MARS

Framework for Food Safety Risk Management of suppliers and production facilities

DIFSC

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The Five Principles

OUR PRINCIPLES IN ACTION

Talking Points

Why Quality is important to Mars?

The value and principles of a "MQM" process within supplier quality management

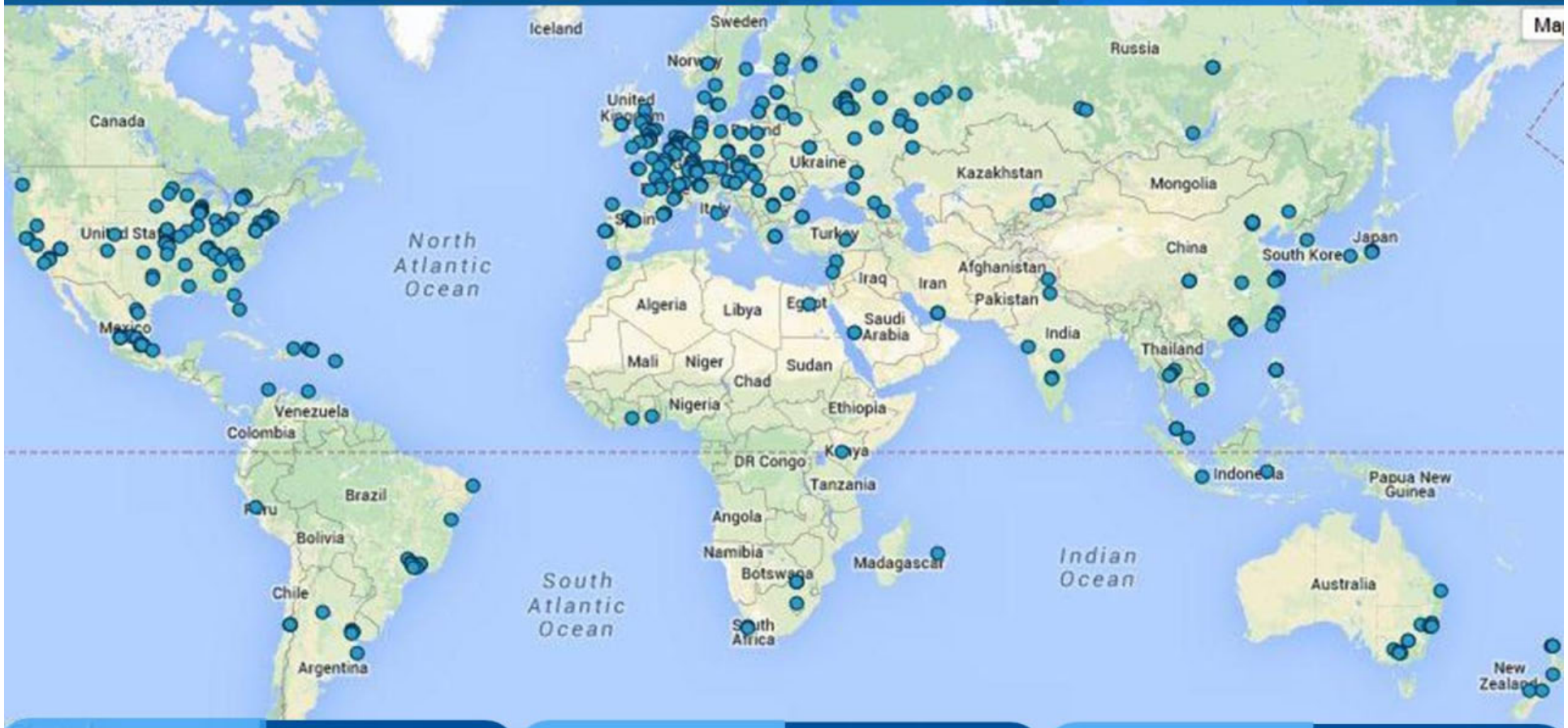
Role of a "MQM" process within overall food safety management

MQM: Material Quality Management

MARS QUALITY in ACTION

Why Quality is important to Mars?

