

SWANCOR REGENER CO., LTD.

JEC Forum Southeast Asia 2026 · Supplier Workshop · June 23, 2026

The Circular Materials Revolution

Driving a Net-Zero Future for Industry with Recyclable
Thermosetting Composites & Closed-Loop System Solutions

Returning composites to their original industry



SPEAKER

Jackson Lin



About Swancor Regener

Group Business Units



Swancor Holding

Low-carbon recyclable raw materials

Composite components

Composite Finished composites

Materials business

Aerospace & low-altitude economy

Robotics business



Swancor Advanced Materials

Swancor Regener

Eco-friendly high-performance corrosion-resistant materials

EzCiclo & CleaVER

Recycled fiber

Wind blade materials

Electronic materials

Turnkey recycling technology

New composite materials

Pultrusion/thermoplastic sheet

Prepreg

Aeraxa Aerospace

Automotive/Aerospace/Safety materials Composite products

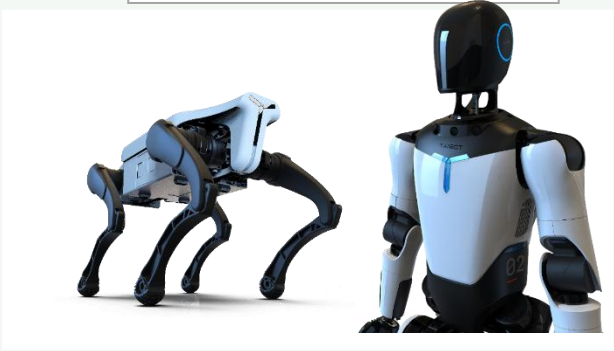
Low-altitude economy/Robotics related components

Swancor Robotech

Humanoid robots

Service robots

Quadruped intelligent robots



Swancor Regener at a glance

Backed by an integrated, listed materials group — built for circular composites

Founded
Year 2022

Focus
Composite circular-economy solutions

Demo plant
Nantou, Taiwan — 40 t / yr



Three reasons to trust us



Award-winning

Recognized internationally and at home

- 01 JEC World 2023 Innovation Award
- 02 Taiwan Circular Economy Award 2026



CTI v4.0 Material Circularity (MCI)

Reviewed by BCSD / WBCSD

Circularity quantified by a verifiable method

Thermoset resin

38.2%



rCF

85.6%



rGF

83.3%



Independently certified

Recovery rate and carbon footprint verified

- 01 ISO 14021
- 02 ISO 14067
- 03 World-first GRS 100% rCF

A waste problem becoming a billion-dollar market



The problem you already know

- Thermoset FRP can't be recycled or degraded
- Today's only routes: landfill or incineration
- End-of-life can't count toward circularity

→ **inflated supply-chain carbon**

>10 Mt/yr

Global FRP waste

NT\$5 bn+

Taiwan circular market

2030

Landfill bans begin



The regulatory clock is already running

2026 CBAM → 2028 ESPR in force → 2030 blade landfill bans (multiple countries)



Two high-value waste streams = two markets

Retiring wind blades

Taiwan reaches 249 units by 2030; ~13 Mt of blades retired globally by 2037

Electronics copper

Taiwan PCB waste 23,809 t/yr; CCL copper content exceeds 40% — an urban mine

Brand pressure

Rising Scope 3 demand needs verifiable recycled feedstock

Closed-loop Process

EzCiclo recyclable resin (design-in) + CleaVER chemical depolymerization (end-of-life)



EzCiclo Recyclable by design

A drop-in replacement for standard epoxy that makes thermoset composites recyclable from the start — the entry point of the loop.



CleaVER Chemical depolymerization

Recovers fiber, resin at end-of-life under mild 150°C conditions — without shortening fibers, and the solvent is reusable.

