



# Ensuring the Integrity of the European food chain



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***Institute for Global Food Security***  
***Queen's University, Belfast***



[www.foodintegrity.eu](http://www.foodintegrity.eu)

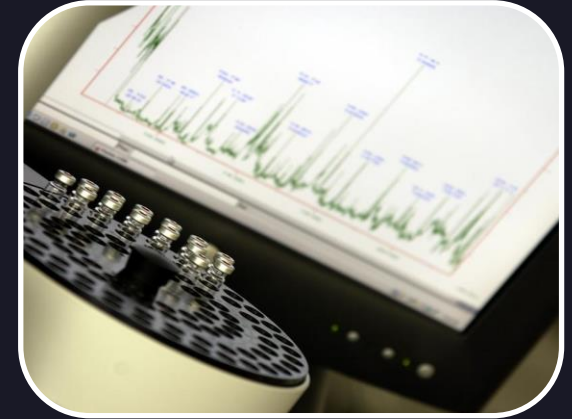




To provide Europe with a state of the art and **integrated** capability for detecting fraud and **assuring** the integrity of the food chain



To provide a **sustainable** body of expertise that can inform high level stakeholder platforms on food fraud / authenticity issues and priorities

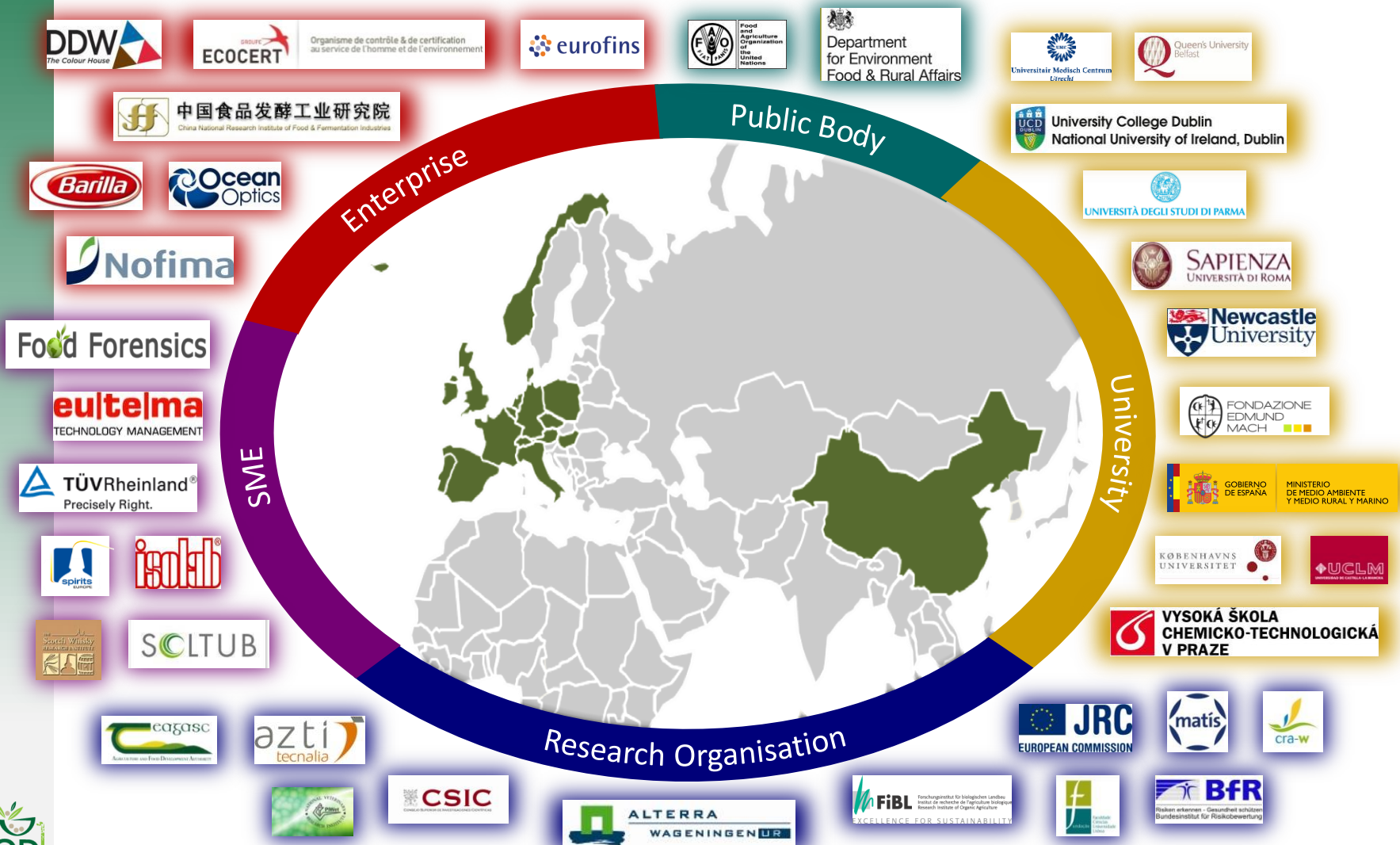


To **bridge** previous research activities, assess capability gaps, commission research and inform EU future research needs

**ADDING VALUE TO THE EUROPEAN AGRI-FOOD ECONOMY BY PROVIDING FOOD SAFETY, AUTHENTICITY AND QUALITY ASSURANCE**

# FoodIntegrity Project: 2014-2018

€12M (€9M EC contribution) FP7 project with 38 partners (+25 new in July 2016)



# Key Outputs: progress at M30/60

- Global independent **network** of experts
- **Scientific opinions** to support regulations and enforcement
- **Stakeholder** secure forum

**Expertise**

- Food integrity **database hub**
- **Harmonisation/consolidation** of existing methods / databases
- Identifying **research gaps**

**Evidence**

- Anticipating food fraud: early **warning system**
