



Food  
Standards  
Agency  
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# **“The identification of future food safety risks”**

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# FSA Strategy for 2010-2015



*Outcome: “foods produced or sold in the UK are safe to eat”*

## **Main Priority**

*“increase horizon scanning and improve forensic knowledge, and intelligence on, global food chains to identify and reduce the impact of potential **new and re-emerging risks**”*

# Definitions

- **Emerging Risk:** a new and unexpected hazard or threat
- **Re-emerging Risk:** a known hazard or threat which is increasing in frequency of occurrence or severity

# Programme Outputs

- Early warning system for new and re-emerging risks
- Intelligence-led sampling plans supporting enforcement activities
- Targeted research and surveillance activities to fill gaps in our food safety knowledge
- Support to policy making in the UK and across the EU

Develop our understanding of when, why and how incidents occur to enable effective interventions to prevent future food safety issues

# Successful detection of Emerging Risks requires...

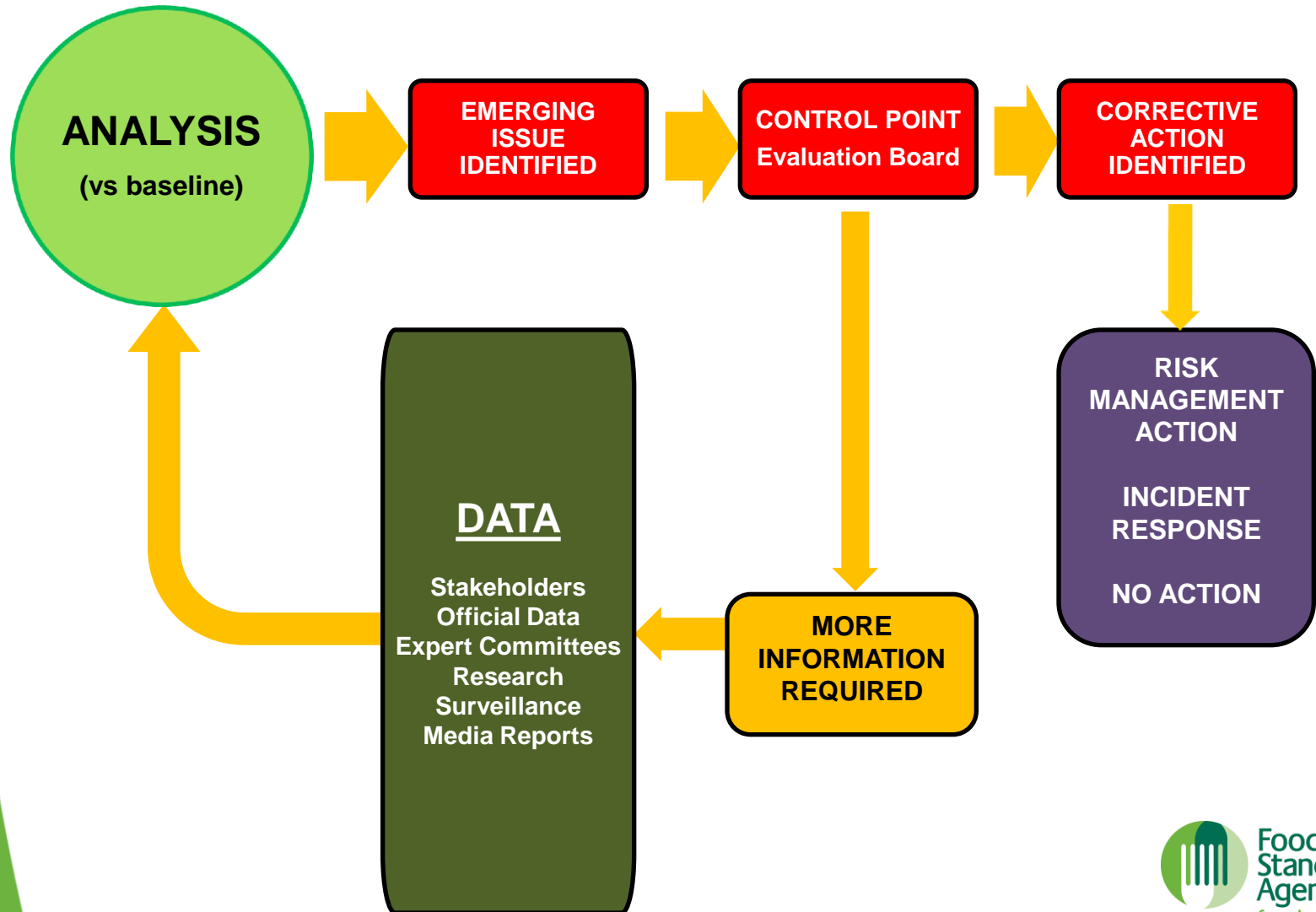
**A protocol**  
(framework)

