



# How barrier properties of packaging minimise food waste

Martin Messner

Head of Mondi Food Safety Laboratory

innovationparc at interpack, May 2017





Martin Messner

Head of Food Safety Laboratory

- About Mondi
- Our contribution to saving food
- From research to smarter packaging solutions
- Barrier testing procedures

## IN TOUCH EVERYDAY

Our products touch the lives of millions, every day.



International packaging and paper Group, employing over 25,000 people.



Over 100 operations across more than 30 countries



Primary listing on the JSE Limited for Mondi Limited



Premium listing on the London Stock Exchange for Mondi plc





# Industries we serve /



**Agriculture**



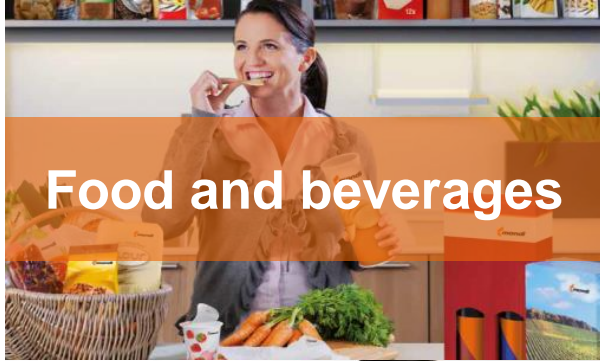
**Automotive**



**Building and  
construction**



**Chemical**



**Food and beverages**



**Home and  
personal care**



**Medical and  
pharmaceutical**



**Office and  
professional printing**



**Packaging and  
paper converting**



**Pet care**



**Retail and  
eCommerce**



**Shipping and  
transport**

# Saving Food. Every Day /



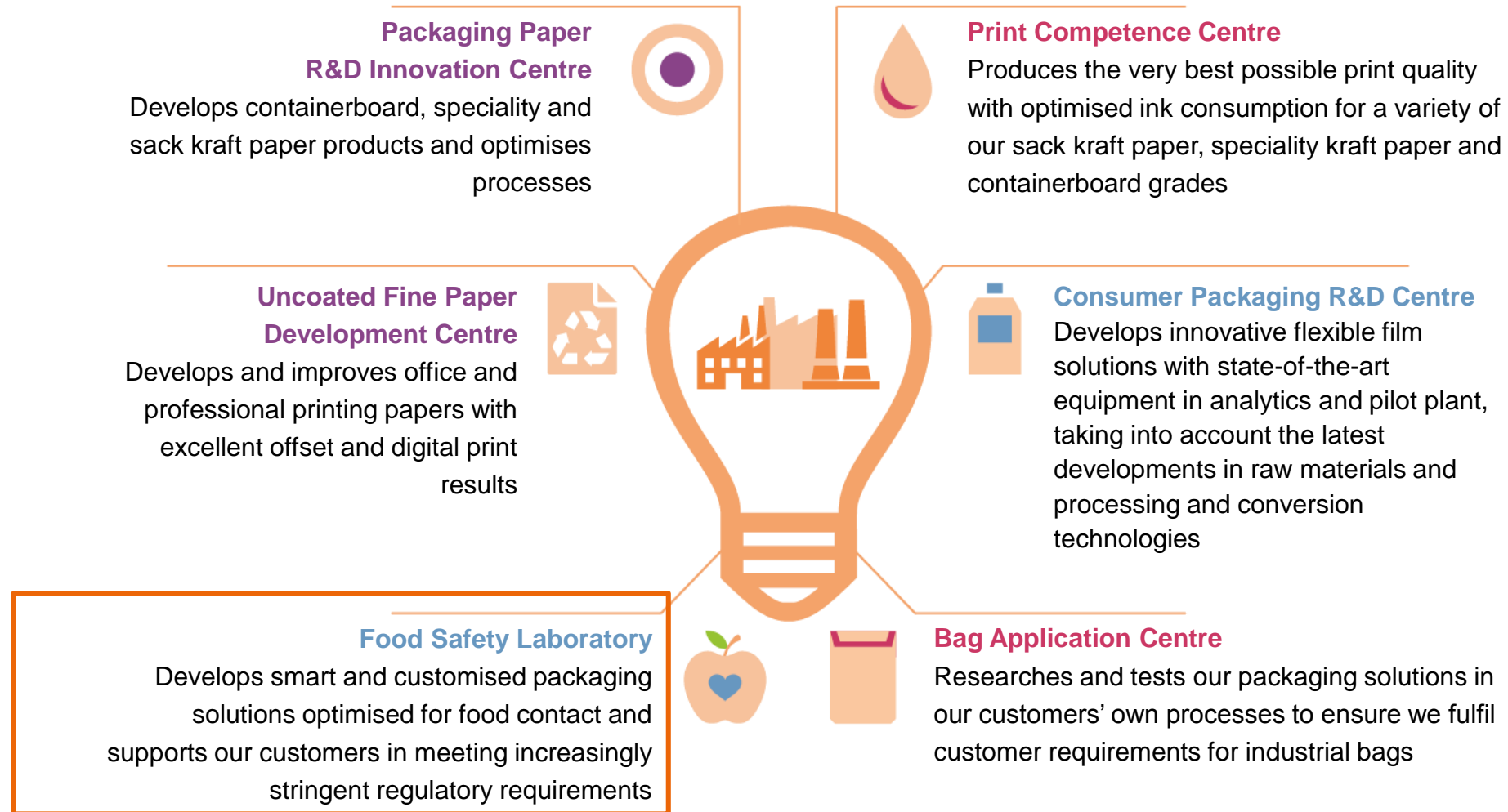
- Food waste is a **serious global issue**
  - 1/3 of food is lost or wasted every year
  - Greenhouse gas emissions needlessly produced
  - Water, land, energy, labour & capital squandered
- **Smarter packaging solutions can reduce and prevent food loss and waste**
- Mondi's **Food Safety Laboratory** works with customers to identify ways that packaging can reduce food waste
- We've been a member of **Save Food initiative** since 2014

