Our Group
ArcelorMittal Group
The world’s leading steel and mining company

■ The world's leading steel and mining company, with some 210,000 employees across 60 countries.

■ The leader in all major global steel markets, including automotive, construction, household appliances and packaging, with leading R&D and technology, as well as sizeable captive supplies of raw materials and outstanding distribution networks.

■ An industrial presence in 19 countries exposes the company to all major markets, from emerging to mature.

■ Largest producer of steel in the EU, North and South America and Africa, a significant steel producer in the CIS region, and have a growing presence in Asia, including investments in China and India.

“Underpinning all our operations is a philosophy to produce safe, sustainable steel”
Our effort to improve the group’s Health and Safety record will continue.

We are focused on further reducing the rate of severe injuries and fatality prevention.

In 2014, specific attention will be on contractor performance and on the main causes for fatal accidents.
ArcelorMittal 2015 key figures

**Sales (US$ billion)**
- 2014: 79.3
- 2015: 63.6

**Ebitda (US$ billion)**
- 2014: 7.2
- 2015: 5.2

**Operating income / (loss) (US$ billion)**
- 2014: 3.0
- 2015: (4.2)

**Net income / (loss) (US$ billion)**
- 2014: (1.1)
- 2015: (7.9)

**Steel shipments (million tonnes)**
- 2014: 85.1
- 2015: 84.6

**Crude steel production (million tonnes)**
- 2014: 93.1
- 2015: 92.5

**Own iron ore production (million tonnes)***
- 2014: 63.9
- 2015: 62.8

**EBITDA/tonne(US$/t)**
- 2014: 85
- 2015: 62

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*Own iron ore and coal production excluding strategic long-term contracts.

Around 210,000 employees across 60 countries

Allocation of employees in 2014

“Leader in the metals and mining sector”
ArcelorMittal for the Energy market

~ 3.5 million metric tonne per annum steel supply to Energy (75% to Oil & Gas)
Tubular Products
## Energy Tubulars’ product range

<table>
<thead>
<tr>
<th>Type</th>
<th>Application</th>
<th>Standard</th>
<th>Outside Diameter</th>
<th>Wall Thickness</th>
<th>Grades/Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seamless</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OCTG</td>
<td>API 5CT Casing</td>
<td>API 5CT Tubing</td>
<td>4 ½” - 20”</td>
<td>5.21mm - 22.2mm</td>
<td>All grades up to Q125</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 ³/₈” - 4 ½”</td>
<td>4.24mm - 16mm</td>
<td></td>
</tr>
<tr>
<td>Line pipe</td>
<td>API 5L, EN, ASTM, ASME</td>
<td></td>
<td>½” - 20”</td>
<td>2.8mm - 50mm</td>
<td>A, B, C, X42 - X65</td>
</tr>
<tr>
<td>Boiler tubes</td>
<td>EN, DIN, ASTM, R</td>
<td></td>
<td>½” - 20”</td>
<td>2.3mm - 50mm</td>
<td>Carbon &amp; Alloy grades</td>
</tr>
<tr>
<td>Structural tubes</td>
<td>EN, DIN, ASTM, GOST</td>
<td></td>
<td>½” - 20”</td>
<td>2.3mm - 50mm</td>
<td>According to norms</td>
</tr>
<tr>
<td><strong>Large diameter</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Spiral Line Pipe</td>
<td>API 5L, EN, DIN, GOST, CSN</td>
<td></td>
<td>12 ¾” - 56”</td>
<td>5mm - 22mm</td>
<td>B, X42 - X70</td>
</tr>
<tr>
<td>LSAW Line Pipe</td>
<td>API 5L, EN, DIN, ASTM</td>
<td></td>
<td>20” - 52”</td>
<td>6.4mm - 20mm</td>
<td>B, X42 - X65</td>
</tr>
<tr>
<td><strong>Small diameter (1)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ERW Line Pipe</td>
<td>API 5L</td>
<td></td>
<td>2 ³/₈” - 12 ¾”</td>
<td>2.1mm - 11.1mm</td>
<td>A, B, X42 - X60</td>
</tr>
<tr>
<td>ERW OCTG</td>
<td>API 5CT Casing</td>
<td>API 5CT Tubing</td>
<td>4 ½” - 10 ¼”</td>
<td>5.21mm - 11.05m</td>
<td>H40, J/K55, N80Q</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.9” - 4 ½”</td>
<td>3.68mm - 7.34mm</td>
<td>H40, J/K55, N80Q</td>
</tr>
</tbody>
</table>

