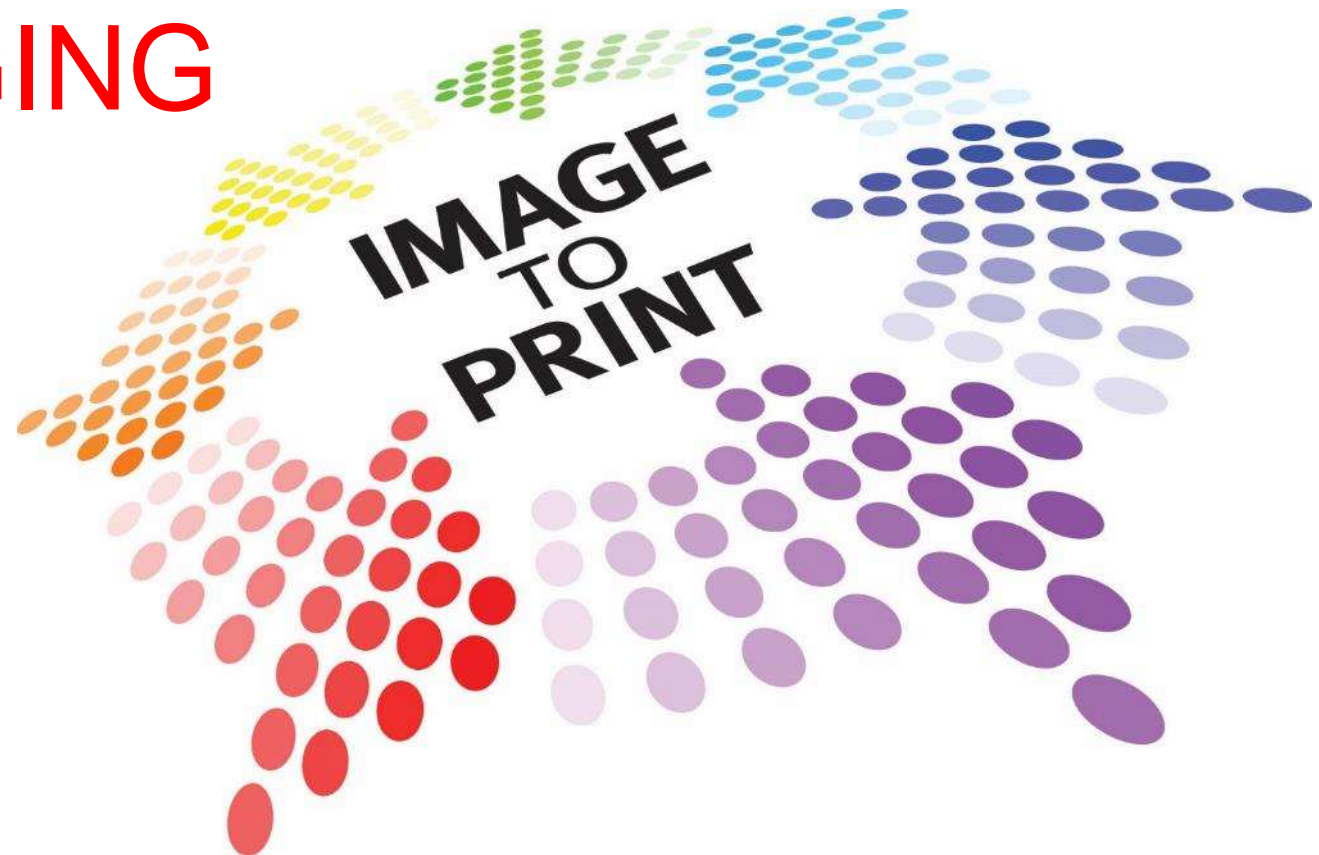


PRINTING TECHNOLOGY & INNOVATION DAYS FOR FLEXIBLE PACKAGING

20/21 March 2019
Jakarta, Indonesia



PRINTING TECHNOLOGY & INNOVATION DAYS FOR FLEXIBLE PACKAGING

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Circular Economy- Challenge and Opportunity for Flexible Packaging

