

# Solomon Technology Corporation 3D Vision . AI . Robotics

2018

**SOLOMON Technology Corporation** 

# **SOLOMON** Presentation Agenda

- **X** Company Profile
- **※ 3D Optical Introduction and Application**
- ※ Deep Learning Introduction and Application
- ※ Appendix

# **SOLOMON** Solomon Technology Corporation

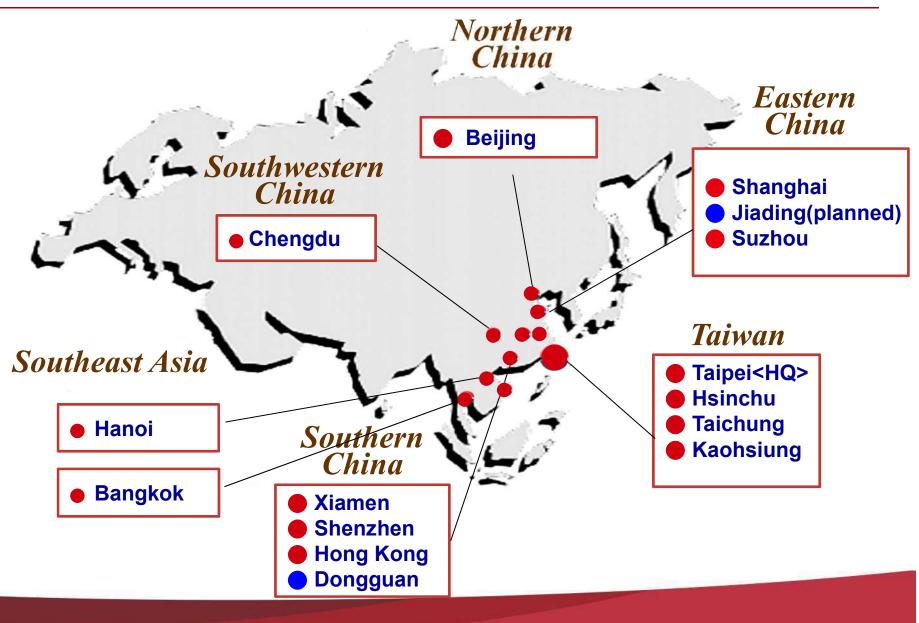
- Established : 1973
- Public Listed : 1996 (TWSE: 2359)
- Capital : NT\$1.71bn
- Consolidated revenue : NT\$4bn (2018 year)

 Main activity : Industrial vision, networking, robotic arm applications, automated control systems, energy equipment, LCD displays and other solutions.





## Locations



# **SOLOMON** Solomon Group Business Unit Struction

### Intelligent Manufacturing

Visual Business Unit IoT Business Unit System Integration Business Unit Robotic Business Unit

## **Power Business**

**Technology Business Unit Gas Genset Business Unit** 

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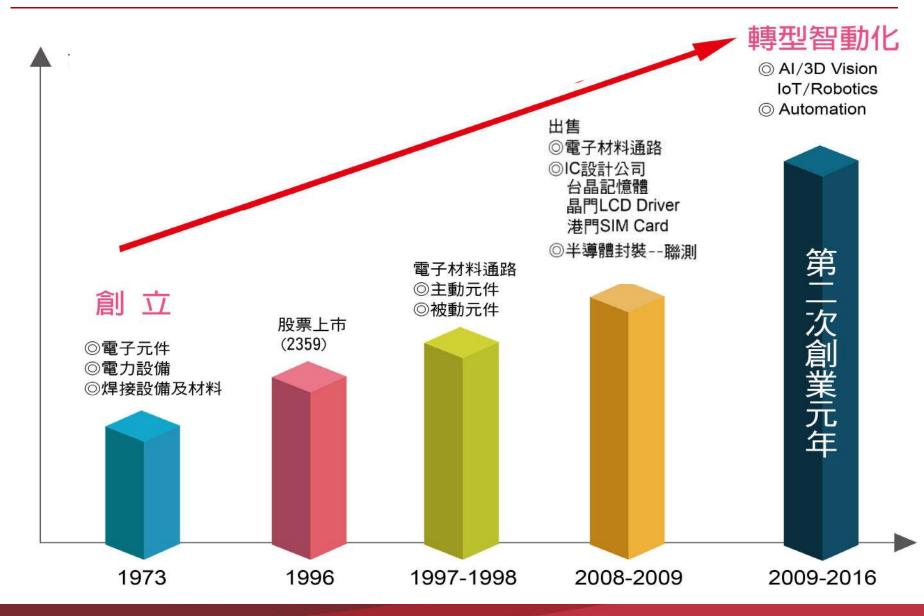
#### **Automation Business**

