



# مؤتمر دبي العالمي السابع عشر لسلامة الأغذية

17th DUBAI INTERNATIONAL  
FOOD SAFETY CONFERENCE

IMPACT OF CLIMATE CHANGE  
ON FOOD SAFETY

أثر التغير المناخي  
على سلامة الغذاء

2023 | ديسمبر | 13-11 | 



# SUSTAINABLE FOOD SAFETY LEADERSHIP TOOLS WORKSHOP

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Founder and CEO



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**Associate Professor**



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**Adjunct Professor**



MICHIGAN STATE UNIVERSITY

**Member**

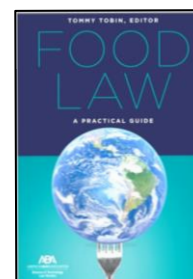
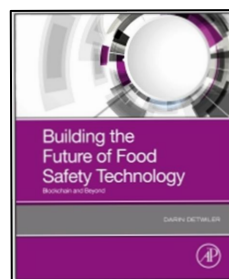


THE FDA FOODS COALITION  
Restructuring Advisory Group

**Chair**

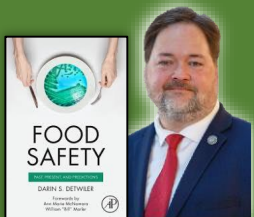


NATIONAL ENVIRONMENTAL HEALTH ASSOCIATION  
Food Safety Program Committee



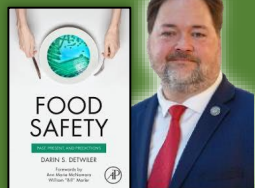
This workshop will –

- Focus on the various steps needed from identifying **inputs** to measurable targets and aligning with clear **goals**.
- Explore the basics of:
  - **Change Theory**
  - The art of effectively **communicating leadership decisions**
  - Navigating the path forward in **response** to critical indicators
- Introduce and allow participants to experience a **practical tool** designed to streamline the process, thus enabling participants to implement for their own specific needs.
- Empower attendees to leave the workshop equipped with a valuable and convenient resource tailored to their specific **needs**.





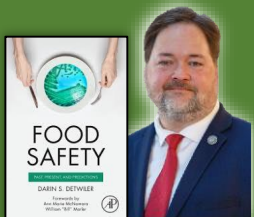
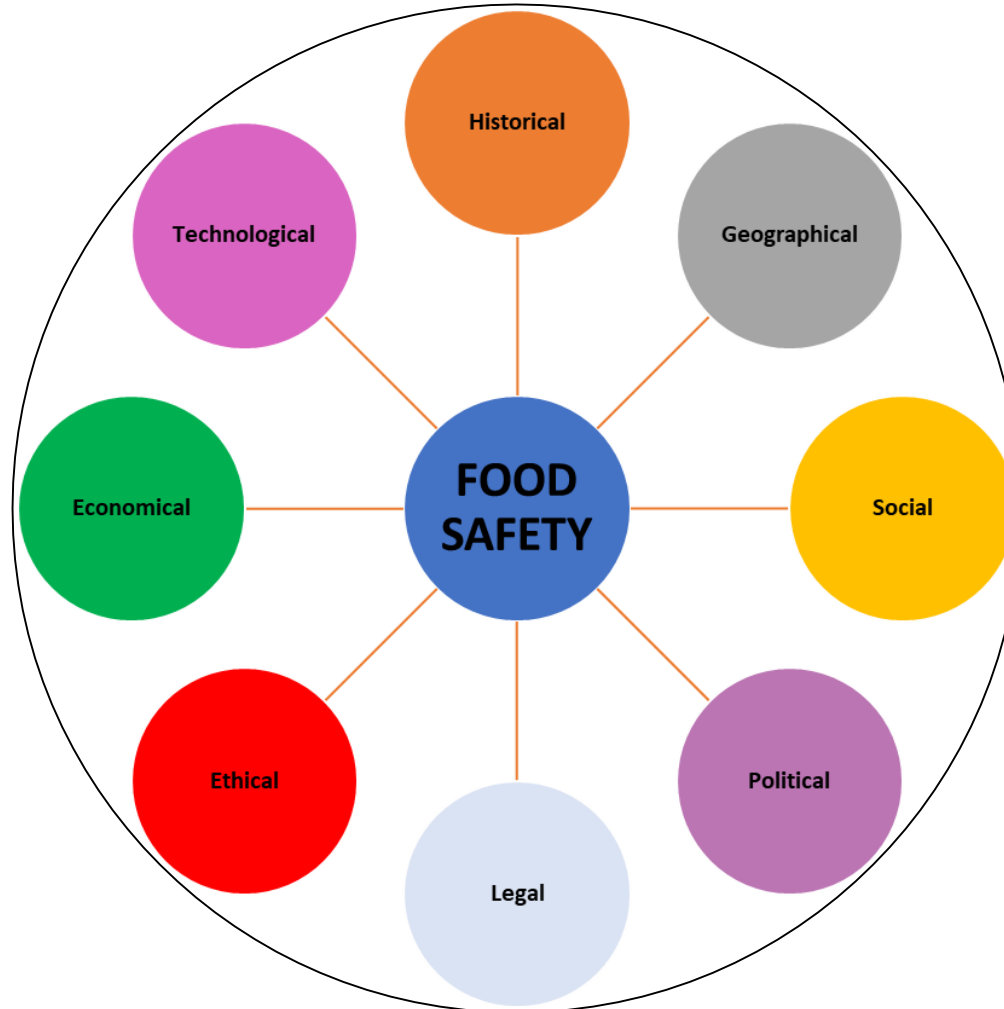
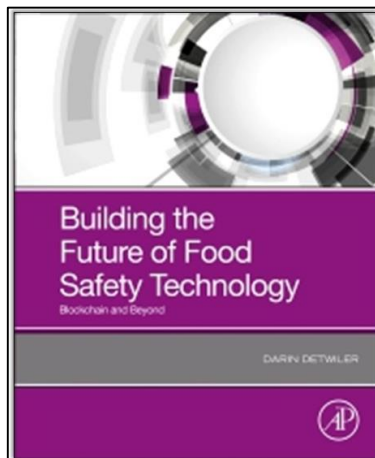
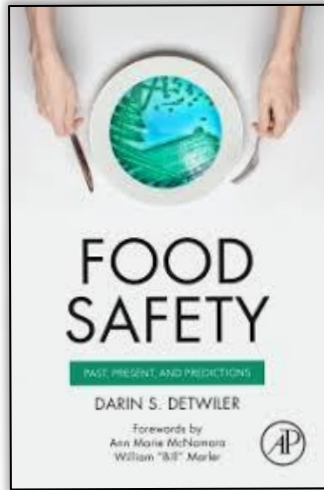
In our global food supply system, clarity is paramount. The role of food safety leaders in communicating and training is evolving beyond conveying knowledge to the goal of **changing behavior**. Instructions and protocols alone are often insufficient in achieving our goals.



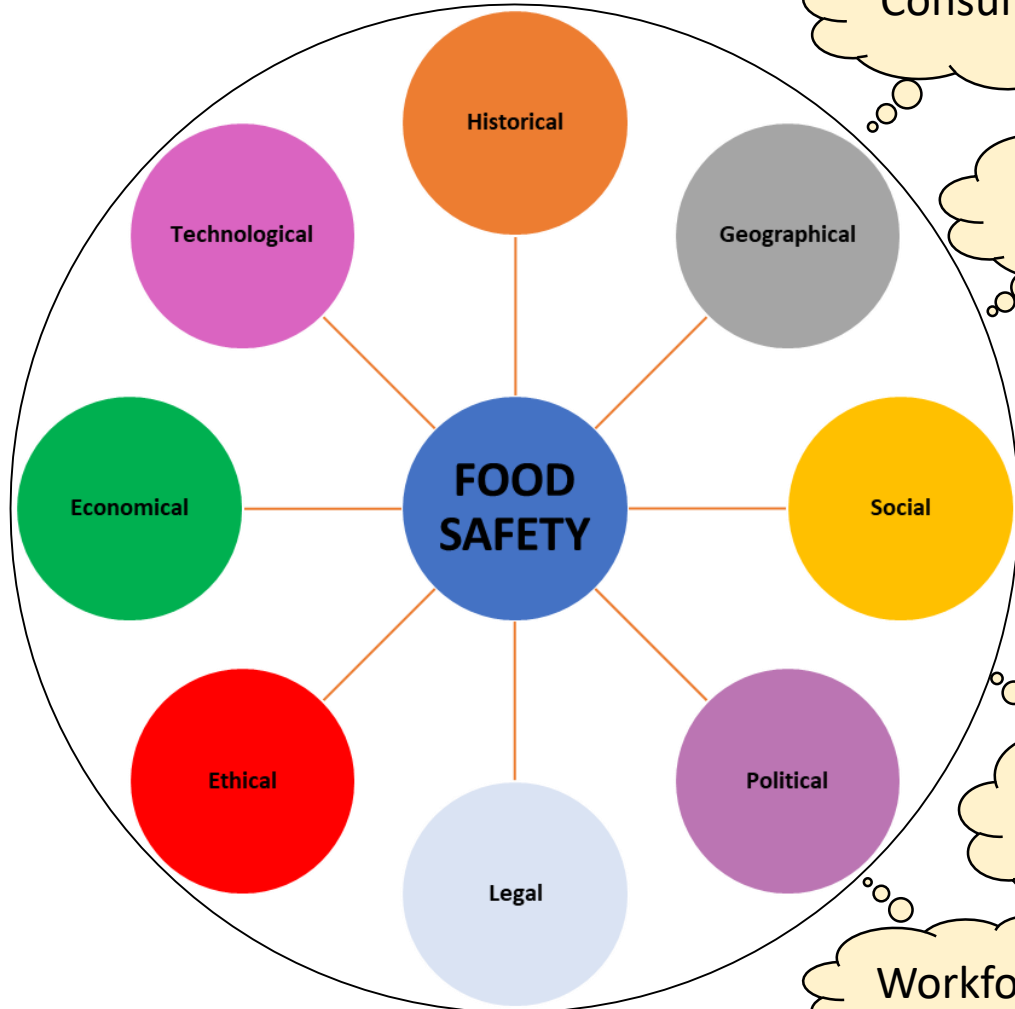
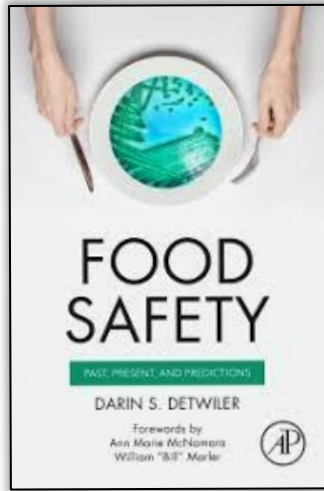
Dr. Darin Detwiler



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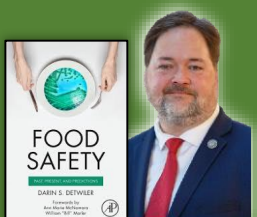
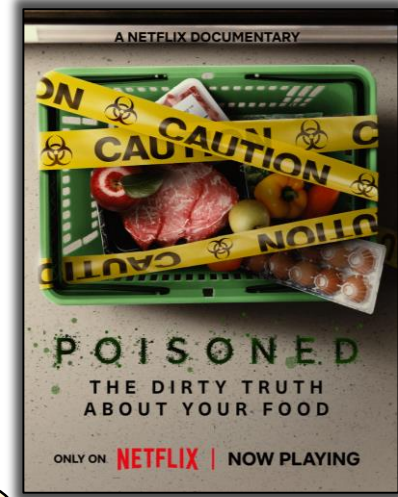


