4UTOECO

Sustainability Solution Pioneer Beyond

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YUTO Brief

YUTO is an industry-leading superior packaging solution provider. We provide innovative one-stop packaging solutions and sustainable intelligent manufacturing services for Fortune 500 companies, famous brands and other clients. Founded in 1996 and headquartered in Shenzhen, YUTO was listed on the Shenzhen Stock Exchange in 2016 (stock code: 002831), and currently has over 20,000 employees and 40+ production sites.

1996

Established in 1996, YUTO was listed in 2016. (Stock Code: 002831).

40+

Business layout in 10 countries and 40+ cities; 40+ production bases and 4 service centers.

20,000+

Over 20,000 employees worldwide.

17.16 billion

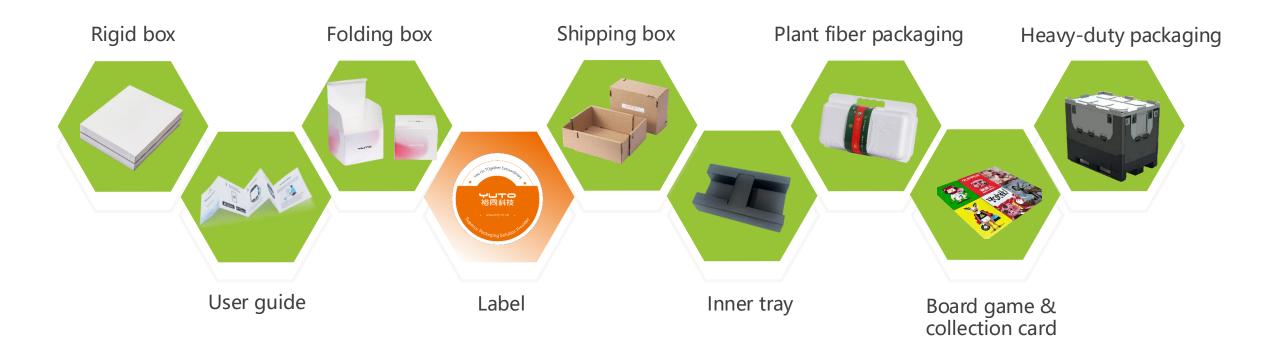
Multi-engine collaboration; the annual revenue was 17.16 billion CNY in 2024.

743 million

Over 695 million CNY of investment for R&D.



YUTO Packaging Products



*Paper bag and sleeve are optional





Approximately 400 million tons of plastic waste are generated globally each year, with less than 10% of it being recycled.



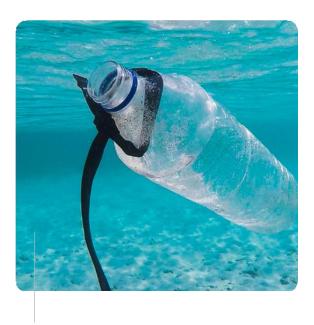
Ecology destruction

Plastic wastes are difficult to be biodegraded in natural conditions, which will cause long-term and serious influences on the ecology and environment. In addition, micro plastic will change the soil chemistry, affecting the fitness and function of organisms.



Climate change

The extracting of plastic will release from 184 million tons to 213 million tons of GHG. The single-use plastic will be landfilled, with 1.5% of the total CH4 emission.



Ocean pollution

About 12 million tons of plastics was poured into the sea each year, and now in the sea exists 200 million metric tons of plastics in circulation.



^{*}It will release a lot of greenhouse gas during the extraction, transportation, production, and treatment of plastic.

Plastic Ban - Countries are taking actions



Plastic Ban Policy

- In 2019, The "Plastic Ban" was carried out in Hainan, China.
- In 2020, the Opinions on Further Strengthening Plastic Pollution Control, which is called "The most strict antiplastic order in history", points out that forbidding and limiting the production, sale and use of some plastic products by 2025.
- In 2019, the EU approved the Single-Use Plastics
 Directive, which bans single-use plastic products on a
 large scale to reduce the harm to the environment and
 human health. As of April 2022, the UK began to levy a
 tax on plastic packaging.
- In 2023, The European Commission approved and published Regulation (EU)2023/2055 banning microplastic products.
- As of May 4, 2022, the US began to implement the second phase of the plastic ban in New Jersey, which means that retailers and food service companies are not allowed to use and distribute disposable plastic bags.



Carbon Emission Reduction Policy

- In September 2020, China clearly pointed out the goals of "carbon peak" before 2030 and "carbon neutral" before 2060.
- Paris Agreement calls for carbon emissions to reduce by 45% before 2030, and realize carbon neutrality before 2050.



