



# Foundry Industry of BRAZIL

## Status and Trends

**Devanir Brichesi – president**

**Brazilian Foundry Association – ABIFA**

**Prague, Czech Republic - September, 2012**

# Brazil in Figures

Brazil is a South American country  
of 8.5 million km<sup>2</sup>

190 million inhabitants

GDP 2.052 US\$ trillions (2011)

Industry : 22 % GDP

It has the largest economy in Latin America  
and the 8<sup>th</sup> biggest economy in the world.

Brazil is the 2<sup>nd</sup> largest producer of iron ore

Vehicle fleet : 32.1 million in 2010

Total Exports in 2011 : 256 billion US\$

Total Imports in 2011 : 226 billion US\$

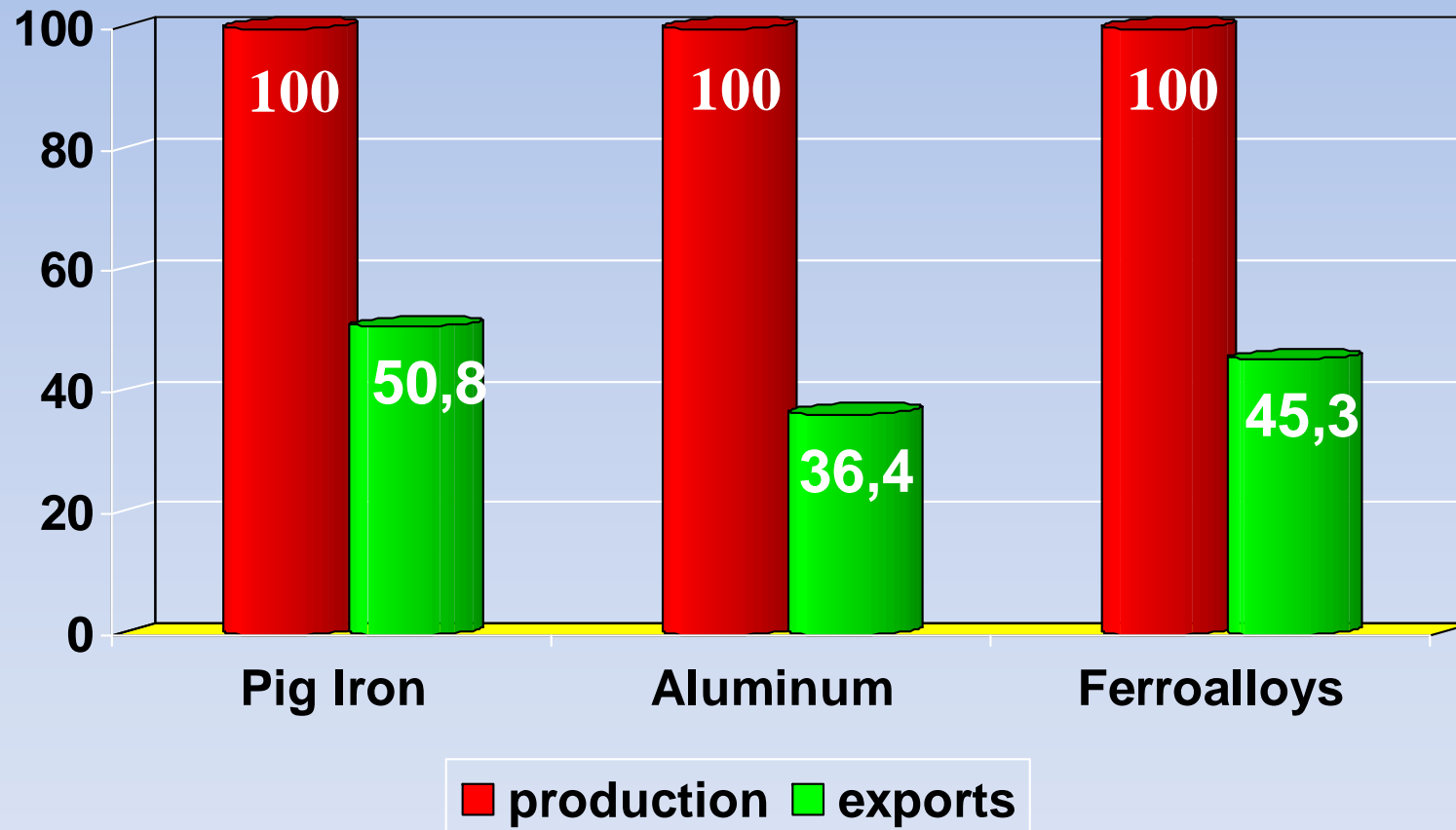


Foundry in Brazil  
GDP in the world – 2011  
(US\$ trillion)