Automation Business Unit Encompass Business Unit LCD Business (Angency) SGD (Manufacture) Data International (Manufacture) Others Component Business Hygiene Business

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## **Development**



# **SOLOMON** Presenation Agenda

## **X Company Profile**

## **※ 3D Optical Introduction and Application**

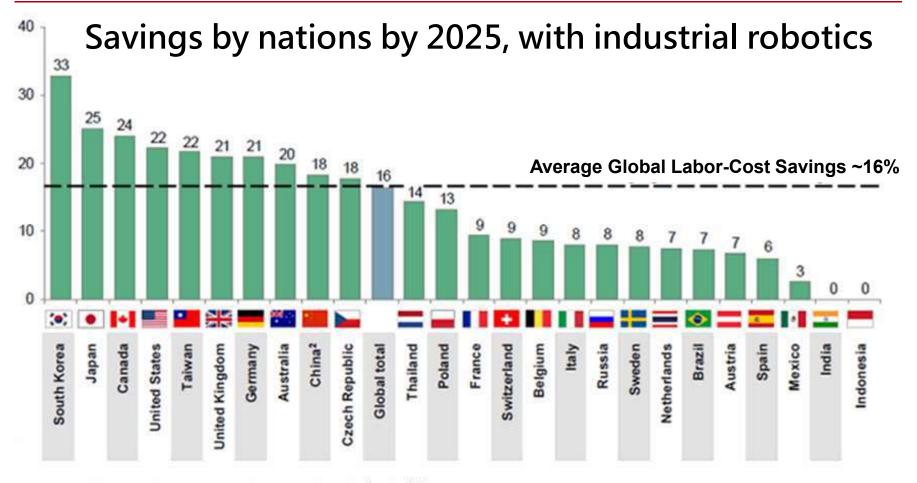
X Deep Learning Introduction and Application

**X** Appendix

# **SOLOMON** Intelligent Automated Robotic Industry

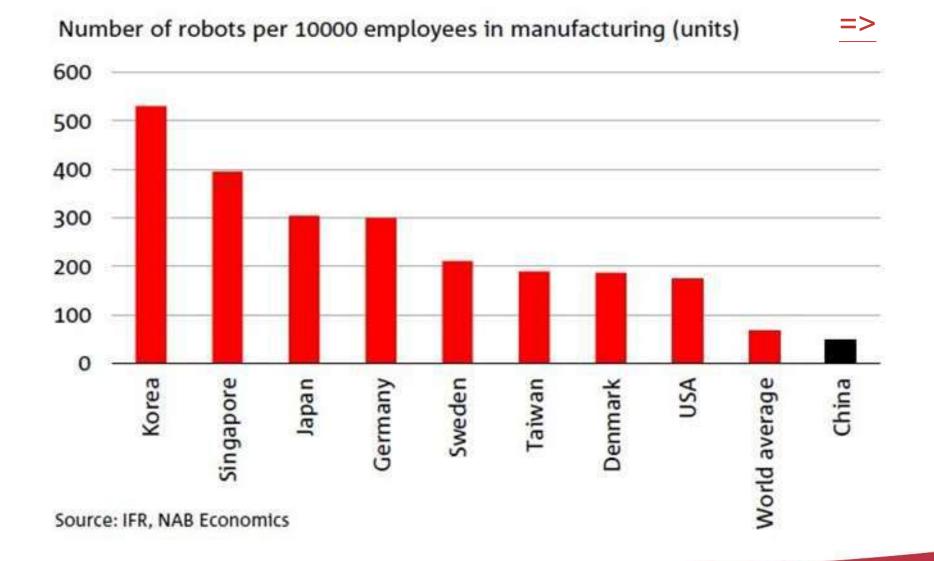
- Traditional industrial automation market trend
- Industrial robotic implementation rate is still relatively low <u>=></u>
  - Safety
  - Hardware and Software user friendliness
  - To obtain Universal Robots distribution rights =>
- Robots need to be more intelligent in order to be used in a massive scale
  - Eyes 3D Optical
  - Brain Al Deep learning
  - Wrist and Finger Strength sensor and pinching testing jigs