YUTOCCO

YUTOECO is an innovative, forward-looking sub-brand under YUTO, driven by the guiding principle of sustainability and offering solutions beyond traditional packaging. Founded in 2020, YUTOECO focuses on developing plant fiber materials that are home compostable and naturally degradable. In addition, we develop new equipment and innovative processes to drive the green transformation of product design and manufacturing. By partnering with clients to achieve sustainability goals, YUTOECO aims to be a builder of a greener future.

Our Positioning

Sustainability Solution Pioneer Beyond Packaging

Our Value

Reliability Sustainability Innovation
Our Vision

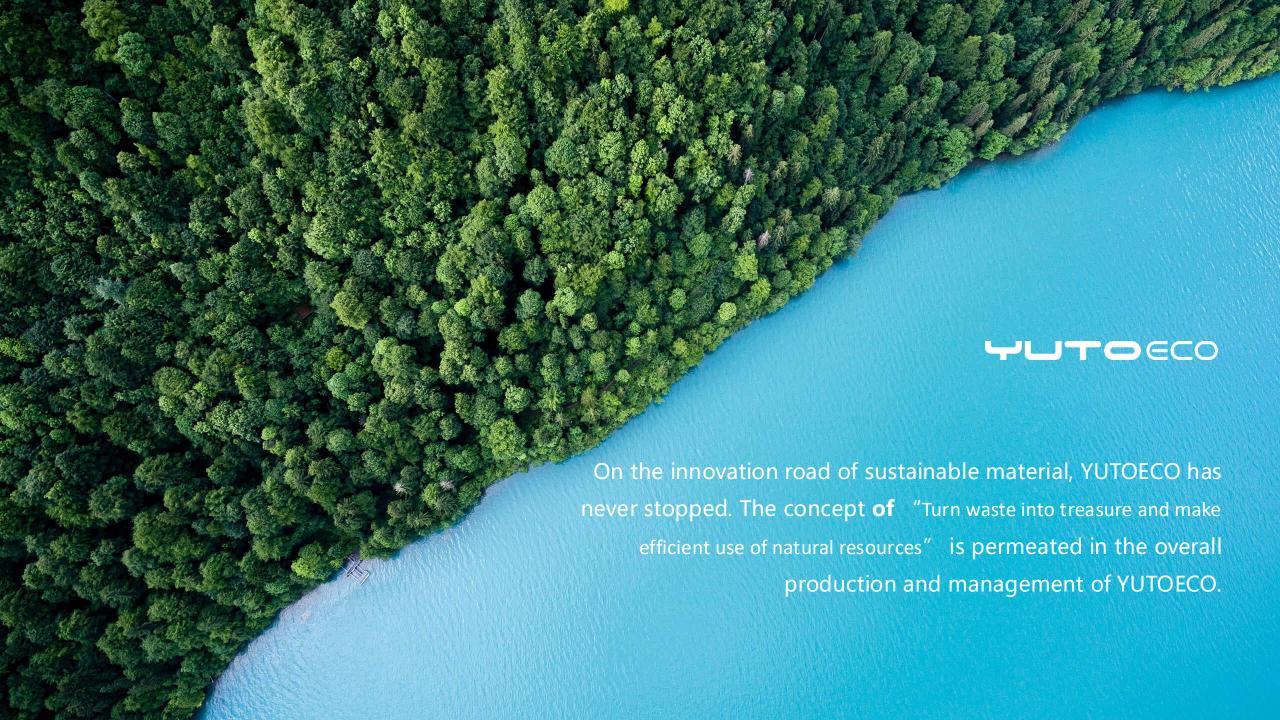
Green Life for Everyone

Our Mission

To become a reliable partner to clients worldwide in sustainable packaging solution and continuous sustainability innovation.







Products











Plant fiber catering packaging

Plant fiber industrial packaging

Functional plant fiber packaging

Plant fiber raw materials

Plant fiber non-packaging products

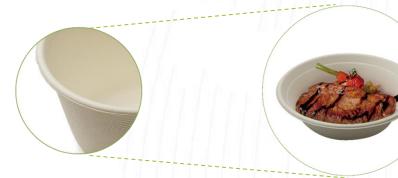
Plant fiber Catering Packaging

Food Grade

- Meet the standards for food contact materials in Europe and America.
- Without fluor escent materials.
- Safe material, contact with food directly.

Excellent Performance

- Food grade waterproof and greaseproof agents. No leakage, safe and reliable.
- icrowave and refrigerator safe, non-toxic and odor-free.



Compostabl

e

- Made from high-quality bagasse and bamboo. Our sustainable packaging can be composted into organic fertilizer within 90 days, which realizes "come from nature, return to nature!".
- Passed the certificates of OK Compost Home, BPI, DIN, etc.