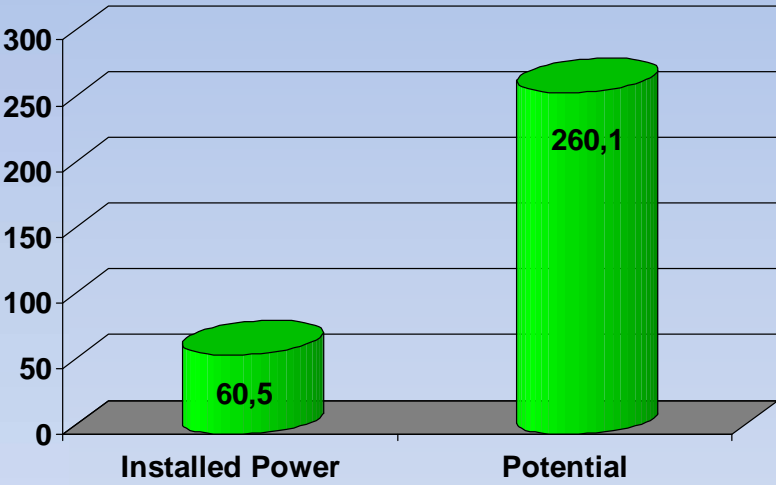
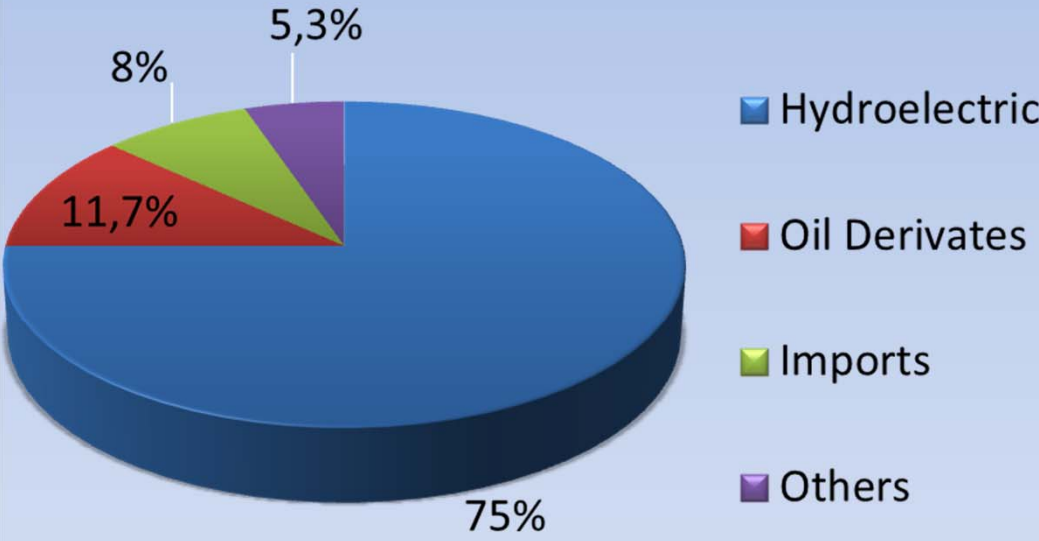
<b>1. USA</b>	<b>14.996</b>	<b>8. Italy</b>	<b>1.888</b>
<b>2. China</b>	<b>6.460</b>	<b>9. India</b>	<b>1.832</b>
<b>3. Japan</b>	<b>5.621</b>	<b>10. Russia</b>	<b>1.737</b>
<b>4. Germany</b>	<b>3.127</b>	<b>11. Canada</b>	<b>1.616</b>
<b>5. France</b>	<b>2.490</b>	<b>12. Spain</b>	<b>1.337</b>
<b>6. UK</b>	<b>2.203</b>	<b>13. Australia</b>	<b>1.190</b>
<b>7. Brazil</b>	<b>2.052</b>	<b>14. Mexico</b>	<b>1.119</b>

