



# Introductie

1. Food Transparency
2. Real-time Food Management
3. Real-time Compliance

# Introductie

1. **Food Transparency**
2. Real-time Food management
3. Real-time Compliance

# Real-time Food Management:

## Yearly Dynamics:

- ✓ 2000 quality requirements
- ✓ 100 suppliers
- ✓ 100 customers
- 100 employees
- 100 legal changes



# Legislation: HACCP

- Hazard Analysis
- Overview pathogens, chemical hazards
  - ✓ Pathogens
  - ✓ Mycotoxines
  - ✓ Biotoxines
  - ✓ Virusses, rickets and prions
  - ✓ Parasites & Pest
  - ✓ Chemical & Fysical
  - ✓ Zoonoses & Toxines

- Hazard Analysis
  - ✓ Raw material hazards
  - ✓ Process hazards
  - ✓ HACCP team
  - ✓ Decision tree
  - ✓ Control measures



# Legislation: EU examples

- 2002-178 General Food Law
- 2005-2073 Microbiological criteria
- 2005-396 Residues of pest control chemicals
- 2006-1881 Contamination of food
- 2006-1924 Food claims
- 2008-1333 Additives
- 2008-1334 Aromas
- 2011-1169 Consumer food information



# Legislation: National Guide Lines

- Guide Lines in Holland, to deal with sampling
  - ✓ Information sheet 64
  - ✓ Information sheet 65
  - ✓ Information sheet 85
- Food Safety Authority Information
  - ✓ Food Allergy
  - ✓ Bioterrorism
  - ✓ PVC packaging contaminants
  - ✓ Paralytic shellfish poisoning (PSP)
  - ✓ Toxoplasma gondii
  - ✓ Zoönoses



