


European Network for assuring food integrity using non-destructive spectral sensors



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The Treachery of the images

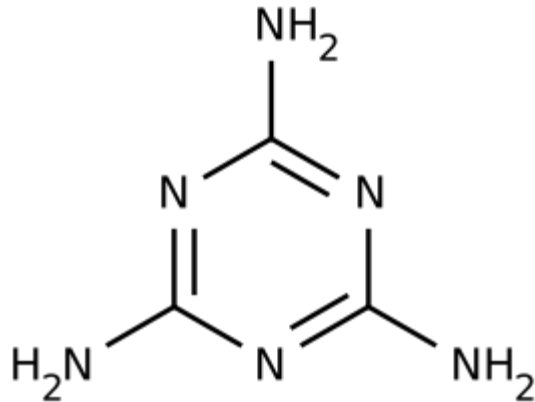


The analytical trend over the last 25 years
QUALITY → SAFETY → AUTHENTICITY

Quality and Authentication are key issues



Food & Feed adulteration



Holroyd (2011). *The role of NIR spectroscopy in maintaining food integrity.* ICNIRS conference 2011, Cape Town, South Africa).

The laboratory revolution



If you can not get the samples you required then you have to send the lab to the samples

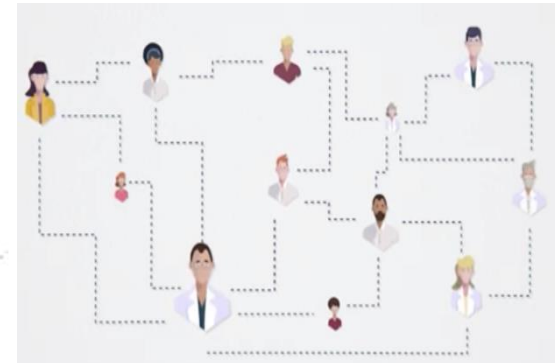
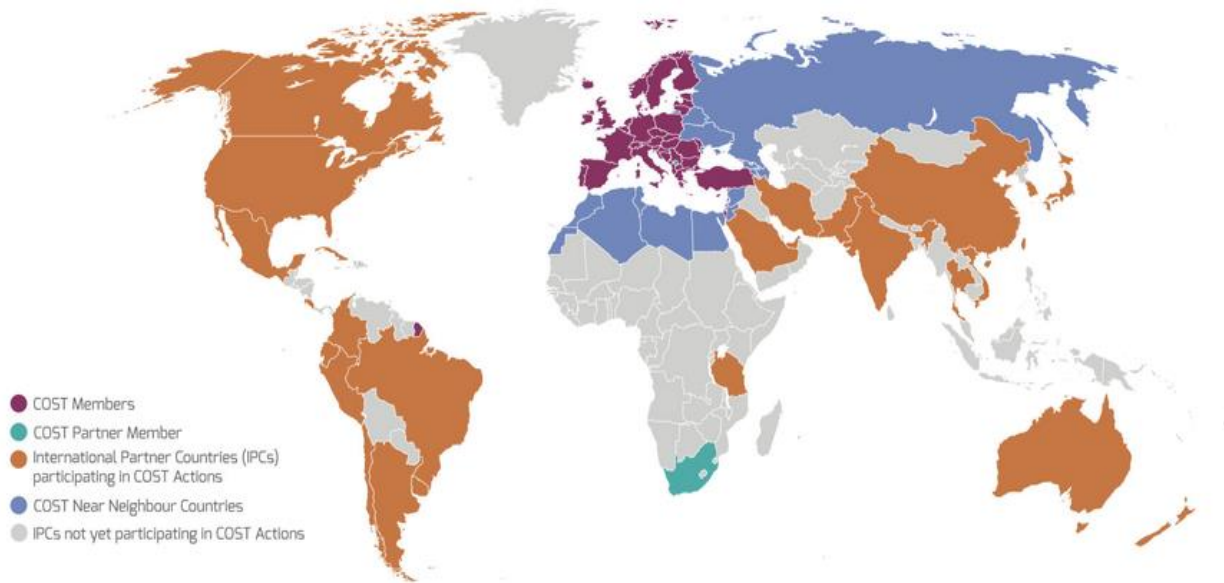


Sample Analysis at Mars (SAM) (Source: NASA)

WHAT IS A COST ACTION?



