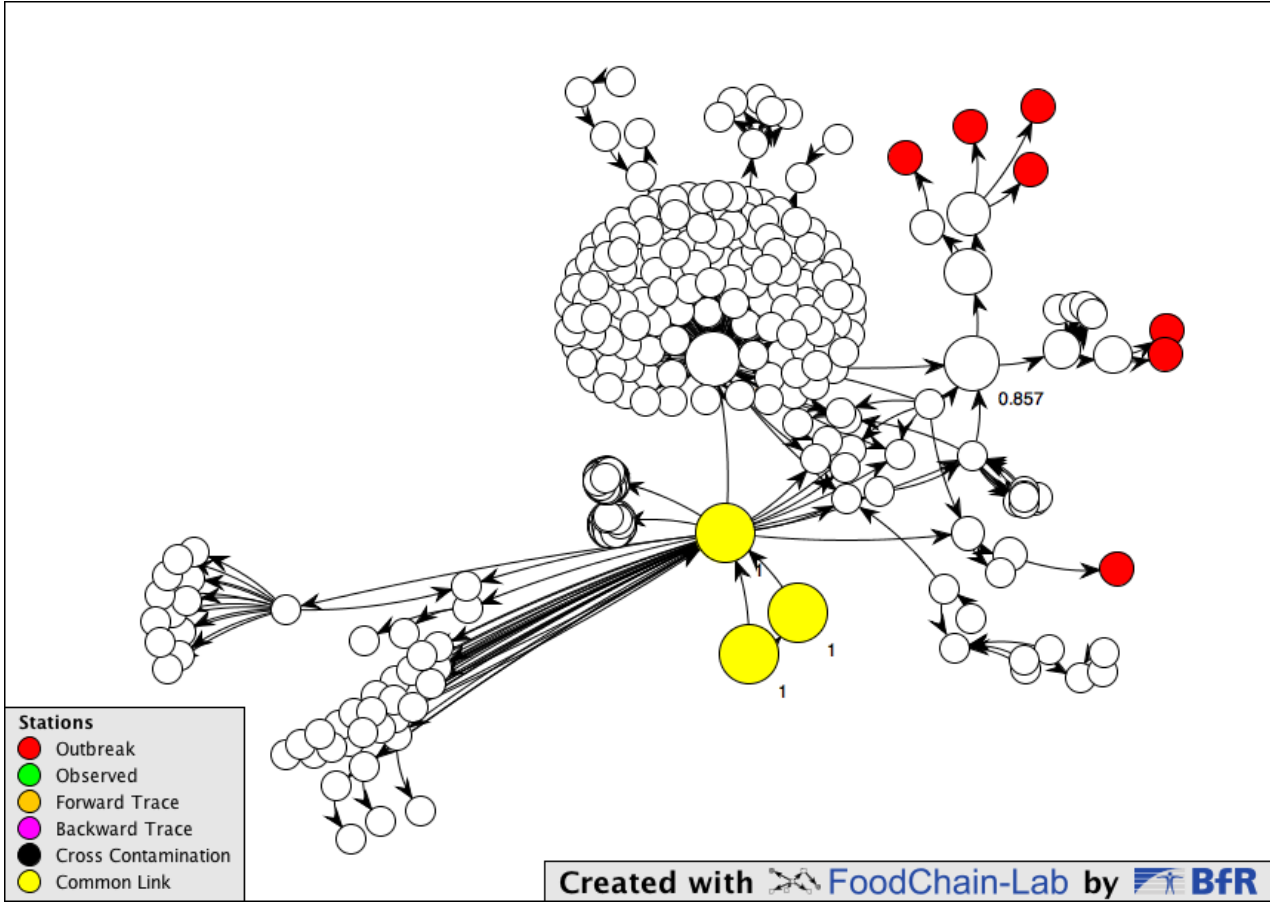


Data analysis and visualization: From FCL Desktop to FCL Web as stand-alone software for comprehensive supply chain tracing investigations

23.01.2025

Alexander Falenski, Marion Gottschald, Marco Rügen, Birgit Lewicki, Hanna Hauck, Arne Zerndt, Christian Thöns, Matthias Filter, Armin Weiser

The beginning of FoodChain-Lab: The EHEC outbreak 2011



KNIME – the Konstanz Information Miner



- Software for Data management and analysis
- Main functionalities: Data mining, manipulation, visualisation
- Free and open-source desktop version
- Modular: Software can be extended via plug-ins

