thrIve™

Systems Thinking

Ryan Brown
Global Supplier Process Manager
Food Safety, Quality & Regulatory
Cargill Animal Nutrition

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150

150 years of helping the world *thrive*

143,000
employees

across
67
countries

working in nearly
70
businesses

with a singular purpose:
to be the global leader in nourishing people.

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Food Safety Program & Systems Thinking

- The U.S. animal food industry consists of many different segments (pet food, complete feed, animal health, premix, etc.) each at a different level of food safety maturity.

- Risk (finished product, facility, raw material, etc.), industry segment and company needs dictate the sophistication of a food safety program.

- The following is one industry example of how a food safety program can be implemented and how systems thinking plays a role.

Food Safety, Quality and Regulatory (FSQR) Standard

Pre-Requisite Programs
PAS 222

- Sanitation
- Pest Control
- Management of Ingredients
- etc.

Food Safety Management
ISO 22000

- HACCP
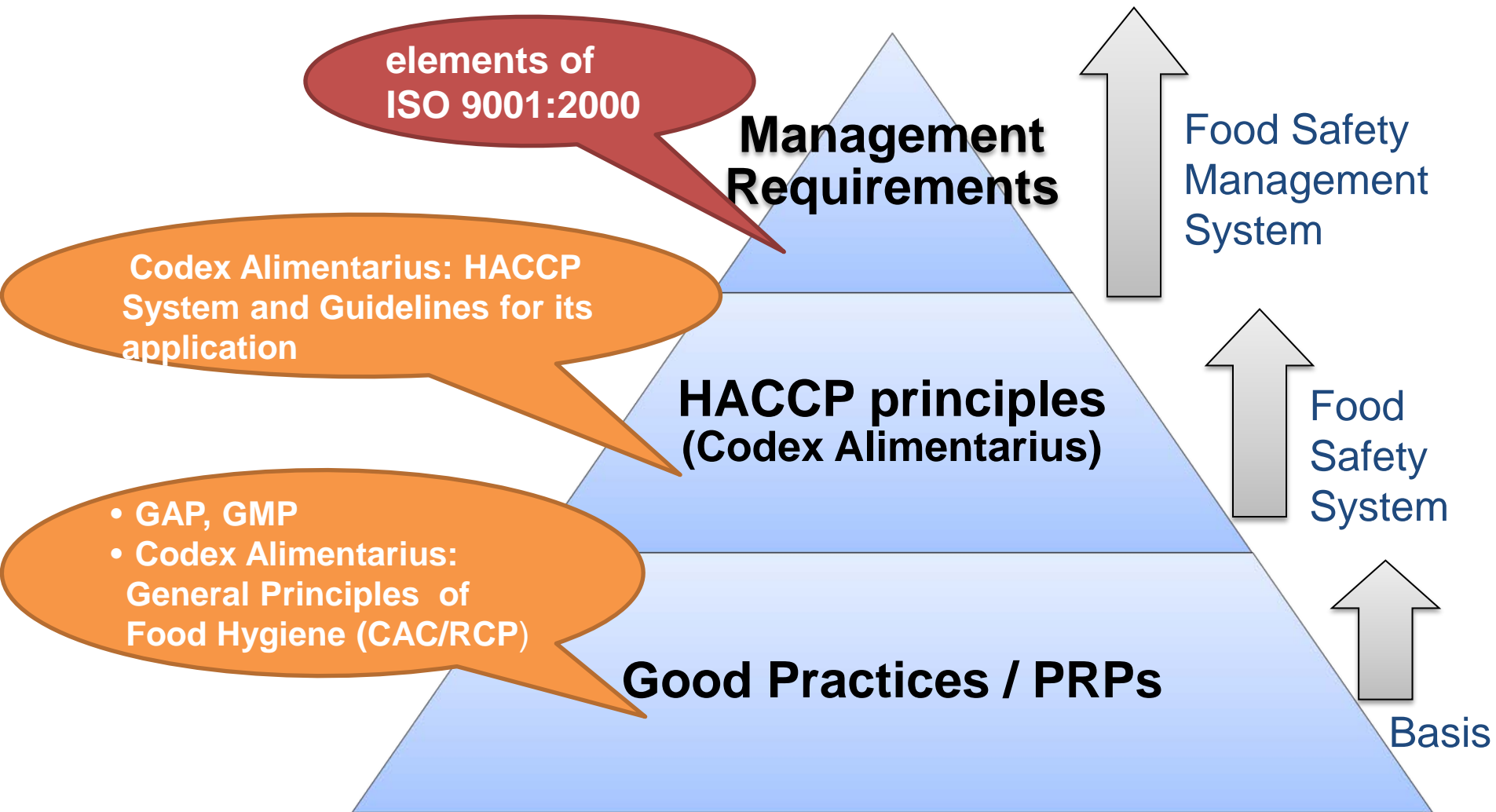- Training Programs
- Internal Audit
- Management Review
- etc.

