



2019

TRONOX

Integrating Two Great Companies

TRONOX



Our market-leading products and expertise will:

- Drive sustained growth
- Improve operational efficiency
- Deliver better value to our customers

NOW BRIGHTER THAN EVER





TRONOX



Transformative and Highly Synergistic

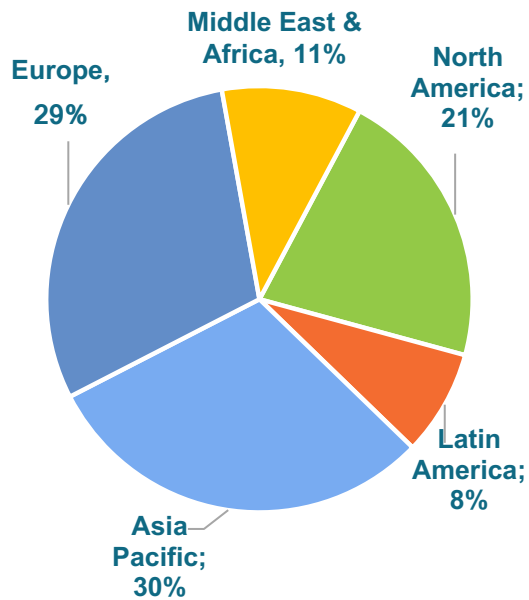
- World's largest vertically integrated TiO₂ producer
- Second largest TiO₂ pigment producer
- Second largest mineral sands producer
- Second largest zircon producer
- Unmatched global footprint on six continents
- Rich diversity of talent with deep expertise across value chain
- Greater stability in financial performance and cash generation
- Creating sustainable, long-term value for our shareholders



TiO₂ Pigment Revenue 2018

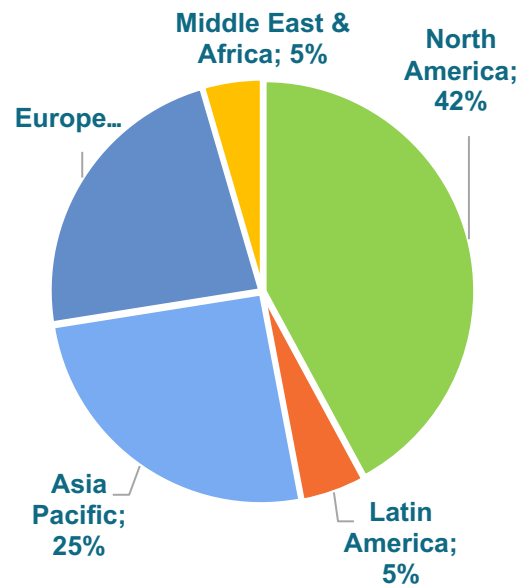
New Tronox ⁽¹⁾

\$2,537 million



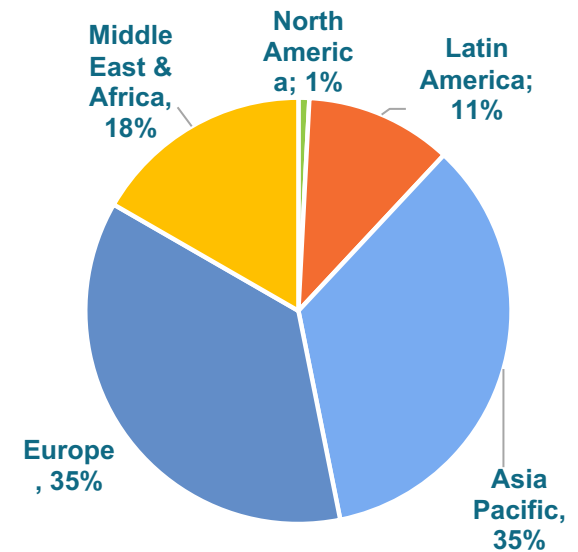
Tronox

\$1,265 million



Cristal ex-Ashtabula ^(2,3)

