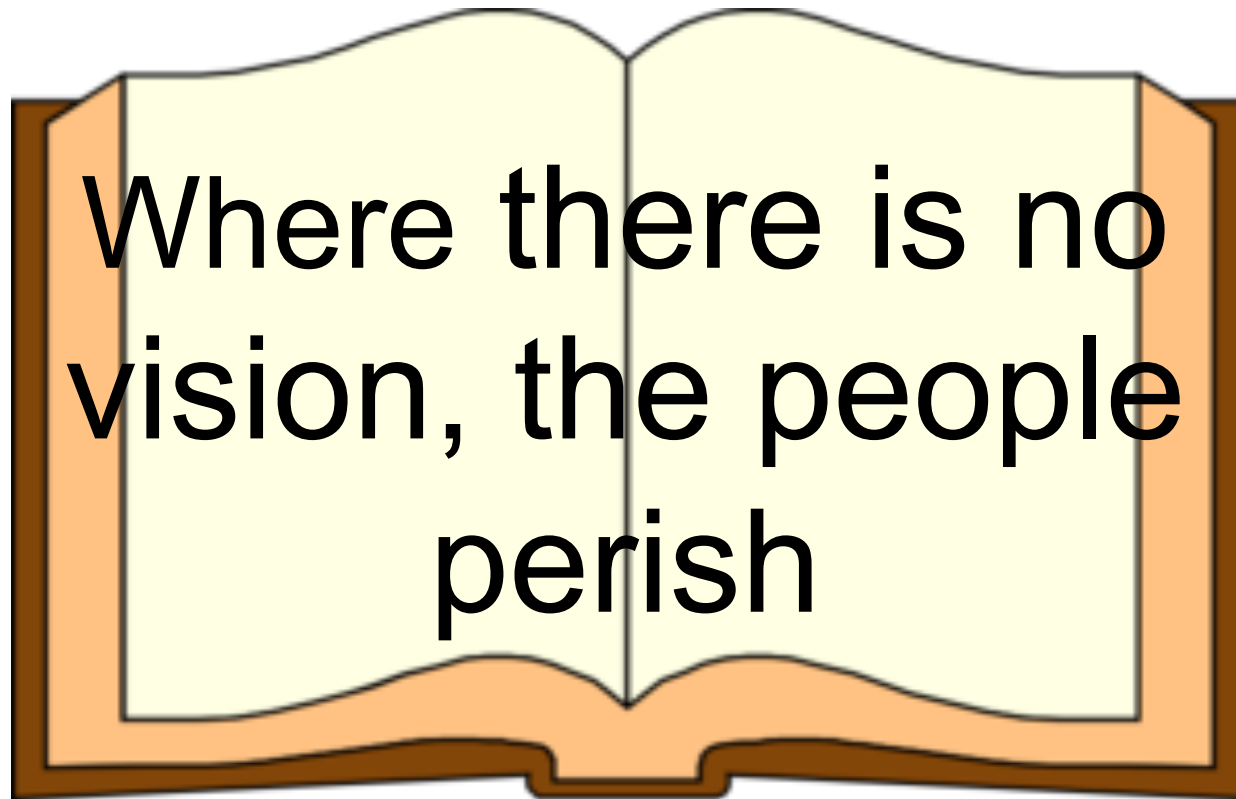


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Proverbs 29: 18

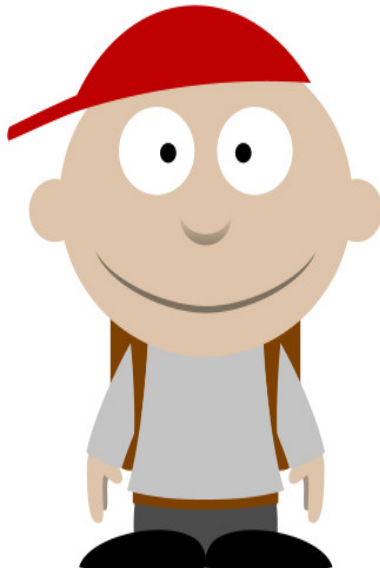


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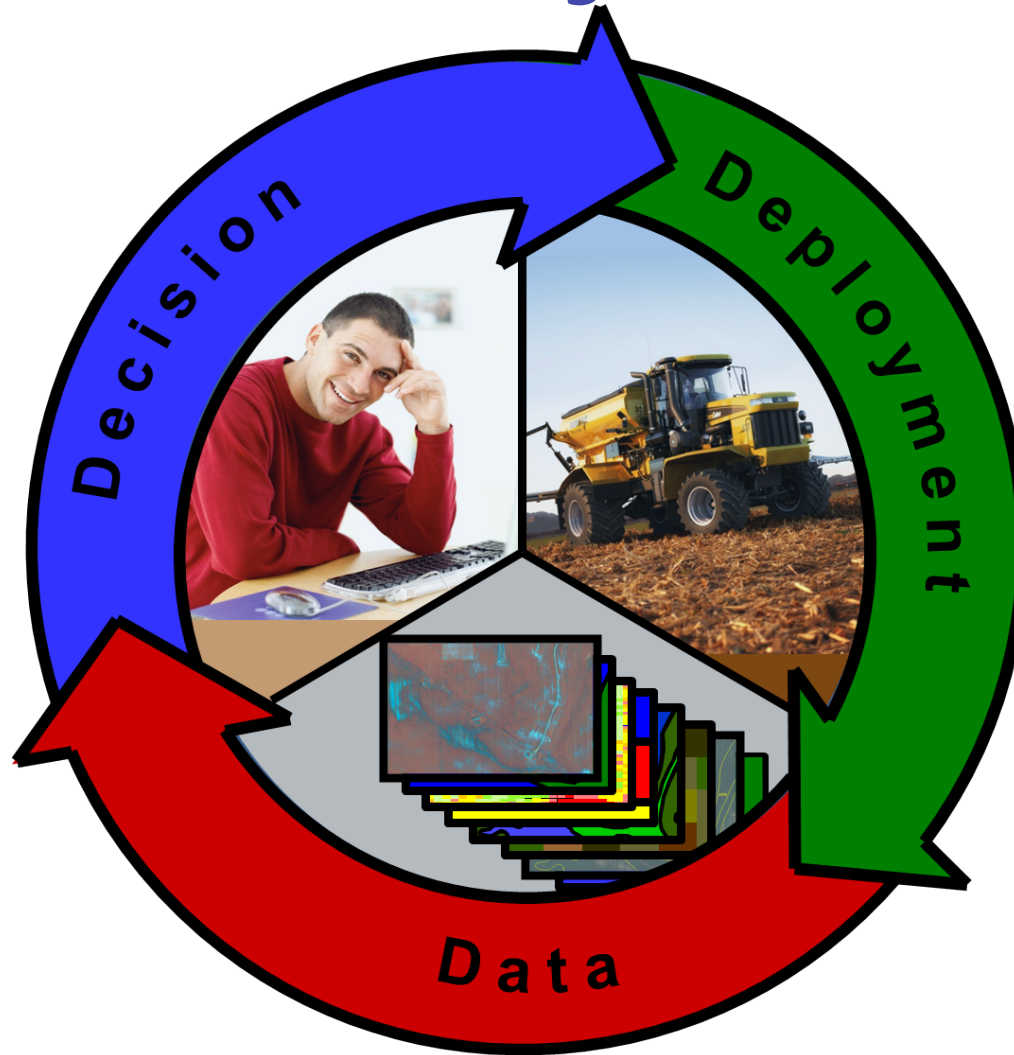
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Where do you fit in?



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“Leadership is the capacity to translate vision into reality.”



Warren G. Bennis



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Management
is doing
things right.

Leadership
is doing the
right things

Peter Drucker



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“Leaders
establish the
vision for the
future and set the
strategy for
getting there.”



John P Kotter



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How are you doing?



- Ability is what you're capable of doing.
- Motivation determines what you will do.
- Attitude determines how well you do it.

