Vision 2020
Certain statements in this presentation may constitute “forward-looking statements” within the meaning of federal securities laws. These statements are subject to a variety of uncertainties, unknown risks, and other factors concerning the Company’s operations and business environment. Important factors that could cause actual results to differ materially from those suggested by these forward-looking statements and that could adversely affect the Company’s future financial performance include the following: demand in the industries into which Ferro sells its products may be unpredictable, cyclical, or heavily influenced by consumer spending; Ferro’s ability to successfully implement and/or administer its optimization initiatives, including its restructuring programs, and to produce the desired results; currency conversion rates and economic, social, political, and regulatory conditions in the U.S. and around the world; Ferro’s ability to identify suitable acquisition candidates, complete acquisitions, effectively integrate the businesses and achieve the expected synergies (including, but not limited to, the Endeka Group, Gardenia Química, Dip-Tech, SPC Cappelle Pigments, Electro-Science Laboratories, Delta Performance Products, Pinturas Benicarló, Ferer, Al Salomi, Nubiola and Vetriceramici transactions), as well as the acquisitions being accretive and Ferro achieving the expected returns on invested capital; the effectiveness of the Company’s efforts to improve operating margins through sales growth, price increases, productivity gains, and improved purchasing techniques; Ferro’s ability to successfully introduce new products or enter into new growth markets; the impact of interruption, damage to, failure, or compromise of the Company’s information systems; restrictive covenants in the Company’s credit facilities could affect its strategic initiatives and liquidity; Ferro’s ability to access capital markets, borrowings, or financial transactions; the availability of reliable sources of energy and raw materials at a reasonable cost; increasingly aggressive domestic and foreign governmental regulations on hazardous materials and regulations affecting health, safety and the environment; competitive factors, including intense price competition; Ferro’s ability to protect its intellectual property, including trade secrets, or to successfully resolve claims of infringement brought against it; sale of products and materials into highly regulated industries; the impact of operating hazards and investments made in order to meet stringent environmental, health and safety regulations; limited or no redundancy for certain of the Company’s manufacturing facilities and possible interruption of operations at those facilities; management of Ferro’s general and administrative expenses; Ferro’s multi-jurisdictional tax structure and its ability to reduce its effective tax rate, including the impact of the Company’s performance on its ability to utilize significant deferred tax assets; the effectiveness of strategies to increase Ferro’s return on invested capital, and the short-term impact that acquisitions may have on return on invested capital; stringent labor and employment laws and relationships with the Company’s employees; the impact of requirements to fund employee benefit costs, especially post-retirement costs; implementation of new business processes and information systems, including the outsourcing of functions to third parties; risks associated with the manufacture and sale of material into industries making products for sensitive applications; exposure to lawsuits in the normal course of business; risks and uncertainties associated with intangible assets; Ferro’s borrowing costs could be affected adversely by interest rate increases; liens on the Company’s assets by its lenders affect its ability to dispose of property and businesses; Ferro may not pay dividends on its common stock in the foreseeable future; amount and timing of any repurchase of Ferro’s common stock; and other factors affecting the Company’s business that are beyond its control, including disasters, accidents and governmental actions.

The risks and uncertainties identified above are not the only risks the Company faces. Additional risks and uncertainties not presently known to the Company or that it currently believes to be immaterial also may adversely affect the Company. Should any known or unknown risks and uncertainties develop into actual events, these developments could have material adverse effects on our business, financial condition and results of operations.

This presentation contains time-sensitive information that reflects management’s best analysis only as of the date of this presentation. The Company does not undertake any obligation to publicly update or revise any forward-looking statements to reflect future events information or circumstances that arise after the date of this presentation. Additional information regarding these risks can be found in our Annual Report on Form 10-K for the year ended December 31, 2016.

