

Powerful data extraction and data collection: What is needed?

Joint final workshop of the EFSA-BfR traceability projects | 23.01.2025

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EFSA: Olaf Mosbach-Schulz

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The Fipronil incident

NL collects data

DE collects data

...

1 Name, address of the company arranging the transport

2 Receiver Name, address and receiving company

3 Load description and vehicle mark

4 Date of the contract

5 Date of the bill of lading

6 Invoice number

7 Date of receipt

8 Date of delivery

9 Date of departure

10 Date of arrival

11 Date of departure

12 Date of arrival

13 Remarks not readable

14 Signature of the sender

15 Signature of the transporter

16 Name, address of the logistics provider with ID number

17 Date of receipt

18 Date of delivery

19 Date of departure

20 Date of arrival

21 Signature of the sender

22 Signature of the transporter

Signature receiver: 02/08/2012

REMARKS: Reklamazione: Paletti non sono europalet!!! Problem con temperatura e -10!!! Merce con foglie verde.

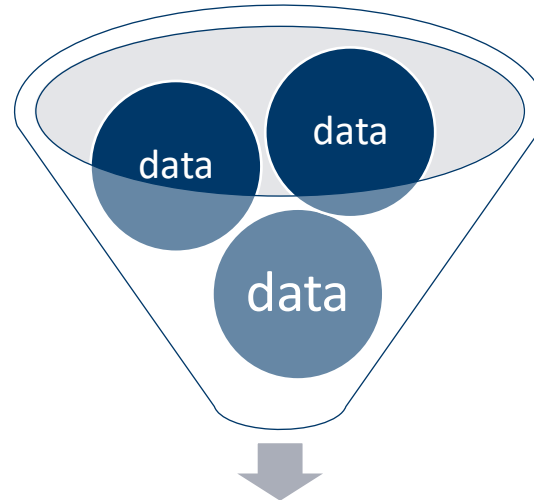
Example for data exchanged between European authorities

The Fipronil incident

NL collects data

DE collects data

...



RASFF system



1 Name, address of the company arranging the transport		SUBSIDIUMI DE TRANSPORT INTERNACIONAL INTERNATIONAL TRANSPORTER		CMR
2 Receiver Name, address and Receiving company		16 Recipient Name, address of the logistics provider with ID number		
3 Load description and marks		17 Additional goods, weight, type		
4 Consignor Name, address		18 Amount of consignment		
5 Description of goods		19 Remarks		
6 Invoice number		20 Remarks		
7 Date of issue		8 Date of receipt		
9 Date of delivery		10 Date of expiry		
11 Date of expiry		12 Date of expiry		
13 Remarks not readable		14 Remarks		
15 Signature initiator		15 Signature transporter		

INVOICE 29

Reklamacija: Paleti ne suvo europalet!!! Problem sa temperatura e -10!!! Merce sa folije verde.

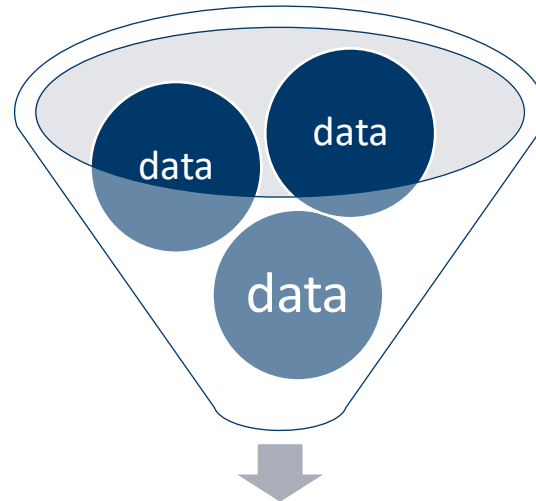
Example for data exchanged between European authorities

The Fipronil incident

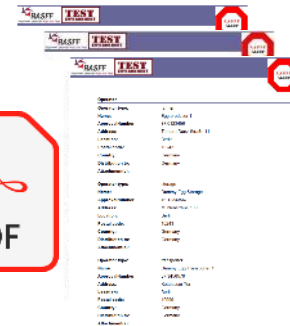
NL collects data

DE collects data

...



