

# World Investment Casting Market Review

EICF Conference

Bilbao, Spain

May 2006

# Agenda

- World Market Overview
  - Europe & North America - Richard Hirst
  - China - Dr Zhigang Lu
  - Japan/Taiwan/Korea – Junichi Take-Uchi
  - India – Kishan Gohil
- Other regions
- Discussion

# Acknowledgements

The data used for this presentation has been provided by the following organisations, whose help and contribution is gratefully appreciated :

CAEF (Casting Association of European Foundries)

cmf (Cast Metals Federation)

EICF (European Investment Casting Federation)

ICI (Investment Casting Institute - United States)

CFA (China Foundry Association)

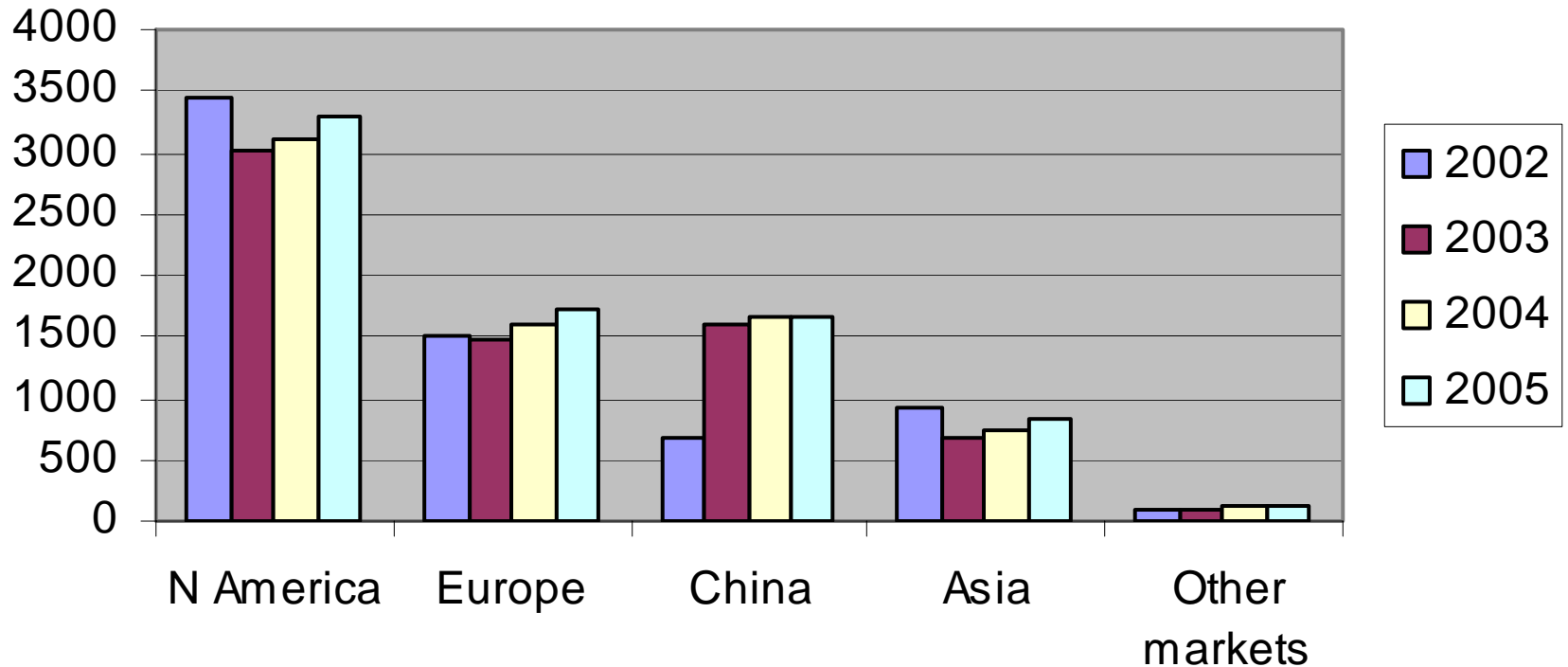
JFS (Japan Foundry Society)

