

# What Helps and Hurts When Sharing Data for Sustainable Food Solutions

Workshop Report from the  
**Data4Food Cluster**

October 2025



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### Data4Food Cluster

DRG4FOOD | FOODITY | FoodDataQuest | SOSFood

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## Executive Summary

This joint workshop report from the #Data4Food Cluster, comprising the [DRG4Food](#), [FOODITY](#), [FoodDataQuest](#), and [SOSFood](#) and projects, presents and discusses challenges, enablers, and gains related to data sharing and AI-driven solutions for sustainable food systems. These findings are based on discussions from two breakout sessions, one focusing on consumers and citizens, and the other on industry and food system actors.

The workshop was structured into three main parts: a presentation on the [FOOD2030 EU Policy](#) Context, "Food For Thought Pitches" from the four cluster projects, and two breakout room sessions. The breakout room discussions in particular explored perspectives from both consumers/citizens and industry/food system actors on data sharing and AI in food systems.

### From the Consumers & Citizens Perspective:

- **Concerns:** Participants expressed concerns about personal data sharing, primarily focusing on tracking abuse/theft, privacy breaches and misuse of data, third-party data sharing issues, and damaging marketing leading to overconsumption.
- **Enablers:** Participants highlighted the need for user-centred data practices and privacy protection, more transparency and informed consent, improved data management and simplified regulations, and empowering users with control over their data and traceability.
- **Gains:** Despite the discussed concerns, potential gains from data sharing were identified and discussed, including personalisation and improved user experience, societal value and sustainability, and innovation opportunities by leveraging data.

### From the Industry & Food System Actors Perspective:

- **Data access difficulties:** Participants expressed the need to access various types of data, including health and consumer data, supply chain and production data, waste and environmental data, and social and behavioural data.
- **Bottlenecks:** Key bottlenecks preventing data sharing were identified as commercial and business concerns, a general lack of trust and fear of data misuse, technical and operational challenges, and privacy and security regulations and their potential consequences.
- **Opportunities:** Unrestricted data sharing was identified as offering significant opportunities, including advancements in research and innovation, digital advancements, supply chain optimisation, consumer empowerment and transparency, increased transparency and trust among stakeholders, and the opportunity to gain a competitive advantage.
- **Challenges with AI:** The main challenges with AI in the food system were identified as data and information quality, trust and management, and complementing knowledge and environmental impact.

Based on these discussions, the report proposes five key recommendations and actions to foster more general, transparent, and valuable data sharing practices for sustainable food solutions:

1. **Foster collaboration among institutions and industry** to enable a culture of trust and transparency in data sharing.
2. **Improve general data literacy and citizen empowerment** across the food system.
3. **Accelerate research and innovation** in data-driven food solutions.
4. **Strengthen regulations** for data governance and ethical AI use.
5. **Foster collaborative platforms** for data-driven solutions.

## Introduction & Framework

Data, combined with AI and other technologies, can drive the transformation and increased sustainability of our food systems. On the one hand, having access to and sharing data can foster individual and consumers' empowerment and more sustainable choices; on the other hand, the industry already holds a significant quantity of data, but access to such data is often challenging. Thus, democratising access to data and information among consumers and industry is imperative.

To promote a systemic and sustainable change, it is necessary to assess challenges, enablers, and benefits associated with data sharing and AI-driven food sustainability solutions.

With this in mind, the four projects of the #Data4Food Cluster - DRG4Food, FOODITY, FoodDataQuest, and SOSFood - invited citizens, consumers, researchers and industry representatives to discuss challenges with and actions to foster data sharing for sustainable food solutions.

## Agenda

The 1.5-hour workshop was structured into three main moments. A first moment included a presentation from the REA on the [FOOD2030 EU Policy Context](#). A second moment included *pitches* from the four #Data4Food Cluster projects, focusing on results achieved to date (DRG4Food & FOODITY) and objectives and planned work (FoodDataQuest & SOSFood) aligned with the workshop objectives. The third and final moment introduced two breakout rooms where challenges and actions for data sharing were discussed from the consumer and industry perspectives. The workshop ended with a reflection on key insights and takeaways from the breakout room discussions.