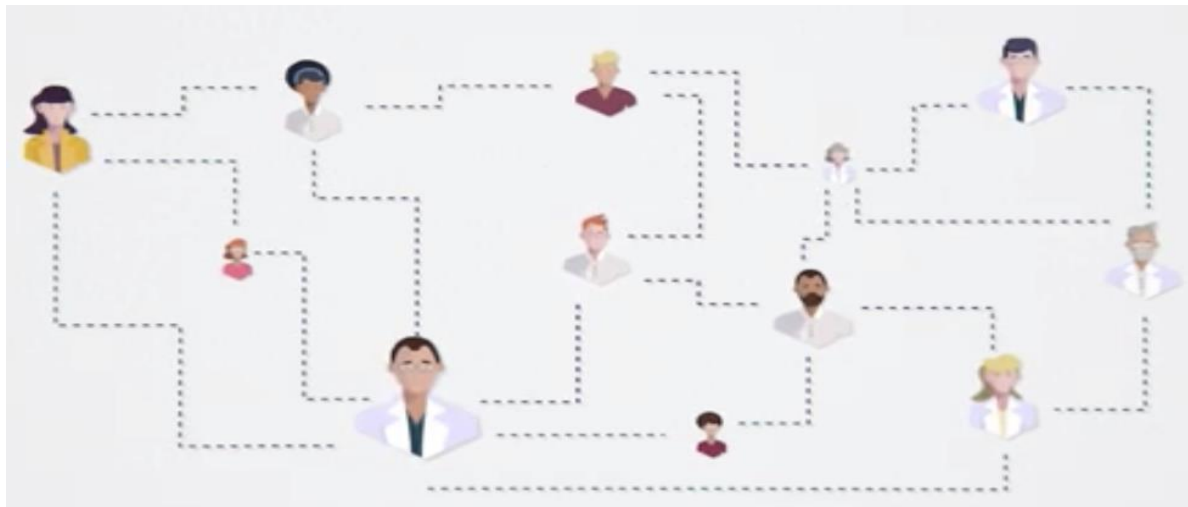
- **Open and inclusive networks of excellence** in all scientific domains.
- NOT A RESEARCH PROJECT
- To boost connected, interdisciplinary and collaborative sciences.
- To involve all relevant stakeholders: academia, industry, public and private sectors.



WHICH ACTIVITIES ARE FUNDED BY COST




- MEETINGS
- WORKSHOPS
- CONFERENCES
- TRAINING SCHOOLS
- SHORT-TERM SCIENTIFIC VISITS
- DISSEMINATION ACTIVITIES



SENSORFINT: THE CONTEXT

WHAT CONSUMERS DEMAND NOW?