Consumers

Regulators

Industry Leadership

Workforce

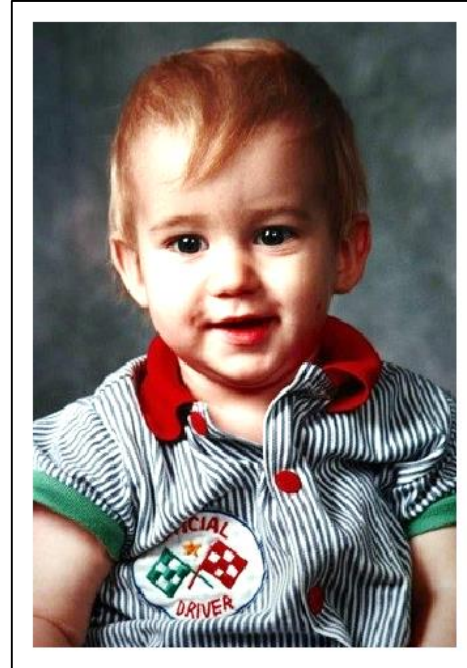




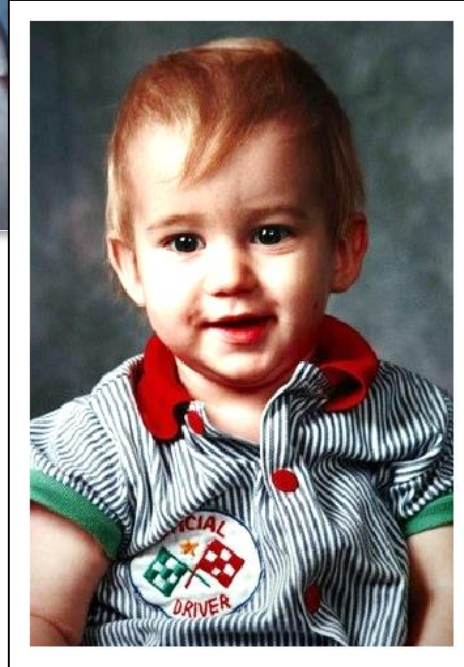


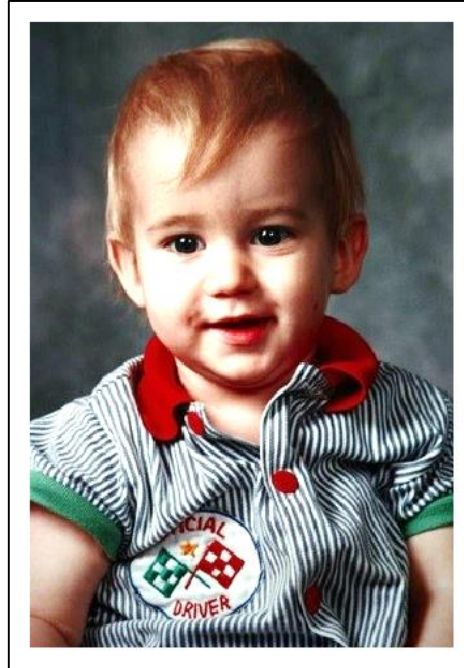


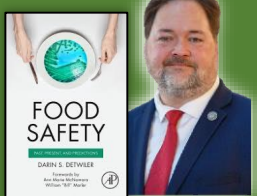
The New York Times





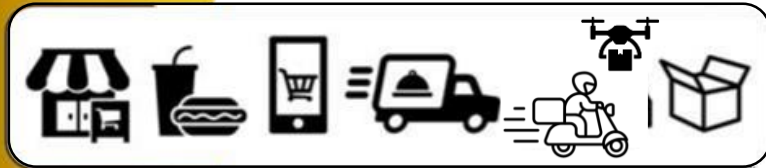
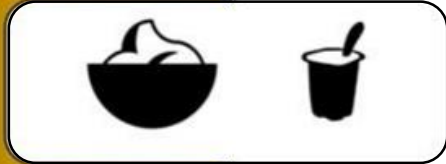
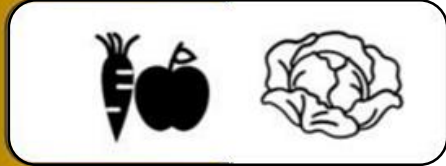




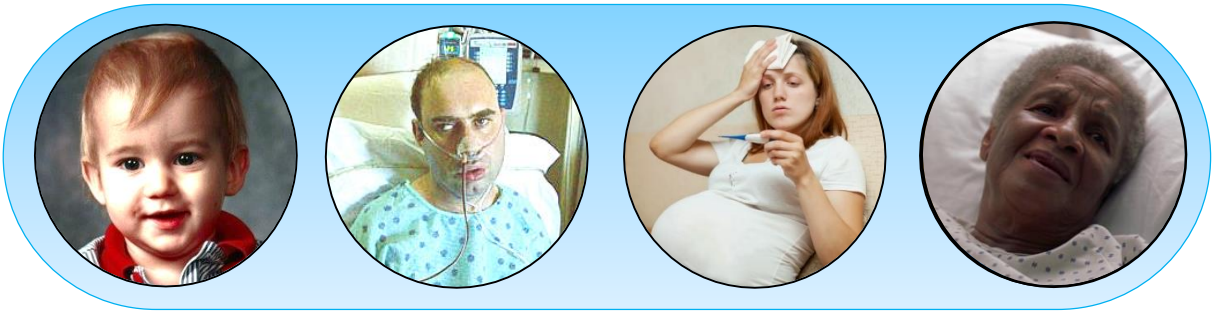
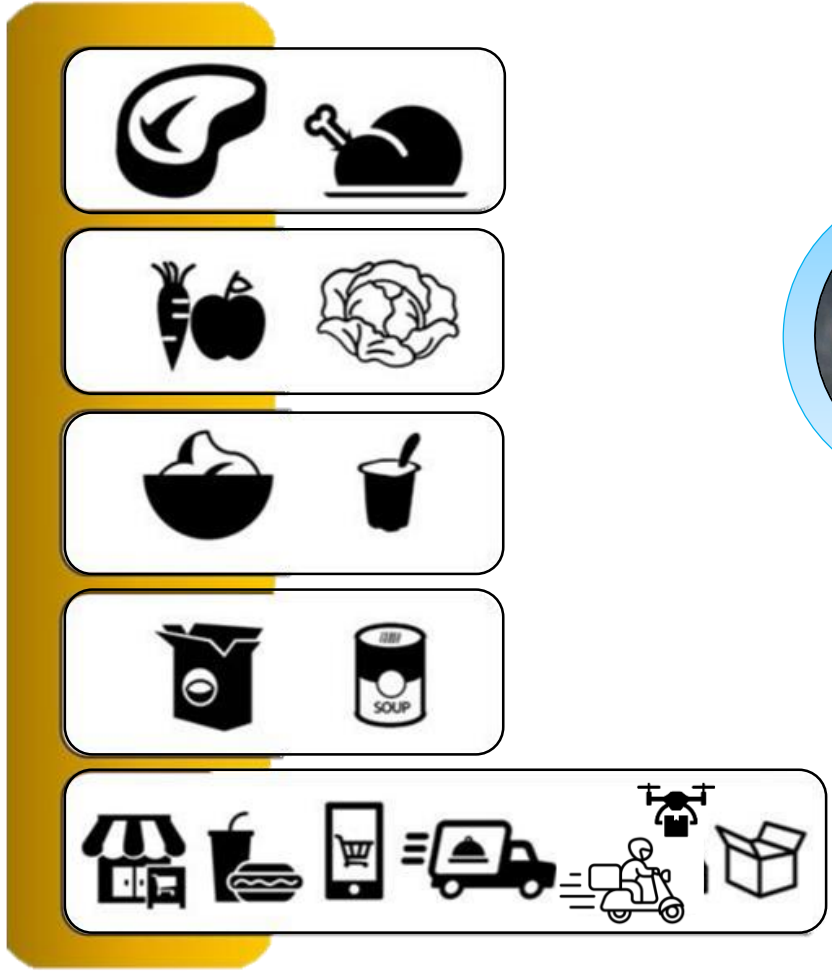


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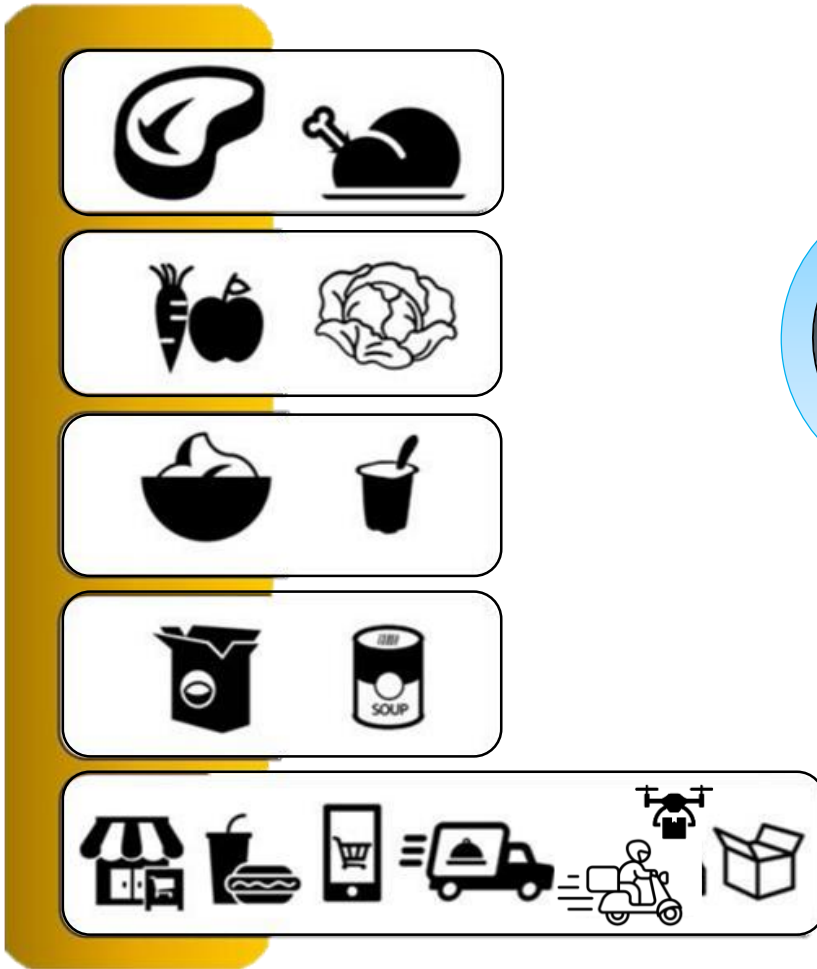




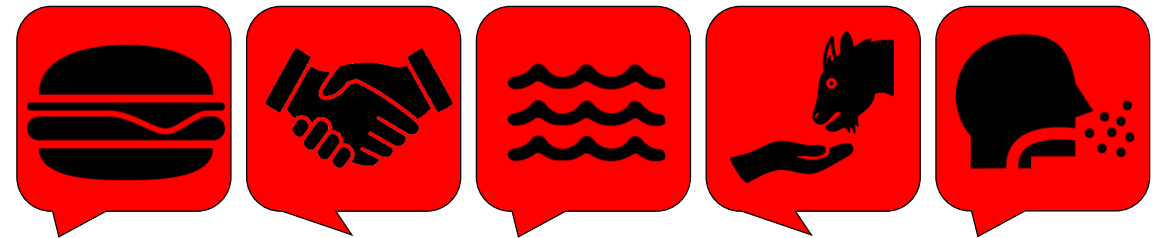






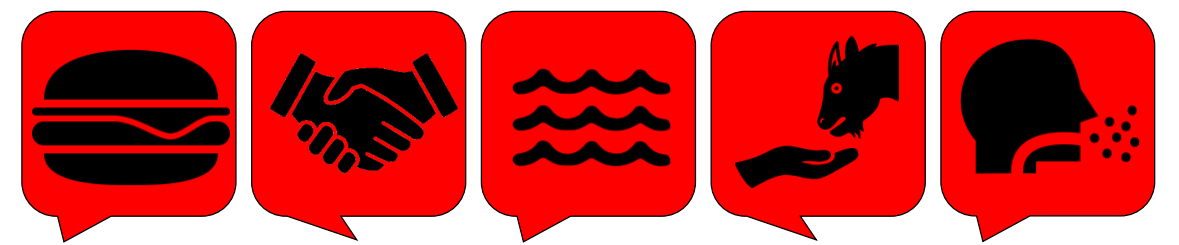



- Shellfish and poultry
- Vegetables and fruits
- Dairy products and soft drinks
- Processed foods and soups
- Food supply chain: store, food, shopping, truck, drone, scooter, box

