## **NutriFlow**

Regional MFA for Phosphorous, Nitrogen and Protein in the region of Flanders (Belgium)











Focus on food production chain







Food- and bio-industry



Consumption



Waste processing

- Goal: identify hotspots of losses and opportunities to improve efficiency of nutrient use
   Compare results with previous study (Coppens et al., 2016)
- Consortium:





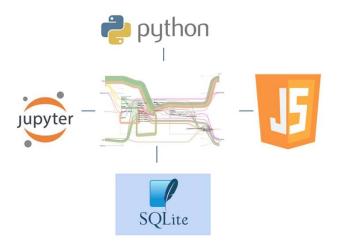






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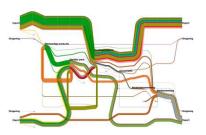
## New MFA tool



## Highlights:

- Open source
- Data for flows and nodes in SQL database
- Minimal aggregation of data in model
- Link with material databases for P (and N) concentration
- Calculation of indicators on source data in DB

Python "ecosystem" allows use of other libraries, e.g. for visualization











Sankey generated from model, based on Lupton et al., 2017

Hybrid Sankey diagrams: Visual analysis of multidimensional data for understanding resource use

