



# Hermes Microvision, Inc.

## Investor Presentation

March 2015



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# I. Introduction to HMI



# HMI Highlights

## Company Profile

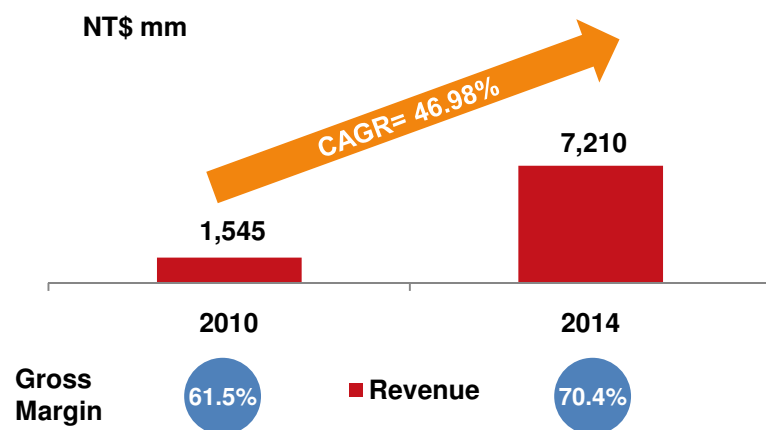
- World's leading supplier of EBI tools and solutions
- Founded in 1998, headquartered in Hsinchu, Taiwan
- Listed on GreTai Securities Market (Ticker: 3658)
- 665 employees, of which 234 are R&D engineers, as of December 31, 2014

## Leading-edge Inspection Tools and Solutions

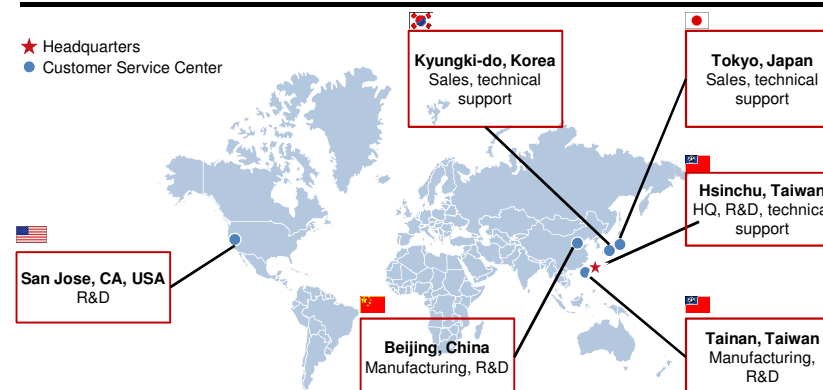


**HMI** HERMES  
MICROVISION

## Robust Growth Momentum



## Global Footprint

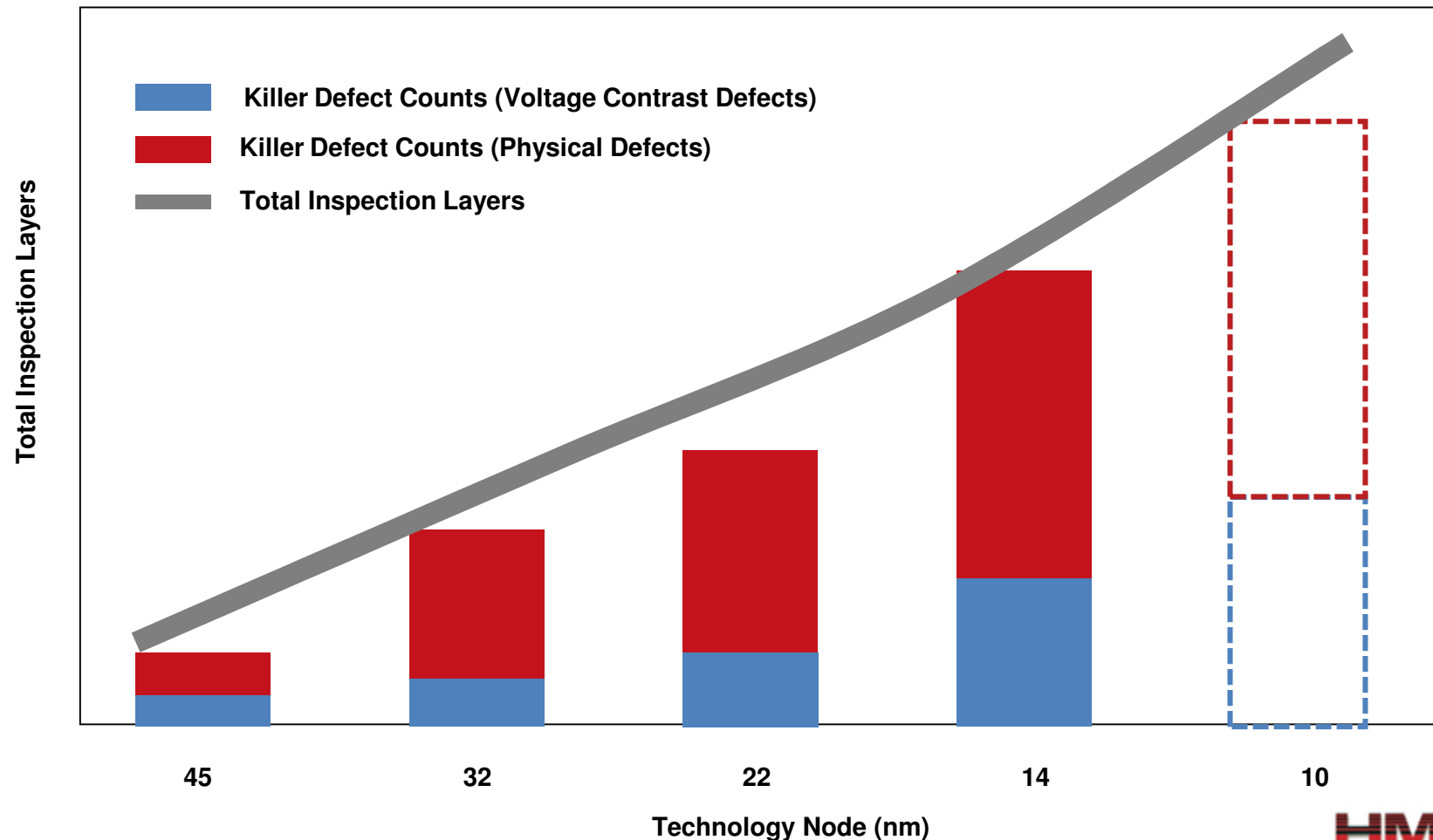


Source: Company Filings

**HMI** HERMES  
MICROVISION

# Advanced Geometries and Complex Processes Require Enhanced Precision for Yield Improvement

As technology nodes become smaller, inspection tools with higher resolutions will be required to meet the needs