**An Intelligence Strategy**  
(where & how to look)

**Reliable Data Sources**  
(intelligence)

**Skilled human intervention**  
(know how & common sense)

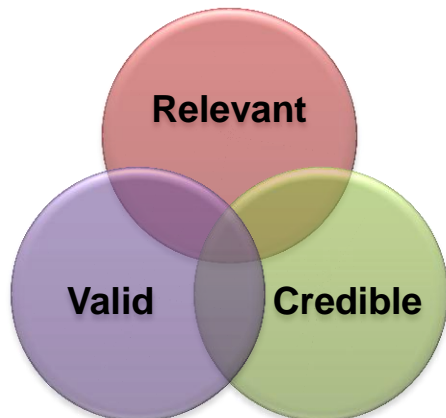
# Emerging Risks detection



# Where does the information come from?

Stakeholders  
Official Data  
Expert Committees  
Research  
Surveillance  
Media Reports

“Whistleblowers”  
Local Authorities  
Border Inspection Points  
Police  
Industry Consultative Forums  
Government Organisations  
European Member States  
European Commission  
EFSA ER Exchange Network  
International Liaison





# Emerging Risks Consultative Forum (ERCF)

Expert Consultation Group representing UK Industry & Enforcement on matters of potential emerging food safety risks

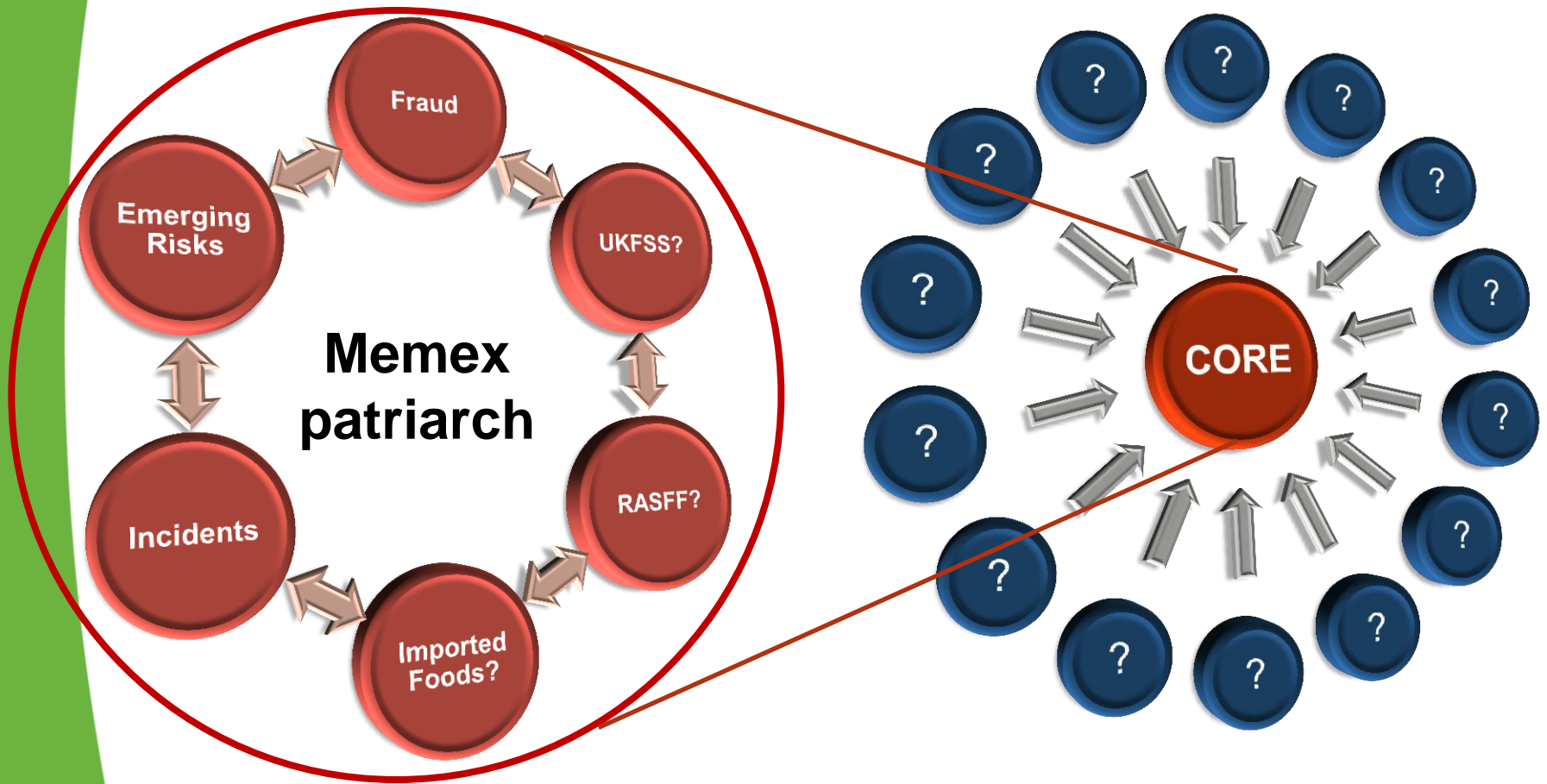
## Principal Purpose:

