



**VIBRANTZ**  
TECHNOLOGIES™

# Elevating the everyday

2023 CORPORATE SOCIAL RESPONSIBILITY REPORT  
CUSTOMER SUMMARY







## A MESSAGE FROM OUR CEO

**As we launch our inaugural CSR report, Vibrantz Technologies is also proudly celebrating our second anniversary as a global specialty chemicals and materials solutions provider.**

Just 24 months into our journey, we continue honoring and building upon the combined 300-year legacy of our predecessor companies as we innovate advanced materials, color solutions and performance coatings technologies for customers worldwide. At Vibrantz, we often say that “we elevate the everyday.” Our core purpose is to bring color, performance and vibrancy to life and – daily – we live out this calling by providing critical, high-value products, cultivating a creative and collaborative spirit among employees, and being a responsible and impactful presence in our communities.

The world faced another tumultuous year in 2023. Throughout the year, demand across many end-markets remained weak as customers worked through high inventory levels built up during the pandemic, forcing many to revise financial expectations and cost structures. Amidst this difficult

environment, the Vibrantz team took swift action to ensure we remained well positioned to serve customers while continuing the heavy lift of our large-scale integration.

The resilience of our global workforce throughout 2023 was remarkable and inspiring. During the year, we delivered strong revenue and earnings and improved earnings margins. We also began to establish the “Vibrantz Way,” a manner of working in which we move at speed, prioritize the safety of our people and operations, focus on enhancing the customer experience, and hold each other accountable.

**This report is a shining example of our purpose in action and how we are stepping closer to becoming world class with a sound CSR mindset at the core of our strategy.** Enriching our people, culture, communities and planet are vital to the long-term future we envision and our report is organized to reflect the guiding commitments of our CSR program, including remaining **ethically centered, socially connected, environmentally responsible** and **financially disciplined**. Each section outlines our actions, progress, targets and key performance indicators in each category.

Vibrantz has been awarded a “Committed” badge by EcoVadis. This is impressive considering that in just 12 months we established our CSR Council, mobilized our sustainability efforts and undertook the EcoVadis rating process. We achieved two of our highest scores in the environmental and sustainable procurement categories, highlighting the hard work and commitment to sustainable practices that Vibrantz embodies every day. Notably, two of our European subsidiaries in Spain and The Netherlands earned Platinum and Silver medals, respectively.

Looking ahead, Vibrantz is positioned to contribute to megatrends shaping societal and consumer needs like digitization and connectivity, the effects of climate change, global policy driving cleaner technologies, and urbanization around the world. We are particularly excited about the ways our innovations are elevating each day.

**Memory and electronics:** Our innovations for electronic materials and surface polishing will impact next-generation microchips and semiconductors as processing and memory needs in everyday devices increase.

**Mobility:** Our products remain instrumental in making automobiles, trains, buses and recreational vehicles safer and durable. Our nanotube dispersions for battery housing aid electrical conductivity and create lighter, stronger materials. And our manganese products for batteries support the shift to zero-emission automobiles.

**Eco-friendly paints:** Our Pearls biocide-free tinting solution is positioned to grow as regulations encourage colorant producers and retail paint stores to seek more eco-friendly options. And our reflective pigments are helping improve energy efficiency of buildings.

**Plastic pollution:** Our reflective pigments reflect near-infrared light in black and dark plastics, making them easily detectable in recycling operations and lessening unnecessary waste at landfills.

**Digital printing:** Our digital inks for appliance glass and ceramic dinnerware are important as home and decorative applications embrace printing to achieve quick, stylish and affordable design.

I am incredibly grateful to our CSR Council and all our employees for embracing our shared purpose and remaining steadfast since we began our journey in 2022. They are the reason we are delivering on our promise to make the everyday brighter and more functional for customers and consumers. Vibrantz is fortunate they have chosen to share their heads, hands and hearts with us.

On behalf of the Vibrantz team, thank you for following our journey to create this very special company and shape a culture, footprint and legacy we are so proud to call our own.

**MICHAEL WILSON,** President and CEO

# WHO WE ARE AND ASPIRE TO BECOME

We began our journey in 2022 with a clear vision: to become a sustainable world-class specialty chemicals and materials company. Guided by our purpose to bring color, performance and vibrancy to life, we are committed to providing world-class service to customers while enriching the lives of our people, culture, communities and planet. We believe that we are the best versions of ourselves when we are connected to and positively impacting others, and for us, this starts internally with a genuine care and concern for our employees.

