



ELSA Scan: Supporting Responsible AI and IoT Development in Agriculture

JOIN US!

ONLINE - TRAINING WEBINAR
13 November 2025
11:00 - 12:00 CET



Co-funded by
the European Union

Agenda

11:00 – 11:05 | Welcome to the audience

Speaker: Rita Giuffrida, Trust-IT Services

11:05 – 11:35 | ELSA Scan: Supporting Responsible AI and IoT Development in Agriculture

Speaker: Can Atik, Wageningen University

11:35 – 11:45 | Interactive poll with the audience

Speakers: Rita Giuffrida, Trust-IT Services and Can Atik, Wageningen University

11:45 – 12:00 | Q&A and conclusion

Speaker: Rita Giuffrida, Trust-IT Services



Introducing agrifoodTEF

What is agrifoodTEF



- EU-wide network with physical and digital facilities.



- Testing of AI, data & robotics solutions in real agricultural and food environments.



- Services tailored to customer needs.



- Faster market introduction and higher impact through validation.



One European network accelerating innovation in agri-food

Cooperation with EDIHs

- EDIHs = local bridge to SMEs, startups and end users
 - AgrifoodTEF = access to European testing capacity
- ⇒ Joint: scalable impact & efficient support

Training as leverage

- EDIHs learn to understand and deploy TEF services
- Focused on knowledge sharing, not competition
- Strengthens the innovation ecosystem

ELSA Scan: Supporting Responsible AI and IoT Development in Agriculture

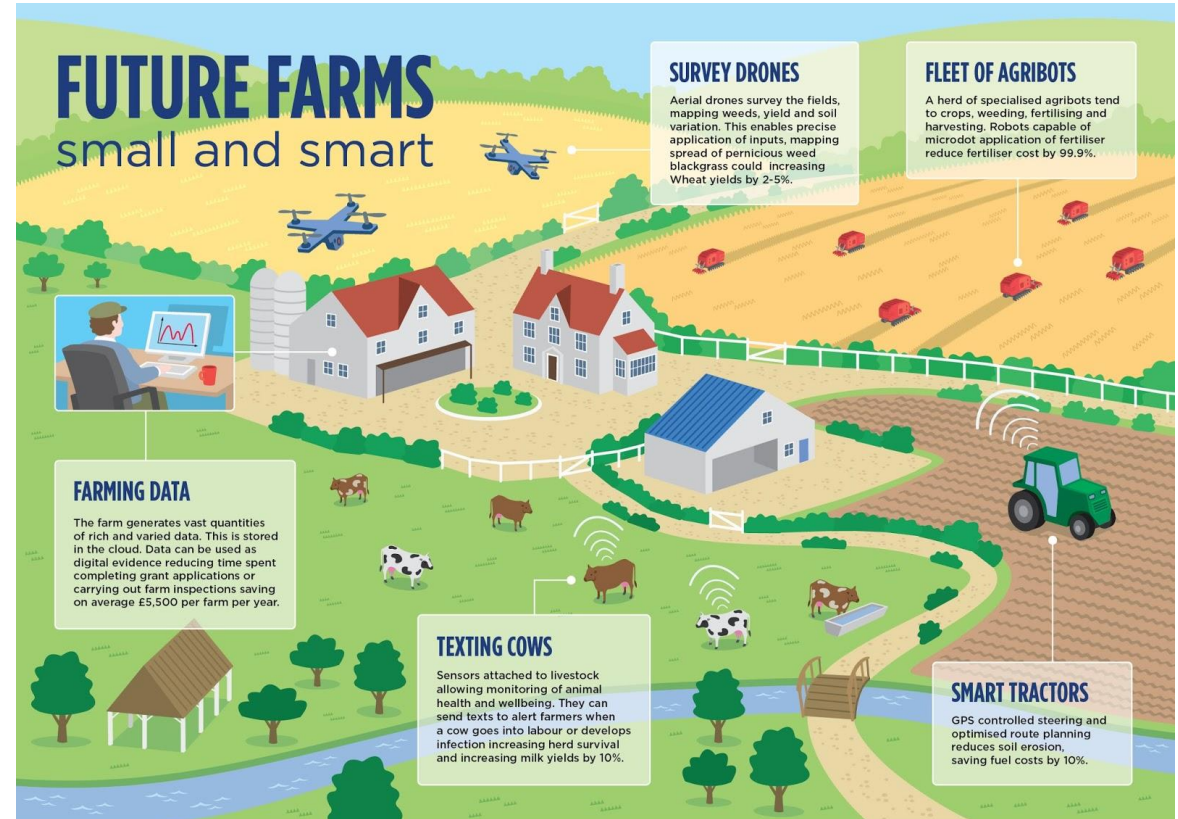
Can Atik (Wageningen University)



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Possibilities – now and future

- Autonomous Farming Operations
- Ultra-Precision Agriculture
- Predictive Decision Support
- Livestock Monitoring & Welfare
- Food Processing & Safety
- Sustainable Resource Management

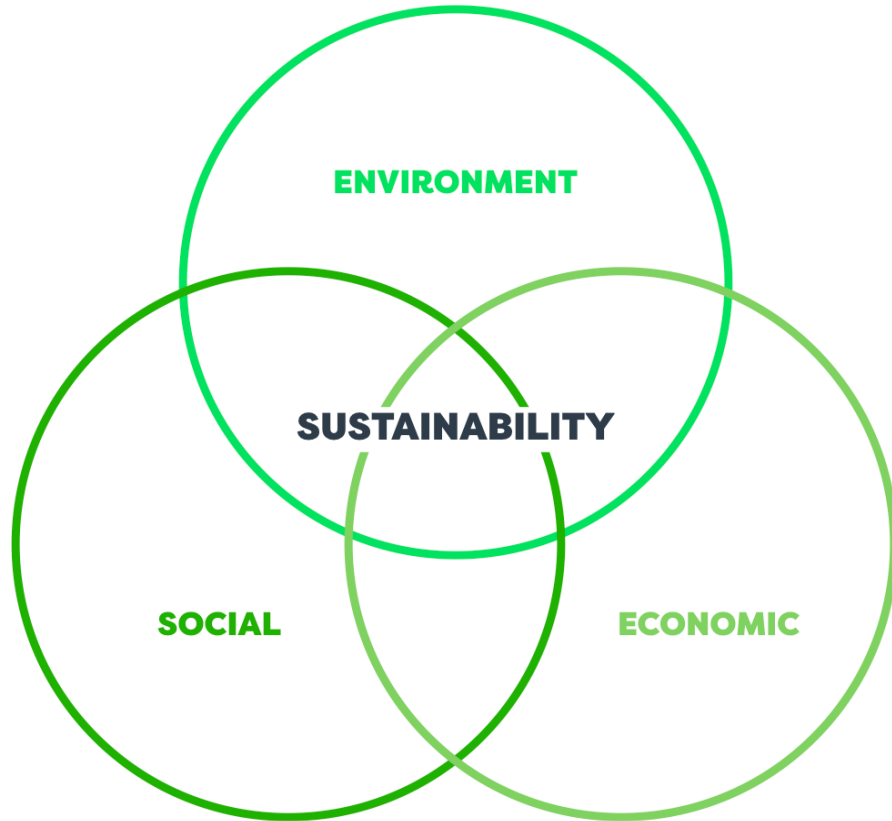


Generative AI in agri-food

- Faster Decision-Making on the Field
- Virtual Agronomy Advice
- Resource Savings
- Better Yield Forecasting



