



Food Packaging Contributions in Reducing Food Waste

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Asia-Pacific
Economic Cooperation



Asia-Pacific Economic Cooperation



Workshop Agenda

- I. Food waste statistics
- II. Growth of Flexible Packaging
 - I. Effect on Environmental Footprint
- III. Toppan Japan GL barrier film
 - I. Packaging Innovations and Applications



Conceptual image of the completed plant



Milan Iglendza

25 years of global packaging industry experience

Traveled extensively through North America,
Latin America and Europe

Love languages and learning about cultures.

Reside in Chicago with my wife and three daughters



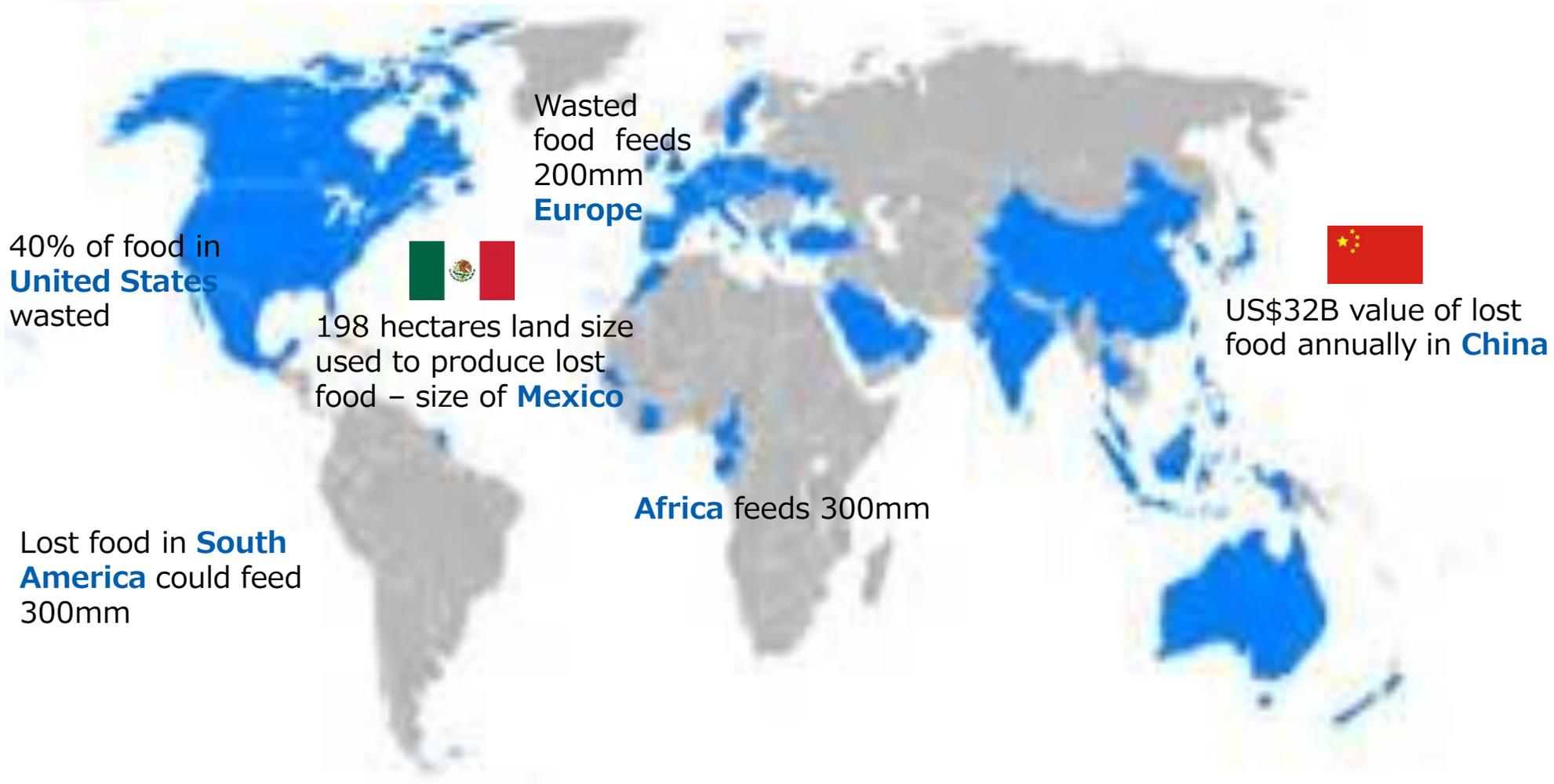
Let me introduce
myself to you!