## PURPOSE

**We bring color, performance and vibrancy to life**

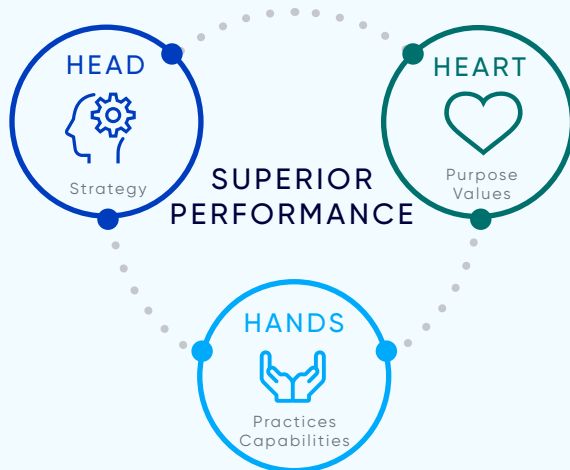
## VISION

**We aspire to be a sustainable world-class specialty chemicals and materials company**

# HOW WE WILL GET THERE

We strive to create a highly engaging workplace where our shared values are on display every day. Our ability to captivate employees' heads, hands and hearts is vital as we work to foster strong engagement, or the connection our colleagues feel to our purpose and their unique contributions. We have committed to living out and holding each other accountable to six core values as we work.

## SYNERGY



## VALUES

### SAFETY

- Aspire to be injury free
- Look out for each other
- Be accountable

### CUSTOMERS

- Deliver highest quality
- Listen to needs and go the extra mile
- Follow through on commitments

### OUR PEOPLE

- Encourage learning, adapting and growth
- Value authenticity and diversity
- Foster engaging environment

### ENVIRONMENTAL STEWARDSHIP

- Favorably impact the planet
- Innovate and improve products 24/7
- Use resources responsibly and efficiently

### EXCELLENCE

- Set high standards
- Problem solve collaboratively
- Challenge status quo to drive improvement

### ETHICS, INTEGRITY AND TRUST

- Communicate respectfully and transparently
- Do the right thing every time
- Foster comfort with raising concerns

# VIBRANTZ AT A GLANCE

Headquartered in Houston, Texas, we are a global, diversified specialty chemicals and materials company of scale with leading positions in attractive end-use markets.



## ADVANCED MATERIALS

Specialty mineral additives and battery and electronic materials for the following applications:

- Animal and crop nutrition
- Automotive
- Battery raw materials
- Brick and roof tile colorants
- Optical and semiconductor polishing
- Electronic ceramic components
- Electronic packaging materials
- Glass colorants
- Oilfield drilling fluid additives
- Metallurgical sands and additives



## COLOR SOLUTIONS

Dry pigments and liquid dispersions for the following applications:

- Architectural coatings
- Automotive coatings
- Construction
- Fabrics
- Food packaging
- Health and personal care
- Industrial coatings
- Plastics
- Thermosets



## PERFORMANCE COATINGS

Porcelain enamel and ceramic and glass coatings for the following applications:

- Appliances
- Architectural specialty glass
- Appliance specialty glass
- Automotive glass
- Dental composites
- Dinnerware
- Glass containers
- Holloware
- Roof tiles
- Sanitaryware

## OUR GLOBAL PRESENCE

~4,000

employees

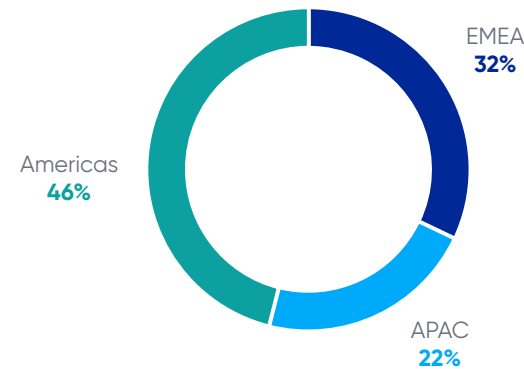
11,000+

customers worldwide

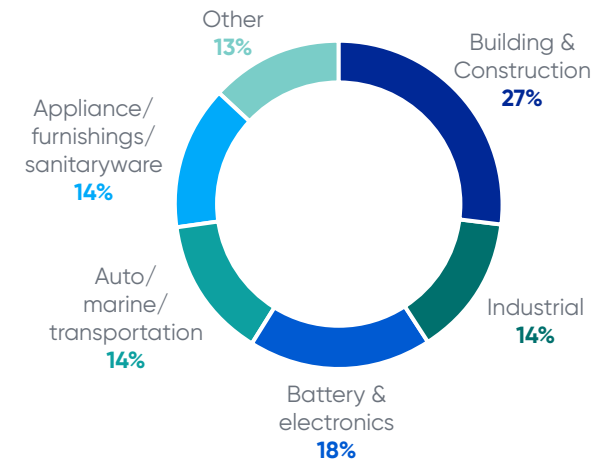
61 manufacturing sites  
on 6 continents

