Dr. Johanna Lahti (TUT)
(WG2 leader)

NOTES OF COST ACTION FP1405 MEETING IN VALENCIA 2017

WG2: INDUSTRIALIZATION & MARKET INTRODUCTION OF AIP

GENERAL TARGETS OF WG2 ARE TO IDENTIFY:
- market needs
- supply chain challenges
- legislative restrictions
- consumer expectations
- together with WG1 technological issues for scaling-up and industrialization of different processes
- ➔ As a result, a road map to be used as guideline to provide directions towards market implementation

WG2 workshop: working in small groups to find out "barriers"
1. Market introduction
2. Supply chain challenges, definition of value chain and parties involved
3. Legislation
4. Consumer expectations

1. **Barriers to market introduction:** What is required for successful market introduction? Whom to "convince" in the value chain? Whom to contact in companies? Best way to "convince"?
   Challenges in successful market introduction:
   - <u>Customer pull</u> is important
     - Solution has real benefit for all players in the value chain. Right contacts, customer's customers.
     - Who is the customer?
     - Too new! How to explain? Consumers have to understand AIP
   - Supply chain for set-up/scale-up: Shelf-life of the active material has to fit the food supply chain
   - Perception that price is too high so only feasible for high value goods
   - Each player in supply chain has own knowledge and interests – does not want to be concerned with anything else but all have to play a part to implement
   - Different explanation needed for different players
     - Logistics companies – less claims
     - Retailer – less waste, better quality
     - Consumer – freshness
     - Producer – quality/price/cost saving
   - Marketing has to be involved from the start
   - Best chance of success if benefit goes to the user/buyer of the technology
   - Has to fit the culture – Europe, Asia,…

- o Consumer perception: Risk if something goes wrong
- o Real examples: Bananas, flowers – ROI through waste reduction, not consumer.
- o Have to solve a real problem: not necessarily consumer but someone else in value chain
- o Intelligent packaging is more about experience – type of goal is important
- o May sell based on the benefit – Safer, less preservatives, …
- o How to convince: demonstrators, case studies
- o Even when quality is better and cost lower, new solution might not be accepted: "it's new" (and if cost savings not passed on)
- o Brand loyalty – enhancement
- o Convince retailers that it work and has benefit
- o Different approach for different people in value chain
- o Different kind of shoppers – who are you talking to?
    - o Quality, easy/convenience, cost, safety, integrity/counterfeit
- o Conflicting interests down the supply chain
- o Players who pay added cost has to be convinced – can be different depending on the product/country

2. Supply chain challenges

- o Supply chain aspects categorized into two groups: a) market pull, b) technology push
- o Market pull:
    - o Not always clear what solutions are available
    - o Costs – who will carry them?
    - o Legislation: Approval takes long time + first one pays
    - o Not knowing what you are looking for or who can help
    - o Finding partners to complete the value chain (or to exclude them)
    - o Positive marketing to inform consumers without "scaring" them (sachets: "do not eat" is not maybe the right way. Use short messages.
    - o Redesign of packaging may be required for optimum results or to achieve results at all → What is the optimum way to use AIP – for each product and chain
    - o Actually achieving the increased quality/shelf-life and sustainability gains (e.g. food waste)
- o Technology push:
    - o Lack of knowledge about applicability (upscaling) → Upscaling: restrictions of equipment costs
    - o Not knowing which markets/products and benefit from the technology
    - o Focus on distribution: Retailer and consumer will benefit without knowing there was a change (bananas)
    - o "Nobody wants to be a hero": Companies conservative, they should be convinced of competitive value
- o If more information is needed:
    - o Questionnaire of relating to market pull to retailers & distributors

