

# Welcome !

New Business Service Introduction:  
OCA Optical Bonding Service

LCD Module/ EMS/ SMT/ DIP

Manufacturer/ Design

in Taiwan



晶發科技股份有限公司





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## Basic Information

|               |                                                                                                 |
|---------------|-------------------------------------------------------------------------------------------------|
| Company Name  | GI FAR Technology co., Ltd.<br>晶發科技股份有限公司                                                       |
| Establish     | Since 1998                                                                                      |
| Capital       | USD 1,130,000                                                                                   |
| Employees     | About 50 persons ( In March 2022,growing up )                                                   |
| Core Business | EMS&LCM Design/Manufacturing<br>(COB, COG, TAB, TFT, Optical Bonding Service, SMT, DIP Process) |



# Gi Far Milestone

- 1998 ● Established in New Taipei City, Taiwan
- 2000 ● ISO Certification passed, Launch  
R&D interface: USB, RS232, Wi Fi System module
- 2002 ● R&D interface: USB, RS232
- 2004 ● Gi Far invested in TFT technology and start TFT LCD business
- 2005 ● Start to develop LCM solution:  
USB/RS232/RS485/Wireless system
- 2007 ● R&D TFT LCD Control, interface: MCU/RS232/USB
- 2009 ● LCD Module release: FSC  
Produce Monochrome LCD Module
- 2010 ● Purchase owned new factory, land: 3,300m<sup>2</sup> in Taiwan  
The total capital increase to US\$4KK
- 2012 ● Launch process for interface: TFT RS232/SPI/I2C, etc...
- 2013 ● Expand production lines, Construct new factory
- 2016 ● Move to the New factory
- 2018 ● SMT / DIP lines finished
- 2020 ● OCA Optical Bonding Service (Equipment moved in since Nov. 29, 2020)
- 2022 ● Awarded the certification of AS9100:D/JISQ9100:2016/EN9100:2018 Aerospace QMS standard by AFNOR on March 16.
- 2022 ● Awarded the certification of IATF 16949: 2016 Automotive QMS standard by AFNOR on April 6.
- 2023 ● Estimated a new SMT line is expected at the end of 2023

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## Module Category

**Product  
Technology**

**COB / COG / COF / TAB  
/TFT OLED LCM  
/EMS / SMT/ DIP**

# Gi Far Modules



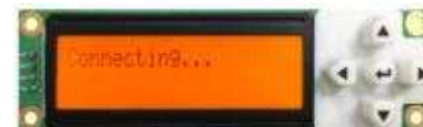
**TFT Solution**  
**JD7 series: 3.5, 4.3, 7.0"**



**RS232/RS485**  
**UART Display**



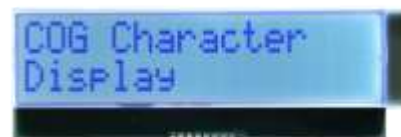
**USB UART Display**



**RS232/RS485**  
**UART Display**



**Custom Design**



**COG Character**



**COG Graphic**



**TFT LCM**



**TAB LCM**



**COB Graphic**



**COB Character**

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# Module Application

|                                                                         |                                                                                                                                        |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Industry field</b><br><b>Manufacturer equipment field</b>            | <b>Industry auto controller, Automobile &amp; Motorcycle &amp; Bike (4/3/2 wheelers), Industrial PC (1U/2U), etc....</b>               |
| <b>Medical device field</b>                                             | <b>Sporting, Industrial, Medical equipments, etc...</b>                                                                                |
| <b>Home appliance field</b><br><b>Consumer electronics field</b>        | <b>Printer, Calculator, Translator, Gaming device, Databank, MP3, POS system, etc....</b>                                              |
| <b>Communication field</b>                                              | <b>Cellular phone, Wireless phone, Fax machine, Pager, Navigator, etc...</b>                                                           |
| <b>Civil Aviation/Aerospace /Military field (Army, Navy, Air Force)</b> | <b>Aircraft cockpit display, aircraft entertainment display, training equipment display, Defense &amp; Military equipment display.</b> |