| Time          | Topic                                                                                                                                                                                     |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13.00 - 13.10 | <b>Welcome and Introduction to the #Data4Food Cluster</b><br>Ioannis Laoudis (EUFIC)                                                                                                      |
| 13.10 - 13.20 | <b>Opening Address from REA on the FOOD2030 EU Policy Context</b><br>Evangelia Tzika (REA)                                                                                                |
| 13.20 - 13.40 | <b>Food For Thought Pitches from the #Data4Food Cluster Projects</b><br>Kai Hermsen (DRG4Food), Samuel Almeida (FOODITY), Machiel Reinders (FoodDataQuest), Eloy Miranda García (SOSFood) |
| 13.45 - 14.15 | <b>Breakout Sessions</b><br>(1) Citizen & Consumer Perspectives<br>(2) Industry & Food System Actor Perspectives                                                                          |
| 14.15 - 14.25 | <b>Key Insights and Takeaways from the Breakout Session</b>                                                                                                                               |
| 14.25 - 14.30 | <b>Closing remarks</b>                                                                                                                                                                    |

## Food 2030 EU Policy Context

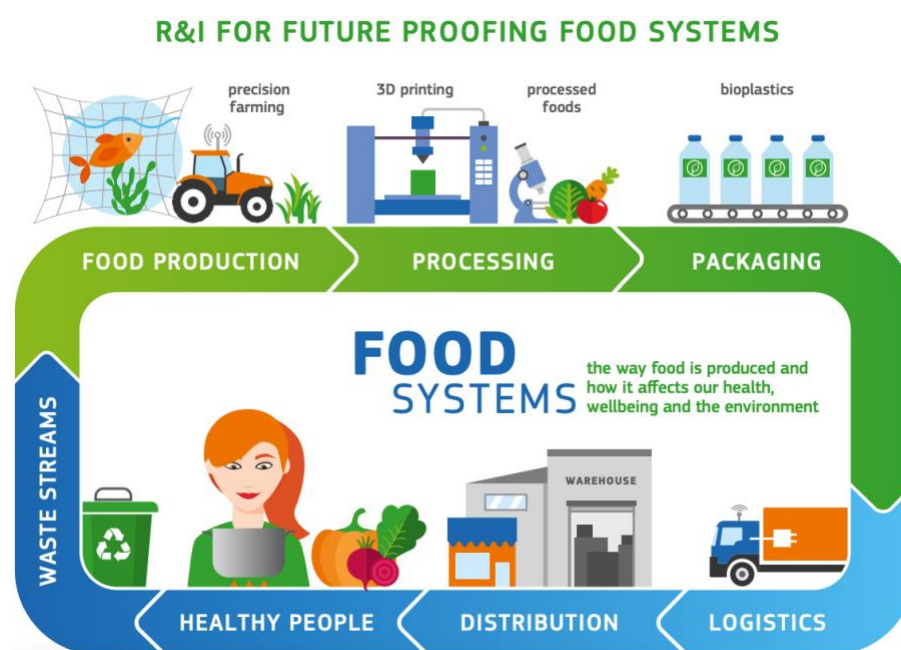
Presented by Evangelia Tzika (REA), the opening address focused on the importance of the food sector as a driver of European competitiveness. Specifically, research and innovation in the food systems domain can contribute to a more flourishing EU economy and job creation, and valorise other sectors that influence EU citizens' wellbeing.

That said, [Food 2030](#) was introduced, which is a framework founded on the principle that better research and innovation policies can lead to more effective solutions for our food systems. These systems need to change so they can provide citizens with healthier and safer food, respect environmental limits, and support a diverse, fair, and thriving food economy.

To materialise this framework and vision, [11 pathways](#) have been defined, which represent different areas through which EU funding is and will be channelled. Among these, **Pathway 10 - Data & Digital Transformation** - is of particular importance, given their impact on food systems. Data and digital technologies are driving a revolution in food systems, across the full value chain (from production to consumption), but also in terms of research and innovation avenues. This transformation can offer benefits like personalised diets, more efficient and transparent supply chains, and more sustainable and resilient food production. It also provides an opportunity to empower citizens in different steps of these processes.

Still, there are challenges that all stakeholders face, including EU policy makers (e.g. alignment of opportunities with EU goals and values), and barriers to putting digital transformation into practice (e.g. adoption of technology, fragmentation). Lastly, while these challenges and barriers are addressed, researchers, industry and other stakeholders must continue to explore the existing potential linked to a broader use of AI and the (re-) use of data.

Pathway 10 is also highlighted here for being the pathway under which the DRG4FOOD and FOODITY projects were funded, given their clear focus on [data rights and technologies](#).