# Global Investment Casting Sales – 2005

- 2005 total World sales US\$7,610M (US\$7.6B)
  - + 5.2% v 2004
- N America remains the largest single producer
  - market share falling and sales still below 2002
- Europe demonstrating good sales growth following recovery since 2002
  - led by strong aerospace performance
- European and Chinese market shares now equal
  - total Asian sales now 33% world total

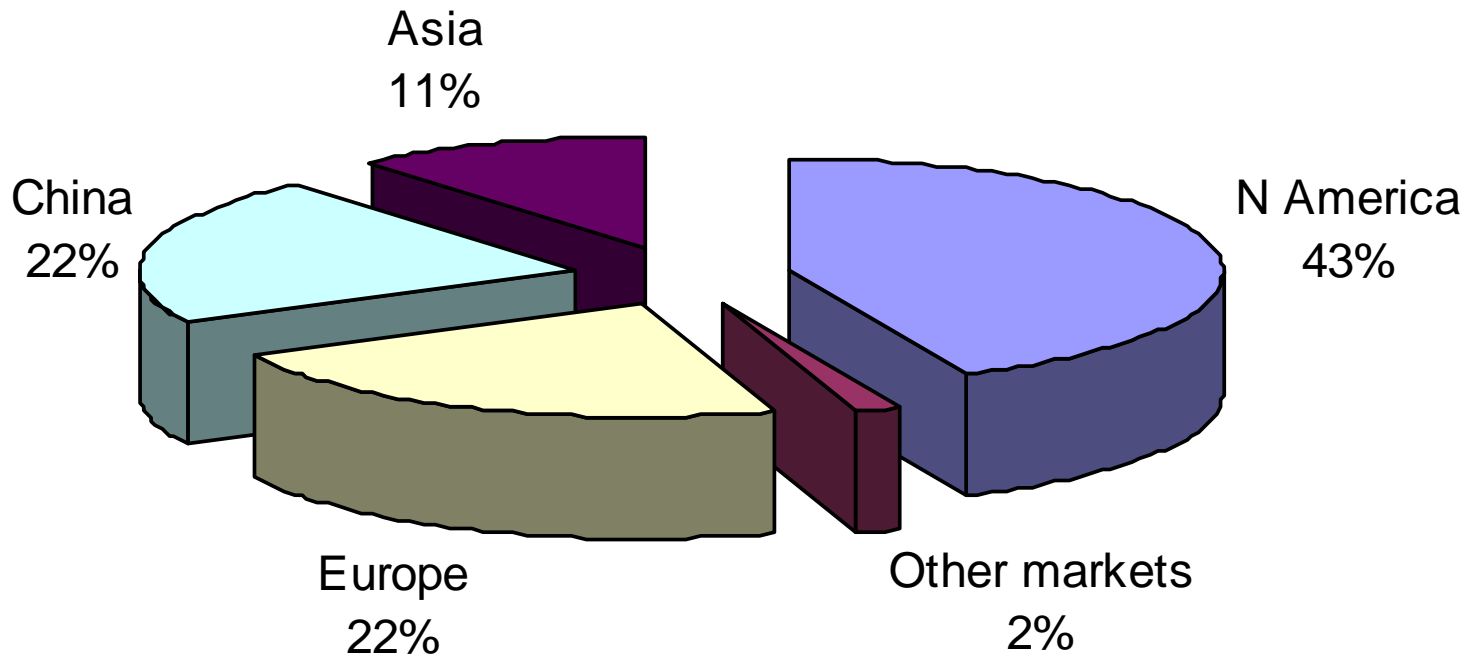
# Sales by Region 2002 - 2005

## Regional Sales, U\$M

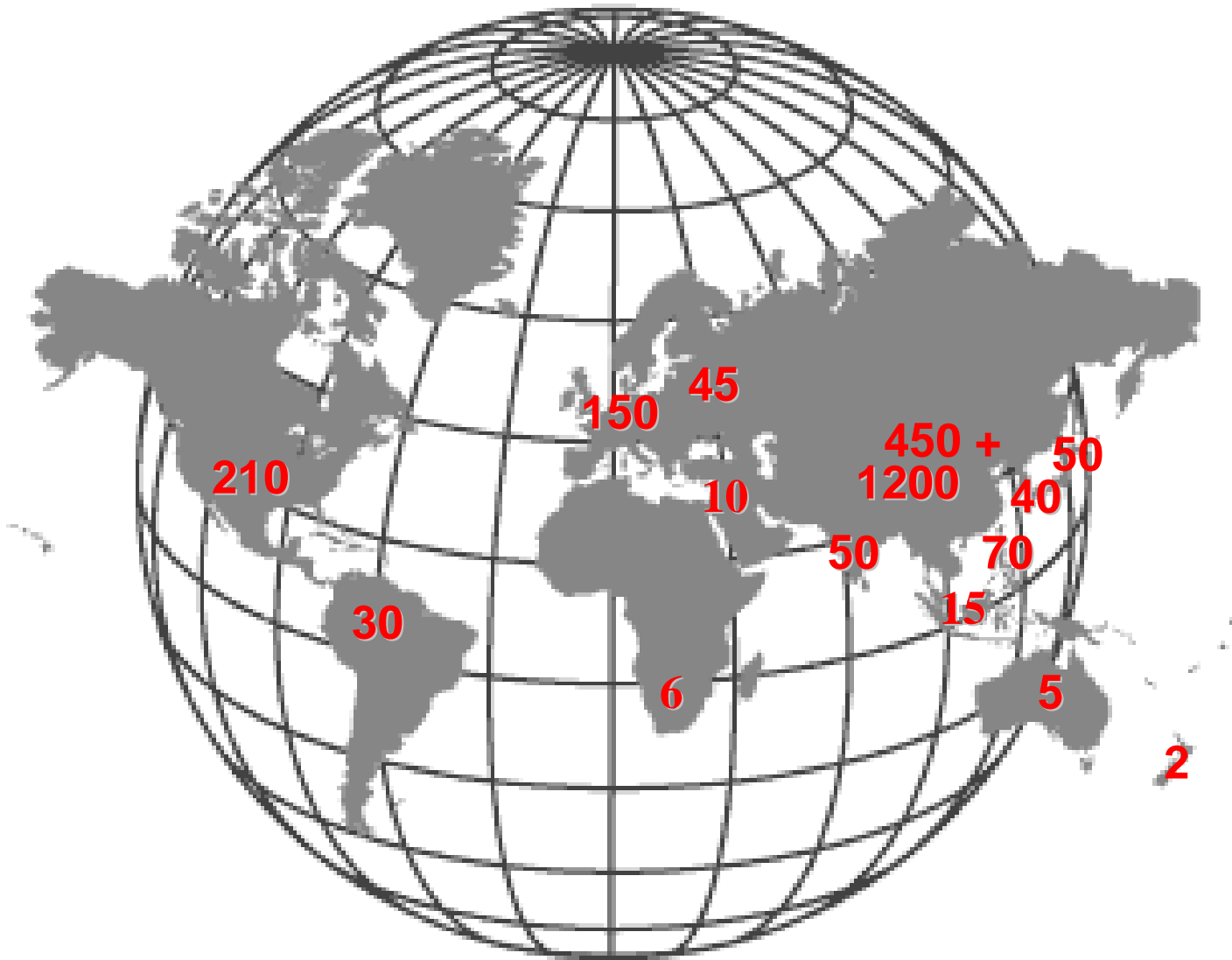


