

Packaging Trends and Innovations

Svetlana Eskebaek, Packbridge

My presentation

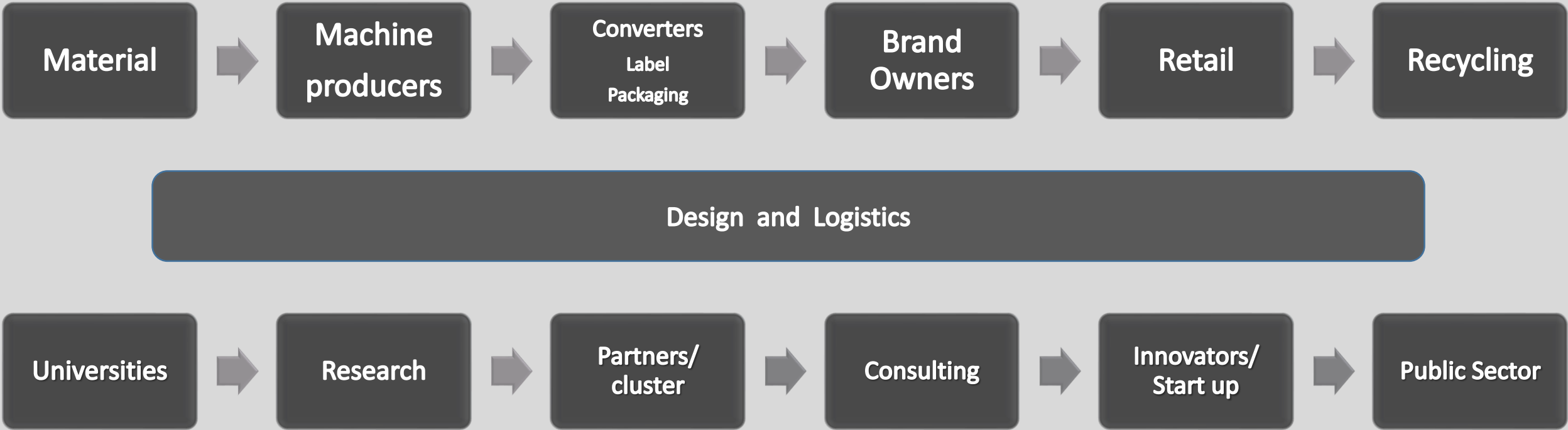
- Short introduction of Packbridge
- Trends: an overview
- Packaging industry and trends
- Case: City Gross & Multivac
- Innovations in the value chain

Packbridge

- Neutral, non-profit, member organization for the entire packaging value chain. Founded in 2010
- Goal – to facilitate innovation and drive long term sustainable growth in the packaging industry
- Probably the largest packaging cluster in Europe
- Located at Media Evolution City, Malmö



Complex challenges demands new ways of collaboration





Institut



DANISH
TECHNOLOGICAL
INSTITUTE



Fraunhofer



Universitet



LUNDS UNIVERSITET
Lunds Tekniska Högskola



Mittuniversitetet
MID SWEDEN UNIVERSITY



CHALMERS



Partners



What Packbridge offers

- Access to one of the biggest packaging networks
- Interactive conferences and seminars
- Cross-cluster seminars and workshops
- International exposure
- Project funding attraction from EU
- Startup community
- A network for Professional Women in the Packaging industry
- Matchmaking



Fempack functions as a forum for the dissemination of the accumulated knowledge as well as the development of female professionals and their expertise under the umbrella of Packbridge.

- To show by example that there are many professional women in the industry
- To raise an awareness that there is room for women in the industry
- To fill the needs for new competences
- To attract talents outside the traditional way of recruitment
- To increase the competitive advantage of the industry
- To contribute, work and implement the Global Goals for Sustainable Development





Helena Lindh



Cecilia Tofterö



Emelie Törn



Hanna Franzel



Katrin Molina-Besch



Helena Wiksäter



Maria Sundin



Sara Bergendorff



Zsófia Regér



Svetlana Eskebaek

PACKBRIDGE CHALLENGE

A STARTUP COMPETITION WITH
FOCUS ON PACKAGING

PACKBRIDGE CHALLENGE

➤ **PACKBRIDGE STARTUP DAY**

+ **FINAL AT THE TOP PACKAGING SUMMIT**





SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY

2 ZERO HUNGER

3 GOOD HEALTH AND WELL-BEING

4 QUALITY EDUCATION

5 GENDER EQUALITY

6 CLEAN WATER AND SANITATION

7 AFFORDABLE AND CLEAN ENERGY

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

14 LIFE BELOW WATER

15 LIFE ON LAND

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

17 PARTNERSHIPS FOR THE GOALS

SUSTAINABLE DEVELOPMENT GOALS

A green highway sign with white text and an arrow pointing up and right. The sign is mounted on a metal structure against a blue sky background.