Customization

Able to customize laser logo, UV print patterns and so on according to the brand requirements.





Applications



Retail



Coffee & Baking



Catering



Take-out



Aviation catering

Fresh food





Plant Fiber Industrial Packaging



Food Packaging



Tobacco & Alcohol Packaging



Cosmetics & Personal Care Packaging



Healthcare Packaging



Consumer Electronics Packaging

Structure: Available to realize a draft angle of 0.5° (Negative draft angle is available: -5°), depth of 12 cm and a single layer thickness of 0.8-1.2mm.

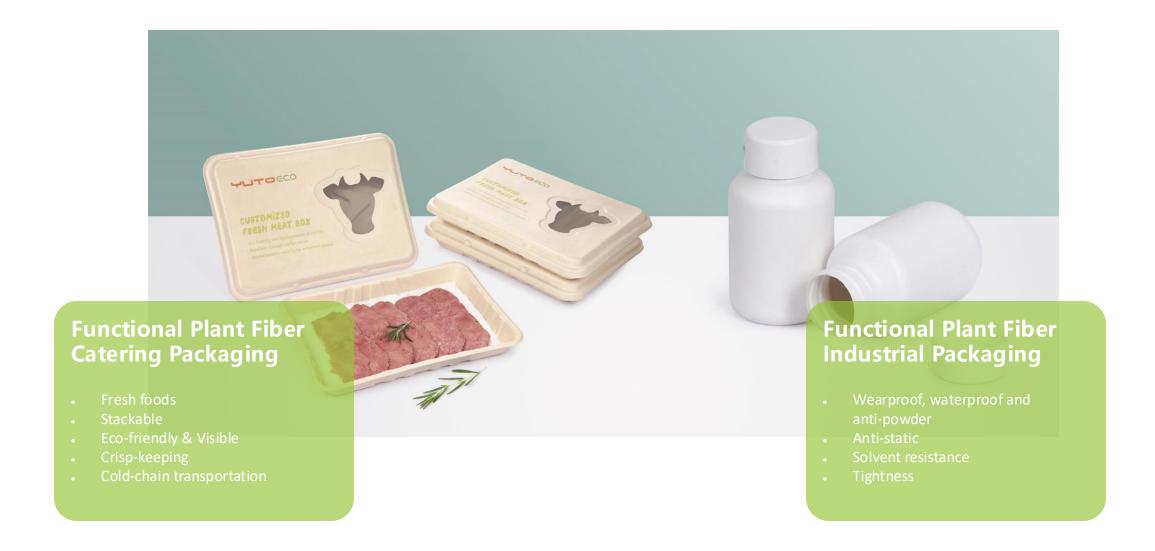
Surface processes: gold stamping, embossment, heat transfer printing, UV printing, laser, lamination, screen printing, etc.

Forming processes: wet press, superior dry press, dry press.

Functions: ventilate, anti-static, wearproof, waterproof and anti-powder, solvent resistance, tightness, etc.



Functional Plant Fiber Packaging



Integrated Packaging





Plant Fiber Raw Materials: Sugarcane Pulp Board



- Raw materials comes from natural paint fiber, which has shorter growth cycle.
- Agricultural by-products, efficient use of natural resources.
- Short fiber, good hardness.

Plant Fiber Non-packaging Products: Natural Cat Litter







Waterproof & Greaseproof

Applicable for hotels, bakeries, convenience store.



- Made from bamboo and bagasse.
- Applicable for hot dogs and burgers without oil leakage.





PFAS-free

The trends of forbidding fluorine in the global market

PFOS/PFOA refers to perfluorinated and polyfluoroalkyl substances. Due to its unbiodegradable performance, it is called the "Forever Chemical". According to the US consumer report in August 2020, this kind of substance can stay in the human body for a very long time and affects human health.

At present, the greaseproof performance of plant fiber products is realized by adding flourinated greaseproof agent, especially for catering packaging.

US

- FDA: From January 2021, companies can discard the PFAS food packaging by themselves within 3 years; from January 2024, this regulation will be enforced.
- BPI: The new regulation was valid on January 1, 2020.
- Local prohibition: There have been 26 states of the US launching laws to forbid PFAS.

China

 The National Standard GB9685-2016 "Standard for the Use of Additives in Food Contact Materials and Articles" has regulated PFOA and PFOS in some materials such as paper boxes, plastics and non-stick coating of cookware.

EU

- EU: In 2020, Appendix XVII of REACH regulations started to forbid the C8 (C8HF15O2), and proposed to restrict the use of C6 (C6H5F).
- BfR: Restriction on PFAS is in effect. Forbidding to use PFAS in food packaging.
- National prohibition: Some countries such as Germany, Netherlands, Norway and Sweden suggest restricting the production and use of PFAS.
- Denmark 100% forbid the use of PFAS countrywide in 2020.