- Development of new **analytical and screening methods** for olive oil, fish, spirit drinks
- **Commissioning** €3M of new research

**Innovation**

- **Industry integration**
- **Global perspective** (consumer behaviour at export)
- Knowledge/technology transfer and **dissemination**

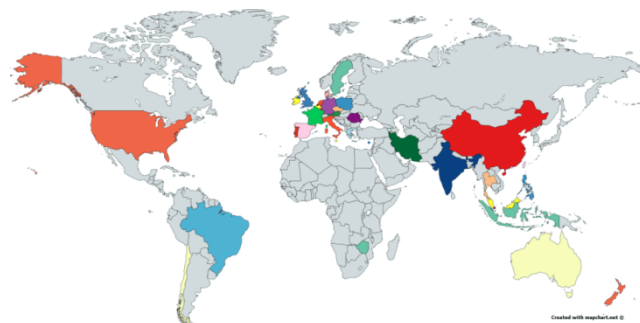
**Impact**

**R&D**





# 1<sup>st</sup> Outputs



## FI Network

Safety

Trade association

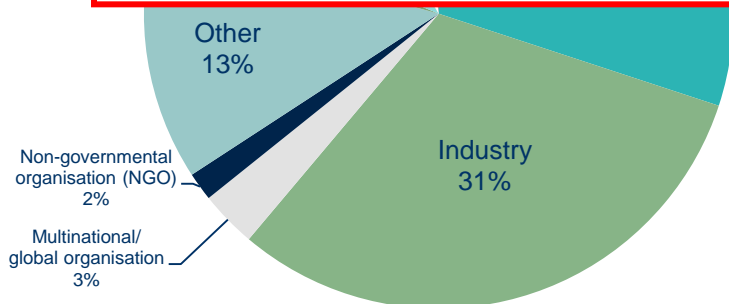
## 3 x FI Conferences



Global focal point. >250 attendees

Procurement of €3M of new research

Policy



>200 Members from 36 Countries



# Procurement of €3M of new research (WP9)

## Results of Procurement Call

- Call opened **24/06/15**
- Closed **14/08/15**
- **83** initial expressions of interest
- **27** proposals submitted
  - **2 proposals - FI01** - Standardisation and harmonisation of untargeted food integrity methods – **1 selected**
  - **7 proposals - FI02** - Innovative approaches to assure the integrity of complex foods – **3 selected**
  - **7 proposals - FI03** - A feasibility study of how information can be shared along the supply chain to identify risks to the integrity of food – **2 selected**
  - **11 proposals - FI04** - Rapid, on-site, cost effective methods for feed/food fraud detection - **2 selected**
- Negotiation complete, 8 contracts awaiting signoff (DoW)

