

## WSD's World-Class Steelmaker Rankings as of March 2016 (1) (page 1 of 3)

(Alphabetically)

1 = least favorable 10 = most favorable

	AK Steel	Arcelor Mittal	Anshan	Bao-Steel	China Steel	CSN	Erdemir	Essar	Evraz	EZZ Steel	Finarvedi	Gerdau	Hadeed
	USA	Multi	China	China	Taiwan	Brazil	Turkey	India N. Amer.	Russia N. Amer.	Egypt	Italy	Brazil N. Amer.	Saudi Arabia
<b>Annual Steel Shipments (MMT)</b>	6	85	30	43	13	6	8	6	16	5	4	20	6
<b>Factor</b>	<b>Weight</b>												
1 Size	6%	4	10	8	9	6	5	5	6	4	2	7	5
2 Expanding capacity	5%	6	6	8	10	7	7	7	4	6	5	6	10
3 Location in high-growth markets	3%	5	5	8	8	5	8	9	9	7	8	4	10
4 Location close to customers	3%	8	9	8	9	10	9	8	8	6	9	8	9
5 Pricing power in home market	6%	7	7	2	5	10	9	8	7	7	8	6	9
6 Value-added product mix	5%	10	8	6	8	7	8	7	7	6	4	7	6
7 Conversion costs; yields	5%	8	7	7	8	9	6	7	8	6	6	10	6
8 Energy costs	3%	8	6	5	5	5	6	6	4	6	5	4	10
9 Cost-cutting efforts	5%	10	7	6	6	6	6	8	7	7	7	6	7
10 Harnessing tech revolution	6%	6	7	6	6	6	6	6	7	6	5	10	7
11 Iron ore mines	5%	6	7	9	5	4	9	7	7	10	na	na	2
12 Coking coal mines	4%	5	5	3	6	3	3	3	3	10	na	na	na
13 Location to procure raw materials	4%	5	6	7	7	7	7	8	7	7	7	4	6
14 Labor costs	2%	5	6	9	9	6	7	8	8	9	9	7	6
15 Skilled and productive workers	2%	9	8	6	8	9	8	7	7	7	7	10	6
16 Liabilities for retired workers	2%	5	5	6	8	7	8	9	8	8	8	4	9
17 Profitability (EBITDA)	6%	1	5	3	4	7	8	7	1	6	6	6	8
18 Balance sheet	5%	2	4	4	6	8	6	8	1	4	4	6	9
19 Threat from nearby competitors	5%	6	5	5	5	8	8	8	6	6	7	8	8
20 Environment and safety	4%	9	9	9	9	9	9	9	9	9	9	9	9
21 Downstream businesses	6%	4	7	4	4	4	5	7	6	7	4	8	3
22 M&A, Alliances and JVs	6%	8	10	6	8	7	8	6	1	8	4	8	5
23 Country risk factor	2%	10	8	7	7	9	7	5	8	6	4	10	8
<b>Average Score</b>	<b>6.53</b>	<b>6.83</b>	<b>6.17</b>	<b>6.99</b>	<b>6.98</b>	<b>7.09</b>	<b>7.09</b>	<b>6.00</b>	<b>6.96</b>	<b>6.19</b>	<b>6.81</b>	<b>7.38</b>	<b>7.18</b>
<b>Ranking</b>	<b>29</b>	<b>23</b>	<b>33</b>	<b>18</b>	<b>19</b>	<b>13</b>	<b>13</b>	<b>36</b>	<b>20</b>	<b>32</b>	<b>24</b>	<b>4</b>	<b>9</b>
<b>Weighted-Average Score</b>	<b>6.31</b>	<b>6.90</b>	<b>5.94</b>	<b>6.79</b>	<b>6.90</b>	<b>7.01</b>	<b>7.01</b>	<b>5.63</b>	<b>6.86</b>	<b>5.90</b>	<b>6.78</b>	<b>7.34</b>	<b>6.95</b>
<b>Ranking</b>	<b>29</b>	<b>19</b>	<b>33</b>	<b>22</b>	<b>20</b>	<b>11</b>	<b>10</b>	<b>36</b>	<b>21</b>	<b>34</b>	<b>23</b>	<b>4</b>	<b>16</b>

<sup>(1)</sup> Each company included in this list, in WSD's opinion, is positioned to be a "winning performer" in the years ahead. The purpose of the World-Class Steelmaker rankings is to better understand the companies' attributes rather than to imply that one company is better or more worthy than another. The rankings reward pro-active management, size, and integration from raw materials to downstream businesses. The ranking system is subjective and duplicative.