Mars: A Global Business



Private Family Owned Business HQ McLean, VA

1911 Frank C. Mars

74 Countries

394 Factories and Offices

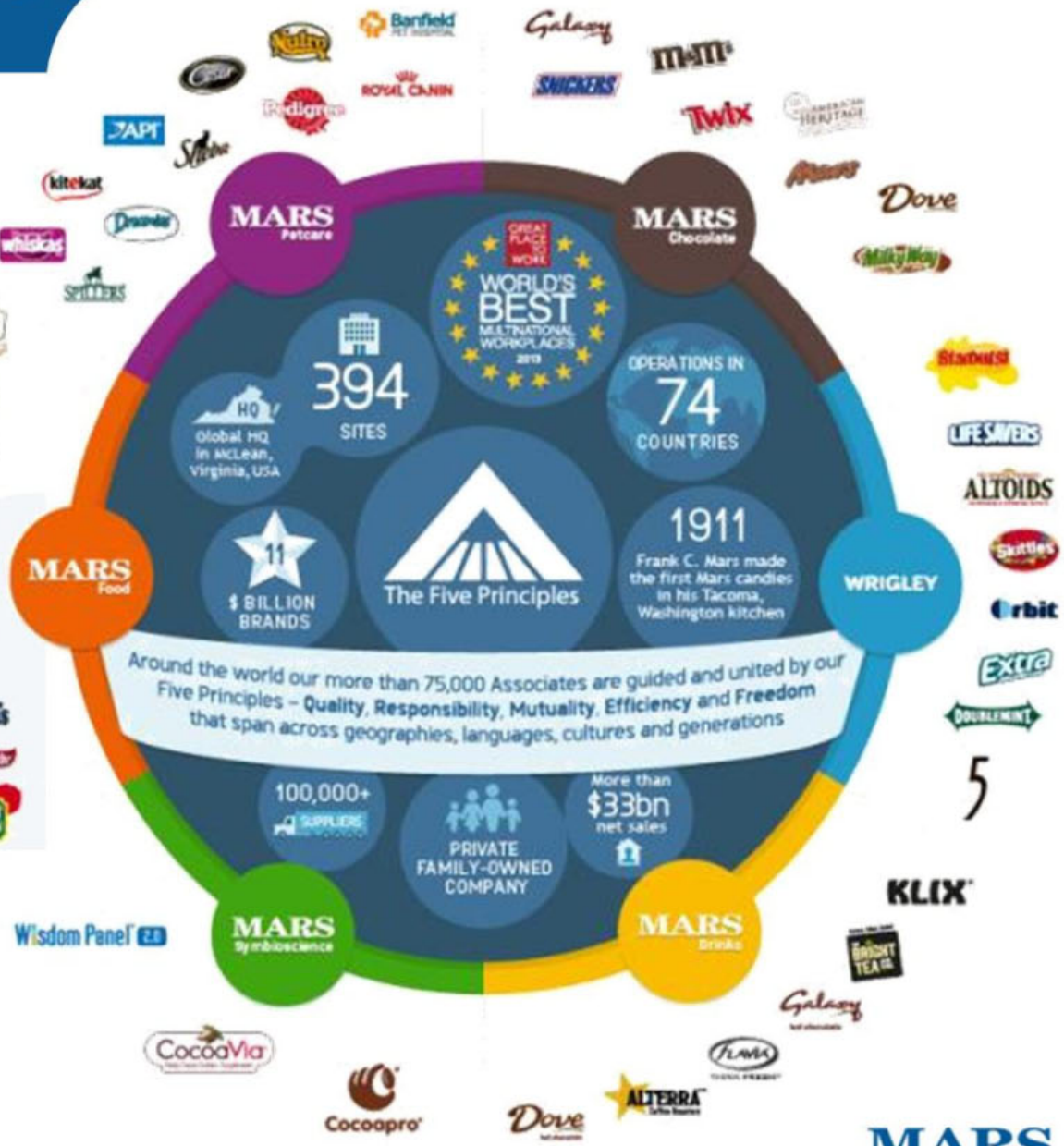
$33bn Net Sales

75,000 Associates

MARS QUALITY in ACTION

Mars: A Diverse Business

"The company's objective is the manufacture and distribution of food products in such manner as to promote a mutuality of services and benefits among all stakeholders"
- Forrest E. Mars, Sr. 1947



MARS

Mars: 11 Brands > Billion Dollar

Mars: A principle-based business

Quality
The consumer is our boss,
quality is our work and
value for money is our goal

Freedom
We need freedom
to shape our future;
we need profit to remain free

Responsibility
As individuals, we demand total responsibility from ourselves; as associates,
we support the responsibilities of others

The Five Principles

Quality Responsibility Mutuality Efficiency Freedom

Efficiency
We use resources to the full, waste nothing and
do only what we can do best

Mutuality
A mutual benefit is a shared benefit;
a shared benefit will endure

QUALITY

IS OUR FIRST PRINCIPLE

BECAUSE THE CONSUMER IS OUR BOSS

Each consumer experience is an opportunity to delight … or disappoint

The Value and Principles of a "MQM" process

MQM: Material Quality Management

Is our Food Safe?