\$60+M invested in R&D since 2022 with 500+ patents

### SALES BY GEOGRAPHY



### SALES BY END MARKET





# WE ELEVATE THE EVERYDAY

Our advanced materials, color solutions and performance coatings are used in small amounts to make sizable impacts on many industrial and consumer applications. These are just a few of the end markets in which we play.



Denotes a Vibrantz-led green initiative that aims to reduce environmental impact, conserve resources, increase recycling and/or promote sustainability. More information can be found throughout this report.



# OUR CSR MINDSET

At Vibrantz, the core of our CSR efforts is a powerful shared belief that we are the best versions of ourselves when we are connected to and positively impacting others. Our CSR mindset is anchored in four core areas: ethically centered, socially connected, environmentally responsible and financially disciplined. Through this mindset, we value more than financial gain.

The remainder of this report is structured around each of our core areas. Each section concludes with an overview of key opportunities, which highlights areas for improvements, and our priority actions for this year. Some of these opportunities are under review by the CSR Council and will be prioritized with our Vibrantz leadership team.

## ETHICALLY CENTERED

We engage honestly with employees, make a positive impact, are authentic and build long-term trust with our stakeholders.



## SOCIALLY CONNECTED

We actively support each other's betterment through ongoing connection to and celebration of our values, and we give back to our communities through volunteerism.



## FINANCIALLY DISCIPLINED

We make intelligent investments that consider more than the bottom line, including business opportunities that align with our core purpose, improve risk management and promote innovation.



## ENVIRONMENTALLY RESPONSIBLE

Environmental stewardship is one of our core values and we recognize the importance of embracing sustainable practices in our operations.



# OUR SCORECARD

MATERIAL TOPIC	KEY PERFORMANCE INDICATOR (KPI)	TARGET	TARGET YEAR
<b>HEALTH AND SAFETY</b>			
Ethically Centered	Total recordable incident rate (TRIR)	0.9 TRIR	2024
		0.4 TRIR	2028
		0.2 TRIR	2030
<b>COMMUNITY RELATIONS</b>			
Socially Connected	Percentage (%) of total employees that participate in a "Vibrantz in Action" event	40%	2024
		60%	2025
		80%	2026
<b>GHG EMISSIONS</b>			
Environmentally Responsible	Reduction in total Scope 1 and 2 GHG emissions based on 2022 baseline	4%	2025
	Long-term Scope 1 and 2 emissions reduction target set	Completed	2024
	Carbon management plan and Scope 3 targets complete for high priority sites	Completed	2026
<b>PRODUCT LIFECYCLE / SUSTAINABLE SOURCING</b>			
Financially Disciplined	LCAs on all six pilot products	Completed	2025
	EcoVadis supply chain assessment complete for our three business units and three operating regions	100%	2025





**ETHICALLY  
CENTERED**

## SAFETY

With the implementation of the Vector platform, Vibrantz now has real-time information related to any incidents in a uniform and trackable manner. This allows our EHS and management teams to better understand what is happening at each location, determine root causes and create action plans to address any issues. The Vector system allows corrective actions to be linked directly to any incidents thereby allowing tracking from date of discovery until the corrective actions are complete.

Vibrantz also launched the SafeStart behavioral-based safety system in 2023 at select sites and will continue to target additional sites in the future. Focusing on behavioral-based safety fosters a holistic approach by considering leading and lagging indicators.

With the implementation of VOU, the EHS team also launched its Cardinal Safety Rule training initiative requiring that all personnel – from our CEO to our production workers – complete the training to ensure everyone knows these lifesaving rules and can actively participate in their safety and that of their colleagues, peers and friends. Vibrantz has its sights set on ensuring all employees are consistently attentive to their actions and the actions of those around them so that any unsafe behavior can be identified, isolated and prevented.

Because it is important that the company understand the operational, safety and environmental footprint of each site, Vibrantz created an EHS audit program. This enabled the company to better understand current practices and areas for improvement. These audits have been hugely successful in helping Vibrantz address risks, making employees safer and ensuring compliance with rules, regulations and permit conditions.

