

Photronics, Inc.

Global Leader in the Merchant Photomask Industry

21st Annual Needham Growth Conference
January 16, 2019

Safe Harbor Statement

This presentation and some of our comments may contain projections or other forward-looking statements regarding future events, our future financial performance, and/or the future performance of the industry. These statements are predictions, and contain risks and uncertainties. Actual events or results may differ materially from those presented. These statements include words like “anticipate”, “believe”, “estimate”, “expect”, “forecast”, “may”, “should”, “plan”, “project” or the negative thereof. We cannot guarantee the accuracy of any forecasts or estimates, and we are not obligated to update any forward-looking statements if our expectations change. If you would like more information on the risks involved in forward-looking statements, please see the documents we file from time to time with the Securities and Exchange Commission, specifically our most recent Form 10K and Form 10Q.

Non-GAAP Financial Measures

This presentation and some of our comments may reference non-GAAP financial measures. These non-GAAP financial measures exclude certain income or expense items, and are consistent with another way management internally analyzes our results of operations. Non-GAAP information should be considered to be a supplement to, and not a substitute for, financial statements prepared in accordance with GAAP. Please see the “Reconciliation of GAAP to Non-GAAP Financial Information” in this presentation.

A Compelling Investment Thesis

▶ Global leader in merchant photomask industry

- *Delivering growth by leveraging core competencies: Operational Excellence, Low Cost Producer, Technology Leadership, Customer Intimacy*

▶ Investing aggressively to exploit secular growth opportunities

- *China industry expansion – Made in China 2025*
- *Technology inflection from LCD to AMOLED*
- *Explosion of G10.5+ panel capacity*

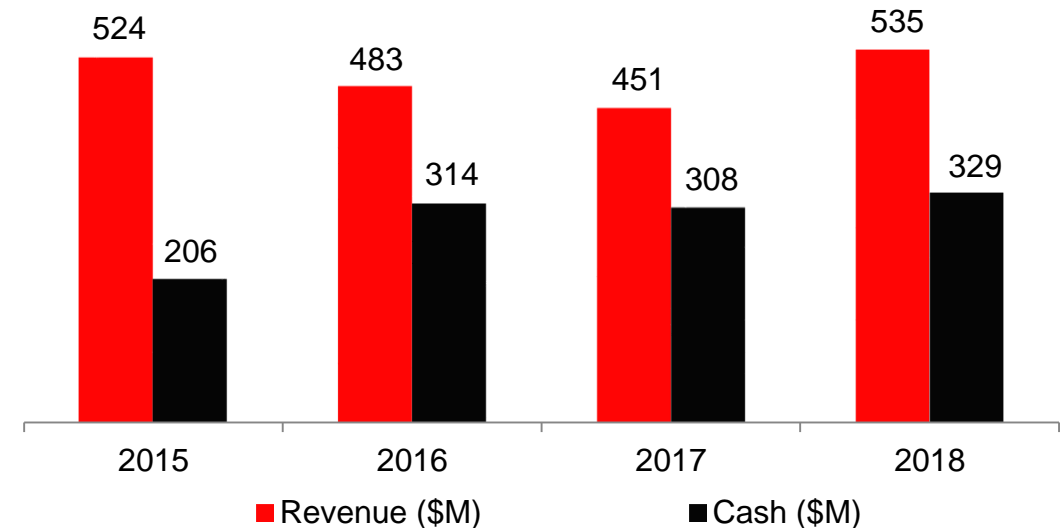
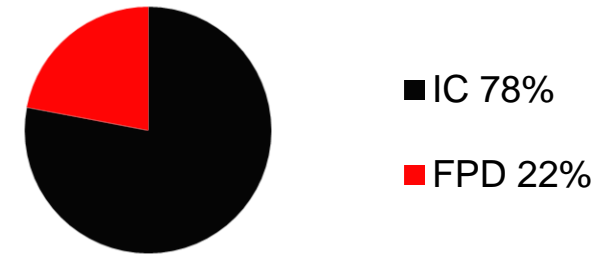
▶ On track for 2020 target: \$630M revenue & \$0.80 EPS

- *Strategic investments bring top-line growth*
- *Operating leverage creates margin expansion*
- *Share repurchase reverses dilution*
- *Additional upside from potential M&A*

Photronics at a Glance

- ▶ Largest merchant photomask manufacturer
- ▶ Unmatched global footprint
- ▶ Investing to exploit market disruptions with reciprocal customer commitments
- ▶ Strong balance sheet to fund growth

2018 Revenue by Product



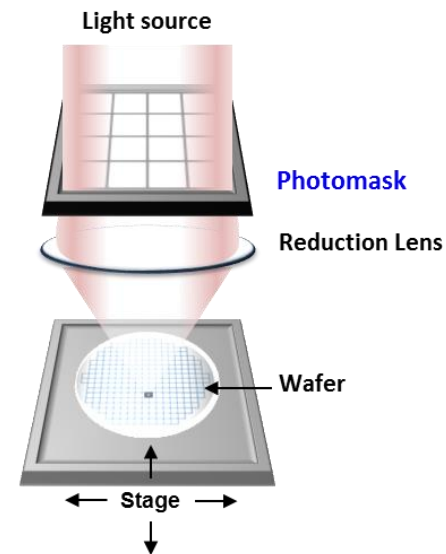
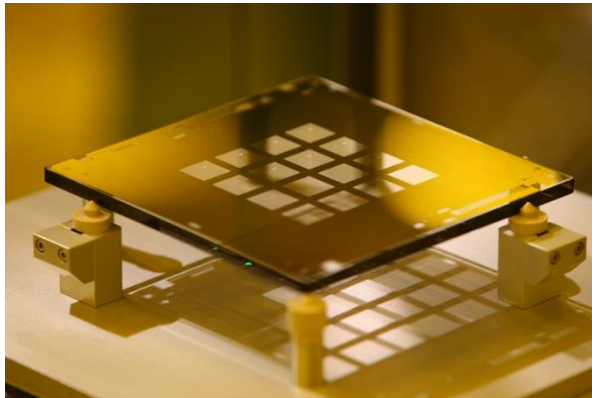
Photomasks are Critical to Electronic Manufacturing