Raw material



易可收
EzCiclo



Use



End of life



CleaVER 可立解



Recycled materials

Not one production line needs to change

High-value chemical depolymerization — materials go back to the original industry, not downcycled



Front-end Drop-in Replacement

EzCiclo drops into your existing epoxy process — same behavior, same parameters. No capex, no line downtime.

Proven: SGRE / Vestas qualification; RF700 hardener in CCL production.



Back-end Recovery Service

CleaVER engages only at end-of-life, fully decoupled from daily production.

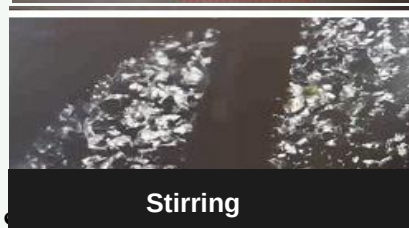
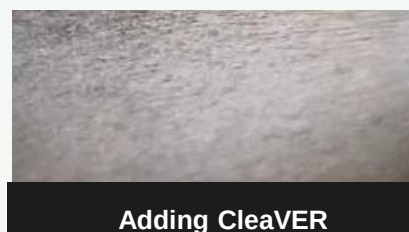
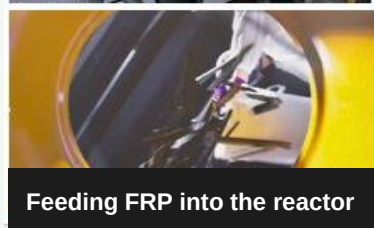
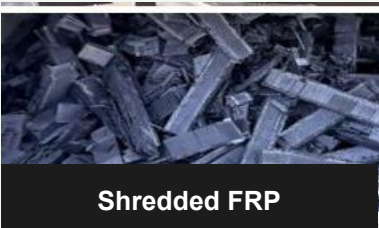
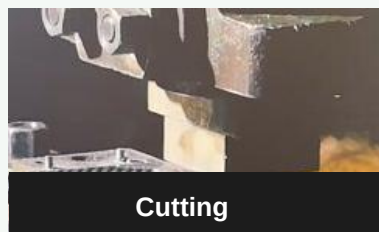
Sell "recyclable material + recovery service" — from one-off sales to a long-term value-chain relationship.

150 °C Mild reaction

5–6 hr Reaction time

Reusable CleaVER solvent

Customizable Fiber length



Recovered carbon fiber



Distillation & purification
(oligomer separation)



Regenerated CleaVER
solvent (reusable)

SGRE × RWE Sofia offshore wind farm

The world's first offshore wind farm to deploy recyclable blades at scale

Qualification

A qualified recyclable-resin supplier to Siemens Gamesa (SGRE) and Vestas.

Application

EzCiclo recyclable epoxy used on the UK Sofia offshore wind farm — blades up to 108 m.

Commercial meaning

From "selling material" to "product + service + recovery" — a full value-chain loop.



108m

Length of Wind Blade

Longest recyclable blade

−30%

Blade carbon footprint

vs conventional non-recyclable blades



World-first

Scale offshore use · 2025

2025 commercial production

Recyclable copper-clad laminate — PCB / CCL

Recyclable-material solutions with a leading global CCL maker since 2023



EzCiclo RF702 hardener adopted

Replaces the conventional hardener; Adopted the existing CCL manufacturing process
No production-line retrofit — recyclability built in directly



Made into CCL / PCB

Recycled content > 80%
Degradable — copper foil and glass cloth separated for reuse



CleaVER recovery

Full separation under mild 150°C conditions
Copper foil, glass cloth, recovered resin (polyol)

