



**The 13th World Conference on Investment Casting**

**Investment Casting Industry in Mainland China**

Zhigang LU

Tsinghua University, Beijing, China

Investment Casting Branch, China Foundry Association

## Processes

## Castings

### **Category I**


(Colloidal silica shell process)

{ High Value-added casting  
General commercial castings

### **Category II**

(Sodium silicate shell process)

— Low-cost casting



◆ High value-added casting

Number of foundries: ~50

Main product:

Aerospace, military, energy industry, etc.

Main Materials:

Super-alloy, titanium alloy, aluminum alloy

Main Market: domestic



## ◆ General Commercial Casting

Number of foundries: ~520

Main product:

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

Main Materials:

Stainless steel, carbon steel

Main Market: oversea



**Processes**

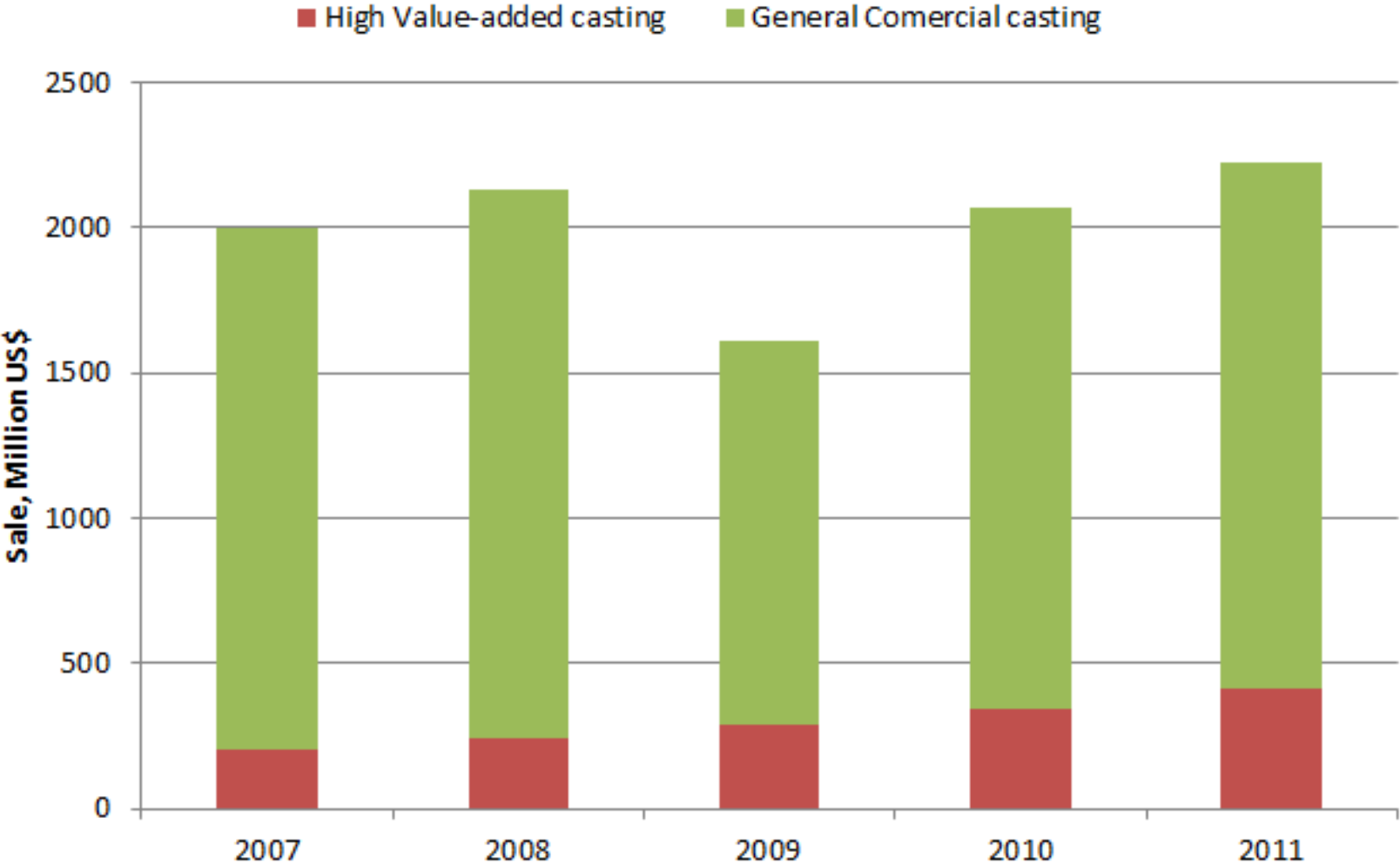
**Castings**

**Turnover**

**Category I** { High Value-added casting  
General commercial castings } **2.2 billion US\$**  
(2011)

