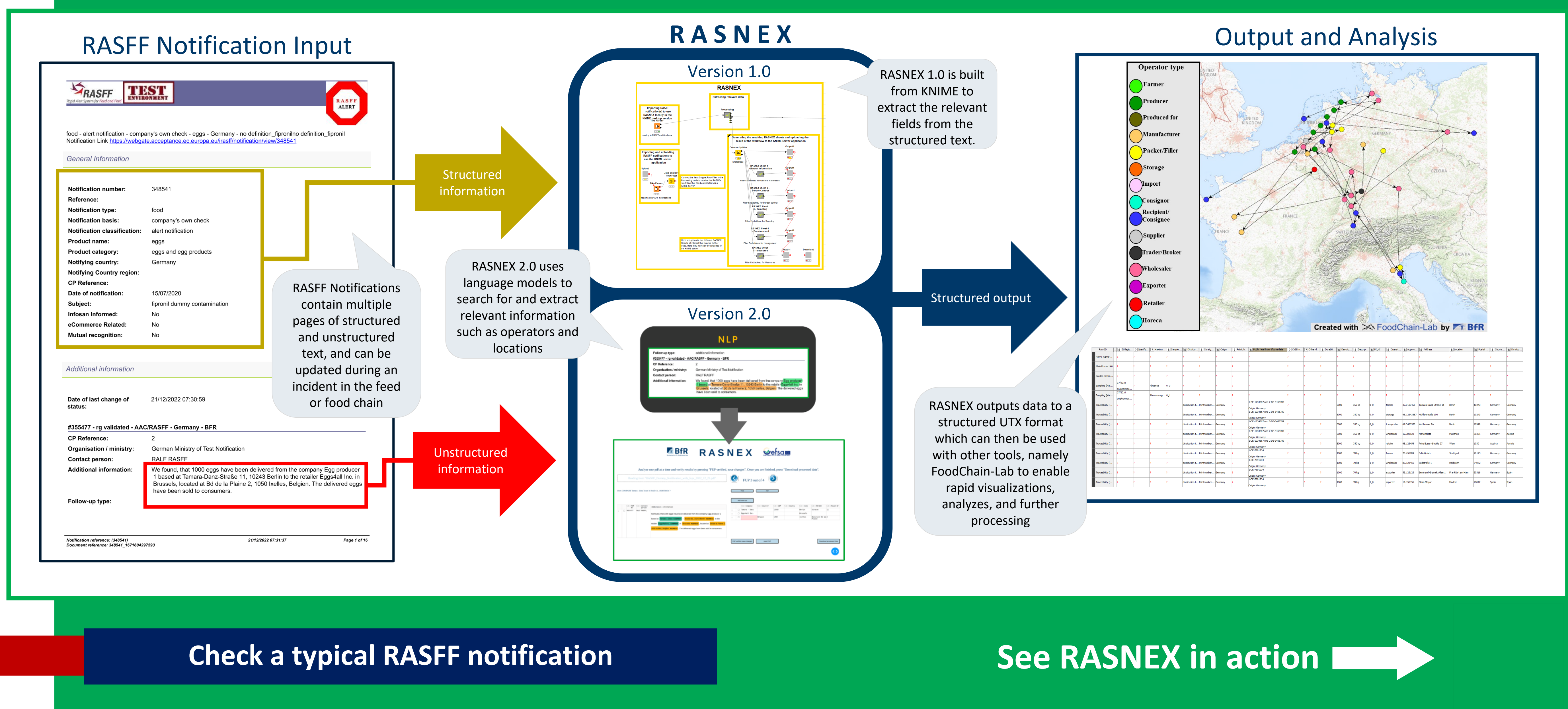


Mining alert data for contaminations in feed/food supply chains with RASNEX, the Rapid Alert Supply Network Extractor tool

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The RASNEX Workflow AI-powered automated data extraction to facilitate and accelerate the investigation, analysis, and response of an evolving contamination event.



Introduction

The **Rapid Alert System for Food and Feed (RASFF)**¹ is used to report and exchange information on any type of human, animal or environmental risk arising from food or feed in the supply chain.

During an alert, notifications are created and exchanged between local and regional authorities.

The notifications have the following properties:

- can exceed hundreds of pages
- contain additional attached files (e.g. invoices, delivery receipts, lab reports, and photos)
- include follow-ups from multiple languages.

The amount and varied formats of the data challenges authorities to collect and quickly assess the situation in order for a quick response.

RASNEX was designed to mitigate the above challenges and **automate** the extraction of the relevant data.

The output of the processing is provided in the structured **Universal Tracing information eXchange (UTX)** format, as defined by **EFSA**, where it can be then used for further analysis, investigations, visualizations, and predictions.

Capabilities

RASNEX 2.0 provides a user-friendly dashboard that allows investigators to extract, assess, and store the relevant data, such as operators and their locations, as well as the affected products.

It is based on state-of-the-art **AI**, specifically **Natural Language Processing (NLP)**, and focuses on recognition and extraction of the above data, specifically **operators** and their **locations**, which are as varied as the different countries from which they come from and are given in their native language and format; this level of complexity makes it difficult to have a strictly rule-based extraction method.

Upon collection of RASFF notifications related to a specific event, **analysis of the extracted information** provides:

- Mapping the product distribution between operators of affected commodity chains
- Distribution of reported analytical results
- Distribution of countries affected by the contamination event
- Most frequent measures taken by authorities

References

- 1) https://ec.europa.eu/food/safety/rasff-food-and-feed-safety-alerts_en
- 2) Lorenzen et al. <https://doi.org/10.1371/journal.pone.0254301>
- 3) <https://foodrisklabs.bfr.bund.de/foodchain-lab/>

