

Project “Systemic Risk Analysis for Food Supply Security in Austria (SYRI)”

The pandemic situation poses a multitude of challenges for decision makers in Austrian politics as well as for actors in the logistics sector. The focus is on food supply security for the Austrian population. The related supply chains need special attention in order to proactively respond to events that could affect the security of supply.

A group from Complexity Science Hub Vienna (CSH), Logistikum of the University of Applied Sciences Upper Austria, - in particular the Josef Ressel Center LIVE, University of Veterinary Medicine Vienna (Vetmeduni Vienna) and University of Natural Resources and Life Sciences Vienna (BOKU) has formed a cross-organizational consortium. An interactive visualization tool will be developed, which allows to monitor, to simulate and to analyze the food supply security on federal, state and municipal level.

The aim is to 1) monitor and predict potential food shortages based on current inventory levels and to 2) simulate the impact of events such as store closures (infected employees) and production declines (supply of raw materials, infected employees) on the security of supply for the population. The goal is to give policy makers more time to make decisions based on valid data. By identifying bottlenecks in real-time, appropriate regulatory measures can be initiated in advance (people should not be faced with empty shelves abruptly).

Target groups are: (1) decision makers in politics and crisis teams. (2) all key actors in food supply.

duration: 2021- 2023

In a first step, stock levels and ranges on product group level are collected. In a second step, data of relevant food producers are collected and the supply chains of critical products are reconstructed. In addition, relevant supplier companies, such as the packaging industry, are identified to prevent plant closures from affecting supply.

The result are an interactive tool for visualization, a resilient database for systemic risk analysis and a disaster logistics planning:

- 1) Critical stores: Store closures and their effects on product availability.
- 2) Critical food producers: Supply bottlenecks at food producers (suppliers for retail chains) and their effects on individual food retailers (stores, warehouses).
- 3) Critical food logistics providers: capacity bottlenecks at food logistics providers as well as on the main transport corridors and the effects on warehouse levels.

The tool will be presented in the form of an interactive map of Austria in which each location (warehouse and branches) is displayed as a clickable icon.

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