In emerging regions

- Diarrhea related to food borne infections is a leading killer of adults and children
- 2 MILLION deaths annually
- more than TB, HIV/AIDs and malaria
- Sub-Saharan Africa losses est. at $4 billion
- Could feed 48 million

In developed countries, We take for granted that our food supply is safe, although

- In the USA 1/6 of the population had food-related illnesses in2011
- Causing almost 50 MILLION illnesses
- 128,000 hospitalizations
- 3,000 deaths
- Costing about 80 BILLION dollars

Sources: 2012 The State of Food Insecurity in the World...FAO, IFAD and WFP; collateral information from WHO; CDC Morbidity and Mortality Weekly Report June 10, 2011; FAO Global Food Loses and Food Waste 2011

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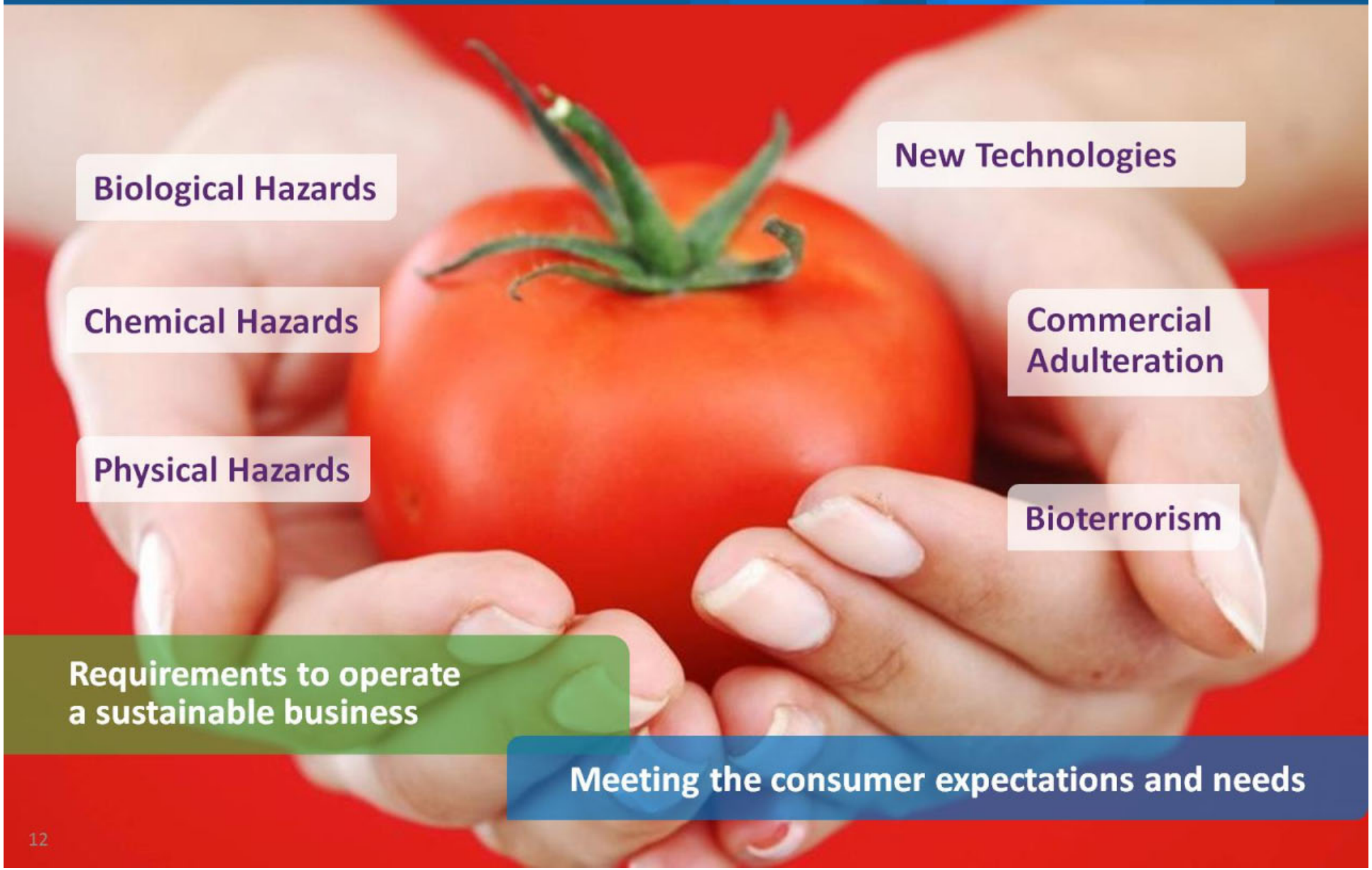
Managing Food Safety Risks