(1): only available at Unicon, Venezuela

95% of the supplies of Tubular Products come from ArcelorMittal’s leading global steel assets
Our certifications

API Spec 5L

API Spec 5CT

API Spec Q1

ISO/TS 29001

ISO 9001:2008

QUALITY IS THE KEY
R&D for Energy
One combined objective

- Serve our customers by creating unique and efficient solution that enhances their competitiveness
- Create competitive through enhanced functionality and superior quality
- Ensure ‘manufacturability’ and delivery to our customers at the lowest possible cost
ArcelorMittal Global R&D Gent / OCAS

Skills
- Metallurgy
- Surfaces
- Application technologies (forming, welding, numerical simulations, etc.)

People
- 130 employees
- 12 nationalities
- 16 sponsored PhD’s and post docs
- 39 international trainees for a 3-6 month period
- 30 scientific papers
Long expertise in Metallurgy and Corrosion and a strong know-how on the Steel process

With these new grades, we can help you select the most appropriate material based on your well conditions
Development - OCTG
Dedicated test frame for premium connection

- Installed in OCAS Gent R&D Centre
- 2.6m wide x 9.3m long
- 5,000,000 lbf Capacity
- Test frame designed in line with the latest industry standards of Premium Connection Full Scale Testing
- API 5C5 / ISO 13679 CAL-IV
Research for Offshore Market: R&D’s missions and clients

Missions:
- Product development
- Welding procedure development
- Characterization / Modeling of properties
- Corrosion after deformation or welding
- Advanced testings

Internal clients:
- ArcelorMittal Europe Flat Products – hot strip mills and heavy plate mills
- ArcelorMittal Tubular – seamless & welded pipe mills

Long expertise in Metallurgy and Corrosion and a strong know-how on the Steel process
Research for Offshore Market: Product Development

- Development of steel grades in the lab

- 3 000 m² of laboratory space comprising a totally integrated flow for:
  - Production;
  - Annealing;
  - Sampling;
  - Testing and advanced characterization
Research for Offshore Market: Welding and characterization of properties

Welding research:
- HFI
- SAW
- Girth welding
- Laser welding
- Laser hybrid welding

Advanced characterization techniques:
- Precipitation analysis on nano scale (pipe and size distribution)
- Phase analysis by X-ray diffraction and FIB
- Surface analysis:
  - XPS (element state in surface)
  - GD-OES (element depth profiles)
Research for Energy Market: Corrosion after deformation or welding and advanced testings

- Corrosion and damage mechanisms:
  - Electrochemistry
  - Sour service lab (HIC, SSCC)

Standards:  
- NACE TM 0284
- NACE TM 0177 SSCC constant load
- NACE TM 0198 SSCC slow strain rate
- NACE MR 0175

- Mechanical testings and reeling simulation

<table>
<thead>
<tr>
<th>OD [mm]</th>
<th>152.4</th>
<th>203.2</th>
<th>254</th>
<th>304.8</th>
<th>355.6</th>
<th>406.4</th>
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</thead>
<tbody>
<tr>
<td>OD [inch]</td>
<td>6”</td>
<td>8”</td>
<td>10”</td>
<td>12”</td>
<td>14”</td>
<td>16”</td>
</tr>
<tr>
<td>Max wall [mm]</td>
<td>X60</td>
<td>&gt;25</td>
<td>24</td>
<td>16</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X65</td>
<td>23</td>
<td>15</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X70</td>
<td>22</td>
<td>14</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X80</td>
<td>19</td>
<td>13</td>
<td>9</td>
<td></td>
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</tr>
</tbody>
</table>

*Steel grade yield values based on max specified values.
Research for Energy Downstream Markets
LinePipe & Hydro Processing Units (HPI)

- High Value Grades
  - Boilers, Power Generation, Petrochemical Refinery applications with high temperature creep and corrosion resistance properties
  - Low temperature LNG applications

- High Strength LinePipe (X70, X80 up to X100)
  - Severe Ceq restrictions
  - Sour corrosion resistance
  - Low temperature toughness (arctic service)
  - Weldability needs to be demonstrated

- Alloy Grade (HPI)
  - High Temperature Resistance : P91/92

Innovation, Expertise & Technology
ArcelorMittal Tubular Seamless Mills
ArceorMittal Ostrava

**Production processes**
- Small diameter Stiefel (21.3 – 139.7 mm)
- Large diameter Stiefel (141.3 – 273.1 mm)
- API approved since 1957

