Safe Harbor Statement

This presentation contains, in addition to historical information, forward-looking statements. Such statements are based on management’s current expectations and are subject to a number of uncertainties and risks that could cause actual results to differ materially from those described in the forward-looking statements. Factors that may cause such a difference include, but are not limited to, those described in the Company’s Annual Report, on Form 10-K, and in other SEC filings.
American Vanguard Overview

- **Traded on NYSE:** AVD Founded in 1969...currently 650 employees
- **Fully Integrated Operation** Including selective R&D
- **Business Model:** Acquire, develop, manufacture and market a diverse group of agricultural products, specialty non-crop products, and application technologies.

**Mission:** Enhance agricultural productivity & safeguard public health worldwide

**Growth Focus:**
- Acquire/license proven, branded, niche application products
- Reinvent core products by identifying new opportunities
- License new, active ingredients and product technologies
- Develop and commercialize new product pipeline
- Develop precision application equipment systems
- Fully exploit significant domestic manufacturing capabilities
Proven Acquisition & Licensing Experience

- Phosdrin Mevinphos (DuPont) 1989
- Fruitone NAA (Rhone Poulenc) 1991
- Dibrom (ex-US) (Chevron) 1991
- Bidrin Dicrotophos (DuPont) 1993
- Vapam Metam Sodium (Zeneca) 1996
- Folex Naled (US) (Valent) 1998

1989 - 2019

- SmartBox System (DuPont) 2000
- Fortress Chorethoxyfos (DuPont) 2000
- Dacthal DCPA (Zeneca) 2000
- Aztec (ATB) (Bayer) 2000
- Axis Plant (DuPont) 2001
- Folex Tribufos (Aventis) 2002

- Ambush 25WP Permethrin (Syngenta) 2002
- Deadline Metaldehyde (Pace) 2003
- Evital Norflurazon (Syngenta) 2003
- Nuvan DDVP (Novartis AH) 2003
- Hivol 2,4-D (Pace) 2003
- Force Tefluthrin (Syngenta) 2004
- Avenge Difenzoquat (BASF) 2005

- Thimet Phorate (BASF) 2005
- Impact Topramezone (BASF) 2005
- Counter Terbufos (BASF) 2006
- Lorsban (Dow) 2006
- Ambush, Prelude Permethrin (Syngenta) 2006

- E-Z Load System (UAP) 2007
- Terraclor PCNB (Chemtura) 2007
- Hannibal Plant (BASF) 2007
- Marsing Plant (Bayer) 2008
- Ambush, Prelude Permethrin (Syngenta) 2006

- Orthene Acephate (Valent) 2008
- Def (Bayer) 2010
- Kosmic (Bayer) 2012
- Mocap Nemacur Aztec (bag) (Bayer) 2013

- TyraTech 2018
- QPE Herbicides (Corteva) 2018
- TyraTech Venture BRAVO (Syngenta) 2017
- GESAPAX BRAVO (Syngenta) 2017
- OHP 2017
- AgriCenter 2017
- Bromacil (Bayer) 2018
- Defensive / Agrovant (Brazil) 2019

- Hyvar (DuPont) 2015
- Scepter (BASF) 2015
- Acropolis (Oxon Italia S.p.A.) 2017
- Paraquat Abamectin Chlorthalonil (Adama) 2017
- Bti Briquets (Summit) 2012
- TyraTech Venture (Envance Technologies) 2013
- Nemacur (Adama) 2015
- Krovar (DuPont) 2015

- 1989 2019
AMVAC Diversified Participation

Fruits & Vegetables: 33%
- Potatoes: 15%
- Corn: 14%
- Specialty: 14%
- Cotton: 9%
- Peanuts: 5%
- Sugar Crops: 5%
- Rice: 4%
- Other: 1%

2018 Revenue
$454 Million
AMVAC United States Manufacturing Sites

Los Angeles, CA

Axis, AL

Hannibal, MO

Marsing, ID
Technology Innovation
Net Sales – Domestic vs International

Net Sales, $1,000s

- 2014
- 2015
- 2016
- 2017
- 2018
- 2019E

Domestic Sales
International Sales
Total Net Sales
Intl. Percent of Total

22% 24% 26% 28% 30% 32% 34% 36% 38% 40% 42%

100,000 200,000 300,000 400,000 500,000 600,000
Operating Expense Performance

- 36.1%
- 34.7%
- 34.5%
- 34.0%
- 31.6%
- 31.0%

Net Sales
Operating Expenses
OPEX % of Sales

2014: $1,000,000
2015: $300,000
2016: $200,000
2017: $100,000
2018: $1,000,000
2019E: $300,000

2014: 36.1%
2015: 34.7%
2016: 34.5%
2017: 34.0%
2018: 31.6%
2019E: 31.0%
Consolidation Process in the Crop Protection Market
(Distribution of CP Sales Across TOP Companies – Pre- vs. Post-Merger Market Shares)
## Key Recent Acquisitions

