

Real-time Food Safety Compliance

By QAssurance

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larenstein**
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George Miedema

Study

- BSc. Food technology 2015 – 2020
 - Food Safety and Health Major
- MSc. Digital Business Innovation 2020 - 2022

Work

- QAssurance 2020 – Now
 - Food Safety Consultant 2020 - 2022
 - iMIS Platform Manager 2022 - Now

During VHL

Internships

- Merieux Nutrisciences
- Trabocca / Tradin Organic
- FACT VHL

Association

- Arbori Cultura member



Introduction

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



Introduction

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



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 Guidelines

- 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

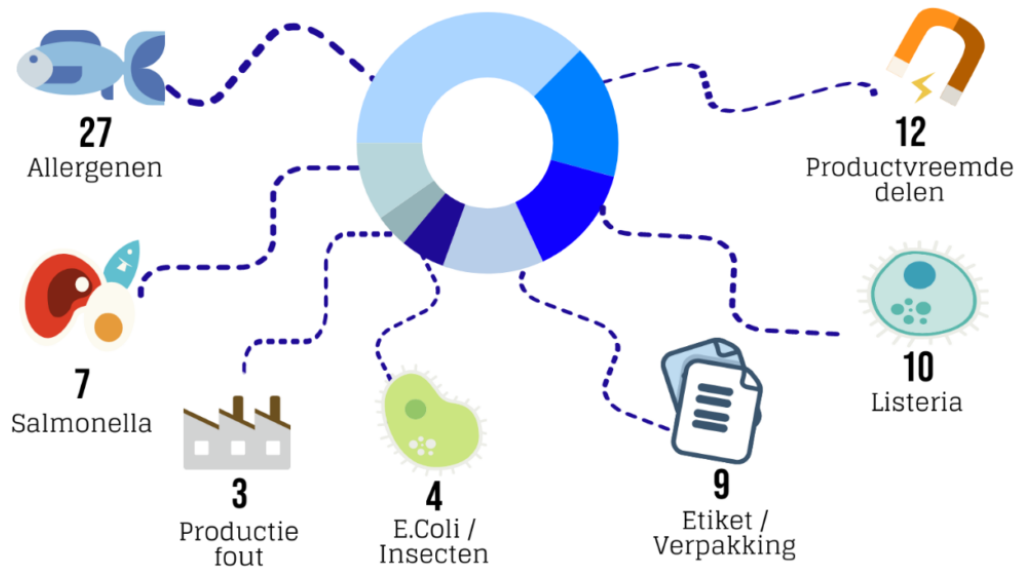


Legislation: Recall

- 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



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.



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.