Coach Lou Holtz



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How do they fit together



Mission and Vision

Precision Agriculture



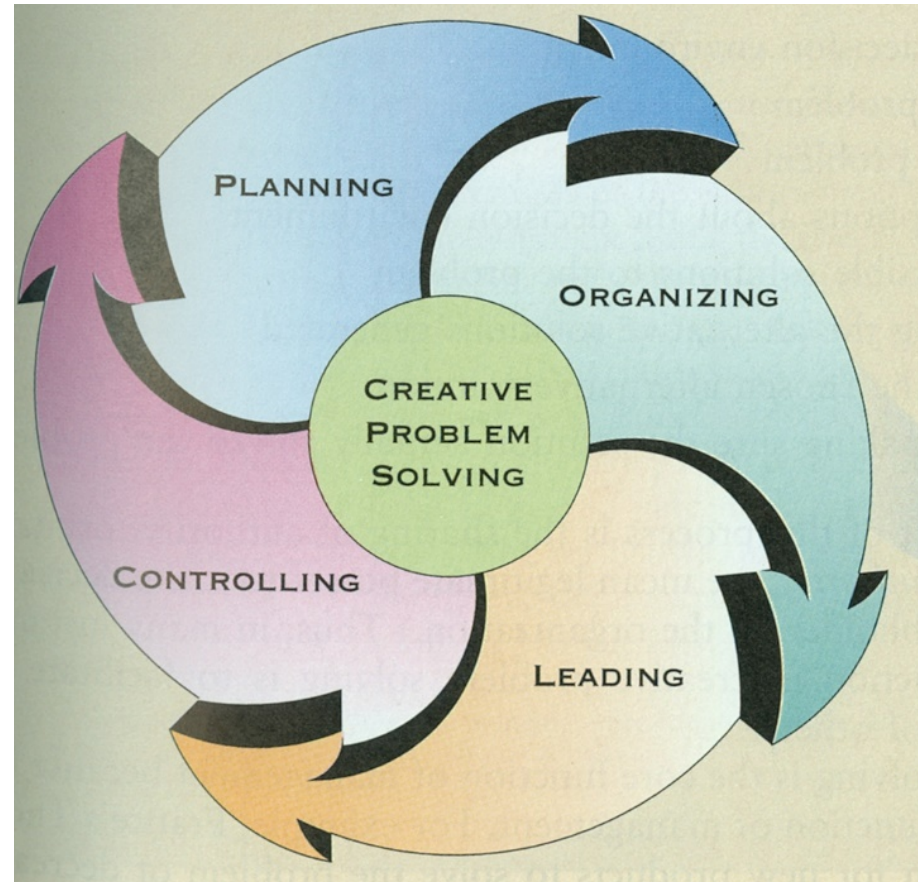
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- Define Precision Agriculture
 - for your organization
- Manage Precision Agriculture
 - for your organization



The Management Challenge



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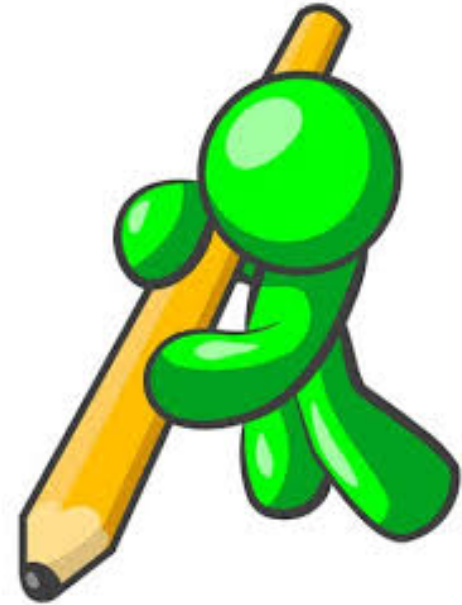
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- **Plan**

- Identify where you are going to participate
- Define scope
 - boundaries
- Remember: You do not have to do everything



Good Luck is the
result of Good
Planning



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Planning is bringing the future into the present so that you can do something about it now



Alan Lakein



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Failure
is easy
with no
planning



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Local Management

interests competition
experience knowledge base strategic direction
relationships plan partners community customer base
opportunity team expertise
resources capabilities desire history
fit success
training strengths corporate culture