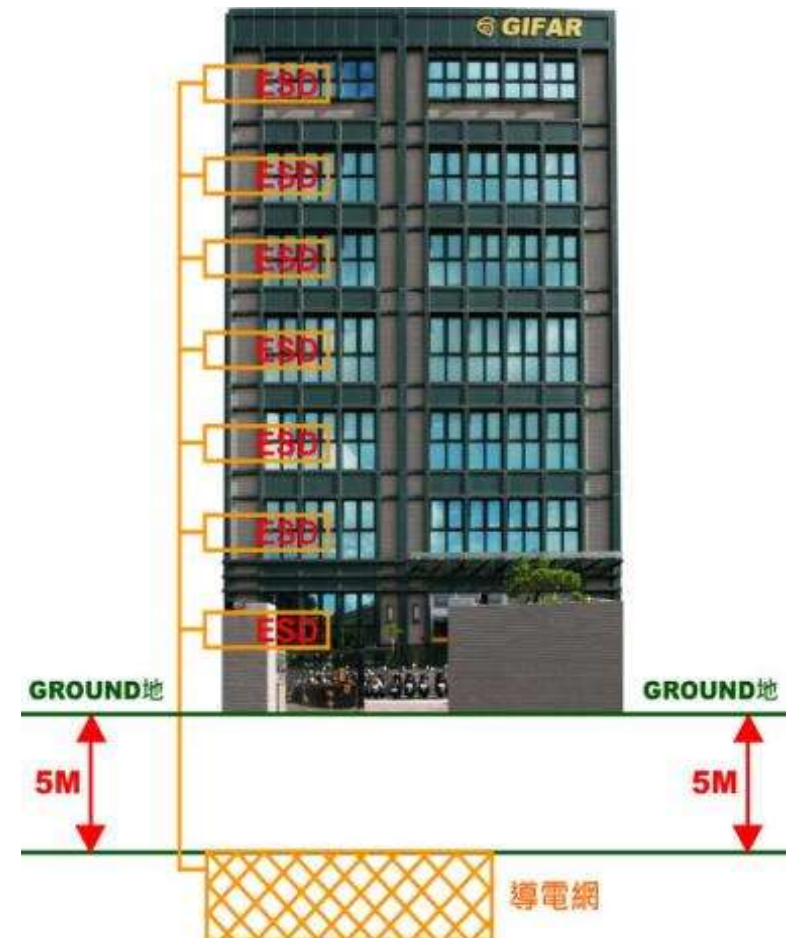
## Facility – Clean room

- ✓ Clean room 10,000 class
- ✓ Humidity Control

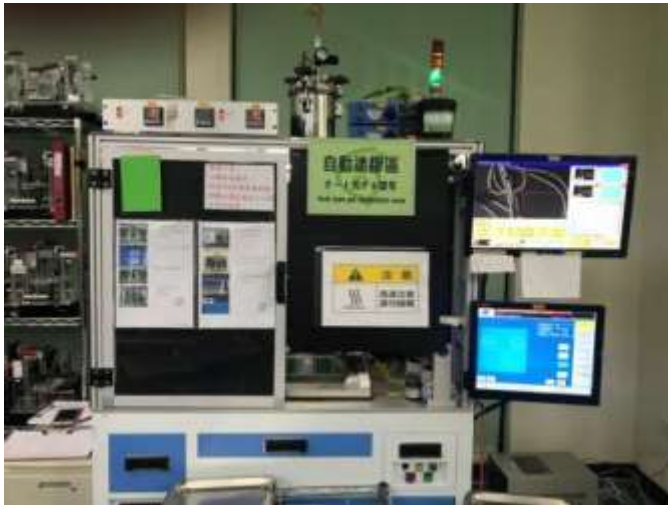


# Facility – ESD protection

- ✓ Whole building ESD Protection
- ✓ Discharge to underground 5M
- ✓ ESD protection
- ✓ Relative equipment, using ESD slippers



# Facility – Wire bonding line



# Facility – New SMT



- Maximum size of the board: 65cmx37cmx2.5cm(length)x(width)x(thickness)
- Minimum size of the board: 5cmx5cmx0.8mm (length)x(width)x(thickness)
- Minimum size of the parts: 0201\*1~□74mm/50\*150mm
- IC minimum pitch: 0.2mm is the minimum
- BGA pitch: 0.25mm is the minimum
- BGA diameter: 0.1mm
- Lead-Free process
- Single, double side work

# Equipment – DIP-eras 2020



- **DIP-eras 2020**  
**Selective Wave Soldering machine**

# Equipment – X-RAY Counting Machine 、 X-RAY Inspection Machine



- X-RAY Counting Machine



- X-RAY Inspection Machine

# PCB SMT

## PCB SMT 、 DIP 、 Assembly

| PCB SMT 、 DIP                                                                      | PCB SMT 、 DIP                                                                       | PCB SMT 、 DIP                                                                        | PCB Assembly                                                                         |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|   |   |   |   |
|  |  |  |  |

