B R I C S

FOUNDRY FORUM

RUSSIA 2015

B R A Z I L *and* ***Foundry Industry***

Overview / Trends

Remo De Simone
President
Brazilian Foundry Association - ABIFA

MAIN TOPICS

1) *Brazil in figures*
2) *Infrastructure and Raw Material*
3) *Cast Metal in Brazil*
4) *Foreign Trade*
5) *Trends – Brazil and Foundry Industry*

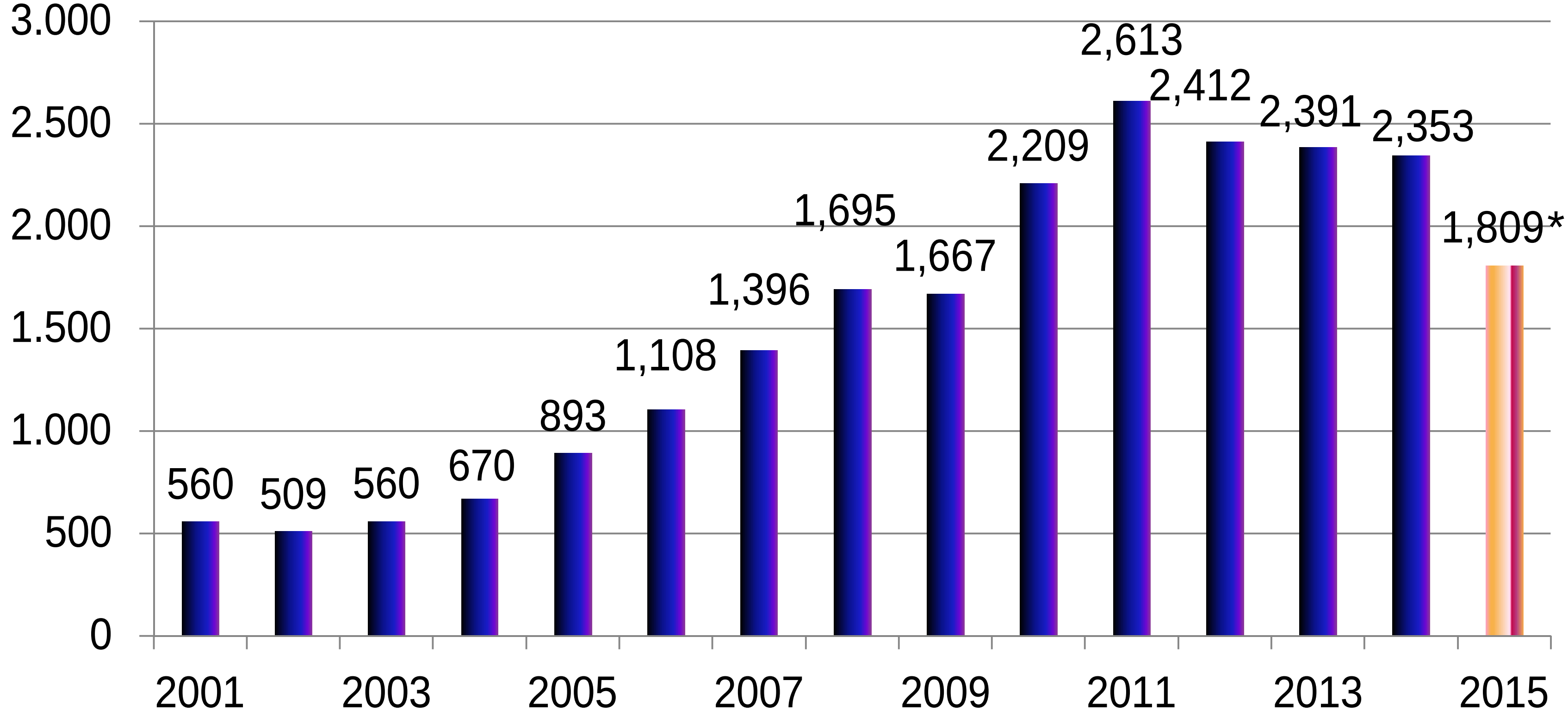
BRAZIL - 2014
POPULATION: 200.4 M
AREA: 8.5 M km^2
GDP: 2.35 TRILLION US$
7th WORLD ECONOMY
FLEET OF VEHICLES: 41.7 M

BRAZIL IS THE LARGEST COUNTRY IN SOUTH AMERICA

REPRESENTS:
- **48% IN TERRITORY**
- **51% OF POPULATION**
- **48% OF GDP**

ONLY BRAZIL AND ARGENTINA HAVE A ESTABLISHED FOUNDRY INDUSTRY.