RASFF system

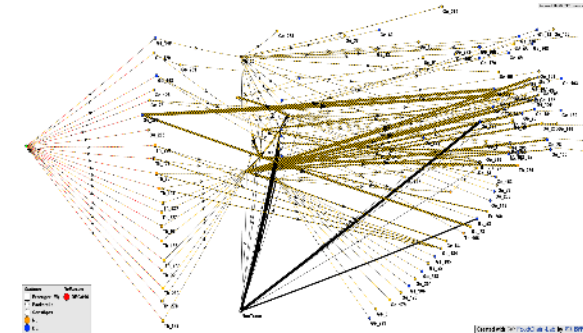


1. Issuing State, date and time of issue Name, address of the company arranging the transport		SUBSTRATO DE TRANSPORT INTERNATIONAL INTERNATIONAL TRANSPORTER		CMR	
2. Receiving State, date and time of receipt Name, address of the receiving company		16. Receiver Name, address of the logistics provider with ID number			
3. Load description, weight, marks and numbers Location: <i>EUROPALET</i> Location: <i>EUROPA</i>		17. Additional transport documents, type and number Additional document: <i>SI</i>			
4. Description of the goods Location: <i>EUROPALET</i>		18. Remarks and observations on the transport			
5. Date of issue <i>INVOICE 29</i>					
7. Date of receipt		8. Date of delivery		9. Date of expiry	
10. Date of expiry		11. Date of expiry		12. Date of expiry	
<p><i>Reklamacija: Paleti no soro europalet!!! Problem cov temperatura e -10!!! Merce cov fogle verde.</i></p>					
14. Signature of the sender Name: <i>...</i>		15. Signature of the receiver Name: <i>...</i>			
22. Signature initiator		23. Signature transporter		Signature receiver: <i>GD062012</i>	

Example for data exchanged between European authorities

The challenge: Getting an overview on situation

Unstructured data, not machine-readable/paper-based, distributed across several follow-up notifications → limited usability of data



NL extracts data manually

DE (BVL + BfR) extracts data manually

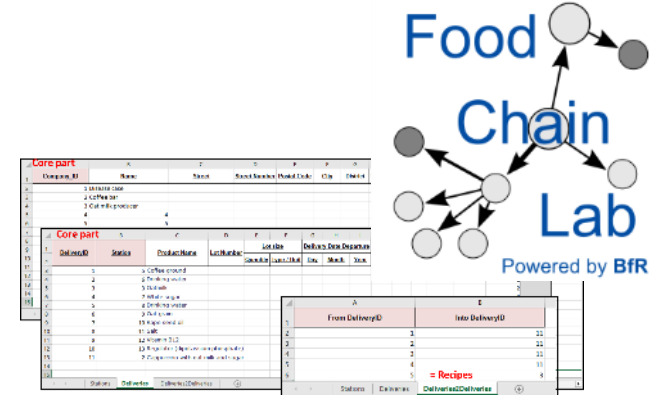
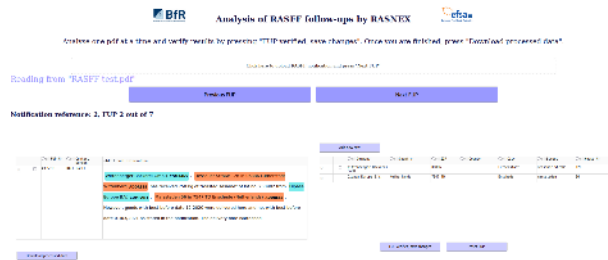
NRW extracts data manually

Duplication of work!



EFSA-BfR cooperation on digital traceability

Analysis of RASFF follow-ups by RASNEX



(Co-)Development of interoperable software tools and harmonized data structures

UTX file

Universal Traceability data eXchange format

efsa
EUROPEAN FOOD SAFETY AUTHORITY

Decentralized Data Collection

Decentralized data collection tool for tracing food and feed

ATAS Advanced Trace And Solve Tool



Structured excel templates as a first step

Excel spread sheet: FCL All-in-one template

- Minimal extend of data needed for successful visualization
- To collect data of whole incident in one file (e.g. for data extraction)
- Available for FCL Web + FCL Desktop!



