



# Ensuring the Integrity of the European food chain



***Paul Brereton***  
***Fera Science Ltd***  
**York**  
**UK**



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




[foodintegrity@fera.co.uk](mailto:foodintegrity@fera.co.uk)


# Facilities


 **500** staff  
including **350** scientists

**80** acre secure  
site with field plots,  
glasshouses and a  
specialist wildlife unit 

**4km** of lab benching

 **90** controlled  
environment facilities

Containment  
- Cat 3 lab 

 Latest chemical &  
molecular biological  
analysis tools



Institute for  
Agri-Food Research and Innovation

# Multi disciplinary collaboration



Join FoodIntegrity **network**

Visit FoodIntegrity **website**

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



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

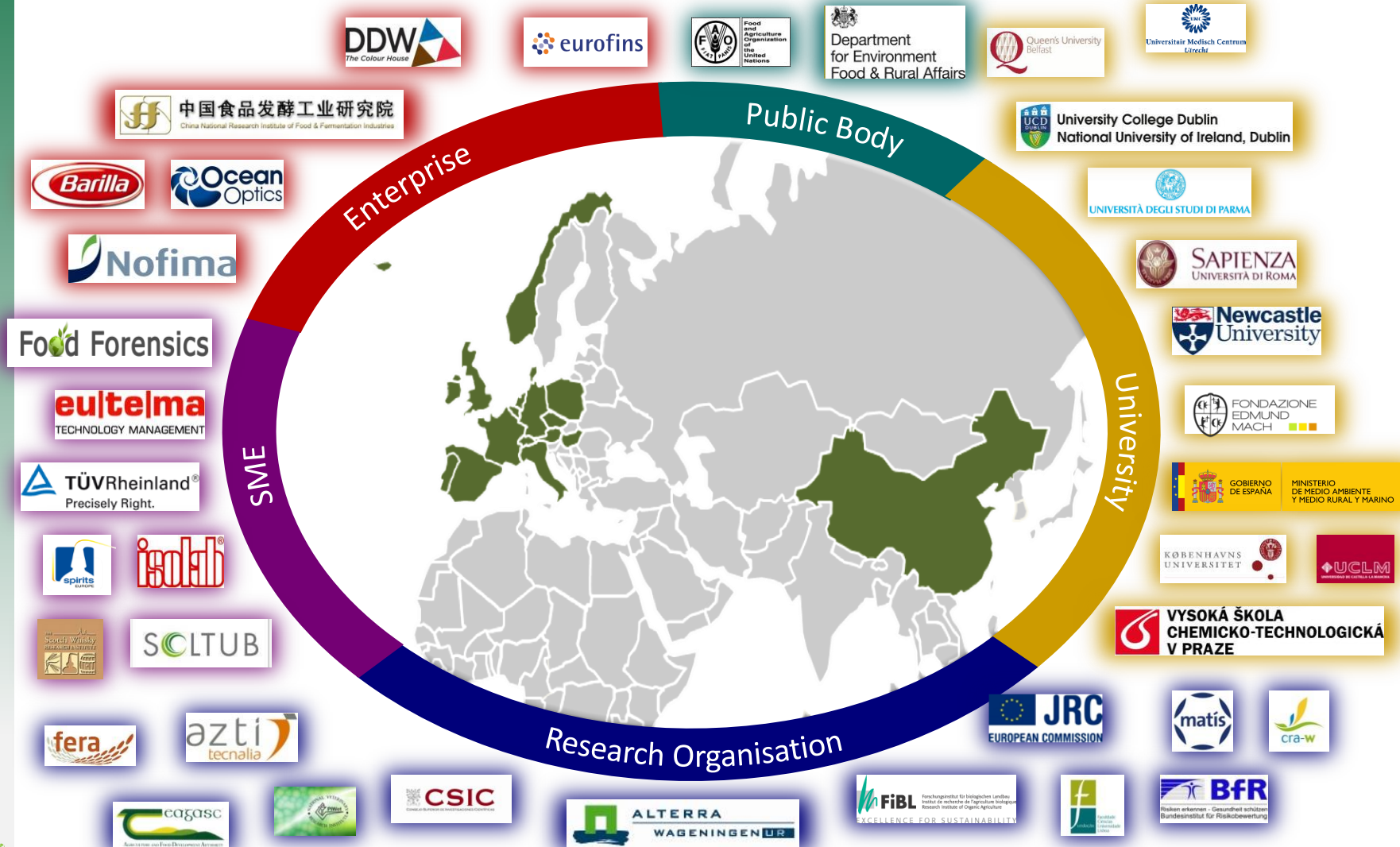


The Centre for Crop Health and Protection