<table>
<thead>
<tr>
<th>Year</th>
<th>Region</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>US Ag</td>
<td>Herbicide, Insecticide, Fungicide (ADAMA)</td>
</tr>
<tr>
<td></td>
<td>Mexico</td>
<td>Portfolio of Niche Products (Syngenta)</td>
</tr>
<tr>
<td></td>
<td>LATAM</td>
<td>Regional Marketing &amp; Sales Company (AgriCenter)</td>
</tr>
<tr>
<td></td>
<td>US</td>
<td>Horticultural Company (OHP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong> $120MM</td>
</tr>
<tr>
<td>2018</td>
<td>US/Canada</td>
<td>Quizalofop Herbicides (CORTEVA)</td>
</tr>
<tr>
<td></td>
<td>US/Canada</td>
<td>Bromacil (BAYER)</td>
</tr>
<tr>
<td></td>
<td>US</td>
<td>Trichlorofon (BAYER)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong> $26MM</td>
</tr>
<tr>
<td>2019</td>
<td>Brazil</td>
<td>Defensive / Agrovant</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>YTD</strong> $20MM</td>
</tr>
</tbody>
</table>

**Total Recent Acquisitions** $166MM
Grupo AGRICenter

Market Access Platform

- Currently Operates in 7 Countries
- Annual Sales $60 Million
- Gross Profit Margin 25+% 
- Product Mix
  - Insecticides ≈ 25%
  - Fungicides ≈ 30%
  - Herbicides ≈ 20%
  - Nutrients & Other ≈ 25%
- Proven Customer Focused Consulting Services - Identify Problems and Provide Customized Solutions
- Greenplants – Unique Plant Nutrient & Micronutrient Formulations
- Distributor for Leading High-performance Biologicals Supplier
- 115 Highly-Qualified Personnel

Acquisition triples current Latin American presence & gives AMVAC a significant share of the LATAM regional market
Horticulture Focus

► Greenhouse & Nursery Applications
► Annual Sales $20-$25 Million
► Gross Profit Margins ≈ 40%
► Business Model:
  License, Develop, Register, Market, Sell and Service Products for Horticulture Applications in the United States
► 17 Highly Experienced Personnel

Acquisition increases AMVAC’s non-crop business by ≈ 40% adding horticulture segment to existing leading positions in mosquito control, commercial and consumer pest control, and turf & golf course maintenance
Defensive / Agrovant

Market Access Platform

► $9+ Billion Crop Protection Segment
► Strong Position in Fruits & Vegetables (targeting huge soybean market)
► Annual Sales $20 Million with excellent growth potential
► Gross Profit Margin 30+% (Crop Protection & MicroNutrients)
► Well-Established Marketing & Sales Organization
  ► 35 Full-Time Employees
  ► Plus Additional Experienced Commissioned Sales Agents
► Launch Pad for SIMPAS Precision Application Technology

South American Strategic Initiative
New Product Launches
Incremental Net Sales with $94M NPV
Growing Biological Portfolio

Source of biologicals
- SeroX® insecticide
- Vintec® fungicide

Exclusive access to development technologies

Non-toxic insecticides derived from novel screening techniques
- License out under P&G ZEVO® brand
- ProVerde™ line

Licensing-in of 3rd party products
- Ecozin® bio-insecticide
- Protein bio-fungicide
- Testing multiple products and sources

Commercial access to microbials in LA
- KlamicC® nematicide
- TrichoMax® fungicide/biostimulant
- Global pipeline rights

Nine biological products for greenhouse & nursery
- Insecticides/miticides
- Fungicides/bacteriacides

Unique prescription delivery system
- Bio-pesticides
- Biostimulants
- (And traditional chemistry)
- Especially suited to low-rate products

Portfolio of biological products in Costa Rica

Biostimulants & micronutrients in Latin America

Patented technology synergy around essential oils as insecticides

Emerging Pathogens Institute
University of Florida
Envance Technologies

• Envance is the emerging leader in “effective and safe” insect control technology

