



**Growth & Global Imbalances
Chinese & European approaches
Sharing experiences : Bluestar Silicone within Bluestar**

Olivier de Clermont Tonnerre- Deputy General Manager Strategy Bluestar

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BLUESTAR
SILICONES

Bluestar, as a subsidiary of China National Chemical Corporation (ChemChina), is among the top 15 WW Specialty Chemicals companies.



China National Chemical Corporation :

- Created in May 2004
- President: Mr Ren Jianxin
- Sales : 18 billions €
- 140,000 employees
- Six sectors :
 - Oil processing & refinery
 - Basic chemicals
 - New Chemical Materials and Specialties
 - Agrochemicals
 - Rubber products
 - Equipments

China National Bluestar in brief :

- Created in 1984 by Mr Ren (80% ChemChina - 20% Blackstone)
- President : Mr Lu Xiaobao
- Sales : 6 billions € (60% outside China)
- 4 major international subsidiaries :
 - Adisseo (France) – Animal nutrition
 - Bluestar Silicones International (France)
 - Qenos (Australia) – Polyethylene
 - Elkem (Norway) - Silicon metal & Foundry products

Contribute to improving quality of life through its innovative solutions
and pro-active commitment to Sustainable Development.

Chemical Industry : transforming materials for a better life



- Life Science : pharmaceuticals, food industry, agro-chemicals
- Transport : aerospace, automotive
- Telecommunication : electronics
- Construction : new materials, paints & coatings
- Energy : solar, batteries, etc

Western World Perception

- Mature industry, cyclical,
- Health – Safety – Environment risks
- Energy consumption
- Using non renewable resources (oil, gas and coal as major raw materials)



Not attractive for young engineers and managers

Chinese Perception

- Booming industry, essential to support growth of major industrial sectors
- Essential for China to meet key challenges:
 - Growth – energy consumption – pollution
 - Health and food for 1.3 billion people
- Strategic industry getting into the future



Attracting the best students and engineers

**France has still a # 5 position W W but China already # 2.
It still represents, in France, 80 billion € sales and 13% of total exportation**

Our experience joining a Chinese State owned Company started in 2004, negotiating a production JV between Rhodia and Bluestar



Starting point

(mid 2004)

Rhodia Silicones

- 400 M€ sales (70% Europe)
- # 5 WW
- 1,200 employees
- Silicones Intermediates 40%
- Silicones Specialties 60%
- R&D 4% Sales

Bluestar Silicones

- 100 M€ sales (100% China)
- # 1 China Silicones Intermediates
- 3,000 employees
- 100% Silicones Intermediates

JV Concept

(negotiations mid 2004-2005)

JV Concept :

- 50/50 production JV
- 200,000 t/y Silicones Intermediates

Rhodia to bring :

- Technology
- Basic engineering
- Support to start up

Bluestar to bring :

- Industrial platform
- Financing
- Administrative support

December 2005

October 2006

Bluestar expressed interest to acquire and grow faster

signing

Since February 2007, we are part of Bluestar, a Chinese State owned Company.



Bluestar will :

- **Just be interested to take advantage of our technology,**
- **Seek return on their investment by loading the business acquired with debts and asking for ST results**
- **Only support major investments in China to follow the growth**
- **Impose Chinese management at key executive positions**
- **Try to manage employees the way they do in China**
- **Benchmark our production costs in France versus Chinese production costs and shut down our Silicones Core Intermediates plant,**
- **Etc ... etc**

In reality, we joined a very pragmatic Group with long term strategic view

Rhodia :

- In deep financial crisis (2003-2004)
- Shareholders requiring repositioning:
 - Keep businesses in # 1 or 2 WW positions
 - Get out of other businesses
 - Invest outside Western countries
 - Restructure : cutting on all costs, including R&D

Bluestar :

- Technology is definitively the driving force for such an acquisition and has to be transferred in a professional way:
 - Core Intermediates : Chinese to take the lead (size – growth)
 - Specialties : International teams to take the lead (experience – complexity)
 - **R&D to stay in Europe for efficiency + IP protection**
- International teams are best to manage outside China :
 - We keep the current management and empower them
 - We fully support investing in R&D and people even during the crisis
- European business can't be profitable unless we invest in it :
 - Additional maintenance investment (2 x more)
 - Growth projects in Specialties
 - **5 years to reposition the business**
- Strategic acquisition of Elkem (Norway) in order to :
 - Improve our cost position in Europe (back integration)
 - Grow in Silicones Specialties (solar application, etc...)

