



TSRC CORPORATION

# TSRC – Global Specialty Polymers

Investor Conference, 10<sup>th</sup> Nov 2017

# Disclaimer

The information presented and referred herein are based upon the information obtained internally and externally from our company. In light of the forward-looking operational results, financial condition and business results, they might be different from those information expressly or impliedly presented herein due to various factors, including but not limited to market risks, supply chains, market demand and our upcoming high-quality products.

We undertake no obligation to publicly update or revise any statements regarding those information presented and referred herein in the event of any further changes or updates to the information presented herein.



# Agenda

 **Corporate Overview**

 **Business Portfolio**

 **Innovation Driven**

 **5-Year Business Plan**

 **Summary**

 **Q&A**



# TSRC Corporation at a glance

 <b>Founded</b>	<b>November, 1973</b>
 <b>Registered Headquarter</b>	<b>Kaohsiung, Taiwan</b>
 <b>Listing</b>	<b>Listed in Taiwan Stock Exchange (from 1982) 2103. TW</b>
 <b>Market Capitalization</b>	<b>NT\$ 27.8 B (As of October, 2017)</b>
 <b>Employee</b>	<b>1,530</b>
 <b>Business Division (Product)</b>	<b>Synthetic Rubber Division (ESBR, SSBR, BR, NBR) Advanced Materials Division (TPE, Applied Materials)</b>
 <b>Manufacturing Sites</b>	<b>8 Sites (Taiwan, China, U.S., India &amp; Thailand)</b>



# Our Mission & Vision



## Our Mission

To be an essential partner to our customers, a socially responsible member of our community, and an exemplary enterprise committed to innovation, growth, and excellence.



## Our Vision

A growth oriented, profitable global enterprise in specialty materials delivering best in class solutions, values, and returns to our shareholders, customers and employees.



# Corporate Milestones

- 1st BR plant in Taiwan
- Relocated the Phillips SBS plant from the Texas USA to Taiwan



- 2nd generation in-house technology in SEBS
- Established 3 compound plants in Taiwan and China (Shanghai and Jinan)
- Established SEBS plant in China
- Formed BR JV with UBE in China

## 1970's Start up

- Established in 1973.
- 1st ESRB plant in Taiwan



## 1980's Early Stage Growth

## 1990's Rapid Geographical Expansion

- Built 2nd SBS line in Taiwan
- 1st joint venture and 1st ESRB plant outside Taiwan
- Joint venture BR plant in Thailand
- 1st generation in house technology in SEBS



## 2000's Product Line Expansion

## 2010's Globalization

- Licensed SBS technology to Russian producer
- Formed ESRB JV with IndianOil in India & NBR JV with ARLANXEO in China
- Acquisition of Dexco
- Established SIS plant in China
- Expanded Applied Materials facility for ASM
- Upgraded Technology Center & Semi-Commercial Plant in Kaohsiung, Taiwan
- Kicked off new SEBS Line in Nantong, China



# Key Commitments to our Customers

**Global Reach, Local Support**

An effective combination of global production capability with strong, experienced, and capable local presence in all regions.



**Technology Solution**

TSRC focuses on innovation – new products and new solutions – to support our customers' success and meet the needs of the market.



**Customer Collaboration**

TSRC works closely with customers to develop unique and valuable technical, logistical and, commercial solutions.



**Global Supply Chain**

TSRC continues to invest in assets and resources to deliver reliable, consistent, high-quality products to our customers anywhere in the world



# Executive Leadership

- ✓ *Leadership with global and multi-industry experiences*
- ✓ *Deep insight in synthetic rubber and elastomer markets*
- ✓ *Performance driven and people focused*



**Joseph Chai**  
CEO



**Kevin Liu**  
Synthetic Rubber



**Hendrick Lam**  
Advanced Materials



**Qiwei Lu**  
R&D



**Roger Chiu**  
Operations



**Edward Wang**  
Finance



**Alison Tung**  
HR & Mgt.



**Tsung-Han Lin**  
Legal



**Joseph Chai**  
Corporate Development



# 2016 Business Performance



**Volume**  
489K MT

**Revenue**  
NT\$ 26.96 B

**Operating Profit**  
NT\$ 1.76B



# 2016 Business by Product & Market Segments

## Product

## Market Segment

SRD  
(ESBR/BR/ SSBR), 60%



Tires, 47%

AMD  
(SBS/SIS/SEBS), 37%



Polymer Modification, 14%

Adhesives, 13%

Specialty, 6%

HIPS, 4%

Applied Materials, 3%

AMD  
(Applied Materials), 3%

Others, 13%

## By sales revenue



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# Synthetic Rubber Division (SRD) Overview