Component
Design

Photomask

Manufacturing
Process

End
User



Core Competencies Underpin Sustainable Growth

Low Cost Producer

**Cost control
Supply chain optimization**

Operational Excellence

**Flexible delivery
High yields**

Customer Intimacy

**Trusted partner
Wafer yield enhancement**

Technology Leader

**Process know-how
Advanced PoR**

Delivering on Growth Commitments

► Repositioned the Company

■ China

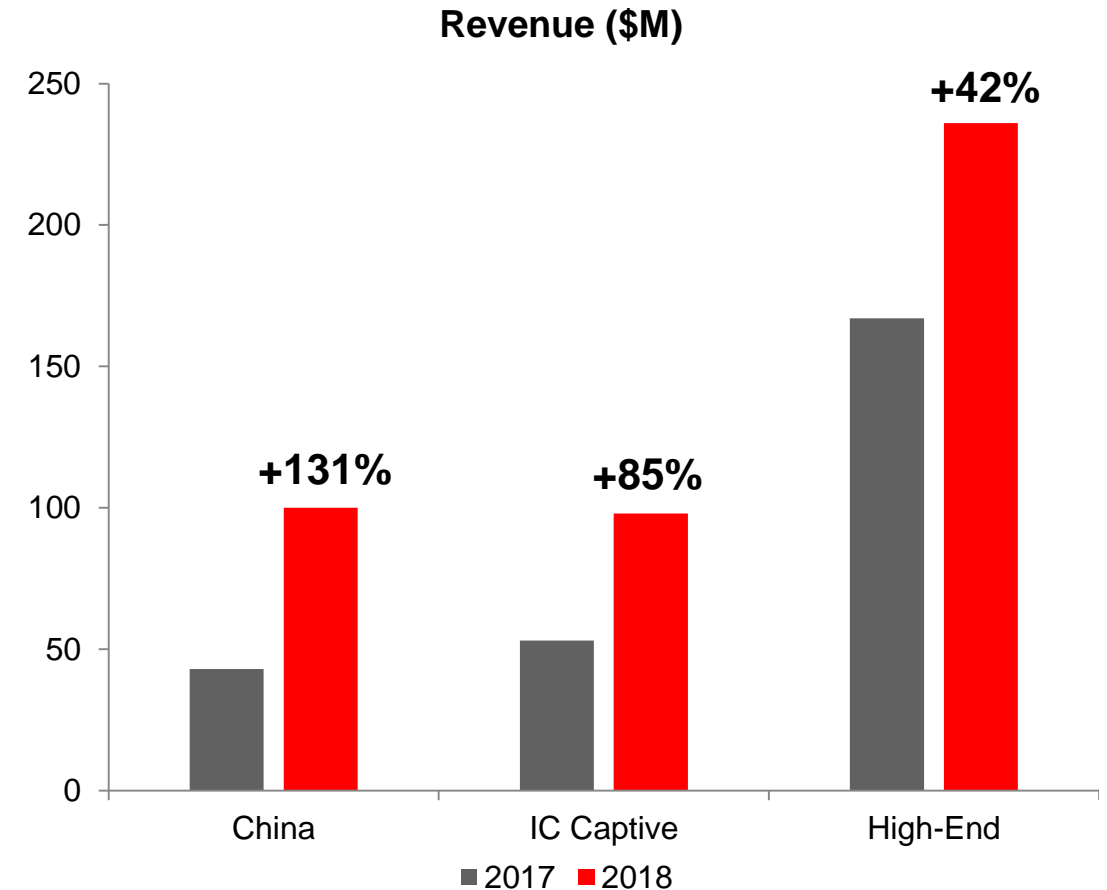
- Total TAM ~\$700M by 2022
- Region with strongest growth potential
- Supported by new manufacturing facilities in 2019

■ IC Captive

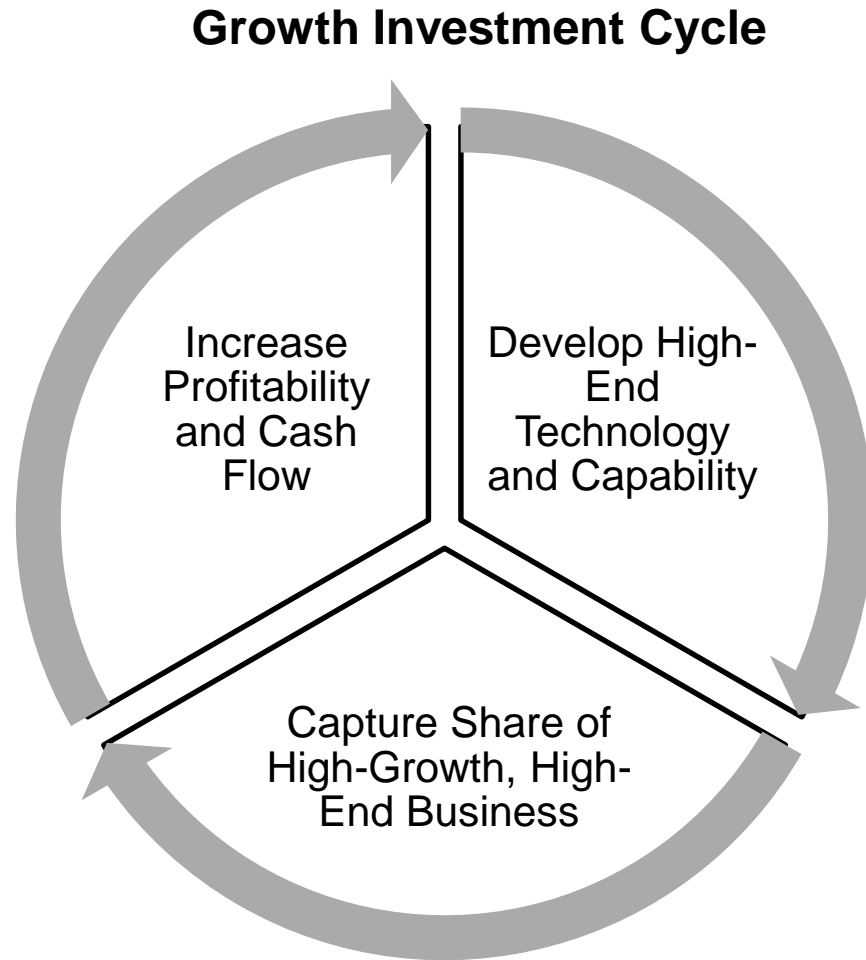
- Approximately \$2.4B TAM
- We are seen as trusted partner
- Commitments strengthen sustainability

► High-end revenue growth

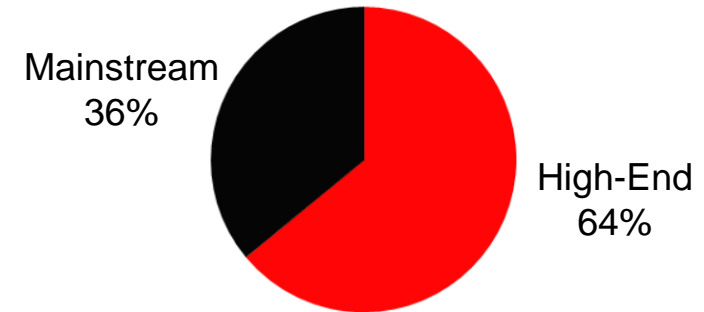
- High value and high growth
- Supports China & captive initiatives



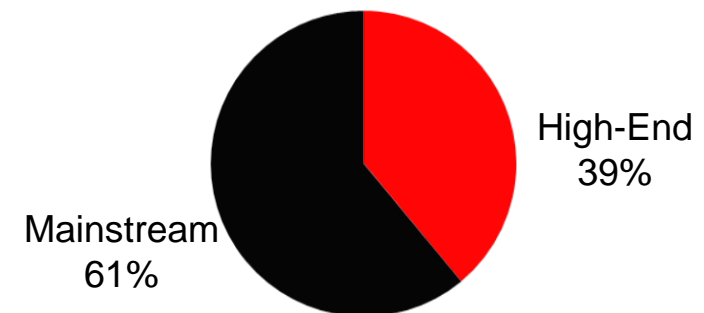
Technology as a Tool to Support Business Growth