Dr. Ralph Detsch

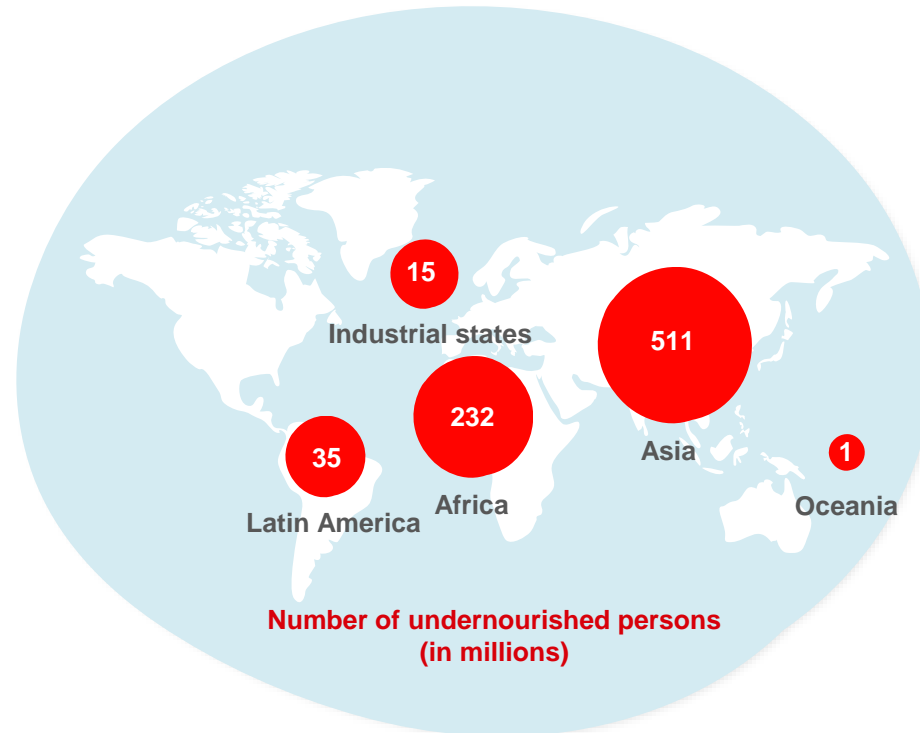
VP Global Technology, Siegwerk



Regions becoming impoverished – around 11% of the world's population is undernourished

- 800 million people live in extreme poverty and another 800 million live under the threat of poverty
- 3.1 million children die every year from malnutrition
- It is feared that natural catastrophes and climate change will further exacerbate the situation

Source: UN DP, WORLD BANK



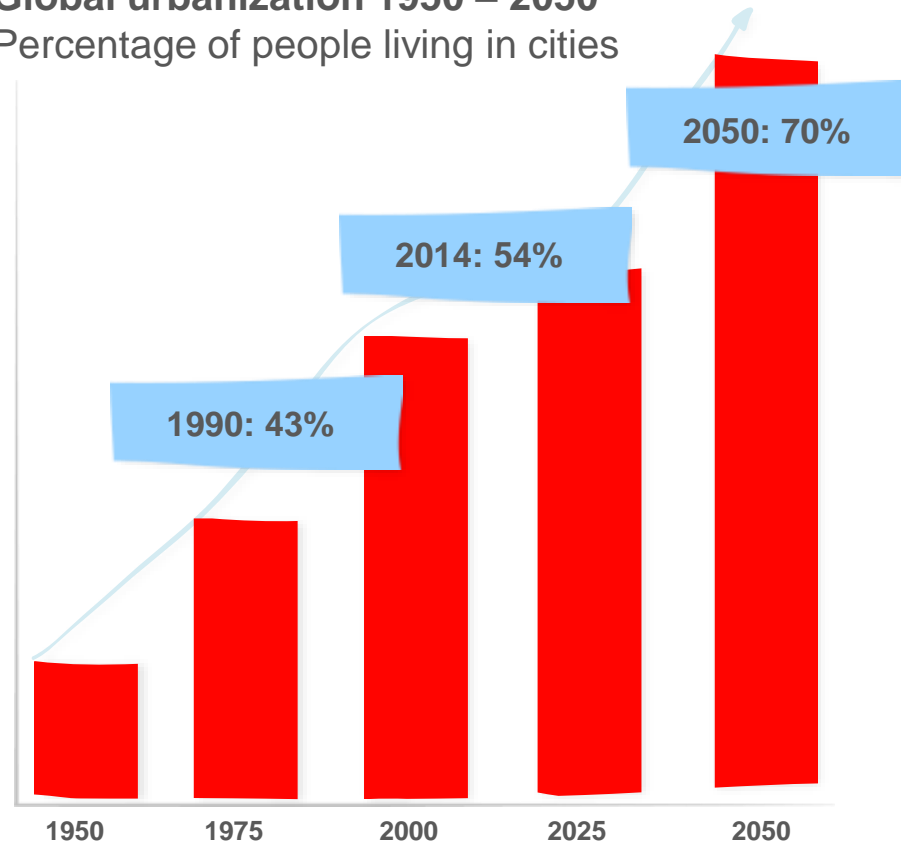
Urbanization – the trend towards mega-cities

- 180,000 people a day move into cities
- 22% of the world's population is distributed among only 600 cities
- An additional 2.5 billion people will be living in cities by the year 2050