The Future

NEXT EXIT





- TREND -

.....They organise, support and create transparency for the developments and innovations of the 21st century. Those who understand today what could be common place tomorrow can take an important step towards the present and thereby pave the way into the future.

Nils Müller, founder & CEO of TRENDONE

TREND HEIRARCHY

FAD

Widespread but short
Collective behaviour
Culture/Group/Generation

The Pokémon GO;
Diets; Fashion; FB started here

MACROTREND

Pervasive and persistent shift
Global level

IoT; Big Data; Smart Homes;
Machine Learning, AI

MICROTREND

Lasts a few years
Most active, most diverse
Influential in given sphere

Flexible workforce,
3D printing, VR

MEGATREND

Express what we know with great
confidence about the future.
Influencing all the aspects of life

Global warming; Urbanisation;
changing demographics, world
political (re)order

Packaging



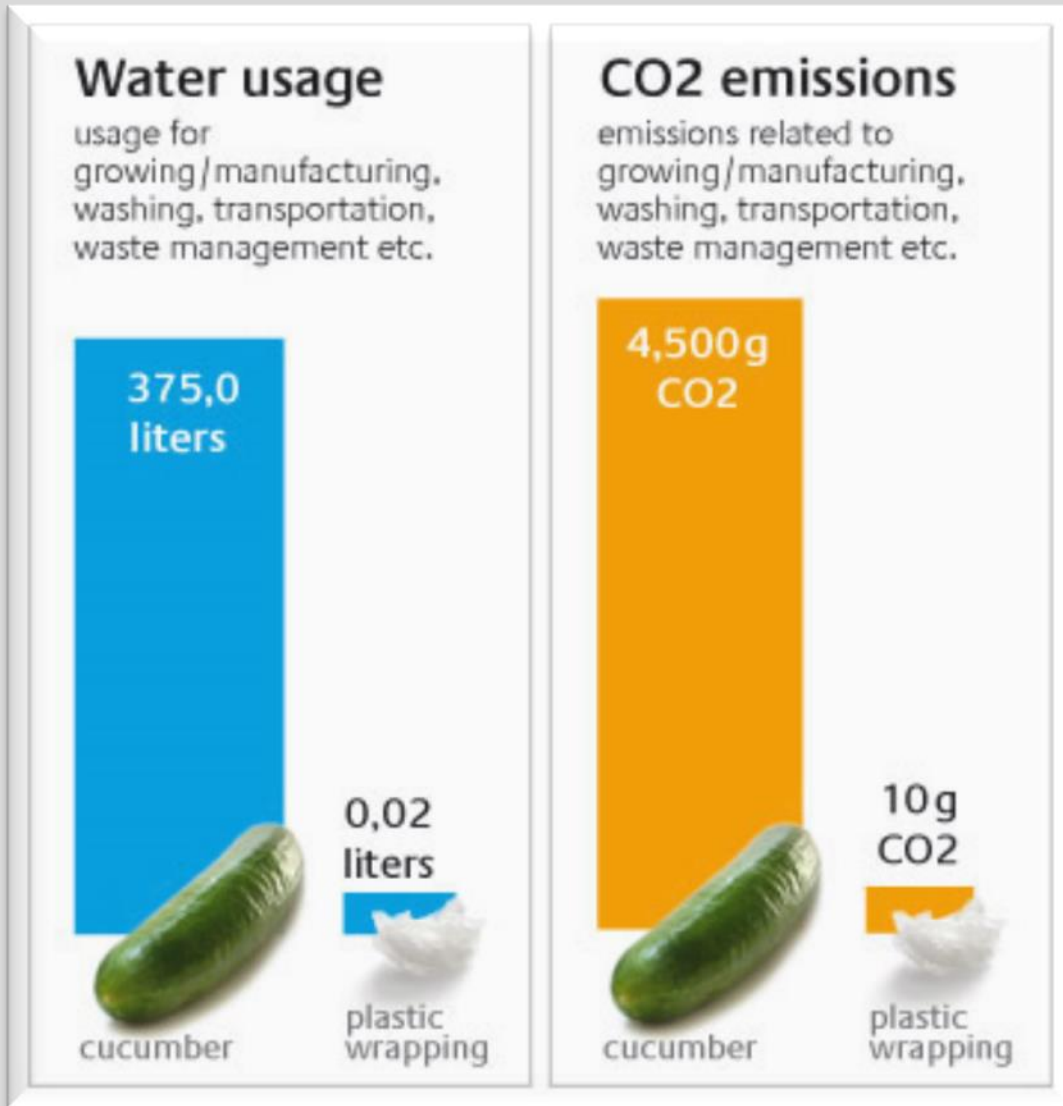
About 74% of all swedish consider packaging as a... trash

Packaging - an angel or a devil?



