Drivers of Change

Ernie Chappell

Devron VonGunden

Alan Brady
EFC Systems’ Vision

Comprehensive Solutions
- Addressing all aspects of online / real-time E.R.P.
- Addressing all aspects of Precision / Field Data Management
- Full service Infrastructure Services & Hosting

Empower Retailers to Serve Growers
- Robust, Modern, Scalable Ag Technology Products & Services
- Empower Work where the work is (Mobility)
- Empower Managing with insight (evidence based actions)
- Empower Grower engagement with Grower facing functionality
- Build & deploy solutions to meet Retailer needs of 2020 & beyond

Drivers of Change
EFC Systems’ Currently

- Founded: 1988
- Employees: 96
- Customers in states: 47
- Agribusiness since 1991
- Employee Ave. Age: 35.8 Yr
- Employee Ave. Tenure: 5.3 Yr
- Over 7,000 users

DRIVERS OF CHANGE
Drivers of Change

- Consolidation of Growers & Retailers
- Regulation / Compliance / Traceability
- Changes in Grower Communication
- Leading Growers to Sustainability
- Turning Mountains of Data to Action
- Disintermediation of Retailers/Advisors
Role of a Technology Provider

• What I hate
Role of a Technology Provider

• What I hate
• What I like
Role of a Technology Provider

• What I hate
• What I like
• Our collective failures
Role of a Technology Provider

• What I hate
• What I like
• Our collective failures
• Job at Hand
Role of a Technology Provider

• What I hate
• What I like
• Our collective failures
• Job at Hand
• Future
Staying Focused

My business would be more efficient if ________________

If our trading partners could do ____________________
    then we could spend more time doing _____________

Work with Growers would be simpler if ______________

Growers are asking us to help them _________________
Devron VonGunden
Senior Product Manager
Complete Data Management

Fleet Mgmt.
Work Order Logistics
Field Recording
Field Mapping
Geospatial Analytics
API Web Services
Soil Fertility Analysis

Drivers of Change
FieldAlytics – Core Strengths

- **Data Processing & Analysis**
  - LINK file processing and association
  - Boundary Auto Association

- **Machine Communication**
  - Wireless File Sending
  - 3rd Party API

- **Fertility Engine**
  - Direct Lab Integration
  - Fertility Analysis Module
FieldAlytics LINK Data Flow Process

Seamless Wireless Transfers From Cloud to Field

Drivers of Change
Yield Reporting & Analysis

* Multi-year Normalization
* By Variety, Soil Type, Mgmt. Zone
* Field Trial Analysis

DRIVERS OF CHANGE
Logged Data – Calibration & Editing

- Preview Effected Points
- Update Values instead of Remove/Delete
- Maximize user efficiency
- View and Edit by Machine
Advanced Fertility Management

Soil Sample Management
- Mobile Software Integration
  - (iOS, Windows Mobile)

Soil Lab Integration
- Pre Check In
- Analysis/Upload

Lab Equation Integration

Fertility Recommendation Engine
- Fertility
- Fertility + Removal
- Removal Only
- Management Zone Input

Export Prescription File
- Wireless Machine Communication
- Batch Rx Creation & Export

Drivers of Change
Soil Lab Integration

70+ soil lab integrations

- Soil Bag Barcoding
- Pre Check-In Services
- MODUS Compliant
- Direct Delivery Solutions
- Electronic Lab Report Linkage
- Lab Recommendations

Drivers of Change
VRT Corn – Potash RX (with Removal)

K2O (Potash) Application Levels  
Soil test + crop removal Potash recommendation
Mgmt Zone Input Rx Analysis
FieldAlytics – Next Wave

Workflow Enablement
- Job Setup
- Dispatch Control

Compliance, Records & Planning
- Label Check
- Reporting & Budgets

Mobility
- In-Field Solutions
- Connectivity

Integrations
- Industry Leaders
- Innovators and Movers
Asset Management

- Position updates every 30 seconds (API Dependent)
- Overlay field boundaries, work orders, soil type, and radar
- Automated daily asset batch reports
- Asset history and summary reports
- Geo fences, speed/time alerts
- Directions to/from assets or locations
- Send to navigation devices
Electronic Work Order Management
CDMS Compliancy Checking