I. Food Waste Statistics



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Food Waste Statistics

Per capita rate:

Europe and North America 95–115 kg/person

Southeast Asia and Sub-Saharan Africa
throw away 6–11 kg / person per year

*870 million people
worldwide benefit*



Food Waste Statistics – Initiative

Denmark's Stop Wasting Food movement implemented in 2010

Global initiatives are underway, but more can be done from a controlled environment starting from not only where the food is packaged but more importantly, how the food is packaged





Food Waste Statistics

Loss occurs before reaching shelves

- Inefficient lines
- Formulation changes
- Maintenance/downtime
- Produce/fruits not 'presentable' enough.
 - Fruits and vegetables hold the highest wastage rate

- Terminology of 'sell-by' dates

- Some of the factors are beyond our control

We can control the packaging

- that protects the food
- provides freshness
- extends shelf life

Retort Pouches





II. Growth of Flexible Packaging

1. Effect on Environmental Footprint



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- Flexible packaging market continues to grow taking market share from rigid containers and other packaging styles

- Durability, resilience resulting in less waste

- Rigid more likely to break if dropped

- Laminated plastics enhance the strength and barrier characteristics of film

- Ability to add reseal closures
- Growing demand for ‘dial-in’ barrier
- Aluminum foil has been used for years as the ultimate flexible barrier material, although properties compromised by recent flexible packaging developments, stand-up pouches
 - Leads to pinholes, letting oxygen, water and light to enter package and diminish shelf life

- Compared to aluminum cans, flexible retort pouches use less than five percent of packaging material and other benefits

- Single serve pouches spare consumers the annoyance and waste of partially used cans or jars of food, to only be thrown away later