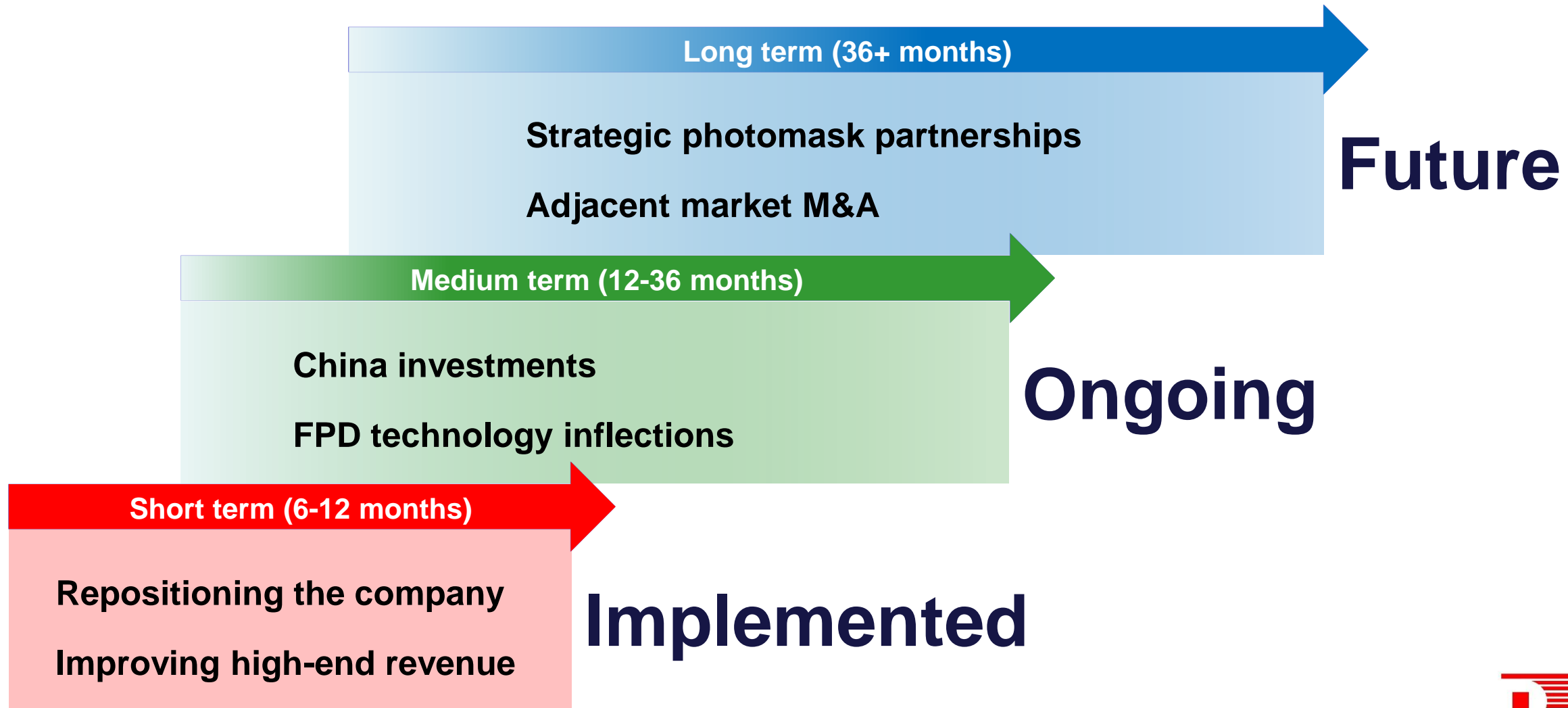
2018 FPD Revenue \$119.2M



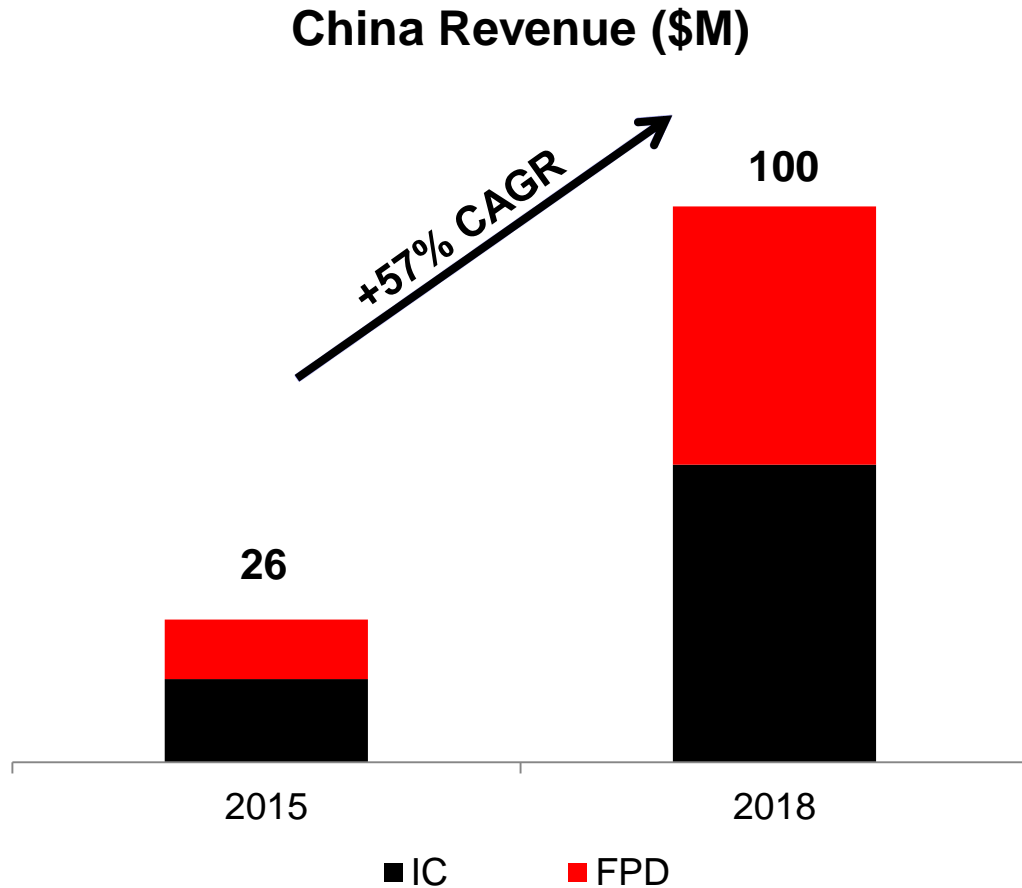
2018 IC Revenue \$416.1M



Driving Sustainable, Profitable Growth



Developing and Growing China Business



▶ We already have growing business in China

- 19% of total revenue in 2018
 - 13% of IC revenue
 - 39% of FPD revenue
- Growing strong since 2015
 - IC +51% CAGR
 - FPD +67% CAGR

