NATIONAL FOUNDRY
TECHNOLOGY
NETWORK

South African Foundry Industry

Presented to the

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Presentation Outline

1. Foundries: Geographic Distribution
2. Foundry Industry in South Africa
3. Challenges and Opportunities
4. Conclusion

South Africa

Province	Population (2014 est.)	%
Gauteng	12,914,800	24%
Kwa-Zulu Natal	10,694,400	20%
Eastern Cape	6,786,900	13%
Limpopo	5,630,600	10%
Western Cape	6,116,300	11%
Mpumalanga	4,229,300	8%
North West	3,676,300	7%
Free State	2,786,800	5%
Northern Cape	1,166,700	2%
Total	**54,002,000**	**100%**

Contribution to the GDP in South Africa

Province	Contribution to GDP '2015
Gauteng	34,7%
Kwa-Zulu Natal	15,8%
Western Cape	14,0%

Geographical location of foundries in South Africa				
Province	No. of foundries '03	No. of foundries '07	No. of foundries '2015	% of total foundries '2015
Gauteng	110	108	114	**66%**
Kwa-Zulu Natal	20	26	20	12%
Western Cape	26	16	14	8%
Eastern Cape	16	10	8	5%
Free-State	10	7	5	3%
North-West	10	9	4	3%
Northern Cape	6	3	3	2%
Mpumalanga	15	15	2	1%