## Segment

Automobile

Footwear

Plastic Modification

Industrial Goods

Sport

## Application

Oil Resistant Parts, Tire

Shoe soles

HIPS

Auto Parts, Conveyor Belt, Roller

Foaming (i.e. personal protection product), Golf Ball

## Production Location



Revenue	Capacity
NT\$ 16.2 B	664K Metric Ton



# Synthetic Rubber Products



- **TAIPOL® emulsion butadiene rubbers (ESBR)**

- **TAIPOL® solution butadiene rubbers (SSBR)**



- **TAIPOL® butadiene rubbers (BR)**

- **TAIPOL® nitrile butadiene rubbers (NBR)**



# Advanced Materials Division (AMD)

## Segment

## Application

Adhesives

Hygiene, Label, Tape

Polymer Modification

Plastic modification & Compounds for consumer goods / Industrials / Automotive /W&C and medical applications

Specialties

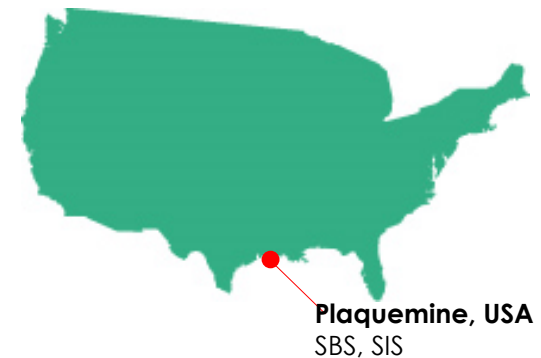
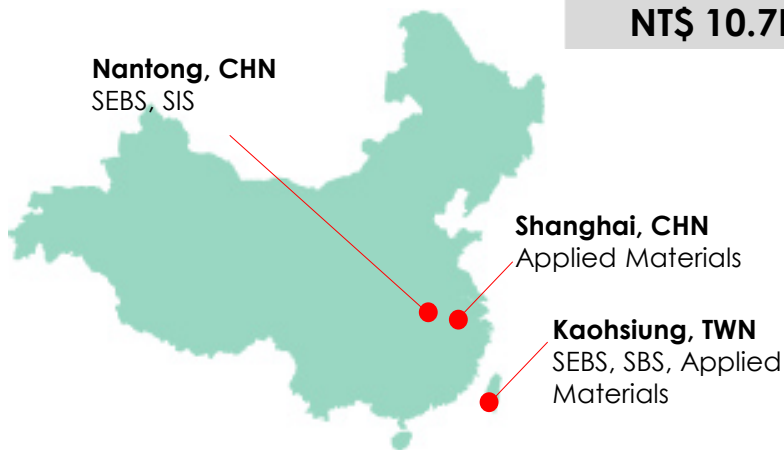
Elastic Films, Flexography, Packaging

Applied Materials

Advanced Shoe Materials, Films, Foaming/Gasket/ Soft touch Materials, Wire & Cable

