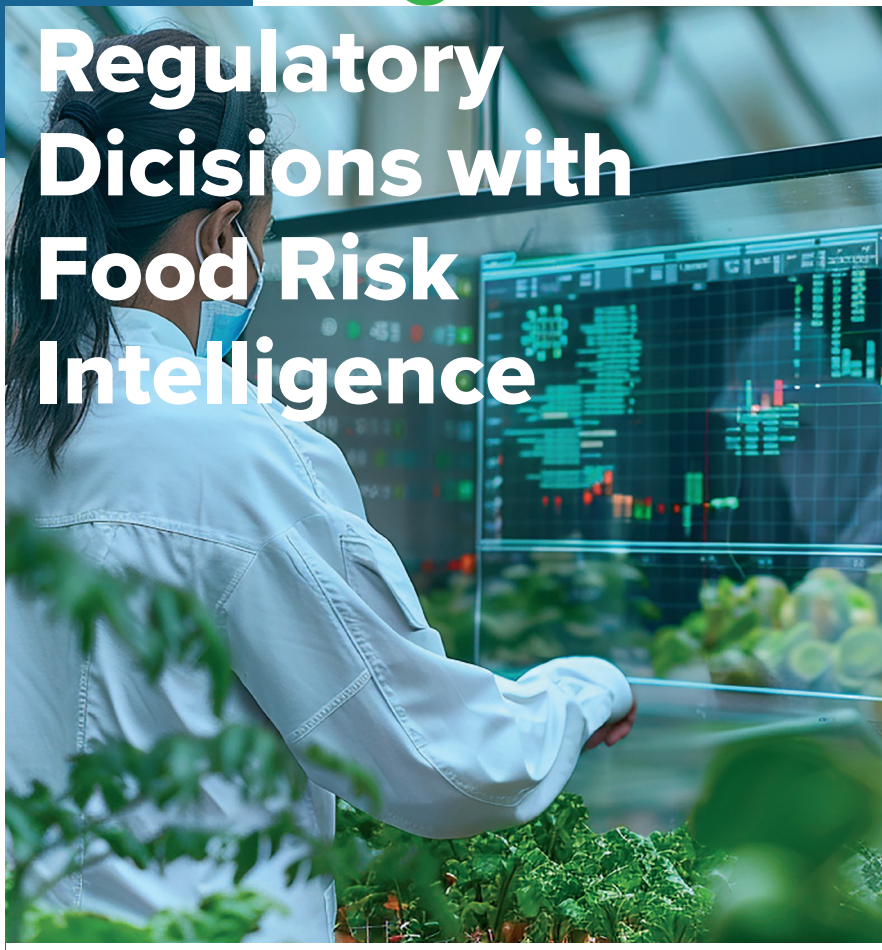
EFRA
EXTREME FOOD RISK ANALYTICS

Informing Regulatory Dicisions with Food Risk Intelligence



Overcoming the fragmentation of the food safety data and enhancing food safety regulatory decision making.

Funded by the European Union

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Lead Partner

SGS DIGICOMPLY
Dynamic Intelligence Effective Risk Management

Scientific Partner

Consiglio Nazionale delle Ricerche

Market's Challenges

Introducing food safety regulations is a slow process involving complex multi-stakeholder decisions. To enhance it, regulators and public authorities require decision making tools that combine regulatory with food risk intelligence data.

The EFRA Goal

EFRA aims to provide AI-powered tools that generate summaries of complex regulatory documents and enable interactive access to them via a chatbot.

The chatbot can support single or multiple regulatory documents, adapting to different user needs. This will improve the accessibility and usability of regulatory knowledge, enabling faster and more informed decision-making in real time.

Exploited Data

SGS Digicomply Data

Extensive regulatory data set and relevant mining/processing algorithms

External Data

Various data types and crawling software, AI models and NLP modules provided by food sector stakeholders

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METHODOLOGY

Scenario 1.1 – Regulatory Text Summarization

Phase I – Model Comparison
Regulatory data was collected from multiple sources. Five summarization models were tested, and their outputs compared through human annotation. The results were reviewed and analyzed to assess performance and guide improvements.

Phase II – Expanded Evaluation
Two additional models were added and compared against those from Phase I. The results were again analyzed to support future development.

Scenario 1.2 – AI Chatbot Regulatory Assistance

Phase I – Initial Annotation
A dataset of regulatory documents and generated questions was prepared, and experts completed the first round of relevance annotations.

Phase II – Results Refinement
Work was carried out to improve retrieval results, followed by a second round of expert annotation.

Part of the bigger EFRA picture

This use case is developing AI tools to summarise and interact with regulatory documents. It focuses on enabling users to quickly understand complex legal texts through automatic summaries and a chatbot that can answer questions about the content.

With this tool, users of the EFRA platform can review one or several documents of interest at once, receive concise summaries, and ask questions directly through the chatbot to extract key information.

ABOUT EFRA

Revolutionizing food safety with AI-powered risk predictions, EFRA transforms scattered food data into real-time insights. By mining multilingual sources, structuring vast datasets, and training green AI models, EFRA strengthens the entire food supply chain— shifting from reaction to prevention.

Driver of this transformation is the EFRA Platform, ensuring the integrity, privacy, and reliability of food safety insights while combining high-performance computing with cutting-edge analytics to detect and prevent food risks before they happen.

TRANSFORMING FOOD RISK PREDICTIONS WITH AI-POWERED ANALYTICS

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