FoodChain-Lab desktop

Database

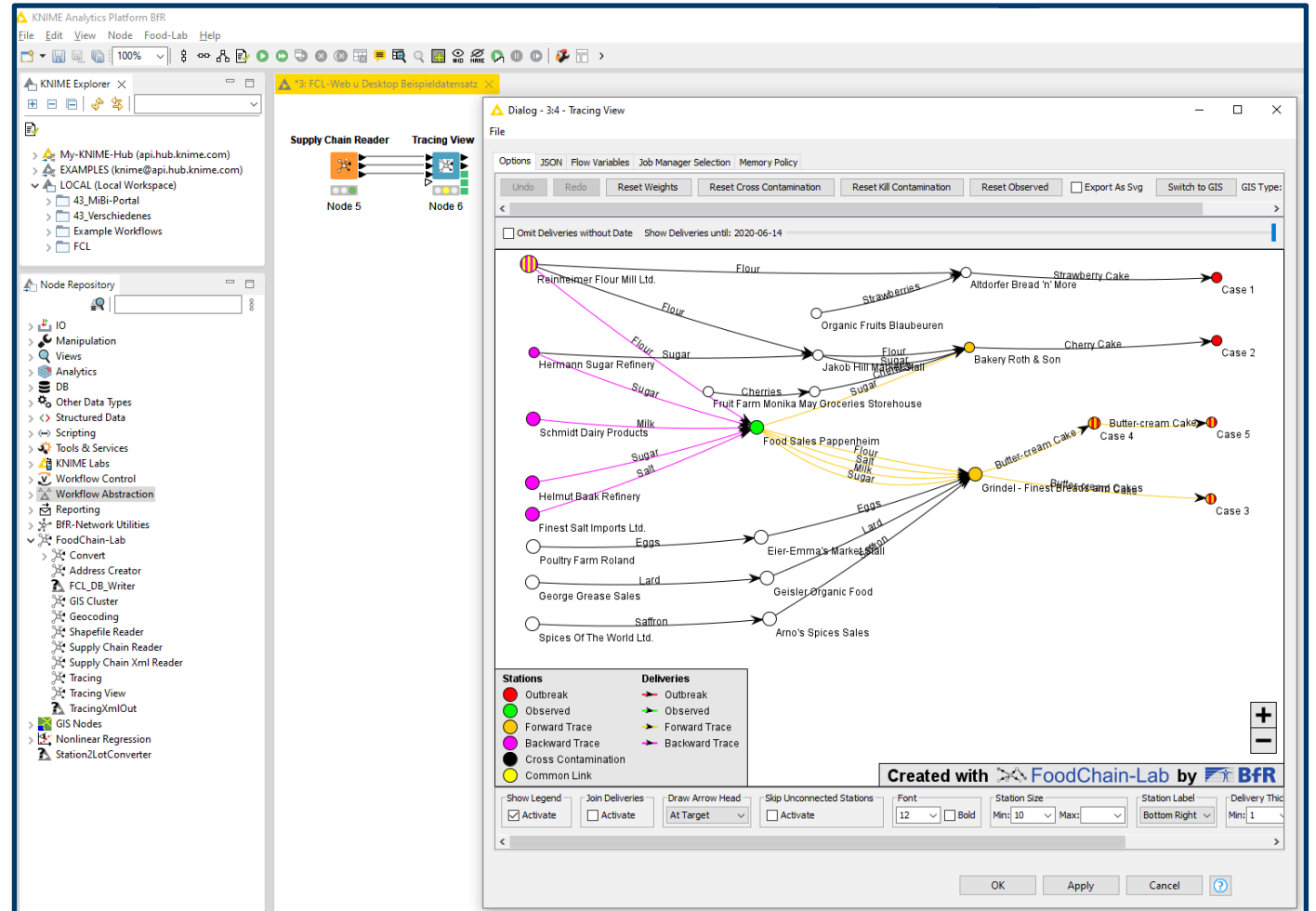
- Import of Excel templates
- Export of pre-filled Excel templates
- Plausibility checks