## Production Location

Revenue	Capacity
NT\$ 10.7B	169K Metric Ton



# Advanced Materials Products



- **TAIPOL®/Vector® styrene-butadiene-styrene copolymers (SBS)**

- **Vector® styrene-isoprene-styrene copolymers (SIS)**

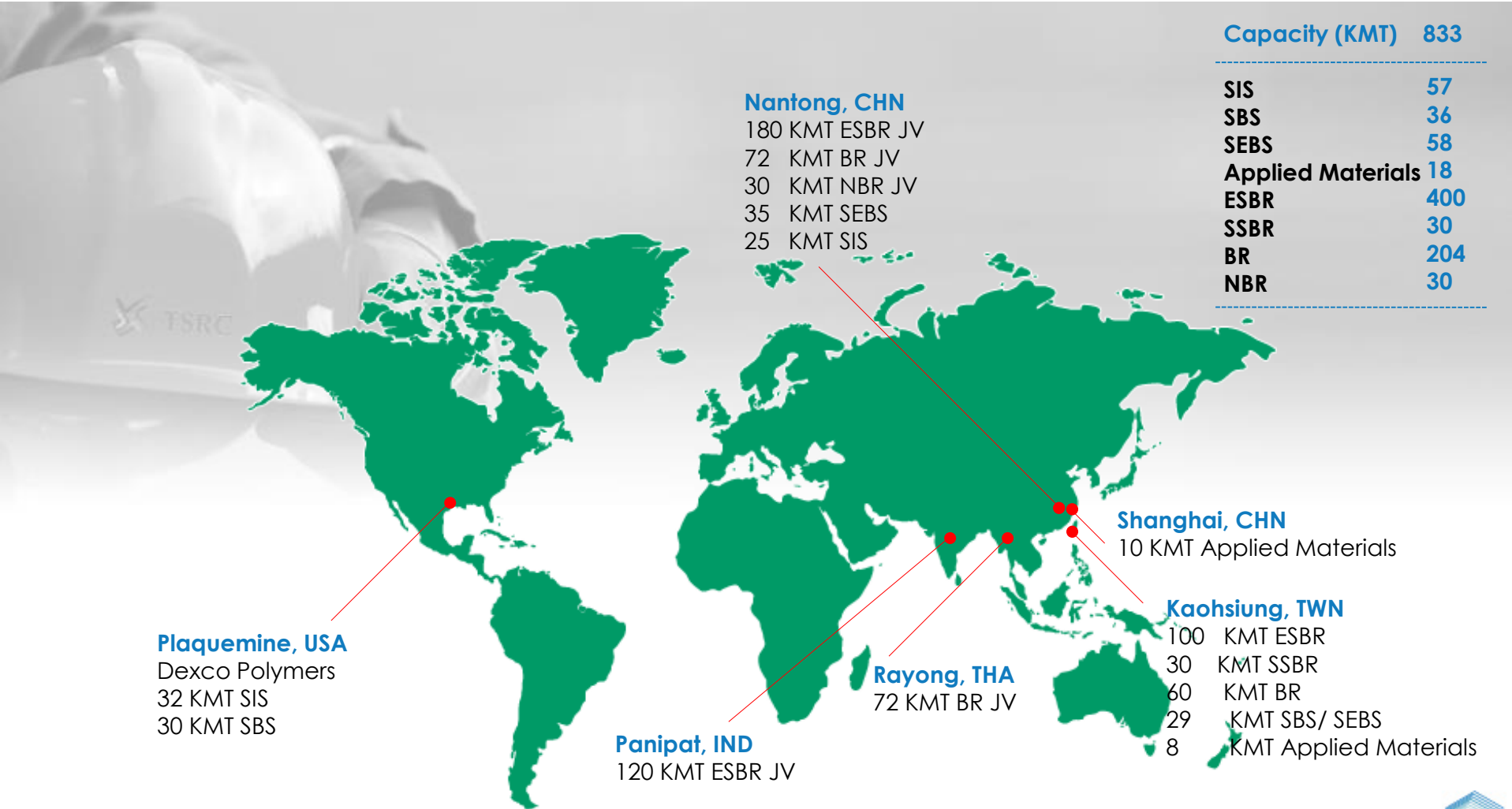


- **TAIPOL® styrene ethylene/butylene-styrene copolymers (SEBS)**

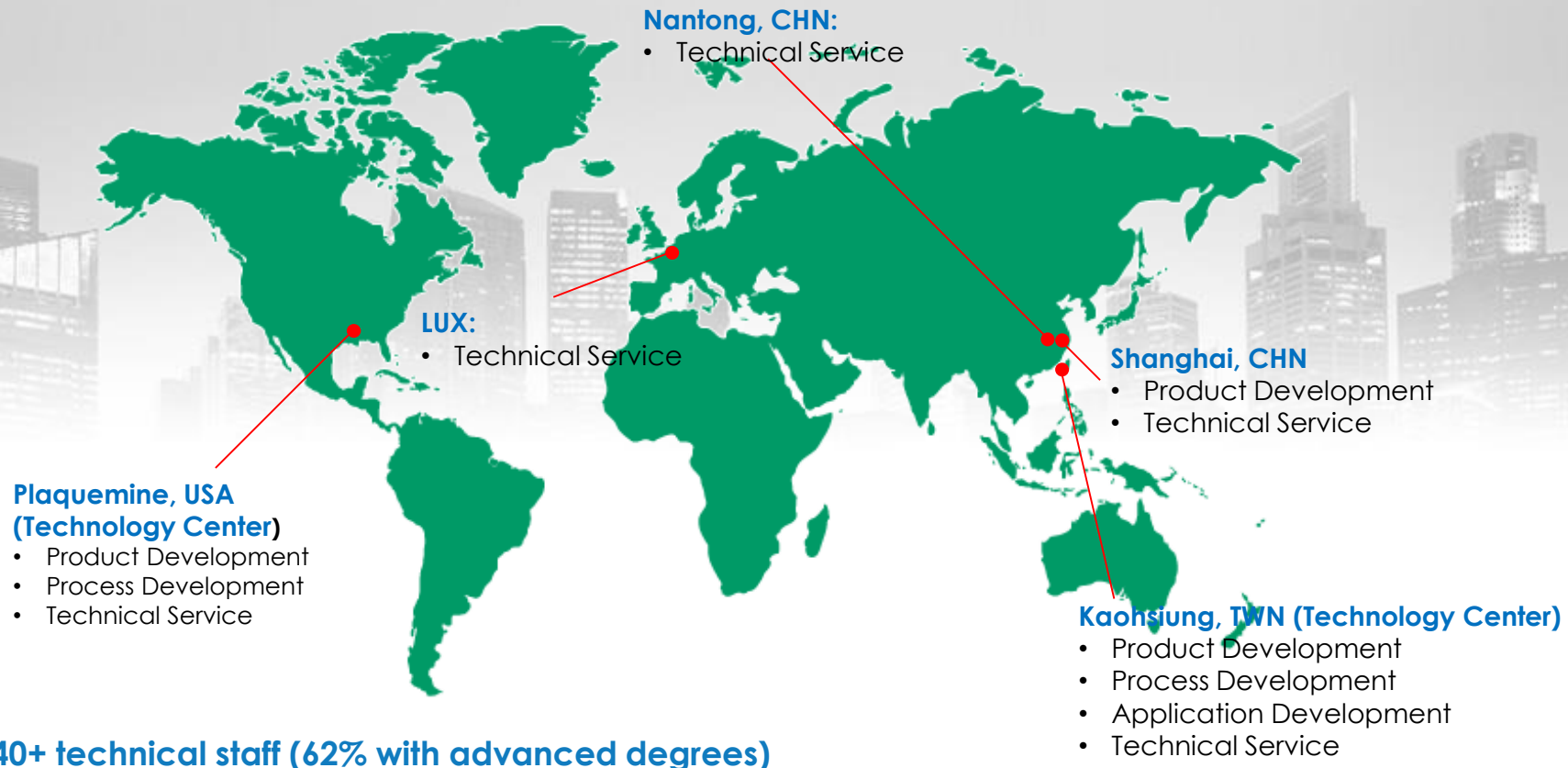
- **T-Blend® Applied Materials**



# Global Manufacturing Capacity

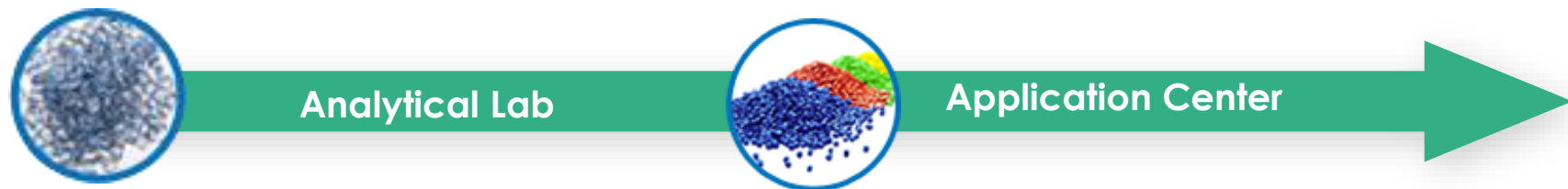


# Global Technology Support

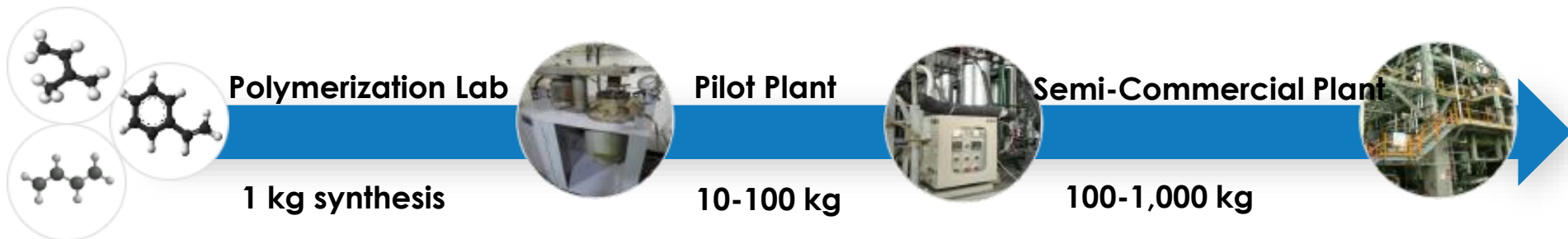


# Product Development Process

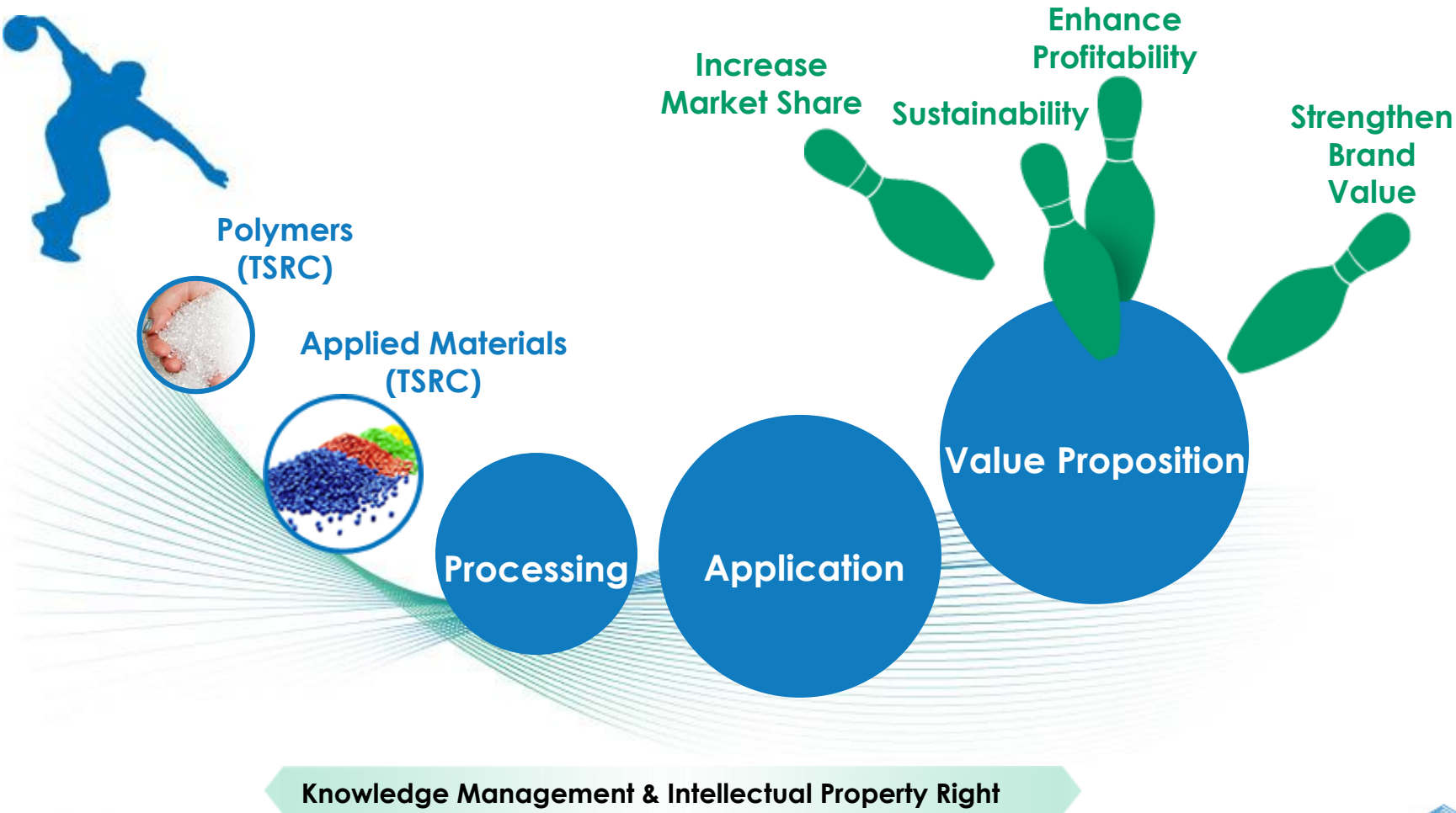
## Applications Technology



## Scale-Up Technology



# Value Delivery



# Agenda

 Corporate Overview

 Business Portfolio

 Innovation Driven

 5-Year Business Plan

