



VIOLETECH - Passion for Color

A Presentation By:

Violetech New Materials Co.,Ltd.



KEY FIGURES (2021 DATA)

2017

Violetech was founded on Jul. 2017 in Shanghai

240+

Employees worldwide, including 22 chemical engineers

2,000 MT

Annual output of PV23 by 2021

30%

Estimated PV23 global market penetration by 2021

43+

Exporting countries and regions

327 million

Investment in fixed assets (in CNY)

IMPORTANT FACTS ABOUT VIOLETECH

LEADING PV23 SUPPLIER

Headquartered in Shanghai, Violetech is one of the leading independent supplier of high performance pigment.

PRODUCTION SITES IN CHINA

At the current stage, Violetech operates two production sites in Shandong & Shanxi province of China.

R&D/QUALITY CONTROL

Violetech R&D center in Shanghai includes Pilot Synthesis Plant, Analytical Testing Lab, and Application Lab.

GLOBAL SALES AND SUPPORT

With over 20 channel partners globally, Violetech offers a consistent high level of local service.

Been Coloring the World since 1965!

- **More Than 50 Years of Expertise:** While the name Violetech may be new, the people, philosophy, and innovation behind it are anything but.
- **The Mission and Purpose of Violetech:** To develop the best performing HPP products to solve unique industrial application challenges.

甘谷油墨厂

1965

GanGulnk (originally a state-owned company) was established as one of the top 4 ink makers of China.

1968-1996

GanGulnk Pigment Division was established in 1968. With technologies licensed from Germany, the company was able to set up one of China's first Phthalocyanine pigment production line back in 1996.



2000 - 2004

GanGulnk went through a period of **Privatization and Reorganization** following China's economic reform.

2004

GanGulnk Pigment Sector was formally privatized in 2004. Later renamed **GGINK Group Limited**, the company relocated its center of operation to Shanghai.

VIOLETECH

2017

GGINK's core technical & management team, joined forces with a group of veterans from the pigment industry, **co-founded Violetech in 2017.**

2018

Full **REACH Registration** completed for PV23 product range (100 tons/year).
Shanxi Complex begun construction work in Oct.

2019

With process innovation and technological reconstruction of the **Shandong Plant**, Violetech was able to boost its PV23 (finished pigment) production capacity up to more than **500 tons/year.**

2020 H1

Violetech launched its own brands: **Colorfast®** (for ink), **Colorplas®** (for plastics) and **Colorperm®** (for coatings).

2020 H2

Shanxi Complex (phase I) commenced trial operation in Aug. 2020. To date, more than 300 million CNY has been invested in the location.

The Shanxi Complex is expected to reach full-capacity operation by the end of 2021, which will boost the total crude PV23 production capacity up by at least **1,500 MT/year**

1965

1996

2004

2011

2017

2018

2019

2020

Our Business Scope

Passion for Color

High Performance Organic Pigment

We're a leading global provider of superior quality Pigment Violet 23. Our products are used for printing and packaging ink, industrial and architectural coatings, automotive paint, as well as in the plastics/rubber and textile industry.

Fine Chemical Intermediate

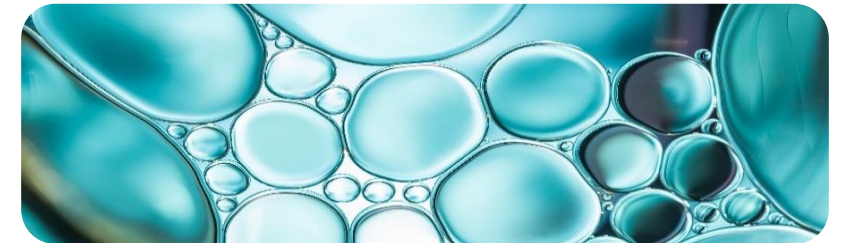
Utilizing advanced organic synthesis technologies, we produce various types of fine chemical intermediates, including 4-Chlorobenzonitrile, Chloranil, and Bromoethane. At the current stage, our intermediate business serves primarily in auxiliary to our main pigment business.