Core part										Flexible part	
Company_ID	Name	Street	Street Number	Postal Code	City	District	State	Country	Type of business	Latitude	Longitude
1	Disease case							DE	Disease case		
2	Coffee bar							DE	Coffee bar		
3	Oat milk producer							DE	Oat milk producer		
4			4								
5			5								

Core part										Flexible part						
DeliveryID	Station	Product Name	Lot Number	Lot size		Delivery Date Departure			Delivery Date Arrival			Unit weigt/vol./pck.		Recipient	Additional Fields ->	Item Number
				Quantity	Type / Unit	Day	Month	Year	Day	Month	Year	Quantity	Type / Unit			
1		5 Coffee ground													2	
2		6 Drinking water													2	
3		3 Oatmilk													2	
4		7 White sugar														
5		8 Drinking water														
6		9 Oat grain														
7		10 Rape seed oil														
8		11 Salt														
9		12 Vitamin B12														
10		13 Regulator (dipotassium phosphate)														
11		2 Cappuccino with oat milk and sugar														

A		B	
From DeliveryID		Into DeliveryID	
1			
2	1		11
3	2		11
4	3		11
5	4		11
6	5		3

= Recipes

Structured excel templates as a first step



Excel spread sheet: FCL backward + forward tracing template

- For **stepwise data collection** e.g. done by inspectors on-site
- Only in FCL Desktop

Inquired Company:		Bakersfield Bakery			[Address]			DE		Manufacturer			
For questions please contact the FoodRisk-Labs team, +49 (30) 18412-4444, foodrisklabs@bfr.bund.de													
Outgoing Goods													
	Product		Lot Information			Delivery			Recipient			Comments	
	Name	EAN	Lot Number	Best Before Date or Use-by Date	Delivery Date			Amount (e.g. 45 kg)	Name	Address (e.g. Street, ZIP City)	Country		Type of Business
					Day	Month	Year						
	Summer Cake		SC01		6	11	2017	1 Piece	Patient01		DE	Patient	
	Summer Cake		SC02		6	11	2017	1 Piece	Patient02		DE	Patient	
	Summer Cake		SC03		6	11	2017	1 Piece	Patient03		DE	Patient	
	Summer Cake		SC04		6	11	2017	1 Piece	Patient04		DE	Patient	
	Summer Cake		SC05		6	11	2017	1 Piece	Patient05		DE	Patient	
<p>Information to complete the sheet: Fill in outgoing goods which are already known (see grey fields above). Please keep track of the ingredients of all sent products - do it in a lot-based manner. In Column A starting with Line Number 22 please enter the line number of the outgoing good being the product of this ingredient. Afterwards, enter the ingredient information in columns B Please repeat the outgoing good as often as necessary in order to capture all its ingredients.</p>													
Incoming Goods - lot-based Ingredient List													
Line Number or Lot Number from Outgoing Goods	Ingredient		Lot Information			Delivery			Supplier			Comments	
	Name	EAN	Lot Number	Best Before Date or Use-by Date	Delivery Date			Amount (e.g. 45 kg)	Name	Address (e.g. Street, ZIP City)	Country		Type of Business
					Day	Month	Year						
SC01	Butter		Bu100		3	11	2017	6,3 kg	Dairy Products Ltd.		DE	Supplier	
SC01	Sugar		Su200		1	11	2017	12,8 kg	Dry Stuff Inc		DE	Supplier	
SC01	Eggs		Eg220		4	11	2017	90 Piece	Chickens & Eggs Farm		DE	Supplier	
SC01	Flour		FI101		1	11	2017	11,2 kg	Dry Stuff Inc		DE	Supplier	
SC01	Salt		Sa121		1	11	2017	116 g	Dry Stuff Inc		DE	Supplier	
SC01	Baking Powder		BP001		1	11	2017	368 g	Dry Stuff Inc		DE	Supplier	

Structured excel templates as a first step



- Ready to use
- Easy to use and easily accessible
- Machine-readable
- Structured but not much standardised
- Tested and applied in real foodborne incidents