PFAS-free

Two self-developed innovative PFAS-free solutions

Add in

- Waterproof: Without leakage under a temperature of $95\pm5^{\circ}$ C within 30 min.
- Waterproof & Greaseproof: Without leakage under a temperature of 20-70°C within 30min.
- BPI certified PFAS-free formulation.

Soaking

- Without leakage under 95°C within 30 mins.
- Prevent rice from sticking on the container, wearproof.
- Microwave and oven safe (≤200°C).
- Home compostable.

High performance for biodegradation and suitable for diversified applications

- Compostable under natural conditions within 90 days.
- Without producing PFAS substances during home compost and industrial compost.
- Applicable for restaurants, bakeries, convenience stores, and the take-out industry.





Lamination

Lamination solutions (PBAT, PE, EVOH) can be used for fresh food, deli, pre-made food, etc.



PBAT

- High tenacity & Impact resistance.
- Waterproof & Greaseproof.

EVOH

- High barrier performance to ensure the freshness of food.
- High-temperature resistance (-60-200°C).

PE

- Waterproof & Greaseproof.
- Microwave & Oven safe.



Ultra high & low temperature resistance

Applicable for aviation, take-out, baking, etc.

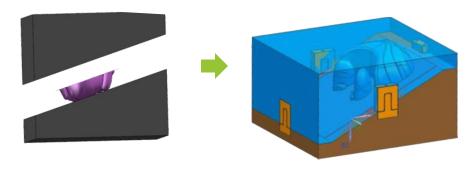




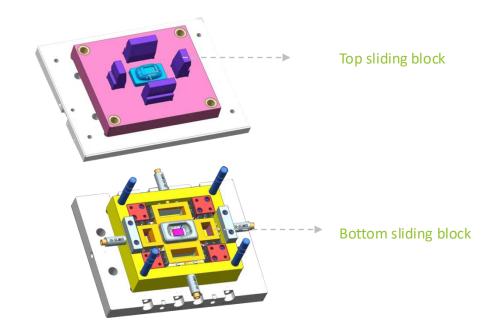


Negative demoulding

The draft angle is negative



• Slant the mold at a special angle, then close the molds and via a slant press to realize this process.



• Make flexible sliding blocks via mold to realize this process.







Surface pad printing

Gold stamping with various colors.

UV printing on a small cambered surface.

Surface processes

Supports gold stamping, heat transfer printing, UV printing, laser, screen printing, embossment, etc.



Diversified materials





Adopting the slurry mixing process, different slurries (such as traditional Chinese medicine residues, coffee grounds, etc.)
 are added according to different product elements to convey the customer's brand concept.



0° Draft Angle



- 0° draft angle products.
- Breaking manufacturing limits.
- Expanding product application range.
- Improving process yield.





Functional Packaging Solutions



Fresh & Frozen Foods Solutions





Paper-based Fresh Food Packaging

Plant Fiber Fresh Food Packaging

- Reduce the use of plastic by more than 85%.
- The tray is degradable and compostable.
- The paper tray and plastic film are designed to be easily separated for convenient recycling.
- High barrier performance; keep fresh for a long time and extend the shelf life.
- Customizable sizes and printing patterns.



Cold-Chain Fruits and Vegetables Products

- Increase the problem of the decrease in stiffness of the product affected by humidity through special surface treatment.
- Keep fresh for 14 days in the cold chain.
- The product is compostable and environmentally friendly.
- The packaging is breathable, which is more conducive to the preservation of fresh products.



Industrial Packaging Solutions



Eco-friendly Visible Solution

- The transparent window uses eco-friendly and biodegradable materials.
- Excellent strength.
- Customizable animal-shaped visible window patterns.
- Gold Winner of MUSE design Awards.



Crisp-keeping Solution

- The top features ventilation holes to maintain the temperature and crispness of the food inside.
- Covered with breathable paper for enhanced airflow and temperature retention, while also preventing foreign objects from falling in.
- The bottom has a concave design that ensures proper ventilation even when the products are stacked.



Stackable Solution

- In order to solve the problem of plant fiber products in specific application scenarios or de-molding for automatic packaging machine, negative draft angle production is achieved through the mold structure, making the product stackable.
- Patented technology.



Industrial Packaging Solutions



Anti-static Spray Coating

• Applicable for consumer electronics that need high requirement of anti-static for pulp molded tray. At present, the resistance value of the anti-static surface can reach 1060hm.



Plant Fiber Packaging Cushion

- 100% Fiber-based Materials.
- Ball-shape buffer structure on the back.
- Offers excellent protecting performance for products.
- Rollable and can directly wrap the product.