# FI Network (WP1)

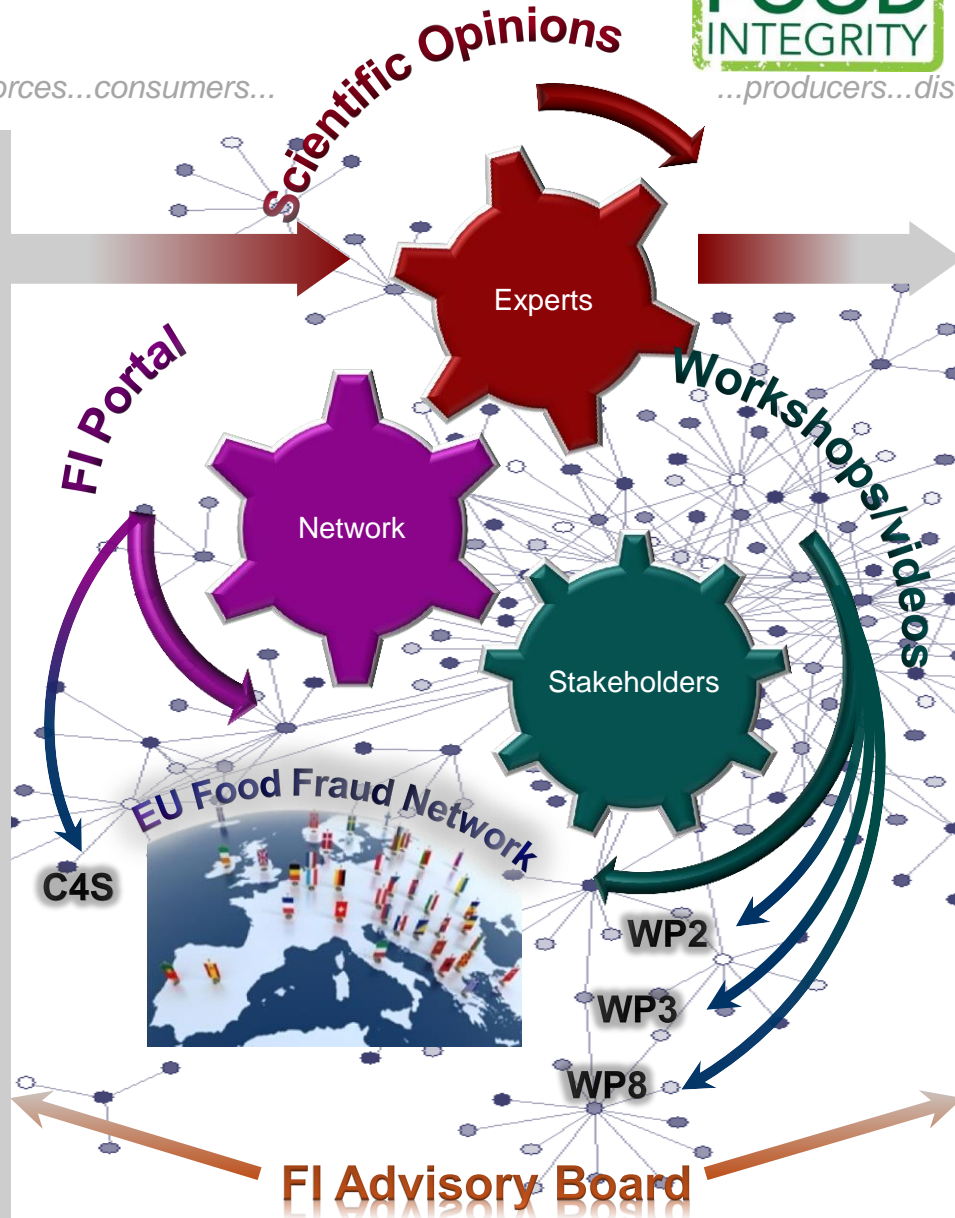


...researchers..regulators...enforces...consumers...