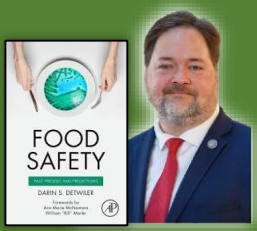




- Raw egg, Roast chicken
- Carrot, Apple, Cabbage
- Ice cream, Smoothie
- Instant noodle packet, Soup can
- Restaurant, Food delivery, Shopping cart, Delivery truck, Drone, Delivery person, Package



<i>E. coli</i>	<i>Salmonella</i>	<i>Listeria</i>	<i>Campylobacter</i>
<i>Clostridium perfringens</i>	<i>Bacillus cereus</i>	Botulism	<i>Shigella</i>
<i>Staphylococcus aureus</i> (Staphylococcal [Staph] Food Poisoning)	<i>Vibrio</i> Species Causing Vibriosis	Hepatitis A	Norovirus



**Abu Dhabi Closed A Restaurant  
For Having Insects In The Kitchen**

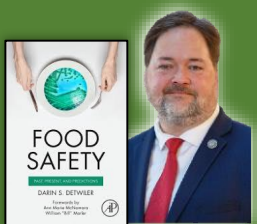
**UAE: Counts of e-coli in vegetables from  
retailers in Abu Dhabi and Dubai**

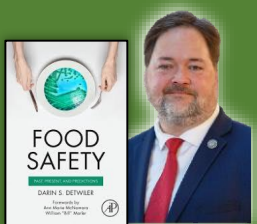
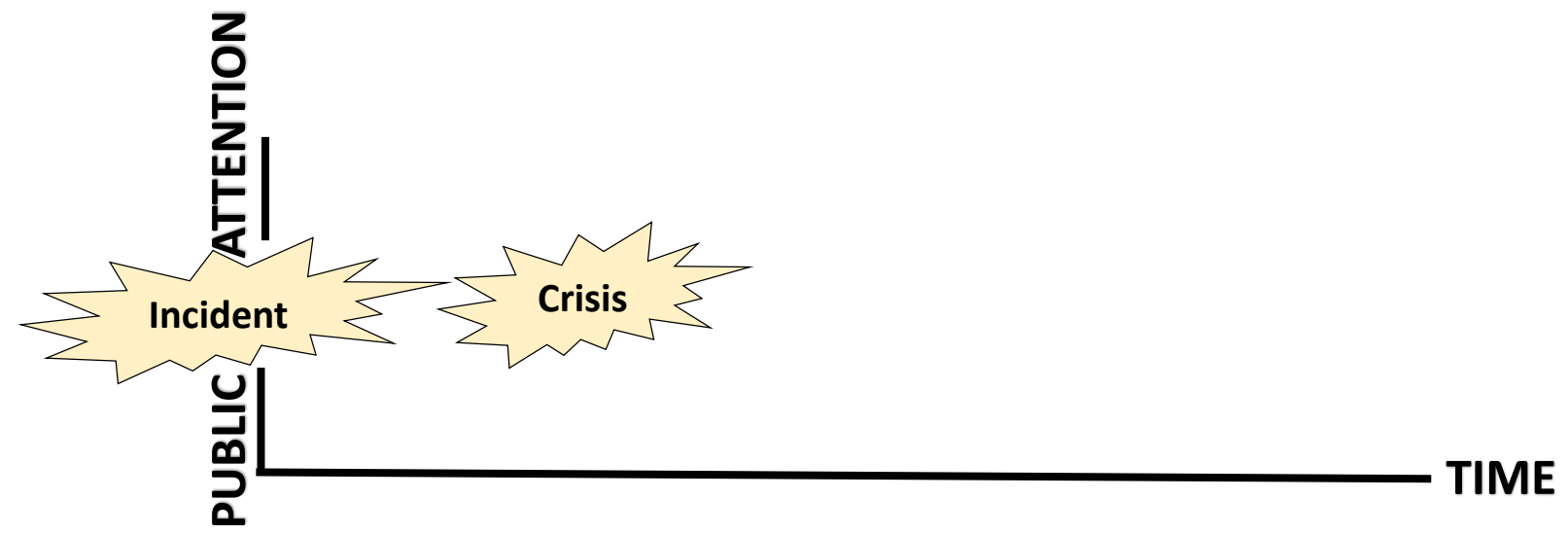
**UAE: Restaurant shut down after  
several cases of food poisoning**

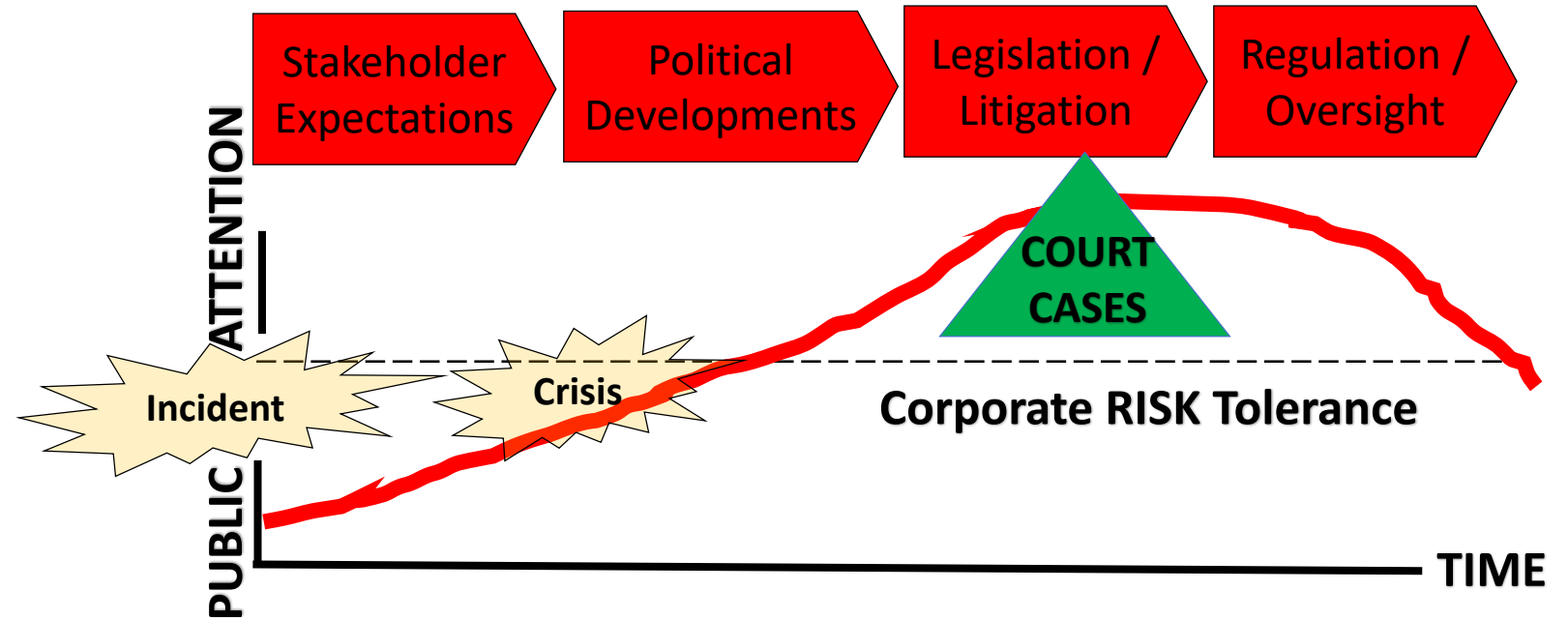
**Incident**

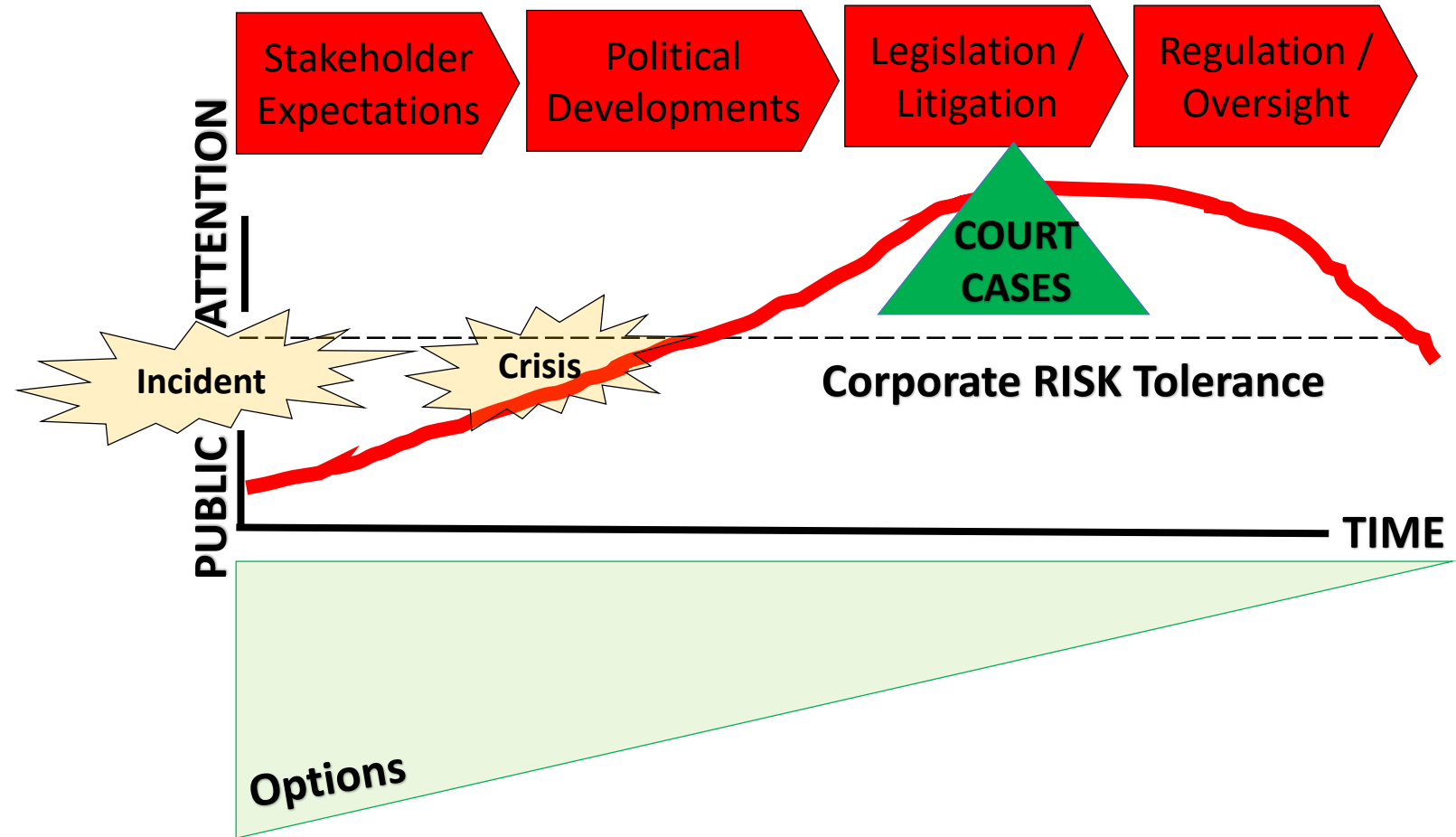
**15 sick: Salmonella in raw egg hollandaise  
shutters Dubai restaurant**