Consequently, **food packaging** accounts for almost
70% of the **total**

Shelf life increase from 3 to 14+ days

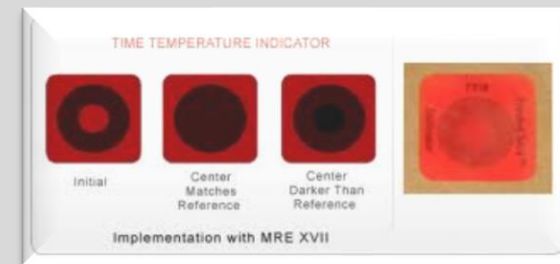


Identically stored bananas after 7 days - with and without plastic wrapping



Packaging – “trendy”

- Single portion packs
- Resealable
- Easy to empty packaging
- Modified or Controlled Atmosphere (MAP/CAP)
- Barrier materials
- Oxygen scavengers technology
- Smart label indicators:
 - Time / temperature indicators
 - Maturity (fruit, etc.)
 - Freshness (Meat, fish, etc.)



Food Waste – Packaging as part of the solution



FOOD WASTE
AND ITS IMPACTS

 **every 10th**
human being is starving

 **1/3**
of all foods are being thrown away

 **180 kg**
of edible foods per year and person are ending up in landfills

=

 **50€**
equals the food we are throwing away per month

 **48 Mio.t**
of greenhouse gases are emitted per year

 **2.6 Mio.ha**
of land are cultivated in vain

Let's be optimistic

“The throwaway culture of today will evolve into one that understands and embraces the role of packaging as a primary means to reduce global food and product waste.”

Mintel prediction



Case: City Gross & Multivac

Fight food waste



43 shops



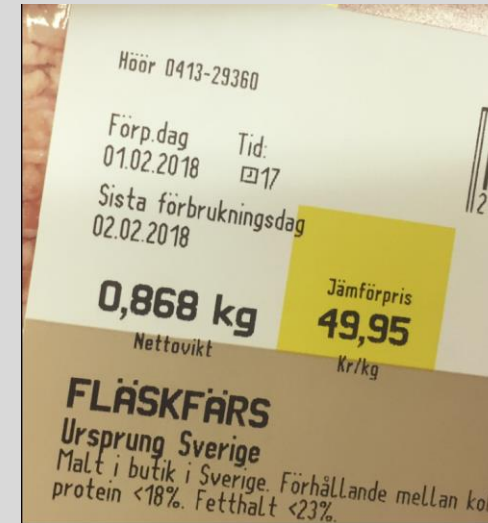
Skin-pack

Results

Improved shelf life!

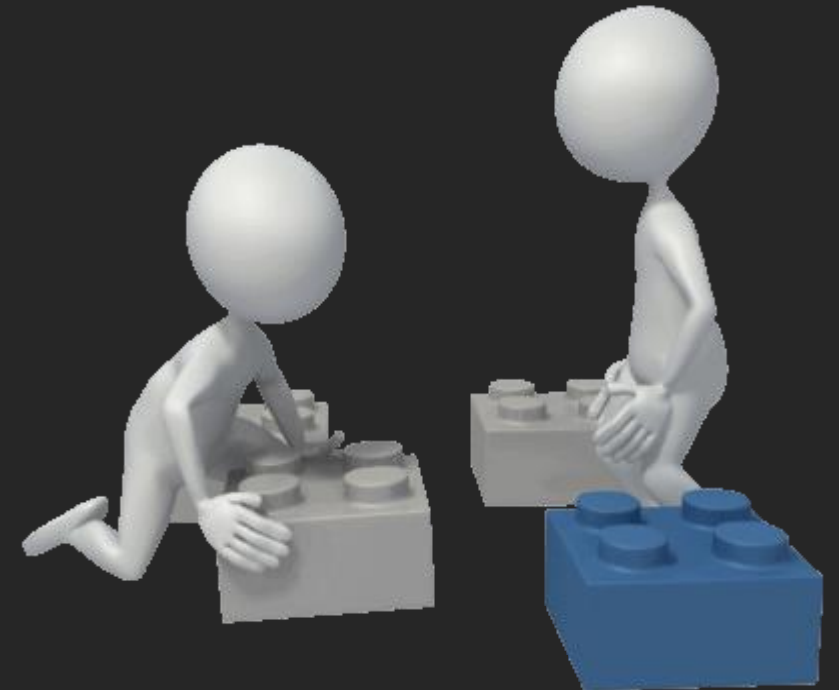
- | | | |
|----------------|----------|------------|
| - Beef: | 4 days | 12-16 days |
| - Pork: | 4 days | 12-16 days |
| - Minced meat: | 24 hours | 6 days |

Reduced food waste: 520 t/year



Lessons learned:

- Talk to each other
- Know your value chain
- Collaborate & cooperate



Collaboration
is the key

Can we do ***MORE?***

YES!