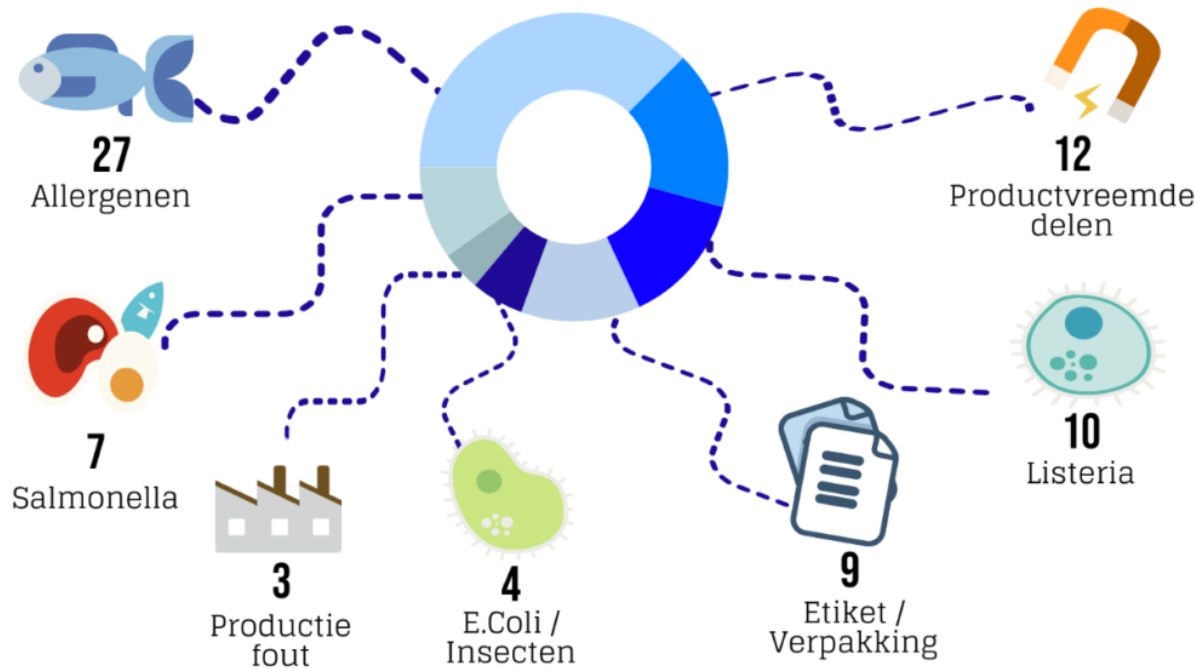
# Legislation: Recall

- 2002-178 General Food Law
  - Article 19: by order of the food safety authority
  - Buro of risk analysis
  - Decision tree for recall
  - Issuemanagement
- 
- RASFF - Food and Feed Safety Alerts





# Legislation: Recall (VMT overview 2019)



- 1. Tracing
  - ✓ Properly recording the current method of tracing all normal products as well as any biological flow.
  - ✓ Describe any missing trace actions in more detail and record them in additional records.
  - ✓ Method of tracing closed weekly: demonstrably correct.
- 2. Additives
  - ✓ Raw materials, Recipes, End products up to date
  - ✓ 2 E-number analysis on this product portfolio
  - ✓ Keep E-number analysis up to date



# NVWA

- 3. Microbiology
  - ✓ Check microbiological plan for legislation.
  - ✓ Check microbiological plan last year for compliance.
  - ✓ Carefully implement current year microbiological plan.
- 4. Listeria
  - ✓ Demonstrable compliance with info sheet 85 regarding Listeria.
  - ✓ Analysis of current product portfolio in which FSSP must be substantiated with, among others, why Challenge tests have or have not been carried out.
  - ✓ Describe the Listeria approach that demonstrably meets the legal requirements.



# NVWA

- 5. STEC
  - ✓ 5A Using the product portfolio, analyze which raw products to be consumed can have STEC as a problem.
  - ✓ 5B Conform STEC to NVWA policy and guarantee these products regarding STEC
  - ✓ 5C Info sheet 64 of NVWA considered for STEC
- 6. EDP audit
  - ✓ 6A Administrations may be taken without any reason / suspicion

**NVWA legt half miljoen euro boete op aan bedrijf voor niet meewerken aan terugroepactie mogelijk besmet varkensvlees**

De Nederlandse Voedsel- en Warenautoriteit (NVWA) heeft een vleesverwerkingsbedrijf een boete opgelegd van ruim EUR 500.000. Het bedrijf heeft in 2018, ondanks aandringen van de NVWA, onvoldoende maatregelen getroffen om varkensvlees dat mogelijk besmet was met Salmonella Goldcoast uit de handel te nemen. Daarnaast heeft de vleesverwerker zijn afnemers verzocht instructies van de NVWA om producten uit de handel te halen, te negeren.



