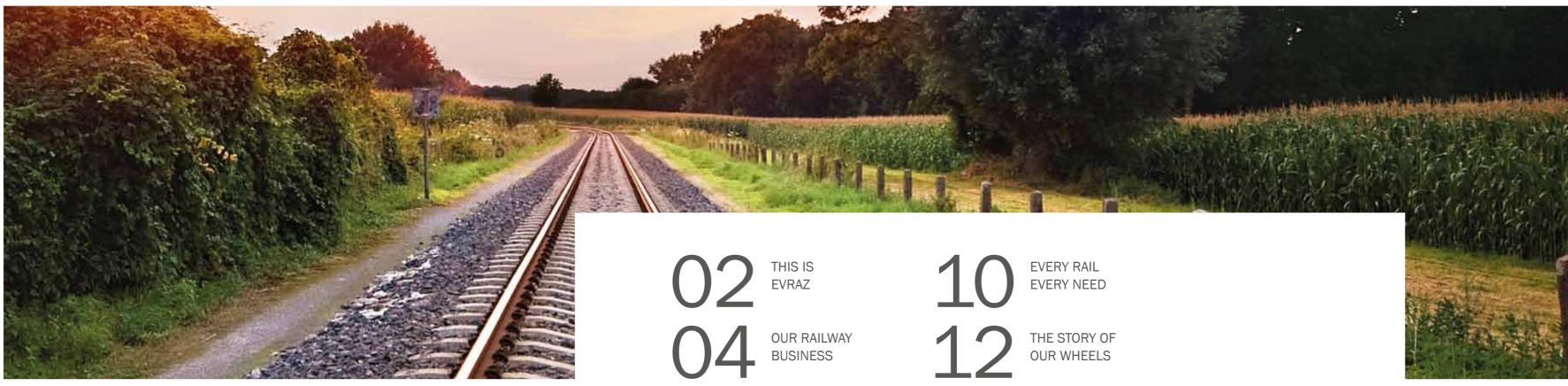


# WE'RE EVRAZ

# WE MAKE RAILS AND WHEELS



**OG** EVRAZ WORLDWIDE **OB** THE STORY OF OUR RAILS



VARIETY OF WHEELS AND TYRES

16 TRUSTED PARTNERS



### WE'RE EVRAZ. WE'RE ONE OF THE WORLD'S BIGGEST **STEEL** COMPANIES. AND GETTING BIGGER ALL THE TIME.





Since 1992, EVRAZ has been a growing force in the global metals industry. Today, we're one of the world's largest vertically integrated steel and mining companies. We mine our own iron ore, and produce almost 17 million tonnes of crude steel per year.

That makes us one of the biggest steel producers in Russia. We're a leader in North American plate, rail and large diameter pipe markets. We're also among the world's largest vanadium producers. We employ more than 110,000 people worldwide. And in 2011, revenue stood at US\$16.4 billion. We've come a long way. But we still have big ambitions.

We believe in building long-term business relationships, rooted in trust and exceptional service. We believe in making the world stronger, safer and cleaner. WE'RE EVRAZ.





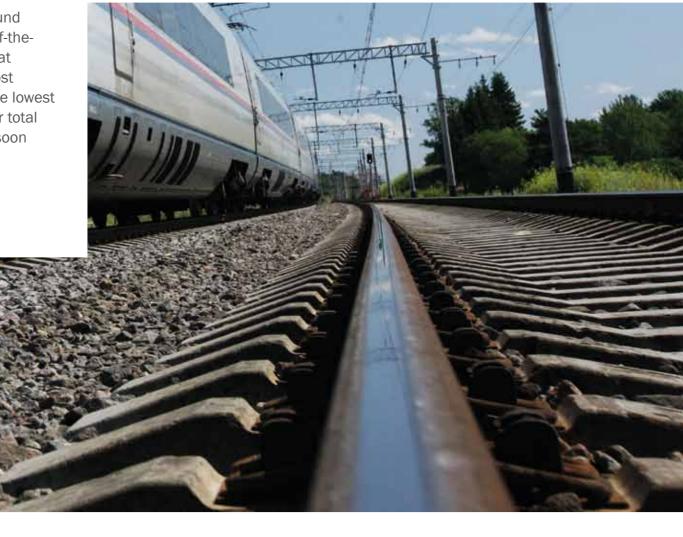
## ONE AND A HALF MILLION KILOMETRES OF RAIL, AND WE STILL WANT TO GO FURTHER.

