



MACHVISION

MACHVISION, INC

(3563 TT)


General Manager : Jasper Chen

2018 / 01 / 16

MACHVISION's statements of its current expectations are forward looking statements subject to significant risks and uncertainties and actual results may differ materially from those contained in the forward-looking statements.

Except as required by law, we undertake no obligation to update any forward-looking statement, whether as a result of new information, future events, or otherwise.



- ▶ **Company Overview**
 - ▶ **Business Update**
 - ▶ **Financial Performance**
- 

Founded in 1998.6.9

Main Products : Automated Optical Inspection (AOI)

- ▶ 2015 April : Awarded The 3rd **excellent Enterprises** as Backbones in Taiwan
- ▶ 2017/2016 : Awarded The Corporate Governance Excellence in Taiwan (**top 5%** of TW-listed firms)

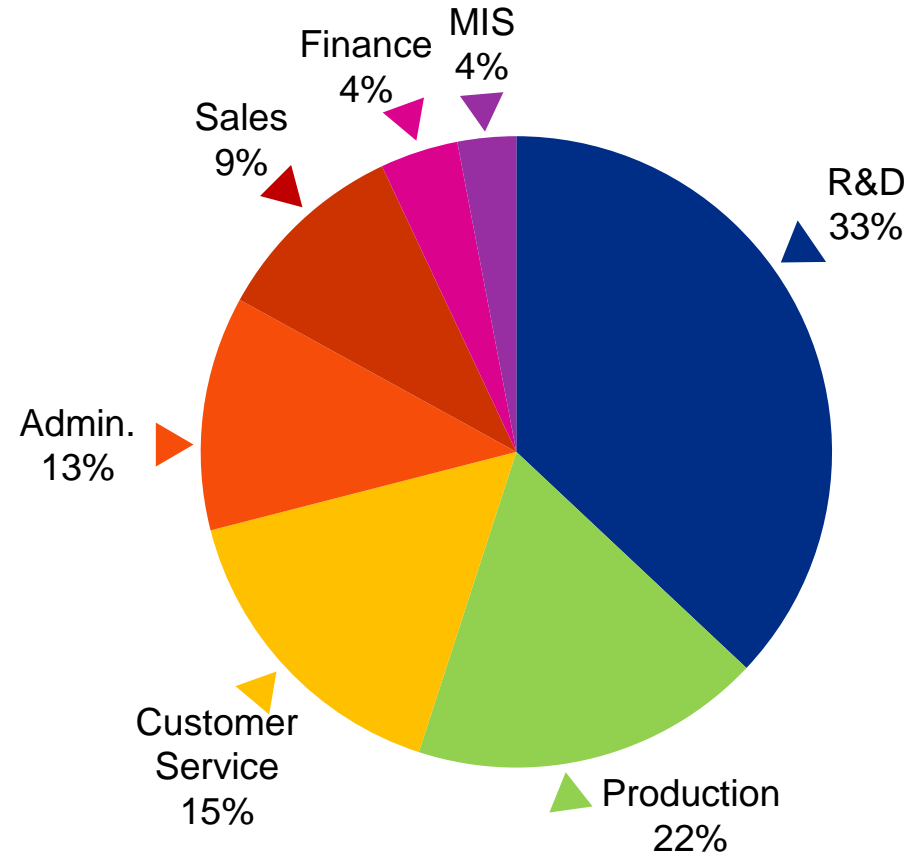
Founder: Dr Collin Wang - PhD in industrial engineering
at Penn. State University

