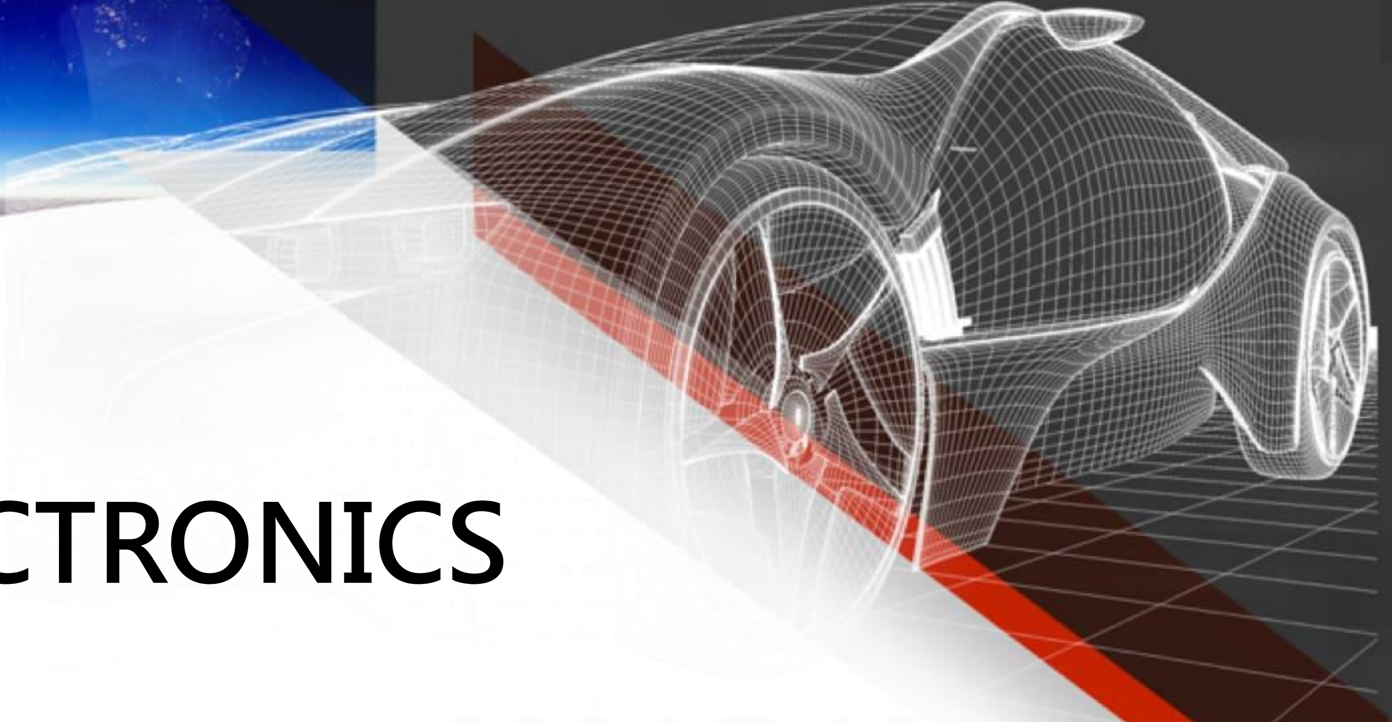


gtoc

The Best Optoelectronics Glass Partner

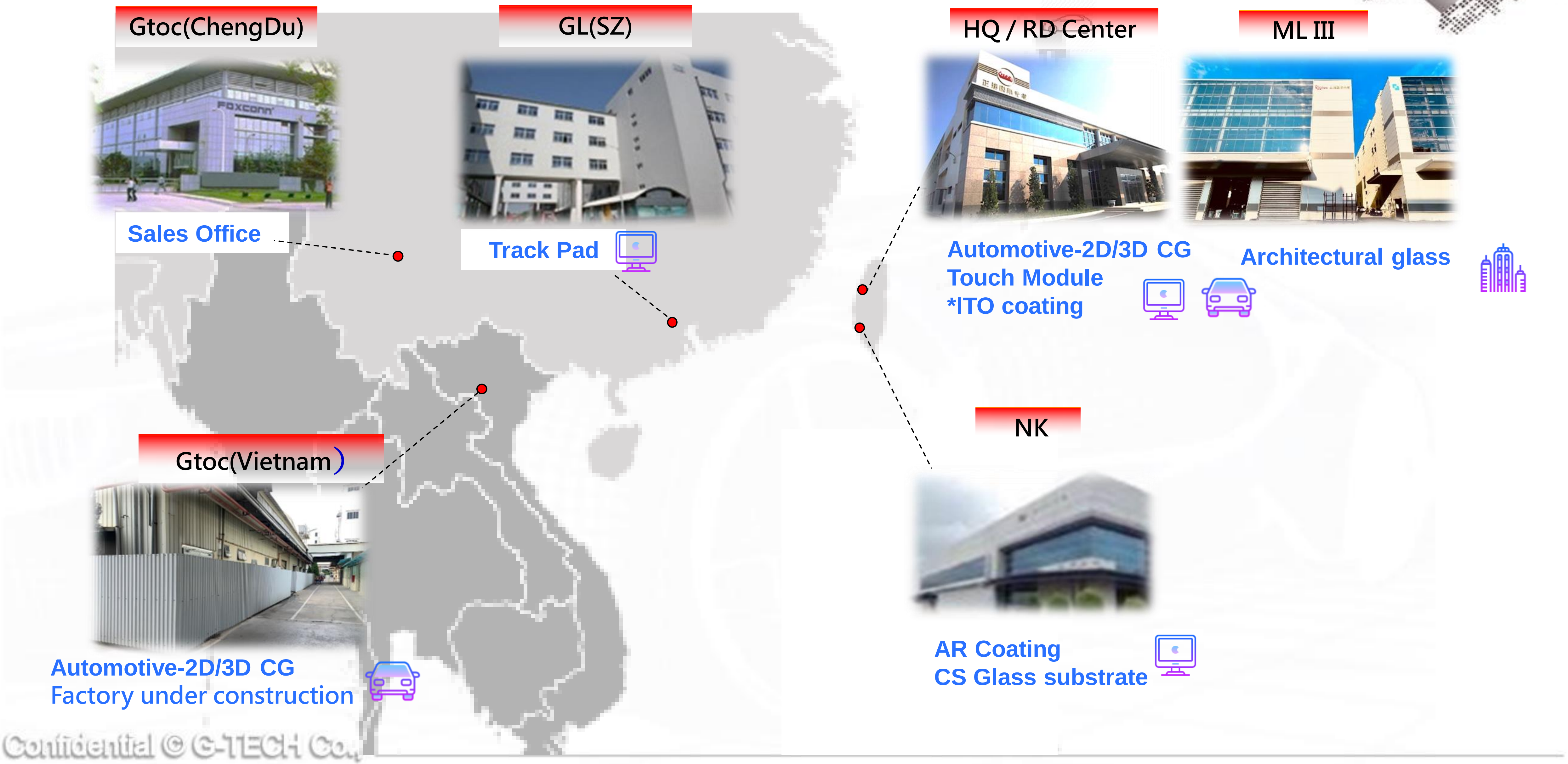
G-TECH OPTOELECTRONICS CORPORATION

2024.7.18

G-Tech Optoelectronics Corp.