# World Sales by Region, 2005

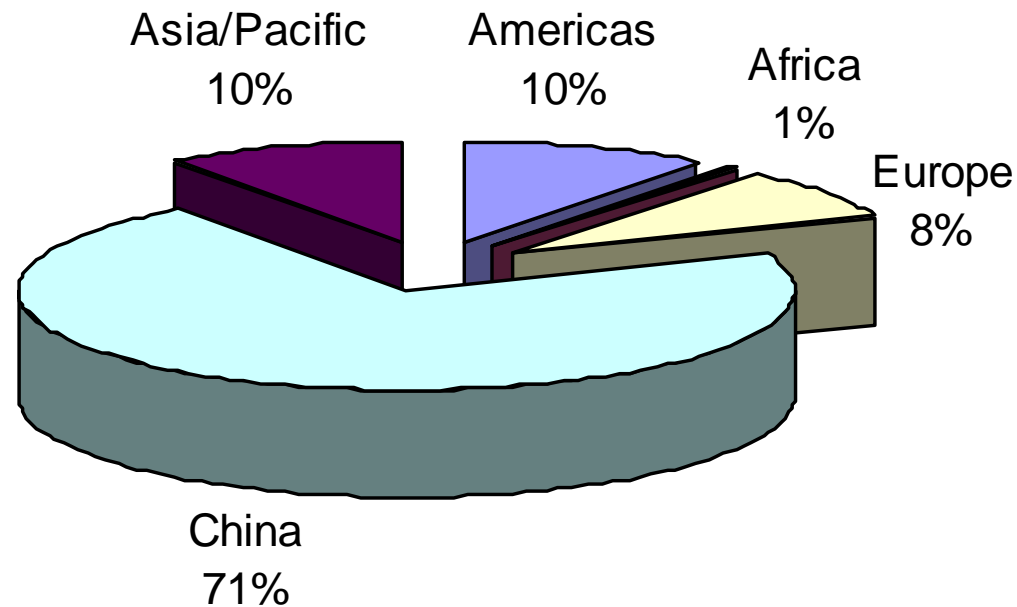
Total US\$7.6B



# Distribution of Investment Casting Foundries



# Distribution of Investment Casting Foundries



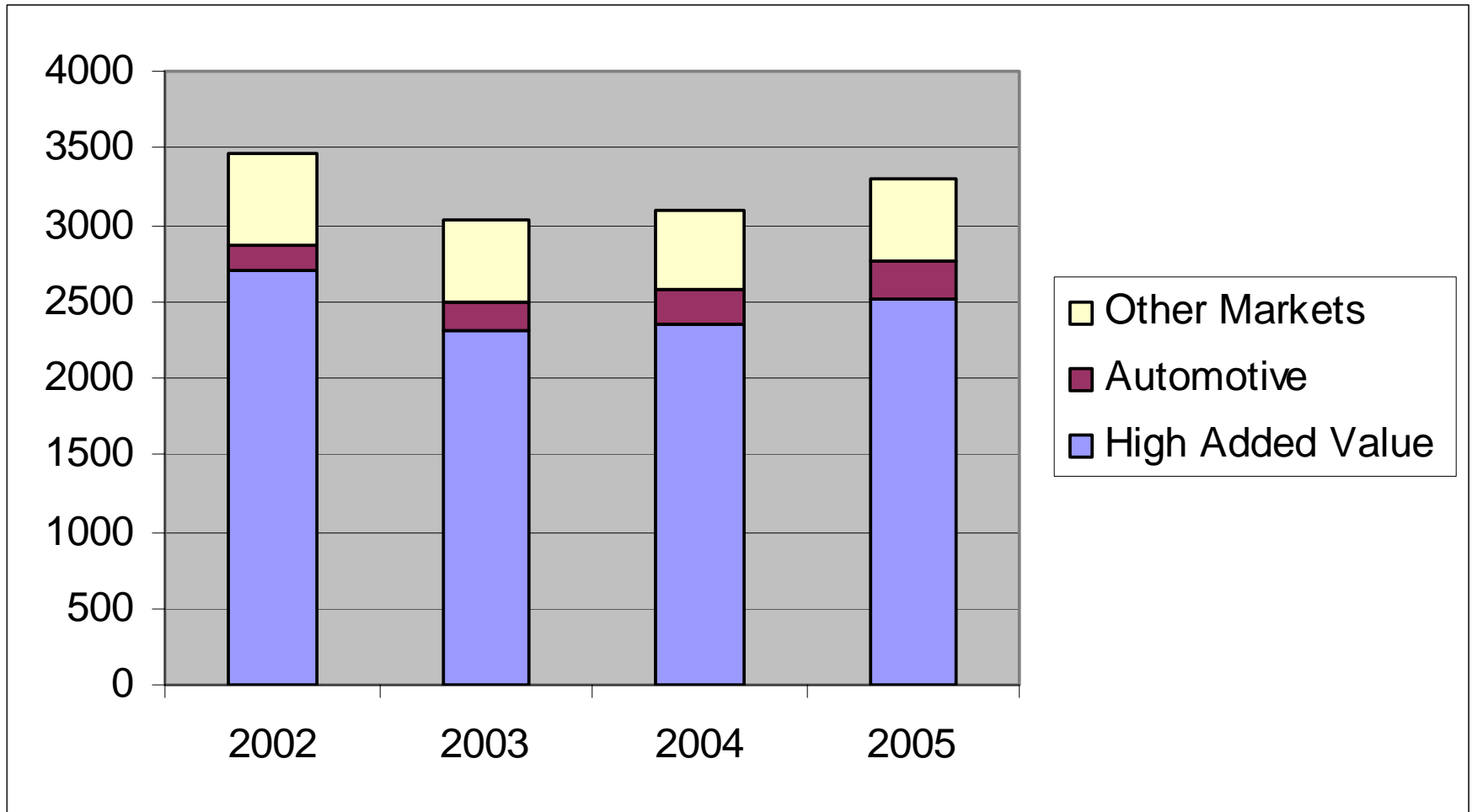
# INVESTMENT CASTING MARKET REVIEW 2005 Europe & North America