Research expertise – Image Processing / R&D Management

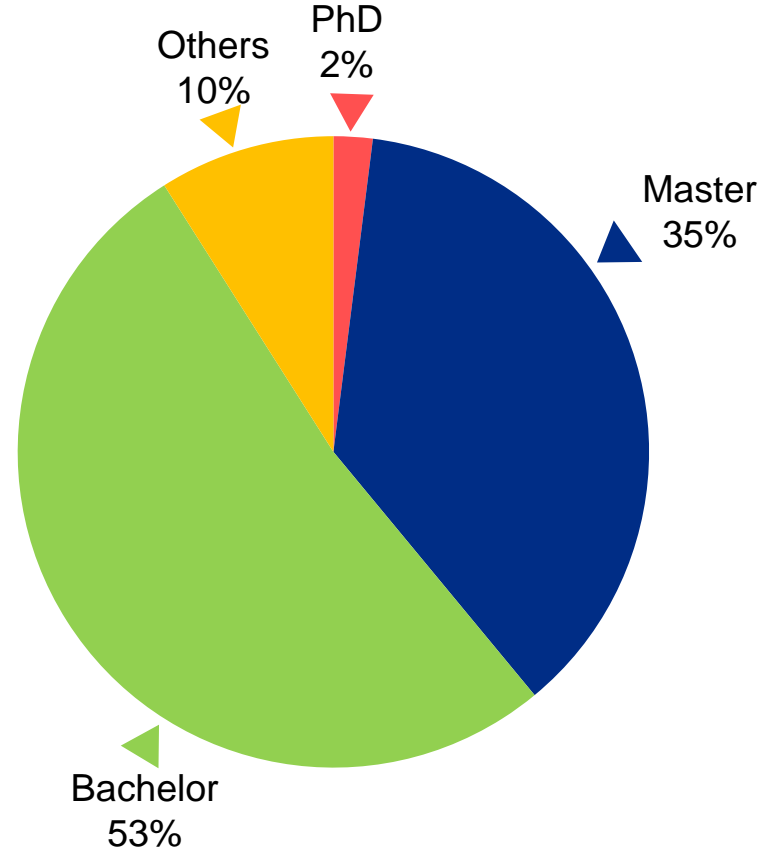


Breakdown of employees

► By Job Category



► By Education



Automated Optical Inspection (AOI)



AOI Technology can be applied in many industries:

- ▶ IC、PCB、PCBA、FPD、Passive、LED、Solar、Textile、Auto、Medicine...etc.

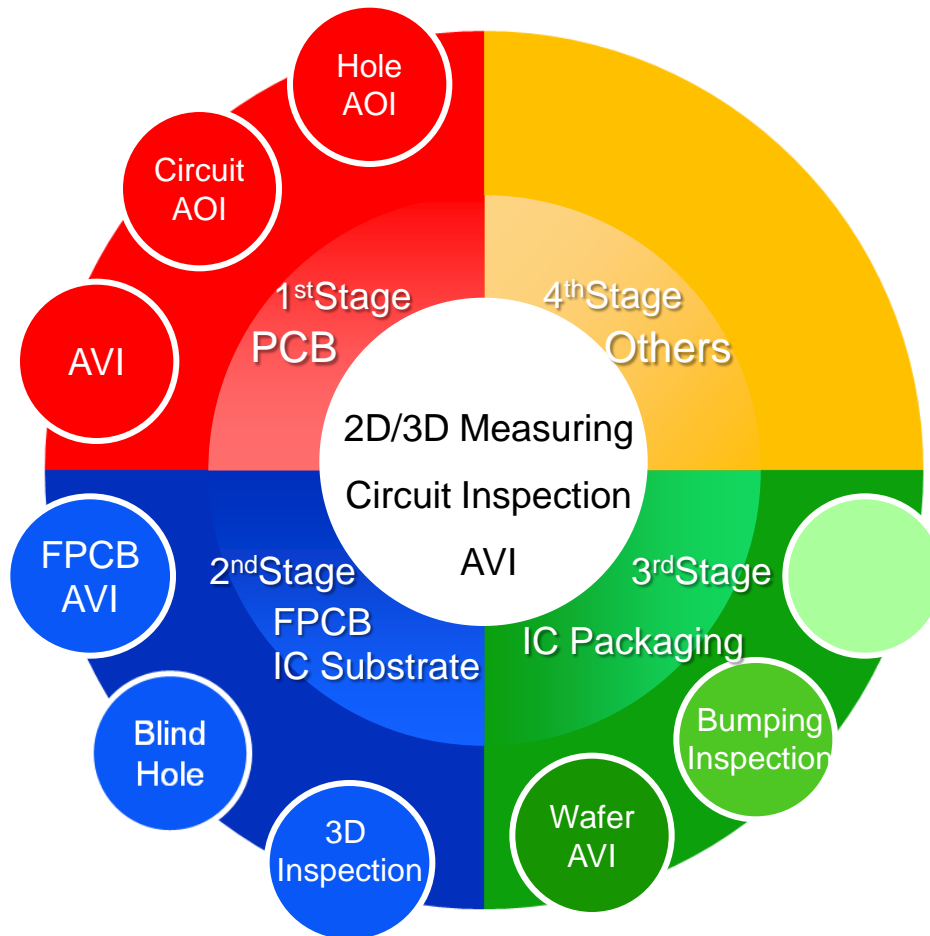
Taiwanese listed AOI Companies	Machvision	TRI	Utech	Favite
Ticker	3563	3030	3455	3535
Key Industries	PCB, IC	PCBA	FPD, PCB	FPD
2016 GM%	61.7%	54.7%	49.07%	22.76%
Major Competitors	Orbotech Rudolph	Omron Kohyoung	Takano Kubotek	Takano Kubotek

