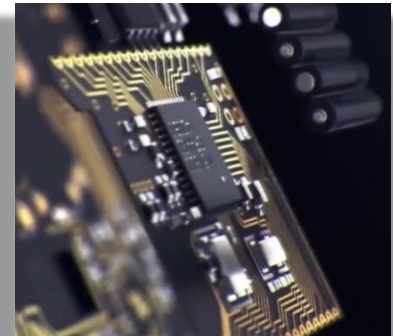
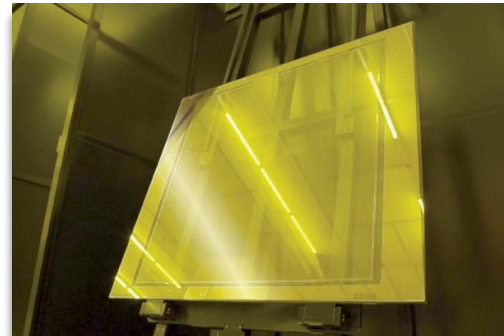
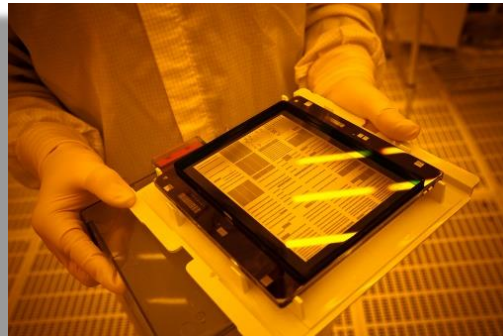


# Global Merchant Photomask Leader

24<sup>th</sup> Annual Needham Growth Conference  
January 14, 2022



# 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”, “plan”, “project”, “in our view” or the negative thereto. 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.

