

# The European Commission's science and knowledge service

Joint Research Centre

## Future challenges for food contact materials

*Eddo Hoekstra*



## Short term challenges

- **Practical guidelines migration modelling**
- **Technical guidelines kitchenware**
- **Technical guidelines for the monitoring of mineral oil hydrocarbons in food and FCM**
- **Multi-analyte methods**

## Long term challenges

- **Contribution to reduction of food waste**
- **Contribution to recycling of FCM into raw materials**

# Practical guidelines migration modelling

- 2<sup>nd</sup> version appeared end 2015
- Task Force activated for update of:
  - ✓ Update of annex 10, authorised substances, molecular mass
  - ✓ Inclusion of new polymers such as PMMA, cycloolefines
  - ✓ Draft technical guidelines to determine diffusion parameters
    - Inclusion of new estimation procedure for diffusion coefficient e.g. PET
    - Inclusion of the estimation of diffusion coefficients by interpolation of Ap-values based on the glass transition temperature of polymers
  - ✓ draft technical guidelines to determine the upper limit AP'-value and mean  $\tau$  (tau)



JRC TECHNICAL REPORTS

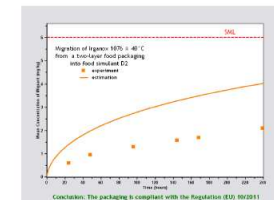
Practical guidelines on the application of migration modelling for the estimation of specific migration

*In support of Regulation (EU) No 10/2011 on plastic food contact materials*

Edo J. Hoekstra (Ed), Rainer Brandsch, Claude Dequatre, Peter Mercea, Maria-Rosaria Milana, Angela Störmer, Xenia Trier, Olivier Vitrac, Annette Schäfer and Catherine Simoneau

2015

$$\frac{C_t^{n+1} - C_t^n}{\Delta t} = D \frac{C_{t+1}^n - 2C_t^n + C_{t-1}^n}{h^2}$$



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EUR 27529 EN

# Technical guidelines kitchenware

- **Revision needed**
- **Plastic kitchenware not in Technical Guidelines compliance testing**
- **Aim was one guideline on kitchenware**
  - **One section on plastic kitchenware**
    - Based on Chapter 8 tables
    - Inclusion overall migration test conditions
    - Consideration of S/V (art 17.2.(b))
  - **One section on non-harmonised kitchenware**
    - Collection of current (inter)national legislation and test guidelines
    - Industry initiative non-harmonised

JRC Scientific and Technical Reports



**Guidelines on testing conditions for articles in contact with foodstuffs.**

(with a focus on kitchenware)

A CRL-NRL-FCM Publication  
1<sup>st</sup> Edition [2009]