AOI markets used to be pioneered by developed countries

International AOI Peers	Orbotech	Camtek	Screen	Takano
Country	Israel	Israel	Japan	Japan
Key industries	PCB、FPD	PCB、FPD	PCB	FPD

International AOI Peers	Rudolph	Topcon	KLA-tencor	KohYoung
Country	US	Japan	US	Korea
Key industries	IC	IC	IC	PCBA

New Market Assessment



▶ Market Size

▶ Sufficient Capability

MACHVISION

Our Products

Third Arrow

Fifth Arrow

Circuit AOI Series



AOI 4.0



Circuit AOI



Artwork AOI



LineGauge

Drilling & Routing Measuring Series



Hole AOI



Hole Doctor

Fourth Arrow



EZ3D



Full scan system

IC Substrate & HDI Measuring Series



3D AOI



FC CSP Bump Inspection



Solid Measuring Viewer

First Arrow



LaserVia AOIM



Dimple AOI

AVI Series



Auto Final Inspection



FPCB AVI



FC AVI



CSP AVI



COF AVI

Second Arrow



Wafer AVI



Wafer AVI

2017

Jan.

Jan. Rev. + **64%** YOY

Feb.

Feb. Rev. + **100%** YOY

Analyst Meeting to Announce New Product Roadmap

Mar.

Mar. Rev. + **30%** YOY

Apr.

Apr. Rev. + **56%** YOY

May

May Rev. + **65%** YOY

Jun.

Jun. Rev. + **63%** YOY

Jul.

Jul. Rev. + **73%** YOY

Analyst Meeting to Announce New Product Roadmap

Aug.

Aug. Rev. + **65%** YOY

Sep.

Sep. Rev. + **53%** YOY

Oct.

Oct. Rev. + **88%** YOY

PCB, Full San System Launch

Nov.

Nov. Rev. + **87%** YOY

Dec.