A problem for one company in one region can be a problem for the industry globally

Peanut Corporation of America 2009

>714 people ill (> 50% children)	**23%** hospitalised	**9** deaths
The most extensive recall in US history	**361** companies	**3913** products
25% Reduction in peanut butter sales	**Huge impact on industry and farmers**	**$1 billion** losses to the peanut industry

"Industry must take responsibility for safeguarding the food supply"

Key Learnings from Review

- Know your Suppliers
- Audit your Suppliers
- Audit your Auditors
- Test Finished Product

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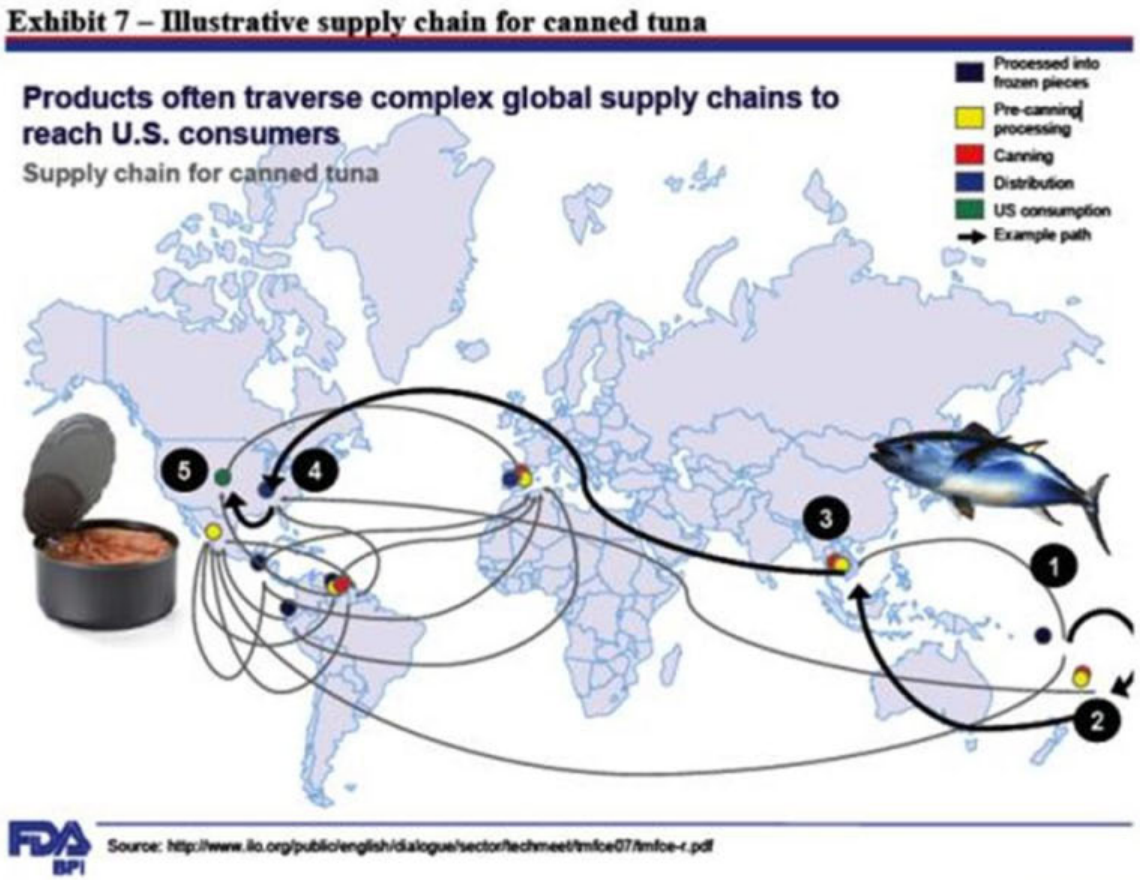
The Challenge: Food Supply Chain Complexity