Catherine Simoneau  
On behalf of the CRL-NRL-FCM



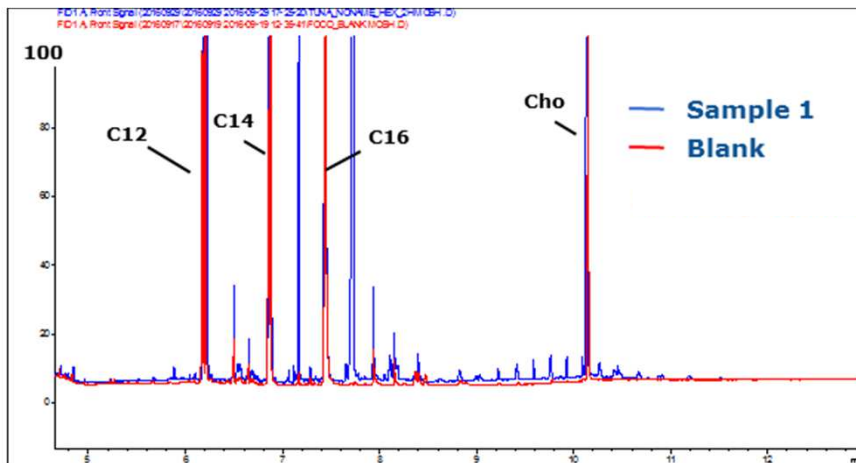
EUR 23814 EN 2009

# Mineral Oils

Recommendation (EU) 2017/84 has been published

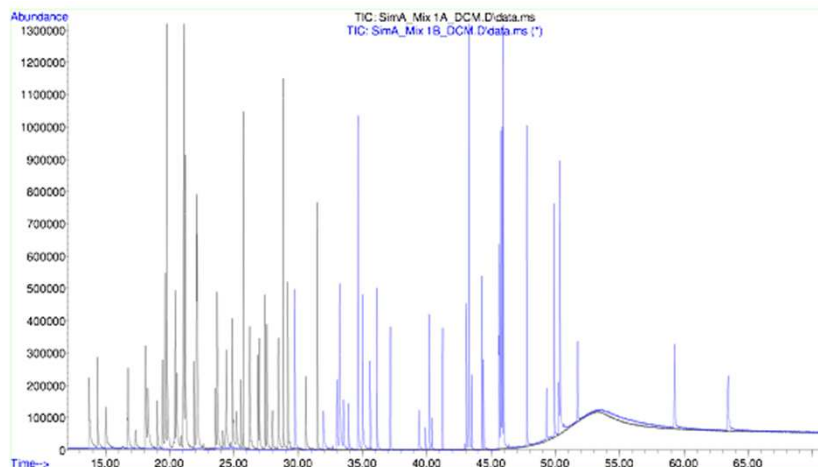
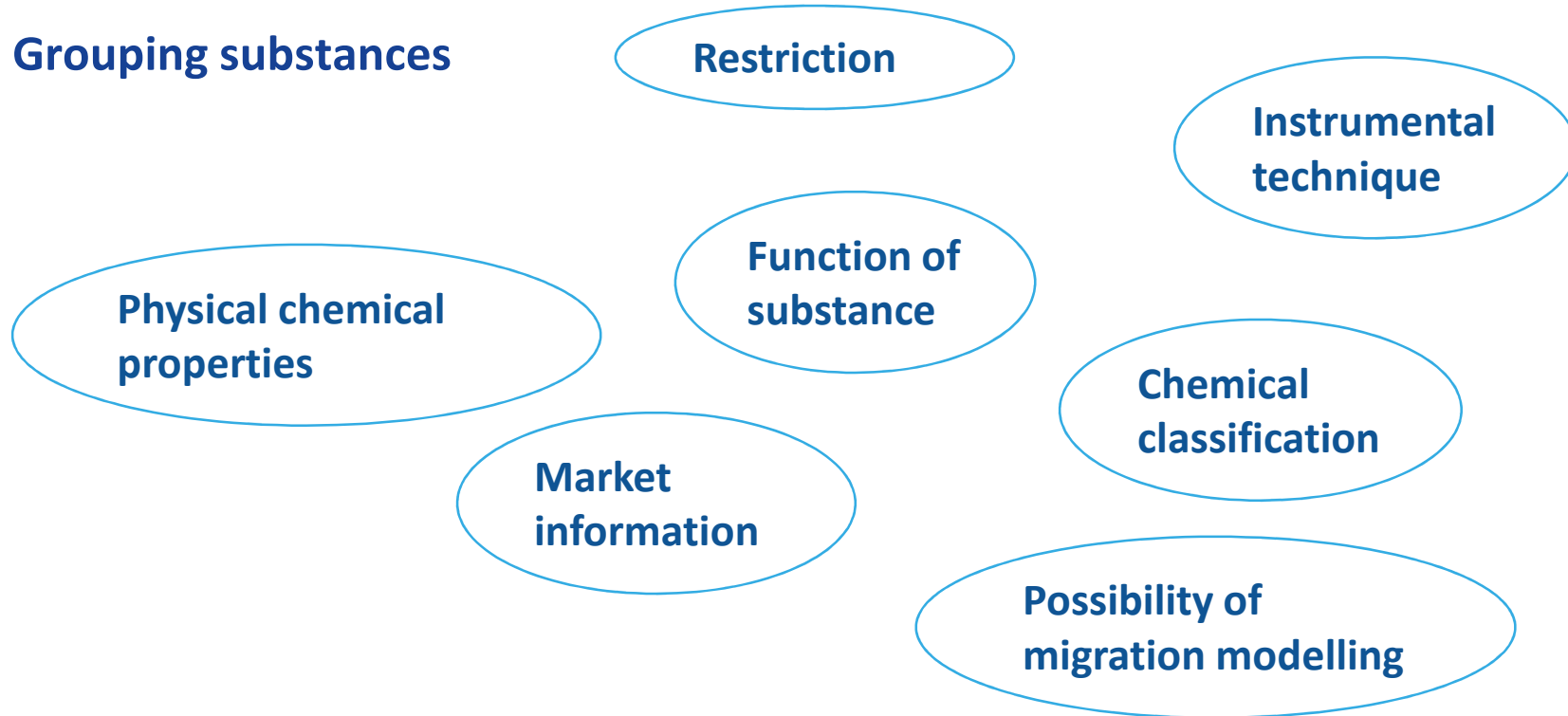
JRC will organise drafting of guidelines