Source: UN - World Urbanization Prospects, 2014

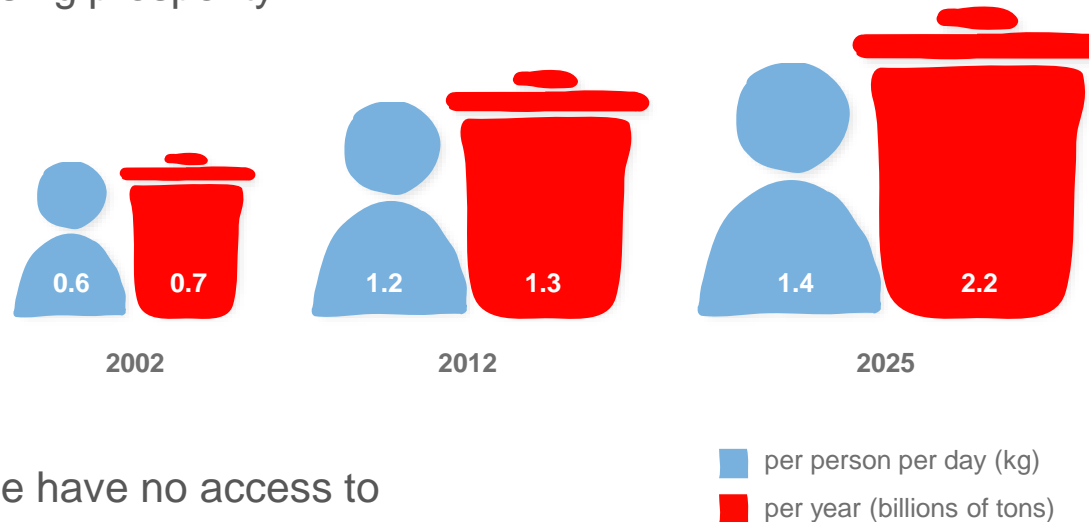
Global urbanization 1950 – 2050
Percentage of people living in cities



Lack of waste management!

Municipal waste; global

- There is an ever increasing amount of municipal waste due to a growing population and increasing prosperity
- The waste in cities with low incomes in Asia and Africa will have doubled in 15 - 20 years
- Around 3 billion people have no access to controlled waste disposal



Source: World Bank 2012



Flexible packaging – part of the solution

Global Challenges and Solutions



Insufficient medical care

Ensuring hygiene and care

Population growth

Conservation of resources

Urbanisation

Solving growth problems

Uncontrolled waste

Installation of circulation

Hunger/Poverty

Protection of food

Global warming

Reduction of the carbon footprint



If we had no loss of food, there would be no hunger in the world

Loss of the total amount as a percentage











Shelf life time is limited, but can be lengthened

What must food be protected against to extend its shelf life?

- Microorganisms (mold and bacteria)
- Oxygen
- Moisture and steam
- Light
- Ethylene (ripening gasses in the case of fruit and vegetables)

Source: FPA

	Shelf life unpacked		Shelf life in flexible packaging
 Bananas	 15 days	x 2.4	36 days Perforated PE bag
 Cucumber	 3 days	x 6.6	20 days PE-shrink
 Meat	 4 days	x 7.5	30 days Vacuum packaging
 Crisps	 7 days	x 25	175 days Barrier bag