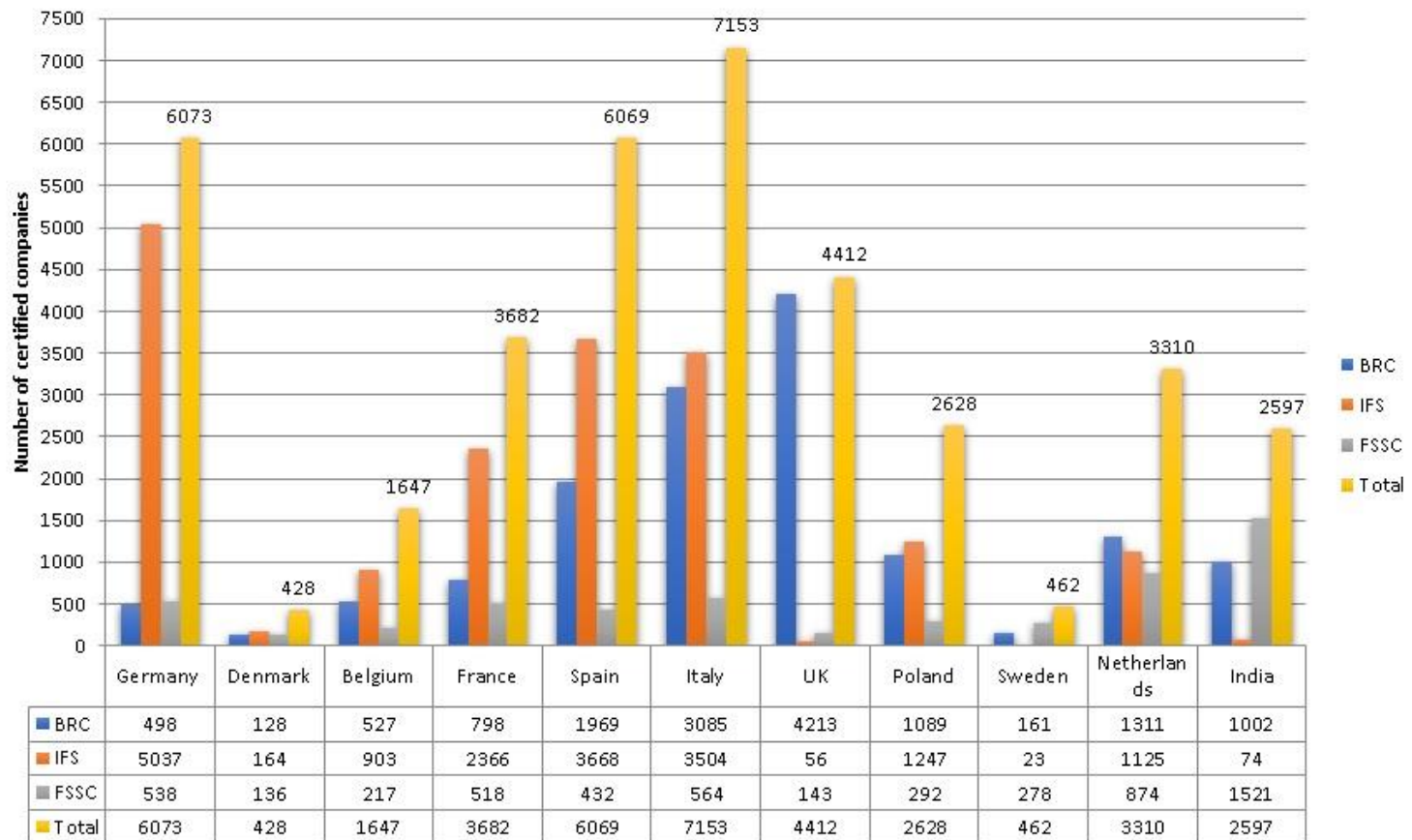
# Quality Standards

- Food Quality
  - ✓ BRC
  - ✓ IFS
  - ✓ FSSC22000
  - ✓ SQF
  - ✓ Dutch HACCP
  - ✓ Quality claims like HALAL, UTZ, Rainforest Alliance, Organic
- Environment, ISO14001
- Health, ISO18001
- Social Responsibility
  - ✓ Social Development Goals



# Quality Standards

**Overview of countries certified in food safety**



# FSSC

Found **23768** Certified Organizations





# Quality Standards

- Food Production parameters
  - ✓ Product
  - ✓ Proces
  - ✓ Person
  - ✓ Production facility
- Food Defense
- Food Fraud
- Not only production: also trade
  - ✓ HACCP of the whole supply chain





# What should you pay attention to?

- Do not forget Appendix FSSC, including services
- Knock Outs at IFS
- Fundamentals at BRC
  
- Management board expectation:
  - ✓ 80% of audit results dependent on the auditor
  - ✓ Focus with QA on a working system AND do not use the standard as an improvement tool.
  - ✓ BRC and IFS are often a settlement instrument, make sure that everything is correct on the days of the audit and that open action points that are standard related are also resolved.
  - ✓ Enough QA managers and advisors can wrongly do something else after an undesired score.