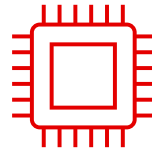
# A Compelling Investment Thesis



## A GLOBAL LEADER in the **merchant photomask industry**

Delivering growth  
by leveraging core competencies

Growing more quickly  
than the market



## TECHNOLOGY ALIGNED with **secular growth trends**

China industry expansion  
(IC & FPD) – Made in  
China 2025

Display technology  
inflections

Resurgence of legacy  
foundry sector



## INVESTMENT GROWTH strategy targeting **EPS growth >50%\***

Top-line growing at twice  
industry growth rate

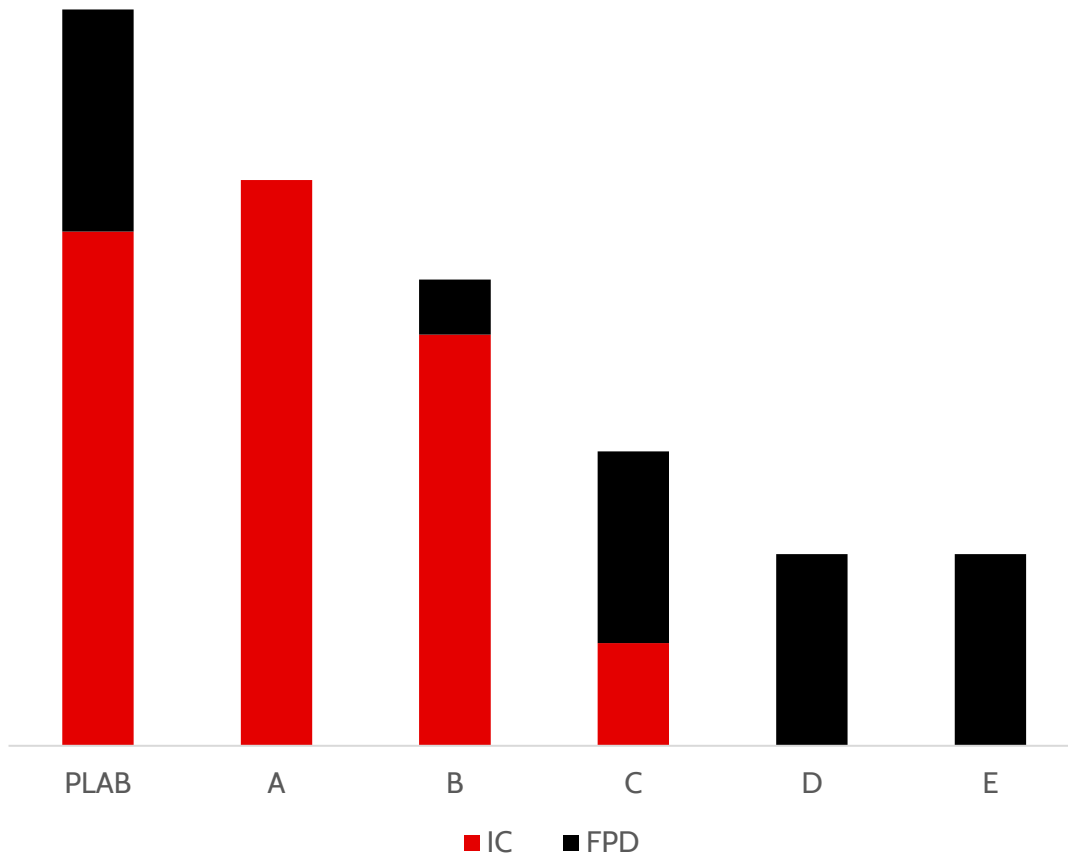
Operating margins  
in high-teens

Free cash flow  
above \$100M

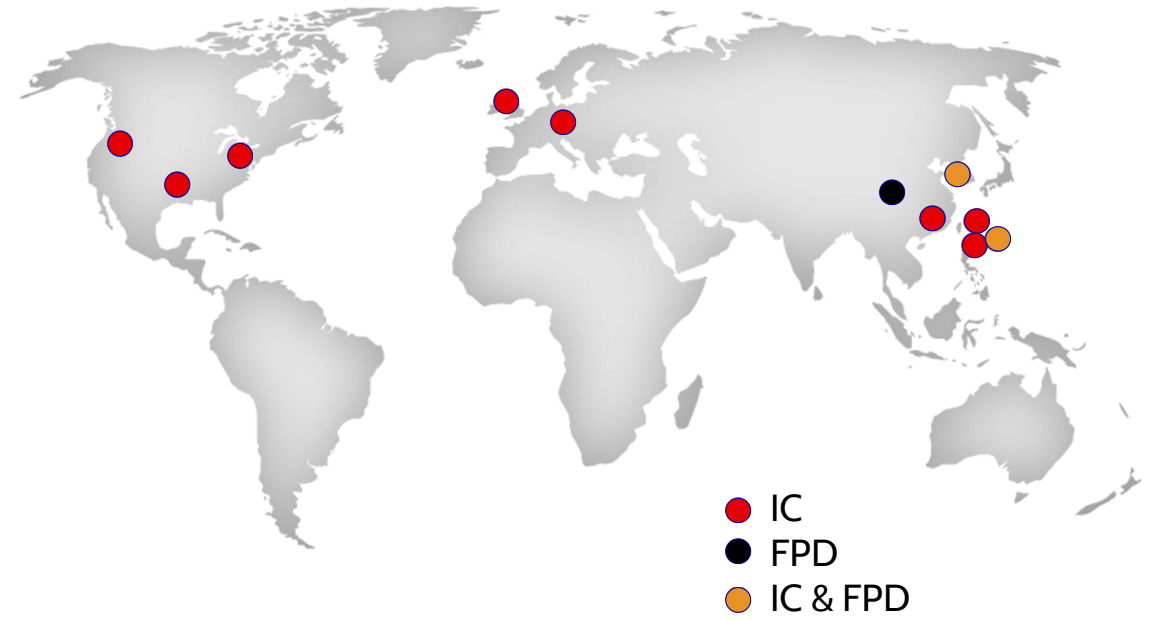
\*Upper range of fiscal year 2023 target model compared with fiscal year 2021

# Leading merchant with unmatched global presence

Largest Merchant Photomask Manufacturer (\$M)



Unmatched Global Footprint  
11 Strategically Located Manufacturing Facilities



Sources: SEMI 2020 Photomask Characterization Study; internal estimates

# Investment Strategy

## Revenue Growth

- Win lion's share of "Made in China 2025" TAM growth
- Supplement new factories with point tool investments
- Capitalize on technology leadership in AMOLED to continue improving mix
- Leverage global footprint to exploit growth in "legacy foundry" business

## Margin Expansion

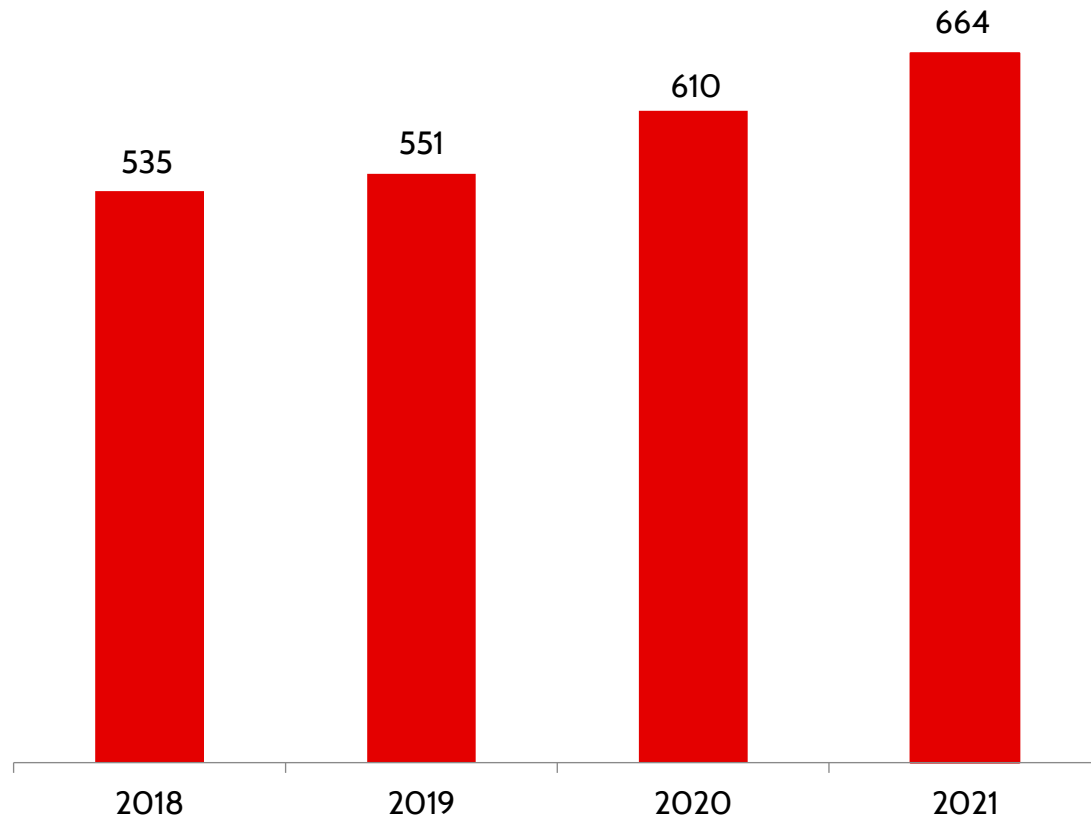
- Sustained pricing strength in mainstream IC going into 2022
- Optimize asset tool set to match end-market demand
- Increasing benefit from operating leverage