\$1,272 million



(1) New Tronox on Pro Forma basis

(2) Cristal Revenue and related percentages are estimates

(3) Ashtabula 1 & 2 will be sold on May 1, 2019

Unmatched Global Footprint



Highly Synergistic Combination

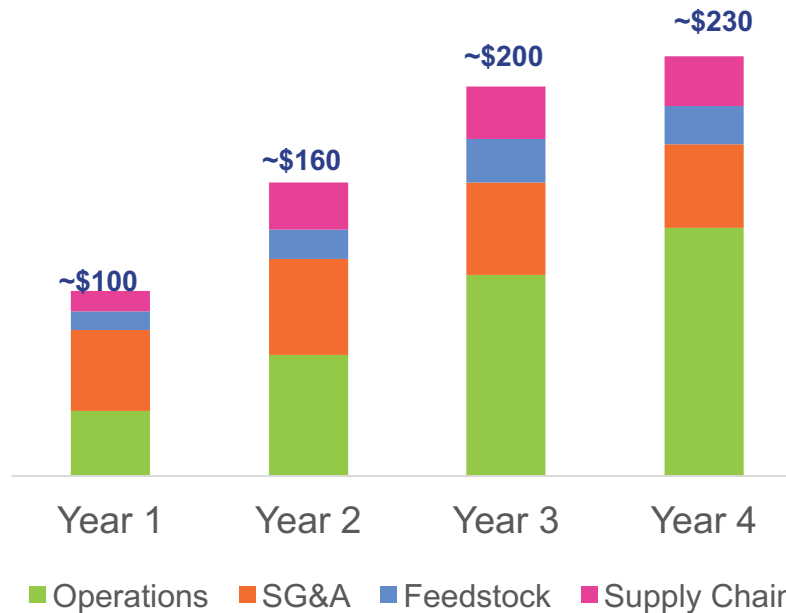
Pre-tax run-rate synergy targets:

\$100m by Year 1

\$200m by Year 3

COMPONENTS OF SYNERGIES

(USD millions)



SOURCES OF SYNERGIES

- Increasing efficiency and quality; unlocking pigment volumes
- Fully utilizing mineral sands assets across the cycle to lower cost per ton
- Optimizing value in use of our feedstock
- Sharing of best practices across complementary technologies, production facilities and production geographies
- Reducing average distance to customers through enhanced global footprint
- Optimizing combined supply chain
- Consolidating third-party spend and overlapping functions; eliminating redundant costs

Note: Synergy targets are estimates and there can be no assurance that they will be achieved

Environmental Health & Safety Performance

- Tronox is recognized for environmental, health and safety performance. As a company providing important commodity production in a world economy, it is our goal to do so in a safe and environmentally responsible manner.
- At our operations, we comply with worldwide, voluntary standards developed by the International Organization for Standardization, such as ISO 9002 for quality management and ISO 14001 for environmental management.
- Tronox has also registered all chemical substances that were required to be registered by 2010 under the adopted registry framework known as Registration, Evaluation and Authorization of Chemicals (REACH)
- Tronox is in substantial compliance with applicable environmental rules and regulation.

Tronox Priorities

Maintaining our focus

- The organization remains focused on operating a safe and reliable manufacturing network in all regions of the world
- Meeting customer needs and delivering on commitments remains our priority as we rapidly integrate the new Tronox business. We continue to provide you with the same quality products and service
- Leveraging our global supply network is a key driver of our business activities to enable hassle free supply and service
- Leading many industry-wide initiatives linked to regulations and sustainability



Tronox Product Line

Combined Product line

- Our combined business enables market-leading product offerings in all markets around the world
- Tronox recognizes the rich history and the world-class reputation of the TiONA® brand - we will be introducing it across the Tronox pigment product line
- We will also continue to use the TiKON™ product brand for grades produced at our Fuzhou, China facility
- Driven by customer needs Tronox will leverage the technology capability of the new organisation to deliver more value in its product line

NOW BRIGHTER THAN EVER

World Class Product line



Tronox – Coating Offer by Application (Europe)

Product Type	Product Offer						
High Performance / Durability		CR-826	CR-826	CR-826 TiONA 696	CR-826 TiONA 696	CR-826	CR-880 TiONA 696
Flat Product		CR-813 CR-8140					
Multi-purpose	CR-828	CR-828 TiONA 595	TiONA 595	CR-826 TiONA 595	CR-826 TiONA 595	TiONA 595	
General Purpose	TiONA 121	TiONA 121	TiONA 121	TiONA 121	TiONA 121		
Economic	TiKON TR-33 TiKON TR-35	TiKON TR-33 TiKON TR-35 TiONA AT-1		TiKON TR-33 TiKON TR-35			

APPLICATION

**Non-dur.
Industrial**

**Interior
Decorative**

**Exterior
Decorative**

Powder

**Industrial &
Marine**

Automotive

**Coil/Super
Durable**



Tronox – Coating Offer by Application (MEA)

Product Type	Product Offer						
High Performance / Durability			TiONA 122	TiONA 122	TiONA 122		TiONA 122 CR-880
Flat Product		TiONA 113					
Multi-purpose	TiONA 128	TiONA 128 TiONA 595	TiONA 595 CR-826	TiONA 128 TiONA 595	TiONA 595 CR-826	TiONA 595 CR-826	
General Purpose		TiONA 121	TiONA 121	TiONA 121	TiONA 121		
Economic	TiKON TR-33 TiKON TR-35	TiKON TR-33 TiKON TR-35 TiONA AT-1		TiKON TR-33 TiKON TR-35			

