# SET Awards ประจำปี 2568
# กลุ่มรางวัล Sustainability Excellence
# ด้านภาพรวมความยั่งยืน (Sustainability Awards)

นำเสนอโดย

## บริษัทเอสซีจี แพคเกจจิ้ง จำกัด (มหาชน)

12 กันยายน 2568

# หัวข้อนำเสนอ

1. ภายใต้ภาวะเศรษฐกิจที่มีแนวโน้มชะลอตัว (Economic Slowdown) และการเปลี่ยนแปลงด้าน ภูมิรัฐศาสตร์ (Geopolitics) ตั้งแต่ปี 2567 ที่ผ่านมา บริษัทมองเห็น “โอกาส” หรือ “ความท้าทาย” อะไรบ้าง

2. บริษัทมีแนวทางอย่างไรในการปรับตัวเพื่อตอบสนองต่อความเสี่ยงและโอกาสที่เกิดจาก การเปลี่ยนแปลงสภาพภูมิอากาศ โปรดอธิบายถึง “โอกาส” หรือ “ความท้าทาย” การวางกลยุทธ์ การบริหารความเสี่ยง

3. ในปัจจุบันที่เทคโนโลยีและปัญญาประดิษฐ์ (AI) กำลังพลิกโฉมอุตสาหกรรม องค์กรของท่านมีแนวทางอย่างไรในการทำให้ความก้าวหน้าทางเทคโนโลยีช่วยยกระดับขีดความสามารถในการแข่งขันทางธุรกิจ (Competitive Advantage)

4. หัวข้อสาระสำคัญ (Materiality Topics) จำนวน 1 ประเด็นที่มีความสำคัญต่อการดำเนินธุรกิจอย่างยั่งยืนและการรักษาความสามารถในการแข่งขันในระยะยาว โดยบริษัทสามารถเลือกประเด็นที่เกี่ยวข้องกับด้านเศรษฐกิจ สังคม สิ่งแวดล้อม หรือบรรษัทภิบาล

5. Appendix

# 1. ภายใต้ภาวะเศรษฐกิจที่มีแนวโน้มชะลอตัว (Economic Slowdown) และการเปลี่ยนแปลงด้าน ภูมิรัฐศาสตร์ (Geopolitics) ตั้งแต่ปี 2567 ที่ผ่านมา บริษัทมองเห็น “โอกาส” หรือ “ความท้าทาย” อะไรบ้าง

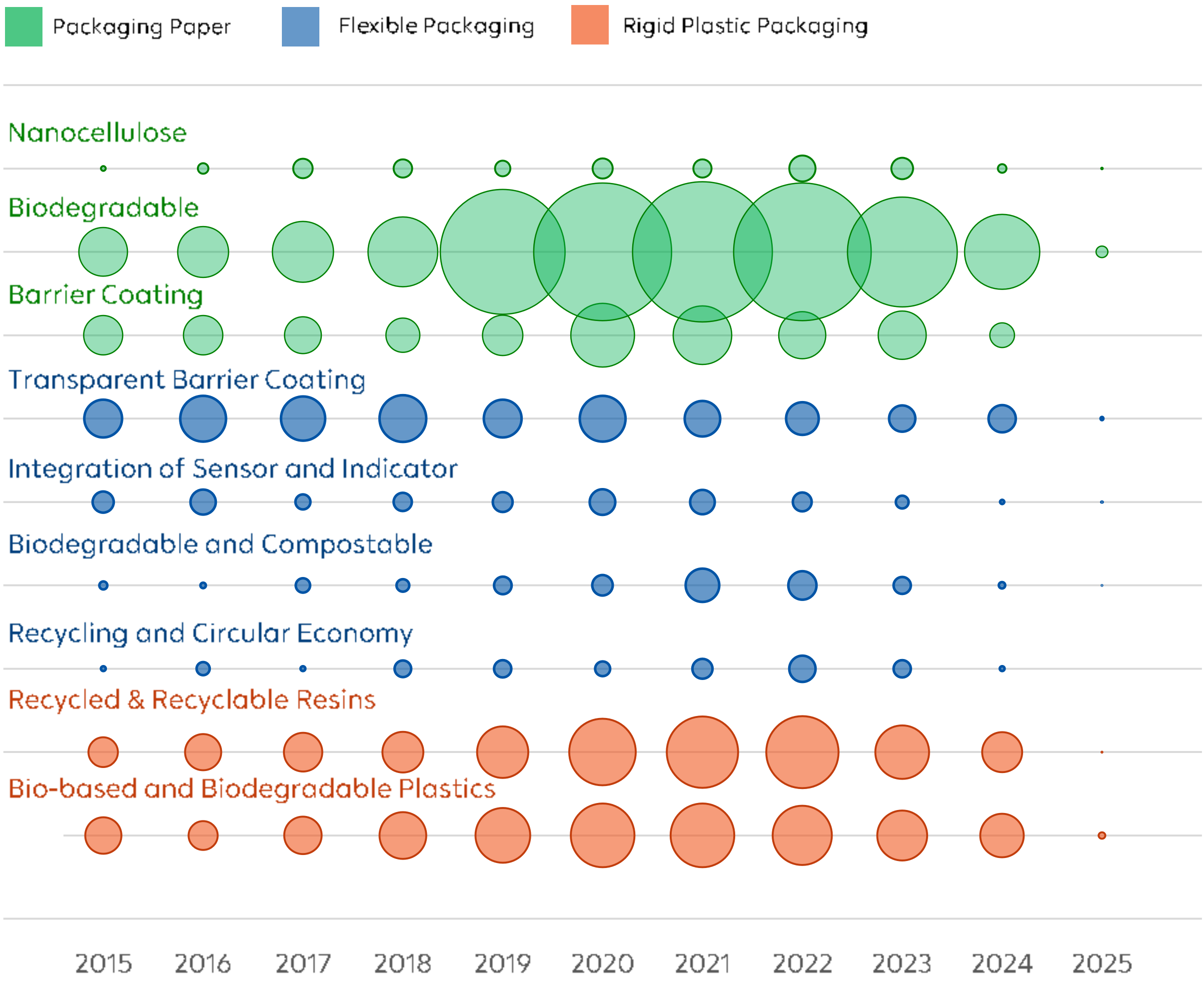
## โดยนำเสนอครอบคลุมประเด็นต่อไปนี้

- โปรดระบุ “โอกาส” หรือ “ความท้าทาย”
- กลยุทธ์การดำเนินการเพื่อรับมือกับความเสี่ยงหรือโอกาสที่เกิดขึ้น ตลอดจนเป้าหมายทั้งในระยะสั้นและระยะยาว
- การดำเนินงานตามกลยุทธ์ดังกล่าว พร้อมกับผลลัพธ์เชิงคุณภาพและเชิงปริมาณ
- ผลลัพธ์เชิงเปรียบเทียบกับปีก่อนหน้า

# Packaging technology and trend

Majority of technology development in paper and plastic packaging focused on sustainability and barrier technology

## Number of patented packaging technology




Bubble size represented to a number of patents; Smallest = 1 , Largest = 251
Source: PatSnap™ and Clarivate™ patent database, 2024

## Packaging trend

**1** **Performance:** Barrier performance to minimize materials

High barrier
(Oxygen & Water vapor permeation < 1 g/m²/day)

Vapor deposition coating
Solvent coating
Water-based coating
Multilayer structure

Low barrier
(Oxygen & Water vapor permeation > 100 g/m²/day)

**2** **Sustainability:** Material development: durability, recyclability, biodegradability, composability

**3** **Productivity and smart & intelligent**

- Structural design e.g. shelf-ready and retail-ready packaging
- Track & trace technology
- Labelling technology

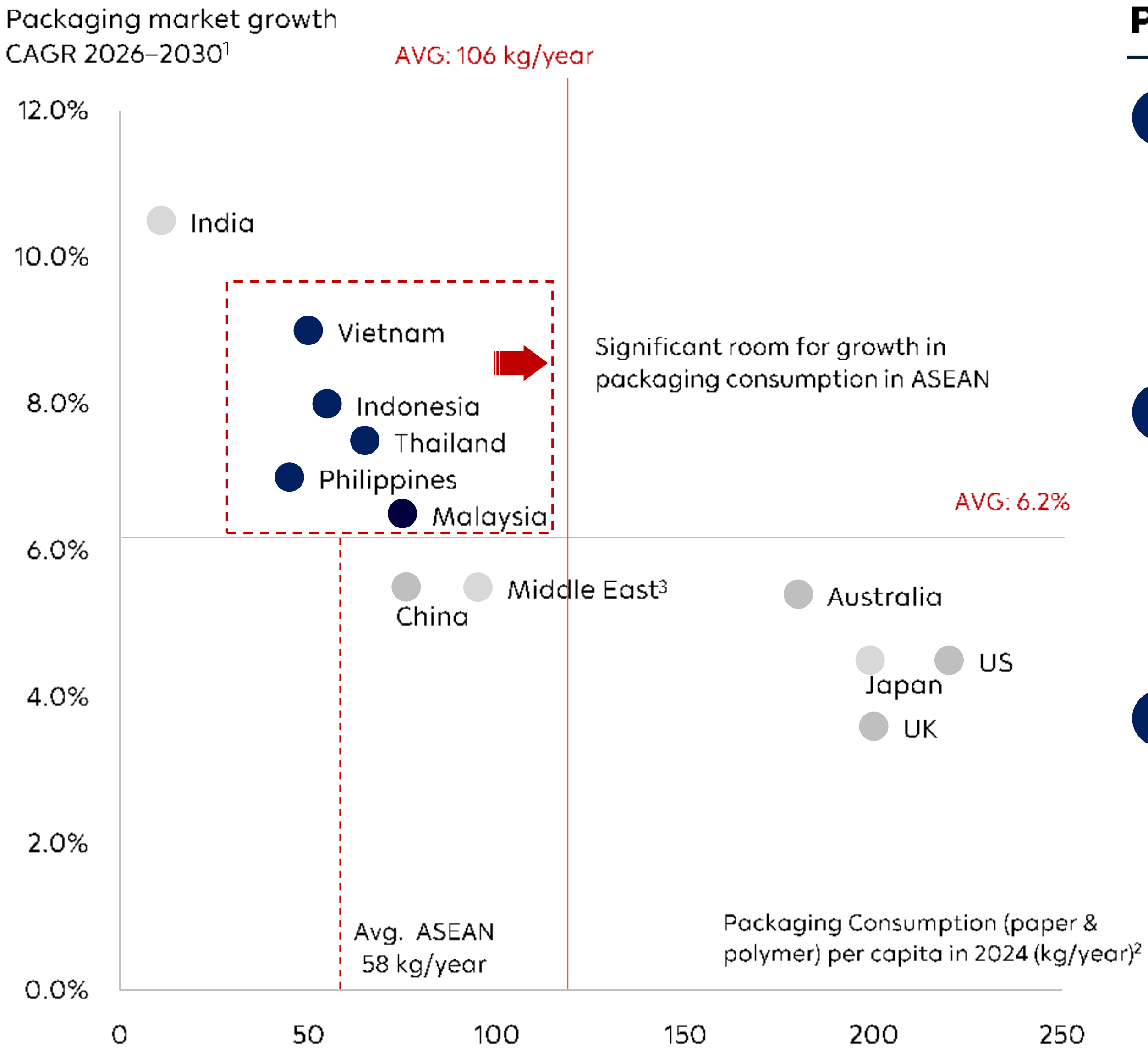
**4** **Consumer & customer convenience**

- Reclosable & resealable

Source: Winning with new models in packaging 2030, McKinsey & Company

# Opportunity & Implication to packaging business

ASEAN is on course to thrive as a major leader in packaging consumption over the next 5 years




## Packaging market landscape

### 1 ASEAN

- Potential market growth driven by a sizable population and demand for packaged and convenience foods
- Closely aligned tariff rate across ASEAN, while accelerated diversification to other potential markets beyond China

### 2 China

- Opportunity to capture demand from China's relocation increased packaging paper volume +10% in Thailand
- Long-term competitiveness is a key amidst new market entrants

