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## FOODSAFETY4EU: paving the way for the food safety system of the future

Frederic Bayer, Nunzia Cito, Antonio F Logrieco and Veronica MT Lattanzio

National Research Council of Italy (CNR), Institute of Sciences of Food Production (ISPA),  
Bari, Italy

### Abstract

Food safety is a top priority for the European Commission, which policies aim at sustaining a high level of protection of human health and consumers' interests, while ensuring an effective functioning of the internal EU market. Under the New Transparency Regulation (EU/2019/138), the 3-year EU-funded **FOODSAFETY4EU** project (FS4EU) kicked off in January 2021, represents a significant step for the European Union (EU) food safety system (FSS), towards more transparency, better engagement, and closer cooperation. This Horizon 2020 Project, coordinated by CNR-ISPA (Italy), focuses on building a multi-stakeholder platform for the future EU FSS. The **FOODSAFETY4EU** Network currently consists of 23 consortium partners and around 50 stakeholders: Food Safety Authorities (FSA), consumer associations, academia, research centres and networks, food industries and sector associations, thinktanks, etc. Through a structured, digitally supported, participatory process, the platform hosts the co-design of future strategic research and innovation agenda (SRIA), as well as risk communication models tailored to the specificities of various target groups. Among the goals: providing scientific advice and technical support for EU food safety policies, by enabling actors to access, share and exchange scientific knowledge, resources, and data more efficiently, to better synchronise food safety research and policies, and to contribute to a more transparent communication through the FSS. Overall, the FS4EU project underpins the EFSA missions in risk assessment, including risk communication, with the ambition to be a basis for a Knowledge Centre for Food Safety in Europe. Accordingly, the EU-FORA 2021–2022 fellow (based in CNR-ISPA under the Work Programme RECIPE: Risk AssEssment/Risk CommunIcation: understanding the context and addressing Priorities of the futurE – a learning-by-doing approach) committed to multiple Work Packages, actively participated to various activities, thus successfully contributing to the FS4EU project meeting its objectives by the end of 2023.

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**Correspondence:** eu-fora@efsa.europa.eu

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## 1. Introducing FOODSAFETY4EU (Lattanzio, 2022; Lattanzio et al., 2022)

### 1.1. FOODSAFETY4EU strives for an adaptive, iterative, proactive Food Safety System

Food safety is imperative for health, social and economic reasons. Currently, the EU food safety system (FSS) regulatory framework relies on evidence-based risk assessment and data analysis, at times proving not quick enough to adapt and undertake emerging issues arising from our modern high-paced food sector dynamics as well as caused by the climate change-driven unstable agricultural supplies, recently resulting in crisis of various motives and amplitudes. Consequently, consumers are often only likely to hear about and share a concern for food safety in times of crisis, precisely when the risks of misinformation and the loss of citizen trust are on the rise. Those issues are constituent to our current FSS: as a matter of fact, researchers, FSAs, policy makers, food business operators do not collaborate enough through integrated mechanisms and spaces to be able to nurture a continuous and trusted interaction.

FOODSAFETY4EU (FS4EU) aims to tackle these challenges, co-designing new collaborative, multi-stakeholder schemes and experimenting innovative ways to promote food safety information among the large public, to progressively advance the EU FSS from a reactive system to a collaborative, proactive one.

### 1.2. What is the FOODSAFETY4EU platform?

This platform is intended to drive the transition of the existing European FSS towards a comprehensive and constantly updated framework, enabling the FSS actors to access efficiently resources and data, share and exchange scientific knowledge and contributions, interact and network, create new partnerships and joint activities.

On top of the digital dimension, the platform fosters 'physical' interactions, guaranteeing the participatory process through four layers of interaction between all the FSS stakeholders.

#### *Layer 1 – Food Safety Hubs*

As the first level of interaction, **four Food Safety Hubs** (Figure 1) work as decentralised nodes to **catalyse the main experts of the respective geographical areas and create the basis to feed a multi-actor discussion**. The reason behind this geographical division is that each of these four areas faces similar issues in the local FSSs and has specific food production chains, market dynamics and innovation/technological levels. Inside each Food Safety Hub, representatives of policy makers, researchers, food business operators and consumers are actively involved in the participatory process.