APPLICATION

**Non-dur.
Industrial**

**Interior
Decorative**

**Exterior
Decorative**

Powder

**Industrial &
Marine**

Automotive

**Coil/Super
Durable**



Tronox – Plastics Offer by Application

Product Type	Product Offer				
Durable Hydrophobic				TiONA 168 8300	
Durable Hydrophilic	CR-828 TiONA 595	CR-828 TiONA 595		CR-826 TiONA 696 TiONA 121	
High Perf 'blue-tone' hydrophobic		8400	TiONA 288		8870
General Purpose Hydrophobic		CR-470 TiONA RCL-4 TiKON TR-36			
General Purpose Hydrophilic	TiONA AT-1	CR-834 TiONA 134			

APPLICATION

Flex /
'Economic'

Gen. Purpose
MB

High Perf.
MB

Durable PVC

Eng. Resins
/ Polycarb



Paper Product Line

Pigment	Plant	Treatment	Key segments / applications / features
TiONA RCL-722	UK	Al, P ₂ O ₅ , NO ₃	High performance TiO ₂ pigment made by the chloride process specially designed for use in décor paper and laminates
TiONA AT-1	Thann	Untreated Anatase	A pure dry-milled anatase pigment for applications where high whiteness and blue tone is preferred. Suitable for paper and rubber and also used in selected coatings and plastics products



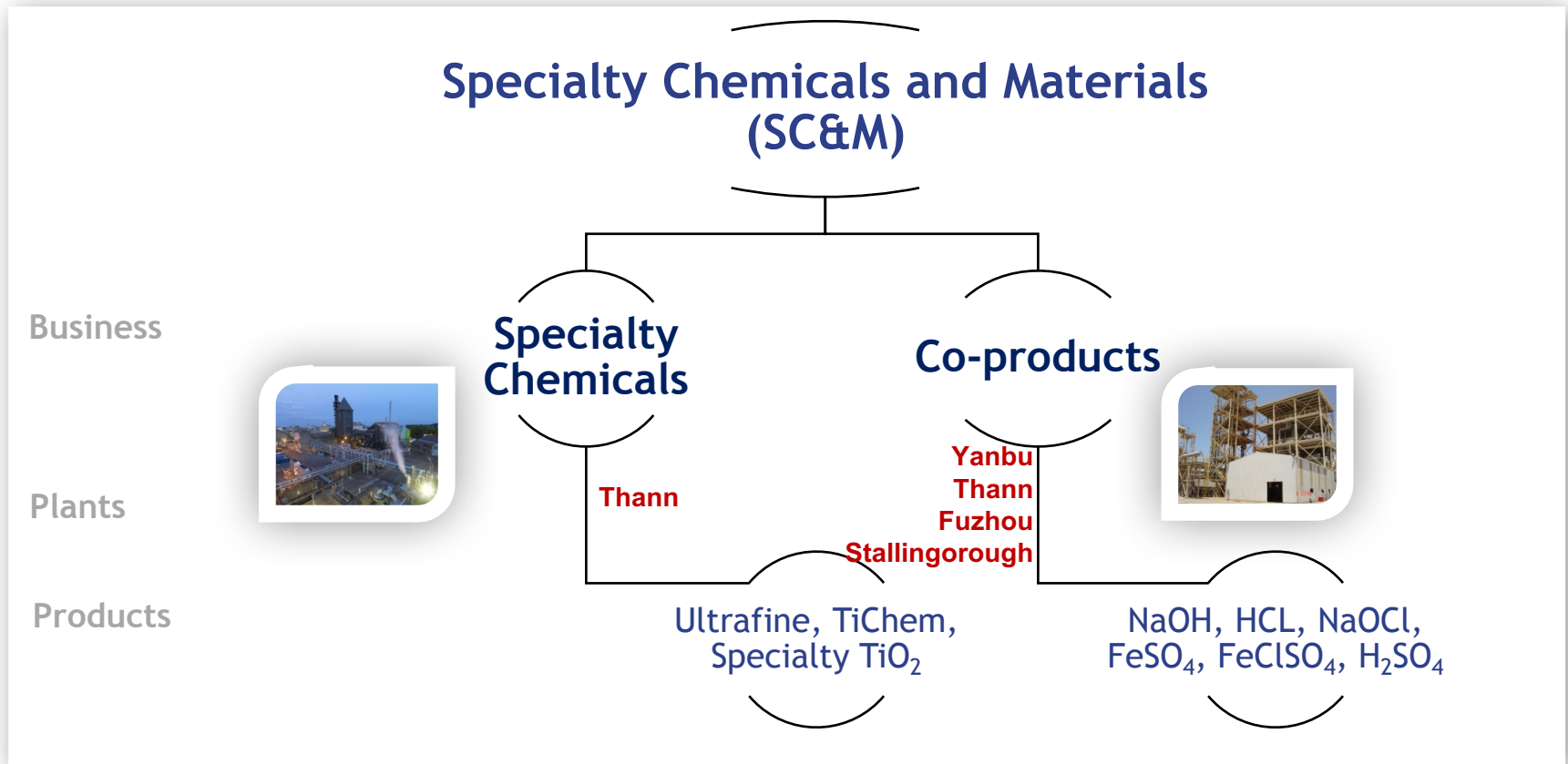
- **Décor Paper: Strategy to grow share with NPD programs and TiONA RCL-722 trials in Bunbury in 2019**