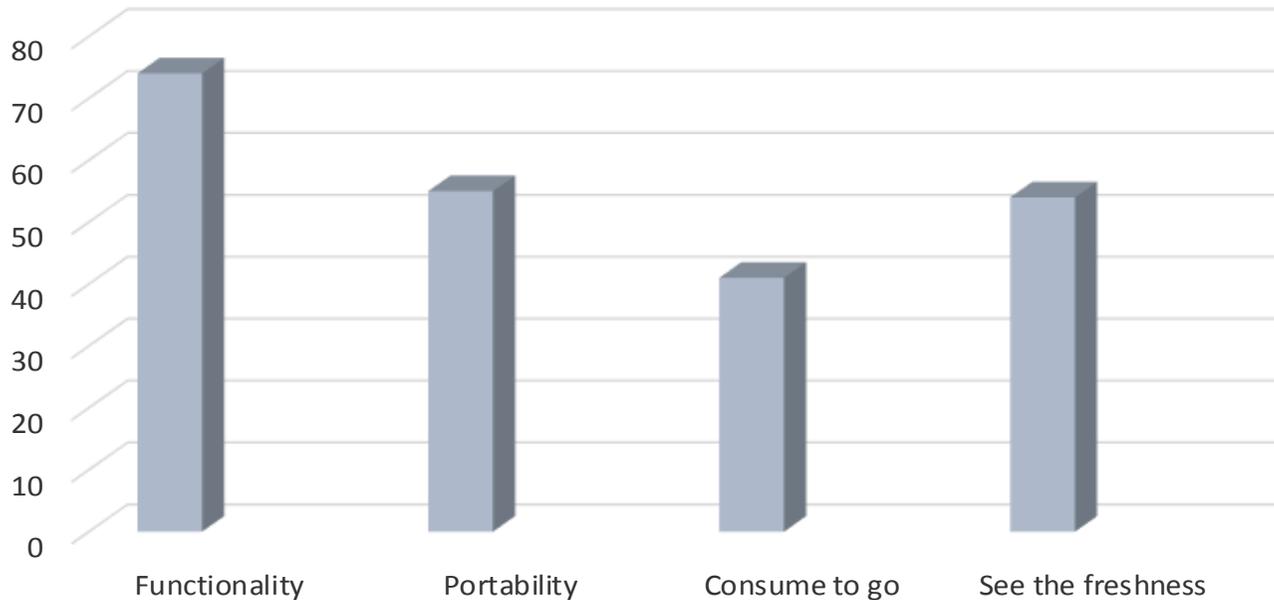




Consumer benefits of flexible packaging: US adults

- Functionality and convenience
 - Portability
- Consume on the GO
- See the freshness

Benefits of Flexible Packaging to the Consumer





Green appeal –

Environmental advantages when compared to other types.

- Packaging weight reduced
- Savings on packaging cost
- Material waste

Benefits in sustainability, where in some cases, use up to 85% less energy than for rigid packaging production.

Liquid contents

Creating a lesser footprint

26 truckloads of unfilled glass jars =



One truckload of unfilled flexible pouches





III. Toppan Japan GL barrier film



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Head Office: Tokyo

Chairman: Mr. Naoki Adachi

President: Mr. Shingo Kaneko

Established: 1900

Total sales: JPY 1,474 Billion
USD 14.4 Billion

Companies: 167

Employees: 46,705



*As of end of March 2016

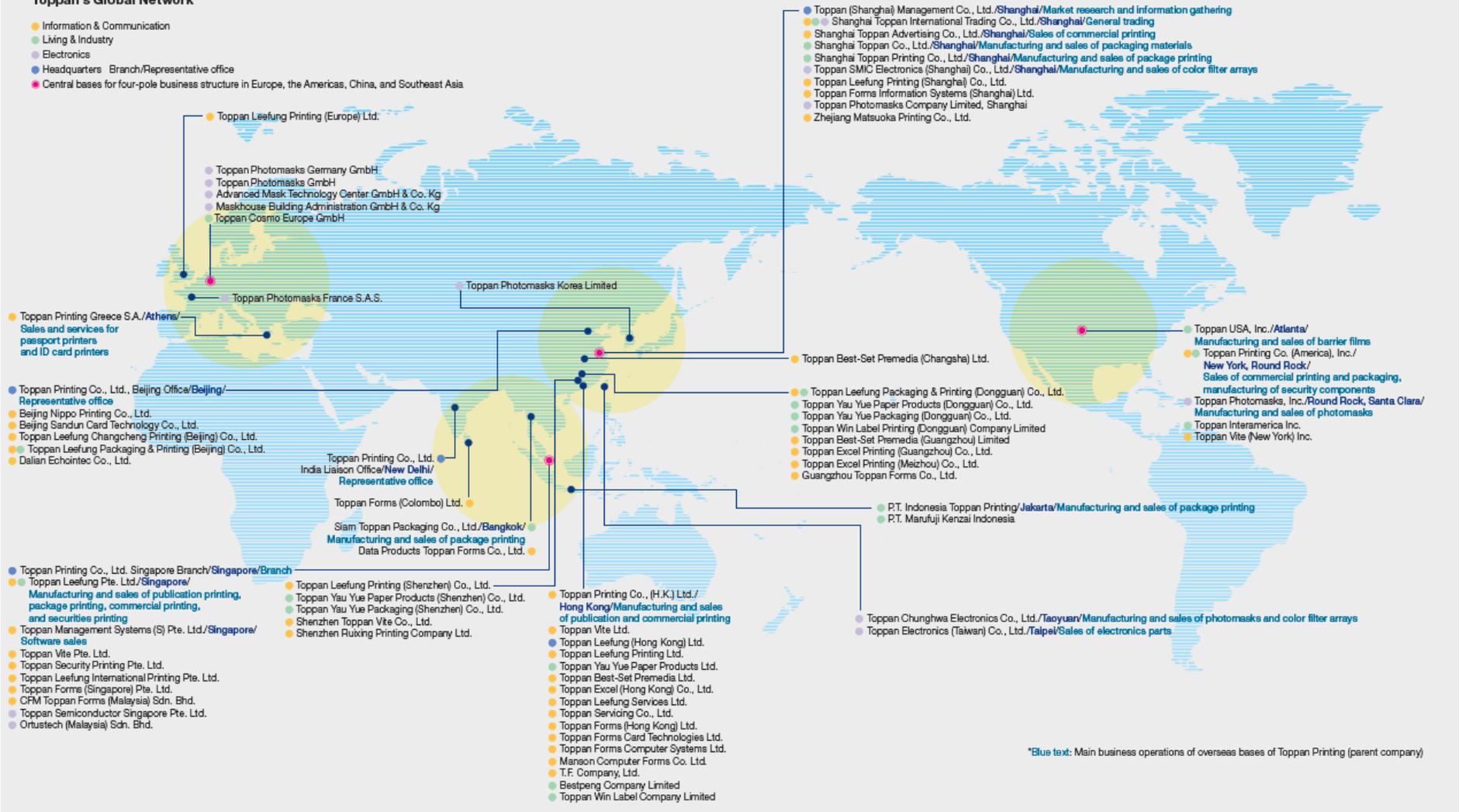
* USD is based on the currency rate USD1=JPY102