# Foundry in Brazil

## raw material (%)



# Foundry in Brazil Electric Energy (TW)



# Foundry in Brazil

## Labor Force Training

- Professionalizing Program
- Metallurgical Engineering Degree
- Master in Metallurgical Engineering
- Foundry Engineering

**Intensive use**

# Foundry in Brazil

## Total Casting x GDP

**data from 2001 to 2012**

Year	Production		GDP
		%	%
2001	1,761.1	-	1.3
2002	1,970.6	11.9	2.6
2003	2,249.4	14.1	1.1
2004	2,829.9	25.8	5.7
2005	2,968.6	4.9	3.2
2006	3,087.0	4.0	4.0
2007	3,249.6	5.3	6.1
2008	3,355.2	3.3	5.2
2009	2,296.9	(31.5)	(0.6)
2010	3,240.9	41.1	7.5
2011	3,343.6	3.2	2.7
<b>2012*</b>	<b>3,315.0</b>	<b>(0.9)</b>	<b>2.0</b>

**Total**

**88.4**

**48.9**

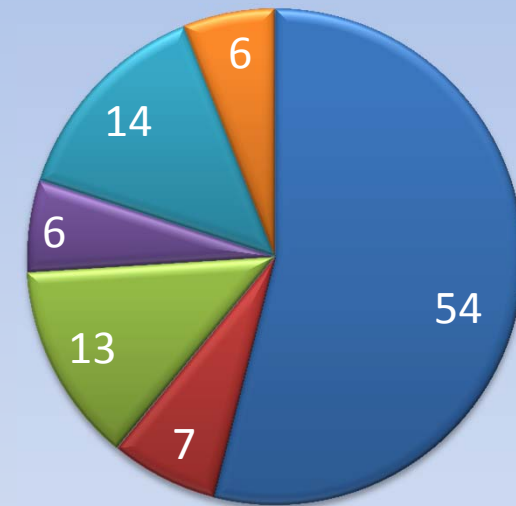
**\* estimated**

**Foundry sector has grown twice the GDP average**

## Foundry in Brazil Iron - Characteristics

	2011	* 2012	* 2013
Direct jobs(th)	48.14	48	50.8
Revenue (US\$ billion)	7.07	5.9	6.1
US\$/employee/y (thousand)	146.9	122.9	120.1
Production t/y	2.8M	2.7M	3.0M
Ton/employee/y	58.1	56.7	59
Inst. Cap. t/y	3.9M	4.2M	4.6M
Companies	521 95% Small/Medium		