Food 2030: R&I For Future Proofing Food Systems ([Source](#)<sup>1</sup>)

<sup>1</sup> [Food 2030 - Pathways for action 2.0 : R&I policy as a driver for sustainable, healthy, climate resilient and inclusive food systems](#) (Directorate-General for Research and Innovation, 2023)

## Food for Thought Pitches

The #Data4Food Cluster is a group of four projects at different stages of implementation: DRG4Food and FOODITY end their journey in November and December 2025, respectively; FoodDataQuest and SOSFood started in early 2024 and will end in July 2027 and January 2028, respectively, and therefore still have a long path ahead.

Given this context, the Food for Thought Pitches session focused on *passing the torch* between the two former and the two later projects: DRG4FOOD and FOODITY presented the activities they have implemented, the results achieved, and impact generated through their projects, focusing on value and role of data and technology; the two latter projects have taken the torch and will focus on delivering results and impact based on data-driven solutions and their contribution to inclusive and sustainable food systems.

## Breakout Room discussions and findings

As introduced, consumers and the industry are two key actors in the food value chain particularly interested in and affected by the value of data and technology. These actors that can drive opportunities for change in the system but are also cautious and directly affected about how data is used.

The workshop organised two breakout room sessions - one focusing on the consumer/ citizen perspective, the other on the industry and food systems actors - tackling a common denominator: the challenges, enablers, and gains associated with data sharing and AI-driven food sustainability solutions.

## Perspectives from Consumers & Citizens

### Setting the scene

This breakout room started with a brief overview of citizen-focused activities run by the FOODITY and FoodDataQuest projects as well as relevant results to support the ensuing discussion.

In FOODITY, three citizen hubs - in Austria, Bulgaria, and Portugal - ran two main activities: the presentation highlights FOODITY's citizen-driven activities, which include: PhotoVoice Workshops and Citizen Dialogues, which both foster citizen participation, discussion, reflections and help raise awareness. Through these activities, FOODITY identified the following key findings:

- There is a general lack of knowledge about GDPR, although there is some familiarity with "data collection" terminology.
- Loyalty Programmes are very much data-focused, with varying extents of data collection, from aggressive behavioural tracking to providing personalized services.
- There are privacy concerns regarding targeted advertising, discrimination, and sharing data with third parties.
- There is a desire for balance, as those who collect and process data often benefit more than those who provide it.
- There is a continued need for and appreciation of awareness-raising regarding the protection of personal data.

In FoodDataQuest, the focus of some exploratory activities was to understand consumers' willingness to share data. Specifically, their study involving more than 1,300 respondents from the Netherlands, Finland, Belgium, Greece, and Hungary, aimed to identify what private data are consumers willing to share to stimulate healthy and sustainable food choices and under what conditions? Through the study, FoodDataQuest identified the following key findings:

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- The intention to share data is positively correlated with perceived benefits and negatively correlated with perceived risks and ambivalent feelings.
- Consumers showed highest intention to share food preferences and recipe choices, with lower willingness for location data and physiological data.
- Tangible, direct rewards (e.g., product discounts) were most preferred.
- Three distinct consumer segments were identified based on data-sharing attitudes: Optimists (33.6%), Ambivalents (31.8%), Sceptics (34.6%).
- There are considerable variations in the intention to share different data types with various food system actors. The trust is highest with doctors and dietitians; there is moderate trust with universities, supermarkets, food manufacturers; and the lowest trust is with Government institutions.

## Approach & Discussion

Mentimeter was the tool of choice to foster a discussion with the session participants. The discussion started with an *ice-breaker* question to assess participants' concern **with an approach to personal data**, who were provided with seven options.

- Knowledgeable about my rights and love reading privacy policies (8% of votes)
- Knowledgeable about my rights and cautious about the data I share (23% of votes)
- Some knowledge about my rights and cautious about the data I share (62% of votes)
- Limited knowledge about my rights and freely share data.
- No knowledge and no limitations
- Limited knowledge about my rights and cautious about the data I share
- No knowledge and cautious about the data I share (8% of votes)

Just under two-thirds of the participants indicated having **some knowledge about their rights and being cautious about data sharing**, and under 10% of respondents indicating a vast knowledge and extreme caution about data and privacy. The subsequent discussion points tackled specifically the topics of challenges, gains and enablers.

The first discussion question asked about the **main concerns regarding sharing of personal data**. When aggregating the answers, the main **concerns** are:

- **Tracking abuse/ theft**, which includes general abuse of tracking and tracking leading to the theft of data.
- **Privacy breaches and misuse of data**, which encompasses privacy breaches, misuse of personal data, profiling, password leakage, and the resale of (personal) data.
- **Third-party data sharing issues**, which focuses on concerns about data being used by third parties, including to third parties beyond the original country (i.e. international data transfer issues).
- **Damaging marketing and over consumption**, which relates to the increased consumption of products and services, driven by intensive marketing strategies, and the inherent sharing of data.