### 3 EU & US

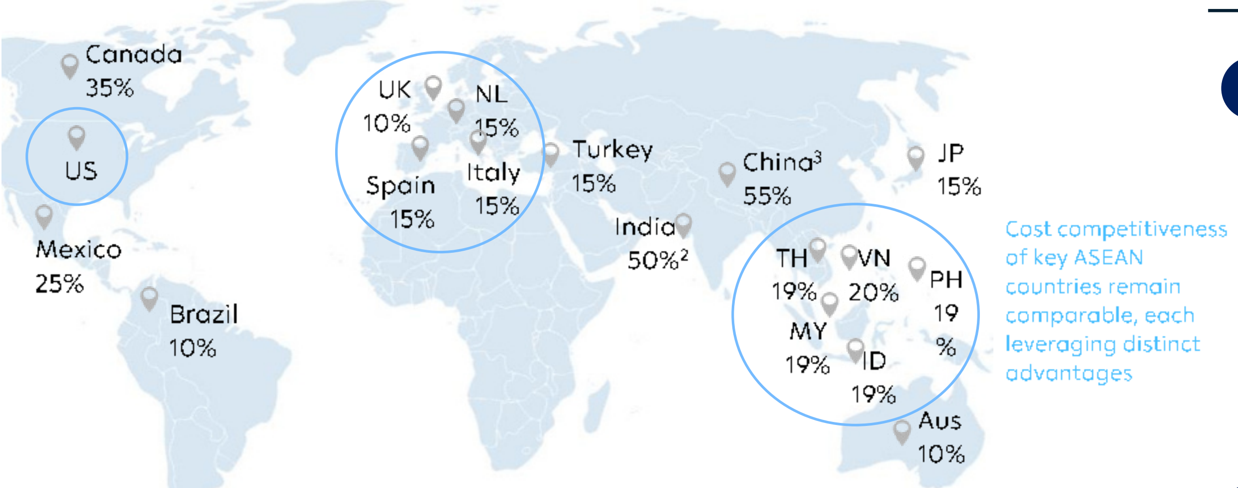
- Global packaging companies consolidation, e.g. Westrock & Smurfit, International paper & DS smith, Berry & Amcor
- Investing in automation, customer solutions & high-efficiency plants

Data source: 1. Grand View Research and Mordor Intelligence 2. ICIS, Statista, Pulpandpapertimes, ResearchGate 3. Middle East (Saudi Arabia, UAE, Egypt)

# Key Challenge: Evolving global trade flow

Strategic shifts shaping global supply chain landscape

**Key countries** (aligned with U.S. Reciprocal Tariff Rates[1])




**Local-content rules (LCR)[4]** – require a minimum domestic input to qualify for preferential tariffs in trade agreements

| Country | LCR Threshold | Key affected sectors | Risk level | Opportunity |
|---|---|---|---|---|
| TH | 40% | E&E, processed food, Auto | High (tariff loss if <40%) | Localize and FDI attractive |
| VN | No formal LCR | E&E, garments, footwear | Low-medium (import flexibility) | High-tech Assembly |
| ID | Varies by sector (e.g. 30-70%) | E&E, Semi, shipbuilding | Medium (sector-specific) | Domestic component manufacturing |
| PH | 25% TKDN (government procurement) | E&E, F&B packaging, Auto | Medium-High (mandatory for govt traders) | local packaging & component suppliers |

## Business implications

### 1 Redefining ASEAN manufacturing

- Decouple from China through the accelerated diversification to other potential markets to build resilience and ensure continuity
- Rebalancing global supply chain and diversify within ASEAN based on sector fit;
  - Autos/EV → TH/ID
  - Electronics → VN
  - FMCG → ID/PH

### 2 Onshoring to US is under consideration

Reshore to boost resilience, cut lead times, and tap U.S./EU incentives (e.g. IRA[5], CHIPS Act[6]), despite higher labor costs

### 3 Nearshoring momentum to North America & Europe

Shift capacity to Mexico, particularly for goods not eligible for tariff-free USMCA[7], and Eastern Europe/North Africa for EU-bound production especially premium products

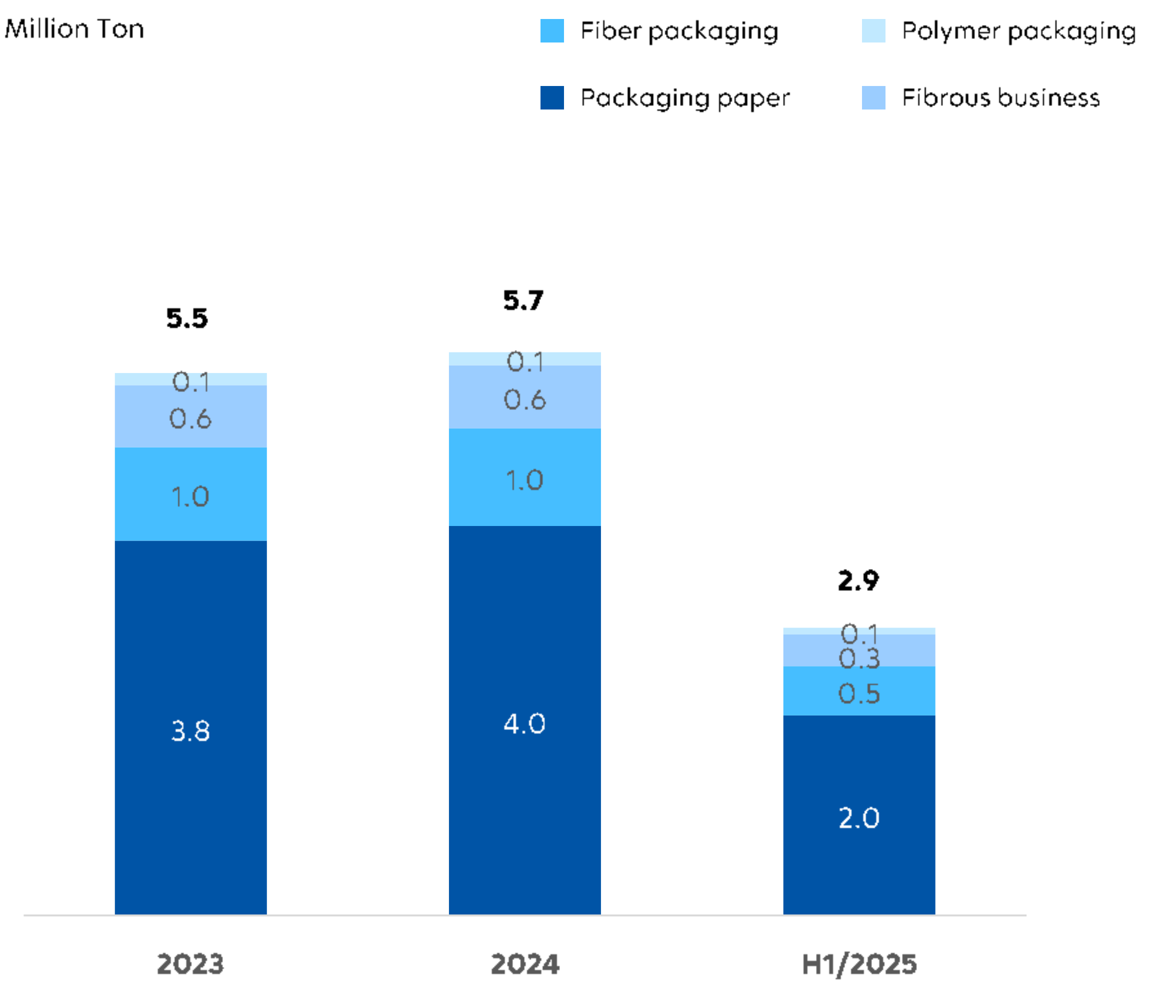
Note: 1. U.S. White House (July 31, 2025) 2. Data as of 10 Aug 2025 (an additional ad valorem rate of duty of 40 percent for transshipment)
3. Tariffs on China: 55% (10% baseline "reciprocal" tariff on imports, 20% fentanyl trafficking levy, and 25% pre-existing tariff on China.)
4. Worldbank and USTR
5. IRA (Inflation Reduction Act) – aligned with U.S. Clean energy, domestic manufacturing, and decarbonization goals
6. CHIPS and Science Act: - to strengthen domestic semiconductor manufacturing, R&D, and supply chain security.
7. USMCA stands for the United States–Mexico–Canada Agreement.

# Strategic implementation review

Focus on ASEAN domestic growth and portfolio diversification

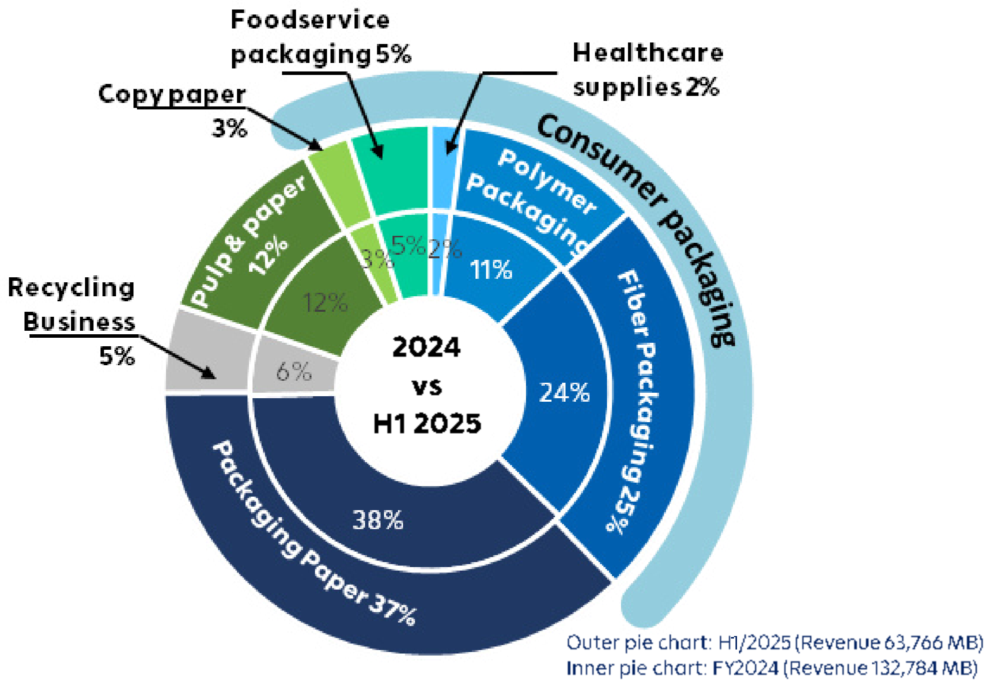
## Sales volume by business units[1]

Unit: Million Ton




## SCGP's portfolio (2024 vs H1/2025)

**Target: Consumer packaging >1/2 of total portfolio in 2030**




Consumer packaging expanded from 45% to 46%, driven by volume growth in fiber, polymer, foodservice packaging, and healthcare supplies

Note: 1. Figures are "Before inter-segment elimination"

# SCGP strategic implications

Building resilience, adaptability, and antifragility – focusing on three strategic pillars

## Further transformation and growth

### 1 Competitiveness enhancement

refer to section 3

**Productivity improvement**

- Drive cost efficiency through process optimization, R&D advancement, and digital enablement

**AI and robotics integration**

- Expedite adoption of AI and robotics to elevate quality of decisions, operational precision, and scalability

**Synergy enhancement**

refer to section 4

- Unlock value by internal collaboration and efficient use of shared resources

### 2 Adaptive growth strategy

refer to section 1

**Enhance business portfolio and market coverage**

- Growing a diversified consumer packaging business and broadening market offerings to reduce reliance on any single segment, with a balanced portfolio

**Additional source of growth**

- Capture untapped opportunities with innovations (food & healthcare)

**Supply chain resilience**

- Strengthen agility and flexibility of the integrated supply chains

### 3 ESG and people

refer to section 2

**Energy transition**

- Accelerate the shift toward low-carbon and renewable energy to lead decarbonization pathway