INNOVATIONS

Meetings and networking facilitate innovations

Source: **Copenhagen Business School, 2017**

WHY?

Meeting place for the entire packaging value chain. A tool:

- bridge the startup community and the industry
- get insights
- identify gaps
- find opportunities

Tangible results



Packbridge Challenge 2019

The Jury



Allan Dickner
Packaging Development
Manager



Anders Källman
Managing Director



Anna Vilén
Communications Strategist



Lantmännen
Annelie Moldin
Scientific Project Manager, R&D



BILLERUDKORSNÄS
Christoffer Windal
BD Manager Cartonboard
Nordics



The Absolut Company
Pernod Ricard
Gustav Ahlblad
Product Development
Manager.



Johan Mårtensson
BD & Innovation Manager



ÅRPACKAGING
Kajsa Dahlin
Group Innovation Manager



Marie Fornehed
Packaging & Industrialisation
Manager

Case reflections



Mimica

Cutting food waste with a simple label



Mimica Touch

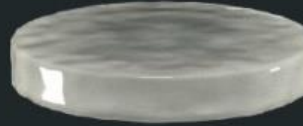
The world's first tactile
freshness indicator



Top lidding film



Gel digester



Gelatine gel



Bottom 'bump' tray

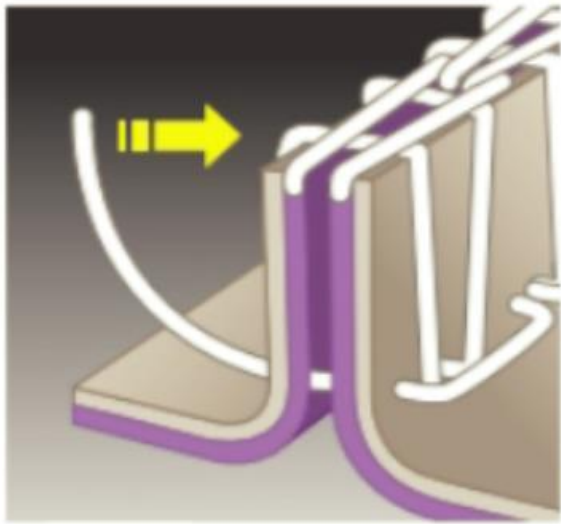


Integration with rigid
& flexible packs

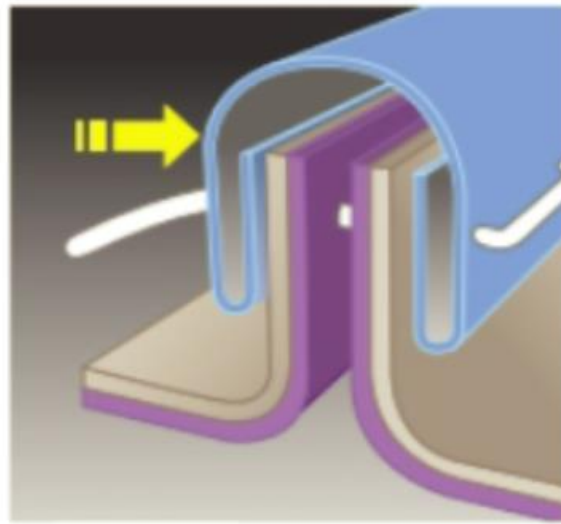


Aegis Futech

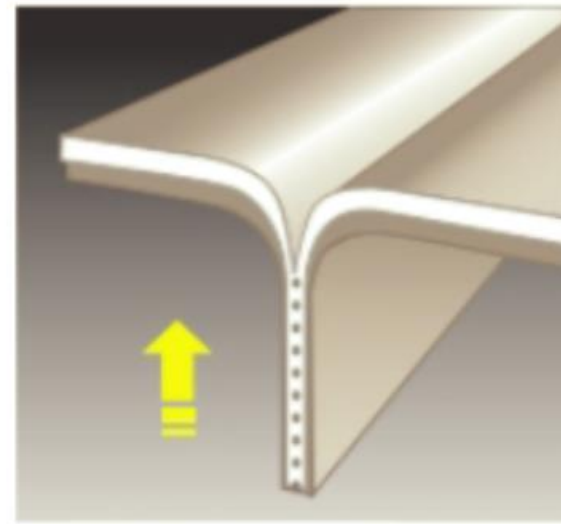
AEGIS FUTECH Sealing Technology



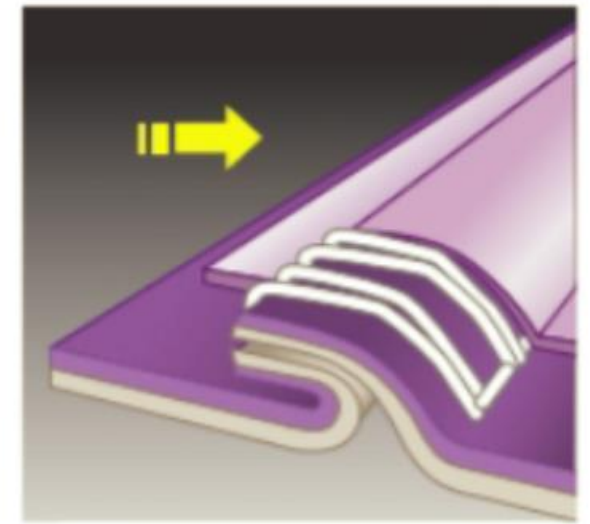
1. Stich



2. Bound



3. Heat sealing



4. Taping after sewing

DUPONT, 3M, LAKELAND, DELTA PLUS, etc

AEGIS FUTECH

DUPONT, 3M,
LAKELAND, DELTA PLUS

PE/PPE materials has low melting points, so when it is heat sealed, it easily melt and can not be bonded. For this reason DUPONT, LAKELAND and 3M use 1, 2, and 4 rather than heat sealing, so the labour and subsidy costs make up the majority of the disposable suit's manufacturing cost of their brands. Sealing FREY solves these problems through technology and processes PE/PPE heat sealing stably, which makes it possible to reduce labour and sub material costs and lower unit cost.

