The Best Optoelectronic Glass Partner

G-TECH OPTOELECTRONICS CORPORATION

CONTENTS

G-TECH OPTOELECTRONICS CORPORATION

ONE
Company Profile

J1

G-Tech Optoelectronics Corp. (TWSE:3149)

GTOC

- **Capital :** NTD$ 2.26 Billion
- **CEO :** Tony Chung
- **HQ :** Miaoli, Taiwan
- **Employees :** **531** Employees
- **Revenues :** 2025/1-5 NTD$0.88 Billion

Global Fabs

In response to global supply chain adjustments, we expanded our core business layout in Vietnam and increased our production capacity

Gtoc(ChenaDu)

Sales Office

Cloud

GL(SZ)

Track Pad

HQ / RD Center

Automotive-2D/3D CG
Touch Module
*ITO coating

Gtoc(Vietnam)

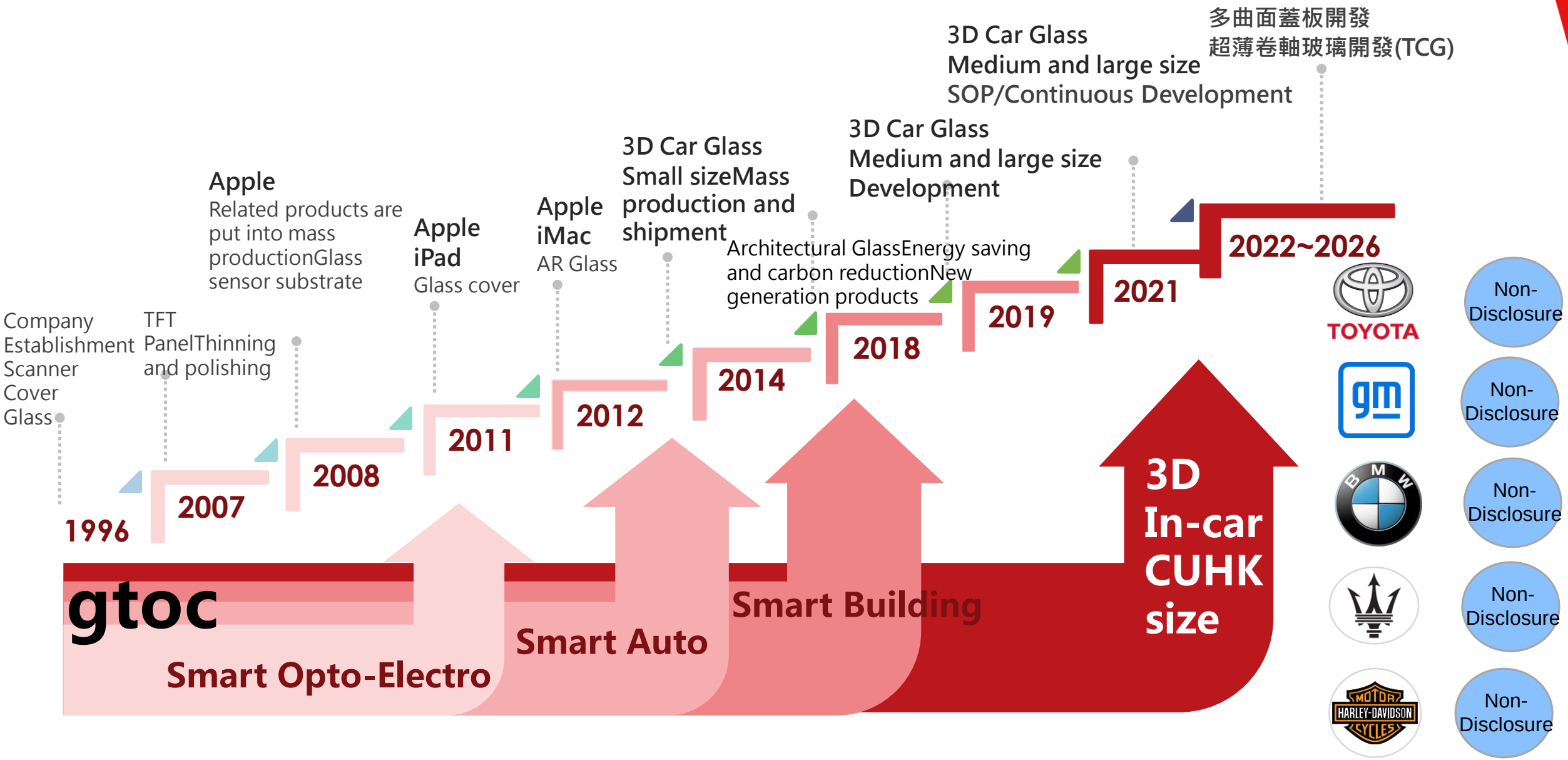
Automotive-2D/3D CG
Factory under construction

Expected to be put into production in Q3 2025

NK

CS Glass substrate
AR Coating

Company Milestone



TWO
Product Technology

02

GTOC has developed a number of independent IP and production technologies

Starting as a certified supplier of the first generation iPhone using capacitive multi-touch glass substrates, we have successfully developed and applied our unique glass technology to the automotive market, and have become a JDM manufacturer certified by major international automakers.

01

玻璃蓋板

2D / 2.5D / 3D Cover glass

02

AG噴塗

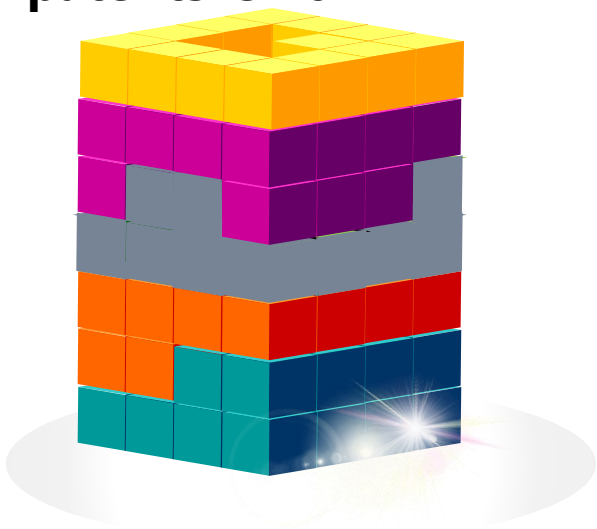
High temperature curing AG
Spray solution for durable applications

03

AR濺鍍

Inline / batch type sputtering machine
suitable for 2D/2.5D/3D cover glass

The total number of patents is 102



04

印刷/裝飾

Screening Printing / Pad Printing / Spray Painting / Decoration Film

05

化學強化

Suitable for thin glass

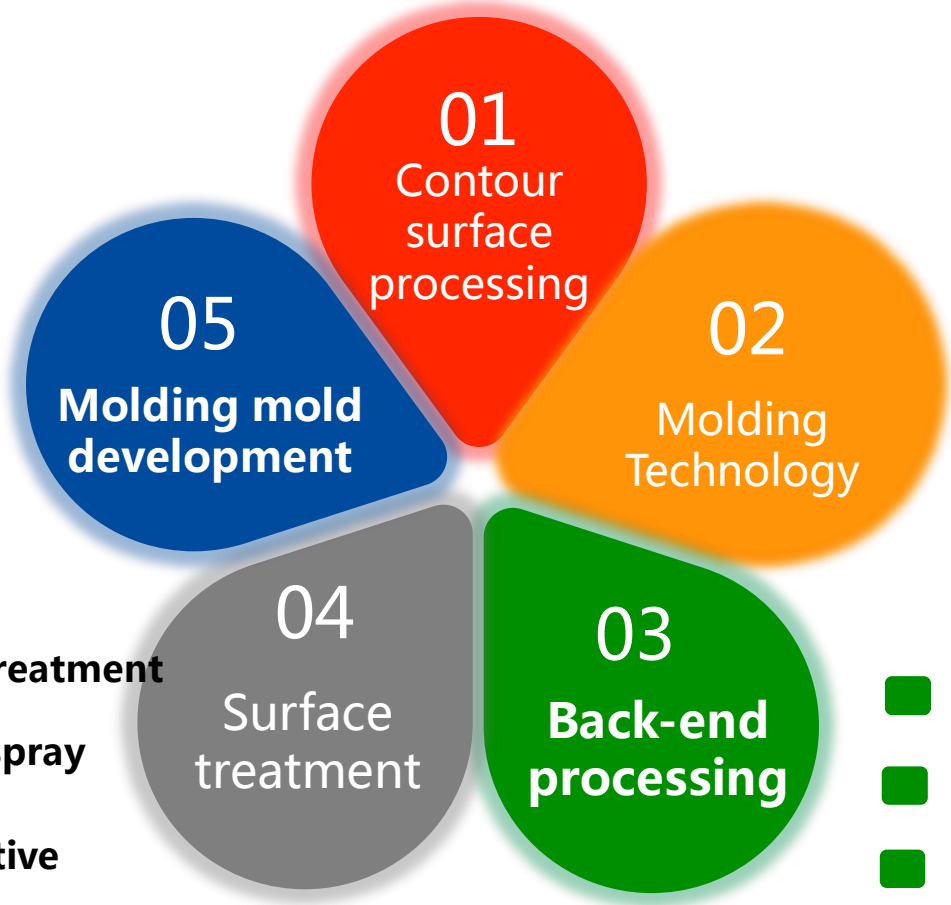
06

AF噴塗

WCA >110

Leading the world in multi-curved 3D glass product integration technology

- Multi-axis CNC machining
- Surface grinding and polishing



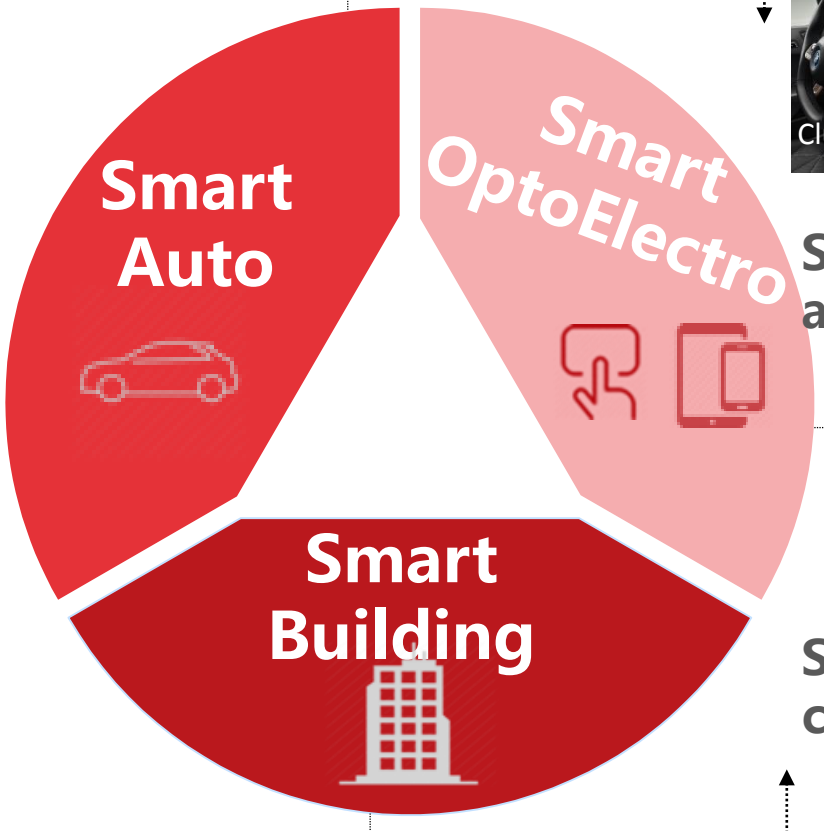
- Material
- Lightweigh
- Combination mold