Also, this presentation includes certain financial measures that were not prepared in accordance with generally accepted accounting principles. Reconciliations of the historical non-GAAP financial measures to the most directly comparable GAAP financial measures can be found in the Appendices included in this presentation. This presentation includes adjusted gross profit and adjusted EBITDA guidance. It is not possible, without unreasonable effort, for the Company to identify the amount or significance of future charges that would be excluded from adjusted gross profit and adjusted EBITDA guidance or the potential for other transactions that may impact such guidance. Accordingly, the Company is unable to reconcile, without unreasonable effort, the adjusted gross profit and adjusted EBITDA guidance. Also, this presentation provides future financial projections with Sales, adjusted Gross Profit and adjusted EBITDA.
Ferro’s Transformation

Ferro Overview | Ferro’s Transformation: Phases I - III | Ferro Strategy: Phase IV | Vision 2020

A more focused, fundamentally stronger company

Ferro 2012
- Performance Coatings
- Performance Colors & Glass
- Pigments, Powders and Oxides
- Performance Chemicals
- Electronic Materials

Ferro Today
- Performance Coatings
- Performance Colors & Glass
- Color Solutions (PPO)

2012 - 2013
- PHASE I: FIX
  - Simplify operations and reduce infrastructure costs

2014 - 2015
- PHASE II: TRANSITION
  - Harvest underperforming and non-strategic assets

2016 - 2017
- PHASE III: GROW
  - Invest in higher value growth opportunities

2018 - CURRENT
- PHASE IV: INNOVATE
  - Dynamic innovation and optimization

DIVESTED BUSINESSES
- Performance Chemicals
  - Specialty Plastics
  - Pharmaceuticals Fine Chemicals
  - Polymer Additives
- Electronic Materials
  - Solar Pastes
  - Precious Metals Powders and Flakes

Ferro 2012
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Ferro Today
- Performance Coatings
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Dynamic Innovation and Optimization

**Innovation**

Innovation aligned to trends and customer needs
- R&D and product development
- New technology platforms
- Shift from product-centered to a more solution-driven model

**Optimization**

On-going optimization to drive efficiency and increase return on capital employed
- Cost reduction / productivity
- Asset footprint optimization / utilization
- Manufacturing and operating processes optimization

**Growth**

Balanced organic and inorganic growth:
- Product renewal
- New applications
- Scope expansion – larger addressable market
- Geographic expansion
- Actively managed M&A pipeline
Principal Characteristics of Phase IV

**Optimized Business Model**
- Continuation of customer-tailored, asset-light, specialty model
- A larger addressable market
- Strategically extended down the value chain
- Continuous optimization of cost structure and asset footprint
- Scale to support reinvestment in core businesses and in growth areas
- A self-renewing, higher growth model

**Growth Through Innovation**
- A technology leader in its target spaces - innovating, not following
- Complementary organic and inorganic growth
- A wider lens of growth options
- Better positioned behind major macro and sector growth drivers
- Development of new platforms that leverage existing market positions

**VISION: A LEADING FUNCTIONAL COATINGS AND COLOR SOLUTIONS COMPANY**
Vision 2020

**Net Sales and Margins**

(Net Sales in $B)

- **2013**: $0.9B
- **2017E**: ~$1.3B
- **2020E**: ~$1.7B

**Characteristics**

- **Color Solutions**
  - Pigments
  - Colorants

- **Functional Coatings**
  - PCG
  - PC

- **Specialty inorganic and organic pigments**
- **Colorants, dispersions and other color services / solutions**
- **Wider addressable market**
- **Market leader**
- **Broad range of substrates**
- **Technology leader - digital inks & printing**
- **Favorable macro trends**

**SCALABLE MODEL ALLOWS FOR CONTINUOUS GROWTH & VALUE CREATION**

Note: Assumptions do not include future acquisitions
# Vision 2020 – Growth Elements

