



*AUTO EQUIPMENT*  
**SOLUTION PROVIDER**

萬潤科技

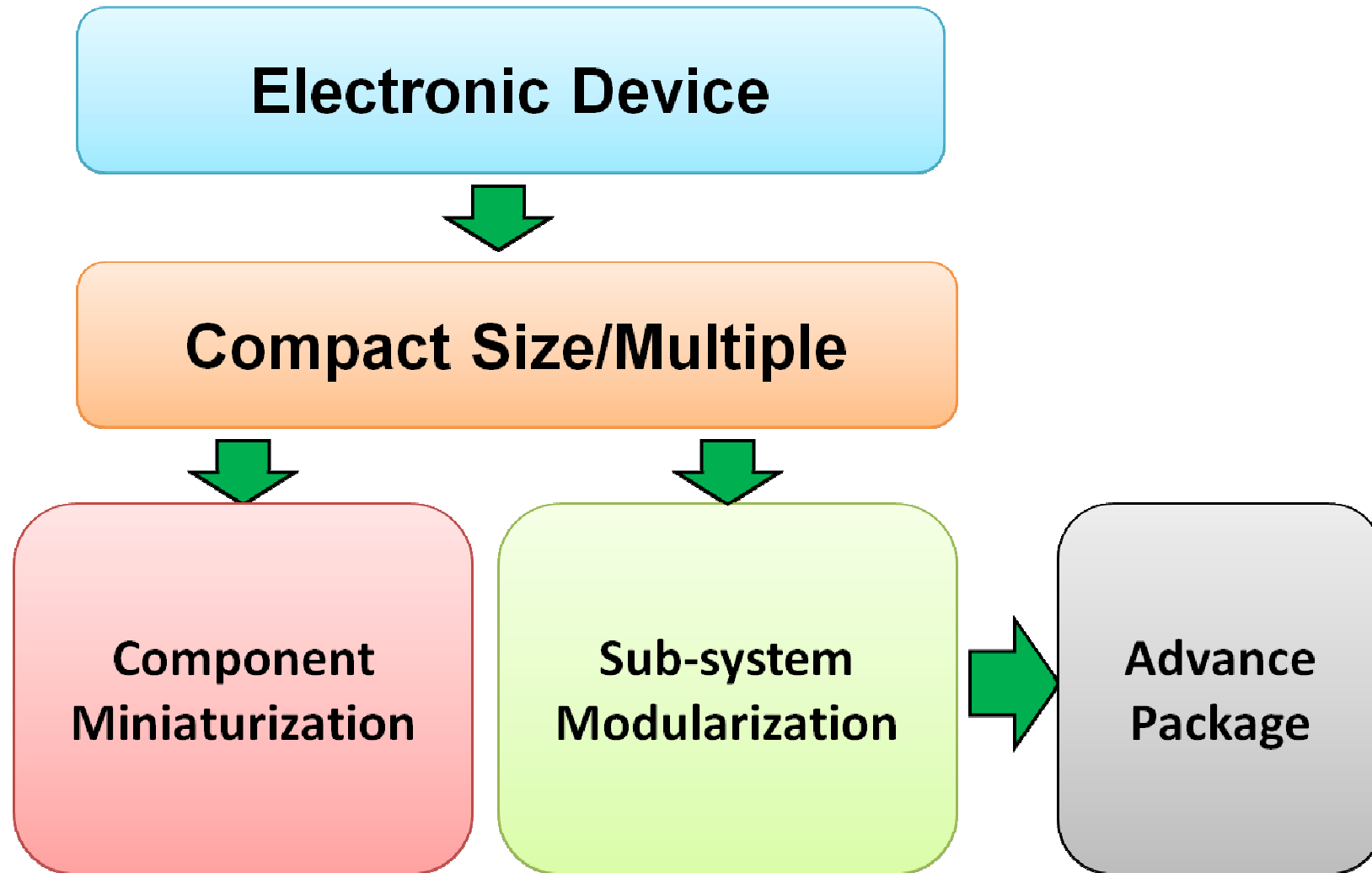
**AllRing Tech**

**Stock Code:6187.TT**

# Company Profile

|                    |                                                                                                            |
|--------------------|------------------------------------------------------------------------------------------------------------|
| <b>Established</b> | May 24, 1996                                                                                               |
| <b>Capital</b>     | NTD 833 Million (USD 27 Million)                                                                           |
| <b>Business</b>    | Automation equipment supplier for Semiconductor test & package, Passive Component manufacturing industries |
| <b>Employee</b>    | 246 (Aug, 2021)                                                                                            |
| <b>Chairman</b>    | Larry Lu                                                                                                   |
| <b>Address</b>     | No.1 Luke 10th Rd. ,Lujhu,Kaohsiung,Taiwan                                                                 |
| <b>Website</b>     | <a href="http://www.allring-tech.com.tw">www.allring-tech.com.tw</a>                                       |

# Industry Overview



# Advance Package

| Packaging Type             |            | Manufacturer |           | Application                  |
|----------------------------|------------|--------------|-----------|------------------------------|
| SIP<br>(system in package) |            | OSAT         | ASE       | Smart phone<br>IoT<br>Mobile |
|                            |            |              | USI       |                              |
|                            |            | Module house | Hon Hai   |                              |
|                            |            |              | Luxshare  |                              |
|                            |            | Component    | AAC       |                              |
|                            |            |              | AMS       |                              |
| 3D Package                 | InFO,CoWoS | Foundry      | TSMC      | Smart Phone<br>IoT<br>Mobile |
|                            | SoIC       |              | TSMC      |                              |
| Flip chip                  | 2D/2.5D    | OSAT         | ASE       | Smart Phone<br>IoT<br>Mobile |
|                            |            |              | Spil      |                              |
|                            |            |              | Amkor     |                              |
|                            |            |              | Chipbond  |                              |
|                            |            |              | Powertech |                              |