Cargill Additional Requirements

- Additional requirements for Pre-Requisite and Food Safety Management

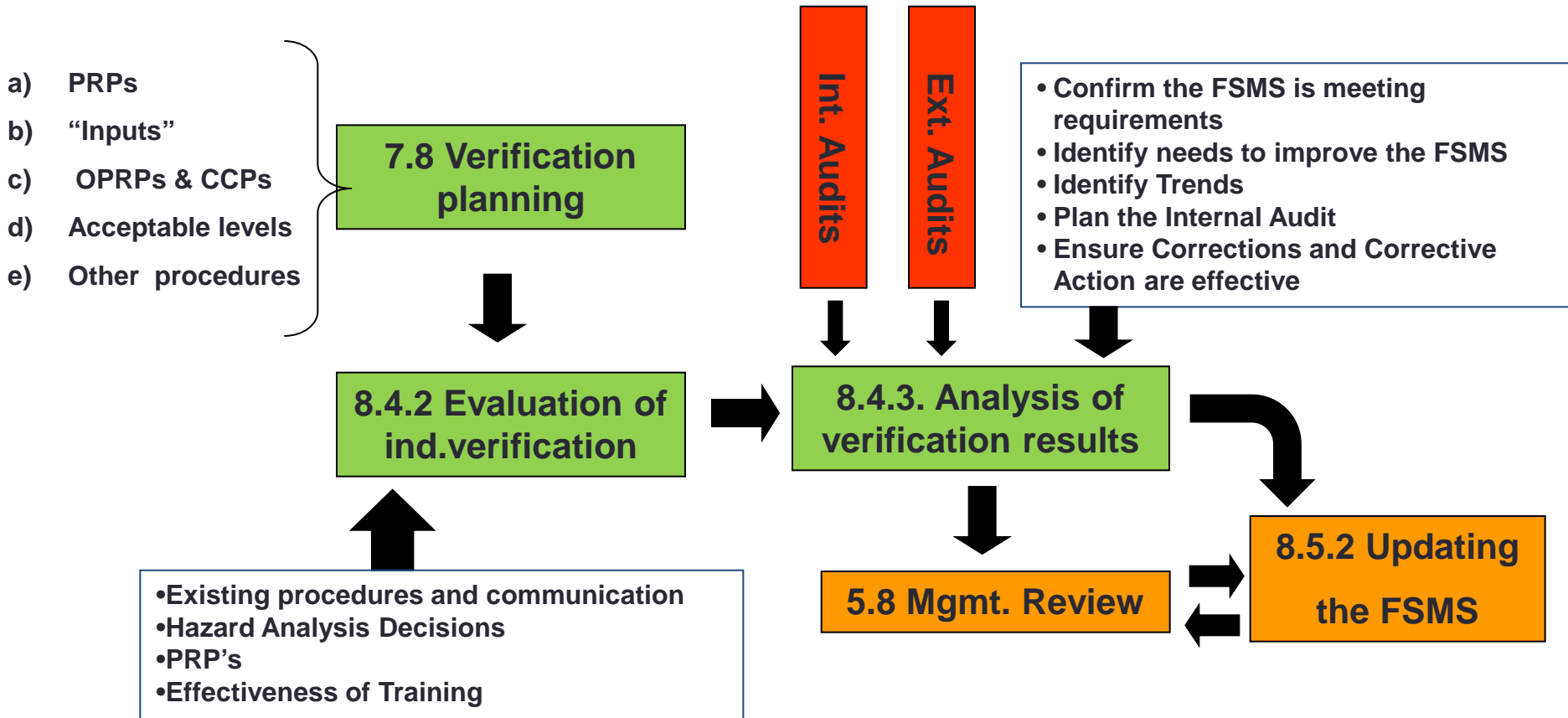**Cargill Animal Nutrition FSQR Policy Manual**