**Distribution of the Production**



- AUTOMOTIVE
- EXPORTS
- CAP GOODS
- INFRASTRUCT
- OTHERS
- SIDERURGY

\*estimated

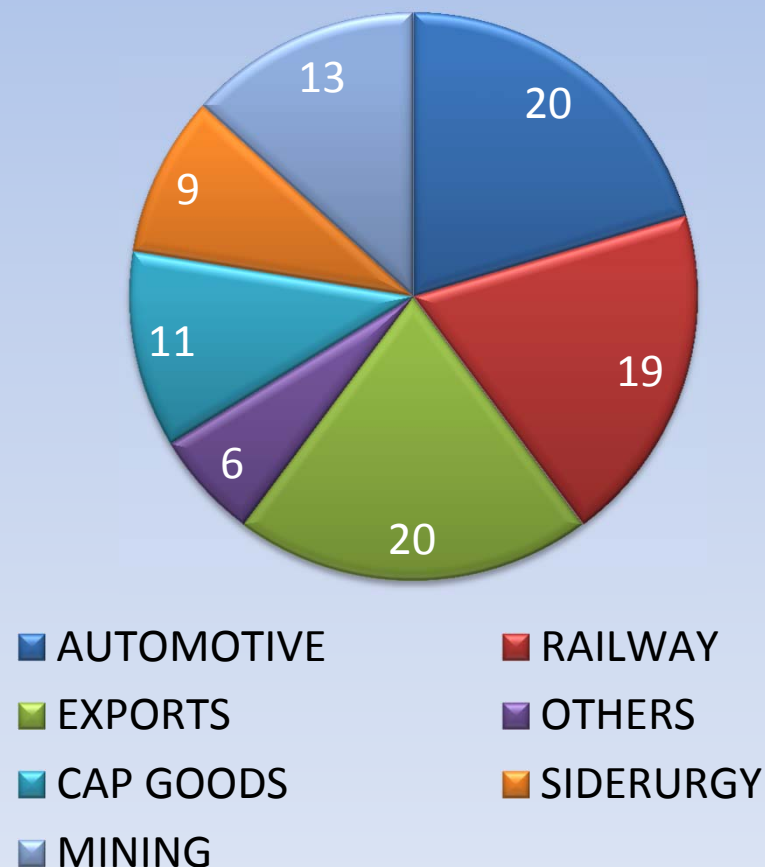
7<sup>th</sup> world production



## Foundry in Brazil Steel - Characteristics

	2011	* 2012	* 2013
Direct jobs(th)	4.28	4.8	5.0
Revenue (US\$ billion)	1.96	1.93	1.94
US\$/employee/y (thousand)	457.9	402.1	388
Prod (th) t/y	270	309	330
Ton/employee/y	63.1	64.4	66.1
Install. Cap. (th) t/y	420	420	440
Companies	192 95% Small/Medium		

**Distribution of the Production**



\*estimated

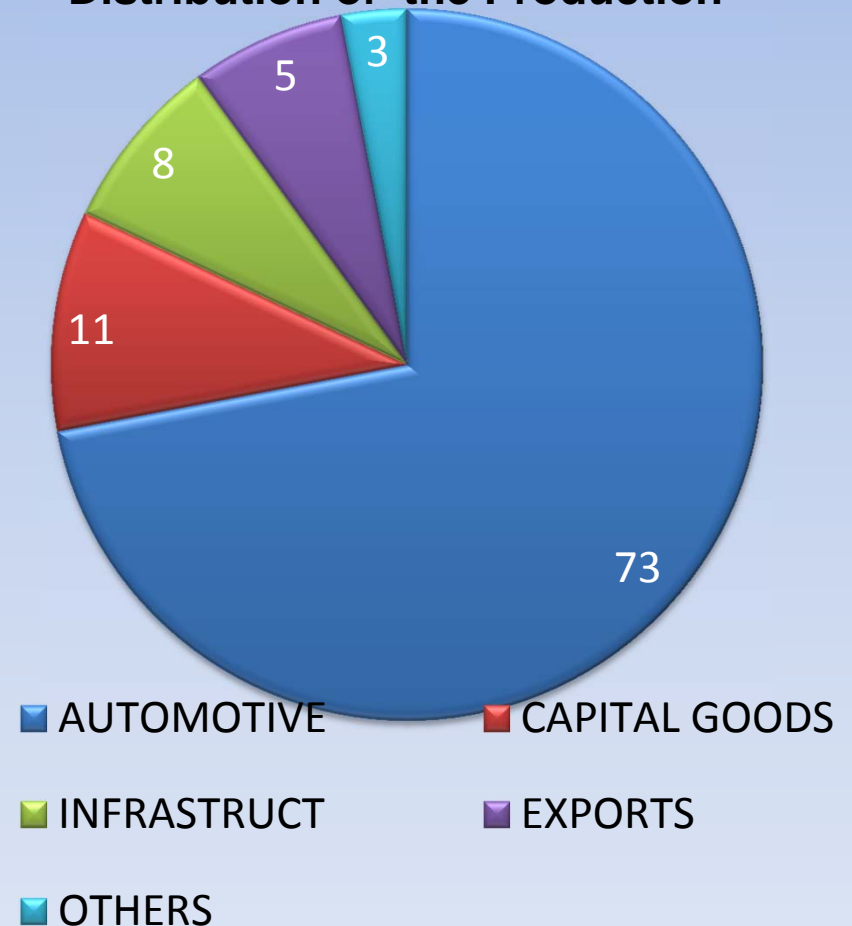
**6<sup>th</sup> world production**

## Foundry in Brazil Aluminum - Characteristics

	2011	* 2012	* 2013
Direct jobs(th)	4.5	5.0	5.3
Revenue (US\$ billion)	3.99	3.6	3.6
US\$/employee/y (thousand)	887	720	679
Prod (th) t/y	252	260	280
Ton/employee/y	56	50	53
Install. Cap. (th) t/y	370	380	410
Companies	354 95% Small/Medium		