Dec. Rev. + **181%** YOY

2017

**cont. 12 months
MOM Growth**

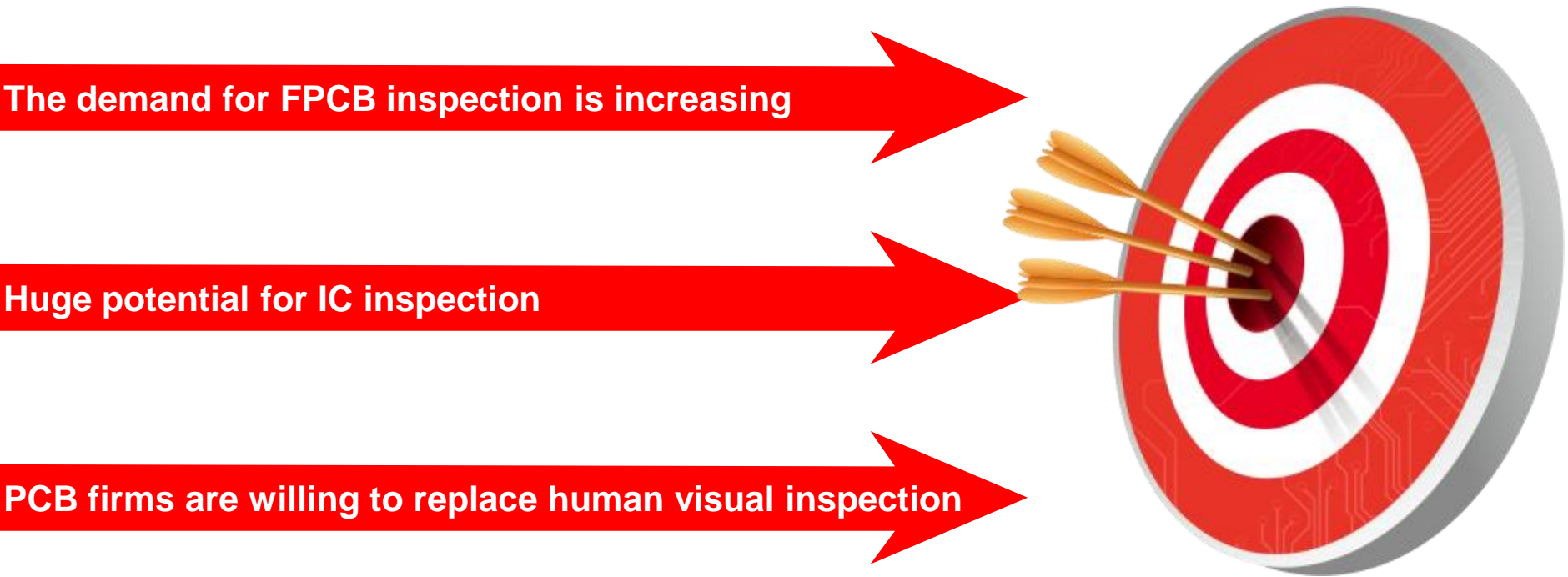
**cont. 19 months
YOY Growth**

**8 months Record
Breaking**

**4 seasons
Record Breaking**

**2017 Record
Breaking**

“Three Arrows” New Product Roadmap proposed in first analyst meeting in 2016



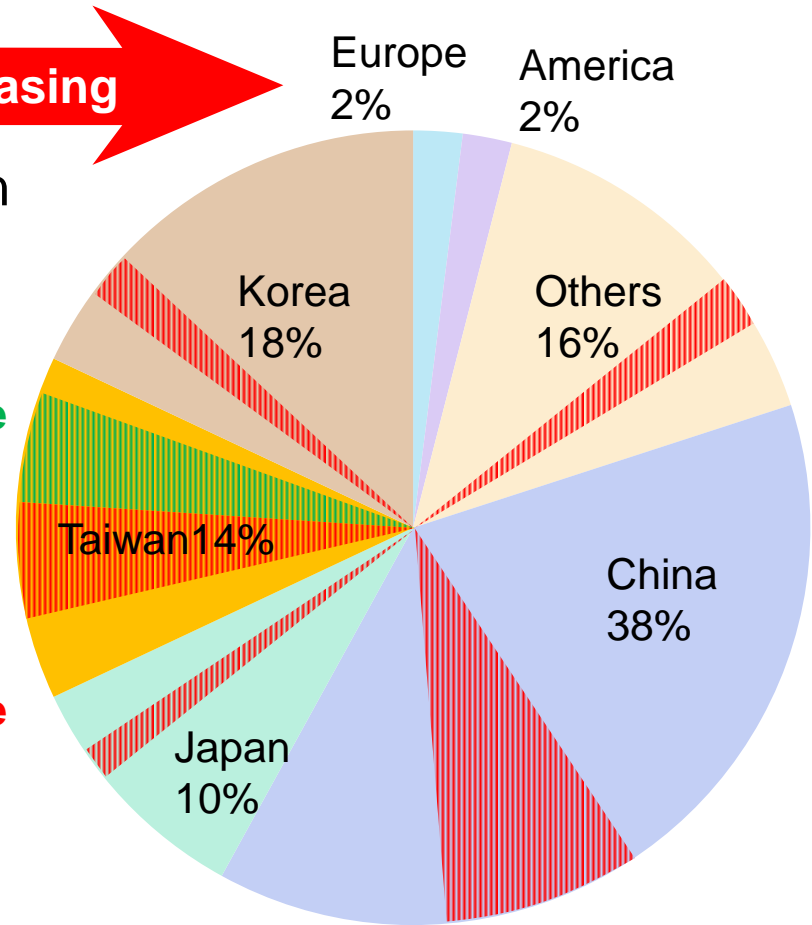
First Arrow: Flexible PCB

The demand for FPCB inspection is increasing

Breakdown of Global FPCB Production

Machvision's share
in 2016

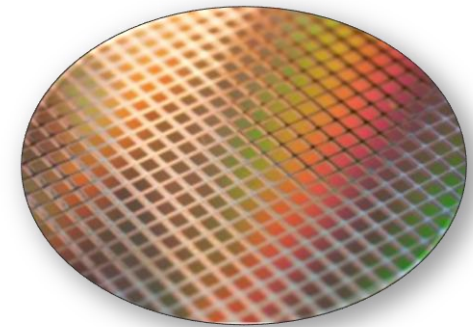
Machvision's share
in 2017



Source : Prismark

Second Arrow: IC Inspection

Huge potential for IC inspection



Qualified by leading manufacturer
Channel Deployment

2015.June
Wafer AVI 1
Launched

2016.March
First shipment

2017.Jan.
Qualified by
leading manufacturer

2017.Mar.
Wafer AVI 2

2017.June
Wafer AVI 3

2017.Dec.
Wafer AVI 4

Third Arrow: Automated Inspection

PCB firms are willing to replace human visual inspection

Replacement Demand