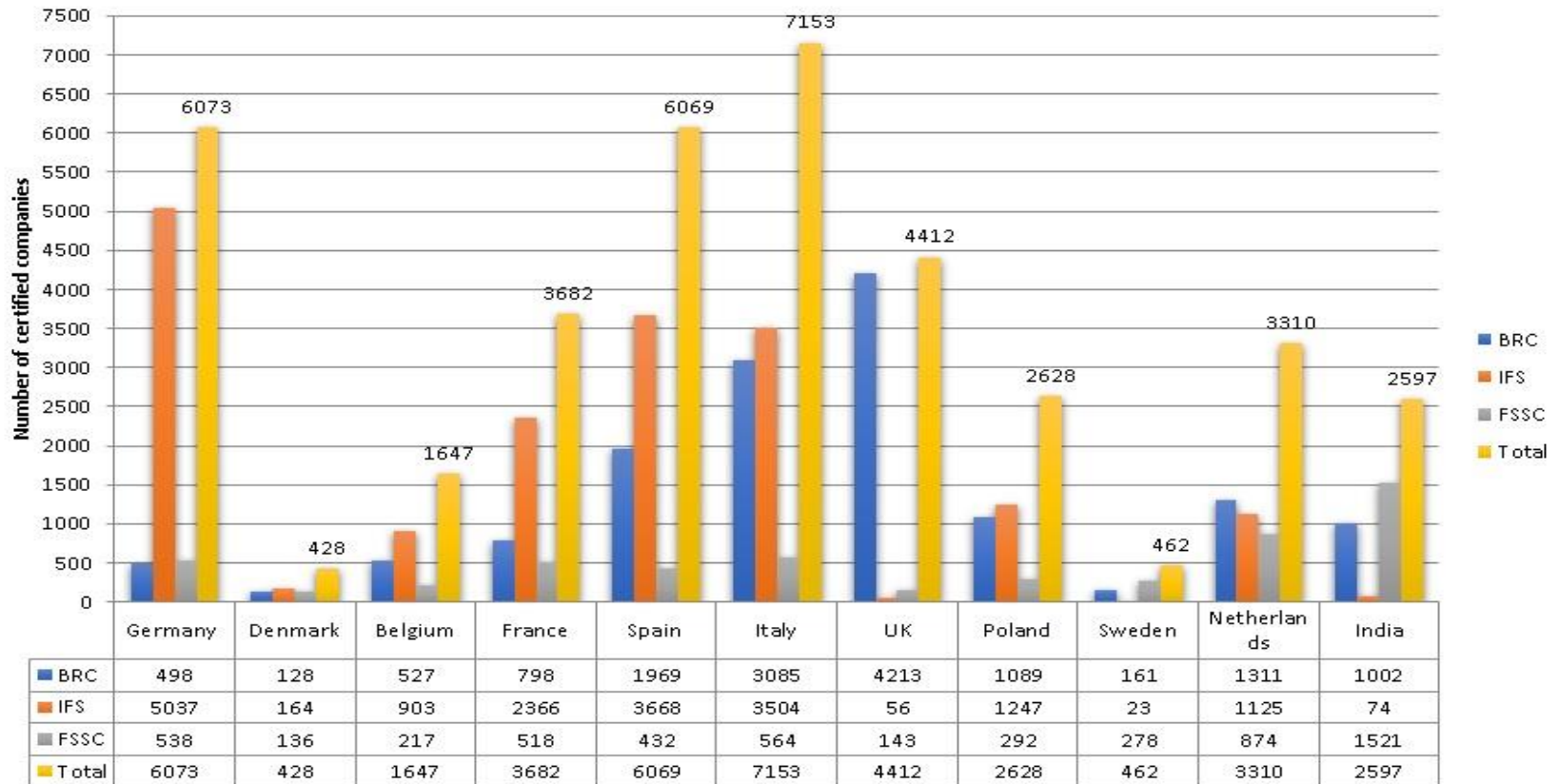
Quality Standards

- 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



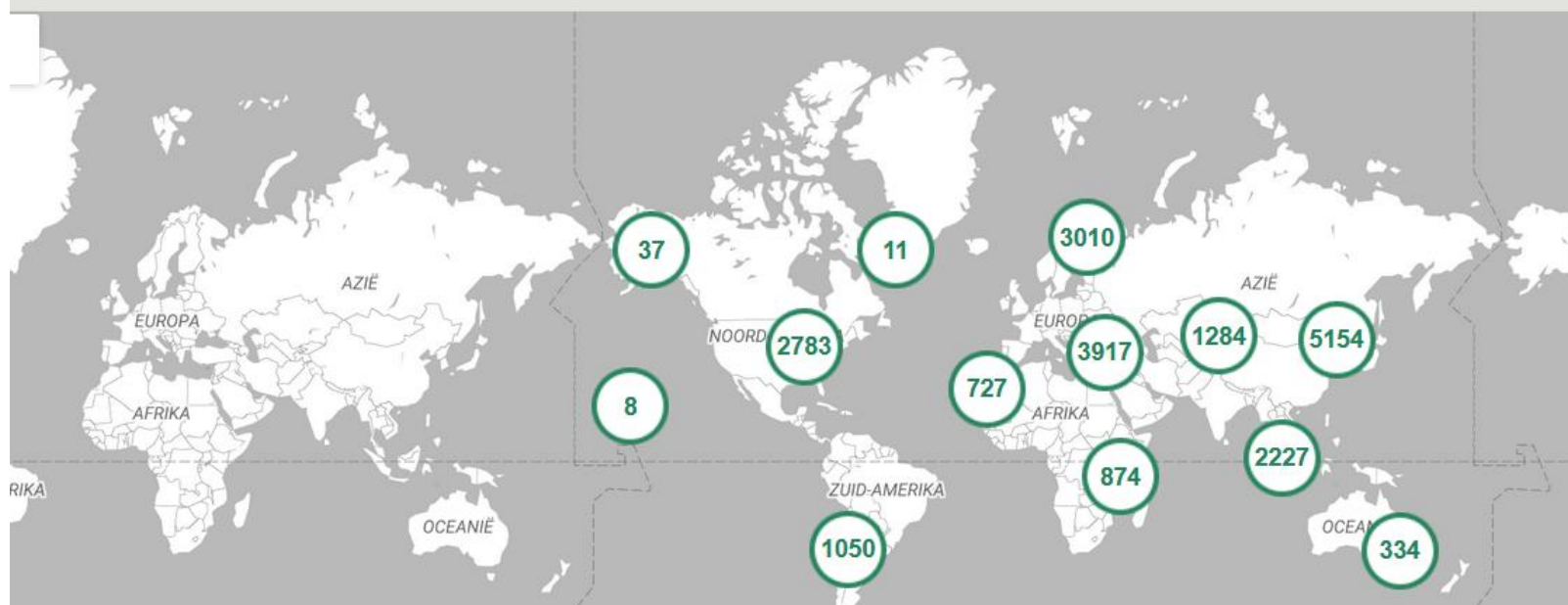
Quality Standards

Overview of countries certified in food safety



FSCC 22000

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.



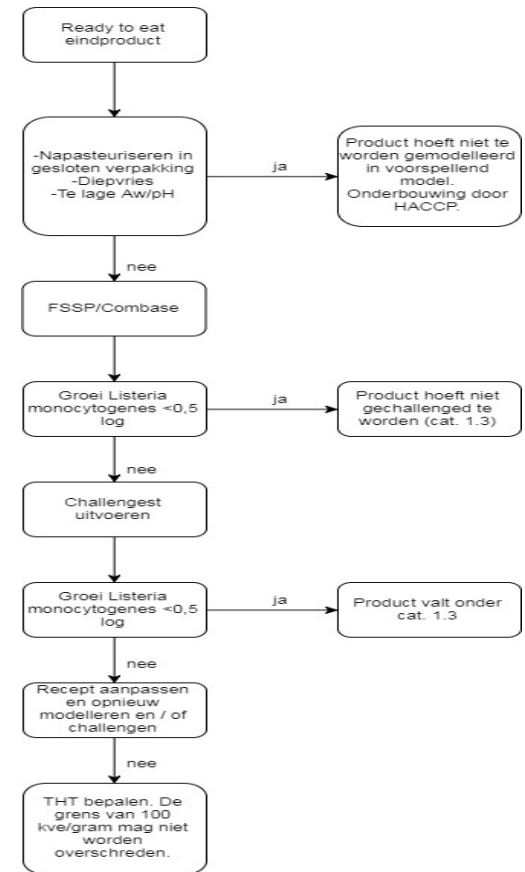
