EWA Webinar

Manufacturing Plant Location Changes in China

August 23, 2018
August 28, 2018
August 29, 2018

EWA Company Profile

- A leading provider of commercial, operational & risk management solutions and "on the ground" implementation for western FIE's competing in China & Asia markets.
- Founded in 2005 with offices in the USA and in China
- All EWA executives have lived in China & Asia and held senior P&L management positions with western MNCs including GE, Briggs & Stratton, Bechtel Group, Fluor Corporation, and Littelfuse, Inc.
- Extensive experience in numerous key industries:

Automotive	General Manufacturing	Durable Goods
Metal Fabrication	Consumer Goods	Filtration & Separation Equipment
Chemicals	Packaging	Electronics
Semiconductors	Food & Beverage	Medical Devices
Specialty Metals	Laboratory Equipment	Food Technology
Energy & Natural Gas	Industrial Textile & Apparel	Costings & Building Materials

EWA Core Areas of Service

- Corporate Strategy Development
- M&A Due Diligence
- Risk Management
- Performance Improvement
- Senior Management Recruitment
- Working Environment Efficiency
- Location Services
- Supply Chain Management
- Business Assessment
- Research Services

EWA Webinar Speakers

RE-PLACE MP
WITH JH

ALEX BRYANT
Founder & President
- Director of International Business Development for Barnhardt Manufacturing Company
- Attorney, Ogletree Deakins Nash Smoak & Stewart, P.C.

JON ANDERSON
VP & Managing Director China
- Vice President/Director of Strategic Services, Boldt Metronics
- Vice President of Human Resources, Littlefuse, Inc. (NYSE: LFUS)

MARK PLUM
Director
- President of Briggs & Stratton Asia (NYSE: BGG)
- Vice President of Sales & Marketing, American Standard Thailand & American Standard China

Agenda

Today's webinar is dedicated to helping companies successfully navigate new capital investments by providing insights into the complexity of site selection, plant relocations and closures in China.

The presentation consists of 3 parts:

- Overview of the changing business landscape
- Review of the key drivers of change and the resulting impact on plant relocation & plant closures
- Two recent Case studies

The Changing Status Quo in China

China’s Changing Business Environment

- 61% of US companies will expand investments in 2018 (American Chamber of Commerce in Shanghai)
- Growing nationalism may “flare up” at any moment i.e.. tariffs
- Increasingly pro-labor law protection
- Increasing labor cost across the country
- 76% of US firms are profitable, yet margins dropping (American Chamber of Commerce in Shanghai)
- Growing market maturity – hyper-competition (domestic and foreign)
- Still limited corporate governance and business ethics
- IPR protection and recourse a major growing concern
- Corruption is pervasive at all levels and not improving

- **520%** increase of new facility openings (Juling Data Base 2016 vs. 2015)
- **130%** increase of plant relocations (Juling Data Base 2016 vs. 2015)
- **75%** of plant relocations mandated the closure of an existing facility (R. Berger China 2016)

Changing the Importance of Company Location

Much attention has been placed upon China's initiatives to combat industrial pollution as **the** driver of change regarding plant relocations & plant closures in China.

But in reality, this is but 1 of several key drivers of change.

To overlook or undervalue the other key drivers of change, is to create risk:

- Incomplete situation assessment
- Missed opportunity identification

Today's webinar will address all key drivers of change - in 2 core categories:

- Changes impacting company **strategic decision making**
- Changes impacting company **implementation decision making**

Changes Impacting Strategic Decision Making

Location Strategy

Site Selection

Key Drivers of Change

The 4 key drivers of change impacting company strategic decision making are:

- Increased government mandates to combat industrial pollution
- Migration of customer base, labor force & suppliers
- Urban renewal and infrastructure development forcing relocation
- Growth of industry-specific business hubs, industrial parks & FTZs

Environmental Awareness

In 2016, government mandated plant relocations to combat pollution increased by over 500%.
(China Economic Review)

In 2017, China temporarily shut down approximately 40% of Chinese owned factories in an unprecedented stand against pollution.
(Science Alert 2018)

By 2020, China plans to complete a massive relocation of chemical plants away from cities.
(ICIS Chemical Business 2017)

As a result of environmental protection, many FIE companies are facing increased operational costs due to disruption of their supply chains.
(China Briefing 2018)

Environmental Awareness

China's environmental protection program has accelerated the relocation process of factories into new industrial parks, which is expected to accelerate the development of new innovation.