...producers...distributers...processors...retailers...

## Partners

Partners logos and a map of Europe showing various countries.



## Scientific Opinions

- SO1 Use IRMS of geo-origin
- SO2 Testing in Risk Man.
- SO3 Targeted >non-targeted
- SO4 Multi-variate statistics
- SO5 Database use & Curation
- SO6 Application of NMR
- SO7 Application of NGS

## Workshops:

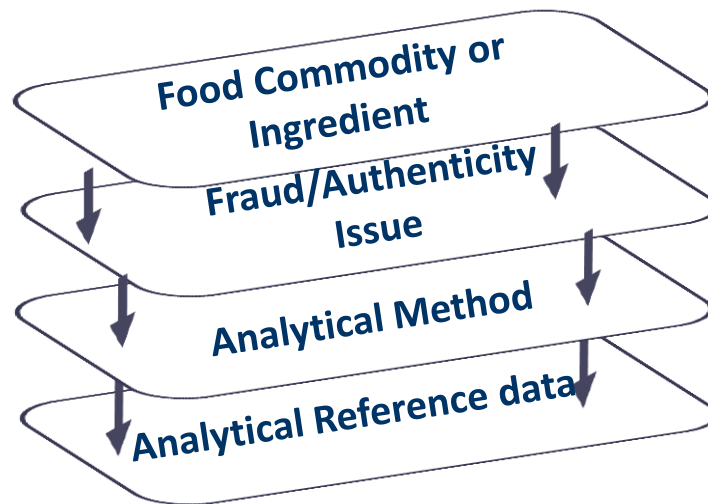
- Stakeholders -Brussels 2014
- Industry- Lodi 2015
- Food Analysts- Bilbao 2015
- Food Crime- Prague 2016
- Industry- Prague 2016

# The FoodIntegrity Knowledge Base (WP2)



- Mapping of analytical methods for the detection of fraud and/or verification of integrity onto specific commodities or food authenticity issues
- Open source for industry and control bodies

Is it organic?  
PDO, PGI?  
Adulterated?  
Diluted?  
Enhanced?  
Counterfeit?



→ Inventory of authentic reference data sets

→ Inventory of existing analytical tools



Click on the down arrow to select from list

## WP 2 – Knowledge Base Data entry screen

### FOOD COMMODITY

Food Category  ▼  
Select from drop-down list

Commodity Detail   
Enter as free text – e.g. butter

CN code

### FOOD INTEGRITY ISSUE

Description   
Add as free text to describe the issue

Type of fraud  
Select one

- Dilution
- Substitution
- Concealment
- Mislabelling
- Unapproved enhancement
- Grey market
- Counterfeiting
- Other

Issue  
Select one or more

- Product composition
- Geographical origin
- Botanical/Cultivar/Varietal/Species
- Production system/process
- Product quality
- Other issue

Importance Incidence: very often  often  rare  no longer encountered

Location in supply chain: Agricultural producer  Storage/transport  Food manufacturer  Trader  Distributer   
Wholesaler  Retailer  Unknown

Next screen

# WP 2 – Knowledge Base Data entry screen

Select commodity  
– Honey  
and royal  
jelly

Then type  
in details  
about the  
commodity

## FOOD COMMODITY

Food Category  
Select from drop-down list

- Animal products
- Eggs and egg products
- Honey and royal jelly**
- Meat and edible offal
- Milk and milk products
- Seafood
- Bivalve molluscs
- Crustaceans
- Fish
- Seaweed
- Surimi
- Other sea food
- Fruits and vegetables

Commodity Detail  
Enter as free text – e.g. butter

## FOOD INTEGRITY ISSUE

Description  
Add as free text to  
describe the issue

Type of fraud  
Select one

- Dilution, substitution
- Concealment
- Unapproved enhancement
- Mislabelling
- Grey market, counterfeiting