- **Capital**：NTD$ 1.85 Billion
- **CEO**：Tony Chung
- **HQ** ： Miaoli, Taiwan
- **Employees**： 632 Employees
- **Revenues**：2024/1-3 NTD$0.41 Billion

Global Fabs



Gtoc(ChengDu)
Sales Office
GL(SZ)
Track Pad
HQ / RD Center
Automotive-2D/3D CG
Touch Module
*ITO coating
ML III
Architectural glass
Gtoc(Vietnam)
Automotive-2D/3D CG
Factory under construction
NK
AR Coating
CS Glass substrate

Company Milestone

gtoc

1996
Founded
Scanner Cover Glass

2007
FOXCONN
Being member of Foxconn

2008
Start Apple Business
Glass sensor substrate for iPhone / iPad (2009)

2011
Supply Apple iPad Cover Glass

2012
Apple iMac AR Glass

2014
3D CG for Automotive SOP

2018
Architecture Glass Business Start

2019
Start Developing Large 3D CG for Automotive

2021
Large CG for Automotive Start SOP

2022 | 2024

HARLEY-DAVIDSON MOTOR CYCLES

GTOC
Acitve markets and segments

Smart Opto-Electro

AR opticl coatings
AG spray process
Glass strengthening
Fitness, Industrial & consumer applications

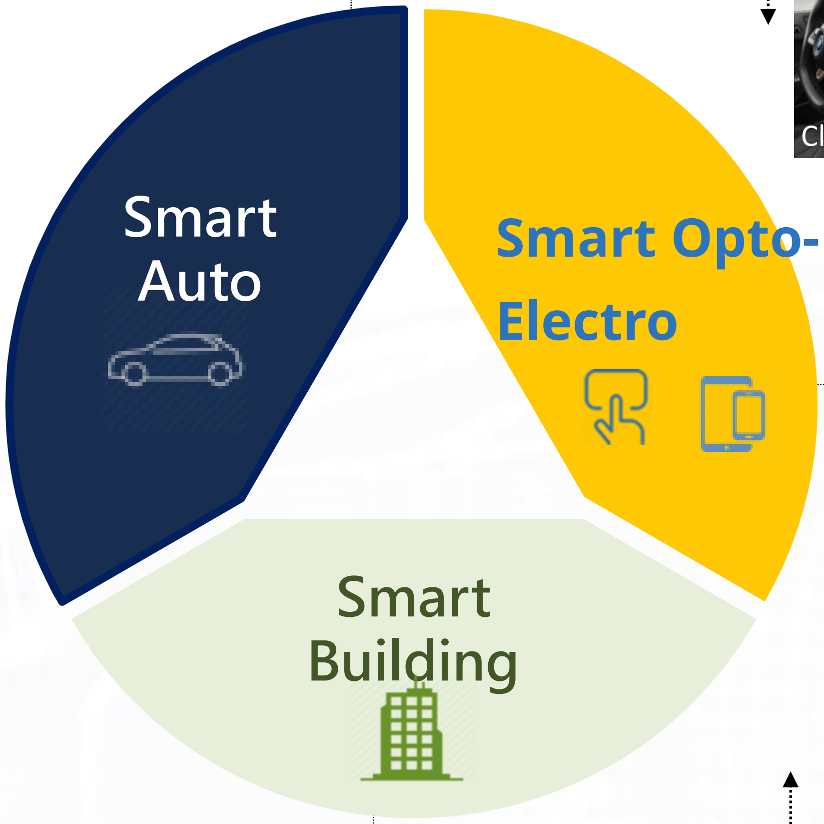
Smart Auto

Interior 3D/2D
Center Console
Cluster / CID

Smart Building

Low-E Glass
EC glass
LED+LED/IGU
BIPV

Applications



Cover glass and optical glue bonding

Cover glass and touch substrate glass





Low-E , Strengthened, Glued, Laminated Glass

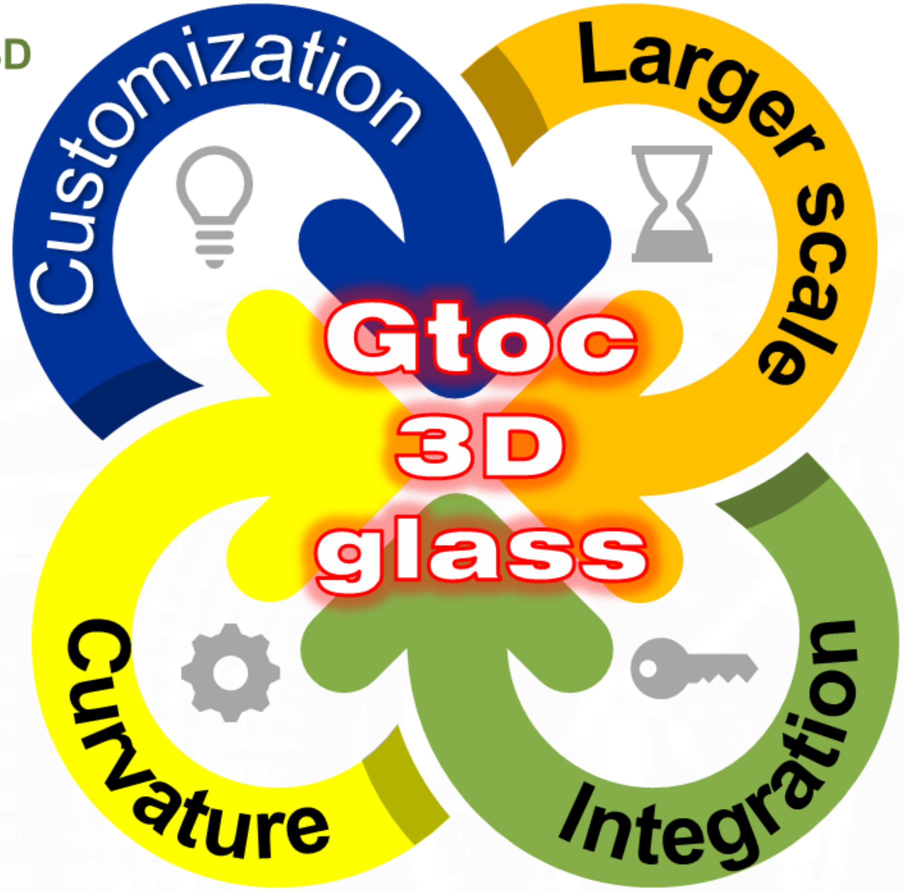

Smart Auto

SOP 3D Projects

2012	2013	2021	2022	2023	2024
Smart Key	Q5/Q7	iX/i4..	Grecale	CELESTIQ	CVO Road Glide

Trend of auto interior design & demand

Adopting glass material advantages and its unique feeling, using 3D forming technology to achieve high quality informative and interactive cabin environment and make realization of full e-cabin design possible for better user experience.



dual-displays
- Cluster
- CID

multi-displays
- Cluster
- CID
- Passenger seat

3D forming glass with the preciseness as for electronics and related optical design reducing reflection and improving visibility supports modern cabin design.

More integration of :
- Cluster
- CID
- Passenger seat
- Sides mirrors
- Central console

Etc.