## Explore Strategic Partnerships

# Investment strategy is working

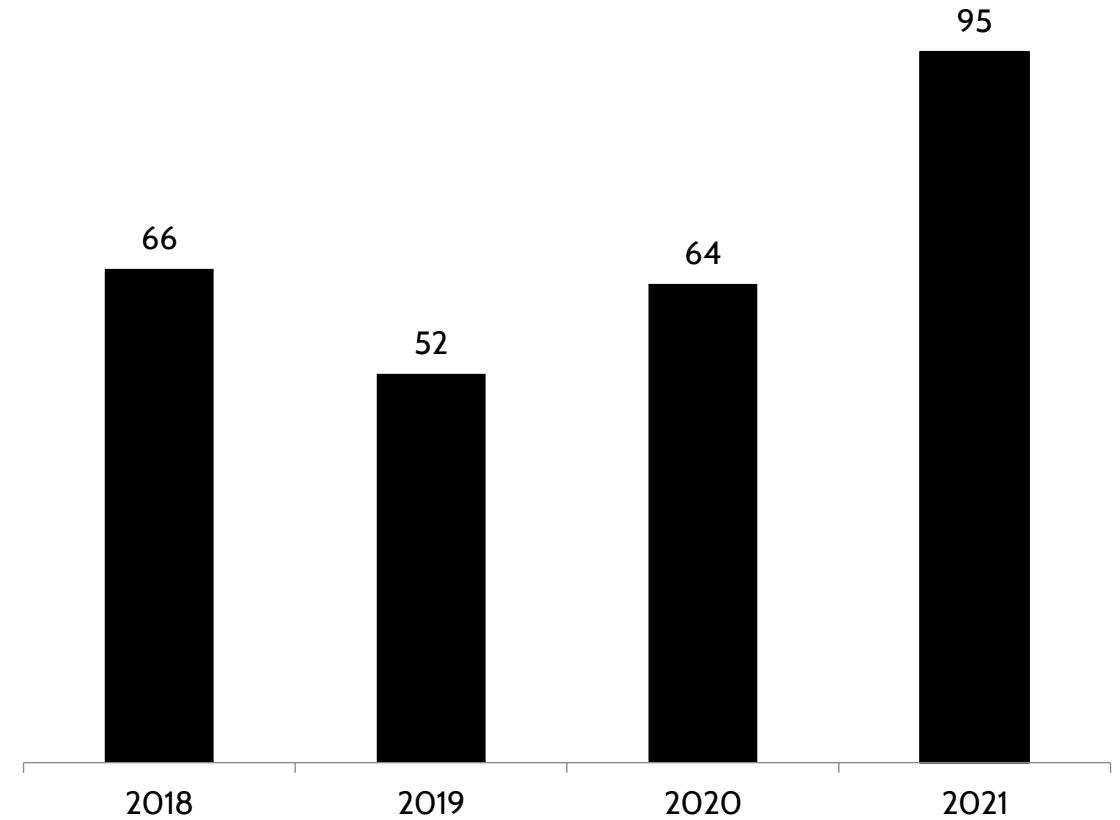
Converting Investments Into Revenue (\$M)

4<sup>th</sup> consecutive year of record revenue



Growing Operating Income (\$M)