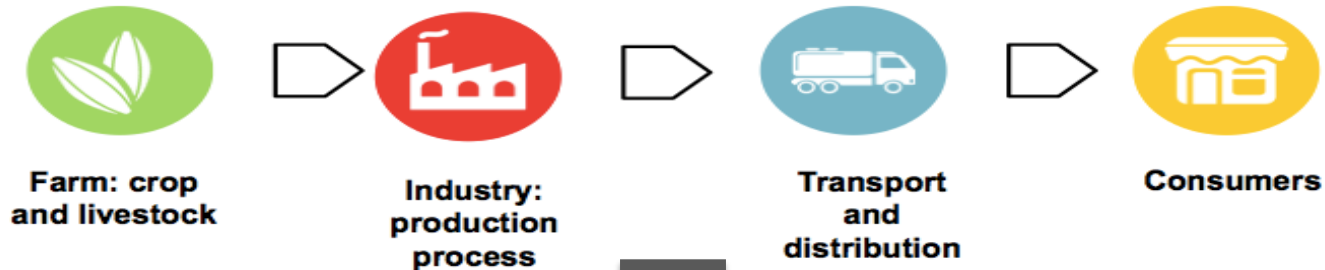
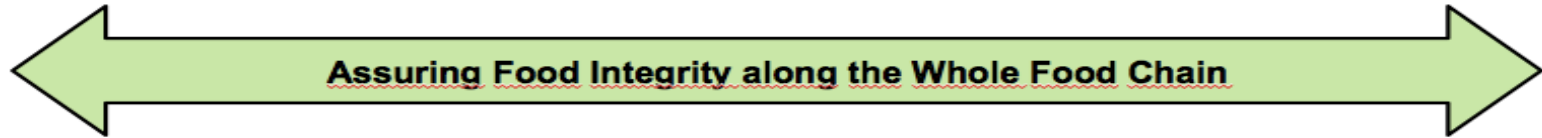


A food supply system that produces **SAFE** food, **NUTRITIOUS** food, and also **AUTHENTIC** food, free of any fraudulent activity

WHY THE FOOD INDUSTRY NEEDS TO CONTROL PRODUCTS AND PROCESSES ?

- Detection of frauds
- Specific Regulations
- Implementation of Good Manufacturing Practices and Guarantee labels
- Self-control of the production

TRENDS AND INNOVATION IN PRODUCT CONTROL



SPECTRAL SENSORS

- ✓ Fast
- ✓ Precise
- ✓ Easy to use
- ✓ Versatile
- ✓ Non contaminant
- ✓ Non destructive
- ✓ Low cost
- ✓ Better sampling
- ✓ Digital signal: IoT device

MAIN OBJECTIVE



Creation of a **lively and multidisciplinary network** to generate and disseminate knowledge about **non-destructive spectral sensors** and their application for the real-time *in situ* control of critical quality, safety, authenticity and performance attributes of raw and in-process food materials, **involving the entire food chain.**

SENSORFINT will enable to reduce the gap between the academia and the industry, boosting the implementation of spectral sensors within the food industry and improving European food industry competitiveness.

PERIOD 2020-2024

ACTION WORKPLAN



WG1. NDSS for the innovation in process control and labelling in the European food industry

WG2. Innovation related to the integration of several NDSS signals for critical issues in food integrity.

WG3. Novel mathematical algorithms and methods for processing NDSS in real time.

WG4. Use of ICT (Information and Communication Technologies) in building decision support systems for the industrial implementation of NDSS.

WG5. Dissemination and exploitation.