**Circular economy & sustainable packaging**

- Advance recyclability, reuse, and circularity of packaging

**People engagement**

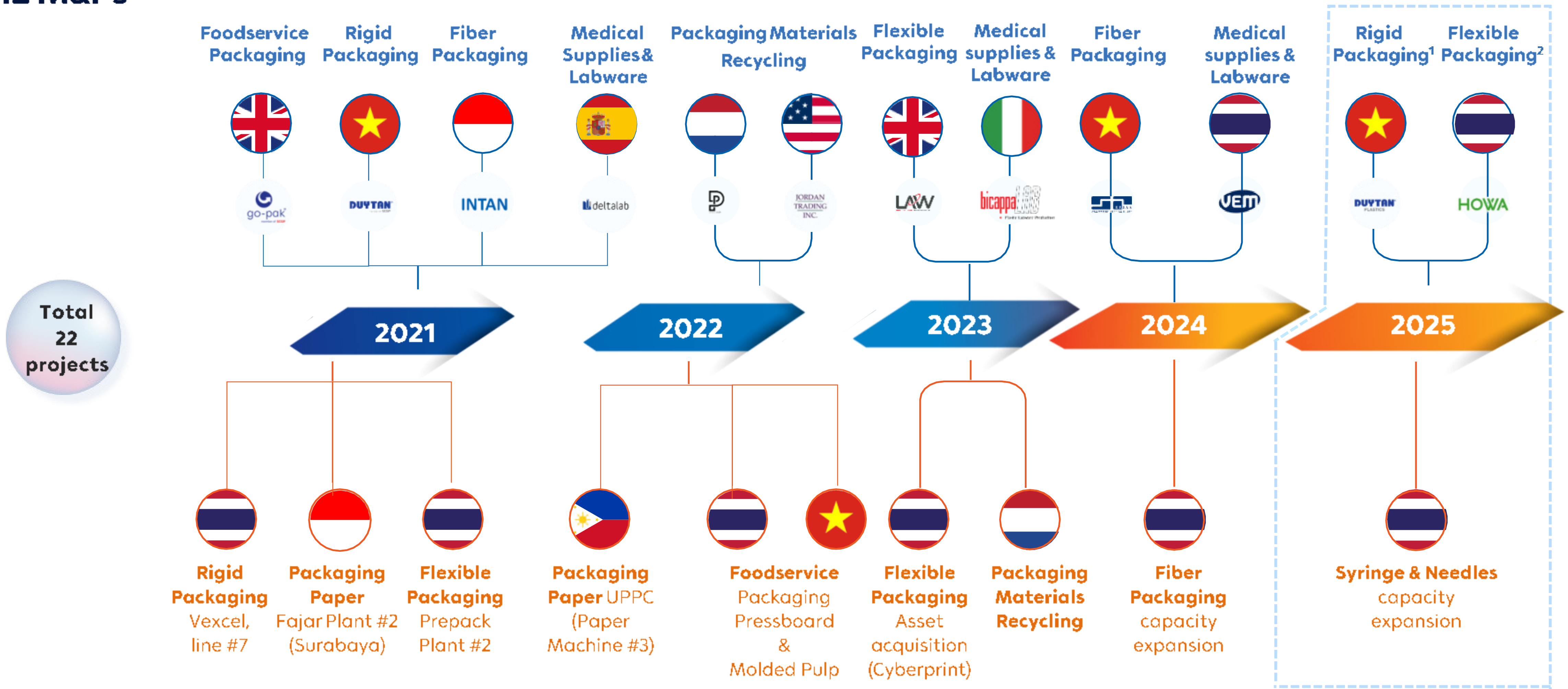
- Foster customer-centric organization and key succession planning

| Key performances | 2024 | H1/2025 |
|---|---|---|
| Packaging solutions revenue | 20% | 23% |
| Consumer packaging portfolio | 45% | 46% |
| Increasing renewable energy | 31.4% | 33.2% |
| Committed to reducing scope 3 GHG emissions | Suppliers' education and training | |

# Adaptive growth strategy

Fuel up future growth with high quality mergers and partnerships (M&Ps) and organic expansions

## 12 M&Ps




## 10 Organic expansion

Note: 1. Acquisition of an additional 30% stake in Duy Tan Plastics Manufacturing (from 70% to 100%) 2. 25% stake JV investment in Howa Packaging (Thailand)

# Additional source of growth

Capture untapped opportunities with innovative polymer business and healthcare supplies

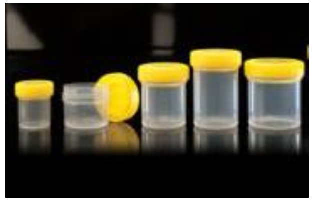
## Polymer business expansion in VN & TH

- Duytan is the Vietnam's leading producer of rigid plastic packaging, offering reliable, innovative, and sustainable solutions that enhance consumer lifestyles
- Enhance synergies and integrated solutions with broaden offerings to meet rising demand on innovative and sustainable solutions

- HOWA has capability to manufacturing & sales of high functional/ laminated flexible packaging for wet pet food to enhance cross-selling opportunities
- Expand into fast-growing pet food packaging market, leveraging SCGP & HOWA's networks for operational synergies and cross-selling

## Healthcare supplies expansion in TH

- VEM-TH is specialized in injection molding and high-precision manufacturing of medical device components, operating under ISO7&8[1] certified Cleanroom standards and stringent production controls



Containers & sampling

Medical components

Pipette tip

- Collaboration with Syringe & Needle development and distribution, offering established customer base, brand recognition, and technical expertise

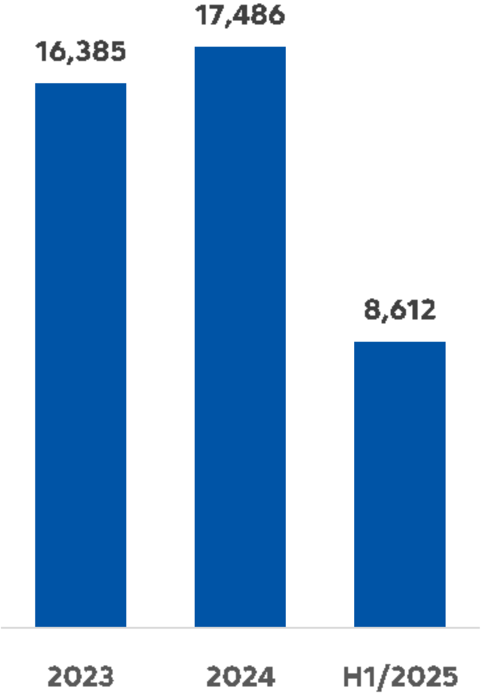
Conventional syringe

Safety needle

Hypodermic needle

## Business performances[2]

Revenue
(Unit: MB)




Note: 1. ISO 7 and ISO 8 Cleanrooms, defined under ISO 14644-1, provide graduated contamination control—ISO 7 supporting high-precision production, with ISO 8 serving as the controlled safety production environment 2. Figures are "Before inter-segment elimination"

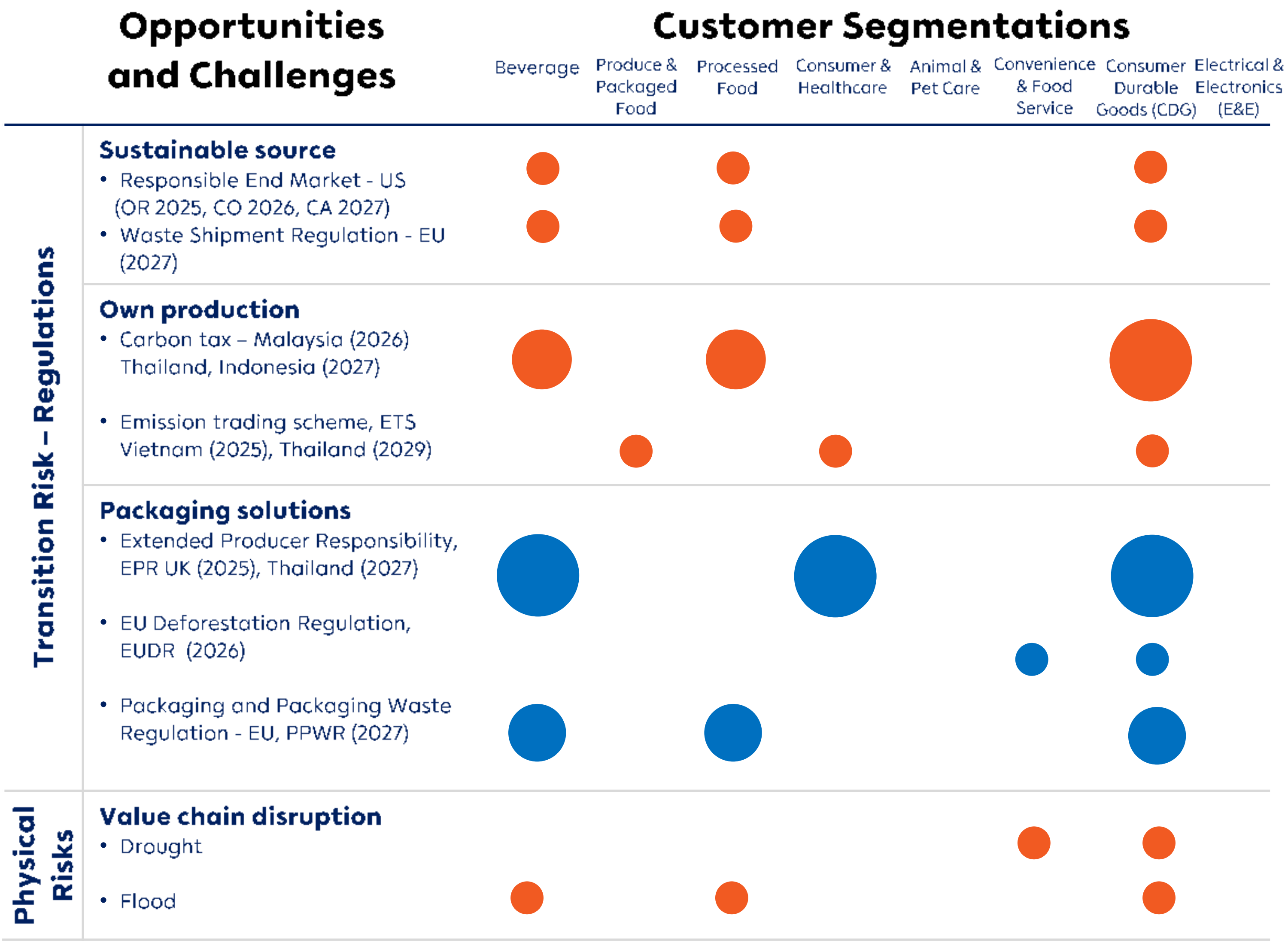
# 2. บริษัทมีแนวทางอย่างไรในการปรับตัวเพื่อตอบสนองต่อความเสี่ยงและโอกาสที่เกิดจาก การเปลี่ยนแปลงสภาพภูมิอากาศ โปรดอธิบายถึง “โอกาส” หรือ “ความท้าทาย” การวางกลยุทธ์ การบริหารความเสี่ยง

## โดยนำเสนอครอบคลุมประเด็นต่อไปนี้

- โปรดระบุ “ความเสี่ยง” หรือ “ความท้าทาย” เช่น กฎหมายใหม่ด้านสิ่งแวดล้อม ต้นทุนคาร์บอน หรือ การเปลี่ยนแปลงพฤติกรรมของลูกค้า เป็นต้น
- กลยุทธ์การดำเนินงานและเป้าหมาย (ทั้งระยะสั้นและระยะยาว) ในการปรับตัวที่ครอบคลุมทั้งการลดต้นเหตุของการเปลี่ยนแปลงสภาพภูมิอากาศ (Mitigation) และการเตรียมความพร้อมเพื่อรับมือกับผลกระทบของการเปลี่ยนแปลงสภาพภูมิอากาศ (Adaptation)
- การดำเนินงานตามกลยุทธ์ดังกล่าว พร้อมกับผลลัพธ์เชิงคุณภาพและเชิงปริมาณ
- ผลลัพธ์เชิงเปรียบเทียบกับปีก่อนหน้า

# Business implications of emerging regulations

Opportunities drive sustainable packaging growth, with climate risks mitigated through strategy




Note : Top 3 **Risks** or **Opportunities** with the highest potential impact on revenue: ○ = Small ○ = Medium ○ =Large

## Implication to packaging industry

**1 Opportunities**
- Rising demand for sustainable packaging driven by stricter regulations shaping consumer behavior
- SCGP leverages an integrated value chain to expand sustainable packaging solutions

**2 Challenges**
- Compliance requirements rising in traceability, product end-of-life, and carbon pricing
- Accelerating the climate strategy through renewable energy adoption and energy efficiency

**3 Physical Risks**
- Drought and flood risks disrupt production and logistics

## Strategic management

**A Climate actions and resilience**

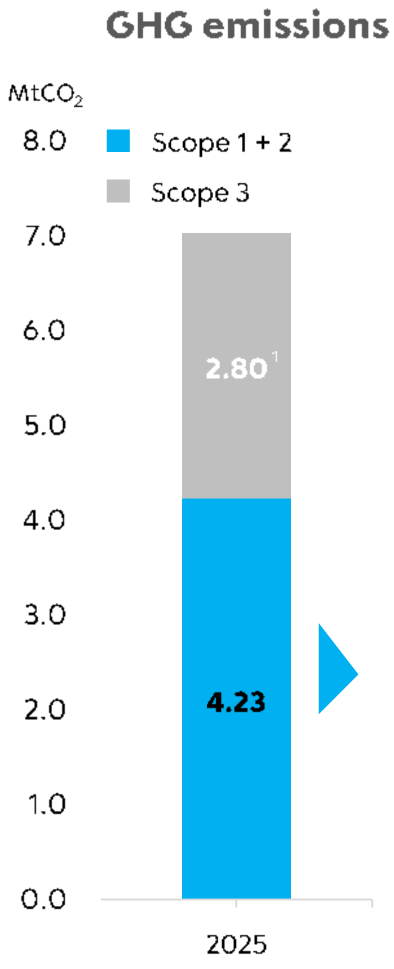
**B Recyclability for sustainable packaging solutions**