Issue  
Select one or more

- Product composition
- Geographical origin
- Botanical/Cultivar/Varietal origin
- Production system
- Product processing
- Product quality
- Other issue

Importance Incidence: very often  often  rare  no longer encountered

Level: consumer  producer  both

Next screen

# WP 2 – Knowledge Base Data entry screen

## FOOD COMMODITY

Food Category  
Select from drop-down list  
Honey and royal jelly

Commodity Detail  
Enter as free text – e.g. butter  
Royal jelly

Then describe the issue in more detail

## FOOD INTEGRITY ISSUE

Define the type of fraud, round buttons allow only one choice

Description  
Add as free text to describe the issue  
Royal jelly produced from non-authentic saccharide sources

Type of fraud  
Select one

- Dilution
- Substitution
- Concealment
- Mislabelling
- Unapproved enhancement
- Grey market
- Counterfeiting
- Other

Issue  
Select one or more

- Product composition
- Geographical origin
- Botanical/Cultivar/Varietal/Species
- Production system/process
- Product quality
- Other issue

Then define the issue, square boxes allow multiple selections

Importance Incidence: very often  often  rare  no longer encountered   
Location in supply chain: Agricultural producer  Storage/transport  Food manufacturer  Trader  Distributer   
Wholesaler  Retailer  Unknown

Next screen



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 613688

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## FoodIntegrity

**FoodIntegrity** 'the state of being whole, entire, or undiminished or in perfect condition'. Providing assurance to consumers and other stakeholders about the safety, authenticity and quality of European food (integrity) is of prime importance in adding value to the European Agri-food economy.

Read full [FoodIntegrity Abstract](#)

### News



**Lamb mince containing 80% Beef - Date: 31 Aug 2015**  
Directors of the supermarket which supplied lamb mince to restaurants and takeaways in Manchester have been fined £20&r...

[Read the full article](#)



**Australian Seafood Labelling - Date: 29 Aug 2015**  
In Australia, seafood consumption has doubled in the past 40 years and more than 70 % of Australian consumers prefer local se...

[Read the full article](#)



**Quiet Summer 2015 - Date: 21 Aug 2015**  
NAS, Italy's food fraud police have inspected over 600 sites across the country this year and found that 45% of them ha...

[Read the full article](#)

### Events



**4th MS-food Day**  
October 7-9, 2015 Foggia, Italy

[www.msfoodday.darepugl...](http://www.msfoodday.darepugl...)

[Read the full article](#)



**Shaping the Future of Food Safety, Together - Milan, 14-16 October 2015**

EFSA is pleased to announce the details for the Scientific Conference being organised on the occasion of the World EXPO 2015,...

[Read the full article](#)



**7th International Symposium on Recent Advances in Food Analysis**

7th International Symposium on Recent Advances in Food Analysis (RAFA 2015) will be held on 3-6 November 2015, in Clari...

[Read the full article](#)

### Twitter Feed

**Food Integrity** @FoodIntegrityEU 15 Sep  
Point-and-shoot - moving out of the laboratory and into the food supply chain - Analytical Methods (RSC Publishing) [pubs.rsc.org/en/content/art...](http://pubs.rsc.org/en/content/art...)  
Expand

**Food Integrity** @FoodIntegrityEU 31 Jul  
Two weeks until the submission deadline! 14th August 2015 for #foodintegrity €3m of EU funding [secure.fera.defra.gov.uk/foodintegrity/...](http://secure.fera.defra.gov.uk/foodintegrity/...)  
...  
Expand

**Food Integrity** @FoodIntegrityEU 23 Jul  
BBC News - Dried oregano in 'latest food fraud' says Which? [bbc.co.uk/news/uk-336366...](http://bbc.co.uk/news/uk-336366...)  
[Show Summary](#)

**Prof Chris Elliott** @QUBFoodProf 23 Jul  
Oregano adulteration in UK & RoI flagged up by @IGFS\_Official research - 25% samples tested had an issue [home.bt.com/news/uk-news/o...](http://home.bt.com/news/uk-news/o...)  
[Retweeted by Food Integrity](#)  
[Show Summary](#)