To provide a discussion forum for the two-way exchange of information to inform the emerging risks programme

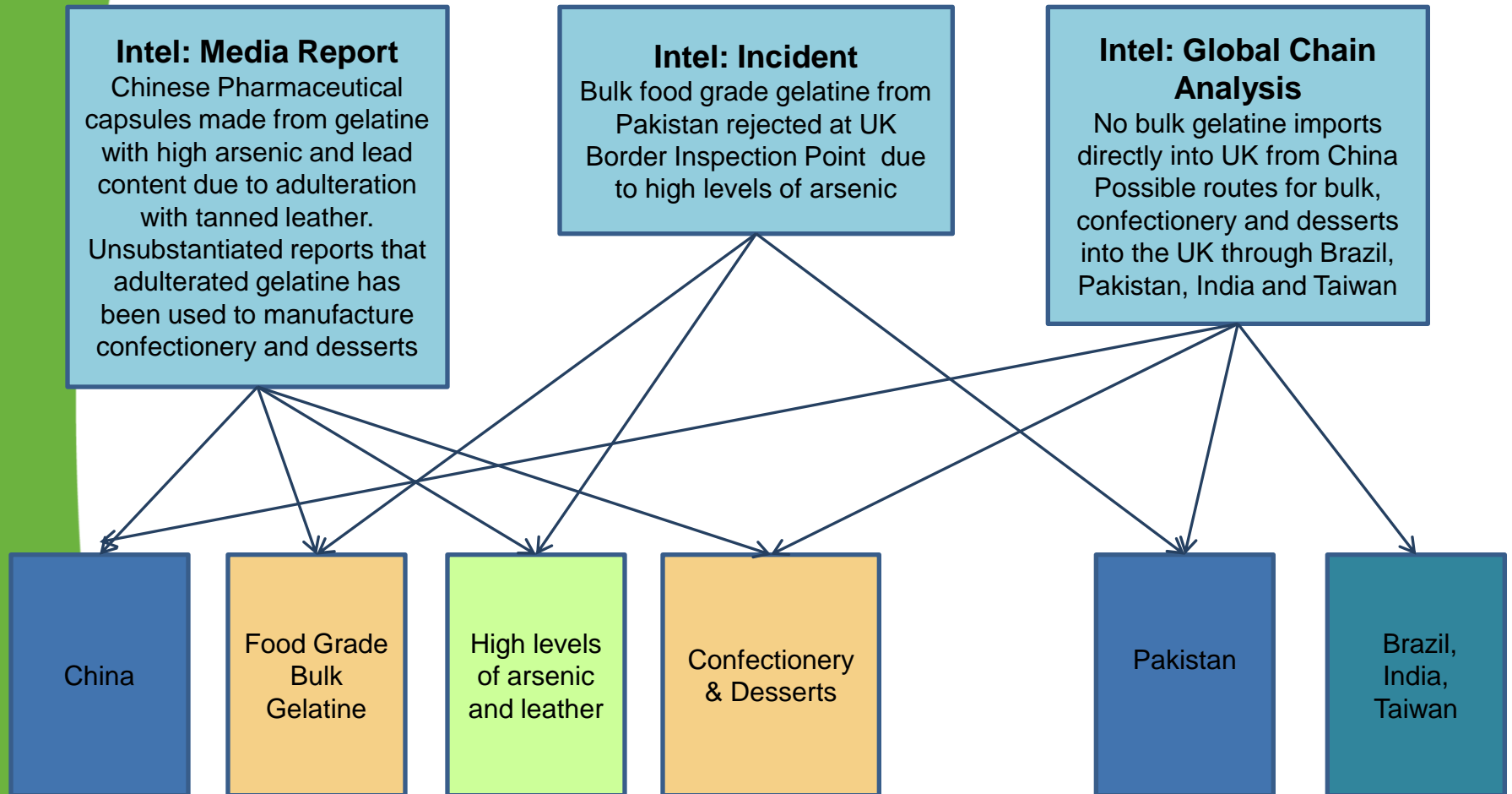
## Objectives

- Principal body for exchanging information on ER's between EFSA, MS's, EU Commission and international organisations
- Network consists of national experts on ER identification
- Exchange of information includes ER intelligence and the identification activities of MS's
- Facilitate the access to and exchange of relevant databases

# Intelligence System



# Linking Intelligence via Memex



# Evaluation Board

1. Is this an emerging issue?
2. Does this issue require:
  - (i) escalation to incident level,
  - (ii) policy intervention,
  - (iii) further investigation or,
  - (iv) a watching brief?
3. What is the specific recommendation from the Evaluation Board?

# Assessing Emerging Risks



# Considerations

**What is typical?**

(a baseline)

**What is exceptional?**

(identify unusual or abnormal events)

**What don't we know?**

(analyse our global food chains)