Scope



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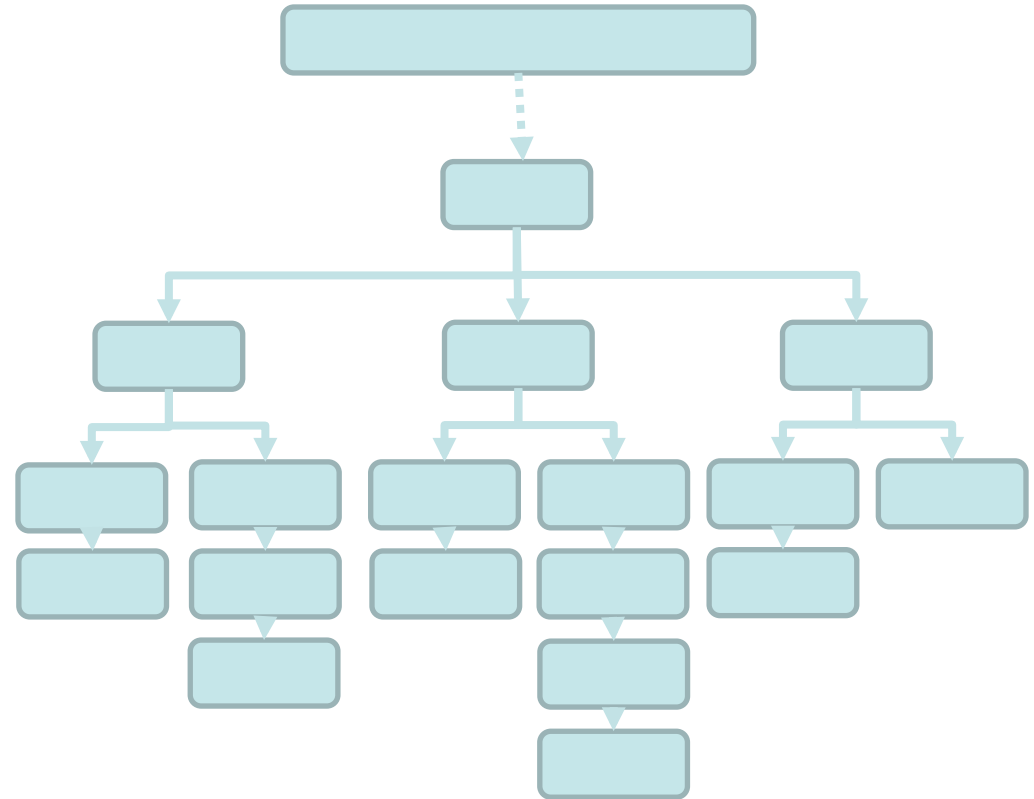
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- **Organize**

- Fit it into your organization
 - position
- Financial Obligation
 - Overhead Cost
 - Profit Center
- Reporting Structure
 - Who is in charge
 - Hard to report to multiples when they each are going their own direction