Core part										Flexible part			
Company ID	Name	Street	Street Number	Postal Code	City	District	State	Country	Type of business	Latitude	Longitude		
1	Disease case							DE	Disease case				
2	Coffee bar							DE	Coffee bar				
3	Oat milk producer							DE	Oat milk producer				
4		4											
5		5											

Core part										Flexible part						
DeliveryID	Station	Product Name	Lot Number	Lot size		Delivery Date Departure			Delivery Date Arrival			Unit weight/vol./pck.	Recipient	Additional Fields ->	Item Number	
				Quantity	Type / Unit	Day	Month	Year	Day	Month	Year	Quantity	Type / Unit			
1	1	5 Coffee ground													2	
2	2	6 Drinking water													2	
3	3	3 Oatmilk													2	
4	4	7 White sugar														
5	5	8 Drinking water														
6	6	9 Oat grain														
7	7	10 Rape seed oil														
8	8	11 Salt														
9	9	12 Vitamin B12														
10	10	13 Regulator (dipotassium phosphate)														
11	11	2 Cappuccino with oat milk and sugar														

From DeliveryID		Into DeliveryID	
1		1	11
2		2	11
3		3	11
4		4	11
5		5	11
6		5	3

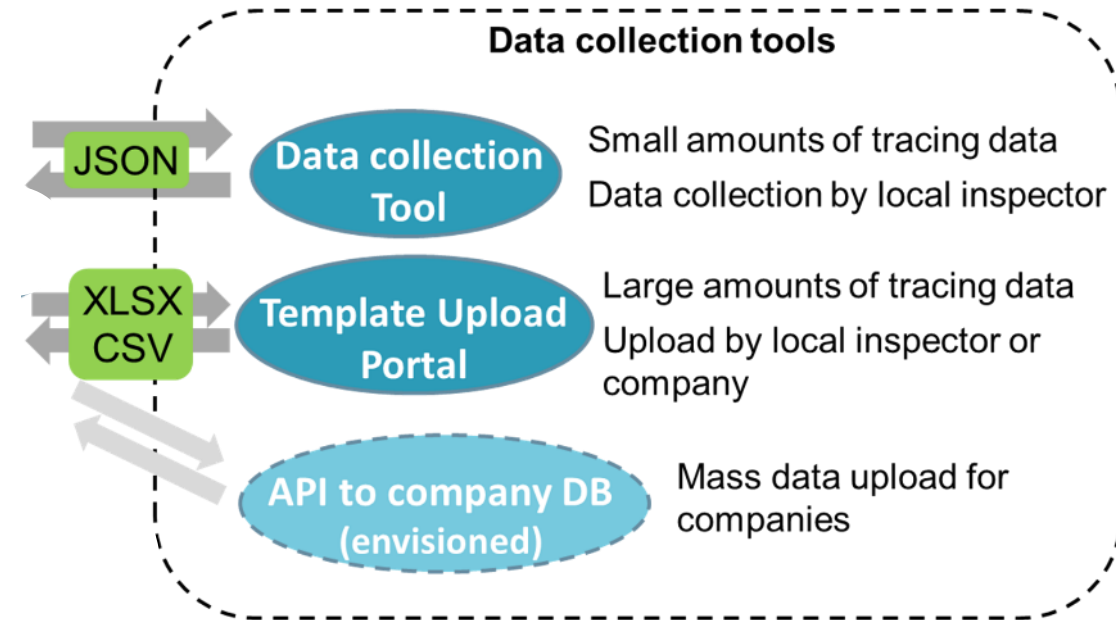
= Recipes

Inquired Company:	Bakersfield Bakery	[Address]		DE	Manufacturer						
For questions please contact the FoodRisk-Labs team: +49 (0) 18412-4444, foodrisklabs@bfr.bund.de											
Outgoing Goods											
Product	Lot Information			Delivery		Recipient					
	Name	EAN	Lot Number	Best Before Date or Use-by Date	Delivery Date		Amount				
Summer Cake	SC01				6 11 2017	1 Piece	Patient01	DE	Patient		
Summer Cake	SC02				6 11 2017	1 Piece	Patient02	DE	Patient		
Summer Cake	SC03				6 11 2017	1 Piece	Patient03	DE	Patient		
Summer Cake	SC04				6 11 2017	1 Piece	Patient04	DE	Patient		
Summer Cake	SC05				6 11 2017	1 Piece	Patient05	DE	Patient		
Information to complete the sheet:											
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Line Number or Lot Number from Outgoing Goods	Ingredient	Lot Information			Delivery		Supplier				
		Name	EAN	Lot Number	Best Before Date or Use-by Date	Delivery Date	Amount	Name	Address (e.g. Street, ZIP City)	Country	Type of Business
SC01	Butter			Bu100		3 11 2017	6,3 kg	Dairy Products Ltd		DE	Supplier