# TSMC's 3D Fabric

TSMC 3DFabric™



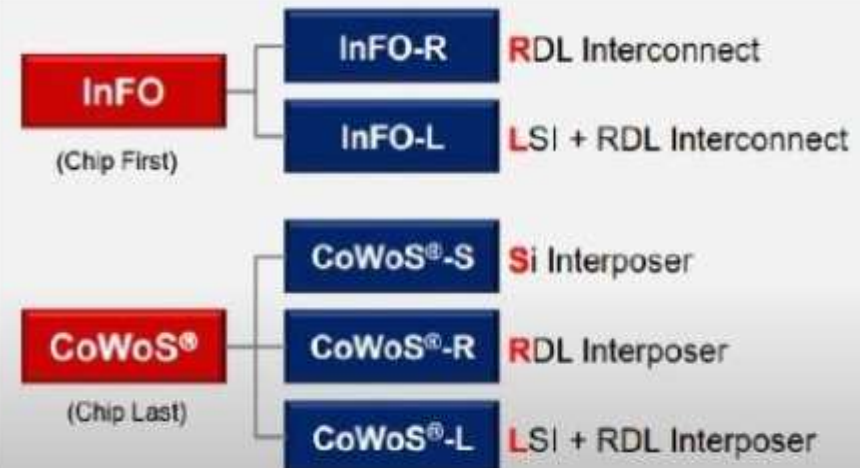
## Chip Stacking (FE 3D)



*SolC: System on Integrated Chips*

*Source: TSMC*

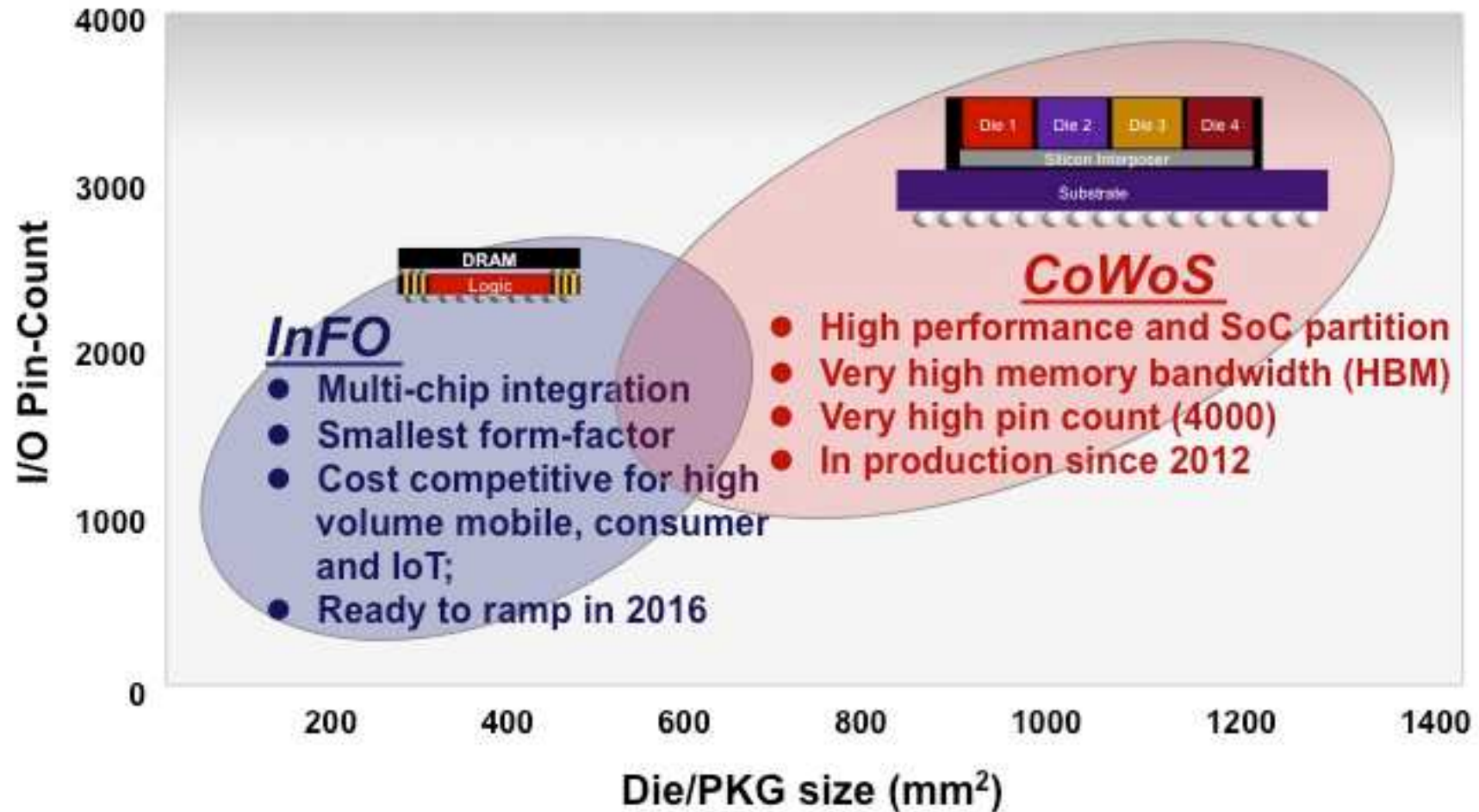
## Advanced Packaging (BE 3D)



*InFO: Integrated Fan-Out  
CoWoS: Chip on Wafer on Substrate  
RDL: Redistribution Layer  
LSI: Local Si Interconnect*