**Size range**
- Diameter: 21.3 – 273 mm (0.840 – 10.75 inches)
- Wall thickness: 2.3 – 25.0 mm (0.091 – 0.984 inches)
- Maximum length: 12.5 meters (depends on wall & diameter)

**Principal standards/grades/certifications:**
- EN ISO 3183 (EN 10208-1 & 2): Gas pipe line
- EN 10210-1 & 2: Structural tubes
- EN 10216-1, 2, 3 & 4: Pressure piping
- ASTM standards: A106, A333, A335 Boiler tubes
- API 5L B, X42, X46, X52, X56, X60, X65, X70: Line pipe
- API 5CT: Casing up to Q125, HCP110: 4-1/2 – 9-5/8 inches

=> Qualified by TOTAL to supply offshore structural tubes and pipes including special category members

- Annual capacity of 280,000 MT.
- Raw materials procured from ArceorMittal Ostrava (billets).
Production processes:
- 6” Stiefel Mill (range: 3”- 7”)/ Plug mill technology
- 16” Stiefel mill (range: 6”-16”)/ Plug mill technology
- 20” Pilger mill (range: 10 ¾- 20”) Pilger mill technology
- Threading for casing (range: 4 ½" - 20”)

Principal standards/grades/certifications:
- Standards API, ASTM, ASME, EN
- Line-Pipe Grades A, B, C, Gr.6, X42, X52, X56, X60, X65
- Offshore Line Pipes X52NO, X60QO, X65QO
- Sour Service Line Pipes BNS, X42NS, X52NS, X60QS, X65QS
- Offshore Structural G1+N, G14+N, G15+N
- Alloy Process Pipes P11, P12, P22, 16Mo3
- API Casing J55, K55, N80Q, L80-1, R95, P110
- Threads API: SC, LC, BC;
- Gastight Threads – PTB 007; Extreme Line Connection
Production processes:
- Hot Finished Seamless:
  - Line pipe 1” to 6”
  - OCTG green pipe 2-3/8” to 7”
- Cold Drawn Seamless

Principal standards/grades/certifications:
- EN, ASTM
- API 5L (through X60), API 5CT (through N80)
- ISO, TUV, API
- Qualified by energy companies worldwide

Recent upgrades/improvements:
- Full body ultrasonic NDT

Located in Vereeniging, south of Johannesburg, South Africa.
Joined ArcelorMittal in 2004.
Annual capacity 110,000 MT.
Raw materials procured from ArcelorMittal Vereeniging works-South Africa.
The perfect solution for O&G needs

- The largest producer of seamless pipe in the Middle East
- A 600,000 t/yr PQF Seamless tube mill
  - Product: OCTG (Oil Country Tubular Goods) & Line Pipe for Oil and Gas
  - Manufacturing Size range from 4 1/2” to 16”
  - Finishing Size range 2 3/8” to 16” (Green pipe sourced from inter-company units)
  - to supply the energy tubes market of the Middle East & Africa from a local source

- Joint venture with Al-Tanmiah Company for Industrial and Commercial Investment of Riyadh
ArcelorMittal Jubail
A state-of-the-art plant

- **PQF hot rolling technology**
- **USD 1 billion investment**
- **130,000 sqm plant** (26 football fields)
- **900 people**

Premium quality / Industrial excellence / Full tracability
Key areas targeted with the new PQF mill
Distance to Market

- **Key Areas for Jubail**
  - Middle East
  - Africa
  - Asia

GCC added value with competitive Lead Time
5 days by truck instead of 30-45 days by boat from Europe, South America, China or Japan.

Strategic location in the heart of the Middle East, close to the port of Al-Jubail.
ArcelorMittal Tubular Welded Mills
ArcelorMittal Galati (LSAW large diameter)

- Located in eastern Romania along the Danube River.
- Annual capacity 50,000 MT,
- Raw materials procured from ArcelorMittal Galati (plates).

Production processes:
- Longitudinally submerged arc welded pipes
- Lacquering, end beveling

Principal standards/sizes/certifications:
- API 5L B, X42, X46, X52, X56, X60, X65
- Certifications:
  - API 5L (certified since 1989)
  - ISO 9001:2001
  - PED: Pressure Equipment Directive
  - API X70 + ASTM grades + Gost grades
  - AD2000 + CE marking on the certifications
- Structural grades also available
- Diameter range: 508 – 1321 mm (20 – 52 inches)
- Wall thickness range: 6.35 – 25 mm (0.250 – 1 inches)
Production processes
• Spiral double submerged-arc welding (12” to 40” / 323mm to 1020 mm)
• 3LPE/LPP outside coating
• Inside cement coating (Drinkable water application)
• Outside Fibrous Cement (Weighting)

