The “Uralmashplant” JSC, is a key equipment supplier for basic industry sectors: mining, metallurgical, and oil-and-gas industries.

In 2013 the “Uralmashplant” marked its 80s anniversary.

The main shareholder of the “Uralmashplant” is the “Gazprombank” JSC, one of the three largest Russian banks.

Today, the “Uralmashplant” JSC is a company providing the state-of-the-art engineering, welding, metal-working, mechanical assembly, and tool production works.

**Main product assortment includes:**

- **Mining equipment**
  - walking and track-type draglines,
  - track-type open-mine excavators,
  - cone and jaw crushers for all crushing stages,
  - ball and rod grinding mills, semiautogenous and autogenous grinding mills,
  - concrete-production equipment.

- **Metallurgical equipment**
  - sintering equipment,
  - indurating equipment,
  - blast furnace equipment,
  - continuous casting machines,
  - rolling equipment,
  - press-forging equipment,
  - rolling mill rolls.

- **Oil-and-gas drilling equipment**
  - complete movable, stationary, and cluster drilling rigs with loading capacity from 160 to 600 tons,
  - drilling equipment packages.

- **Handling equipment**
  - heavy cranes for metallurgical works,
  - handling equipment for nuclear plants,
  - general purpose special and bridge cranes.

- **Power equipment and nonstandard equipment**
  - hydraulic turbine units,
  - transfer and homogenizing equipment units.

A company development strategy is aimed at creating a world-class machine-building company able to fully fulfill customers' needs for modern equipment.
Uralmashplant began to produce the rolling-mill equipment in thirties just after starting the plant. In 1935, the first rolling mill 800 was built for Chusovsky metallurgical works. The rolling mills, bloomers, special units and systems produced at Uralmashplant were supplied to the metallurgical works and integrated iron-and-steel works which were building at that time.

To the end of eighties, two thirds of all railway rails and 100% of solid-rolled wheels of rolling-stock, 90% of tin, 70% of automobile body sheet, 100% of electrical-sheet steel, 85% of cast slabs was produced in the USSR at the rolling-mill equipment manufactured at Uralmashplant.

Since 1949, Uralmashplant has begun to supply its products abroad. The rolling-mill equipment was supplied to the enterprises of the Western Europe, China, India, Pakistan, Nigeria, North Korea, Egypt, Algeria. Anshansky integrated iron-and-steel works (Chinese People’s Republic), Bhilai integrated iron-and-steel works and metallurgical works in Bokaro (India), Helwan integrated iron-and-steel works (Egypt) and many other enterprises owe their birth to Uralmashplant.

The volume of the rolling-mill equipment deliveries for 75 year is an evidence of great experience of the plant in creation of such equipment: 110 hot and cold rolling mills and more than 100 different strip treatment lines for the domestic and foreign metallurgical companies.

For the last ten years, the specialists of Uralmashplant carried out reconstruction of many mills and lines being in operation. Simultaneously, new machines are manufactured, the equipment of which allows the end products conforming by their quality to the highest world standards to be issued.
Hot rolling mills and equipment

**Bloomers**
- Purpose: rolling of
  - blooms (160x160...500x450 mm)
  - slabs (100x500...350x1600 mm)
- Capacity: to 6000000 t/year

**Continuous rolling billet mill**
- Purpose: production of
  - square billets (80x80...150x150 mm)
  - round billets (dia. 100...150 mm)
- Capacity to 2000000 t/year

**Universal beam mills**
- Purpose: rolling of broad-flanged beams and sections (flange width of 100-440 mm, height of 200-1000 mm, length of 6000-30000 mm)
- Rolling speed: 10 m/s
- Capacity: 1600000 t/year
Hot rolling mills and equipment

**Rail-and-structural steel mills**
- Purpose: rolling of railroad rails R50, R65, R75 and shaped sections (I-beams to № 60, channels to № 40)

**Heat treatment section for hardening of rails**
- Purpose: hardening of rails R50, R60, R75 (oil hardening, water hardening accompanied by rail head induction hardening)
- Capacity: 750000 t/year of hardened rails to 25 m in length
- Service life of rails after hardening is increased by 1.5-1.8 times

**Wheel-rolling and ring-rolling mills**
- Purpose: production of
  - railroad wheels (dia. 850-1250 mm)
  - rings (dia. 700-3000 mm)
- Capacity:
  - wheels – 600000 wheels/year
  - rings – 120000 rings/year
Cold rolling mills and equipment

Equipment for production of
- automobile – body sheet (of 0.35-3.0 mm thickness)
- tin (of 0.15-0.35 mm thickness)
- electrical steel (of 0.27-0.5 mm thickness)
- sheet (of 0.53-3.0 mm thickness)