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Food Safety Management Systems:
a model e.g. ISO 22000

elements of ISO 9001:2000

Management Requirements

Food Safety Management System

Codex Alimentarius: HACCP System and Guidelines for its application

HACCP principles (Codex Alimentarius)

Food Safety System

- **GAP, GMP**
- **Codex Alimentarius: General Principles of Food Hygiene (CAC/RCP)**

Good Practices / PRPs

Basis

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Pillars of a Food Safety Management System

Management Review

Internal Audits

Corrective Actions & Corrections

Continuous Improvement

Verification System

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Verification System

a) PRPs
b) "Inputs"
c) OPRPs & CCPs
d) Acceptable levels
e) Other procedures

7.8 Verification planning

Int. Audits

Ext. Audits

- Confirm the FSMS is meeting requirements
- Identify needs to improve the FSMS
- Identify Trends
- Plan the Internal Audit
- Ensure Corrections and Corrective Action are effective

8.4.2 Evaluation of ind.verification

8.4.3. Analysis of verification results

8.5.2 Updating the FSMS

5.8 Mgmt. Review

- Existing procedures and communication
- Hazard Analysis Decisions
- PRP's
- Effectiveness of Training

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Audit Trails

Systems Thinking

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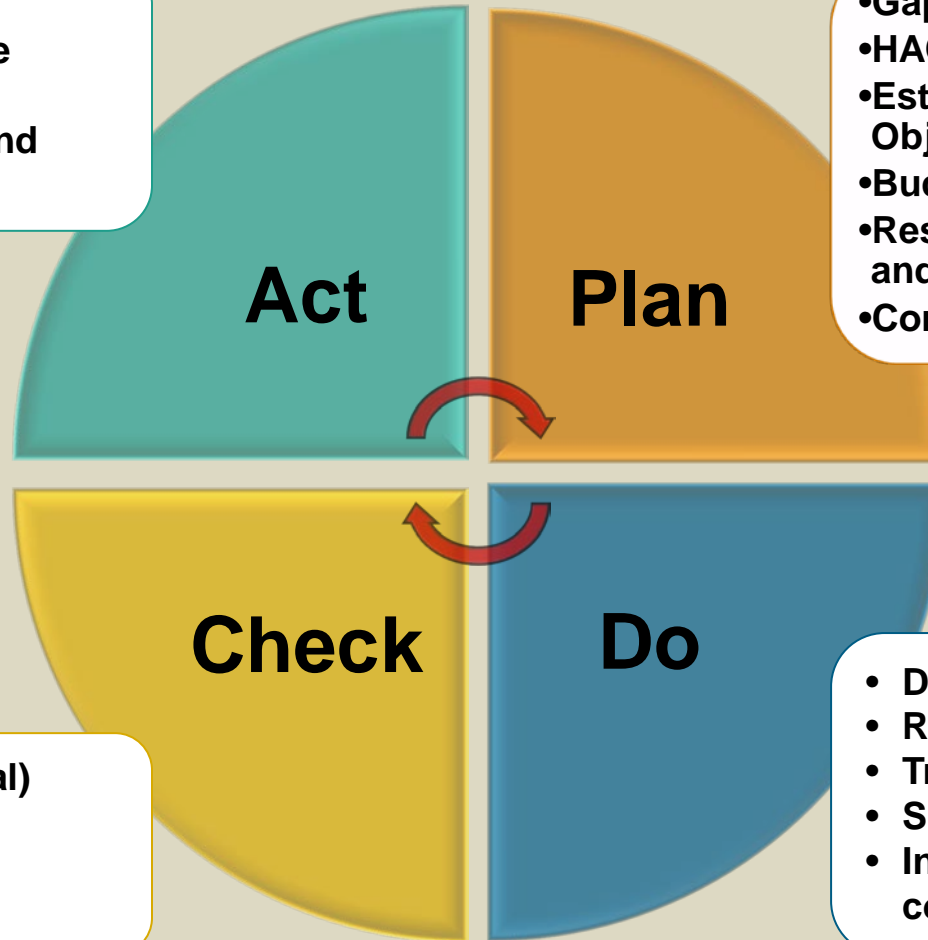
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Continuous Improvement Model

- **Management Review**
- **Corrective/Preventive action**
- **Update documents and adjust behavior**