- Global networks
- Multiple steps
- Processors, distributors, brokers, agents
- Difficult to trace
- Incomplete records
- Poor visibility to final user

So…. Need for a Raw Material Risk Analysis Strategy

Incorporated within an integrated total-pipeline food safety management strategy

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Total Supplier Performance

Total Supplier Performance

Technical Supplier Quality Assurance
Delivered Quality
Plant standards

Commercial
Price
Relationship

Service
Delivery performance
Service procedures

Buying Strategy Input

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Technical Supplier Quality Assurance

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Role of a MQM process within overall food safety management

MQM: Material Quality Management

Material Quality Management - Principles

- Risk based
- Forward control is a guiding philosophy
- Taking responsibility & building Q&FS partnerships
- Verification of compliance and effectiveness
- Continuous improvement of suppliers and materials
- Importance comparable to own factory quality management
- Integrated into holistic food safety management…..not isolated

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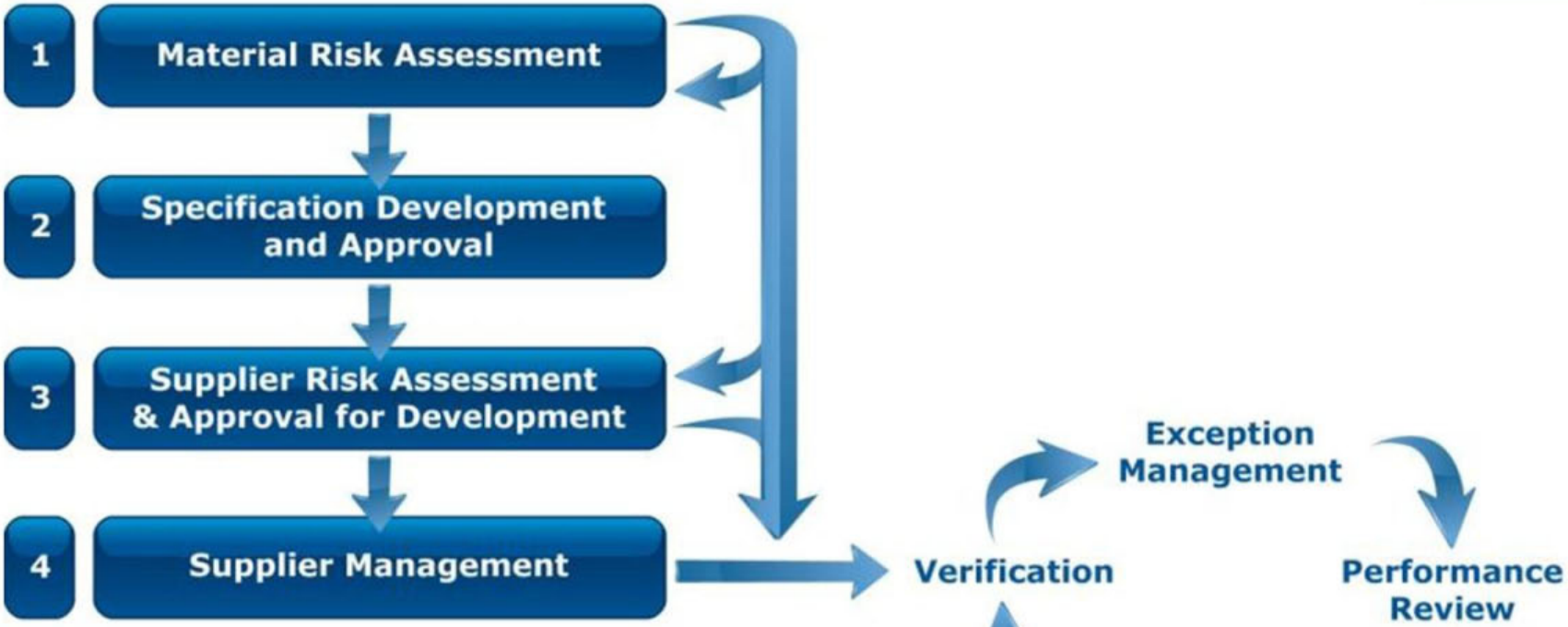
Material Quality Management Process



MRA: Material Risk Assessment

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Why do we need MRA*?

