



### TMK'S SUCCESS IN PIPE PRODUCTION MODERNIZATION

was highly renowned by the Russian Government.

## 4.5

### STRATEGIC INVESTMENT PROGRAMME FOR 2004-2014 – STAGES AND OUTCOME

In 2014, TMK completed most of its Strategic Investment Programme launched in 2004. Over the past 10 years, the Company's facilities underwent a large-scale modernisation resulted in fully upgraded production capacities. With cutting-edge equipment and technologies in place, TMK has significantly boosted its market potential by:

- improving pipe quality characteristics and cutting production costs;
- generally providing our facilities with our own billets and improving their quality;
- expanding our product mix and increasing oil and gas pipe output, including premium products;
- enhancing our product performance through advanced controls along with testing and coating tools implementation;
- mitigating our environmental footprint.

Total investments in the production upgrade, advanced technologies implementation and steelmaking equipment amounted to USD 3.8 bn.

Our largest projects included:

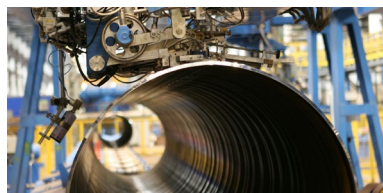
- steelmaking facilities at TAGMET with 950 thousand tonnes of steel per year;
- steelmaking facilities at the Seversky Tube Works with 950 thousand tonnes of steel per year;
- production line for large diameter longitudinal pipe at the Volzhsky Pipe Plant with 600 thousand tonnes of pipe per year;
- PQF pipe rolling mill at TAGMET with 600 thousand tonnes of pipe per year;
- FQM pipe rolling mill at the Seversky Tube Works with 635 thousand tonnes of pipe per year.

## MAIN STAGES OF THE STRATEGIC INVESTMENT PROGRAMME

# 2004



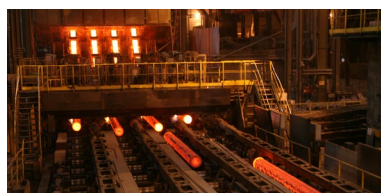
AUT equipment for seams and LDP end sections, **Volzhsky**



# 2005



Continuous caster #1, **Volzhsky**  
650 ktpa



# 2006



Upsetter, **Sinarsky**  
36 ktpa

Continuous caster, **TAGMET**  
950 ktpa



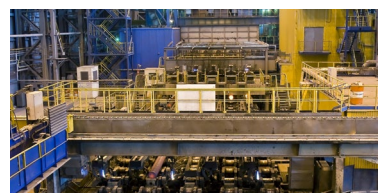
Upsetter, **TAGMET**  
36 ktpa



Three-roll rerolling mill for billets, **Sinarsky**  
350 ktpa



Continuous caster, **Seversky**  
950 ktpa



# 2007



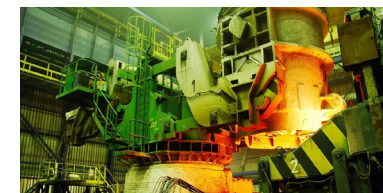
Non-destructive pipe testing equipment, **Volzhsky**



CPE pipe rolling line, **TMK-ARTROM**  
100 ktpa



Continuous caster, **TMK-RESITA**  
450 ktpa



Welded pipe production line, **TMK-CPW**  
100 ktpa



Steelmaking



Seamless pipe production



Welded pipe production



Finishing



Quality control

↑ New equipment  
↑ Upgrade

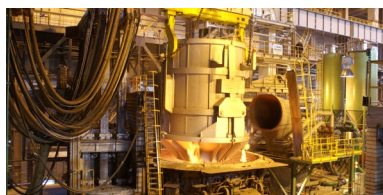
**AUT** Automated ultrasonic testing  
**EA** Electric Arc Furnace  
**LDP** Large Diameter Pipe  
**VIT** Vacuum Insulated Tubing

## MAIN STAGES OF THE STRATEGIC INVESTMENT PROGRAMME

2008

2009

● EAF (135 t), **Seversky**  
950 ktpa



● Vacuum degasser, **TMK-RESITA**  
450 ktpa

○ Hot rolling section of the TPA 50-200  
seamless tube mill, **Volzhsky**  
250 ktpa