The EHS team also launched key initiatives in 2023, including improvements to machine guarding and elimination of open-blade cutting devices. Our sites have been actively assessing all equipment to determine if guarding is needed and then creating and implementing plans to ensure all necessary guarding is installed properly and safely. In 2023, Vibrantz implemented a cutting devices policy, nearly eliminating the use of open blades. As a result, we saw a near elimination of all cut or scrape injuries related to open blades and further protected our people.

In 2024, we aim to achieve a TRIR of 0.9. By 2028, we aim to lower this to 0.4, ultimately achieving 0.2 by 2030.

### CARDINAL SAFETY RULES







## BUSINESS ETHICS

Our commitment to conducting business in a way that makes us a partner of choice underpins all we do. Vibrantz established a global compliance program in 2023 that includes the Vibrantz Code of Ethics, global trade compliance management, an ethics hotline for reporting any concerns, cybersecurity protocols, the development of the Quality Assurance and Regulatory Affairs (QARA) department, and training to reinforce our ethical commitments.

The Vibrantz Code of Ethics is central to our ethical commitments. This code formally lays out the requirements that all Vibrantz employees must follow including conformance and respect for human rights, diversity and inclusion, data privacy, EHS, and anti-harassment, -corruption, -retaliation and -bribery. In conjunction with the Code of Ethics, Vibrantz established an ethics hotline to ensure all employees can voice concerns. Information about how to access the hotline is posted at each site and available on our SharePoint-based intranet. In 2023, Vibrantz also rolled out an ethics hotline and investigation training with all human resources personnel globally, detailing when and how to access the hotline and the importance of conducting unbiased investigations into all complaints received.

In 2023, Vibrantz's global trade compliance team implemented systems to vet suppliers and customers against trade rules and regulations. Vibrantz drafted global trade compliance communications that were sent in early 2024 to distributors and customers to ensure compliance with applicable trade rules and regulations.

In late 2023, Vibrantz created a [QARA](#) department to help drive quality, compliance with ISO standards and a system for managing product regulatory affairs. The QARA department will be responsible for helping our sites work toward ISO certification by focusing on the quality of Vibrantz products and compliance with all regulatory frameworks associated with these products.

Vibrantz also made significant strides in information security in 2023. We focused our efforts on harmonizing the information security approach across the organization. In conjunction with an infrastructure simplification, this standardization ensured we had the ability to monitor and proactively prevent breaches. We also launched an information security awareness program to educate employees on how to recognize phishing attempts and other cybersecurity threats, as well as best practices for password management. To practice our response to any potential breaches, we worked with a reputable cybersecurity consultant to simulate a breach of our security platform to ensure we could properly vet our procedures and identify gaps. In 2024, our goal is to drive further harmonization, conduct proactive vulnerability scans to identify weaknesses, and educate our users on new and evolving threats to our organization.

## SUPPLY CHAIN

Vibrantz is committed to focusing on the actions we take when conducting business as well as the actions of those with whom we trade. In 2023, Vibrantz made significant progress in sustainable procurement. First, we implemented our Sustainable Procurement Policy and Supplier Code of Conduct focusing on the characteristics we require of the partners in our supply chain. These initiatives were also included on our global Vibrantz Terms and Conditions to ensure sustainable practices are engrained in the way Vibrantz does business. By the end of 2025 Vibrantz is seeking confirmation from 80% of our key suppliers to the principles of the Supplier Code of Conduct.

Importantly, Vibrantz also partnered with EcoVadis to launch a project to review all Vibrantz suppliers globally. The EcoVadis supply chain assessment covers environment, labor and human rights, ethics and sustainable procurement practices. In 2023, we completed a review of all suppliers for our Color Solutions business unit in the EMEA region and started a review of all suppliers for our Advanced Materials and Performance Coatings in EMEA in December. Over the course of the next few years, Vibrantz will expand these reviews to the Americas and Asia Pacific regions for all three business units.

The evaluation of our Color Solutions EMEA business partners shows that our key suppliers rated better than our average chemical industry peers. With information obtained from EcoVadis evaluations, as well as the volume of business and the countries of origin, Vibrantz developed the "Vibrantz CSR Supplier's Risk Analysis." The analysis identified 35% of suppliers as "risky." We have focused our efforts on evaluating all of our global suppliers and establishing criteria for key supplier sustainability targets and improvements.

In addition, Vibrantz established a plan to train our purchasing team on priority CSR issues. By the end of 2023, 90% of our key purchasing decision-makers were trained on sustainable procurement challenges and benefits.