 Summary

 Q&A



# 5-Year Strategic Objectives



To transform TSRC to become **a growth oriented profitable global enterprise in specialty polymers**

- Increase specialty business ratio to above 50% of portfolio
- Grow Operating Income substantially
- Improve Operating Profit % above current level



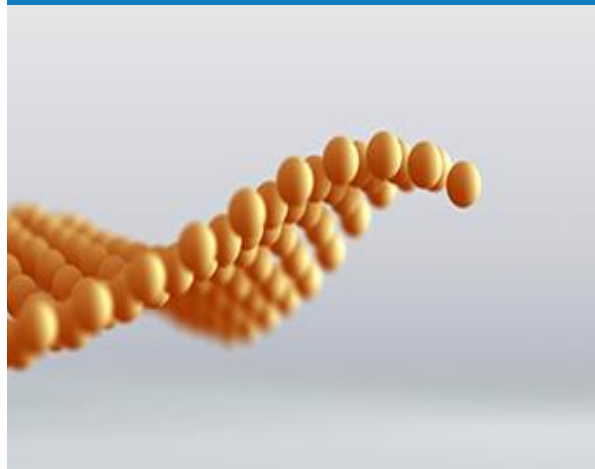
# Three Key Strategies

## Organic Growth



- New Products
- Geographic Expansion
- Commercial Excellence Programs

## Strength Business Portfolio



- New Market Segments
- New Technology Platforms
- Merger & Acquisitions

## Margin Expansion



- OPEX Optimization
- Process and Quality Excellence

# Organic Growth



## New Products

- Accelerate the development of SSBR for next generation green tires and TPEs for high performance applications e.g. medical, specialty films, personal care