Richard Hirst  
Blayson Olefines Ltd

# North America 2005

- 2005 Total Sales \$3,300M
  - +6.5% v 2004
  - still below 2002 but recovering
- Improved order books in all market sectors
- Factors influencing the market
  - industry consolidation
  - imports
  - availability and cost of raw materials e.g. Zircon
- Overall market expected to grow by 6 – 8% in 2006

# N America - Sales by Market Sector US\$M



# Market Trends – N America

## AEROSPACE

- Commercial market very busy with increased build rates and strong spares sales
- Overall air traffic is up and load factors are at record levels
- Airline losses continue causing doubts as to viability of several large airlines
- Low cost airlines re-shaping the industry
- Growth expected to continue for next few years
- Boeing has significantly raised forecast for sales to 2025

# Market Trends – N America

## Industrial Gas Turbines

- 2<sup>nd</sup> largest sector
- Strong spares sales
- New build growth predicted to satisfy Asian demand

## Automotive

- Growing market for new casting applications
  - driven by new emission standards and fuel efficiency
- Substantial increase in turbocharger sales for cars and trucks
- Sales expected to grow by 6% in 2006

## General Industry

- High volume applications susceptible to offshore sourcing
- Growth of 3% predicted in 2006

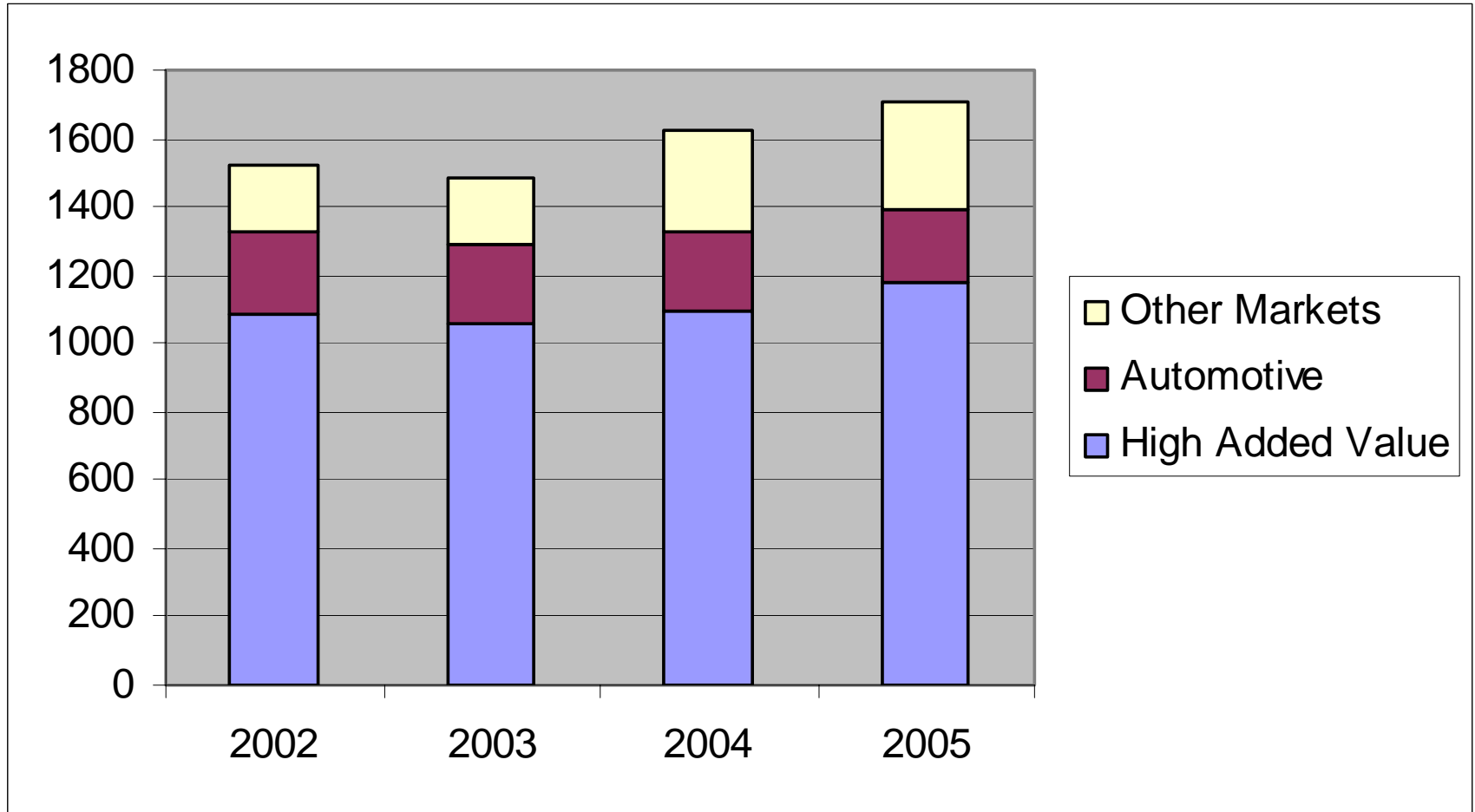
## Medical

- Business strong and growing by 6-10% per annum

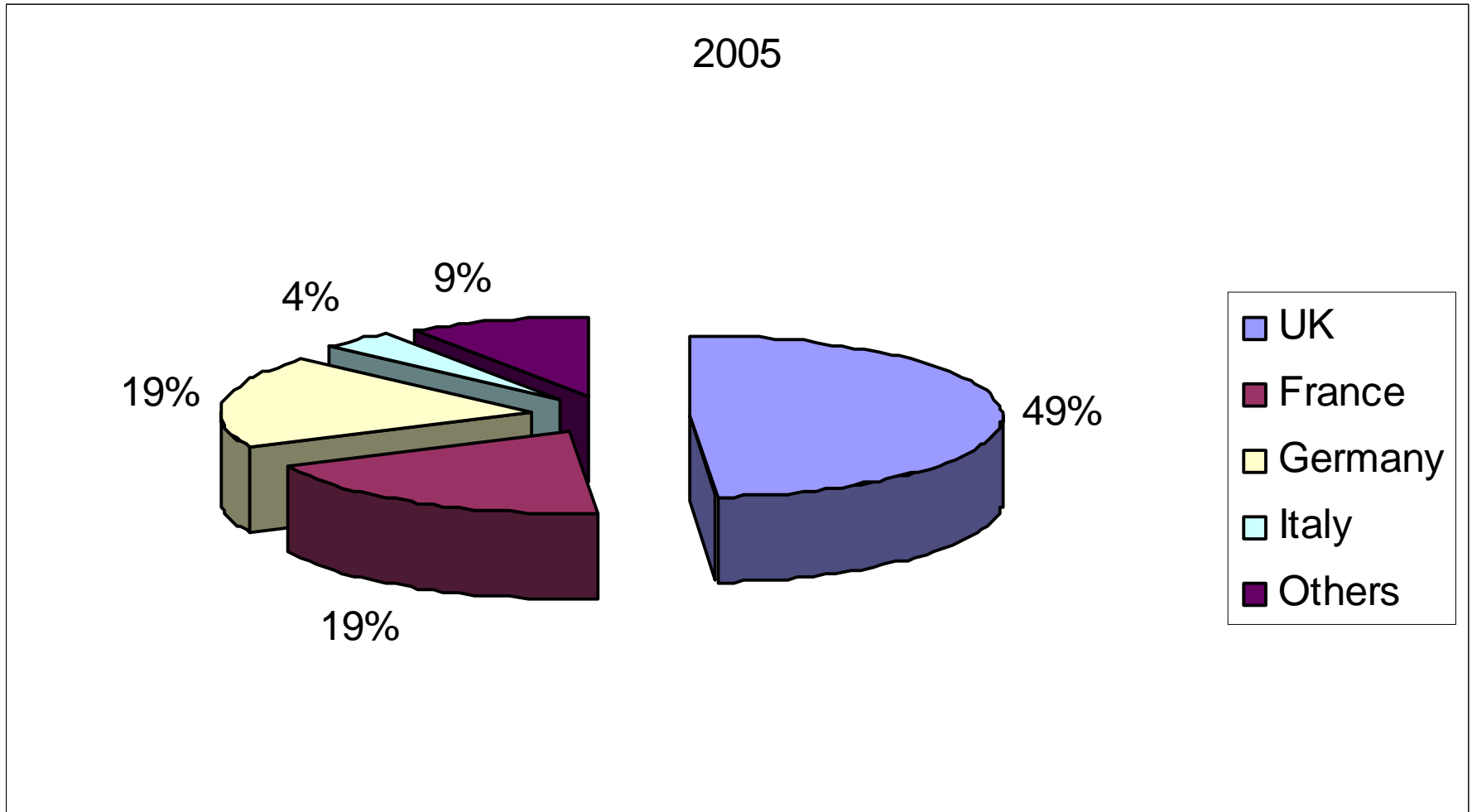
# Europe 2005

- 2005 Total Sales \$1,709M
  - +12% v 2004
- Growth based on high added value sales
- Automotive steady
- General commercial castings increasingly outsourced
  - some foundry closures
  - some foundries ‘managing’ imports
- Investment casting production in Central/Eastern European countries increasing
  - Czech Republic & Slovakia benefiting from automotive sales