\*estimated

**Distribution of the Production**

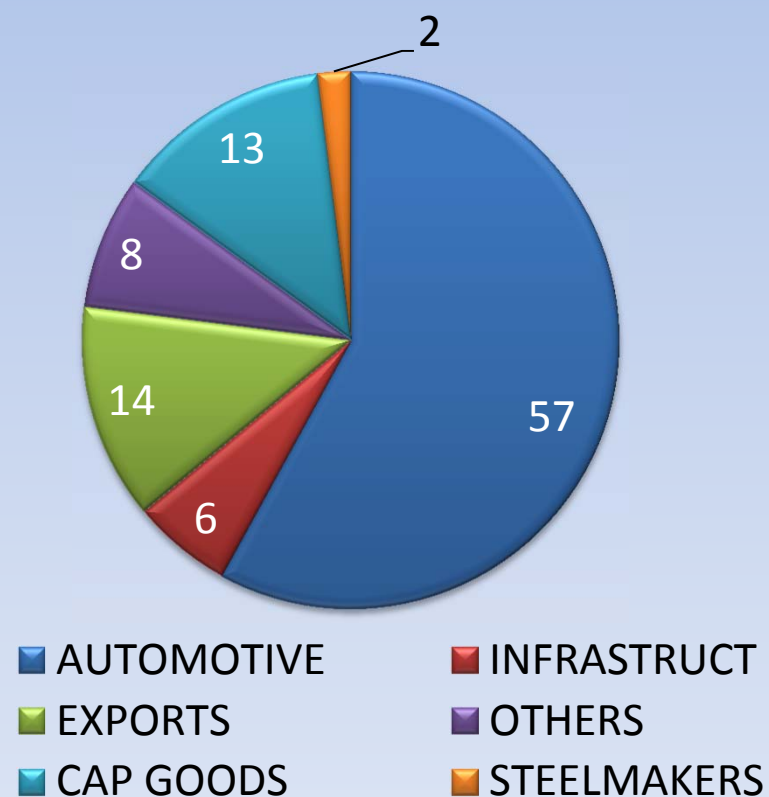


**10<sup>th</sup>. world production**

## Foundry in Brazil General Characteristics

	2011	* 2012	* 2013
Direct jobs(th)	68.8	70	73.5
Revenue (US\$ billion)	13.33	11.8	12.1
US\$/employee/y (thousand)	193.8	168.6	164.6
Production t/y	3.3M	3.3M	3.6M
Ton/employee/y	48.0	47.1	49.0
Install. Cap./y	5.0M	5.0M	5.4M
Companies	1277 95% Small/Medium		