And *MORE* in line with trends & innovations

- 23 companies form
- 12 countries

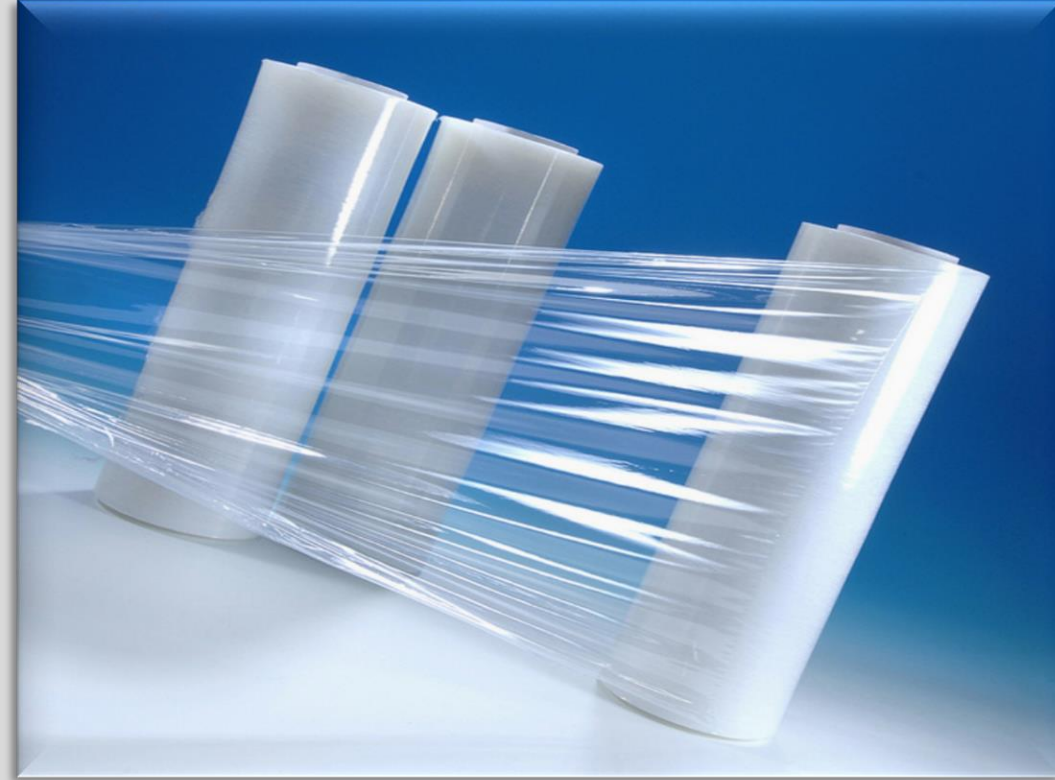


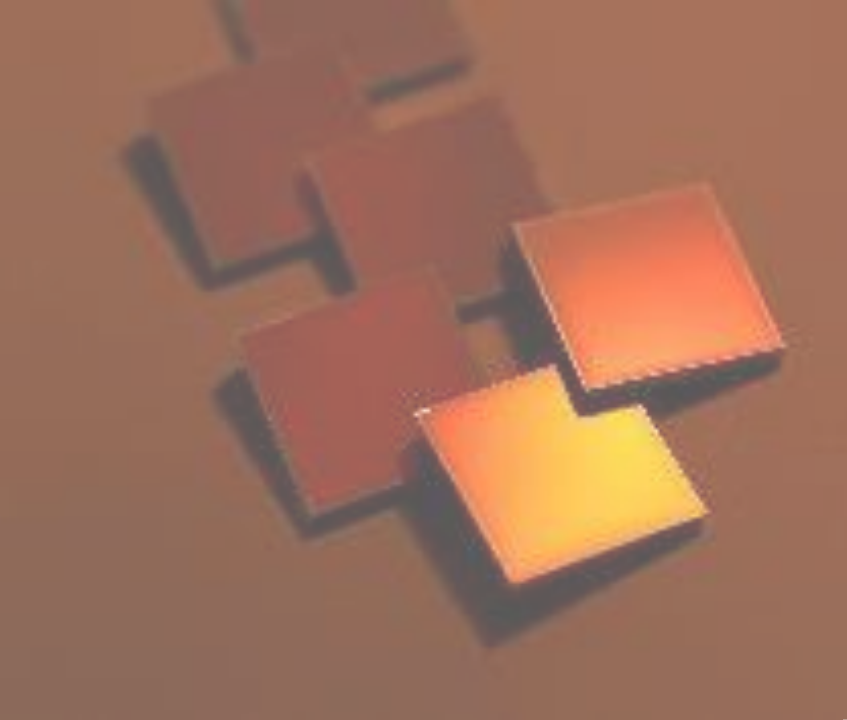


Atlant Ltd.

Nano in packaging can:

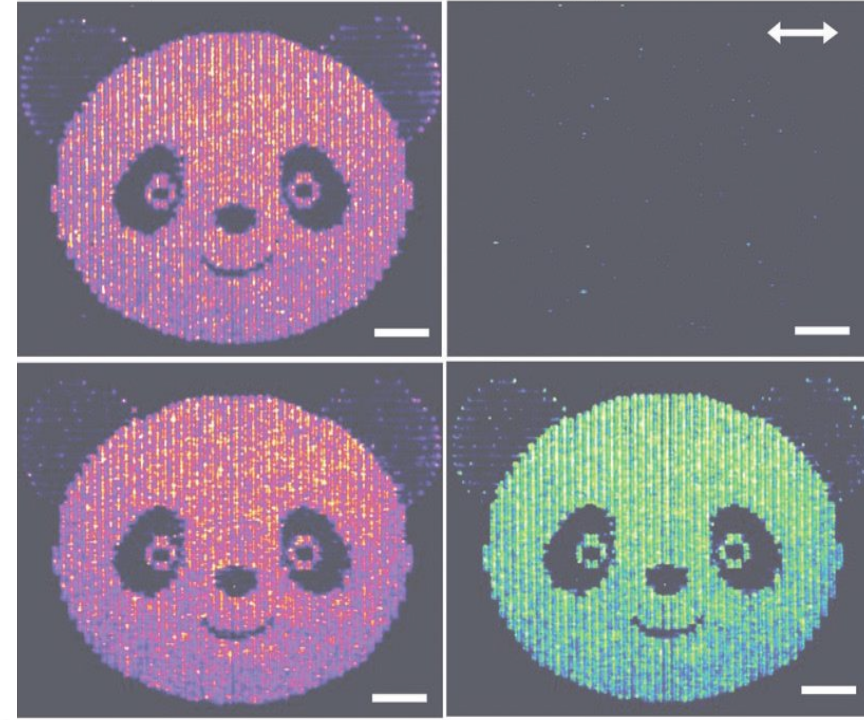
- * Improve polymer properties to extend shelf life
- * Incorporate antibacterial functions
- * Make packaging interactive
- * Create new functional coatings, sensors and smart inks
- * Fabricate printed intelligent sensor and indicator for flexible packaging