Pursuing sustainability in food systems through responsible AI innovation



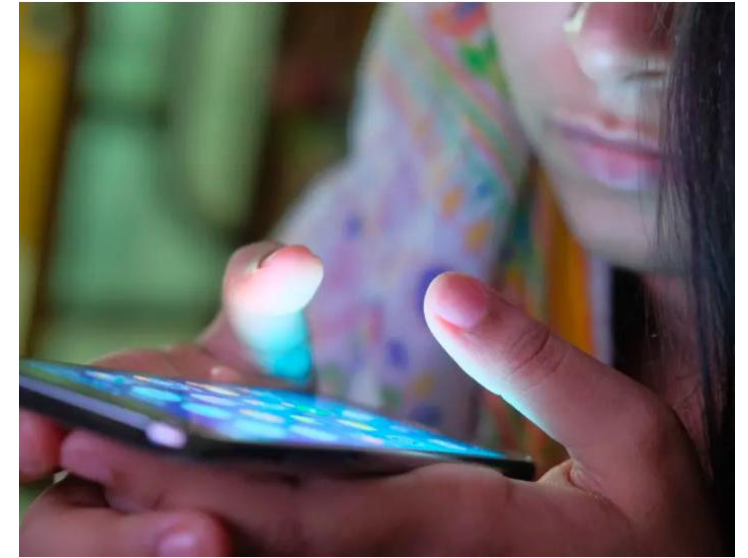
The future is promising, and what about:



Ethical; AI contributes to doing good, not harming anyone. **Ethical issues could be privacy, transparency, and bias.**



Legal; AI fits within EU and national legal frameworks, including **data protection, intellectual property, and liability.**



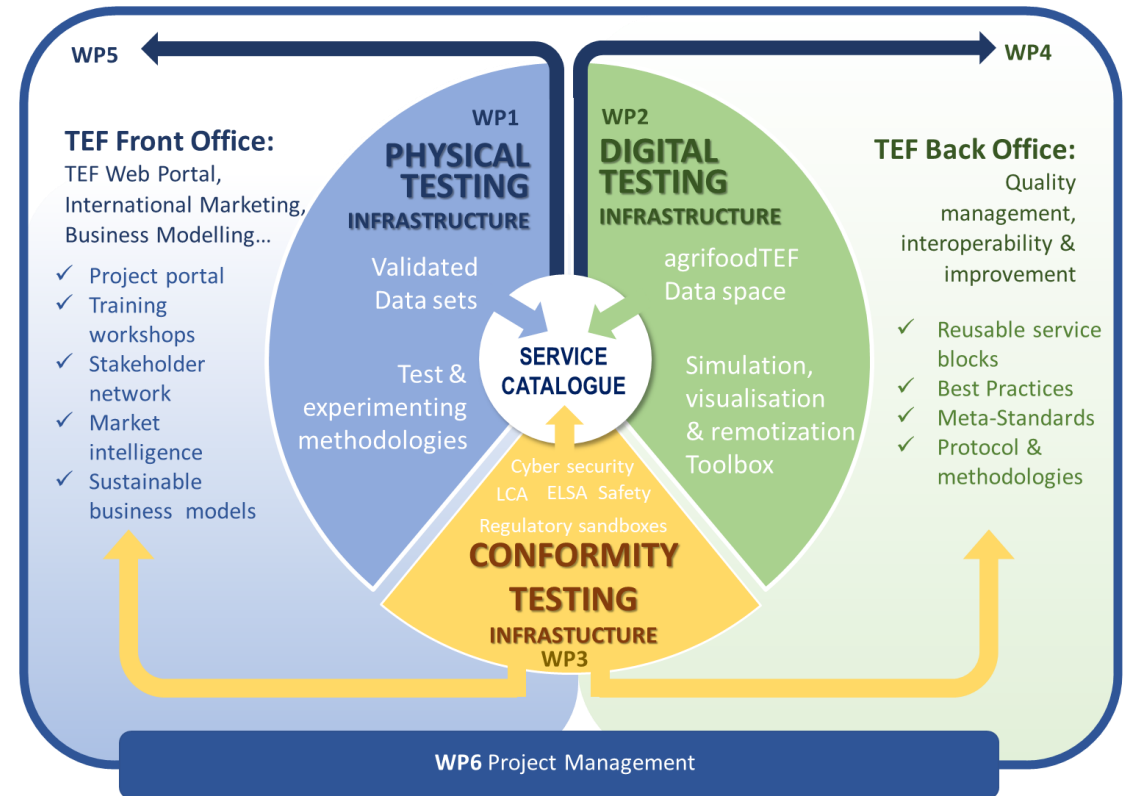
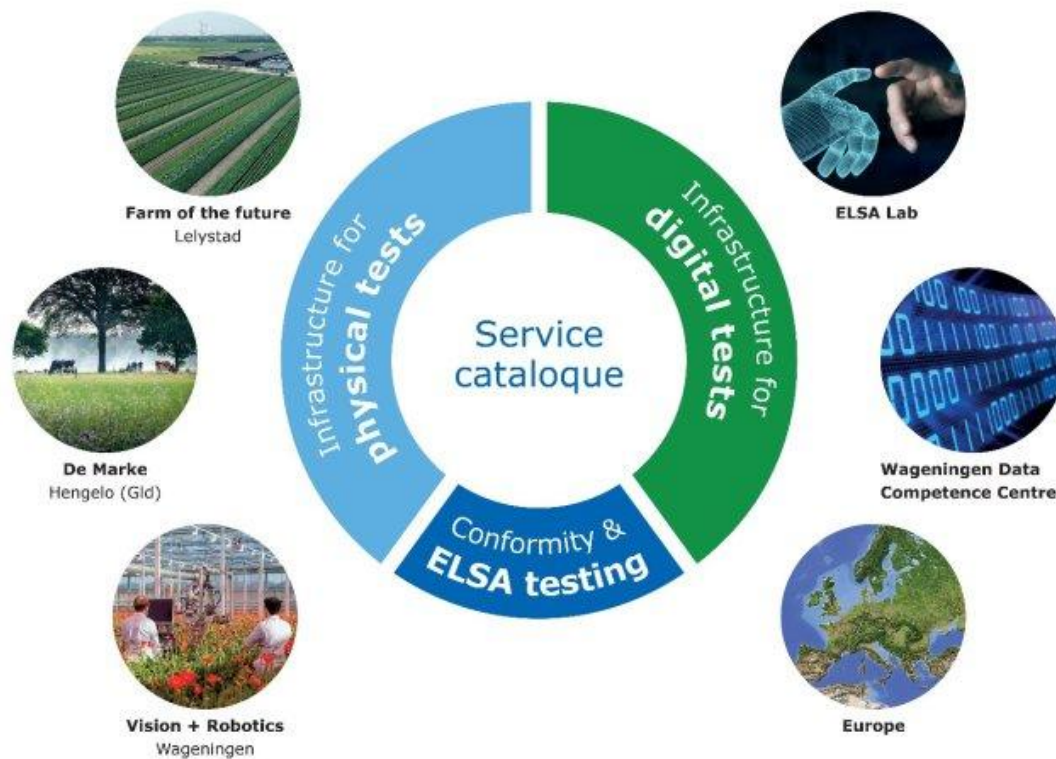
Social; AI meets needs of the social, economic and environmental business context for all stakeholders, such as **changes in the labor market and impacts on consumer behavior.**