Nothing protects as efficiently as flexible packaging

How much of a product can you protect with a 1 kg package

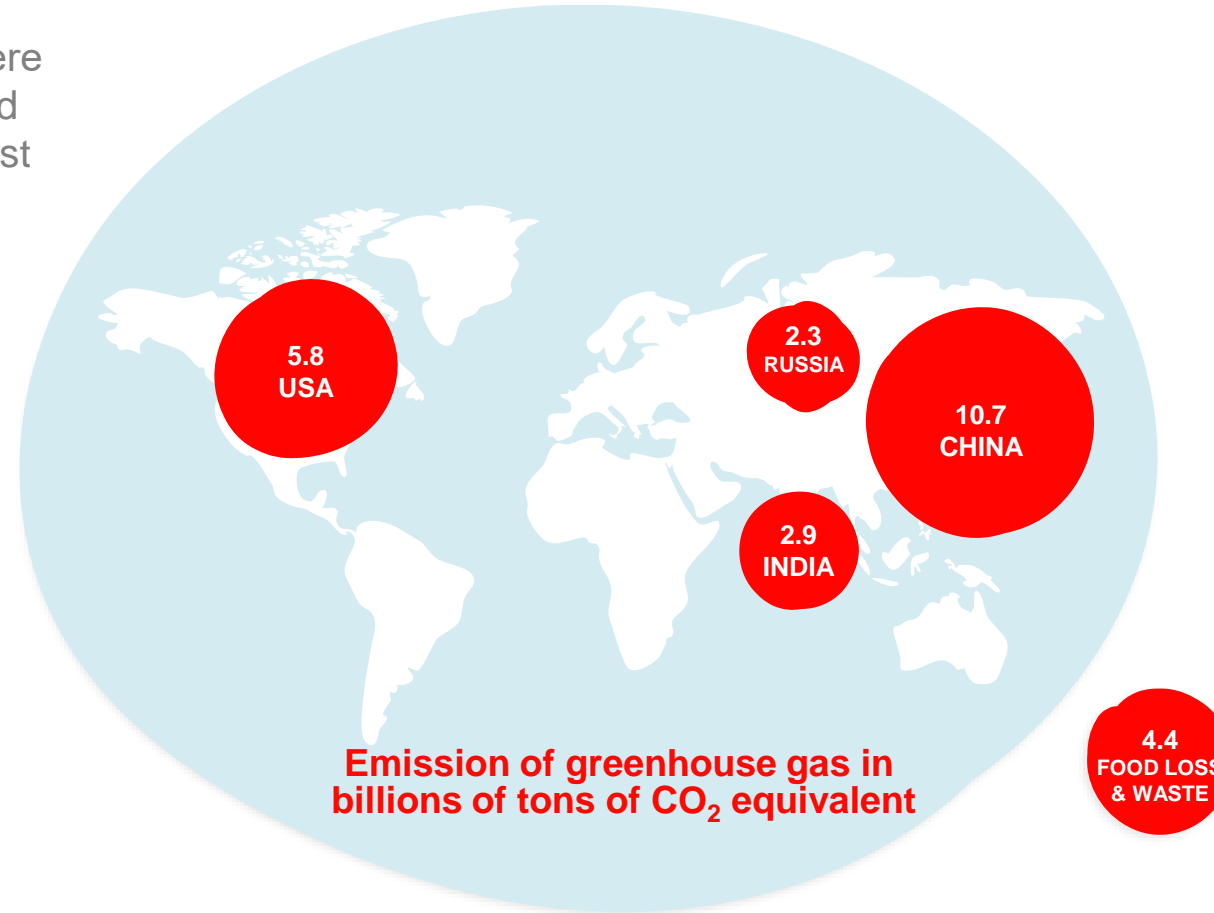


Source: Berndt+Partner



Flexible packaging protects the product and so in turn also the climate

If “Food Loss” were a country, it would be the third largest originator of greenhouse gas!



Source: FAO, 2015

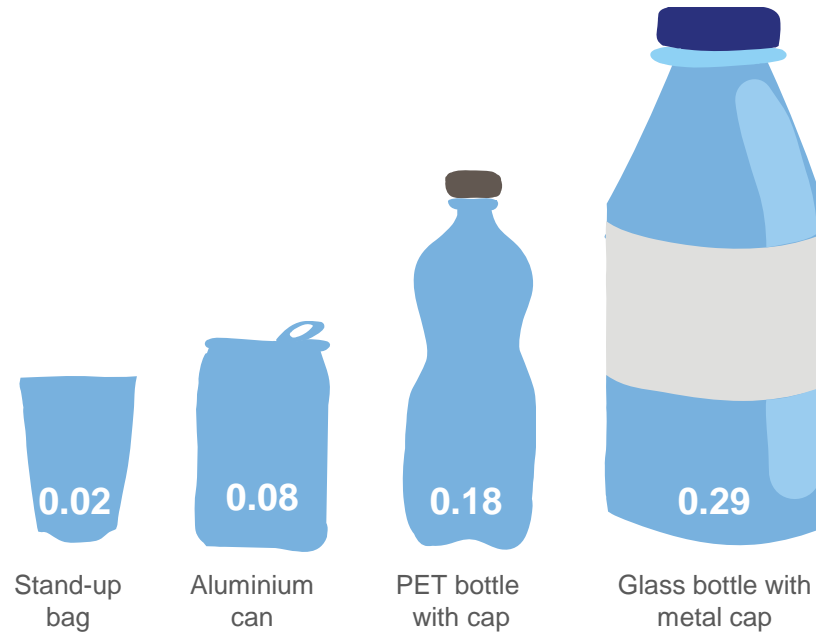


Flexible packaging has the best carbon footprint with equal performance

- The carbon footprint of flexible packaging is mostly superior to other systems
- Alternative packaging systems generate a 14.5-times higher CO₂ equivalence than flexible packaging

Source: FPA, Cradle to grave, in relation to an 8oz product

Emissions kg CO₂ equivalent for an 8 oz drink



Ocean Littering



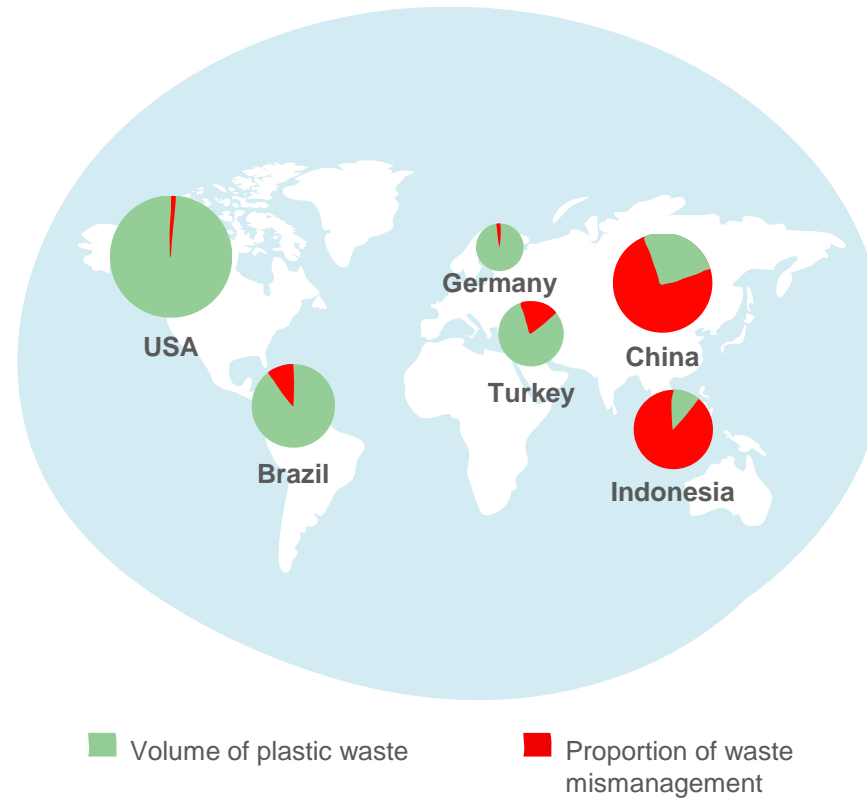
Waste mismanagement: Twice the amount of damage

- Economic damage due to loss of recyclable material
- Ecological damage due to littering of the environment
- Developing regions lose out twice through waste mismanagement



Source: GRID ARENDAL, 2015

Percentage of uncontrolled plastic waste



Ocean littering is the result of uncontrolled disposal



What is Circular Economy?