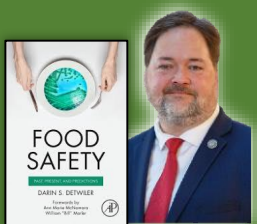
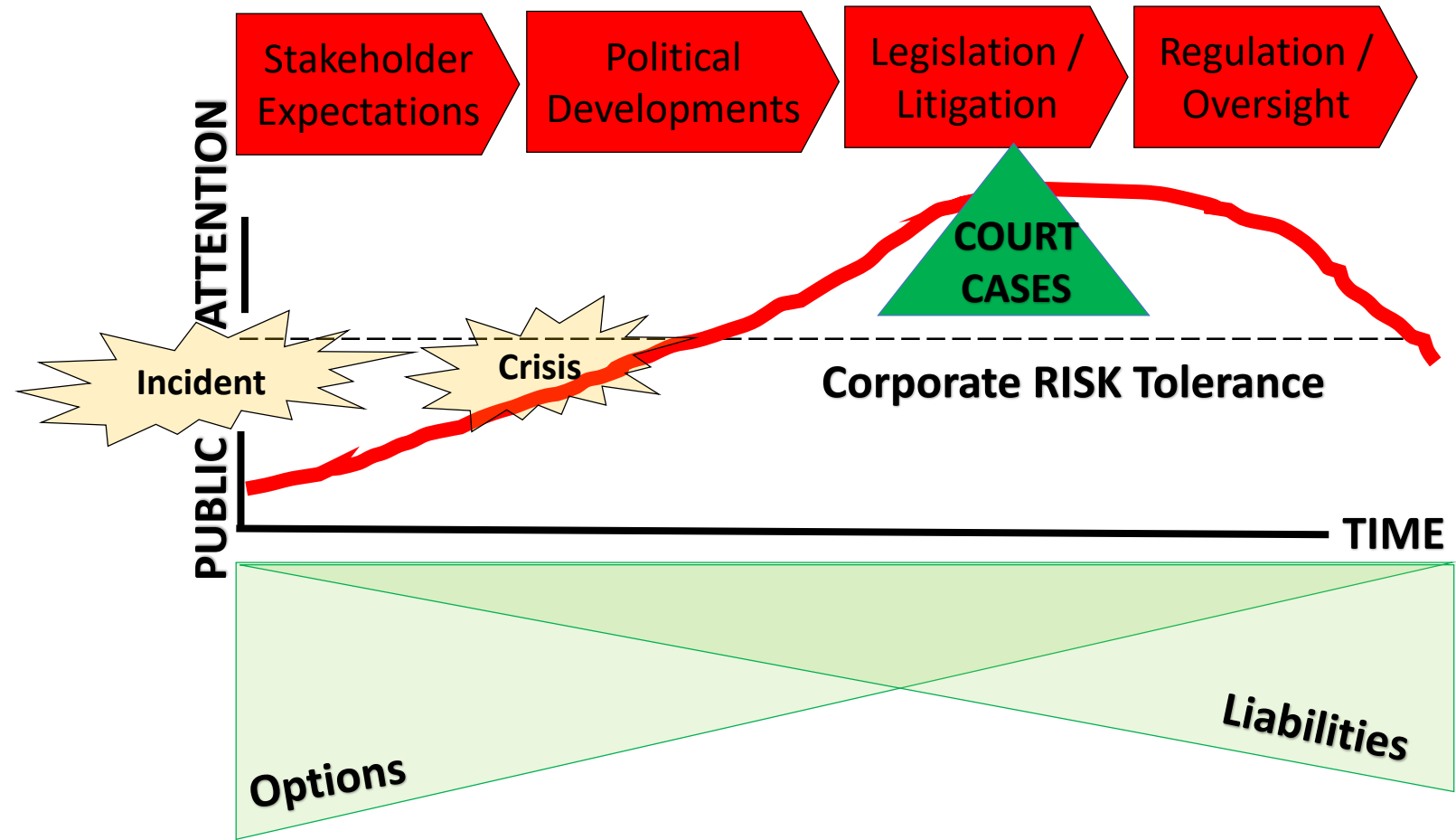


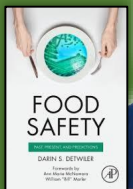
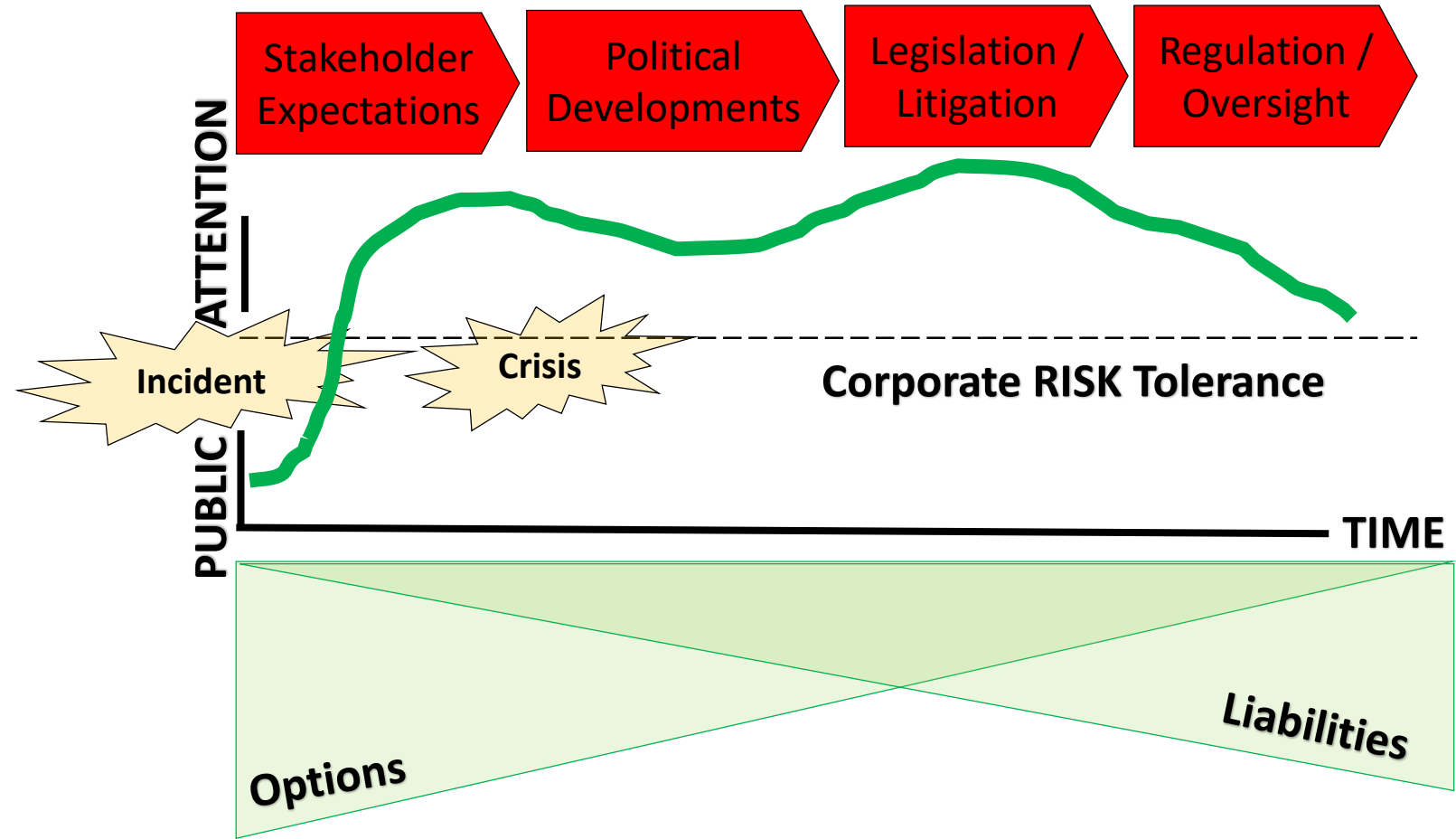


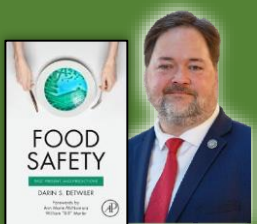
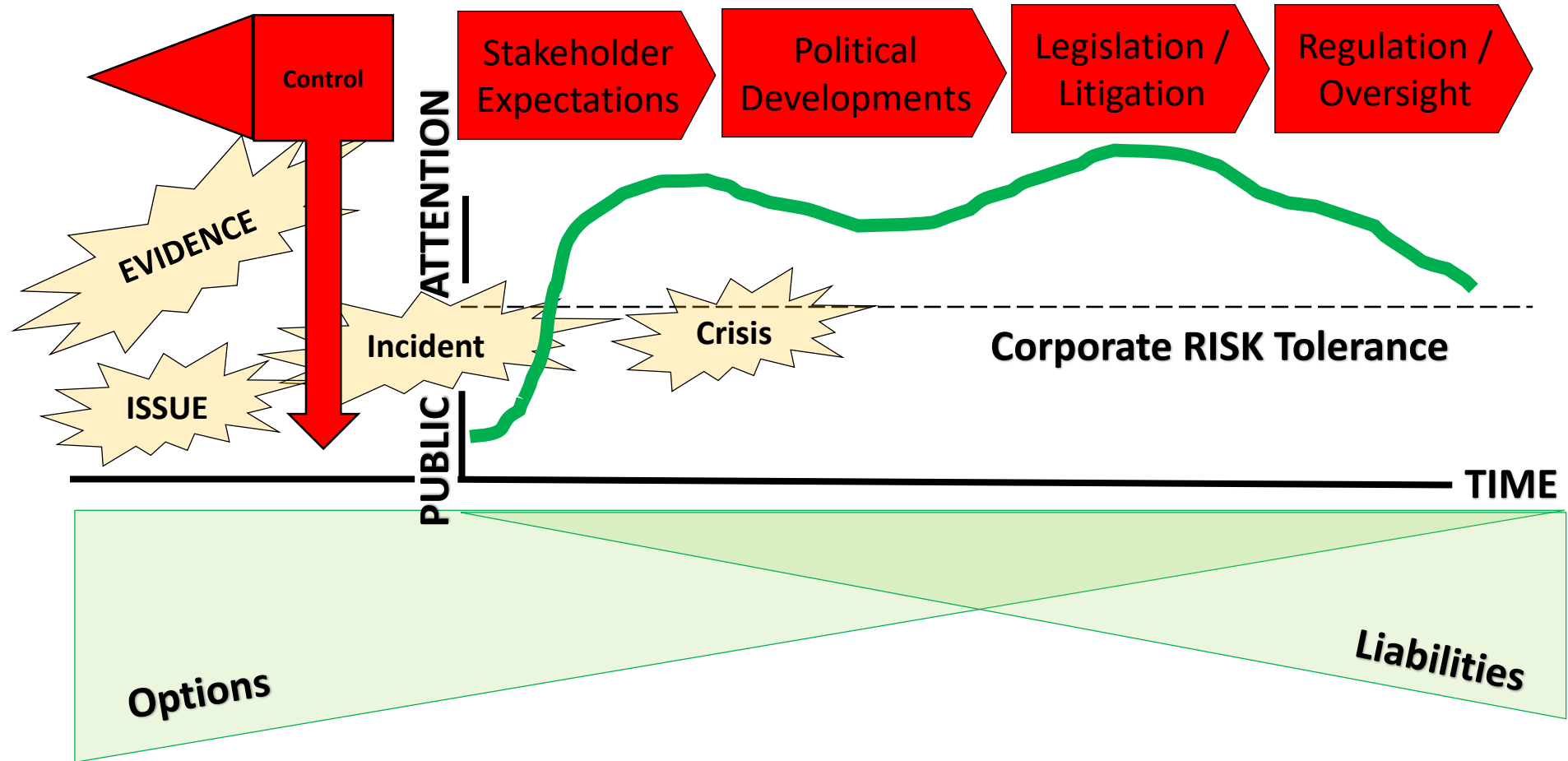