Closed-loop process

Copper recovery

No smelting or electrolysis
Straight back to CCL line

Purity 99.77%



Glass-cloth recovery

Back to composites
No landfill or incineration



Recovered resin-polyol

PU foam → packaging
Usable in plastics compounding



EzCiclo Applications in Other Industries

AI robotics

- Robot frames, ankle joints, and knee bearings



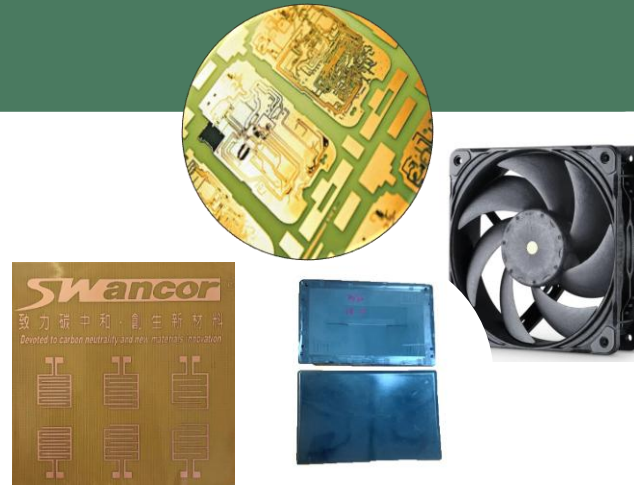
Sports & Leisure

- Bike frames / pedals / wheelsets
- Badminton rackets / Pickleball paddle
- Hockey sticks / camping tables



Electronics

- CCL (99.77% copper purity)
- Printed circuit boards (PCB)
- Cooling fans / IC trays



Mobility

- LIUX EV flax body
- Truck cab panels / bumper brackets
- Hydrogen-bus pressure vessels



Credentials you can verify



World-first GRS 100%

The first GRS 100% recycled carbon-fiber certification — a technology lead.



ISO 14021

SGS-verified: ≥95% recovery rate.



ISO 14067

60–90% lower carbon footprint.



Patent portfolio

Key-material patents across
TW · US · EU · JP · CN.



Work with us

Three ways to engage · ready to deploy · an end-to-end closed loop



Design

Design-in

Adopt EzCiclo recyclable resin with no process change — and meet ESPR recyclable-design rules.

For: **OEM / ODM / blade makers**



Supply chain

Material supply

Substitute rCF / rGF for virgin material; ISO 14067 footprint data to cut Scope 3 emissions.

For: **Brands / CCL makers / bike brands**



Circular system

Recovery network

Reverse logistics with recyclers; shared feedstock networks; common recycling standards.

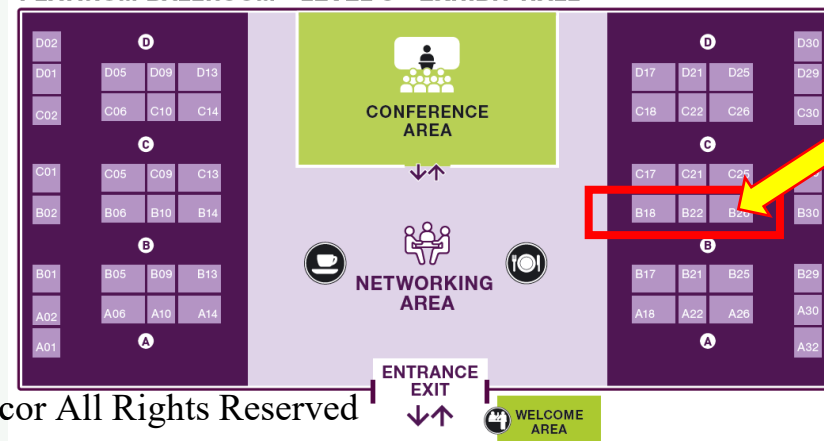
For: **Recyclers / industry associations**



Let's talk at JEC Forum SEA

Visit our booth at **B18 、 B22**

PLATINUM BALLROOM - LEVEL 3 - EXHIBIT HALL



Let's build a zero-waste composites ecosystem

Devoted to carbon neutrality and new materials



Technically proven

Solves the century-old recyclability problem



Commercially profitable

Circular material as a high-margin core business



Better together

Alliances that export technology and standards

The future of composites isn't about price — it's about value.

Swancor Regener Co., Ltd.

www.sw-regener.com

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