The second discussion question asked about **what must be done in the ecosystem (by consumers, industry, tech providers, governments, EU institutions) to address existing concerns**. When aggregating the answers, the main **enablers** are:

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- **User-centred data practices and privacy protection:** Participants considered that organisations should be more considerate of and prioritise client needs over commercial interests, especially when it comes to aggressive marketing and data gathering. This includes easier ways for users to know where data is stored and the enforcement of privacy rules.
- **Enhanced transparency and informed consent:** A significant emphasis was placed on informed consent, and transparency about consumer rights, data use, and data integrity. This includes updating privacy statements to a more *user-friendly* language and that truly reflects what data is collected and how it is used. Furthermore, providing a means through which this data is monitored is important.
- **Improved data management and regulation:** Participants emphasise the need for clearer and more simplified regulations to protect consumers without jeopardising innovation. There was an opinion that GDPR has not achieved its purpose, also because of its complexity, and that there is a need for a more intensive campaign to educate citizens about data exploitation.
- **Empowering users with control over data and traceability:** It was reiterated that users can benefit from better and easier tools to manage their data and address their privacy concerns (e.g. revoking access from different services). Furthermore, it is important to be able to trace the flow of data, from the original data processor to any other subsequent processors.
- **Addressing the existing gap between evolving technologies and existing regulations:** Participants agreed that technology is evolving at a pace far quicker than the framework that regulates it. AI was highlighted as a prominent example. While regulation must be put in place and play its role, it is important that it does not jeopardise the opportunity for innovation.

The third and final discussion question asked about the **potential societal and ecosystem benefits that outweigh the concerns and risks associated with the sharing of personal data**. When aggregating the data, the main **gains** are:

- **Personalisation and user experience**, including the possibility of customising the services used, and the data shared, improving the overall experience; having a more personalised experience with only useful information aligned with our data; access to personalised recommendations for healthy and sustainable consumption, as well as personalised health and nutrition advice.
- **Societal value and sustainability**, referring to opportunities to generate increased societal value beyond commercial interests; including promoting healthy diets, fostering the sustainability of European (and world) food systems; generating more awareness among citizens and encouraging more sustainable consumption habits; and driving a positive impact on climate change mitigation and nature conservation.
- **Innovation opportunities by leveraging data**, in which the rules for using (personal) data could be more flexible with a clear and transparent use of data to increase innovation in strategic EU areas and making available tools and services that are free to use.

## Perspectives from Industry & Food System Actors

### Setting the scene

This breakout room began with a brief presentation on management tools for personal- and sensitive-data sharing with industries and governments. Particular attention was given to dataU, a GDPR-compliant, cloud-based, and distributed platform for secure data sharing. The dataU is developed by JIBE, partner in the FOODITY and SOSFood projects. Specific pillars of the dataU are being developed in the framework of three EU projects: in FOODITY, it targets application developers and their users; in SOSFood it targets stakeholders and improving collaboration in the food value chain; in SPOON, it targets citizens/ consumers in the food value chain and researchers looking to change citizen behaviour (e.g. buying habits) via data-sharing.

The value of dataU stems from the current digitised society, where an increasing amount of data is created and shared (both personal and company-level data), and which brings up challenges in its management. dataU is designed to support data subjects and data processors to manage data and the sharing of data in a transparent and trustworthy way, addressing different possibilities as mentioned above.

When compared to other data management systems (e.g. Gaia-X and iSHARE), it is considered that dataU not only handles business-to-business transactions as its competitors but is a more suited option for business-to-customer transactions.

### Approach & Discussion

As with the other breakout room, Mentimeter was used to engage with and collect feedback from the session participants. The discussion started with an *ice-breaker* question to identify the type of food system actor (area) the participants represented.

The majority of participants were involved in research, but there was also reference to food sharing, supermarket data, food waste, and product price, representing some diversity among the participants.

The first discussion question asked about the type of **data participants would like to access but find it difficult to do so**. When aggregating the answers, the main **types of data** are:

- **Health and consumer data**, as participants showed interest in accessing data related to food purchases, healthy food, nutritional intake, and health impact data. There was also mention of consumer pharma data and health data by country.
- **Supply chain and production data**, including data about organic production of foods, data related with demand forecast, and general supply chain information.
- **Waste and environmental data**, particularly values related with food waste and food loss, as well as farm environmental data.
- **Social and behavioural data**, as participants showed interest in accessing more personal information about farmer psychological data, consumers' consumption patterns, and general social impact data.
- **Animal welfare data**, including behavioural (e.g. type of activity and interactions with other animals) and environmental (e.g. space where they are kept, temperature).
- **Business and management data**, referring to general information about industry habits, processes, and financials.