# FPC SMT

## FPC SMT

| FPC SMT                                                                           | FPC SMT                                                                             | FPC SMT                                                                              |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|   |   |   |
|  |  |  |

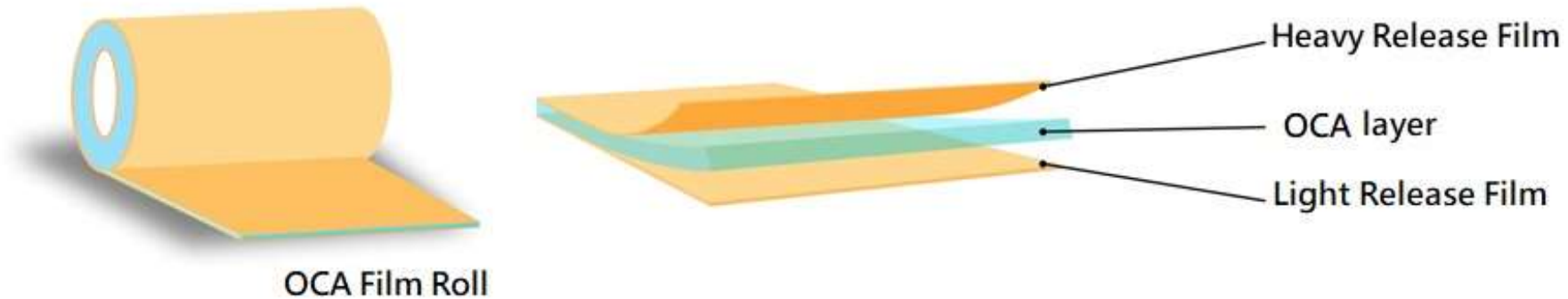
## Module Capacity

➤ **COB 16x2 Character LCM**

**18000 pcs / 24H**

# OCA Optical Bonding Service

## • Features of Optical Clear Adhesive (OCA)



- 1.Reduce reflection rate, reduce LCD or AMOLED display Luminous loss, increase display brightness, provide high transmittance, and reduce power consumption.
- 2.Increase contrast ratio especially under strong light.
- 3.Higher strength in combined surface connections.
- 4. Avoid the Newton Ring.
- 5.Surface more smooth and seamless without wrinkle, bubble, partial.  
The displaying image is almost not affected by OCA optical adhesive.
- 6.No boundary, extended view area, excellent air bubble removing result,  
Touch Panel high yield rate, no yellowing, repairable after delivery.

### Advantage:

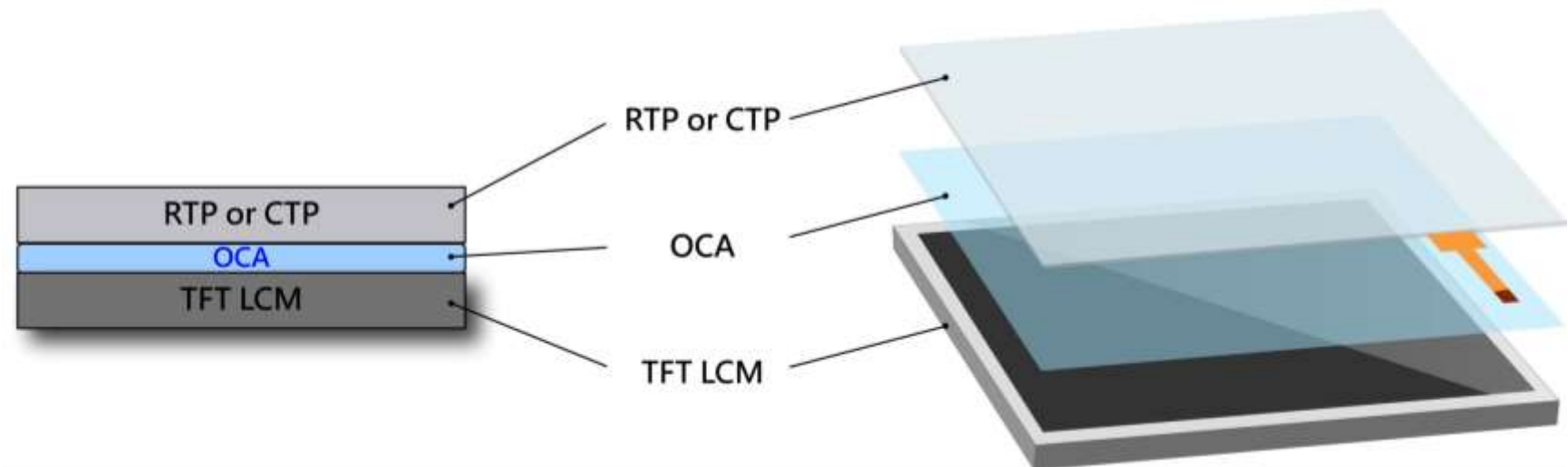
- High Transparent
- High Transmittance
- Low Haze Rate
- High Adhesive
- No Defective Pixel
- No bubble
- Water resistance
- High Temperature resistance
- Anti-UV