**Figure 1:** The 4 FOODSAFETY4EU Hubs

This ecosystem was already set up before the beginning of the project, through a mapping and the involvement of FS4EU Supporting Partners – stakeholders committed to contribute to the definition of the FSS of the future. Currently, the project consists of 50 Supporting Partners (in addition to the 23 beneficiaries), but the numbers are still increasing, as the project stays open to new collaborations.

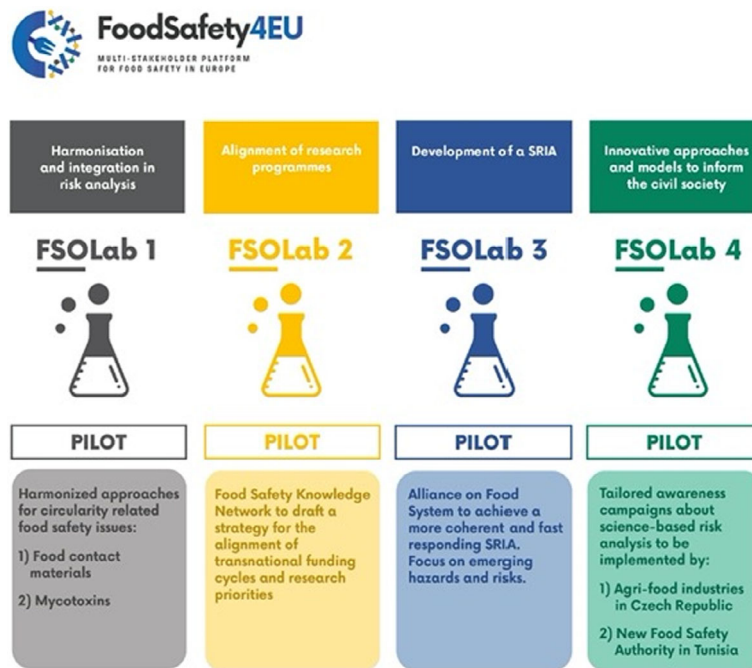
#### *Layer 2 – Food Safety Operational Labs*

As a second layer of the participatory process, **FSS actors interact through four Food Safety Operational Labs (FSOLabs), 'rooms' for social experimentation addressing complex food safety related topics on a systemic level** (Figure 2). They involve experts from various Hubs, representing different FSS actors in a cycle of interactive meetings, in which they can discuss and find new ways to tackle the selected four challenges:

- FSO Lab 1: **Harmonisation and integration of the future FSS**, to be supported through pilot actions and recommendations.
- FSO Lab 2: **Alignment of research priorities and funding cycles**, within and among EU Member States.
- FSO Lab 3: **Development of a Strategic Research and Innovation Agenda (SRIA)** on Food Safety.
- FSO Lab 4: Definition of **Innovative approaches and models to reach inform and involve the civil society.**

The experts were involved by the project beneficiaries, Supporting Partners and other stakeholders in the FSS, including EFSA – the European Food Safety Authority, participating in all FSOLabs.

After a preliminary challenge mapping and analysis exercise to set up each FSOLab, the experts met and progressively co-created possible solutions to address the identified channels, developing also pilot activities to be tested in real-life scenarios: the process will run until the end of 2022, then each FSOLab will assess and analyse the results obtained, translating them in new outputs to be adopted by FSS stakeholders, such as FSAs, policy makers and business operators.



**Figure 2:** The 4 FSOLabs and their pilots

**FSOLab 1** focuses on the **need for harmonisation and integration**, specifically **linked to risk analysis of emerging hazards in a circular economy**: the increasing call for sustainability comes from the desire to reduce our environmental impact. However, this raises new potential issues concerning food safety. For example, recycled materials can contain contaminants from previous (mis-) uses. These issues are unlikely to be predicted through conventional risk assessment. As well, FSAs do not already have the necessary amount and quality of data to perform a regulatory-grade risk assessment. This FSOLab attempts to increase the ability of the FSS to deal with the environmental transition safely, particularly within two pilot action topics: **Food Contact Materials** and **Mycotoxins**.