Food Factory

- 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



Food Factory

- 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



Food Factory

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



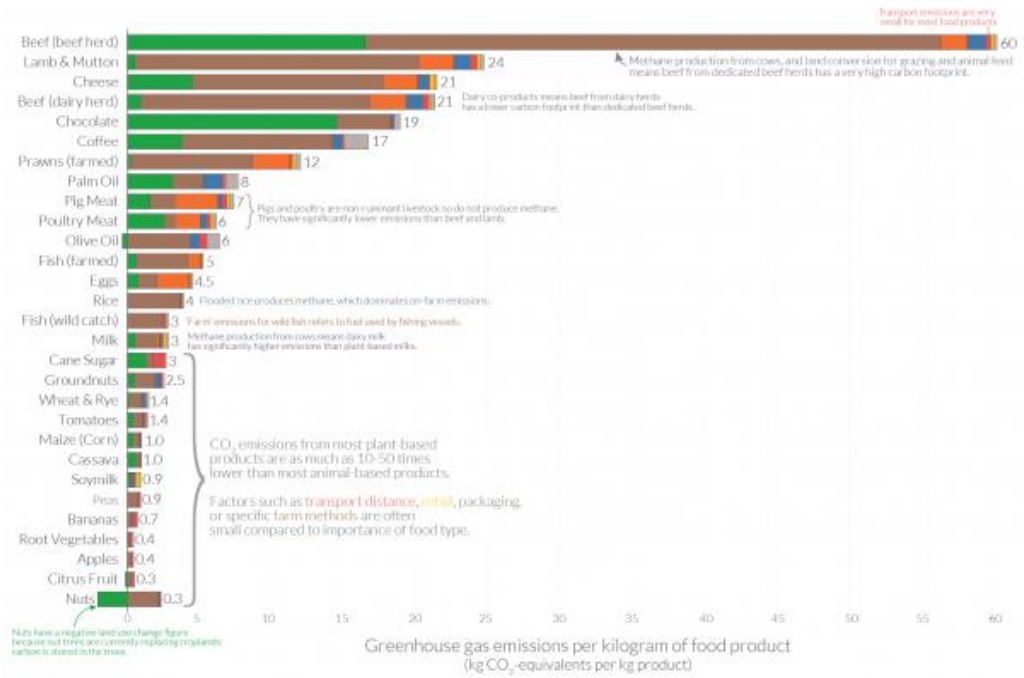
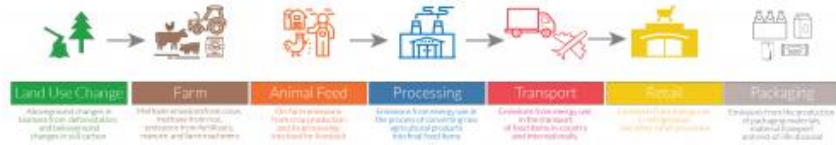
Customer & Consumer