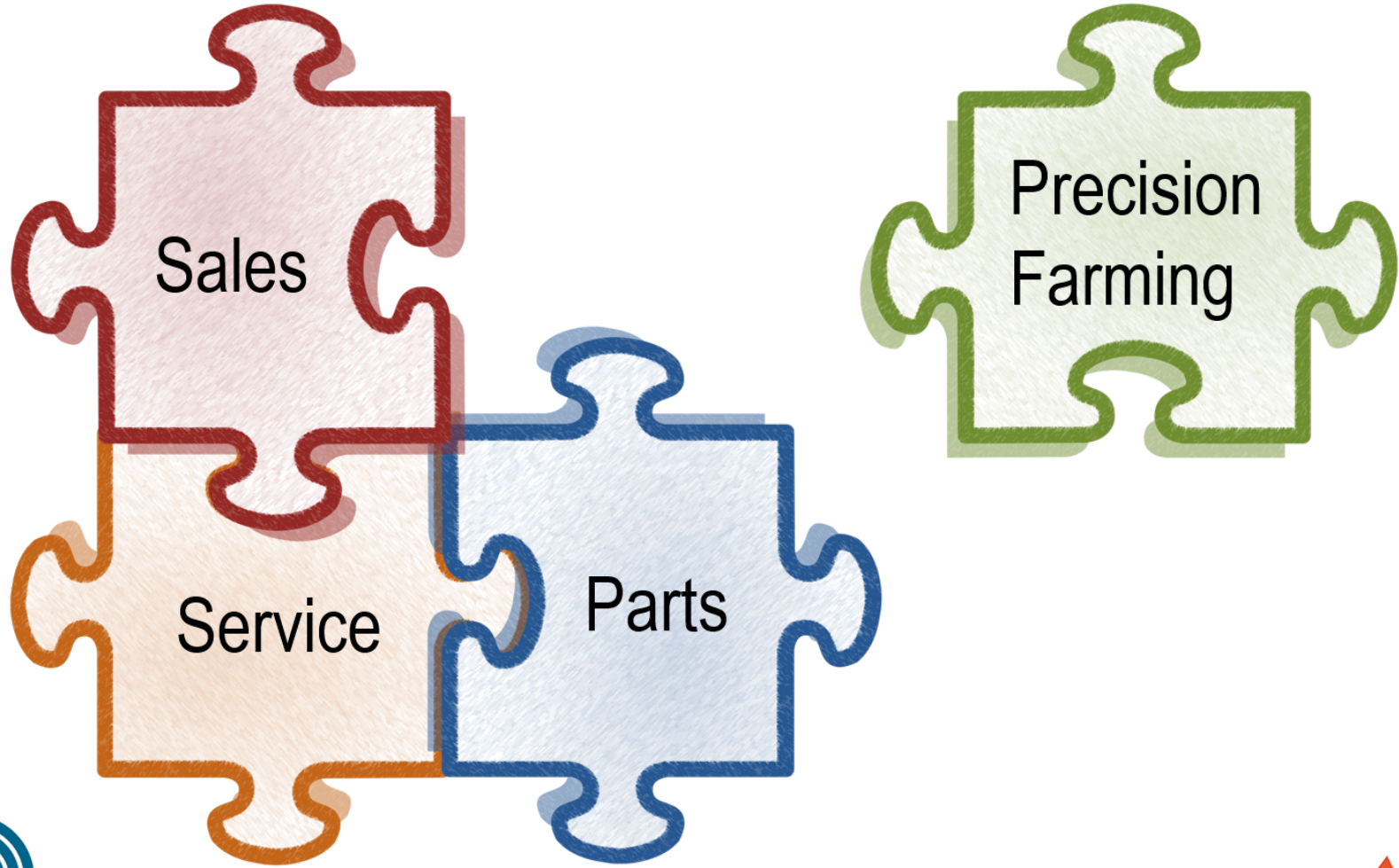


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- Internal
 - Select a Champion (manager)
 - Responsible for
 - Responsible to
 - Identify Product Offering
- External
 - Partnerships
 - Who can do what we choose not to do
 - Symbiotic Relationships
 - Training
 - Do we need to train them
 - How to work with us



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customer focused
cooperation
education organized
leadership
planned responsibilities
Partnerships
greater than individual
teamwork
symbiotic reciprocity
thought out purposeful
solution oriented relationships
strengthen both
enabled solutions



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Product Offerings

- Physical Product
 - Hardware
 - Software
 - Parts
- Education
 - Training
- Data
 - Warehousing
 - Processing
- Services
 - Installation
 - Repair
 - Maintenance
 - service contracts
 - Navigational
 - RTK Network
 - Support
 - call center
 - service contracts



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Revenue Stream

One Time

- Sales
 - Equipment
 - Parts
 - Hardware
 - Software
- Education
 - Conference
 - Meeting

Perpetual

- Service Programs
 - Maintenance
 - Upgrades
- Subscription
 - RTK
 - Data Storage
- Support
 - Call Center
 - Data Processing