**Category II** – Low-cost casting

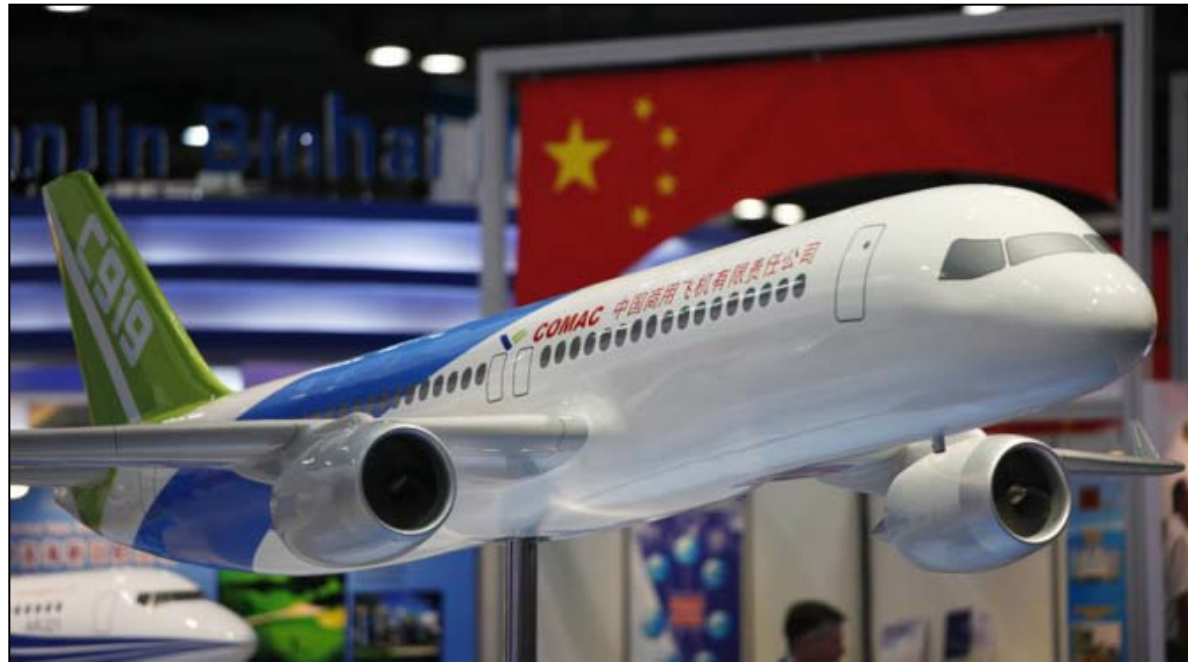
# High Value-added casting + General commercial castings



# Forecast

## High Value-added casting

Development opportunities: jumbo jet project



C919

## Forecast

### High Value-added casting

#### China's 12th five-year plan (2011-2015)

Industry will be making adjustments.

Heavy-polluting, high-energy consuming industries will face more limits.

The rapid development of high-tech equipment manufacturing encourages the demand of high-level castings.



# Forecast

## General Commercial Casting

### Negative factors

- ◆ World financial and economic crisis
- ◆ Appreciation of RMB
- ◆ Rising price of energy and raw materials
- ◆ Increasing labor cost
- ◆ Growing pressure from environmental concerns

Labor shortage in foundry industry

# Forecast

## General Commercial Casting

### Countermeasure

- ◆ Improving the management
- ◆ Replacement of the some materials
- ◆ Applying mechanized equipment in whole process
- ◆ Using new energy-saving technology
- ◆ ...



The End!