Four-high rolling mills:
- production of coiled strip steel rolled stock of different purpose
- reversing mills
- multi-stand continuous mills
- continuous mills (four-stand, five-stand, six-stand)
- pinch pass mills (one-stand and two-stand)
- skin-rolling mill (two-stand)
Cold rolling mills and equipment

**Continuous picklers**
- **Purpose**: are to remove continuously scale from the surfaces of hot rolled strips by means of acid solution
- **Strip parameters**
  - thickness is 1.2…6.0 mm
  - width is 700…1550…1850 mm
- **Coil weight**
  - of entering coils is up to 35 t
  - of coils delivered is up to 45 t
- **Pickler capacity** is 800…1800 thou. t/y

**Combined rolling picklers**
- **Thickness of raw strip** is 1.6…4.5 mm
- **Thickness of ready-made products** is 0.2…2.5 mm
- **Strip width** is 700…1850 mm
- **Rolling speed** is up to 30 m/s
- **Capacity** is 1000…1500 thou. t/y
- **Equipment mass** is 6300 t

**Strip preparation units**
- **Purpose**
  - preparation of strip tin coils before applying anticorrosive coating
  - welding of separate strips together to increase coil
- **Strip parameters**
  - thickness – 0.1…1.4 (1.2…6.0) mm
  - width – 700…1250 (700…1850) mm
- **Coil weight** to 35 t
- **Unit weight** to 670-700 t
Cold rolling mills and equipment

Continuous annealing lines

- Purpose
  - strip cleaning
  - re-crystallization annealing
  - skin rolling of cold-rolled strips
- Strip parameters
  - thickness 0.15-1.2 mm
  - width 700-1250 mm
  - strip speed in the technological section – 0.5-10 m/s
- Coil weight to 30 t
- Line weight 4000-4200 t
- Capacity to 200 thousand t/year

Hot dip galvanizing and alumogalvanizing lines

- Purpose
  - continuous thermo-chemical treatment
  - double-sided dip galvanizing, alumogalvanizing and iron-galvanizing
  - Process: a method of hot dipping
- Strip parameters
  - width – 700-1500 mm
  - thickness – 0.5-1.5 mm
  - Coating thickness
    - zinc – 8 -30 μ
    - aluminum-and-zinc – 20-35 μ
  - Capacity: to 320 thousand t/year
Cold rolling mills and equipment

**Packing units**
- **Purpose**
  - packing of sheet piles in metal container
  - wrapping of coils in paper and metal with subsequent tying up with metal band
- **Pile dimensions**
  - width – 700-1850 mm
  - length – 1800-6000 mm
  - height – 160-400 mm
  - maximum weight of strip pile – 10 t
- **Coil dimensions**
  - inside diameter – 600 mm
  - outside diameter – 1600 mm
  - maximum coil weight – 17 t

**Shearing, slitting and combined cutting units**
- **Purpose**: are to cut out the edges and slit wide strips into narrower ones, as well as to shear the strips into sheets, which are stacked then
- **Strip thickness** is 0.15...2.5 mm
- **Strip width** is 700...1850 mm
- **Mass of initial coils** is up to 45 t
- **Mass of ready-made coils** is up to 17 t
- **Sheet length** is 600...6000 mm
- **Unit capacity** is 100...400 thou.t/y
Quality control

**Strip bending stretcher**
- **Purpose**
  - to improve strip flatness
  - to break scale layer before pickling
- **Strip parameters**
  - width – 700-1850 mm
  - thickness – 0.1-6.0 mm
- **Material**
  - carbon, low-carbon and silicon steel
  - black plate
  - alumogalvanized steel

**Hot saw**
- **Purpose**
  - cutting of bar, shaped section and sections of the other types
  - section dimensions
    - round bar of 80-200 mm
    - square of 100-220 mm
    - I-beam of 100x100-400x1000 mm

**Hot shears**
- **Purpose**: to cut billets
- **Type**: closed-type, up-cut, lever shears
- **Cutting force** – 5 MN, 20 MN
- **Billet dimensions**
  - bloom of 230x230, 400x450 mm
  - slab of 140x740 to 260x1450 mm

**Bar and rail straightening machine**
- **Purpose**: straightening of railroad rails, crane rails
- **Straightening speed** – 0.8 -2 m/s
- **Misalignment after straightening over the datum surface of 1.5 m not more than 0.3 mm**
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<td>1998</td>
<td>ArcelorMittal Temirtau, Kazakhstan</td>
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