# **SOLOMON** Labor Cost Reduced by Industrial Robotics



Source : Boston Consulting Group, 2015年2月↔

# **SOLOMON** Robotic Usage Has Large Room to Grow







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Achieve what 2D optical can not

## For example:

- Automated Shoe Lacing = >
- 3D random object identification and categorization
  => => => =>
- Automatically determining 3D routes =>
- Can be apply to manufacturing, logistics, retail, warehouse
- Can also used with non industrial applications
  - Medical 3D scan =>
  - Museum 3D scan =>
- Self driving vehicles or drones

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## Mission Impossible by Adidas

Source : 2017-04-25 Freedom Times

# Adidas says manufacturing to return to Euro and the States is an illusion

Adidas' CEO Kasper Rorsted says that Trump' s pressuring manufacturers to return to the States is an illusion. Asian countries long term supply chain foundation is solid, impeccable. Emphasizing his point of view applies to the whole sport ware industry •....

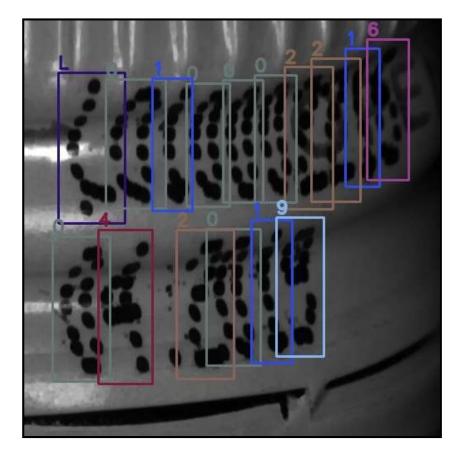
He also pointed out Asian factories' automated manufacturing will improve immensely, but with over 120 steps in producing Adidas shoes, some steps still need to be hand made. "Shoe manufacturing' s biggest challenge is that how to automate the process of shoe lacing, it is done manually today, no technology out there can do this" Rorsted said.

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## **Deep Learning Case Studies (Food)**





# **SOLOMON** Deep Learning Case Studies (Shoe and Textile)

| Needle<br>machine<br>inspection | Shoe logo<br>inspection | Fabric<br>inspection |
|---------------------------------|-------------------------|----------------------|
|---------------------------------|-------------------------|----------------------|

# **SOLOMON** Deep Learning Case Studies (Action)





- Inspect what traditional AOI can not, such as random faults and patterns.
- Commercialized packaged software.
- User only need to use minimum amount of samples, no need to write any programs
- Includes 2 modes: Supervised learning and Unsupervised learning



## Certified by Cobot, Leading Brand in 3D Optical

#### ◎ UR is the world's biggest robotic brand, 400 distributors world wide

|                                     | k 3D   Universal ×                              | 100                           | -                   |                      | 1000          |                   | <u>e</u> l. |     |
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## **Robotic Exhibitions**



Japan Robot Association Vice President-橋本康彥, Visiting Tokyo Shows at Solomon's Booth

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#### Kawasaki and Solomon Joint Effort to Develop Japanese Market