Tracing View

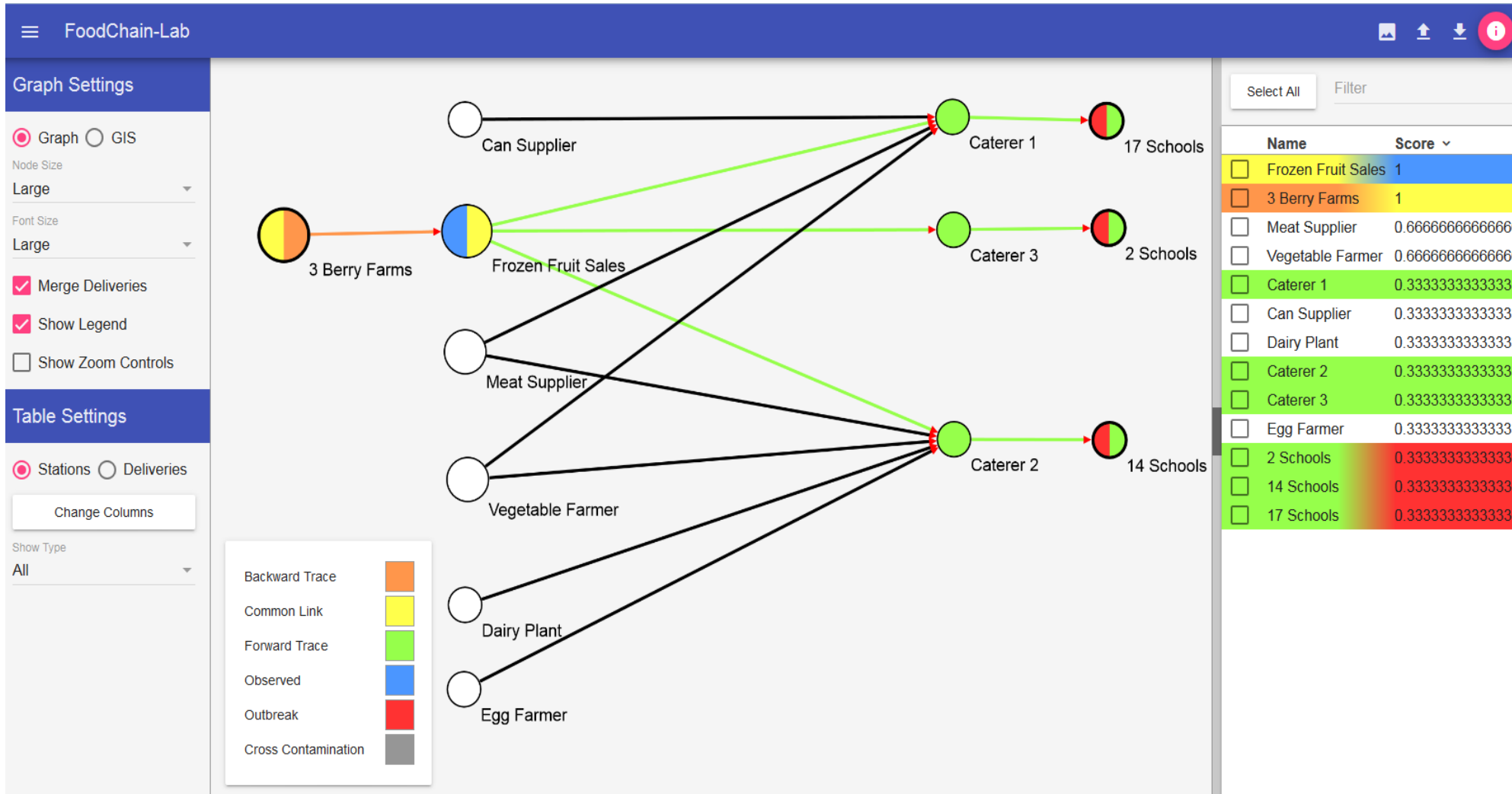
- Analysis and visualization

Data enrichment and editing

- Geocoding