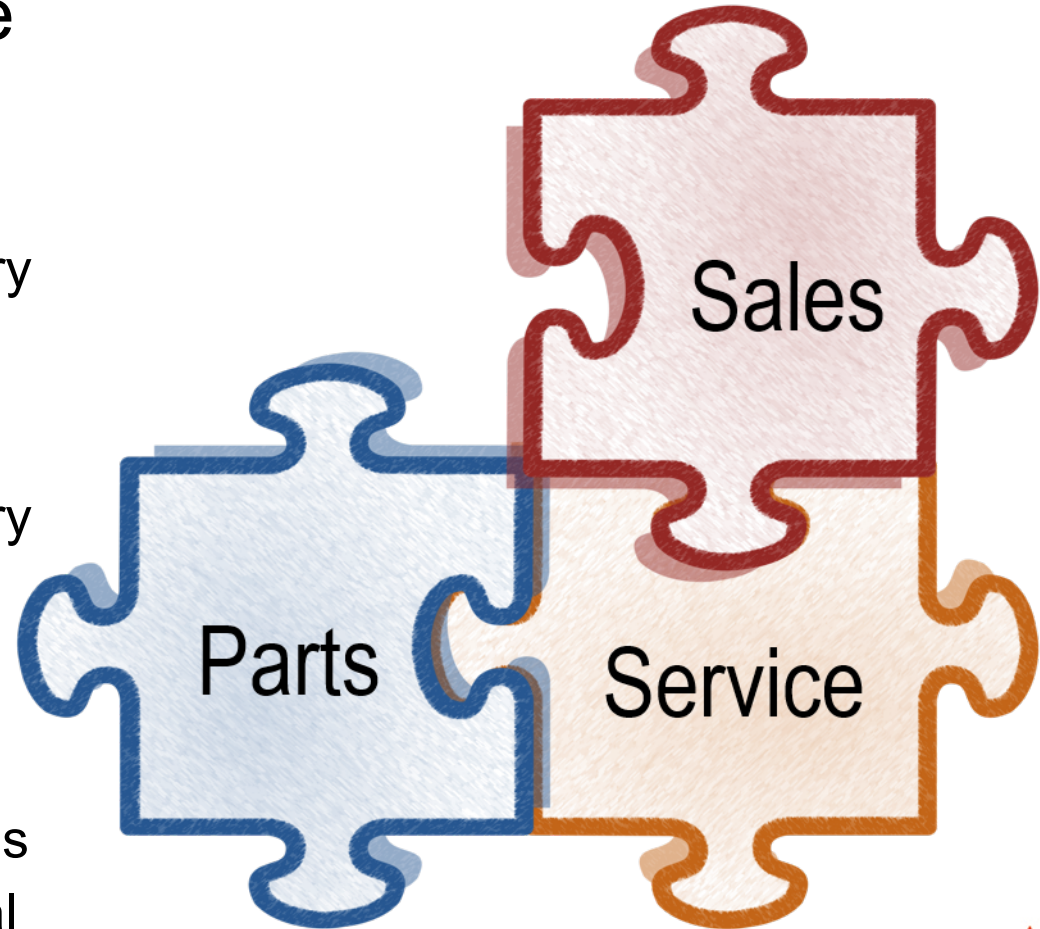
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- Define precision's role
 - Sales
 - responsible for Deal
 - responsible for Inventory
 - support only
 - Parts
 - responsible for Inventory
 - support only
 - Service
 - responsible for Labor
 - responsible for Offerings
 - support and educational only



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Local Management

I just want
it to work

- **Lead**
 - Customer Experience
 - Meet and exceed their needs
 - Be supportive of their wants and desires
 - Develop relationships



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availability expectations relationship confidence support loyalty understanding dependability solutions quality interactive

Customer Experience

satisfaction information enjoyable process personable training value retention enabling feedback service educational opportunities



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Local Management

- **Control**
 - Report to
 - Individual
 - Responsible for
 - Metrics
 - dollars
 - contracts
 - contacts
 - Controls
 - Personnel
 - people
 - Inventory
 - product



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absorption success quality quantity indicator target
performance dashboard results plan benchmarking
measurement statistics potential standards change
methodology charting objective evaluation