Brazil – GDP Evolution
Billion US$/ano

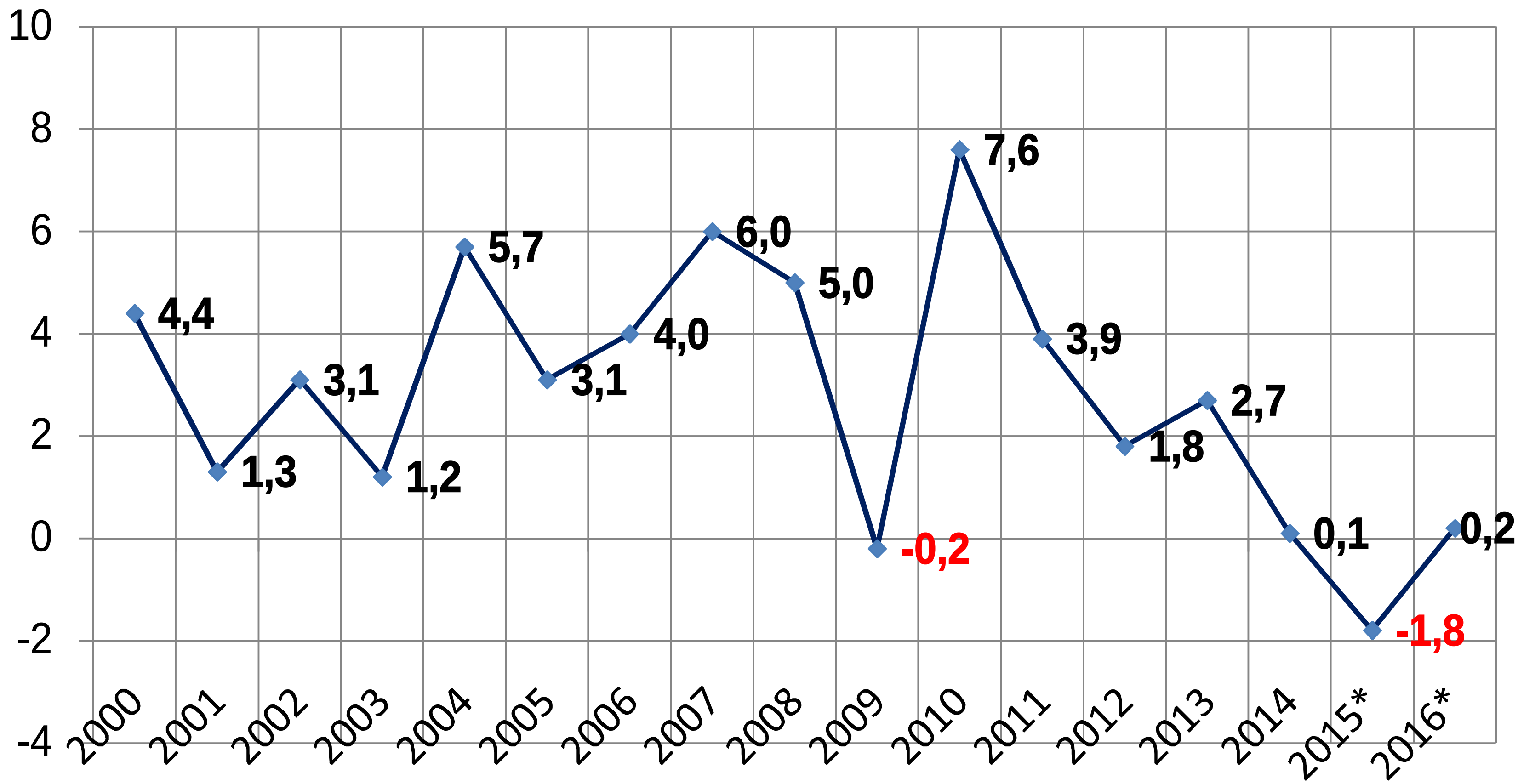


Source: BACEN

***2015 estimated**

Brazil – GDP Evolution (%)

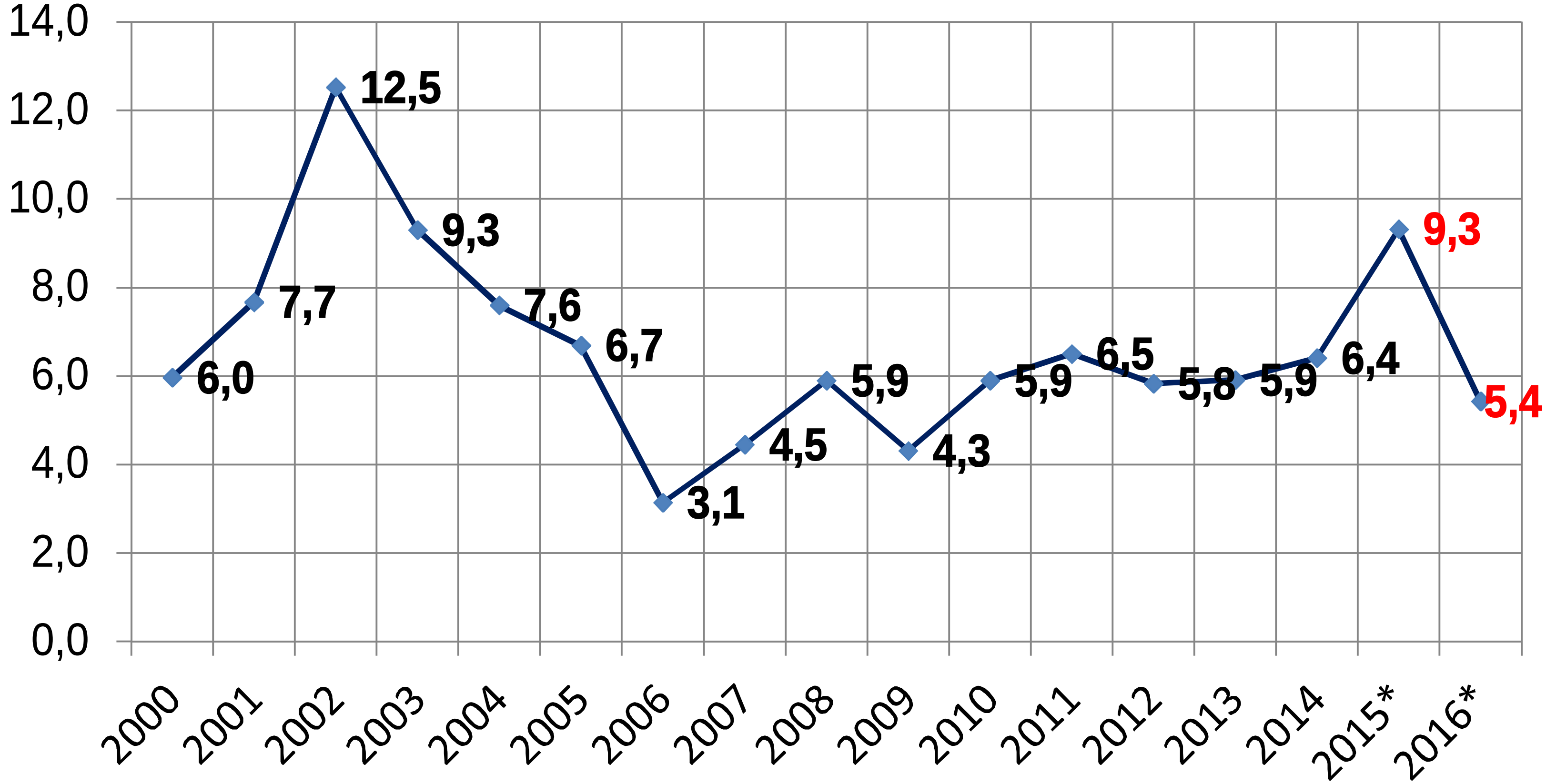
without inflation of the period



Source: BACEN

***estimated**

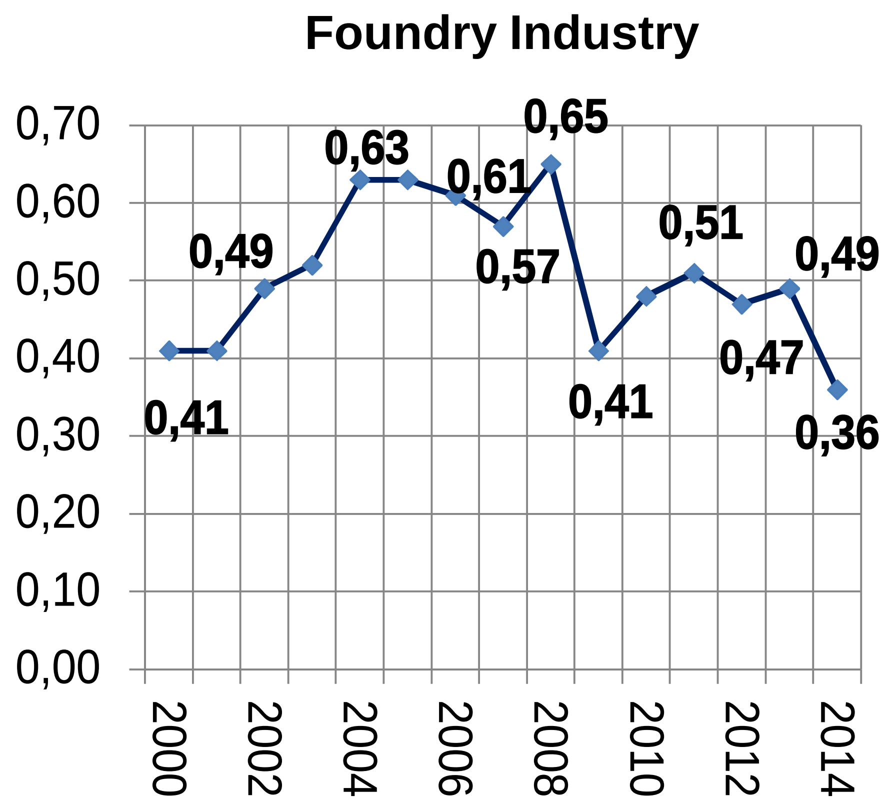
Brazil – Inflation Evolution (%)
accumulated per year