• Formed by AMVAC and TyraTech to develop and commercialize TyraTech’s novel insect control platform
  • TyraTech was recently acquired by AMVAC and merged into Envance

• World-class R&D capabilities enable Envance to develop compelling ranges of new solutions for consumer, professional, and agricultural insect control markets

• Envance leverages its patented technology and innovation capabilities to transform global pest control categories through partnerships with market leaders
Breakthrough Technology

• Core technology discovered at Vanderbilt-Ingram Cancer Research Center
• “Best-in-class” efficacy achieved by leveraging synergistic combinations of nature-derived compounds and novel formulations.
• Envance’s receptor targeting technology targets neurologic receptors that are not active in humans or animals.
• Unique mode of action is highly effective against insect species resistant to traditional chemistries.
• Experienced R&D team, proprietary screening capabilities, and growing patent portfolio provide Envance with a strong technical advantage.
  • More than 15 years of research and development leading to 46 granted patents and 21 more pending
# Current and Future Market Focus

$30B+ Global Market Opportunity

## Current Market Focus

<table>
<thead>
<tr>
<th>Consumer Insect Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Household</td>
</tr>
<tr>
<td>&gt; Repellents</td>
</tr>
<tr>
<td>&gt; Lawn &amp; Garden</td>
</tr>
<tr>
<td>&gt; Outdoor Living</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Animal Health Insect/Parasite Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Pets</td>
</tr>
<tr>
<td>&gt; Production Animals</td>
</tr>
</tbody>
</table>

## Next Market Opportunities

<table>
<thead>
<tr>
<th>Professional Insect Control</th>
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</thead>
<tbody>
<tr>
<td>&gt; PMP</td>
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<tr>
<td>&gt; Institutional</td>
</tr>
<tr>
<td>&gt; T&amp;O</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Agricultural Insect Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Crop Protection</td>
</tr>
<tr>
<td>&gt; Horticulture</td>
</tr>
<tr>
<td>&gt; Specialty Crops</td>
</tr>
</tbody>
</table>

**$30B+ Global Market Opportunity**

**Current Market Focus**

- Consumer Insect Control
  - Household
  - Repellents
  - Lawn & Garden
  - Outdoor Living

**Next Market Opportunities**

- Professional Insect Control
  - PMP
  - Institutional
  - T&O

- Agricultural Insect Control
  - Crop Protection
  - Horticulture
  - Specialty Crops
Bio-selective: targets nervous system receptors only active in insects.
Safely and confidently use with no harsh chemical odor
Precision Ag Equipment
SmartBox® Evolution

The most advanced *granule* application system available

- Patented, closed-container transfer and application system
- The *sealed transfer-container* is returnable and refillable.
- The *on-planter base-container* contains a locking valve system
- The *electronic meter* replaces the conventional mechanical meter

All three components work together with a cab mounted computer to create the **SmartBox System**
Records FIELD application rates, but is not integrated with current GPS systems nor does it create as-applied maps.
SIMPAS

Smart Integrated Multi-Product Prescription Application System

► One System for Insecticides, Fungicides, Nutritionals & Biologicals
► Dry and/or Liquid Products Applied Simultaneously
► RFID SmartCartridge Packaging Application Accuracy at Very Low rates

Value Proposition
► License Equipment Manufacturer
► Support Retail Distribution
► Supply Crop Protection Product Cartridges
SIMPAS Technology
SIMPAS Development and Commercialization Timeline

2019
- Prescriptive Field Trials on Corn
- Liquid Pump Assessment
- RFID Data Flow Testing

2020
- Limited Commercial Launch
- Combination Application of Liquid with Granular Products
- Refine Equipment and Systems

2021
- Full Commercial Launch
- Broaden Retail and Refilling Infrastructure

2022-2023
- Incorporate Synchronization Technology
- International Expansion
Business Process

1. Farmer acquires SIMPAS/SmartCartridge™ license
2. Farmer purchases SIMPAS equipment from Trimble
3. SmartCartridge product containers sold through traditional crop protection chemical distribution channel
4. Farmer obtains field prescription for SIMPAS-applied products from Crop Advisor
5. Licensed farmer buys SmartCartridge products from licensed retailer
6. Farmer prescriptively applies products
7. Farmer returns SmartCartridge to original place of purchase
8. RFID tags enable retailer to auto-credit farmer for unused product in returned SmartCartridge containers
9. Farmer only pays for actual amount of prescriptively applied product
10. Retailer uses RFID technology to refill SmartCartridges from SmartBulk™ containers
11. Farmer transmits all as-applied & yield data through cloud for spatial analysis
12. Farmer reviews analyzed data with Crop Advisor and prepares prescriptions for next crop
Value Capture Model