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



Customer & Consumer: also impact

Food: greenhouse gas emissions across the supply chain



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



Customer & Consumer: Transparency needs

- NVWA: not priority
- Retailers will want to do their best with private labels
- 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.



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Real-time Food Management:



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- ✓ Real-time management of
 - Specifications
 - Quality activity
 - Traceability
 - Assessment



4 Focus Areas



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



4 Focus Areas

QUALITY HOLISTICS



			Specifications	Quality Activity Monitoring	Traceability	Assessment
QUALITY STANDARDS			CERTIFICATION MANAGEMENT			
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
ACCREDITATIONAL BODIES		CERTIFICATION BODIES		DEMAND RELATIONSHIP MANAGEMENT (SRM)		
CUSTOMERS		CONSUMERS		product, process requirements	Information Centre Demand Quality Information Centre (DQIC)	Products Specifications Customer Satisfaction Consumer Needs
Retail Organisations Food Service Wholesalers and Trade Food Manufacturers Out of Home Outlets Hospitals	Habits, Attitudes Preferences Allergens Quality Needs Information Needs					
FOOD AND DRINK FACTORY			BUSINESS PERFORMANCE MANAGEMENT (BPM)			
FOOD & DRINK MANAGEMENT			process, product and people requirements	Training, Support, Procedures, Quality Documents, Quality Database	Ingredients, Semi-products	Business System
LABORATORIES			PRODUCT SUPPLIERS		SERVICE SUPPLIERS	
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
GOVERNMENT CONTROL BODIES			LEGISLATION MANAGEMENT			
Global International National Where appropriate	General Food Law Codex Alimentarius		legal requirements	legal requirements: - people - products - process - building	Informed	Risks Legal evidence based practice
LEGISLATIONS						



PLAN

Risk Assessment
Blue Print
Operational Framework
Yearly Plan

DO

Document Generator
Training
Supportive Material
Track and Trace

CHECK AND ACT

Quality Database
Quality Cockpit
Standard Reports

COMMUNICATE

Newsletter
www.iMISQA.com
SpecCheck
Quality Information Centre
Web-based ordering



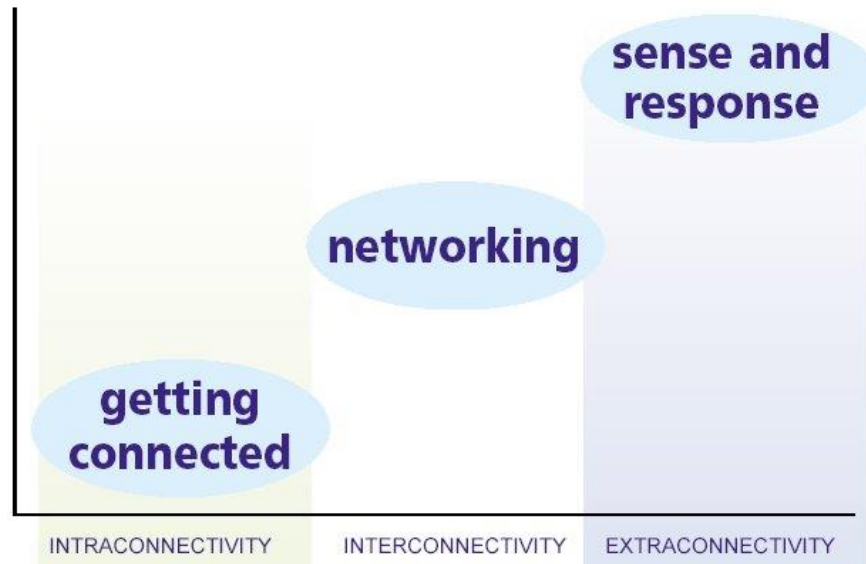
Real-time Food management: How do you want to be organised?