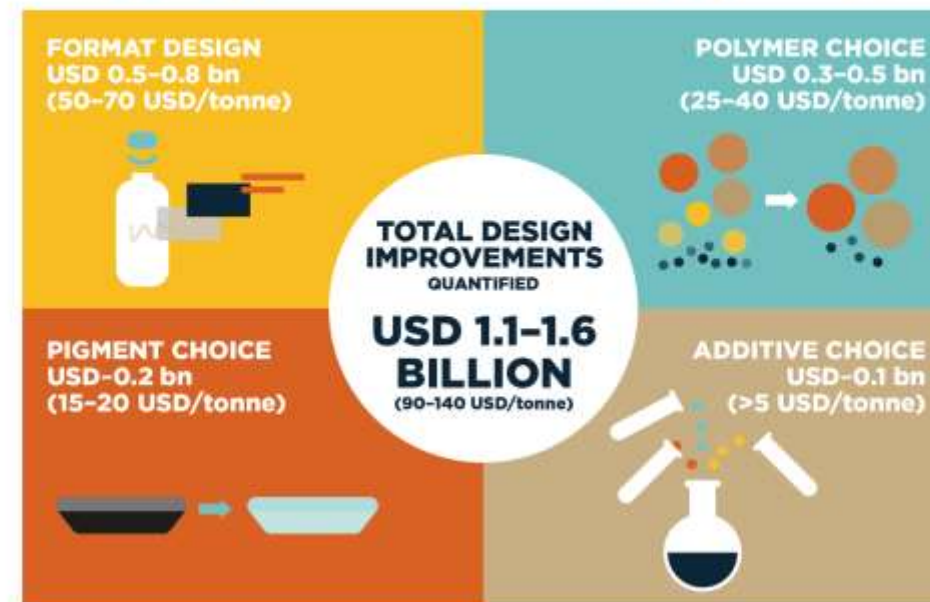
„New Plastics Economy 2017“

Ellen MacArthur Foundation is the „Thought Leader“

Three strategies to transform the global plastic packaging market

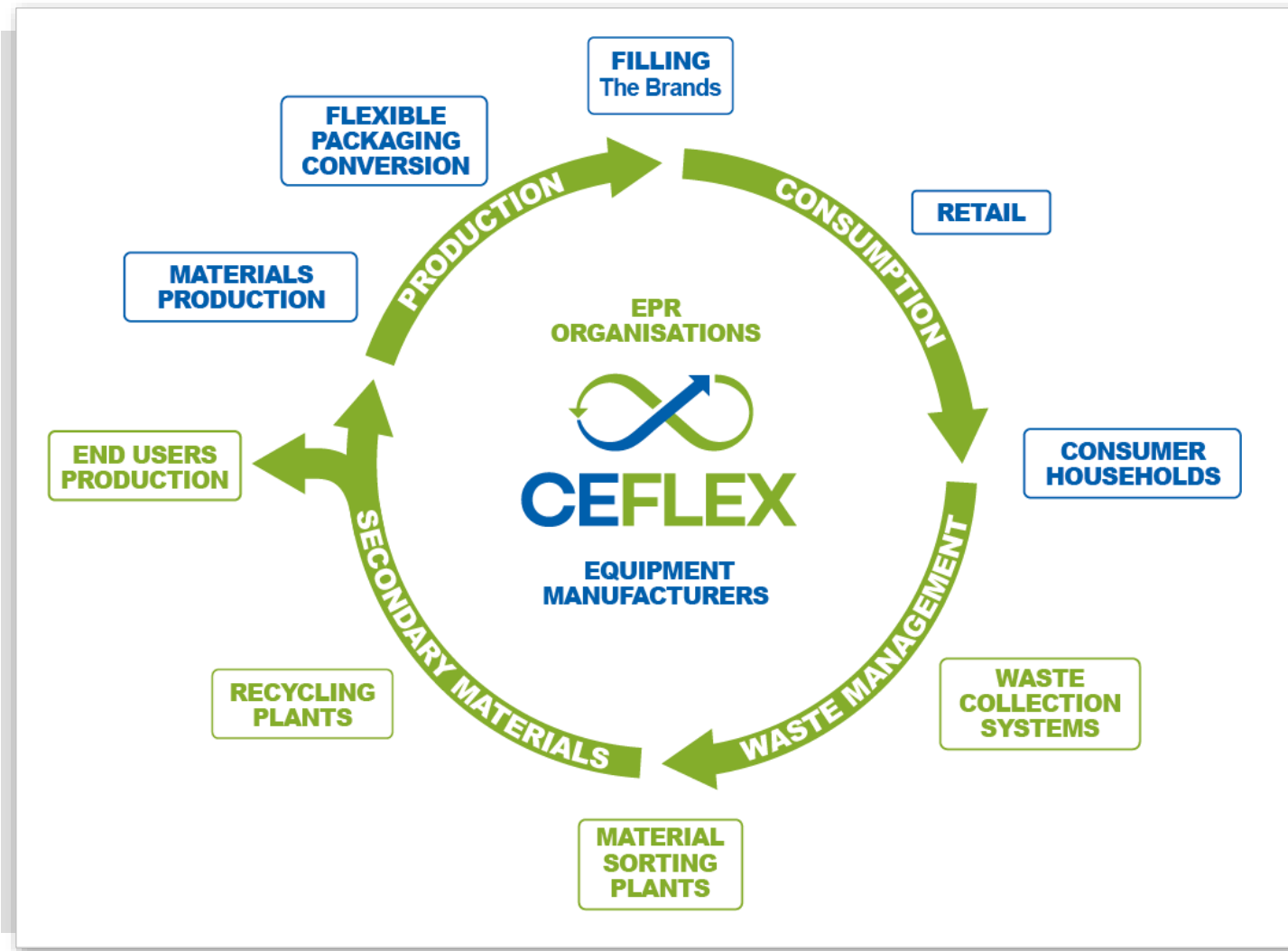


Improvements in plastic packaging design would reduce cost of recycling