▶ Manufacturing presence in China aims to accelerate growth

- Customer contracts will help quickly ramp facilities
- Investment incentives reduce risk and improve returns
- IC JV enables us to compete more effectively

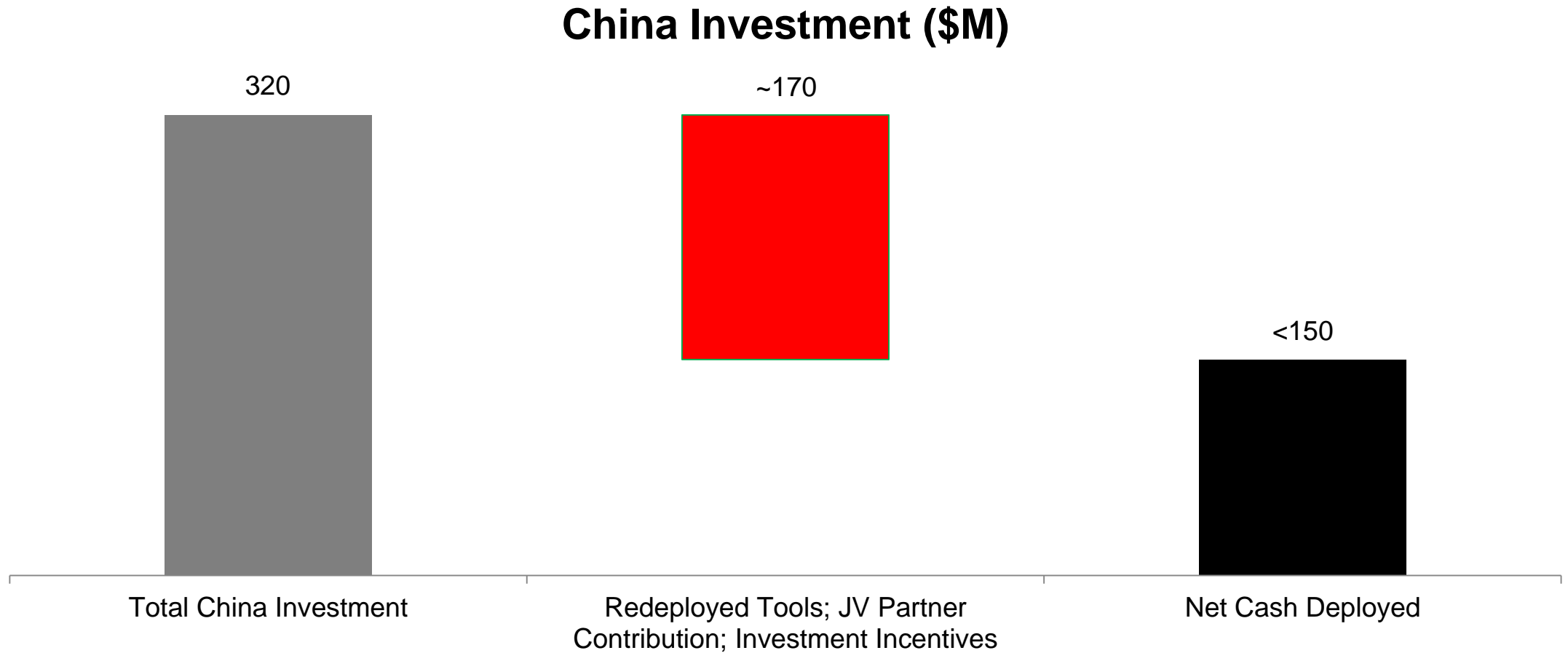
Investing in China Operations

	IC	FPD
Location	Xiamen	Hefei
Investment Amount	\$160M	\$160M
Cleanroom Size	~2,500 m ²	~4,500 m ²
Ownership Structure	Majority-owned (50.01%) JV	Wholly-owned
Technology	High-end, mainstream, logic, memory	Up to G10.5+, AMOLED
Production Start	First half of 2019	First half of 2019
Incremental Revenue	\$150M (total for both operations)	

Customer commitments totaling ~\$300M over next three years
 Enables Hefei facility to operate profitably
 Enables Xiamen facility to achieve breakeven

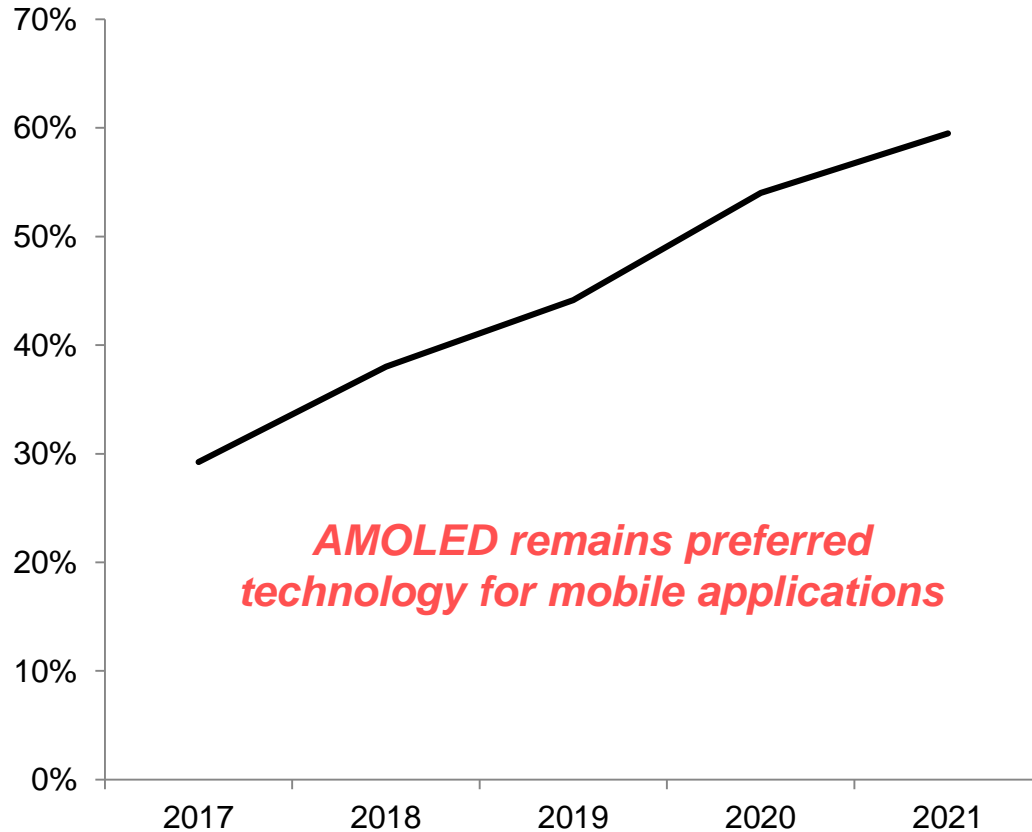
PLAB well positioned for these investments
Global merchant market and technology leader
Strong footprint in Asia
Balance sheet to support investment