Metrics



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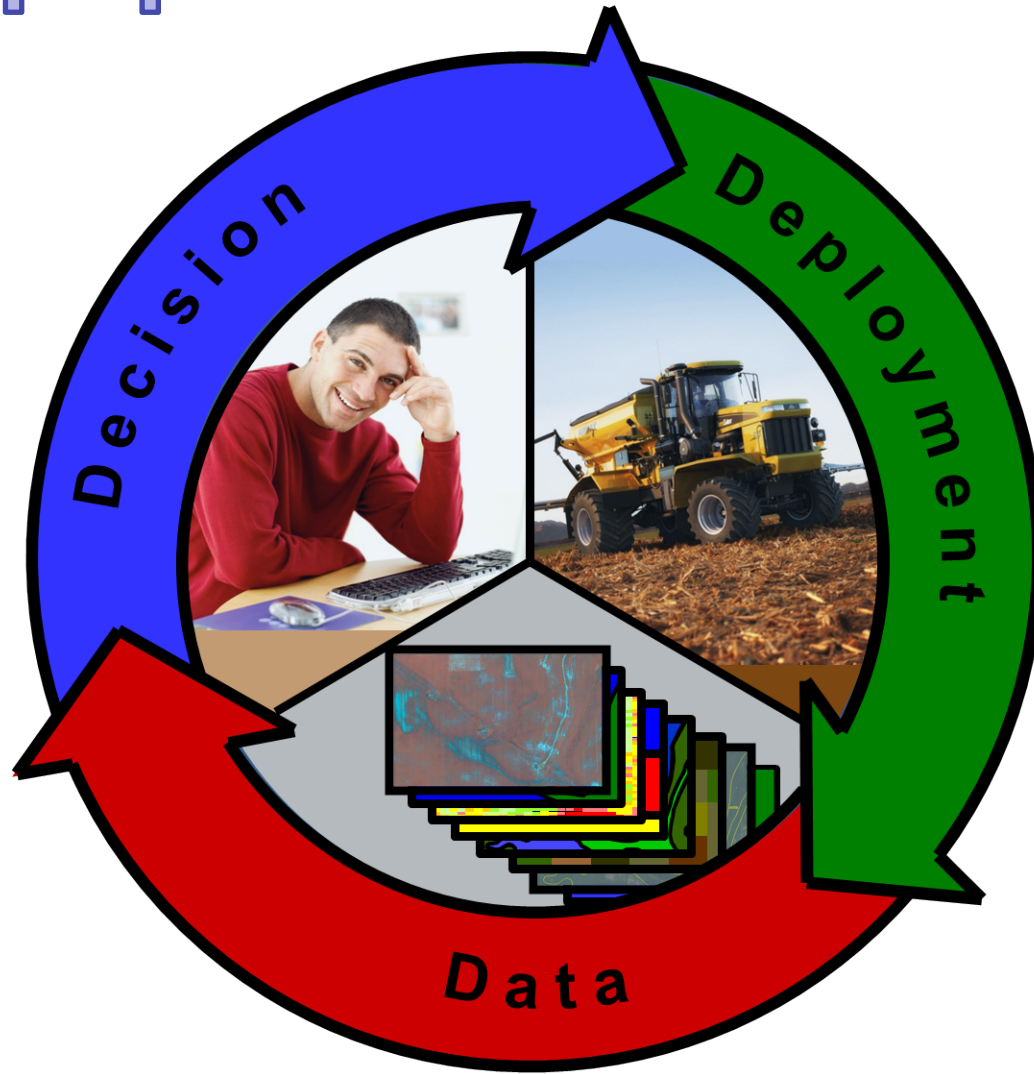
- Good Metrics
 - Controllable by the team
 - result of their action not someone else
 - Readily available
 - within business system
 - Objective measurement
 - definable
 - chartable
 - benchmark capable



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My Equipment Focused Vision



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My Equipment Focused Vision

- Deployment
 - Goal
 - Your people will be the only ones in, around, and on that equipment.
 - Sales
 - Parts
 - Service
 - Communication
 - Connection and integration with Data and Decisions



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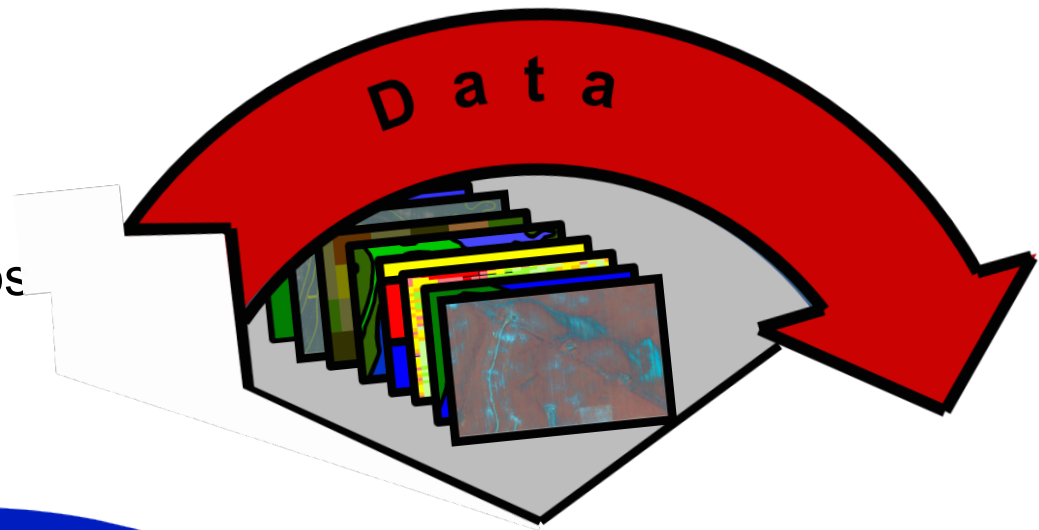
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My Equipment Focused Vision

- Data

- High Capital Expenditure
 - Investment Groups
- Very Scalable
 - Quantity Driven



- Reality

- Probably will end up being only a couple of organizations
 - Very Large
 - Technically Focused and Trained