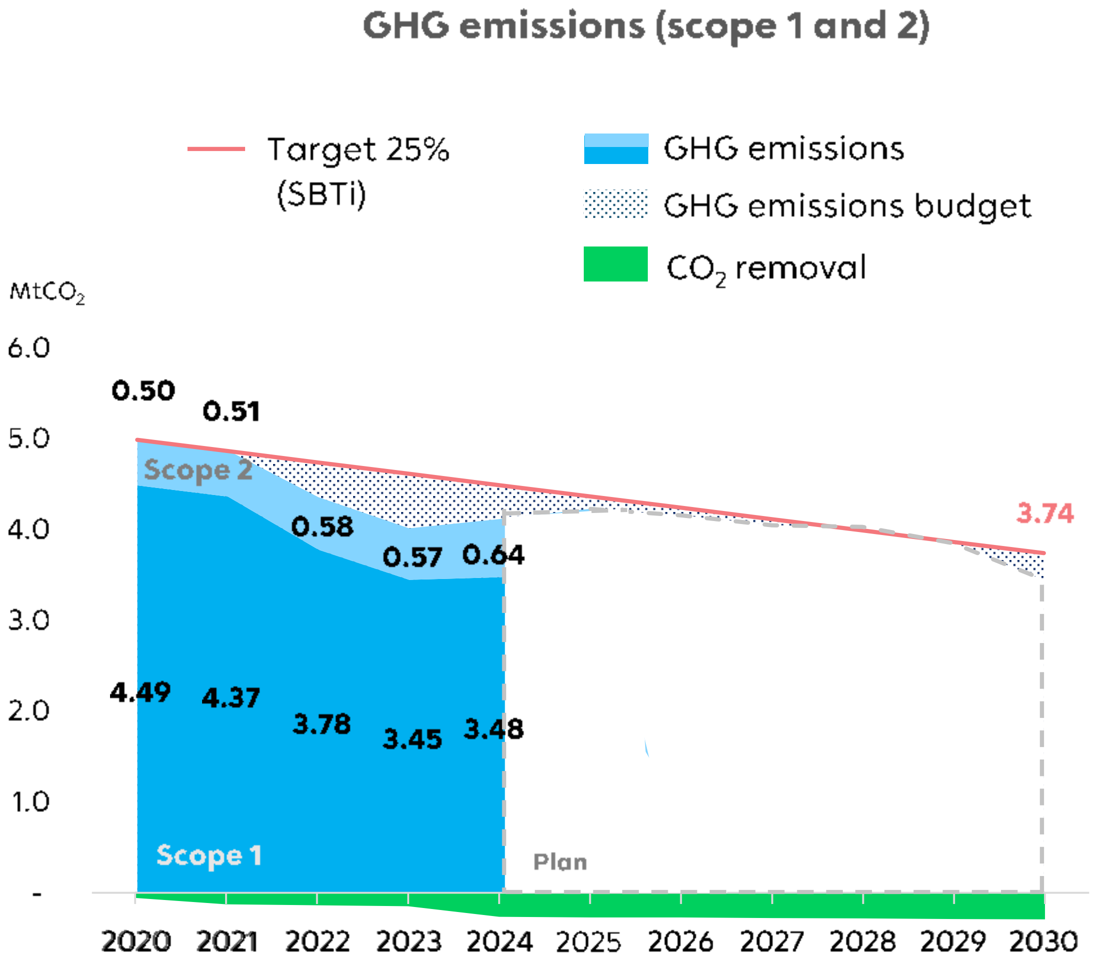
**C Physical risks associated with climate change**

# A. Climate actions and resilience: GHG scope 1 and 2 reduction roadmap

GHG scope 1 and 2 : target to reduce 25% of Greenhouse Gas emission by 2030 and achieve Net Zero by 2050

## GHG emissions (scope 1 and 2)




### GHG reduction strategies

**1 Supply side**

To increase renewable energy from 19% in 2020 to 47% by 2030

**2 Demand side**

To enhance energy efficiency

**3 Carbon removal**

- Natural climate solution (NCS)

Powered by regulatory (CBAM, Carbon tax) and financial mechanisms (ICP and green loan)

Note : 1. the data as certified in 2024

# A. Climate actions and resilience: Accelerating the energy transition

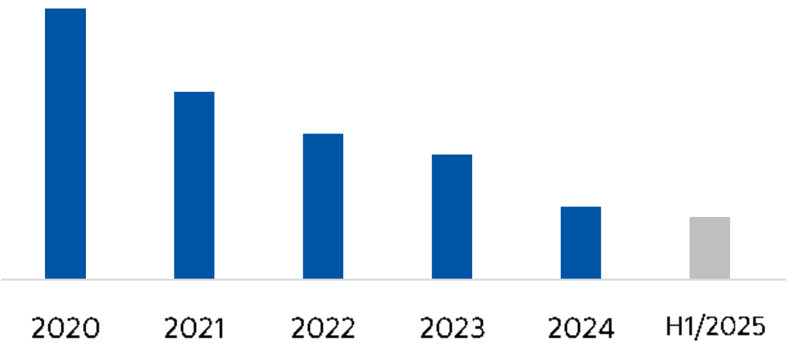
Utilizing renewable energy to support supply side while reducing energy consumption intensity on demand side

## Biomass boiler at Thai Containers Group

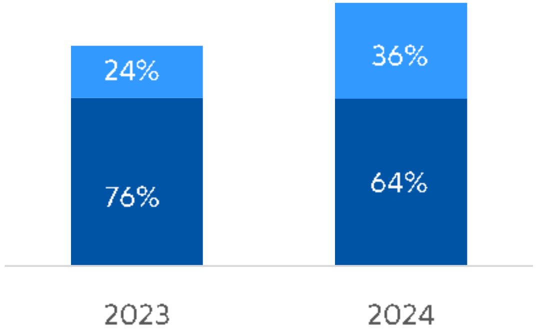

- Required environmental friendly supply chain from global MNC customers
- Energy cost saving from switching CKB & bunker oil to woodchip

## Energy consumption intensity (GJ/ton)

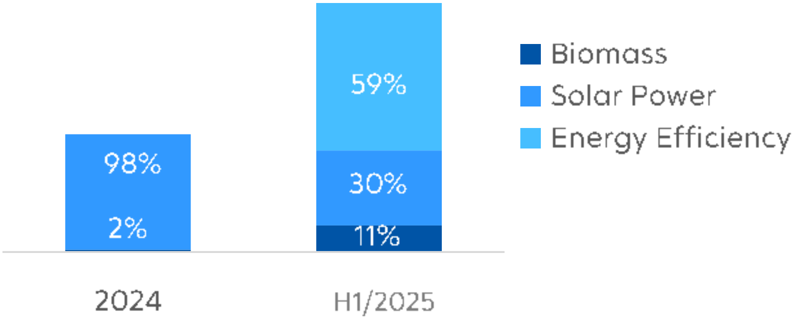
Target reducing 15% of energy consumption intensity in 2030 (base year 2020)




## Internal carbon pricing (ICP)[1]




## Green Loan




## Climate change mitigation & adaptation

1. **Prioritize renewable energy and efficiency enhancement** e.g., biomass boiler, solar, biogas production, turbo vacuum and AI adoption
2. **Applied financial mechanisms** (ICP & Green Loans) for renewable energy and energy efficiency projects
3. **Continuous reduction of energy consumption intensity**

Note : 1. ICP 25 USD/ Ton $CO_2$

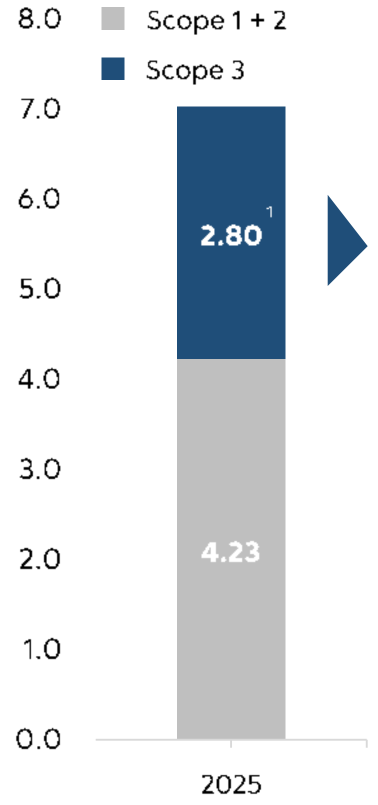
# A. Climate actions and resilience: GHG Scope 3 reduction initiatives

GHG scope 3 : Committed to reduce scope 3 GHG emissions by 25% by 2030 (base year 2024)

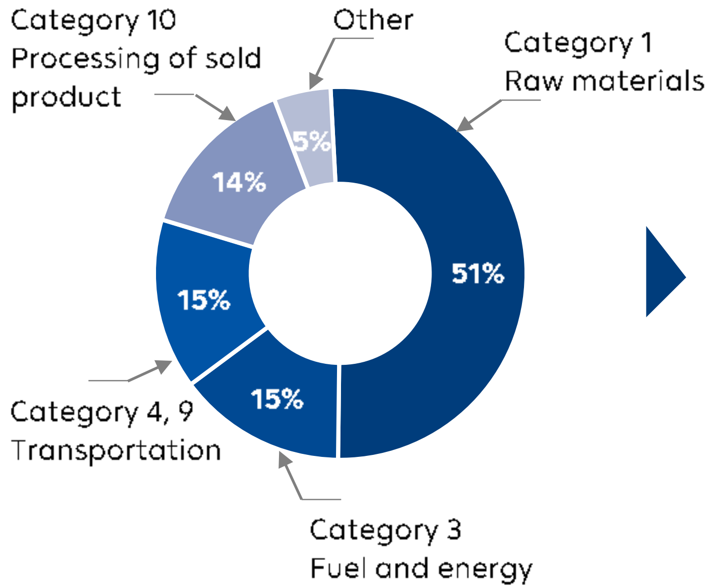
## GHG emissions (scope 3)

Collaborate with business partners to drive decarbonization initiatives

### GHG emissions




### Proportion of scope 3 categories




Note : 1. the data as certified in 2024

## Category 1: Raw materials decarbonization roadmap

Enhance supplier involvement in Scope 3 emissions reduction initiatives

**2023** **2024**

**Create awareness**

Supply chain decarbonization commitment

**22**/90 suppliers provided Carbon Footprint of Products (CFP) data

**2025**

**Capability building**

**36** suppliers trained on CFP

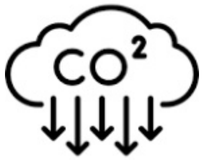
ESG supplier recognition

**2026**

**Supply chain decarbonization**

Collaborative GHG reduction projects

Emissions baseline & incentives




### GHG reduction initiative (Scope 3)

- Category 1 Raw materials prioritized in the decarbonization roadmap
- Competency strengthening
- Strategic procurement : collaborative emissions reduction projects, transition to low-carbon materials and services, incentive scheme

# A. Climate actions and resilience: Carbon footprint of product (CFP)

CFP assessment to achieve 100% coverage by 2027 for both Thailand and overseas

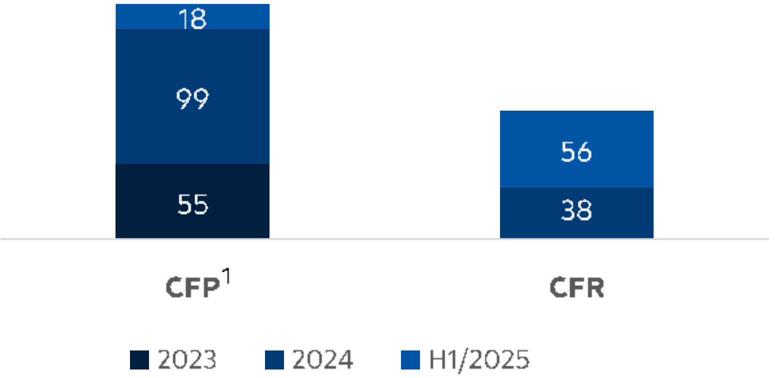
## Fiber-based packaging

### Carbon Footprint of Products (CFP)

**100%** by 2025
**Products group**

### Carbon Footprint Reduction (CFR)

**100%** by 2027
**Products group**




- 100% CFP certification in Thailand by 2025, and CFR certification by 2027
- Expand CFP to Fiber-based packaging overseas (Vietnam & Indonesia) by 2027