Source: Company Data

# E-Beam Meeting the Challenges of Technology Advancement

Optical inspection does not meet the challenges of advanced node evolution due to low sensitivity and the inability to detect electrical defects in addition to physical defects



**Optical Inspection**



**E-Beam Inspection**

	vs.	
Medium	<b>Resolution</b>	High
Fast	<b>Scanning Speed</b>	Slower
Physical defects	<b>Defects Capability</b>	Nano-scaled physical defects; electrical defects
45nm: Image blurred 28nm: Extremely difficult	<b>Sensitivity</b>	Below 10nm
Largely adopted in manufacturing process above 40nm	<b>Current Application</b>	Advanced process research and development and mass production
Sampling at each stop Large area scanning	<b>Scanning</b>	At crucial process stops Used for high risk wafer areas
~90%	<b>Market Share</b>	~10%
High	<b>Technology Difficulty</b>	High
High	<b>Price</b>	Lower
KLA Tencor; Applied Materials	<b>Major Suppliers</b>	HMI; KLA Tencor

Source: Company Data



# Overview of HMI's Product Portfolio

## Diversified Product Offerings and Capabilities

### Process Optimization

Early discovery of defect to increase yield and reduce cost

#### Wafer Inspection

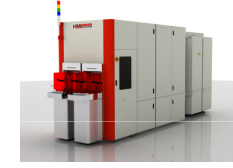
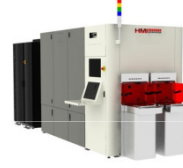
#### In-line Monitoring

#### Defect Analysis

##### ePTM Series

##### eScan® Series

##### Supernova™



#### Product

ePTM4

eScan®500

eScan®400

SkyScan™5000

NanoScan™2000

Supernova™

#### Description

Hotspot inspection and CDU process monitoring system

Highest sensitivity for large-area defect inspection

High throughput defect inspection

Millions+ hotspot in-line monitoring

Application-specific in-line monitoring

Advanced D2DB inspection system and defect Analytics

#### Key Advantages

- Highest detection sensitivity to physical defects
- Innovative platform to enable highest scan throughput
- Built-in GDS engine to expand the use space of powerful CDU methodology to inline monitor process drift and effective hot-spot monitoring
- Suitable for 10nm and 7nm nodes

- Longest lifetime for advanced fabs
- Highest sensitivity to defect of interest signature detection in large area or full die
- Effective for litho induced DOIs for OPC improvement
- Highest image fidelity and linearity in large scan area for advanced D2DB inspection
- Most advanced defect binning algorithm
- Suitable for 14nm and 10nm nodes

- Largest area coverage with highest defect sensitivity for inline process control
- Proprietary technology for precision positioning of stage and e-beam on the fly
- Vector scan technology to focus on potential hot spots for high resolution with low queue time for inline monitoring
- Suitable for 14nm and 10nm ramp and HVM

- Cost-efficient high throughput in-line CDU monitoring
- Advanced defect detection algorithms with HMI's unique CDU capability enables quick feedback for inline monitoring
- Advanced defect review and classification algorithm for ease of control process excursion

- Advanced GDS D2DB inspection for most demanding defect capturing, analysis, and classification analytics
- In-line D2DB analysis with instantaneous defect report for fast R&D cycles;
- Unique D2DB algorithm with highest defect capture and lowest nuisance

#### Scan Mode

Hotspot Inspection

Multi-Function

Continuous Scan

Vector Scan

Hotspot Monitoring

#### Mainstream application

Logic / Memory

Logic / Memory

Memory

Logic

Logic / Memory

#### Design / Manufacturing

In-house

In-house

In-house

In-house

In-house

#### Highest Resolution

2nm

3nm

10nm

3nm

2nm

Source: Company Filings, Company Website



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## II. Key Investment Highlights



# Key Investment Highlights

**1**

**Clear Beneficiary of Fast Growing Semiconductor Process Control Segment**

**2**

**Leading Expertise in E-Beam Inspection Technology**

**3**

**Strong Partnerships with Industry Leaders Based on Technology and Services**

**4**

**Integrated Business Model Delivering Superior Operating Efficiency**



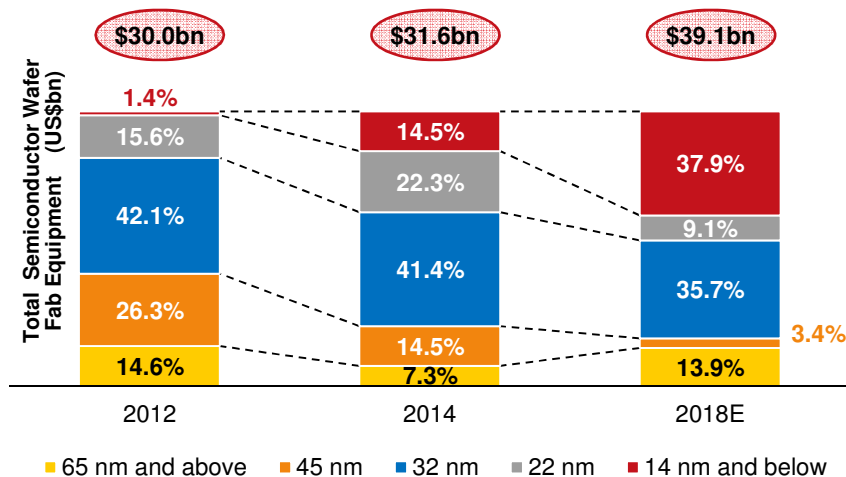
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# Clear Beneficiary of Fast Growing Semiconductor Process Control Segment