Value-added Technical Service

Our highly experienced team of color specialists are committed to delivering value-added services to our customers. With decades of experience and application know-how in the Pigment Industry, we're confident that we can provide the solutions you're looking for.

Global Logistics Service

Our rich experience in the Pigment Industry has taught us the importance of good packaging and proper transportation. With our dedicated team of SCM professionals, we're here to make sure that our customers not only receive products on time, but they receive it without any compromise in quality.



Domestic Operating Sites

Passion for Color

Production Facility

- Operates two production sites in China
- Semi-automated plant in Shanxi province
- 2,000 tons/year of HPP (Crude Pigments)
- 1,500 tons/year of HPP (Finished Pigments)
- 800 tons/year of Pigment Intermediates
- More than 300 million CNY Invested so far

Distribution Infrastructure

- Head Sales Office in Nanxiang, Shanghai
- Warehouse near Shanghai port area
- Sales Office in Shenzhen and Hongkong
- No.1 Supplier of PV23 pigments in China

Research Facility

- In-house QC Lab in Shanxi Complex
- R&D Center in Shanghai headquarter
- Pilot Synthesis Plant for product customization
- Hires over 25 chemists & color specialists



Shanghai HQ - R&D and Distribution Center

Shanghai HQ is the seat of our operation management and technical expertise.

- Houses Violetech Sales, SCM and procurement teams
- R&D Center with Synthesis Pilot Plant
- Warehouse over 3000 m² near Shanghai port district



Shandong Plant - Finishing & Conditioning

The Shandong Plant at the current stage primarily functions as a base for PV23 pigmentation. It has a processing capacity of 600 tons of Finished Products per year.



Shanxi Complex – Raw Pigment Synthesis

As the single largest PV23 project so far, Shanxi Complex is designed to ensure low pollution, increased productivity and consistent product quality.

- Manufactures Crude Pigments
- DCS and SIS controlled process
- Waste Water Treatment Facility
- RTO Air Treatment System
- In-house Quality Control Lab



Introducing Shanxi Complex

Passion for Color



Shanxi Complex (Phase I)

