LAIWU IRON & STEEL CO, LAIWU, CHINA
3-STRAND BEAM BLANK CASTER CC1
On December 17, 2003, Siemens VAI Metals Technologies (now Primetals Technologies) received an order from Laiwu Steel Group Ltd., Province Shandong, P.R. China to supply a three-strand heavy-section beam blank casting machine.

Start-up was on August 17, 2005.

**SOLUTION**
- Fixed fork arm turret with ladle weighing (customer supply), semi-gantry type tundish car, T-shape tundish and open stream casting with LevCon automatic mold level control
- Curved plate type mold, 800 mm length
- DynaFlex hydraulic oscillator (on-line stroke, frequency and wave pattern adjustment)
- Strand containment: segment 1 (size dependent), segment 2 (size dependent), segment 3, 4 straightening pinch roll stands
- In-line torch cutting machine, product weighing, hot charging and walking beam cooling bed
- Cooling system DynaSpeed, 1 zone with water cooling, 4 zones with air mist cooling
- Chain type dummy bar with bottom feeding system
- CC Control (Level 1), CC Optimization (Level 2), Yield Expert, Quality Expert Bloom

**MAIN BENEFITS**
- Increase of production and flexibility
- Optimum performance and availability
- Assurance of optimized solutions for unique and specialized requirements
- Maximum system and plant availability at low maintenance costs

3-STRAND HEAVY SECTION BEAM BLANK CASTER
for the production of the largest beam blanks worldwide.
**SCOPE**
- Basic engineering for all caster equipment and utilities
- Detail engineering for:
  - Tundish equipment
  - High performance mold
  - DynaFlex hydraulic oscillator
  - Segments
  - Straightener
  - CC Control and CC Optimization
- Supply of:
  - Molds
  - Oscillators
  - Torch cutting machine
  - Automation
  - Key assembly parts

**PLANT DATA**

<table>
<thead>
<tr>
<th>Plant Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steelmaking facilities</td>
<td>BOF, LF</td>
</tr>
<tr>
<td>Heat size</td>
<td>130 t</td>
</tr>
<tr>
<td>Caster production capacity</td>
<td>1.2 Mtpy</td>
</tr>
<tr>
<td>Radius</td>
<td>12 m</td>
</tr>
<tr>
<td>Metallurgical length</td>
<td>9 m</td>
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<tr>
<td>Beam blank sections</td>
<td>BB1: 555 x 440 x 90 mm</td>
</tr>
<tr>
<td></td>
<td>BB2: 750 x 370 x 90 mm</td>
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<tr>
<td></td>
<td>BB3: 1024 x 390 x 90 mm</td>
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<tr>
<td>Max. casting speeds</td>
<td>21.5 m/min</td>
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<tr>
<td>Cut lengths</td>
<td>6.8 - 13.6 m</td>
</tr>
<tr>
<td>Strand center distance</td>
<td>3000 mm</td>
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<tr>
<td>Steel grades</td>
<td>carbon structural steel, bridge structural steel, low alloy structural steel, mining steel, climate resistant steel</td>
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A joint venture of Siemens, Mitsubishi Heavy Industries and Partners

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Brochure No.: T03-0-N538-L4-R-V1-EN
Printed in Austria
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