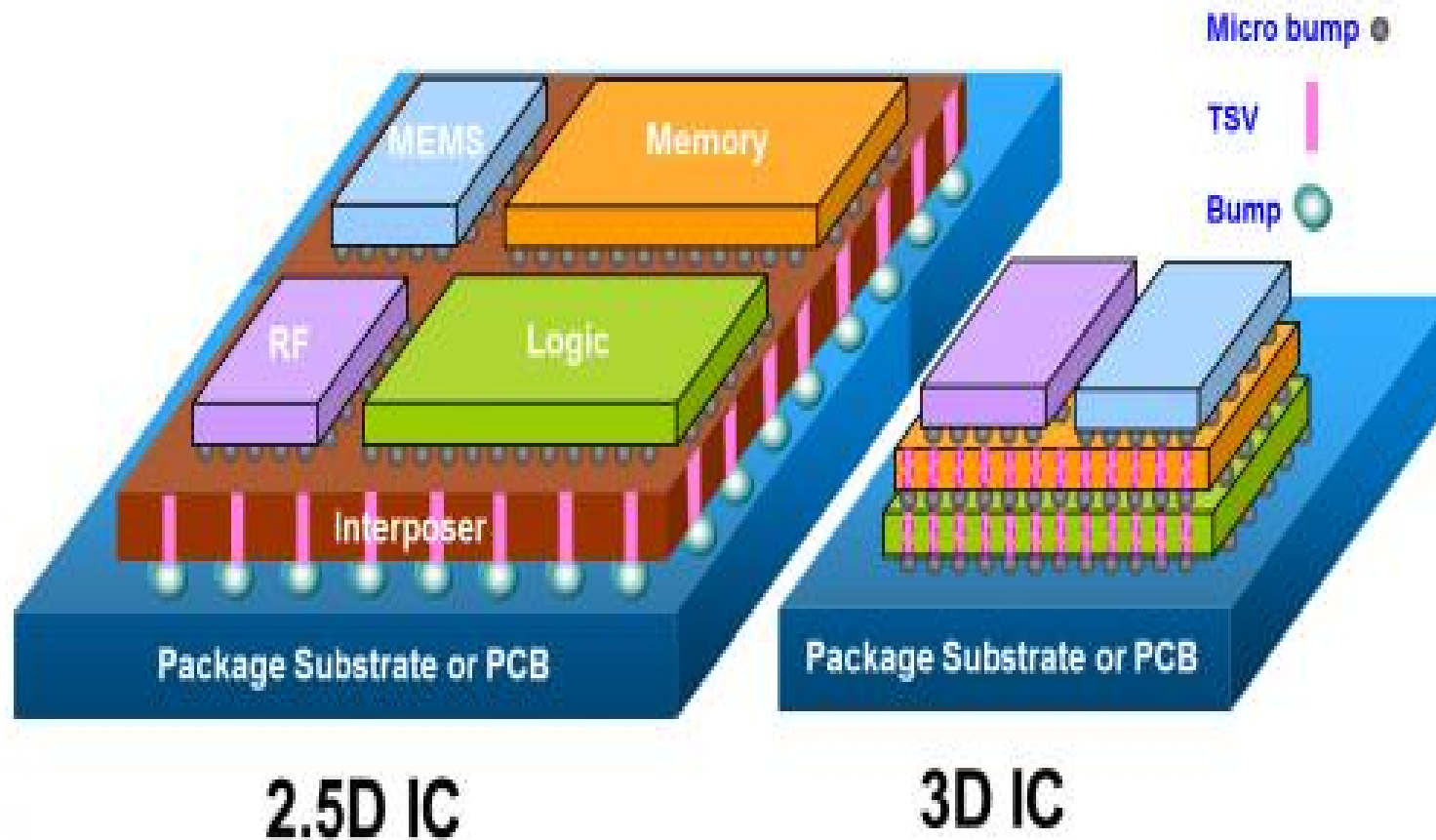


# TSMC's InFO & CoWoS



Source: TSMC

# 2.5D & 3D IC Packaging





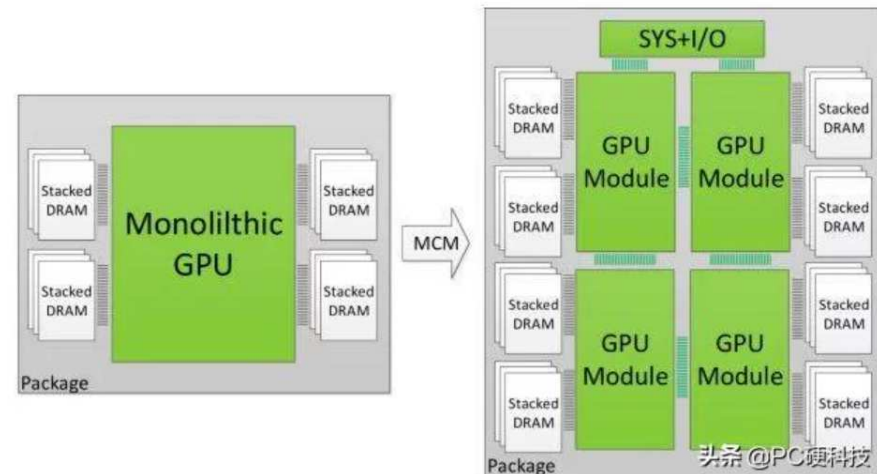
# Advance Package

- Advanced packaging process
  - High Performance 2D with SoC & SoIC
    - Flip Chip – MCM(SiP)
    - ( Multi-chip module ; MCM )
  - 2.5D with SoC
    - COWOS
    - INFO
  - 3D with ( CoW & WoW )
    - COWOS
    - INFO



# Advance Package

- Advanced packaging process
  - High Performance 2D with SoC & SoIC
    - Flip Chip – MCM(SiP)
    - ( Multi-chip module ; MCM )
  - 2.5D with SoC
    - COWOS
    - INFO
  - 3D with ( SoIC & WoW )
    - COWOS
    - INFO

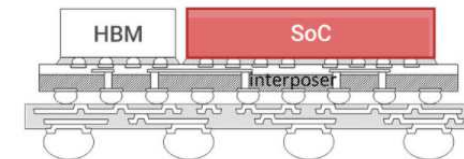


# Advance Package

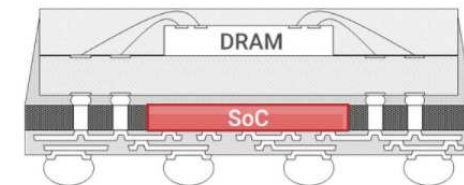
- Advanced packaging process
  - High Performance 2D with SoC & SoIC
    - Flip Chip – MCM(SiP)
    - ( Multi-chip module ; MCM )
  - 2.5D with SoC
    - CoWoS
    - InFO
  - 3D with ( SoIC & WoW )
    - CoWoS
    - InFO