As the world's number one rails producer, we've already manufactured a vast number of railway products for countries around the world.

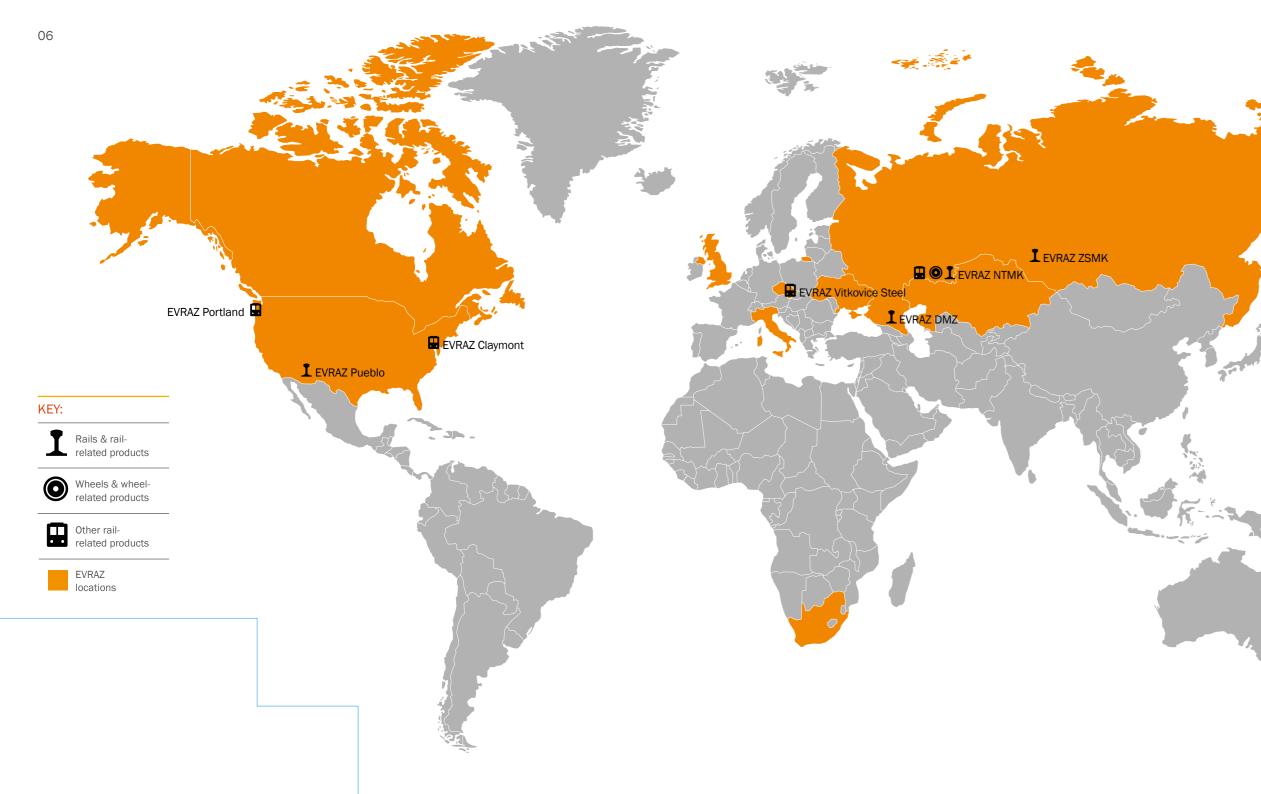
EVRAZ NTMK (Russia, Urals) is a major producer of railway products and EVRAZ ZSMK (Russia, Siberia) is the oldest and largest rail manufacturer in Russia and the Commonwealth of Independent States (CIS). We are also one of the major wheel producers, and the only supplier of railcar products in Russia.