Vibrantz adheres to the Conflict Minerals Reporting Template (CMRT) and received responses from 70% of identified suppliers. In 2023, our product stewardship and procurement teams began requesting information from all identified suppliers related to the Extended Minerals Reporting Template (EMRT). We are targeting 100% reporting on both templates by end of 2024.



How we manage our supply chain is an important part of our commitment to society and the environment. The sustainable procurement committee developed a strategy that will enable efficiency, help us manage risks and create economic, social and environmental value for stakeholders. I am very proud of the enthusiasm and contributions of all of our team members.

**ANTONI PINEIRO, QEHS AND SUSTAINABILITY**





## ENVIRONMENTALLY RESPONSIBLE

As we strive to position ourselves as a world-class organization, we recognize the importance of embracing sustainable practices and contributing to a better future. Environmental stewardship is one of our core values and we are committed to minimizing our impacts and protecting the natural environment.

## ENVIRONMENTAL STEWARDSHIP

We aspire to have a favorable impact on the environment, are constantly innovating and improving our products, and use resources responsibly and efficiently.

Climate change and biodiversity loss are two of society's greatest challenges. We are committed to playing our part and to reducing our environmental impact every day. We are setting a strong foundation by measuring and understanding our impact across our operations and our value chain. In 2023, we developed our baseline, which will enable us to set science-informed, short- and long-term targets to monitor, track and report on our progress on material environmental topics, including GHG and other emissions, waste, water and biodiversity.

Many Vibrantz products provide impactful solutions to today's environmental challenges, including providing essential components for EVs and other materials that support the transition away from fossil fuels. We have a responsibility to innovate and develop products with a lower environmental footprint and provide sustainable solutions for customers. Find a more detailed overview of how we are working with our value chain in the Ethically Centered section. This section gives an overview of progress on environmental topics and our plans for 2024.

### CLIMATE CHANGE AND CARBON

We support the Paris Agreement and actions to limit global temperature increases to well below 2 °C, and ideally no more than 1.5 °C above pre-industrial levels, by the end of this century. We can contribute by measuring and reducing our GHG wherever possible across our value chain and offer products and services that support the transition to a low-carbon world. We are proud of our progress and acknowledge we have room to improve to ensure we meet our goals.

The CSR Council is responsible for developing the strategy for climate risk and decarbonization. The Environment and Systems subcommittee facilitates engagement with operations.



## RECENT PROGRESS TO REDUCE GHG EMISSIONS

As we continue to improve the measurement of our GHG emissions, we also understand the importance of making immediate reductions where possible. We have challenged each business unit to identify best practices and future opportunities with a focus on energy and process efficiency. Recent highlights include:

- Our Baltimore site installed new catalysts on the furnace and roaster utilized in the calcining process. This resulted in a 7% (furnace) and 19% (roaster) decrease in natural gas usage per ton of product produced and a 33% reduction in nitrogen usage.
- Our Barcelona, Llodio and Girardota sites source 100% renewable electricity. Our Montevideo site also sources 90% renewable electricity, while several others are sourcing at least partial renewable electricity.
- Our Johannesburg and Maastricht sites utilize their own solar power systems for some of their energy requirements.
- The basis for the design of our new Pearls plant at our Sittard facility has a low-carbon footprint due to its use of heat pumps, solar roof and solar water heaters, among other systems.
- Our sites at Menen, Zibo and St. Dizier have installed heat recovery systems.
- Our Ubersetto site has recently completed a multi-year project to ensure the total elimination of natural gas use, including the installation of several high-efficiency heat pumps.
- Our Almazora site installed specialized compressors on certain equipment resulting in an annual electricity savings of around 1,353 Mwh/year.
- Our Burslem site installed agitator timers on glaze storage tanks, reducing the energy usage involved with the equipment by 75%, creating substantial cost and carbon savings.
- Many sites replaced traditional light bulbs with light-emitting diode (LED) bulbs either partially or facility wide. Many also installed motion sensors to improve lighting system efficiency.

## OUR KPIs

While there is a substantial ongoing scope of work to formalize our long-term carbon goals and management plan, we recognize the importance of making immediate progress toward reducing GHG emissions. Accordingly, we set a short-term KPI to reduce our total Scope 1 and 2 carbon emissions by 4% by the end of 2025 while we develop a longer-term strategy and targets. This will allow us to make meaningful progress on our decarbonization journey.