## Polymer packaging

### Carbon Footprint of Products (CFP)

**100%** by 2027
**Products group**

### Carbon Footprint Reduction (CFR)

**100%** by 2030
**Products group**


- 100% CFP certification in Thailand by 2027, and CFR certification by 2030

## CFP Platform and Private label

Recent use case for CFP Platform and Private label


Calculated CFP through the platform for **73** companies


Private Label on **3** customers packaging

Note: 1. 156 products + 16 processes as of June 2025

# B. Recyclability for sustainable packaging solutions

Developing products and solutions to comply with regulations and achieve 100% recyclability in 2030

## PPWR[1] Regulations

Target %recycled content

70%
Paper and cardboard

30%
Single use plastic bottle

30%
PET as major component

10%
PET not as major component

35%
Other types

## Key innovative products

Green Carton's G8 model (15% Less materials)

Paper Cutlery

Optibreath

R1+ (Mono-materials)

Redi Pak

Increased recycled resin

## Innovative solution offering


Inspired Solutions Studio

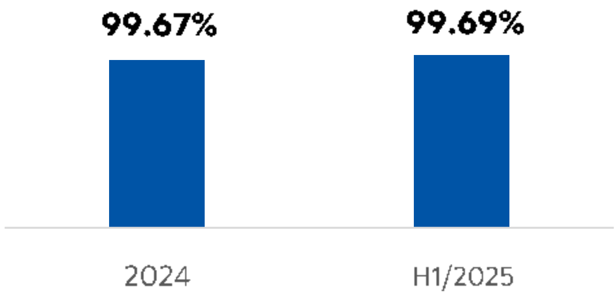
Innovation & Product Development Centers (R&D)

## Collaboration & Partnership


Collaborations with CPF to promote sustainable packaging & CFP

Partnership with S&P for premium eco-friendly packaging

## %recyclability of SCGP products




## Strategy for Sustainable packaging solutions

1. **Packaging minimization & lightweight**
2. **Increase of % Post-Consumer Recycled material (PCR) content in compliance with EU regulation**
3. **Development of recyclable products including mono-materials to achieve 100% recyclability in 2030**

Note: 1 Packaging and Packaging Waste Regulation

# C. Physical risks associated with climate change

Physical risk analysis using Aqueduct, with drought and flood mitigation measures and future actions

## Assessment Methodology of Physical Climate Risks

### 1 Physical risk - screening process

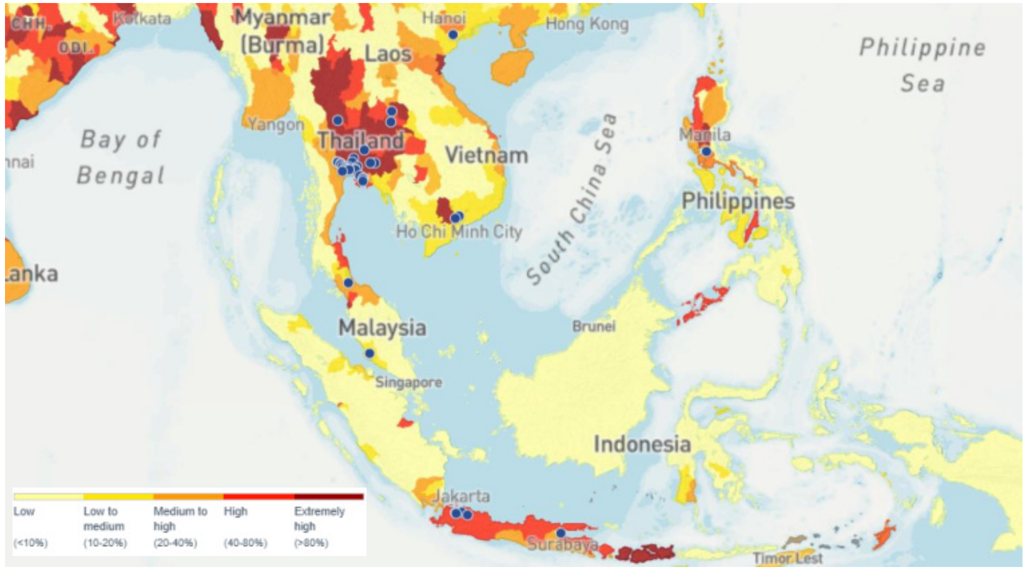
- Tools – AQUEDUCT WATER RISK ATLAS
- Scenarios – The Intergovernmental Panel on Climate Change (IPCC)

### 2 Climate hazards used for assessment

- Water stress & drought
- Riverine flood risk

### 3 Mitigation plans

- Supply chain resilience
- Business Continuity




• SCGP's operational sites in ASEAN

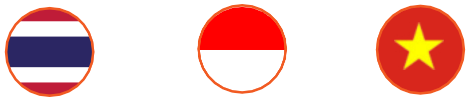
Source: Aqueduct 4.0

## Drought and flood mitigation

### Fiber-based packaging

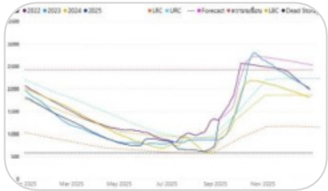
Production allocation site

Fiber-based Packaging Site Across ASEAN



Response measures

**Early Warning System for drought**



Annual water trends projection

**Flood Protection Infrastructure**

Water drainage

Pumping systems

Barrier

## Moving forward

- Reassessment of overall flood risk exposure across SCGP
- Mitigation and resilience planning through expert reviews and on-site assessments

# 3. ในปัจจุบันที่เทคโนโลยีและปัญญาประดิษฐ์ (AI) กำลังพลิกโฉมอุตสาหกรรม องค์กรของท่านมีแนวทางอย่างไร ในการทำให้ความก้าวหน้าทางเทคโนโลยีช่วยยกระดับขีดความสามารถในการแข่งขันทางธุรกิจ (Competitive Advantage)

## โดยนำเสนอครอบคลุมประเด็นต่อไปนี้

- การประยุกต์ใช้เทคโนโลยีและปัญญาประดิษฐ์ (AI)
- การเตรียมความพร้อมขององค์กรเพื่อรองรับการเปลี่ยนผ่านเชิงดิจิทัลอย่างยั่งยืน
- ประโยชน์ที่ได้รับและผลตอบแทน (Economic Return) จากการลงทุนที่เกี่ยวข้องกับด้านเทคโนโลยีและปัญญาประดิษฐ์ (AI)
- คุณค่าที่ผู้มีส่วนได้ส่วนเสียในห่วงโซ่คุณค่า (Value Chain) ได้รับจากการที่บริษัทลงทุน หรือ นำเทคโนโลยีและปัญญาประดิษฐ์ (AI) มาประยุกต์ใช้

# Digital transformation journey for operational excellence

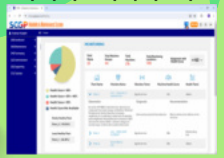
Target to achieve 3.4% AI-driven cost savings on EBITDA by 2030

**Digitization**

Microsoft Dynamics CRM
ORACLE SCM Cloud
RPA
OSIsoft.

**Data-driven decision support**

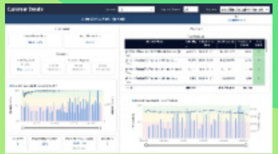
Performance dashboard



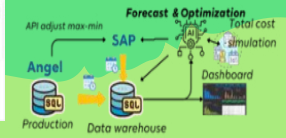
**AI-driven decision support**

AI for OE

Prescriptive maintenance



Automated warehouse




**Cognitive supply chain**

Digital twin model

Scenario simulation & optimization

Polyfunctional robot

Low cost automation & cobot

## Objectives

The development of AI towards achieving a cognitive supply chain at SCGP is driven by the following key objectives:

1. **To increase customer experience**
   AI enables a deeper understanding of customer needs, allowing SCGP to deliver faster, more accurate services with real-time tracking and reliable fulfillment.
2. **For cost competitive**
   Automation and analytics help reduce waste, optimize inventory and improve operational efficiency.
3. **To increase workforce efficiency**
   AI automates routine tasks and provides employees with complete visibility, actionable guidelines, and faster decision-making capabilities.

Digitizing process

Leveraging data for decision-making

**2020**: Harnessing predictive analytics and generative AI

**2026**: Integrating digital twin for adaptive supply chain

# AI implementation across the value chain

Develop AI initiative solutions to enhance organizational competitiveness

## AI implemented areas

1. Customer and market insights
2. Packaging design & product reliability
3. Production planning
4. Raw material sourcing
5. Production and process optimization
6. Asset maintenance
7. Quality control and inspection
8. Warehouse and logistics
9. People
10. Finance

## Patents + Petty patents

1. ระบบตรวจสอบผิวหน้าลูกโรลด้วยเทคนิค deep learning (2103002761): Granted
2. เครื่องมือตรวจสอบการปนเปื้อนในน้ำเยื่อ (2403001022) - Granted
3. ระบบการแจ้งเตือนการชำรุดของเครื่องจักรแบบหมุน (2001007097)
4. ระบบการตรวจวัดและเฝ้าระวังกลิ่น (2001003760)
5. **อุปกรณ์และระบบตรวจสอบการทำงานของมอเตอร์ไฟฟ้า (2301007192)**
6. ระบบตรวจวัดและเฝ้าระวังกลิ่นของโรงงานอุตสาหกรรม (2301006345)
7. ระบบควบคุมคุณภาพก้อนกระดาษสำหรับรีไซเคิลด้วยภาพถ่ายและกระบวนการของสิ่งดังกล่าว (2501005766)




# Employee capabilities build-up

Effectively build multiple competencies to embed productivity across the organization

## AI developers

### Advanced data scientists

- Generative AI
- Quantum
- Immersive-reality
- Deep learning reinforcement

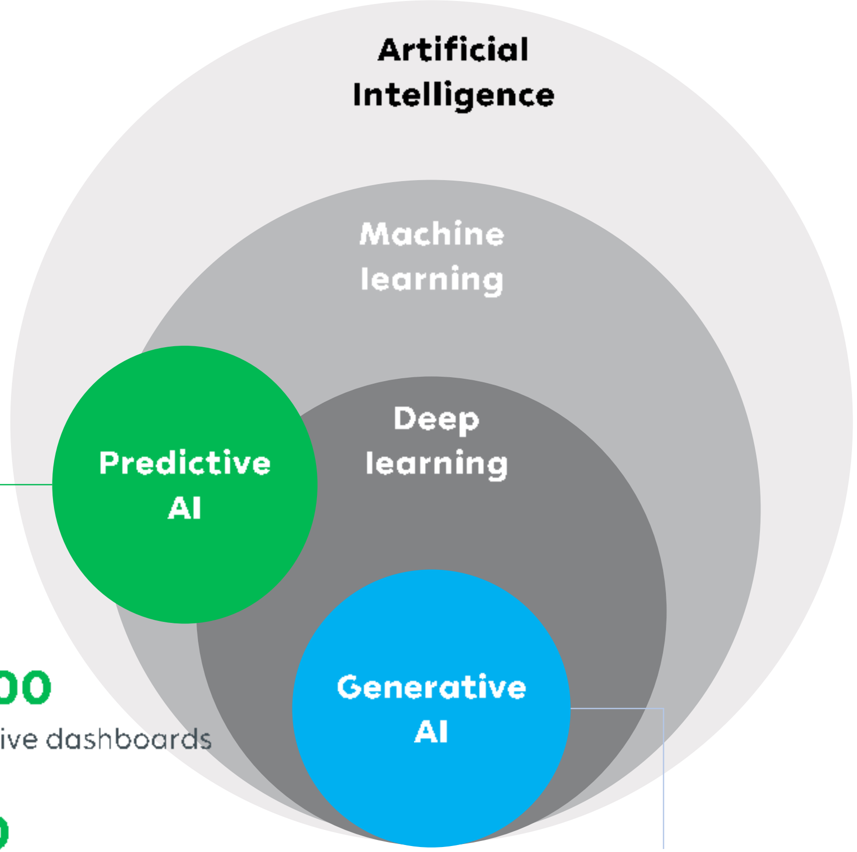
### Applied data scientists

- Digital & AI roadmap
- Business analyst
- Project management
- MLOpt, Data & AI governance

### Data & AI facilitators

| Basic | Intermediate |
|---|---|
| Descriptive | Predictive |
| Diagnostics analytics | Prescriptive |