- KNIME data editing functionalities

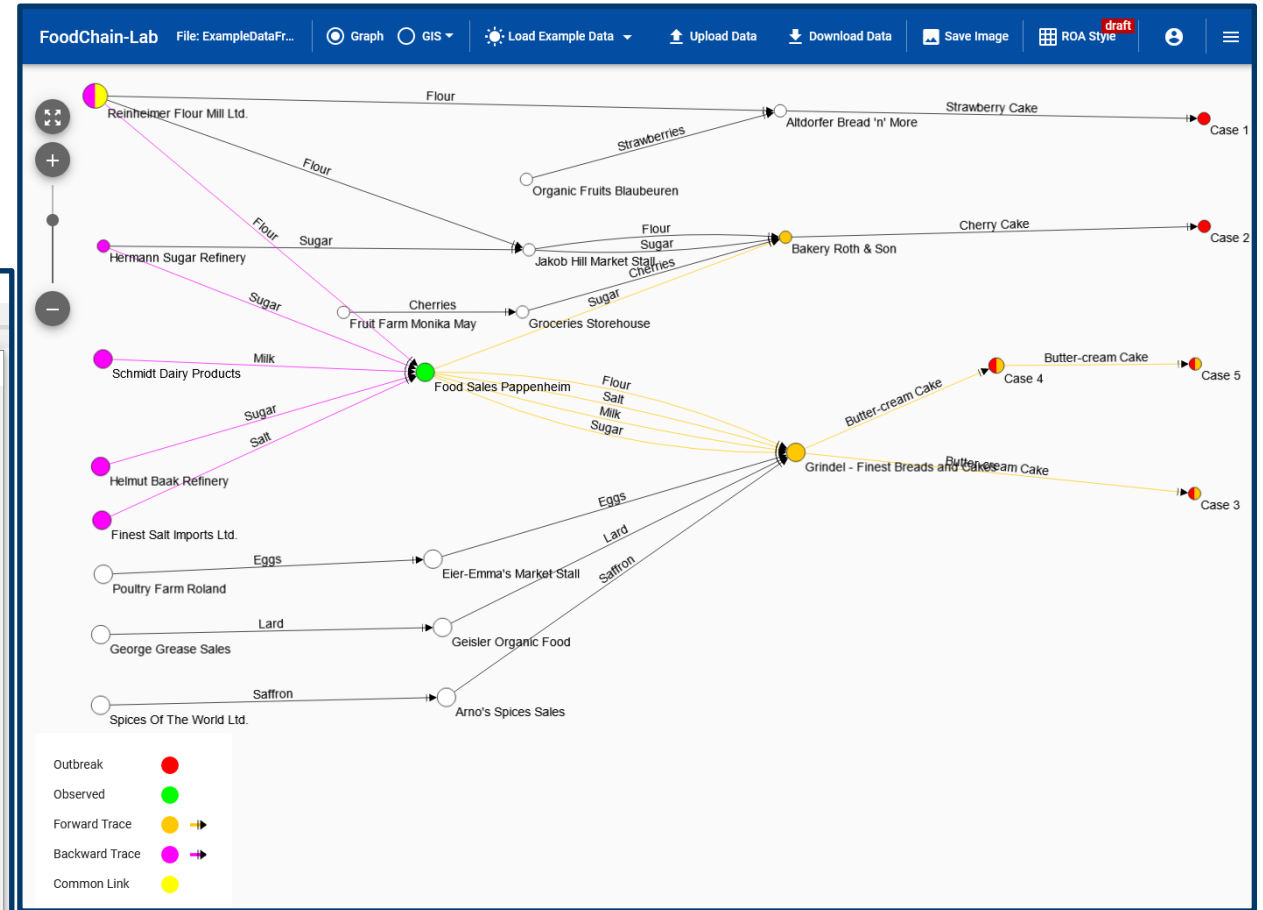
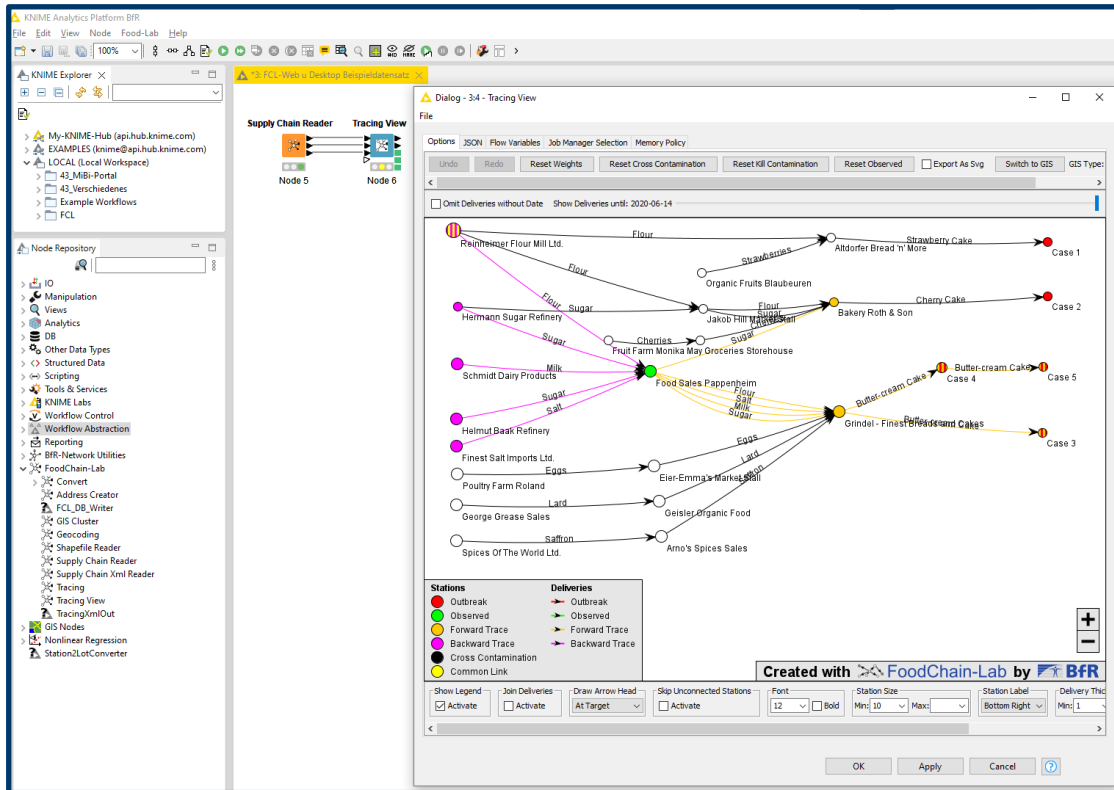