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Word cloud illustrating information participants would like to access but find it difficult to

The second discussion question asked about the **bottlenecks preventing data sharing**, particularly the type of data discussed in the previous question. When aggregating the answers, the main **types of bottlenecks** are:

- **Commercial and business**, which encompass concerns related with the commercial sensitivity of data that inhibits it from being shared, private interests to not share data, and a general lack of transparency in the industry. Participants also highlighted that on many occasions businesses may not identify any particular benefit, "win-win" scenario or good value proposition for openly sharing data, and for that reason companies may be reluctant to share or even secretive due to competitiveness.
- **Trust and fear**, which is to some extent linked to the previous topic, focuses on a general lack of trust among stakeholders (e.g. industry, consumers). Participants consider there is a fear of data misuse by the industry and a loss of control once that data is shared (an idea which is aligned also with what was discussed in the other session). This perceived fear, combined with a culture of individualism in some cases, may limit the opportunity to collect and share data in a more open and transparent manner.
- **Technical and operational challenges**, which are linked to the technology and processes used, but also the technological literacy of specific actors. Regarding the former, some actors of the value chain (e.g. farmers) might not have the capacity to collect and process data in an efficient and meaningful way, and the actual tools they have or are available (including UI/UX challenges) might also be a barrier in this process. Regarding the latter, many actors (for any number of reasons) don't have the technological literacy to contribute to this process. Lastly, for small scale actors, there might be a particular challenge with identifying the incentive to contribute to data sharing.
- **Privacy and security**, which is related to existing regulations (e.g. GDPR) and other general privacy laws. The unwillingness to collect and share sensitive data due to regulations and potential consequences are also a challenge.

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The third discussion question asked about the **opportunities associated with a scenario of unrestricted data sharing**. When aggregating the answers, the main **opportunities** are:

- **Research and innovation advancements**, particularly the opportunity for faster and likely more impactful advancements in science and research (supporting the EU's competitiveness), and contributions to the advancement of AI-based solutions and applications, which are data-driven.
- **Digital advancements**, including new or improved solutions for the quantification and measurement of food products at different stages of the food processing value chain, which could also contribute to better evaluating the environmental, social, and health impacts of food production.
- **Supply chain optimisation**, including improvements in production planning and more agility in all moments of the supply chain process. Furthermore, participants also noted the opportunity to improve the supply and demand balance in near real-time, creating a more seamlessly coordinated supply chain.
- **Consumer empowerment and transparency**, which is linked to the possibility of consumers having more informed choices about the food they eat (e.g. source of the food, composition). Participants also emphasised the opportunity for new and improved solutions that provide more personalised advice on their food intake, diets, and behaviours toward a more sustainable diet.
- **Increased transparency and trust**, where participants indicated that unrestricted data sharing could encourage more transparency and fairness, based on more scrutinised processes and increased accountability among stakeholders.
- **Gaining a competitive advantage**, which is linked to companies being able to leverage available data to develop and compete for healthier and greener products, which would benefit consumers and the environment. In a society that is increasingly becoming more eco- and food-conscious, participants believe this could be a particularly important benefit for the industry and the EU's food industry competitiveness.

The final discussion question asked about the main **challenges with the use of AI in the food system**. When aggregating the answers, the main **challenges** are:

- **Data and information quality**, where participants highlighted the risk of creating and sharing fake data to/among different actors, which would compromise the quality and reliability of the data. Furthermore, the potential absence of dedicated data quality control is also a challenge, which merits the need for validation and quality control.
- **Trust and management**, linked to a still existing lack of trust in AI-based systems. This might be more prominent in actors with a lower degree of technological literacy. In general, participants suggested a need for better governance and oversight.
- **Complementing knowledge and environmental impact**, where participants emphasised that while AI is highly valuable and provides numerous opportunities, other sources of knowledge, including from real-life people, is still required to complement/ validate AI-driven information, particularly in fields like nutrition. Moreover, participants highlighted the challenge with the environmental footprint of AI.

## Recommendations

The discussions from the two breakout room sessions, focusing on two different yet complementary perspectives, have identified a relevant set of challenges, enablers and gains associated with data sharing and AI-driven food sustainability solutions.