**FSOLab 2** aims to propose **strategies for a better alignment of research programmes and funding opportunities**, both at national and EU levels. Given the large inequalities in the distribution of economic resources and research funds among individual countries, there can be major implications for a country's performance in terms of Food Safety progress. FSOLab2 pilots a **Food Safety Knowledge Network** to draft a strategy for the alignment of transnational funding cycles and research priorities, as a fundamental step towards safe and sustainable food systems.

**FSOLab 3** is committed to developing a proposal for a **SRIA**. Its mission is to build up a common **strategy to prioritise and address emerging food risks and hazards**. Specifically, FSOLab3 is developing a process for achieving a more coherent SRIA by piloting an **Alliance on Food Systems**, thus contributing to reinforcing the role of Europe as a global leader in food safety standards and to ensuring ever more efficiently adequate levels of public safety.

**FSOLab 4** is focused on **innovative and novel communication methods** to reach **and inform civil society about food safety science and the risk assessment process**. Two tailored, cartoon-based communication campaigns have been designed to increase awareness about Food Safety and the science-based risk analysis processes in young adults from two countries with different stakes and issues regarding the FSS. Those campaigns are now being implemented:

- in the Czech Republic, by national, innovative agri-food aquaponics industries;
- in Tunisia, by the new-born Food Safety Authority, INSSPA.

### Layer 3 – digital platform and tools

Besides the four Food Safety Hubs and the four FSO Labs, the third layer of interaction relies on the implementation of a **digital platform with apps** that allows all actors within the FSS to interact fluidly and facilitates their access to a variety of resources related to Food Safety issues. Ultimately, its



goal is to become a **central platform as a single-entry point for EU FSS actors** in the near future.

The platform already allows users to get information about running FSO Labs, including results and options to give feedback. The platform also allows to look for specific experts, projects and topics, including their contact persons. In addition, the platform provides catalogues for data sets, apps, services and other materials allowing users to search resources of their interest in food safety. Another functionality is a file storage system which can be used not only by FSO Labs but also by users of the platform to exchange or collaborate on certain documents. The platform also hosts news and agenda sections for the forthcoming activities (i.e. events, webinars) and is used as one of the main communication channels inside the FSS actors' community.

#### Layer 4 – EU Food Safety Forum

The fourth level of interaction among the FSS actors is based on the participatory and networking process – progressively turning the FS4EU platform into this reliable, **fluid interface for long-term science-policy-society cooperation** within the EU FSS, the **EU Food Safety Forum**. As a main output of the project, the Forum will be built upon the interactions of all FSS actors during the project timespan and through the three previous layers.

Thanks to the vibrant ecosystem already established during the first year, the first milestone of the path towards a long-term and self-sustainable forum took place in December 2021, with the first edition of the pre-Forum, attended by more than 120 participants – representing Supporting Partners and other stakeholders. After inspirational pitches, this online conference turned into a participatory session of learnings and discussion, the audience asking both free and guided questions to the experts, expressing opinions and sharing ideas via real-time polls. Gathered and analysed, these insights will guide FS4EU in the definition of the 2nd Pre-Forum (December 2022).

## 2. Involvement of the EU-FORA fellow

### 2.1. Global and technical support to the FOODSAFETY4EU platform

Besides specific tasks written in the work programme, the fellow brought day-to-day support to the FS4EU coordination team in CNR-ISPA. Below are listed (non-exhaustively) various tasks and actions undertaken by the fellow all along the year, on demand or proactively, for the benefit of the FS4EU project.

#### Updating the FS4EU website

- Writing articles on recent events, FSOLab workshops and milestones, new FS4EU partners agreements.
- Updating and remodelling sections of the website, such as the FS4EU community of supporting partners, the agenda/calendar.

#### Participating in, designing and hosting online FS4EU events

- Taking part in FS4EU FSOLab workshops and Work Package meetings, as attendee or coordinator.
- Animating online meetings organised by FS4EU (1st pre-Forum, H2020 project 'DISH cluster' meetings, etc.): designing interactive sessions of questions on Mentimeter, hosting those sessions live, analysing and communicating the results.