SC&M Business



Specialty Chemicals and Materials Business



- 4 manufacturing operations on 3 continents with sales in 35 countries
- Sales representatives in 8 countries
- 300 employees

- Leading capacity positions in Ultrafine TiO₂ and Titanium Chemicals (TiChem)
- Recognized technology leader in Ultrafine TiO₂ for catalytic applications

Global technology leader in Specialty applications

Over 30 years of industry-leading experience in Ultrafine and Specialty TiO₂ applications

Major applications include:

- Emissions control
- Refining catalysis
- Petrochemical catalysis
- Energy storage
- Photovoltaics
- Photocatalysis
- Colored pigments
- Electronics
- Water treatment



<https://www.cristalactiv.com/>

<https://www.linkedin.com/showcase/cristalactiv>



Titanium chemicals: Reliable supply delivered safely and worldwide

Produced and shipped worldwide from Thann
in secured shuttle packages

- **Titanium Tetrachloride - $TiCl_4$**
Pure and premium grades used in catalyst applications, titanium metal and powders
- **Titanium Oxychloride - $TiOCl_2$**
Used in pearlescent pigment applications
- **Titanium Oxysulphate - $TiOSO_4$**
Mainly used as a titanium precursor



Packaging Examples



TiO₂ Classification



TiO₂ Proposed Classification in Europe

Update Summary – April 2019

- Sept 2017: European Chemicals Agency (ECHA) Committee for Risk Assessment (RAC) formally adopted its opinion that all forms of TiO₂ should be classified a Category 2 carcinogen “Suspected of causing cancer when inhaled”
- EU Commission listed TiO₂ on the draft ATP to be approved by Member States:
 - TiO₂ powder to be classified, liquid mixtures like paint not classified but new hazard phrase to be incorporated on labels. Many restrictions triggered by any form of carcinogen classification, notably waste containing >1% TiO₂ becomes hazardous
- TDMA with other stakeholders continue to advocate alternatives to classification
 - Letter to EU Commission Secretary General, signed by Jeffry Quinn and other TDMA member company CEOs, proposing a binding Occupational Exposure Limit
 - Promoting responses to EU Commission ‘Better Regulation’ public consultation
- Member States: some countries firmly opposed to classification, others still pushing for all forms, even in liquid mixtures, to be classified
 - **Commission has not secured the necessary majority in REACH Committee of MSCAs meaning no vote held in February, March and April meetings. Decision is postponed and we wait for the next steps**
 - Anticipate that the Commission will attempt to bring the proposal back in the 19-20 June 2019 REACH Committee meeting, or postpone until after the summer with the possibility for the “delegated act” procedure - approval of REACH Committee would not be needed.
- Tronox continue to be fully engaged supporting the TDMA-led advocacy initiatives



**THANK YOU FOR YOUR CONTINUED
SUPPORT AND BUSINESS**



Backup Slides

Combining the Tronox and Cristal Values

Our Approach	Our Core Values	Our Results
<p>An outward mindset allows us to see beyond ourselves and be accountable for the whole.</p>	<ul style="list-style-type: none">••We have an uncompromising focus on operating safe, reliable and responsible facilities.••We honor our responsibility to create value for stakeholders.••We treat others with respect and act with personal and organizational integrity.••We build our organization with diverse, talented people who make a positive difference and we invest in their success.••We are adaptable, decisive and effective.••We are trustworthy and reliable, and we build mutually rewarding relationships.••We share accountability, and have high expectations for ourselves and one another.••We do the right work the right way in every aspect of our business.••We celebrate the joy of working together to accomplish great things.	<p>Safe, Quality, Low-Cost Tons for our Customers</p> <p>Exceptional Shareholder Returns</p>