## AI users




**>1,000**
Interactive dashboards

**>200**
Optimization use cases

**>150**
Internal AI initiative projects

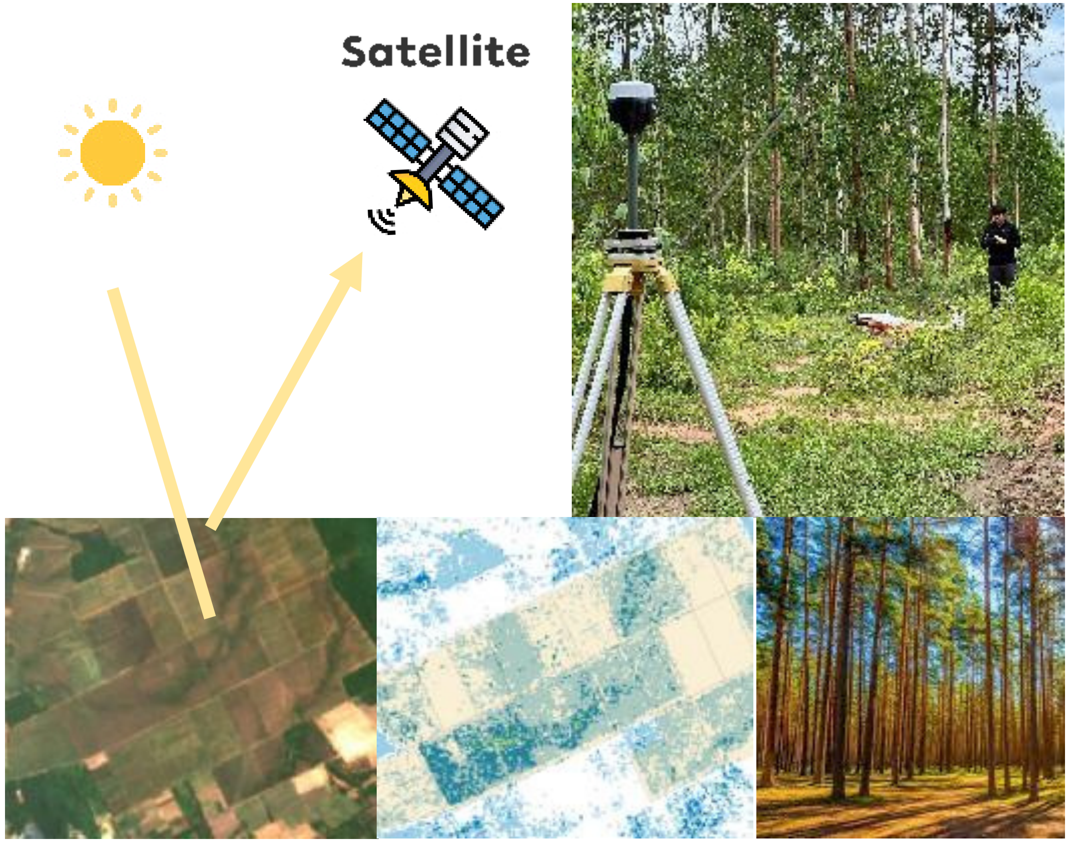
- **Professional tools**
- **Co-pilot in daily work applications**
- **Internal knowledge management**

# AI in practice - Plantation sourcing management

Elevate eucalyptus yield monitoring and ensure log size accuracy

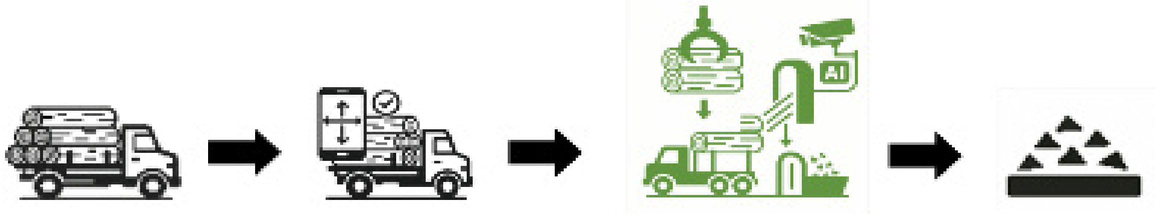
## AI developers

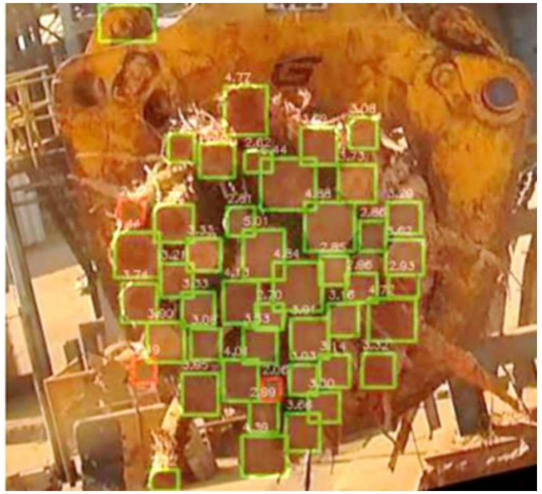
Implement satellite, and drone LiDAR to predict yield, monitor health and support harvesting decisions




## Satellite x AI solution for plantation

AI-image log size detection to automate measurement, improve yield and enhance equipment reliability via mobile and real-time CCTV.



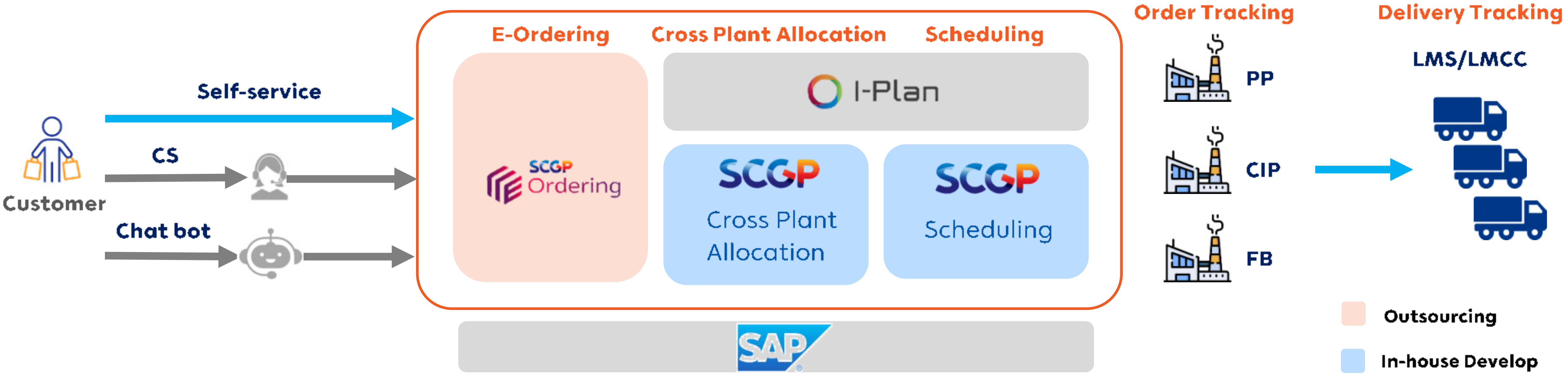
**Result:**

Increase

**Plantation Yield**

# AI in practice – Customer order management

Implement E-Ordering, Cross Plant Allocation, and Production Scheduling with real-time data synchronization to automatically fulfill customer order with available supply, optimize inventory level, and update key information for decision making



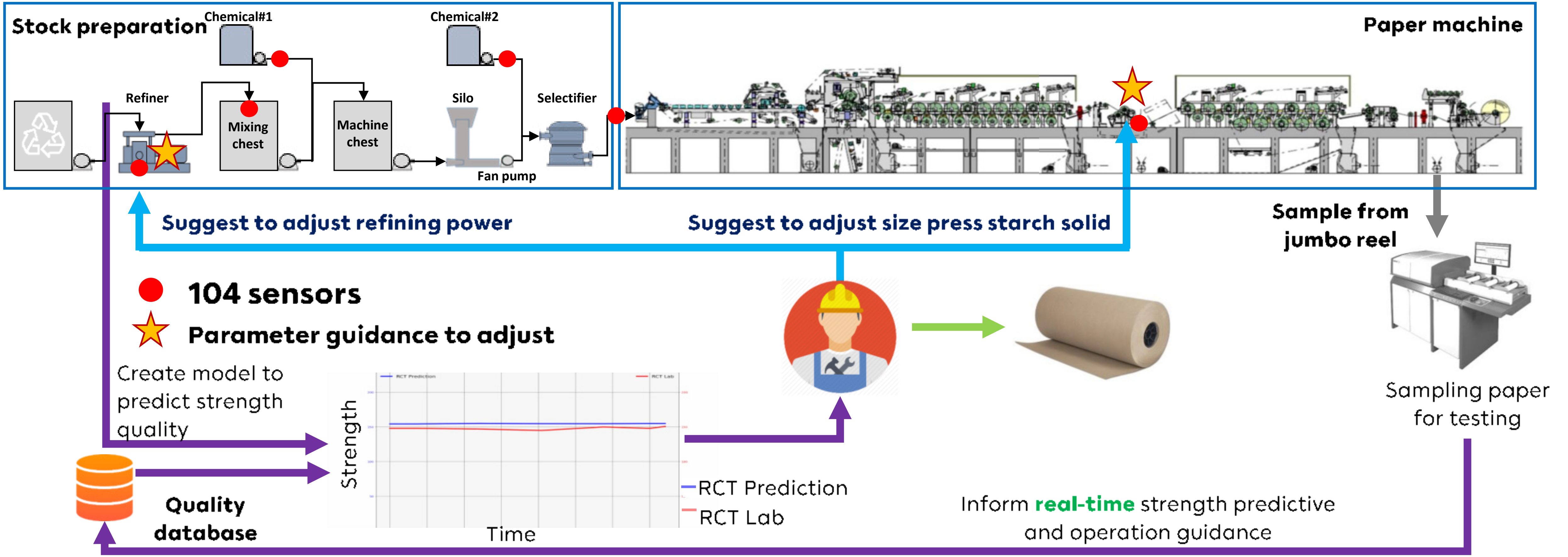

## Benefits

1. **Enhance customer experience** through a unified self-service portal for all SCGP products
2. **Increase customer convenience** along the order management journey by providing real-time visibility via an integrated ordering platform
3. **Improve operational efficiency** by optimizing order fulfillment and supply allocation with Just-In-Time (JIT) prioritization
4. **Standardize process and system** to effectively support customer requirements and internal work procedure

**Result:** Increase **Customer satisfaction**

# AI in practice - Paper quality prediction

Formulate an AI-based paper strength predictive model for real-time quality monitoring and process adjustment




**Result:**

Reduce

**% Waste reject**

# AI in practice - Sheetboard allowance optimization

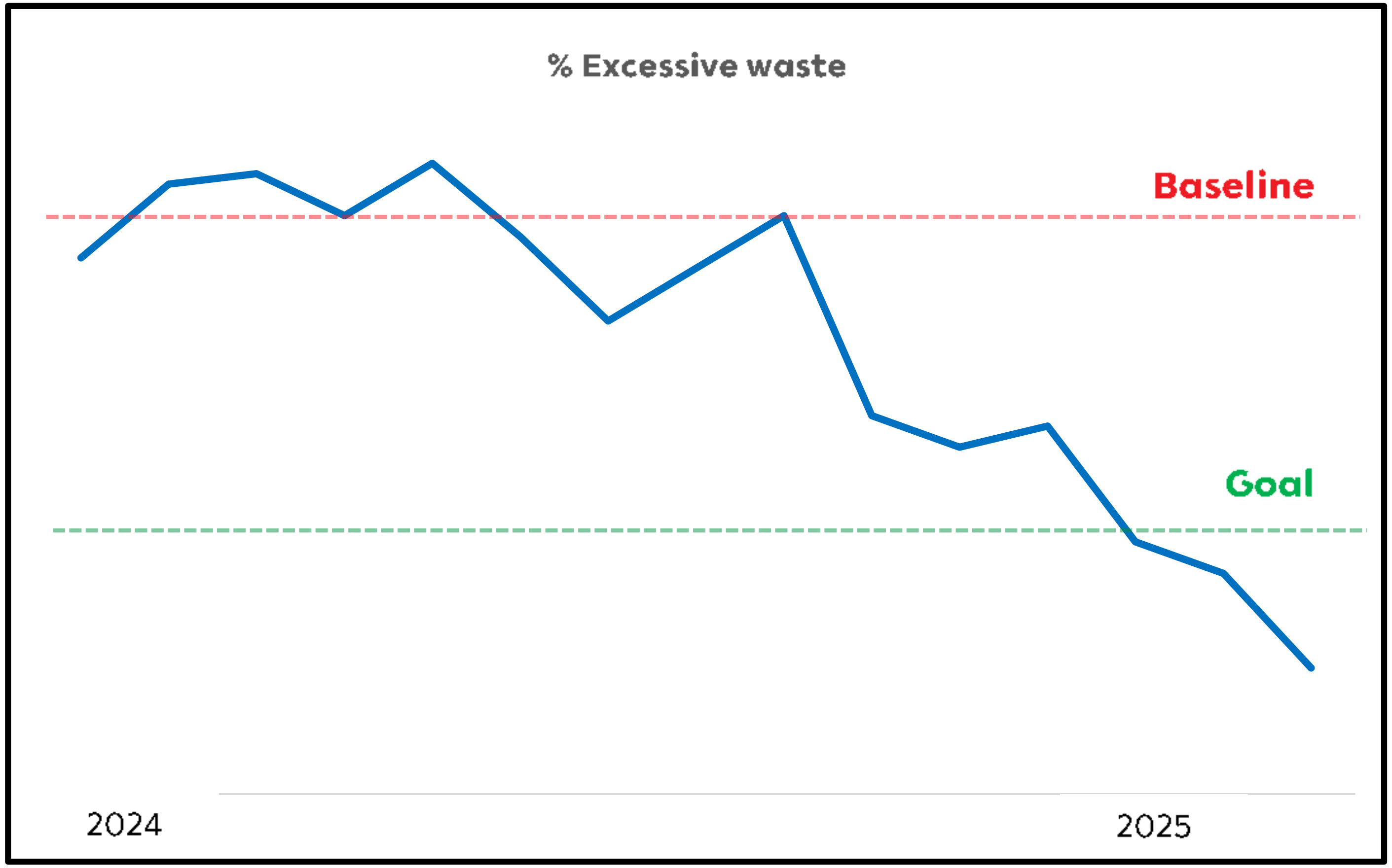
Develop machine learning (ML) model to optimize sheetboard allowance for production planning, reducing waste and minimizing rework