High-teens operating margin run-rate at year end 2021

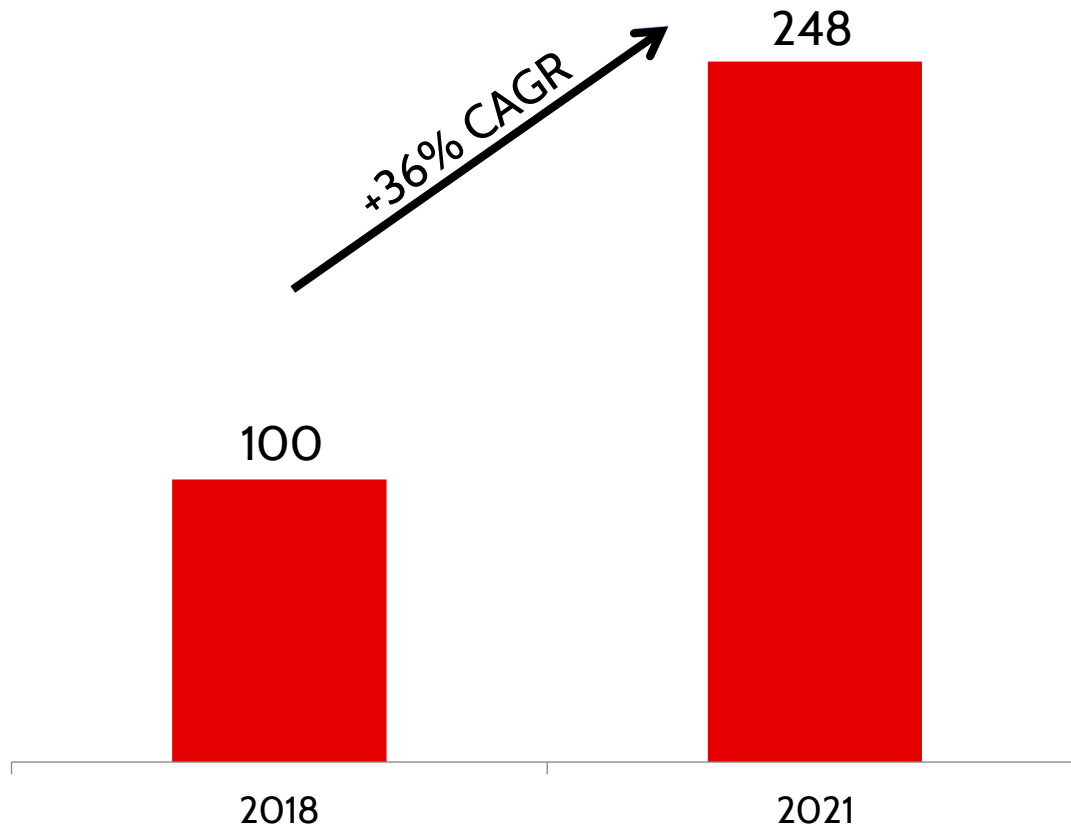


# Illustrative Target Model

| <u>\$M (except EPS)</u> | 2019   | 2020   | 2021   | 12/2020 Illustrative FY2023 Target Model |                  |                  |
|-------------------------|--------|--------|--------|--|------------------|------------------|
| Revenue                 | \$551  | \$610  | \$664  | \$700<br>5% CAGR                         | \$725<br>6% CAGR | \$750<br>7% CAGR |
| Gross Margin            | 22%    | 22%    | 25%    | 24-26%                                   | 26-28%           | 27-29%           |
| Operating Margin        | 9%     | 10%    | 14%    | 13-15%                                   | 15-17%           | 17-19%           |
| Operating Cash Flow     | \$68   | \$143  | \$151  | \$150-160                                | \$160-170        | \$175-185        |
| Free Cash Flow          | (\$83) | \$77   | \$47   | \$80-90                                  | \$90-100         | \$100-110        |
| EPS                     | \$0.44 | \$0.52 | \$0.89 | \$1.00-1.05                              | \$1.15-1.25      | \$1.25-1.35      |

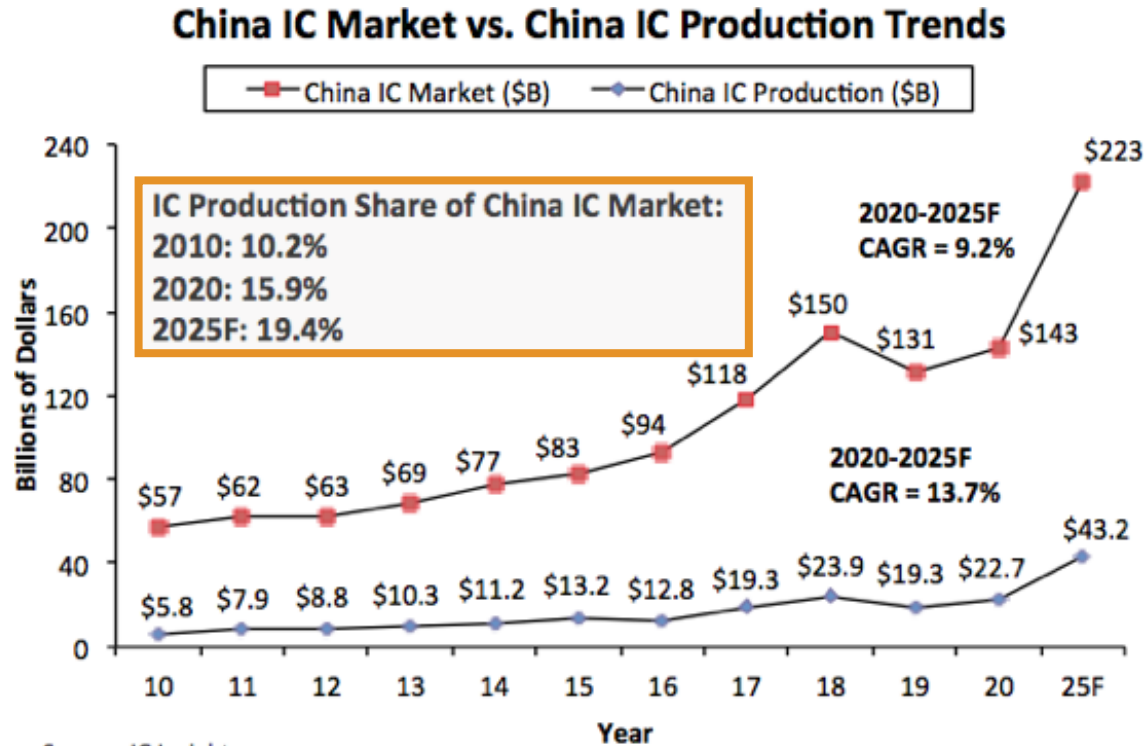
# Growing China business

China Revenue (\$M)



- We have growing business in China
  - Strong annual growth rate
  - 37% of total revenue 2021
- Local manufacturing accelerated growth
- Customer contracts fosters sustainable results
- IC JV enables us to compete more effectively