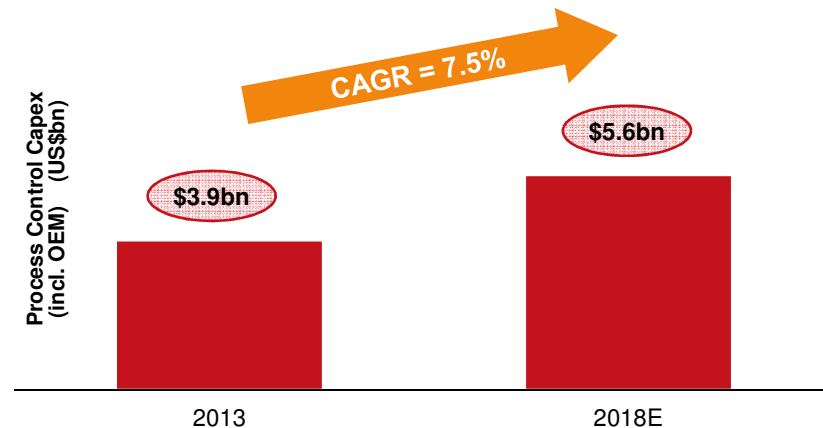
Industry Transitioning to Smaller Technology Nodes



Increasing Importance of Advanced Technology Nodes



Investment in Process Control Tools on the Rise

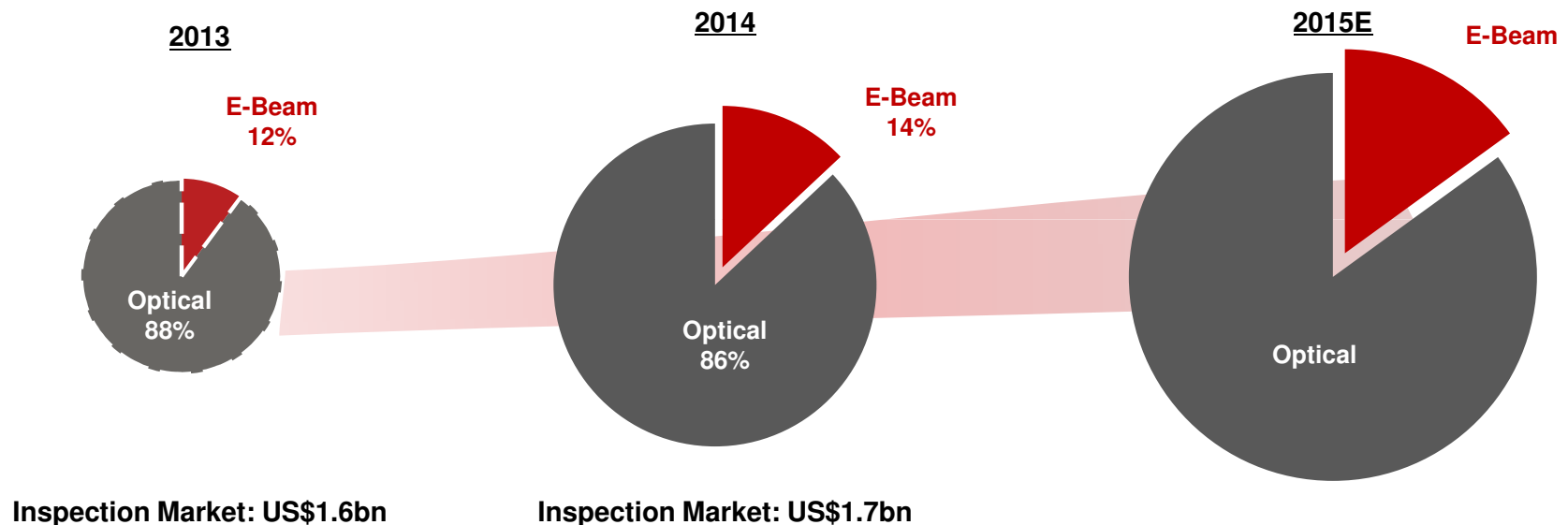


Source: Company Filings, Gartner Research

1

# Clear Beneficiary of Fast Growing Semiconductor Process Control Segment

The distinct advantages of EBI over optical at advanced technology nodes encourages increasing adoption of EBI in wafer inspection. HMI continues to focus on new growth initiatives that include high productivity, low CoO and massive parallel scanning technologies/tools for HVM inline applications