# Food Factory

- Food Production parameters
  - ✓ Product: product assurance & development
  - ✓ Process : Cleaning and disinfection
  - ✓ Person: screening for diseases and hygienic working
  - ✓ Production area
- Food Defense
- Food Fraud
- Evidence Based practice:  
Evidence: everything done for food safety
- Make sure all data is stored in the company! Code microbiology so that you don't fall victim to external errors.
- Plant Based chilled // ready to heat



# Food Factory: What to organize?

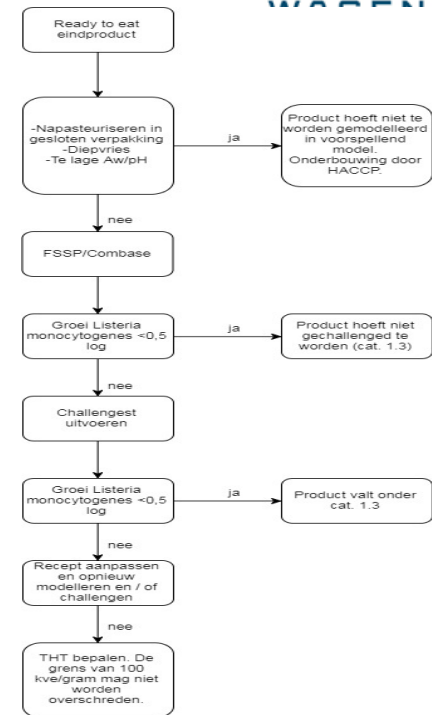
- Make sure everyone knows the location of:

- ✓ HACCP study
- ✓ Management reports
- ✓ Listeria and additives overview

- Train relevant colleagues in

- ✓ The management system
- ✓ HACCP
- ✓ Internal auditing
- ✓ Location information sources
- ✓ Traceability
- ✓ ERP system and Backups

- Use a separate system for consumer & chain information



# Suppliers

- Purchase agreements
- Supplier audit & assessments
- Certificates of analysis
- Process samples
  
- Primary chain: management of
  - ✓ Agriculture: MRLs en pathogens
  - ✓ Meat: o.a. animal diseases (oie-database) and pathogens
  
- Production: control measures for
  - ✓ Food Production
  - ✓ Food Defense
  - ✓ Food Fraud



## Suppliers: consolidation of services

Market	Company	Taken over
Cleaning products	Ecolab	CIDLINES
Pest control	Rentokil	SGS Sanitec
Advice / Research	Merieux	KTBA
	Normec	Labs, BK, N&S, KA
ERP systems	French IT company	Schouw Computerization
Cold stores	American VC	Diverse cold stores

