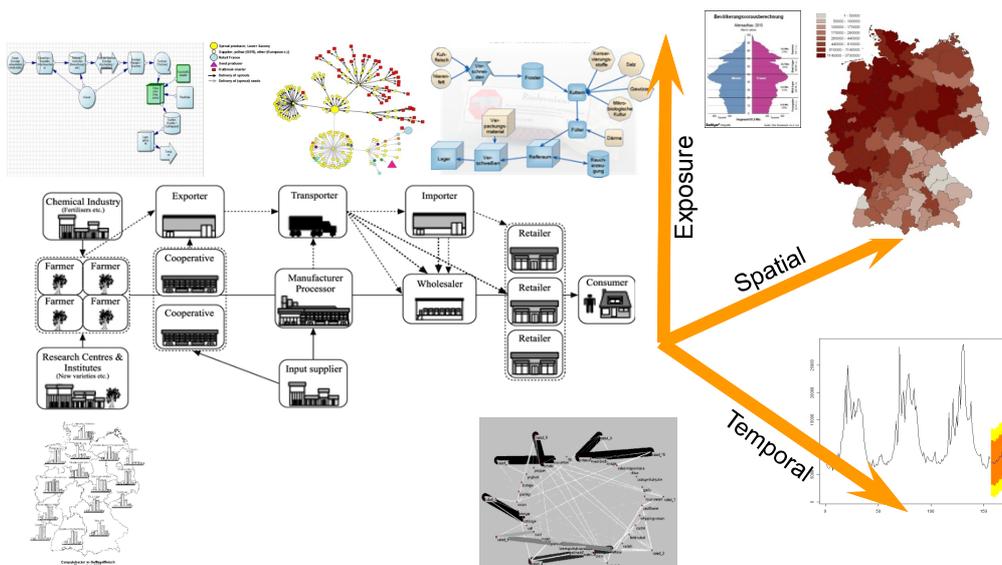


## Globalised markets – Local risk assessment?

Andreas Hensel

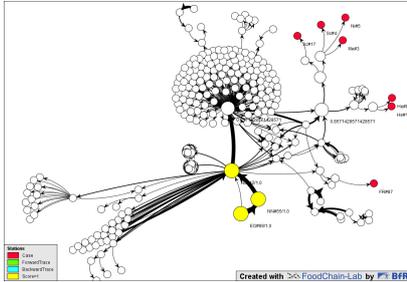
### Increased complexity of risk / exposure assessments Can we still address this as before?



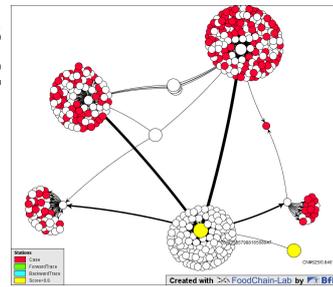
Matopoulos *et al.* (2007) Supply Chain Management: Vol. 12 Iss: 3, pp.177 - 186

## Real world applications

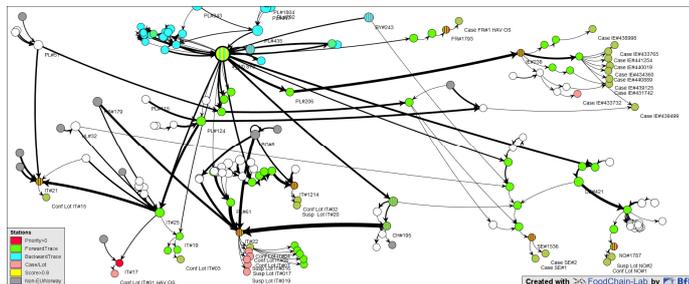
### EHEC 2011



### Norovirus 2012



### HAV 2013/2014

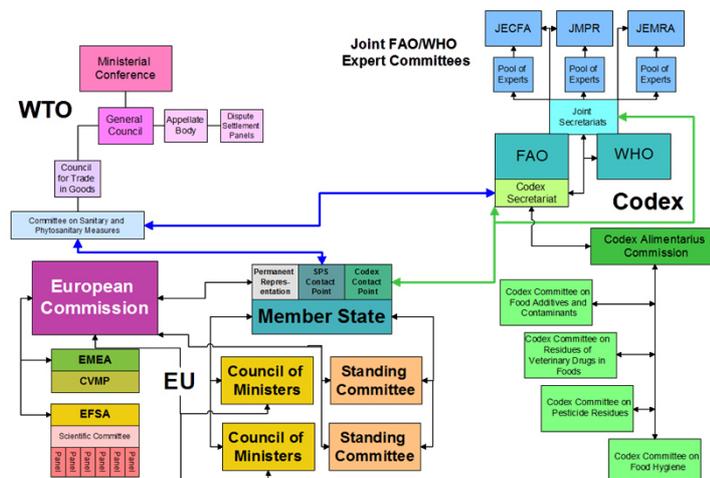


Armin Weiser, 07.11.2016, CFSA@BfR, FoodChain-Lab & Tools

Page 3 BfR

## Information flow

### Data and knowledge flows Smart data grids?



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## Big data

### **Example: Next-Generation sequencing**

- Millions of sequencings in parallel
- Sequencing of whole bacterial, animal (human), plant genomes possible