Toppan's Global Network

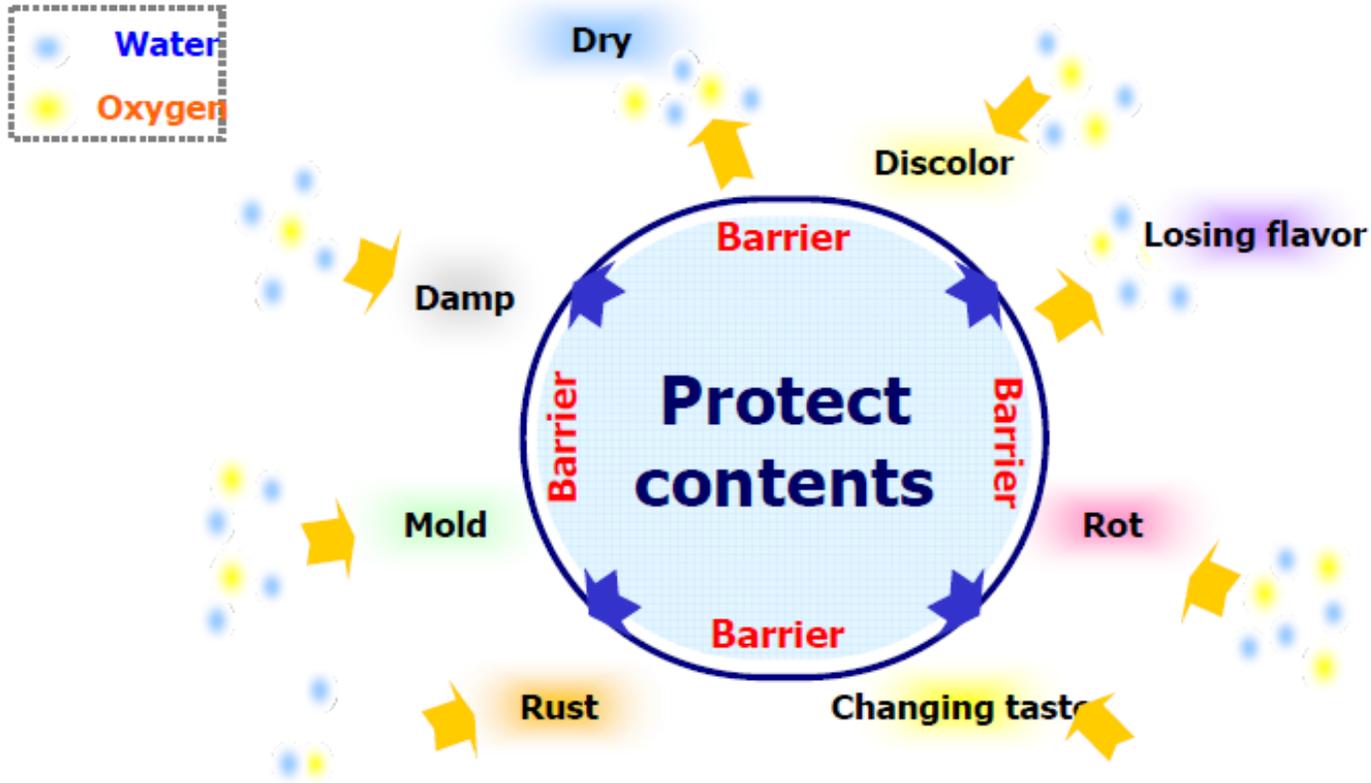
- Information & Communication
- Living & Industry
- Electronics
- Headquarters Branch/Representative office
- Central bases for four-pole business structure in Europe, the Americas, China, and Southeast Asia



