CVD Equipment Corporation
Company Update

Annual Shareholder Meeting
November 2, 2018

NASDAQ: CVV
Safe Harbor Statement

Certain statements in the following presentation relate to future results that are forward looking statements as defined in the Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those projected as a result of certain risks and uncertainties, including but not limited to those noted in our forms 10-K, 10-Q, and other filings with the SEC.

This presentation includes historical and forward-looking ProForma information. The Company assumes no responsibility to update the information contained in this presentation.
Welcome to the CVD Equipment 2018 Annual Shareholder Meeting

Meeting Focus Areas

- Company insight
- Growth markets and trends
- 2018 operational activities to support growth
- Product line expansion
CVD Equipment Corporation is a leading deposition equipment and coating solutions supplier since 1982

“We provide turnkey equipment solutions, comprised of substrate handling, instrumentation, reactor geometry, process control software, gas management, and exhaust abatement. In our materials division we provide deposition and coating services enabled by our innovation, unique capabilities, and the materials-driven demands and challenges of the markets we serve”

Market Drivers:
- High performance composite materials
- Additive manufacturing acceptance
- Energy efficiency of advanced electronic materials
- Medical devices driven by functional materials
- Nanotechnology used to improve all elements of life
- Defense and aerospace specialty materials

Keys to CVD’s Value Proposition:
- Over 35 years providing Equipment and Process solutions
- Inhouse Process Development Laboratory
- Design Flexibility and Conceptual Modeling
- Proprietary Software and Control System platform
- Scalable Manufacturing Capacity
- Vertically Integrated Manufacturing
- Direct Customer Engagement
How we enable tomorrow’s technologies

- Innovation leader since 1982
- Equipment, Thin Films, Coatings, and Surface Modification
  - Equipment Design and Development
  - Production Scale Manufacturing
  - Installation, Start-up, and Operational Service
- Material Coating & Surface Treatment
  - Robust coatings and treatments for corrosive and demanding applications
  - Carbon and Ceramic Matrix Composite materials
- Process, Applications, Research & Development
  - Nanomaterial Research
  - Equipment Optimization
  - Customer Process Development Services
  - Funded Research Collaboration
Our Company, Products, and Services

- R&D CVD Process Systems
- Advanced R&D, Pilot, and Volume Production CVD Process Systems
- Advanced Industrial Manufacturing CVD Process Systems
- Ultra High Purity (UHP) Gas & Chemical Delivery Systems

CVD Equipment Corporation

- Corporate Headquarters and Parent Company Equipment Operations

CVD Materials Corporation

- Wholly Owned Subsidiary of CVD Equipment Corporation Materials & Services Operations

Growth focus in each product group and service area
CVD Heading into the Future

Leveraging know-how and expanding customer base to accelerate growth

1982 - CVD Equipment Corporation
1999 - PILOT & PRODUCTION EQUIPMENT
2001/2 - Surface Mount Technology (SMT)
2005 - Application Laboratory Opens
2006 - Facilities 156,500 ft² Company Owned
2013 - TANTALUM SURFACE TREATMENT SERVICES
2016 - DIRECT WRITE PRINTED ELECTRONICS
2017 - Additional 184,000 ft² Facility
2018 - Focus on End User Markets. Aerospace & Defense, Biomedical, Industrial, MEMS and micro mechanics

Growth in Equipment and Material Services through Organic Innovation
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Aerospace & Defense Market

CVD Market Opportunities & Drivers

- The global Ceramic Matrix Composite (CMC) market size is projected to reach US$ 6.86 billion by 2025, according to a new report by Grand View Research, Inc., exhibiting a CAGR of 13.0% during the forecast period.

  - CVD Equipment: We have the largest global installed base of tow coating CVD systems for CMC engine components. Additional market growth opportunities in aerospace brake composites and structural CMC components.

  - CVD Materials: Opportunity to provide CMC material services in the future.
Aerospace & Defense Market

CVD Market Opportunities & Drivers

- Global Thermal Spray Market in 2017: $8.09B
  - Aerospace has largest market share with approx. 34%

- Emerging Structural Electronics Market: Estimated to be $60B by 2025
  - MesoScribe’s MesoPlasma™ Printing Technology enables new market opportunities for Thermal Spray technology, providing high performance products
    - Multifunctional Structures: Embedded Sensing
    - Gas Turbine Engine Component Monitoring: Diagnostic Sensing
    - Conformal Antennas: Structurally-integrated within UAVs
    - Integrated Heating: High Performance Satellite Products
Aerospace & Defense Market

CVD Core Competencies & Products

- CVD Equipment:
  - CVD Ceramic Matrix Composites (CMC), Equipment for engine components fabrication and specialty shell structure materials.
  - CVD by invite only, attended the USAF CMC Technology Interchange Meeting in October 2018 and was acknowledged as the leading CMC tow coat system provider. In attendance were the premier defense and aerospace contractors.
  - Experience in design and manufacturing of chemical vapor deposition and infiltration systems used in the fabrication of engine components, brake components and specialty structural systems
  - Wide range of substrate formats from fiber to foil web and discrete components
Aerospace & Defense Market