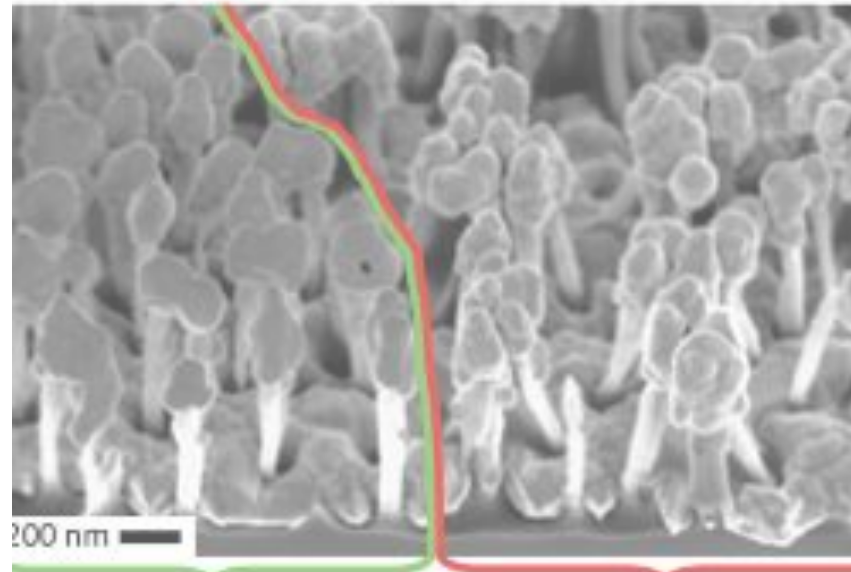
LEVEL 2

Deposition of unique chemical component with unique ID impossible to reproduce



LEVEL 1

Customized nanopatterning for data encoding



Outside droplet area
No leaning

Inside droplet area
Pillar leaning

LEVEL 3

Inkjet printing creates layers of invisible patterns for higher authenticity and customization



Adversarial Arts

Process

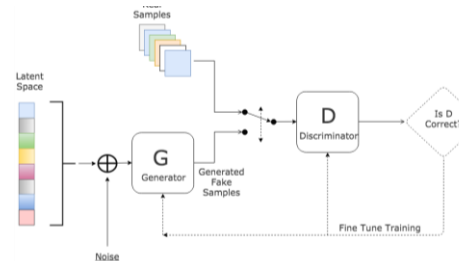


Information about **values**, **brand** identity, customer **preferences** and technical limitations