(Shanghai Qingyue Consulting Firm 2017)

In an effort to reduce energy consumption & energy waste, increasingly more manufacturers are constructing new facilities with streamlined production lines - creating greener, more efficient facilities and thereby, reducing operating costs.

(CMC 2018)

Population Migration & Infrastructure

By 2020, China plans to move 250 million people into the country's growing megacities
(Business Insider 2017)

The growth of China's metropoles has resulted in an unprecedented migration of labor force, customer base, supply chain partners, distributors & vendors
(A.T. Kearney 2016)

Companies are increasingly being forced to relocate operations due to urban renewal in order to regain proximity to labor force, suppliers & customers
(China Economic Review 2017)

Population Migration & Infrastructure

Between 2016 - 2020, China will invest US$ 2 trillion in transportation infrastructure to increase access to the migrating population

(China Money Network)

By 2020, the new infrastructure will provide a direction connection to more than 80% of Chinese cities with over one million in population

(Bloomberg)

China's new expanded infrastructure will create new local market access opportunities to companies and will play a major role in the continued growth of factory relocations

(Institute of International Economics, Nankai University)

Industrial Parks & Free Trade Zones

In 2016, industry hubs & business parks in China topped 1500. This trend is expected to continue, due to 3 key factors: Increased environmental restrictions, growing focus on innovation and the transformation of manufacturing

(Baike Baidu)

In 2017, the total number of Free Trade Zones in China grew by 175%, creating new opportunities for global trade & new relocation destinations for companies actively pursuing a globally oriented business development strategy

(Swiss Business Hub China)

In May 2018, Shanghai implemented a three-year action plan to become a world leading high-end manufacturing city by 2020. The goal is to establish two world-class industrial clusters and focus on high-quality products

(Shanghai Party Secretary Li Qiang)