Gtoc 3D glass forming features

Process flexibility in design / shaping

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

Wide range of glass substrate

Thickness from 0.33mm ~ 40mm could be processed

Suitable for various glass material

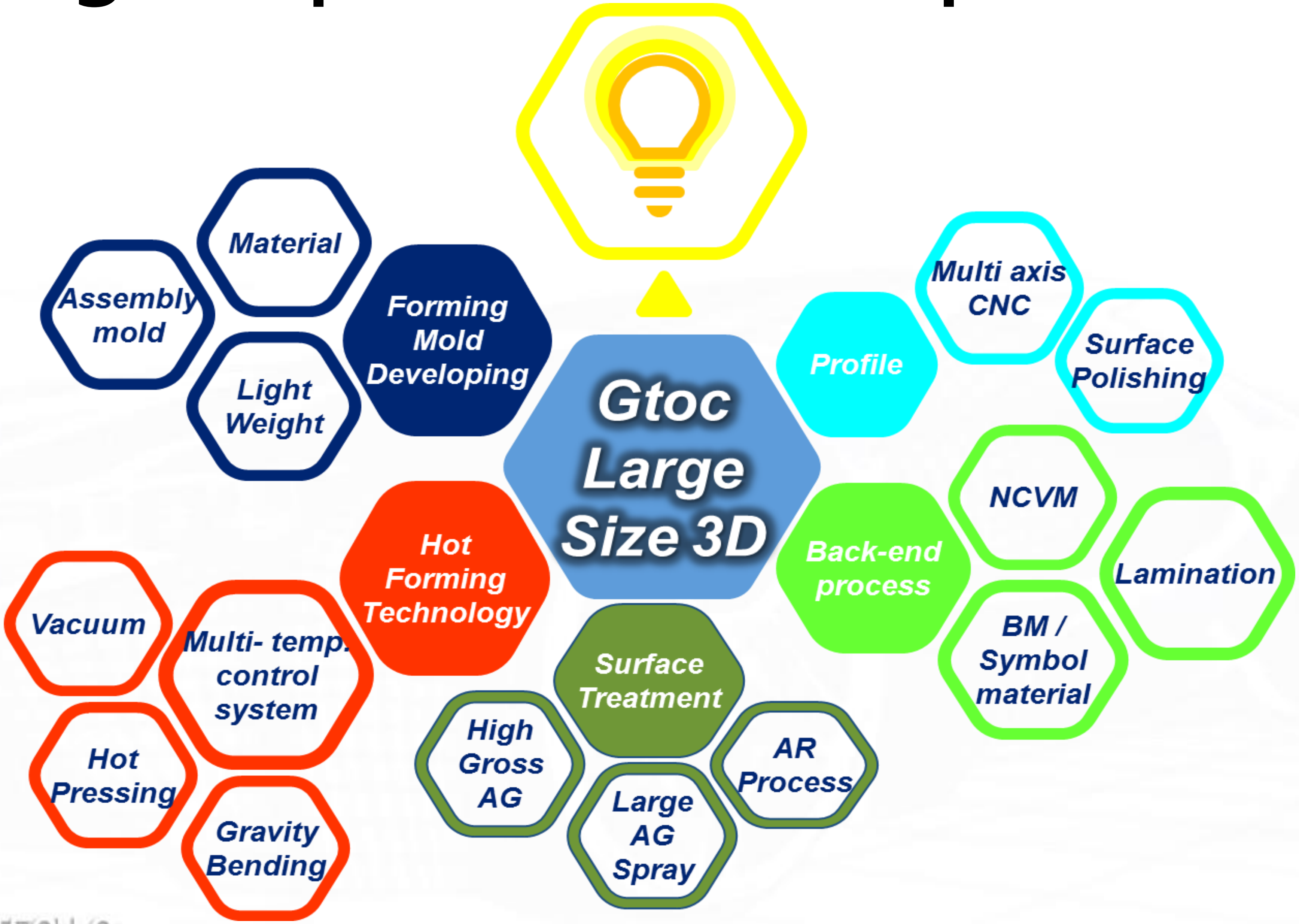
With coefficient of thermal expansion (CTE) between 3.2 and 9.0 µm/m*K; e.g.:

- Soda Lime Glass
- Aluminium - silicate Glass

High preciseness

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

Gtoc 3D glass process development

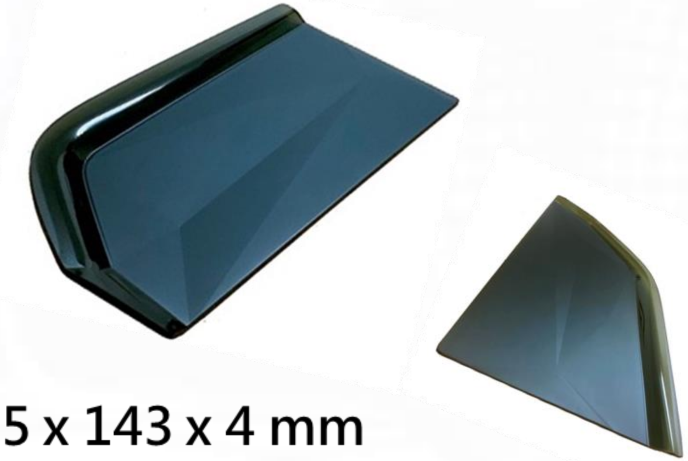


Gtoc 3D glass for Auto applications

Recent Development

180 x 110 x 1.1 mm

1) Mature and extraordinary thermal forming process, make physical button and any micro patten rise up from flat touch screen.
2) Available for glossy (mirror) and texture (matte) surface, expanding diversity of interior design
3) Integrated design with dynamic interface that gives instant feedback to driver and improves in-vehicle experience.

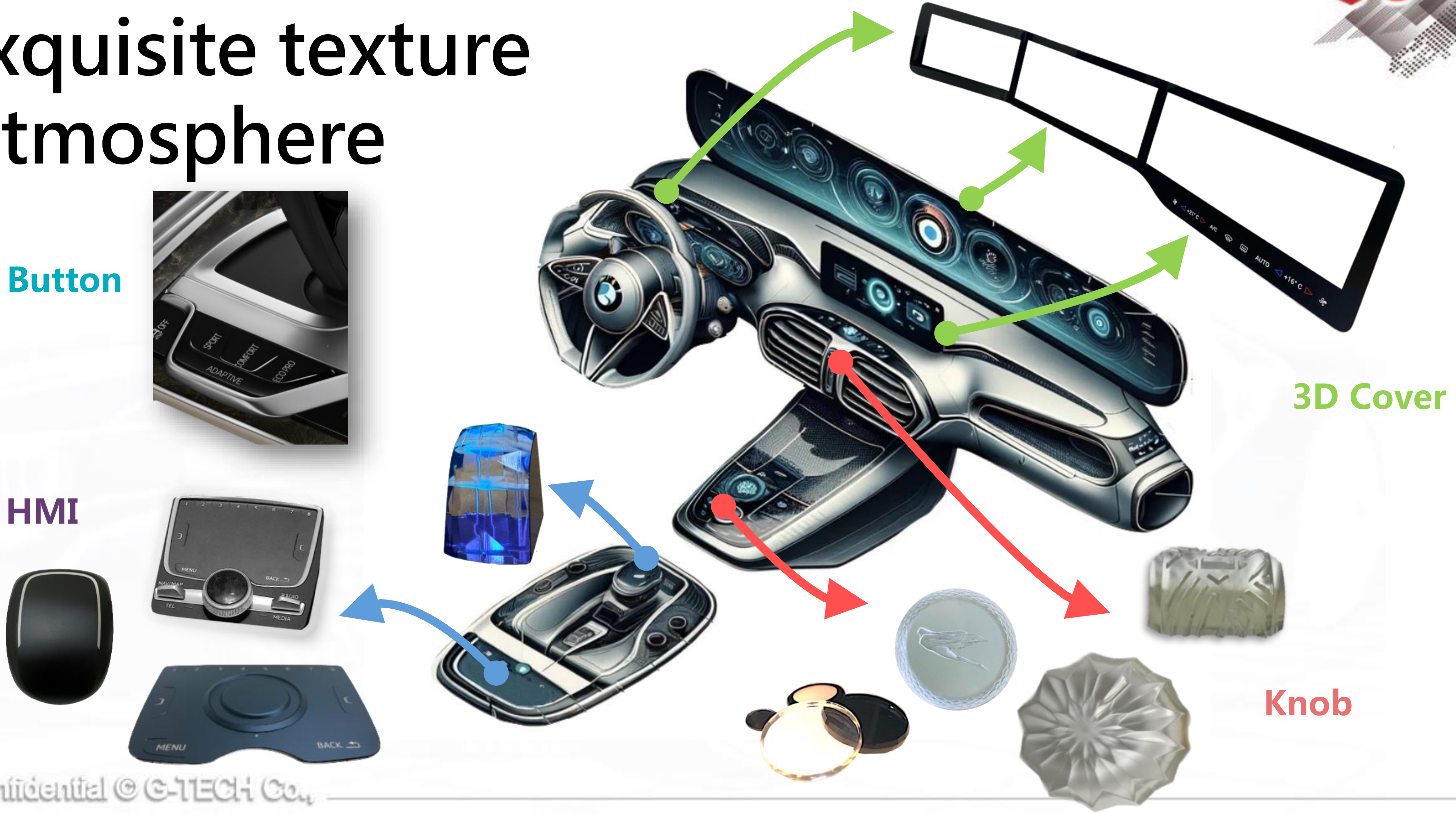


300.5 x 143 x 4 mm

1) 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

2) Environmental friendly, the integrated process is in cutting down waste compared to the traditional process.