An international gateway for innovation that unites industry and non-industry partners to revolutionise how global farming deals with biotic crop threats like pests, pathogens and weeds.

# FoodIntegrity Project: 2014-2018

€12M (€9M EC contribution) FP7 project with 60 partners (23 new in September 2016)



## Welcome New Partners

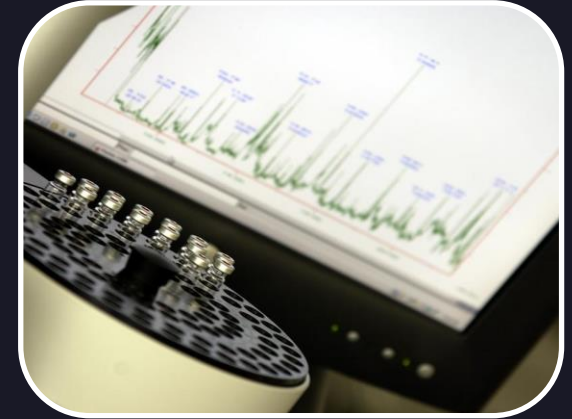




To provide Europe with a state of the art and **integrated** capability for detecting fraud and **assuring** the integrity of the food chain



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**

# Key Outputs: progress at M30/60

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

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

**Expertise**

**Evidence**

**R&D**

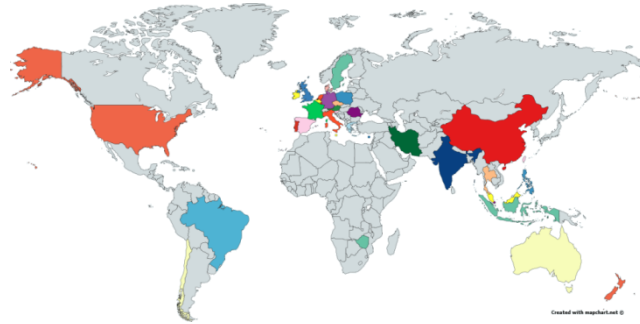
**Innovation**

**Impact**

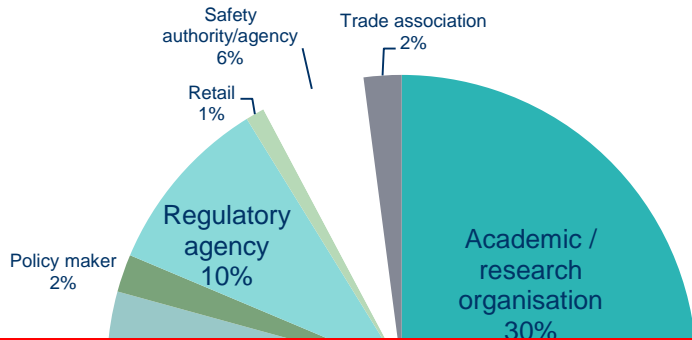
- Anticipating food fraud: early **warning system**
- Development of new **analytical and screening methods** for olive oil, fish, spirit drinks
- **Commissioning** €3M of new research