CEFLEX: The Value Chain

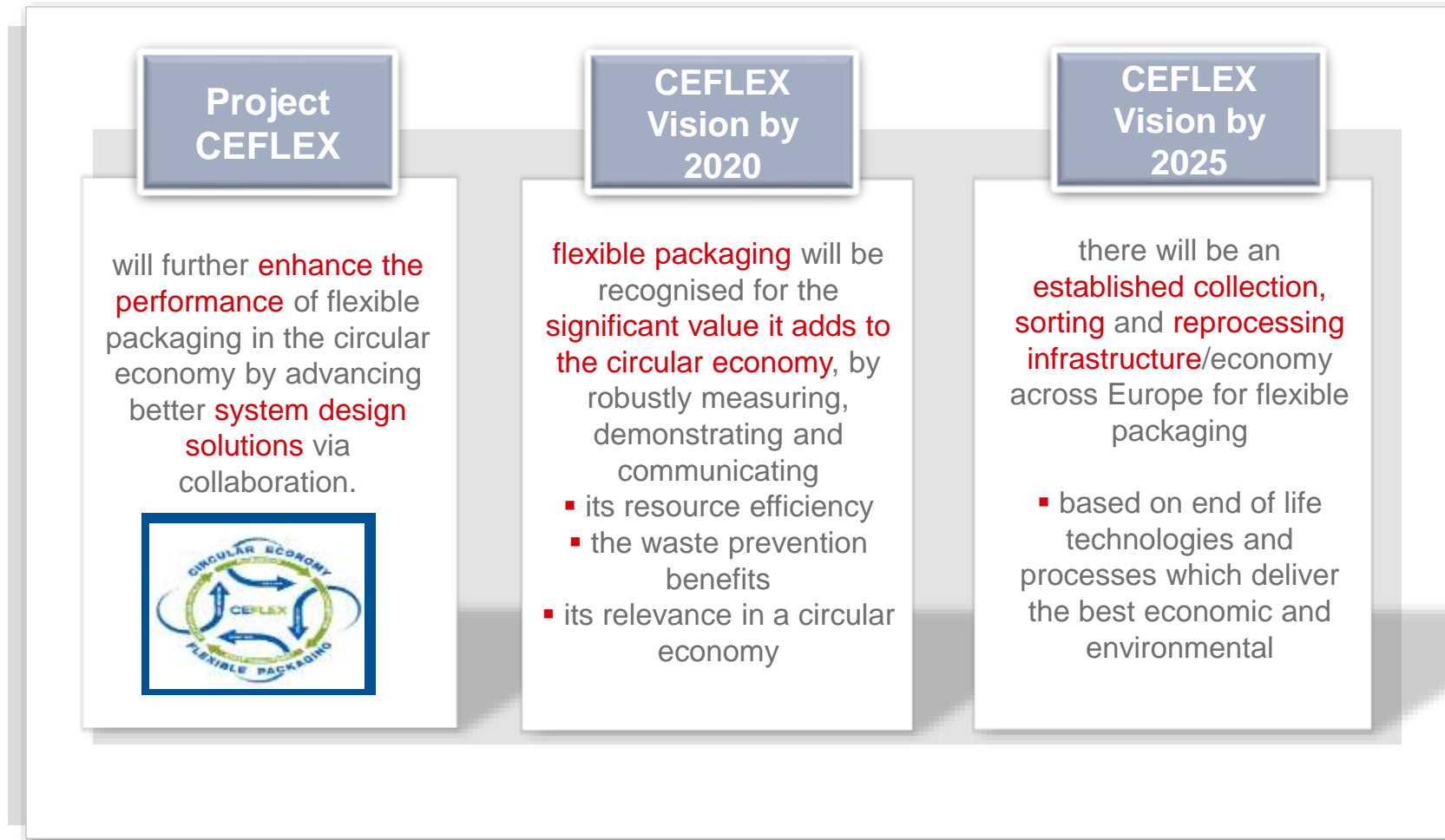
CEFLEX is a collaborative initiative of a European consortium of companies and associations representing the entire value chain of flexible packaging to enhance the Performance of flexible packaging in the circular economy.