Reducing Risk of China Investment



Leveraging Technology Leadership for Mobile Display AMOLED Adoption

Smartphone AMOLED Adoption



Source: Internal Estimates

▶ Mobile devices moving from LCD to AMOLED

- Superior visual characteristics
- Lower power consumption
- Enables flexible format
- Preferred for VR/AR devices

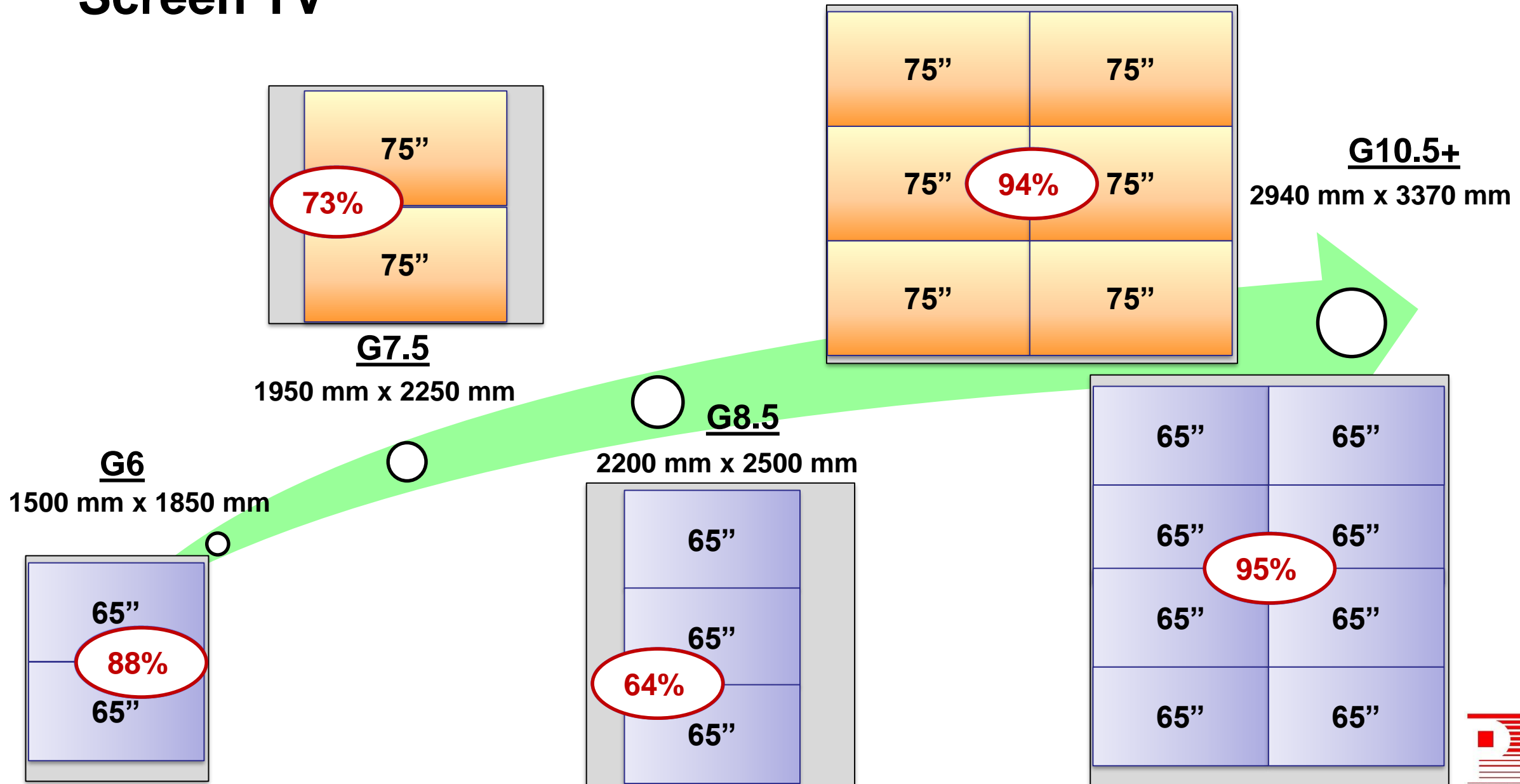
▶ Increases mask complexity

- More mask layers per set
- Tighter specs on each layer

▶ Extending technology leadership with P-800 in Korea

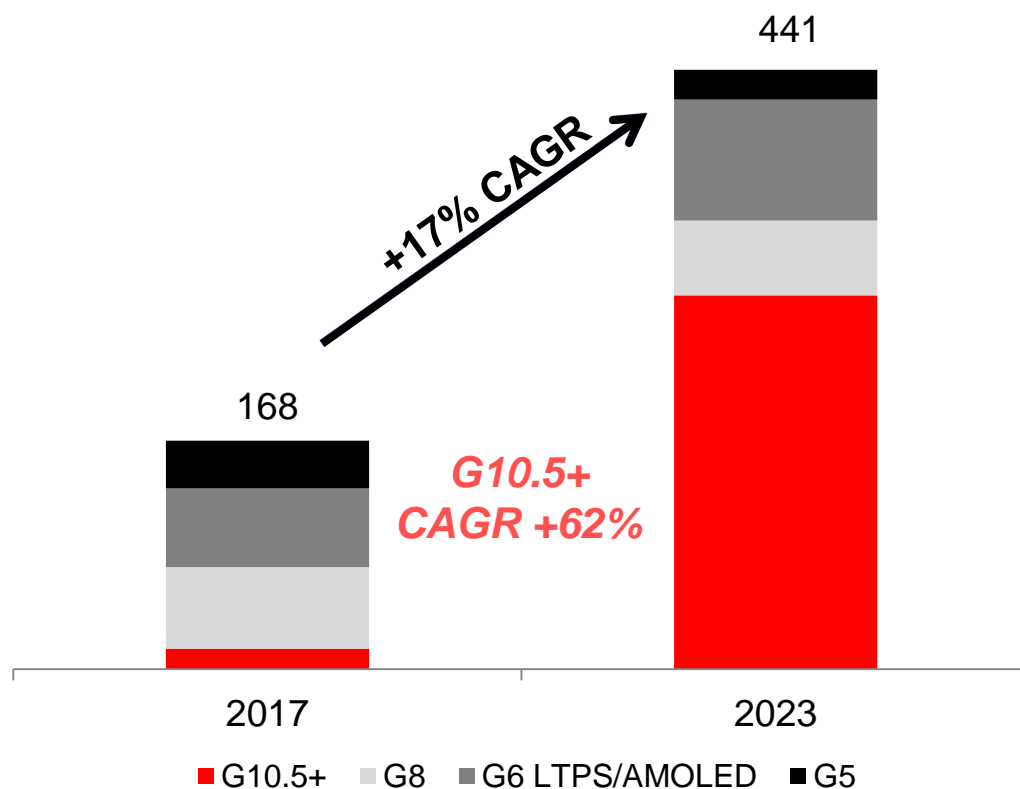
- Only firm with this advanced mask writer
- Produces highest resolution AMOLED masks
- Competitive advantage vs. all merchants and captives