*Blue text: Main business operations of overseas bases of Toppan Printing (parent company)



What is “barrier” for packaging?

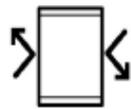


Protect the contents from various negative factors



Toppan Japan is the largest converter in Japan

Features of GL-FILM

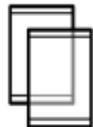
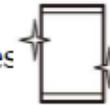


1. Excellent barrier properties

- Extend shelf life
- Prevents flavor loss
- Stable barrier properties

3. Durability

- Direct printability and converting on the coating surface
- Barrier stability in all processes



2. Transparency

- Contents visibility
- Microwavable
(Impossible for aluminum foil)
- Metal detectors can be used.
(Impossible for aluminum foil)



4. Retortable

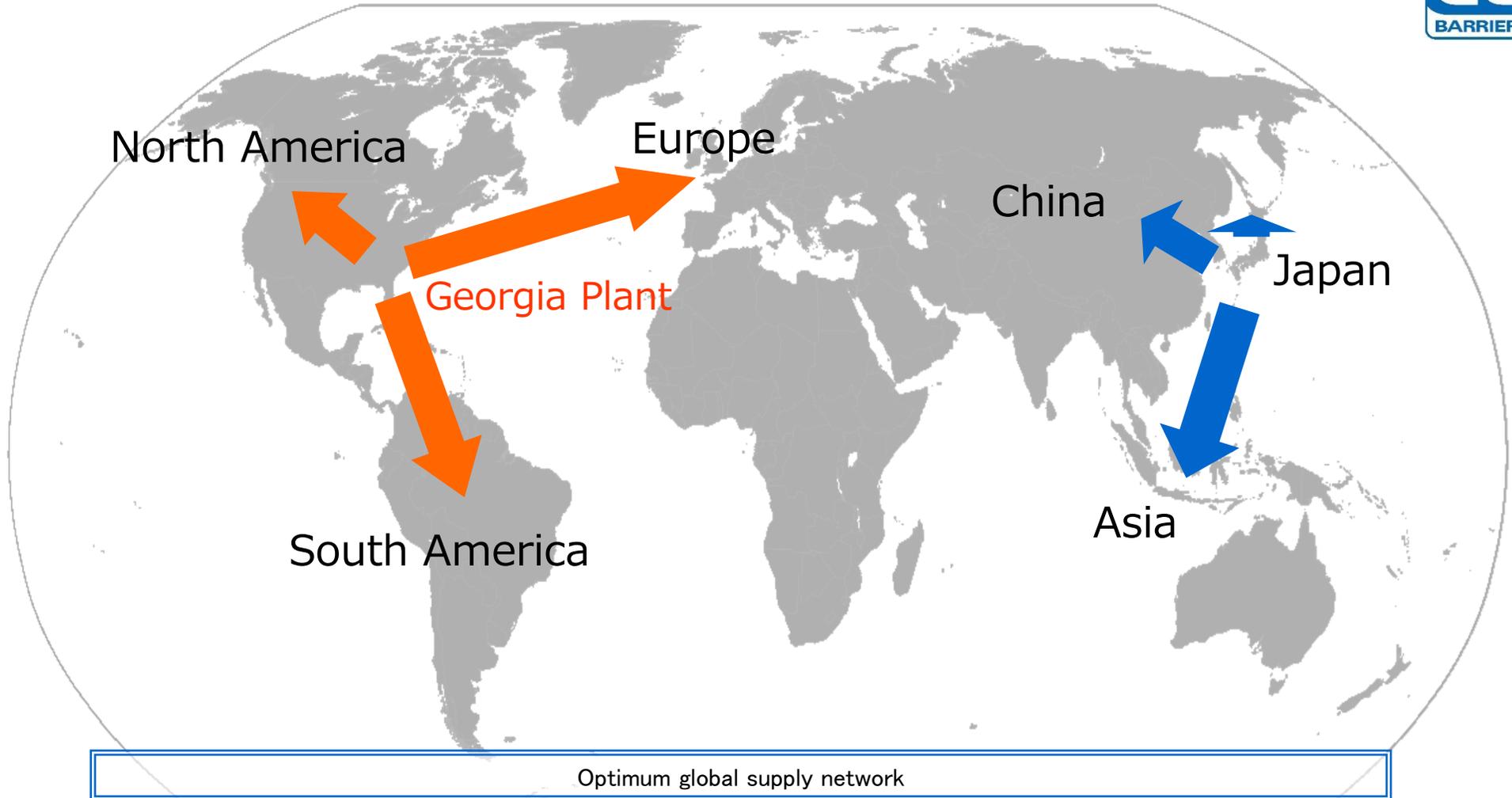
- Best high barrier film for retort applications