1 AOI 4.0 = 7 traditional AOIs + 21 Manpower



Fourth Arrow : Full Scan System

dimensional measurement used to be sampling before

Automated measurement requirement for FPCB and PCB

estimate about 100 units per year

- Qualified by leading manufacturer
- Channel Deployment

2017. Feb.
Developed

2017. Oct.
Launch at TPCA

2018. Jan.
First Shipment

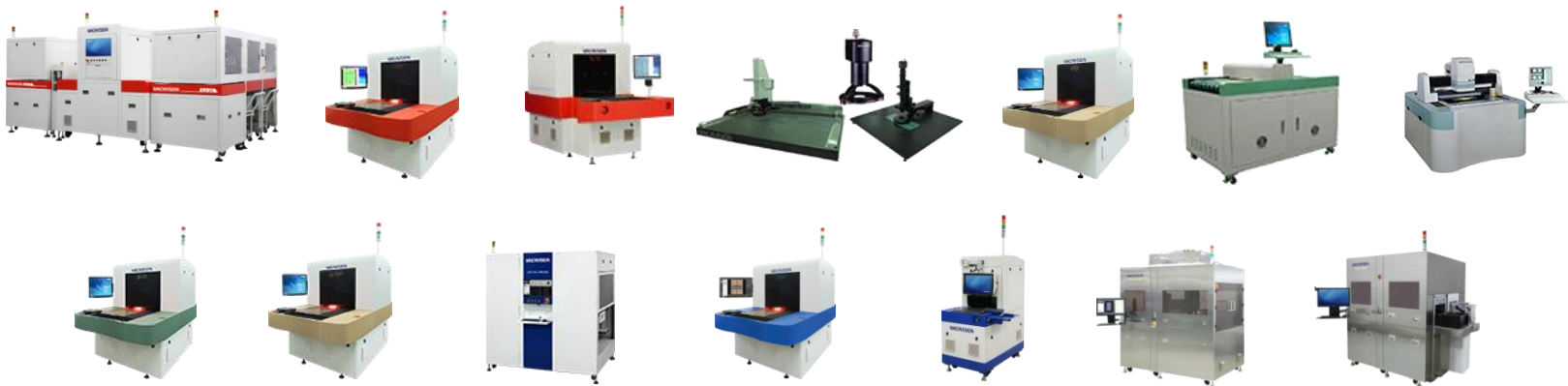


Fifth Arrow: New Deployment of Expanding China-Funded Customer Base

Launch new products for China-Funded customers

Launching new products with reducing 10% manufacturing cost, the gross margin of new products will be still kept more than 55% even if reducing 20% price.

2017. Q4
Shipment



Evolution of The Third Arrow : Automated PCB (2-stage Colored CCD + AI)

PCB firms are willing to replace human visual inspection

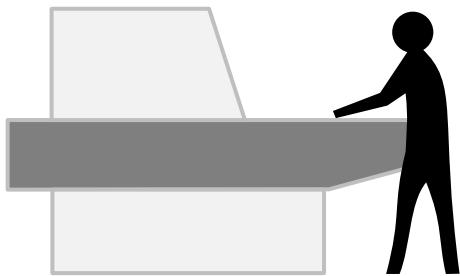
AOI 4.0⁺

Increase Capability

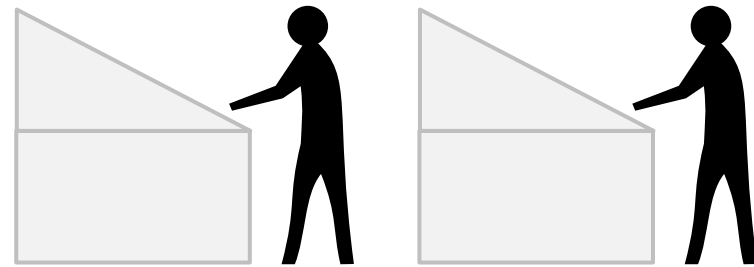
Substantially Reduce the Manpower to Recheck