#### Kawasaki cooperating with Solomon, promoting Solomon's 3D Optical and Deep Learning products



# **SOLOMON** 2018 Taiwan Excellence Award

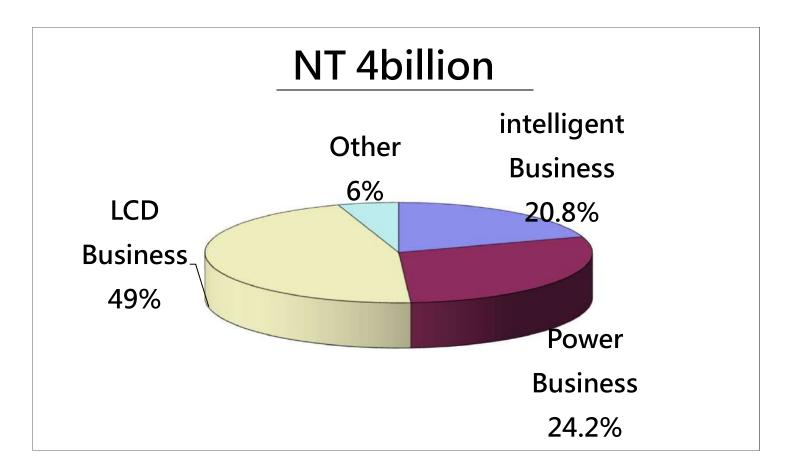


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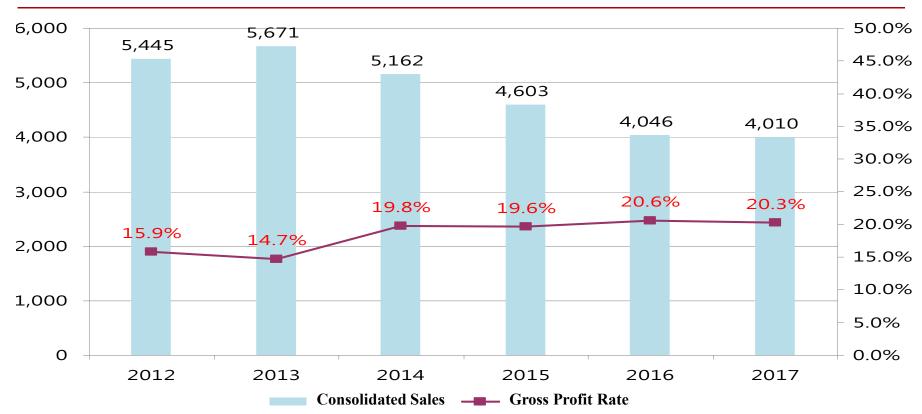


2017 year - Consolidated Sales





## **Operating Performance**

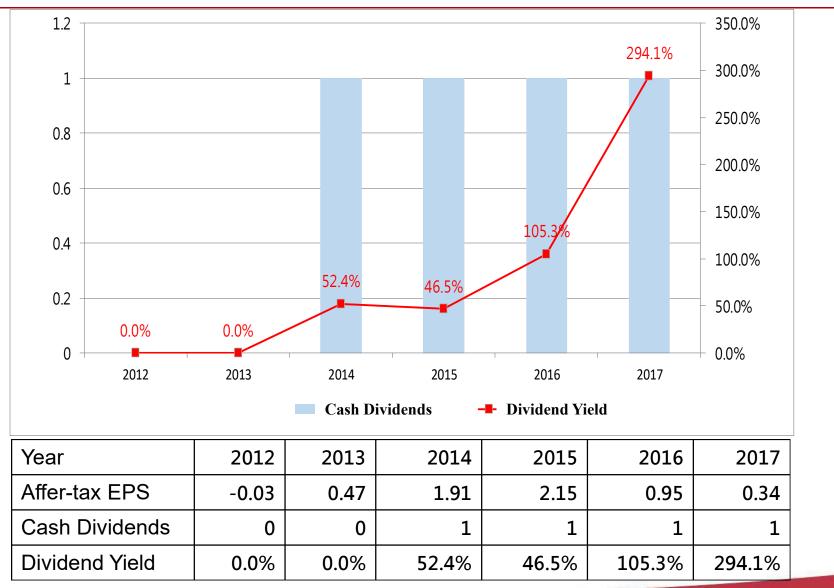


#### **Unit: NTD million**

|                    | 2012  | 2013  | 2014  | 2015          | 2016  | 2017  |
|--------------------|-------|-------|-------|---------------|-------|-------|
| Consolidated Sales | 5,445 | 5,671 | 5,162 | 4,603         | 4,046 | 4,010 |
| Gross Profit Rate  | 15.9% | 14.7% | 19.8% | <b>19.6</b> % | 20.6% | 20.3% |
| Net Income         | (5)   | 87    | 339   | 369           | 162   | 59    |



**Dividend Policy** 





# Thank You.

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