Intevac Investor Presentation

Q3 2020 Update

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Cautionary Disclaimer

During the course of this presentation, we will comment upon future events and may make projections about our future financial performance, including statements related to strategies, our expected sales, product shipments and acceptance, gross margin, operating expense, profit, cash flow, income tax expense, and capital allocation. We will discuss our business strategy, our products, the markets our products address, our position in those markets, expected market acceptance of those products and production capacity. We wish to caution you that these are forward looking statements that are based upon our current expectations, and that actual results could differ materially as a result of various risks and uncertainties, including, without limitation, the following: inability to develop and deliver new products as planned; inability to accurately forecast the demand for our products and services; the possibility that orders in backlog may be cancelled, delayed or rescheduled; inability to achieve gross margin and expense goals; and other risk factors discussed in documents filed by us with the Securities and Exchange Commission, including our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q. We undertake no obligation to update the forward-looking statements made during this presentation.
Providing Enabling Technology to Important Markets

*Intevac is an Essential Business with a Solid Financial Foundation*

**Photonics**
- Digital Night Vision Cameras for Aviation
- Integrated Night Vision for Gen 5 Heads Up Displays
- Digital Night Vision for Individual Ground Soldier

**Thin-Film Equipment**
- Mobility and the Internet of Things
- Clean Energy & Advanced Semi. Pkg.
- Cloud Computing and Storage

Both Photonics and TFE are Essential Businesses Serving the Critical Defense and IT Industries

Critical Supplier of Digital Vision Systems

Addressing Multiple Large Growth Industries
Photonics: Intevac’s Proprietary Digital Night Vision

Intevac’s Digital Night Vision Technology Enables:

- High-Definition Night Imagery
- Complete Augmented Reality Capability
  - Information Overlay
  - Image Enhancement and Transmission
- Fused Infrared and Low Light Imagery
- Low-Halo Operation

High-Definition Night Vision

Analog Point Source “Halo”

Augmented Reality Overlay

Warfighter View, Image Enhancement, and Transmission

Fused Night Vision and IR
Beneficiary of Major Contract Award for IVAS Program

- **US Army’s IVAS: Integrated Visual Augmentation System**
  - First Dismounted Soldier System that requires Digital Night Vision
  - Body-Worn Sensors Support Soldier Performance in All-Digital Day/Night System

- **Awards for 2 Night Vision Camera Development Programs**
  - CMOS Development Award is a Low-Cost/Small Form Factor Low Light Level Camera System
  - CMOS with Gain Development Award Provides State of the Art Intensified Night Vision Capability
  - Both Development Programs Leverage Intevac’s ISIE-19 Sensor Currently Under Development

- **Significant Program to be Delivered Through 2021**
  - $31.5 Million Award Includes Development and Camera Module Units
  - Over 200,000 Camera Unit Potential Once Fielded to the Dismounted Soldier (100,000 IVAS Systems)
Photonics: Solid Core Business, Significant Growth Opportunities, No Impact from COVID-19

Aviation Night Vision Cameras
- Apache Helicopter
- LIVAR
- F-16 Falcon

Integrated Night Vision
- F-35 HMD
- Joint Strike Fighter
- BAE STRIKER II HMD
- Eurofighter

Ground Soldier Night Vision
- Dismounted Ground Soldier

Aviation Night Vision >$350M

Integrated Night Vision >$500M
- Current 5-Yr. Period Revenue (2019-2023E): $37M
- Revenue Opportunity Beyond 2023: $69M

Ground Soldier NV >$500M
- Revenue Opportunity Beyond 2023: $2M
IVAS Program Potential Can Double 5-Year Revenues

- ~60% of Revenue Over Last 5 Years Driven by Apache and Funded R&D

- Continued Revenue Pipeline Contribution from Avionics Programs over Next 5 Years
  - Apache Upgrades and FMS
  - LIVAR Program Sustainment and Upgrades
  - Growing Joint Strike Fighter Program
  - Increased Contribution from BAE/EVA/NAVAIR

- Significant Incremental Revenue Opportunity with IVAS
  - Provides Potential to Double Photonics Revenues over Next 5 Year Time Window

- $1B of Long-Range Revenue Opportunity Identified Beyond 2023
  - Together Comprising ~$1.4 Billion of Revenue Opportunity

![Photonics Revenue Drivers](chart.png)
Adjacent Markets
Advanced Semi Packaging, Solar PVD and Implant, and Emerging Markets Offer Additional Growth Potential

Display Cover Panel Market
Protective and Decorative Coatings
Large Incremental Revenue Opportunity Addressing Demand for More Robust, More Durable, and More Visually Differentiated Mobile Handsets and Other Devices

Hard Disk Drive Media Market
Stable, Profitable Business Serving Ongoing Technology and Future Capacity Needs Supporting the Growth of Cloud-Based Data Storage