#### Contributing to FS4EU global communication and awareness

- Writing content for both internal and social media communication campaigns.
- Writing and reviewing scientific publications about FS4EU.
- Preparing and presenting FS4EU communication documents at the Mycokey Conference 2022.
- Contributing to the presentation of a poster (VMT et al., 2022) at ONE conference 2022 (V. Lattanzio et al. 'Towards a more engaged and co-operative Food Safety System in Europe: the contribution by FoodSafety4EU').
- Designing and presenting a scientific poster (Bayer et al., 2022) about FS4EU at the World Mycotoxin Forum 2022 (F. Bayer et al. 'FoodSafety4EU: a step towards improved engagement, cooperation and transparency in the European Food Safety System').

## 2.2. Project management for FSOLab 4

Early on, the fellow could contribute to this scientific outreach FSOLab by moderating and animating the 2nd FSOLab4 workshop held on 8–9 November 2021, presenting his own experience, ideas and examples of cartoon-based communication campaigns with Food Safety purposes. The workgroup was composed of actors from all the European FSS: FSA representatives (including Tunisia INSSPA), researchers, consumer associations representatives as well as communication consultants.

**Two separate pilot actions** were then designed, each one bearing the voice of **a specific source**, with **respective objectives**:

- **Food Safety Agency pilot** (Tunisia)
  - carried out by **INSSPA**, newly formed **Tunisian** Food Safety Authority;
  - informing and educating about domestic safe food handling and practices;
  - raising awareness about national institutions ensuring and enforcing food safety.
- **Industry pilot** (the Czech Republic)
  - carried out by **Aquaponics producers in the Czech Republic**;
  - raising awareness about **practitioners' safe handling of food**;
  - appealing to **consumers' social and environmental responsibility** concerning safe food production.

In reference to the shared pilot idea, for both pilot actions, it was decided to **design cartoon strips for further dissemination, both online (via social media) and print (via leaflets and posters)**, according to the most relevant channels in those two countries to reach the agreed **target – namely young adults and their families**.

With the fellow coordinating the discussions, the FSOLab participants agreed to implement the **two national communication campaigns** based on this generic pilot concept: **science-based reliable information on food safety and the risk assessment process should be provided by funny, human characters**.

Those characters features (look and feel, missions, psychology, etc.) were then co-designed during the workshop, aligning cultural expectations and habits of all representants of this FSO Lab. Consensus was found around **three characters**:

- **a relatable main character** representing the target group (young adults) to be used universally. The main character is a young adult who is ignorant or has little knowledge not only about food safety in general but also about hygiene, cooking practices, etc.
- **a relatable secondary character**, usually a parent, who is a bit less ignorant about FS, but still can make mistakes and have unsourced, biased opinions about the FSS.
- **a team of actors representing the FSS** (FSA scientist, food producer, etc.) that revolves around the main characters in realistic situations, providing expertise and the necessary knowledge to reassure, educate and improve awareness about food safety.

See **Annex A** for the characters final graphic representations as well as **Annex B** for the first sketches of the Tunisian cartoon strips.

All in all, throughout the year, the fellow was involved in:

- co-designing the pilot actions, characters features and dissemination plan;
- creating, editing, and co-validating the scenarios for each pilot action;
- designing the storyboards and creating the dialogues;
- coordinating the project with the professional drawer.

## 2.3. Development of a scientific communication module

One of the objectives of FS4EU is to come up **with innovative ways of communicating food risks and food safety**, for the future EU FSS to be even more open, transparent and resilient. Complementary to finding new channels of communication as well as updated, targeted messages, from food scientists towards society, food system stakeholders and policy makers alike, the fellow has piloted and provided a **toolbox for food scientists themselves to better enjoy communicating their work**.



One of the main features of this toolbox is to stay funny, interactive, participative and overall accessible, **allowing any motivated, communication-sensitive food scientist to lead workshop sessions of media training in his/her lab**. The overall objective is for the trainees to improve their abilities and skills in:

- Pitching a scientific study.
- Writing media headlines and articles.
- Facing a journalist in an online interview setting.