EVRAZ Pueblo in Colorado has been helping build America's railroads since 1881, and today supplies about half of all the rail in North America. EVRAZ Portland and EVRAZ Claymont are major suppliers of steel plate for railcars, as is EVRAZ Vitkovice in Europe. In 2011–2012, we invested around US\$600 million to install state-of-theart processes and equipment that will enable us to produce the most dependable rail products with the lowest life-cycle cost into the future. Our total annual production capacity will soon reach two million tonnes of rails.

### RAILS AND WHEELS ARE AT THE HEART OF EVRAZ.



## RAILS WHEELS



### EVRAZ RAILWAY PRODUCTS WORLDWIDE

#### USA EVRAZ Portland

Railcar plate

#### **I** EVRAZ Pueblo

Rails

#### EVRAZ Claymont

- Railcar plate

### CZECH REPUBLIC

- Railcar plate

### UKRAINE LEVRAZ DMZ

Rails

### 

#### **BOIEVRAZ NTMK**

- Wheels & tyres
- Rails
- Rail fastenings
- Sections for railcars

#### **I**EVRAZ ZSMK

- Rails

# RAILS WHEFIS

We account for 12% of all rail sales globally - and 90% in Russia. We can draw on over 130 years' experience in making railway products, and have invested hundreds of millions of dollars in creating truly leading-edge production facilities.

We're always looking to the future, and finding new ways to serve our

customers. We are continually improving our facilities and products, to meet the growing and changing demands of our customers. For example, in Russia we are installing the technology to manufacture deep head hardened rails in lengths of up to 100 metres so we can provide safer, smoother journeys for millions.

### **RAILS** THAT CAN TAKE YOU **ANYWHERE.** EVEN INTO THE FUTURE.

**KEY STATISTICS** 



/ market share 0 in Russia

45% market share in the USA



#### PREMIUM RAIL PRODUCTION PROCESS



Furnace

Ladle Refining

Continuous

Caster

Billet cooling

8

### 

#### WORLDWIDE INNOVATION

Our plant EVRAZ ZSMK, in Novokuznetsk (capacity 950,000 tonnes) produced the first rails in 1932. Today, the plant draws on this unique experience to deliver a range of advanced products, including heavy haul, low-temperature and high-speed rails. In North America, EVRAZ Pueblo is the only producer of air quenched, high strength premium rail. Annual capacity is 490.000 tonnes and we have committed investments to 550.000 tonnes. to expand capacity to 520,000 tonnes in 2013.

We are also installing a state-of-the-art rail research and testing facility that will enhance our capability to develop next generation rail products that achieve superior safety, wear resistance, strength and lifecycle cost. We are also in the process of updating the sustainable facilities at our EVRAZ NTMK mill in Nizhny Tagil, Russia. This will boost production capacity there





We supply a wide range of rails in sizes from 33 to 113 kilograms per metre (kg/m), and in a variety of steel grades. With some of the world's most advanced technology at our disposal, we can produce rails to all existing standards, including those with very strict dimensional tolerances and in lengths of up to 100 metres for high-speed tracks.

#### RAIL TYPE

- Standard strength
- Intermediate hardness
- Intermediate hardness high strength
- Body hardened
- Deep head hardened
- Micro-alloy deep head hardened
- High carbon pearlite
- One carbon pearlite
- Low temperature resistant applications

## EVERY TYPE OF RAIL FOR EVERY TYPE OF NEED.





#### HEAVY-HAUL

We make hardened rails for unrivalled endurance under heavy loads and extreme wear stresses. These include rails used by trains with axle loads of 25–32 tonnes, and annual traffic density of up to 150 million tonnes-km.