# Customer & Consumer

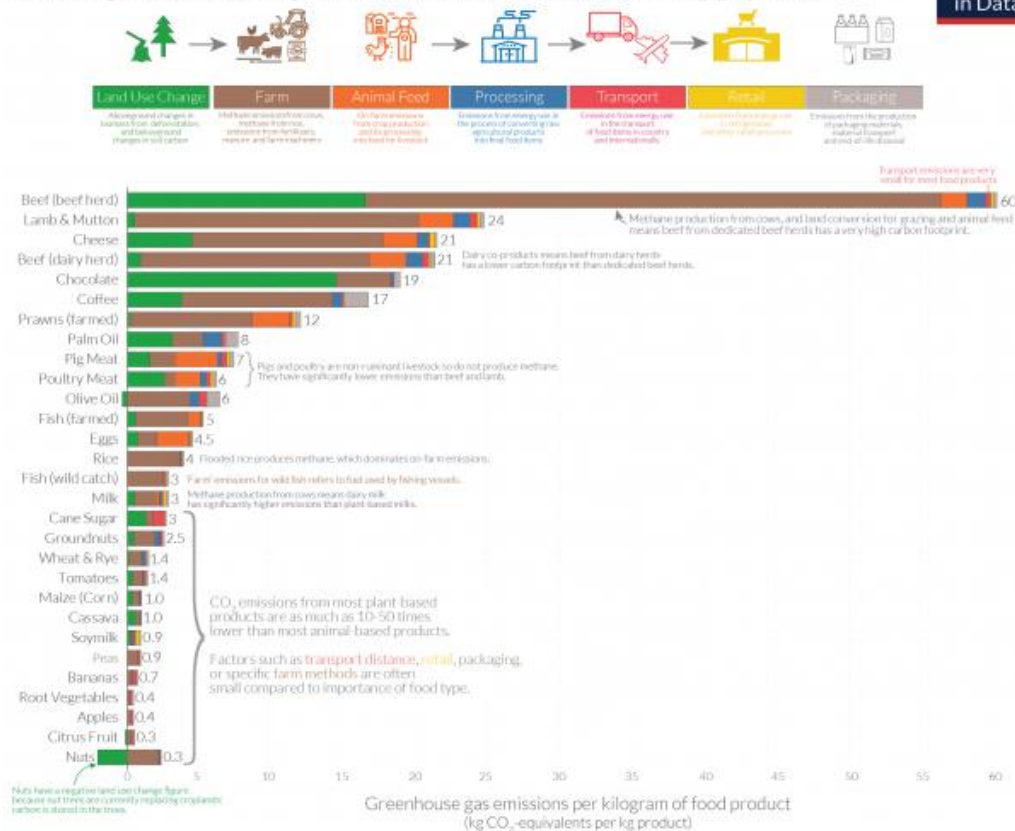
- Product Integrity
- Declaration of ingredients
- Nutritional values
- Origine
- Claims
- Allergens
- Produced where, which checks?
  - ✓ Food Production
  - ✓ Food Defense
  - ✓ Food Fraud



# Customer & Consumer: also impact

## Food: greenhouse gas emissions across the supply chain

Our World  
in Data



Note: Greenhouse gas emissions are given as global average values based on data across 38,700 commercially viable farms in 119 countries. Data source: Poore and Nemecek (2018). Reducing food's environmental impacts through production and consumption. Science. Images sourced from the Nexus Project. OurWorldInData.org - Research and data to make progress against the world's largest problems. Licensed under CC-BY by the author Hannah Ritchie.



## Consumers: Transparency Need

- NVWA: not priority
- Retailers will want to do their best with the house brands...
- Media is focused on it

# Tomatenpuree is pijnlijk goedkoop

**Pureeblikjes** Gepureerde tomaat voor 18 cent? Het kan. Maar de herkomst van het spul is vaak niet te achterhalen. En er zijn veel aanwijzingen dat de arbeidsomstandigheden bij de productie slecht zijn.

Hoe het zo goedkoop kan? Op bijna elk blikje staat iets vermeld als 'geproduceerd in Italië'. Maar wie het spoor verder volgt, komt op een heel andere plek: Xinjiang, in het westen van China. De regio waar de Oeigoerse minderheid woont.



# Introductie

1. Food Transparency
2. **Real-time Food management**
3. Real-time Compliance

# Real-time Food Management:



## Yearly Dynamics:

- ✓ 2000 quality requirements
  - ✓ 100 suppliers
  - ✓ 100 customers
  - ✓ 100 employees
  - ✓ 400 legal changes
- 
- ✓ Real-time management of
    - Specifications
    - Quality activity
    - Traceability
    - Assessment