- Product Lookup Service
- Validation on Rate, UOM, State, County
- Restrictions, PHI, REI
- Access to Labels and Documents
- Alerts and Warnings
Operations Dispatch

Drivers of Change:
- Advanced Job Filtering & Querying
- Unique Map Display & Interaction
- Interactive Job Setup & Editing
- Dispatch Control & Organization
- Asset Assignment & File Management
- Interactive Mobile Controls
Mobile Solutions

- Work Order Integration
- Task List Enablement
- Mobile Dispatch Viewing and Sorting
- Field Scouting & Label Check Service
- Job Status Editing
- Operator Job Verification Details
Mobile Field Sampling

In-field data collection
Utilization of Work Order Tasks, GPS navigation and directed sampling target and grid layers.

Lab Integration
Directly synced to our web system and used within the fertility module for VRT Rx generation and output for fertilizer and nutrient analysis.
Mobile Field Scouting

In-field observations & recommendations

- Plant conditions, disease, pest and other field related factors along with photos and related field data layers. Label Checking and Reporting.

Connectivity

- Directly synced to our web system and used within the field records module for later documenting, reporting or job creation.

Drivers of Change

- Connectivity

- Directly synced to our web system and used within the field records module for later documenting, reporting or job creation.
Record Keeping

Drivers of Change

- Integration to Work Orders
- Applicator Details
- Rate Updates
- Pricing Updates
- Logged Data Linkage
- Mobility
Crop Planning & Budgeting

Drivers of Change:
- Current Pricing on Product & Service Charges
- System Input from Management Zones
- Direct Import of Saved Rx Layers
- Interaction with Yield Spatial Layers
- Sub-Field Analysis - Sustainability
- Profit/Loss Analysis – Land Value
Key Integrations and Partners
Integration Projects

Enhanced User Experience → Single Sign-on Data Access → Broaden User Abilities and Access → FieldAlytics becomes central control system
Adapt-N Nitrogen Model

Management Info

Yield, Tillage, Previous Applications, Plant Dates, Crop Rotations, Soil Conditions

Analyze & Compare

Climate Integration

- User Authentication
- Send Soil Data
- Send Imagery
- Send Rx/Zones
- Retrieve Agronomic Data
Weather Integration

### Drivers of Change
- Radar, Base Maps
- Grower Degrees
- Enhanced User Access
- Local Station Data
- Hourly/Seasonal Precip
- Adv Reporting/YTD/Norms
- Precip Probability

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**Weather Integration Table**

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Spray Advisor

• Help Identify:
  • Customers in scheduling or operations
    • “Can these jobs go out today given the conditions”,
    • (i.e. Fertilizer Manager, Dispatcher)
  • The Operators in the field who might ask “Can I do this job given the current conditions”.

• Mobile Access on Phone/Tablet
• Direct Integration to Work Orders
Imagery Integration

- Preview Available Images
- Use for in-season field analysis
- Maximize product input efficiency
- Access to historic images
Alan Brady
Vice President – Client Services
Merchant Ag Integration
Benefits of Integration to ERP

- Improved User Experience
- Reduction duplicate Entry of Jobs
- Tighter Data Controls
- Increased User visibility into Operations
What data is being shared

- Location Data
- Grower Data
- Inventory Attributes
- Inventory Levels & Prices
- Field Boundaries
Grower Integration
Item Integration
Work Order Integration
Grower Portal Integration
Drivers of Change

- Regulation & Compliance
- Consolidation
- Changes in Grower Communication
- Data into Decisions “Decision Ag”
- Sustainability
- Threat of Disintermediation
Thank you for listening!

Please come see us at Booth 37 & 38