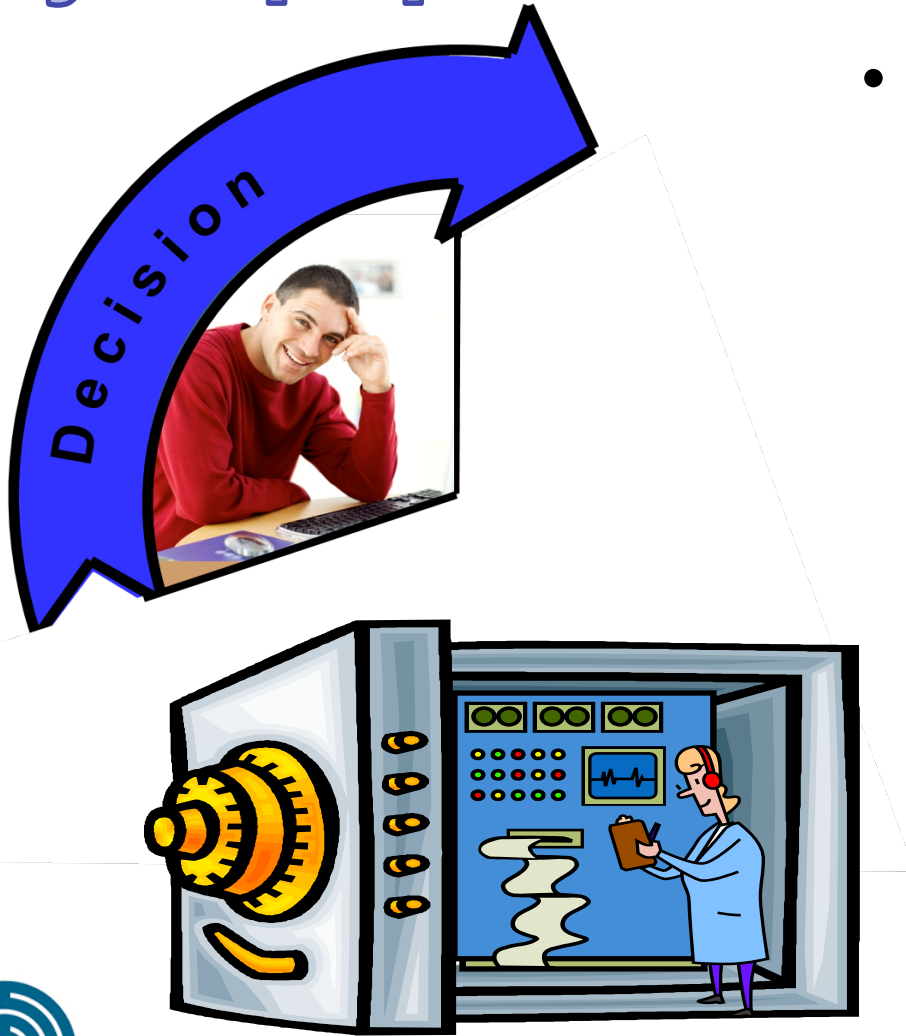


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My Equipment Focused Vision



- Decision
 - Information Driven
 - Much will be attempted to be kept confidential
 - Data Scientists
 - Trained in Big Data Techniques
 - Reality
 - Probably controlled by the agronomic input developers/providers



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Local Management

- Our challenge
 - Lose the stock holders
 - Lose capital
 - Lose the customer
 - Lose market share
 - Lose the employees
 - Lose motivation



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Closing Thoughts

- Do what you do and do it well
- Identify and protect your scope
- Exploit partnerships and relationships
- Get paid for what you do, measure what you do, and reward for what you do



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Questions



“The only stupid question is the one not asked”



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“You are either going forwards or backwards, there is no standing still, Never Quit Learning”

Tom Krill



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Thoughts of

Dr. Thomas L. Krill, PhD

“a Northwest Ohio Farm Kid”

Degrees

The Ohio State University

Iowa State University

Public Employment

High School

College

Extension

Private Employment

Equipment Industry

product development

wholegoods “IRON”

service products

Agronomy Supply Industry

retail (fertilizer, seed, and crop protection)

service offerings



Over two decades of experience in Precision Farming with field experience in over half the territories and states of North America



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Thank You

Dr. Tom Krill

Precision Strategy, LLC
PO Box 53007
Pettisville, Ohio 43553

360 210-5400
tkrill@precisionstrategy.us

*Experienced professional advice capable of
positioning your agricultural business for the
challenges of Precision Farming*

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