## Geographic Expansion

- Expand TSRC position in Americas, Europe, Southeast Asia and South Asia markets



## Commercial Excellence Programs

- Increase market share at key global customers and for SRD, Tier-1 tire manufacturers

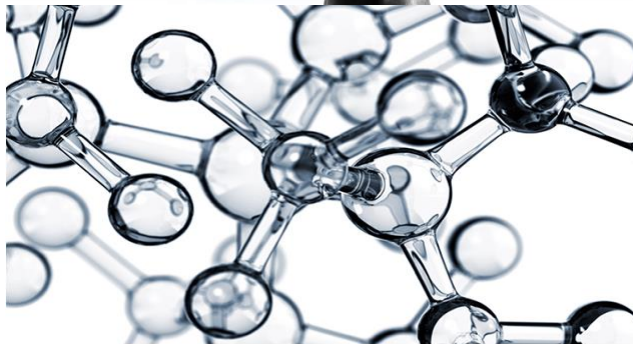


# Strengthen Business Portfolio



## New Market Segments

- Expand TSRC core and new technologies into new, high value market segments and applications such as medical, Viscosity Modifiers, Advance Shoe Materials



## New Technology Platforms

- Develop new HSBC platforms with TSRC's hydrogenation technology
- Acquire new technology platforms



## Merger & Acquisitions

- Bolt-on acquisitions – for targeted platform technologies
- Enterprise M&A – grow existing and/or establish new business segments



# Margin Expansion



## OPEX Optimization

- Optimize unit cost in production and services
- Achieve supply chain excellence through appropriate global integration
- Leverage global best practices in safety, energy saving, and process improvement



## Process & Quality Excellence

- Implement enterprise wide quality improvement program
- Improve R&D project management system
- Implement operational and process best practices



# Progress made in key Strategic Initiatives



Dedicated product development team for SSBR, business development team for non-tire business

Upgraded Technology Center and set up semi-commercial plant in Kaohsiung



Expanded ASM production lines and application capabilities and gained Global Brand approval

