

Resilience when handling a food safety crisis

Rachel Ward PhD FIFST

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Exponent

- Exponent is a multi-disciplinary engineering and scientific consulting firm that brings together more than 90 different disciplines to solve important engineering, science, regulatory and business issues facing our clients
- Chemical Regulation and Food Safety
- Technical and regulatory consultancy covering chemical contaminants, food contact materials, novel foods, REACH, consumer products, cosmetics and lots more...



Polymers & Biomedical

- Biomedical Engineering & Sciences
- Polymer Science & Materials Chemistry



Environmental Sciences

- Ecological & Biological Sciences
- Environmental & Earth Sciences



Mechanical & Thermal

- Thermal Sciences
- Mechanical Engineering



Health Science

- Chemical Regulation & Food Safety
- Health Sciences



PROJECTS

Transportation

- Biomechanics
- Human Factors
- Vehicle Engineering



Infrastructure & Materials

- Buildings and Structures
- Civil Engineering
- Construction Consulting
- Material & Corrosion



Electrical & Data Sciences

- Electrical Engineering & Computer Science
- Data Sciences



What is a Crisis?

- In food safety, a crisis is a predicted or unpredicted event that represents an immediate or future significant threat to an organization, its employees, consumers and the public at large. (Bartlett, R. 1999)
- Often distinguished from an incident as being a major incident out of the organisations control
- Critical situation requiring real-time and strategic decisions to be taken by senior management under time pressure and intense scrutiny from stakeholders, including the media.

Crises can be well-managed if a food operation is well-prepared

Resilience in a Food Safety Crisis - Capability

- Strategic food risk management approach, with supporting company food safety culture and competent resources
- Appropriate response to food safety risks - applying food risk management principles and practices, evidence-based decision-making, and considering expert advice
- Effective adaptation to change - without unintended adverse consequences through establishing fit-for-purpose alternative sourcing, standards, controls, etc.
- A single set of integrated and standardised processes, tailored to an individual organisation's requirements, capturing multidisciplinary inputs, covering whole operation, including:
 - An incident and crisis management plan / procedure
 - A business continuity plan - addressing food safety disruptions
 - A disaster recovery plan - enables recover from food safety disasters
 - A value protection plan - protects shareholder value at all times
 - An exploitation plan - enables leverage of any arising opportunities in risk reduction