- Harmonised approach
- To provide help to those MS that do not have the capability yet
- Set up of task force of NRLs and official control laboratories
- Sampling
  - Based on Commission Regulation (EC) No 333/2007
- Analytical method
  - Based on prEN16995 and method of the Bundesinstitut für Risikobewertung and the Kantonales Labor Zürich



# Multi-analyte methods

Grouping substances



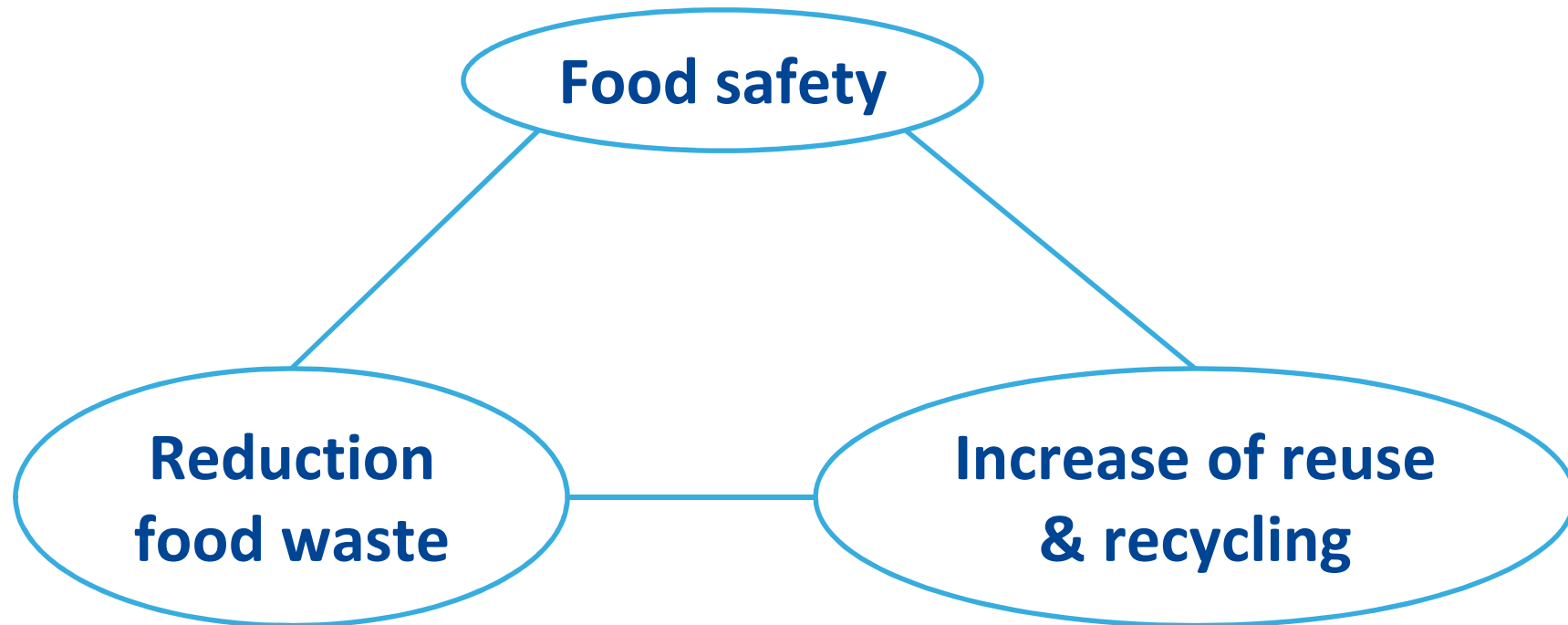
# Current recycling issues

## Solve open questions with a monitoring requirement?

- The 5% non-food consumer products limit
- Imports and production out-side of the EU
- The present contamination level
- Other issues, such as actual decontamination, systemic contamination sources...