Traditional review equipment and manpower



1 Traditional AOI

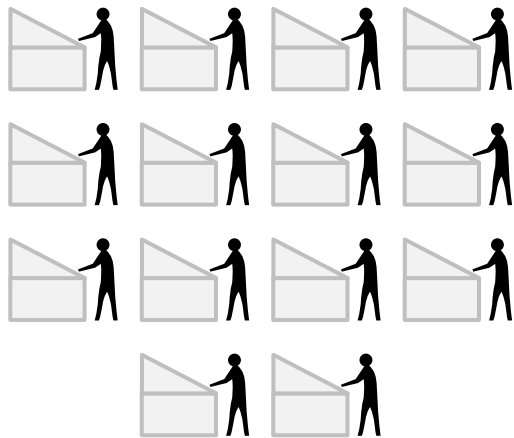


2 VRS

AOI 4.0 vs. AOI 4.0+

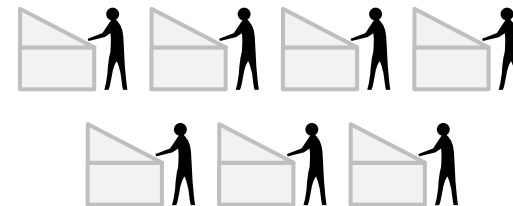
7
AOI 4.0

+



7
AOI 4.0+

+



Benefit

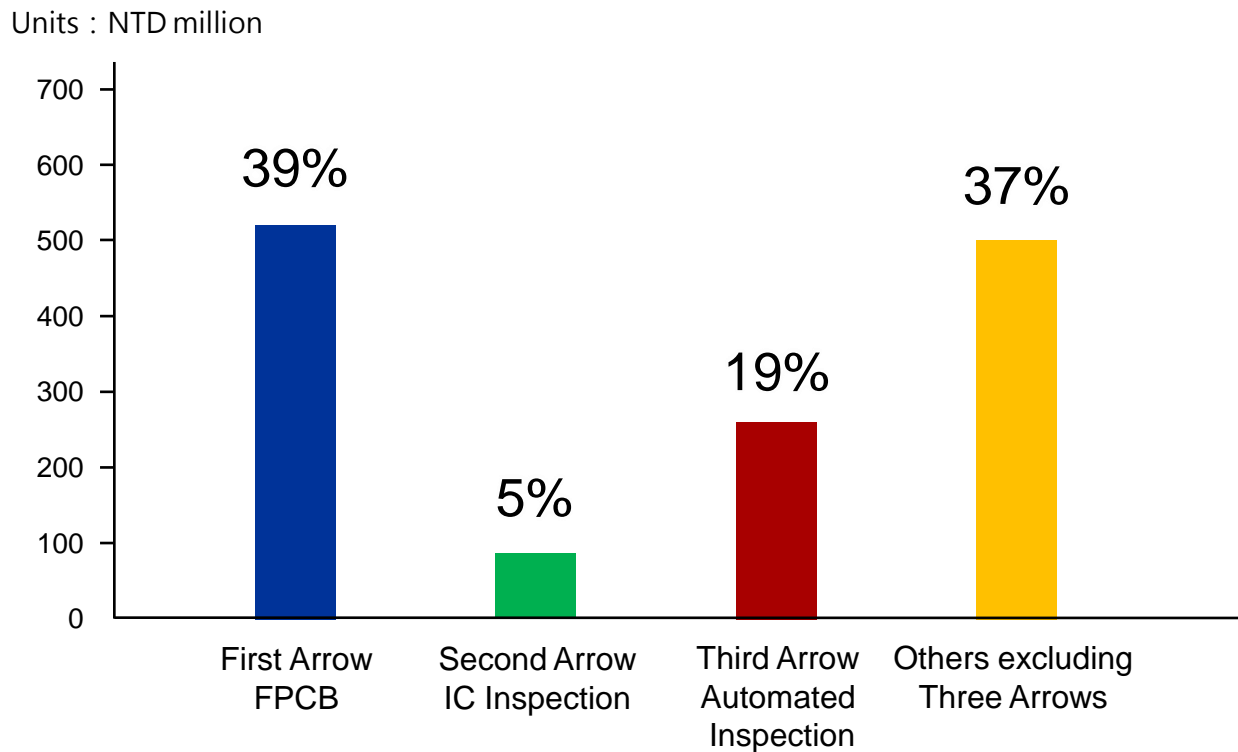
AOI 4.0 Reduce **21** Manpower and **6** Equipments Maintenance Fees