Strategic Food Risk Management

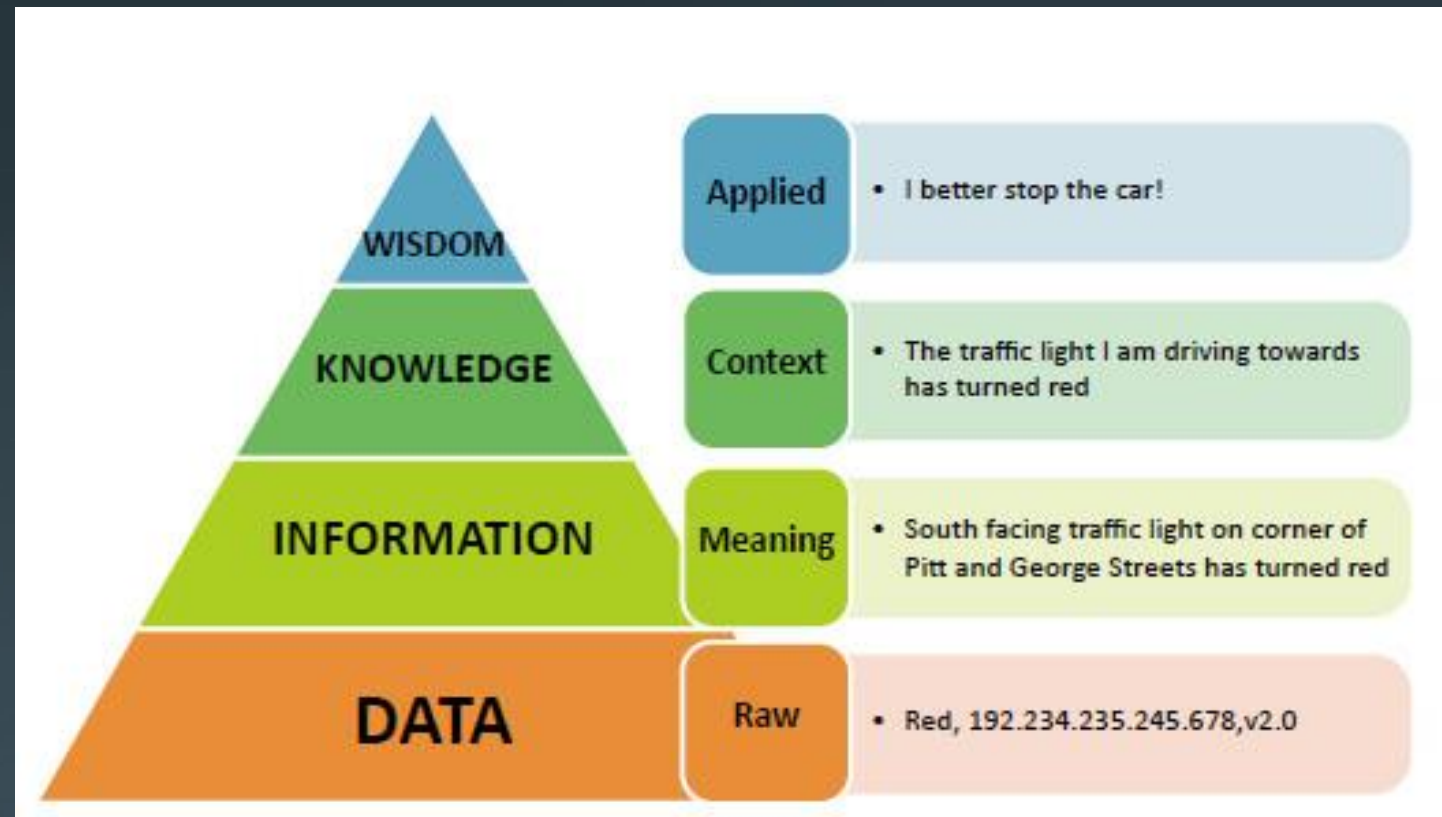
- Integrated
 - Board invested and committed
 - Key business performance criteria
 - Food safety culture embedded & rewarded
- Intelligence Driven
 - Food system awareness
 - Identifying, assessing and prioritizing food safety issues
 - Evidence led risk prevention
- Competent
 - Acceptable levels of food risk protection (standards, controls)
 - Multidisciplinary expert guidance
 - In-house skilled professionals