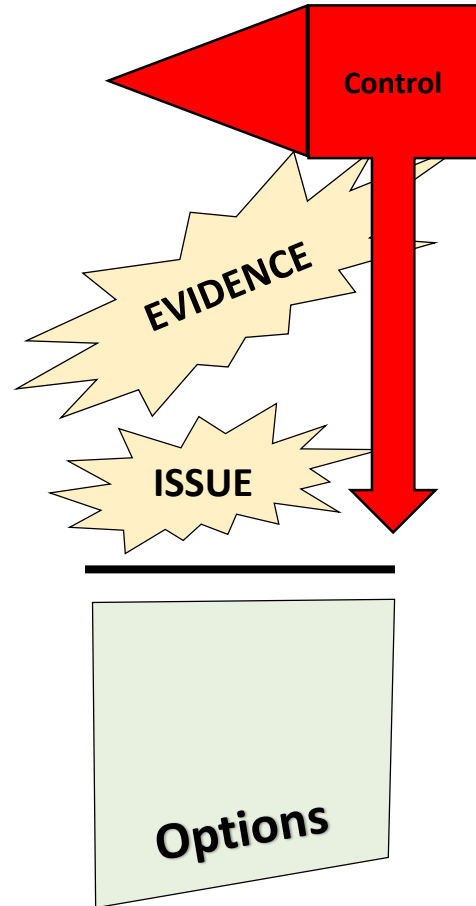




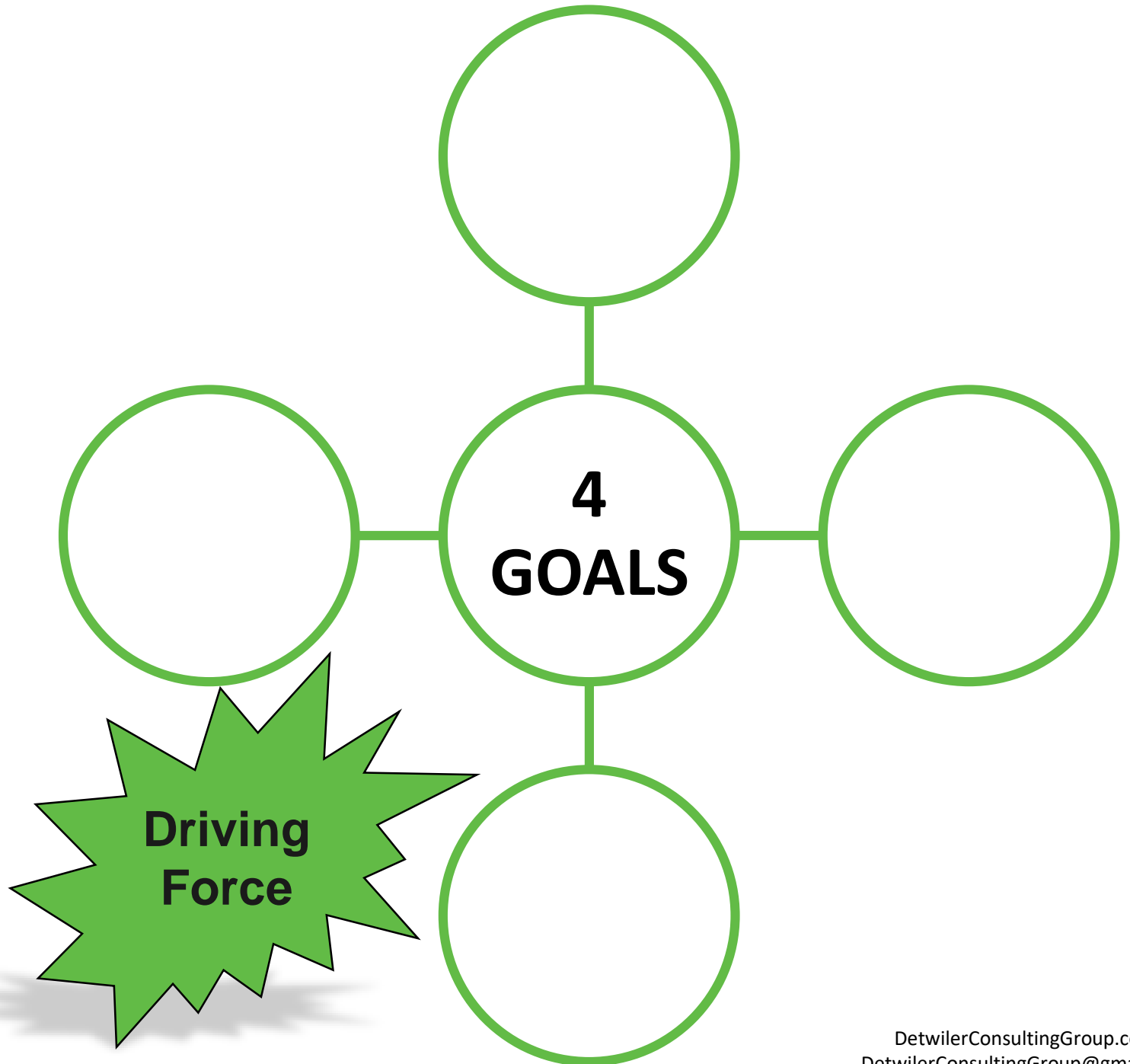
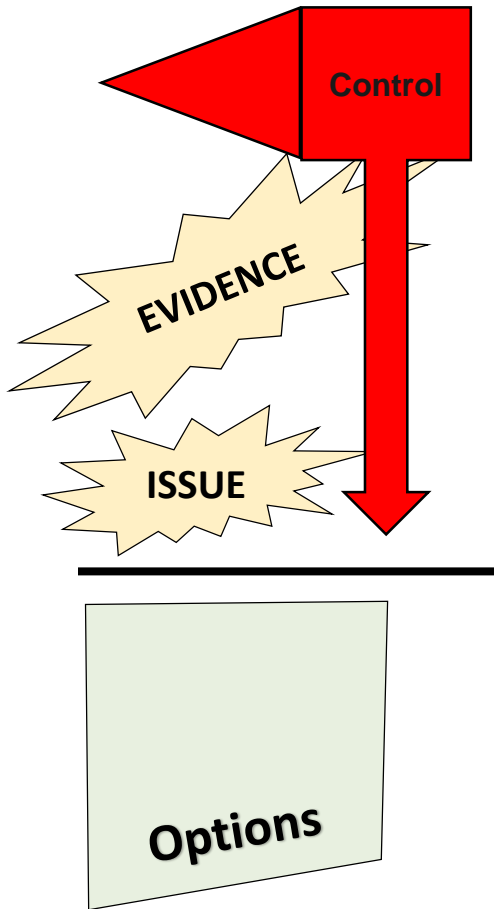








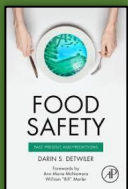


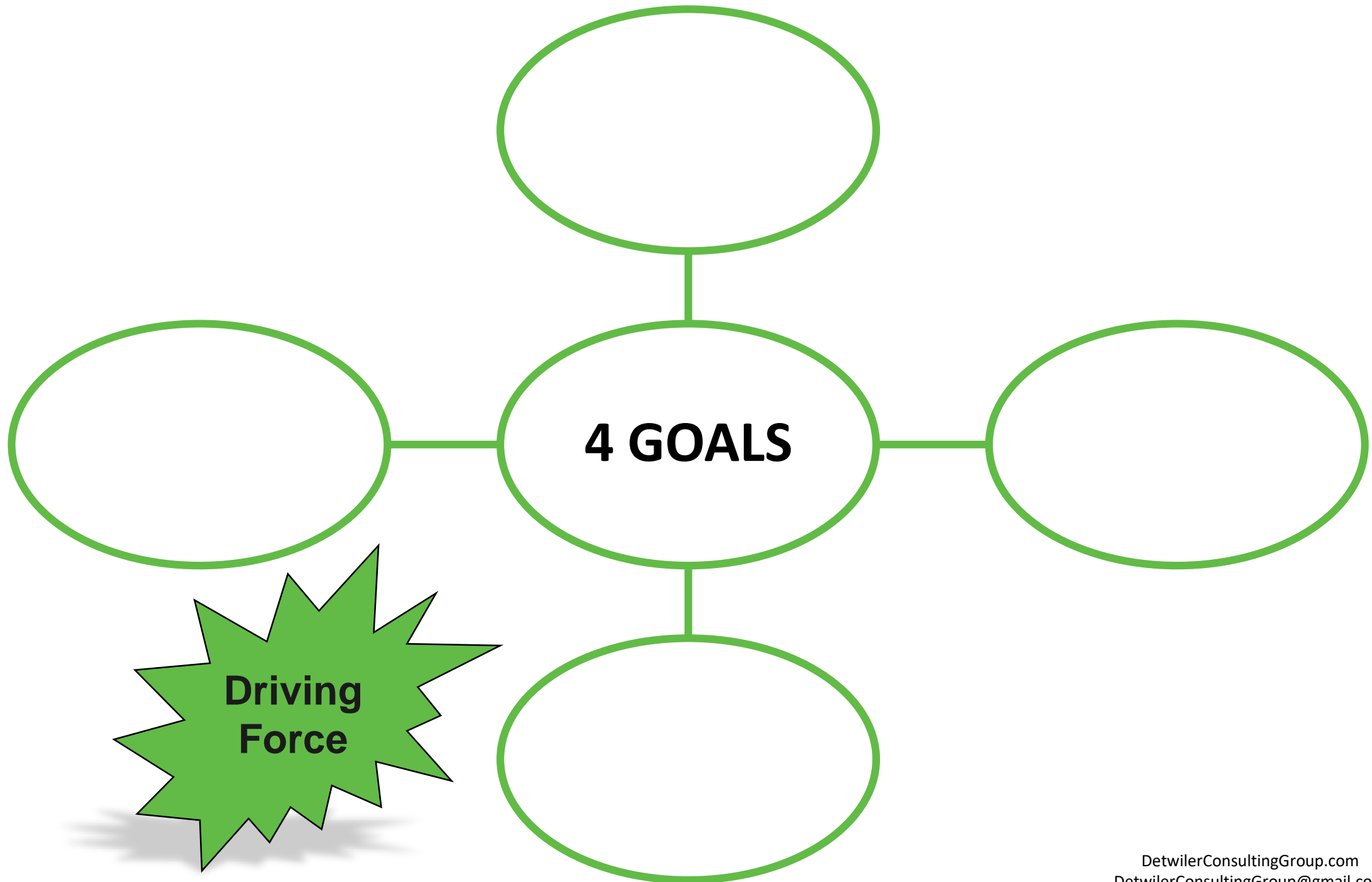


## Message from the Director General

Dubai's vision is to establish a world-class food safety system that helps provide **safe food** to the residents and the several millions that visit the Emirate each year. We envision a system that ensures the **highest standards of food safety** - from the **port to the plate**. We would like the system to be so comprehensive and appealing that others are encouraged to use it as a model. Our vision will become a reality only when the government, food industry, service providers, educational and research organisations and the consumers collectively **commit to work together** and apply sound principles of food safety **based on science and research**.

We have begun the process by promoting a positive food safety culture among food establishments in the Emirate, by urging the management to be **responsible and accountable** through our proprietary Person In-Charge (PIC) program, which we introduced in 2010. The responsibility is not only with the PIC but also with other food handlers in the establishments, their owners, regulators and also the consumers. In other words, it must be stressed that food safety is **a shared responsibility** involving all the residents of the Emirate. Through the Food Code, we are now building on the foundations laid by the PIC and other regulatory programs, which arm them with the necessary knowledge about the systems and processes needed to ensure **an effective food safety culture**.