SC01	Sugar			Su200		1 11 2017	12,8 kg	Dry Stuff Inc		DE	Supplier
SC01	Eggs			Eg220		4 11 2017	90 Piece	Chickens & Eggs Farm		DE	Supplier
SC01	Flour			Fl101		1 11 2017	11,2 kg	Dry Stuff Inc		DE	Supplier
SC01	Salt			Sa121		1 11 2017	116 g	Dry Stuff Inc		DE	Supplier
SC01	Baking Powder			BP001		1 11 2017	268 g	Dry Stuff Inc		DE	Supplier

Powerful, web-based tools at local level: the ATAST system @ local authority

- Intuitive, easy-to-use, web-based software tool
- Tailor-made for varying actors and purposes (data collection tool, template upload portal, interface)
- Guided and structured data collection
- Plausibility checks
- Interfaces to registers and catalogs with curated data
- Interfaces to industry databases + RASFF system are envisioned

→ Improved data quality and speed of data acquisition



Warentemplate Erfassungstool Neues Template laden | Export | Senden

Fall: 2018-4 - Salmonella in Finalind Zusammenfassung

Status: In Bearbeitung | Auftragsnummer: 2018-1211 | Erfasser: Mr. Meier
 Betreibername: FinEggs | Erstelldatum: 20.2.2019 | Erfassungsstelle: Stadt Geisenkirchen, Referat Veterinär- und Lebensmittelüberwachung

Warenausgang | Warenproduktion | Wareneingang | Proben

Beziehungen für Warenausgang: FinCake

Aktivität | Rezeptur anlegen / Wareneingang erstellen

Bestehende Aktivität für Warenausgang FinCake:

- Produktion - Produktbezeichnung: roibrötmehl Los: rlm12.2019

Der Aktivität bestehende Wareneingänge zufügen:

Für Aktivität einen neuen Wareneingang hinzufügen

Zur Aktivität gehörende Wareneingänge:

- Mehl (Los: m123) Menge des Produktes
- Zucker (Los: z78) Menge des Produktes

DIR | Bundesinstitut für Risikobewertung | Landesamt für Natur, Umwelt und Verbraucherschutz NRW | Version 6.0 Last changes: 23.06.2020

outgoing goods | **own production** | incoming goods

Recipient | **Product detail** | Current dataset: **Commodity relations**

Product name:	Mehl	Product amount:	10000
Trade name:	Vollkornmehl	Amount unit:	Stück (ID: null)
Article number:	47200	Number of trading units:	Number of trading units
EAN code:	EAN code	Trading unit name:	null (ID: null)
Lot:	ZM170922	BBD:	null.null.null
Comment:	Comment		