METRIC	VALUE	BASELINE YEAR/ TARGET YEAR
<b>Total Scope 1 and 2 emissions reduction</b>	4%	2022/2025
<b>Long-term Scope 1 and 2 reduction target set</b>	By end of 2024	N/A
<b>Carbon management plan and all scope targets set for high priority sites</b>	By end of 2026	N/A





## WATER AND WASTEWATER MANAGEMENT

Water is an important resource and also vital to our business operations. We are taking steps to reduce our water usage and increase efficiency to protect water resources for the resilience of our business, communities and the environment. This also includes the continuation and improvement of measures to ensure the effective processing and release of wastewater.

In 2023, we gathered operational water use data to better understand our demands, high use areas and opportunities to improve efficiency. We are finalizing our 2023 usage data collation and a detailed quality assurance process will be completed. We intend to publish the data in Q2 of FY 2024/25 in a supplement to this report. The challenges associated with water are localized with factors causing or mitigating water stress varying between different water basins and regions. We completed a water risk analysis to understand which of our operational sites are situated in areas of water stress globally utilizing the Aqueduct Water Risk Atlas. As we continue to identify methods of reducing our water use, sites in areas of high or very high water stress will be prioritized.

While we are improving data quality around our global water use, we continue to implement site initiatives to improve water resource efficiency. Recent initiatives include:

- Our Cleveland site launched a non-contact water cooling capital project that will save roughly \$280,000+ in annual water utility costs.
- Our Zibo site upgraded the stain workshop wastewater treatment facility to reduce chromium and hexavalent chromium levels well below national standards.
- Our Maastricht and Sittard sites engineered a wastewater treatment system based on heat recovery.
- Our St. Dizier site operates a water treatment plant and a closed-circuit water cooling system for engobes.
- Our Kuala Lumpur site upgraded the effluent treatment system to reduce freshwater usage and wastewater contaminants.
- Our Ubersetto site uses purified water in liquid products thereby nearly eliminating water waste.
- Our Llodio site completed a project to ensure minimal wastewater is discharged to the river.



# FINANCIALLY DISCIPLINED



## OUR SHARED VISION COMMITMENT TO GROWTH

Vibrantz's Shared Vision details our growth plans for the next three to five years considering macro and market trends with our core competencies and product development opportunities. For us, Shared Vision includes three core elements:

- **Growth vision:** We are focused on commercial opportunities that enable us to grow our core businesses, enhance our impact on the global energy transition and reduce our environmental footprint. We will also continue investing in strategic acquisitions and optimizing our work.
- **Growth commitment:** By 2025, we will grow revenue and earnings by focusing on four key near-term and four key longer-term priorities.
- **Resources:** Our people, systems and processes across our business units remain integral as we work to achieve this growth and focus on continuous improvement.

Among many exciting growth technologies, our Shared Vision priorities detail key near- and longer-term opportunities that align with our core competencies and key macrotrends.



### NEAR TERM

#### Advanced Materials

**Defend and grow electronic materials**  
Leverage core products to pursue growth globally

#### Color Solutions

**Cross-selling**  
Develop pipeline of cross-selling opportunities

**Cross-region application transfer**  
Identify applications that can be sold in new regions

#### Performance Coatings

**Porcelain enamel geographic expansion**  
Expand our positions in underrepresented applications



### LONGER TERM

#### Advanced Materials

**Li-ion batteries**  
Become leading Western supplier of battery-grade manganese sulfate

**Silicon carbide (SiC) polishes for EV sensors**  
Develop SiC polishes to support EV sensors

#### Color Solutions

**Pearls**  
Drive adoption, increase production capacity, accelerate growth through a defined go-to market strategy

#### Performance Coatings

**Digital Inks**  
Penetrate broader digital inks market



# EXCITING AND IMPACTFUL GROWTH TECHNOLOGIES

## ADVANCED MATERIALS

### HIGH-PURITY MANGANESE SULFATE FOR BATTERIES

#### MARKET DRIVER

EV production growth requires precursor materials for battery manufacturing that use high-purity manganese as a critical input, which is largely supplied by Chinese producers today. Particular to automakers, the U.S. Inflation Reduction Act includes tax credits and measures designed to encourage EV sales and the use of domestic materials and parts throughout the auto industry.

#### VIBRANTZ SOLUTION

Manganese-based materials are a sustainable and cost-effective way to improve the safety, longevity and thermal stability of batteries.