Kicked –off projects on new products and technology platforms development

Embarked on expansion into new market applications such as medical, lubricant viscosity modifier



Globalized QA, HSE, Process Engineering functions to optimize best practices and improve productivity



# Summary



01

- **TSRC aims to become a growth oriented profitable global enterprise of specialty polymers**

02

- **Three key strategies:**
  - Organic growth
  - Strengthen business portfolio
  - Margin expansion

03

- **Committed to meeting short-term result with focus on strategic initiatives to deliver long-term strategic objectives**





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# Q&A

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## TSRC Corporation Key Highlights of 2017 Investor Conference Presentation

**TSRC Corporation** has had a long history with good standing in the manufacturing and sales of synthetic rubber and elastomers. From establishing the first ESR plant in Kaohsiung, Taiwan in the 1970's, TSRC has expanded product lines, geographies, and market segments to become a market leader with international presence. Today, TSRC is a growing company with a revenue of NT\$ 26.96 billion (2016) and 1,530 employees across three continents.

Multiple market segments and applications including tire, adhesives, hygiene care, automotive, footwear, and industrial goods are served through two business units – Synthetic Rubber Division (SRD) and Advanced Materials Division (AMD). Key customers, both global multinationals and regional/domestic companies, recognize the commitments from TSRC in supporting their business growth through technology innovation, reliable supply chain, and quality products and services.

However, TSRC has not reached its end destination, on the contrary, building upon this strong foundation TSRC aims to become a growth oriented, profitable global enterprise in specialty materials delivering best in class solutions, values, and returns to our shareholders, customers and employees.

The mid-term business plan to accomplish the vision of TSRC focuses on 3 key strategies:

1. Organic growth through new products, geographic expansion, and customer excellence programs
2. Strengthen business portfolio by expanding into new market segments and applications, new technology platforms, and targeted M&A
3. Margin expansion via OPEX optimization and process and quality improvements

The mid-term financial objectives include increasing the specialty business to more than 50% of portfolio, grow operating income substantially, and improve operating profit % above current level.

The strategic initiatives aligned with the business strategies have been under way over the past 2 years, and some good progress has been made. TSRC is committed to meeting the short-term financial results and delivering on the long term strategic objectives.

**TSRC Corporation**, formerly known as Taiwan Synthetic Rubber Corp., was established in 1973. From a sole synthetic rubber manufacturer in Taiwan, TSRC has grown to become one of the largest synthetic rubber and elastomer companies in the world. TSRC today is more than just a synthetic rubber company. TSRC is a specialty polymer company servicing customers in the tire, automotive, industrial, and consumer products markets. True to its mission statement, TSRC is committed to innovation, growth and excellence, while continuing its course as an essential partner to its customers and social responsible member of a global community.

TSRC is vigorously expanding its business to establish production bases and commercial teams in China (Nantong in Jiangsu, Song-Jiang in Shanghai); Rayong in Thailand; Panipat in India and Plaquemine in U.S.A to service the growing demand of worldwide customers.

TSRC leverages on four major competitive advantages: Stable Quality and Superior Service, Eco-responsible Manufacturing, Proven Supply Chain Reliability, and Technology Innovation, in a constant effort to deliver value to the customers. TSRC continues to expand its portfolio to specialty products, transforming itself from a mere supplier of materials into a full-service solution leader in the chemical industry.

TSRC serves a customer base that comprises of multinational and regional market leaders via two business segments:

**Synthetic Rubber Division** is one of the leading synthetic rubber producers, offering highest quality synthetic rubber from general application products such as TAIPOL<sup>®</sup>ESBR, BR, and NBR to specialized products such as TAIPOL<sup>®</sup>SSBR for green tire and rubber goods application. TSRC is committed to customer satisfaction achieved by understanding the customers' needs and through continuous improvement of products, services and quality management.

**Advance Materials Division** is a leading global producer in synthetic block copolymers (SBCs) segments. TSRC offers an expansive portfolio of SBC and TPE compound, including TAIPOL<sup>®</sup> and VECTOR<sup>®</sup> SBS and SIS products, as well as SEBS, the hydrogenated SBS and the downstream products, T-BLEND<sup>®</sup> Applied Materials, delivering enhanced durability and functionality. TSRC continues to expand our sales network in Asia, Europe and Americas to bring customers consistent and reliable solutions, responsive customer and technical service.