<table>
<thead>
<tr>
<th>Business Model</th>
<th>Ferro Today</th>
<th>Ferro 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual Sales and Gross Margin</strong></td>
<td>~$1.3B</td>
<td>~$1.7B</td>
</tr>
<tr>
<td></td>
<td>~31%</td>
<td>~33% - 34%</td>
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<tr>
<td><strong>Sources of 2020 Growth</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• ~20% Organic</td>
<td>• ~40% Organic</td>
<td></td>
</tr>
<tr>
<td>• ~80% Inorganic</td>
<td>• ~60% Inorganic</td>
<td></td>
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<tr>
<td><strong>Business Segments</strong></td>
<td></td>
<td></td>
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<tr>
<td>• Performance Coatings (PC)</td>
<td>• Functional Coatings (Glass, Metal, Ceramic...)</td>
<td></td>
</tr>
<tr>
<td>• Performance Colors &amp; Glass (PCG)</td>
<td>• Color Solutions (Pigments + Colorants)</td>
<td></td>
</tr>
<tr>
<td>• Pigments, Powder and Oxides (CS)</td>
<td>• Surface Technology Solutions (new platform)</td>
<td></td>
</tr>
<tr>
<td><strong>Addressable Market</strong></td>
<td>~$10B</td>
<td>~$12B</td>
</tr>
<tr>
<td><strong>Underlying Market Growth</strong></td>
<td>~2 - 3%</td>
<td>~4% - 5%</td>
</tr>
<tr>
<td><strong>New product pipeline value</strong></td>
<td>~$210M</td>
<td>~$240M</td>
</tr>
<tr>
<td></td>
<td>15 - 20% of revenue</td>
<td>15 - 20% of revenue</td>
</tr>
</tbody>
</table>

**ENHANCED DYNAMICS OF GROWTH MODEL**

Vision 2020 - Performance Metrics

Three key levers, aligned with strategy

**Organic Growth**
- ~3% - 4% annual org. growth
  - New product pipeline (15-20% vitality)
  - CTO Office
  - Expand our “market”

**Market**
- + 1-2%

**Optimization**
- Gross Margin ~33% – ~34%
- EBITDA ~20%+
- FCF Conversion ~50%-60%
  - Lean & optimization initiatives

**Inorganic Growth***
- ~$100MM sales annually
  - Existing M&A Pipeline
  - Enhanced process

**Strategic Acquisitions**
- $150MM / Year

* Uncompleted transactions not included in base model

SIGNIFICANT VALUE AND PERFORMANCE ENHANCEMENT
Vision 2020 – Organic Growth Elements: Market + 1-2%

Revenue Growth
($ in billions)

FY 2017
~$1.3B

Market Growth

Share Gain/New Products

Announced Deals

FY 2020
~$1.7B

8% CAGR

INNOVATION & NEW PRODUCT PIPELINE PROVIDES CLEAR PATH TO 2020 GOALS
Vision 2020 – Optimization: 2% Annually

Efficiency
- Functional productivity enhancements
- Asset footprint optimization / utilization
- Manufacturing and process optimization

Reformulation
- Reformulate products to optimize raw material costs
- Optimize raw material sourcing vs. in-sourcing

Systems, Technology & Processes
- More visibility with predictive capabilities
- Enhanced speed
- Consolidate time and space

Enhance Productivity/Asset Efficiency
Sourcing Innovation
Technology as an Enabler

ENABLING GROWTH THROUGH EFFICIENCY DRIVES VALUE
Vision 2020 – Inorganic Growth

M&A Considerations and Process
- Successful business with strong fundamentals that can be easily integrated, offering synergies and attractive value creation
- Tuck-in/bolt-on or platform
- Disciplined approach and process
- Strive to generate value, not just scale

Strategic Fit
- Driven by strategy
- Industry leader
- High-margin
- Scalable
- Asset-light, heavy customer touch
- Increased geographic reach and penetration
- Technology/product extension

Rigorous Financial Criteria
- Cash flow accretive in the short-term
- Maintain leverage targets within ~12-18 months post deal
- Return Expectations
  - 30%+ > Cost of Capital / IRR ~25%
- Achievable synergy potential (cost and growth)

MAINTAIN DISCIPLINED APPROACH & ENHANCE PROCESS TO DRIVE VALUE