Intelligence Gathering

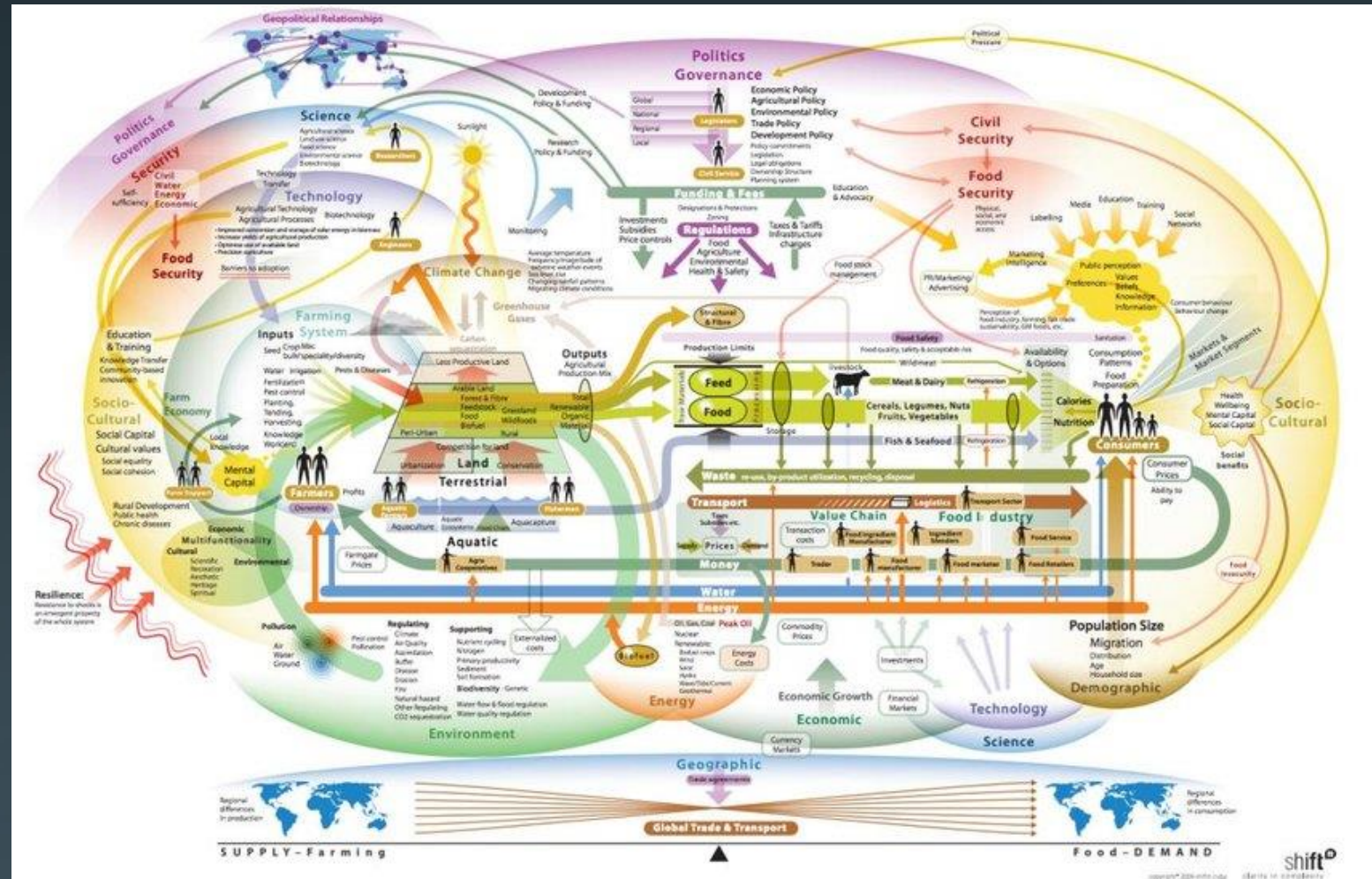
- Intelligence Gathering: Process of collecting **information** on threats and using that information to drive risk assessment and support risk protection.
- **Intelligence** is a product of the collection, evaluation, collation, interpretation and analysis of available data and information concerning issues vital to an organisations development and execution of plans, policies, decisions and courses of action.

Information ≠ Intelligence



The Global Food System

- Complex, Complicated and Interdependent
- Multidisciplinary expert assessment needed to interrogate insights and signals to identify relevance and prioritise
- Frequent review needed to confirm risks and address any changes



Intelligence Gathering – Key Elements

RISK IDENTIFICATION

Diagnosing and collecting information on factors that could create risk.

Collect what data? From where? How?

Resources required

RISK ASSESSMENT

Gauging the likelihood that a risk might occur. It involves analyzing risk probabilities and the potential consequences that might follow.

Multi-disciplinary expert assessment required to analyse collected data and predict consequences
Senior management engagement essential – to understand potential consequences and overlay organisation priorities

RISK PRIORITIZATION

Categorizing each risk in order of importance. It involves organizing risks based on their importance to the organization.

Commitment – resources, time, reducing risks

RISK MITIGATION

Implementing strategies that reduce the likelihood of a risk occurring. It involves implementing regulations, developing contingency plans, or transferring risk.

Multi-disciplinary experts required to design effective strategies

Resources required to effectively and consistently implement them

RISK MONITORING

Reviewing the effectiveness of risk management activities. It involves tracking risk indicators and evaluating the overall risk management process.

Resources required to monitor and confirm effectiveness – and provide inputs for review and re-assessment

RISK COMMUNICATION

Sharing information about risks with stakeholders. It involves outlining risks and management strategies for investors, executives, and other interested parties.