Based on these findings, the #Data4Food Cluster proposes a set of **recommendations** (R) and **actions** (A) to foster more holistic, transparent and valuable data sharing practices for sustainable food solutions.

### R1. Foster collaboration among institutions and industry to enable a culture of trust and transparency in data sharing

#### Recommendation R1 context

It is important to build trust among all food system stakeholders (e.g. consumers, industry, and EU institutions and other government bodies) by ensuring the definition of transparent, easy to understand, and ethical data sharing and management practices.

This recommendation primarily targets industry and similar food system actors (who are responsible for implementing and managing such practices) and EU institutions and other government/ regulatory bodies, responsible for policy and regulation.

#### Proposed actions to materialise R1

- **R1.A1. Develop standardised and/ or review (existing) data sharing protocols:** Two key barriers for more seamless data sharing are related to how data is collected and stored and a general issue with interoperability. Therefore, it is important to either develop more standardised protocols or review any existing ones addressing how similar data types should be stored (e.g. formats, naming conventions) to increase its overall integrity and interoperability.
- **R1.A2. Implement trustworthy data platforms:** All entities that in one way or another process data should necessarily use (if not using already) highly secure and privacy-preserving data platforms that offer robust access control and audit trails. One such option would be to consider a wider uptake of the dataU, as presented in this report. Furthermore, users (citizens) must necessarily be able to easily access their information, enabled through friendly and clear interfaces and communication channels.
- **R1.A3. Facilitate "Win-Win" scenarios for food system actors:** Incentives are often an essential factor to enable a greater participation in any type of activity. It is important to define reasonable and tangible benefits for all actors to foster 'win-win' scenarios. For industry, that might be opportunities for new product development or achieving a competitive advantage; for consumers, that might be accessing personalised health advice. This is particularly important for small-scale actors (e.g. farmers) that often have minimal motivation to participate in data sharing, for any number of reasons (e.g. technological illiteracy).

## R2. Improve general data literacy and citizen empowerment across the food system

### Recommendation R2 context

As the small sample from the first breakout session suggested, many citizens still have moderate to limited knowledge about data and data rights. However, lack of knowledge also extends to other actors along the food value chain. Therefore, it is important to address this gap and provide knowledge and tools to better understand, manage and benefit from data.

This recommendation primarily targets citizen groups (that can support the promotion of data literacy and rights), EU institutions (that can legislate on public education), and academic bodies (that can develop educational contents).

### Proposed actions to materialise R2

- **R2.A1. Develop targeted education programmes:** Following specific and well-thought legislation, relevant education programmes should be developed and delivered tailored for different audiences (consumers, farmers, SMEs). These can target topics such as data privacy, data rights, and the benefits of data-driven solutions. Specific to consumers/ citizens, it is important that this type of education start at an early stage as young people are using different types of devices at an early stage and are often sharing personal information unaware of the consequences of their actions.
- **R2.A2. Promote best practices for data quality:** Aligned with R1.A1, it is important to educate stakeholders on the importance of accurate and reliable data, and to provide guidelines for data validation and quality control.
- **R2.A3. Educate on the value of AI and address the AI trust deficit:** AI is increasingly becoming unavoidable, as many other disruptive technologies throughout the years. The value, reliability and capacity of AI solutions is also aligned with the quality of data it uses. Therefore, it is important to educate stakeholders on the value and opportunities of using AI through clear communication and demonstrations of tangible benefits but respecting and addressing existing trust issues. There are still challenges and dangers associated with non-controlled use of AI, but this can be overcome with a knowledgeable and moderate use of the technology.

## R3. Accelerate research and innovation in data-driven food solutions

### Recommendation context

With a new research and innovation programme to be launched after the end of Horizon Europe, there is a unique opportunity to further accelerate research and innovation in all fields of the food value chain, including data-driven food solutions. It is important to continuously and further invest in and support research and innovation that leverages data and AI to create more sustainable, healthy, and competitive food systems that can also benefit the EU's own competitiveness.

This recommendation primarily targets EU institutions (that define the priorities, programmes and fund research), and industry and academic bodies (that capitalise on the funding that is available to them).