- Multi-stage temperature control technology
- Self-weight bending
- Vacuum suction molding
- Hot Press Forming

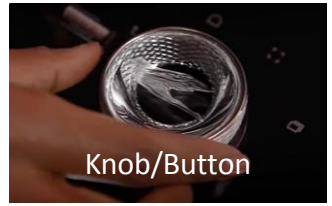
- High haze anti-glaretreatment
- Large size anti-glare spray
- Anti-reflective treatment

- Non-conductive vacuum oating
- Fully bonded
- Frame/graphic materials and processing

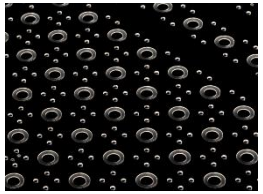
GTOC Three major business lines



Smart Auto- Multi-curved 3D integrated single-piece glass, instrument/mechanism/interior glass technology application



Smart OptoElectro- Advanced Fan-Out Panel-Level Packaging (FOPLP) applications, large-size ultra-thin glass substrate processing

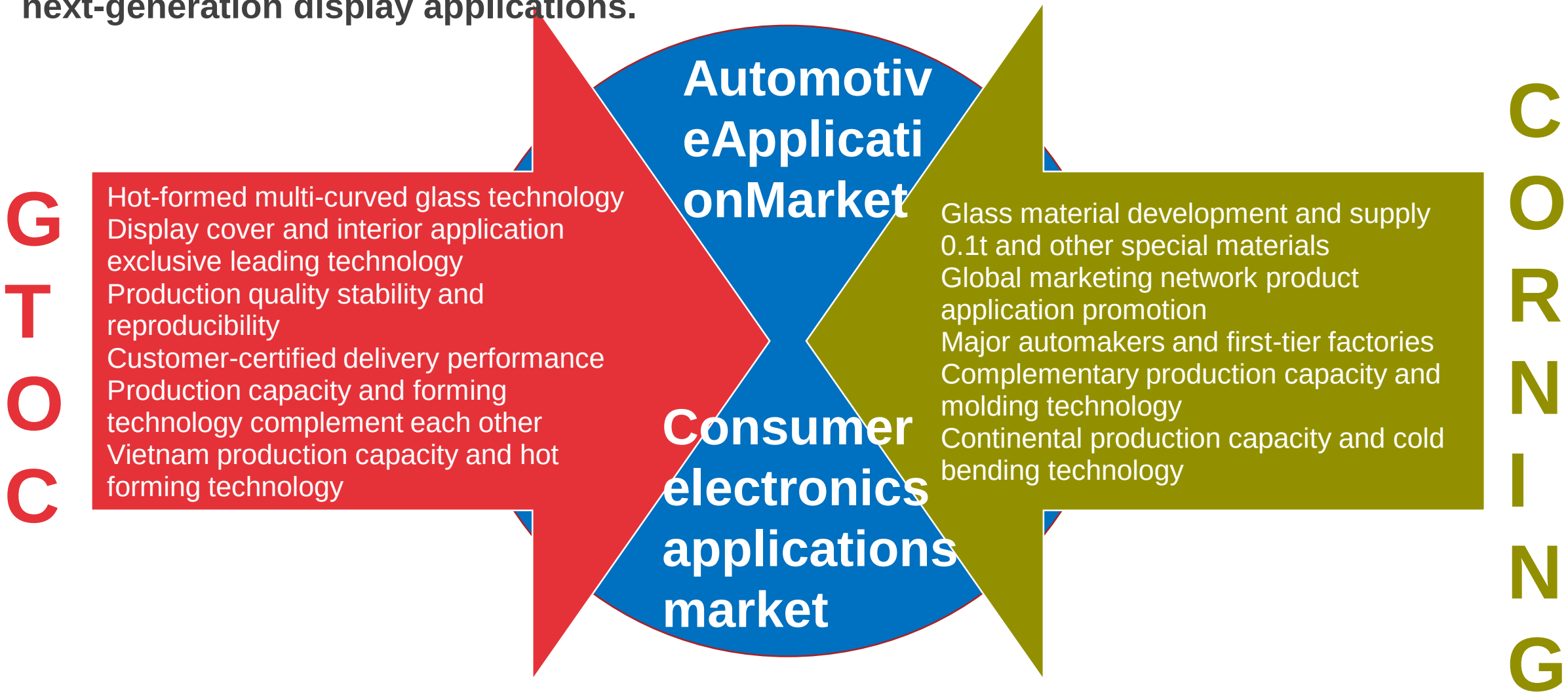


Smart Building- Low-E energy-saving glass, LED+LED/IGU multi-layer curtain glass,BIPV Building Integrated Solar Energy

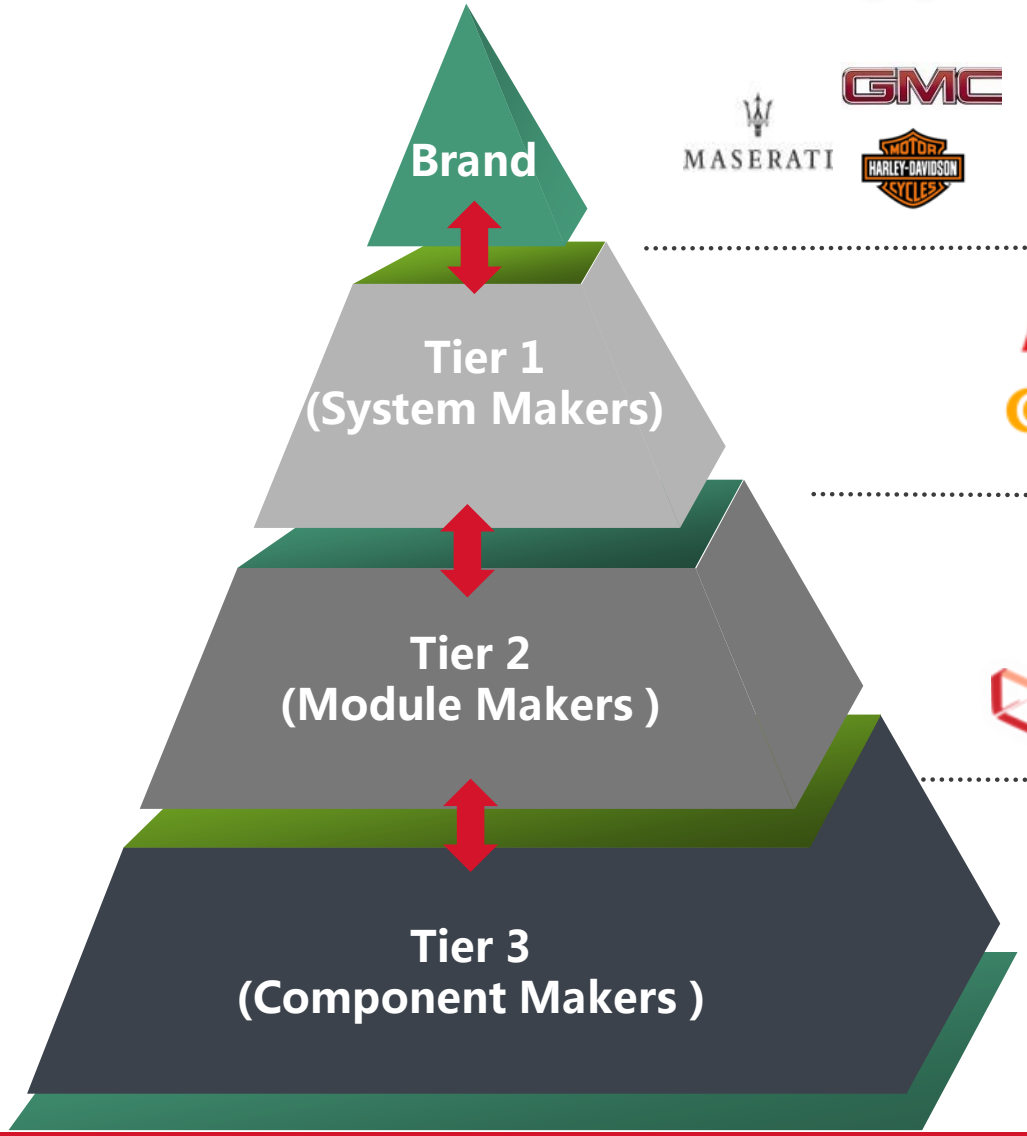
Smart Auto

Corning strategic partnership - strong alliance to enter the market

Integrate materials, technology and production capacity to focus on automotive and next-generation display applications.



Traditional cabin supply chain: GTOC was originally a Tier 2 and Tier 3 supplier



MASERATI · GMC · HARLEY-DAVIDSON · BMW · Ford · TOYOTA · VOLKSWAGEN · VOLVO · Mercedes-Benz · Audi · JAGUAR · NISSAN · TESLA · Jeep

FOXCONN

DENSO · BOSCH · HARMAN · FORVIA · Continental The Future in Motion · Visteon · Valeo · MOBIS

BOE · AUO · INNOLUX

LG Display · SHARP · GiS · gtoc · TIANMA · JDI Japan Display Inc. · TPK

gtoc · AGC · CORNING · JNTC 제이앤티씨 · LENS · Victory precision · CFOC

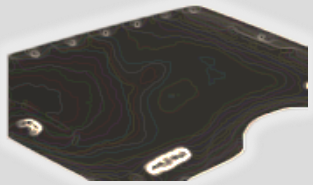
GTOC seizes the uppermost position in the supply chain and takes the lead in specification formulation

- By mastering the key technology of integrating multi-curved single-piece 3D glass, we can realize the design concepts of car manufacturers, participate in co-development early, and cooperate with panel manufacturers to meet their needs, ensuring future mass production orders.
- GTOC advances upstream in terms of time and position in the traditional supply chain, takes the initiative in specification formulation, and discusses co-design work with car manufacturers.