5. ECO Friendly

- Simple structure
- No chlorine gas generated during incineration





With three manufacturing sites, Toppan has a system in place to enable growth in multiple regions as well as lessen supply disruptions in others



1. Packaging Innovations & Applications



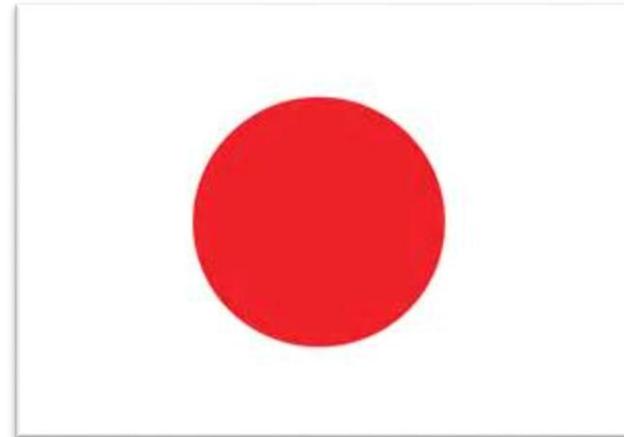
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RETORT PACKAGING

- New generation of transparent high barrier laminates to extend shelf life to over 18 months.
 - An aluminum based laminate was used originally to preserve food because it provided the best post-retort oxygen barrier, light protection and water vapor permeability.
 - By using silicon oxide instead and together with a transparent sealing option, a self-standing, microwavable and added see-through feature was born.
- Using steam or hot water and cooked in its own package, it extends shelf life and ensures food safety.
- Introduced in the late 1960s and lead to the MRE project

Japan took the retort concept and spent 30 years perfecting the technology.





Iconic brands switch to flexible retort packaging

Food packaged in conventional cans must be cooked longer than in flexible packaging.

-Heat penetrates the food quicker and leaves food tasting better.

Retort packaging is provided to the packager as ready-to-fill pouches. The packager fills the pouch, seals the package and then it is retort processed

Starkist Tuna – Changed years ago

Campbell Soup, one of the most iconic brands and recent changeover to flexible packages





Smart Packaging

- Sensors detecting spoilage rather than using 'best-before' dates.
 - Using temperature-sensitive inks, plastics that change color when exposed to oxygen or gels that change color with time.
- New packaging makes up 25% of all new packaging innovations, on the rise since 2010.
- Spouted pouches available to hold food product better and extend shelf life.
- Tamper evidence indicator now available to bring even better food safety to consumer.



Clear High Barrier Packaging Products in Americas





Thank you from
Toppan Japan