Single Largest PV23 Project to Date

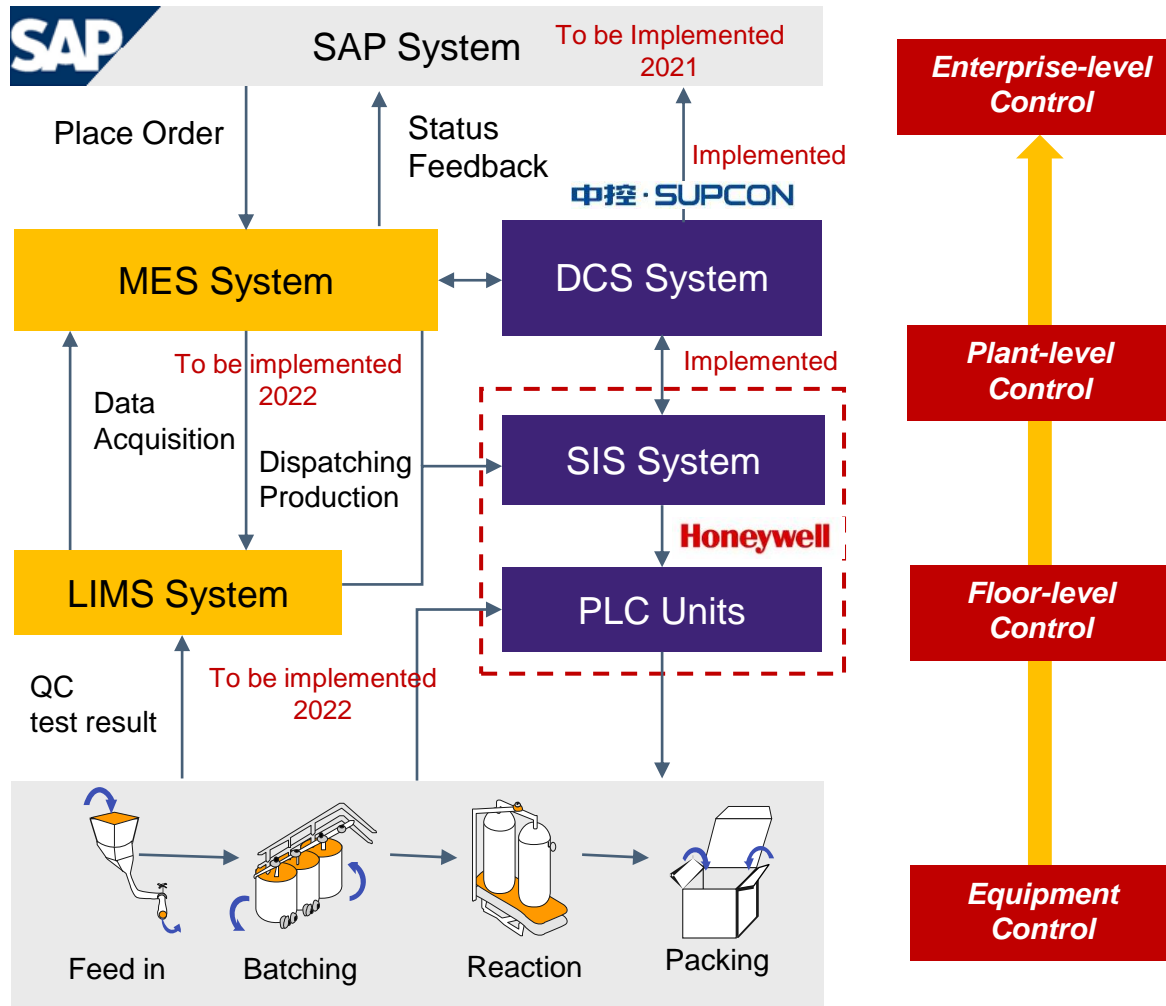
Facility and Equipment

Passion for Color



Our Difference: From People-driven to Process-driven

Passion for Color



We aim to be a process-driven company. We believe that quality process & digital transformation is integral to our ability to consistently deliver high quality products at competitive prices and thereby retain and attract our customers.

We intend to achieve this through implementation

- of **SAP System** which ensures that the information used across the enterprise is normalized, and that each component across the procure-to-pay process are SOP compliant. (Implemented by 2021)
- of **MES System** which ensures that quality and efficiency are built into the manufacturing process and that they are proactively and systematically enforced. (To be implemented by 2022)
- of **LIMS System** which improves lab efficiency by keeping track of data associated with samples, experiments, laboratory workflows, and instruments. (To be implemented by 2022)
- of **DCS System** which is firmly anchored in every aspects of our manufacturing activities, and plays a key role in automatic control of key reaction processes. (Implemented)
- of **SIS System** which ensures production safety through continuous monitoring of key parameters during reactions. (Implemented)

Dedication to Color Consistency

Violetech was founded by a blend of chemists, color specialists and entrepreneurs, with one common goal in mind: to develop the best performing HPP products to solve unique industrial application challenges. Violetech QC process is designed to ensure an end-to-end control mechanism. Our quality management policy consists of a four-stage process.



HDPE Sample Testing

“Quality is not just another goal for Violetech, it is our core founding strategy.”