★ Tubing pipe production line, **TMK NGS-Buzuluk**  
11 ktpa

★ Smooth inner coating line, **Volzhsky**  
600 ktpa



★ Conservation coating line, **Volzhsky**  
200 ktpa

★ Heat treatment facility, **Volzhsky**  
340 ktpa

★ Threaded pipe finishing line, **Volzhsky**  
200 ktpa

★ Heat treatment facility, **Sinarsky**  
200 ktpa

○ Three-roll rerolling mill for billets, **TMK-ARTROM**  
100 ktpa

○ PGF pipe rolling mill, **TAGMET**  
600 ktpa



○ Longitudinal pipe production line, **Volzhsky**  
650 ktpa



★ Three-layer outer coating  
line, **Volzhsky**  
650 ktpa

★ Conservation coating line,  
**Sinarsky**  
200 ktpa

○ EAF (150 t), **Volzhsky**  
900 ktpa

● Scrap shearing facility,  
**Seversky**  
200 ktpa

● Vacuum degasser, **Seversky**  
950 ktpa



★ Heat treatment facility,  
**TAGMET**  
200 ktpa

## MAIN STAGES OF THE STRATEGIC INVESTMENT PROGRAMME

» 2010

2011

2012 »

Scrap shearing facility, **Seversky**  
200 ktpa

Hot rolling section of the TPA 159-426  
seamless tube mill, **Volzhsky**  
720 ktpa

Continuous caster #3, **Volzhsky**  
650 ktpa

Coupling shop, **Volzhsky**  
420 kpcspa

Vacuum degasser, **TAGMET**  
950 ktpa



Second production line for premium  
threaded connection pipe, **Brookfield**  
(USA)  
40 ktpa

Non-destructive testing equipment,  
**TAGMET**

Automated section for magnetic particle  
inspection of coupling outer surface,  
**Sinarsky**

Conservation coating line, **TAGMET**  
200 ktpa



Production facility for casing pipe with  
premium threaded connections, **Orsk**  
24 ktpa



Long-length tube manufacturing,  
**Sinarsky**  
50 ktpa



Welded stainless steel pipe  
production line, **TMK-INOX**  
10 ktpa





## MAIN STAGES OF THE STRATEGIC INVESTMENT PROGRAMME

&gt;&gt; 2013

★ Facility for premium threaded connection pipe production and service, **Edmonton (Canada)**  
32 ktpa

□ Non-destructive testing equipment, **Sinarsky**

★ Protective inner coating line, **TMK NGS-Nizhnevartovsk**  
32 ktpa

🎯 Long-length tube manufacturing, **TMK-INOX**  
7 ktpa



★ VIT production facility, **Sinarsky**  
20 kmpa

● EAF (135 t), **TAGMET**  
950 ktpa

□ Ultrasonic testing unit for drill pipe weld junction, **Sinarsky**



2014

🎯 Slitting unit, **TMK-INOX**  
10 ktpa

□ UKV-25 automated ultrasonic pipe testing system, **TMK-INOX**

□ High-performance automated seamless pipe quality control lines, **Sinarsky**

🎯 FQM pipe rolling mill, **Seversky**  
635 ktpa



□ AUT equipment for line pipe bodies and end sections, **Volzhsky**

□ Non-destructive testing line for OCTG, **Sinarsky**

★ Coupling production equipment, **Sinarsky**  
88 kpcspa\*

★ Hydrotester and coupling machines of the premium threaded connection pipe finishing line, **Sinarsky**  
37 ktpa\*