Common Core Technologies:
- High-Productivity Systems
- Small Substrate Processing
- High Precision Films with Low CoO

Markets Currently Serving:
- HDD Media
- Display Cover Panel
- Solar Cell

Future Markets Include:
- Advanced Packaging
- Protective Coatings
- EMI Shielding
- MRAM

MATRIX
VERTEX
200 Lean
HDD Media: Growth is Driven by Nearline Storage

Storage Shipped on HDDs in 2024 will Triple from 2019 Levels

Total Industry Exabyte Shipments: HDDs+SSDs

Source – TrendFocus Aug. 2020 (HDD) and Feb. 2020 (SSD)
Strong Data Center Demand Drove Record Tie Ratio in Q1

COVID-19 Driving Increased Nearline Spend and >10% Increase in Media Units 1H YoY

Average # of Disks per Drive

18% QoQ Increase in Q1
26% YoY Increase in 2020
16% 5-Year CAGR
9% 5-Year CAGR

Total Industry Exabyte Shipments vs. Forecasted Media Units

~80% Capacity by Q4
Additional Capacity Required

Potential Upside to HDD Media Business Due to COVID-19

- **Expectation to Date: Intevac’s Revenues from HDD Media Market in 2019-2023E Time Period at Least Equal To, Or Will Slightly Exceed, Prior 5-Year Period**
  - 17 Tools Shipped 2014-2018 (No Capacity Added) + Technology Upgrades, Spares and Field Service
  - 6 Tools Shipped 2019-2020 YTD (Adding Capacity)
  - ~11 (+/-) Systems Expected in 2021-2023 Based on ~8% CAGR Forecast for Media Units; Latest Forecast Raised to 8.5%

- **Upside Scenario Based on Secular Shift in Data Center / Nearline Spending**
  - Each 1% Increase in Media CAGR Adds Need for ~1.5 Additional 200 Leans Per Year
  - If Media CAGR Increases to 10-12% Range, Result Could be Upside of 10 to 12 Additional Systems in 2021-2023 Timeframe
  - Expect 200 Lean to Participate in All Media Capacity Expansions Addressing Growth in Nearline Drives

- **Potential Upside in 200 Lean Shipments 2021-2023 Subject to a Number of Caveats**
  - Our customers are still running at modest utilization rates; supply constraints exist for substrates
  - Current media capacity levels appear to be sufficient for several quarters
  - Current forecast for ~17 tools is an estimate subject to risk and potential revision at any time
  - Sustained upside in nearline spending will need to be evident by 2H’21 in order to drive upside in tool orders for the next 3 years
Display Cover Panel: Mobile Device Trends

- Market Needs
  - Enhanced scratch resistance along with improved breakage performance
  - Differentiated and uniquely patterned decorative coatings
  - 3D Edge coverage for all coatings
  - Scratch protection for plastic display
  - High film performance-to-cost ratios
Display Cover Panel: VERTEX Protective Coatings

- **Next-Generation Optical Diamond-Like Carbon: DiamondClad™**
  - Sapphire-like scratch performance at a fraction of the price
    - Passes Mohs 7 Scratch Testing vs Mohs 5 for Glass + AF
  - >10x improved scratch resistance
    - vs Glass + AF
  - No scratching under 150 Grit Sandpaper 10N load testing
  - Lowest cost anti-scratch solution

**Applications**
- High-Volume / High-Growth Markets
- Mobile Phones
- Tablets
- Auto - Infotainment
- Wearables
- POS Stations

**Relative Scratch Protection**

Stainless Steel Ball @ 7.5N Force – 10 cycles / min

Scratch profile measured after scratching with 150 grit sandpaper under 10N load
Display Cover Panel: VERTEX Spectra™ & Marathon™

- **Versatile Coating Capability**
  - Ion Beam Assisted Deposition (IBAD):
    - Non-Conductive Vacuum Metallization (NCVM)
    - Anti-Reflective (AR) Films
  - Ion Beam Etching Technology
    - Patterning for Decorative Coatings
  - *DiamondClad™* Protective Coating

- **Unique Benefits**
  - Single system for multiple optical coatings
  - Supports multiple substrate types
    - Glass, Ceramic, Plastic, Metal
  - Ultra Hard NCVM / AR films
  - Complex patterning capability
  - Industry-leading scratch protection

- **Progress to Date**
  - VERTEX Spectra currently producing samples at leading cover glass manufacturer for OEM cellphone makers
  - 2nd VERTEX evaluation agreement finalized Q1’20 – currently delayed
  - VERTEX Marathon launched Q4’19 lowers per-unit cost through high-volume throughput and large processing areas; available in 2020
DIAMOND DOG™ Screen Protectors with *DiamondClad™*

**Market Opportunity:**
- Introduce consumer product using DiamondClad coating
- Establish DiamondClad brand, superior performance, and end-user demand
- OEM adoption drives VERTEX Marathon tool demand
- Premium screen protector market size is ~ $300M / year