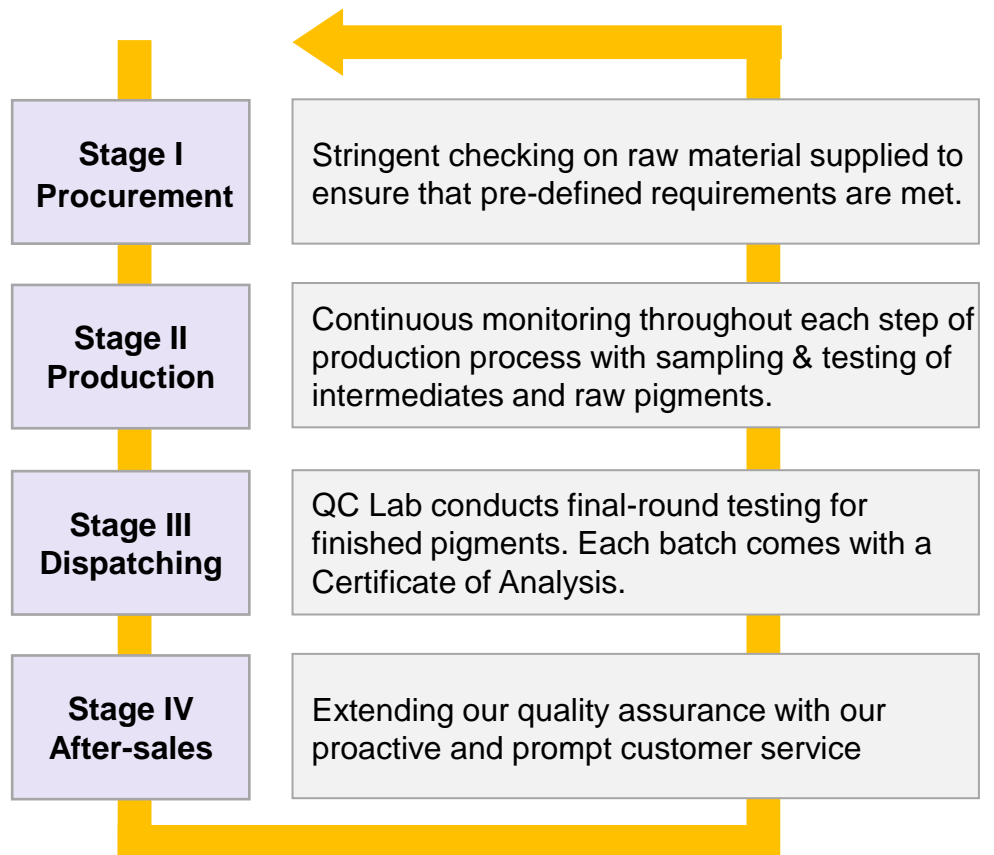
Test Chamber



HPLC Stations

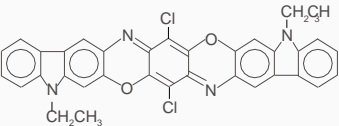


QC Lab (Shanxi)



Chemical Properties

Chemical family: Dioxazine
Chemical name: 8,18-dichloro-5,15-diethyl-5,15-dihydrodiindolo[3,2-b:3',2'-mjtriphenodioxazine
Molecular formula: O
Molecular Structure:



C. I. number: 51319
CAS number: 6358-30-1
Einecs number: 228-767-9

Physical Properties

Appearance: Deep bluish violet powder
Density: 1.4-1.6 g/m³
pH value: 6.5-7.5

Heat resistance	30 Min.	200 °C
	10 Min.	220 °C
Light fastness	7-8	
Water resistance	5	
Acid resistance	5	
Alkali resistance	5	
Linssed oil resistance	5	
Paraffin wax resistance	5	
Oil absorption	38%-53%	

Heat resistance: Celsius
Light fastness: grade 1-8
Other resistance: grade 1-5

VIOLETECH PV23 PRODUCT RANGE



Applicability			VT2300W	VT2303W	VT2304W	VT2305W	VT2320W	VT2310S	VT2311S	VT2312S	VT2313S	VT2316S	VT2321P	VT2322P
Printing Ink	Liquid	PU/Vinyl						●	●	●	●	●		
		CPP Ink						●			●	●		
		PA/NC			○			●	●	●	●			
		NC/PU						●	●	●	●			
		WB Flexo	●			●	●	●			●			
	Paste	Metal Deco		●	●									
		UV Offset		●	●			●	●	●	●			
		Offset Ink					●	●	●	●	●			
Coatings	Deco	WB	●	○	○									
		SB		●	●	●								
	Industrial	Powder												
		Coil												
		WB		●	●									
		SB		●	●									
	Auto	OEM		○	○									
		Refinish		○	○									
Plastics	Rubber/TPV												●	●
	Fibers												●	●
	PUR												●	●
	PS												●	●
	PVC												●	●
	PO												●	●
Textile		●			●	●								