Mechanism/Interior Parts Exquisite texture atmosphere



Mechanism/interior parts material properties

property	Price (magnification)	Transmittance	Impact resistance	Surface hardness (Mohs hardness)	Surface scratch resistance (pencil hardness)	UV resistantAnti-yellowing	Refractive Index	Texture Aesthetics	Weight (density)
plastic	10%	82~90%	O	X (3)	X (>3H)	△	1.46	△	1.04g/cm3
Ultra-white glass	1	>91%	O	O (6)	O (>9H)	O	1.56	O	2.5g/cm3
crystal glass	2	>91%	O	O (7)	O (>9H)	O	1.52	O	2.5g/cm3

2022 – 3 RFQs

2023 – 7 RFQs

2024 – January-June 8 RFQs

Less Touch = More Safety

Tesla Model 3 after facelift
The turn signal lever has been cancelled.Integrate turn lights into touch buttons on the steering wheel.

2026 will likely not comply with NCAP regulations.

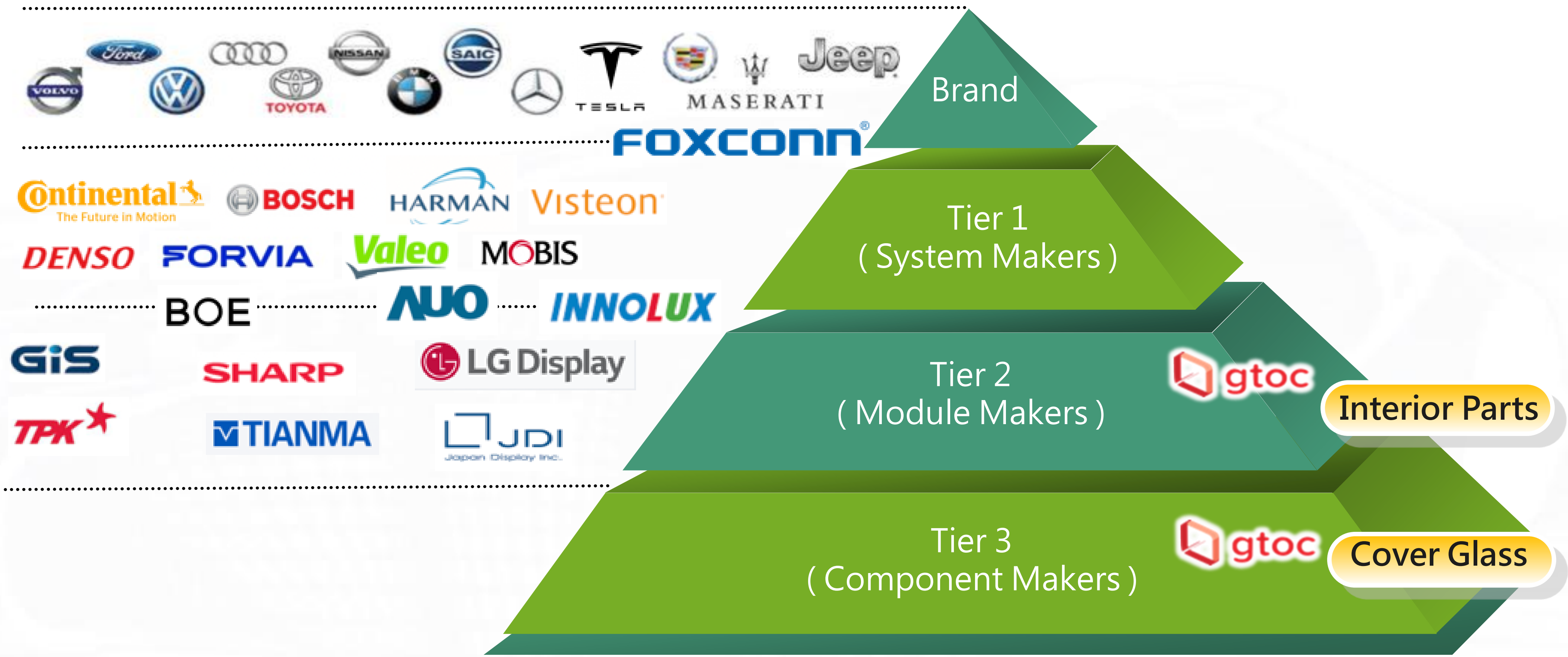
The eighth generation Golf MK8
Cancel a large number of traditional physical buttons on the steering wheelSwitch to capacitive virtual keys.

As a result, it is easy to cause accidental touch contact while driving.VW later launched Golf MK8.5Switched back to the traditional physical buttons.

- Restrict excessive use of touch screen controls by safty test scoreing.
- Five functions in question : direction lights, fault warning lights, horn, wipers, SOS emergency call button.

Smart Cockpit Supply Chain

Gtoc obtained Level 1 certification and will mass-produce 3D glass



Global Partners

Tier 1
Tier 2

OEM

Gtoc in transformation and evolution

Multi-curved integrated single piece of 3D glass.
Realize OEM design concepts and assist panel manufacturers to meet their needs.

Continental
INNOLUX
ALPSALPINE
LG Display
preh
SHARP
MAGNA
Visteon
GIANTPLUS

OEM

gtoc

TIER 1

RIMAC AUTOMOBILI
BMW
GEELY
HARLEY-DAVIDSON MOTOR CYCLES
Maserati
JAGUAR
LAND ROVER

Smart Opto-Electro

Gtoc in-house process technologies

01

Glass cover lens

2D / 2.5D / 3D Cover glass

02

AG spray

High temperature Curing AG spray solution for durable application

03

AR sputtering

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

04

Painting / Decoration

Screening Printing / Pad Printing / Spray Painting / Decoration Film

05

Chem. strengthening

Suitable for thin glass

06

AF spray

WCA >110

Our Domain of Industry Application

Size : 10.1″ ~15.6″

Size : 7.0″ ~ 21.5″

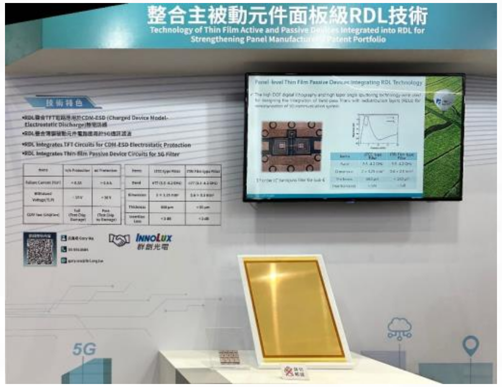
Opto-electro glass & application developing cycle