# “Made in China 2025” driving growth

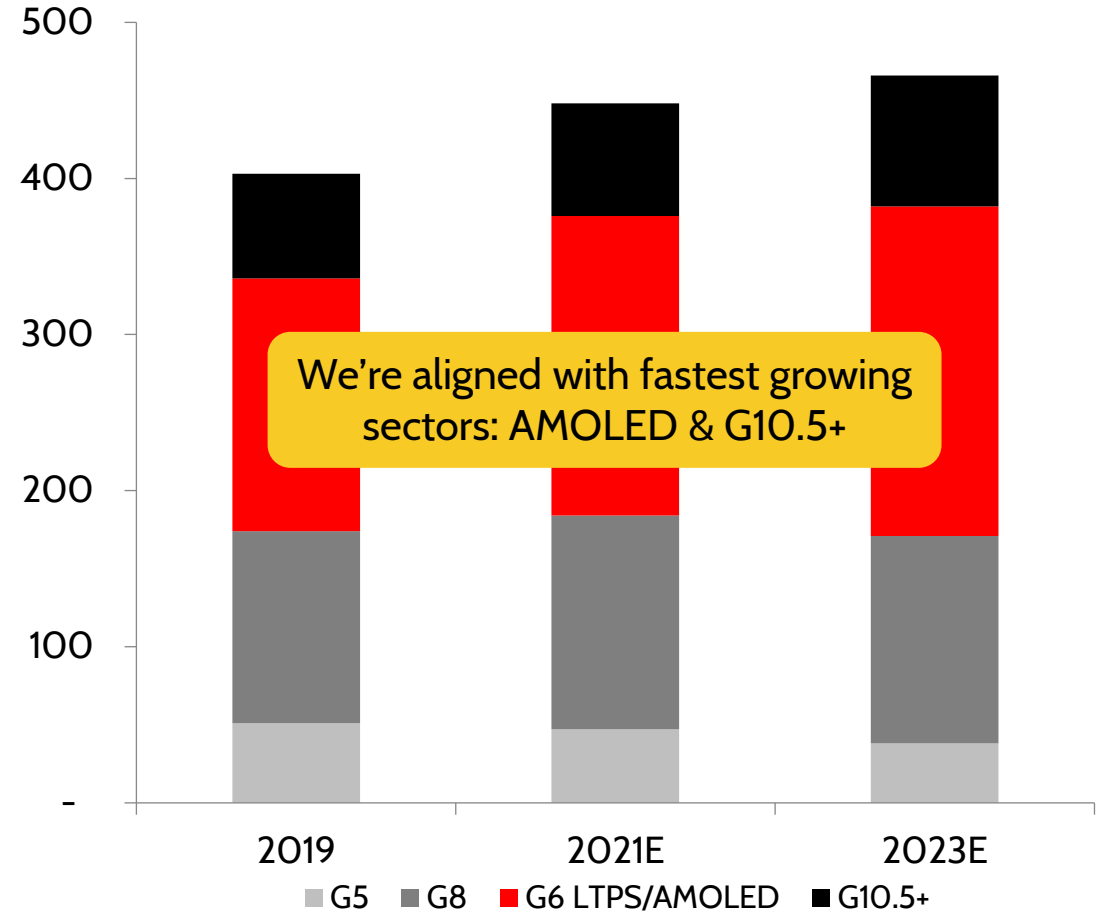


Source: IC Insights

January 2021

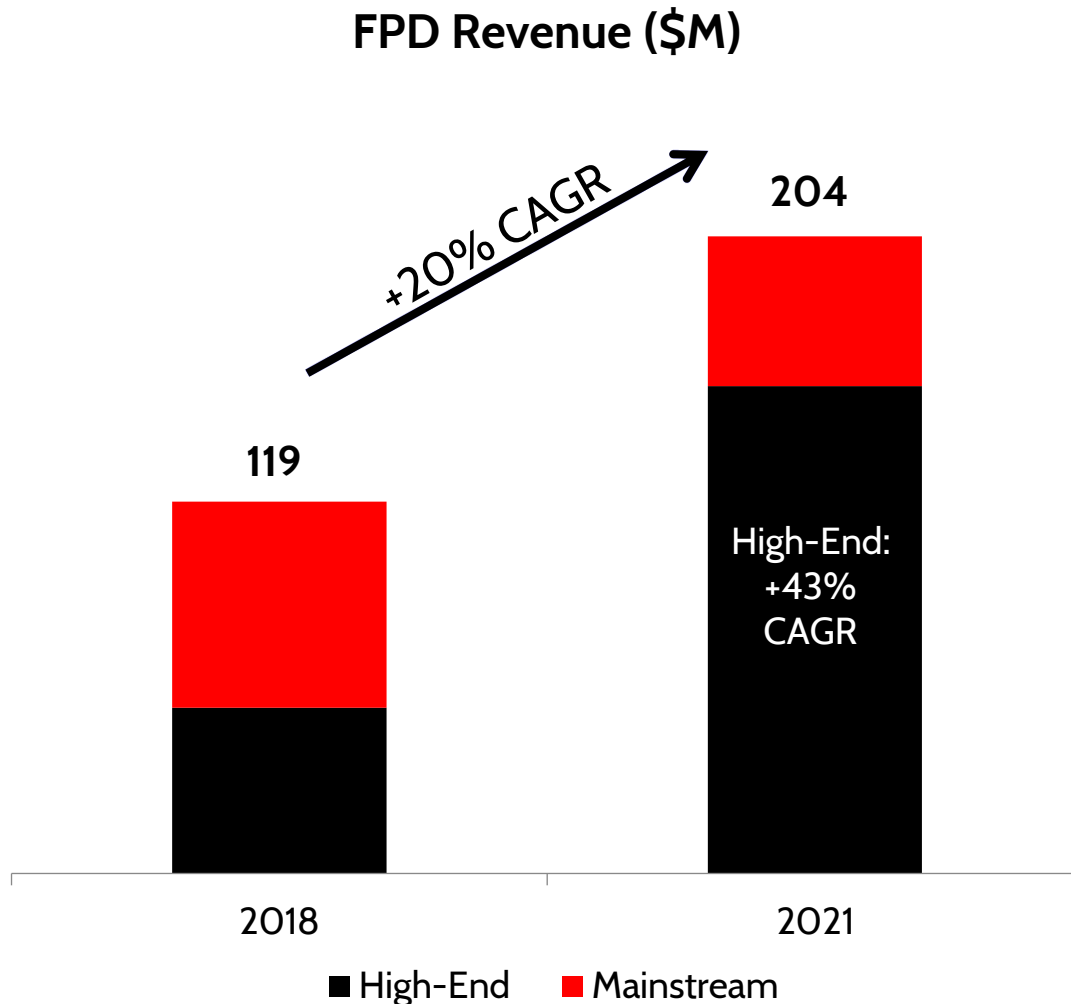
Forecast falling short of policy goals (70% by 2025)  
 More investment needed to meet targets