### Proposed actions to materialise R3

- **R3.A1. Fund cross-disciplinary research:** Funding programmes and specific calls should consider allocating funds that support projects that combine data science, AI, food science, environmental science, and social sciences (including active citizen engagement) to address complex food system challenges. Funding should look to minimise siloed approaches and foster more interdisciplinary collaborations, which can lead to more holistic, innovative, and impactful solutions.
- **R3.A2. Encourage data-driven product development:** By making data more widely available, in a transparent and responsible manner, it will expectedly become easier for companies and other food system actors to develop healthier and more sustainable products that meet data-based consumer demands and help the EU meet its environmental objectives.
- **R3.A3. Support "regulatory sandboxes" for AI experimentation:** As mentioned, AI is no longer a possibility, rather it is a certainty, and will become inseparable from our daily lives. It is important to take full advantage of the opportunities it poses, while maintaining vigilance. Still, there should be a focus on accelerating the development and adoption of AI in food systems, possibly through the establishment of "regulatory sandboxes." These sandboxes would work as controlled environments where companies, research organisations and other interested stakeholders could develop and test innovative AI applications in real-world or simulated food system scenarios while respecting defined regulatory guidance. These sandboxes could facilitate a collaborative learning process between multiple actors (including legislators and regulators) to identify opportunities, potential risks and unintended consequences, thereby ensuring the safe and ethical deployment of AI technologies. Other positive consequences may include additional investments in the sector, improved EU competitiveness in the sector, and more efficient food systems using such technology.

## R4. Strengthen regulations for data governance and ethical AI use

### Recommendation R4 context

The GDPR and the preceding Data Protection Directive are complex personal data protection frameworks that suffer from similar challenges: their complexity makes them difficult to understand (particularly for citizens who are the most affected by it); they are challenging to uphold (by entities that process data), and often difficult to enforce. As one participant of the workshop stated, and others agreed: *the GDPR is a failure*. While its value is unquestionable, institutions must consider how to best simplify it and make it more tangible for citizens, but also ensure fair, ethical, and secure data governance.

This recommendation primarily targets EU institutions and other government bodies.

### Proposed actions to materialise R4

- **R4.A1. Revise data protection laws:** Through a public consultation or another type of method, collect feedback and proceed to review and adapt existing data protection regulations to (1) minimise complexity to the extent possible and therefore increase accessibility, and (2) extend to address specific issues of data in the food system, including data ownership and interoperability.
- **R4.A2. Establish ethical AI guidelines for food systems:** Given the increasing prominence of AI in all sectors, including food systems, it is important to consider the creation of clear ethical guidelines and standards for the development and deployment of AI in food, focusing on accountability and transparency. The establishment of such guidelines can benefit from a multi-stakeholder approach, involving experts from the government institutions, academia, and industry food sector representatives.
- **R4.A3. Establish traceable enforcement mechanisms:** Once laws and other regulations are developed, it is imperative to also establish enforcement mechanisms that can also be traceable and hold organisations accountable. These are required to ensure compliance with data and AI regulations and allow for the application of penalties in the case of non-compliance.

## R5. Foster collaborative platforms for data-driven solutions

### Recommendation R5 context

Encourage and facilitate cross-sector collaboration among all food system stakeholders to co-create and implement data-driven solutions that address shared challenges. This recommendation is broadly suited for All Food System Stakeholders, with a specific focus on Industry and Food System Actors (for direct collaboration), Research and Academic Institutions (for partnership in innovation), and Governments and EU Institutions (for providing enabling frameworks).

### Proposed actions to materialise R5

- **R5.A1. Further facilitate and set-up multi-stakeholder platforms:** The EU is already active and knowledgeable in facilitating discussions among different actors. Additional efforts should be made specifically in the area of food and data-driven solutions, bringing together all actors of the food value chain (farmers, food companies, tech providers, researchers, policymakers, and consumers) in an open and collaborative dialogue around relevant solutions to address existing gaps in the value chain. Through these discussions, actors should discuss incentives to facilitate the sharing of data, which brings opportunities discussed throughout this report. Furthermore, to ensure continuous collaboration, the EU should leverage existing platforms developed in the framework of ongoing and past EU-funded projects to maximise investments already made.
- **R5.A2. Support public-private partnerships:** The EU should foster and make available mechanisms to fund partnerships between public bodies and private companies that enable the development and scaling of data-driven solutions in the food system. By facilitating these partnerships, there are greater possibilities of pooling resources, expertise, and technologies. Such partnerships can be materialised through specific funding programmes and call topics within the current or future research and innovation frameworks.
- **R5.A3. Organise open innovation challenges for data-driven solutions:** Some of the most creative ideas originate in situations of pressure, where teams collaboratively discuss, ideate, and develop. Such opportunities can take place under the framework of open innovation challenges (e.g. hackathons), organised in tandem with large EU events that already mobilise hundreds of participants. The main objective of the open innovation challenges would be to address specific and pressing problems present in the food value chain (e.g. food waste reduction, supply chain optimisation, sustainable agricultural practices, food safety, among others) making use of available and validated data.

