

The 12th World Conference on Investment Casting

Investment Casting Industry in Mainland China

Zhigang LU

Tsinghua University, Beijing, China

Processes

- Category I { Colloidal silica shell process
Ethyl silicate shell process
- Category II - Sodium silicate shell process
(low cost)

Processes

Castings

Category I



High Value-added casting

General commercial castings

Category II



Low-cost casting

◆ High value-added casting

Number of foundries: ~50

Main product:

Aerospace, energy industry, etc.

Main Materials:

Super-alloy, titanium alloy, aluminum alloy

Main Market: domestic

◆ General Commercial Casting

Number of foundries: ~500

Main product:

Automobile, pump, valve, hardware, tool, sport goods, etc.

Main Materials:

Stainless steel, carbon steel

Main Market: oversea

◆ Low-cost casting

(also by lost wax process, but with different materials, processes and for different markets)

Number of foundries: ~1200

Main product:

Camions, motorcycles, farming machines, engineering machines, valves, pumps, etc.

Main Materials:

Carbon steel, low alloy steel, nodular cast iron

Main Markets: domestic and oversea

Processes

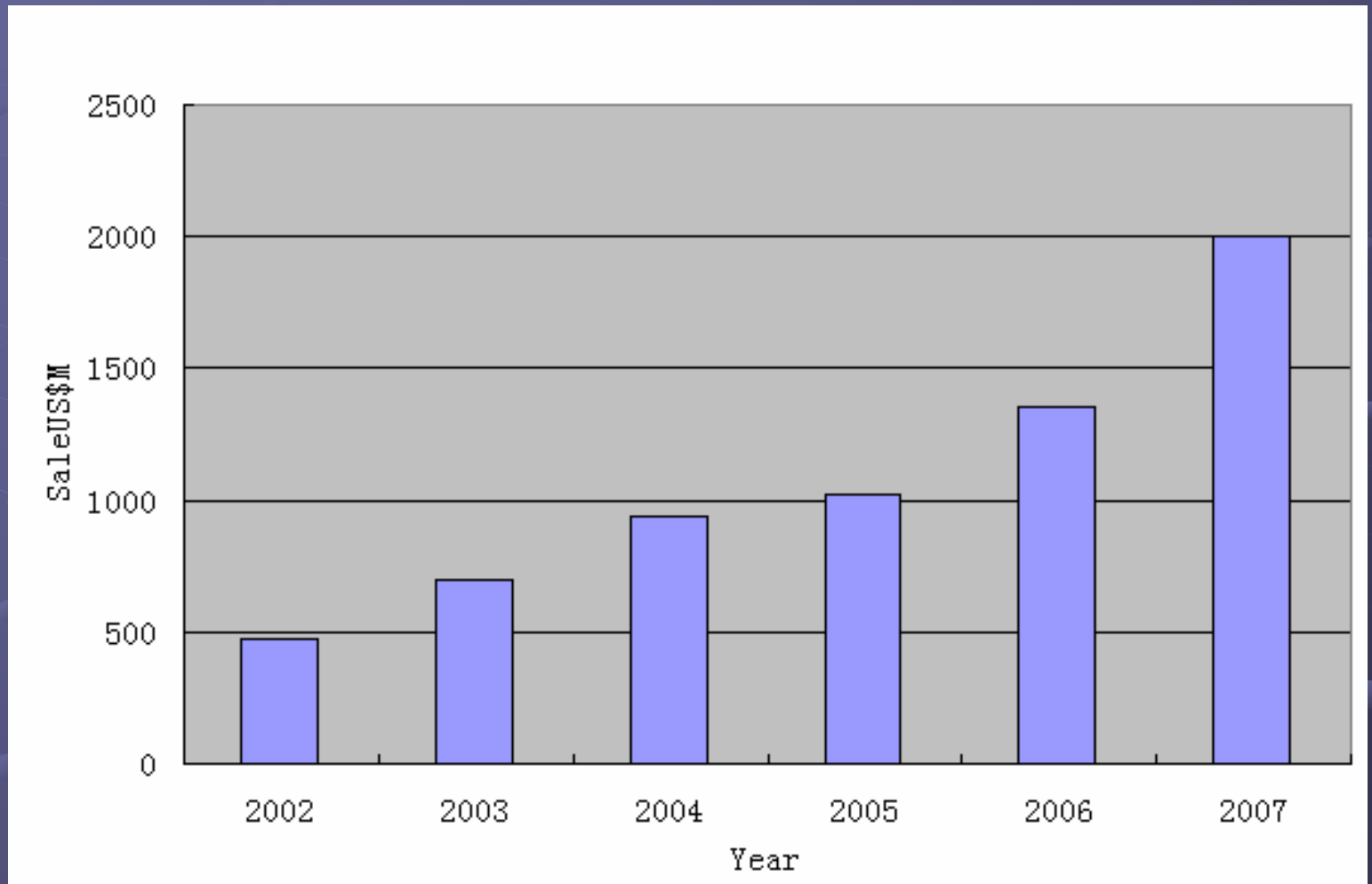
Castings

Turnover

Category I { High Value-added casting
General commercial castings } 2 billion USD
(2007)

Category II – Low-cost casting

High Value-added casting + General commercial castings



Forecast

High Value-added casting

The increasing demands of investment castings in the areas of aerospace, energy and so on will promote the growth of its technical level and production scale.



China's first home-grown regional jet - ARJ21-700



Shenzhou VII spacecraft

Forecast

General Commercial Casting

Negative factors –

- The world financial crisis
- Increasing cost in materials, energy, labor ...
- RMB appreciation
- Stricter environment protection policy

Positive factors –

- More strength in the foundries (management and technology level)
- R&D on the cost-saving technologies
- To expand domestic demand, such as efforts on making the rural economy flourish and speeding up urbanization

A 3D grid of light blue spheres is arranged in a perspective view on a dark blue background. The spheres are connected by thin, light blue lines, forming a grid that recedes into the distance. The text "The End!" is centered in the middle of the grid.

The End!