### China FPD Mask TAM (\$M)



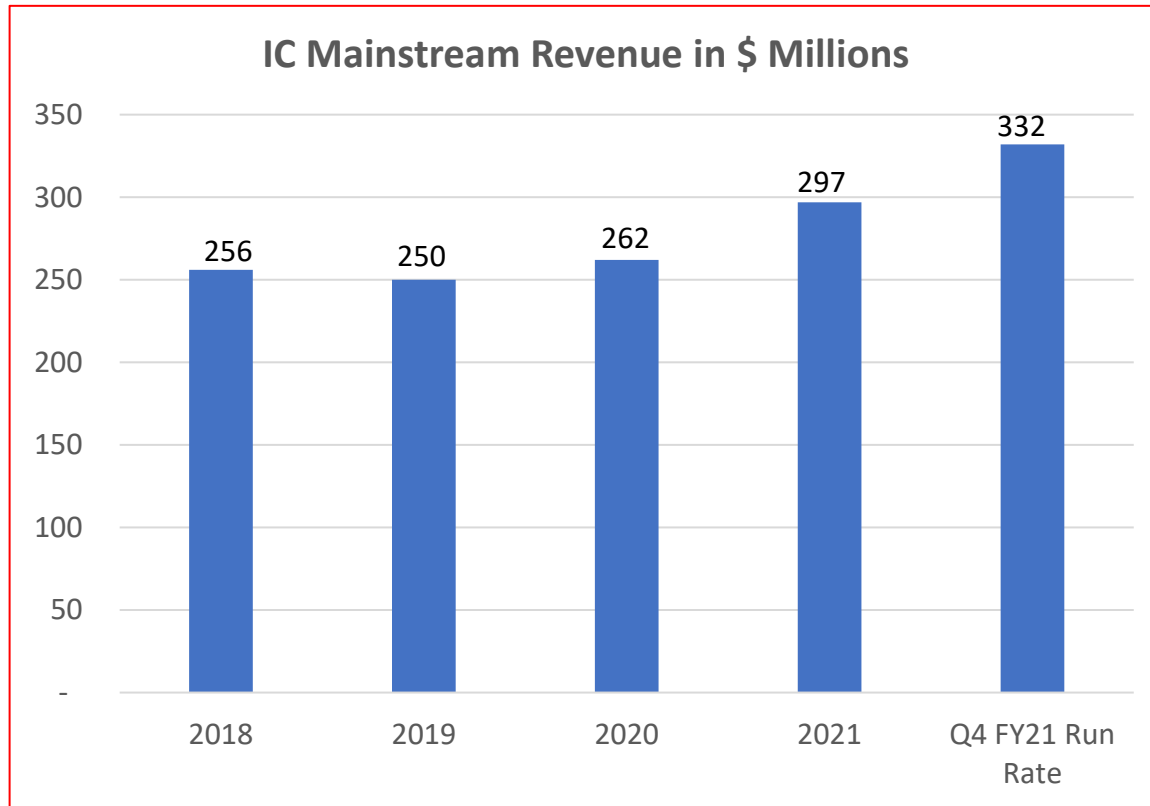
Source: Internal Estimates

# Technology leadership improves FPD business mix



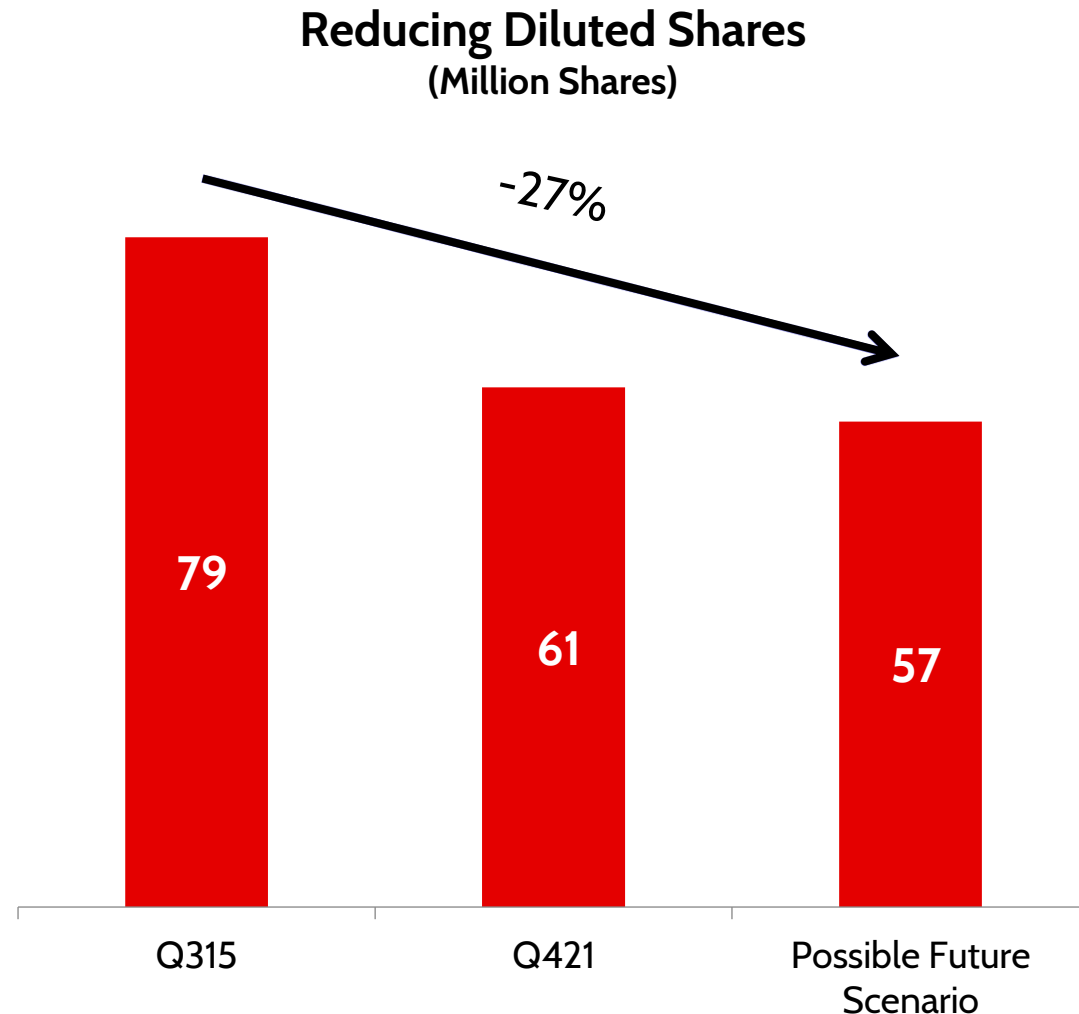
- Investments aligned with secular growth trends
  - AMOLED & LTPS for mobile
  - New OLED TV technologies
  - G10.5+
- Partners with largest panel makers
- Runway left for advanced display growth
  - Mobile platforms
  - Advanced TV
  - Mini & Micro LED