ELSA Aspects in agri-food from literature


Ethical	Legal	Social
Transparency Justice and fairness Bias and discrimination Beneficence Non-maleficence Freedom and autonomy Privacy Responsibility	Privacy law and data protection Data ownership and data governance Liability Human rights Standardisation and Protocols Data and AI regulations AI code of conduct and guidelines	Sustainability Animal welfare Industrialization Impact on gender, class, race Impact on societal views of food production Labour Power asymmetries Costs and other economic aspects

ELSA Testing and Experimentation Facility

Identifying ELSA aspects for AI solutions is available as a service in [AgrifoodTEF](#)



ELSA Testing and Experimentation Facility

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Evaluation for Ethical, Legal, and Social Aspects (ELSA Scan) for responsible AI development

ID: 500138

Evaluation of Ethical, Legal, and Social Aspects (ELSA Scan) of AI and data-driven technologies for developers to take into account in further responsible AI development.

Interested in this service? Contact us at mireille.vanhitten@wur.nl



Overview

What are the ethical, legal, and social aspects (ELSA) of AI-driven technology in agri-food? Mitigation of potential risks and finding opportunities are easier by identifying ELSA aspects in early development stages, when the technology is still in the making. Examples of ELSA aspects are autonomy, transparency, and bias, but also data privacy and other legal aspects. How does your AI technology deal with ELSA aspects? A combined survey and interview help AI developers to identify opportunities and issues with ELSA in the agri-food context from the perspective of end users and more broadly, for society. For example, to better align with the sustainability objectives of the AI-driven technology. The outcomes of the ELSA scan are a list of identified key ELSA aspects and high-level recommendations to further improve the AI technology.

[Download factsheet](#)

FAQ

More about the service

How can the service help you?

When working on AI technology from day to day, considering the social context of stakeholders involved, but mostly the end user, may be hard to fit in. While considering ELSA aspects early on in the development cycle may provide AI developers with valuable insights to take into account without losing investment and time. For example, being interviewed about ELSA aspects may identify an issue considering legal requirements for the required data or actions to take to make sure the end-user work environment is safe. Also, the AI tech may have a positive, neutral, or negative influence on society (labour, animal welfare), which could support the value proposition.