For each trainer, and each session, **up to six trainees** can participate to the workshop. A larger group would imply fewer individual feedbacks and interactions for trainees with the trainer and each other, which would result in a less impactful training.

The workshop is composed of three **consecutive sessions** (ideally to be held on the same week):

- **Day 1 session: How to write.** *Duration 3 h30 (plenary meeting).*
- **Homework session: Preparing for an interview.** *Duration 2 h (on their own).*
- **Day 2 session: How to speak.** *Duration 20mn (Interview) + 2 h (plenary meeting).*

The fellow himself successfully **hosted the pilot workshop** in June, for five food scientists involved in FS4EU Labs, then asked and received feedbacks for further improvement of the toolbox. See **Annex C** for images of this pilot workshop.

All in all, the fellow was involved in:

- Designing the science-media training workshop and making it entirely ownable through a turnkey toolbox.
- Preparing the educational material: Presentations, Mentimeter quiz, Miro Board templates for collaborative work, examples of communications, Criteria for evaluation of interviews.
- Organising and hosting the pilot workshop within FS4EU: animating the presentation, collaborative work on Miro as well as commenting on Mentimeter quizzes, reviewing press communicates written by trainees, interviewing trainees in an online setting, giving feedbacks on those interviews.

The training module will be available on the project website by the end of 2022 to be replicated within and outside the project.

### 3. Summary of the project and EU-FORA fellow work programme completion

FOODSAFETY4EU contributes to enhancing common efforts and building synergies within the EU FSS through the co-design of an integrated and multi-stakeholder platform. This enables a network of FSS actors at the national, European and international levels to access resources efficiently, synchronise food safety research strategies, share and exchange scientific knowledge.

Through a structured, digitally supported, participatory process, the platform hosts the co-design of future research and innovation strategies, as well as risk communication models tailored to the specificities of various target groups. For example, through so-called Food Safety Operational Labs, multi-actors' workgroups find new ways to tackle selected food safety challenges – e.g. food contact materials, mycotoxins, consumer practices education, perception of the role of industries in food sustainability, etc.– following a continuous process, from co-designing to implementing and evaluating relevant pilot actions.

Furthermore, by engaging EU citizens in these structured dialogues, FS4EU supports a clearer understanding of the scientific evidence at the base of any risk management decision, thus enhancing public confidence in the European FSS.

The FS4EU Network currently consists of 23 consortium partners and around 50 stakeholders – Food Safety Authorities, consumer associations, academia, research centres and networks, food industries and sector associations, thinktanks, etc. This community is expected to grow into a collaborative European Food Safety Forum by the end of the project, late 2023.

Concerning the EU-FORA fellow, hosted in CNR-ISPA from September 2021 to August 2022, the work programme (RECIPE\_Risk AssEssment/Risk CommunIcation: understanding the context and addressing Priorities of the futurE – a learning-by-doing approach) has been completed according to the foreseen timeframe. The work programme was drafted in relation to the research activities ongoing at the hosting site that are in alignment with the overall objectives of the EU-FORA

programme. Specifically, in the framework of the [FS4EU project](#), coordinated by CNR-ISPA, fellowship activities were designed in order to provide the fellow with a comprehensive overview of the risk assessment process and expected challenges for the incoming years, with emphasis on risk communication aspects.

Specifically, the fellow has been involved in activities relevant to the harmonisation of enforcement practices as well as to innovative approaches and models to inform civil society about the risk assessment process. Both topics included a focus on circularity-related food safety issues. It is worth to point out that the fellowship period matched with a crucial phase of the FSOLab process, i.e. the co-creation, discussion and implementation of pilot actions, thus the fellow concretely experienced the interdisciplinary and multi-actor approach, that can be applied in future projects to complement with research activities. On the other side, the fellow sharing with the supervisor the skills acquired in EU FORA training modules was an acknowledged added value of this programme for the hosting site.