Source: BACEN

***estimated**

Participation of the Industry in GDP (%)



Source: IBGE/ABIFA

World Ranking – GDP
(Trillion US$)

	2014	2015 (*)	
1st USA	17.419	18.125	1st
2nd China	10.380	11.212	2nd
3rd Japan	4.616	4.210	3rd
4th Germany	3.860	3.413	4th
5th UK	2.945	2.853	5th
6th France	2.847	2.470	6th
7th BRAZIL	2.353	2.308	7th INDIA
8th Italy	2.148	1.843	8th
9th INDIA	2.050	1.809	9th BRAZIL
10th Russia	1.857	1.615	10th Canada

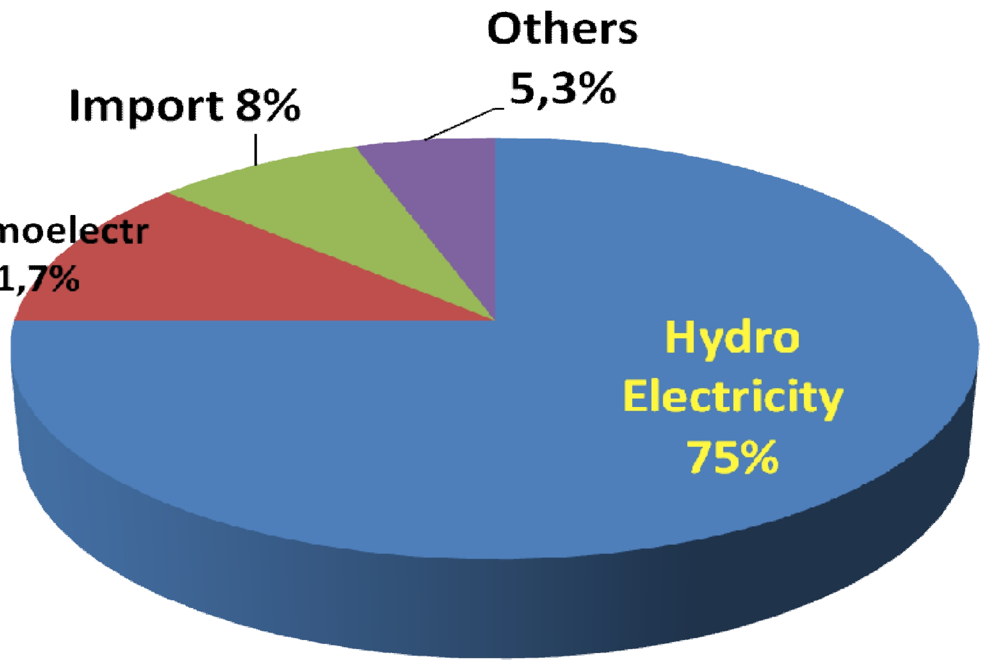
Source: BACEN

(*) PREVIEW

MAIN TOPICS

1) *Brazil in figures*
2) ***Infrastructure and Raw Material***
3) *Cast Metal in Brazil*
4) *Foreign Trade*
5) *Trends – Brazil and Foundry Industry*

Electric Power
Hydro Generation is the main source in Brazil



95.7 GW Install Capac

Source:
ANEEL/FIRJAN

Natural Resources

- <u>Electricity</u>

for its continental dimensions, hydro generation is the main source in Brazil

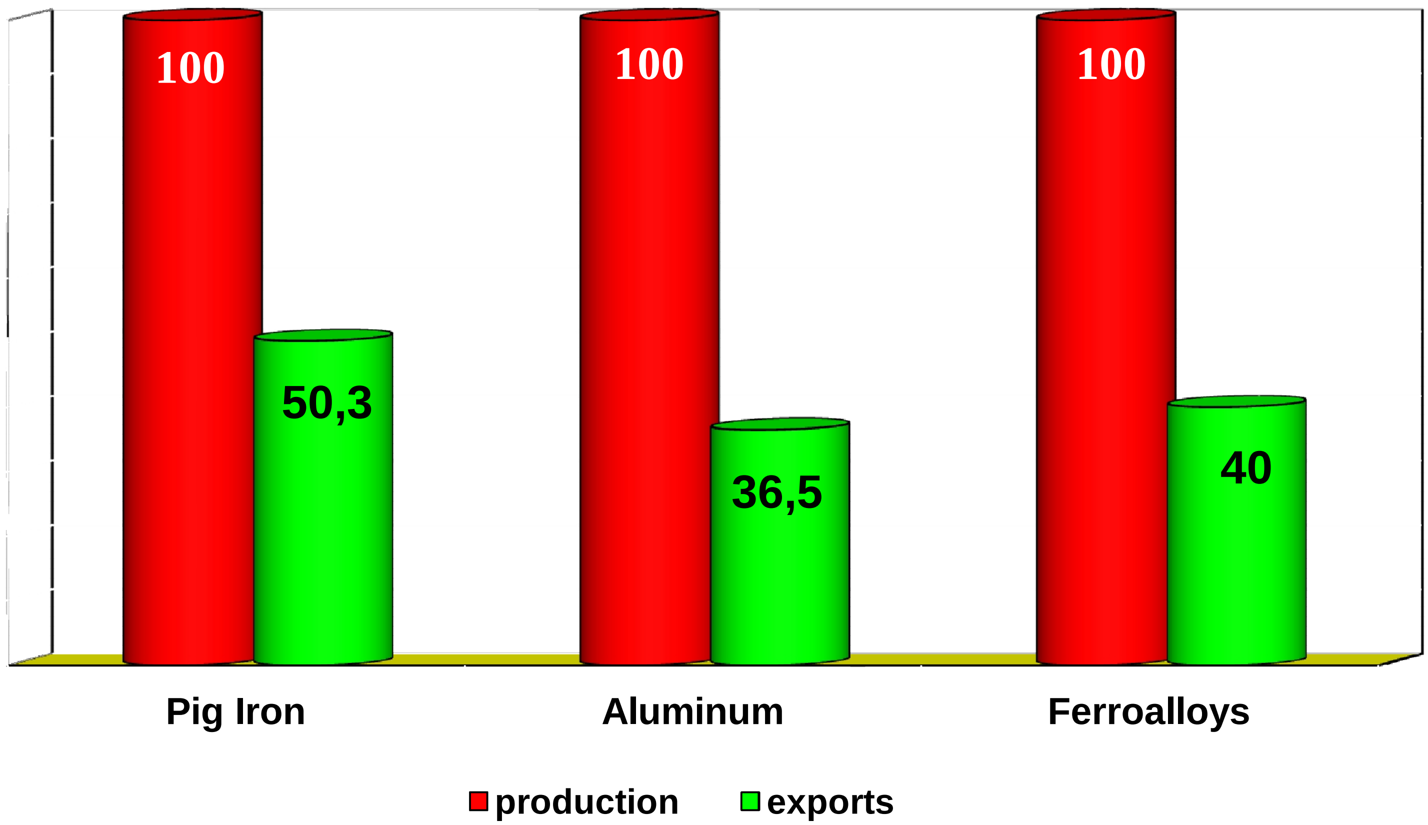
- <u>Iron Ore</u>

Brazil is the third largest producer and also has the third reserve of iron ore

- <u>Bauxite Ore</u>

Bauxite ore (aluminum) - also in this case, we are the third largest producer and have the third reserve of bauxite ore for the production of primary aluminum