Considerations Impacting Implementation

Plant Closure

Plant Construction

Plant Relocation

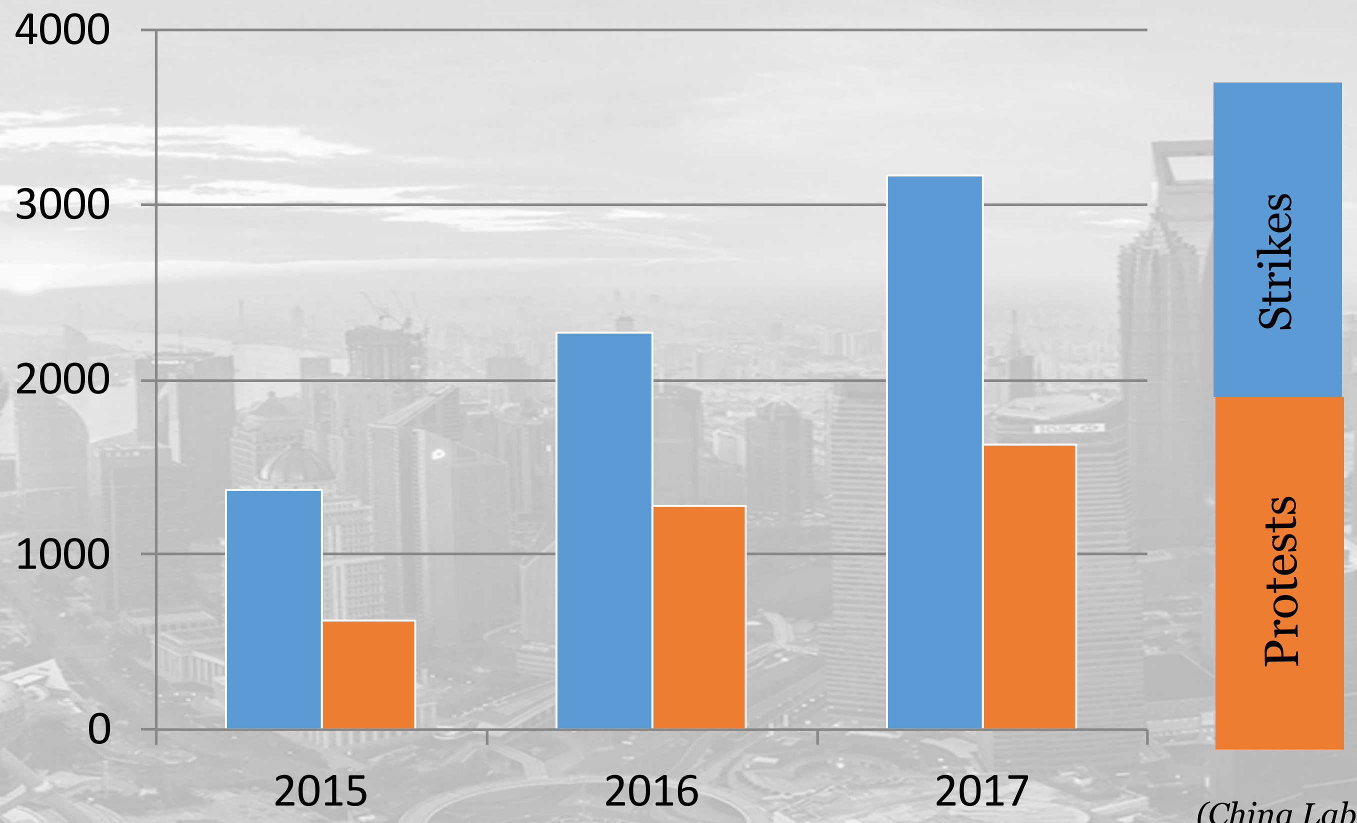
Key Challenges in Relocations

Company decision making is being impacted by a number of new challenges which increase operational risks during a plant closure and relocation

- Increasing severance pay demands
- New pro-labor regulations
- Retroactive HR compliance and tax scrutiny
- Rise in labor militancy before, during and after closure
- Increased incidences of threats, sit-ins, strikes, stalking, kidnapping and theft
- Deeper scrutiny by new permitting & registration authorities
- Typically less tax incentives even for “encouraged” industries

Increased Labor Unrest

Labor Unrest Directly Related to Plant Closure & Plant Relocation in China



(China Labor Bulletin)

Increased Incidences of Theft

13% increase in the number of reported cases of employee theft in China during a plant relocation
(Kroll Global Fraud Report 2016)

67% of companies surveyed reported having inadequate warehouse protection of inventory during a plant relocation or closure
(China Briefing 2017)

95% of employees steal physical assets during a plant closure
(FBI Report)

Registration & Compliance Complexity

Relocating a plant to a different jurisdiction in China requires all new licenses and application documents
(China Report 2018)

Stricter pollution oversight may significantly lengthened construction permitting timelines
(China Construction Bulletin 2018)

The increase in the number of new plant constructions in China has created a backlog in the permit application approval process
(TECMA Manufacturing Group 2017)

In 2016, 80,000 Chinese factory managers were charged with criminal offences for breaching emission limits (Science Alert 2017)

"THESE ARE NOT FIE'S BUT 3RD TIER CHINESE COMPANIES. MAY IMPACT SUPPLY CHAIN"

Summary

Decision making pertaining to site location, plant closures, and relocation in China is more complex than ever before.