Industrial Packaging Solutions



Molded Fiber Bottle

- This innovative bottle cap features a dual-layer design and a double-thread mechanism, providing enhanced sealing performance.
- Integrated forming, Biodegradable with 90 days under natural conditions.
- Bio-based coating; safe and environmentally friendly.



Wearproof and Waterproof Coating

- The inner tray is made from plant fiber.
- Food-grade wearproof and waterproof coating on its surface.



Industrial Packaging Solutions



Wearproof & Anti-powder Coating

- The tray is made from plant fiber.
- A wearproof & Anti-powder coating on its surface to improve the wearproof performance and reduce the shedding of small fibers.



Solvent-proof

- Fiber-based materials on the outer layer.
- Bio-based barrier coating in the inner layer.
- Features sustained and effective barrier properties for alcohol, surfactants and so on.
- 2-layer of lid can rotate freely.







Non-packaging Products Solutions

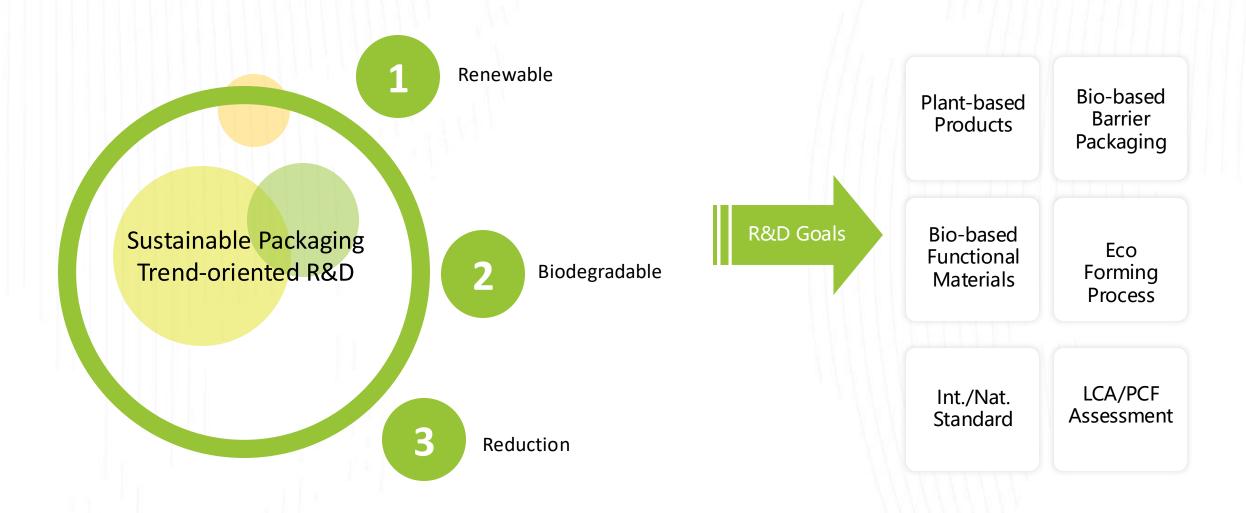
Plant fiber cat litter

- Customizable fragrances: unscented, milk, green tea, coconut, coffee, lavender, peach, bamboo charcoal, and more.
- Available to customize the packaging.





R&D Direction





R&D Resources

YUTOECO R&D Institute gathered a lot of experts and talents come from various fields such as material science, packaging engineering, smart packaging, etc., which is composed of international professors, experts, senior engineers, doctors, masters and bachelors.

YUTOECO has gained 80 patents, including 23 patents for invention, 51 patents for utility models, and 6 design patent.

Innovative



- National Paper Packaging & Printing Materials R&D

 Center
- National Industrial Design Center
- Guangdong Green Printing and Intelligent Packaging Engineering Technology Research Center



- Shenzhen Nano Intelligent Coating Material Engineering Lab
- Shenzhen New Green Packaging Materials Engineering Technology Research Center
- R&D and Technology Center



- YUTOECO R&D Institute
- Academician (expert) Workstation
- Postdoctoral Innovation Practice Base

Cooperation

 Our R&D team has gathered many senior experts in the packaging and new materials industries, and continuously develops new materials, new technologies and new processes in a variety of ways like production-study-research cooperation.



Institute of Chemistry Chinese Academy of Sciences



BIGC



Tsinghua University



CNPPRI



Shenzhen Graduate School of Peking University



SUSTC



SCUT





Self-developed Equipment

Pulping system

- With the self-developed pulping system, the laser concentration test can control the pulp concentration tolerance within 0.5% through the DCS control system.
- Zero visible impurities in the pulp by adopting high efficient enegy-saving pulper, three-step slag removal process and unique pulp grinding process.