Source: CEFLEX



CEFLEX Vision for the Circular Economy



Source : CEFLEX



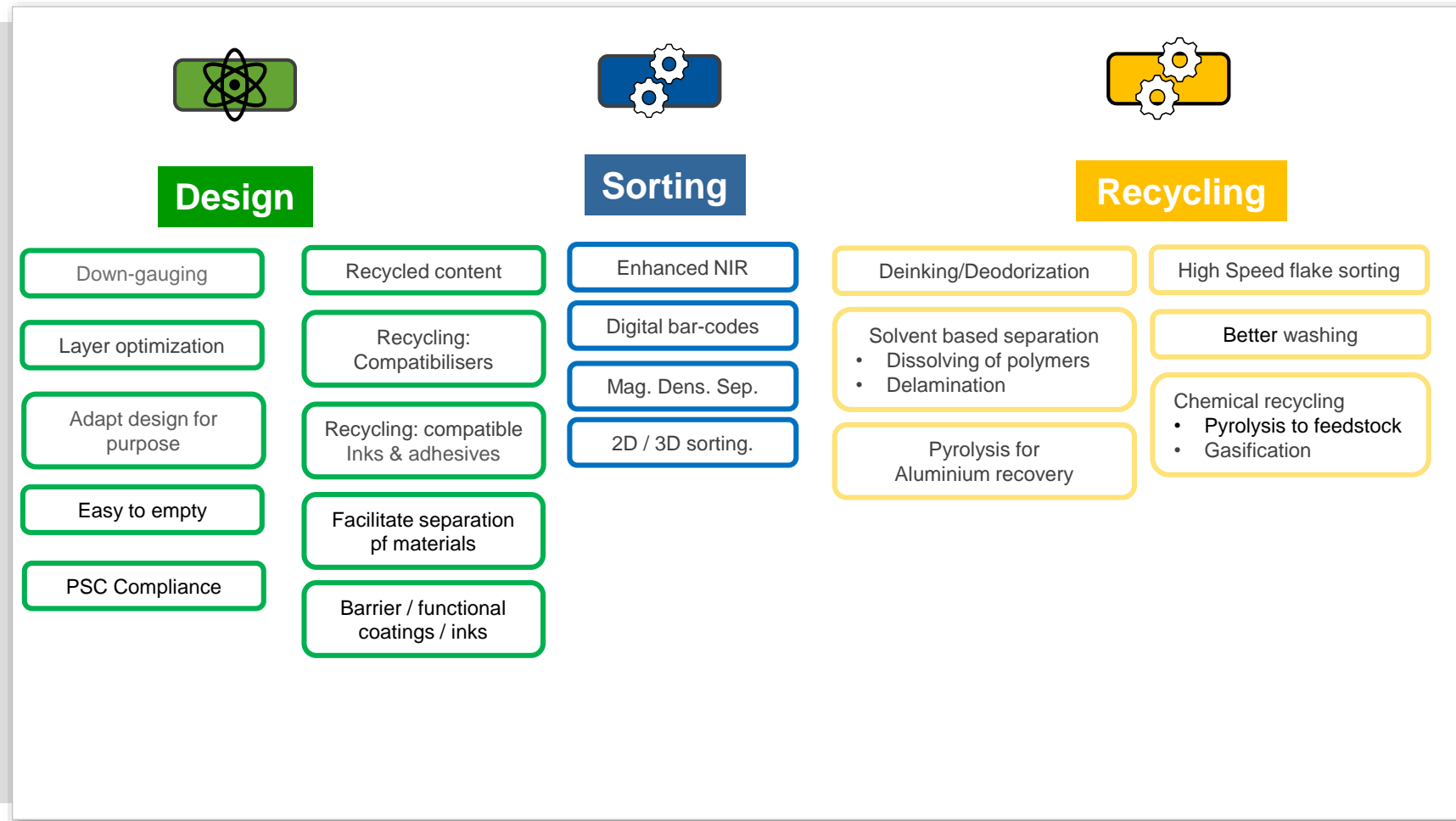
Project Stakeholders of CEFLEX

Material Producers	Flexible Packaging Converters	Brand Owners and Retailers	Collectors, Sorters and Recyclers	Suppliers, End Users and Others
 Borealis  Bostik  Dow  DuPont Teijin Films  DUPONT  Henkel  INEOS  PlasticsEurope  sappi  SIEGWERK  HYDREX	 amcor  Constantia  ecolean  ffp  FLEXIBLE  Huhtamaki  IMMER  Jindal  mondi  plastotecnica  POLIFLEX  POLYPOUCH  Sealed Air  SAICA  TORAY  SCHUR FLEXIBLES  SÜDPACK  WIPAC	 Barilla  HARIBO  Hill's  JDE  M&S  Nestlé  PEPSICO  pladis  P&G  Procter & Gamble  ROYAL CANIN  Unilever	 APK  attero  Der Grüne Punkt  ecoblue  mtm plastics  SAICA  PYRAL  Suez  TÖNSMEIER	 APPLIED MATERIALS  BOSCH  BRÜCKNER MASCHINENBAU  CITEO  EREMAGROUP  Expra  PELLENC ST  TOMRA

Source : CEFLEX (status Sep 2018)



Technologies Supporting Change



Source: CEFLEX



“Brand Owner and Converter react : Sustainability Commitments”



Amar, Zurich, has announced its pledge to develop **all** its **packaging to be recyclable or reusable by 2025**. At the same time, the company committed to significantly increasing its use of recycled materials and driving consistently more recycling of packaging around the world.