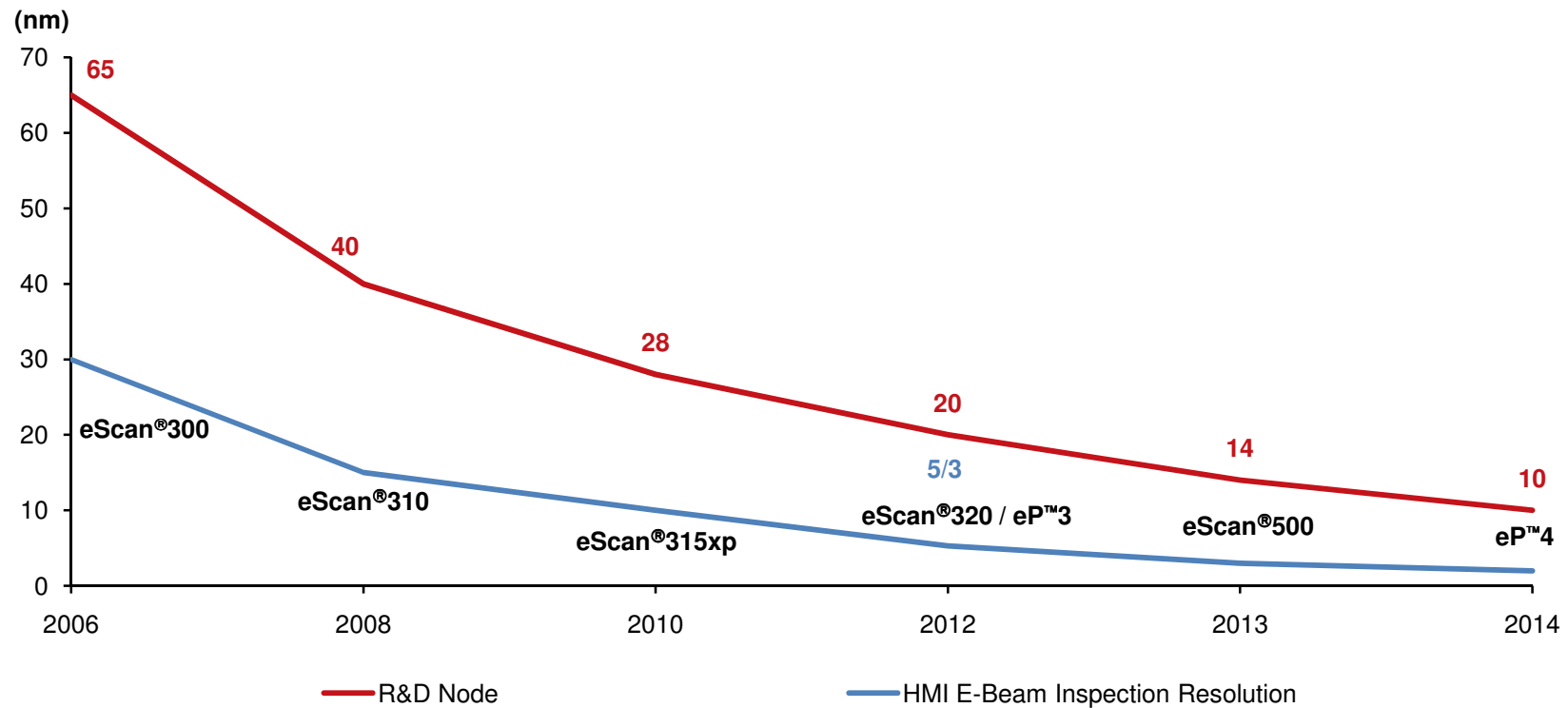


Source: Company Filings, Gartner Research

## 2

## Leading Expertise in E-Beam Inspection Technology

HMI has achieved approximately a 30% improvement in resolution with every generation of tech node evolution



HMI is committed to leading technology innovation through R&D

Source: Company filings



3

## Strong Partnerships with Industry Leaders Based on Technology and Services

### Partnerships for Long-term Success

#### Top IDMs<sup>1</sup>



#### Top Foundries



<sup>1</sup> IDM (Integrated Device Manufacturers) includes both logic and memory IC companies.  
Source: Company Filings, Gartner Research

### HMI's Winning Business Model

- ☑ HMI *teams up with customers in R&D* and shares the benefits of innovation
- ☑ HMI *customizes to meet different needs*
- ☑ HMI *provides instant customer service globally*
- Our customer service centers are located where our customers are located

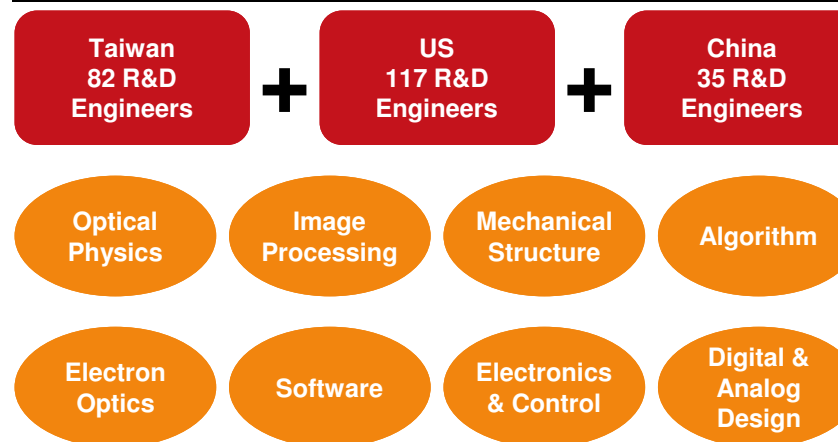
## 4

# Integrated Business Model Delivering Superior Operating Efficiency

## Key Technologies

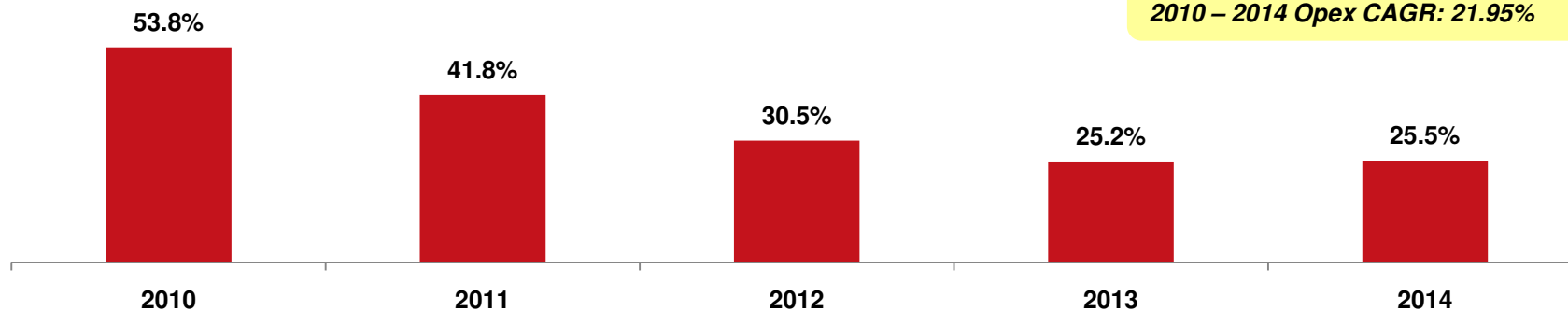
- ☑ Designs all and manufactures 80% of the key components, modules and systems in-house, which ensures uniqueness, quality, performance and lifetime of products while providing cost advantages
- ☑ Extensive technological expertise in:
  - E-Beam system: e-optics, deflection, imaging
  - Algorithm: image comparison and defect detection
  - Mechanical systems: vacuum and precision movement
  - GDS analysis: defect tracking and analysis database