FCL Web – the first demonstrator 2017



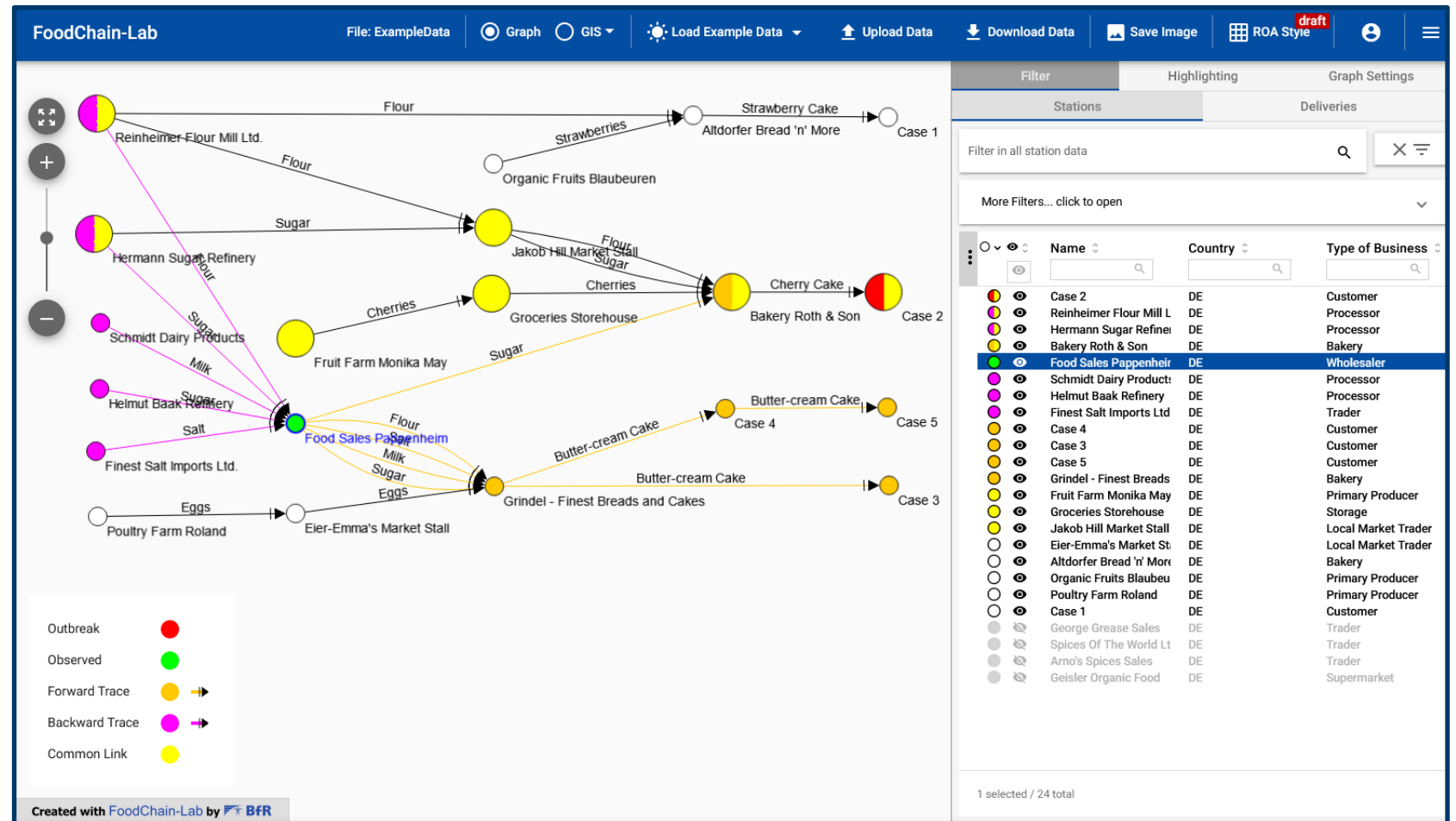
The connection between FoodChain-Lab desktop and the web app