The main product is multi-curved 3D cover glass. We have established trust with many international car manufacturers over the past decade.In addition to mass production and supply, we are also involved in the early design and development.

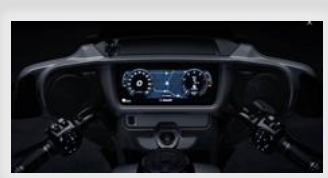
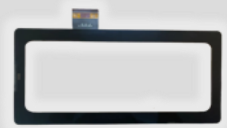
Smart cockpit application: Directly cooperate with international manufacturers for early design and development, business development and revenue growth are expected.

Delivery projects of mass-produced products since 2012





To be announced

Smart Key — 2012

Q5/Q7 — 2013

iX/i4.. — 2021

Grecale — 2022

CELESTIQ — 2023

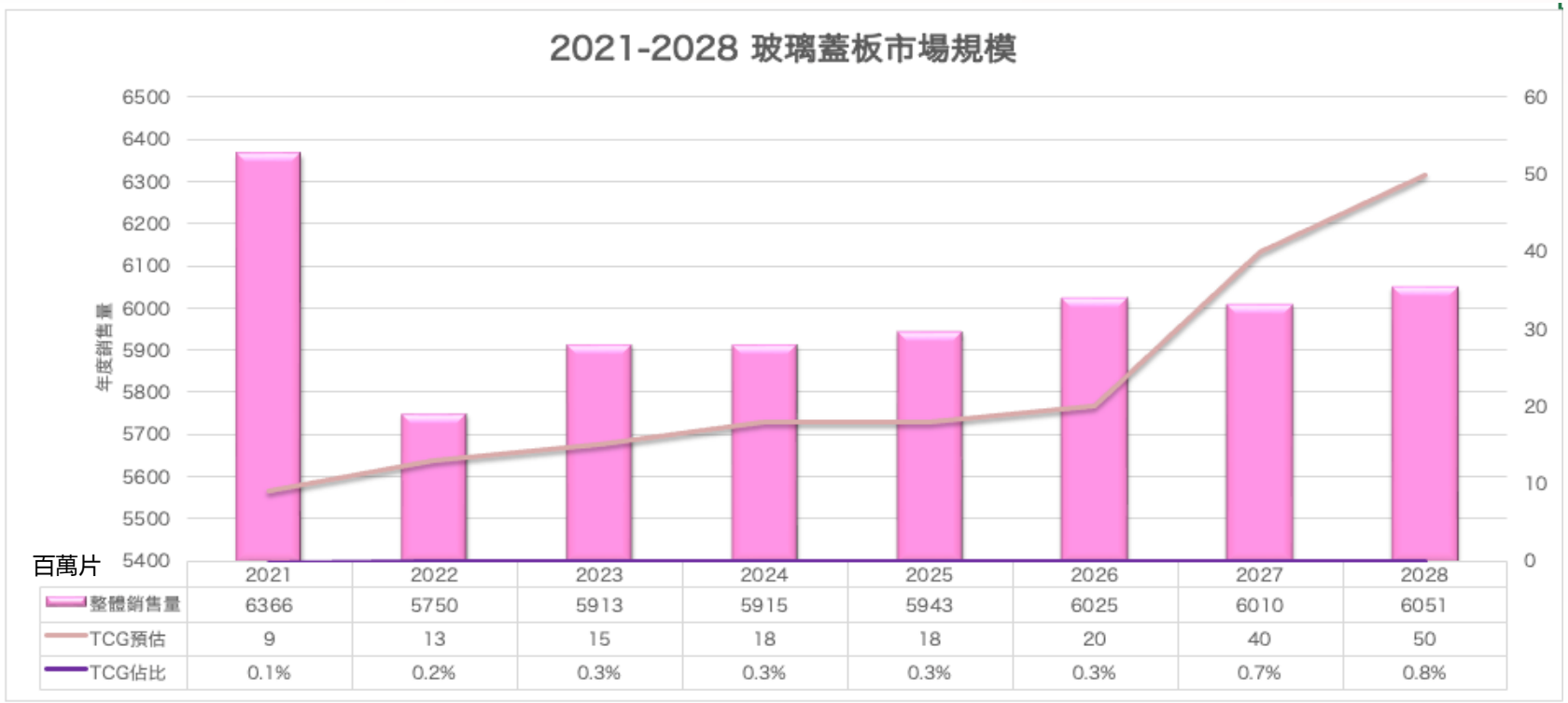
CVO Road Glide — 2024

2025

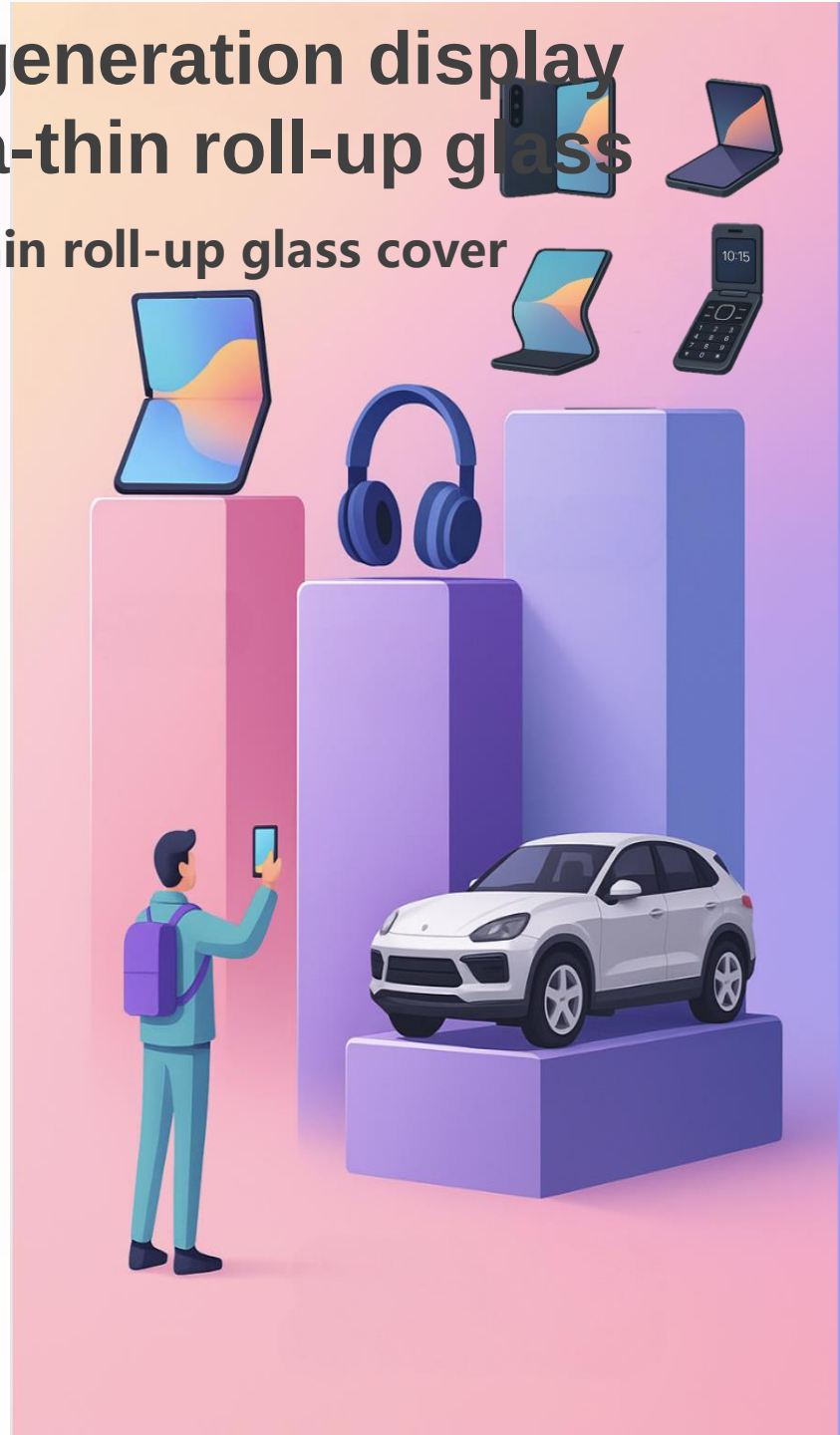
Thin Cover GlassLaunching the layout of next-generation display technology.Entering the new blue ocean of ultra-thin roll-up glass

■ Mass production thickness is only 0.1mm-Highly flexible ultra-thin roll-up glass cover

- Precision Glass Molding
- Surface coating treatment
- Lamination processing
- Roll-to-roll process （Roll-to-Roll）
- Ultra-thin glass continuous process capability