# Growth in Legacy Foundry = Dynamic Mainstream Mask Market



- Demand far outstripping supply
  - Delivery times expanding from days to months
  - Cannot add new lines cost effectively
- Rebirth of the ASIC mask market
  - Moore's law no longer working for much of the logic market
  - Mask to silicon revenue of 3% vs 1% for over-all semiconductor market
- Pricing leverage
  - Double digit increases implemented in Taiwan and China
  - Actively raising prices in Europe and Korea

# Clear capital deployment priorities



- Fund organic growth
  - Geographic expansion into China
  - Investments to maintain technical leadership
  - Capacity expansion when reciprocated by customer commitment
  - Financial discipline to improve ROIC
- Explore strategic M&A
  - Photomask industry – IC & FPD
  - Adjacencies to increase revenue diversification
- Share repurchase
  - Repurchased 11.8M shares, returning \$127.5M to shareholders since 2018
  - Redeemed \$115M in convertible debt since 2016, eliminating 10.3M potentially dilutive shares

# Financial Discipline Improves Shareholder Value

- Targeted investments drive top-line growth in excess of market
- Operating leverage and cost reductions expand margins
  - Target operating margins high-teens
  - Target incremental margins 50%
- Strong cash flow generation fortifies balance sheet
- Capital deployment priorities to improve ROIC



# 2021 Summary

**Revenue**  
**was a record**  
**\$663.8M**



IC and FPD both achieved record revenue, up 10% and 6%, respectively  
Record revenue to China, up 20%

**Net Income**  
**\$55.4M**  
**\$0.89 / Sh**



Net Income attributable to Photronics  
4-Year CAGR 46%

**Cash**  
**balance**  
**\$277M**

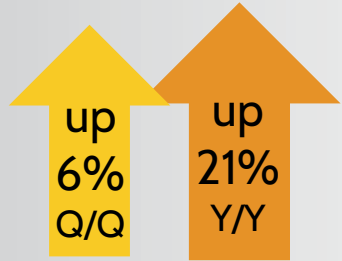
100% of free cash flow returned to investors through share repurchases  
\$151M generated from operating activity  
\$109M invested in capex (\$103M net of government incentives)

Completed FPD capacity expansion ahead of schedule

Another year with record revenue and improved performance in a challenging environment

# Q4 2021 Summary

Revenue  
was a record  
**\$181.3M**



IC (+7% Q/Q, +18% Y/Y) and  
FPD (+6% Q/Q, +29% Y/Y)  
both achieved record revenue

Record revenue to China,  
up 26% Q/Q and 55% Y/Y

**\$277M**

Cash  
balance

\$38M generated from operating activity

\$17M invested in capex

\$13M returned to investors through share  
repurchases

Net income attributable to Photronics, Inc. shareholders of \$19.8M (\$0.33/share)

Investing in mainstream IC capacity to capitalize on market growth trends

Received 2021 UMC Excellent Collaboration and Partnership Award

Strategic investments driving long-term, profitable growth

# Income Statement Summary

| \$M (except EPS)                     | Q421     | Q321     | Q/Q     | Q420     | Y/Y     |
|--------------------------------------|----------|----------|---------|----------|---------|
| Revenue                              | \$ 181.3 | \$ 170.6 | 6%      | \$ 149.3 | 21%     |
| Gross Profit                         | \$ 51.9  | \$ 45.3  | 15%     | \$ 31.9  | 63%     |
| Gross Margin                         | 28.7%    | 26.6%    | 210 bps | 21.4%    | 730 bps |
| Operating Income                     | \$ 33.5  | \$ 28.5  | 18%     | \$ 15.0  | 124%    |
| Operating Margin                     | 18.5%    | 16.7%    | 180 bps | 10.0%    | 850 bps |
| Other non-operating income (expense) | \$ 3.8   | \$ 3.7   | \$ 0.1  | (\$ 2.9) | \$ 6.7  |
| Income tax provision                 | \$ 8.7   | \$ 7.8   | \$ 0.9  | \$ 3.5   | \$ 5.2  |
| Minority interest                    | \$ 8.8   | \$ 7.3   | \$ 1.5  | \$ 2.1   | \$ 6.7  |
| Net Income*                          | \$ 19.8  | \$ 17.1  | 16%     | \$ 6.5   | 207%    |
| Diluted EPS*                         | \$ 0.33  | \$ 0.28  | \$ 0.05 | \$ 0.10  | \$ 0.23 |
| Days in quarter                      | 91       | 91       | -       | 90       | 1       |

- Margins improved on higher revenue (IC & FPD), better mainstream IC pricing and high-end mix
  - Asia price increases already in place
  - Rolling out price increases in other markets
  - Q321 operating income includes \$3.5M gain on sale of fixed asset
- Other non-operating income (expense) primarily due to FX gain (loss)
- Minority interest is IC JVs in Taiwan and China