**Identify significant parameters:**
from a pool of 85 variables across machines, operations and product specifications data

| | |
|---|---|
| Color | Significant |
| CutSheetLeng | Significant |
| CutSheetWid | Not Significant |
| Order_Quant | Highly Significant |
| Total Process | Not Significant |
| Flute | Significant |
| Machine | Significant |
| Weight | Significant |

**Machine learning model (MAPE=81.5%):**
Enhance predictive performance by using a stacked ensemble approach


**Production scheduling integration:**
Real-time allowance guideline for production planner




**Result:** Reduce **Excessive waste**

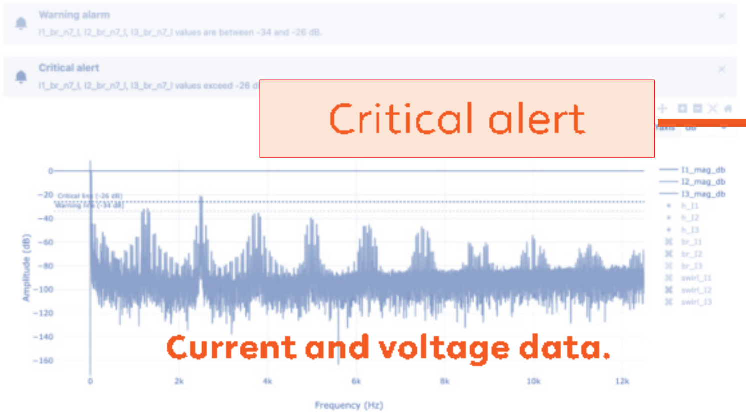
# AI in practice - Maintenance solution

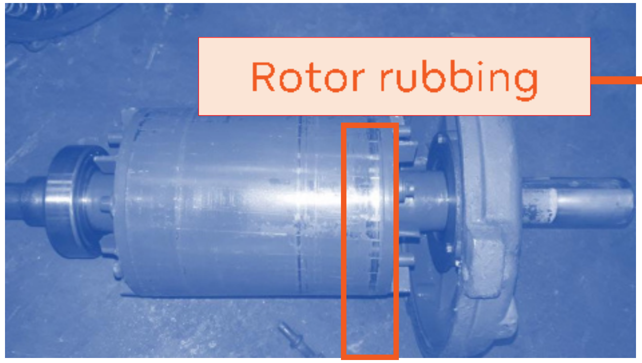
Apply predictive models with self-developed sensors to detect potential failures and recommend solutions, supporting motor maintenance and maximizing uptime

(Patent filing number: 2301007192)

## Predictive AI

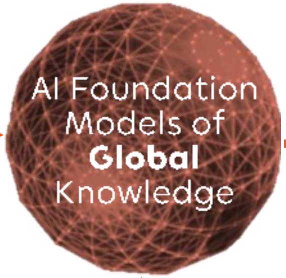
**Detects motor issues** from current and voltage data and **triggers alerts**



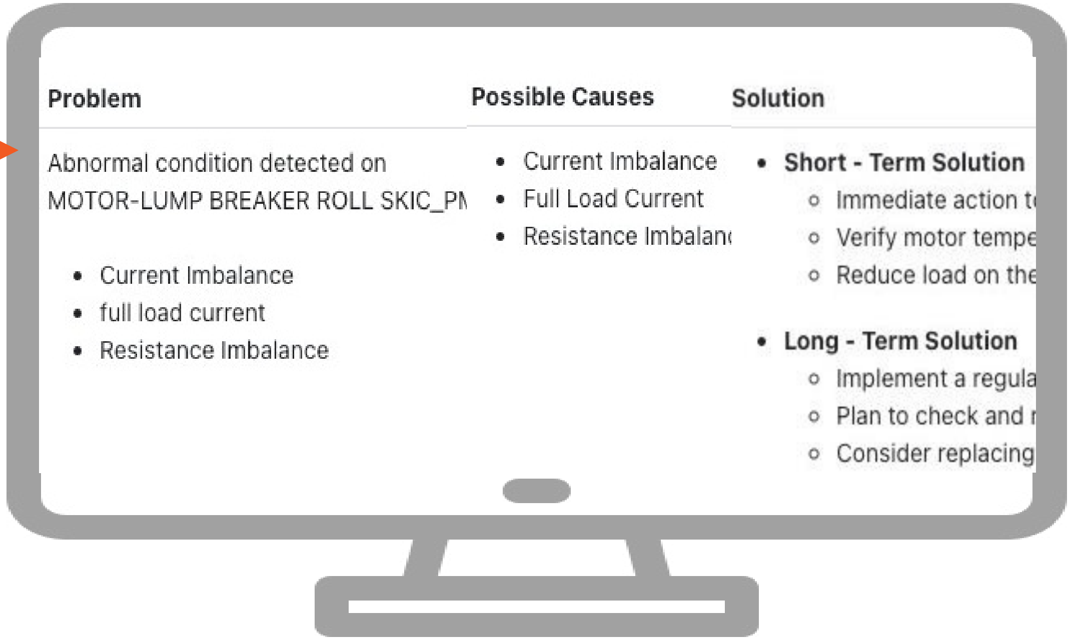




## Generative AI

Provides **recommended actions** for causes and solutions to assist engineers in motor maintenance




Prompting



| Problem | Possible Causes | Solution |
|---|---|---|
| Abnormal condition detected on MOTOR-LUMP BREAKER ROLL SKIC_PN<br>• Current Imbalance<br>• full load current<br>• Resistance Imbalance | • Current Imbalance<br>• Full Load Current<br>• Resistance Imbalanc | • **Short - Term Solution**<br>○ Immediate action t<br>○ Verify motor tempe<br>○ Reduce load on the<br>• **Long - Term Solution**<br>○ Implement a regula<br>○ Plan to check and r<br>○ Consider replacing |

SCGP proprietary data


Machine manuals

SCGP KM

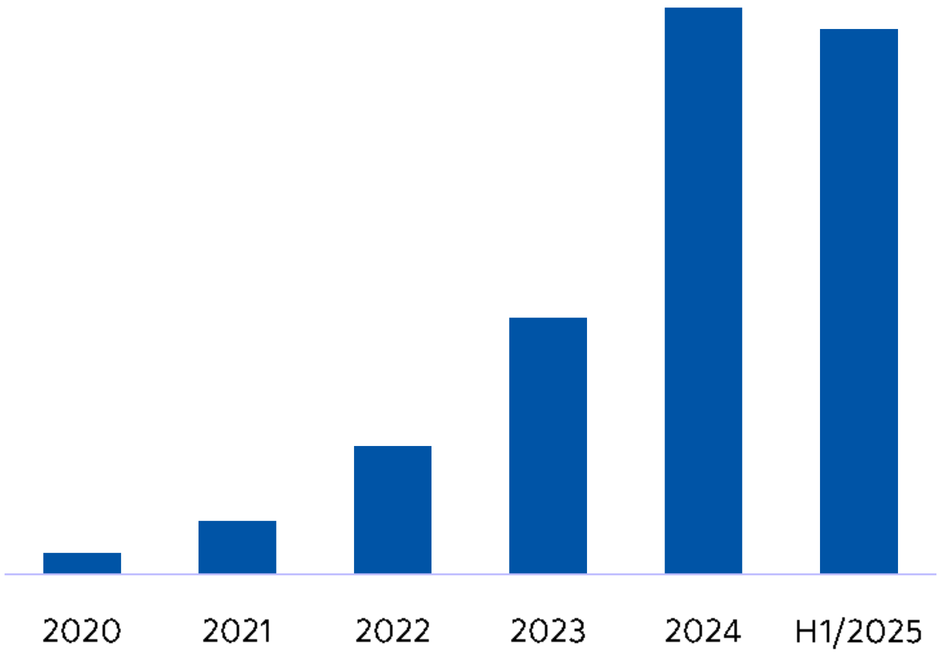
**Result:** Reduce **% Break down**

# AI adoption and impact

Connecting AI Growth with Business Outcomes: Quantifying the Impact

## Number of Artificial Intelligence initiatives

Unit: Number of project




## Key drivers with implementation

1. **Process:**
   Establish data & AI governance standards

2. **Technology:**
   Digitize manual processes and develop scalable data pipelines

3. **People:**
   Start with leadership defining goals and strategies, and driving data literacy and capability building across the organization

# 4. หัวข้อสาระสำคัญ (Materiality Topics) จำนวน 1 ประเด็นที่มีความสำคัญต่อการดำเนินธุรกิจอย่างยั่งยืนและการรักษาความสามารถในการแข่งขันในระยะยาว โดยบริษัทสามารถเลือกประเด็นที่เกี่ยวข้องกับด้านเศรษฐกิจ สังคม สิ่งแวดล้อม หรือบรรษัทภิบาล

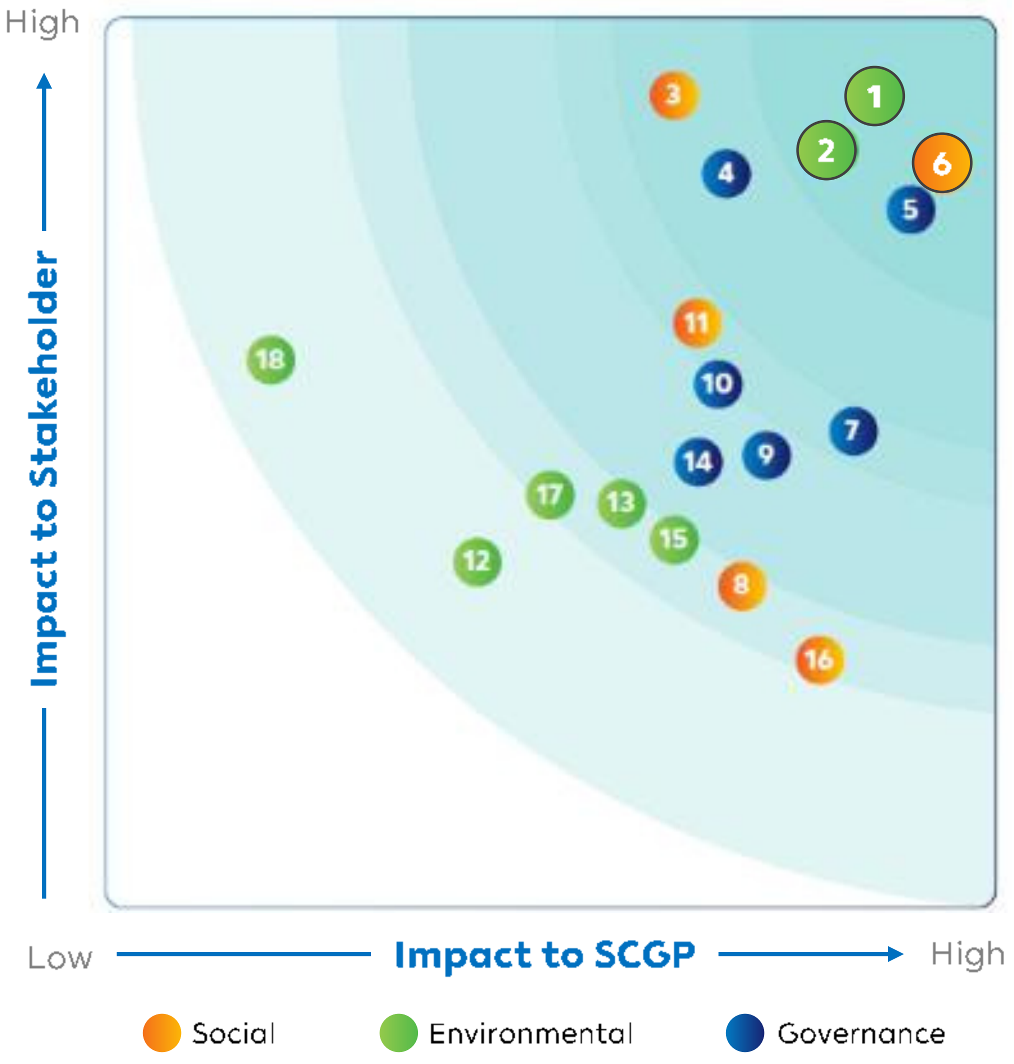
## โดยนำเสนอครอบคลุมประเด็นต่อไปนี้

- โอกาสหรือความเสี่ยงจากประเด็นดังกล่าว
- กลยุทธ์การดำเนินงานและเป้าหมาย (ทั้งระยะสั้นและระยะยาว) ในการจัดการความท้าทายดังกล่าว
- การดำเนินงานตามกลยุทธ์ดังกล่าวในปีที่ผ่านมา พร้อมผลลัพธ์เชิงคุณภาพและเชิงปริมาณที่เกิดขึ้นจริง
- ผลลัพธ์เชิงเปรียบเทียบกับปีก่อนหน้า