Communication needed at all stages

No buy-in or agreement, conflicting priorities **erode risk mitigation efforts**

Emerging Issues in Food Systems

- Food production is a major contributor to greenhouse gas emissions as well as water scarcity and wider biodiversity issues
 - Unsustainable food production threatens food security, for example from over-fishing, soil erosion or water shortages.
- Food production will increasingly be impacted by climate change, in particular from the increased frequency of storms, droughts and other extreme weather events.
- Overconsumption and waste further exacerbate the situation
 - Placing unnecessary pressure on the food system
 - Increasing public health pressures - rising obesity rates; diet-related illness



Emerging Risks in UK Food System

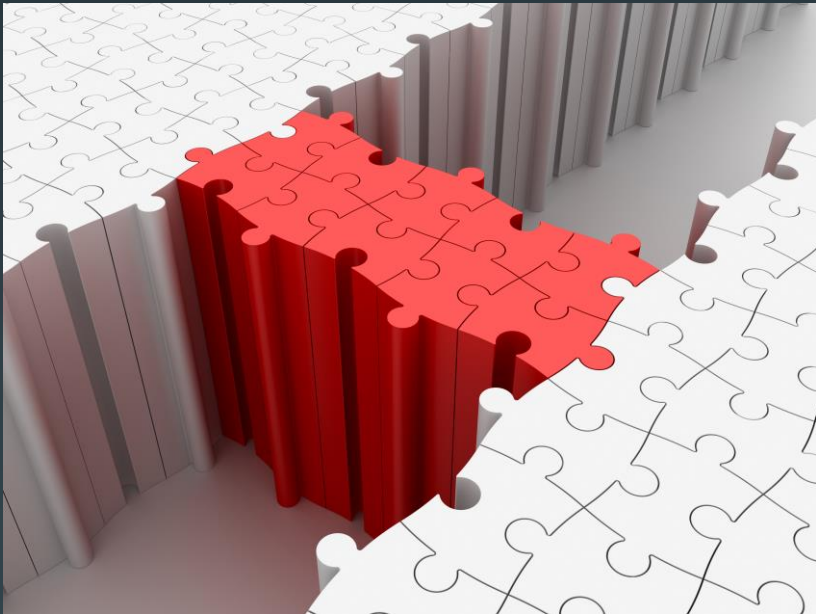
Key drivers and impacts

- UK economic condition
 - Supply chain volatility and disruption
 - Household food insecurity
 - Labour shortages in the food system
- Consumer attitudes
 - Increased volatility of consumer decision-making
- Climate change /environmental factors
 - Increased animal and plant pests
- Technology Innovation
 - Improved agricultural production technologies
 - Digital technologies, AI, and robotics
 - Alternative sources of protein
 - Novel food processing technologies
 - Gene editing / precision breeding technologies
 - Insects in food and feed
 - Improved packaging / alternatives to single use plastic
- Brexit and regulatory change
 - Enforcement issues at the border linked to new import controls
 - New trade agreements and their potential impact on the UK food system
 - Regulatory divergence
- Commercial drivers
 - Decreased investment in technology innovation
 - + Decreased investment in food safety and quality assurance
 - + Energy costs

Policies, Processes and Procedures

Standardised plans, processes and procedures are essential

During an incident time is limited and everyone is having a bad day!



- **POLICIES** – company positions, policies and approaches to standardise and clarify ways of working, definitions, escalation and communication
- **PROCESSES** – ensures nothing and no-one gets forgotten!
- **PLANS / PROCEDURES** – for consistency in ways of gathering data, performing risk assessments, making decisions, taking actions, keeping records, communicating with stakeholders, contingency planning, applying concessions, identifying regulatory/legal actions
- **TEMPLATES** – to save time and standardise records e.g. for creating incident / crisis logs, risk assessments, Q&A to support communications, forms for notifying national authorities
- **KEY 24/7 CONTACT DETAILS** – CMT, key business leaders and senior management, Suppliers, Service providers for incidents/crises, Regulators per each market of sale

People – A Robust Crisis Management Team (CMT)

- Designate and document a CMT ahead of time
 - A committed Senior Manager as Crisis Manager – experienced, pragmatic and respected leader with technical and operational knowledge, organizational management skills, empathy and good communication skills
 - CMT need to include a balance of diverse perspectives and skillsets specific to the unique crisis incl. PR, HR, Legal, Marketing, Operations, Technical.
 - Supported by crisis log writers – excellent with detail, calm in a crisis
 - Deputies for each key role 24/7
 - Documented roles and responsibilities
 - Pre-agreed levels of authority for actions and decision-making