# WHAT IS TYPICAL? (A BASELINE)

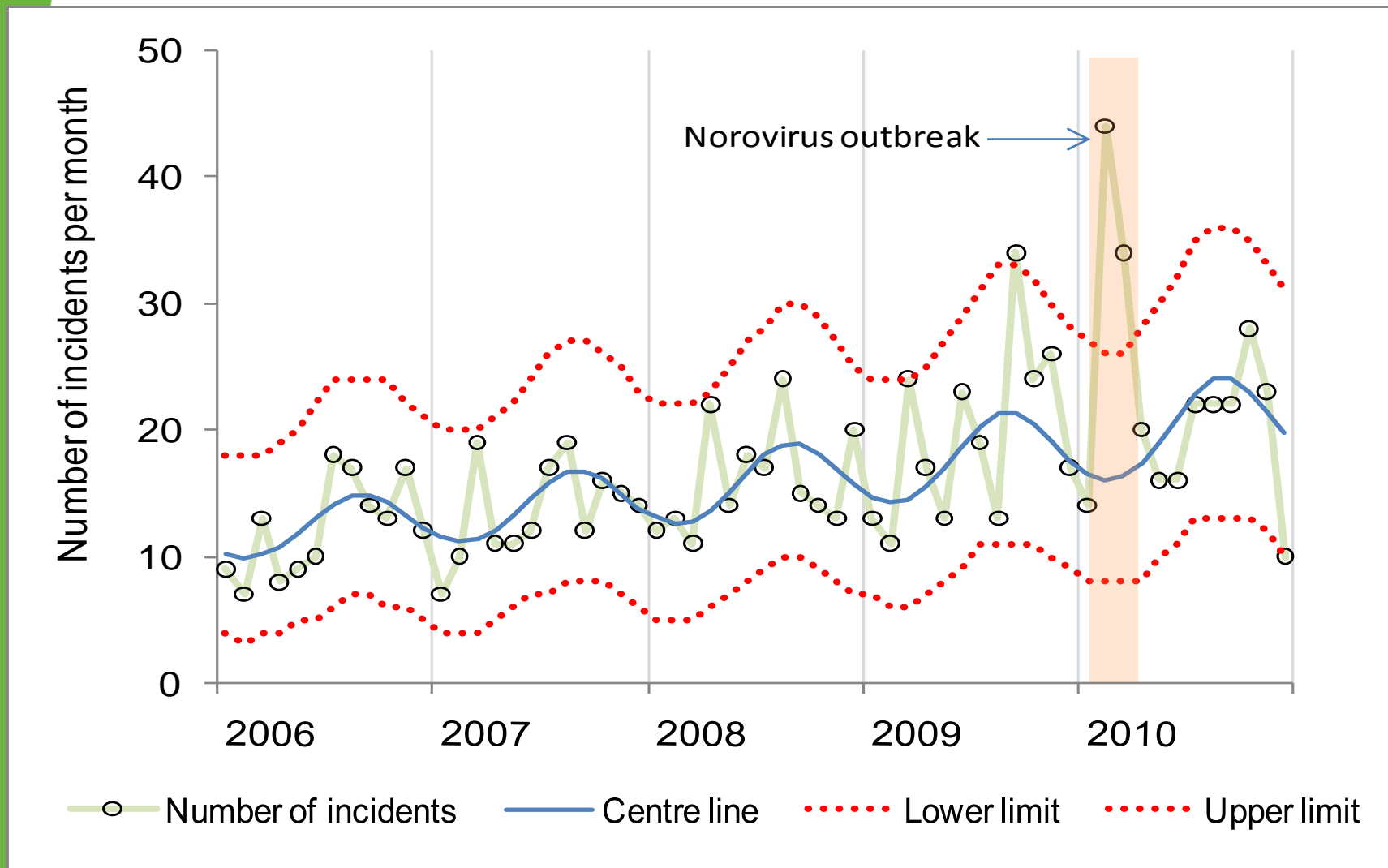


- Outbreaks of *Escherichia coli* (STEC) O104 in Germany & France linked to sprouting fenugreek seeds
- Emergence of Schmallenberg disease
- Dioxins in poultry and pig feed from Germany
- Outbreak of botulism in Scotland linked to ambient products
- Implications of the Japanese Tsunami & Fukushima meltdown upon UK imports
- *Salmonella* spp. in onion powder from Egypt
- Outbreak of *Escherichia coli* O157 PT8 linked to vegetable handling
- *Salmonella* “Newport” in watermelons
- Unauthorised use of pesticides in Indian Okra
- *Salmonella* spp. in Paan Leaves from Bangladesh