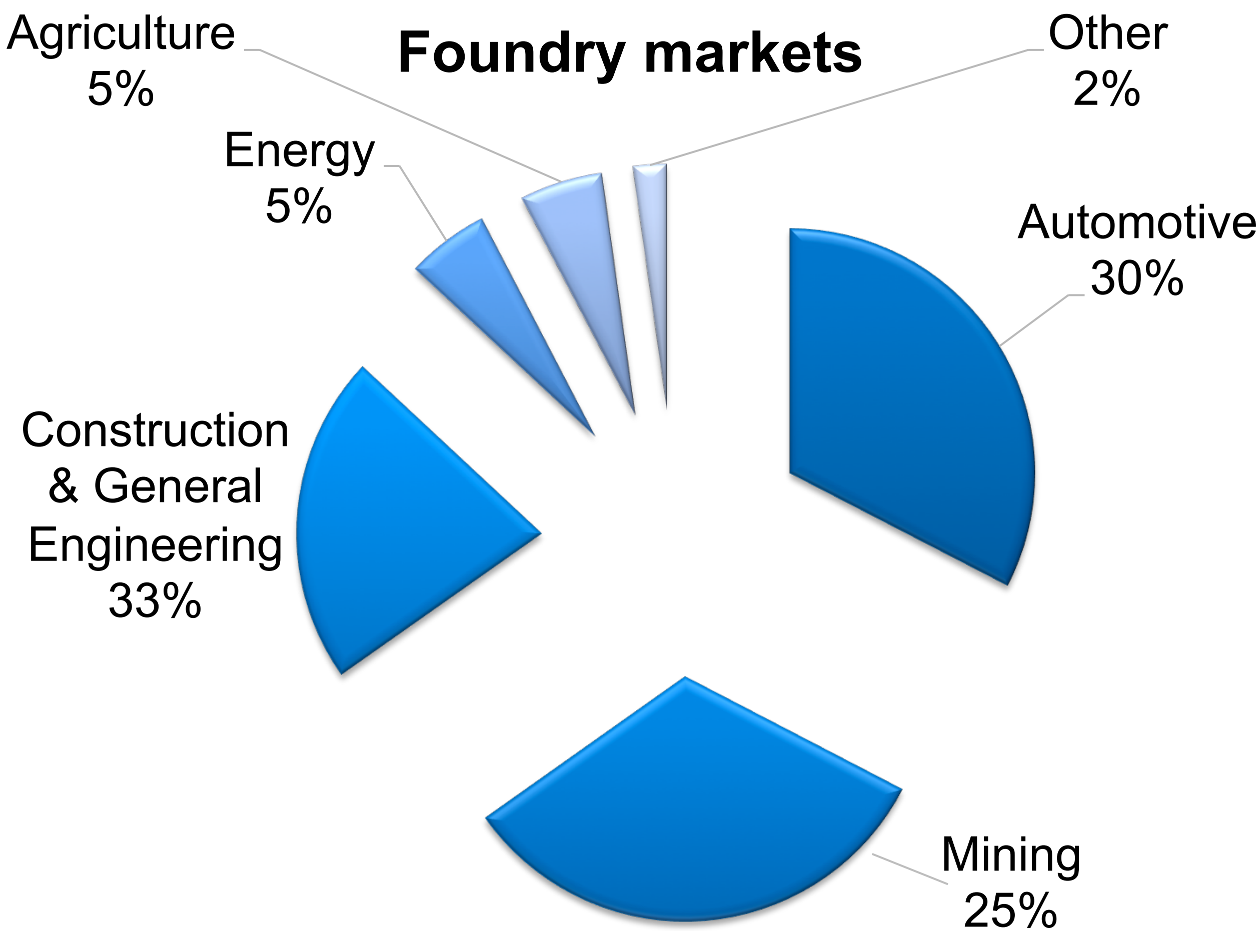
Industry Structure By Foundry Type

Foundry Type	No. of foundries in '03	No. of foundries in '07	No. of foundries in '14	2014 v/s 2007 change in %
Ferrous (Iron and Steel)	110	110	86	- 22%
Non-Ferrous (Aluminum, Brass & Zinc) Sand, Gravity, Low Pressure	117	119	57	- 52%
High Pressure Die-casters	36	32	27	- 16%
Investment Casting	7	4	4	0%
Total number of Foundries	270	265	170	- 36%

Estimated Annual Production by Metal Type

Metal Type	Est. annual production '03 (tons)	Est. annual production '07 (tons)	Est. annual production '12 (tons)	Est. annual production '13 (tons)
Aluminum	66,000	77,800	21,000	22,000
Brass	9,000	8,200	**Copper Based** 14,300	9,100
Bronze	6,000	7,600		
Zinc	3,000	4,200	1,400	900
Grey Iron	110,000	147,000	161,000	155,000
Ductile Iron	100,000	86,000	59,000	47,000
Other cast iron (White Iron)	85,000	145,600	54,000	28,500
Steel	123,000	179,100	118,000	106,000
Stainless steel	4,000	4,900	5,800	6,500
Total annual production	506,000	660,400	416,500	375,240

Markets served by the SA foundry industry



Main Casting Processes used in Foundries

Process Type	No. of foundries using the process (%)
Sand	100%
Bonded sand	66%
Green sand	28%
Shell	6%
Permanent Mould	100%
Gravity	61%
Low Pressure	4%
High Pressure Die-casting	32%
Other	3%

Gauteng

Foundry Type	No. of foundries	No. of foundries (%)
Production	23	24%
Jobbing	63	52%
Prod. & Jobbing	24	25%