Fan-out panel-level packaging (FOPLP) glass applications

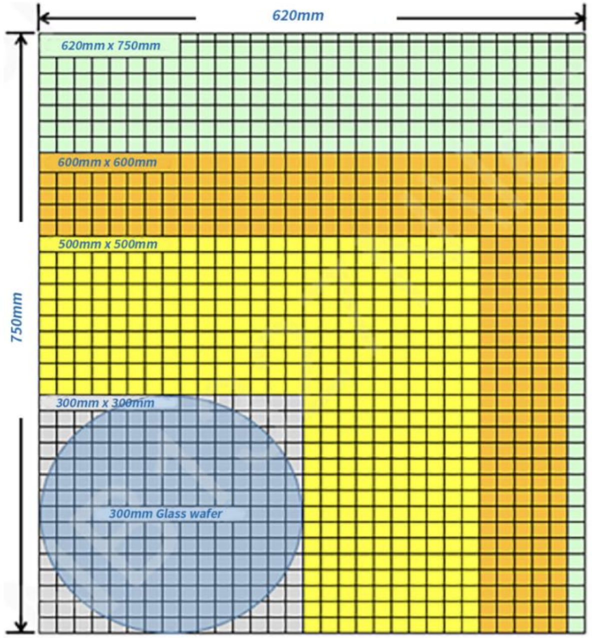
carrier board

Advantages of FOPLP technology, more competitive costs and greater profit value

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

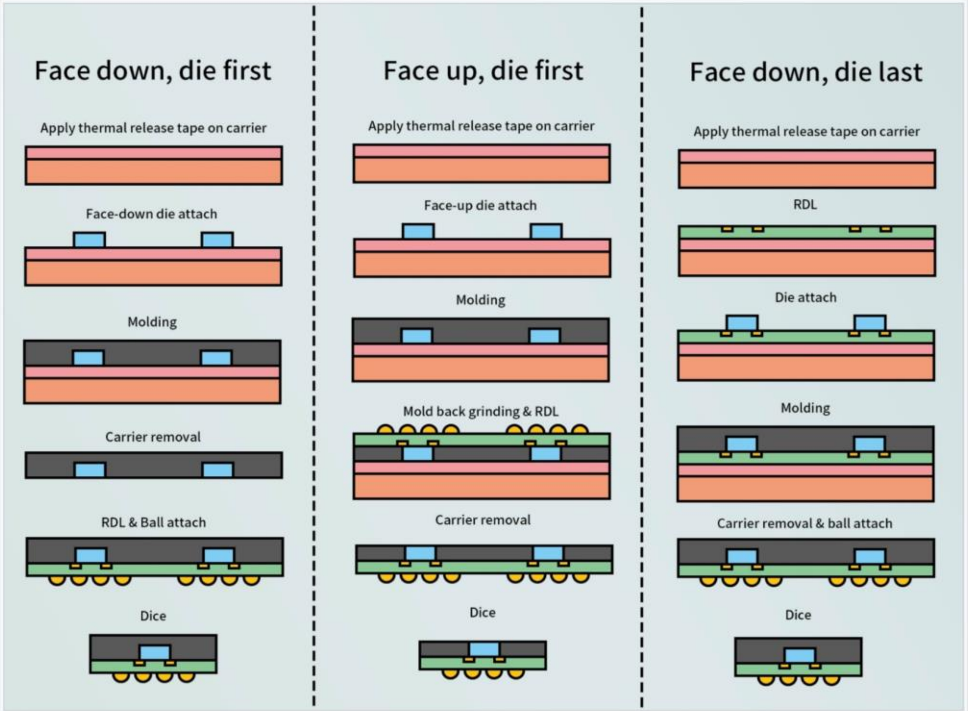


Source：2023 Touch Taiwan



Source：Innolux

G3.5 FOPLP Glass Panel 生產面積



FOWLP可使用「先晶片（die first）」，裸片面朝下或面朝上安裝；或者「後晶片（die last）」方式組裝而成。面朝下的方法免於製造銅柱及背面研磨的步驟，製造成本低，但存在裸片移位、晶圓翹曲等問題。面朝上的方法，由於晶片背面完全暴露，利於散熱。而後晶片的優點在於製造過程中可以使用驗證合格的裸片（known good die，KGD），提高良率。[4]

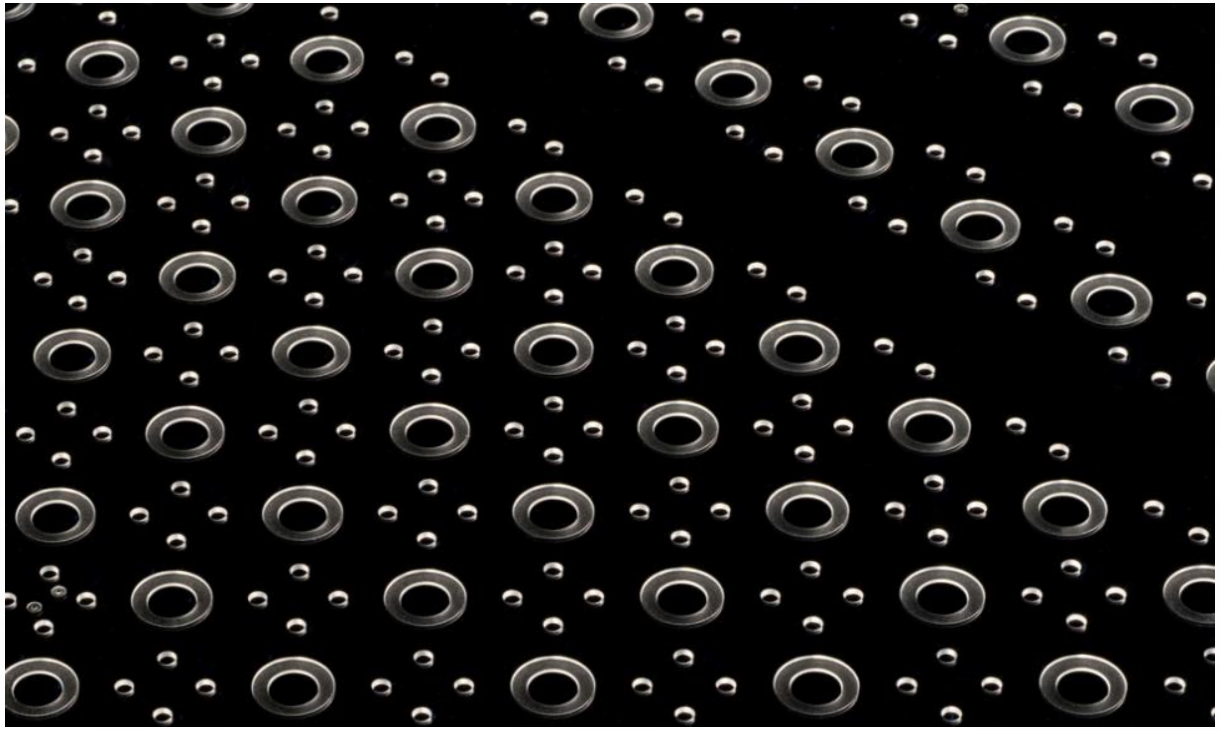
Source：WiKi Pedia

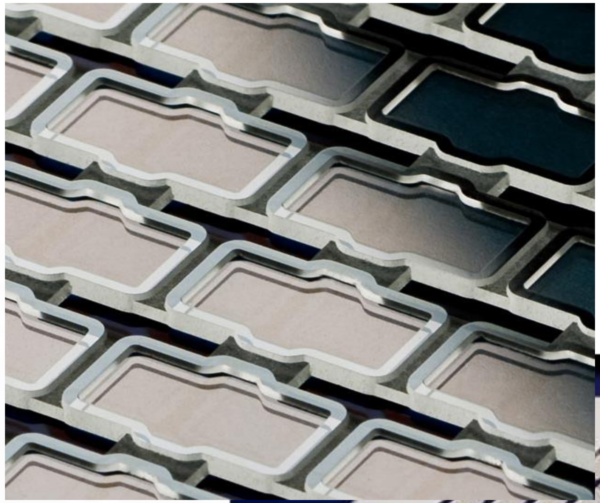
Fan-out panel-level packaging (FOPLP) glass applications