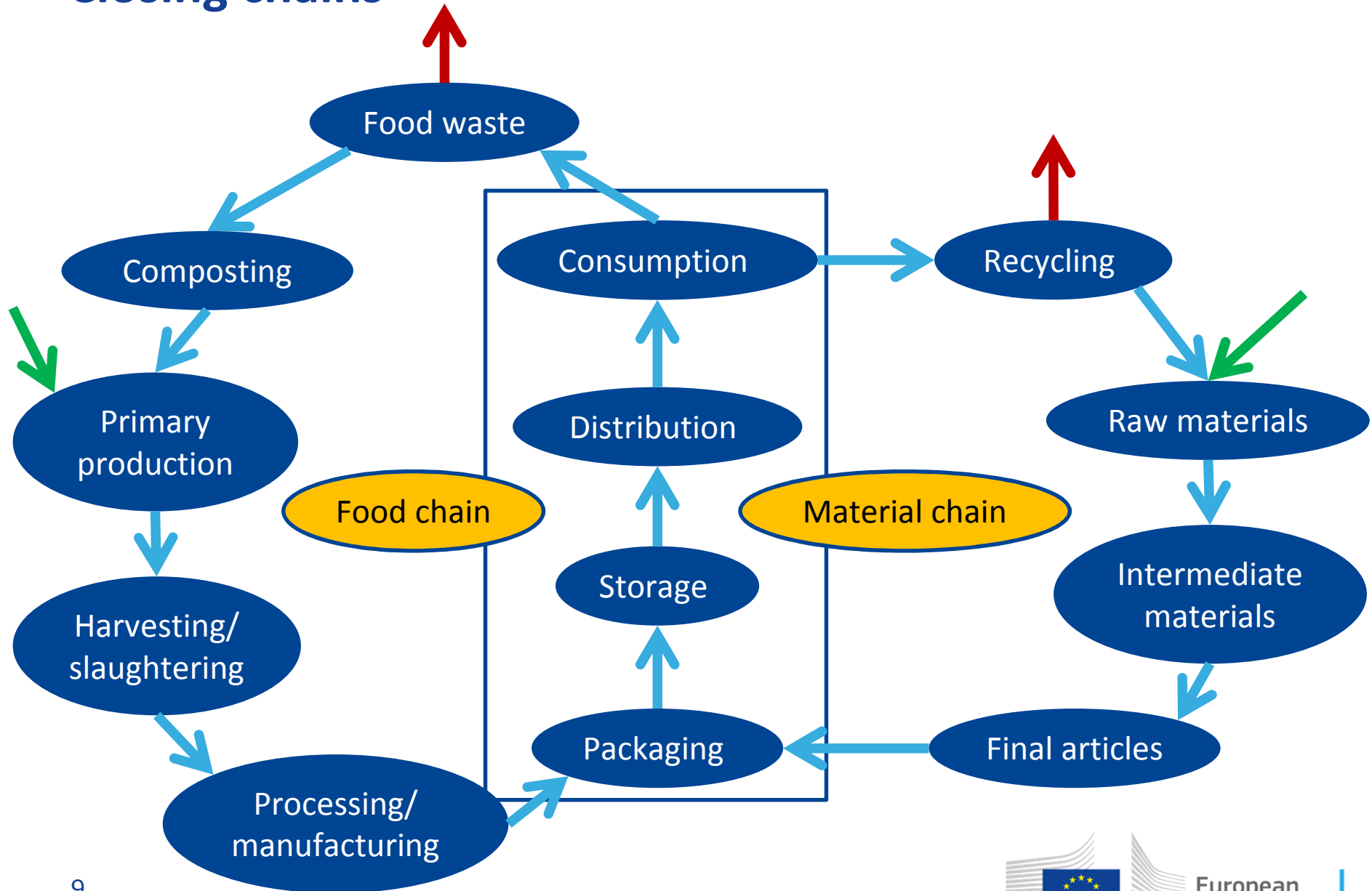
## HDPE authorisation

# Research challenges food packaging

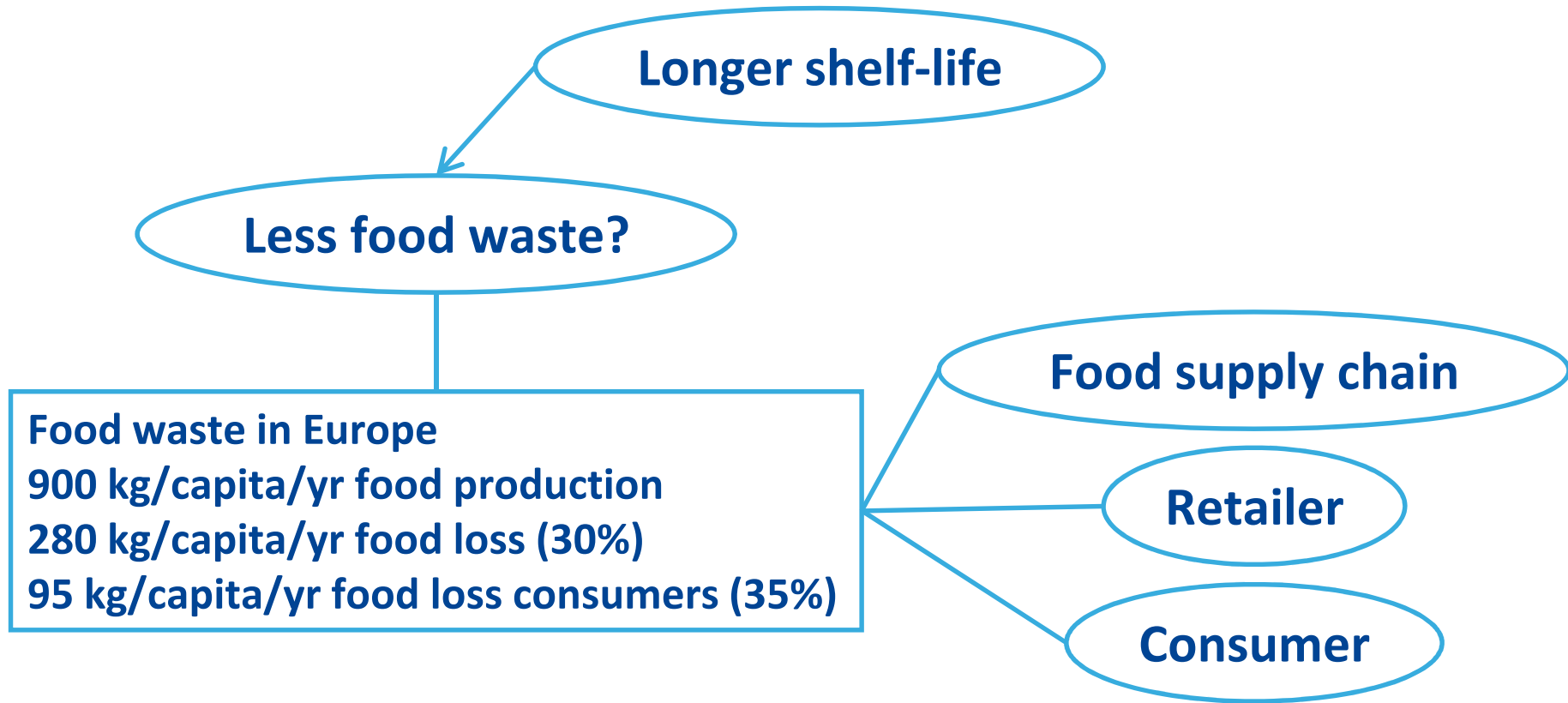