World-Class non-Chinese companies represent about 42% of non-Chinese steel product deliveries. World-Class Chinese companies represent about 23% of Chinese deliveries.

na = Not applicable. Excluded from the ranking calculations.

Source: World Steel Dynamics

## WSD's World-Class Steelmaker Rankings as of March 2016 (1) (page 2 of 3)

(Alphabetically)

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	Hyundai	JFE	Jindal (JSPL)	JSW Steel	Maan-shan	MMK	Mobarakeh	Nippon Sumitomo	NLMK	Nucor	POSCO	SAIL	SDI	Severstal	
	South Korea	Japan	India	India	China	Russia	Iran	Japan Multi	Russia USA	USA	S. Korea Multi	India	USA	Russia USA	
	24	30	3	13	17	13	7	48	15	20	40	14	5	15	
Factor	<b>Weight</b>														
Size	6%	7	8	2	6	6	6	5	9	6	7	9	6	4	6
Expanding capacity	5%	8	4	10	10	10	7	10	6	7	8	9	10	8	5
Location in high-growth markets	3%	6	4	10	10	8	7	10	4	8	6	6	10	6	8
Location close to customers	3%	8	10	9	7	9	5	10	10	6	7	8	7	7	6
Pricing power in home market	6%	7	9	8	7	2	9	9	9	9	5	8	7	6	9
Value-added product mix	5%	7	10	6	7	6	5	4	10	6	7	9	6	6	6
Conversion costs; yields	5%	9	10	7	10	7	6	4	10	8	10	9	5	10	7
Energy costs	3%	5	6	7	6	5	6	10	6	6	8	6	5	7	6
Cost-cutting efforts	5%	6	6	6	9	6	7	8	7	7	7	7	7	6	8
Harnessing tech revolution	6%	8	7	9	8	6	6	7	7	6	9	10	6	8	7
Iron ore mines	5%	3	4	7	6	3	8	9	4	10	4	6	10	6	10
Coking coal mines	4%	3	3	3	3	3	7	na	3	7	na	6	4	na	10
Location to procure raw materials	4%	7	7	7	6	5	6	6	7	7	6	7	7	9	7
Labor costs	2%	7	4	9	10	9	10	6	4	10	7	7	8	8	9
Skilled and productive workers	2%	10	10	7	8	6	6	5	10	7	10	10	6	10	7
Liabilities for retired workers	2%	9	5	9	9	7	9	10	5	9	8	8	8	7	7
Profitability (EBITDA)	6%	5	5	7	7	4	6	5	5	6	6	7	6	7	7
Balance sheet	5%	6	7	5	5	5	8	6	7	9	8	7	8	5	8
Threat from nearby competitors	5%	7	7	7	6	5	7	9	7	7	6	7	6	5	7
Environment and safety	4%	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Downstream businesses	6%	10	10	6	4	4	4	2	10	4	10	8	7	7	6
M&A, Alliances and JVs	6%	8	7	7	9	6	8	9	10	7	10	10	7	8	8
Country risk factor	2%	10	10	8	8	7	6	3	10	6	10	10	8	10	6
<b>Average Score</b>	<b>7.17</b>	<b>7.04</b>	<b>7.17</b>	<b>7.39</b>	<b>5.93</b>	<b>6.87</b>	<b>7.09</b>	<b>7.35</b>	<b>7.26</b>	<b>7.64</b>	<b>7.83</b>	<b>7.07</b>	<b>7.23</b>	<b>7.30</b>	
<b>Ranking</b>	<b>10</b>	<b>16</b>	<b>10</b>	<b>3</b>	<b>37</b>	<b>22</b>	<b>12</b>	<b>5</b>	<b>7</b>	<b>2</b>	<b>1</b>	<b>15</b>	<b>8</b>	<b>6</b>	
<b>Weighted-Average Score</b>	<b>7.05</b>	<b>7.10</b>	<b>6.94</b>	<b>7.22</b>	<b>5.61</b>	<b>6.78</b>	<b>6.98</b>	<b>7.49</b>	<b>7.14</b>	<b>7.55</b>	<b>7.91</b>	<b>6.97</b>	<b>7.00</b>	<b>7.31</b>	
<b>Ranking</b>	<b>9</b>	<b>8</b>	<b>17</b>	<b>6</b>	<b>37</b>	<b>24</b>	<b>13</b>	<b>3</b>	<b>7</b>	<b>2</b>	<b>1</b>	<b>14</b>	<b>12</b>	<b>5</b>	