How the service will be delivered

Service customisation

Wageningen University | WUR

Location

At user's premises

Netherlands

Remote

Type of Sector

Arable farming

Food processing

Greenhouse

Horticulture

Livestock farming

Tree Crops

Viticulture

Type of service

ELSA assessment

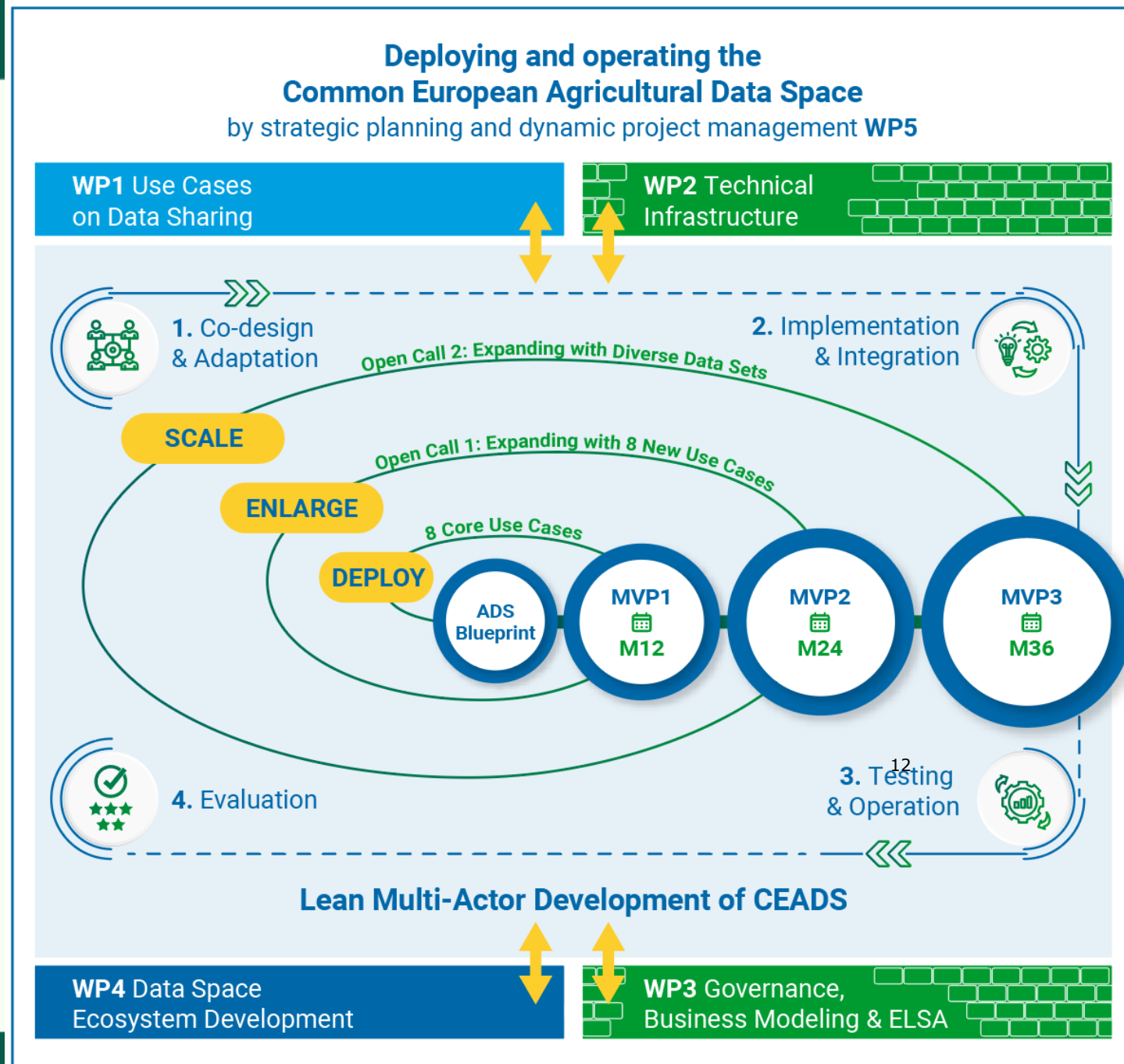
Test type

Other

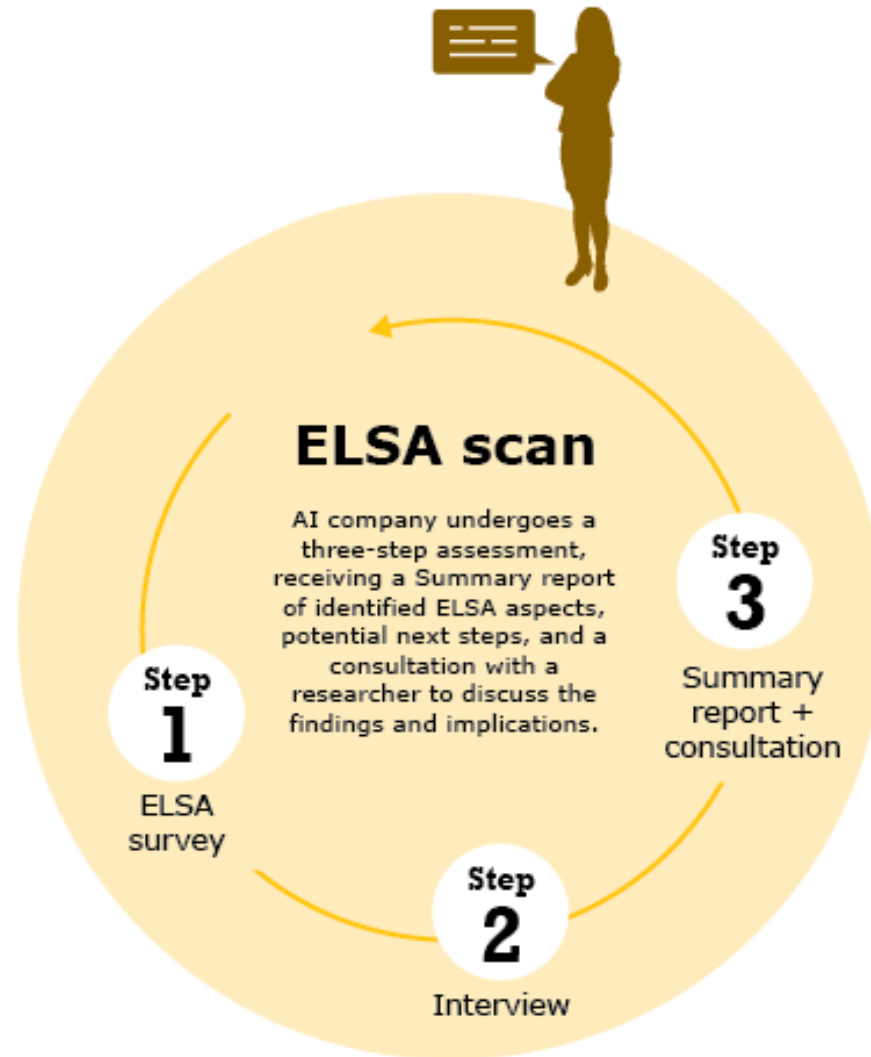
CEADS

Data Sharing Initiatives (DSIs) in the agricultural data space (CEADS) will be developed taking ELSA aspects into consideration.