Brazil has a surplus in its main raw materials



Source: ABAL/ABRAFE/SINDIFER

MAIN TOPICS

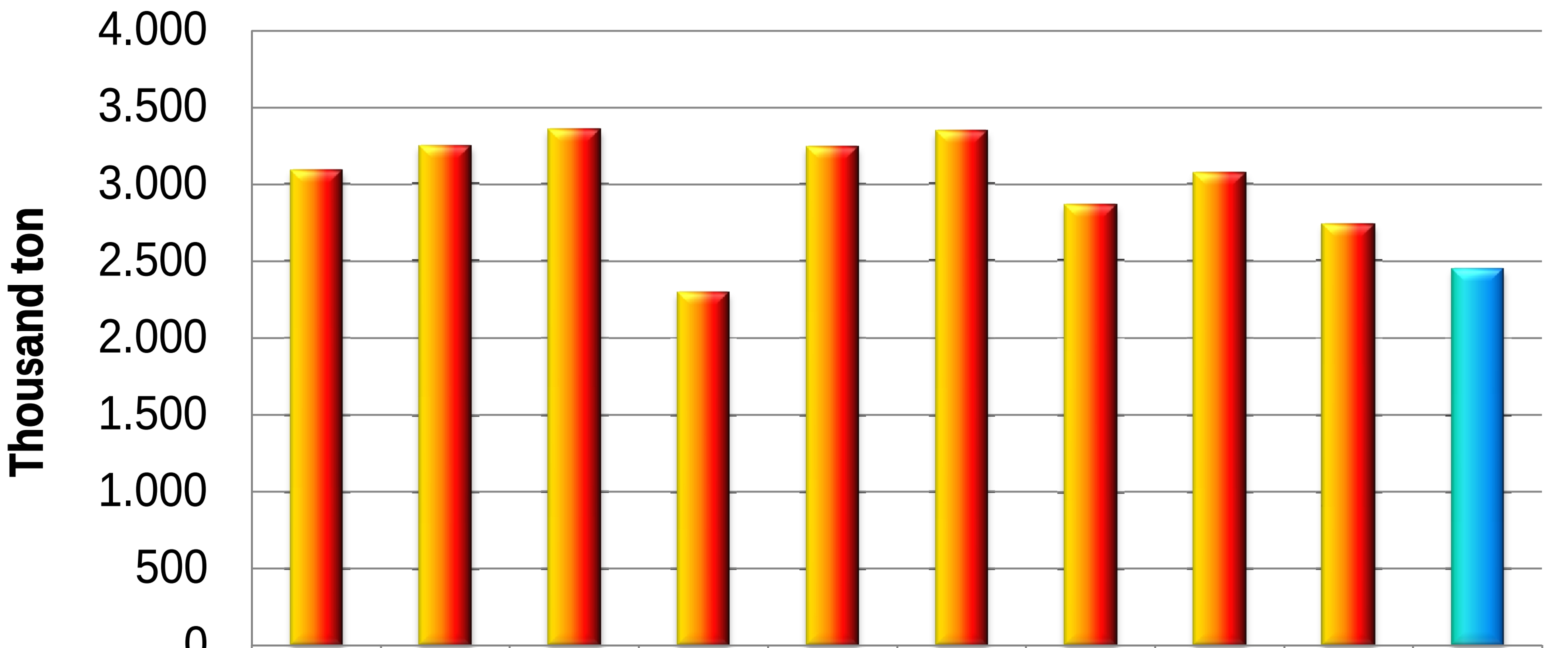
1) *Brazil in figures*
2) *Infrastructure and Raw Material*
3) ***Cast Metal in Brazil***
4) *Foreign Trade*
5) *Trends – Brazil and Foundry Industry*

Cast metal world production (ton)

	2013	2012
1 º CHINA	44,500,000	42,500,000
2 º USA	12,250,000	12,824,960
3 º INDIA	9,810,000	9,344,400
4 º JAPAN	5,538,037	5,342,837
5 º GERMANY	5,186,727	5,214,114
6 º RUSSIA	4,100,000	4,300,000*
7 º BRAZIL	3,071,400	2,859,898
8 º KOREA	2,562,000	2,435,800
9 º ITALY	1,970,968	1,959,680
10 º FRANCE	1,748,166	1,800,156

Source: Modern Casting/Dec 2014
* 2011 data

The crisis of 2008-09 had a strong effect on our country
Production 2006-15



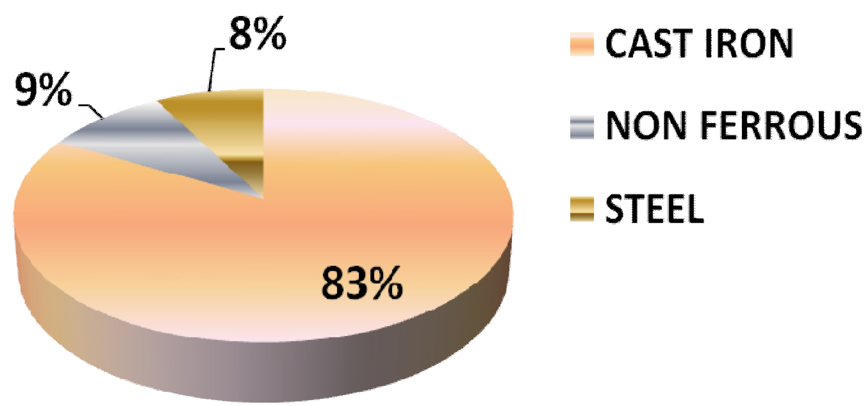
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Brazil	3.087	3.250	3.355	2.297	3.241	3.344	2.860	3.071	2.737	2.450