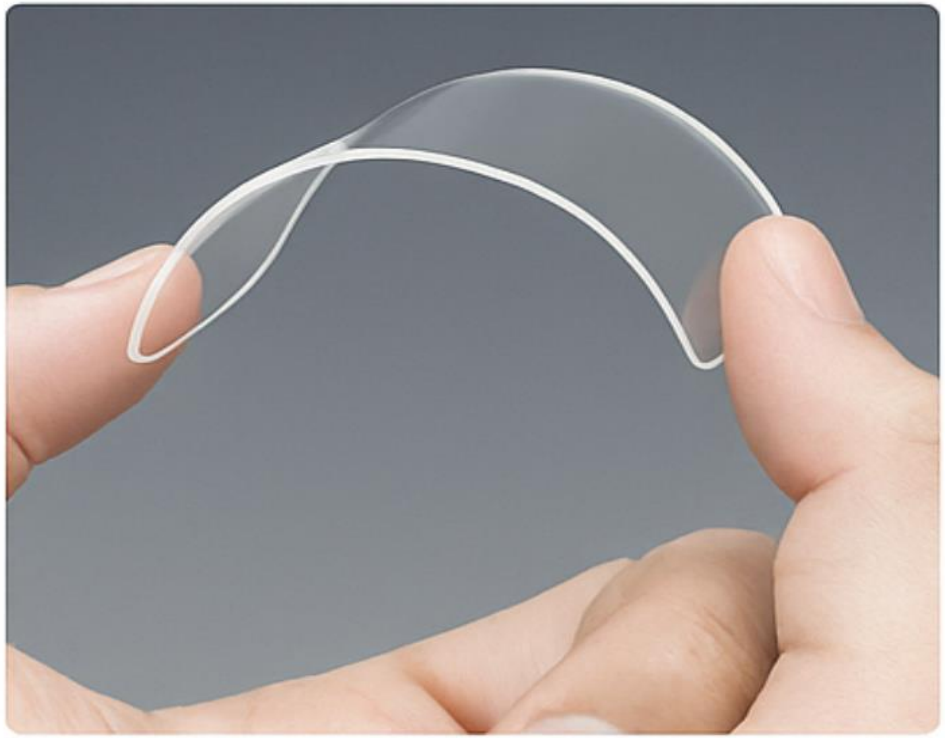


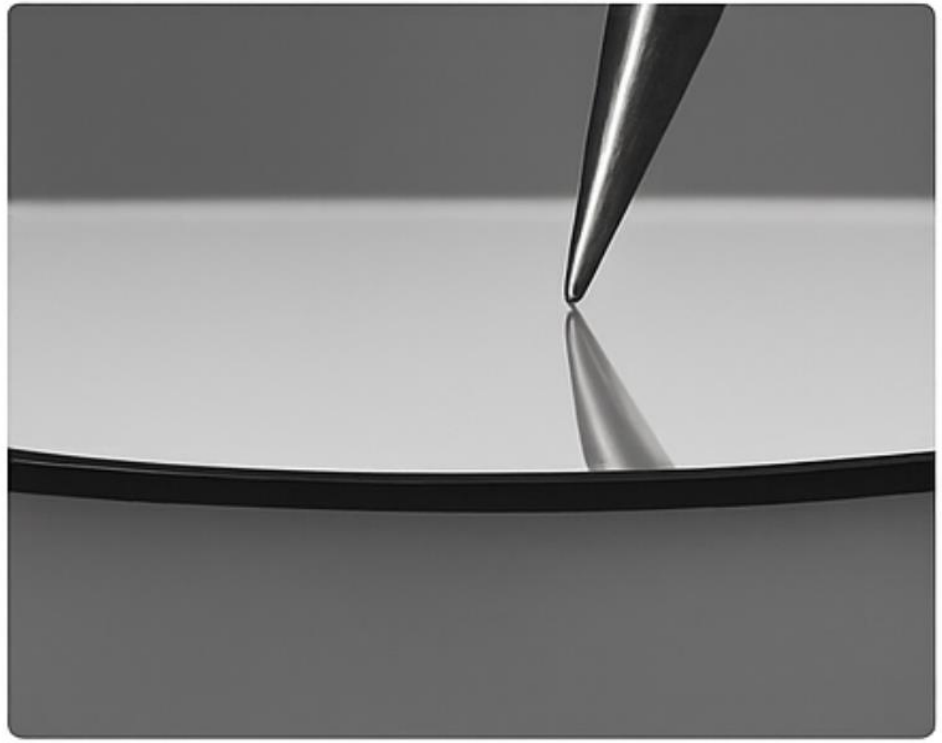
	2021	2022	2023	2024	2025	2026	2027	2028
整體銷售量	6366	5750	5913	5915	5943	6025	6010	6051
TCG預估	9	13	15	18	18	20	40	50
TCG佔比	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%	0.7%	0.8%



Source : Omdia *48th Display Japan Forum, 2025 Jan*

TCG Product Advantages





Ultra-thin de

The thickness is less than 100μm, and the hardness of glass is retained

Bending ability

Supports bending radius less than 2mm to achieve the ultimate curved surface

Enhanced treatment

Can be used with chemical strengthening to improve impact resistance

Excellent performance

Scratch-resistant, anti-discoloration, and better light transmittance than plastic cover

TCG Automotive Applications

OLED Display

Isolate moistureIncrease weather resistanceImprove texture

Flexible Display

High interior space efficiencyFrom flat surface to space extension

Control knob

Small screen cover applicationPrecise touch and durabilityProtection

Door display

Integrate touch functions to achieve smart cabin control

GTOC TCG Cover glass capabilities

Mass production technology

Existing curved surface, high hardness, low reflection mass production technology

Automotive certification ISO/IATF 16949 full certification

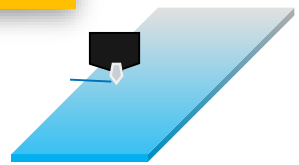
1. 設計開發
   Customized specifications
2. 精密加工
   Laser cutting, optical coating, optical film
3. 品質驗證
   Mass production with automotive specification certification

Processing Capabilities

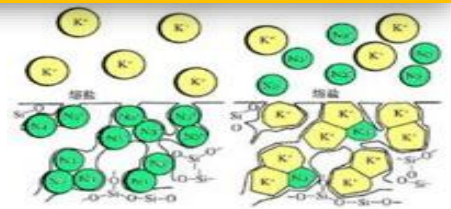
Can process a wide range of glass thicknesses, including UTG specifications

Rich integration experience: one-stop service for cutting, laminating and coa

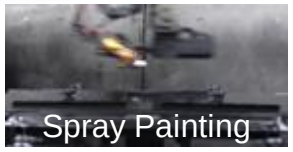
Cutting



Ion-exchange Process



Coating



Lamination

Smart cockpit (instrument) design demand trend - complex, continuous, multi-curved surfaces

■ Customization

By making good use of the characteristics and texture of glass materials and combining them with glass curved surface forming technology, various concept cabin designs with comprehensive high quality, large amounts of information interaction, and full e-ization have become feasible, enhancing user experience and usage.

■ Large-scale

The trend of larger dual-screen and triple-screen panels in smart cockpits: integrating the digital instrument panel (Cluster) and center console (CID) into a single large glass cover.

Image credit ：Mercedes Benz Website

■ Surface

The cabin design improves the user experience and usage. The precise curved surface production and related optical design combine the functionality of reducing reflections and increasing visibility with the aesthetics of a simple shape.

■ Integration

Maximize the integration of all information and image displays of the smart cockpit's digital instrument panel, center console, in-car environment control, entertainment system, electronic rearview mirror, etc. to simplify the operating interface and optimize the user experience.

Smart Cockpit： New Market Demand for Glass Processing Technology Applications in Instruments/Mechanisms/Interior Components

One of the world's top three integrated technology leading suppliers

GTOC's multi-curved 3D cover glass technology leads the world

Technical Features

Process flexibility in design / shaping

- Steps / Recesses / Protuberances / Openings
- Flat surfaces / Curved surfaces
- Free forms and geometries can be integrated

Suitable for various glass material

With coefficient of thermal expansion (CTE) between 3.2 and 9.0 µm/m*K; e.g.:

- Soda Lime Glass
- Aluminium - silicate Glass

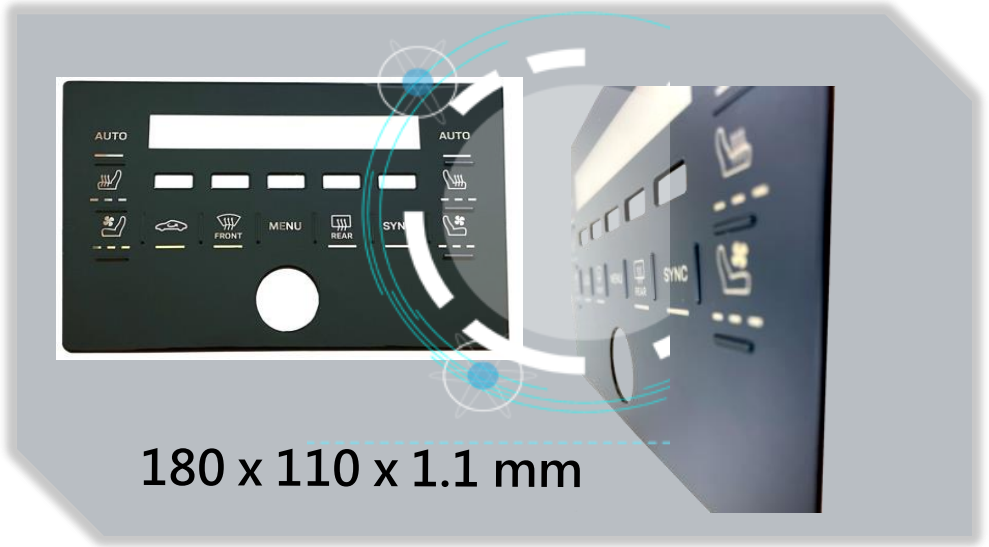
Wide range of glass substrate

Thickness from 0.33mm ~40mm could be processed

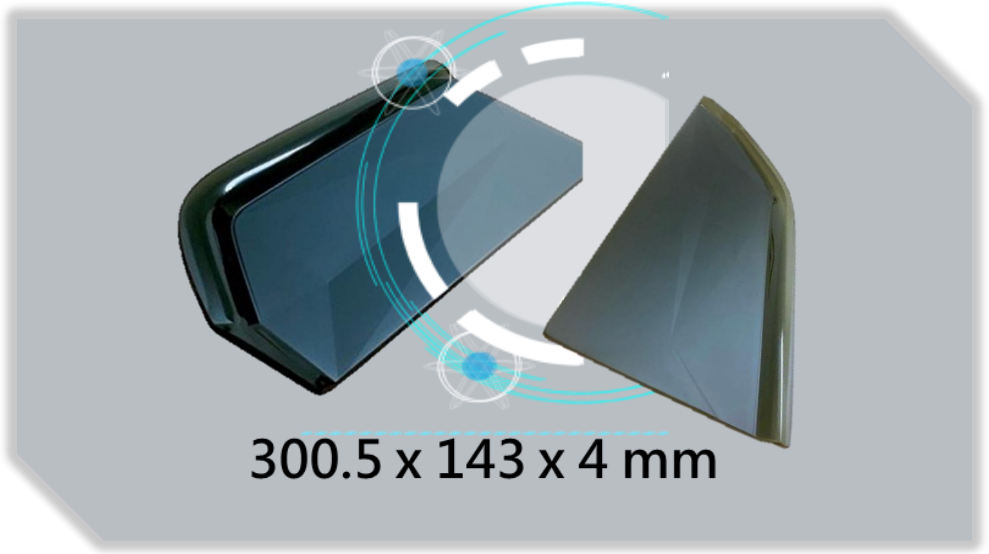
High preciseness

- X,Y,Z direction : ± 0.15mm
- Thickness : ± 3%

Application and development of advanced glass thermoforming technology



180 x 110 x 1.1 mm

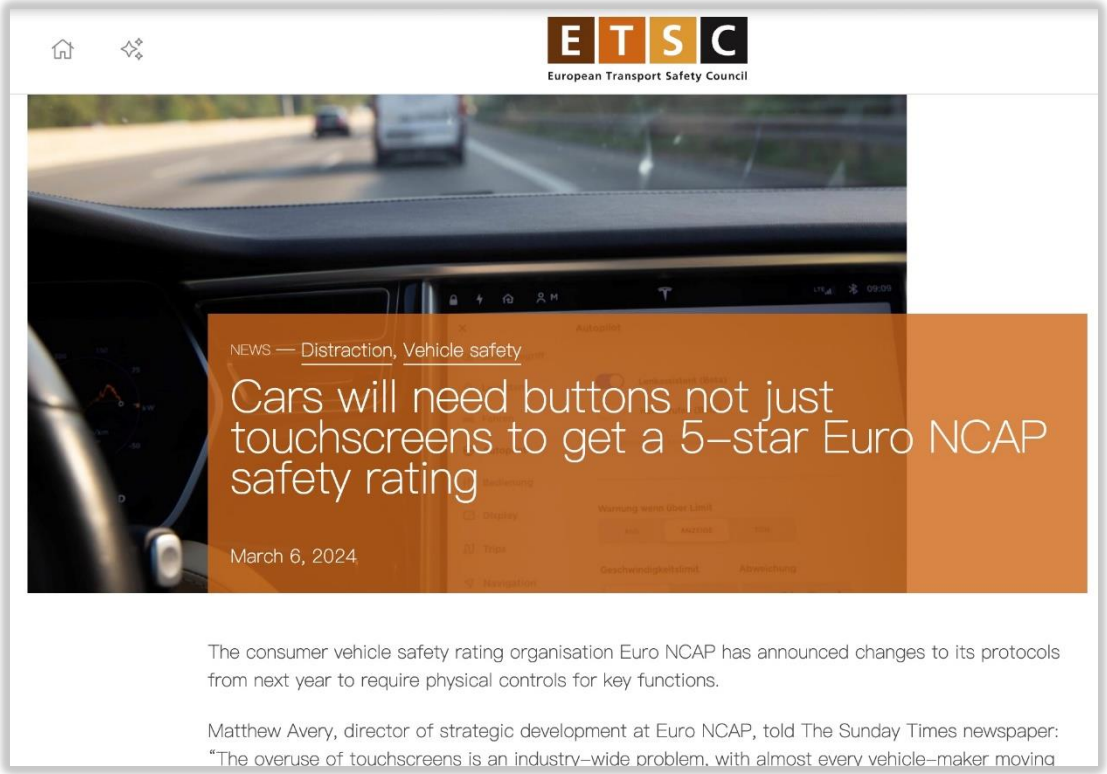


300.5 x 143 x 4 mm

- Mature and extraordinary thermal forming process, make physical button and any micro patten rise up from flat touch screen.
- Available for glossy (mirror) and texture (matte) surface, expanding diversity of interior design.
- Integrated design with dynamic interface that gives instant feedback to driver and improves in-vehicle experience.
- 3D hot pressing : the mold design is used to make a haptic combined with crystal and foggy on the glass surface, and even the ridges create different light and shadow effects.
- Environmental friendly, the integrated process is in cutting down waste compared to the traditional process.

EU 2026 new regulations:
Limit excessive use of screen controls; use physical buttons for the five basic functions.

GTOC's glass processing technology will usher in huge new business opportunities in the automotive interior market that complies with EU regulations.



Source : European Transport Safety Council

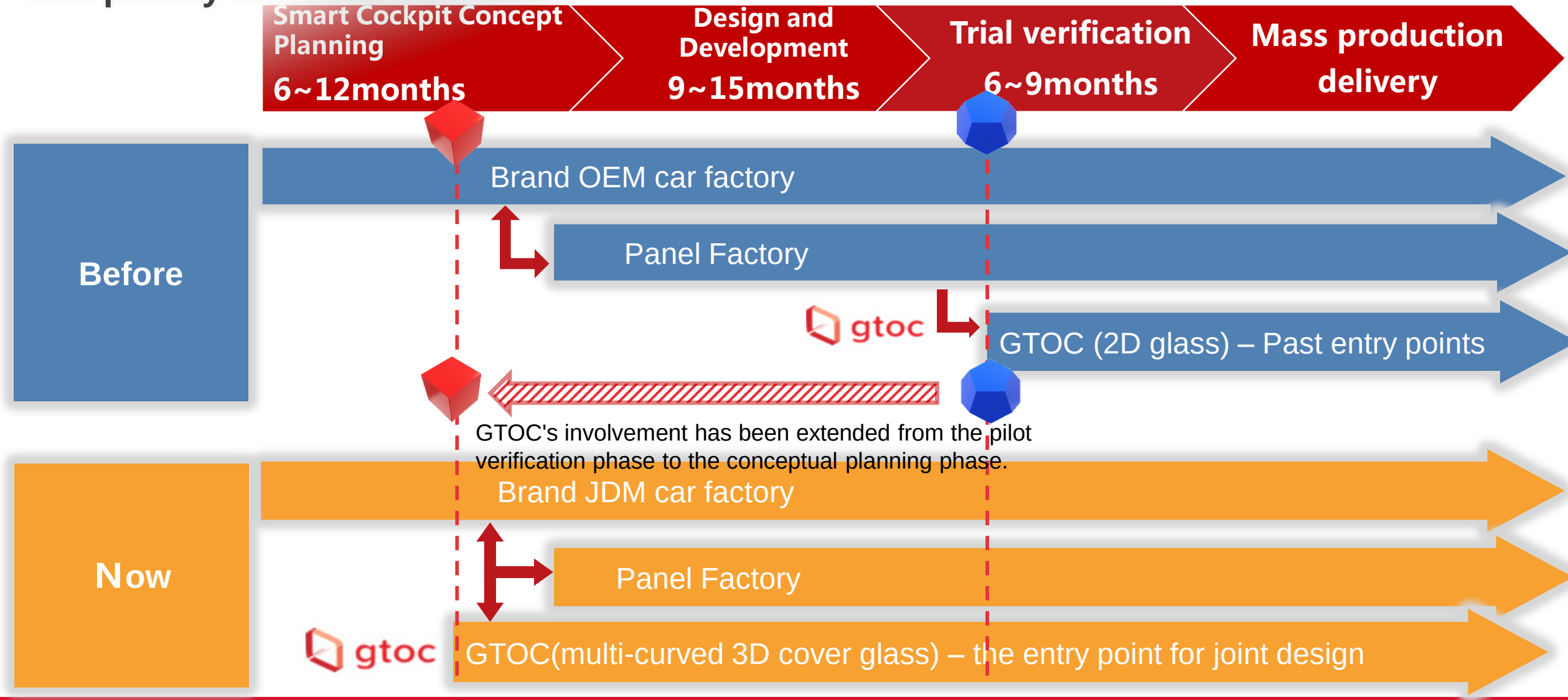
User demand will increase significantly after 2022, and buttons/knobs for interior demand are expected to be mass-produced from 2026.

Golf MK8 ➡ Golf MK8.5
➡Capacitive virtual buttons are changed back to traditional

Traditional physical buttons on the steering wheel.
Use capacitive virtual buttons instead.
It is easy to cause accidental touch while driving.

ID.Every1 **Physical buttons return in full**

GTOC has moved forward and participated in the product "concept planning" discussion, obtaining the right to participate and make suggestions in the joint design and development of the car manufacturer's Industrial Design, ensuring the opportunity to take priority in orders.



d Polyimide
ced Packaging for
p

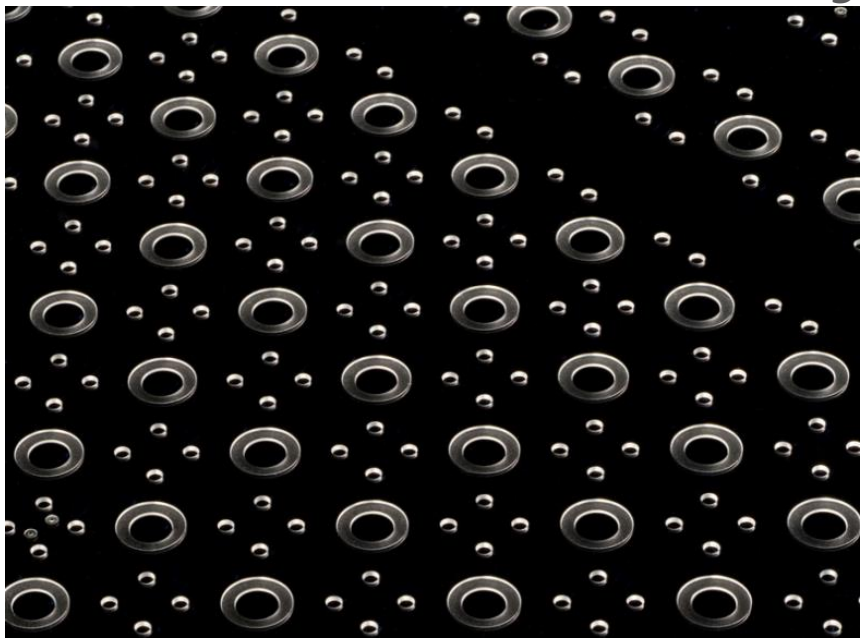
Smart Opto-Electro

Fan-Out Panel Level Packaging (FOPLP) Glass Applications – Packaging

- Based on the research and development capabilities of glass thermoforming technology, one-step forming processing has the advantages of shortened delivery time and price competitiveness compared to traditional laser drilling (LD), which is a global market trend.
- By introducing advanced FOPLP technology, we will attack the global semiconductor market supply chain and gain market share in the high growth trend..

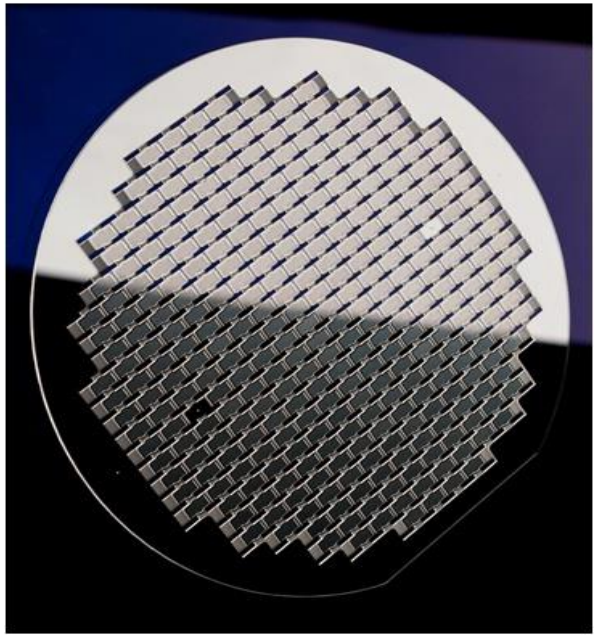
Re-Flow TGV (Through Glass Vias)