# Key materiality topic for long-term competitiveness

Driving customer centricity and responsible value chain excellence

## 2024 Double Materiality[1]




**1. Climate action and strategy**
**2. Circular economy**
3. Occupational health and safety
4. Corporate governance
5. Risk & disruption management
**6. Customer & consumer centricity**
7. Innovation
8. Human capital & retention
9. Supply chain management
10. Cybersecurity
11. Human rights
12. Product stewardship
13. Waste management
14. Sustainable raw materials
15. Water management
16. Community relations
17. Biodiversity
18. Emission control

Note: 1. SCGP Sustainability report 2024

# Driving growth through customer-centric transformation

Evolving into SCG Packaging strengthens our foundation to deliver customer value and sustain growth

## Proxy of regional customers

***Enhance market capability***

**> 7,000**

customers

| | |
|---|---|
| **National champion brands** | **~40%** |
| **Multinational company (MNCs)** | **~30%** |
| **SMEs & retail stores** | **~20%** |

**> 150,000**

SKU of products

**>40 years**

Customer relationship

| **Customer Understanding** | **Customer Portfolio** | **Differentiated with more customization** | **Measure and Optimize** |
|---|---|---|---|
| • Customer Segmentation<br>• Value proposition | • Key account management<br>• Channel management | • Commercial Strategy<br>o Cross-selling, outsourcing, portfolio management<br>• Value based pricing<br>• Branding and Communication strategy | • Customer satisfaction<br>• % wallet share<br>• % margin<br>• Customer churn |

Fostering customer centric culture and mindset and cross-capability building, across business units collaboration

Advanced analytics and operating systems with artificial intelligence & machine learning

**Customer Centricity**

**Uplift margin with Sustainability**

# Potential growth & marketing strategy

Drive growth by expanding customer portfolio and enhancing value propositions

## Market segments

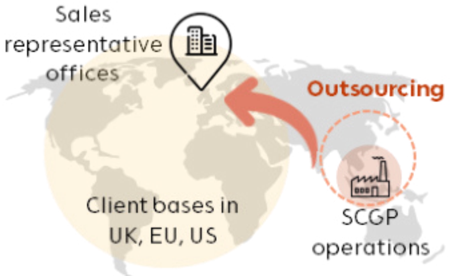
- **Consumer & healthcare**
- **Animal & pet care**
- **Beverages**
- **Produce & packaged food**
- **Convenience & foodservice**
- **Processed food**
- **E&E**
- **Consumer durable goods**

## Growth acceleration

- Customer portfolio expansion in growth market
- Customer's value enhancement by cross selling & strategic outsourcing

## Value creation

**Cross-selling across regions & continents**

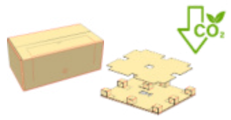



**Design solutions**

Graphic & product design

**Commercial branding**

**Sustainable solutions**



Structural design

## End to End operation and platform

- Develop system and platform for superior competitiveness
- Centralize data/ interface system to support customers and commercial processes

# Driving value creation through customized solutions

Enhance competitiveness through customer-focused innovation

## Customer solutions

**Design solutions**

Leverage design-driven packaging solutions

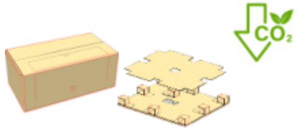
Graphic & product design

Exhibitions – Booth & lifestyle products

Strategic design

**Sustainable solutions**

Collaborate within SCG to deliver sustainable packaging innovations



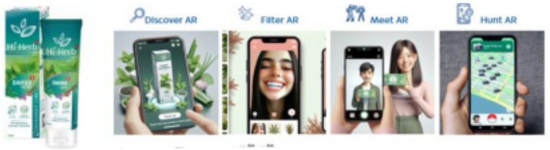
Structural design

Lightweight paper for corrugated container

Paper food container

**Connected packaging solutions**

- Customer engagement
- Product authentic & transparency




Packaging with QR Code (Consumer engagement)


Packaging with QR Code (Product authentic)

## Value creation through packaging automation solutions

Packaging

Primary | Tertiary

Automated Packing line

Robot palletizers

Automated Warehouse

| | | |
|---|---|---|
| Business opportunity | Capture additional adjacent products (packing accessory) | • Selling machine<br>• Rental machine<br>• Pay Per Use |

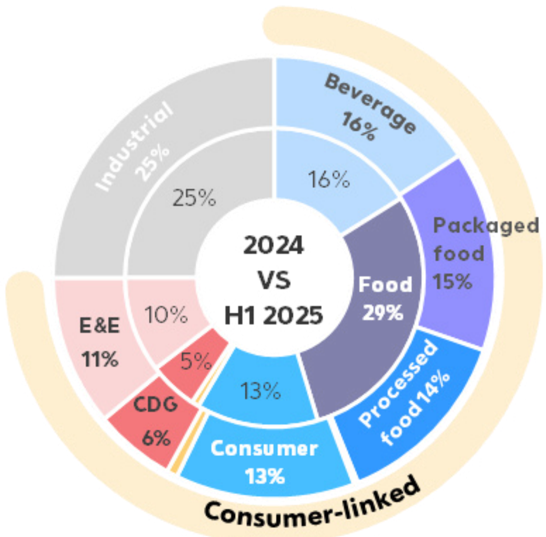
# Solid consumer-linked growth driven

Strengthen packaging solutions and margins with consumer-driven focus

## Portfolio consumer-linked

**Target: consumer-linked revenue**

**>3/4 in 2030**




Outer pie chart: H1/2025 (Revenue 63,766 MB)
Inner pie chart: FY2024 (Revenue 132,784 MB)

**Resilient portfolio at 75% sustained by consumer packaging demand**

## Key executions

1. **Value Proposition:**
In-depth customer interviews (H1/2025) confirm top priorities: fulfillment reliability, product consistency, and sustainability, shaping SCGP's differentiated value proposition by market

2. **Customer & Design Solutions:**
Expanding portfolios in Thailand, Vietnam, and Indonesia with existing and new customers, supported by design-driven, sustainable, and connected packaging solutions driving

3. **Cross-Selling & Execution:**
Unlocking portfolio potential through cross-selling, strategic outsourcing, and packaging automation, reinforced by awarded projects with major FMCG and F&B players

# Elevate customer experiences through digitalize platform

Enhance customer's convenience and efficiency through streamlined customer ordering platform

Completed | Developing

**Awareness**

Industry & Value chain understanding

- CRM: Quality Lead thru DBD
- ESP: Industry Demand Forecast
- OCR: For cross-selling

**Purchase Decision**

Tailored offers and product recommendations

- KAM dashboard
- E-Ordering & Cross company
- ESP: Customer Demand & Price Forecast

**Post Purchase**

Monitor and respond to customer sentiment

- LMS, WMS, AGV System and LMCC
- Purchasing Behavior Analysis
- Predictive Maintenance & Fleet optimization

**Repurchase & Loyalty**

Sustain customer life time value

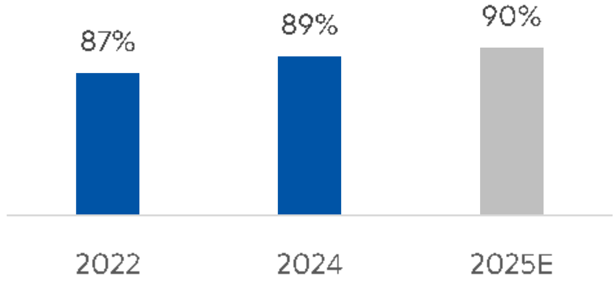
- Churn Analysis
- Customer Data Platform
- Personalize marketing

**Integrated Data**

ERP | CRM & Customer Data | Demand Platform | One credit | Market information

Reduce order response time from 3 hours to 1 minute


Target to
Increase customer satisfaction for process and service 90%[1]




Note: 1. SCGP customer satisfaction index (conducted by Sim Research)

# Key Takeaways

Driving sustainable growth and competitiveness through ESG, customer focus, and people development

### ESG and supply chain resilience

Embedding ESG innovation, sustainable energy transition, and digital technologies to secure long-term competitiveness and resilience

### Adaptive business growth

Executing customer and market-driven strategies to create value and capture opportunities in high-potential business arenas

### Organizational capability

Strengthening employee engagement, connectivity, and readiness by enhancing people capability to support sustainable growth

# 5. Appendix

# SCGP vision & strategy


## Vision

"A leading multinational consumer packaging solutions provider through innovative and sustainable offerings"

## How to succeed

| Competitiveness enhancement | Adaptive growth strategy | ESG & People |
|---|---|---|
| Emphasizing operational excellence, scalability through digital platforms, and AI-enabled collaboration | Focusing on portfolio diversification and supply chain resilience to ensure agility and long-term growth | Driving sustainability & circular innovation, and cultivating next-generation leadership talent |

# SCGP Aspirations, where to play

Grow the core, expand to adjacency, and enter into new business

## Integrated sustainable packaging solutions

### Core business

Primary packaging

- Flexible packaging
- Rigid packaging

Secondary packaging

- Display packaging/promotional packaging
- Marketing & event

Tertiary packaging

- Corrugated carton
- Paper pallet
- Honeycomb
- Corner guard
- Paper partition

Household products

- Containerboard
- Duplexboard & coreboard
- Sack kraft & industrial bag
- Plasterboard liner
- Recycling

- Graphic & fine paper
- Specialty paper
- Pulp
- Woodchip
- Plantation

2024 Revenue: 124,561 MB (94%)

### Adjacency

Foodservice packaging

- Food box
- Tray
- Cup
- Plate & bowl
- Wooden cutlery

2024 Revenue: 5,725 MB (4%)

### New business

- Labware disposable
- Reagent/test kits
- Syringe
- Emerging market

2024 Revenue: 2,498 MB (2%)

# Assessment Results and Recognition Awards

## ESG rating

| No.[1] | Agency | Scale (best to worst) | Latest update |
|---|---|---|---|
| 1 | S&P Global | 100 - 0 | **87/100 Score**<br>Top 1% S&P Global ESG score in Containers & Packaging sector (Sep 2024) |
| 2 | CDP | A - F | Climate change: **A-**, Forest: **B**, Water security: **B** (2024) in the Light manufacturing (Feb 2025) |
| 3 | ecovadis Business Sustainability Ratings | Platinum - Bronze | **Platinum 89/100** (May 2025) |
| 4 | SET AAA ESG Ratings 2024 | AAA - BBB | Rating at **AAA** (Dec 2024) |
| 5 | carbon neutral network | Gold - Bronze | **Gold rating at excellence level** in 2023-2024 (Sep 2024) |
| 6 | FTSE RUSSELL An LSEG Business | 5 - 0 | Rating score increased to **4.1 score** (Jun 2025) |
| 7 | MSCI | AAA - CCC | Rating at **A** (Sep 2024) |
| 8 | SUSTAINALYTICS | Negligible - Severe | **Low Risk** (May 2025) |

Note: 1. 1-5 are active ratings, 6-8 are passive ratings

## Recognition Awards

### SET Awards of Honor in 2024

**Best Innovative Company Awards**
SCGP was recognized for the development of "New Hybrid Eucalyptus hybrid clones for sustainability." Through advanced molecular biology techniques, the research creates the hybrid clones that can boost yields by 40%.

### World Corrugated Award 2025

- **Supply chain management excellence of the year** for the "Development of carbon footprint calculation."
- **Best ESG demonstration of the year** for the "renewable energy system installation in paper packaging factory."

SCGP

www.SCGPackaging.com