+ Recheck Equipmet Reduce **21** Manpower & **7** Equipments Maintenance Fees

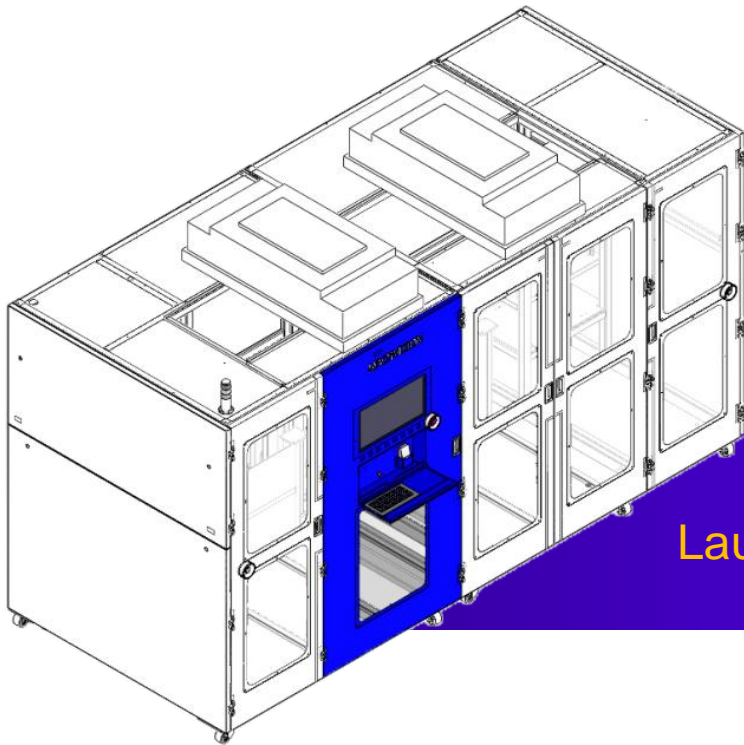
AOI 4.0+ Reduce **42** Manpower & **13** Equipments Maintenance Fees