## Multi-Disciplinary R&D Team



## Strong Operating Leverage

### Operating Expense as % of Revenues



2010 – 2014 Revenue CAGR: 46.98%  
2010 – 2014 Opex CAGR: 21.95%

Source: Company Filings

# Growth Strategies

**1**

**Continue to focus on R&D to extend technology leadership**

**2**

**Diversify product offerings and capabilities**

**3**

**Continue to strengthen partnerships with customers**

**4**

**Continue to evaluate and make strategic investments**

**5**

**Attract, train, and retain top talent**

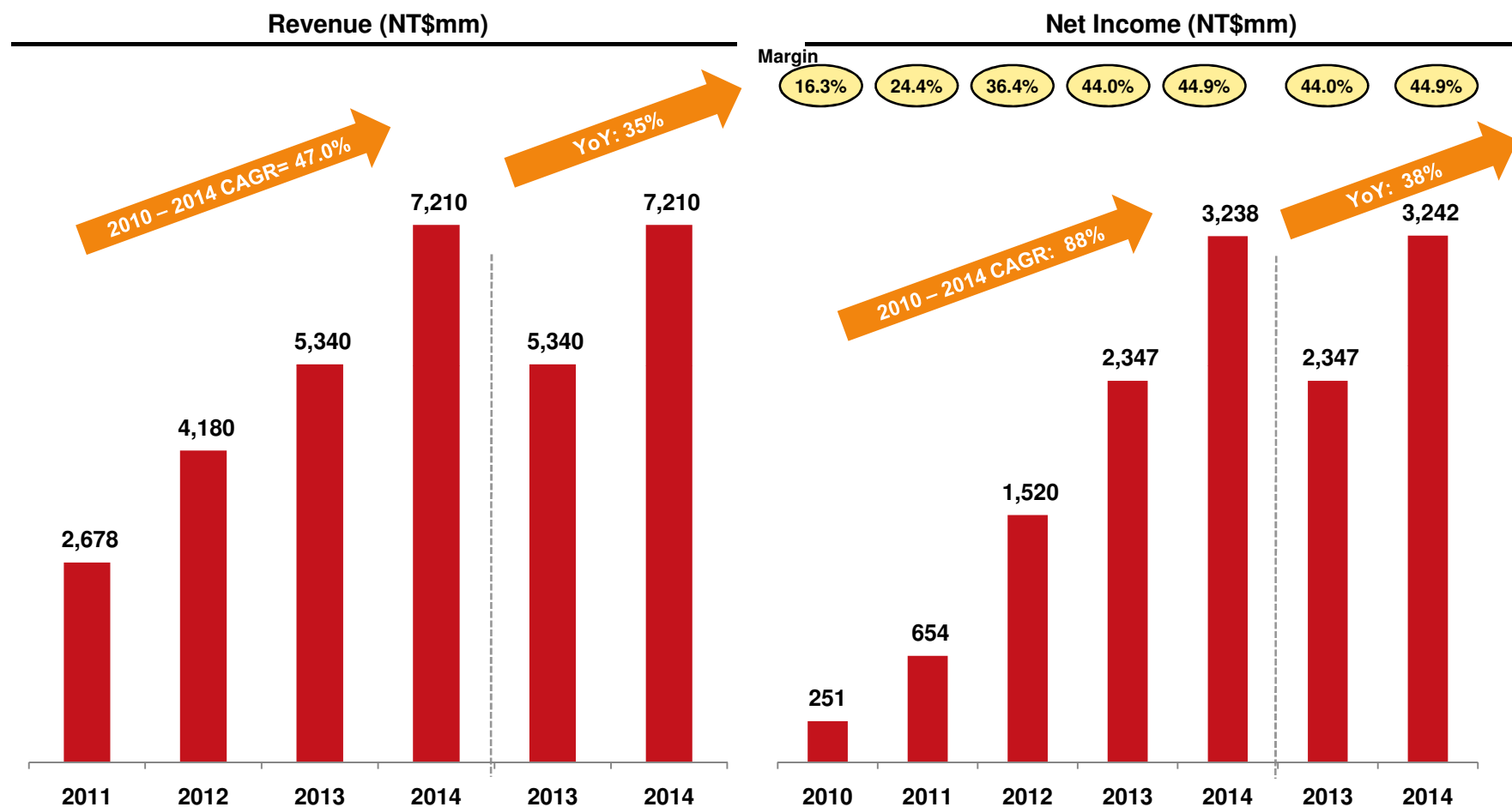


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## III. Financial Highlights