“Teams must recognize and understand the evolving environmental, labor, regulatory, supply chain, incentives, and capital investment risks and develop a structured and disciplined risk mitigation and program implementation plan”

EWA Case Studies

EWA Location Strategy and Site Selection Project

The Background

Client: A global fine chemical company with sales & manufacturing operations in all major world markets

- Well-established operations in China, with a manufacturing facility located in the Pearl River Delta Region dating from the 1990s
- Network of satellite product distribution warehouses across other regions of China
- Strong history of revenue and earnings growth in China, with growth rates accelerating

EWA was engaged for the following services:

- Overall assessment and development of a future-state country operations strategy including
  - Potential impact of increased regulatory scrutiny over chemical manufacturing operations, and mitigation strategy
  - Major shifts in location of both customer and supplier bases
- Identification of an optimized manufacturing and distribution site required to meet future demands
- Project management support for the new site design and construction phase

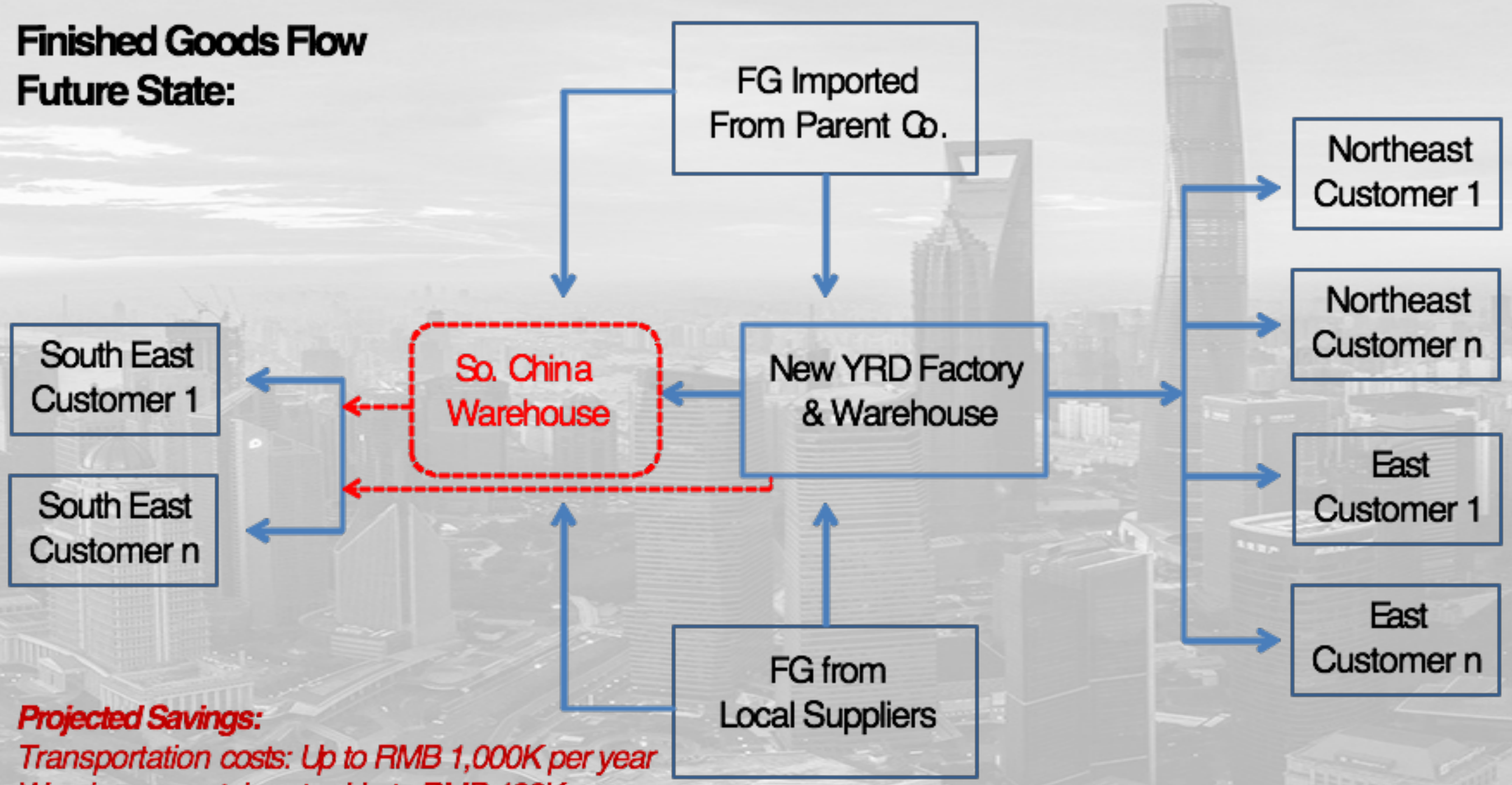
Development of future state country operations strategy