Revenue of Three Arrows

► 2017



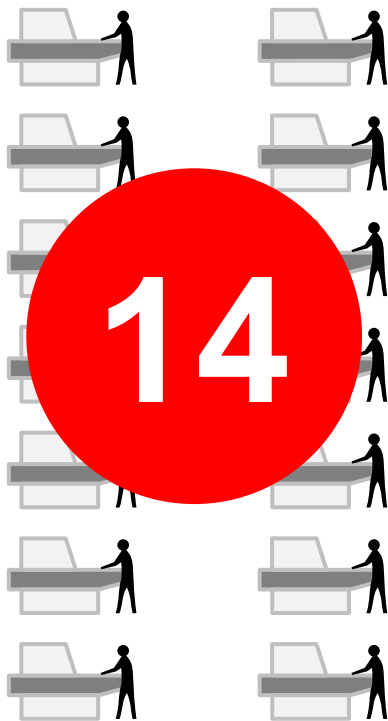
RTR FPCB Circuit AOI



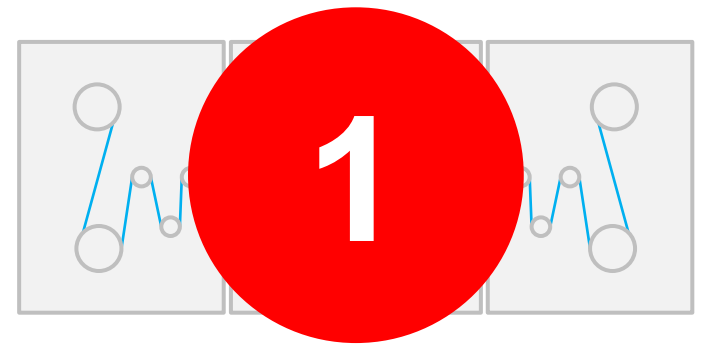
FPCB AOI 4.0

Launch FAOI to Reduce FPCB manpower

Double-Sided 25cm FAOI Capacity Comparison



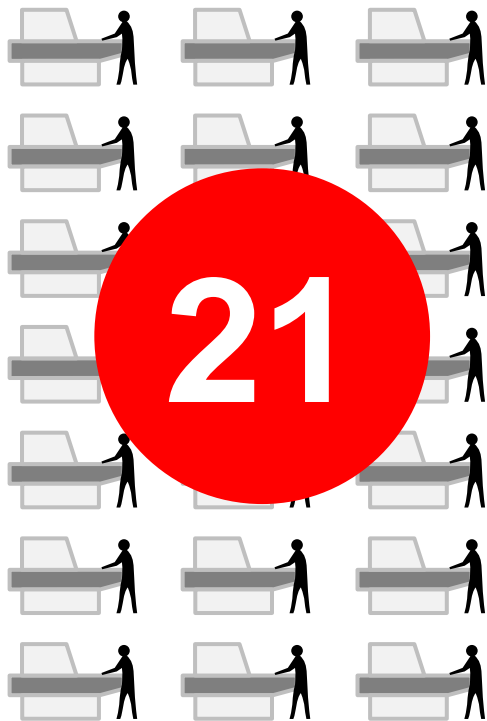
vs



Single Equipment + Manpower

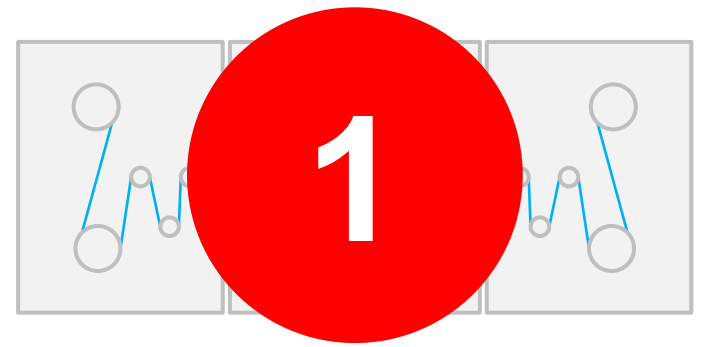
Double-Sided FAOI

Double-Sided 50cm FAOI Capacity Comparison



21

vs

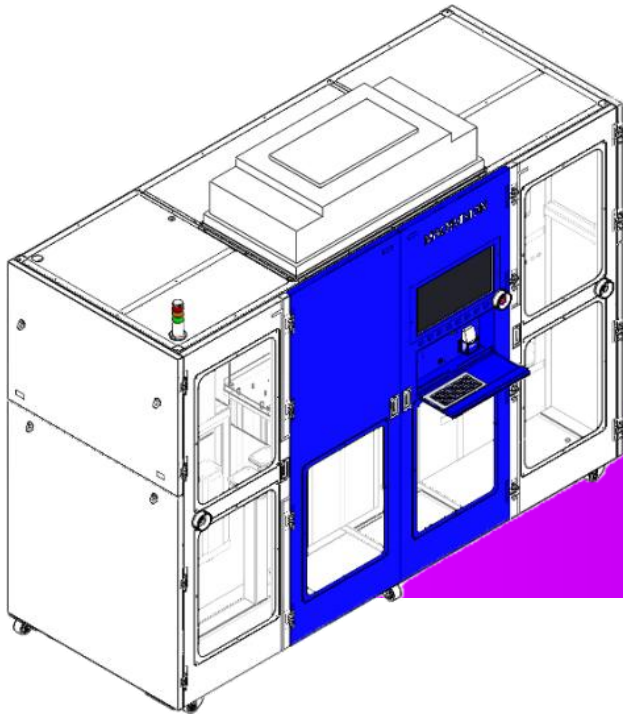


1

Single Equipment + Manpower

Double-Sided FAOI

RTR COF AOI



RTR COF AOI

Apply AVI & AOI Technology to Respond to the Rapid Demand in the COF Market

New Target Market Size : 2018 New Products

2 billion

Market of COF:
1 billion per year

Market of FPCB:
1 billion per year



Unit : NTD K

項目	2017 (Q1~Q3)	2016 (Q1~Q3)	Change	%
Revenue	898,325	556,893	341,432	61%
Gross Profit	551,675	350,159	201,516	58%
Gross margin%	61.40%	62.80%		(2%)
OP Profit	323,471	188,107	135,364	72%
Non-OP	266,639	132,646	133,993	101%
Net Profit	6.26	3.11	3.15	101%



Thank You