CoWoS®



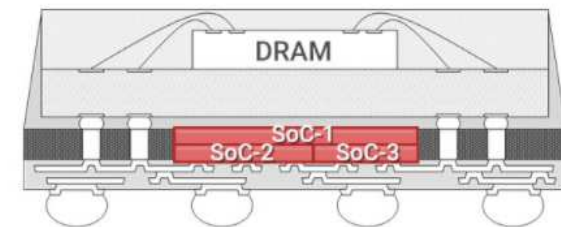
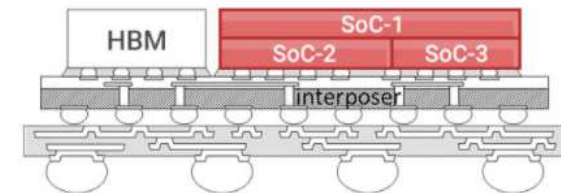
InFO\_PoP



# Advance Package

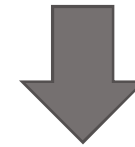
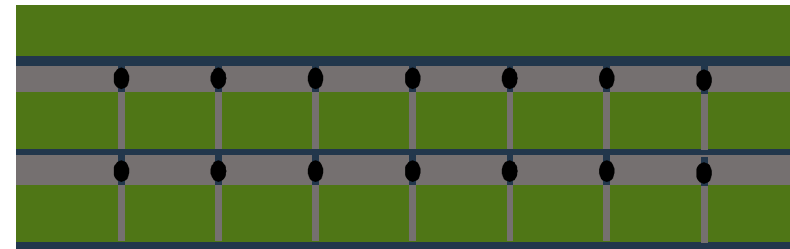
- Advanced packaging process
  - High Performance 2D with SoC & SoIC
    - Flip Chip – MCM(SiP)
    - ( Multi-chip module ; MCM )
  - 2.5D with SoC
    - COWOS
    - INFO
  - **3D with (SoIC & WoW )**
    - COWOS
    - INFO