- Farmer Subscriptions
- License Fees
- Product & Cartridge Sales
- Hardware Sales
<table>
<thead>
<tr>
<th>Partner</th>
<th>Key Areas of Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simplot</td>
<td>• Trial Implementation &amp; Analysis</td>
</tr>
<tr>
<td></td>
<td>• Logistics Planning &amp; Coordination for Implementation</td>
</tr>
<tr>
<td></td>
<td>• Custom Micronutrient Product Development</td>
</tr>
<tr>
<td>WILBUR-ELLIS</td>
<td>• SIMPAS Overview &amp; On-Boarding Sessions</td>
</tr>
<tr>
<td>HELENA</td>
<td>• Product Evaluation (Micronutrients)</td>
</tr>
<tr>
<td>Nutrien</td>
<td>• Potential Trial Support</td>
</tr>
<tr>
<td>WEST CENTRAL</td>
<td></td>
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<tr>
<td>WinFIELD UNITED</td>
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</table>
SIMPAS Partnerships & Stewardship

• Develop, Test, Register & Market Crop Inputs to be Sold in SmartCartridge Containers

• Enter into Agency Agreements with Targeted Retail-Distribution Partners to Sell & Manage Logistics with Products

• Sell, Install, Service & Support SIMPAS Equipment Through Trimble’s Authorized Dealer Network

• Manage In-Season Issues & Needs with SIMPAS Users

• Develop Prescriptions for SIMPAS-Applied Solutions

• Sell Products to Farmers

• Manage All Logistical Elements of Sales Transaction on Behalf of Crop Input Manufacturers

• Administrate Overall Database of RFID-Based Movement of Products & Provide Service / Reporting to Crop Input Manufacturers & Retail-Distribution Partners

• Provide Spatial Analysis Services through AgVeritas Software for SIMPAS-Applied Solutions
Domestic Base Case Forecast

- Over the next seven (7) years (2020-2026) the Company expects that sales of the SIMPAS system will ramp-up to approximately $160 million/year by 2026 based upon 2,900 systems over 8.7 million treated acres.

- During that timeframe, the Company anticipates that gross profit margins will rise from the low 30’s in the early introductory years to over 50% by the later years.
Market Opportunities

Initial Focus on 3 US Crops: Corn, Soybeans and Cotton

Crops
- All row crops
  - Corn
  - Soybeans
  - Cotton
  - Potatoes
  - Sugar beets
  - Peanuts
  - Sugarcane
  - etc.

Geographies
- US
- Brazil/Argentina
- China
- Eastern Europe
- UK, EU
- Canada
- Australia

Geographies
- Large farms, technology adopters
- Heavily regulated

- US
- Brazil/Argentina
- China
- Eastern Europe

- UK, EU
- Canada
- Australia
SmartFill™ Station

Requires an area of ~20’ x ~20’ for fork lift to load bulk container on top of station.

Dry system containers shown here, but a single SmartFill Station equipment will accommodate dry and liquid SmartBulk & SmartCartridge containers.
Precision “Placement” Technology

**Synchronized application** of input *with the seed* during planting, increasing profits and sustainability.

**Current Method:** Continuous In-Furrow Application

**Future Method:** **Synchronized** “Seed & Input” Application

*Delivers in the ‘Seed Zone’ reducing total input applied per acre.*
Guidance . . . . 2019 Full-Year

Revenue: ≈ $500 Million

Gross Margin: ≈ 38% *(Subject to quarterly mix)*

Operating Expenses: ≈ $155 Million

Tax Rate: ≈ 26% *(Estimated for all jurisdictions)*

Inventory Level Reduce by $45 Million

Debt Level Reduce by $50 Million
AMVAC Take Away Message

► Solid Base Business

*Niche market positions; solid Balance Sheet*

► Product Portfolio Expansion

*Acquisition; licensing; internal development; partnership/collaborations*

► Increasing Market Access

*Domestic programs; international alliances*

► Technology Innovation

*Chemical products; biological products; precision-ag equipment systems*

► Organizational Excellence

*Manufacturing; financial discipline; managerial expertise*
American Vanguard Strategic Model

Technology Provider
SIMPAS/Envance/Biologicals/Formulation technology / Pre-mixes

Market Access Provider
America’s, Australia

Service Provider
Branded, Quality Standard Products
Broad portfolio- focused segments
Best in class logistics