• Recommended use ○ Limited use

PV23 Featured Product

Passion for Color

COLORFAST®

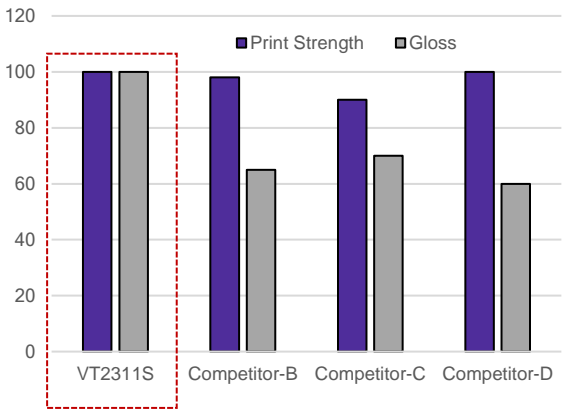


For Printing Inks Applications

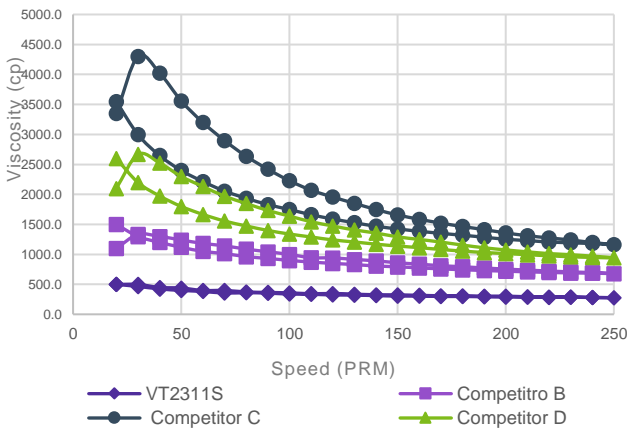
COLORFAST® VT2311S/VT2312S is a Dioxazine pigment with outstanding coloring strength and extraordinary rheological performance of this group of pigments. It's recommended for solvent-based packaging inks, as well as for UV offset & Flexo inks.

- Exceptional High Color Strength and Gloss
- Highly Transparent
- Lowest Effect On Ink Mill-base Viscosity
- Best-in-class Rheology, No Thixotropy
- Overall Good Print Fastness Properties

COLOR STRENGTH & GLOSS TEST



RHEOLOGY TEST (NC-ETHANOL PIGMENT 22%)



COLORPLAS®



For Plastics/Rubber Applications

COLORPLAS® VT2321P/VT2322P is suitable for a wide range of high-end plastics applications, including PE, PP, PVC, and ABS (thin film and fiber), due to its excellent heat stability, very good all-round fastness properties, and top of the class dispersion quality.

- Small particle size within its own class
- Excellent dispersibility preformance
- Suitable for a wide range of applications
- Excellent all-round stability and resistance
- Very good all-round chemical resistance
- Suitable for outdoor applications

Heat Stability

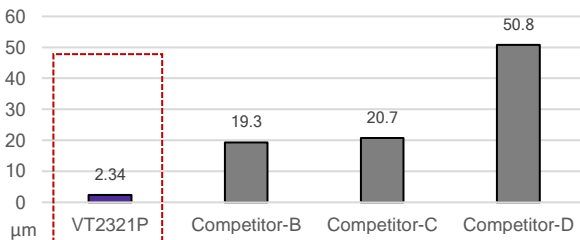
Heat Stability, 10 mins (PE)	260°C
Heat Stability, 10 mins (PP)	240°C
Heat Stability, 10 mins (PS)	250°C