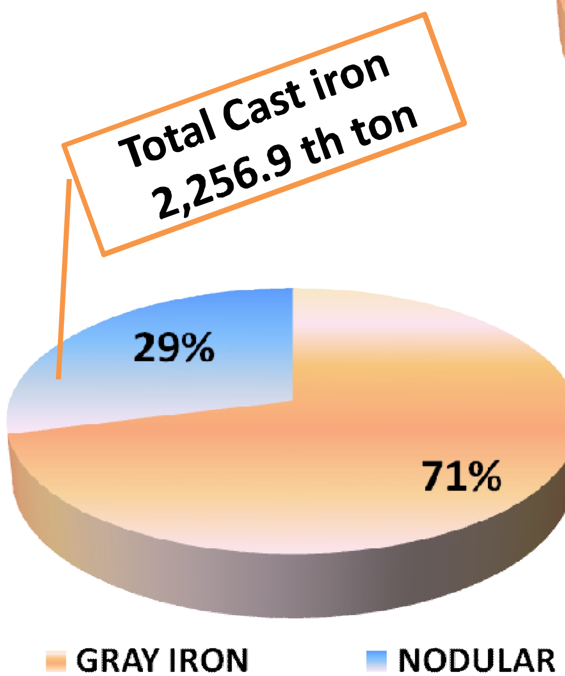
Source: ABIFA

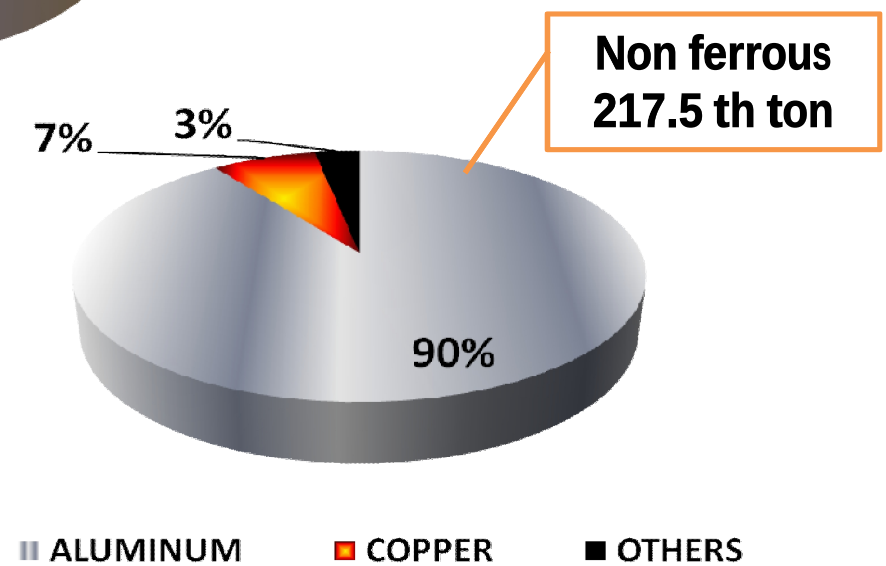
2015 preview

quick analysis of cast metal production in Brazil

Total production
2,737.2 th ton (2014)

