



Bring a New Wave

# PHACT



## Time to Break the Plastic Wave

Over 9 million tons of plastic waste end up in the ocean every year.

Over 700 species of marine animals, including endangered ones, are reported to have eaten or been entangled in plastic.

Scientists think that the amount of plastic in the ocean might TRIPLE by 2050.

The plastic waste crisis in the marine ecosystem is a problem that impacts all of us and not just life below the surface.

Be part of the solution and take action now. Together we can protect our planet, preserve our oceans, and provide a safe and healthy environment for humankind.

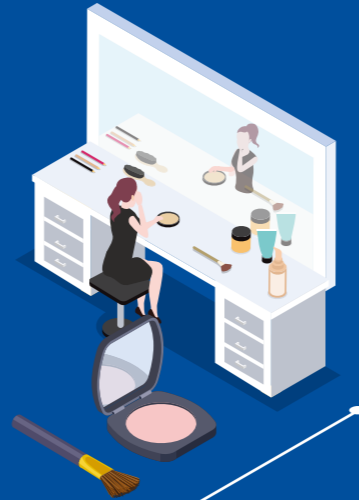




# PHACT APPLICATION

## COSMETICS & PERSONAL CARE

- Cosmetic container
- Dispenser
- Brush handle
- Cosmetic pouch



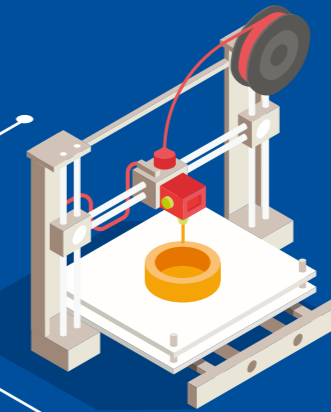
## SPORTS & LEISURE

- Bracelet-type ticket
- Waterproof pack
- Golf Tee



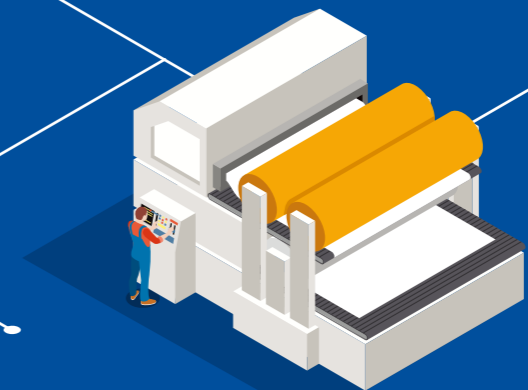
## 3D PRINTING

- 3D filaments
- Prototype samples
- Medical devices



## PAPER COATINGS

- Paper cup coatings
- Paper food trays
- Fertilizer coatings



**PHACT**  
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## APPAREL

- Buttons
- Clothing packaging
- Plastic hangers
- Clothing materials



## FOOD PACKAGING

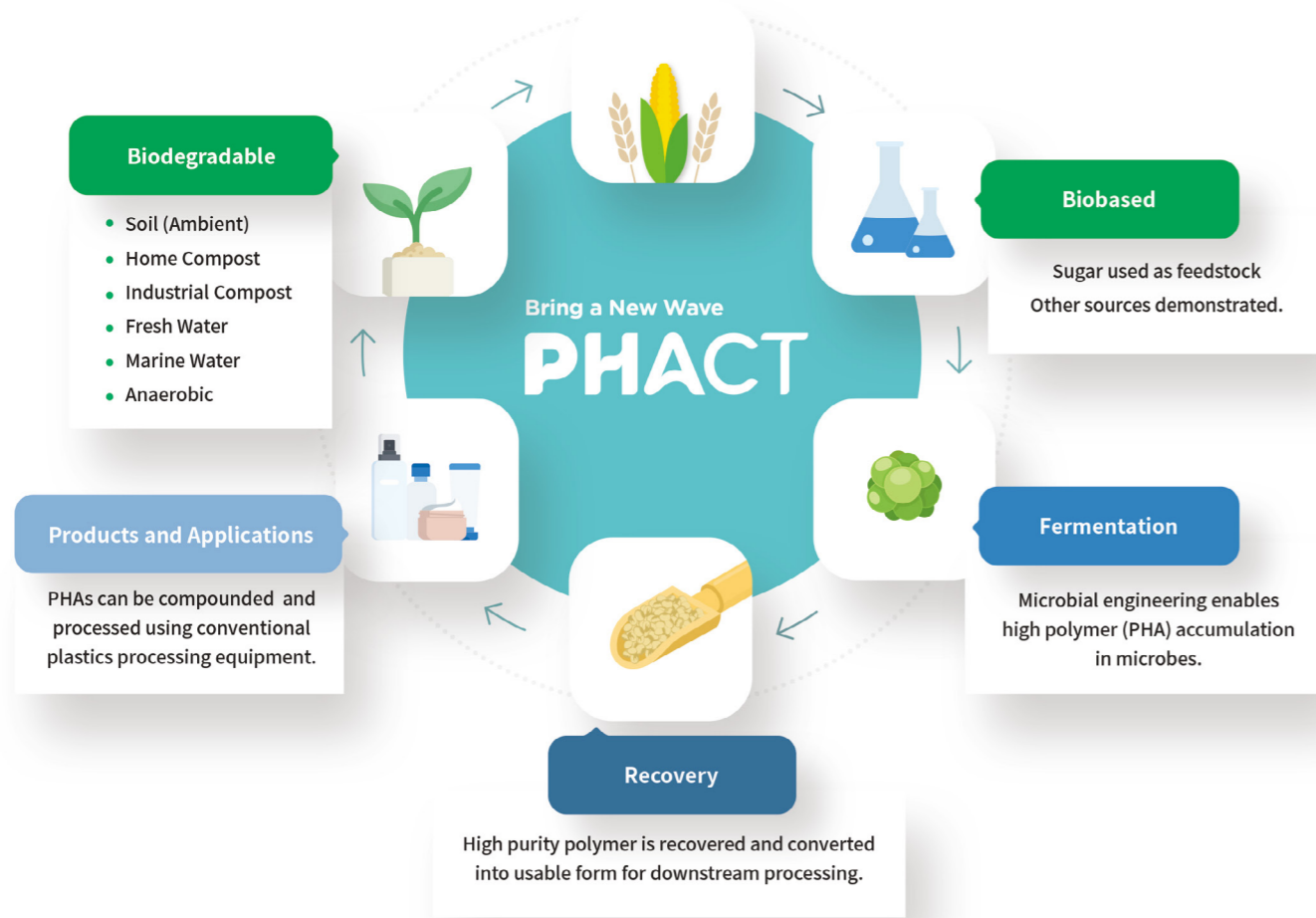
- Rigid packaging
- Flexible packaging





## PHACT Value Proposition

Enabling circular and sustainable solutions across a range of applications