Equipment R&D

 Our self-developed fully automated pulp molded machine can achieve 20% energy savings and improve production efficiency by 50%.





Specialty Equipment Manufacturing

Three self-developed equipments enable the automated production of customized functional products.



Fully automated film laminating machine

 Enable the automated production of eco-friendly visible products as required.



Fully automated ventilated window production machine

 Enable the automated production of eco-friendly crisp-keeping products as required.



Automated coating machine

• Meet the requirements of specific applications, such as plastic free, PFAS-free, high strength, etc.



Quality Control

- YUTOECO strictly implements the ISO9001 Quality Management System, BRC global standard, and national standards.
- YUTOECO aims at the 100% product qualification rate and sets up the perfect quality management system.
- From the selection and production of raw materials to the test and package of finished products, YUTOECO has realized systematic management for the whole production processes, ensuring the safe quality of our products.





Process Control

Molding

Size

Color

- Weight
- Performance
- Lids

Delivery

- Outer box
- Label
- Performance
 Appearance



Raw Material

- Pulp board
- Agent
- Material







- Pulp concentration additive
- Pulp freeness



Semi-finished Packaging

Appearance



Finished Packaging

- Inner packaging
- Metal detection
- Label
- Microwave sterilization



Global Footprint





• YUTOECO has established 9 advanced ECO factories across 9 cities in China and South-east Asia. Additionally, it operates service centers and offices in key locations including the United States (New York, Santa Clara, Austin), China (Hong Kong), and Australia (Melbourne).

YUTOECO Vietnam (YZVN)

- 67 sets of fully automatic forming machines and 6 sets of semiautomatic forming machines.
- ISO9001 and ISO22000 certified workshop, BRC certified (Grade A).
- Advanced quality testing laboratory to ensure product quality.
- Diversified product lines meet different clients' packaging needs.





YUTOECO Yibin

- 26 sets of fully automatic pulp molding forming machines; 7 fully automatic edge-cutting lines.
- 2 sets of desanding systems, up to 60% desanding rate of raw materials.
- Quality management system covers the whole process.
- YUTOECO Yibin is close to the origin of raw materials and rich in bamboo pulp resources.
- Located in the first city of the Yangzi River, which has abundant hydroelectric resources.



YUTOECO Haikou

- Covering an area of 80 mu (approximately 13 acres), we boast an advanced fully automated food safety production workshop and the industry's most advanced intelligent storage facilities.
- Equips 28 fully automated forming machines, with an annual production capacity of 36,000 tons.
- Fully automated production line covers the entire process (feeding, sorting, packing).
- Advanced testing laboratory sets high standards for finished product inspection.



YUTOECO Dongguan

- Equipped with 29 sets of fully automatic forming machines and 24 sets of semi-automatic forming machines.
- Rich experience on exquisite plant fiber industrial packaging in cooperation with brands.
- Provide diversified forming processes: wet press, superior dry press and dry press.
- Established a specialized industrial packaging solution center to provide customers with diversified surface processes and structure design solutions.





YUTOECO Kunshan (Yujin)

- 47 sets of fully automatic pulp molding forming machines.
- International-level product performance testing laboratory with 47 types of testing instruments such as 3D scanner to ensure the quality of moulds and products.
- ISO9001 and ISO22000 certified workshop, factory meets FSC certification.
- Established a special R&D team, currently has 1 patent for invention, 25 patents for utility models, 3 certificates for software copyrights.

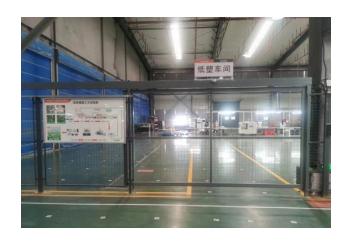




YUTOECO Hefei







- 1 fully automated flip paper-plastic forming machine, capable of producing products with a 0° draft angle, meeting the demands for superior molded fiber packaging.
- 1 fully automated PLC pulp control system with an hourly capacity of 270 kg of pulp.
- The workshop features a fully automated assembly line, reducing the need for manual gluing, dispensing, and assembly personnel, and increasing operational efficiency by 40%.

YUTOECO Yantai



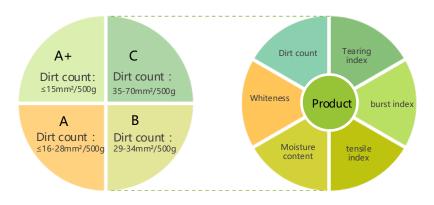




- Supporting three independent pulping systems that can be upgraded for multicolor product production.
- Automated loading and unloading processes can effectively reduce the costs for wet-pressed products.
- Two 33-meter natural gas drying lines are available for the production of superior dry-pressed products.
- Equipped with self-developed fully automated forming machines, suitable for producing superior wet-pressed products.