CVD Core Competencies & Products

- **CVD Materials:**
  - MesoScribe™ presently shipping into aerospace and satellite applications, (heaters, laminate electronics, thermal measurement electronics, crack sensors)
  - Selected to receive 3 Government contracts, ~$1M for product and application development; has strategic commercial potential
  - Potential for CMC material fabrication services 2019/2020

- **MesoScribe™** direct write applications growing in adoption estimated to exceed US$ 10 million in revenue in 2023
  - CVD Equipment: Potential for revenue and market adoption acceleration by offering MesoScribe technology systems
  - CVD Materials: MesoScribe is the pioneering company for high temperature direct write instrumentation in the gas turbine, defense and aerospace field.
Various references expect the medical orthopedic implants market is to witness a CAGR of 6% to 7% from 2015 to 2023 reaching up to US$ 140 billion by 2023

- CVD Equipment: Ta deposition and infiltration equipment for biocompatible implant coatings
- CVD Materials: Tantaline® deposition treatment for Ti and Stainless steel implants.

Membrane oxygenator cartridges - devices used to add oxygen to, and remove carbon dioxide from the blood during surgery. Annual market potential estimated to exceed US$ 250 million by 2023

- CVD Equipment: VACNT and Carbon CVI equipment fabricating “Fluid Reactor Core Elements”
Biomedical Market

CVD Core Competencies & Products

- **CVD Equipment:**
  - Launched CVDVP150™ system for biocompatible coatings for orthopedic implants
  - Launched CARBON+150™ system for VACNT (vertically aligned nanotubes) and CVI (Chemical Vapor Infiltration) used to fabricate “Reactor Core Elements”

- **CVD Materials:**
  - Developed Carbon base blood oxygenator technology and devices. Patent applied for and pending. “Fluid Reactor”
  - Ta has increased biocompatibility and osteoconductivity over Ti
  - Developed proprietary Tantaline+™ Ta treatment for advanced implants. Patent applied for and pending.
  - New Central Islip Facility to be the backbone for Biomedical materials future growth.
Key patent application was filed for a family of novel “Fluid Reactors”. The primary novel component is a “Reactive Core Element” which is fabricated using CVD’s Carbon Nanotube (CNT) growth and infiltration process. In addition to process capability we focused on end-use applications to leverage the emerging market opportunity. Market adoption of this technology to supplant or complement existing hollow fiber membrane technology is expected to take several years for a targeted market of $250M to $1B.

Patent application Filed and Pending

CVD has recently filed a provisional patent application to cover different types of Fluid Reactors for applications in filtration and liquid gasification or degasification. As an example of this fluid reactor can be used as a blood oxygenator often called an ECMO - Extra Corporeal Membrane Oxygenator. ECMOs are used for cardio pulmonary bypass surgery applications and a single use replacement oxygenator cartridge alone has an addressable market of approximately $1 billion worldwide.

Leveraging CVD Equipment’s Core Technology and Applications Lab

Our novel nanotechnology Fluid Reactor combines the growth of Carbon Nanotubes (CNTs) and Chemical Vapor Infiltration (CVI) to provide an open-pore cellular network material having a bi-continuous phase structure that is mechanically strong. The parts can then be removed from their growth substrate, be handled by human hands or machines, and further processed to make suitable reactor core elements for a given fluid reactor applications.

Increased Gas/Fluid Transfer Efficiency and Reduced Blood Trauma

With this nanotechnology, Fluid Reactors can have over a 10X active surface area to reactor core volume ratio as compared to fluid reactors based on hollow fiber membranes. When optimally packaged, this translates into a higher productivity rate for a targeted fluid reaction per given fluid volume. For example, in blood oxygenation, this should enable the building of ECMOs that are more compact, have less pressure drop and overall cause less damage to red blood cells, all of which could lead to a reduction in post-surgical complications.
Industrial Market

CVD Market Opportunities & Drivers

- Global industrial valve and component market is expected growth at 4% CAGR to US$84B in 2023

CVD Equipment and Materials

- High value applications for protective (TiN, TiCN) coating systems capability
- Ta deposition for corrosion resistance of critical components in chemical and petroleum applications.

Product End Use Applications

- Die frames
- Tooling
- Control Valves
- Instrumentation (pressure/temp/flow)
- Tube fittings
- Seal rings
- Pump systems
- Glass Lined Vessel (GLV) equipment
Industrial Market

CVD Market Opportunities & Drivers

- **Tantaline®** current global addressable market size is ~US$110M (internal CVD estimates)
  - CVD Materials: Tantaline® and newly developed Tantaline+™ deposition services utilized to provide superior corrosion protection in aggressive petro/chemical, pharmaceutical, and harsh chemical environments

- US$1.65B instrumentation tube fittings market (estimated 2017) with an expected CAGR of 4.9% to 2025 of which Tantaline® addressable market size is US$8.5M (internal CVD estimates)
  - CVD Materials: Tantaline® treatment deposition services through stainless steel fittings manufacturer, 2019 launch of CVD Equipment/Materials “web storefront” for finished products.