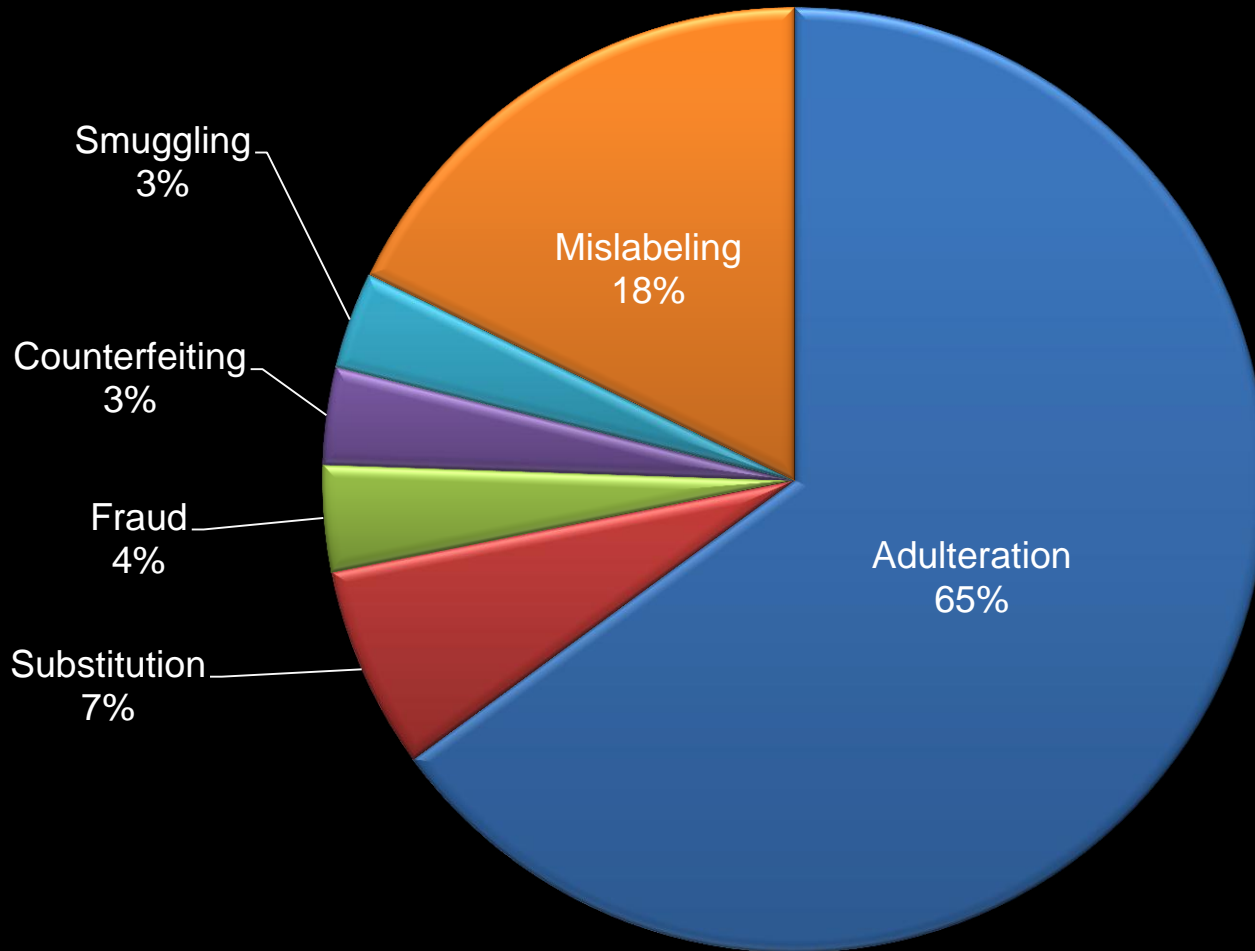


# Control Chart

## Microbiological Incidents



# Financially motivated food safety incidents 2011



# WHAT IS EXCEPTIONAL?

(IDENTIFY UNUSUAL OR ABNORMAL EVENTS)