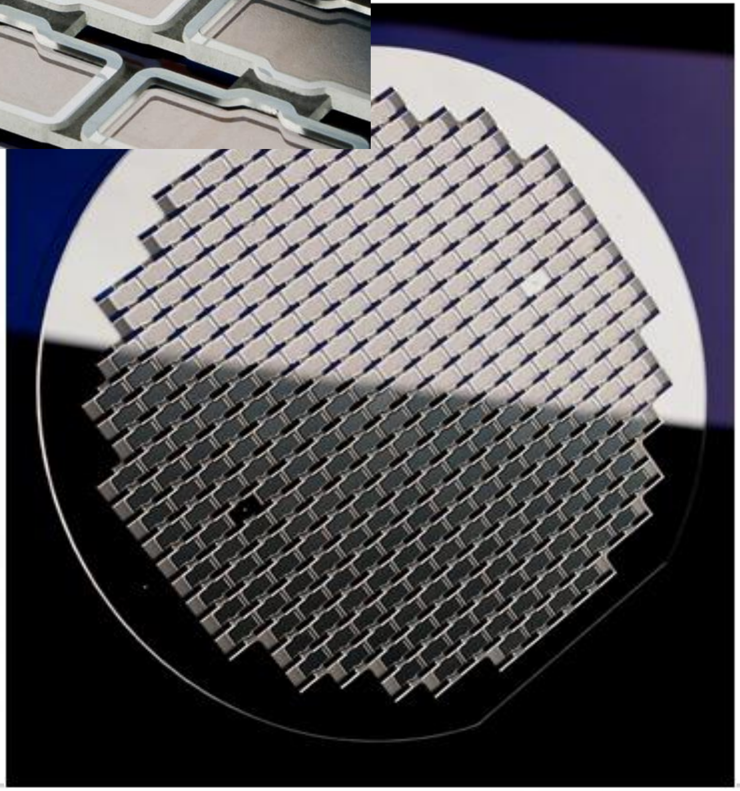
encapsulation

Utilize existing 3D glass molding technology

Develop to meet customized design needs



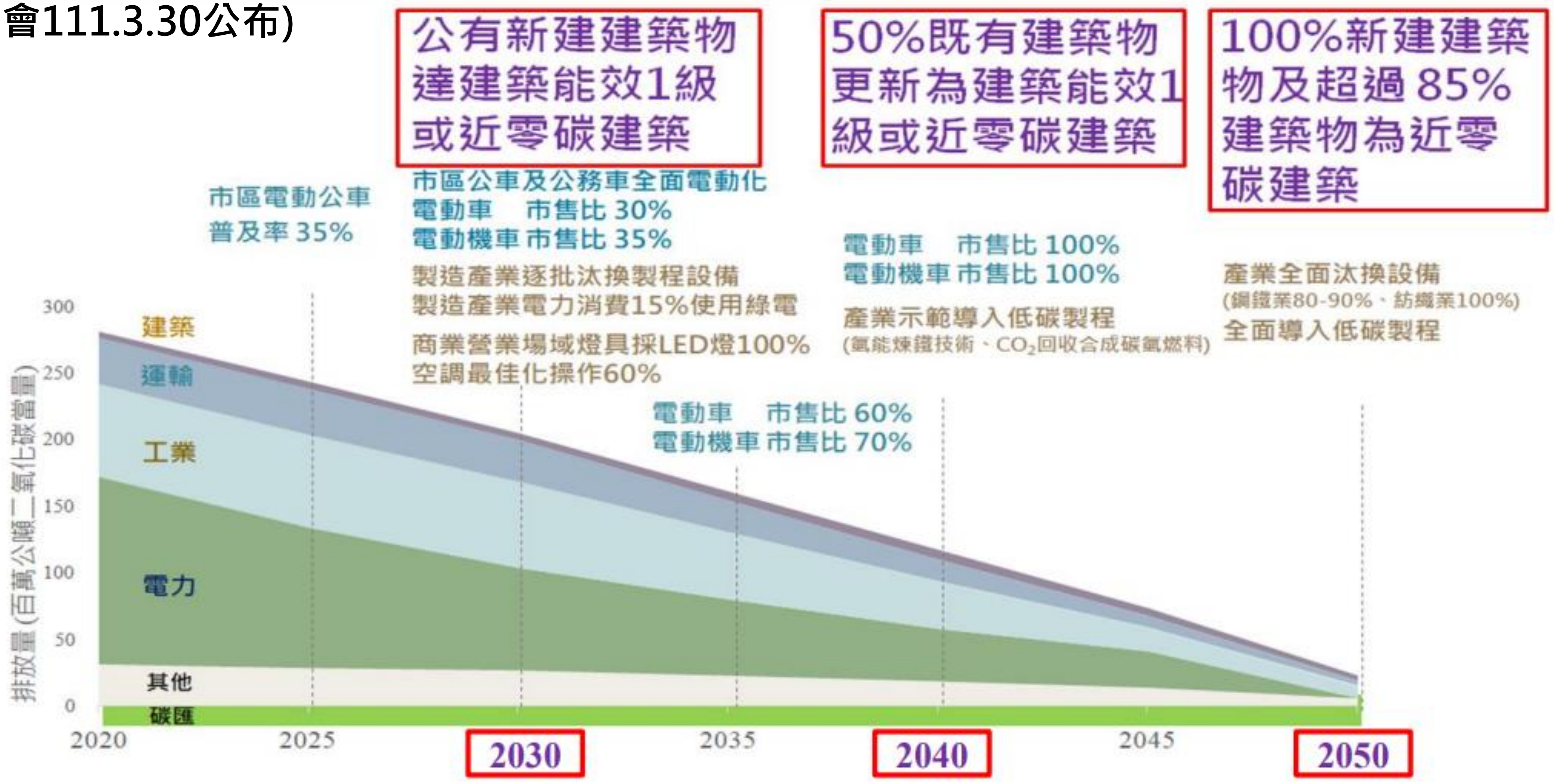




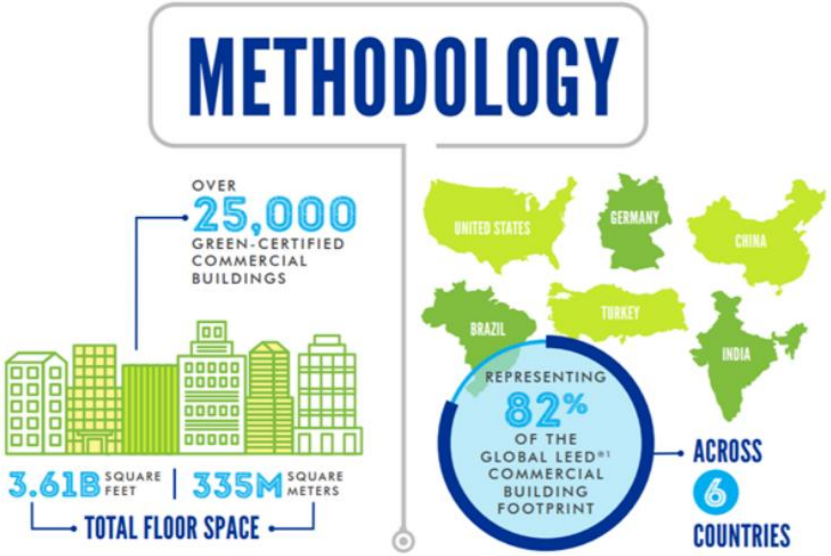
Smart Building

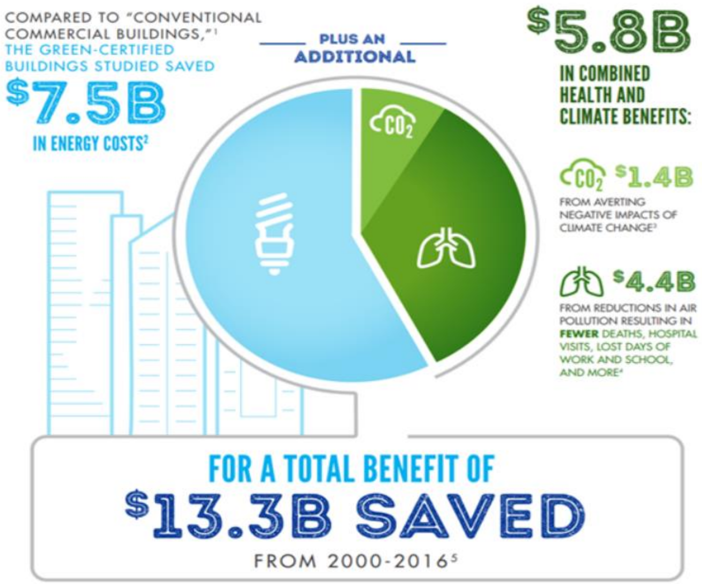
Taiwan 2050 Net-Zero Path Three-Phase Goals

(國發會111.3.30公布)