# 4 Focus Areas

1. Specifications
2. Quality activities
3. Traceability
4. Assessment



# QUALITY HOLISTICS



			Specifications	Quality Activity Monitoring	Traceability	Assessment
<b>QUALITY STANDARDS</b>			<b>CERTIFICATION MANAGEMENT</b>			
EFQM INK ISO9001:2000 ISO17025	SQF Eurepgap GMP Animal Feed AIB	HACCP BRC IFS EFSIS	real time standard requirements	Operational Framework	Test	Risk  Quality Standard evidence based practice
<b>ACCREDITATIONAL BODIES</b>		<b>CERTIFICATIONAL BODIES</b>				
<b>CUSTOMERS</b>		<b>CONSUMERS</b>	<b>DEMAND RELATIONSHIP MANAGEMENT (SRM)</b>			
Retail Organisations Food Service Wholesalers and Trade Food Manufacturers Out of Home Outlets Hospitals	Habits, Attitudes Preferences Allergens Quality Needs Information Needs		product, process requirements	Information Centre Demand Quality Information Centre (DQIC)	Products Specifications	Customer Satisfaction  Consumer Needs
<b>FOOD AND DRINK FACTORY</b>			<b>BUSINESS PERFORMANCE MANAGEMENT (BPM)</b>			
<b>FOOD &amp; DRINK MANAGEMENT</b>			process, product and people requirements	Training, Support, Procedures, Quality Documents, Quality Database	Ingredients, Semi-products	Business System
<b>LABORATORIES</b>	<b>PRODUCT SUPPLIERS</b>	<b>SERVICE SUPPLIERS</b>	<b>SUPPLY RELATIONSHIP MANAGEMENT (SRM)</b>			
Microbiological Analytical	Raw materials Equipment Packaging Machines	Cleaning and Hygiene Pest Control Measurements Cooling Systems	process, product and people requirements	Supply Quality Information Centre (SQIC)	Raw materials Specifications	Suppliers
<b>GOVERNMENT CONTROL BODIES</b>			<b>LEGISLATION MANAGEMENT</b>			
Global International National Where appropriate	General Food Law Codex Alimentarius		legal requirements	legal requirements: - people - products - process - building	Informed	Risks  Legal evidence based practice
<b>LEGISLATIONS</b>						



## PLAN

Risk Assessment  
Legal Compliance  
Blue Print  
Operational Framework  
Yearly Plan

## DO

Document Generator  
Audit-system  
SpecCheck  
Training  
Supportive Material  
Track and Trace

## CHECK AND ACT

Quality Data Warehouse  
Quality Cockpit  
Standard Reports

## COMMUNICATE

Newsletter  
[www.iMISQA.com](http://www.iMISQA.com)  
SpecReport  
Quality Information Centre  
Supplier Portal

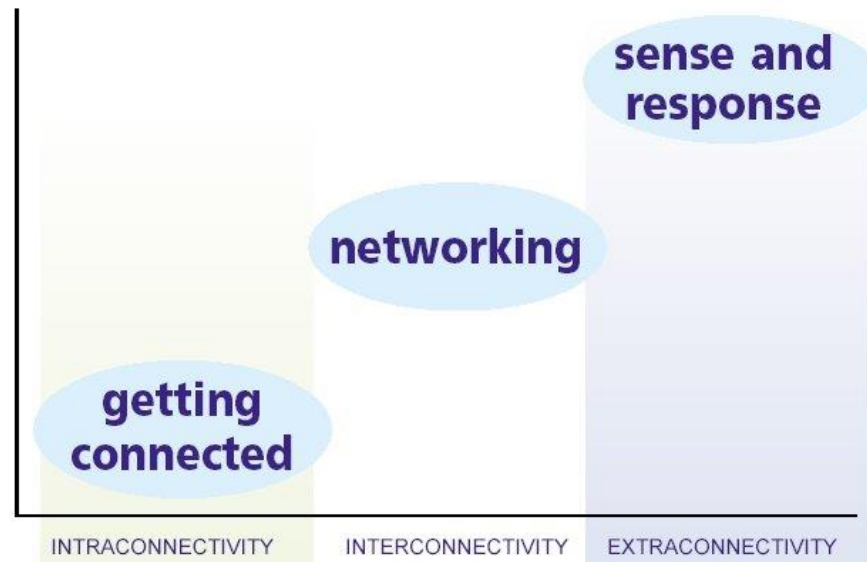
# Real-time Food management: How do you want to be organised?