## CJ PHACT Certifications & Registrations

Biodegradation	Biobased	Food Contact
<p>OK Compost Industrial</p> <p>OK Compost Home</p> <p>OK Biodegradable Soil</p> <p>OK Biodegradable Marine</p>	<p>OK Biobased</p> <p>Biobased &gt; 80% by VINÇOTTE</p>	<p>Listed Korea</p> <p>식품의약품안전처 Ministry of Food and Drug Safety</p> <p>Food Contact testing in US/EU in process</p>

# CJ'S BIOMATERIAL HISTORY

- 2022**
  - Plant commissioning and start-up
  - CJ PHACT brand launched representing a diverse PHA technology portfolio
  - First shipments Q1-2022
  - Ramp-up to full capacity Q3-2022
- 2021 ~ 2020**
  - Construction of PHA plant in Indonesia
  - Developed large scale PHA production technology
  - 5,000 ton/year investment in Pasuruan, Indonesia
  - Finalized mechanical completion end of 2021
- 2016**
  - Acquisition of Metabolix technology and PHA assets
  - CJ acquired intellectual property related to PHA biopolymers and biochemicals manufacturing via microbiology
  - CJ assumed responsibility for the USA-based Metabolix research facility in Massachusetts, USA
- 2010**
  - Launch of biomaterials activities as a new growth engine
  - Development of plastic raw materials (Aliphatic diamine, Lactic acid)
  - Planning partnerships with global top-tier customers for production and sales of biobased chemicals



# CJ PHACT GLOBAL FOOTPRINT

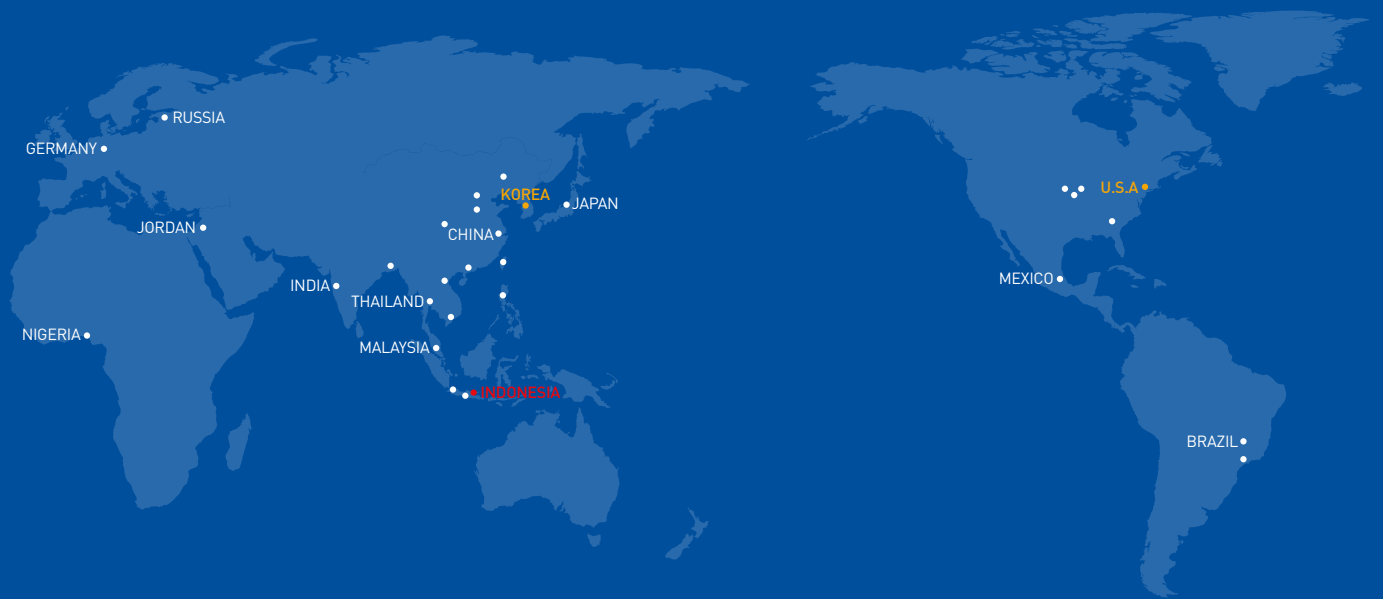
● SALES OFFICE ● R&D POST ● PRODUCTION PLANT

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