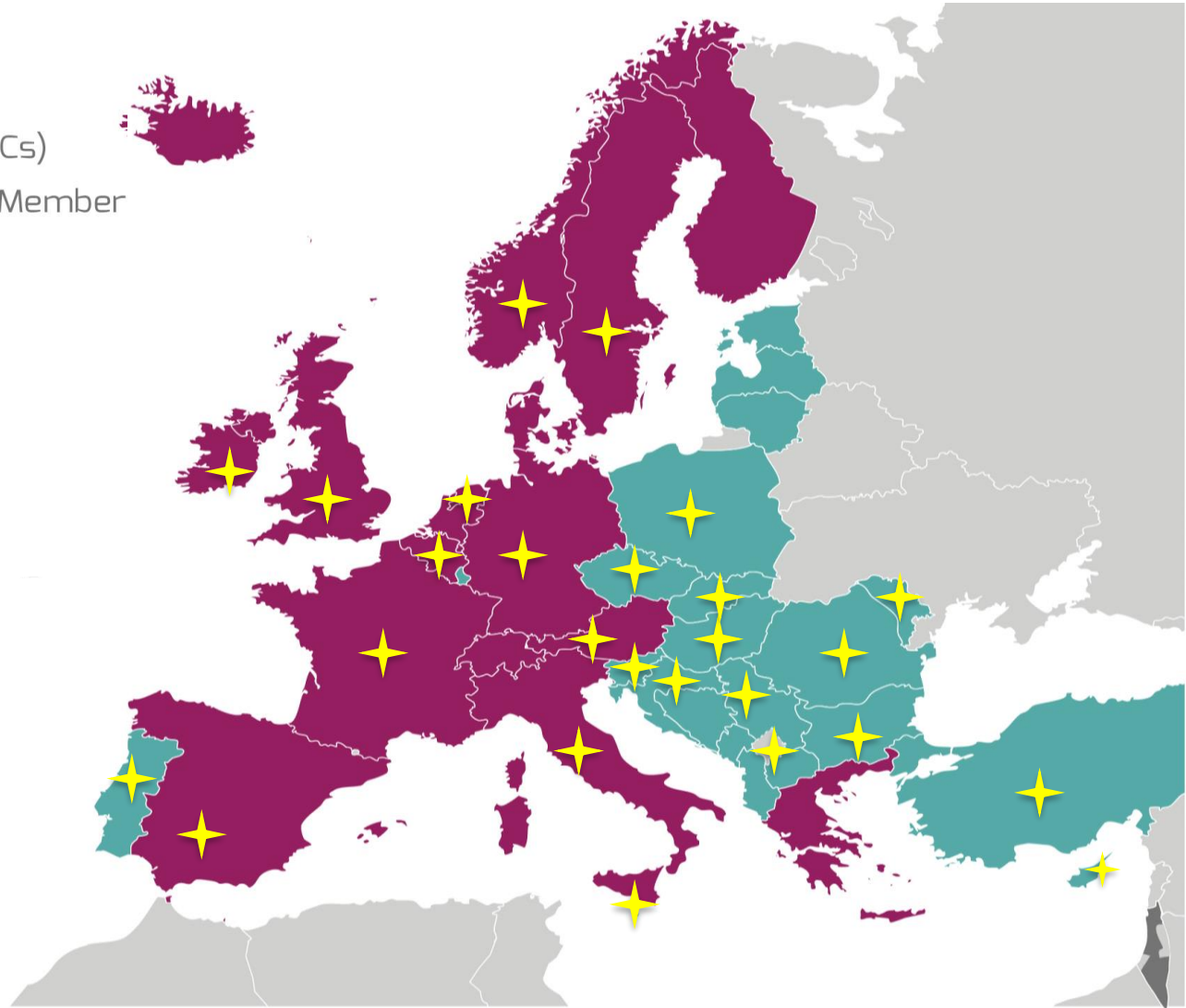
PARTNERS: THE CURRENT NETWORK



- COST Members
- COST Members (ITCs)
- COST Cooperating Member

INTERNATIONAL PARTNERS:

- ✧ The USA
- ✧ South Africa
- ✧ Australia



ACTIVITIES



1. SHORT TERM SCIENTIFIC MISSION (STSM)

Exchange mobilities for one week to three months

Candidate Origin Country	Host Institution
Turkey	University of Cordoba (Spain)
Spain	University of Modena and Reggio Emilia (Italy)
Italy	University of Lille (France)
North Macedonia	Universidade Catolica Portuguesa (Portugal)
Greece	University of Modena and Reggio Emilia (Italy)
UK	IVIA (Spain)
Turkey	École Polytechnique Fédérale de Lausanne (EPFL)
Cyprus	Faculty of Sciences School of Chemistry, Thessaloniki (Greece)
Spain	Bruker, Ettlingen, Germany