**Knowing something is  
going to happen**

**Knowing why something  
happens**

**Knowing something  
happens**

**Knowing something has  
happened**



# Introductie

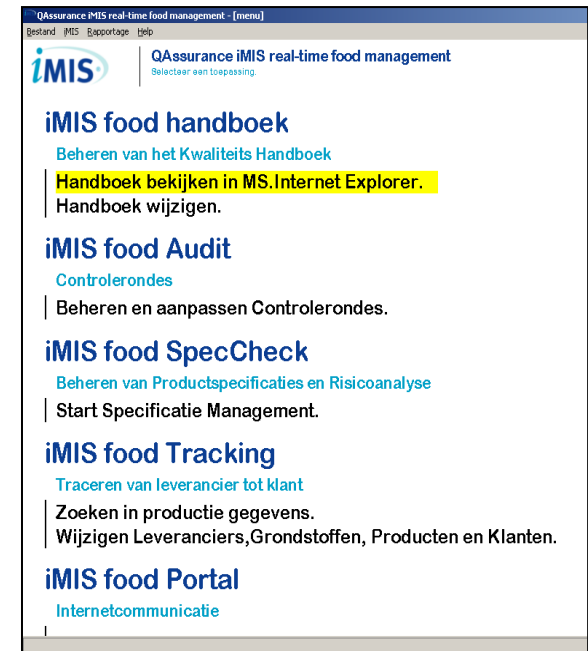
1. Food Transparency
2. Real-time Food management
3. **Real-time Compliance**

# Food Production, status 2022

- Quality Activities:
  - ✓ Food Handbook
- Specifications
  - ✓ Food SpecCheck
- Traceability
  - ✓ Food Tracking
- Assessment
  - ✓ Food Audit

And monitoring of

- ✓ Hazards
- ✓ Legislations
- ✓ Standards



**2022->: CONNECT, AI & Blockchain**

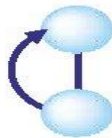
# Real-time Compliance Connectivity needed



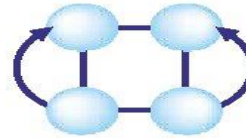
Activity



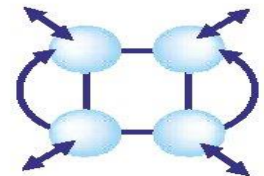
Process



System



Chain



Holistic

Getting  
Connected

Networking

Sense &  
Response



# Real-time Compliance

- Dashboards: real-time compliance
  - ✓ Food Production
  - ✓ Food Defense
  - ✓ Food Fraud



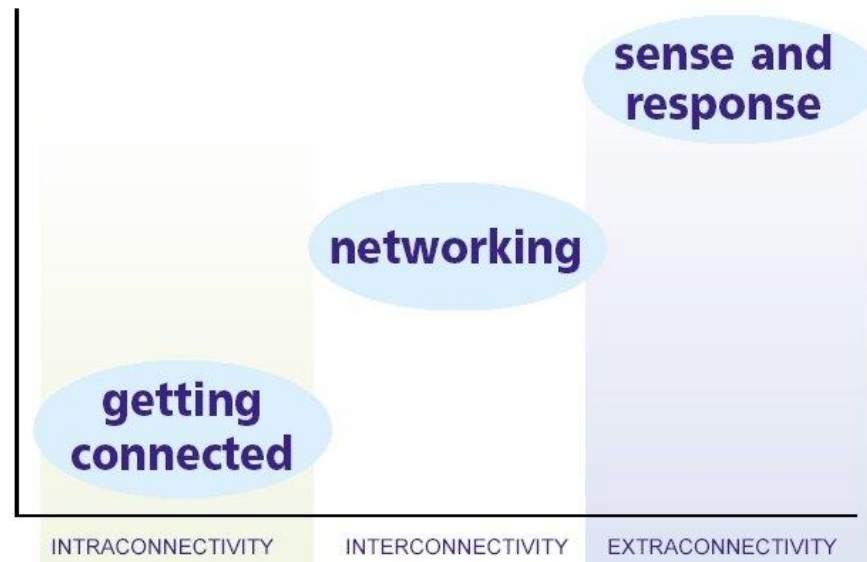
# Real-time Compliance: Knowing something is going to happen