Collect Data

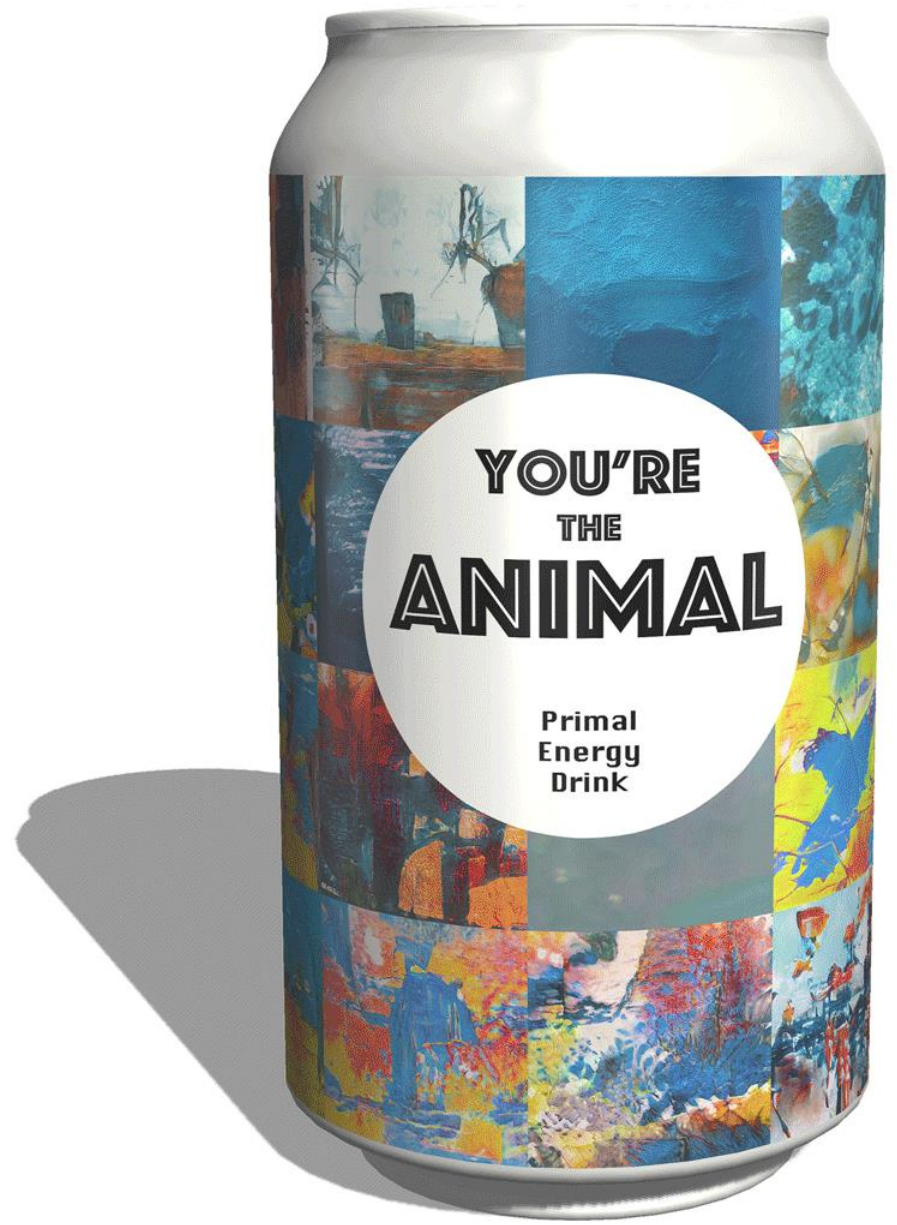


Train generative AI model



Generate an infinite number of on-brand, **unique** designs





**YOU'RE
THE
ANIMAL**

**Primal
Energy
Drink**



Empower



1. GATHER



2. DELIVER



3. GET PAID IN
TOKENS



4. USE OR EXCHANGE
FOR LOCAL CURRENCY

Empower plastic waste tracking system

USE CASES



- Digital waste management infrastructure, securing correct payments to contractors and eliminates fraud.



- Households, restaurants, clinics, making sorting and recycling transparent and meaningful.



- UPCYCLE — Products made of Empower plastic, products with a traceable history and transparent supply chain.



RÅHANDEL

‘Locally produced’: COOP Supermarkets gets locally produced products on the shelves

‘Our customers must have more access to locally produced product’ says COOP and they have made an agreement with Råhandel to realise this goal



Coop vil have flere lokale varer på hylderne.

Foto: Coop

Booming food producers

External fleet

Cultural shift





Cellugy

Food packaging

15 MILLION TONNES



Rigid

Flexible



While highly resource efficient, flexible packaging is hard to recycle



Collection

It is not widely collected for recycling



Technical

The use of multiple thin layers of different materials, result in its main challenge



High Contamination

By remaining food (often 10-20% of package weight)

Flexible packaging designed for minimal impact

Stage 1

Feedstock



Made from fruit waste



90% less CO₂ emissions compared to traditional plastics

Stage 4

End-of-life



Home compostable



Recyclable in existing system

Stage 2

Production

Nearly carbon neutral



Stage 3

Use

Food grade material complies with 1935/2004/EC



Water-proof, tough, flexible, tear resistant, stickable, printable



ecoFLEXY

Pilot with selected organic producer

Organic Fruit Leather Rolls



Funded by:



White Mold Cheese



Supported by:



Organic Handmade Soap

ecoFLEXY

Current plastic



Funded by:





FiBu



PAPTIC