Act

•Gap Assessment
•HACCP program planning
•Establish Measurable Objectives
•Budgeting
•Resource planning (human and financial)
•Communication Plan

Plan

- **Audit (internal/external)**
- **Verification**
- **HACCP**
- **Management Review**

Check

Do

- **Document**
- **Record**
- **Train**
- **Spend against plan**
- **Internal/External communication**

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Auditor Training and Calibration

| Identify Auditors | Training (classroom & on the job) | On-going Calibration |
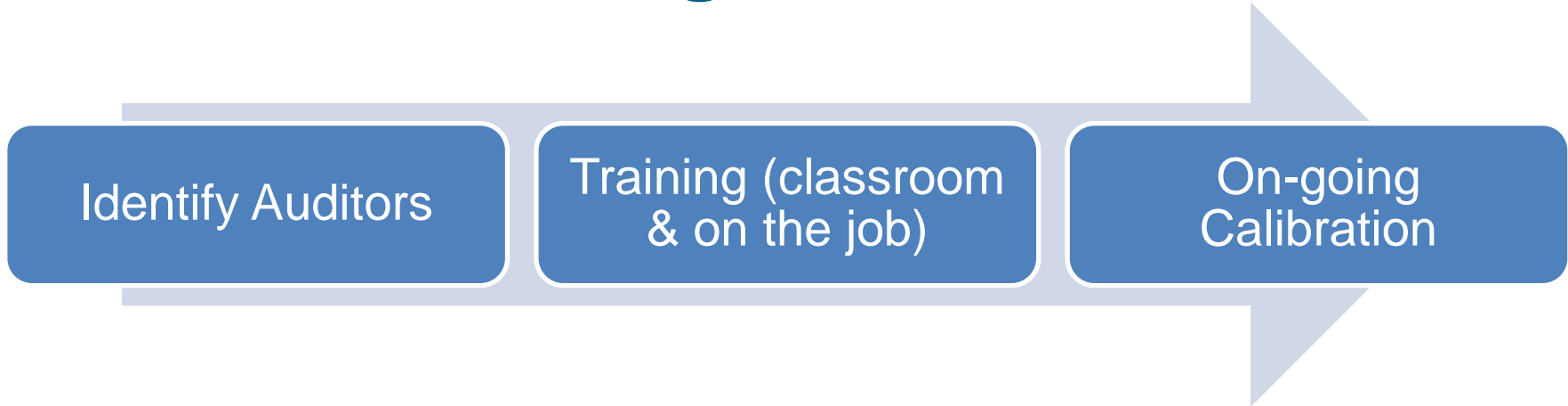
Technical Skills

4.0 Food Safety Management System (FSMS)
1. General Requirements
2. Documented Procedures

8.0 Validation, Verification, Improvement of FSMS
1. General
2. Validation
3. Monitoring/Measuring
4. FSMS Verification
5. Improvement

5.0 Mgmt Responsibility
1. Mgmt Commitment
2. FS Policy
3. Responsibility & Authority
4. Planning
5. FS Team Leader
6. Communication
7. Emergency Prep/Response
8. Mgmt Review

ISO 22000 & PAS 222

7.0 Planning & Realization
1. General
2. PRP's
3. Preliminary to Hazard Analysis
4. Hazard Analysis
5. OPRP's
6. HACCP Plan
7. Updating PRP's/HACCP
8. Verification
9. Traceability
10. Control of Non-Conformity

6.0 Resource Mgmt
1. Provisioning
2. Human Resources (Competency, awareness, training)
3. Infrastructure
4. Work environment

Auditor & Soft Skills

Auditor Code of Conduct	Listening Skills	Observation Skills	Effective Communication
Impact of Culture on Communication	Conflict Avoidance	How to build trust	Positive Relationships – Building Rapport
How to interview and ask questions	Following Audit Trails	Taking Notes	Opening & Closing Meeting

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Summery

- Risk and intended use play important roles in systems thinking. It is not a one size fits all approach.

- Observations are important to note, but root cause analysis and effective corrective action enable prevention.

- A facility's food safety culture plays an important component of how serious a facility is in continuously improving versus being satisfied with the status quo.

- On-going calibration and a commitment of lifelong learning of auditors is critical to ensure auditors have the skills, experience and network to consistently audit. The goal should be consistent audit findings.

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