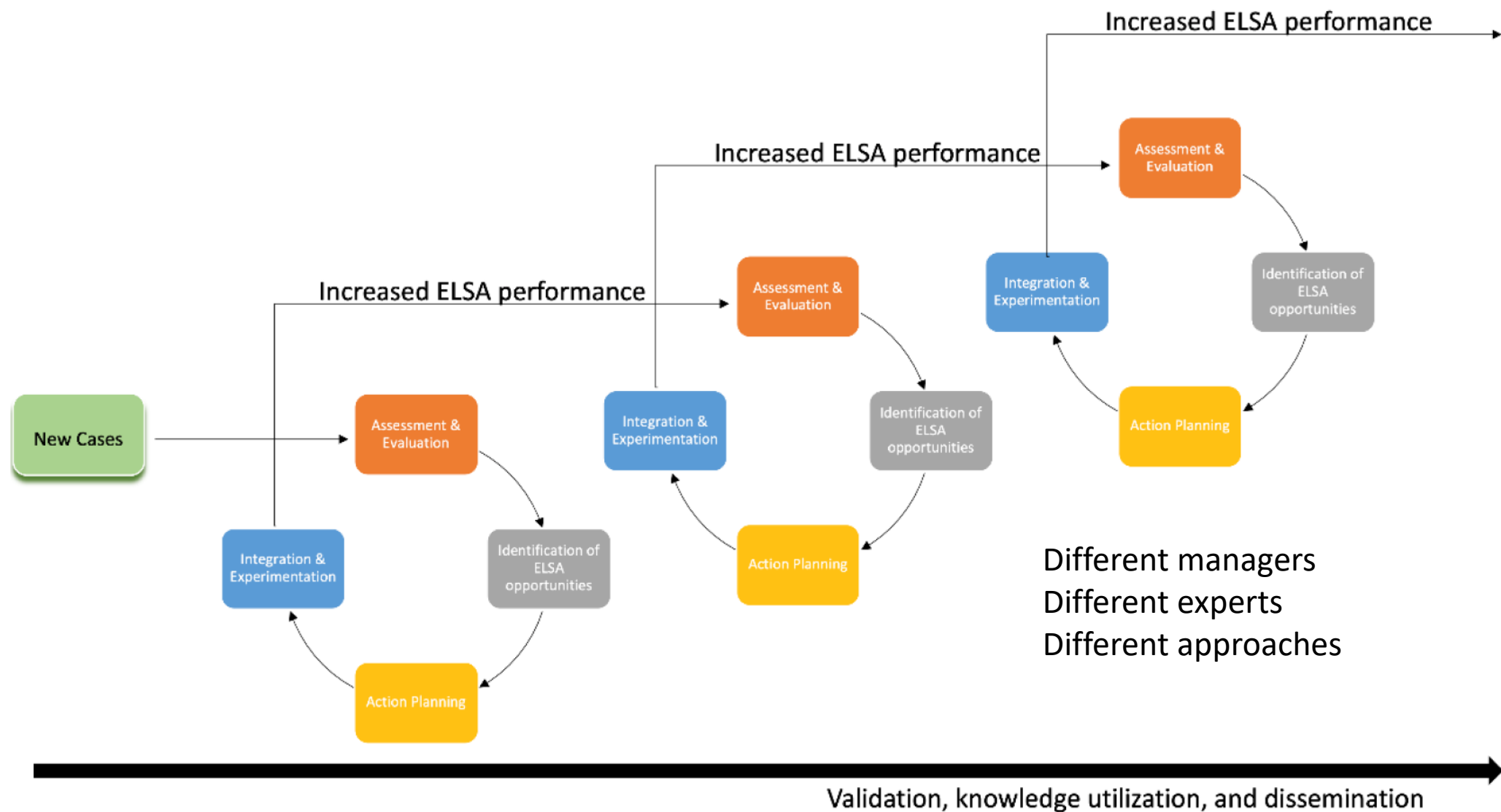
Project started April 2024.



Identifying issues & opportunities



ELSA labs for Responsible AI innovation



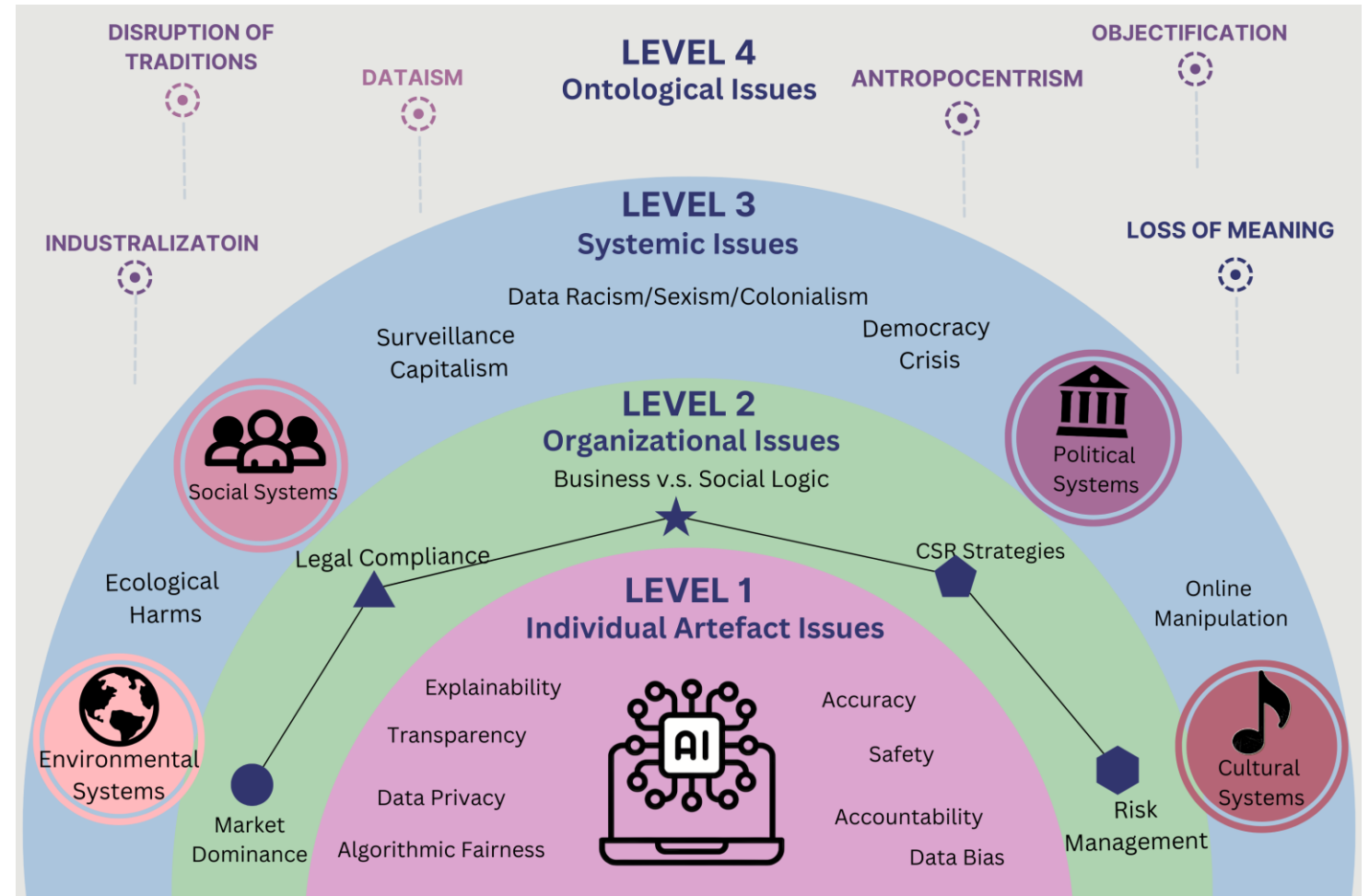
Ethical and societal issues at different levels

ELSA Scan:

How can the AI solution potentially disrupt the entire agri-food sector?

What about?
Human rights?
Power asymmetries?