YUTOECO Guangxi

The raw material layout of upstream pulp board factory has gradually shown results, which not only ensures the stability of the company's internal raw material supply but also maintains close cooperation and stable supply with various large and small factories in the plant fiber products industry, promoting the further development of the plant fiber packaging industry.



Quality benchmarking with Thai sugarcane pulp board



Excellent geographical location

Rich sugarcane resources in Guangxi.

Cooperate with local bagasse pulp factories to reduce transportation costs.

Productivity advantage

Annual production capacity can reach 68,000 tons.

Whole industry chain layout

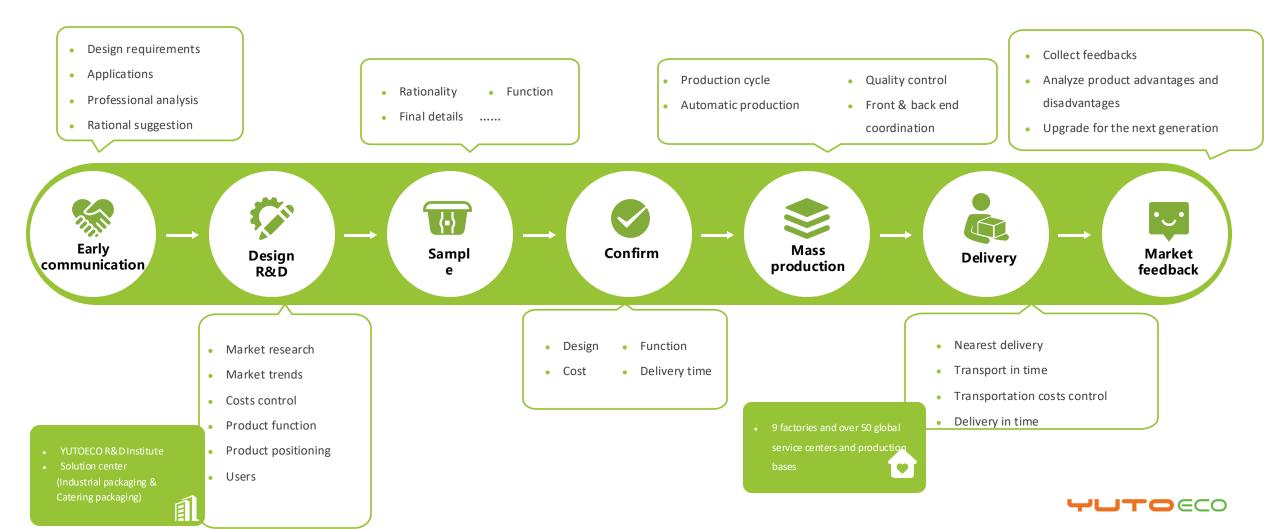
From sugarcane to bagasse pulp and then to finished products.

Quality control

Production complies with the standards of ISO9001, ISO14001, IECQ, RoHS and other certifications.



Solution: From Concept to Realization



Certificates















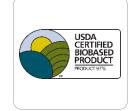


















Company certificates

Product certificates





Sustainable Development Management

Sustainability Commitment

YUTO commits the Science Based Targets initiative (SBTi) at the end of 2023 and plans to achieve carbon neutrality by 2040.

Key Areas of Sustainable Development













01 Eco-friendly Products and Raw Materials



Climate Change and Carbon Emission Management



Energy Management



Water Resource Management



Management of Three Types of Waste





Occupational Health and Development



Employee Training and Development



Key Performance Indicators of Sustainability

Category	Objective	Performance in 2023	Corresponding SDGs
Demonstration Factories for Reducing Carbon Emission	By 2030, YUTO's headquarters base and the Shenzhen Longgang Branch will reduce carbon emissions by an absolute value of 4.2% annually (based on 2022 levels)	In 2023, our headquarters base and Shenzhen Longgang Branch's carbon emission stood at 25,001 tons (market based) ¹ , which met the annual emission reduction target of 4.2 %	13 HIMMET ACTION
PV Power Plants	18 solar PV power plants are expected to be built by 2025	As of 2023, we built 15 PV power plants, with an output of 20.43 million kWh, up approximately 38% from the 2022 level	7 distribution del 12 discretation del 12 disc
Clean Energy	By 2040, the ratio of renewable energy adoption will reach 100%	In 2023, the ratio of green electricity adoption stood at 30% ²	7 attomated and 12 februside constitution and reconstruint constitution.
Water	By 2030, subsidiaries including Wuhan YUTO, India YUTO (Delhi), Suzhou YUTO, Sanhe YUTO, and Hefei YUTO will achieve an average annual decrease in water usage intensity of 1.5% (based on 2022 levels)	Compared to 2022, the water usage intensity of the five subsidiaries has decreased by 2.9% , which met the annual water intensity reduction target of 1.5%	12 REPORTIBLE OCCUPANCIA (ALL HOLDSCHOL) (ALL
Eco-friendly Procurement	By 2030, the procurement ratio of eco-friendly materials for paper, ink, glue, and varnish will exceed 90%	In 2023, the procurement ratio of the four key eco-friendly materials, including paper, ink, glue, and varnish, reached 92%	12 HOYMABIE CORRIENTA JAN HORICOM