Employment in the Foundry Sector

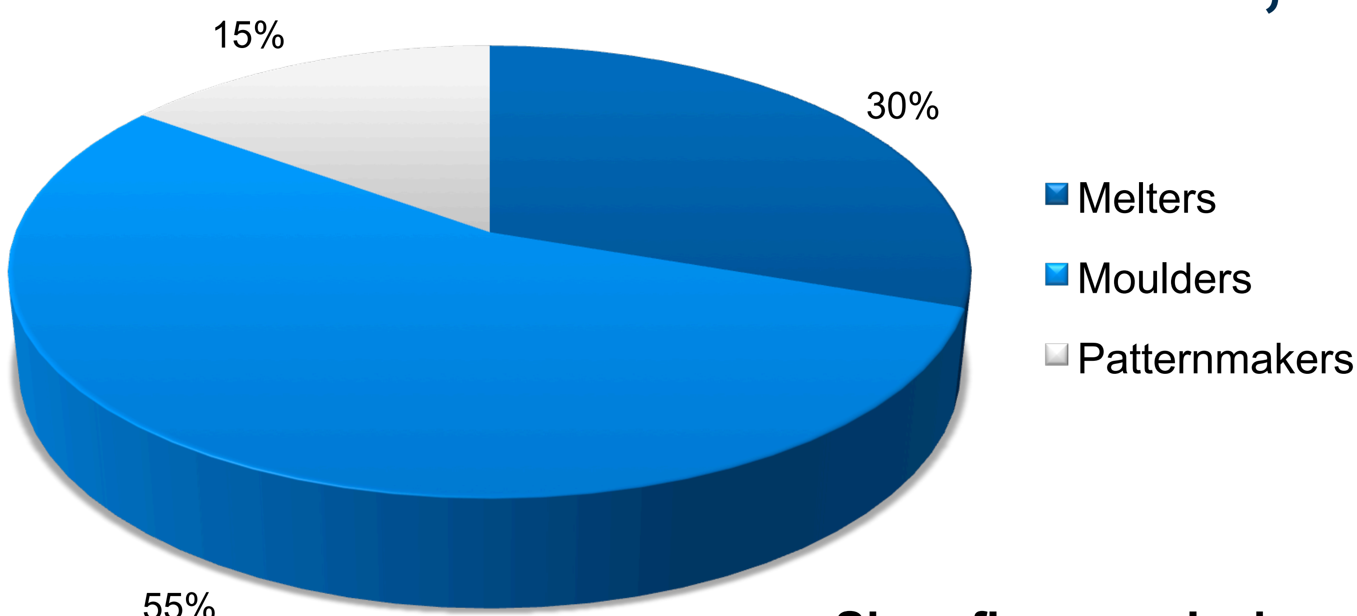
- Estimated no. of direct employees in 2014 – **9,100**

  - 80% of employees are previously disadvantaged individuals

- Estimated number of indirect employees **4,000** (Adding Value to Products)

  80 – 100 supplier companies

Total of 13,100



Shop-floor analysis

Challenges facing the SA Foundry Industry

- **Import Leakages = Reduction of Orders**
- **Rapidly Rising Energy Costs**
- **Low Labour Productivity**
- **Lack of Skills Development and Training**
- **Compliance with Environmental Regulations**
- **High Transport and Logistics Costs**
- **Limited Access to Capital**
- **Recent Technological Developments Require Special Skills**
- **Foundry Environment = 3-D**

Opportunities for the SA foundry industry

- **Availability of raw materials**
- **Relatively competitive input costs** such as rental, energy, labour (although these have been increasing);
- **Pockets of excellence** in terms of manufacturing **quality**;
- **A high level of flexibility and engineering versatility**, i.e. small production runs, mixed process and mixed metal production;
- **Spare production capacity** – the foundry industry on average operates at utilization rates of 70% or less, based on a single shift scenario.
- **Localization and designation** – The industry is well positioned to grow as a result of these programs .
- **Capital Investment assistance from government –** MCEP
- **Consider a New Value Proposition**

VALUE PROPSITION FOR FOUNDRIES

- Competitive (Not Lowest) Price
- Consistently Good Quality
- Reliable OTIF Deliveries
- Trust Based Relationships with customers
- Understanding Customers Needs
- Design Capabilities (Tooling Manufacture)
- Value Adding Operations – Machining, Painting Etc.
- Flexible Order Volumes
- Favourable Payment Terms
- Continuous Improvement Programmes
- Cost Effective Inventory Management
- Measurement of all Criteria with Customers

Conclusion

- The goal of the SAIF is to leverage both increased demand and new technology to grow the industry, improve competitiveness and build human capacity.

- Thanks to NFTN, which assisted in compiling the statistics.


In diversity we unite
Thank you