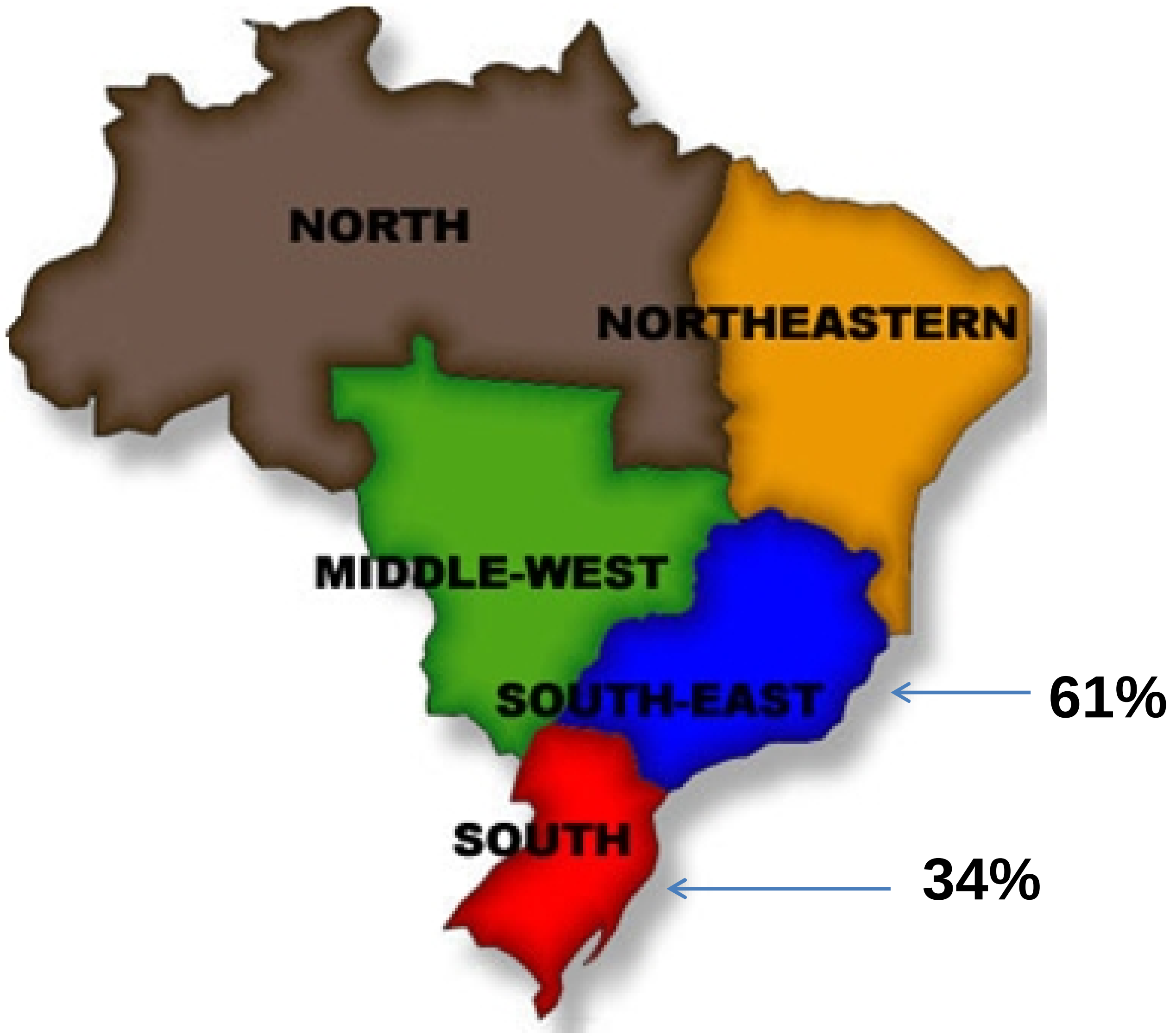




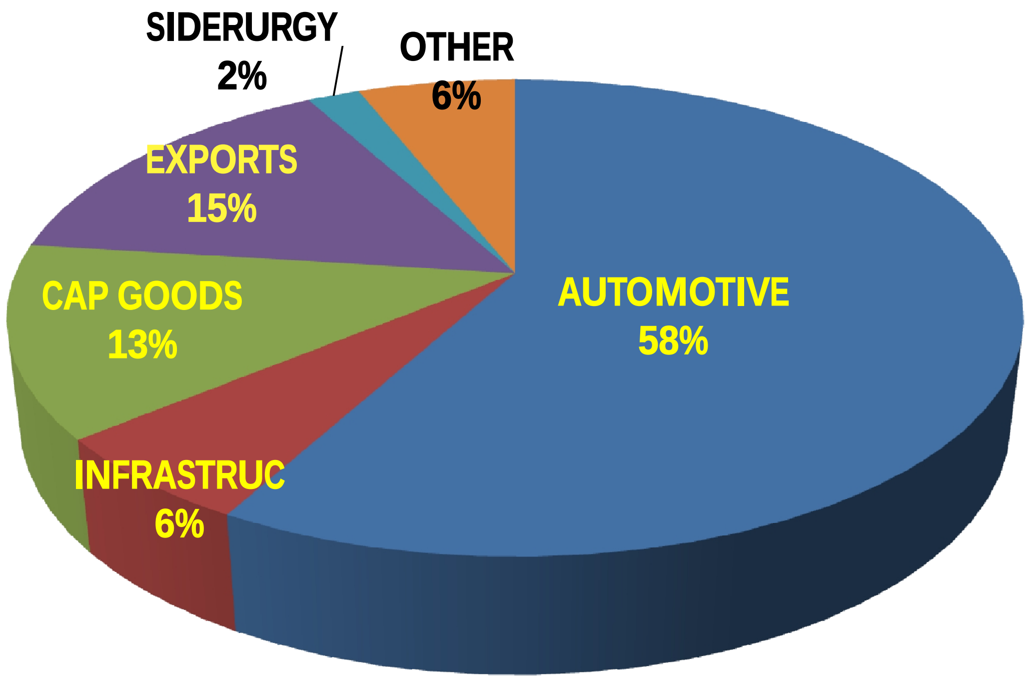


Source: ABIFA

South and Southeast Region in Brazil represent 95% of all production



Sales of casting are concentrated in automotive industry



Source: ABIFA

Worldwide Vehicle Production

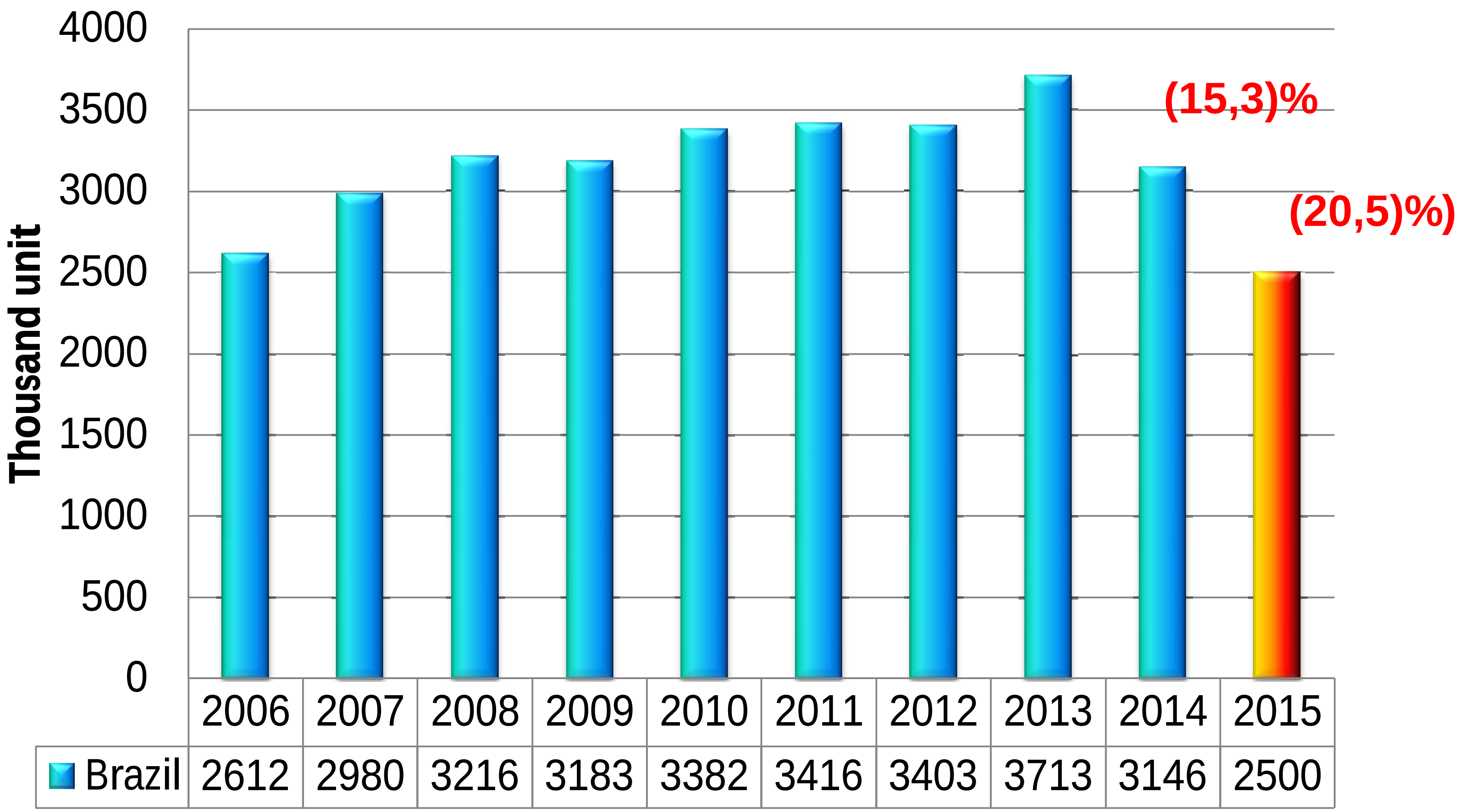
(thousand units)

	2013
1 º China	22,117
2 º USA	11,046
3 º Japan	9,630
4 º Germany	5,718
5 º South Korea	4,521
6 º India	3,881
7 º Brazil	3,712
8 º Mexico	3,052
9 º Thailand	2,457
10 º Canada	2,380

Source: ANFAVEA

5th automotive world market

Brazil - vehicle production



Source: ANFAVEA - Brazil

2015 preview

Countries of Latin America (Argentina, Brazil and Mexico) have a great dependence of Automotive Industry

	PARTICIPATION IN PRODUCTION
ARGENTINA	57%
BRAZIL	58%
MEXICO	75 – 80%

Source: ABIFA, CIFRA, SMF

Shows a potential to be exploited to reach the developed countries (2014)