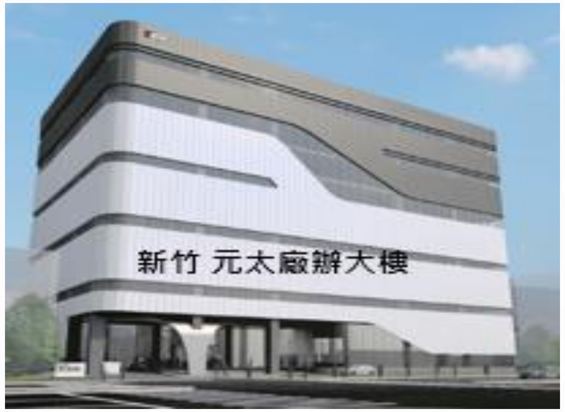
Creating value through green buildings

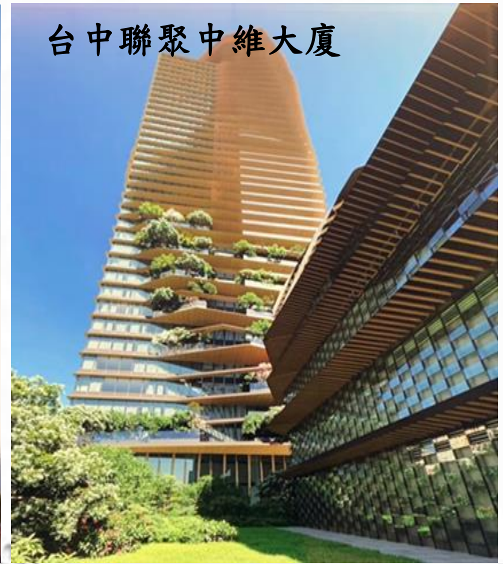




1. Energy Saving and Carbon Reduction - Harvard University research, using LEED green buildings in six countries including the United States, China, India, Brazil, Germany, and Turkey as samples (an area of more than 330 million square meters), can create energy saving benefits of US$7.5 billion, and 58 Billion US dollars of social benefits, with a total value of 13.3 billion US dollars, with an ESG spirit.
2. Green Premium - Office buildings that have obtained the Green Building Label certification have a rental premium of approximately 10%.
3. Volume bonus—In Taiwan, those who obtain the green building candidate certificate and pass the green building certification will be given a volume bonus of 2~10%.

Performance and Goal





Product development

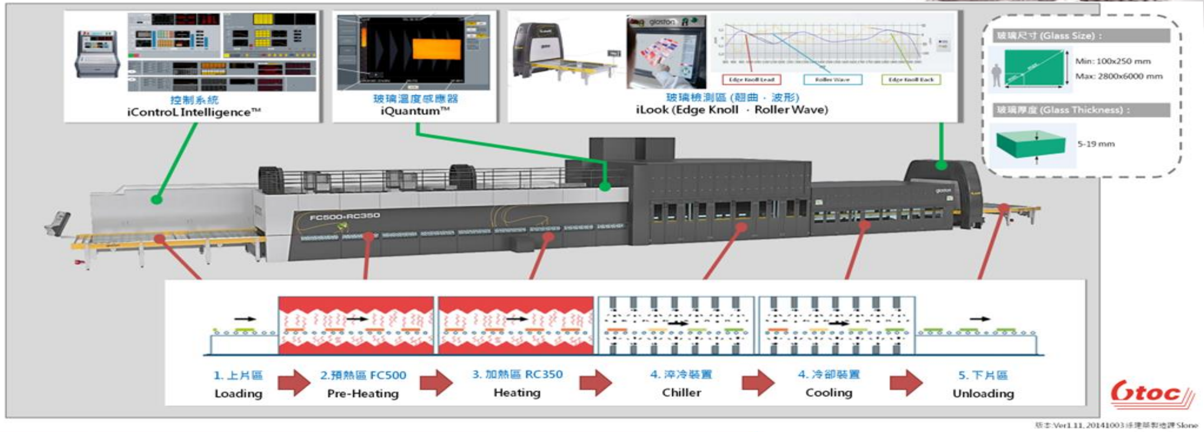
Application: Technology building materials combined with electronic devices .

- Interior decoration: showing the effect of same body, different materials and dynamic display.
- Exterior walls: change the color according to climate change to achieve energy saving and carbon reduction functions.

Advantage

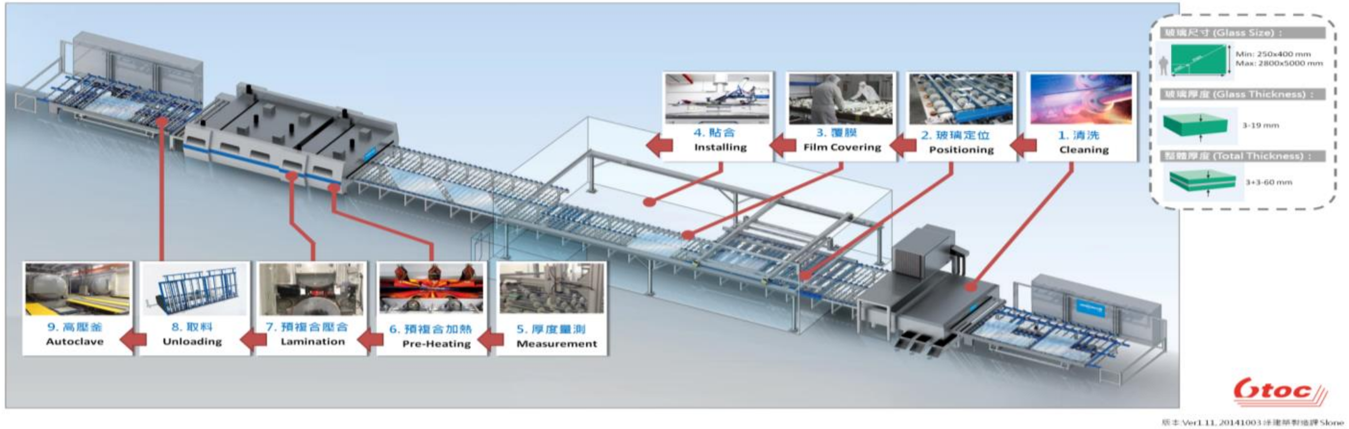
Tempering

Automatically detect the quality level by setting up the tempering parameters.



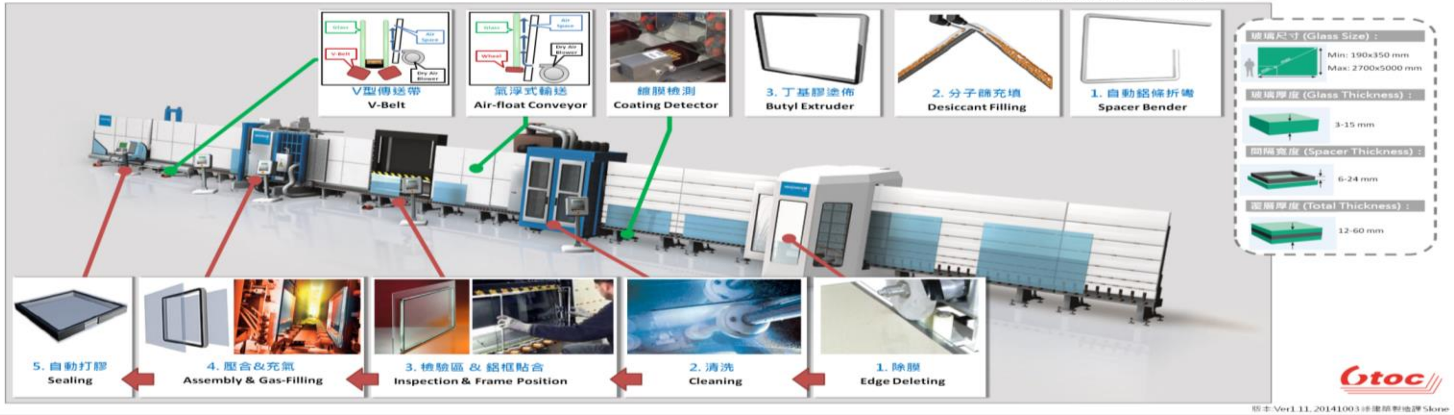
Lamination

Glass automatically position before pre-lamination
Automatically Detect glass thickness and control balance press pressure by servo motor



IGU

Glass transport by Floating transportation, it will escape from roller marker on roller surface, automatically detect glass thickness