Nestlé announced its ambition to make **100%** of its **packaging recyclable or re-usable by 2025**. Its vision is that none of its **packaging, including plastics**, ends up in landfill or as litter. ... Our ambition is to achieve **100% recyclable or reusable packaging** by 2025.



Unilever committed to ensuring that **all** of its **plastic packaging** is fully **reusable, recyclable or compostable** by **2025** as it called on the entire fast-moving consumer goods industry to accelerate progress towards the circular economy



By **2025**, **100%** of McDonald's guest packaging will come from **renewable, recycled or certified sources**. By **2025**, McDonald's goal is to **recycle guest packaging in 100%** of McDonald's restaurants. We understand that recycling infrastructure, regulations and consumer behavior vary from city to city and country to country, but we plan to be part of the solution and help influence powerful change.



Nestlé gives clear direction for change



The Negative List

We have identified several materials for which recycling schemes are unlikely to be established. These materials will no longer be used in new product packaging and we will also immediately begin phasing them out from existing packaging.

Material	Application examples
❌ Polyvinyl Chloride (PVC)	sleeves, labels, films, trays, printing inks, sealing layers
❌ Polyvinyliden Chloride (PVDC)	PVDC coated bi-oriented Polypropylene (PP) films
❌ Polystyrene (PS)	trays, yoghurt pots, lids for ice cream cones and coffee cups
❌ Expanded Polystyrene (ePS)	trays, pots, tubs, transport protections and sleeves
❌ Regenerated Cellulose	twist wraps, pack windows
❌ Non-recyclable plastics/paper combinations	paper/plastic laminates, laminated paper cups

January 17, 2019



It's about us: The Flexible Packaging Industry

Opportunities for Flexible Packaging

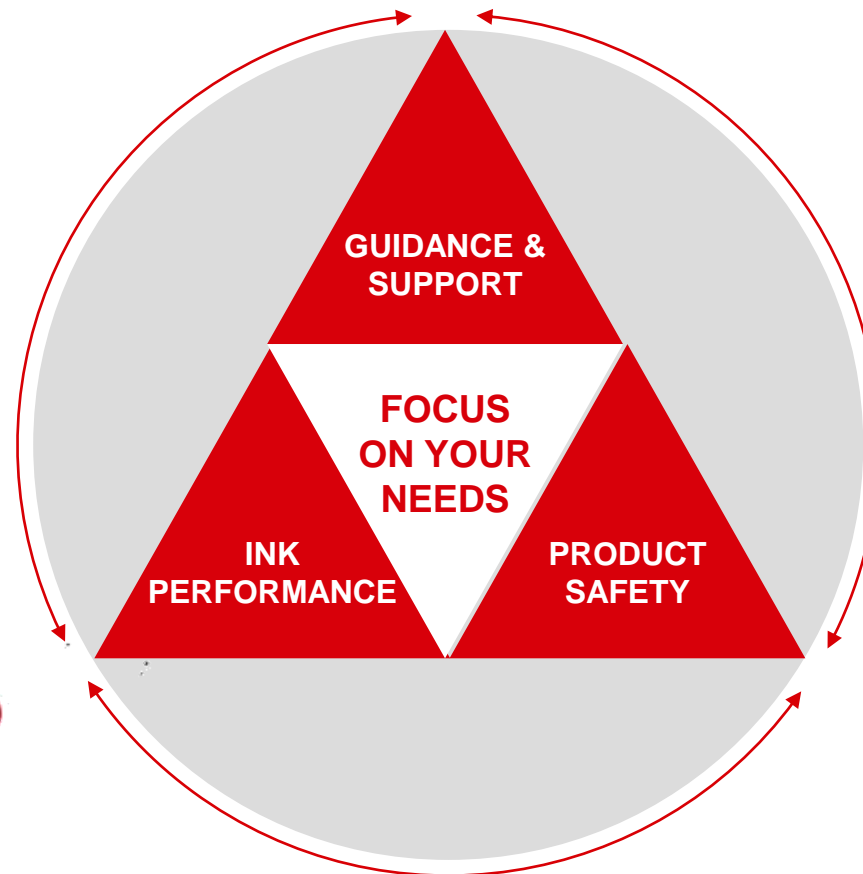
- Flexible Packaging is the most sustainable packaging solution
- Solutions require collaborative networks along the value chain
- Design for Recycling (D4R) will change Packaging material structures:
 - Substitution of mixed structure by mono materials (Focus on PP and PE)
 - Phase out of non recyclable or disturbing materials
- Effective waste collection systems are key to success
- Recycling Process optimization will improve PCR quality
 - Improved sorting technologies
 - Improved cleaning of plastic waste (de-inking, de-odorization, etc.)



We guide you to efficient & safe performance



INK, HEART & SOUL



THANK YOU FOR YOUR ATTENTION.

janoschka