Wang & Blok, 2024



Ryan, M., de Roo, N., Wang, H., Blok, V., & Atik, C. (2024). AI through the looking glass: an empirical study of structural social and ethical challenges in AI. *AI and Society*. <https://doi.org/10.1007/S00146-024-02146-0>

EU Regulations Wave and 'Brussels Effect'

Table 1: Overview of EU Legislations in the Digital Sector

Research & Innovation	Industrial Policy	Connectivity	Data & Privacy	IPR	Cybersecurity	Law Enforcement	Trust & Safety	E-commerce & Consumer Protection	Competition	Media	Finance
Digital Europe Programme Regulation, (EU) 2021/1064	Recovery and Resilience Facility Regulation, (EU) 2021/241	Frequency Bands Directive, (EC) 1997/212	ePrivacy Directive, (EC) 2002/58, 2017/683(EU) 2017/683	Database Directive, (EC) 1996/9	Regulation for a Cybersecurity Act, (EU) 2019/881, 2022/2553(EU) 2022/2553	Law Enforcement Directive, (EU) 2016/680	Product Liability Directive (PLD), (EC) 1985/274, 2022/2555(EU) 2022/2555	Unfair Contract Terms Directive (UCTD), (EEC) 1993/112	EC Merger regulation, (EC) 2004/136	Satellite and Cable Directive, (EC) 1993/92	Common VAT system, (EC) 2006/112, 2022/1479(EU) 2022/1479
Horizon Europe Regulation, (EU) 2021/1060, (EU) 2021/794	InvestEU Programme Regulation, (EU) 2021/632	Radio Spectrum Decision, (EC) 2002/975	European Statistics, (EC) 2003/224, 2023/2023(EU) 2023/2023	Community Design Directive, (EC) 2009/1000, 2022/1091(EU) 2022/1091	Regulation to establish a European Cybersecurity Competence Centre, (EU) 2021/687	Directive on combating fraud and counterfeiting of non-cash means of payment, (EU) 2018/712	Toys Regulation, (EC) 2009/48, 2023/2023(EU) 2023/2023	Price Indication Directive, (EC) 1998/5	Technology Transfer Block Exemption, (EU) 2014/316	Information Society Directive, (EC) 2001/29	Administrative cooperation in the field of taxation, (EU) 2011/116
Regulation on a pilot regime for distributed ledger technology, (EU) 2022/866	Connecting Europe Facility Regulation, (EU) 2017/1132	Open Internet Access Regulation, (EU) 2015/2120	General Data Protection Regulation (GDPR), (EU) 2016/679	Enforcement Directive (IPR), (EC) 2004/48	NIS 2 Directive, (EU) 2022/2553	Regulation on interoperability between EU information systems in the field of borders and visa, (EU) 2018/112	European Standardisation Regulation, (EU) 2017/1001	E-commerce Directive, (EC) 2000/31	Company Law Directive, (EU) 2017/1132, 2022/2022(EU) 2022/2022	Audio-visual Media Services Directive (AVMSD), (EU) 2010/13	Payment Service Directive 2 (PSD2), (EU) 2015/2366, 2022/2022(EU) 2022/2022
	Regulation on High Performance Computing Joint Undertaking, (EU) 2021/1173, 2023/2023(EU) 2023/2023	European Electronic Communications Code Directive (EECC), (EU) 2018/1872	Regulation to protect personal data processed by EU institutions, bodies, offices and agencies, (EU) 2018/1724	Directive on the protection of trade secrets, (EU) 2016/943	Cybersecurity Regulation, (EU) 2023/2553	Regulation on terrorist content online, (EU) 2017/794	Radio Equipment Directive (RED), (EU) 2014/53	Unfair Commercial Practices Directive (UCPD), (EC) 2005/29	Market Surveillance Regulation, (EU) 2019/1020	Portability Regulation, (EU) 2017/1128	Digital Operational Resilience Act (DORA Regulation), (EU) 2022/2554
	Regulation on Joint Undertakings under Horizon Europe, (EU) 2021/2063, 2022/2022(EU) 2022/2022	eu top-level domain Regulation, (EU) 2018/1177	Regulation on the free flow of non-personal data, (EU) 2018/1807	Design Directive, 2022/1091(EU) 2022/1091	Information Security Regulation, 2022/2022(EU) 2022/2022	Temporary CSAM Regulation, (EU) 2021/1172, 2022/2022(EU) 2022/2022	eIDAS Regulation (European Digital Identity Framework), (EU) 2014/910	Directive on Consumer Rights (CRD), (EU) 2011/83	PSB Regulation, (EU) 2017/1152	Satellite and Cable II Directive, (EU) 2018/778	Crypto-assets Regulation (MiCA), (EU) 2023/1114
	Decision on a path to the Digital Decade, (EU) 2022/2551	Roaming Regulation, (EU) 2022/512	Open Data Directive (PDI), (EU) 2019/1024	Compulsory licensing of patents, 2023/2023(EU) 2023/2023	Cyber Resilience Act, 2022/2022(EU) 2022/2022	E-evidence Regulation, (EU) 2023/1543	Regulation for a Single Digital Gateway, (EU) 2021/1724	e-Invoicing Directive, (EU) 2014/93	Single Market Programme, (EU) 2011/880	Copyright Directive, (EU) 2019/792	Financial Data Access Regulation, 2023/2023(EU) 2023/2023
	European Chips Act (Regulation), (EU) 2023/1131	Union Secure Connectivity Programme, (EU) 2022/598	Data Governance Act (DGA Regulation), (EU) 2022/688	Standard essential patents, 2023/2023(EU) 2023/2023	Cyber Solidarity Act (Regulation), 2023/2023(EU) 2023/2023	Digitalisation of cross-border judicial cooperation, (EU) 2023/2544	General Product Safety Regulation, (EU) 2023/998	Regulation on cooperation for the enforcement of consumer protection law, (EU) 2017/2394	Vertical Block Exemption Regulation (VBER), (EU) 2022/720	European Media Freedom Act, (EU) 2023/1163	Payment Services Regulation, 2023/2023(EU) 2023/2023
	Establishing the Strategic Technologies for Europe Platform (STEP), (EU) 2024/785	Gigabit Infrastructure Act, (EU) 2024/1309	European Data Act (Regulation), (EU) 2023/2854			Directive on combating violence against women, 2022/2022(EU) 2022/2022	Machinery Regulation, (EU) 2023/1220	Geo-Blocking Regulation, (EU) 2018/202	Digital Market Act (DMA Regulation), (EU) 2022/1925	Remuneration of broadcasting from radio, 2019/934, for recorded music played in the EU	Digital euro, 2023/2023(EU) 2023/2023
	European critical raw materials act (Regulation), (EU) 2023/1752	Interoperable systems, public procurement (ITSPD 2.0)	Interoperable Europe Act, (EU) 2024/503			Directive for combating sexual abuse and child sexual abuse material, 2024/2024(EU) 2024/2024	AI Act (Regulation), 2021/2022(EU) 2021/2022	Digital content Directive, (EU) 2019/770	Regulation on directive foreign subsidies, (EU) 2022/2552		Regulation on combating late payment, 2022/2022(EU) 2022/2022
	Net Zero Industry Act, 2023/2023(EU) 2023/2023	Digital Networks Act	Regulation on data collection for short-term rental, (EU) 2023/1008			Digitalisation of travel documents	Eco-design Regulation, 2022/2022(EU) 2022/2022	Directive on certain aspects concerning contracts for the sale of goods, (EU) 2019/771	Horizontal Block Exemption Regulations (HBER), (EU) 2022/3399, (EU) 2022/3397		
	EU Space Law		European Health Data Space (Regulation), 2022/2023(EU) 2022/2023				AI Liability Directive, 2022/2022(EU) 2022/2022	Digital Services Act (DSA Regulation), (EU) 2022/2025	Platform Work Directive, 2023/2023(EU) 2023/2023		
			Harmonisation of GDPR enforcement procedures, 2023/2023(EU) 2023/2023					Political Advertising Regulation, (EU) 2023/590	Single Market Emergency Instrument (SMEI), 2023/2023(EU) 2023/2023		
			Access to vehicle data, functions and resources					Right to repair Directive, 2023/2023(EU) 2023/2023			
			Green Deal 4.0					Consumer protection, 2023/2023(EU) 2023/2023			