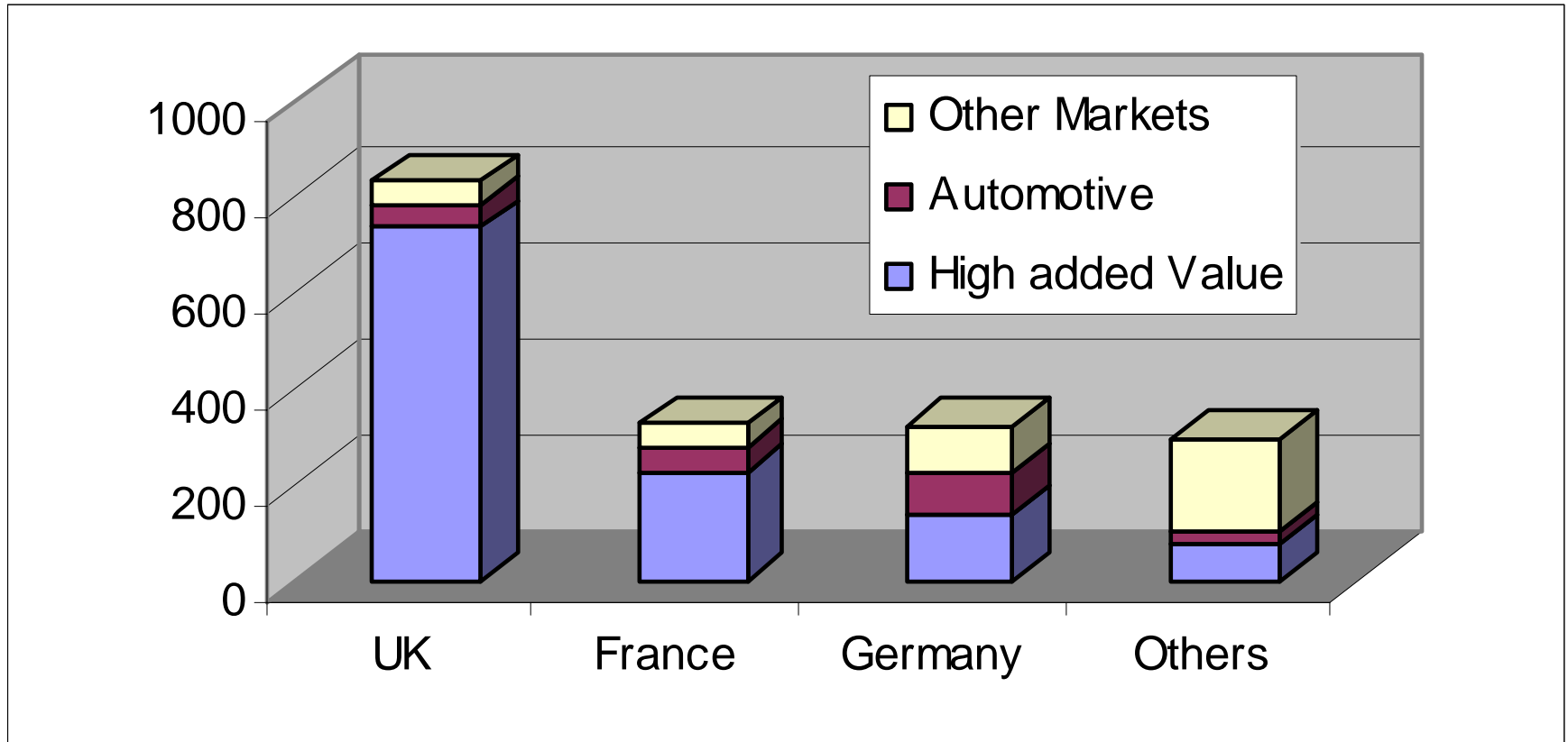
# Europe - Sales by Market Sector US\$M



# European Market Sales by Country \$USM



# European Market Sales by Country & Sector \$USM



# Market Trends – Europe: Aerospace

- European aerospace currently very strong
- Rolls Royce profits +50%
  - record new orders of £11.3billion, order book now £23billion
- Airbus forecast further strong growth of 12-19% in profits this year
  - after a record financial performance in 2005
  - 150 A320 aircraft to China in £5.7b deal
- However Boeing won 55% of new commercial aircraft orders by value last year
  - Dreamliner sales winning back market leadership after 3 years of Airbus dominance
- Russia consolidating aircraft manufacturers into one state-run company
  - intention is to double production of aircraft in the next 10 year

# Market Trends – Europe : Automotive

- Industry statistics show overall the sector remains healthy but with mixed fortunes
- Toyota, Honda, Nissan and Land Rover all plan to expand
- VW restructuring, could lead to 20,000 job losses
  - possibly outsourcing component operations
  - entire factories could be sold to suppliers
- Audi hopes to sell 1.4m cars by 2015 from 830,000 in 2005
- UK plant closure at Peugeot
- Nanjing auto to restart UK sports car production ?
- Turbowheel sales remain very high, castings manufacturers at full capacity