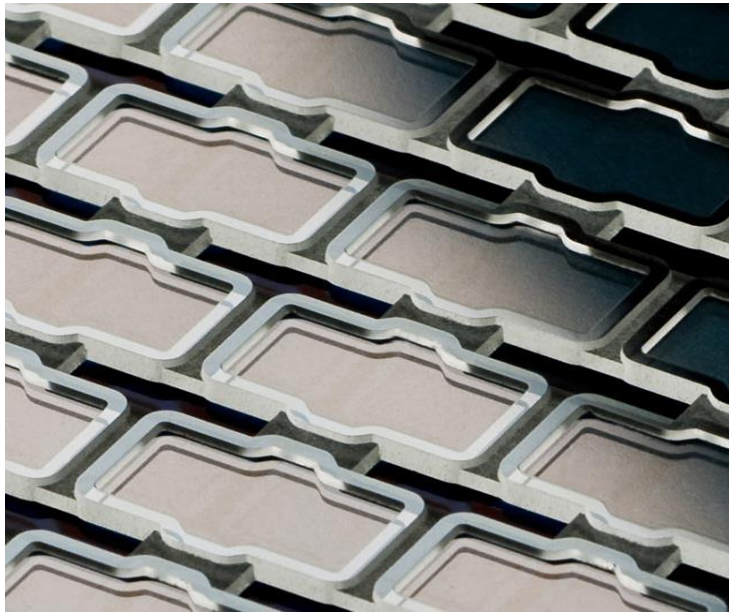
One-step forming and processing to open holes instead of traditional laser drilling



MEM (Micro Electro Mechanical)

Glass encapsulation cover-->--> --> Microstructure magnification



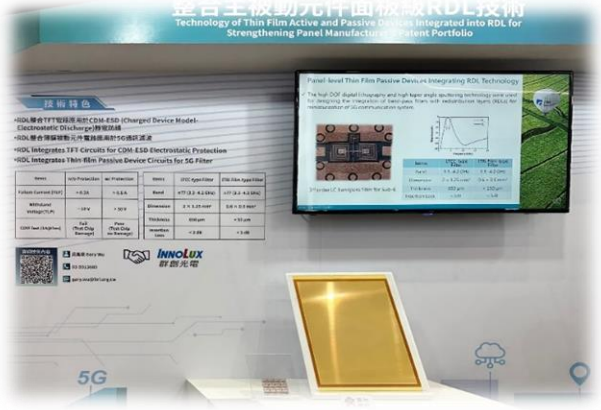


Fan-Out Panel Level Packaging (FOPLP) Glass Applications – Substrates

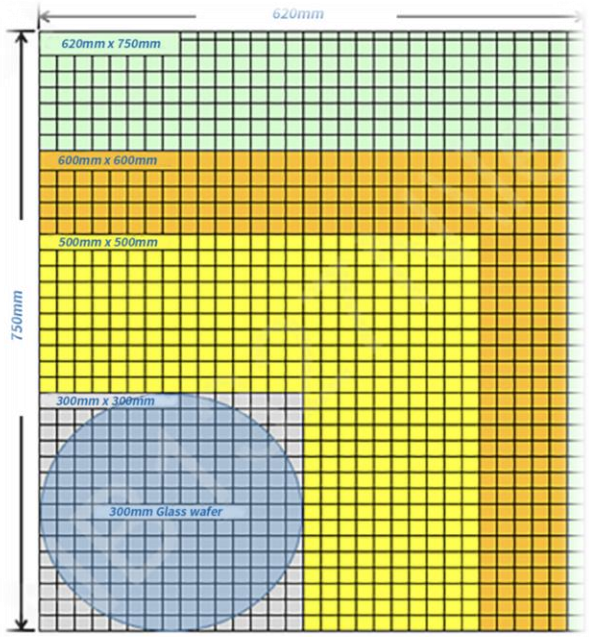
- **Based on the R&D and production capabilities of large-size glass substrates for display panels and touch panels, we entered the FOPLP substrate application market and grasped future business opportunities and global market trends.**
- **In response to the huge market demand for FOPLP in the future, each packaging factory and existing TFT factory will need glass substrates cut to different sizes. GTOC has successfully entered the FOPLP substrate supply chain. And formal sample shipments have begun.**

FOPLP technology is cost-competitive and creates greater profit value.

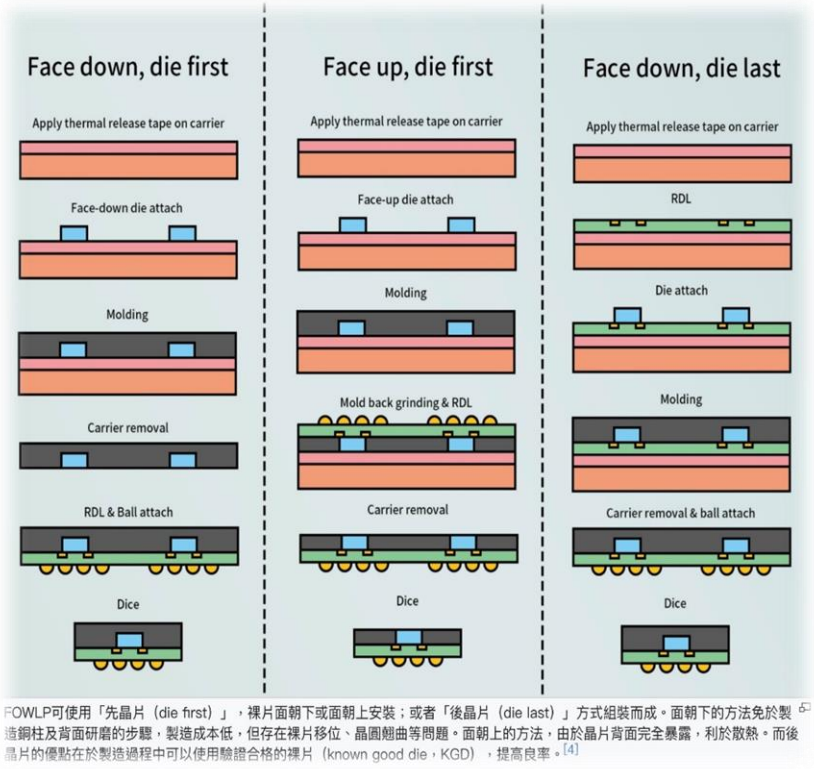
- High glass utilization rate,
- Accommodate more I/O
- Smaller size
- More powerful performance
- Save power consumption



Source : 2023 Touch Taiwan



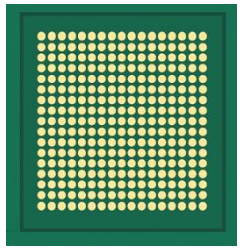
Source : Innolux

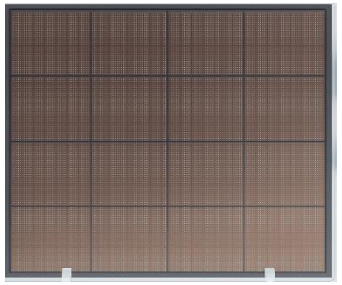
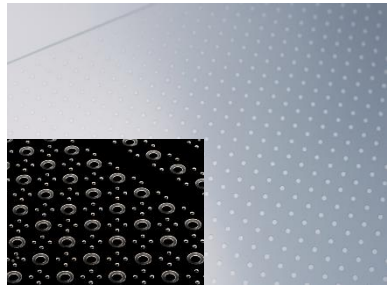


Source : WiKi Pedia

TGV Glass Substrate Advantages

- **The best solution to solve the problem of low yield and high cost caused by laser drilling process**
- **Patent layout of semiconductor applications**



Material	ABF substrate	Silicon substrate	Glass substrate	Glass substrate (GTOC)
Heat resistance	Low(<250℃)	high(>400℃)	high(>400℃)	high(>400℃)
Expansion coefficient	Higher (20 ppm/℃)	Lower (2.6ppm/℃)	Low (3.3ppm/℃)	Low (3.3ppm/℃)
Warping	Larger	Small	Small	Small
Thermal conductivity	<0.6W/m·K	148W/m·K	1.2W/m·K	1.2W/m·K
Surface flatness	The bigger the area, the worse	excellent	excellent	excellent
Processing difficulty	middle	high	Low	Low
Maximum processing size	400 x 400mm	12吋 Wafer	515 x 515mm	450 x 450mm
Via holes	Laser/Mechanical Drilling	Laser/etching	Laser/etching	Thermoforming
Substrate production	high/Low	middle/high	middle/Low	high/Low

Four major product applications of smart optoelectronic flat glass substrates

size : 10.1”~15.6”

Transportation Machine

Smart Retail POS

Digital Smart Fitness

Medical integrated equipment

size: 7.0” ~ 21.5”

Since 2007, we have been a certified supplier of Apple Track Pad products.

Participated in Apple Industrial Design to jointly develop and mass-produce, with cumulative shipments reaching 182 million units by June 2024.
It is now one of Apple's two largest suppliers worldwide.

01 Application

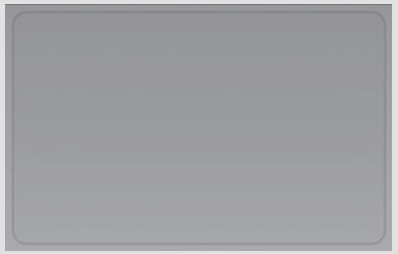
MacBook Air, Back Pro,
Keyboard Accessories

02 Size

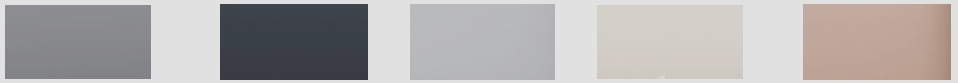
4.79~ 7.39 inch

03 Colorways

Sparrow, Basalt, NDA,
Stardust, Blush Gold ,
Softgrey, AccBlack

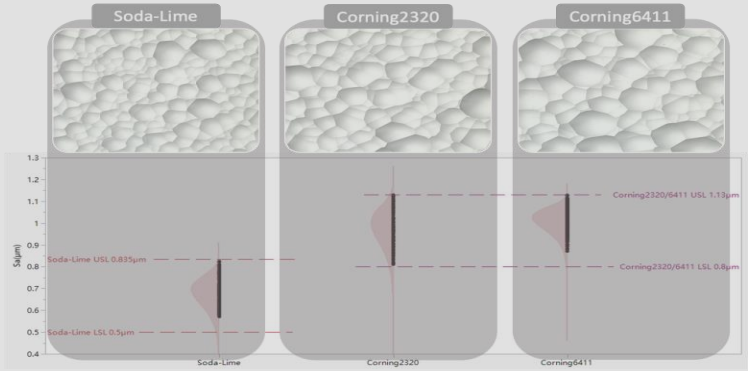


Trackpad Glass



Sparrow | Basalt | NDA | Stardust | Blush Gold

Texture evolution



GTOC is the No. 1 supplier of Apple Track Pad in terms of shipments

- Excellent quality + reasonable price, accounting for about 70% of Apple laptop/iPad demand share
- Production capacity: 100K/Day, yield rate > 91%
- Participate in the application development of Corning 6411 recyclable glass in Q4 2023
- By the end of 2024, the new version of Macbook Air will fully introduce 6411 recyclable glass
- In 2025, Q2 will fully seize the Macbook Air new product modification market

Smart Building

Stable shipments × Active development | GTOC architectural glass project dynamics