SOIC

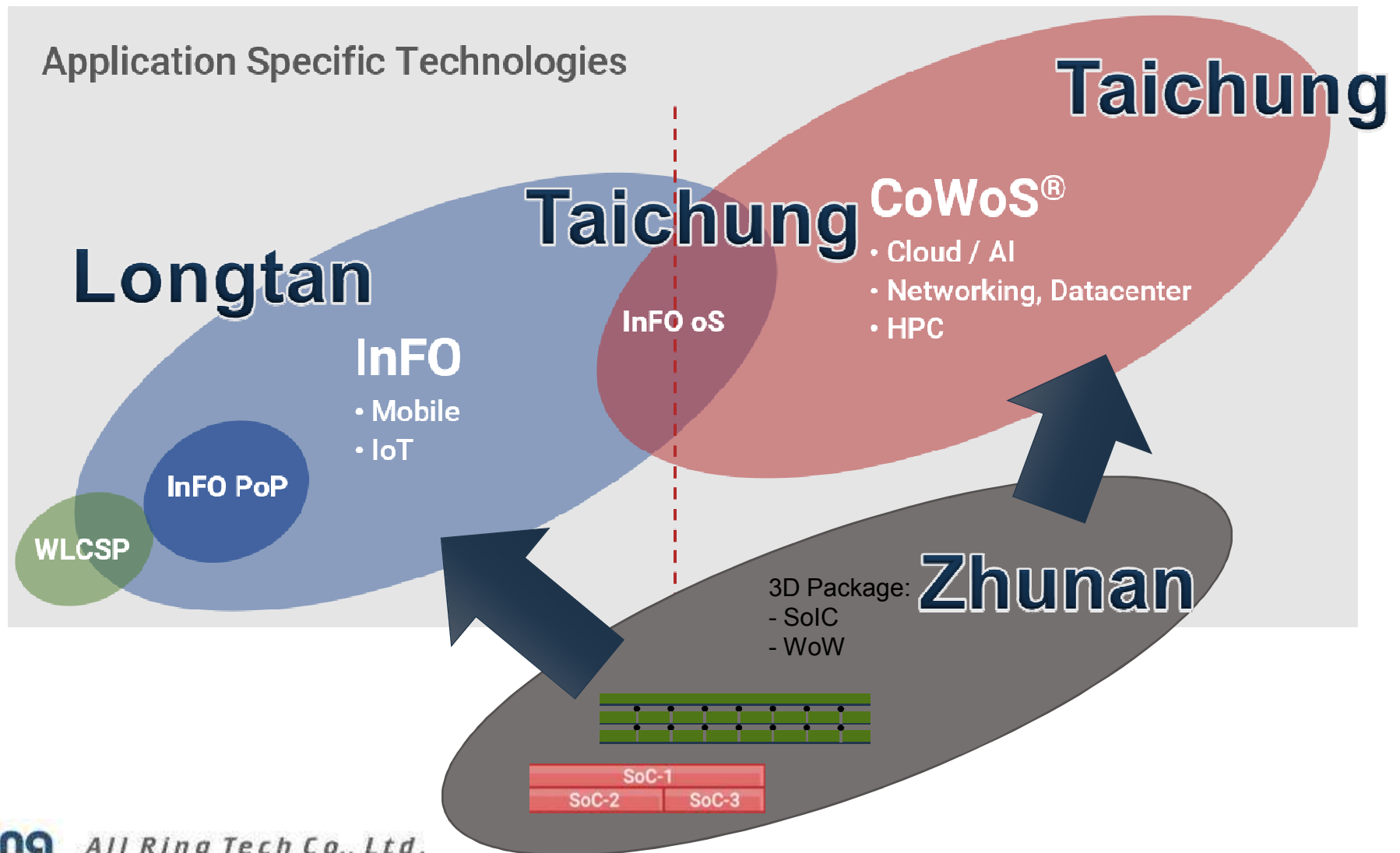


# Advance Package

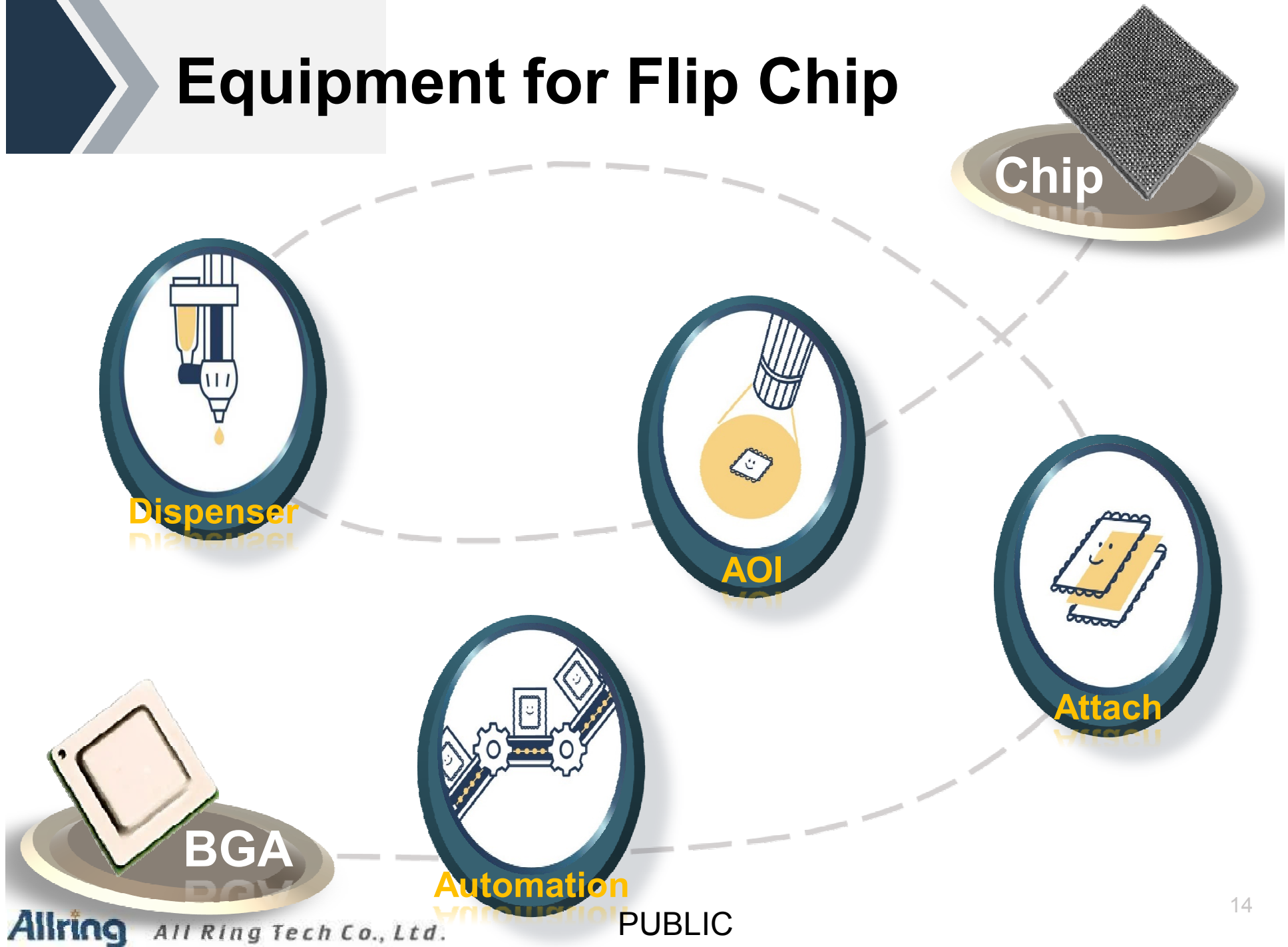
- Advanced packaging process
  - High Performance 2D with SoC & SoIC
    - Flip Chip – MCM(SiP)
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  - 2.5D with SoC
    - COWOS
    - INFO
  - **3D with ( SoIC & WoW )**
    - COWOS
    - INFO