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

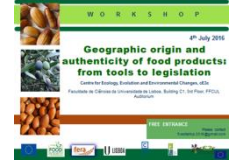
# 1<sup>st</sup> Outputs



## FI Network



3 x FI Conferences  
13 workshops



Global focal point, >250 attendees

## Chinese consumer survey



Procurement of €3M of new research

>200 Members from 36 Countries



## Up and coming results

- WP7 Chinese consumer survey – completed, results imminent. Papers in preparation
- WP6 “Citizen” Science survey of restaurants to be reported next month.
- WP4 Olive oil results - nta
- WP2 KB data entry needed
- WP1 Publication of first SO imminent  
“Trends in Food Science and Technology”

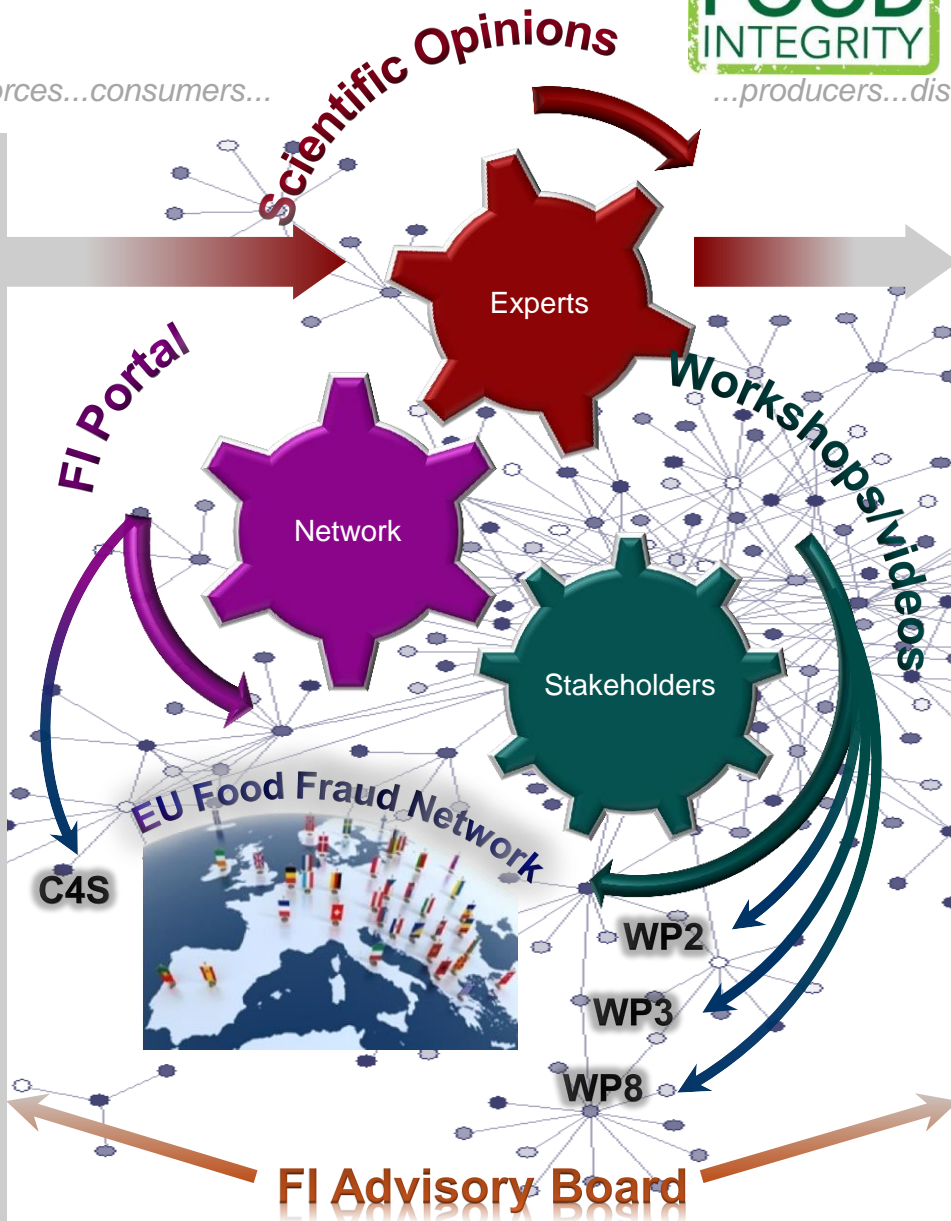
# FI Network (WP1)