PAPTIC®

Revolutionary **DIFFERENTIATED** material
made of **WOOD FIBERS** for
RE-USABLE
RENEWABLE, RECYCLABLE
packaging solutions



THE SUSTAINABILITY PLATFORM OF PAPTIC® IS BUILT ON 6 CORNER STONES



Renewable raw materials

The wood comes from controlled and sustainably managed FSC/PEFC forests.



Resource efficiency

PAPTIC® technology allows the use of less raw materials, as well as less energy and water.



Circular economy

PAPTIC® does not require new infrastructure – existing paper production technology is used to produce PAPTIC®, and the existing converting lines can be used with PAPTIC®.



Biodegradability

The wood and other fibres in PAPTIC® biodegrade in nature.



Recyclability

The high-quality wood fibre is recycled into other packaging products; the identified recycling system for PAPTIC® encourages consumers to recycle.



Re-usability

Consumers are willing to reuse PAPTIC® many times due to its look & feel and technical performance (resistance and foldability).





tensei

ENVIRONMENTAL STATISTIC

26.9 TONNES
VS
5.9 TONNES

Eucalyptus forestry will absorb 26.9 tonnes of CO₂ per hectare as opposed to straw that will absorb 5.9 tonnes

Forestry needs to remain.



RAW MATERIAL STATISTIC

**250 MILLION HECTARES
SHORTFALL
VS
2.5 BILLION TONNES
AVAILABLE**

Estimated shortfall of managed wood in 2050
versus
An estimated current availability of agricultural pulp
residues and some fiber crops for pulp and paper
production.


OPTIFIBRE BLENDS

Custom pulp blends created
from alternative virgin fibres.



Innovations are here!

TOGETHER
is the key



If you want to go fast, go alone.
If you want to go far,

GO TOGETHER.

African Proverb

**VALUE CHAIN PERSPECTIVE ON
CIRCULAR ECONOMY**

**19
SEPT**

TOP PACKAGING SUMMIT ^ 19 BY PACKBRIDGE

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TOPPACKAGINGSUMMIT.COM**

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Join the Packbridge network!



THANK YOU !

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