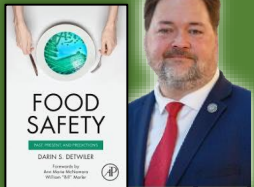
In small groups, **brainstorm** a list of potential food safety goals applicable to your work.

**END RESULT:** We will narrow down to **FOUR** top goals for use in this workshop





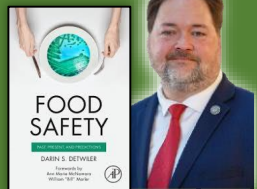
# SHARE



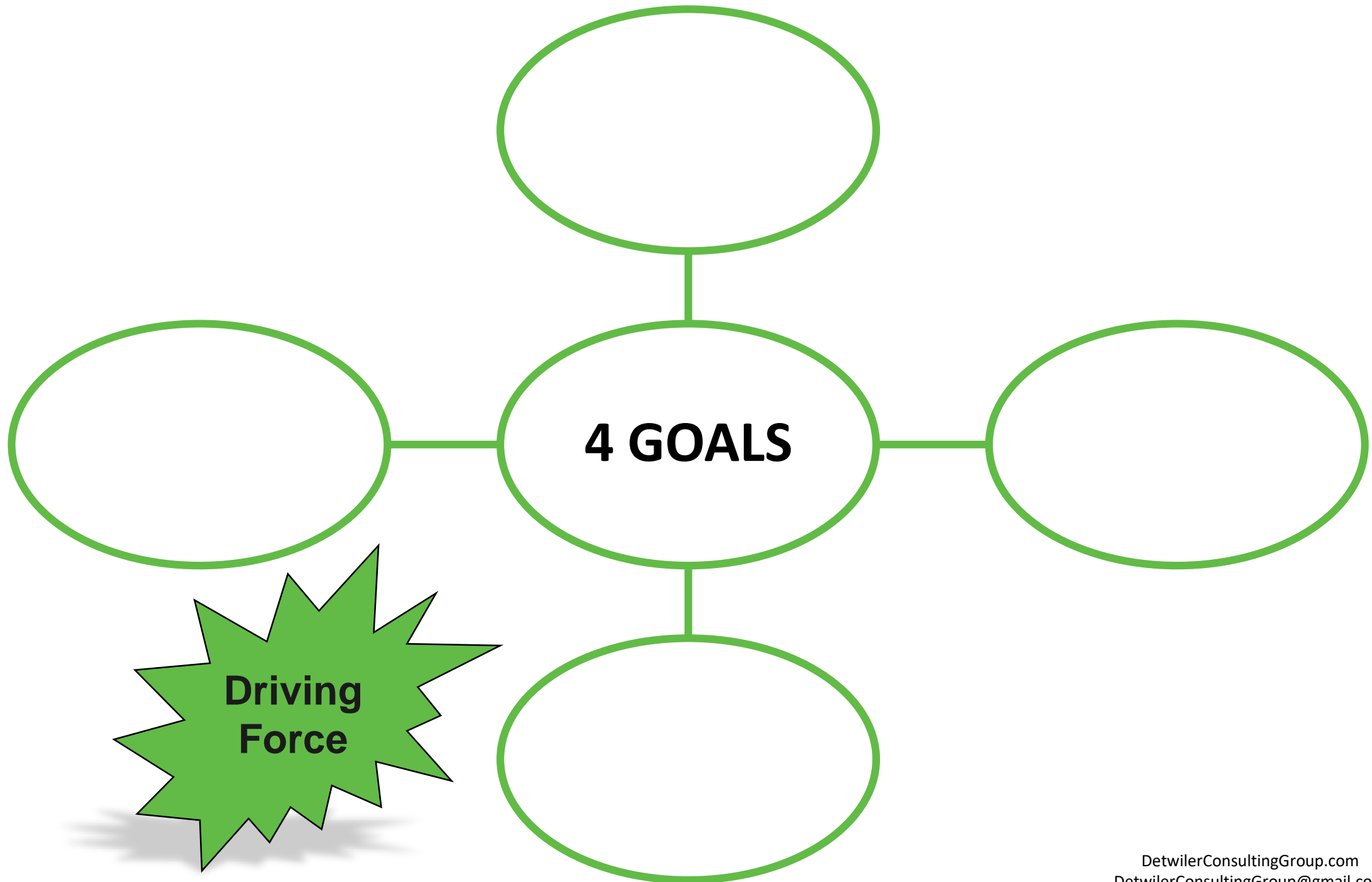
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# NARROW DOWN

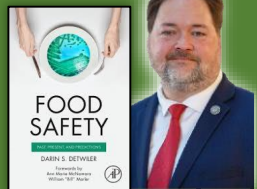


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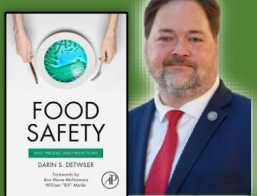


# RECORD



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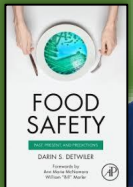




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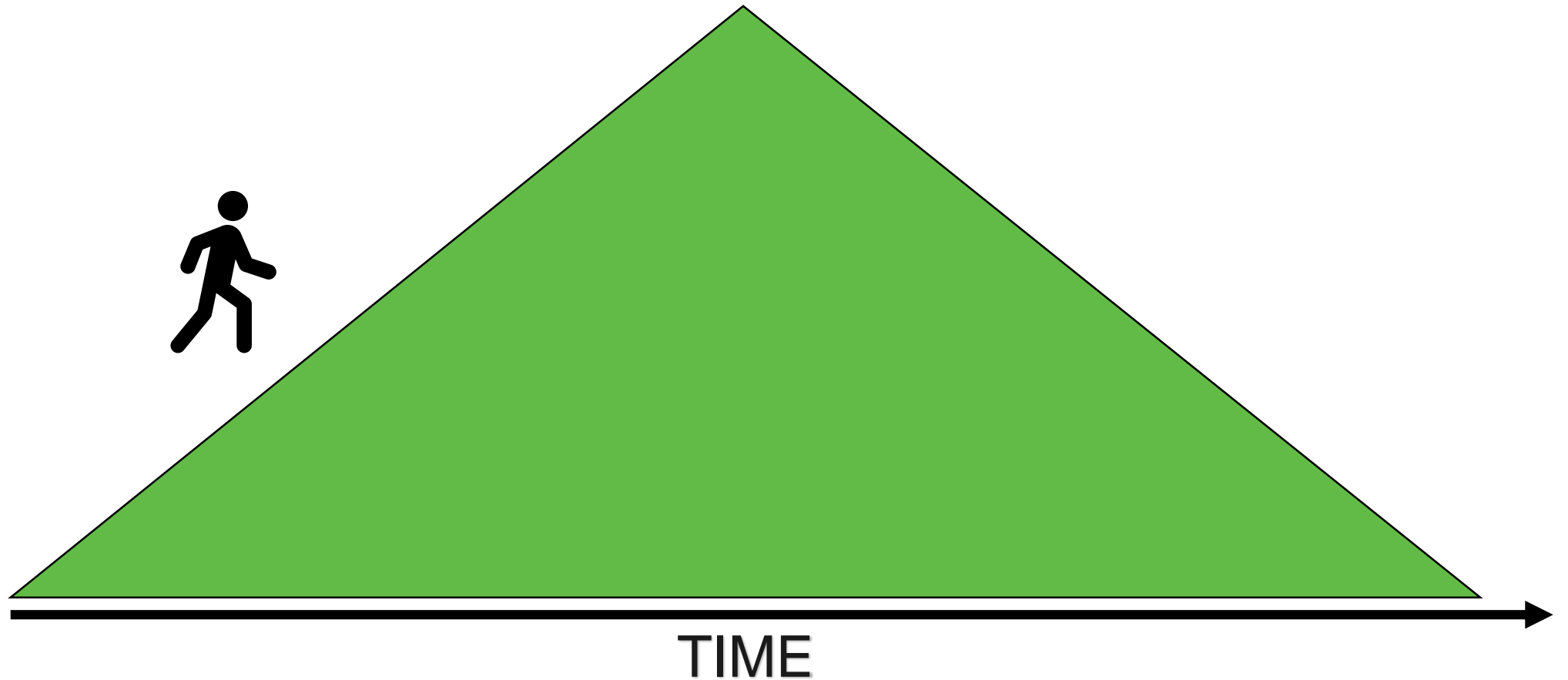


# Why?



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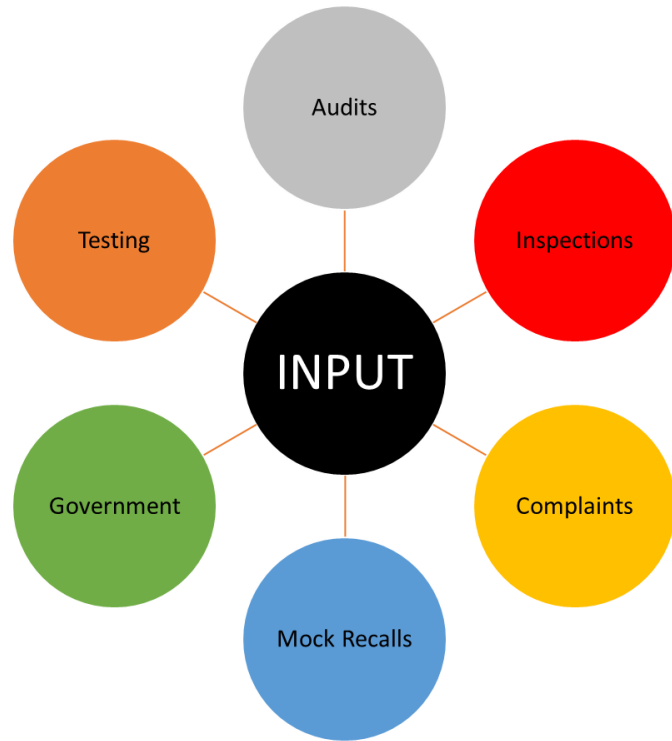
# External Motivation



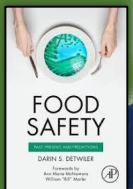
**External  
Motivation**

***INTERNAL  
INSPIRATION***





**Inputs, in the context of food safety, refer to the various sources of information that contribute to the decision-making processes within the food industry. These inputs play a crucial role in shaping the behaviors and practices related to food safety within an organization. Government alerts, Industry News, External audits, Inspections, Mock Recalls, Consumer feedback, and Scientific Research are some examples of inputs that contribute to the continuous improvement of food safety policies and procedures by introducing new insights and best practices.**



**INPUT(S)**



# OTHER?

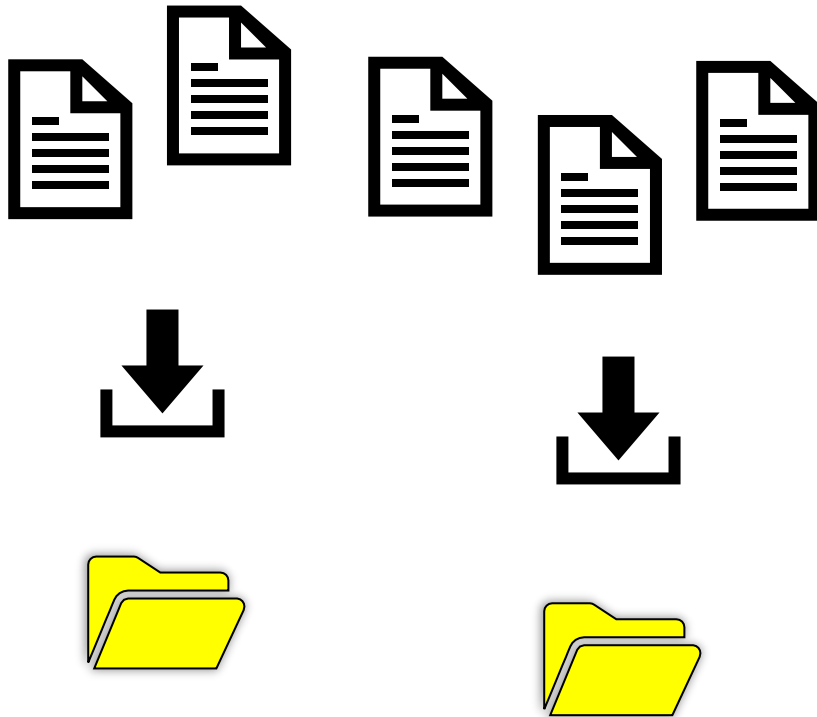


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INPUT(S)







Key Issues refer to essential categories of inputs that directly influence and contribute to the achievement of higher targets and goals in ensuring food safety. These categories typically encompass critical aspects such as **sanitation**, **hygiene**, **temperature control**, and more. Each key issue serves as a cornerstone in the decision-making process, offering a structured approach to identify, assess, and address specific challenges within the broader spectrum of food safety.