The UTX portal: Data Extraction tool within the r4eu platform

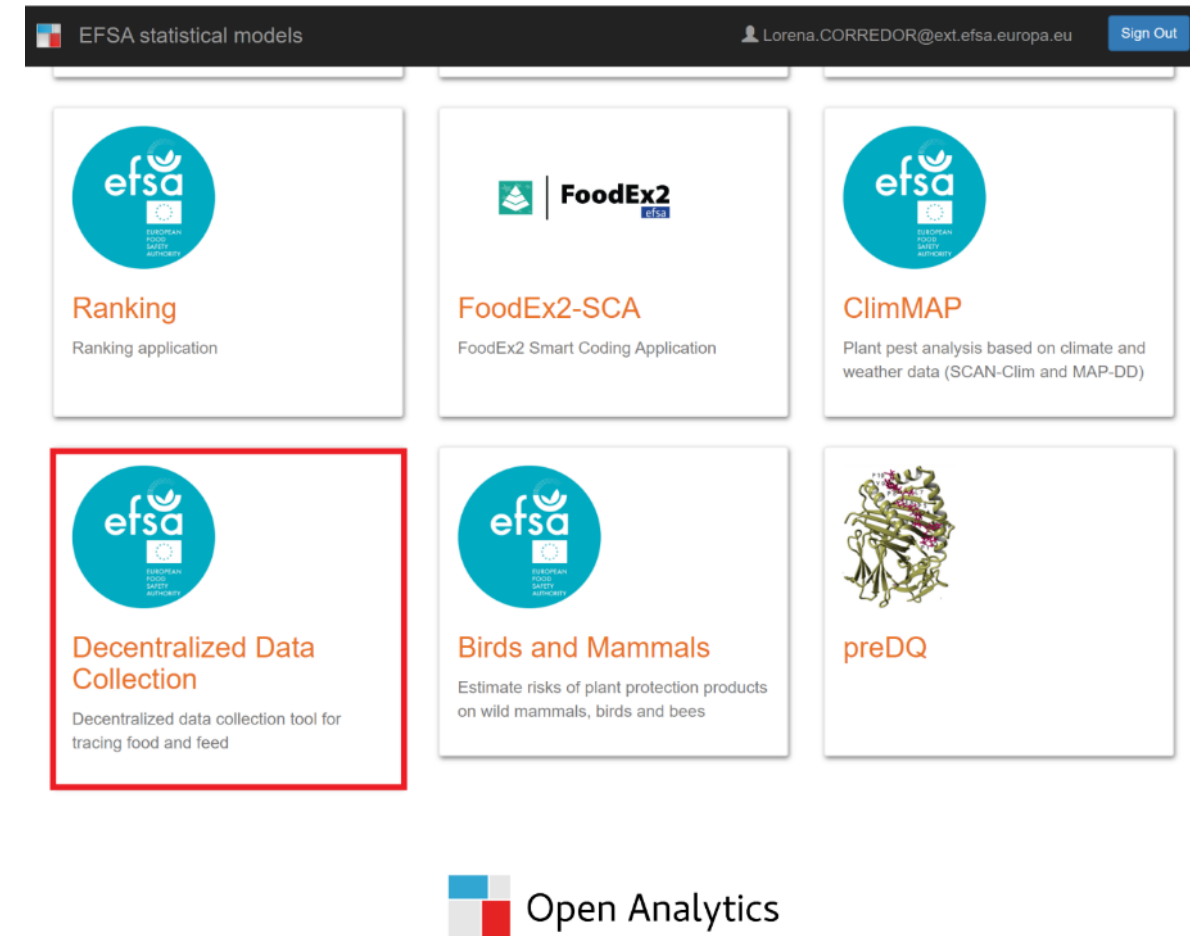
Data extraction from e.g. RASFF notifications

Users: MSs and EFSA

The tool:

will write and read “**Universal Traceability data eXchange**” (**UTX**) format to make data extraction **interoperable**

will be able to **directly interchange with FCL software via UTX**, enabling EFSA to perform rapid analyses to identify the source of contamination; incl. full documentation.



EFSA statistical models

Lorena.CORREDOR@ext.efsa.europa.eu

Sign Out

efsa Ranking Ranking application

FoodEx2 FoodEx2-SCA FoodEx2 Smart Coding Application

efsa ClimMAP Plant pest analysis based on climate and weather data (SCAN-Clim and MAP-DD)

efsa Decentralized Data Collection Decentralized data collection tool for tracing food and feed

efsa Birds and Mammals Estimate risks of plant protection products on wild mammals, birds and bees