# Robust Revenue Momentum and Profitability

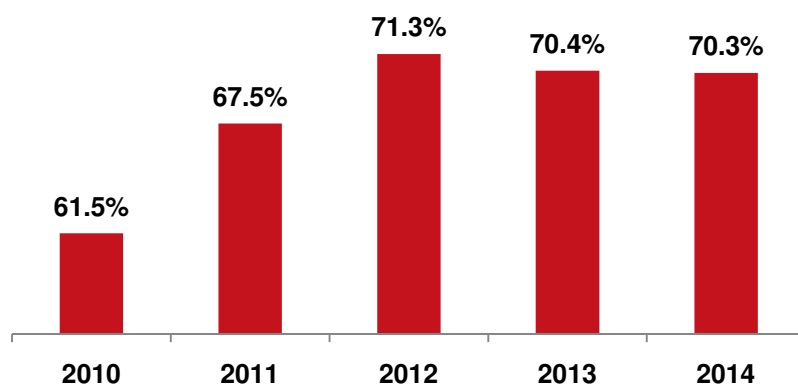


Source: Company Filings

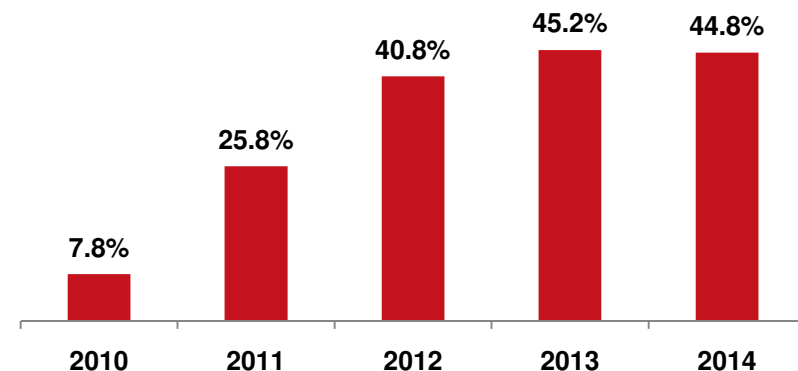
\* Profit for the period, excluding other comprehensive income.

# Attractive Margin Profile Attributable to Competitive Cost Structure

## Gross Margin

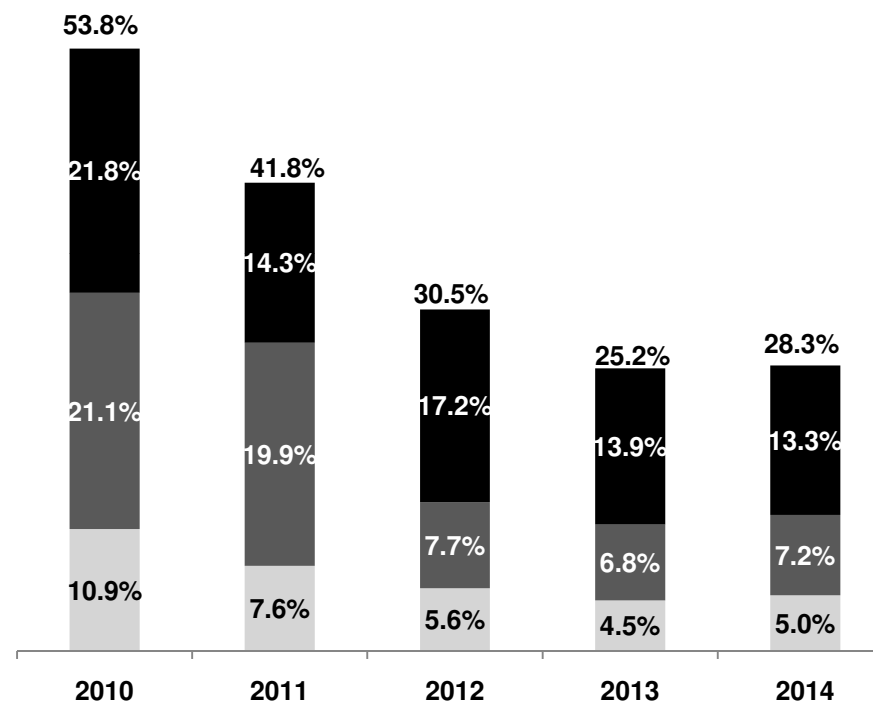


## Operating Margin



## Disciplined Cost Structure

Operating Expense  
as % of Revenues



- General and Administrative Expenses
- Selling Expenses
- R&D Expenses

Source: Company Filings



# Healthy Balance Sheet and Strong Cash Flow Position

## Selected Balance Sheet Items

NT\$mm	2010	2011	2012	2013	2014
<b>Cash and Cash Equivalents</b>	<b>742</b>	<b>612</b>	<b>2,776</b>	<b>5,371</b>	<b>7,396</b>
Financial Asset at Fair Value through Profit or Loss	-	-	-	-	1,102
Bond Investment without Active Market- Current	-	-	-	2,891	1,266
Short-Term Borrowings	1,571	657	-	-	-
Long-Term Debt	-	-	-	-	-
<b>Total Debt</b>	<b>1,571</b>	<b>657</b>	<b>-</b>	<b>-</b>	<b>-</b>
Total Common Equity	729	1,354	3,867	9,694	11,828
Minority Interest	13	21	33	39	47
<b>Total Equity</b>	<b>742</b>	<b>1,375</b>	<b>3,900</b>	<b>9,733</b>	<b>11,875</b>
<b>Total Liabilities And Equity</b>	<b>2,777</b>	<b>2,740</b>	<b>5,188</b>	<b>11,852</b>	<b>15,126</b>

## Selected Cash Flow Statement Items

NT\$mm	2010	2011	2012	2013	2014
<b>Cash from Operations</b>	<b>(267)</b>	<b>821</b>	<b>1,858</b>	<b>2,171</b>	<b>3,130</b>
Capex	(15)	(53)	(46)	(147)	(489)
<b>Cash in (from) Investing</b>	<b>(19)</b>	<b>(62)</b>	<b>(52)</b>	<b>(3,048)</b>	<b>26</b>
Dividend	-	-	(264)	(792)	(1,136)
<b>Cash in (from) Financing</b>	<b>699</b>	<b>(902)</b>	<b>347</b>	<b>3,446</b>	<b>(1,136)</b>

Source: Company Filings

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# Q&A

**[http://www.hermes-microvision.com/  
investor@hermes-microvision.com](http://www.hermes-microvision.com/investor@hermes-microvision.com)**