A few examples of smart products:





## Developing creative and sustainable solutions for our customers' success



# Our four focus areas for smarter packaging solutions /



## Transport

Reducing damage in transit/storage through improved and fit-for-purpose packaging

ProVantage Aqua Kraftliner specially designed for corrugated fruit logistics

## Shelf-Life

Extending shelf and product life with innovative technologies and materials

Use appropriate barriers

## Packaging

Adapting packaging design to evolving socio-demographics

Use appropriate materials/design, e.g. recloseable pouches

## Controlled Logistics

Achieving packaging traceability for better inventory management

Use appropriate technology, e.g. traceable packaging

# Our barrier testing procedures /



- **Classic Material Parameters**

- Polymer Parameters  
e.g. gas permeation (like OTR - oxygen transfer rate), water vapour transmission rate (WVTR), swelling behaviour, temperature and UV stability
- Converting properties like sealability, glueability, printability, etc.

- **Mondi Food Safety Laboratory**

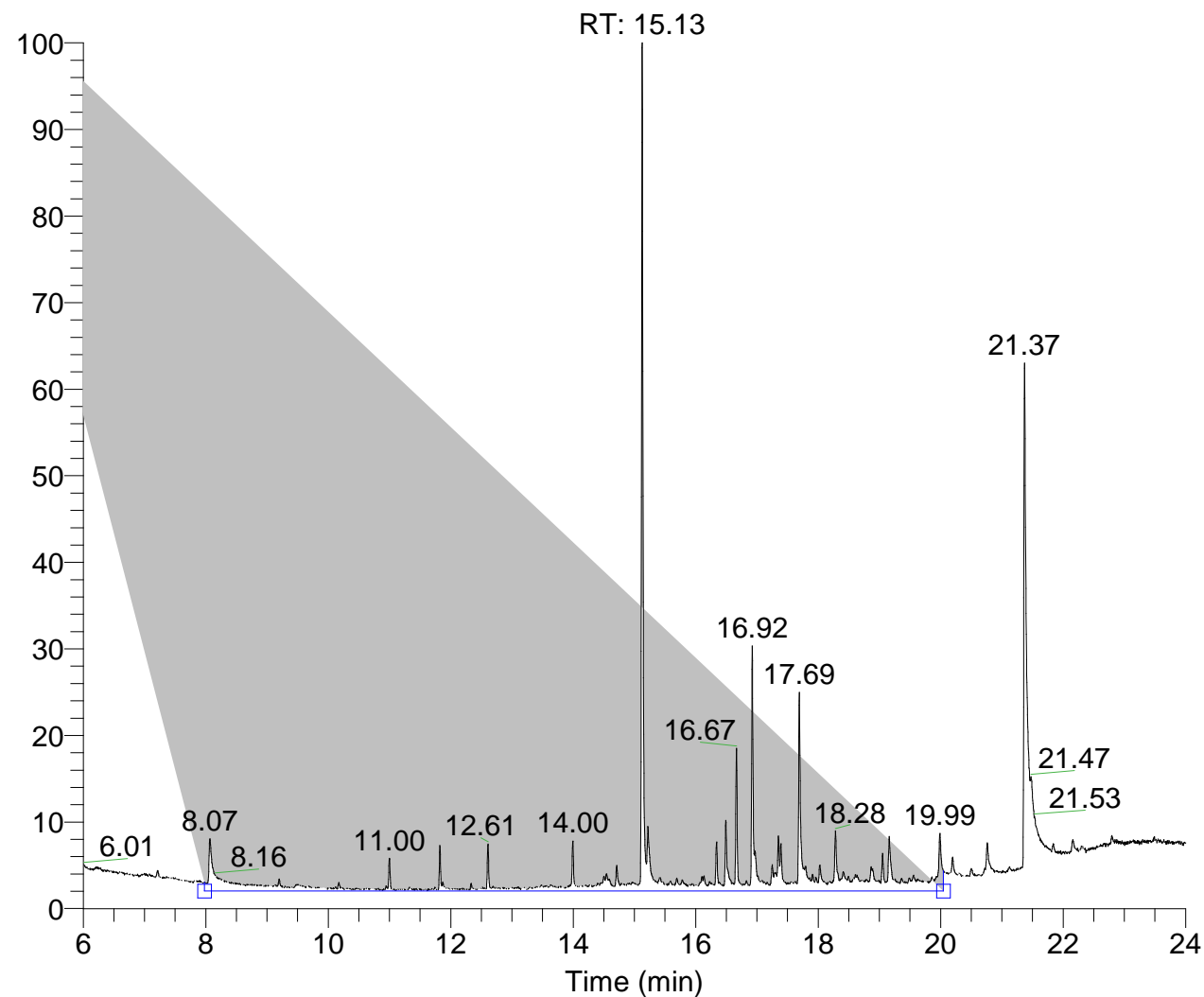
- Analytical Material Performance Test (incl. modelling)
- Design Performance Test



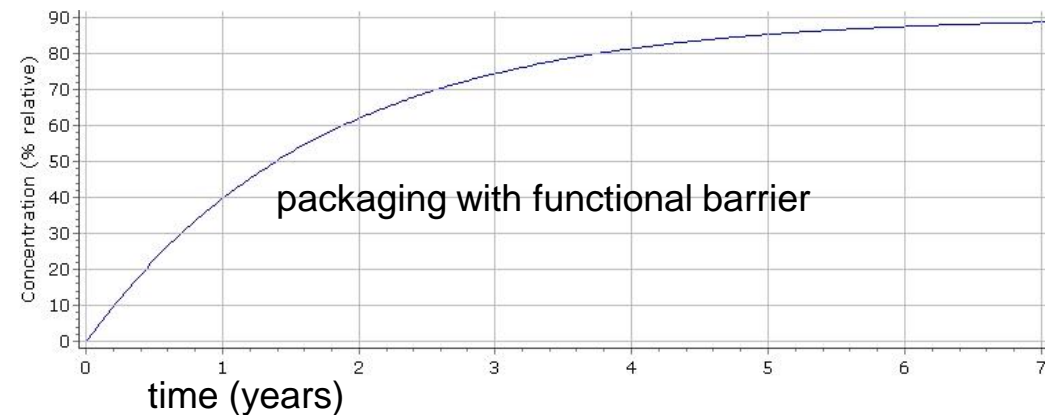
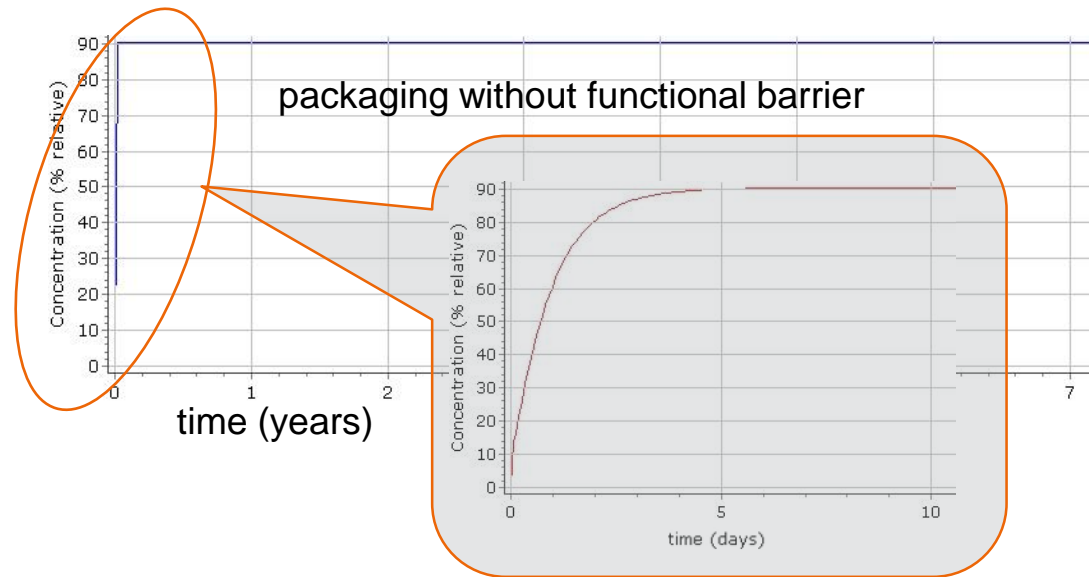
# Analytical Material Performance Test /