- JSON export from FCL desktop
- Import in FCL web app

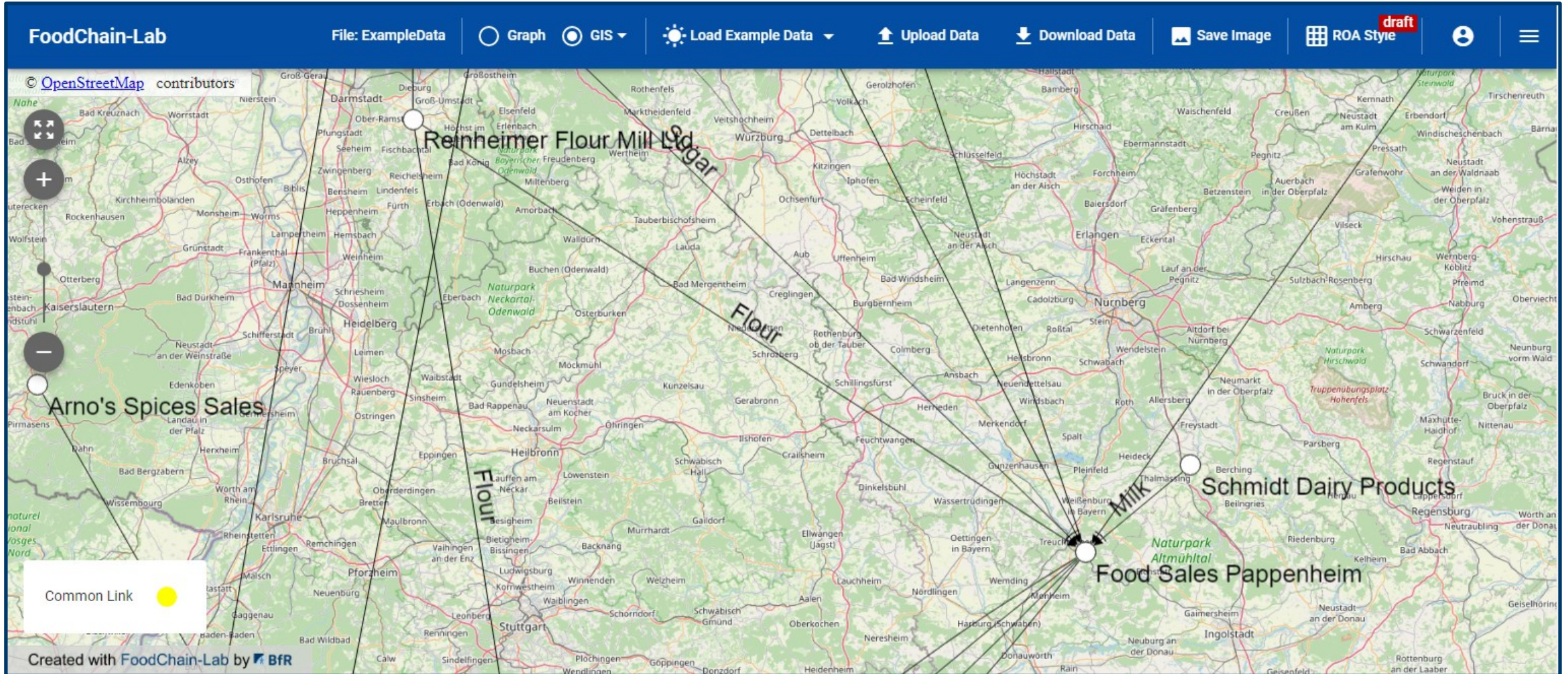


Tracing forward and backward

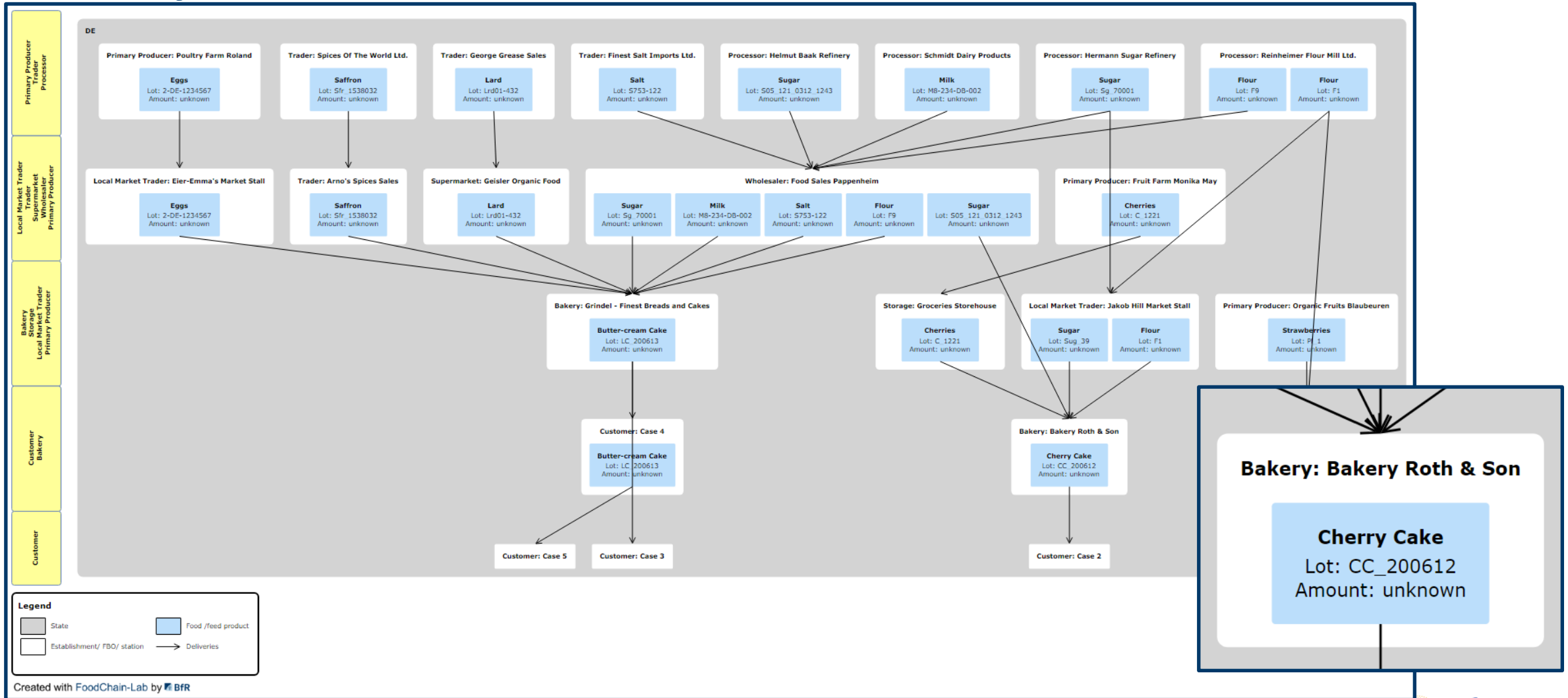
- Interactive analysis of complex supply chain networks to identify potential common source of pathogen / contamination and disease cases
- Creating hypotheses *in silico* (e.g. cross contamination)