	INHABITANTS/ VEHICLE
ARGENTINA	3.7
BRAZIL	5.4
MEXICO	3.6

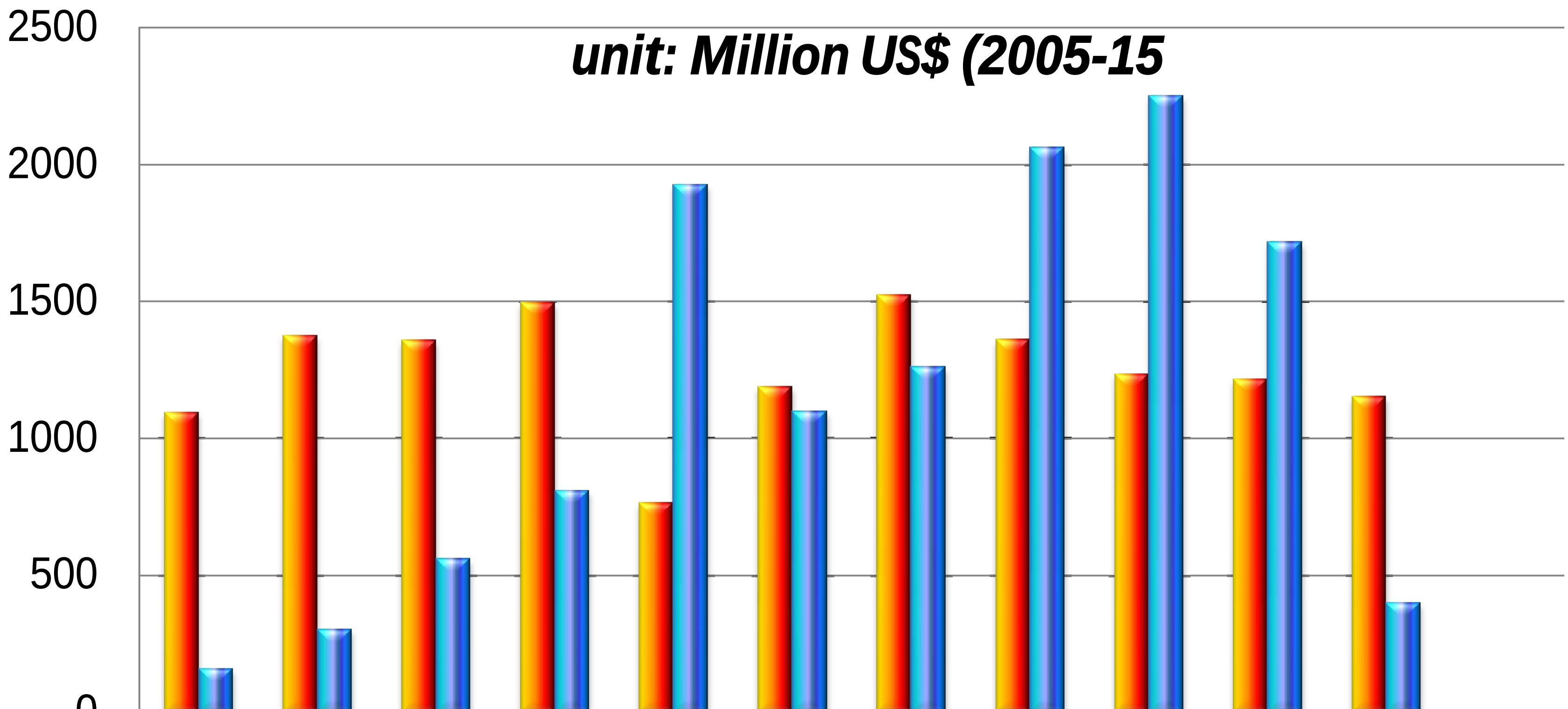
	INHABITANTS/ VEHICLE
GERMANY	1.7
ITALY	1.6
SPAIN	1.9
FRANCE	1.7
USA	1.3

Source: ANFAVEA

MAIN TOPICS

1) *Brazil in figures*
2) *Infrastructure and Raw Material*
3) *Cast Metal in Brazil*
4) *Foreign Trade*
5) *Trends – Brazil and Foundry Industry*

Evolution of foreign trade in Brazil

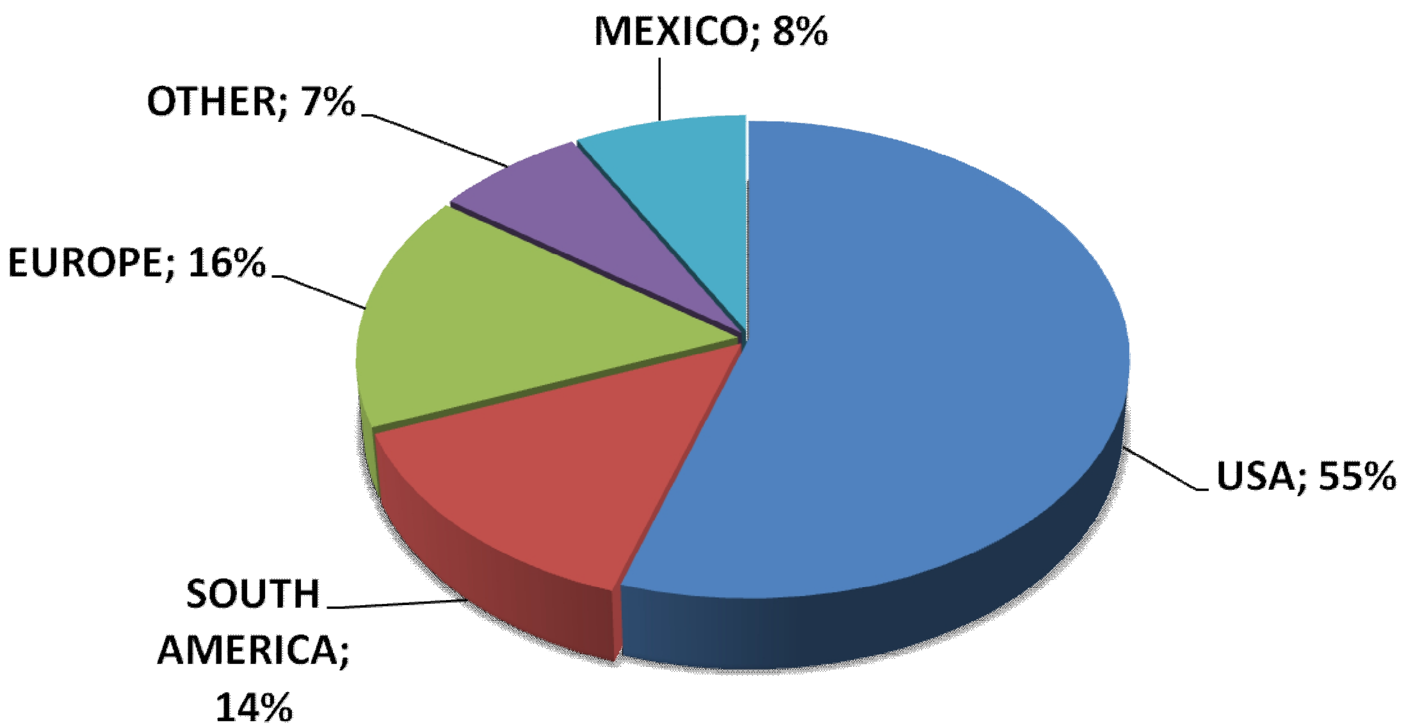


	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Exports	1095	1374	1354	1494	763	1185	1521	1362	1233	1216	1150
Imports	159	300	559	808	1926	1096	1260	2061	2250	1714	400