- o Questionnaire of relating to technology push to product producers & distributors
  - o Questionnaire of relating to consumers (mainly young people)
- o Demonstrators to show market need and to show what is possible with AIP → Bringing the two aspects together
- o Value chain: key decision makers – product developers, distributors, retailers
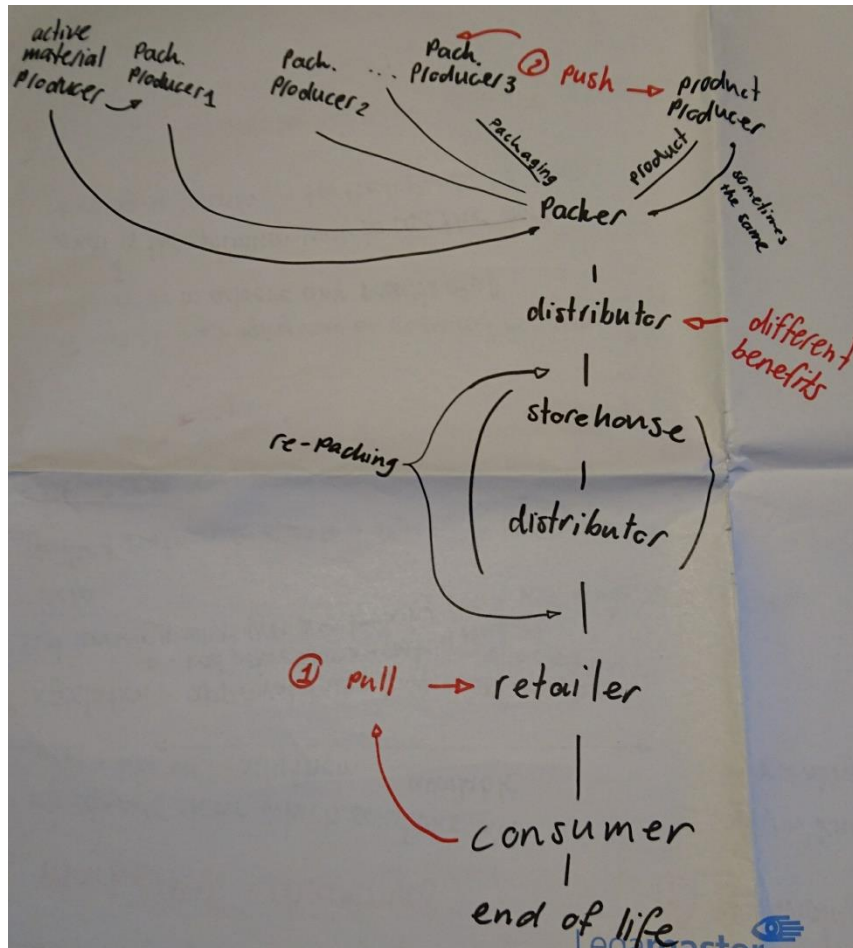
3. Legislative restrictions
- o Challenges:
  - o With new developments, the process of approval very slow
  - o There is lack of knowledge among researchers, industry and customers, or the information is not clear
- o Solution: A guiding leaflet about legislation relating to AIP and food contact materials (FCM). This would help in getting approval for new AIP/FCM. Summary of EFSA framework and clarification of legislation through case studies.
- → Preparation of a leaflet about legislation.

Dr. Johanna Lahti (TUT)
(WG2 leader)

4. Consumer expectations

o Testing of AIP concept with consumers is important. This reveals if there is something wrong with either the product or the package if the consumers are not interested about it.

o In addition, testing of package and materials with consumers is important. No-one else but the consumer itself knows the value of the package/product for her/himself. → Value experience and willingness to pay are in close relation.

o There are also demographic differences in consumer expectations/experiences of packages: in Western countries well-being is more important, in Asian countries status value is higher.

o For companies there are some ways to evaluate the benefits of AIP: ROI toolkit (PTR, Virpi Korhonen)

   o ROI: minimizing packaging costs and increasing return on investment → Packaging value cycle

   o Consumer-related sectors in packaging value cycle are really the ones affecting ROI

   o 90% of products fail during the 1st year

o Consumer expectations: No survey to consumers, instead qualitative research, why?

   ⇒ Innovation

   ⇒ Too many issues to ask (active, intelligent, benefits, willingness to pay, etc..)

   ⇒ How to focus? Sector?

o STEPS:

   1. To share a document with notes of research results, databases, articles, information about waste food etc. (e.g. google docs)

Author	Products	Countier	Method	Journal	Title

   2. Identify benefits & barriers of AIP by comparing to standard

   3. Qualitative research
      - Virtual shops, eye-tracing, simulator shops, etc.
      - Focus groups with experts and consumers
      - Testing products
      - Prototypes of COST participants

   4. Analyses: KANO, CONJOINT

Actions in WG2 and together with other WGs:

   ✓ Identify together with WG1 existing AIP solutions, categorize them according to the type of technology and application area - *Virtual showroom has been established*

   ✓ Definitions of technologies, terms etc. - *Definition document has been established*

   ✓ Collect information from the value chain parties - *Questionnaire has been sent to wide range of parties and results have been collected*

Dr. Johanna Lahti (TUT)
(WG2 leader)

- ✓ In order to simplify evaluation of barriers and challenges and to explain AIP, *three demonstrator cases have been created to evaluate different aspects*
- ✓ Increase awareness about AIP through all value chains - *Workshops (Utrecht 2015, Valencia 2017) and training schools (Swansea 2016, Tampere 2017)*
- ✓ Increase knowledge in the consortium - *Preparation of a guiding document about legislation relating to AIP*