G10.5+ → Improved Glass Efficiency for Ultra-Large Screen TV



“Made in China 2025” Driving Growth in FPD Market

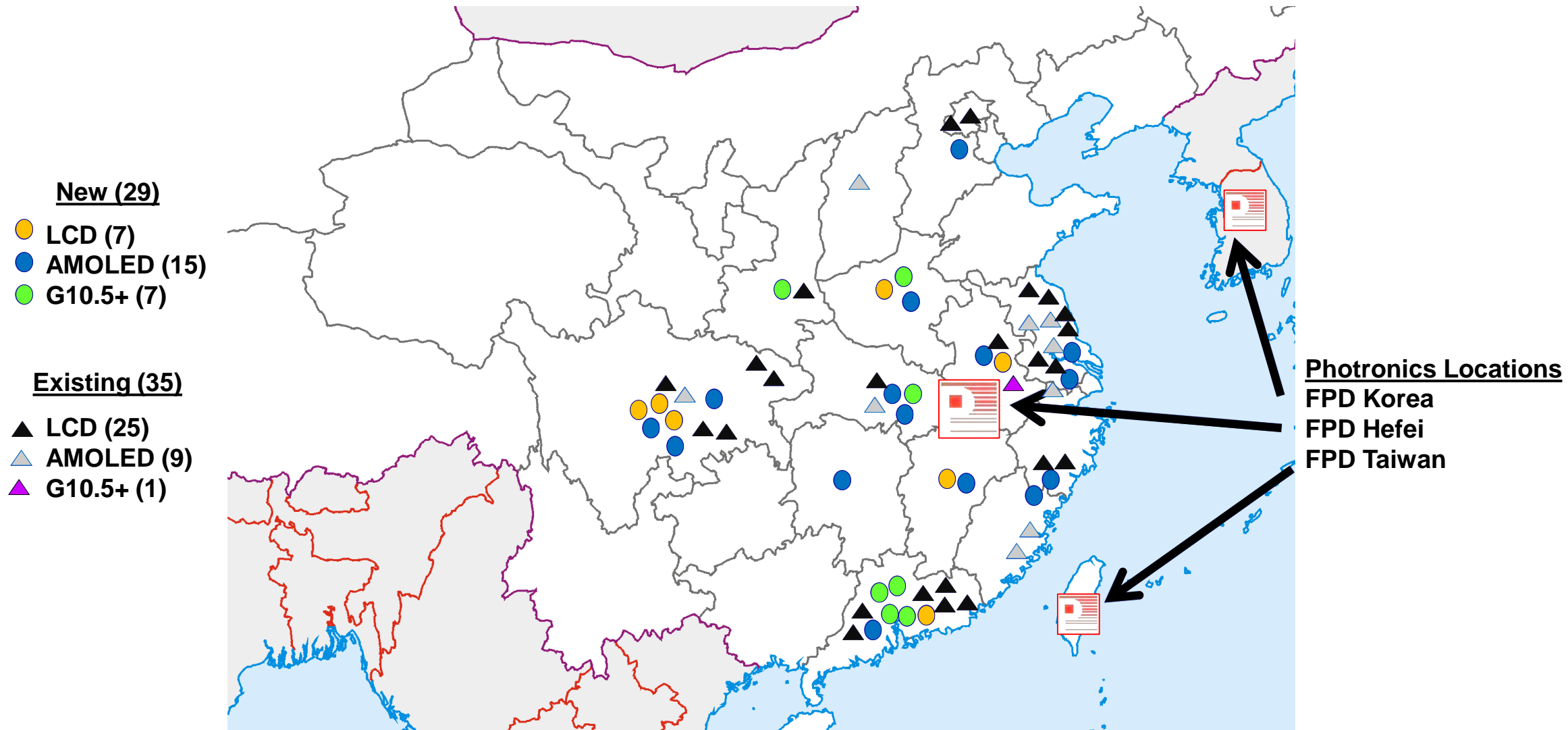
China FPD Mask Production (\$M)



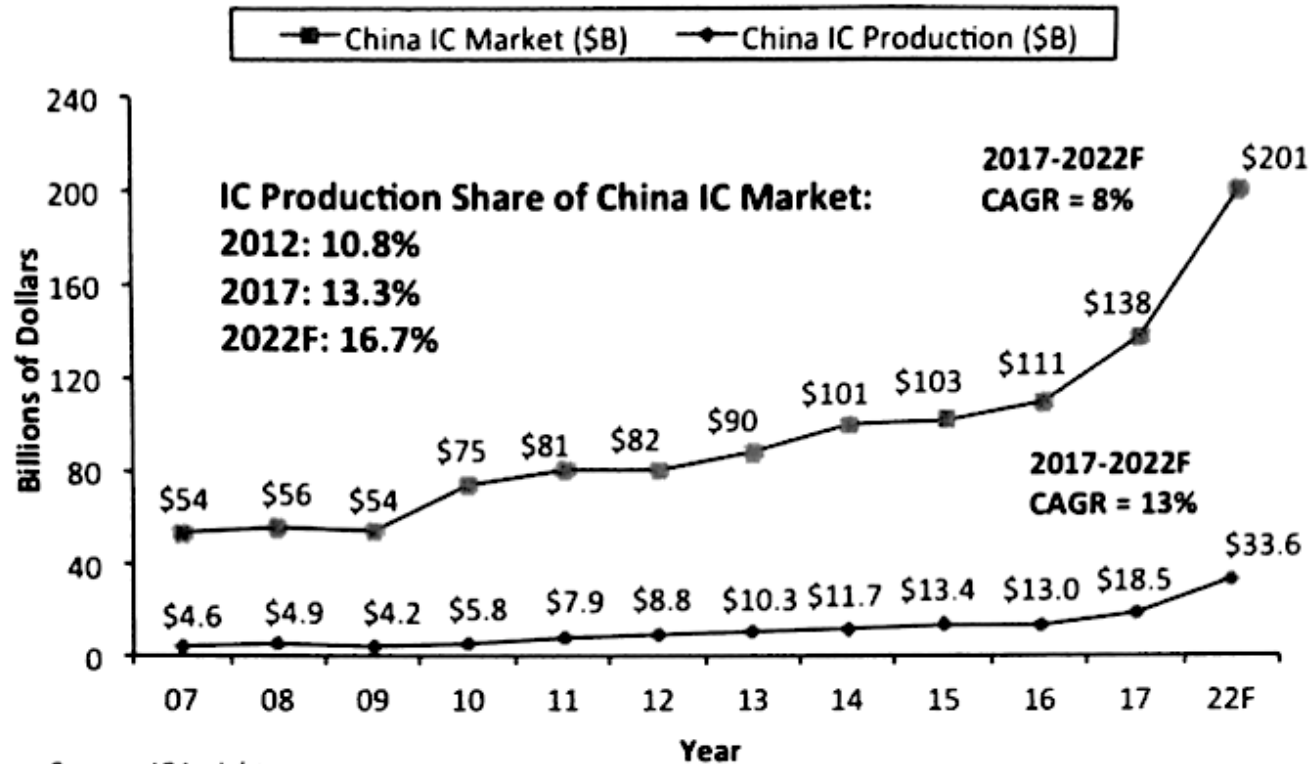
Source: Internal Estimates

- ▶ **China represents fastest growing display region**
 - 64 fabs in production, under construction or being planned
 - Largest display producer (Korea 2nd)
- ▶ **Photomask opportunities in China are attractive**
 - Wide range of display technology, including AMOLED & G10.5+
 - No merchant photomask producer with high-end experience
 - No G10.5+ photomask producer