## Final Considerations

This joint workshop report from the #Data4Food Cluster has presented and discussed some of the main challenges, enablers, and gains related to data sharing and AI-driven solutions for sustainable food systems. The findings presented are based on discussions held within two breakout sessions, one focusing on the consumer and citizen perspective; the other focusing on the industry and food system actor perspective.

Based on these discussions and findings, the #Data4Food Cluster proposes five key recommendations related to fostering collaboration and trust (R1), improving data literacy and citizen empowerment (R2), accelerating research and innovation (R3), strengthening regulations for data governance and ethical AI use (R4), and fostering collaborative platforms for data-driven solutions (R5). The five recommendations are accompanied by three actions that indicate a path to facilitate their materialisation.

In summary, this joint workshop from the #Data4Food Cluster has aimed to show the invaluable role of data and AI in transforming food systems towards greater sustainability and a stronger EU competitiveness. While significant challenges are present, particularly related to trust, data quality, and regulatory frameworks, the opportunities and potential gains are substantial. Overcoming these challenges and other bottlenecks require collaboration and aligned efforts from various stakeholders, including industry, researchers, policymakers, and citizens alike.

By fostering trust and transparency, and by leveraging data and the opportunities AI holds, the EU can take one step further in its ambitions, as laid out in the Food2030 framework. The uptake of the proposed recommendations is a contribution of the #Data4Food Cluster in this regard.

## Overview of the Data4Food Cluster Projects

The #Data4Food Cluster consists of four projects funded by the European Union's Horizon Europe Research and Innovation Programme, specifically under the Main Programme [HORIZON.2.6 - Food, Bioeconomy Natural Resources, Agriculture and Environment](#). The four projects share a common focus on data-driven tools and solutions that contribute to improving the sustainability of food systems.

### DRG4FOOD

DRG4FOOD paves the way for a trusted, data-driven food system that places consumer rights and digital responsibility at its core. To create a data-driven food system, DRG4FOOD aims to set new standards by taking orientation in the European Digital Rights and Principles and the [Digital Responsibility Goals](#).

The DRG4FOOD project, in collaboration with external stakeholders, has designed a roadmap to guide policymakers, businesses, and civil society in designing food systems that respect privacy, enhance transparency, and empower citizens to make informed choices.

Along with the roadmap, DRG4FOOD tested [pilot projects](#) in targeted nutrition, consumers' food choices, and food tracking, releasing two open calls and providing €1.9M to support researchers, start-ups, and SMEs in scaling ethical digital solutions in the food sector.

*Running from: 1 December 2022 - 30 November 2025*

*EU contribution: € 3,952,196.25*

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### FOODITY

FOODITY focuses on building a vibrant European ecosystem of digital solutions that promote healthier, more sustainable food systems while respecting citizens' rights to personal data sovereignty. Through a €2M pilot development programme, FOODITY supports 12 innovative, data-driven projects that demonstrate how digital technologies can transform food and nutrition, giving individuals full control and ownership over their personal data. These solutions address key research and technical challenges aligned with the EU's Food 2030 priorities.

By supporting these innovations, FOODITY is helping pave the way for data-driven transformation in food and nutrition — centred on trust, transparency, and citizen empowerment.

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*EU contribution: € 3,999,937.50*

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### FoodDataQuest

FoodDataQuest aims to revolutionise the EU food system through a data-driven framework that integrates novel public and private data sources, including contributions from unconventional players. By leveraging data sharing mechanisms, AI, and machine learning, the project empowers stakeholders across the food value chain to drive the shift toward sustainable and healthy diets.

Using a multi-actor, co-creation approach, FDQ will develop and test innovative solutions in real-world use cases balancing data openness with protection of sensitive information, engaging citizens and fostering transparency.

Through comprehensive guidelines, open standards, and interoperable systems, FDQ sets the stage for informed policy reforms, strengthened data ecosystems, and increased competitiveness of the European agri-food sector.

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*EU contribution: € 3,999,500.00*

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### SOSFood

SOSFood aims to accelerate the green transition of food systems by using the great potential of Artificial Intelligence-based technologies. Furthermore, it aims to support all stakeholders of the food chain to make well-informed decisions with a multi-factorial, multi-actor and multi-scale approach, enabling more productive, inclusive, sustainable and resilient food systems. All this being possible thanks to its multidisciplinary consortium of experts, from private and public sectors, academia research and food system representatives (consumers, producers and industries).

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*EU contribution: € 3,952,196.25*

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