# Potential Signals



**(Feb 2010 – May 2011)**

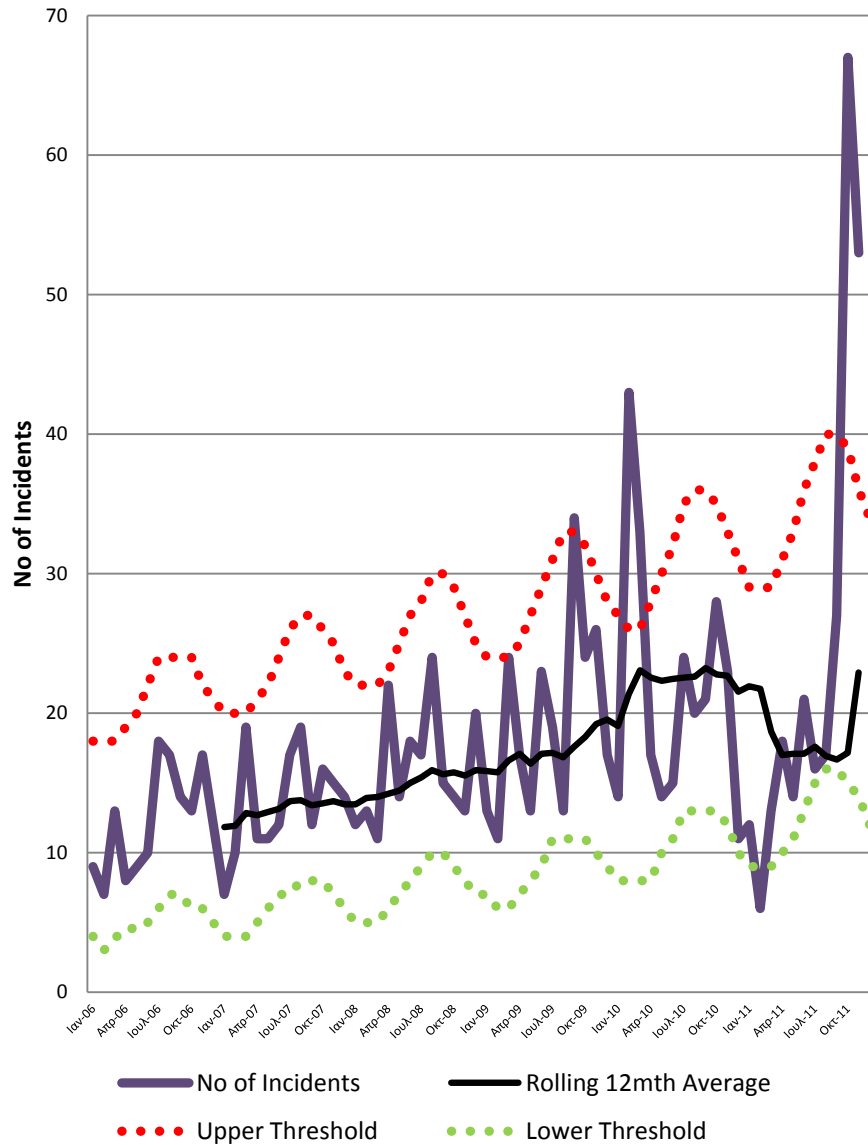
- **2200 signals discussed**
- **158 brought to the attention of the primary filter**
- **12 followed-up**