ACTIVITIES



2. INTERNATIONAL WORKSHOP IN PORTO (Portugal)

30th Sep-1st Oct 2021 <https://www.porto.ucp.pt/pt/sensorFINT2021>

Universidade Católica Portuguesa - Porto

1st SENSORFINT INTERNATIONAL WORKSHOP

SMART SPECTRAL SENSORS FOR AGRI-FOOD QUALITY AND PROCESS CONTROL

30.09.2021 - 01.10.2021
PORTO, PORTUGAL

CATOLICA FACULTY OF BIOTECHNOLOGY
PORTO

SENSOR FINT 2021 TOPICS SPEAKERS PROGRAMME COMMITTEES VENUE SUBMISSION/REGISTRATION CONTACTS SENSOR FINT Action

On behalf of the Organizing Committee, it is with great pleasure that we invite you to attend to the 1st sensorFINT International Workshop of the COST Action 19145 "European Network for assuring food integrity using non-destructive spectral sensors" dedicated to "Smart Spectral Sensors for Agri-Food Quality and Process Control", hosted by the Faculty of Biotechnology of Universidade Católica Portuguesa, at Porto, on **30th September and 1st October 2021**.

The workshop framework is devoted to the increasing need for the food industry to provide information on their products in order to satisfy quality standards and to protect their products from food fraud.

The workshop, the first for the Action will be dedicated to a general overview of non destructive spectral sensors situation and challenges applied to the agrifood chain.

Recent developments in technology, and advances in big data analytics, provide the opportunity for step-changes that can transform the role of food integrity assurance from one of just strictly conformance to one that addresses a wide range of business critical concerns, including quality, safety and authenticity solutions. Non-destructive Spectroscopic Sensors (NDSS), enable rapid, non-destructive and environmentally-safe assessment of multiple parameters in a variety of food products.

Workshop AK Chemometrik with COST sensorFINT

June 5th - 7th, 2023, Berlin

Aims of the conference

The conference focusses on chemometrics in the food and feed sector, in particular applied to non-destructive spectroscopic sensing technology.

It is the annual workshop of the AK Chemometrik as well as the annual conference of COST action sensorFINT (CA19145)



Topics:

- Chemometrics related to spectroscopic methods
- Chemometrics related to other analytical techniques
- Sensor integration and data fusion
- Non-destructive spectroscopic sensors in process control and labelling
- Information and communication technology for decision support systems

ABSTRACT SUBMISSION HERE

PROGRAM FILE HERE

Organization:

- Dr. Claudia Beleites
- Prof. Stephan Seifert
- Prof Dolores Perez-Marin
- Prof. Tom Fearn

Location

Julius Kühn-Institut (JKI)
Bundesforschungsinstitut für Kulturpflanzen
Königin-Luise-Straße 19
14195 Berlin

Contact

sensorfint-conference@go.gdch.de

TO GET MORE INFORMATION



- ACTION WEBSITE: www.sensorfint.eu

- Social Media:   

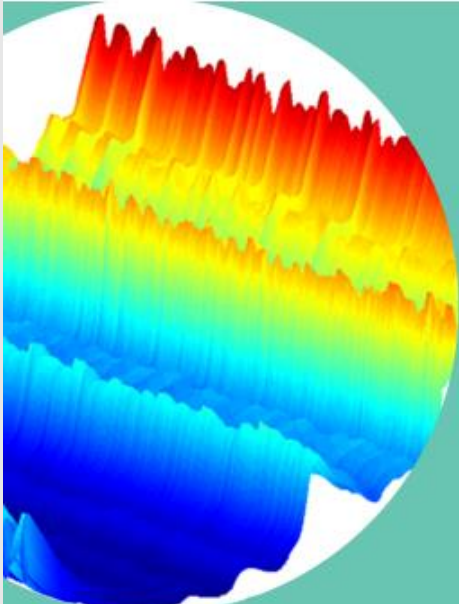
- Memorandum of Understanding (Mou): proposal approved
https://e-services.cost.eu/files/domain_files/CA/Action_CA19145/mou/CA19145-e.pdf

- Management Committee and Core Group
<https://www.cost.eu/actions/CA19145/#tabs|Name:management-committee>

Conclusion

This is not the end

Vibrational
Spectroscopy and
Chemometric course



2 – 6 october 2023



Belgium, 2022
« QAP Dream team »

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Thank you

A decorative horizontal line with a wavy, multi-colored pattern in shades of blue, green, yellow, and red.

THANKS FOR YOUR ATTENTION

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