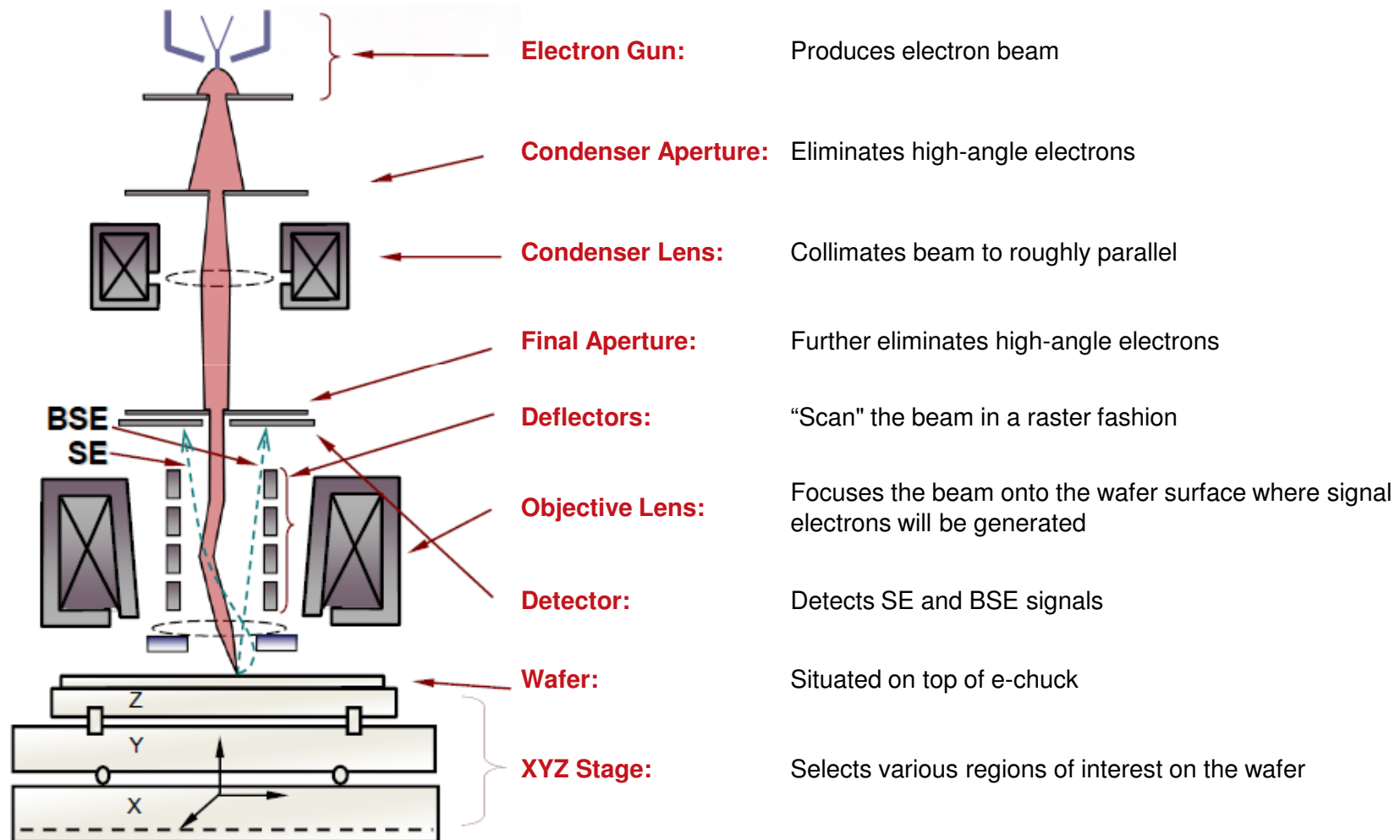
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# APPENDIX