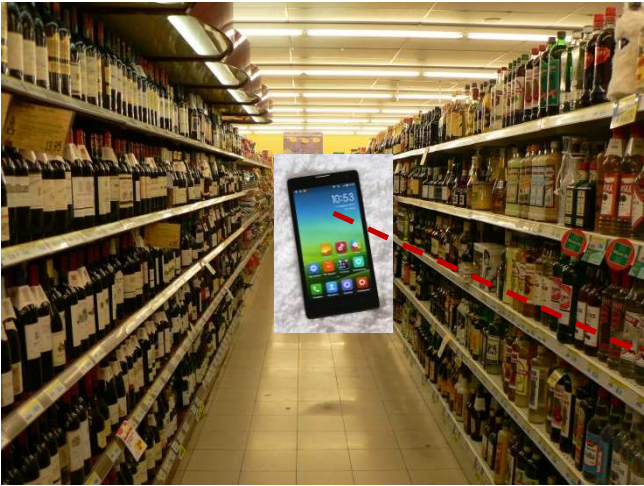
# Closing chains



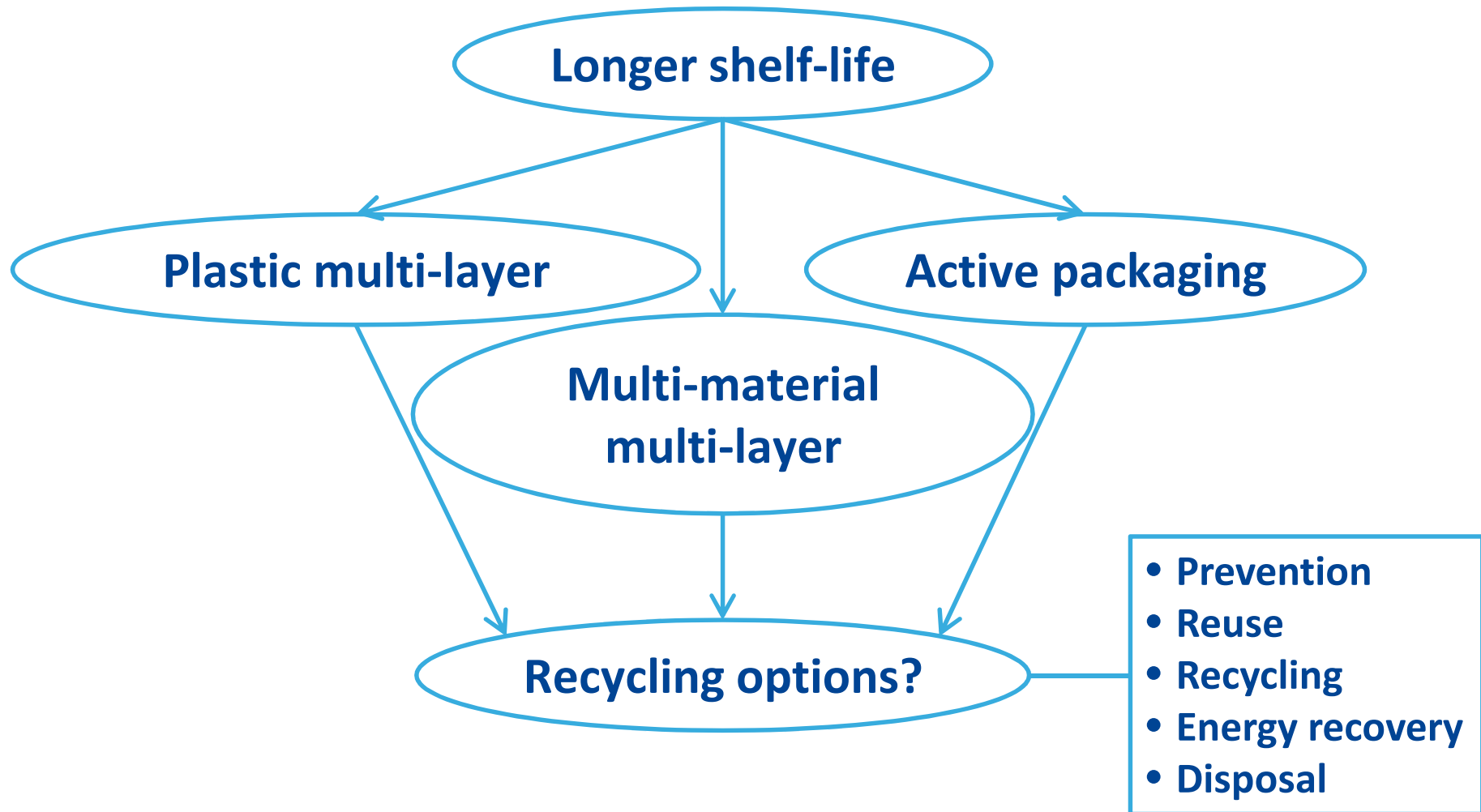
# Reduction of food waste



# Reduction of food waste



# Increase of recycling



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