To build one complete picture of potential hazards and their controls

To move us progressively towards prevention rather than removal

To ensure that our products are safe to consume

*MRA: Material Risk Assessment

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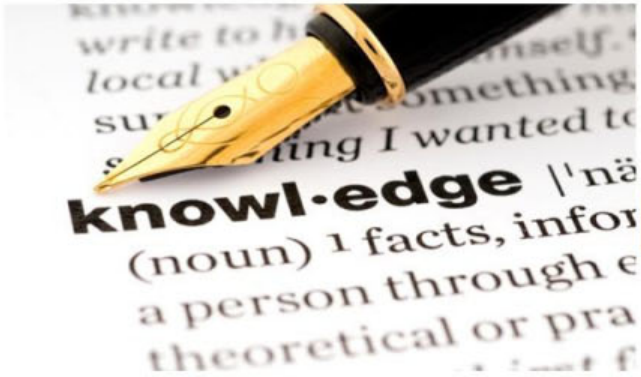
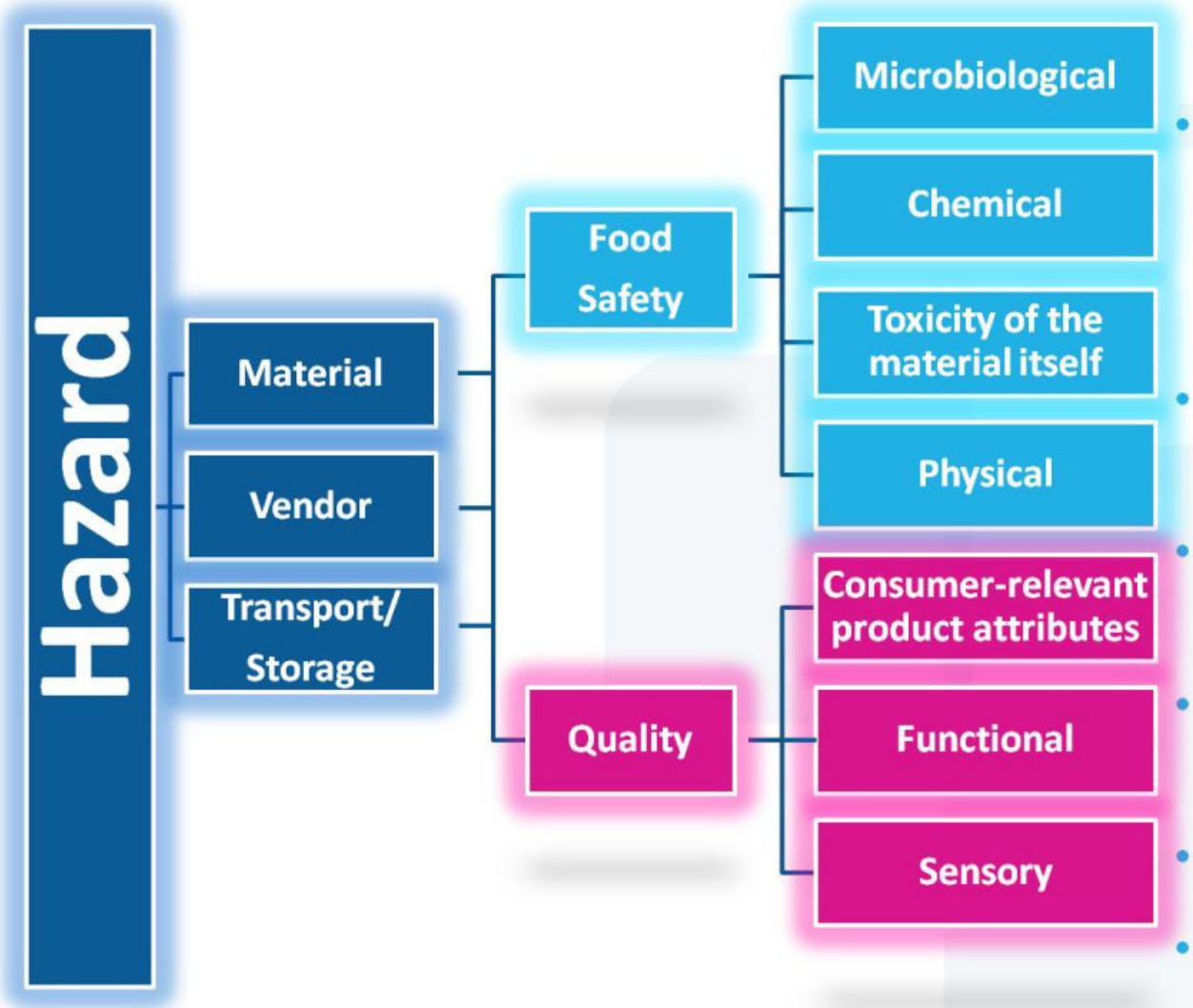
What makes a good MRA*?