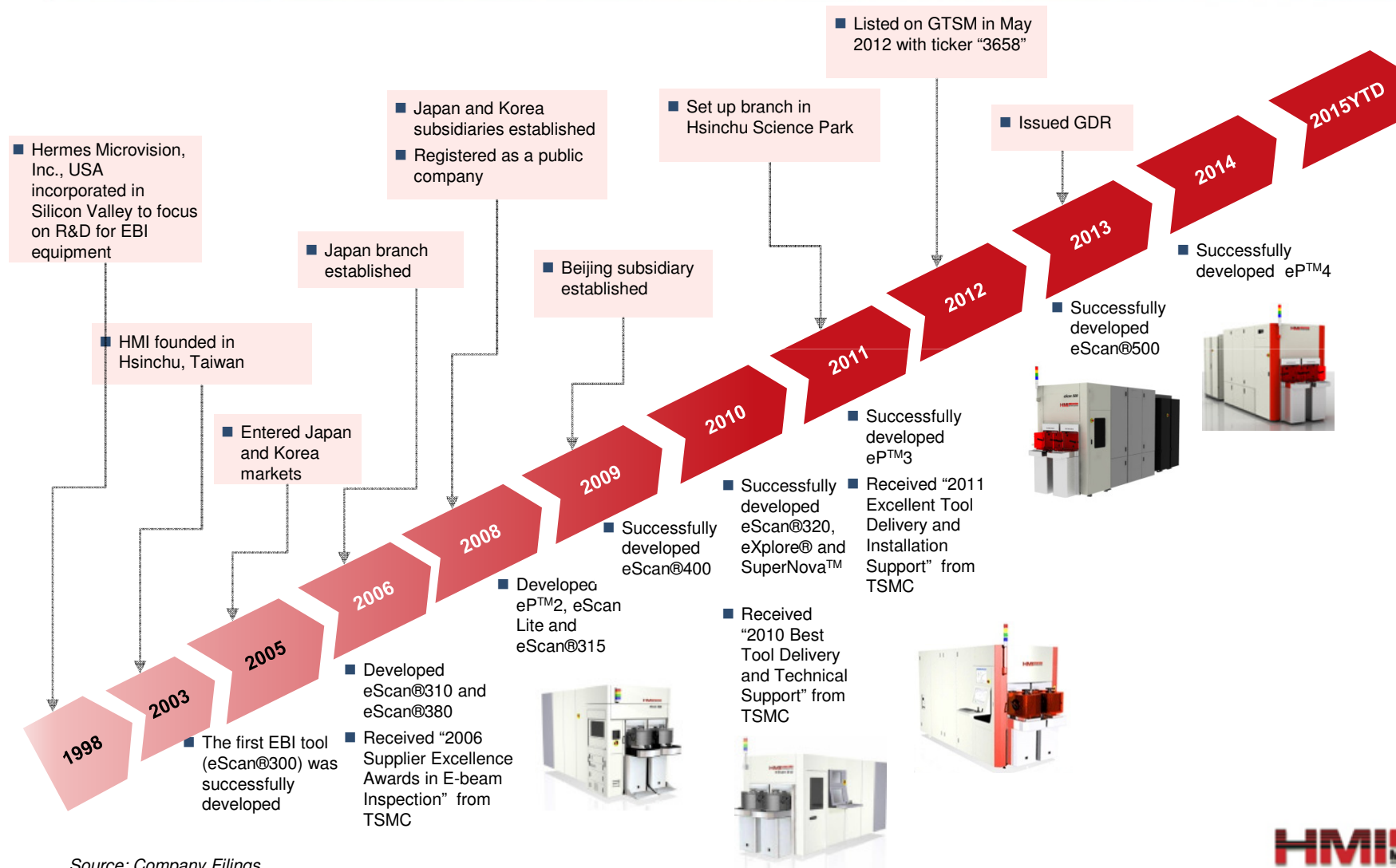


# How Does E-Beam Technology Work



Source: Company Filings

# History and Key Milestones



Source: Company Filings

# Summary Income Statement

NT\$mm, unless otherwise stated	2010	2011	2012	2013	2014
<b>Total Revenue</b>	<b>1,545</b>	<b>2,678</b>	<b>4,180</b>	<b>5,340</b>	<b>7,210</b>
<i>YoY Growth %</i>	<i>32.3%</i>	<i>73.3%</i>	<i>56.1%</i>	<i>27.8%</i>	<i>35.0%</i>
<b>Gross Profit</b>	<b>951</b>	<b>1,808</b>	<b>2,981</b>	<b>3,758</b>	<b>5,065</b>
<i>Margin %</i>	<i>61.5%</i>	<i>67.5%</i>	<i>71.3%</i>	<i>70.4%</i>	<i>70.3%</i>
<b>Operating Expenses</b>	<b>(831)</b>	<b>(1,118)</b>	<b>(1,274)</b>	<b>(1,347)</b>	<b>(1,837)</b>
<i>As % of Total Revenue</i>	<i>(53.8)%</i>	<i>(41.8)%</i>	<i>(30.5)%</i>	<i>(25.2)%</i>	<i>(25.5)%</i>
<b>Operating Income</b>	<b>120</b>	<b>690</b>	<b>1,707</b>	<b>2,412</b>	<b>3,228</b>
<i>Margin %</i>	<i>7.8%</i>	<i>25.8%</i>	<i>40.8%</i>	<i>45.2%</i>	<i>44.8%</i>
<b>Net Income</b>	<b>251</b>	<b>654</b>	<b>1,520<sup>1</sup></b>	<b>2,347<sup>1</sup></b>	<b>3,242<sup>1</sup></b>
<i>Margin %</i>	<i>16.3%</i>	<i>24.4%</i>	<i>36.4%</i>	<i>44.0%</i>	<i>45.0%</i>
<b>Diluted EPS (NT\$)</b>	<b>6</b>	<b>11</b>	<b>23</b>	<b>35</b>	<b>46</b>
<i>YoY Growth %</i>	<i>NM</i>	<i>89.5%</i>	<i>116.1%</i>	<i>50.3%</i>	<i>30.0%</i>

Source: Company Filings

<sup>1</sup> Profit for the period, excluding other comprehensive income.

# Summary Balance Sheet

NT\$mm	2010	2011	2012	2013	2014
Cash and Cash Equivalents	743	612	2,776	5,371	7,396
Financial Asset at Fair Value through Profit or Loss	-	-	-	-	1,102
Bond Investments without Active Markets- Current	-	-	-	2,891	1,266
Accounts Receivable – Third Parties	722	653	848	1,557	2,662
Inventories, Net	1,074	1,190	1,279	1,516	1,745
Total Current Assets	2,587	2,523	4,972	11,444	14,298
Property, Plant and Equipment	132	168	170	335	750
<b>Total Assets</b>	<b>2,777</b>	<b>2,740</b>	<b>5,188</b>	<b>11,852</b>	<b>15,126</b>
Short-term Loans	1,571	657	-	-	-
Provisions for Liabilities – Current	130	219	577	972	1,471
Total Current Liabilities	2,008	1,300	1,199	2,035	3,162
Other Liabilities	27	65	89	84	89
<b>Total Liabilities</b>	<b>2,035</b>	<b>1,365</b>	<b>1,288</b>	<b>2,119</b>	<b>3,251</b>
<b>Total Stockholders' Equity</b>	<b>742</b>	<b>1,375</b>	<b>3,900</b>	<b>9,733</b>	<b>11,875</b>
<b>Total Liabilities and Stockholders' Equity</b>	<b>2,777</b>	<b>2,740</b>	<b>5,188</b>	<b>11,852</b>	<b>15,126</b>

Source: Company Filings

# Summary Cashflow Statement

NT\$mm	2010	2011	2012	2013	2014
Depreciation & Amortization	46	52	63	60	62
<b>Cash from Operations</b>	<b>(267)</b>	<b>821</b>	<b>1,858</b>	<b>2,171</b>	<b>3,130</b>
Capex	(15)	(53)	(46)	(147)	(489)
<b>Cash from Investing</b>	<b>(19)</b>	<b>(62)</b>	<b>(52)</b>	<b>(3,048)</b>	<b>26</b>
Dividend	-	-	(264)	(792)	(1,136)
<b>Cash from Financing</b>	<b>699</b>	<b>(902)</b>	<b>347</b>	<b>3,446</b>	<b>(1,136)</b>

Source: Company Filings