Knowing something is going to happen

Knowing why something happens

Knowing something happens

Knowing something has happened



Introduction

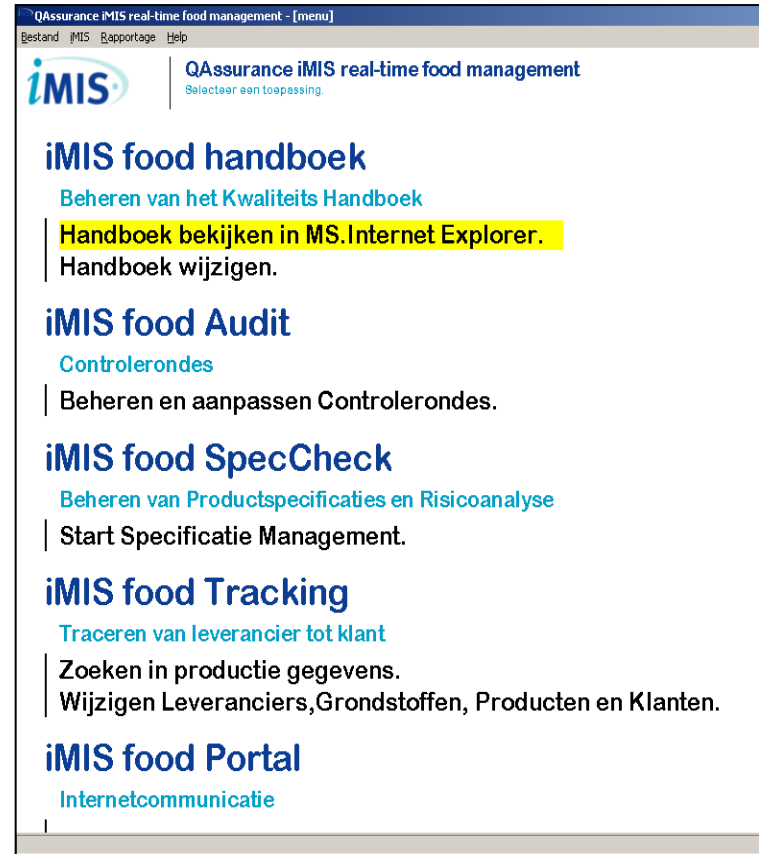
1. Food Transparency
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Food Production (status 2022)

- Quality Activities:
 - Food Handbook
- Specifications
 - Food SpecCheck
- Traceability
 - Food Tracking
- Assesment
 - Food Audit
 - And monitoring of;
 - Hazards
 - Legislations
 - Standards

2022->: CONNECT, AI & Blockchain



The screenshot shows a web browser window titled "QAssurance iMIS real-time food management - [menu]". The browser's address bar contains "Bestand iMIS Rapportage Help". The page header features the iMIS logo and the text "QAssurance iMIS real-time food management" with a sub-link "Selecteer een toepassing.". The main content area lists several menu items:

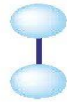
- iMIS food handboek**
 - Beheren van het Kwaliteits Handboek
 - Handboek bekijken in MS.Internet Explorer. (highlighted in yellow)
 - Handboek wijzigen.
- iMIS food Audit**
 - Controlerondes
 - Beheren en aanpassen Controlerondes.
- iMIS food SpecCheck**
 - Beheren van Productspecificaties en Risicoanalyse
 - Start Specificatie Management.
- iMIS food Tracking**
 - Traceren van leverancier tot klant
 - Zoeken in productie gegevens.
 - Wijzigen Leveranciers, Grondstoffen, Producten en Klanten.
- iMIS food Portal**
 - Internetcommunicatie