*MRA: Material Risk Assessment

Material Risk Assessment - Supplier Risk Assessment



- Identify inherent hazards related to a material
- Determine the hazard significance - "severity of effect" and "likelihood of occurrence".
- Classification - high, medium, low risk
- What does the supplier do to mitigate the risk
- What do you do to mitigate the risk?
- Residual risk
- Differs by site and supplier

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Supplier Management

Balance forward control at the suppliers and application of inbound verification testing

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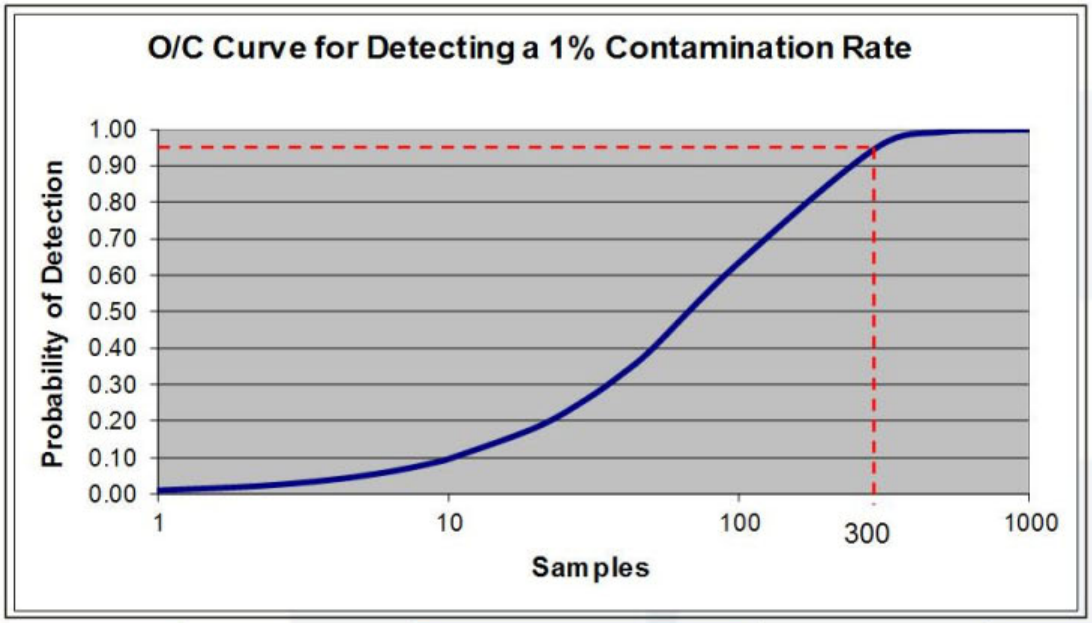
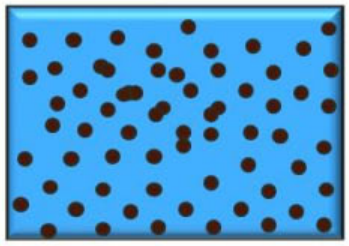
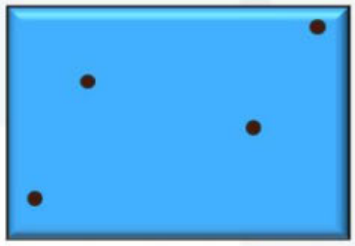
Sampling has Limitations

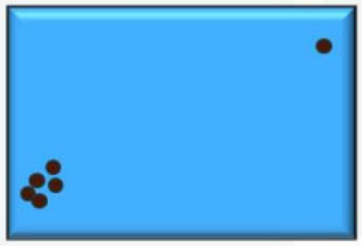




High Density Distribution



Low Density
Random Distribution



Clumped

Note: for illustration purposes only

MARS
QUALITY in ACTION

Vendor Forward Control has Limitations

- **Trust and strength of relationship**
- **History and experience**
- **Data**
  - *analytical test data built up over time*
    - sampling concerns
    - laboratory competency
  - *audit data*
    - only a sample of reality
    - competency of audit