- Client's existing chemical operations were in a general purpose industrial zone
  - EWA researched and confirmed that there will be rapidly increasing operational risk to any chemical manufacturing company operating outside of a formally certified chemical industry zone
  - Land availability within chemical zones will be increasingly limited with land use rights costs expected to increase sharply
- EWA evaluated client's supplier and customer base
  - Vast majority of the client's key component suppliers were now located in the YRD Region
  - Customer base had shifted dramatically since the client established operations in South China:

Sales Region	Sales Revenue (% Total)	Volume (Tons, approx*)	Customers
North	10.2	598	64
East	64.8	3802	612
South	24.5	1437	254

Development of future state country operations strategy (continued)

- EWA analyzed and identified product distribution and logistics cost saving opportunities:



Projected Savings:
Transportation costs: Up to RMB 1,000K per year
Warehouse rental costs: Up to RMB 488K per year
Total inventory reduction: RMB 14,900K

Development of future state country operations strategy (continued)

- EWA assessed cost difference for operating within YRD vs. South China
  - Land use costs and government investment incentives
  - Basic operating costs (labor, utilities, etc.)

	YRD Location ~ 1.5 hrs from Shanghai		YRD Location further From Shanghai	
RMB million	Annual	NPV@5% (10 years)	Annual	NPV@5% (10 years)
Annual Operating Cost Savings vs. S. China				
Wages, benefits & utilities	0.236		0.576	
Domestic transportation	0.750-1.000		0.350	
Warehouse rental	0.341-.488		.190-.391	
Drum, IBC recycling	0.197		0	
Sub Total:	1.5-1.9	10.2-12.9	1.4-1.6	9.1-10.4
Land Cost and Incentives				
Land (assumes 35 mu)	8.75		2.10	
Total Land + Incentives (10 yr NPV)		-0.5		-0.4
Total:		+9.7 to +12.4		+8.7 to +10.0

Site Selection:

- Based on customer/distribution and supplier location analysis, EWA focused on potential locations in the Yangzi River Delta Region (YRD).
- Search criteria was focused on:
  - National Level Chemical Industry Parks
  - Availability and cost of land use rights
  - Available investment incentives
  - Reputation of each zone as being supportive and professionally managed
  - Verification of specific properties as being authorized for relevant chemical production (e.g. Class A chemistry)
  - Optimized location for customer and supplier logistics, availability and cost of labor and utilities
  - Search "stretched" to less developed areas (e.g. Anhui) to test for long-term sustainability

The Approach

Site Selection (continued)

- Identified and interviewed more than 20 potential chemical industry parks
- Obtained references for most attractive zones and conducted interviews
- Verified that land plots on offer were officially approved for client's specific chemical processes
- Obtained investment incentive package available (often requiring negotiation)
- Obtained utility and local labor cost and availability information
- Developed detailed financial models to allow client to compare alternatives

Site Design, Development and Construction Project Management

- EWA provided a Senior Project Manager with decades of experience managing chemical project design and construction projects, as well as ongoing chemical manufacturing operations in China
  - Managed the overall project scope, schedule, budget, quality and safety criteria
  - Selected the design institutes for both base building and process engineering
  - Provided a project team for all stages of the design, procurement, and construction project
  - Ensured that all necessary approvals are obtained, and design is consistent with local and int'l codes
  - Established professional and transparent processes for contractor and supplier bidding, selection and payment.
  - Managed unforeseen project scope change orders
    - Nearing the completion of the original site design, the client decided to change the overall mission of the site from domestic to international supply site
    - This radically changed the technology to be deployed and the overall site design requirements