- Vibrantz is the most experienced and only western producer of high-purity manganese sulfate monohydrate (HPMSM).
- A recent Sphera LCA on behalf of the International Manganese Institute showcased the ultra-low carbon footprint of our HPMSM out of our Mexico and Belgium sites.
- We aim to become a leading western supplier of HPMSM for EV battery production and the supplier of choice for manganese chemicals for the rechargeable battery market.
- We are driving supply chain stability via expanded HPMSM production in Mexico and a long-term manganese ore partnership with Eramet.



We are a reliable producer of sustainable battery-grade manganese sulfate that is committed to advancing the global energy transition.

**ZOE OLLAGNON, STRATEGY AND PRODUCT MANAGER, RECHARGEABLE BATTERIES**

### SURFACE POLISHING TECHNOLOGIES FOR NEXT-GEN SEMICONDUCTORS

#### MARKET DRIVER

The global semiconductor industry is projected to become a trillion-dollar industry by 2030<sup>1</sup>. Compared to conventional semiconductors made of silicon, those made of SiC process electricity more efficiently, particularly in battery applications for EV manufacturers where SiC-based semiconductors improve battery control and save energy, greatly increasing EV range. SiC also has the potential to significantly impact fifth-generation (5G) electronics applications for mobile network providers, smartphone manufacturers and automation due to their ability to enable faster speed switching and minimize heat loss and their incredibly compact size.

#### VIBRANTZ SOLUTION

Vibrantz's expertise in chemical mechanical planarization technology enables high-yield processes for next-gen and 5G devices through slurries that improve polishing capability and minimize defects in chips and sensors. SiC-based semiconductors:

- Are 10 times smaller than traditional semiconductors made of silicon.
- Enable up to 50% less heat loss, leaving more energy for charging.
- In batteries can enable 10% to 15% more range for an EV and the installation of smaller batteries.
- Have the potential to enable faster charging of devices, wireless charging and high-speed server processing.



<sup>1</sup>The semiconductor decade: A trillion-dollar industry | McKinsey

# EXCITING AND IMPACTFUL GROWTH TECHNOLOGIES

## COLOR SOLUTIONS

### DURABLE COMPOSITES FOR VEHICLE MATERIAL LIGHTWEIGHTING

#### MARKET DRIVER

Governments worldwide continue implementing stricter regulations to reduce emissions and promote sustainable mobility. This means automakers must explore lightweight materials such as thermoset composites for sheet molding components that meet environmental and performance requirements. Ultraviolet (UV) stability is critical in thermoset plastics for vehicle applications because constant exposure to sunlight and weather can cause unprotected composites to degrade and lose structural integrity over time.

#### VIBRANTZ SOLUTION

Our UVSolutions® pigment dispersion technology is engineered for use in fiber-reinforced plastics to enhance durability against harsh and prolonged weather exposure.

- UVSolutions are increasingly used in composite applications for truck beds and tailgates.
- UV-stable composites are engineered to maintain their original glossy or matte black finish through years of weather exposure.
- We continue innovating in line with key automotive industry trends, like the desire to reduce weight and improve fuel efficiency.



Our UVSolutions enable customers to replace traditional metal materials with lighter, more durable options that help vehicle exteriors last longer.

**ALISON CLARK, COMMERCIAL VICE PRESIDENT, COLOR SOLUTIONS**

### INFRARED REFLECTIVE PIGMENTS TO IMPROVE PLASTIC RECYCLING

#### MARKET DRIVER

Infrared technology used at plastic recycling operations makes it hard to detect plastics colored with traditional carbon black pigment, causing recyclable plastics to be unnecessarily discarded and sent to landfills. Plastic pollution today is undeniable, with an estimated 14 million metric tons entering oceans annually<sup>1</sup>.

#### VIBRANTZ SOLUTION

Our infrared pigments reflect light, making them easily detectable in recycling operations. They also:

- Meet food contact and FDA regulations.
- Promote cost-effective, accurate recycling.
- Help minimize global plastic pollution.



<sup>1</sup>IUCN Issues Brief. [Marine plastic pollution - resource | IUCN](#)

# EXCITING AND IMPACTFUL GROWTH TECHNOLOGIES

## COLOR SOLUTIONS

### REFLECTIVE PIGMENTS TO IMPROVE BUILDING ENERGY EFFICIENCY

#### MARKET DRIVER

The use of air conditioning (AC) for residential and commercial use is increasingly common, putting enormous strain on electricity systems and making cooling the fastest growing use of energy in buildings<sup>1</sup>. High energy costs also increase the need for lower-cost and more efficient cooling options. Architectural and construction markets continue to seek eco-friendly and energy efficient building materials.