#### PUBLIC AND URBAN TRANSPORT

As cities grow, the demand for high-quality public transport is rising dramatically. Urban systems bring their own challenges, with sharp curves and steep gradients, as well as short braking and acceleration distances. Being the experts in this specialised area, we supply rails for metro and grooved rails for streetcars.



#### HIGH-SPEED

Train speeds of up to 250 kilometres per hour are increasingly common around the globe. We are upgrading our facilities to supply rails that combine excellent reliability, geometrical precision, strict flatness tolerance and unrivalled quality, for high-speed lines worldwide.

#### MIXED TRAFFIC

It's not easy to optimise track performance for a varied mix of fast passenger trains and slower, high axle weight freight services, and in a range of topographies and climates. But the right rails extend the life of the product and reduce maintenance costs – and this is what we produce for our customers.

#### RAIL STANDARDS

EN 13674-1:2011 54 E1, 60 E1 49E1, 54E2, 54E4, 60E2\*

#### AREMA

115 RE, 119 RE, 132 RE, 133 RE, 136 RE, 141 RE

#### GOST R 51685-2000

R50, R65, R65K

#### GOST 9960-85

Switch rails OR43, OR50, OR65

#### GOST 9797-85

Guard rails RK50, RK65, guard rail angle SP 850

#### GOST R 53866-2010

Crane rails KR70, KR80, KR100, KR120, KR140

#### TU

Industrial rails R33, R34, R43 Grooved rails RTZB-58, T62 High speed switch rails UR65

\*Production of 49E1, 54E2, 54E4, 60E2 will start in 2013



As well as rails and wheels, we also apply our expertise and innovation to producing a wide range of related products.

We develop Z-sections, car posts, channel bars and angle sections for railcars. We're the only supplier in Russia of these parts, and one of the largest in the CIS. We also remain the key supplier of rail fasteners for Russian Railways (RZD), including baseplates, fishing, connection crews and connection clips.





## WE'RE ONE OF THE LARGEST WHEELS PRODUCERS IN THE WORLD.

Exceptional rails deserve exceptional wheels. And that's what we produce at our wheel workshop, located in the EVRAZ NTMK plant, Russia. The wheel workshop has been completely upgraded over recent years, becoming a state-ofthe-art facility with a production capacity of 460,000 wheels and 90,000 tonnes of tyres and rings per year. The new equipment we're installing in 2012 will improve production capacity to 580,000 wheels.

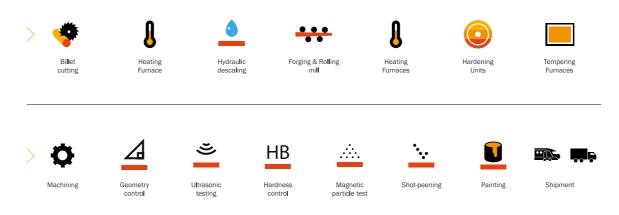
In our new production technology we use continuous cast billet from highquality steel made at EVRAZ NTMK.

The billet is heated in an automated LOI rotary furnace which allows control of the heating temperature on every single billet. Then the billet is processed on the SMS EUMUCO forging and rolling mill and the black wheel goes through an integrated heat treatment facility supplied by ANDRITZ MAERTZ. After machining on wheel lathes (supplied by HÜLLER HILLE and HEGENSCHEIDT) the wheels go through the inspection line which is equipped with non-destructive testing equipment (ultrasonic, magnaflux inspection, etc.) and fully complies with European (EN) standards and the Association of American Railroads wheel production standards.