- **Tylok®** Alloy Interchangeability Solutions (AIS) has evaluated and has adopted the Tantaline® technology. Tylok® now actively sells and promotes Tantaline® treated fittings through it’s major distribution network throughout North America
  - **Tylok International, Inc.** (Cleveland, OH) is an industrial fittings producer with a product line comparable with Swagelok®.

- Instrumentation fittings are a growing product application for Tantaline® technology
  - US$1.65B instrumentation tube fittings market (estimated 2017) with an expected CAGR of 4.9% to 2025
  - **Tylok®** served market size of US$8.5M
  - Tylok® Alloy Interchangeability Solutions (AIS) has evaluated and has adopted the Tantaline® technology. Tylok® now actively sells and promotes Tantaline® treated fittings through it’s major distribution network throughout North America
  - Tylok International, Inc. (Cleveland, OH) is an industrial fittings producer with a product line comparable with Swagelok®.

Tylok® is a registered trademark of Tylok International, Inc.
Industrial Market for Tantaline®

CVD Core Competencies & Products

- **CVD Equipment:**
  - Decades of Ta chemical vapor deposition system experience
  - Many standard and customer specific systems have been sold to date for Ta deposition

- **CVD Materials:**
  - Tantaline® line of products sold thru Tylok International, Inc.
  - Developed proprietary Tantaline+™ treatment for Ni Alloy industrial components, Patent applied for and pending
  - Initiated buildout for regional Tantaline® service in North America with Central Islip facility, start up planned for Q2, 2019

Tylok® is a registered trademark of Tylok International, Inc.
Three (3) patent applications were filed for an enhanced Tantaline® process expanding the range of treatable substrate materials. We believe that we are the only providers of such corrosion protection for advanced Nickel-based alloys and Titanium. Expect to receive orders and initiate first article shipments in Q2, 2019.
Emerging Electronics Market

CVD Market Opportunities

- In 2016 the bulk GaN substrate market was estimated at about 60,000 wafers (Two Inch Equivalent). “Essentially all commercial GaN wafers are produced by HVPE technology, but details of the growth process and separation techniques vary by company,” asserts Dr Lin from Yole. “The market is expected to grow at a 10% CAGR between 2017 and 2022 to reach more than US$ 100 million in 2022.”
  - CVD Equipment: CVD Equipment has system and process technology in Hydride Vapor Phase Epitaxy and general CVD addressing the needs of the expanding GaN on GaN market.
  - CVD Materials: CVD Materials group leverage of 35 years of CVD equipment process knowledge to provide poly GaN for power electronics market.
Emerging Electronics Market

CVD Core Competencies & Products

- **CVD Equipment:**
  - Launched HVPE400™ for bulk electronic material production in 2018 and in final qualification phase.
  - Developed HVPE system for 150mm bulk GaN and AlN based power electronics and lasers

- **CVD Materials:**
  - In material qualification phase of HVPE400™ for satisfaction of contract to provide $500,000 of bulk polyGaN electronic material
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Infrastructure Activities Supporting Growth

**ERP System**
- Implemented new Enterprise Resource Planning system in late 2017 for CVD Equipment Corporation providing efficiency improvement opportunities.
- We plan to roll out ERP system for CVD Material in late 2018. Assisting CVD to support the growth in organic product lines.

**Advance Design Modeling**
- Advanced Dynamic and Gas modeling enables simulation and development of complex equipment.
- Functional in Q2, 2018, yielding critical design parameter conditions and considerations.
- Allow for increase effectivity of engineering designs.

**Dedicated Material Group Building**
- Dedicated 180,000 sq. ft. to support the growth of CVD Materials Corporation
- Operational readiness in 2019
- Electronic Materials, Ceramic matrix composites, for aerospace medical implant applications, carbon composites & graphene, MesoScribe™, Tantaline®

Addition of senior management in Operations/Engineering/Sales & Marketing

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2018 CVD Materials: Gaining Market Adoption

- Gaining market adoption with increase in repeat orders
- Internally developed proprietary Tantaline+™ treatment for Nickel-based alloys allows for expansion into new applications and material systems
- New facility planned for 2019 in Central Islip NY
- Three (3) Process Patents Filed in 2018

- MesoPlasma™ Printing Technology
- Turbine Engine Component Monitoring: Diagnostic Sensing
- Multifunctional Structures: Embedded Sensing
- Integrated Heating: High Performance Satellite Products
- Conformal Antennas: Structurally-integrated Within Aircraft
- Selected for 3 Government-funded Programs ~$1M, to Commence Early 2019

- Miniature mechanical and electromechanical devices
- Providing both applications and process support to CVD Equipment system customers as well as direct product sales to customers.

- Fluid Reactor Technology Developed Internally and Patent Filed in Q4 2018

Focused on Organic and Post Acquisition growth
Materials Group: Coming in 2019, Web Storefront

- CVD Quartzware
- Corrosion resistant fittings, valves and components
- Thermal measurement instrumentation
- Heaters (flat, flexible material and tubular)
Thank you for your attendance and attention