**Knowing something is  
going to happen**

**Knowing why something  
happens**

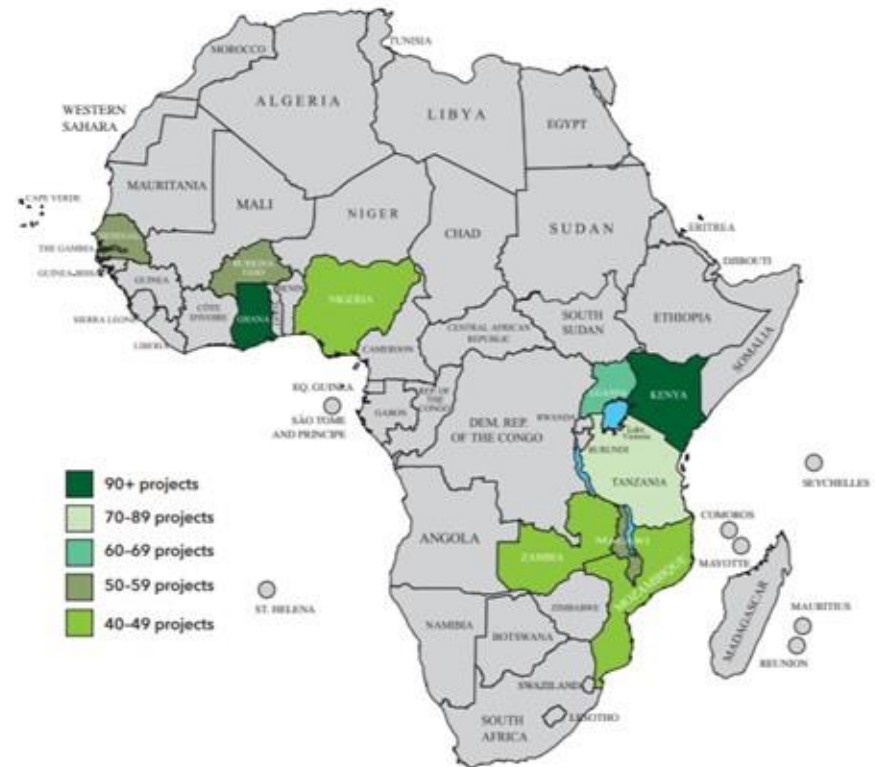
**Knowing something  
happens**

**Knowing something has  
happened**



# Next 10 years

- Real-time Compliance is the future
- Certification is just a yearly system validation
- Africa can become the Global Food Supplier
- Using Real-time Compliance and Real-time monitoring from for Trust and Transparency



## Next 10 years

- iMIS Food Global can be used by Multinationals to increase local production in emerging countries, so that the local Food Value Chain and local prosperity are improved.
- In addition, ethical issues can be monitored and CO2 is reduced by less waste and transport of goods. This data can eventually be made available to the consumer, leading to trust and intimacy.



Current state of Food Safety in Nigeria

Current state of Food Safety in Nigeria

[Read more](#)



Food safety projects in Africa

Food safety projects in Africa

[Read more](#)



Food Safety in Africa

Food Safety in Africa

[Read more](#)

# 2022 ->

- iMIS Food Global
  - Compliance Portal
  - AI and Blockchain
  - Food Security
  - Real-time Food Safety
- 
- Europe
  - Africa
  - Asia
  - USA