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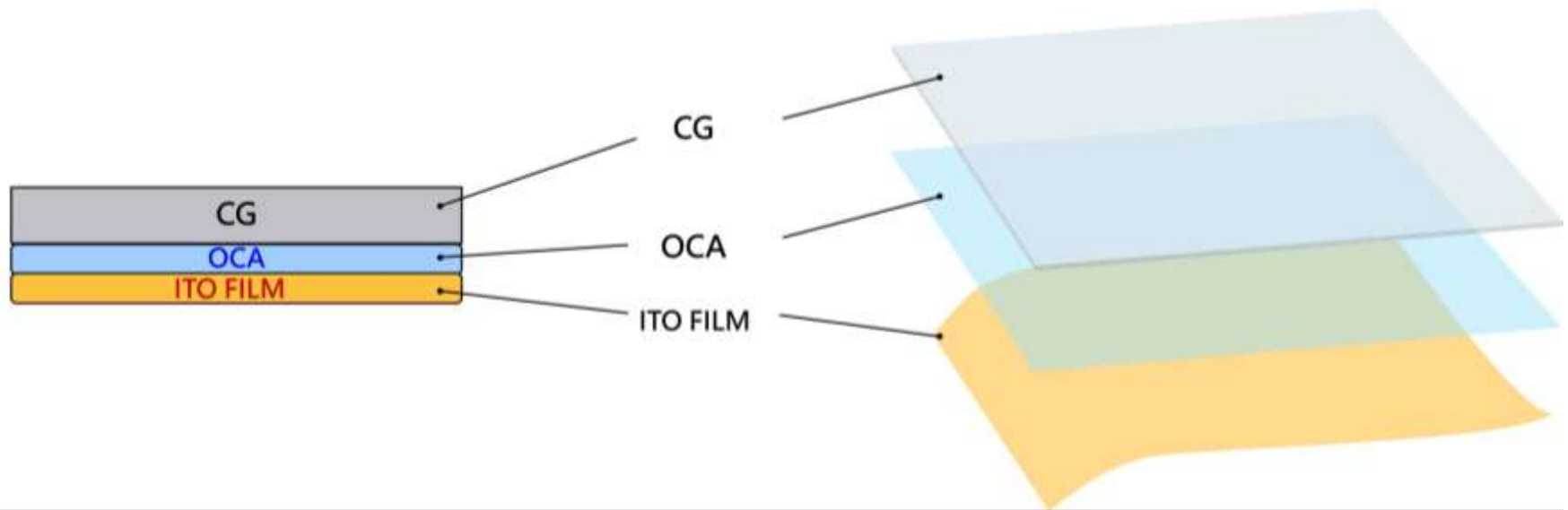
# OCA Optical Bonding Service