# Impact

Expected Impact	FI Impact	Relevant FI Output
<b>Increasing EU added value through the concept of Food Integrity</b>	<i>Improved capability of stakeholders wrt food fraud, comms, systems, methods, intelligence</i>	<i>KB, Network, workshops, Early Warning Systems (EWS), rapid methods, improved food assurance. Scientific Opinions, Dissemination and promotion of FI concept.</i>
<b>Strengthen the competitiveness of EU food producers</b>	<i>FI systems and outputs help protect industry added value.</i>	<i>Industry implementation. Rapid methods, assurance systems, EWS, improved understanding of consumer attitudes to EU exports.</i>
<b>Improved communication of quality attributes</b>	Improved understanding of attitudes, preferences and expectations for European and Chinese consumers	Consumer behaviour study in China. Toolbox for EU exporters to China
<b>Reduce trading blocks</b>	Enhanced assurance of EU products will reduce likelihood of counterfeit EU products being on sale in foreign markets.	Fit for purpose industry assurance applications and systems. Enhanced knowledge of food authenticity issues, risks and mitigation strategies.
<b>Restore consumer confidence</b>	Stakeholders embrace FI concept and implement strategy	Dissemination and engagement activities (network, workshops, social media) with input from Industry and Consumer groups (Which?)
<b>Support EU Policies</b>	Provide input into EU for and committees	Strong active links with DG Agri, DG Sante, DG Research, JRC's, EFSA.



# Lessons learnt

Successes	Challenges
Stakeholder engagement	Stakeholder patience (research project not operational activity)
Excellent consortium- delivering	Procurement of new research (€3M) slow and resource intensive
Bringing together of the disparate actors in the food chain to assure the food supply	Financial inefficiency of the procedures available to incorporate new partners into FI
Exporting FoodIntegrity- strong links with China, SE Asia, US	Yet to engage with India, Russia,
Exploiting the relatively large resources available to FI- ability to influence/act	Bureaucracy associated with managing 38 soon to be 63 partners
Sustainability of project components	Sustainability of project components

## FoodIntegrity

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[www.mediterraneanagri.eu](#)

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EU: "New 'Oral' program in 'Smart food' trial" says Whistl (@bcoult@frees/VA-336366, @freesummer)

**Prof Chris Elliott** (@chriselliott) Retweeted @foodintegrity  
Chicago collaboration in UK & EU flagged up by @EFSA, Official research +25% samples tested had an issue [twitter.com/whistl@frees/ve...](#) #FoodIntegrity

FoodIntegrity



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E-mail FoodIntegrity  
[foodintegrity@fera.gsi.gov.uk](mailto:foodintegrity@fera.gsi.gov.uk)

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- 4 Knowledge Base
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- 8 Advisory Board

**Welcome to the first FOODINTEGRITY newsletter**

Welcome to the first edition of the FoodIntegrity Newsletter. The aim is to provide you with a brief update on some of the progress on this multi-faceted project and let you know how you can get involved. I hope you find the newsletter useful. Please contact us on [www.FoodIntegrity.eu](http://www.FoodIntegrity.eu) with any suggestions for improvement.

**Paul Brewster**, project co-ordinator, Food and Environment Research (York,UK)

**The first Consortium meeting of FoodIntegrity**

The first meeting of the FoodIntegrity consortium was held at the Food and Environment Research Agency on 29th-30th February 2014.

More than 200 delegates from 28 countries participated in the event.

The week included the following events:

- Opening speech with high level overview by stakeholders on the impact of food fraud and the options for addressing it.
- 1st meeting of the FoodIntegrity consortium.
- Thursday 29th - A Delta sponsored one-day conference Food Fraud: The Analytical Tool.
- Friday 30th - Full day technical workshop on determining the geographic origin of food.

For more information and presentation visit [www.foodintegrity.eu](http://www.foodintegrity.eu)



**SAVE THE  
DATE!**

## **FOODINTEGRITY 2017**

“Assuring the integrity of the food chain:  
turning science into solutions”

# Parma, Italy 10-11 May 2017



# Acknowledgements



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement n° 613688