- Helps prioritizing next investigation steps



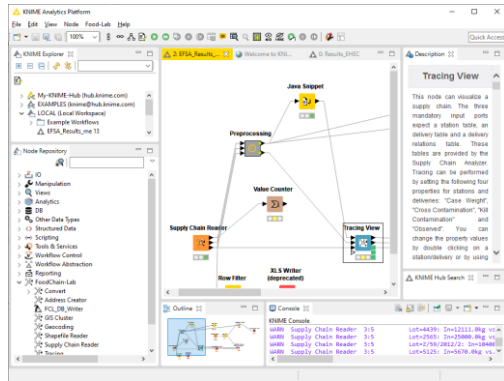
Map view



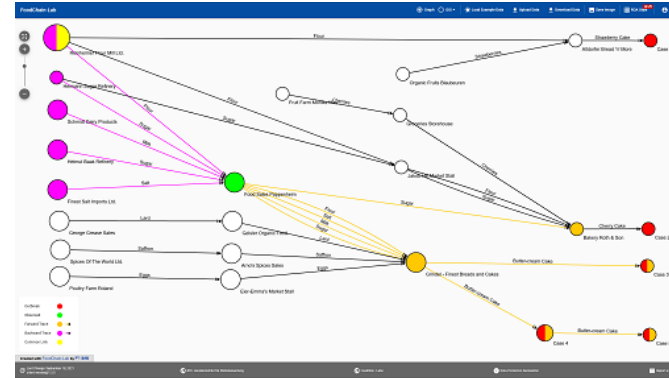
“ROA Style” view



Overview: FoodChain-Lab Desktop and Web App



FCL-Desktop



FCL-Web App

- In KNIME (~ 1 GB installation)
- Data is stored locally
- Using KNIME needs to be learned