Size range
• Diameter: 323 – 1020 mm
• Wall thickness: 5.0 – 12.5 mm (0.197 – 0.5 inches)
• Maximum length: 18 meters

Principal standards/grades/certifications:
• API 5L B, X52, X60, X65
• EN Norm

• Joined ArcelorMittal in 2003.
• Annual capacity of 40,000 MT.
• Raw materials procured from ArcelorMittal Krakow (Coils)
ArcelorMittal Aktau (spiral large diameter)

Production processes:
- Spiral double submerged-arc welding (18” to 56”/ 457mm to 1422mm)
- 3LPE outside coating, inside liquid epoxy coating
- FBE / DLFBE outside coating

Size range:
- Diameter: 457mm– 1422 mm (18-56 inches)
- Wall thickness: 5.0 – 19 mm (0.197 – 0.748 inches)
- Maximum length: 18 meters

Principal standards/sizes:
- GOST 20295-85
- GOST 8696-74
- API 5L B, X52, X60, X65

Located in Kazakhstan, besides the Caspian sea.
Annual capacity 60,000 MT.
Raw materials procured from ArcelorMittal Temirtau (hot rolled coils).
Our Products & Solutions for Oil & Gas
Our seamless pipes with the range of connections (from standard API to Premium) will provide you the solutions in order to face your daily challenges like:

- Increasing reliability of more complex operations
- Improving cost efficiency

We want to be your reliable partner and to support all our customers who are shaping the oil & gas industry.
Our offer for Exploration & Production

- Seamless OCTG Casing & Tubing
  - Grades: H40, J55, K55, M65, L80 Type 1, T95, N80-1, N80-Q, C90, R95, C110, P110, Q125
- From 2 3/8” to 20”
- High collapse grades
- Sour Service Premium Grades
- End finishes include:
  - API: P-plain end, S-short round thread, L-long round thread, B-butress thread
Today, Offshore Challenges require the best.

We tailor our offer to your applications with Premium Products and Services for your Projects.
Our offer
Offshore Line Pipe Products (Risers & Flowlines) - SURF

- **Size range**
  - OD from 114.3 to 406.4 mm (4” to 16”)
  - Wall Thickness between 5.2 and 35.7 mm

- **A full range steel grades**
  - API 5L Grades:
    - B, X42, X52,
  - High Yield Grade :
    - X52QT, X52, X56, X60, X65
  - Sour Service

- **Additional Services**
  - Coatings : Polyethylene, Polypropylene or Epoxy
  - Extensive testing with tight tolerances for some Premium Projects
Our offer
Offshore Structural Products

Large size range:
- OD from 114.3mm to 406.4mm (4” to 16”)
- Wall Thickness between 5.21mm and 35.7mm

A full range steel grades:
- Low temp Grade:
  - ASTM A333 grade 6
- High Yield Grade:
  - API 5L X52N, X52 Modified, X60, X65 PSL2
- European structural grade (EN10225):
  - S355 G15 + N; S355 G14+N; S355 G15+N (PSL1 or PSL2)
- Sour Service resistant steel grade
Challenges for Onshore LinePipes and HydroProcessing Units (HPI)

■ A full range of products and services for the onshore transmission of Oil & Gas products from well to processing units.

■ We provide high quality of seamless steel pipes for refineries, petrochemicals complexes and gas processing plants with tailored logistics and services.
Our offer
Onshore LinePipe and HPI

- Seamless Cs & As Pipes Products
- Large size range
  - OD from 114.3 to 406.4 mm (4” to 16”)
  - Wall Thickness between 5.2 and 35.7 mm
- A full range steel grades
  - A106 grade B, C, 6, API 5L grade B
  - Low temp steel grade (ASTM A333 grade 6)
  - API 5L X42, X52, X60, X65
  - H2S resistant steel grades
  - P grades (P11, P22)
- Additional Services
  - Coatings
    - Polyethylen, Polypropylen or Epoxy
Ready to answer the challenges that lie ahead

KEY REQUESTS FROM CUSTOMERS

Competitiveness

- New mill in Saudi Arabia
- Worldwide coverage through our mills in Europe & Americas

Local content

- Regional leadership
- New offices in Middle East and Africa

Premiumization

- Steel leadership
- R&D and testing capacities

Services

- Technical support
- Project management
- Supply chain

Our responses

ArcelorMittal Tubular Products well positioned to bring value to its customers
Tubular Products

a worldwide player in the oil & gas!