### Distribution of the Production



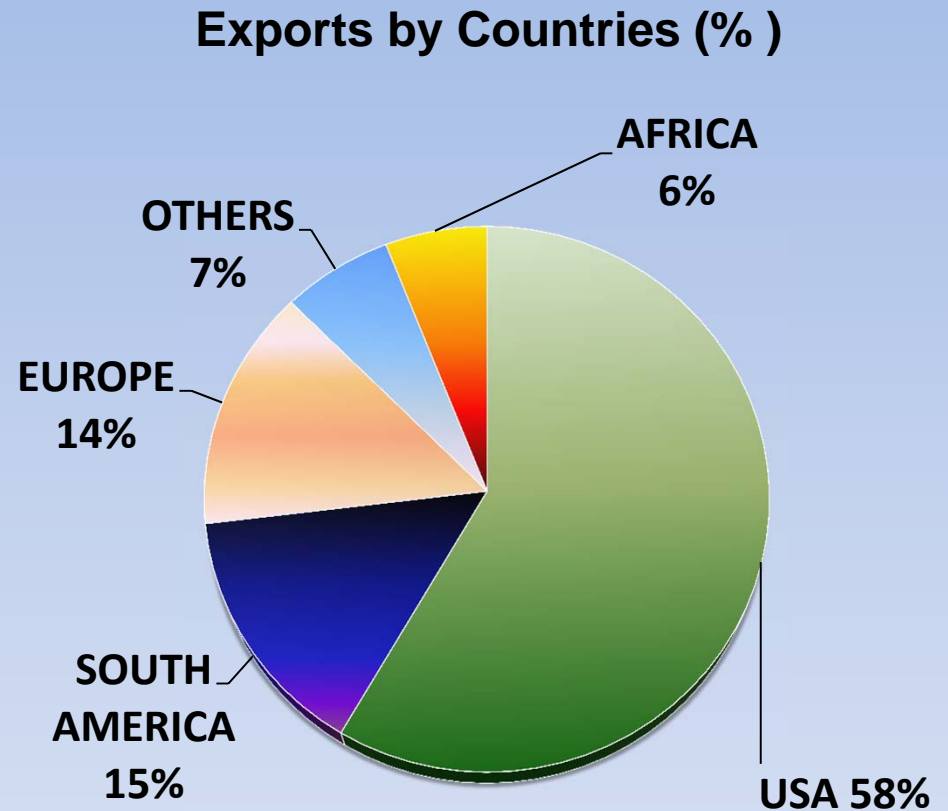
\*estimated

**7<sup>th</sup> world production 2010**

# Foundry in Brazil

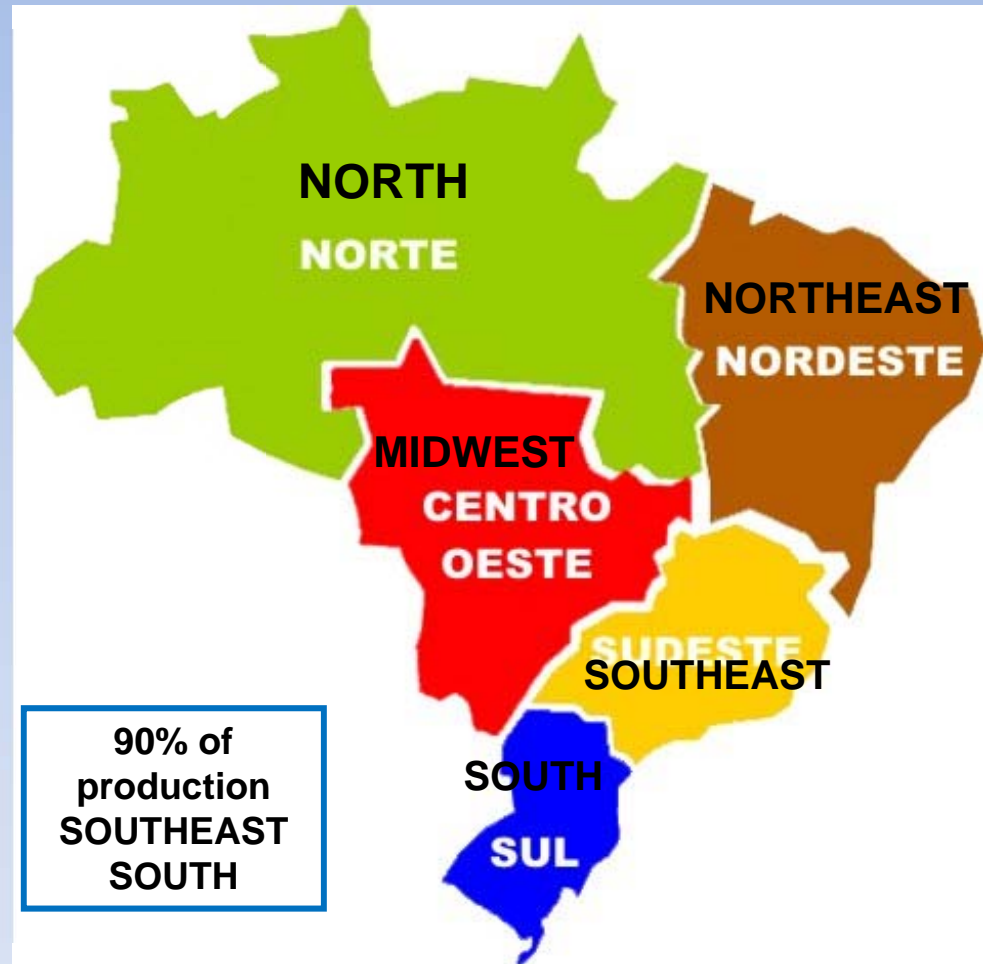
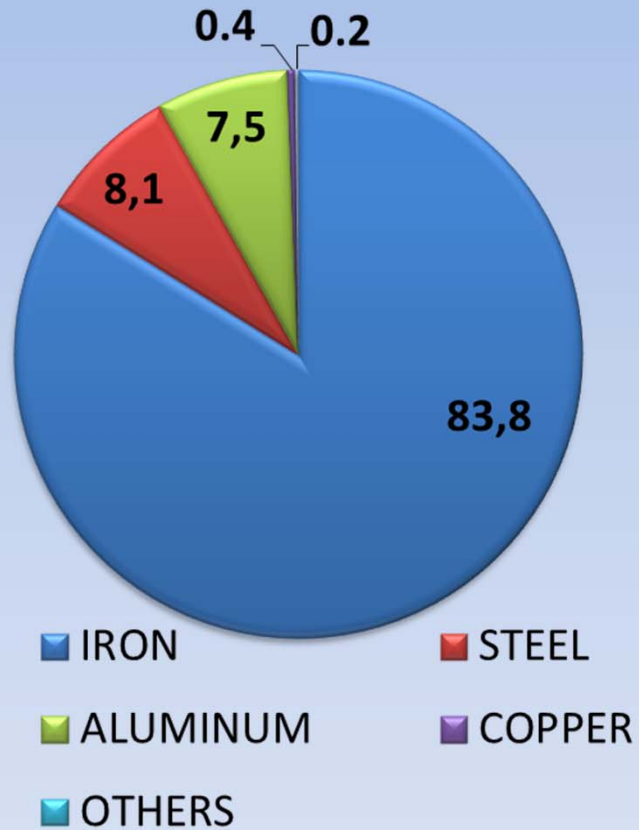
## Exports (2011 – th ton)