Features

- Template import (Forward, backward, AiO)
- Tracing template generation
- Database with plausibility checks
- Geocoding
- KNIME Data analytics functionalities
- Graph view and GIS view
- Tracing
- Hypothesis generation
- -

- In a web browser (no installation)
- Data stays local, browser is only for visualisation
- Intuitive handling

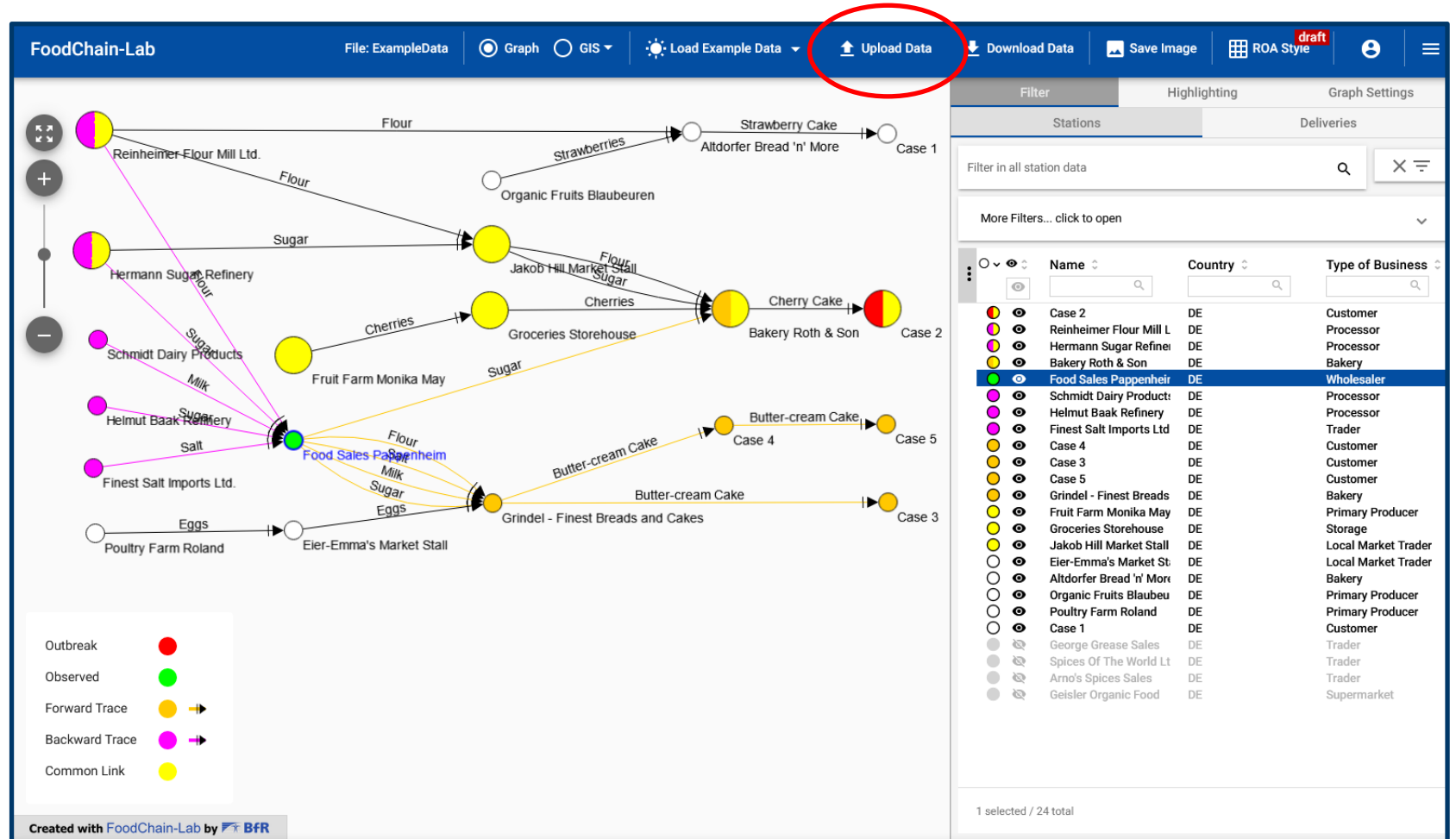
Features

- - Import of the All-in-One Template (AiO)
- -
- -
- -
- -
- Graph view and GIS view
- Tracing
- Hypothesis generation
- ROA style for reports

Import the All-in-one template directly into the web app

- Direct import of the AiO Excel template
- No JSON required
- No FCL Desktop required

Fully functional web app
Standalone software



Demo

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