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## WSD's World-Class Steelmaker Rankings as of March 2016(1) (page 3 of 3)

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	Sha-gang China	SSAB IPSCO Sweden N. Amer.	Tata/ Corus India Europe	Ternium Americas	Thyssen/ Krupp Germany S. Amer.	Usiminas Brazil	U.S. Steel USA E.Eur.	Vizag India	Voest Alpine Austria	Wuhan China	Avg.	
<b>Annual Steel Shipments (MMT)</b>	32	4	23	9	15	7	21	2	8	24	18	
<b>Factor</b>	<b>Weight</b>											
Size	6%	8	4	7	5	6	5	7	2	5	7	5.96
Expanding capacity	5%	8	5	8	7	3	7	4	10	6	8	7.27
Location in high-growth markets	3%	8	4	7	8	4	8	5	10	4	6	7.04
Location close to customers	3%	10	8	7	8	9	9	8	7	10	8	8.19
Pricing power in home market	6%	2	7	7	8	7	8	6	6	7	7	6.92
Value-added product mix	5%	6	7	8	7	9	7	8	4	10	7	6.93
Conversion costs; yields	5%	9	8	8	6	8	6	7	8	9	9	7.65
Energy costs	3%	5	7	5	6	5	6	8	5	5	5	6.01
Cost-cutting efforts	5%	6	6	8	8	7	6	10	6	7	6	6.92
Harnessing tech revolution	6%	6	6	6	8	7	6	7	6	9	8	6.90
Iron ore mines	5%	5	5	9	7	4	9	10	7	6	3	6.50
Coking coal mines	4%	6	3	6	3	3	3	5	2	3	3	4.37
Location to procure raw materials	4%	7	7	7	7	4	5	8	7	6	7	6.55
Labor costs	2%	10	6	7	8	4	7	5	8	5	7	7.35
Skilled and productive workers	2%	6	9	8	8	10	8	8	6	10	10	7.85
Liabilities for retired workers	2%	10	7	7	8	5	7	5	9	5	9	7.32
Profitability (EBITDA)	6%	4	5	4	5	2	7	2	6	7	5	5.35
Balance sheet	5%	4	5	5	7	4	6	5	7	7	6	5.88
Threat from nearby competitors	5%	5	6	6	7	6	8	5	7	7	7	6.59
Environment and safety	4%	9	9	9	9	9	9	9	9	9	9	9.00
Downstream businesses	6%	4	6	6	6	9	5	5	4	6	10	5.82
M&A, Alliances and JVs	6%	9	6	8	9	5	8	8	6	7	8	7.32
Country risk factor	2%	7	10	8	8	10	7	10	8	10	10	7.91
<b>Average Score</b>	<b>6.71</b>	<b>6.28</b>	<b>7.00</b>	<b>6.80</b>	<b>6.09</b>	<b>6.74</b>	<b>6.76</b>	<b>6.46</b>	<b>6.96</b>	<b>7.17</b>	<b>6.88</b>	
<i>Ranking</i>	28	31	17	25	34	27	26	30	20	10		
<b>Weighted-Average Score</b>	<b>6.38</b>	<b>6.04</b>	<b>6.93</b>	<b>6.72</b>	<b>5.97</b>	<b>6.64</b>	<b>6.64</b>	<b>6.17</b>	<b>6.95</b>	<b>7.05</b>	<b>6.73</b>	
<i>Ranking</i>	28	31	18	25	32	27	26	30	15	9		

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