Stable shipment

竹北AI 義隆電研發大樓

台中 聯聚瑞安

Actively develop

台北 雙子星

竹北高鐵
宏匯未來之心

台北 宏匯台北大學
民生校區BOT案

台中 聯聚玉衡

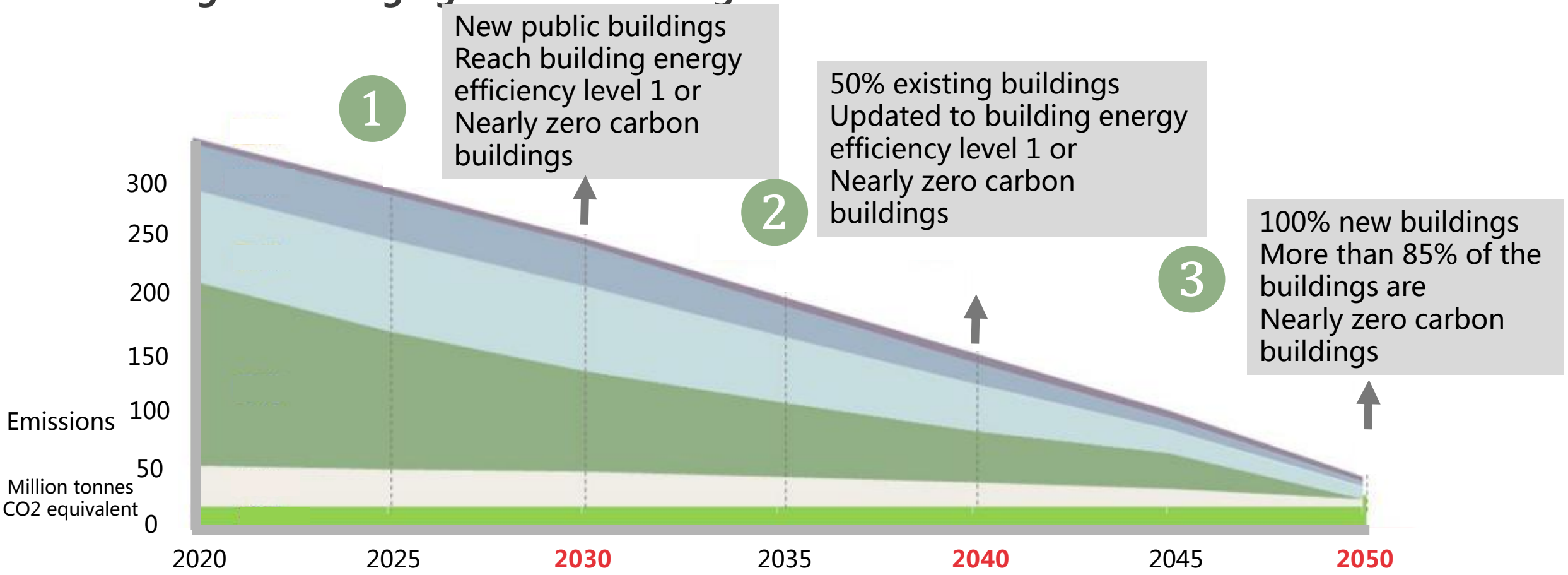
台中 聯聚理安

桃園青埔 臻鼎時代大廈

正達邁向淨零碳排
榮獲《碳競爭力100強》

Taiwan's 2050 Net Zero Pathway: Three-Phase Goals

In March 2022, the "Taiwan 2050 Net Zero Emissions Pathway and Strategy Overview" was officially announced, providing a trajectory and action path to net zero by 2050, and setting three-stage goals for buildings.



(國發會111.3.30公布)

Product Development for Smart Buildings

The first company in Taiwan with super-large-size intelligent glass processing production lines, the process includes cutting and grinding, ITO coating, physical strengthening, lamination and bonding technology.

In 2019, we passed the EU Construction Directive (CPR) certification from Germany's TÜV Rheinland, becoming the first company in Taiwan to obtain CE certification for architectural glass.

Low-emissivity energy-saving glass building

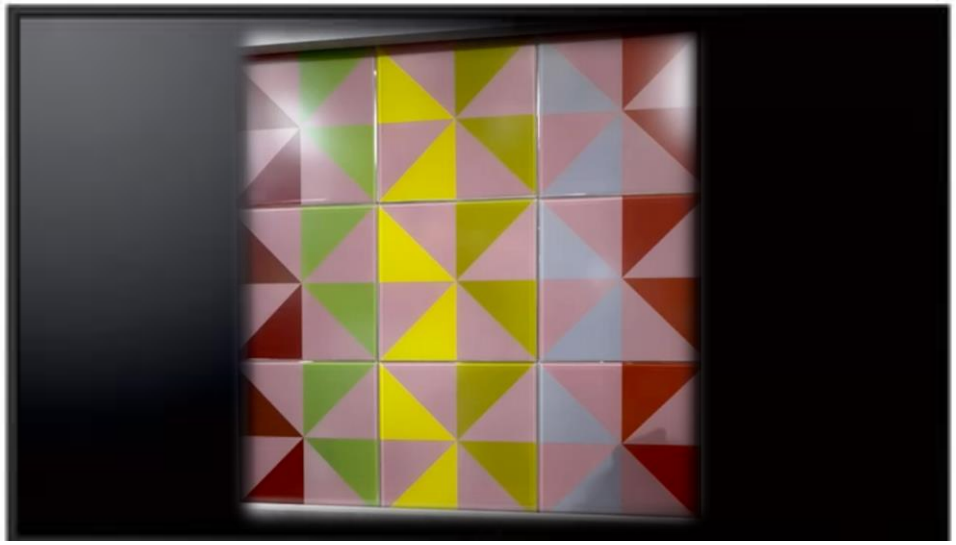
LED+LED/IGUMulti-layer curtain glass

BIPV Building Applications for Integrated Solar Energy

Product development for smart buildings – electronic paper material combination applications

By applying gluing and lamination technology, glass is combined with electronic paper materials to present different materials such as high-grade stone, wood, etc., as well as high-tech building materials applications with dynamic display functions.

External wall : Change the color depth of the external wall according to the climate and seasons.To achieve energy saving and carbon reduction

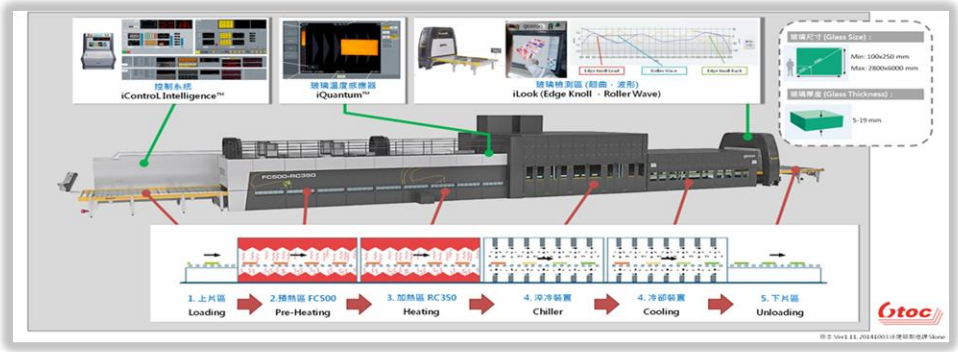


Interior: : Glass combined with electronic paper materials, showing the same body with different materialsWith dynamic display effect

Glass processing for smart buildings-main process equipment

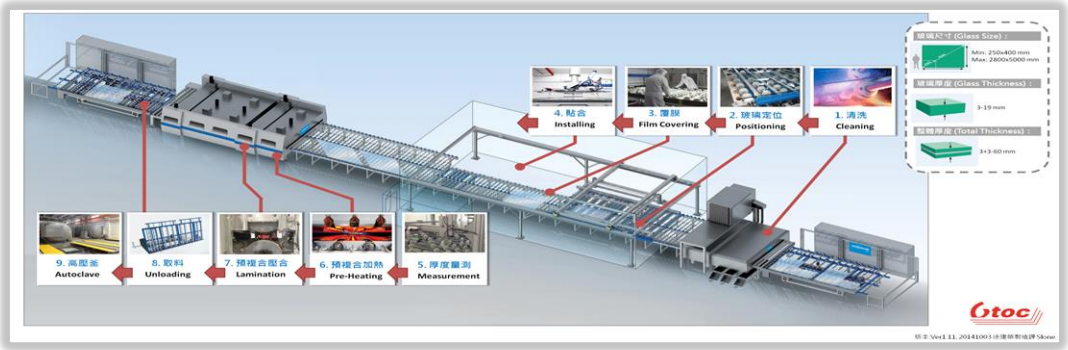
Physical strengthening furnace

Double furnaces and double convection can effectively improve the uniform temperature control of the glass heating process, greatly reduce the process time, and effectively reduce the warping and ripples of tempered glass



Glue Line

Automatic glass positioning, cleaning, preheating, and pre-pressingAutomatically detect glass thickness, size and direction, and adjust roller pressure in sections (to reach horizontal pressure)The pre-pressing section automatically detects the glass size and direction to increase the temperature, which can effectively reduce energy loss.



Hollow cladding line

Fully automatic air flotation to avoid roller marks Automatic glass measurement, coating surface inspection, cleaning, patching, lamination, gluing.

2024 GTOC Core Competencies

Grasp the trends and key technologies, move up the industry value chain, and obtain the key position of international manufacturers' certification and joint development.

Core Competence

1

Master the key thermoforming integration technology of **multi-curved 3D glass**

It is one of the **top three suppliers** in the smart cockpit market.