preDQ

Open Analytics

The UTX portal: Principles

Designed for a structured and guided data extraction

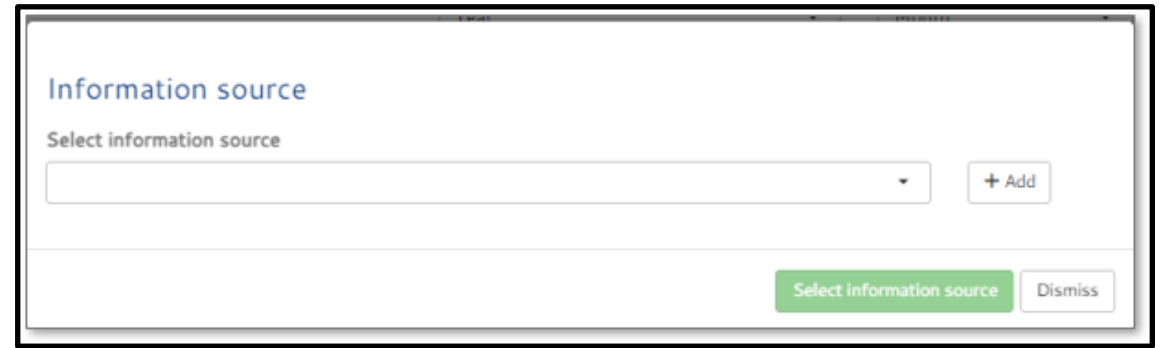
Universal: Ready for all food & feed chains, based on UTX data format

Output is harmonized data in UTX format

Transparency: Information source needed + history to track changes

Supporting functions:

- Look-up of addresses
- selection list for e.g. information sources already entered
- use of controlled vocabulary/catalogues




Information source

Select information source

+ Add

Select information source Dismiss



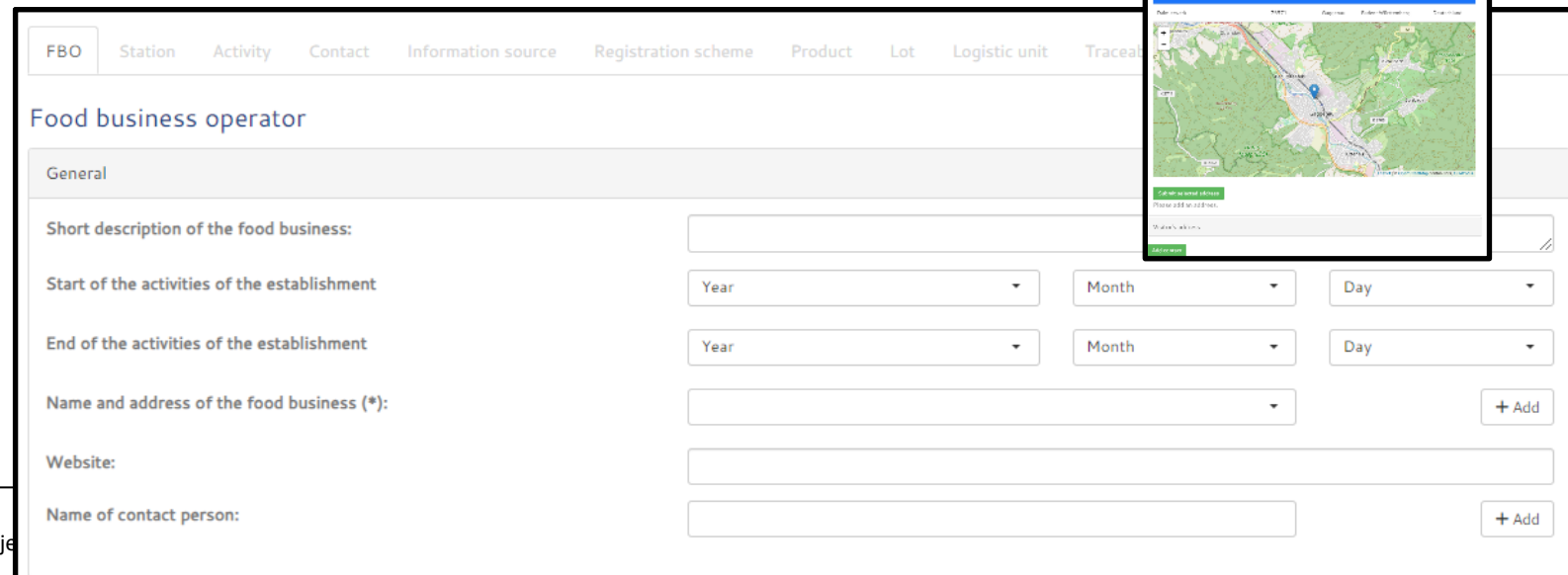
Postal address

Search address

Start typing street...