Lightfastness Properties

Lightfastness (Full Shade in PE)	8
Lightfastness (Full Shade in PP)	8
Lightfastness (Full Shade in PVC)	8
Lightfastness (Full Shade in PS)	7-8
Lightfastness (Reduced Shade PE)	7-8
Lightfastness (Reduced Shade PP)	8
Lightfastness (Reduced Shade PVC)	8
Lightfastness (Reduced Shade PS)	6-7

Legend: 1 - Poor 2 - Fair 3 - Good 4 - Very Good 5 - Excellent

Particle Size (D50)



FPV Test Result (bar/g)

VT2321P	Competitor-B	Competitor-C	Competitor-D
≤2.0	≥5.0	≥5.0	≥8.0

Additional Range of Applications

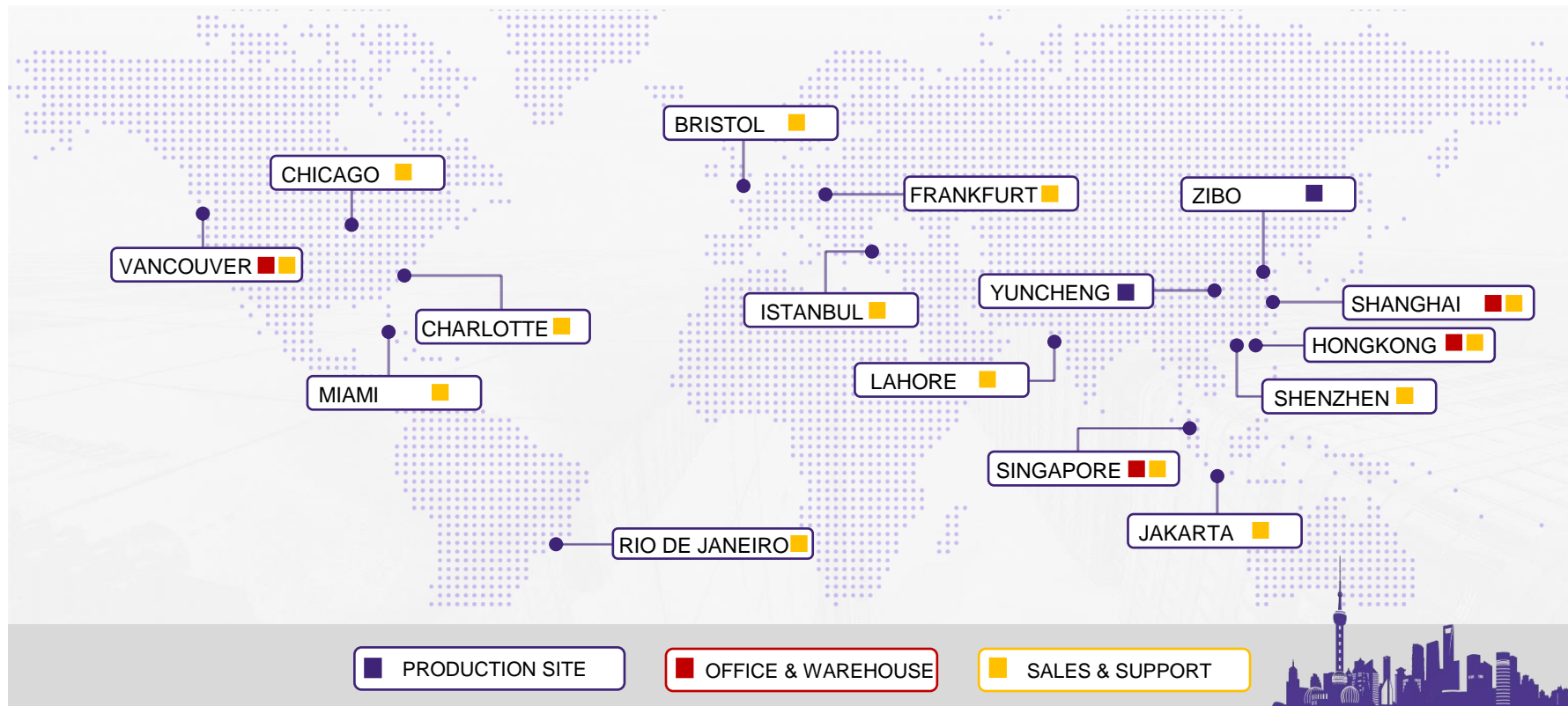
Low Warping Application	Suitable
Cable Sheathing	Suitable

Global Sales & Support Network

Passion for Color

We Speak Your Languages and Understand Your Needs!