\*Net income attributable to Photronics, Inc. shareholders

1/14/22

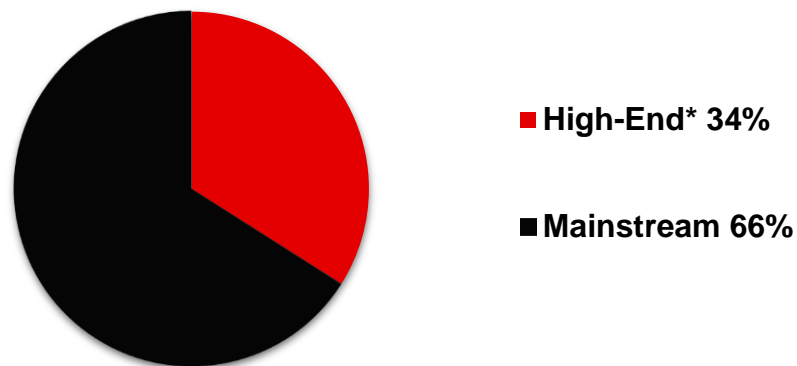
# IC Photomask Revenue

| \$M        | Q421     | Q321     | Q/Q | Q420     | Y/Y |
|------------|----------|----------|-----|----------|-----|
| High-End*  | \$ 42.6  | \$ 42.4  | 1%  | \$ 38.2  | 12% |
| Mainstream | \$ 82.9  | \$ 75.4  | 10% | \$ 67.8  | 22% |
| Total      | \$ 125.4 | \$ 117.8 | 7%  | \$ 105.9 | 18% |

Total may differ due to rounding

- High-end growth driven by strong logic demand in Asia
- Mainstream up on proliferation of chips in IoT, 5G, Crypto and consumer products creating support for higher ASPs
- Outlook
  - Continued strength from remote work and education
  - Mainstream demand strong, expanding ASPs

Q421 Revenue by Technology



\*28nm and smaller

1/14/22

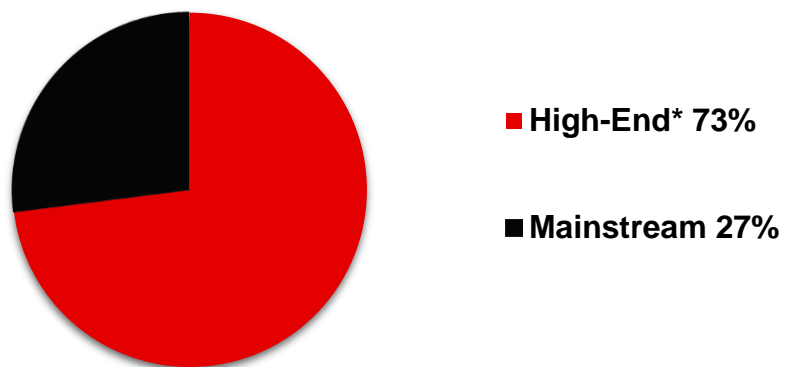
# FPD Photomask Revenue

| \$M        | Q421    | Q321    | Q/Q | Q420    | Y/Y |
|------------|---------|---------|-----|---------|-----|
| High-End*  | \$ 41.0 | \$ 40.6 | 1%  | \$ 31.3 | 31% |
| Mainstream | \$ 14.9 | \$ 12.2 | 21% | \$ 12.1 | 23% |
| Total      | \$ 55.8 | \$ 52.9 | 6%  | \$ 43.4 | 29% |

Total may differ due to rounding

- High-end improved on mobile demand
- Mainstream recovery continues
- Full quarter benefit of new litho tools
- Outlook
  - Dynamic market environment
  - Mobile demand strength and mainstream LCD recovery expected to continue
  - Technology development drives demand for higher-value masks

Q421 Revenue by Technology



\*≥G10.5, AMOLED and LTPS

# Select Financial Data

| <u>\$M</u>           | <u>Q421</u> | <u>Q321</u> | <u>Q420</u> |
|----------------------|-------------|-------------|-------------|
| Cash                 | \$ 277      | \$ 283      | \$ 279      |
| Debt                 | \$ 112      | \$ 118      | \$ 69       |
| Net Cash*            | \$ 165      | \$ 165      | \$ 210      |
| Operating Cash Flow  | \$ 38       | \$ 55       | \$ 65       |
| Capital Expenditures | \$ 17       | \$ 19       | \$ 34       |
| Share repurchase     | \$ 13       | \$ 13       | \$ 18       |

- Debt is US equipment lease and local China loans
- Full-year net 2021 capex was \$104M
- Total share repurchases of \$66M under current (Sep 2020) \$100M plan
- Balance sheet able to fund investments, share repurchases, and strategic M&A opportunities

\*Net cash defined as cash and cash equivalents less long-term borrowings (including current portion), as reported in accordance with GAAP

# Summary



4<sup>th</sup> consecutive year of **record revenue**, growing 10% CAGR over that period



Our **leadership position is expanding** – growing more quickly than markets



Moving forward, our investment focus is narrowing to drive **accretive growth**



With a business model demonstrated to deliver **increasing shareholder value**

- Margin expansion creates earnings power
- Strong cash flow generation
- Strategic use of cash to fund growth and enhance shareholder returns

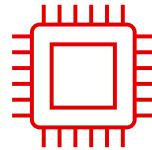
# A Compelling Investment Thesis



## A GLOBAL LEADER in the **merchant photomask industry**

Delivering growth  
by leveraging core competencies

Growing more quickly  
than the market

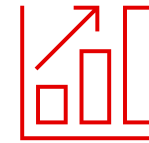


## TECHNOLOGY ALIGNED with **secular growth trends**

China industry expansion  
(IC & FPD) – Made in  
China 2025

Display technology  
inflections

Resurgence of legacy  
foundry sector



## INVESTMENT GROWTH strategy targeting **EPS growth >50%\***

Top-line growing at twice  
industry growth rate

Operating margins  
in high-teens

Free cash flow  
above \$100M

\*Upper range of fiscal year 2023 target model compared with fiscal year 2021

# Thank you for your interest!

For Additional Information:

John P. Jordan

Executive Vice President & CFO

203.740.5671

[jjordan@photonics.com](mailto:jjordan@photonics.com)