<b>Metal</b>	<b>exports</b>	<b>exp/prod (%)</b>
▶ Iron	428.2	15.3
▶ Steel	41.6	15.4
▶ <i>Aluminum</i>	14.0	5.6
▶ <b>Total</b>	<b>483.8</b>	<b>14.5</b>



# Foundry in Brazil

## Composition of the Production (ton) %



# Foundry in Brazil

## world production(\*)

	2010(*)
• 1 ° CHINA	39.600.000
• 2 ° INDIA	9.050.000
• 3 ° USA	8.232.233
• 4 ° GERMANY	4.794.179
• 5 ° JAPAN	4.757.999
• 6 ° RUSSIA	4.200.000
• <u>7 ° BRAZIL</u>	<u>3.240.978</u>
• 8 ° KOREA	2.233.600
• 9 ° ITALY	1.970.662
• 10 ° FRANCE	1.956.966
• 11 ° MEXICO	1.651.679
• 12 ° TAIWAM	1.300.769

(\*) Source: Modern Casting/Dec 2011

# Foundry in Brazil

## Economy Growing

- **Large oil deposit in the pre-salt**
- **International events in Brazil:**
  - **World Cup Soccer 2014**
  - **Olympic Games 2016**
- **Capital Goods Industry – opportunity**
- **Sectors : Railway/Naval Industry – Recovery**
- **Automotive Industry – 26 companies**
  - **Investments of 17 billion U\$ (over the next 3 years)**