Bluestar has a strong corporate culture encouraging entrepreneurship , team work and taking advantage of cultural differences . When operating abroad like in France we have to act as the “best citizen” in all our responsibilities.

How did we benefit in return from our technology transfers in China



- In chemical processes, you don't make progress unless you :
 - support continuous R&D efforts
 - you invest regularly in a new plant or equipments
 - at stake : yields, energy consumption, effluents, etc...

- Joining Bluestar has created the following levers :
 - Critical mass in Silicones Intermediates to increase overall R&D,
 - Process engineers + engineering company cooperating to define and build new plant,
 - Major equipments have been redesigned to take advantage of process improvement, know how and new technology,
 - New designed reactors have been invested in the Chinese plant, supporting modifications in the European plant,
 - European team + Chinese team both working on pilot scale equipment for continuous progress
 - Back integration into our major raw material (silicon metal with the Elkem acquisition) is opening new opportunities for process optimization.

Principle : “ no internal competition” : Chinese plant to supply Chinese and Asian market, European plant to supply Europe and Africa, North America and South America to be supplied by the most competitive plant preferably.

Challenge to the world : “China # 2 world largest economy is also one of the world poorest”

	<u># 1 USA</u>	<u># 2 China</u>	<u>multiple</u>
. Population (million)	300	1,300	x 4
. GDP / capita (USD/capita)	~ 47,000	~ 4,300	x 1/11

Challenge for Western Economies

- Growth - employment – local competitiveness versus imports
- Aging population – immigration – education
- Standard of living versus “States Deficits”
- Fight against destructive “speculation”
- Management of scarce resources
- Fair competition :
 - Free access to “booming economies”
 - Fair currency appraisal
 - Innovation, technology, brand protection
 - Fair share of world issues : climate, terrorism, human rights, etc...

Challenge for Chinese Economy

- Maintain growth above 8% on a continuous basis
- Improve standard of living (consumption, health care, ...)
- Manage scarce resources : energy, food, water, air, technology ... educated trained experience people
- Balanced development :
 - Country side / cities
 - Coast / inner regions
- Inflation + real estate bubble
- From the world’s factory floor to a technological power
- Low quality products to more added value safer products
- Dependence on export and dollar (trade surplus)

Chinese economy and Western economies are totally interdependent but also competing to control their future.

From fear to mutual benefits and demands : progress measured with facts and not intentions (Bluestar Silicones experience within Bluestar)



From fear to (most recent press quotes)

- “China is becoming very arrogant”
- “China will be the technological leader in 2050”
- “Chinese enterprises are buying all Europe”
- “China is stealing our technologies and killing our jobs”
- “China is taking control of world strategic scarce resources”
- “China is manipulating its currency”
- “China needs to act as a responsible # 2 WW economy”
- “China is dominating ... is # 1... is # 2, etc...”

.... Mutual benefits

- Million of people getting out of poverty
- Huge attractive market
- Successful partnerships (automotive, energy, etc)
- Successful acquisitions (Western in China and Chinese in Western)
- Contribution to key innovations
- Scarce resources management (climate, renewable energies, etc...)

.... Mutual demands (both sides)

- Continuous progress in terms of fair - open economy and intellectual property rights
- Commitment to a more balanced sharing of wealth
- Contribution to peace, human rights, world challenges
- Reduction of deficits and fight against destructive speculation and corruption

Moving from fear and anxiety to confidence and respect requires to spend time knowing each other : “s’apprivoiser” comme le Petit Prince et le Renard de St Exupéry and to keep being demanding on both sides to meet respective obligations