The World’s Forging Pie and how big is our slice?

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Forging Industry Association
North American Sales
Congratulations on a record year in 2013!

$ Billions

- Rolled Ring
- Open Die
- Impression

2007 2008 2009 2010 2011 2012 2013

$6.15  $6.08  $4.83  $5.29  $6.37  $6.82  $7.31

$1.79  $2.03  $1.30  $1.69  $2.19  $2.18  $1.84

$1.45  $1.79  $1.57  $1.69  $1.43  $1.60  $1.60
North American Shipments

1000s Metric tons

2007: 2,558
2008: 2,658
2009: 1,474
2010: 1,813
2011: 1,957
2012: 2,084
2013: 2,112
World Forging Pie
as compiled by EuroForge

- Impression Die (2007 – 2013)
- Rolled Ring (2009 – 2013)
2007 World Pie
Impression Die

- Europe: 33%
- Japan: 19%
- North America: 15%
- China: 13%
- India: 7%
- Australia: 6%
- Brazil: 2%
- Korea: 2%
- Taiwan: 3%
- Russia: 2%
- Japan: 0%
2008 World Pie
Impression Die

- Europe: 32%
- Japan: 21%
- North America: 14%
- China: 11%
- India: 7%
- Australia: 5%
- Brazil: 4%
- Korea: 2%
- Taiwan: 2%
- Russia: 2%
2009 World Pie
Impression Die

Europe: 36%
Japan: 8%
North America: 8%
China: 7%
India: 2%
Australia: 5%
Brazil: 2%
Korea: 2%
Taiwan: 3%
Russia: 2%

2010 World Pie
Impression Die

- Europe: 21%
- Japan: 9%
- North America: 7%
- China: 36%
- India: 2%
- Australia: 2%
- Brazil: 4%
- Korea: 5%
- Taiwan: 3%
- Russia: 2%
2011 World Pie
Impression Die

Europe: 23%
Japan: 9%
North America: 6%
China: 34%
India: 12%
Australia: 2%
Brazil: 2%
Korea: 4%
Taiwan: 2%
Russia: 2%
Open Die
2008 World Pie
Open Die

- Europe: 32%
- Japan: 2%
- North America: 12%
- China: 23%
- India: 8%
- Australia: 5%
- Brazil: 2%
- Korea: 2%
- Taiwan: 2%
- Russia: 4%
2009 World Pie
Open Die

- Europe: 18%
- Japan: 5%
- North America: 7%
- China: 7%
- India: 8%
- Australia: 5%
- Brazil: 5%
- Korea: 1%
- Taiwan: 0%
- Russia: 0%
- Europe: 1%
- Japan: 0%
- North America: 0%
- China: 0%
- India: 0%
- Australia: 0%
- Brazil: 0%
- Korea: 0%
- Taiwan: 0%
- Russia: 0%
2010 World Pie
Open Die

- Europe: 16%
- Japan: 6%
- North America: 9%
- China: 59%
- India: 5%
- Australia: 0%
- Brazil: 1%
- Korea: 0%
- Taiwan: 0%
- Russia: 0%
2011 World Pie
Open Die

- Europe: 14%
- Japan: 2%
- North America: 9%
- China: 6%
- India: 6%
- Australia: 0%
- Brazil: 1%
- Korea: 0%
- Taiwan: 0%
- Russia: 0%
2012 World Pie
Open Die

- Europe: 60%
- Japan: 2%
- North America: 14%
- China: 7%
- India: 5%
- Australia: 2%
- Brazil: 1%
- Korea: 1%
- Taiwan: 1%
- Russia: 0%
2013 World Pie
Open Die

- Europe: 14%
- Japan: 2%
- North America: 3%
- China: 9%
- India: 66%
- Australia: 0%
- Brazil: 1%
- Korea: 2%
- Taiwan: 0%
- Russia: 0%
Rolled Ring
2009 World Pie
Rolled Ring

- Europe: 28%
- Japan: 15%
- North America: 11%
- China: 45%
- India: 0%
- Australia: 0%
- Brazil: 0%
- Korea: 0%
- Taiwan: 0%
- Russia: 0%
2010 World Pie
Rolled Ring

- Europe: 23%
- Japan: 48%
- North America: 10%
- China: 17%
- India: 1%
- Australia: 0%
- Brazil: 0%
- Korea: 0%
- Taiwan: 1%
- Russia: 0%
2012 World Pie
Rolled Ring

- Europe: 47%
- China: 23%
- North America: 12%
- India: 16%
- Japan: 1%
- Brazil: 1%
- Korea: 0%
- Australia: 0%
- Taiwan: 0%
- Russia: 0%
Total
World Shipments

1000s Metric tons

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>19,114</td>
<td>20,381</td>
<td>19,920</td>
<td>24,943</td>
<td>27,351</td>
<td>25,296</td>
<td>24,663</td>
</tr>
</tbody>
</table>
2007 World Forging Pie

19,114,000 metric tons

- Europe: 34%
- Japan: 14%
- North America: 13%
- China: 21%
- India: 6%
- Korea: 2%
- Australia: 3%
- Brazil: 5%
- Taiwan: 2%
- Russia: 0%
2008 World Forging Pie

20,381,000 metric tons

- Europe: 31%
- Japan: 26%
- North America: 13%
- China: 10%
- India: 5%
- Australia: 4%
- Brazil: 4%
- Korea: 2%
- Taiwan: 4%
- Russia: 1%
2009 World Forging Pie

19,920,000 metric tons

- Europe: 20%
- Japan: 9%
- North America: 8%
- China: 7%
- India: 6%
- Australia: 6%
- Brazil: 5%
- Korea: 4%
- Taiwan: 4%
- Russia: 2%
2010 World Forging Pie

24,943,000 metric tons

- Europe: 21%
- Japan: 9%
- North America: 7%
- China: 4%
- India: 3%
- Australia: 2%
- Brazil: 2%
- Korea: 2%
- Taiwan: 3%
- Russia: 40%
2011 World Forging Pie

27,351,000 metric tons

- Europe: 21%
- Japan: 5%
- North America: 5%
- China: 10%
- India: 3%
- Australia: 8%
- Brazil: 1%
- Korea: 7%
- Taiwan: 3%
- Russia: 1%
- Other: 3%
2012 World Forging Pie

25,296,000 metric tons

Europe: 36%
Japan: 22%
North America: 9%
China: 8%
India: 3%
Australia: 2%
Brazil: 1%
Korea: 11%
Taiwan: 5%
Russia: 3%
2013 World Forging Pie

24,663,000 metric tons

- Europe: 21%
- Japan: 9%
- North America: 8%
- China: 8%
- India: 3%
- Australia: 3%
- Brazil: 1%
- Korea: 2%
- Taiwan: 3%
- Russia: 41%
Conclusions

North America Forging tonnage, even after the recovery from the “crisis”, is still down 21% from the 2008 high water mark of 2,658,000 to 2,112,000 metric tons in 2013

- From 2007 to 2013
  - The Total World Forging Pie has increased almost 30% from 19,114,000 to 24,663,000 metric tons
  - “Slices” that increased
    - China from 21% to 41%
    - Asia from 48% to 65%
  - “Slices” that decreased
    - North America from 13% to 8%
    - Japan from 14% to 8%
    - Europe from 34% to 21%