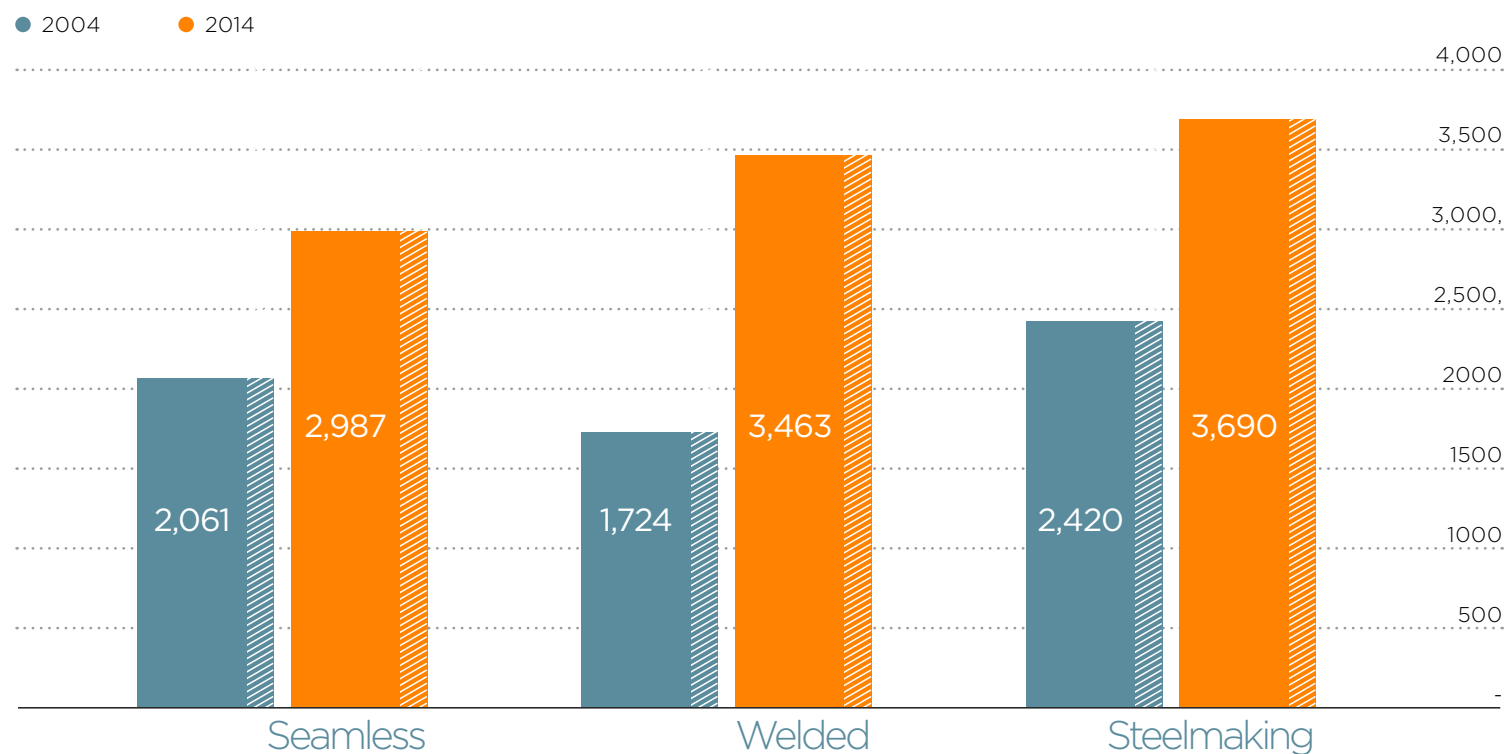
★ Pipe end forming and calibration unit, **Sinarsky**  
40 ktpa\*

★ Pipe threading machines at premium threaded connection pipe finishing line, **Sinarsky**  
47 ktpa\*



\* To be commissioned in 2015

In 2014, we invested USD 293 m to develop our production capacities, and TMK's capex plan for 2015–2016 will amount to around USD 519 m to enhance our finishing operations: heat treatment, pipe finishing, coating and threading operations, coupling production, improvement of controls. The plan includes boosting heat treatment efficiency and treading capacity, and establishing an outer coating line at TMK IPSCO facilities. This will guarantee our products higher value and quality.



GRAPH 4.5

TMK's facilities production capacity\*

• 2004-2014

/ thousand tonnes /

\*including acquisitions