KEY ISSUE(S)

# OTHER?



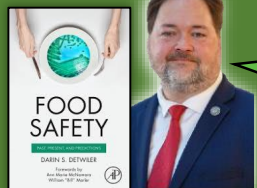
**KEY ISSUE(S)**



In the context of enhancing food safety practices, actions represent **proactive and innovative approaches to achieving predetermined goals**. Action, in this context, involves the deliberate implementation of strategies, methods, and technologies, as well as fostering a culture of continuous improvement and adaptability. The essence of these actions is innovation with purpose, driving positive change and contributing to the realization of higher safety standards within the food industry. Brainstorming new ideas is a pivotal aspect of decision-making in the pursuit of improved food safety. The purpose of this creative process is to identify and evaluate innovative solutions that address specific challenges or gaps in current safety protocols.

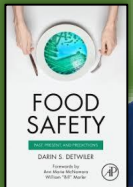


**ACTION(S)**

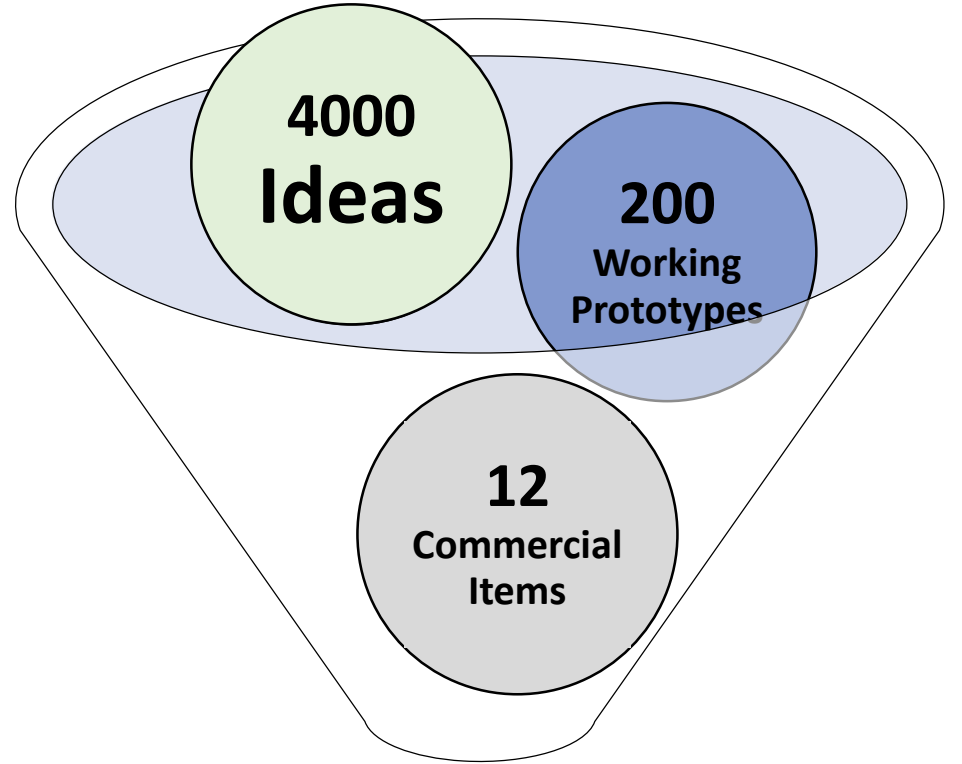
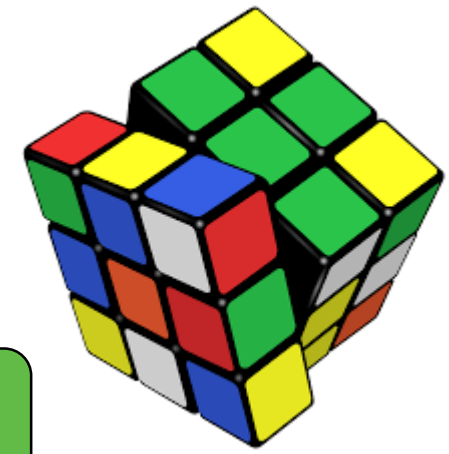




**WINNING IDEA**



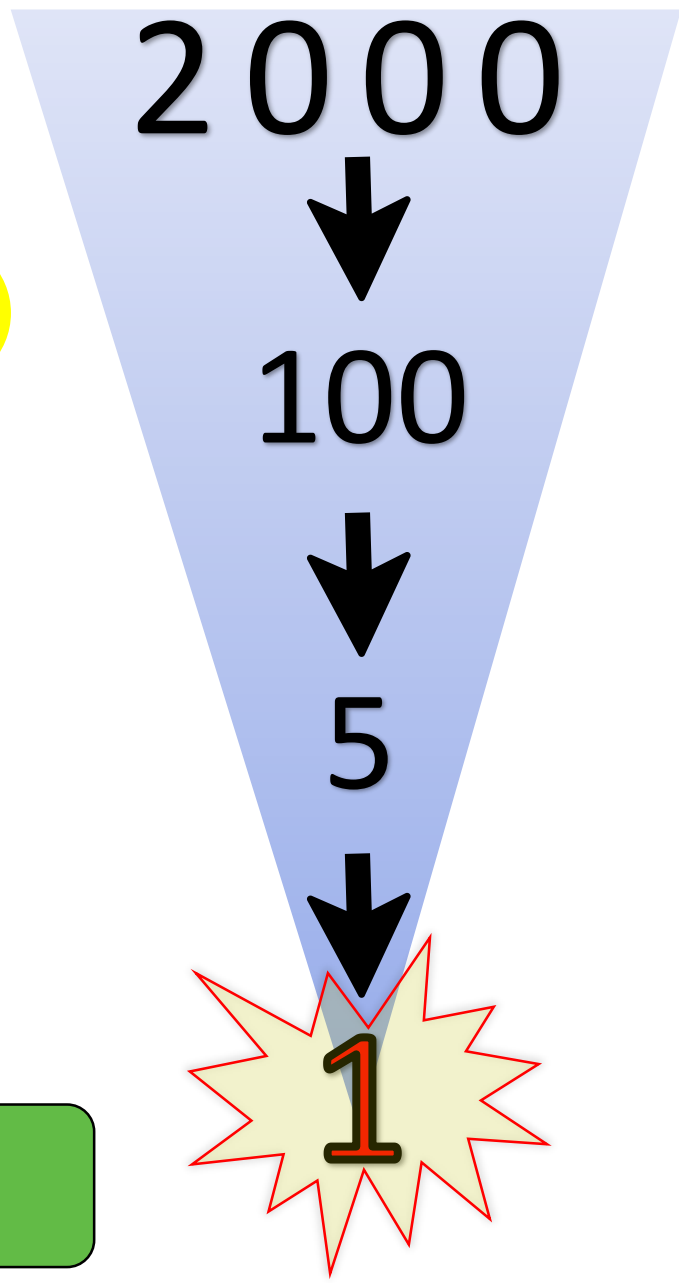
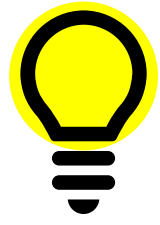
**ACTION(S)**



2-3 Successes



**ACTION(S)**



**IDEAS**

**PLAUSIBLE**

**ACTIONS**

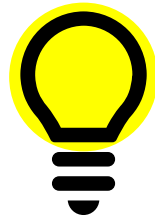
**SUCCESS**



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**ACTION(S)**

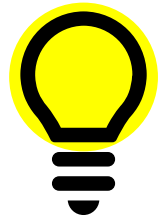




# INNOVATION?



**ACTION(S)**



# OTHER?

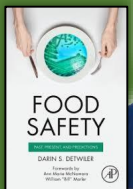


**ACTION(S)**

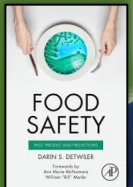
Outputs serve as a critical measure of success, reflecting **tangible changes in behavior and practices among various stakeholders**. They represent the observable and measurable results that directly stem from the implementation of new actions or strategies. Stakeholders, including leaders, workers, partners, retailers, and distribution channels, play pivotal roles in shaping these outputs, each adapting their behaviors and practices in response to the changes introduced. These outputs are diverse, ranging from the **adoption of new methods or processes to increased handwashing, shifts in communication patterns, heightened engagement, and more**. Importantly, the diversity in outputs reflects the nuanced ways different stakeholders respond to and integrate the new actions into their specific roles and responsibilities.



OUTPUT(S)



# OTHER?



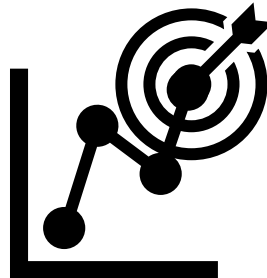
OUTPUT(S)



Outcomes represent the ultimate **measure of success**, capturing the real-world impact of implemented actions on the broader goals of ensuring safe and high-quality food for consumers. Unlike **outputs**, which focus on observable changes in behavior and practices, outcomes are more holistic and **encompass the overarching effects that these changes have on the well-being of consumers and the performance of the food supply chain.** Outcomes are directly tied to the achievement of larger **goals**, and they serve as indicators of the effectiveness of new actions in meeting specific targets. *For example, a key goal may be to reduce the occurrence of foodborne illnesses, and associated outcomes could include fewer reported cases of illness, decreased recalls, diminished outbreaks, and an increase in consumer trust.* The **targets** associated with outcomes are **critical benchmarks** that leaders use to evaluate the success of their food safety initiatives.



OUTCOME(S)



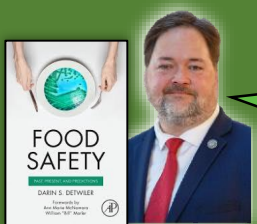
Environmental	Social	Governance
Renewable fuels	Health and safety	Ethical standards
Greenhouse gas (GHG) emissions	Working conditions	Board diversity and governance
Energy efficiency	Employee benefits	Stakeholder engagement
Climate risk	Diversity and inclusion	Shareholder rights
Water management	Human rights	Pay for performance
Recycling processes	Impact on local communities	
Emergency preparedness		



**SUSTAINABLE DEVELOPMENT GOALS**  
17 GOALS TO TRANSFORM OUR WORLD

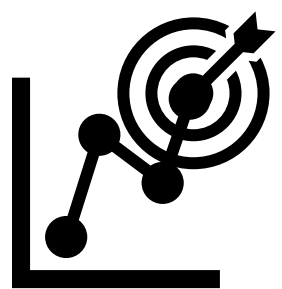


The grid displays 17 Sustainable Development Goals (SDGs) as numbered icons in a 3x6 layout. The goals are: 1. No Poverty, 2. Zero Hunger, 3. Good Health and Well-being, 4. Quality Education, 5. Gender Equality, 6. Clean Water and Sanitation, 7. Affordable and Clean Energy, 8. Decent Work and Economic Growth, 9. Industry, Innovation and Infrastructure, 10. Reduced Inequalities, 11. Sustainable Cities and Communities, 12. Responsible Consumption and Production, 13. Climate Action, 14. Life Below Water, 15. Life on Land, 16. Peace, Justice and Strong Institutions, 17. Partnerships for the Goals. A final box at the bottom right contains the 'Sustainable Development Goals' logo.