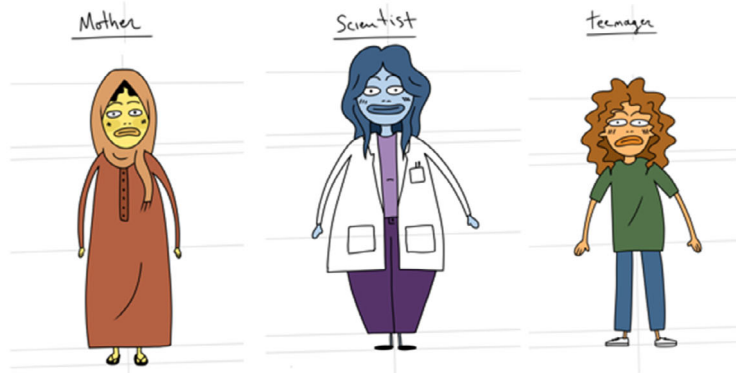
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## Abbreviations

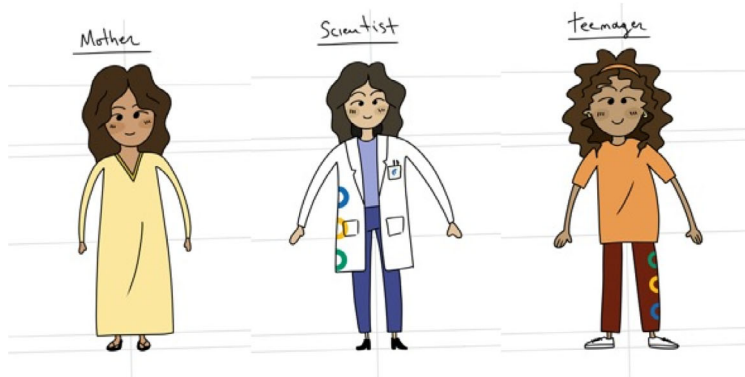
FS	food safety
FSA	Food Safety Agency
FSOLab	Food Safety Operational Lab
FSS	food safety system
FS4EU	FoodSafety4EU
SRIA	Strategic Research and Innovation Agenda

## Annex A – FSOLab 4 characters

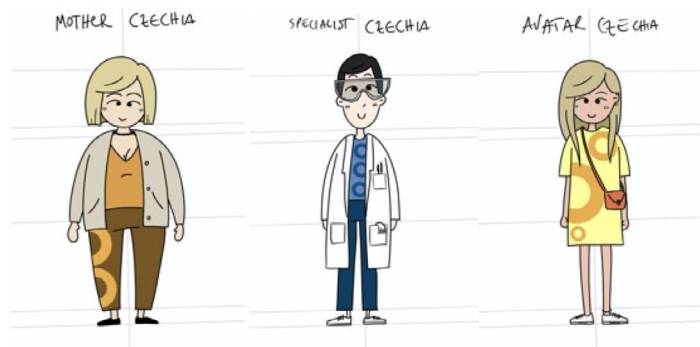


Tunisia first characters

(Rejected for being too “cartoonish” and not “serious” enough to represent the voice of a newly created FSA)



Tunisia final characters

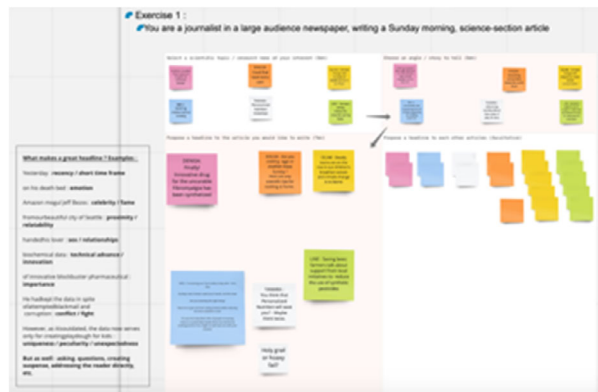


Czech Republic final characters

## Annex B – Early drafts of cartoon strips for the Tunisia Pilot



## Annex C – Images of the ScienceMediaTraining pilot workshop



Miro board of the first exercise (writing scientific headlines)



Example of Mentimeter live quiz question



Footage of the pilot session interviews