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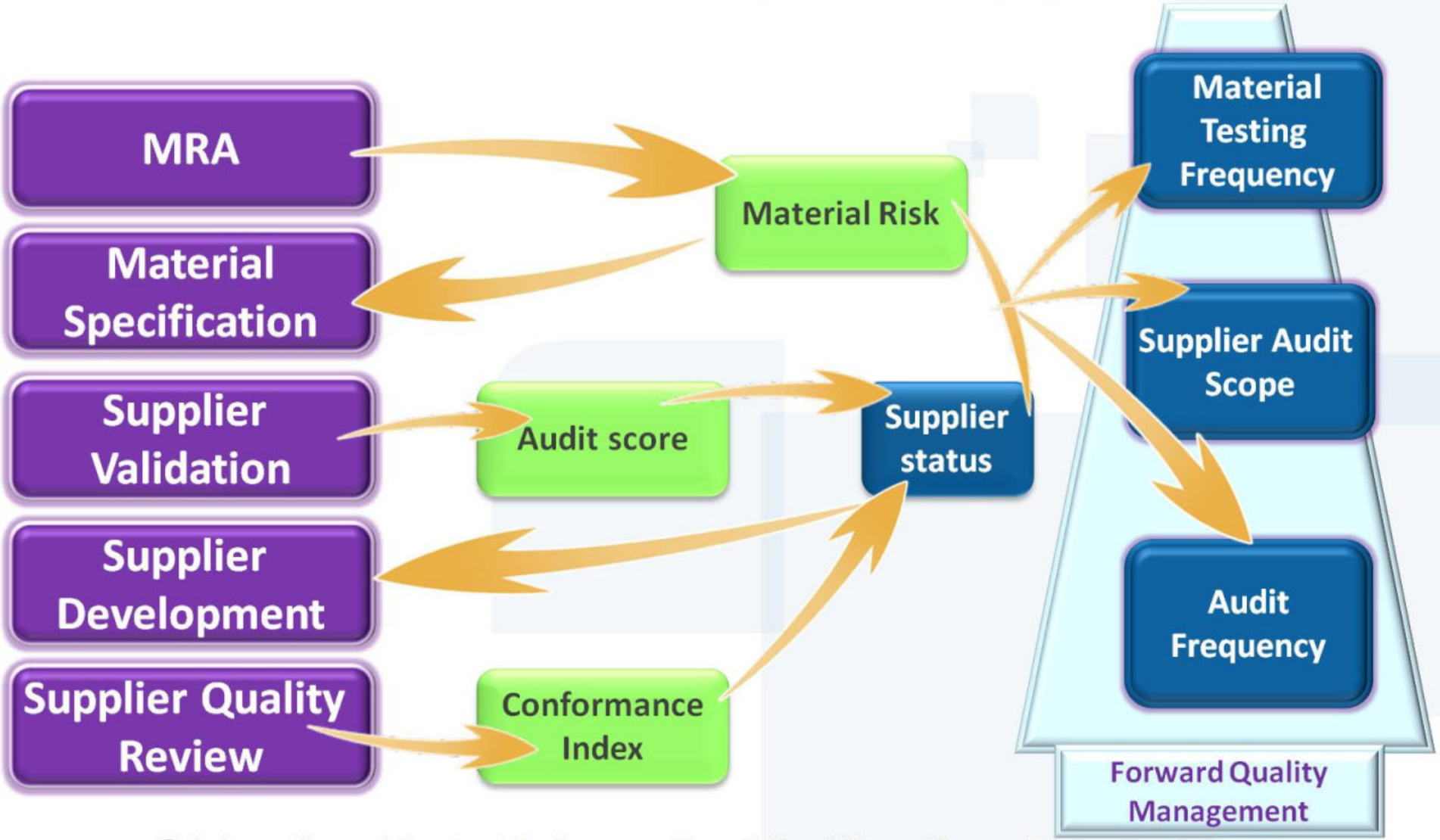
How the MRA informs the rest of the MQM Process?



Objective Data Drives the Verification Process

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Key Challenges

- Integration between MQM process and HACCP is essential
- Balance of forward control and inbound quality inspections
- Trust in laboratory data and audit competency
- Relationships with suppliers
- Traceability of supply pipeline
- Regions of higher risk (e.g. adulteration risk)
- Learning to know what you don't know

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In summary

- An effective MQMP is essential to protect consumers, brands and business
- Build supplier relationships to clearly understand expectations and continuously verify effectiveness
- Look for the "un-expected“
- Consider as an investment, not a cost

THANK YOU