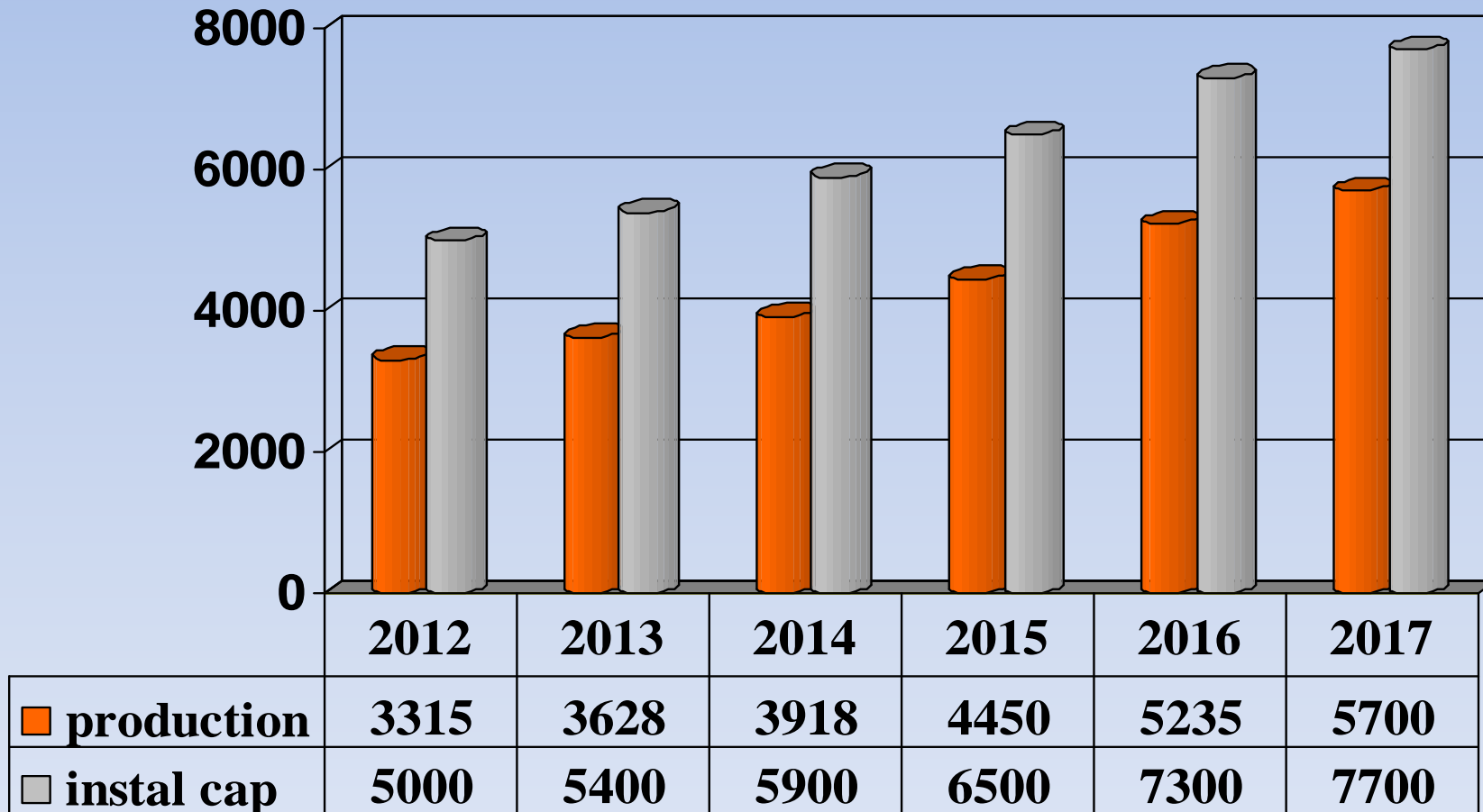
## Foundry in Brazil Investments (2012 – 2017)

- **Cast Iron : 2.9 billion US\$ - > Install Cap + 2.3 M ton**
- **Steel Cast : 200 million US\$ - > Install Cap + 110 Th ton**
- **Aluminum : 800 million US\$ - > Install Cap + 260 Th ton**
- **Others NFe: 100 million US\$ - > Install Cap + 30 Th ton**
- **Total : 4.0 billion US\$ - > Install Cap + 2.7 Million ton**



# Foundry in Brazil

production x installed capacity (thousand ton)



# Invitation

**16<sup>th</sup> Foundry Congress**  
**15<sup>th</sup> Latin America Foundry Fair**

**October 15<sup>th</sup> - 18<sup>th</sup> , 2013**  
**São Paulo, Brazil**



**16th Foundry Congress**  
**15th Latin America Foundry Show**



**Thank you !**

**Devanir Brichesi – President  
Brazilian Foundry Association – ABIFA  
[www.abifa.org.br](http://www.abifa.org.br)**