# TSMC 3D Fabric

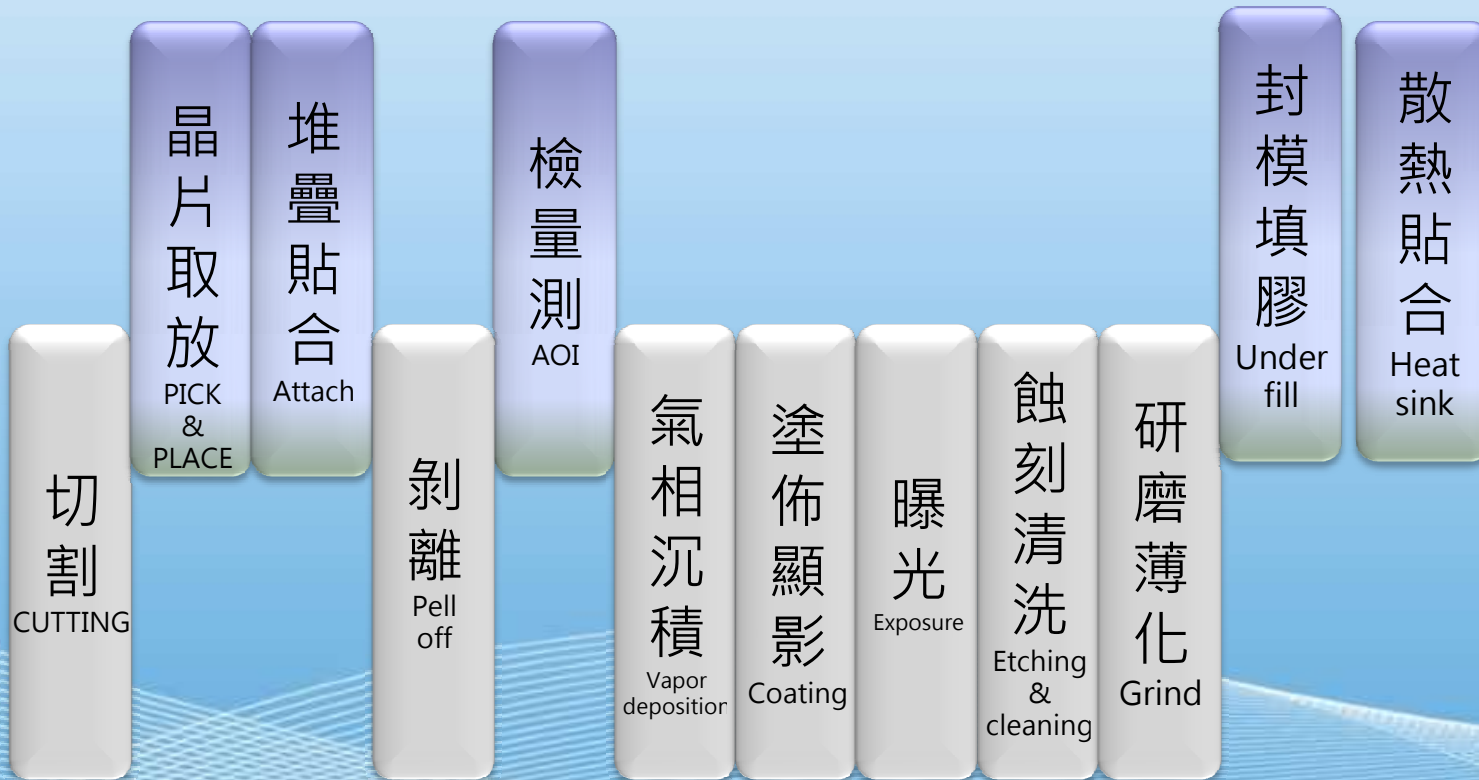


# Equipment for Flip Chip





# Allring in 3D Fabric Process

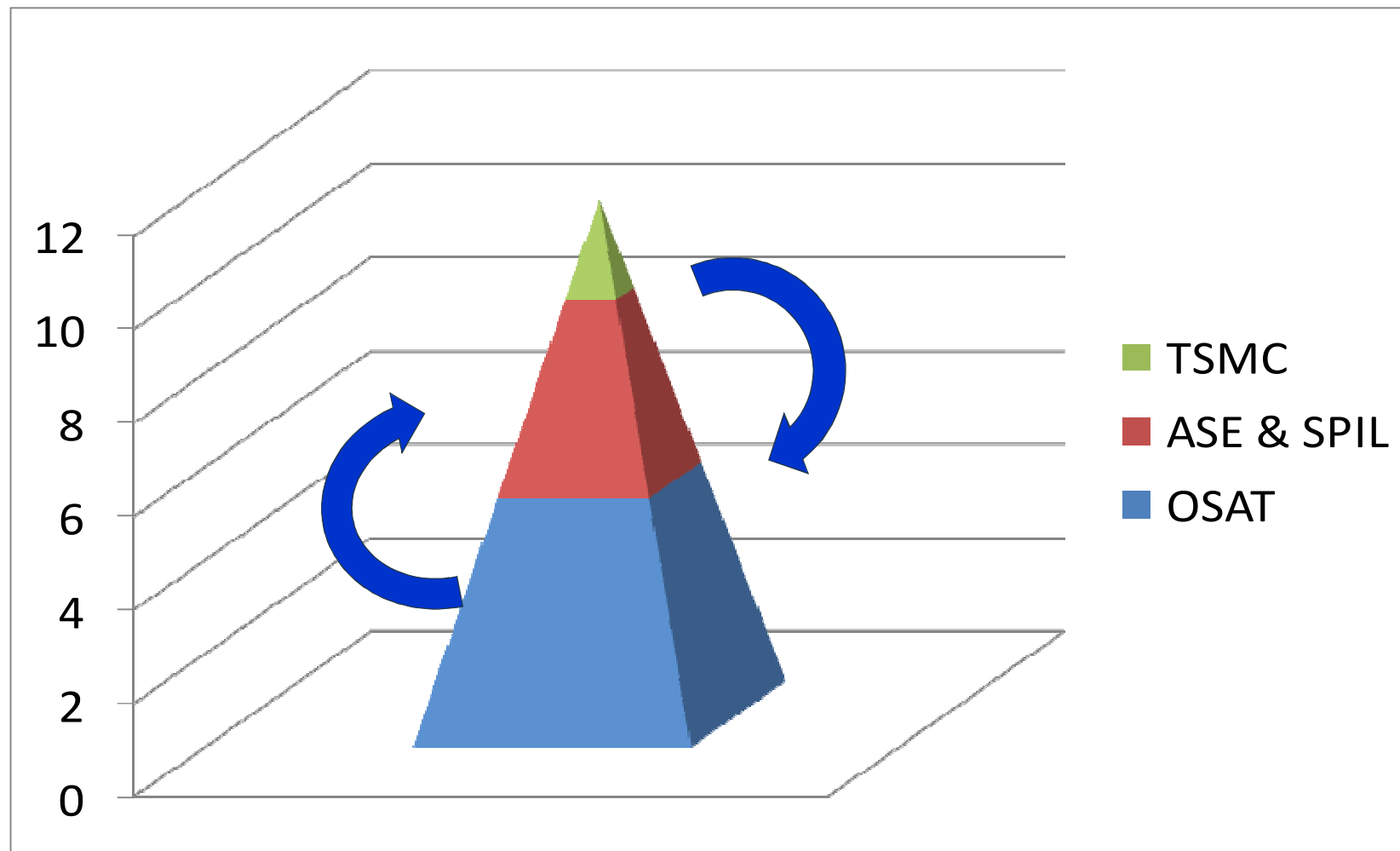




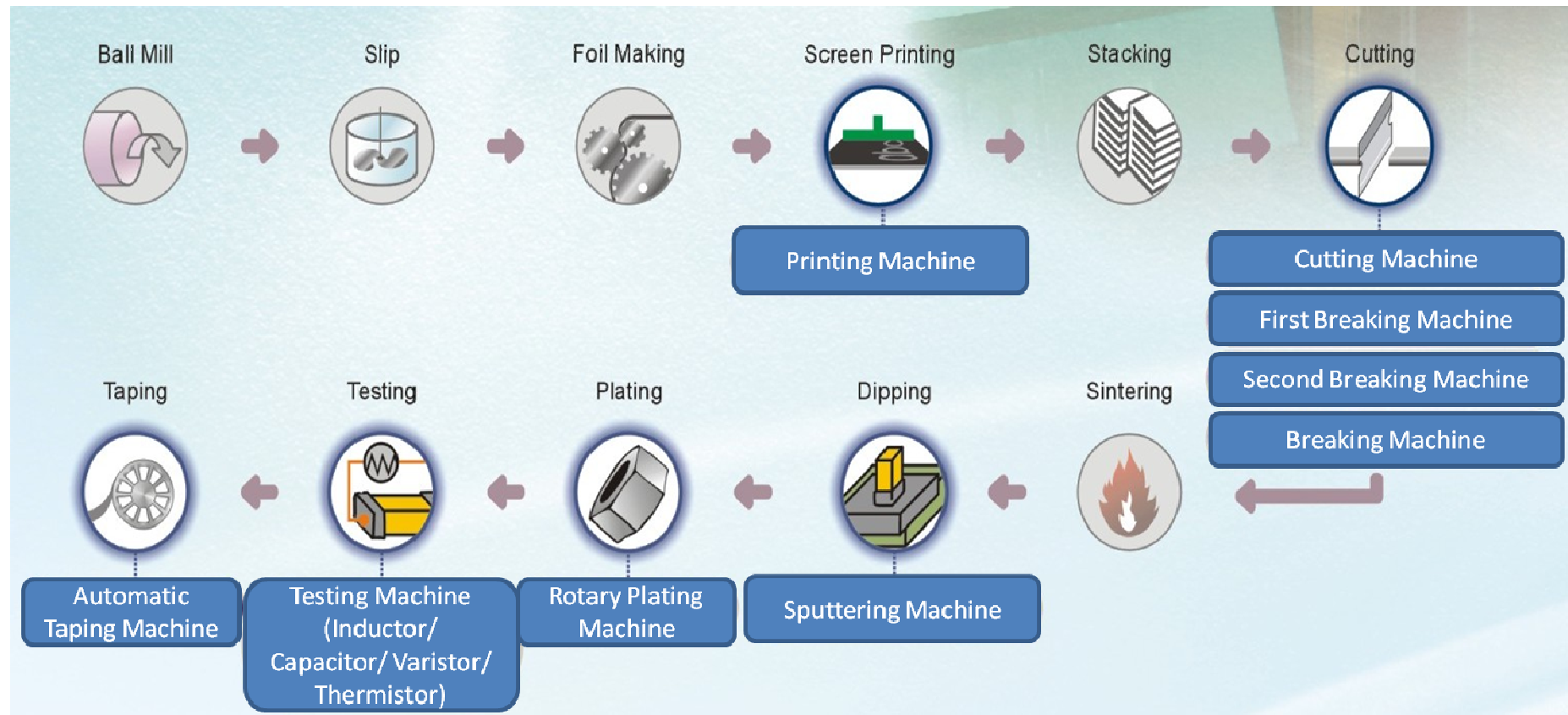
# Roll of Allring

- Advanced packaging process
  - New Processing Tool(Technology Developing)
  - High performance Tool(Technology Developing)
- Unmanned factory
  - Rework
  - Inspection
  - Auto L/UL and Transfer
  - Sorter and Carrier Transfer
  - **No Alarm**
  - **Vender Service or Maintain**