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**OUTCOME(S)**

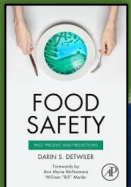
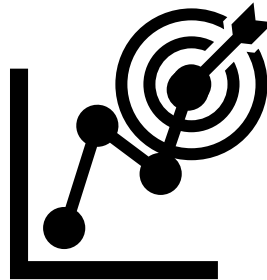




# OTHER?

A green speech bubble with a black outline, containing the text "OUTCOME(S)".

**OUTCOME(S)**



Recognizing and addressing obstacles is a crucial aspect of effective leadership and behavioral change. Obstacles, often associated with **SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis** and **Root-cause analysis**, are critical elements in decision-making and implementation processes. They can take various forms, including the **cost** of implementing new safety measures, training **needs** for personnel, **cultural** or language **barriers**, and the level of support from stakeholders. Identifying and understanding these obstacles is essential for leaders to develop strategies that not only overcome challenges but also facilitate sustainable and meaningful changes in behavior to enhance overall food safety.



OBSTACLE(S)

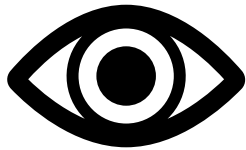

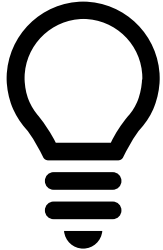

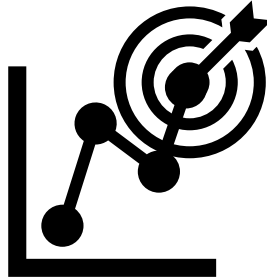



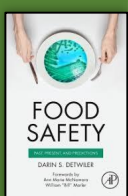
# OTHER?

A green speech bubble with a black outline, containing the text "OBSTACLE(S)".

**OBSTACLE(S)**

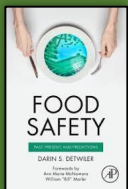



INPUTS	KEY ISSUE(S)	ACTION(S)	OUTPUT(S)	OUTCOME(S)	GOALS
<i>Observations, Reports, audits, complaints, etc.</i>	<i>10,000 ft Elevation Description</i>	<i>Specific ideas for Next Steps</i>	<i>For Employees or other Stakeholders</i>	<i>For Consumers (measurable)</i>	
					
<p><b>OBSTACLE(S)</b> – <i>Things to overcome and ideas on how to overcome them / Root Cause Analysis</i></p> <p style="text-align: center;"></p>					



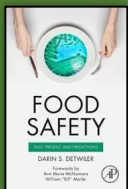
INPUTS	KEY ISSUE(S)	ACTION(S)	OUTPUT(S)	OUTCOME(S)	GOALS
<i>Observations, Reports, audits, complaints, etc.</i>	<i>10,000 ft Elevation Description</i>	<i>Specific ideas for Next Steps</i>	<i>For Employees or other Stakeholders</i>	<i>For Consumers (measurable)</i>	
<div data-bbox="392 525 642 968" style="background-color: yellow; padding: 10px; text-align: center;"> <p>Employees not washing their hands</p> </div>					

**OBSTACLE(S)** – *Things to overcome and ideas on how to overcome them / Root Cause Analysis*




INPUTS	KEY ISSUE(S)	ACTION(S)	OUTPUT(S)	OUTCOME(S)	GOALS
<i>Observations, Reports, audits, complaints, etc.</i>	<i>10,000 ft Elevation Description</i>	<i>Specific ideas for Next Steps</i>	<i>For Employees or other Stakeholders</i>	<i>For Consumers (measurable)</i>	
<p>Employees not washing their hands</p>	<p>Hygiene</p> 				

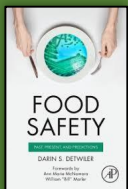
**OBSTACLE(S)** – Things to overcome and ideas on how to overcome them / Root Cause Analysis







INPUTS	KEY ISSUE(S)	ACTION(S)	OUTPUT(S)	OUTCOME(S)	GOALS
<i>Observations, Reports, audits, complaints, etc.</i>	<i>10,000 ft Elevation Description</i>	<i>Specific ideas for Next Steps</i>	<i>For Employees or other Stakeholders</i>	<i>For Consumers (measurable)</i>	
<p>Employees not washing their hands</p>	<p>Hygiene</p> 				

**OBSTACLE(S)** – Things to overcome and ideas on how to overcome them / Root Cause Analysis




INPUTS	KEY ISSUE(S)	ACTION(S)	OUTPUT(S)	OUTCOME(S)	GOALS
<i>Observations, Reports, audits, complaints, etc.</i>	<i>10,000 ft Elevation Description</i>	<i>Specific ideas for Next Steps</i>	<i>For Employees or other Stakeholders</i>	<i>For Consumers (measurable)</i>	
<p>Employees not washing their hands</p>	<p>Hygiene</p> 	<p>Weekly meeting reminder</p> <p>New training video</p>			

**OBSTACLE(S)** – Things to overcome and ideas on how to overcome them / Root Cause Analysis

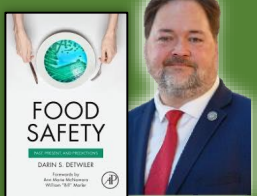
INPUTS	KEY ISSUE(S)	ACTION(S)	OUTPUT(S)	OUTCOME(S)	GOALS
<i>Observations, Reports, audits, complaints, etc.</i>	<i>10,000 ft Elevation Description</i>	<i>Specific ideas for Next Steps</i>	<i>For Employees or other Stakeholders</i>	<i>For Consumers (measurable)</i>	
<p>Employees not washing their hands</p>	<p>Hygiene</p> 	<p>Weekly meeting reminder</p> <p>New training video</p>	<p>Employees washing hands before shifts, after breaks, after using restroom, after taking out trash, etc.</p>		


**OBSTACLE(S)** – *Things to overcome and ideas on how to overcome them / Root Cause Analysis*



INPUTS	KEY ISSUE(S)	ACTION(S)	OUTPUT(S)	OUTCOME(S)	GOALS
<i>Observations, Reports, audits, complaints, etc.</i>	<i>10,000 ft Elevation Description</i>	<i>Specific ideas for Next Steps</i>	<i>For Employees or other Stakeholders</i>	<i>For Consumers (measurable)</i>	
<p>Employees not washing their hands</p>	<p>Hygiene</p> 	<p>Weekly meeting reminder</p> <p>New training video</p>	<p>Employees washing hands before shifts, after breaks, after using restroom, after taking out trash, etc.</p>	<p>Less consumers sick from contaminated products or from person-to-person contamination</p>	

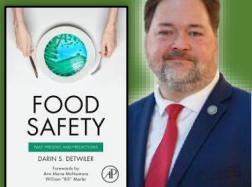
**OBSTACLE(S)** – *Things to overcome and ideas on how to overcome them / Root Cause Analysis*



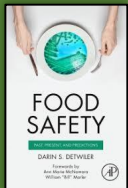
INPUTS	KEY ISSUE(S)	ACTION(S)	OUTPUT(S)	OUTCOME(S)	GOALS
<i>Observations, Reports, audits, complaints, etc.</i>	<i>10,000 ft Elevation Description</i>	<i>Specific ideas for Next Steps</i>	<i>For Employees or other Stakeholders</i>	<i>For Consumers (measurable)</i>	
<p>Employees not washing their hands</p>	<p>Hygiene</p> 	<p>Weekly meeting reminder</p> <p>New training video</p>	<p>Employees washing hands before shifts, after breaks, after using restroom, after taking out trash, etc.</p>	<p>Less consumers sick from contaminated products or from person-to-person contamination</p>	

**OBSTACLE(S)** – *Things to overcome and ideas on how to overcome them / Root Cause Analysis*

Age barriers? Lack of consistent messaging / reinforcement?



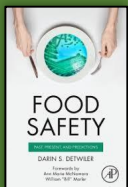
INPUTS	KEY ISSUE(S)	ACTION(S)	OUTPUT(S)	OUTCOME(S)	GOALS
<i>Observations, Reports, audits, complaints, etc.</i>	<i>10,000 ft Elevation Description</i>	<i>Specific ideas for Next Steps</i>	<i>For Employees or other Stakeholders</i>	<i>For Consumers (measurable)</i>	
<b>OBSTACLE(S)</b> – <i>Things to overcome and ideas on how to overcome them / Root Cause Analysis</i>					



# Work through examples at table

INPUTS	KEY ISSUE(S)	ACTION(S)	OUTPUT(S)	OUTCOME(S)	GOALS
<i>Observations, Reports, audits, complaints, etc.</i>	<i>10,000 ft Elevation Description</i>	<i>Specific ideas for Next Steps</i>	<i>For Employees or other Stakeholders</i>	<i>For Consumers (measurable)</i>	
<b>OBSTACLE(S)</b> – <i>Things to overcome and ideas on how to overcome them / Root Cause Analysis</i>					

- **Brainstorm** a typical observation
- Collaboratively, **complete** a potential progression on worksheet
- Prepare to **share** an example of the completed worksheet for each table
- **Consider** how to apply in your location(s)





# Key Takeaways

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- **Connect** observations to key **goals**
- **Identify** key issues, actions, outputs, outcomes, and obstacles
- **Communicate**
- **Shift** from External Motivation to **INTERNAL INSPIRATION**

# Key Takeaways

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# COURAGE





# SUSTAINABLE FOOD SAFETY LEADERSHIP TOOLS WORKSHOP



8 | DIFSC 2023 Workshop: Sustainable Food Safety Leadership Tools  
Dr. Darin Detwiler | detwiler@detwilerconsulting.com | www.dewilerconsulting.com

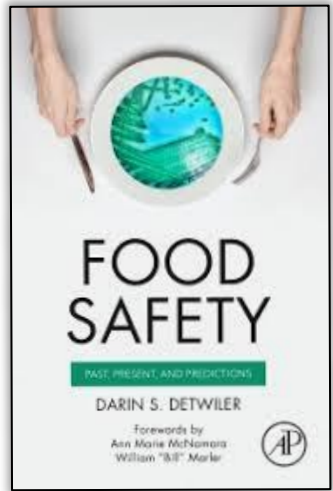
INPUTS	KEY ISSUE(S)	ACTION(S)	OUTPUT(S)	OUTCOME(S)	GOALS
Observations, Reports, audits, complaints, etc.	20,000 ft Elevation Description	Specific Ideas for Next Steps	For Employees or other Stakeholders	For Consumers (measurable)	Encompass large concepts
ppm defect in equipment Poor quality of equipment Lowest inspection (high Temperature Distribution) Spillage, Mold Crack container	Engineering Accuracy/ reality inspection	Walk through Review on equipment Specification Industry Self-Audit equipment	Chief Engineer Temperature in program no practice in	Reduce Quantity Self-Audit (1) (2) (3) (2) (5) No double in loop No Spillage	1) No contamination and good food safety culture 2) Top management Commitment 3) Values Accountability Legal & Regulatory Compliance 4) Quantitative Study of large work environment 5) Safe Systems
<b>OBSTACLE(S)</b> - Things to overcome and ideas on how to overcome them					
Equipment specifications not available in the market No budget / No specialized technician / material.					







# SUSTAINABLE FOOD SAFETY LEADERSHIP TOOLS WORKSHOP



**DR. DARIN DETWILER** LP.D., M.A.Ed.  
Founder and CEO



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