#### VIBRANTZ SOLUTION

Our reflective pigments and dispersions:

- Improve building energy efficiency by up to 20%.
- Reduce AC consumption, lowering energy bill costs.
- Increase the durability of exterior coatings.



<sup>1</sup>IEA (2018), [The Future of Cooling](#), IEA, Paris.

### PEARLS ECO-FRIENDLY TINTING SOLUTION

#### MARKET DRIVER

Traditional tinting solutions for liquid colorants found at point-of-sale kiosks in retail stores often contain controversial additives like biocides and humectants, utilize messy dispensing processes, and contain colorants that cause paint to dry and thicken, wasting roughly 5% - 10% of paint can contents. Global regulations continue to encourage colorant producers and retail paint stores to seek more eco-friendly options that still enable high-performing end-use paint. Yet many of today's "greener" colorants create paint that do not perform as well or last as long as traditionally tinted paint.

#### VIBRANTZ SOLUTION

Pearls is the first volumetrically dosed tinting system of solid colorants for water-based architectural and industrial applications that is eco-friendly and high-performing. Pearls is:

- A biocide-free technology made with 100% recyclable packaging.
- An accurate, low maintenance and cost-effective alternative.
- Easier to use due to simplified equipment, reduced maintenance and cleaner overall process.



This game-changing technology substantially reduces costs and simplifies tinting processes in paint stores. Pearls' ease of use will change the daily habits of operators forever.

**MARTIJN KUNNEN , EMEA COMMERCIAL DIRECTOR AND GLOBAL STRATEGY DIRECTOR, COLOR SOLUTIONS**



# EXCITING AND IMPACTFUL GROWTH TECHNOLOGIES

## PERFORMANCE COATINGS

### CHEMICAL-FREE PORCELAIN ENAMELS FOR COOKWARE

#### MARKET DRIVER

Consumer commitments to sustainable products and overall well-being have driven the culinary landscape to offer cookware without “forever chemicals” (also known as perfluoroalkyl and polyfluoroalkyl substances, or PFAS) in the production of nonstick surfaces.

#### VIBRANTZ SOLUTION

Genuine porcelain enamel (PE) has been a staple of ceramic coatings for cookware for decades to resist corrosion from cleaners, abrasion and the wear of daily use. PE differs from heavily advertised “ceramic-coated” cookware that often contains solvents because it is derived from naturally occurring minerals like rock and clay.

- Our PE coatings are made without lead and PFAS.
- Several of our products for cast iron cookware satisfy European food contact tests and comply with ISO 4531.



As our products make their way to homes around the world, we embrace the responsibility to deliver genuine porcelain enamel coatings that prioritize safety and longevity.

**ARIANE VENTURA , COMMERCIAL DIRECTOR  
SOUTH AMERICA, PERFORMANCE COATINGS**

### ENGINEERED INKS FOR DIGITAL PRINTING

#### MARKET DRIVER

Manual screen printing techniques are difficult for large-scale production, labor intensive, require skilled personnel and specialized equipment, and risk inconsistent results. At the same time, home and decorative applications – particularly for appliance and structural glass, and ceramic dinnerware – are increasingly using novel printing techniques to achieve quick, stylish, affordable and durable design.

#### VIBRANTZ SOLUTION

Compared to traditional glass decoration methods, digital printing enables flexibility in project size, precise application, less waste, rapid turnaround, streamlined production and unlimited options for image reproduction. Digital printing also leverages light and heat technology to boost ink's protective properties on almost any substrate. Vibrantz digital inks are:

- Fortified with ceramic ingredients to ensure exceptional durability.
- Resilient against mechanical, environmental, UV and chemical exposure and damage.
- Comply with EU REACH 1907/200.



As we conclude this inaugural CSR report, we celebrate a significant milestone in our journey toward become an enduring and sustainable world-class specialty chemicals and materials company. The accomplishments and progress made in 2023 underscore the collective efforts and commitment from every member of our organization. Looking ahead, we are excited for the opportunities to further integrate sustainability into our operations and expand our efforts to make a meaningful difference for all stakeholders and the communities we serve. Vibrantz will continue to be guided by our shared belief that we are the best versions of ourselves when we are positively impacting others. We invite you to follow our CSR journey by visiting [www.vibrantz.com](http://www.vibrantz.com), where you can learn about our latest initiatives, community partnerships and impactful projects. Stay connected with us as we work to ensure a thriving future by bringing color, performance and vibrancy to life.

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