2015 → preview

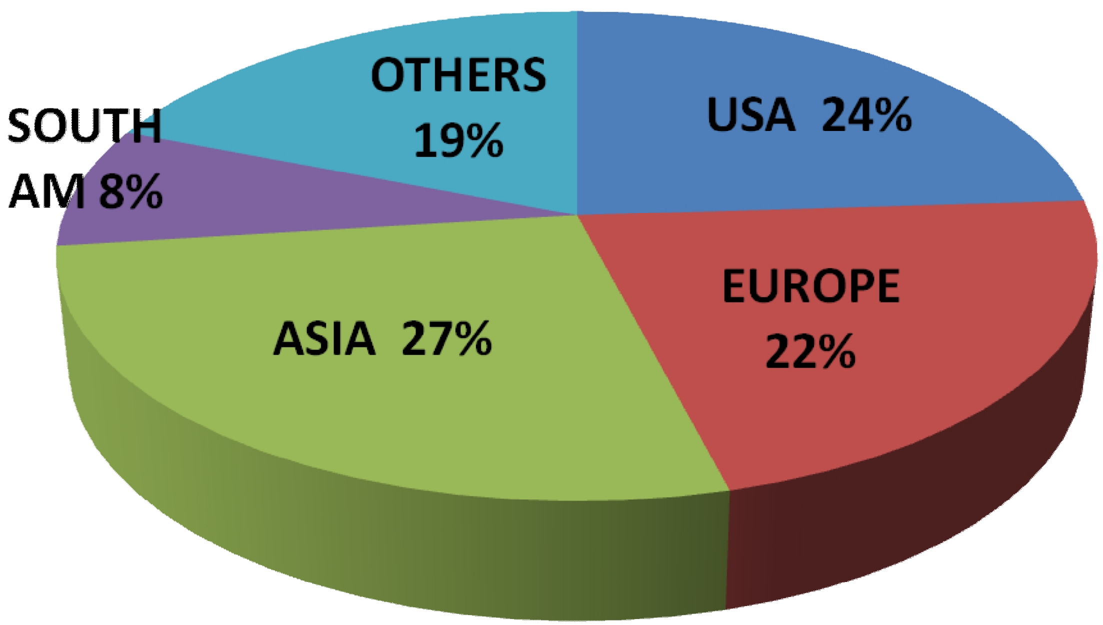
Source: ABIFA

Brazil → 55% of total exports going to EUA – US$ - %
Iron + Steel + Non Ferrous



Source: ABIFA,

Brazil ← 27% of total imports come from ASIA – US$ - %
Iron + Steel + Non Ferrous



Source: ABIFA,

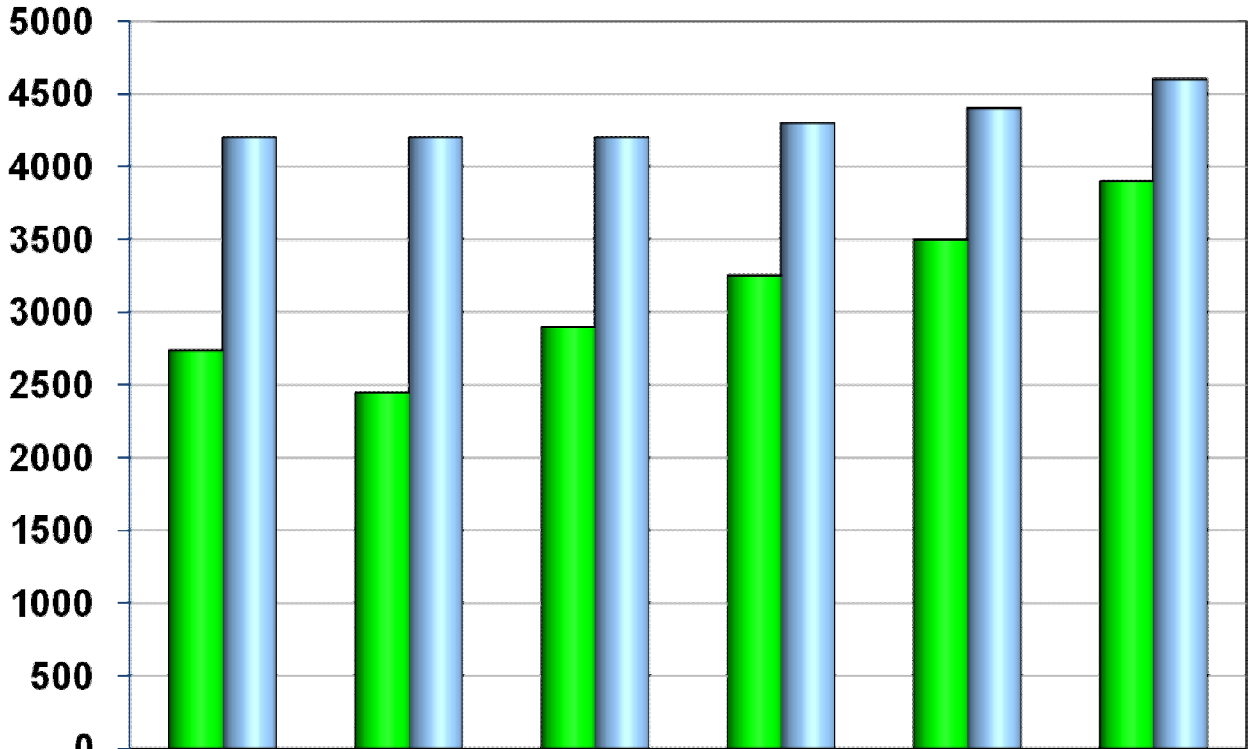
MAIN TOPICS

1) *Brazil in figures*
2) *Infrastructure and Raw Material*
3) *Current Situation*
4) *Cast Metal in Brazil*
5) *Trends – Brazil and Foundry Industry*

Necessary Investments in Foundry Industry in Brazil in the next years (2015 – 2019)

From 2015 until 2019 the Foundry Sector is expected to invest 880 million dollars to increase the production of 400 thousand tons needed to meet the growth of sectors such as Automotive, Railway, Mining, Wind Generation and other.

Production and installed capacity needed to meet the expected demand in Brazil (unit: thousand ton)



	2014	2015	2016	2017	2018	2019
production	2737	2450	2900	3250	3500	3900
install cap	4200	4200	4200	4300	4400	4600

THANK YOU !

Brazilian Foundry Association – ABIFA
Av. Paulista, 1274 – 20º andar
01310-925 – São Paulo – SP - Brazil
Ph: (+55 11) 3549-3344 and Fac (+55 11) 3549-3355
Remo De Simone – president
presidencia@abifa.org.br
www.abifa.org.br

Sept/2015

Source:

ABAL - Brazilian Aluminum Association
ABIFA – Brazilian Foundry Association
ABRAFE – Brazilian Ferroalloys Association
ANEEL – National Agency of Electricity (Brazil)
ANFAVEA – National Automobile Manufactures Association (Brazil)
BACEN – Central Bank of Brazil
CIFRA – Argentina´s Chamber of Metalcaster
FIRJAN – Federation of Rio de Janeiro Industries
IBGE – Brazilian Institute of Geography and Statistics
SINDIFER – Producers of Pig Iron Trade Union (Brazil)
SMF – Mexican Society of Metalcasters