- OCA Optical Bonding
  1. Hard to Hard: G2G



# OCA Optical Bonding Service

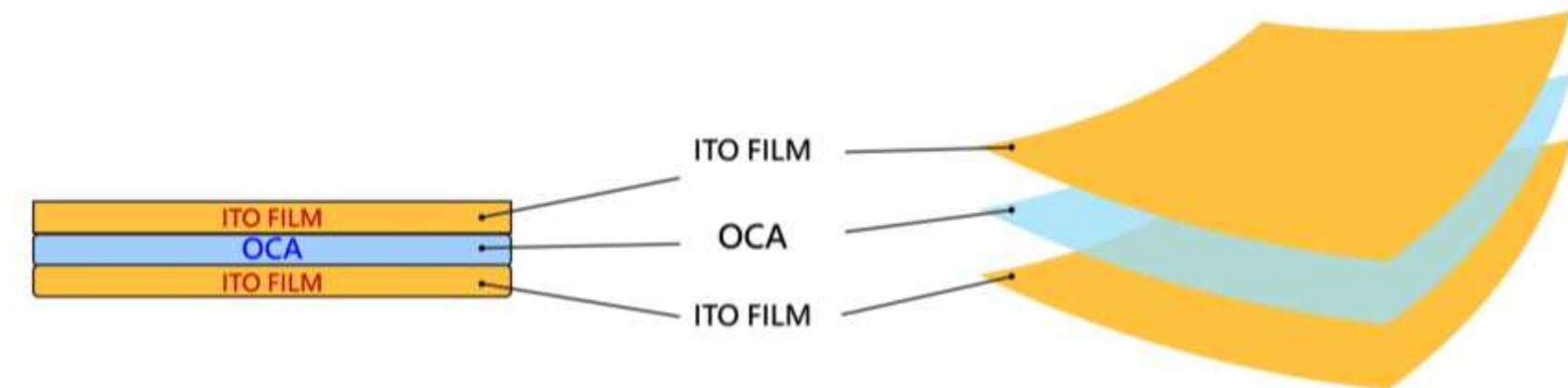
- OCA Optical Bonding  
2. Soft to Hard: S2G



# OCA Optical Bonding Service

- OCA Optical Bonding

## 3. Soft to Soft: S2S



# OCA Optical Bonding Process

## **Type 1: Ambient Lamination**

Lamination Speed : Tack Time 30sec~60 sec

Lamination Accuracy :  $\pm 0.1\text{mm}$

Lamination Dimensions (mm) : 500x600 (max.)

Lamination Gap : 0~~10mm

Lamination Pressure : 35 ~ ~ 130Kg

## **Type 2: Vacuum Lamination**

Lamination size: max. 27-inch (Diagonal)

Lamination speed: It depends on case by case basis.

# OCA Optical Bonding Process Facility

## Ambient Lamination & Vacuum Lamination Equipments





## Quality Policy: Only Customer Satisfaction

### Satisfaction in Quality 、 Lead time 、 Cost 、 Service

#### ✓ **Quality:**

IQC/ IPQC/ FQC to ensure the quality

100% IQC/FQC for some specific projects

#### ✓ **Lead time:**

Safe stock & forecast schedule to make shorter lead time.

#### ✓ **Cost:**

Forecast materials purchase to get the best cost.

#### ✓ **Service:**

Customer orientation/Global service

Strong technical support/Quick response.



## Reliability Assurance (For Monochrome)

| Condition<br>Test Items        | Test | Standard Temperature Type                             | Wide Temperature Type                                 |
|--------------------------------|------|-------------------------------------------------------|-------------------------------------------------------|
|                                | Test | Standard Temperature Type                             | Wide Temperature Type                                 |
| Thermal Shock                  |      | -10°C(30min) → 25°C(5min)<br>→ 50°C(30min), 10 cycles | -20°C(30min) → 25°C(5min)<br>→ 70°C(30min), 10 cycles |
| High Temperature Storage       |      | 60°C, for 120 hours                                   | 80°C, for 120 hours                                   |
| Low Temperature Storage        |      | -20°C, for 120 hours                                  | -30°C, for 120 hours                                  |
| Operation at High Temperature  |      | 50°C, for 120 hours                                   | 80°C, for 120 hours                                   |
| Operation at Low Temperature   |      | -10°C, for 120 hours                                  | -20°C, for 120 hours                                  |
| High Temperature/High Humidity |      | 40°C 90% RH                                           | 40°C 90% RH                                           |

### Notes:

The table above is applied to LCD size: 40\*20mm

The value may be different by LCD size.

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## Reliability Assurance (For TFT)

| Condition<br>Test Items        | Test | Standard Temperature Type                           | Wide Temperature Type                              |
|--------------------------------|------|-----------------------------------------------------|----------------------------------------------------|
| Thermal Shock                  |      | -10°C(30min) →25°C(5min)<br>→50°C(30min), 10 cycles | -20°C(30min)→25°C(5min)<br>→70°C(30min), 10 cycles |
| High Temperature Storage       |      | 60°C, for 240 hours                                 | 80°C, for 240 hours                                |
| Low Temperature Storage        |      | -20°C, for 240 hours                                | -30°C, for 240 hours                               |
| Operation at High Temperature  |      | 50°C, for 240 hours                                 | 80°C, for 240 hours                                |
| Operation at Low Temperature   |      | -10°C, for 240 hours                                | -20°C, for 240 hours                               |
| High Temperature/High Humidity |      | 40°C 90% RH                                         | 40°C 90% RH                                        |

### Notes:

The table above is applied to LCD size: 40\*20mm

The value may be different by LCD size.