**Chairman:** S. Y. Wang

**Chief Executive Officer:** Joseph Chai

**2016 Revenues:** NTD 26.96 Billion

**Employee Count:** Approximately 1,530

**Headquarters:** Kaohsiung, Taiwan (R.O.C.)

**Total Capacity:** 833 Thousand Metric Tones

## TSRC Corporation

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Tel : 886-7-3513811-9 Fax : 886-7-3514705

## Contact Information

For additional information about TSRC Corporation, visit our website  
[www.tsrc.com.tw](http://www.tsrc.com.tw)

**TSRC Corporation** is one of the world's leading providers of specialty materials and solutions with a strong commitment to innovation, growth and excellence. TSRC has continued its strong dedication to research and development and in 2017 completed its newly renovated Technology Center in Kaohsiung, Taiwan. The state-of-the-art facility enables the integration of advance product development and characterization facilities into the daily operation of TSRC.

TSRC's people is its biggest asset, contributing to innovative breakthroughs in the elastomer field throughout all development processes. Each of the approximately 140 highly skilled researchers in TSRC's R&D division, consisting of researchers located in Taiwan and the U.S., brings their extensive experiences and knowledge to TSRC. With two-thirds of these qualified men and women holding a postgraduate degree, TSRC is able to further solidify its leadership position in the synthetic rubber industry. The team of scientists and technologists in the field of polymer synthesis, hydrogenation, morphology, and process development combine their efforts and passion to create truly unique solutions for various application.



TSRC's dedication to helping customers to be profitably successful gave rise to the Technology Center, housing comprehensive equipment and advance technology for polymer design and synthesis, hydrogenation, characterization, and refinement. The accumulated knowledge in the field of elastic polymers in this facility has contributed to the successes of TSRC and our customers and enabled TSRC's continuous pursue to become one of the world's leading synthetic rubber and elastomer providers.



TSRC has grown to become an innovative enterprise in the field of elastomers. With more evaluation and synthesis capabilities available than ever before, TSRC’s customers will truly profit from investments made in product formulation, application, and production process. The cornerstone of TSRC’s R&D division, as in the combination of the Technology Center, the Pilot Plant and Semi-Commercial Plant, the Application Center and of course the highly talented employees will continue to surprise and transform the synthetic rubber and elastomer industries in the years to come.

**Expertise:**

Anionic  
Polymerization  
Emulsion  
Polymerization  
Coordination  
Polymerization  
Hydrogenation  
Catalysis  
Process  
Development

**Testing Capabilities:**

Rubber  
Application  
Polymer  
Properties  
Rheologic  
Studies  
Micro-Analysis



TSRC is proud to announce the start of the operation for its newly upgraded Semi-Commercial Plant (SCP) in its Kaohsiung factory in 2017. The advanced manufacturing facility expands TSRC’s pilot capacity to more than 300 metric tons per year and adds several units of operation to support new development processes.

Due to the enhanced capabilities of its Pilot Plant and SCP, TSRC can now support customers with small order/quantity for testing purposes:

**Production Capabilities of SCP:**

100-1000kg (full scale sampling)  
2000L reactors  
300 MT/year

**Production Capabilities of Pilot Plant:**

10-100kg (product evaluation)  
100-200L reactors

**Features:** Bridging lab scale (Kgs), pilot scale (10-100kg) and commercial plant scale (>10 tons).

TSRC's Application Center is one of the most advanced and innovative facilities of its kind. The Application Center, located at Gangshan in Kaohsiung, Taiwan, is a key part of TSRC's product innovation and development process. It functions as both a research institute and evaluation site and the team continuously devote themselves to the spirit of progress and foresight, and remain perceptive of market demands and technological advances.



The Application Center plays an integral part in TSRC's commitment to technical services to customers, ensuring that product applications' parameters and properties have been tested and thoroughly evaluated in order to meeting customer's expectations. Utilizing a vast array of advanced evaluation capabilities, TSRC strives to deliver more pertinent, practical and important product application information to its customers. TSRC's acquisition of / investment in specialized equipment such as the Capillary Rheometer, the Rubber Process DMA Analyzer (RPA), the James Slip Resistance Tester and the Dynamic Mechanical Analyzer (DMA) demonstrate its dedication to meet and exceed customer's needs.