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

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

## Partners



## 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
- QA for NTA- Berlin 2016
- Food safety 2016-Shanghai
- Stakeholders- Palma 2017

# Scientific Opinions- progress

## SO1

- **Stable isotope techniques for verifying the declared geographical origin of food in legal cases. Lead author: Federica Camin (Fondazione Edmund Mach), submitted to Trends in Food Science and Technology, in Publication**

## SO2-SO7 in progress

- 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

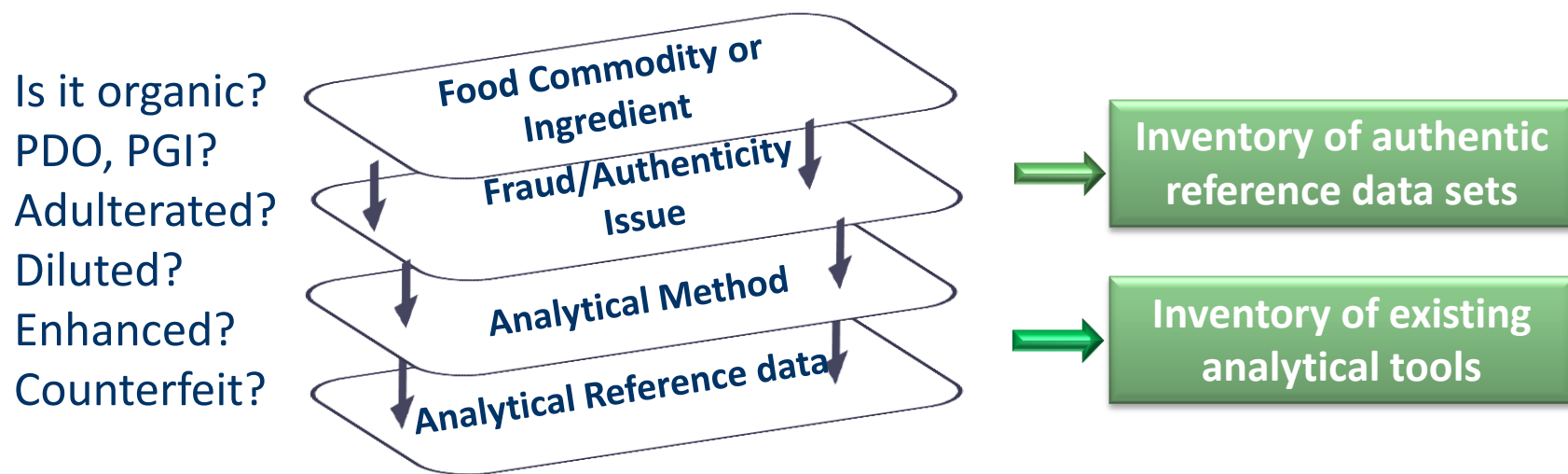
# Relevant Scientific Opinions

- **SO3 Targeted >non-targeted analysis**
  - What are the challenges/opportunities
- **SO4 Multi-variate statistics**
  - Issues/best practice
- **SO5 Database use & Curation**
  - Issues/best practice
- **SO6 Application of NMR**
  - Opportunities/Applications/issues
- **SO7 Application of NGS**
  - Opportunies/applications/issues

# 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



**NEED YOUR PUBLICALLY AVAILABLE METHODS**

# Relevant new FI WPs starting 2016

- **INTELLItrace (UPO)**
  - *How can you validate non-targeted methods*
- **Consumer and brand protection in complex foods (IFR)**
  - *Proteomic methods for assuring complex foods*
- **Integrity of Complex Foods (ITB-PTP)**
  - *Integrating methods into traceability systems*