^{1,}Based on the GHG Protocol's description of indirect (Scope 2) GHG emissions, the market-based calculation method involves utilizing emission factors for purchased electricity from specific sources (e.g., renewable energy).





Key Performance Indicators of Sustainability

Category		Progress in Sustainability Governance	Corresponding SDGs
Environment	Carbon	 In 2023, our greenhouse gas emissions totalled 328,000 tons, marking an 11% decrease from 2022 We have submitted our SBTi commitment and plan to achieve carbon neutrality by 2040 	13 cumare
	Three types of waste (industrial wastewater, waste gases and solid residues)	•To date, 4 of our manufacturing bases have obtained platinum certification for zero landfill waste, and 3 manufacturing bases have acquired gold certification for zero landfill waste •In 2023, 100% of the three types of waste emissions met the standards	11 SECONDARIE 12 REPROSEE COMPACION ARE RESECUENT
Employment	Equality and Diversity	•In 2023, the number of employees reached 20,966 , of which about 40% were women	5 canality 10 millions The second of the
	Health and Safety	 Investment in production safety and environmental protection amounted to 52.63 million CNY in 2023 25 subsidiaries were certified by ISO 45001, Occupational health and safety management systems. 27 subsidiaries obtained standardized safety production certificates YUTO's safety training was attended 97,917 person-times 	3 CORD HEALTH BY RESERVE ON DECISION OF CONTROL OF CONT
	Training and Development	•The participation rate of employees in training was 100% , and the training totaled 216,152 hours •In 2023, e-Student offered 33 live sessions, which were attended 3,256 person-times •As of December 31, 2023, YUTO had certified a total of 465 skilled talents at all levels	4 SUBLITOR 8 SIZERY WORK AND CECHANIC COLUMN



Key Performance Indicators of Sustainability

Category		Progress in Sustainability Governance	Corresponding SDGs
Product Responsibility	Eco-friendly Products	 In 2023, revenue from eco-friendly products accounted for 7% approximately YUTO offers more than 30 types of eco-friendly products 50% of the products developed and designed by YUTO in 2023 were biodegradable, recyclable, and renewable products, up 7% from 2022 	12 Managaille Cooperations An Production Cooperations
	Intellectual Property Rights	•A total of 90 patents were applied for, and 210 patents were granted in 2023	9 (ADSTRY ABOARD) On Herital States
	Sustainable Supply Chain	•We conducted environmental assessments of 2,193 suppliers and social assessments of 3,535 suppliers. Suppliers that received our environmental assessments and social assessments amounted to 72.14% and 74.12 %, respectively	17 Manufacients for the Goods
Corporate Governance	Board of Directors	•3 of the 7 existing directors on the Company's Board of Directors are independent directors, including 1 female director	5 GROOM 16 (OUALITY AND SCHOOL MONSTORMS SINTERIORS SCHOOL MONSTORMS SINTERIOR SCHOOL MONSTORMS S
	Anti-Corruption	 Anti-corruption training covered 100% of employees We conducted a thorough anti-corruption audit across the Group at least once every three year 	16 WAS LEDNA ON STATE OF THE PROPERTY OF THE P
Community Engagement	Public Welfare	 In 2023, YUTO Foundation donated 7.675 million CNY. As of December 2023, YUTO and YUTO Foundation had donated more than 48 million CNY 	1 POTATION 3 ASSURE LEGIC 4 COLUMN LINCOLOGY

External Recognition of Sustainability







AA Wind ESG AAA
CNI index ESG rating

Obtained a score of
Management level (Level B)
in CDP's Climate Change
questionnaire

YUTO's rating level is currently on par with many renowned global packaging companies, such as Amcor.

The CNI ESG rating is an official rating system of the CSRC. The category that YUTO belongs to encompasses all A-share listed companies in the domestic basic materials sector.

The Wind rating encompasses all A-share and Hong Kong-listed companies, with an AA rating being the highest in this COPSTSCORE is among the best in Asia, with the average rating across all Asian companies at the C level.



Brand Event















GREEN LIFE FOR EVERYONE



TUTO ECO

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