Best incentives package

- **RMB 7.5 million plus local VAT refund and other incentives**

Ideal location relative to suppliers, customers and international logistics

- **RMB 1.5 million per year cost savings for transportation and warehousing costs**
- **RMB 15 million per year cost savings for reduced inventories**

Excellent blend of local skilled labor availability and relative costs

- **3% reduction of yearly operating costs**

EWA Plant Relocation & Closure Project

The Background

- US-based manufacturer of automotive parts with manufacturing WOFE in Shanghai. Ordered by the government to relocate operations and close the existing facility within 10 months, due to environmental compliance violations
- Should the 10 month deadline not be met, the company faced a US$1M fine
- No closure planning was done by the Company
- Following an ill-advised public announcement of the plant closure:
  - An employee strike broke out
  - The Chinese GM resigned
  - No security during the strike

Deliverables

- EWA was engaged to manage the turnkey plant relocation & closure project:
  - Protect the physical assets
  - Resolve the strike
  - Within 10 month timeframe
  - Within the agreed upon budget
  - Without interruption of manufacturing production
  - Without disruption of customer product shipments

The Approach

- EWA Recruited an experienced Interim General Manager (IGM) to take control of operations
- Recruited an Interim Project Manager (IPM) to immediately deal with the strike
  - Gathered background knowledge – local severance comp, previous company labor unrest
  - Developed and implemented a crisis management plan
  - Engaged strike leaders and employees
  - Ended the strike & got people back to work within 26 days

The Approach

Then IGM/IPM focused on developing a phased operating, relocating & closing strategy:

- Communicated with customers to guarantee timely product deliveries
- Increased plant shifts from 1 to 3 to build inventory stocks
- Relocated inventory to an outside 3rd party warehouse to reduce risk of theft
- Implemented new physical, IP, data & information security safeguards in order to reduce theft
- Maintained quality levels and began preparations to re-certify product in the new facility
- Developed a closure and relocation budget & cash-flow management plan

The Approach

- Continued to build inventory stock as well as fulfilling orders
- Continued close employee communications to avoid repeat of labor problems
- Closely monitored quality levels, avoided rejected shipments
- Initiated New Facility Project Planning
  - Analyzed new facility requirements & drawings.
  - Developed a comprehensive project relocation plan
    - Production area and utility equipment
    - Existing and new production equipment and peripherals
    - Administrative offices
    - Support and mobile equipment
  - Coordinated move sequence with building occupancy permit schedule

The Approach

New Facility Plan

- Qualified and selected design firm
- Qualify and selected construction firm
- Fit out completed & new equipment installations installed
- Offices & employee facilities completed
- New staff hired & trained
- Preparations for re-certification underway
- Initiated "permanent management" recruitment search
- Production commences and ramps up, training continues and results measured

Old Facility

- Planning for equipment demobilization, liquidation & employee severance packages
- Concluded negotiations over any government incentives to move
- Production continued; focus on limited in-process inventory and waste
- Conducted external stakeholder negotiations (governmental agencies, landlord, etc.)
- Obtained liquidation approvals from business zone, governmental authorities, etc.
- Liquidation process (9 months elapsed time)
  - Filing government documentation-registration, business license, board resolutions
  - Filing necessary "close out" financials, bank accounts, tax, VAT rebates, registered capital - and customs documentation
  - Completion of all de-registration and governmental documentation and plant turnover to the landlord

The Result

- Timely project competition
  - **No** penalty fines
  - **No** governmental authority repercussions
- Smooth project implementation
  - **No** interruption to production
  - **No** delay in customer shipments
  - **No** quality decline (products from new plant approved under PPAP process)
  - **No** loss of customer base
  - **No** theft of IP or physical assets
  - **No** incidences of physical violence or post-strike labor unrest

Contact Information

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