# Market Trends - Europe

- POWER GENERATION – strong growth continues
- MEDICAL – after a quiet period sales now picking up
- GENERAL COMMENTS :
  - High energy and raw material prices causing headaches for all manufacturers
  - Resulting higher costs being passed on where possible
  - Globalisation of sourcing lower value parts continues

# Summary - Europe & N America

- Aerospace remains key to future health of North American and European investment casting
- Total world aircraft orders expected to fall to 800<850 aircraft in 2006 from 2057 in 2005
  - will result in steadying of growth in 2007
- Automotive markets will remain competitive with downward pressure on prices
  - turbowheel strong growth to continue
- Less complex castings will continue to be sourced from lower cost regions
- 2006/7 expected to continue growth trend of <6%

# Asia

## China

- Dr Zhigang Lu, CFA Investment Casting Branch

## Japan, Taiwan, Korea

- Junichi Take-Uchi, Japan Foundry Society

## India

- Kishan Gohil, Modtech Machines Pvt Ltd

# Other Markets

- Australia/NZ – small market, 5 foundries
- South America – has the potential for a large industry
- Africa
  - North – very limited
  - Sub Sahara – nothing known
  - South – reasonable industry and known in world markets
- Russia – economy growing
  - has an established industry based on aerospace and commercial production

# World Investment Casting Market Review

## Discussion