Modernize Your Controls to Improve Yield
Andrew Green
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Goal

Provide systems architecture and processes that will support total quality production by proactively monitoring, controlling, and managing the production process.
Value Proposition Examples

1. OEE
   - Bottleneck identification and consistent line speed
   - Updated engineering standards – optimal standards vs. planning/accounting standards
   - Equipment performance, downtime monitoring, and quality monitoring

2. KPI Analysis
   - Metrics that can be measured and displayed in real-time
   - Condition-based monitoring
   - Education and training on how to respond to plant floor events

3. Enterprise Application Interoperability Analysis
   - Optimize the interoperability between plant systems and ERP/Planning systems
Value Proposition Examples

4. Data capture and visibility opportunities

- First Processing
  - Real-time monitoring – stunner, scalding, pickers, line speed, empty shackles, chiller settings
  - Visibility into bird quality – damaged/broken wings, bruising, rework
  - Yield Performance – paw yield, trimmer yield, WOG yield

- Debone
  - Labor efficiencies
  - Line balancing with first processing
  - Real-time breast yield monitoring

- Further Processing
  - Improving line setups
  - Meat prep and blending monitoring
  - Coating monitoring for more consistent pickups
  - Visibility of freezer performance
Overall Equipment Effectiveness (OEE)
Plant Demo 4/29/2015

Key OEE Drivers:
- Driver 1
- Driver 2
- Driver 3

Baseline OEE: 80%
Current OEE: 34%
Target OEE: 90%

Availability: 70%
Performance: 60%
Quality: 80%
OEE: 34%

1% Change in Plant OEE:

Downtime Minutes

OEE Lines:

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Action Items:
- Action 1
- Action 2
- Action 3
KPI Analysis – Scope & Goal

Scope

– Site visit to catalog existing data sources
– Interview and profile of key information consumers
– Identify and articulate outcomes and behaviors KPIs should influence

Goal

*Help determine what the KPI’s are that you should be managing to and how to collect, contextualize and deliver that information to the stakeholders who need it, WHEN THEY NEED IT.*
KPI Analysis – Process

- KPI Questionnaire
- Client’s Metrics & Reporting Standards
- Industry Supply Chain Metrics & Standards

Gather KPI economic & Stakeholder Requirements → Identify KPI System Components

- KPI Business Requirements
- KPI Call to Action events and condition identification
- Gather KPI data source information
- System Requirements

Commercial off the shelf solutions

Client’s Technology Standards

Identify KPI System Components → Evaluate solution options and potential benefits

- System Specification

Recommendations and Benefits

Create Project plan

- System schedule and resource requirements
- Validate with users and stakeholders

- KPI and Decision support System Implementation Blueprint

Business Unit / Department Impacts

Document Success factors
KPI Business Requirements: The information requirements for all the key users of the system.

KPI Event Workflows and Use Case Scenarios: The interface and interaction requirements for your information consumers.

System Requirements: The requirements to support construction of the required information.

Business Unit / Department Impacts: The expected outcomes and success factors for system stakeholders.

System Specification: The Technical components and architecture of the system.

System Recommendations and Benefits: Go forward recommendations and benefits from the system.

System Schedule and Resource Requirements: The estimated costs, schedule, and plan for implementing the system.
Enterprise Application Interoperability Analysis
Enterprise Application Interoperability Analysis – Barriers

- Underutilized ERP Modules
- Multiple applications to solve the same business problem
- Manual data entry
- Paper based data collection
- Dependence on spreadsheets for analysis and reporting
- Custom applications
- Unsupported applications
- Critical information sourced by multiple databases
- A complex database and application infrastructure
- No connection to automation and control systems
- Isolated sensors measuring important process parameters
Enterprise Application Interoperability Analysis – Solution & Deliverables

Solution:
- Assessment of strategic business requirements
- Existing system and technology benchmarked
- Critical gap identification
- “To-be” application architecture development

Deliverables:
- Survey of existing systems
- EAI business requirements documentation
- Current state gap analysis and opportunities for improvement
- Potential solution recommendation
- Budgetary estimate for implementation
Enterprise Application Interoperability Analysis – Process

1. Gather EAI Stake Holder Requirements
2. Create EAI Questionnaire
3. Map Business Requirements to Current State Capabilities
4. Current State Gap Analysis & Opportunity Assessment
5. Evaluate Solution Options
6. EAI Future State Road Map & Benefits
7. Stone & Industry EAI Best Practices
8. Gather Current Application Information
9. Current State Application Architecture
10. Commercial Solution Capabilities
11. Client Application Standards
Data Capture and Visibility Opportunities
Data Capture and Visibility Opportunities

Bird Tracking
- Utilizing remote sensors to track a bird through the process
- Identify bottlenecks in the process
- Provide tracking of rework and losses

Stunner
- Reduce bruised birds due to inconsistent amperage
- Real-time data monitoring
- Optional remote control and remote monitoring
Data Capture and Visibility Opportunities

Meat Blending/Marinade

– Track material consumption by SKU
– Drive consistency in recipe adherence and equipment set points
– Provide consistent meat blending and marinade quality

FP Yields

– Real-time yield tracking and visibility
– Visibility of critical process parameters and quality sample results to drive real-time decisions
Data Capture and Visibility Opportunities

Coating

- Drive consistent pickups
- Optimize pickups at the top of the spec range
Catch Weight Automation
Catch Weight Automation

Value Proposition

By utilizing SCADA to assess product characteristics from samples, the catch weight process can be seamlessly managed.

Benefits

– Reconciled cost accounting & MRP systems
– Reduced hours to manually manage catch weights
– Accurate yield valuation, billing, and tax charge application
Trim & Breast Yield Optimization
Trim & Breast Yield Optimization

Value Proposition

*Utilize SCADA to proactively monitor yields to increase product consistency*

Benefits

- Align yields and costs with industry benchmarking
- Equipment performance monitoring (breast trimmer, etc.)
- Real-time visibility of breast yields
- Education for team members regarding best practice techniques on using improved, real-time feedback
- Improved procedures and tools for measuring and monitoring and controlling critical process parameters
- Integrated maintenance and operational best practices to reduce damaged product
Questions?

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