- We recognize our role as an HPP supplier is to adapt to your processes and unique application challenges.
- That's why we have established a network of local agents & partners around the world to respond to your requirements promptly.



43+

Exporting Countries

26+

Channel Partners

30%

Market Share of PV23

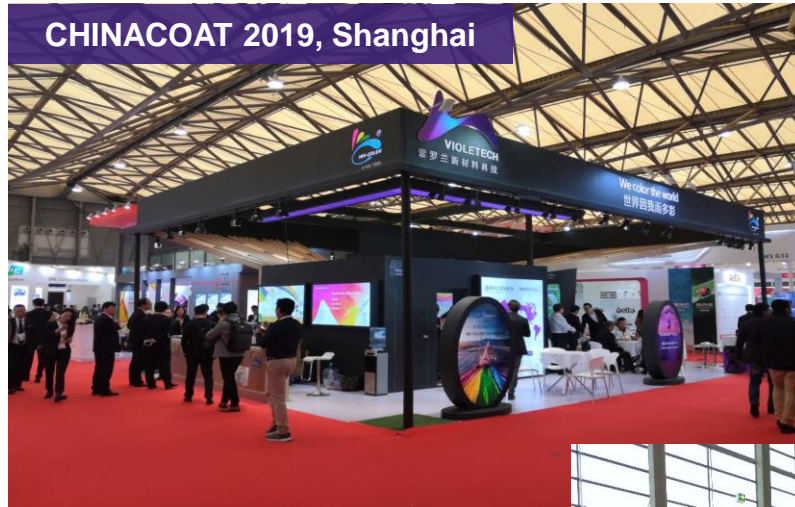
400million

2021 Target Sales in CNY

Presence at Global Exhibitions

Passion for Color

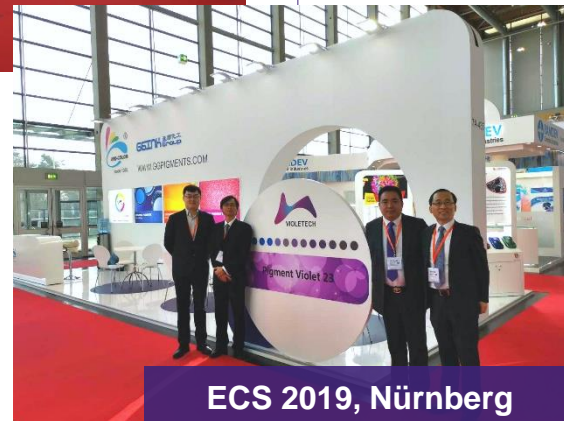
Come Visit Us in Guangzhou for the Upcoming CHINACOAT 2021



CHINACOAT 2019, Shanghai



PCS 2019, Lahore



ECS 2019, Nürnberg

Violetech Sales Team at
Global Exhibitions



Industry-leading Clients

Passion for Color

Printing Inks



Coatings



Plastics & Rubber



Pigment



Color Chemistry



Violetech was founded in 2017 by a blend of chemists, color specialists and entrepreneurs, with one common goal in mind: to develop the best performing HPP products to solve unique industrial application challenges.

Upholding the corporate slogan 'Passion for Color', we are dedicated to our mission of bringing color and function to the world of Printing, Coating, Plastics & Textiles coloring and beyond.

Here at Violetech, we deliver high quality pigment products and top-notch technical services consistently. Our commitment to pigment quality ensures that end products captivate through color and texture, and can be manufactured with improved efficiency. Our skill-pool of technical consultants work relentlessly to offer expertise so that the specific needs of various industries are met with precision and perfection.



VIOLETECH - Passion for Color

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