Source: <https://www.kaizenppr.eu/>

Relevant Legal Framework in the EU

- Horizontal Regulations

GDPR (2016)

Free-flow of Non-personal Data Regulation (2018)

Data Governance Act (2022)

Data Act (2023)

- Voluntary Rule-making

EU Code of Conduct (2018)

- Common European Data Spaces

Including in Agriculture (CEADS)

- Possible Follow-up Regulation(s)

Regulation for CEADS

Ag-data Regulation



Source:

<https://integrityriskintl.com/eu-regulatory-compliance-trends-2022/>

- Chapter II - B2C and B2B data sharing *upon users' request*:
Art. 3) Access by design -- Art. 4) Access by request -- Art. 5) Sharing by request
- Chapter III – Obligations for data holders
Art. 8) FRAND conditions Art. 9) Compensation Art. 10) Dispute settlement
- Chapter IV – Unfair contractual terms - **Art. 13) Unilaterally Imposed Unfair Terms**
- Chapter V – Public bodies' data access in exceptional situations
- Chapter VI – Switching cloud services
- Chapter VIII – Interoperability (obligations for “Participants in data spaces”)

Limitations of the Data Act from the Sectoral Perspective

- **Sectoral limitations**: Definitions: ‘product’, ‘related service’, ‘user’, ‘readily available data’
 - Ø Art. 1(12): **‘user’** means a natural or legal person that owns a connected product [IoT device] or to whom temporary rights to use that connected product have been contractually transferred, or that receives related services;
 - Ø Art. 1(6): **‘related service’** means a digital service, ..., which is connected with the product at the time of the purchase, rent or lease in such a way that its absence would prevent the connected product from performing ... its functions.;
 - Ø Art. 1(13): **‘data holder’** means a natural or legal person ... to use and make available data, including, where contractually agreed, product data or related service data which it has retrieved or generated during the provision of a related service;

Data Act (2023) – Sectoral Implications

Significant Development: Data Access and Sharing Rights



Scope: machine-generated data if user owns device



Remaining issues: *Other farm-data + Re-use of data?*

Possible Follow-up Sectoral Regulation(s)

- **Regulation for Agricultural Data - Agriculture Specific Data Act ?**
- **Regulation on Common European Agricultural Data Space**

(Example: Proposal for a Regulation on the European Health Data Space - COM/2022/197 final)

The solution should cover a trilogy

- i) Legal framework (not limited to user rights: principles/guidelines for data re-use via CEADS)
- ii) Data standards/interoperability obligations (not limited within CEADS) &
- iii) Data governance infrastructure (CEADS) to facilitate data re-use

AI Act (2024) -It shall apply from 2 August 2026

Risk-based approach Pyramid of risks

-Cognitive behavioural manipulation -Social scoring
-Biometric identification and categorisation

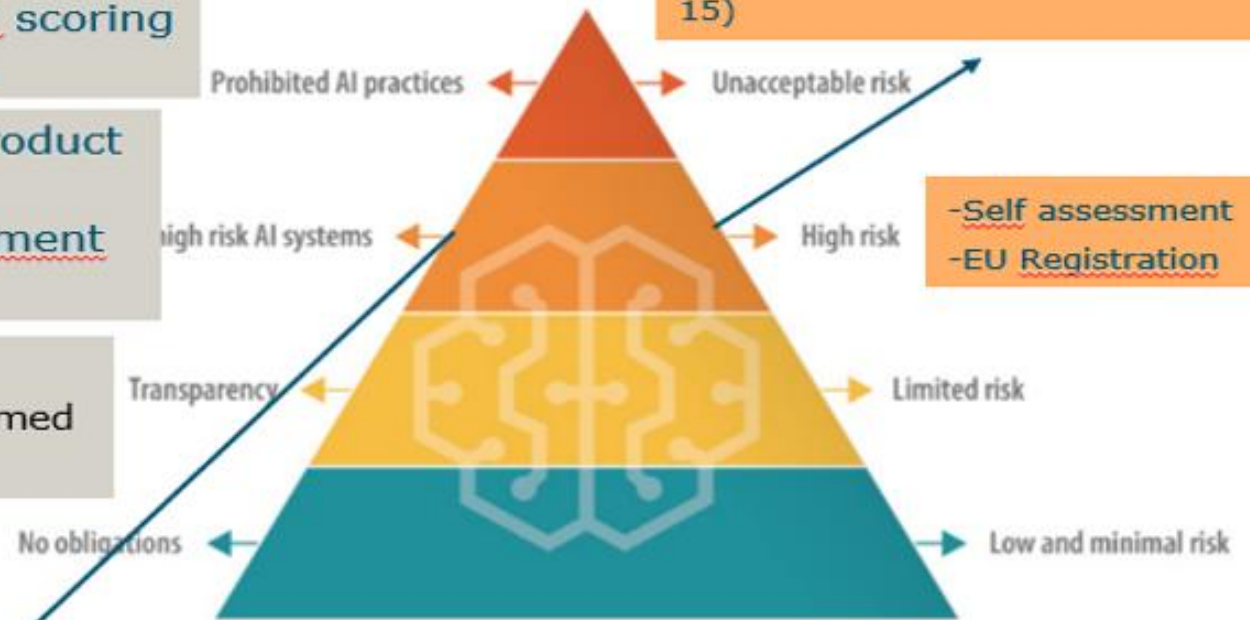
1-AI systems as a safety component of a product
2-Critical Infrastructures -Education
-Employment -Essential serv. -Law enforcement
-Migration -Justice