64 China Display Fabs in Production by 2022



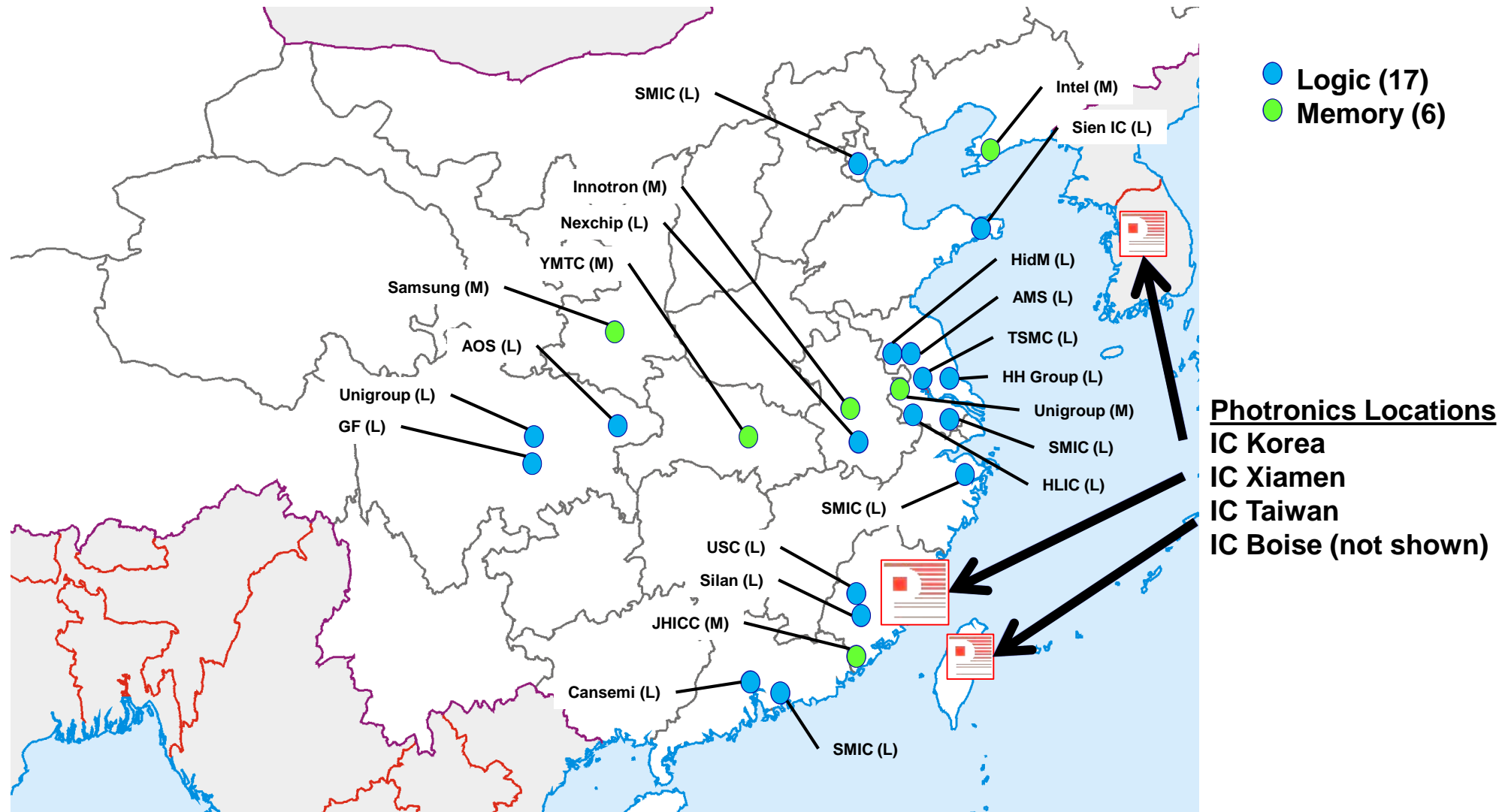
“Made in China 2025” Driving Growth in IC Market



Source: IC Insights

- ▶ **China represents fastest growing semiconductor region**
 - Growing domestic producers
 - Investments by multi-nationals
- ▶ **More investment needed to meet national targets**
 - 2022 forecast is 17%
 - China government target is 40% by 2020, 70% by 2025
- ▶ **Photomask opportunities in China are attractive**
 - Wide range of nodes in logic and memory
 - No strong domestic merchant mask producer

23 New China 12" IC Fabs



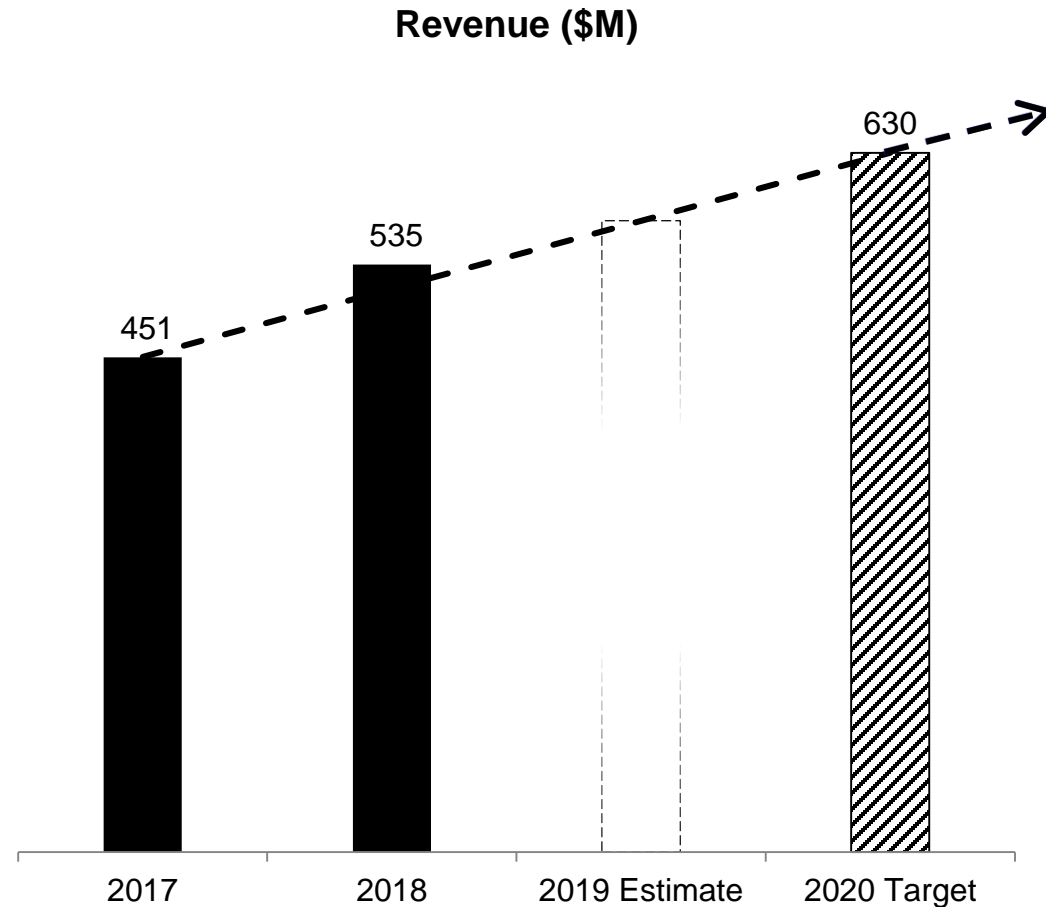
Strategic Priorities to Improve Shareholder Value