#### **KEY STATISTICS**

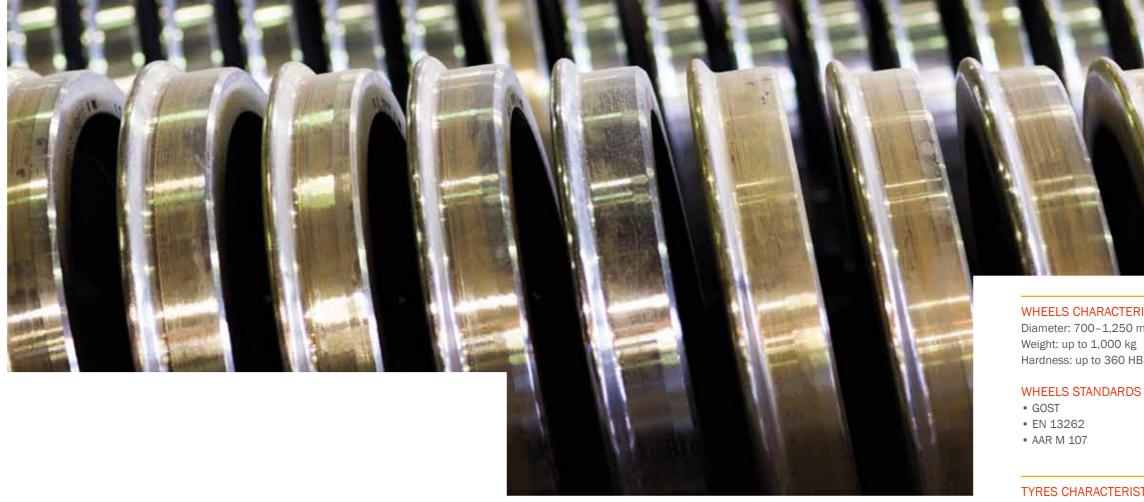


WHEEL PRODUCTION PROCESS



# WHEELS

## A WIDE VARIETY OF WHEELS AND TYRES.





#### RAILCAR WHEELS

The CIS is the second biggest world market for freight and passenger railcars with more than 1.2 million wagons. EVRAZ is a key supplier of wheels to worldrenowned railcar manufacturer UralVagonZavod, who produced more than 25,000 freight railcars in 2011.



#### LOCOMOTIVE WHEELS

EVRAZ NTMK is currently pioneering production of 1,250mm-diameter wheels for the new class of passenger locomotives produced in Russia. This type of wheel is commonly used by the main locomotive producers worldwide. EVRAZ is the only supplier in Russia of tyres for the locomotive wheels.



#### UNDERGROUND RAILWAY WHEELS

Overall, approximately 96,400 urban vehicles are installed worldwide. The share of metro vehicles amounts to 70% approximately. EVRAZ supplies wheels to one of the world's most heavily used rapid transit systems - Moscow Metro.

#### WHEELS CHARACTERISTICS

Diameter: 700-1,250 mm Weight: up to 1,000 kg Hardness: up to 360 HB

#### TYRES CHARACTERISTICS

Dimensions: from 650x134x70 mm to 1690x143x83 mm Hardness: up to 360 HB

TYRES STANDARDS

GOST



## WE DEAL IN MANY DIFFERENT TYPES OF PRODUCT. BUT MOST IMPORTANT OF ALL, WE DEAL IN TRUST.

Rail and wheels are fundamental infrastructure products, depended on by thousands of businesses and millions of passengers around the world.

Trading in these products means trading in trust. Our customers stay with us because they know we're 100% committed to ensuring the highest standards of quality and safety in every product. Throughout the manufacturing process, we safeguard quality by using the optimum starting material, advanced production technologies, and rigorous quality control. The comprehensive upgrades to our rail and wheel production equipment are creating one of the most advanced facilities at industry best-in-class levels. Our customers know they can depend on us to keep every promise. They know we will always do whatever it takes to deliver. That's why the business relationships we build are as strong and lasting as our steel.

WE'D LOVE TO TALK TO YOU ABOUT HOW A PARTNERSHIP WITH EVRAZ COULD HELP YOU. PLEASE GET IN TOUCH ANY TIME – OUR DETAILS ARE ON THE BACK COVER.



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