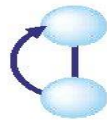
Real-time Compliance: Connectivity needed



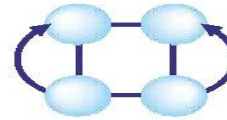
Activity



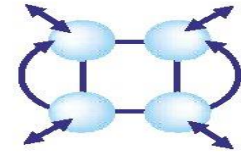
Process



System



Chain



Holistic

Getting
Connected

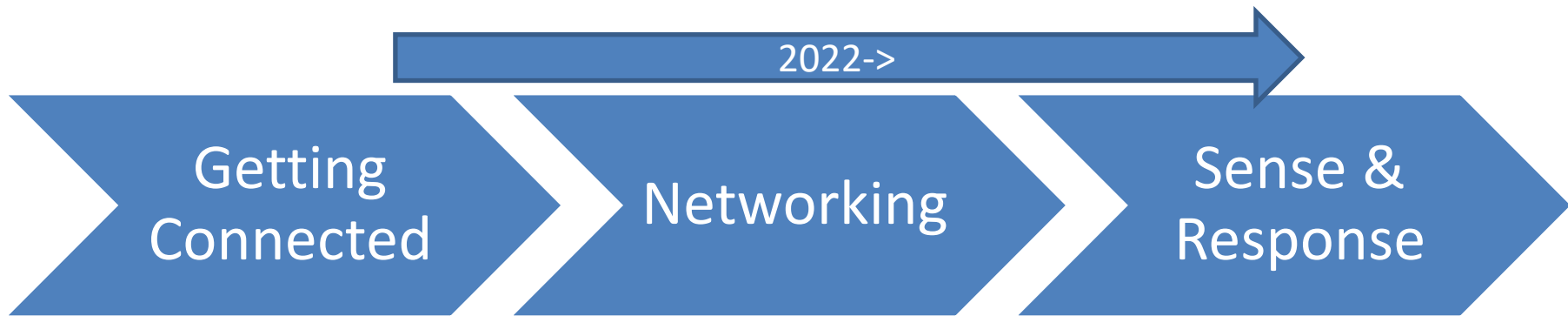
Networking

Sense &
Response



Real-time Compliance

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



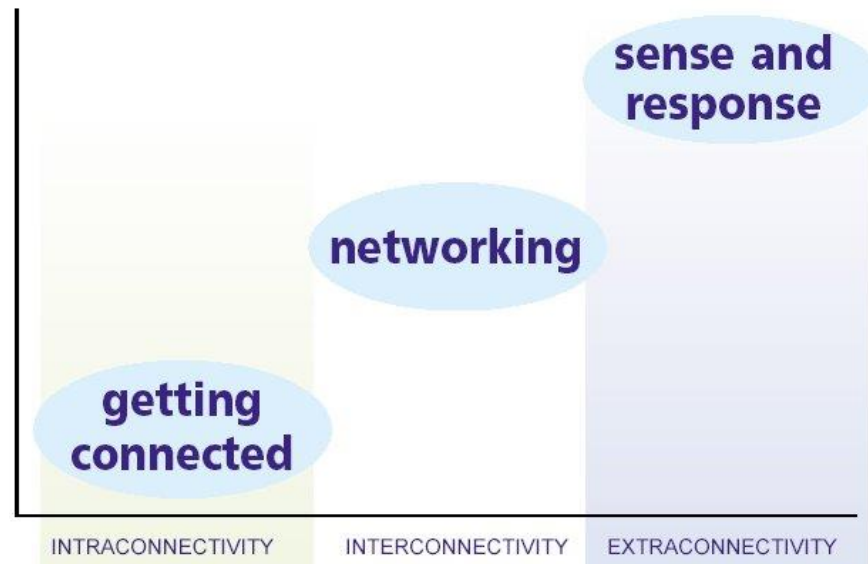
Real-time Compliance

Knowing something is going to happen

Knowing why something happens

Knowing something happens

Knowing something has happened



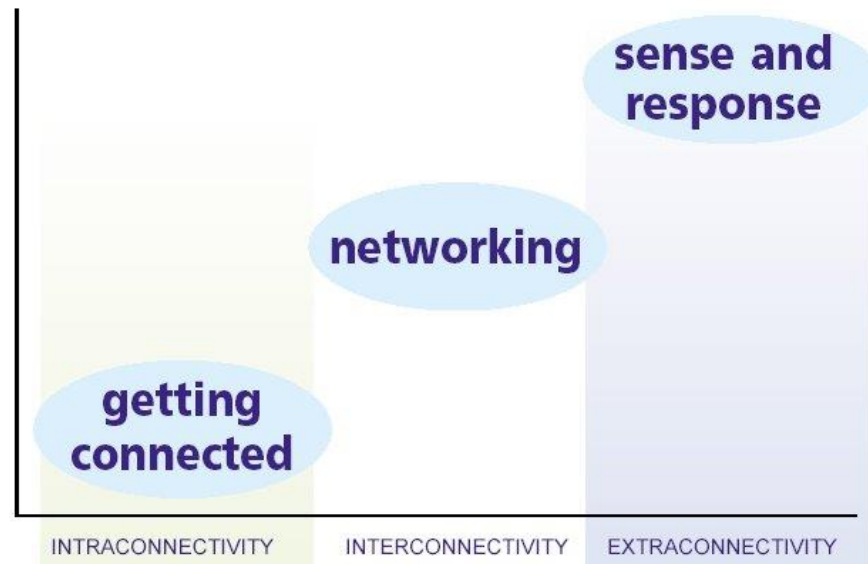
Real-time Compliance

Knowing something is going to happen

Knowing why something happens

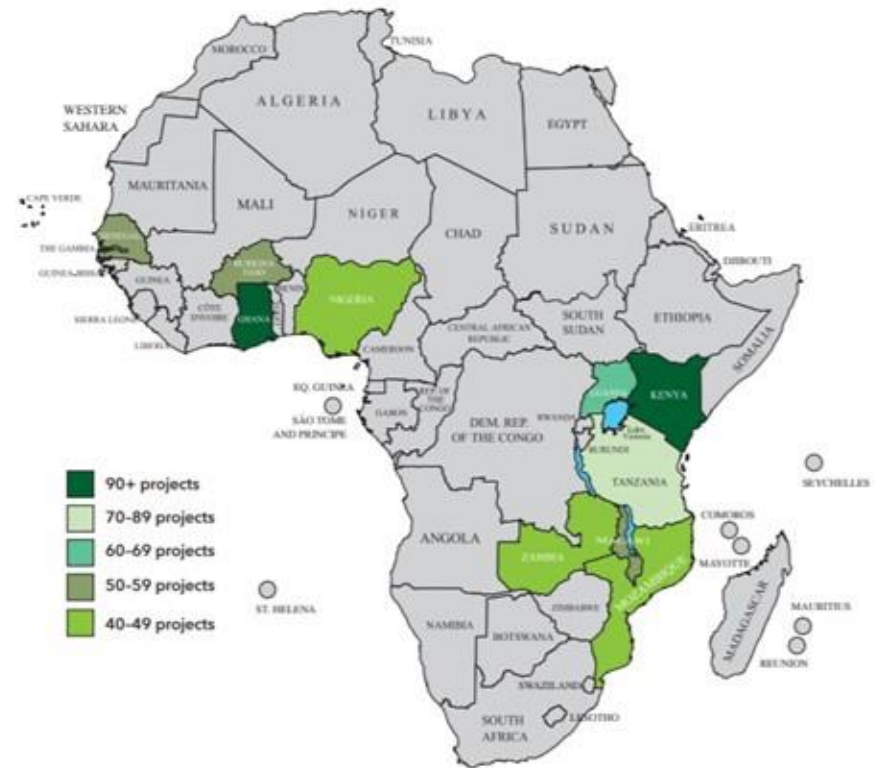
Knowing something happens

Knowing something has happened



Future

- 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



Future

- 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

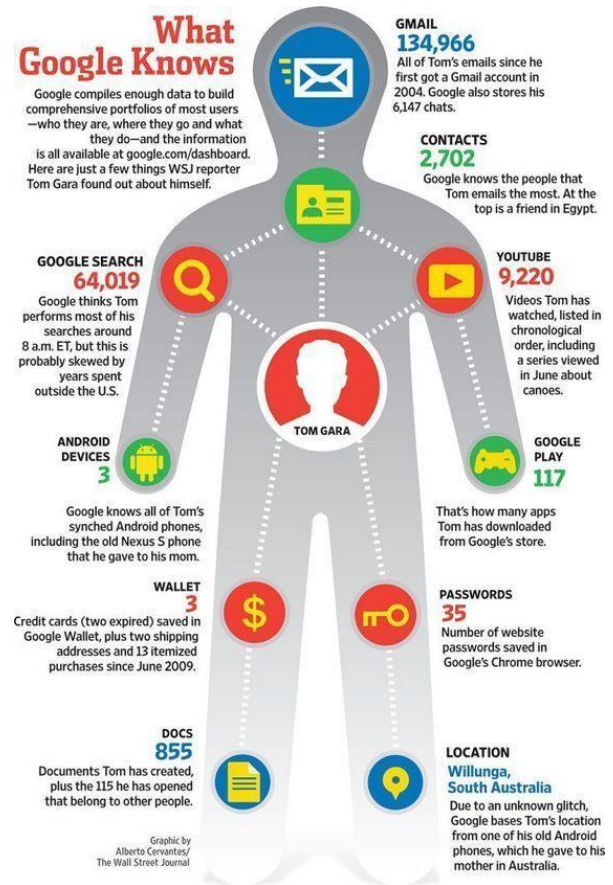
[Read more](#)



Future

- iMIS Food Global
- Compliance Portal
- AI and Blockchain
- Food Security
- Real-time Food Safety

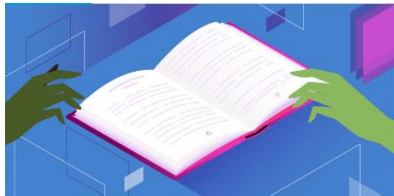
- Europe
- Africa
- Asia
- USA



QAssurance

Join our Food Safety Platform

Real-time compliance with all food safety requirements, legislation & certification?