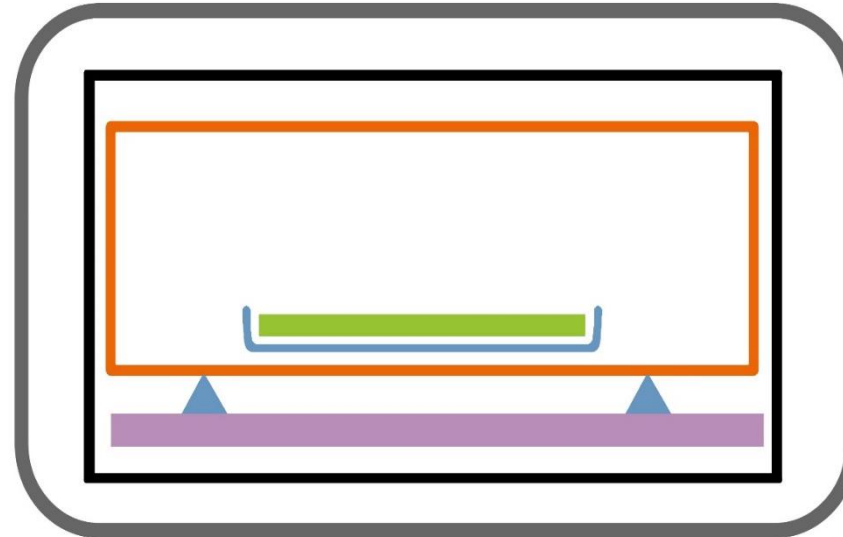
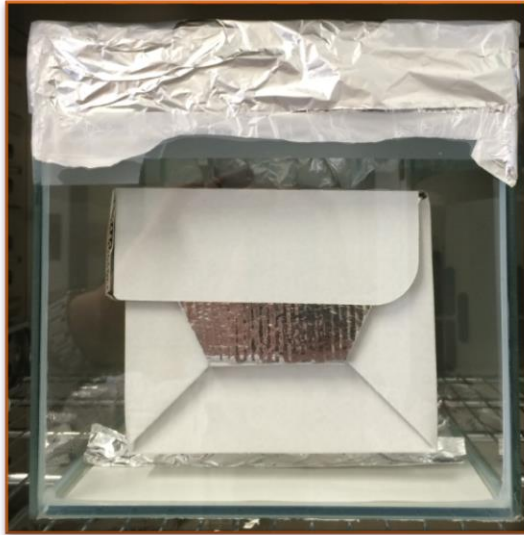
RT: 6.00 - 24.00