You are here: [Home Page](#)

Username or Email

Password

Login

Create Account

## 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



#### New report on food fraud and industry

Industry must think wider than known fraud issues The food and drink industry is being urged to better protect itself from fraud in order to safeguard their business and consumers

[Read the full article](#)



#### New FOODINTEGRITY publication: holistic approach

November 2016 - new paper by RIKILT on food risks

[Read the full article](#)



#### EU - NEW - monthly report on food fraud and authenticity

Oct 24th, 2016 - The JRC has launched a monthly summary of articles on food fraud and adulteration

[Read the full article](#)

### Events



#### 4th FoodIntegrity Annual Conference - 10 - 11 May 2017 - Parma, Italy

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

[Read the full article](#)



#### FoodIntegrity 2016 Roundtable Discussion

While at the FoodIntegrity conference a live roundtable event about the gaps in current research in regards to food authenticity and its impact on the supply chain was hosted. To listen...

[Read the full article](#)

#### 28-29 Nov 2016 International Symposium "Standardisation of non-targeted methods for food authentication"

On 28th - 29th November 2016 the German Federal Institute for Risk Assessment (BfR) will organise a two-day symposium (noon to noon) on "Standardisation of non-targeted methods for food auth

[Read the full article](#)

### Twitter Feed

#### FI\_Website

A Twitter list by [@FoodIntegrityEU](#)



**Prof Chris Elliott** @QUBFoodProf

Why not donate a few quid to the mad eejit with the purple beard? #movember <http://m.obro.co/goodroy1> just did.



23 Nov



**Prof Chris Elliott** @QUBFoodProf

5-a-day, no 2-day. OK suck a fruit pastille. Fantastic nutrition leadership from the Royal College of GPs [bbc.co.uk/news/health-38...](http://bbc.co.uk/news/health-38...)



Five-a-day fruit and vegetable advice 'unrealistic', s...  
When it comes to fruit and vegetables, two-a-day might be more realistic advice to give to families says one of [bbc.co.uk](http://bbc.co.uk)

[Embed](#)

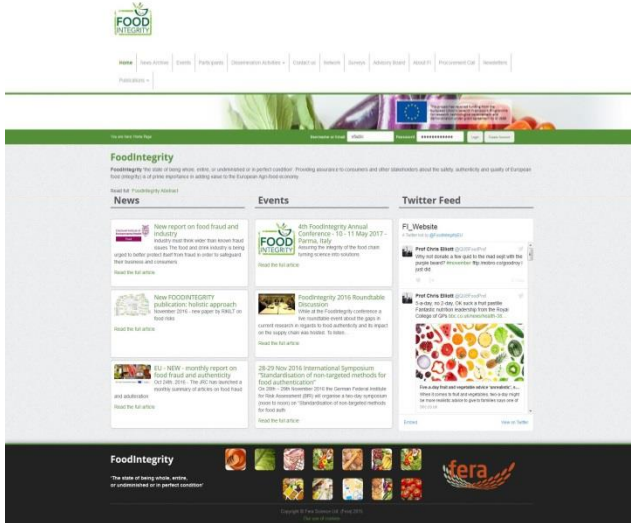
[View on Twitter](#)

## FoodIntegrity

'The state of being whole, entire, or undiminished or in perfect condition'



# How to Get Involved



Visit FoodIntegrity Website  
[www.foodintegrity.eu](http://www.foodintegrity.eu)



Sign up for FoodIntegrity Newsletters

Join the FoodIntegrity Network



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

Follow FoodIntegrity on Twitter: **@FoodIntegrityEU**







**SAVE THE  
DATE!**

## **FOODINTEGRITY 2017**

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

**Parma, Italy 10-11 May 2017**



# Acknowledgements

60 FI Partners:



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

# THANK YOU

Paul.Brereton@fera.co.uk