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# Quality Assurance(ISO14001/ISO9001)



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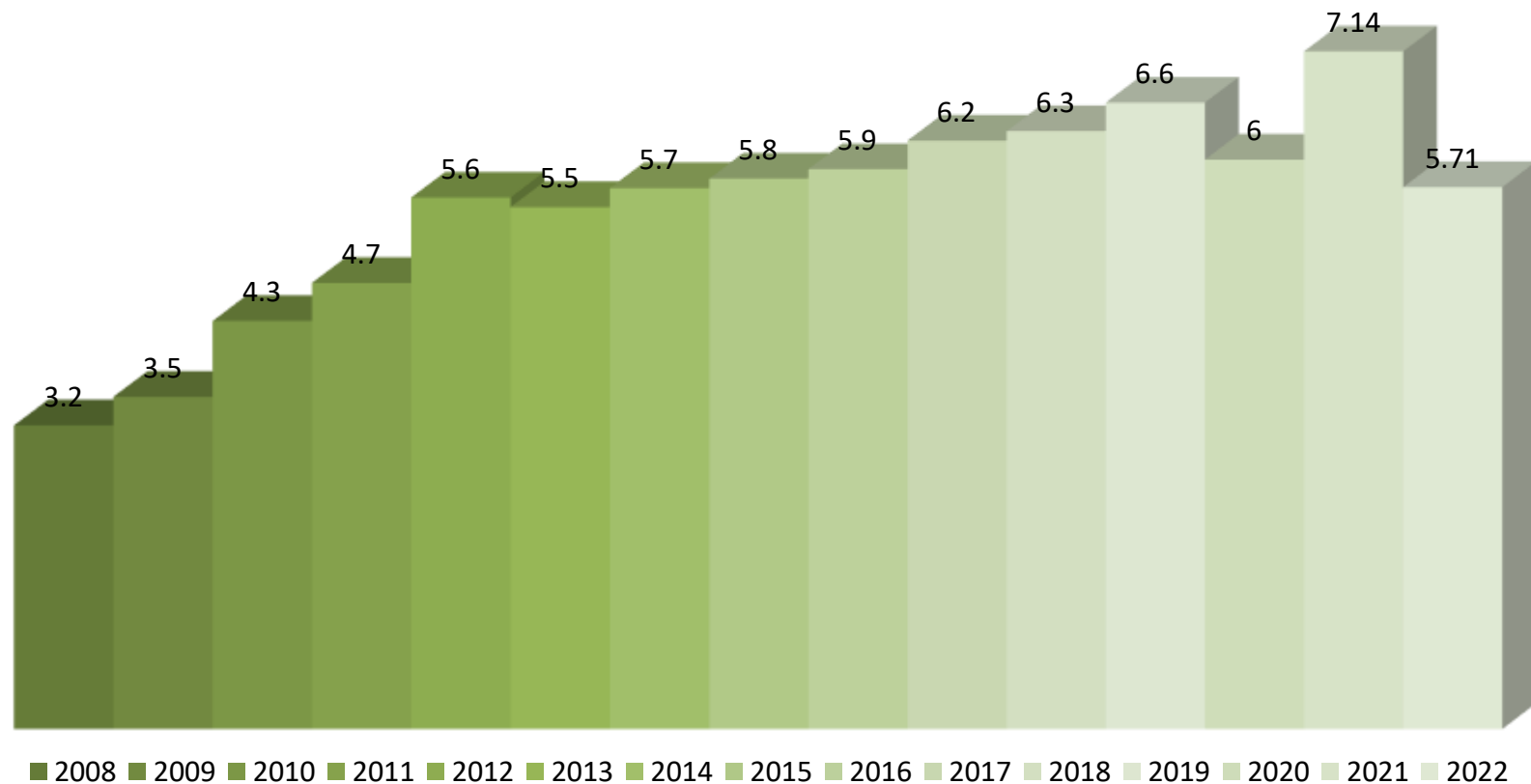


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# Sales Turnover

Unit: USD/Million



# Business Partners



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# Win-Win Partnership

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