**(Jan 2012 – Oct 2012)**

- **~ 400 issues considered**
- **39 brought to the attention of the Evaluation Board**
- **11 followed-up**

## Microbiological Incidents



## Paan Leaves

- 97 incidents between Sep & Dec 2011
- *Salmonella* (18 different serotypes)
- Linked to flooding in Bangladesh

# WHAT DON'T WE KNOW? (ANALYSE OUR GLOBAL FOOD CHAINS)

# Global Chain Analysis helps us to identify weaknesses

CONTROL POINT	DRIVER	ANALYSIS METHOD	WHERE TO LOOK IN FOOD CHAIN
<b>Hazard Point</b>	<b>Accidental:</b> Error or failure to identify hazard	<b>HACCP</b>	Points associated with biological, chemical or physical hazards
<b>Value Point</b>	<b>Intended:</b> Financial or personal gain	<b>VCA</b>	Points associated with large changes in perceived value
<b>Threat Point</b>	<b>Malicious:</b> Personal or ideological gain	<b>TACCP</b>	Points where there is opportunity for covert human intervention



# Economically motivated risks to food safety

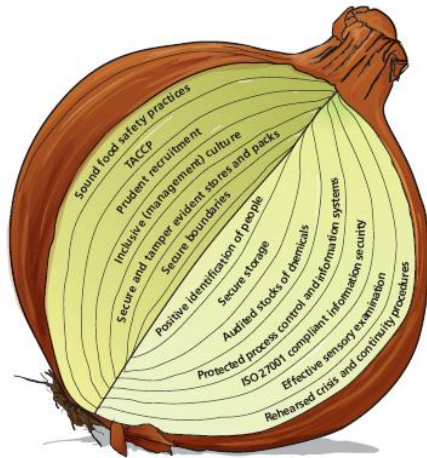
- Where in the supply chain is there opportunity to make money by deviating from best practice?
- What gives food value and how can this value be enhanced?
- Higher value foods are more susceptible
- History repeats itself
- Malpractices are transferrable between industries

PAS 96:2010

## Defending food and drink

Guidance for the deterrence, detection and defeat of ideologically motivated and other forms of malicious attack on food and drink and their supply arrangements

Reviewed and updated in 2010



**CPNI**  
Centre for the Protection  
of National Infrastructure

**BSI**

# TACCP

## Threat Analysis Critical Control Point

Outlined in PAS96:2010 - Publicly Available Specification for Defending Food & Drink

TACCP approach encourages the...