- ▶ **Top line growth combined with continued focus on driving costs out**
- ▶ **Disciplined focus on investments to improve ROIC**
- ▶ **Maintain strong balance sheet while returning cash to shareholders**
 - Launched two buy-back programs in FY18
 - Financial stability through economic downturn
 - Flexibility to invest in other growth opportunities (organic or M&A)

Solid Financial Fundamentals

- ▶ **Powerful operating leverage: target 50%**
- ▶ **Strong operating cash flow generator**
- ▶ **Positive free cash flow every fiscal year since 2009**
- ▶ **Solid balance sheet**

On Our Way to 2020 Target



Key Success Factors

- ▶ “Made in China 2025” – new facilities
- ▶ FPD technology inflections
- ▶ Repositioning the company
- ▶ Node migration (logic & memory)
- ▶ Growing business with captive producers
- ▶ IC JV’s in China and Taiwan
- ▶ Stable mainstream business
- ▶ Cross-site collaboration to serve global customers

Clear Capital Deployment Priorities

► Fund organic growth

- Geographic expansion into China
- Technical investments to maintain leadership position

► Explore strategic M&A

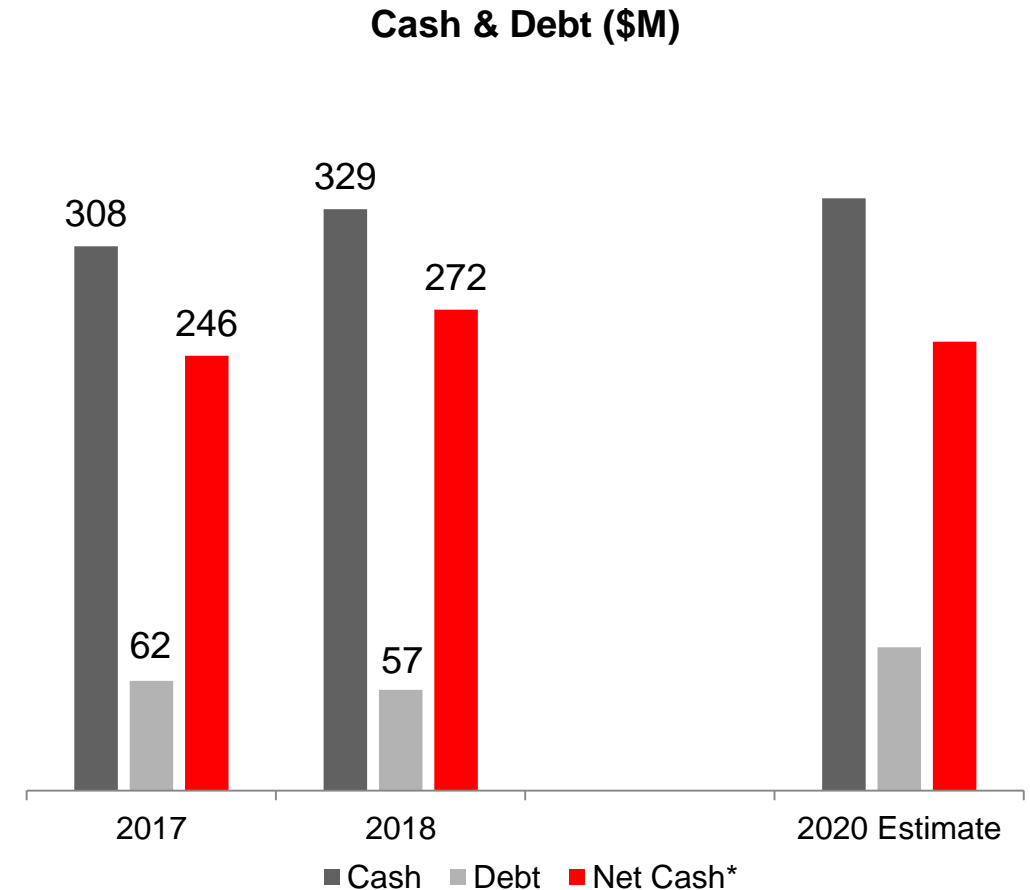
- Photomask industry – IC & FPD
- Adjacencies to increase revenue diversification

► Debt repayment

- Converts mature in April 2019
- Established \$75M loan agreements in China

► Share repurchase

- Repurchased \$23M of \$45M net authorization in 2018
- Reduced outstanding shares by 2.6M



*Net cash defined as cash and cash equivalents less long-term borrowings (including current portion)

Financial Summary

- ▶ **Clear path to accelerate profitable growth**
- ▶ **Prudent stewardship of balance sheet**
- ▶ **Financial model to grow income faster than revenue**
- ▶ **On track to achieve financial targets**
 - Revenue \$630M & EPS \$0.80 by 2020
 - Operating margin > 15%
 - Minimum \$100M net cash
 - Improve ROIC – no projects accepted below hurdle rate

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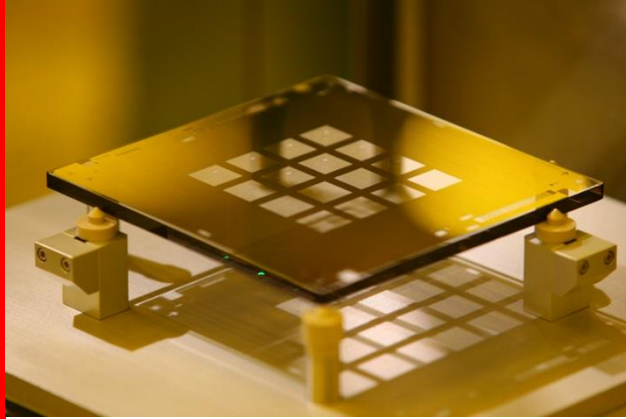
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Thank you for your interest!

For Additional Information:

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