-Chatbots -Deepfake (minimal transparency requirements that would allow users to make informed decisions)

-All other AI systems, e.g. AI systems for games or spam filters (CoCs)

Obligations: risk management, testing, technical robustness, data training and data governance, transparency, human oversight, and cybersecurity (Articles 8 to 15)

-Self assessment
-EU Registration



Art. 6 - If an AI system is intended to be used as a safety component of a product
Regulation (EU) No 167/2013 on the approval and market surveillance of agricultural and forestry vehicles



Thank you

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*With thanks to the researchers
in the ELSA lab team at WUR*

References:

van Hilten, M., Ryan, M., Blok, V., & de Roo, N. (2025). Ethical, Legal and Social Aspects (ELSA) for AI: An assessment tool for Agri-food. *Smart Agricultural Technology*, 10.

<https://doi.org/10.1016/j.atech.2024.100710>

Ryan, M. (2023). The social and ethical impacts of artificial intelligence in agriculture: mapping the agricultural AI literature. *AI & SOCIETY*, 38(6), 2473–2485. <https://doi.org/10.1007/s00146-021-01377-9>

Ryan, M., de Roo, N., Wang, H., Blok, V., & Atik, C. (2024). AI through the looking glass: an empirical study of structural social and ethical challenges in AI. *AI and Society*. <https://doi.org/10.1007/S00146-024-02146-0>

More on: <https://ai4sfs.org/publications>

Al-kfairy, M., Mustafa, D., Kshetri, N., Insiew, M., & Alfandi, O. (2024). Ethical Challenges and Solutions of Generative AI: An Interdisciplinary Perspective. *Informatics 2024*, Vol. 11, Page 58, 11(3), 58.

<https://doi.org/10.3390/INFORMATICS11030058>

Before the Q&A, we would like to ask you some questions :)

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Q&A



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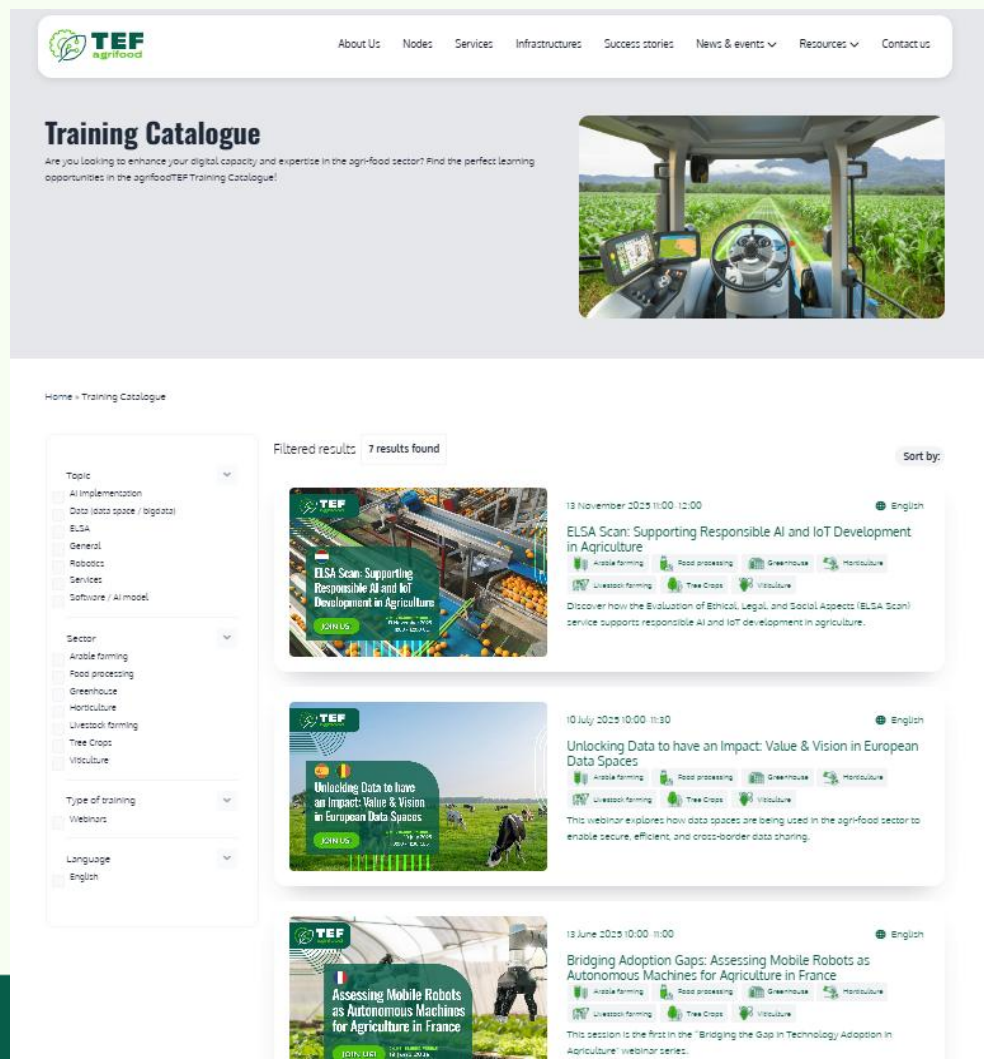
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The screenshot shows the TEF agrifood Training Catalogue website. The header includes the TEF agrifood logo and navigation links: About Us, Nodes, Services, Infrastructures, Success stories, News & events, Resources, and Contact us. The main heading is "Training Catalogue" with a subtext: "Are you looking to enhance your digital capacity and expertise in the agrifood sector? Find the perfect learning opportunities in the agrifoodTEF Training Catalogue!". Below this is a large image of a tractor in a field. The main content area shows a list of training results, filtered to 7 results found. The results are sorted by date. The first result is "ELSA Scan: Supporting Responsible AI and IoT Development in Agriculture" dated 13 November 2023. The second result is "Unlocking Data to have an Impact: Value & Vision in European Data Spaces" dated 10 July 2023. The third result is "Bridging Adoption Gaps: Assessing Mobile Robots as Autonomous Machines for Agriculture in France" dated 13 June 2023. Each result includes a thumbnail image, a title, a date, a language indicator (English), and a brief description. A sidebar on the left contains filters for Topic, Sector, Type of training, and Language.



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