iMIS Food Handbook

Handbook for food safety management

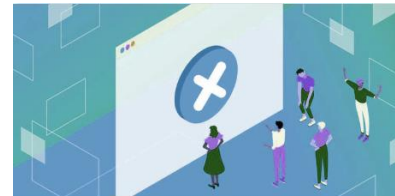
iMIS Food contains a management system for the quality manual. The manual system contains the company information, procedures regarding food safety.



iMIS Food Tracking

Traceability

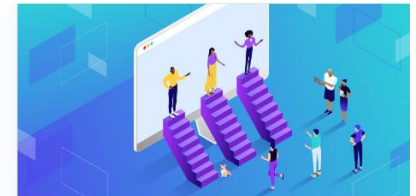
iMIS Food Tracking keeps track of which customer each end product is delivered to. Tracking from raw material to customer is done at the touch of a button.



iMIS Food Helpdesk

Food Safety

The iMIS Food Helpdesk is specialised in food safety. With the iMIS Food system, the management has real-time insight into the Food Safety situation of his company.



iMIS Food Updates

Knowledge and Software

QAssurance takes care of both the software and content updates of iMIS Food. These updates are implemented as iMIS Food Updates. To ensure that this process runs professionally..



QAssurance

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Real-time compliance with all food safety requirements, legislation & certification?



iMIS Food Portal

A Central Food Chain

With iMIS Food Portal, all iMIS Food systems are centrally accessible in the chain. With iMIS Food Portal, the different parts are accessible for everyone in the chain.



iMIS Food Audit

Management System

iMIS Food contains a management system for control rounds and incident reporting that can be coordinated with existing systems.



iMIS Food SpecCheck

Specifications and labeling

With the specification management system, a company has all the specifications of the finished product under control. The system provides a complete management system from raw material to label on the end product.



iMIS Food Intranet

Company Integration

With the iMIS Food intranet, all iMIS Food systems are centrally accessible. Because all systems are standardized, information can easily be shared between people and systems.



QAssurance

Join our

Food Safety Platform

Real-time compliance with all food safety requirements, legislation & certification?

- <https://www.qassurance.com/news-updates-food-safety-company-partnership/>
- <https://www.qassurance.com/information-overview-knowledge-base/>
- <https://www.qassurance.com/faq-frequently-asked-questions/>



Qassurance : Food Security Program

iMIS Food Security Program for emerging countries

Join the Food Security Program to boost Food Safety and local prosperity in emerging countries.

- <https://www.qassurance.com/projects-food-security-program-imis-food/>