GTOC

2024 Operational summary

Balance sheet： 2023/3/31~2024/3/31

Unit: NT$ thousand

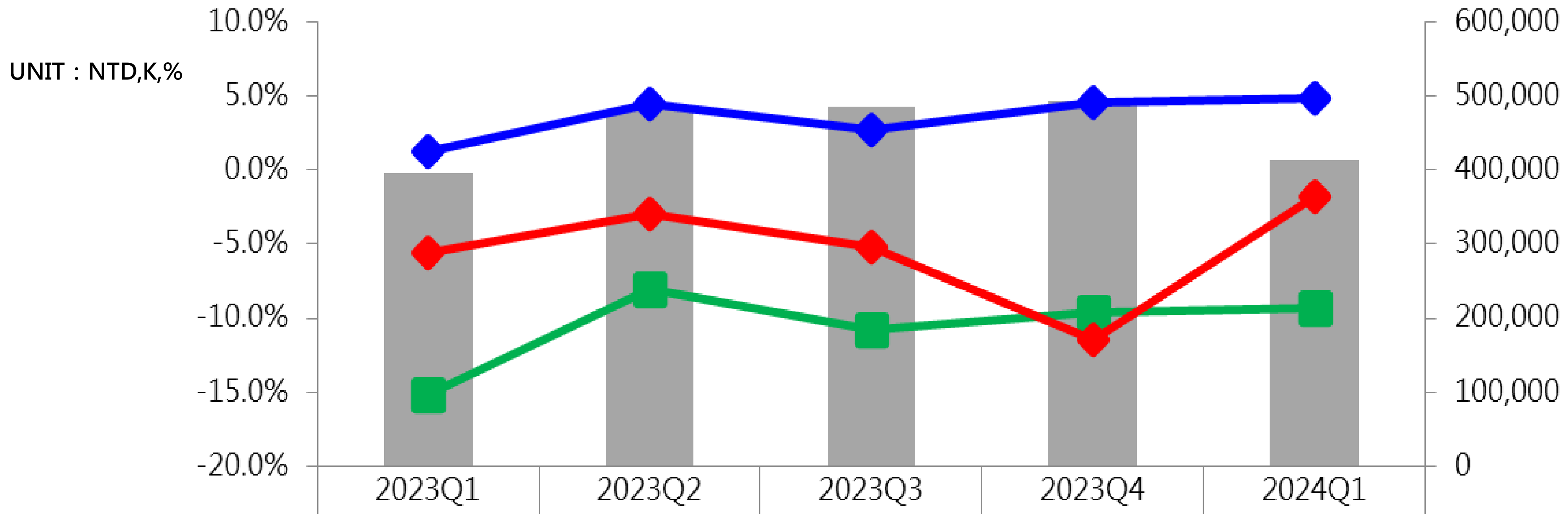
	2023/3/31	2023/6/30	2023/9/30	2023/12/31	2024/3/31
Total current assets	1,566,531	1,536,055	1,491,107	1,549,427	1,522,889
Total non-current assets	2,646,163	2,614,217	2,579,132	2,551,902	2,560,025
Total assets	4,212,694	4,150,272	4,070,239	4,101,329	4,082,914
Total current liabilities	1,506,620	1,503,744	1,487,213	1,491,887	1,506,869
Total non-current liabilities	1,249,197	1,203,579	1,160,717	1,243,249	1,201,849
Total liabilities	2,755,817	2,707,323	2,647,930	2,735,136	2,708,818
Total Share Capital	2,241,856	2,243,296	1,443,296	1,446,056	1,453,406
Total capital surplus	197,144	20,641	20,958	22,614	27,024
Total retained earnings	-1,462,253	-1,299,616	-524,681	-581,144	-588,624
Total other equity interest	480,130	478,628	482,736	478,667	482,290
Total equity attributable to owners of parent	1,456,877	1,442,949	1,422,309	1,366,193	1,374,096
Total equity	1,456,877	1,442,949	1,422,309	1,366,193	1,374,096
Equivalent issue shares of advance receipts for ordinary share	0	0	0	0	276,000
The Net Asset Value of Each Share	6.50	6.43	9.85	9.45	9.45

Income statement : 2023Q1~2024Q1

Unit: NT$ thousand

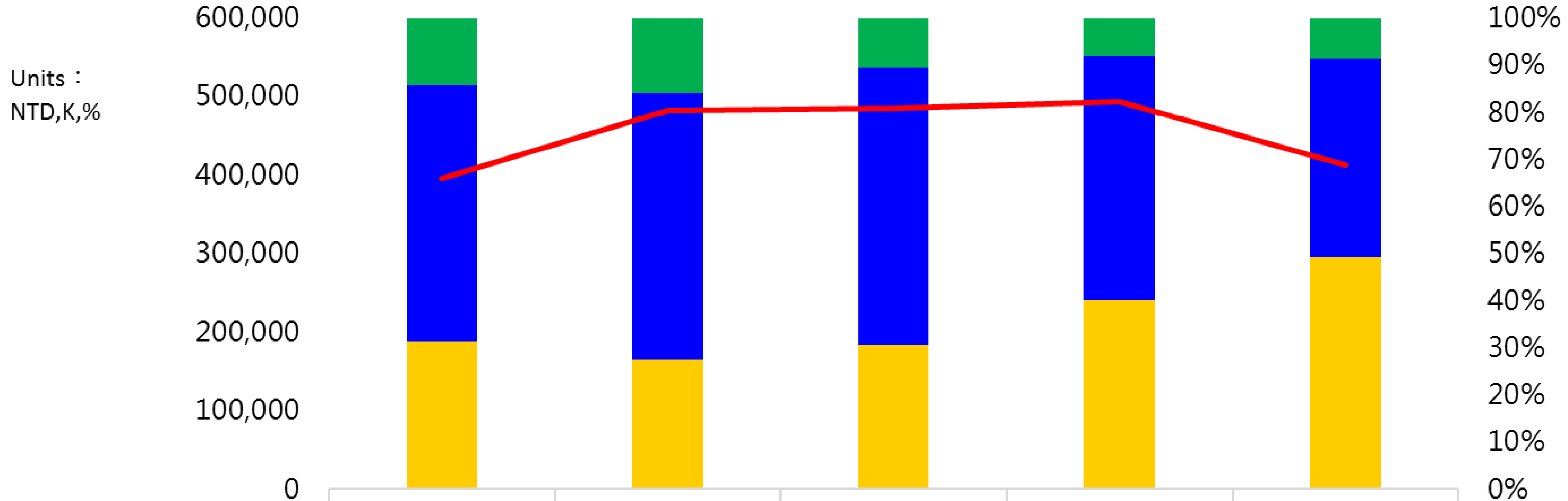
	2023Q1	2023Q2	2023Q3	2023Q4	2024Q1
Total operating revenue	396,074	878,709	1,364,585	1,859,041	412,891
Total operating costs	391,121	852,302	1,324,755	1,796,468	392,905
Gross profit (loss) from operations	4,953	26,407	39,830	62,573	19,986
Total operating expenses	65,261	125,644	191,518	261,812	58,339
Net operating income (loss)	-60,308	-99,257	-151,688	-199,239	-38,353
Total non-operating income and expenses	38,278	62,949	90,315	81,403	30,873
Profit (loss) from continuing operations before tax	-22,030	-36,308	-61,373	-117,836	-7,480
Total tax expense (income)	0	0	0	0	0
Profit (loss)	-22,030	-36,308	-61,373	-117,836	-7,480
Other comprehensive income, net	82	-1,420	2,688	-1,381	3,623
Total comprehensive income	-21,948	-37,728	-58,685	-119,217	-3,857
Profit (loss), attributable to owners of parent	-22,030	-36,308	-61,373	-117,836	-7,480
Comprehensive income, attributable to owners of parent	-21,948	-37,728	-58,685	-119,217	-3,857
Total basic earnings per share	-0.10	-0.06	-0.43	-0.82	-0.05

Financial ratio：2023Q1~2024Q1



	2023Q1	2023Q2	2023Q3	2023Q4	2024Q1
Revenue	396,074	482,635	485,876	494,456	412,891
Gross margin	1.3%	4.4%	2.8%	4.6%	4.8%
Operating profit ratio	-15.2%	-8.1%	-10.8%	-9.6%	-9.3%
Net profit rate	-5.6%	-3.0%	-5.2%	-11.4%	-1.8%

Product group revenue：2023Q1~2024Q1



	2023Q1	2023Q2	2023Q3	2023Q4	2024Q1
Smart Building	14%	16%	11%	8%	9%
Smart Electronics	54%	57%	59%	52%	42%
Smart Car	31%	28%	31%	40%	49%
Revenue	396,074	482,635	485,876	494,455	412,891

THANK YOU

HAVE ANY COMMENTS?