**A Business
Critical Team!**



People – Expert Resources

- Identify internal & external expert resources for 24/7 support
- Put confidentiality and service agreements in place ahead of time
 - Testing laboratories
 - Toxicologists / Risk assessors
 - Legal and Regulatory specialists, especially for export markets
 - Trade associations
 - Consumer information / help line providers
 - Product in market withdrawal service providers – collection, transport, disposal
 - Specialist couriers / logistics
 - Emergency food safety certified warehousing – ambient, chill, frozen



Communication and Engagement

- When should this be done?
 - Initial statement within 24hrs
- How should this be done?
 - Expert communications / public affairs input,
 - All comms to be coordinated through one person
- Who authorised?
 - To speak publicly on behalf of the company?
 - To send out social media statements?
 - To communicate with customers?
 - To notify regulators?
 - To update employees?
 - To update shareholders?



- Transparency
- Trust
- Timeliness
- Accuracy
- Impact

Practice!

- Train and Equip your CMT
 - Company policies and procedures
 - Pre-agreed responses to all identified and likely disruptions
 - Secure comms and data sharing systems
 - Communications skills – written, verbal
 - Media training for spokespersons
 - Company operational knowledge
 - Who's who in the organisation
 - Product portfolio
 - Supply chain

- Rehearse!
 - Risk ranking – identify worst case scenarios / risks, rank them by assigning probability of occurrence and likely impacts
 - Mock recall scenarios
 - In real time, across each shift and out of hours



Build your team in peacetime...and they'll be ready for crisis

Response to Food Safety Incidents / Crisis



- Assemble an incident / crisis team
 - Can be at lowest level of operations, then escalate as scope confirmed
 - Start an incident log, can be merged from different parts of business
- Investigation - Scope and Classify
 - Confirm the facts - near miss? emerging issue? confirmed risk?
 - Status - Quality failure? Regulatory non-compliance? Food safety failure?
 - Trigger – alert by consumer, supplier, customer, regulator? Internal red flag?
 - Products affected (traceability) - product by SKU, volume, exact location, status (on hold, in transit, at customers warehouse, in market)?

REPEATEDLY REVIEW as status can change with new evidence

Response to Food Safety Incidents / Crisis

- Risk Assessment
 - Hazard Identification - chemical, physical, micro., allergen? How much?
 - Hazard Characterisation - nature of the (potential) adverse health effects
 - Exposure assessment - intake intended use and vulnerable consumers
 - Risk characterisation - probability of occurrence and severity of known or potential adverse health effects in intended consumer population
- Affected products safety status - could vary by SKU, intended use
- Quality of evidence available for risk assessment and decision-making determines confidence of risk assessment
- Additional expert advice needed?

REPEATEDLY REVIEW as status can change with new evidence

Response to Food Safety Incidents / Crisis

- Actions

- Initial - hold, quarantine, reject back to supplier
- Short term - concessions, corrections, withdraw from supply chain, recall from market/consumers, destroy
- Medium term - corrective and preventive actions
- Longer term - investment in risk prevention / continuous improvement

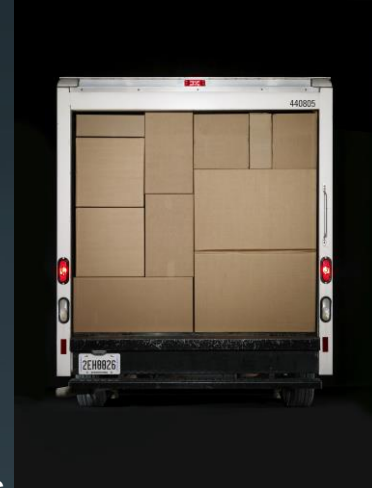
- Note: Multidisciplinary inputs needed to determine fit-for-purpose alternatives to avoid unintended adverse consequences

- Contingency / Change

- Outage replacement to customers
- Alternative suppliers
- Alternative production sites
- Revised specifications and standards
- Revised processing conditions and controls

- Opportunities

- Achieve same or better performance – quality, safety, costs, environmental impact
- Improvements to efficiency
- Rationalisation of supply base