2

Has entered **the most upstream position** in the automotive industry supply chain

Participate in specification formulation first and obtain orders from international customers

The only manufacturer in Taiwan that has a say in automotive design

3

Glass substrate and packaging application technology with **FOPLP**

Using advanced processes to attack the **semiconductor** supply chain and attract global customers

4

In response to customer demand, we expanded our factory in **Vietnam**

Stable supply and production, expanding production capacity curve

THREE

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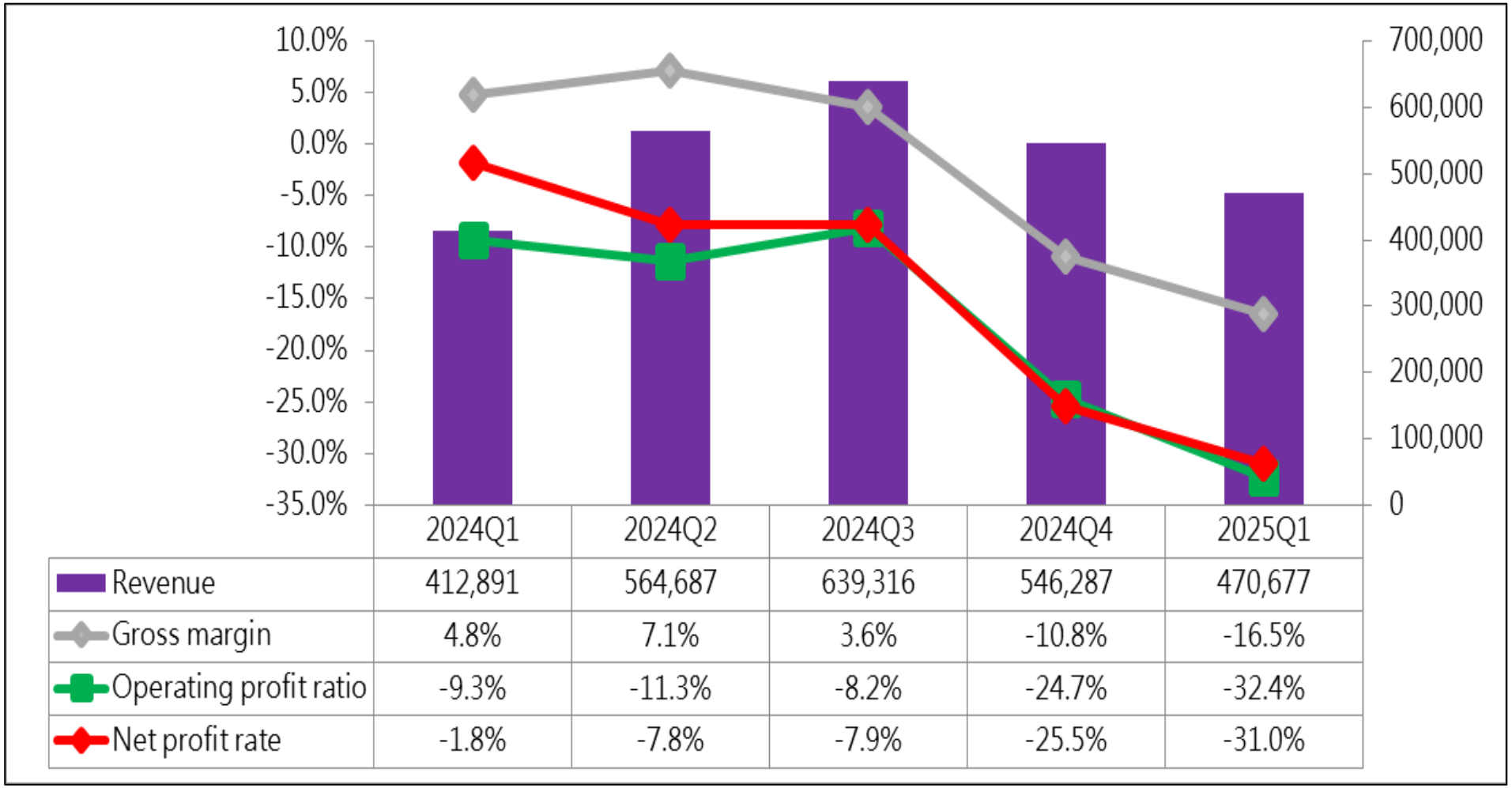
Operation Overview

Financial ratios: 2024~2025 Q1

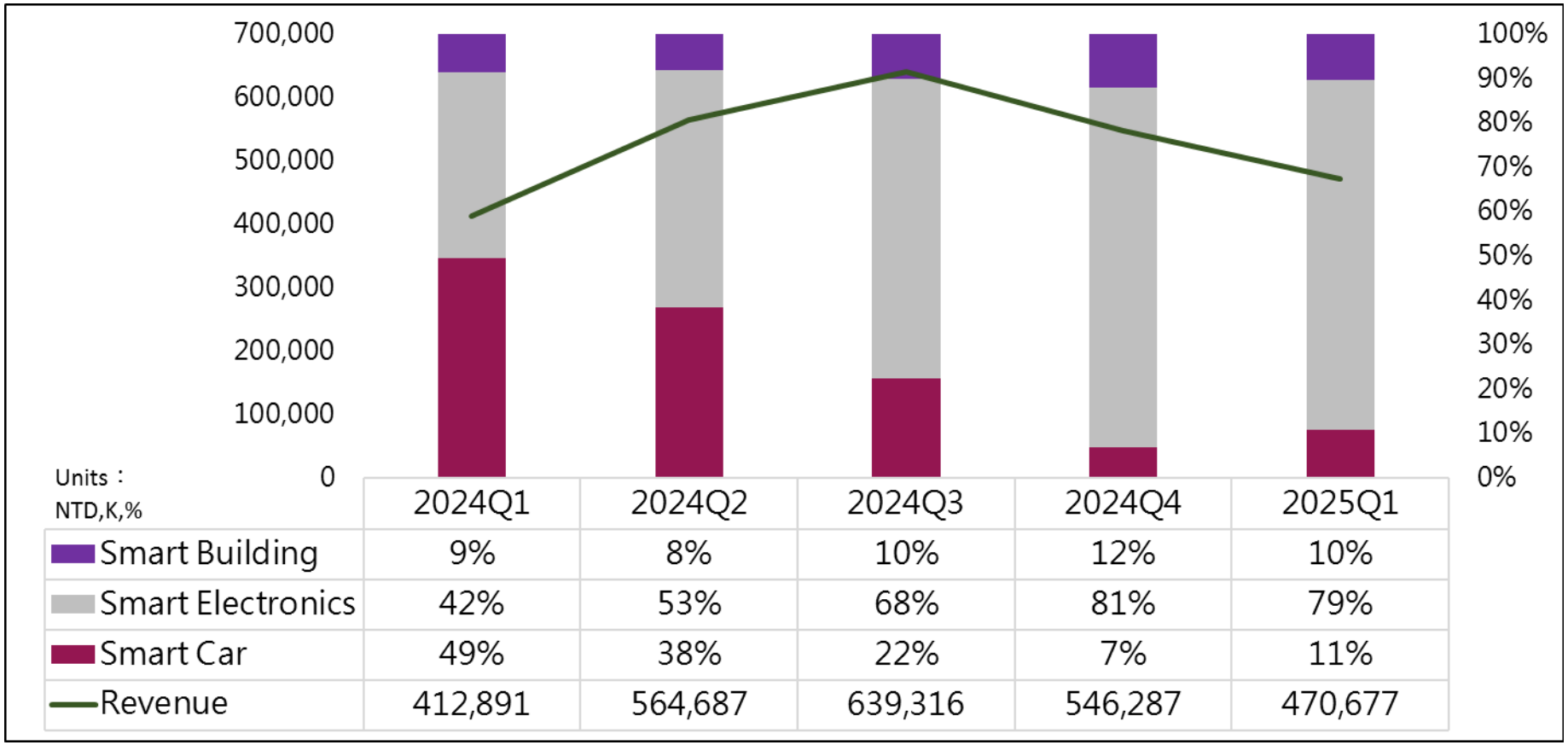


	2024Q1	2024Q2	2024Q3	2024Q4	2025Q1
Revenue	412,891	564,687	639,316	546,287	470,677
Gross margin	4.8%	7.1%	3.6%	-10.8%	-16.5%
Operating profit ratio	-9.3%	-11.3%	-8.2%	-24.7%	-32.4%
Net profit rate	-1.8%	-7.8%	-7.9%	-25.5%	-31.0%

Research and development expenses : 2025Q1 23,465K, 2024Y 118,777K

Product revenue: 2024~2025 Q1

Smart car revenue will become the main driving force for revenue growth in the future with the mass production of the Vietnam factory



Units：NTD,K,%	2024Q1	2024Q2	2024Q3	2024Q4	2025Q1
Smart Building	9%	8%	10%	12%	10%
Smart Electronics	42%	53%	68%	81%	79%
Smart Car	49%	38%	22%	7%	11%
Revenue	412,891	564,687	639,316	546,287	470,677

Balance Sheet: 2024~2025Q1

Unit：NTD,K	2024/3/31	2024/6/30	2024/9/30	2024/12/31	2025/3/31
Total current assets	1,522,889	2,186,342	1,520,209	1,967,663	1,625,442
Total non-current assets	2,560,025	2,538,994	2,511,233	2,708,671	2,741,422
Total assets	4,082,914	4,725,336	4,031,442	4,676,334	4,366,864
Total current liabilities	1,506,869	1,226,971	647,935	1,428,011	1,214,602
Total non-current liabilities	1,201,949	1,358,158	1,283,994	1,286,473	1,333,794
Total liabilities	2,708,818	2,585,129	1,931,929	2,714,484	2,548,396
Total Share Capital	1,453,406	1,855,456	1,862,336	1,862,336	1,862,336
Total capital surplus	27,024	433,112	436,690	436,690	436,690
Total retained earnings	-588,624	-631,931	-682,256	-821,325	-967,331
Total other equity interest	482,290	483,570	482,273	484,149	486,773
Total equity attributable to owners of parent	1,374,096	2,140,207	2,099,513	1,961,850	1,818,468
Total equity	1,374,096	2,140,207	2,099,513	1,961,850	1,818,468
Equivalent issue shares of advance receipts for ordinary share	735,000	355,000	693,000	0	0
The Net Asset Value of Each Share	9.45	11.53	11.27	10.53	9.76

每股淨值＝（權益－非控制權益）／（普通股股數＋特別股股數（權益項下）＋預收股款（權益項下）之約當發行股數－母公司暨子公司持有之母公司庫藏股股數－待註銷股本股數）

Comprehensive income statement: 2024~2025 Q1

Unit：NTD,K

	2024/3/31	2024/6/30	2024/9/30	2024/12/31	2025/3/31
Total operating revenue	412,891	977,578	1,616,894	2,163,181	470,677
Total operating costs	392,905	917,221	1,533,218	2,138,719	548,342
Gross profit (loss) from operations	19,986	60,357	83,676	24,462	-77,665
Total operating expenses	58,339	162,486	238,025	313,575	74,793
Net operating income (loss)	-38,353	-102,129	-154,349	-289,113	-152,458
Total non-operating income and expenses	30,873	50,764	52,662	50,408	6,452
Profit (loss) from continuing operations before tax	-7,480	-51,365	-101,687	-238,705	-146,006
Total tax expense (income)	0	0	3	2,054	0
Profit (loss)	-7,480	-51,365	-101,690	-240,759	-146,006
Other comprehensive income, net	3,623	4,903	4,076	5,482	2,624
Total comprehensive income	-3,857	-46,462	-97,614	-235,277	-143,382
Profit (loss), attributable to owners of parent	-7,480	-51,365	-101,690	-240,759	-146,006
Comprehensive income, attributable to owners of parent	-3,857	-46,462	-97,614	-235,277	-143,382
Total basic earnings per share	-0.05	-0.34	-0.62	-1.45	-0.78

THANK YOU

Optoelectronic Glass Partner

G-TECH OPTOELECTRONICS CORPORATION