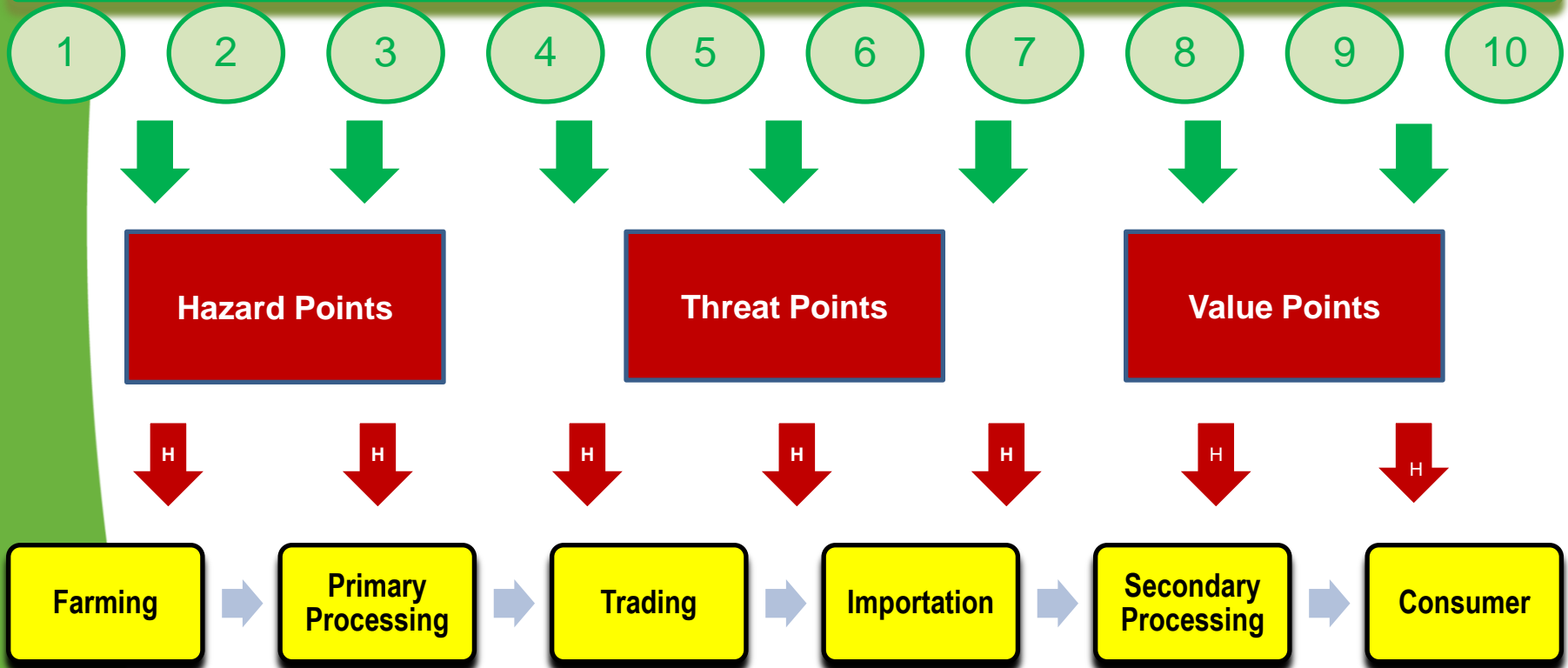
- systematic assessment of threats
- examination of processes to identify vulnerable points
- implementation of remedial action to improve resilience against malicious attacks by individuals or groups

# Scenario Setting & Future Studies

## HORIZON SCANNING

Political, Economic, Sociological, Technological, Legal, Environmental Factors

### Key Influencers



**HORIZON  
SCANNING**

**“FUTURES”  
STUDIES**

**EMERGING  
RISKS**

**POLICY  
MAKING**

**ENFORCEMENT**


# In conclusion...

*“There are known knowns; there are things we know we know.*

*We also know there are known unknowns; that is to say we know there are some things we do not know.*

*But there are also unknown unknowns – there are things we do not know we don't know” .....*

United States Secretary of Defence  
Donald Rumsfeld (2002)

- 
- All these techniques identify the world of food safety as we know it complete with flaws

- They give us a better understanding of why things happen and a picture of the “*known knowns*” and the “*known unknowns*”

- Horizon scanning and futures studies paint a picture of the world we haven't yet realised and how the pattern of “*known knowns*” might change as a result

- Global Chain Analysis combines these approaches enabling us to map weaknesses and identify gaps in the picture thereby potentially revealing “*unknown unknowns*”

- This complementary approach gives us the potential to identify and respond more quickly to food safety issues thereby creating...

**Safer Food for the Nation**

# Thank You

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**Safer Food for the Nation**