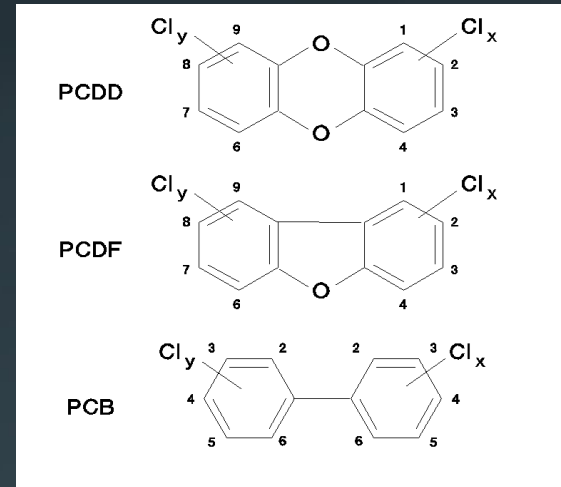
REPEATEDLY REVIEW as status can change with new evidence

Energy Supply Crisis – Unintended Consequences

- Energy and utilities costs are major cost components for food production / distribution
- Many **food safety controls** dependent on adequate energy inputs
 - **Drying** of raw commodities – impact on storage, stability and safety
 - **Thermal processing** – lower temperatures / time can impact on food safety
 - **Cold chain operations** – ensuring maintenance of effective controls
- Drive to Net Zero – energy usage reductions driven by non-cost related aspects including government policy
- Alternative fuel sources – unintended consequences...?

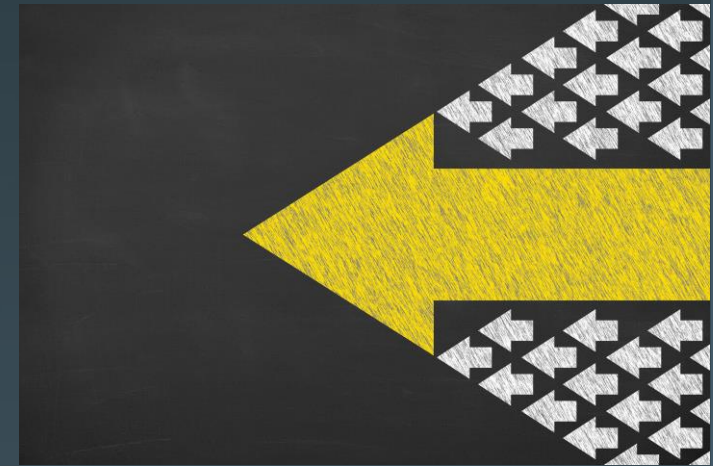
Irish Dioxin Incident - Unintended consequence of energy saving initiative

- **Gas dryer reconfigured to burn oil** - and an alternative oil source was used by feed producer
- **Oil contained waste transformer oil** - dioxins / PCBs transferred to waste bread, then fed to pigs
- December 2008 – **all Irish pork and pork products recalled for 3 months' production**
- Distribution of pork and pork products to >20 countries and back to Ireland
- **Cost >€200 million**



Response to Food Safety Incidents / Crisis

- Post-incident Review
 - Root Cause Analysis - must be thorough to get to root of incident/crisis and prevent future issues
 - De-brief internally - lessons learned, update company policies, make improvements to processes, templates, etc.
- Corrective and Preventive Actions (CAPA)
 - Ensure CAPA do not create unintended consequences
 - Validate CAPA effective in restoring food safety control
 - Re-establish food risk management control



Avoid unintended consequences and Prevent reoccurrence

Response to Food Safety Incidents / Crisis

- Rebuilding after a Crisis
 - Update status of operations and product portfolio
 - Update stakeholder communications
 - Review roles and responsibilities in crisis management policies and procedures
 - Update standards, specifications, supply requirements, controls etc.
 - Embed changes going forward



Resilience when handling a food safety crisis

DON'T PANIC!

- Put PLANS, PROCESS and PROCEDURES in place
 - Have competent trained PEOPLE and resources in place
 - PRACTISE in peacetime
- ...and you will be well PREPARED

Thank you! Any questions?

Get in Touch...

Dr Rachel Ward

rward@exponent.com

+44 (0) 7879 646358

www.exponent.com