I cannot find the address.

Please add an address.



FBO Station Activity Contact Information source Registration scheme Product Lot Logistic unit Traceability

Food business operator

General

Short description of the food business:

Start of the activities of the establishment: Year Month Day

End of the activities of the establishment: Year Month Day

Name and address of the food business (*): + Add

Website:

Name of contact person: + Add

AI-based tools to automatize data extraction



Analysis of RASFF follow-ups by RASNEX



Analyse one pdf at a time and verify results by pressing "FUP verified, save changes". Once you are finished, press "Download processed data".

Click here to upload RASFF notification and press "Next FUP"

Reading from "RASFF-test.pdf"

Previous FUP

Next FUP

Notification reference: 2, FUP 2 out of 7

	FUP Nr	Contact person	Additional information
x	<input type="checkbox"/> #355913	RALF RASFF	<p>Wittenberger Bäckerei GmbH COMPANY, Dessauer Straße 126 in 06886 Lutherstadt</p> <p>Wittenberg ADDRESS has received 750 kg of "roasted sesame" of lot no. 250902 from Dipasa</p> <p>Europe B.V. COMPANY, Marssteden 56 in 7547 TD Enschede (Netherlands) ADDRESS.</p> <p>However, goods with best-before date 12-2020 were delivered here and not with best-before date 01/03/2021 as stated in the notification. The delivery note is attached.</p>

Download processed data

Add new row

	Company	Country	ZIP	County	City	Street	House Nr
x	<input type="checkbox"/> Wittenberger Bäckerei GmbH		06886		Lutherstadt	Dessauer Straße	126
x	<input type="checkbox"/> Dipasa Europe B.V.	Netherlands	7547 TD		Enschede	marssteden	56

FUP verified, save changes

reset FUP

Conclusion – What do we need?

Data:

- Structured
- Harmonized/standardized
- High quality
- Interoperable
- Digital + machine readable

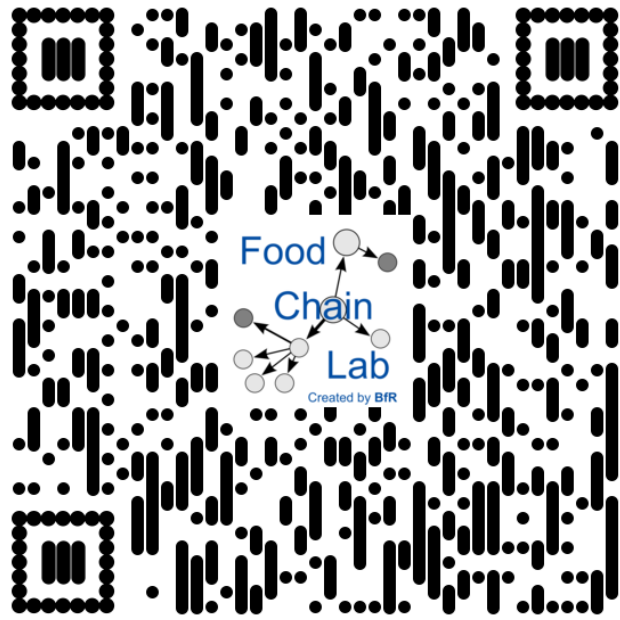
Digital tools for data collection/extraction:

- Easy to use
- Accessible
- Fast
- Access to curated data
- Interoperable

Some tools are ready to use, some are on the way → we just need the courage and some effort (+ training) to start using them

“Progress is impossible without change [...]” George Bernard Shaw

Thank you for your attention!



Marion Gottschald

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Risk Assessment**

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<https://foodrisklabs.bfr.bund.de>

Thank you for your attention! 

German Federal Institute for Risk Assessment

EFSA-BfR tracing team

BfR: Marion Gottschald, Alexander Falenski, Matthew Salewski, Daria Savvateeva,
Marc Lorenzen, Latife Salih, Marco Rügen, not in picture: Arne Zerndt + Hanna Hauck
EFSA: Olaf Mosbach-Schulz



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