**DIAMOND DOG vs Competition:**
- 3x-6x better in scratch and abrasion resistance
- AF coating lasts 4x-6x longer in perspiration and denim testing
- Improved scratch resistance enables 3x improved breakage resistance

**Progress:**
- Debut at Showstoppers - CES 2020

[www.mydiamonddog.com](http://www.mydiamonddog.com)
TFE Opportunities in Solar and Advanced Packaging

Market Drivers for Solar:

- N-type share of market is growing to 30% by 2028
- Increased adoption of advanced architectures for higher efficiency
  - TOPCon
  - IBC
  - HJT

Market Drivers for Fan-Out Panel Level Packaging (FOPLP):

- Advanced consumer products:
  - IoT
  - 5G
  - Automation
- Higher Integration and Lower cost per device verses fan out wafer level packaging (FOWLP)

Progress to Date:

- Solar: Cell efficiency reaching 23.2% using ENERGI Ion Implant technology
- Key process equipment in production at major solar producer
- FOPLP: MATRIX Evaluation system shipping to Tier 1 OSAT late in 2019
New Market Potential Can Double 5 Year Revenues

- **Revenue from HDD Media Expected to Equal or Exceed Last 5 Years' Level**
  - Continued Upgrade Programs Underway for Foreseeable Future
  - Capacity Crossover Will Require at Least as Many 200 Leans as Last 5 Years
  - Upside Dependent on Near-line Growth Rate and Peak Quarter Capacity Needs

- **Significant Incremental Revenue Opportunity with VERTEX and oDLC**
  - Driving Majority of TFE Revenue Growth, with Just 10-15% Cover Glass Market Penetration
  - Significant Upside if Adopted by Multiple Top Handset OEMs

- **Emerging Market Opportunities Provide Additional Growth Potential**
  - Protective / Functional Coatings
  - Solar Cell Metallization and Ion Implant
  - Fan-Out Advanced Packaging Metallization
  - EMI Component Shielding
  - Magnetic Memory Metallization (MRAM)
Growth Path to $250M in Annual Revenues

Potential Incremental Revenue Contributions from Each Part of the Business

Growth Plan to $250M in Annual Revenues

*Outlook as of July 27, 2020 Conference Call, reflecting both TFE and Photonics are relatively balanced 1H to 2H.

PROPRIETARY
## Financial Model with Significant Operating Leverage

| Annual Revenue: | 2019 $109M | 2020 Outlook ~$95M* | Incremental Margin Model:  
|                |           |                      | 40%-45% Gross 30%-35% Operating |
| Gross Margin   | 38%       | >40%                 | $150M Model 35%-39% |
|                |           |                      | $200M Model 37%-41% |
|                |           |                      | $250M Model 39%-43% |
| Operating Expenses | 34%       | <40%                 | $150M Model 27%-28% |
|                |           |                      | $200M Model 22%-24% |
|                |           |                      | $250M Model 20%-22% |
| Operating Margin | 4%        | Positive             | $150M Model 8%-11% |
|                |           |                      | $200M Model 14%-17% |
|                |           |                      | $250M Model >18% |

### Weathering the COVID-19 Pandemic with Strength and Resiliency

- Strong Revenue Growth in Photonics in 2020 – at Least 25% YoY
- Hard Drive Demand Relatively Resilient in 2020 Given Strong Data Center Demand
- Growth Initiatives Experiencing Delays, Especially in China
  - Display Cover Glass Initiatives are in China and Likely Delayed into 2021
  - Solar Implant Capacity Expansions Delayed in China As Well
  - Advanced Semiconductor Packaging Initiatives Also Delayed by Travel Restrictions

*Outlook as of July 27, 2020 Conference Call, reflecting both TFE and Photonics are relatively balanced 1H to 2H, expected operating expenses and operating profitability.*
Intevac: Solid Foundation, Large Growth Opportunities

Minimal to No COVID-19 Impact on Photonics and HDD; New Growth Markets in China Experiencing Delays

**Photronics:**
- Strong Base: Entering Ground Soldier Growth Phase

**Thin-Film Equipment:**
- Strong Base: Significant Growth Potential in New Markets
- Technology and Market Share Leader in HDD Media; Strong Demand from Data Center Driving Growth in Media Units
- Significant Growth Prospects in Display Cover Panel
- Versatile Platforms Double Revenue Opportunity over Next Five Years

**Intevac Value Proposition**

**Solid Financial Foundation**
- Growth Strategy Offers Significant Long-Term Growth
- Strong Balance Sheet: Stable Balance of $45M Cash and No Debt

**On Contract for the Development and Delivery of**
- ‘IVAS’ Night Vision Cameras
- Major Avionics Programs with Apache and JSF
- Ground Soldier Programs Double Revenue Opportunity over Next Five Years

**Intevac**

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