# Mondi Food Safety Laboratory – Modelling /



# Design Performance Test /



Temperature control

„Aquarium“

Packaging



Acceptor

Alu spacers & tray

Surrogate donor

# Our full range of consumer barrier solutions /



| MONDI CONSUMER BARRIER SOLUTIONS |                       |                   |        |        |   |              |                   |
|----------------------------------|-----------------------|-------------------|--------|--------|---|--------------|-------------------|
| PRODUCT FAMILY                   |                       | BARRIER FUNCTIONS |        |        |   |              |                   |
|                                  |                       | Paper based       | Oxygen | Grease | Light   | Water Vapour | Metal <i>Free</i> |
| StandardProtex                   |                       | ●                 |        |        |   | ●            | ●                 |
| HighProtex                       | Alu                   | ●                 | ●      | ●      | ●   | ●            |                   |
|                                  | Natural "BarrierFilm" | ●                 | ●      | ●      |  * | ●            | ●                 |
|                                  | Film                  | ●                 | ●      | ●      | ●   | ●            |                   |
| Filmprotex                       |                       |                   | ●      | ●      | ●   | ●            |                   |
| SpecialProtex                    | perFORMance           | ●                 | ●      | ●      |   | ●            | ●                 |
|                                  | Sanocoat              | ●                 |        |        |  * | ●            | ●                 |
|                                  | Sustainex             | ●                 |        | ●      |   |              | ●                 |
| CupCoat                          |                       | ●                 |        |        |   | ●            | ●                 |
| HygieneCoat                      |                       |                   |        |        |   | ●            | ●                 |

\*  Award Winner   \*  Optional



- Co-operation with customers is key
  - Mondi Food Safety Laboratory develops customised and sustainable packaging solutions optimised for food packaging
- Since 2014 we have been a member of the Save Food initiative
- Mondi develops a broad range of fit-for-purpose packaging solutions to prevent food losses throughout the value chain



**Do you have  
any questions?**

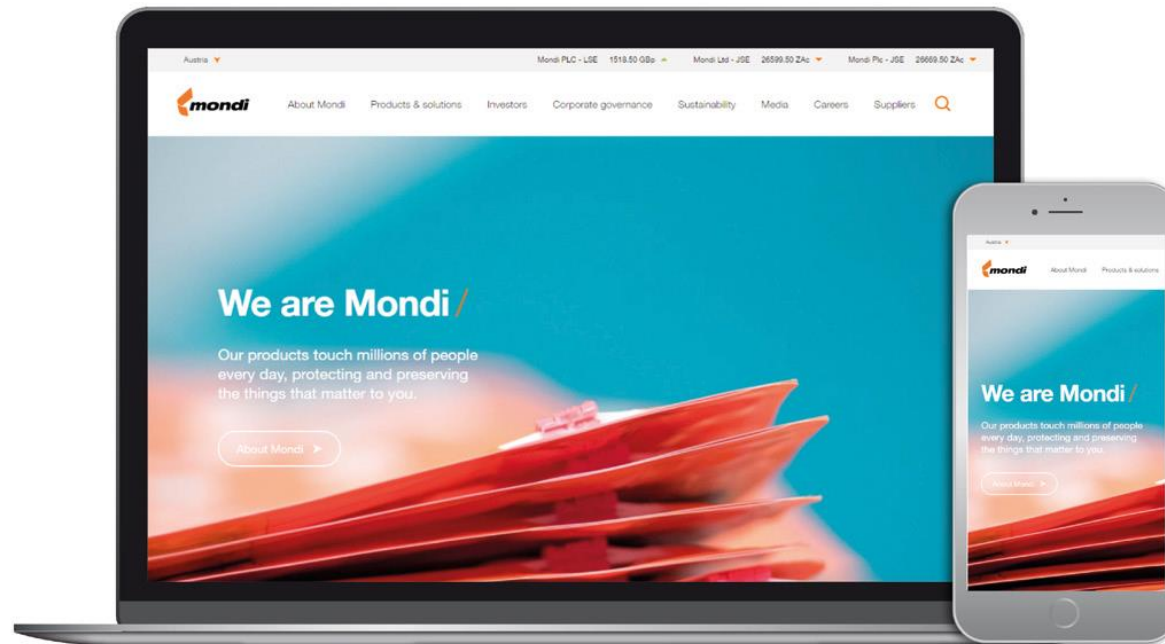
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