<b>1995</b>	→	<b>2012</b>
<i>H. influenzae</i>		<i>E. coli</i>
1.8 Mb		5 Mb
1 year		2 days
\$1,000,000		\$80

### **Applications of NGS in food safety**

- Microbiology
- GMOs
- Species identification
- Allergen identification

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## Integrated open data

- Open data bases, e. g. use of data from the private sector
- Multistakeholder approach, integration of data from different systems
- Heads of Agencies Working Group
- Coordination of experts, e. g. through EURL
- Coordination of information flow? FAO, WHO, EFSA?
- Harmonisation, global standards
- Trustworthy traceability (blockchain technology)
- “Global RASFF”

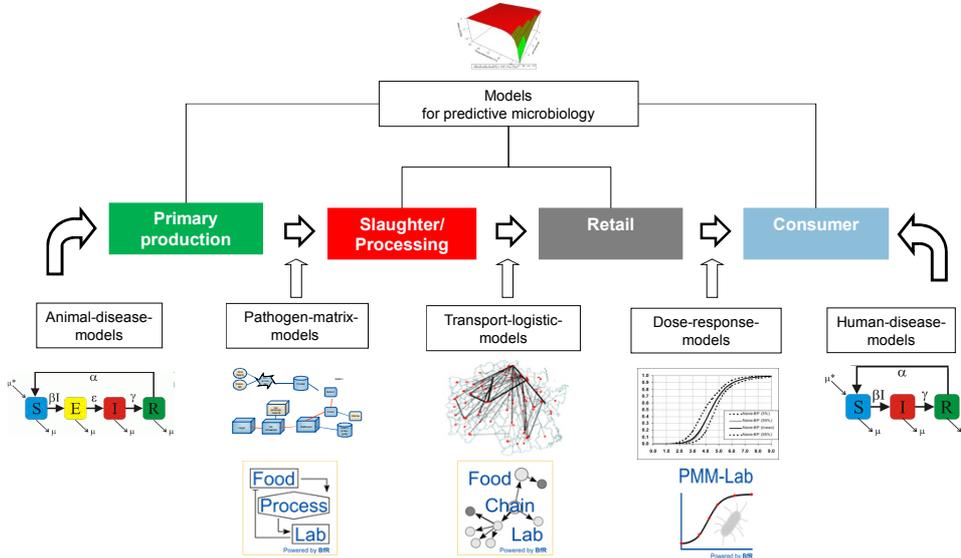


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## Tools

### The food chain approach: Model-based tools for microbial risk assessment

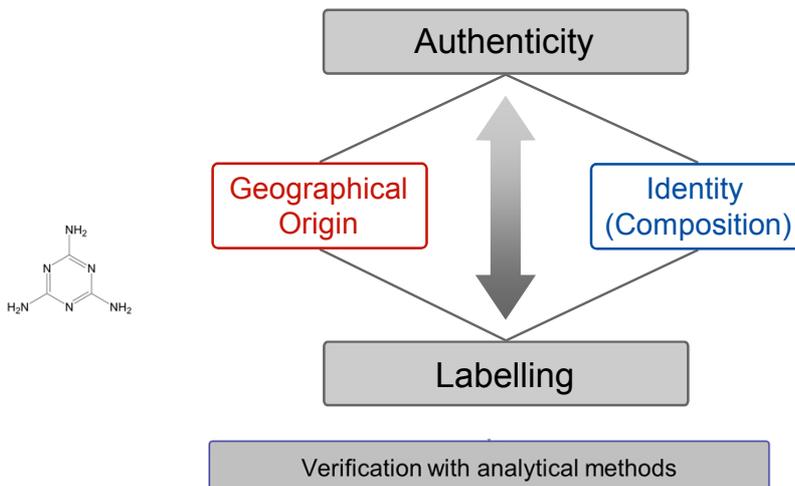


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## Tools

**Authenticity, traceability** → **Trust, backbone of global food safety**



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## Collaboration

- **Collaboration and capacity building**
- **A cloud for risk assessment, dynamic distribution of tasks**
- ***Example: Capacity Building EFSA Advisory Forum Discussion Group***



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## What remains local?

- **Communication on the internet is globalised, but the consumers are local.**
- **Risk management stays local (food inspections, meat inspection in slaughterhouses).**
- **Risk assessment needs to be local, where problems are local.**

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## **Thank you for your attention**

Andreas Hensel

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