# Target



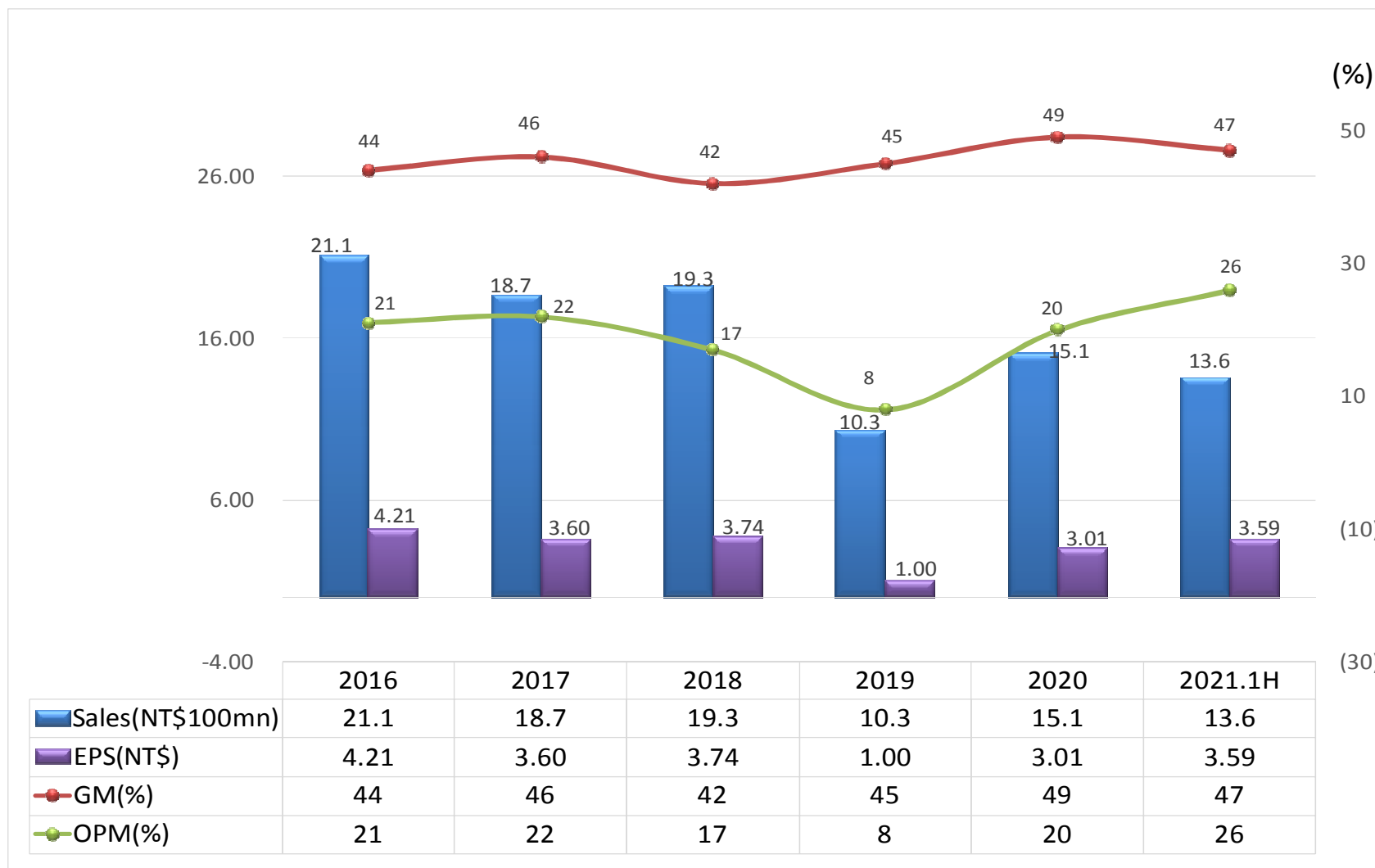
# Passive Component Production Process



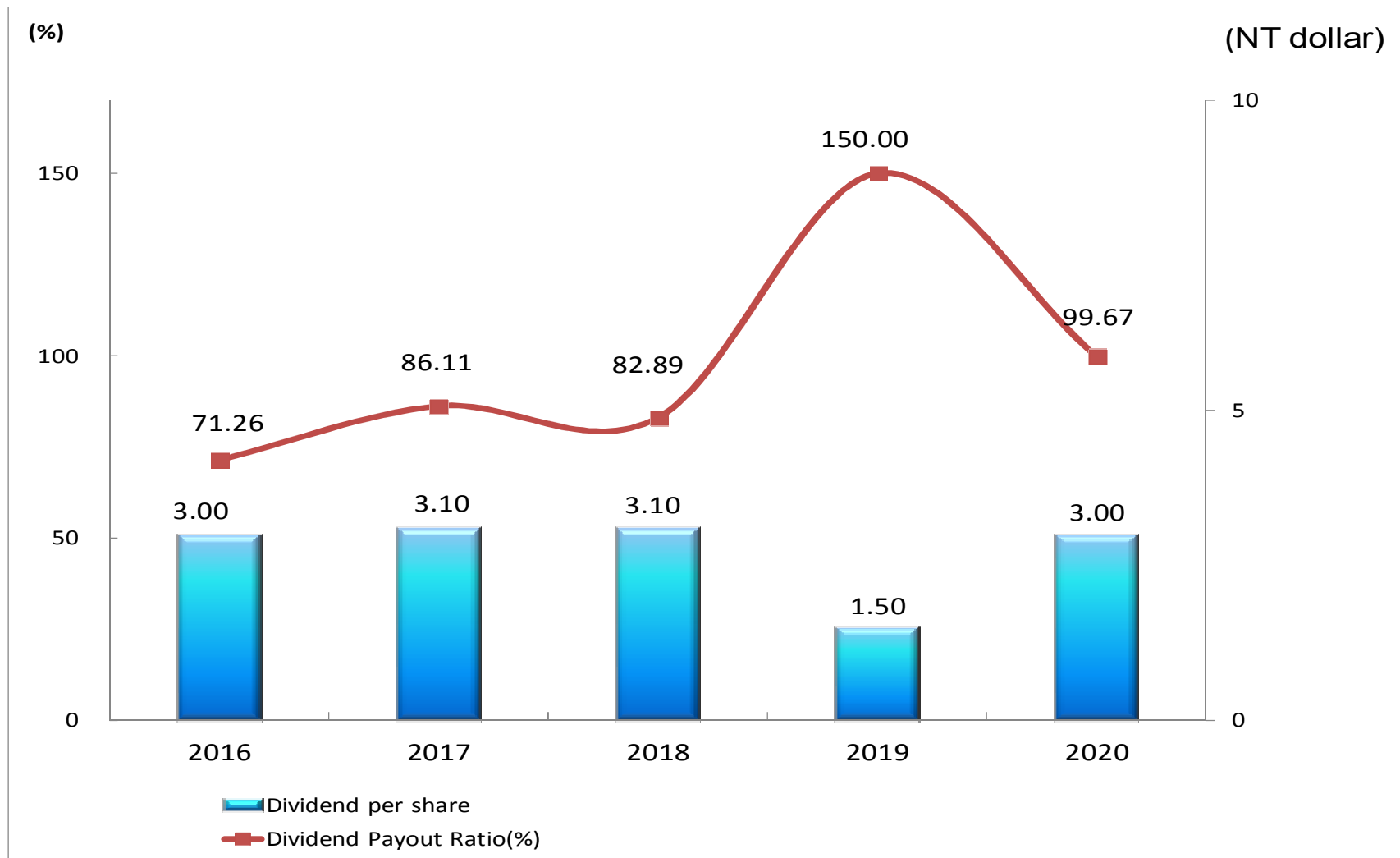
# Customer Base

| Semiconductor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Passive Component                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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# Financial Highlights



# Financial Highlights





# Q & A



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