

CURRENT STATUS OF THE FERROALLOYS INDUSTRY IN RUSSIA AND THE CONSEQUENCE OF THE EXPORT DUTIES

Dmitry OSTROVSKIY

SPTC «URM» LLC



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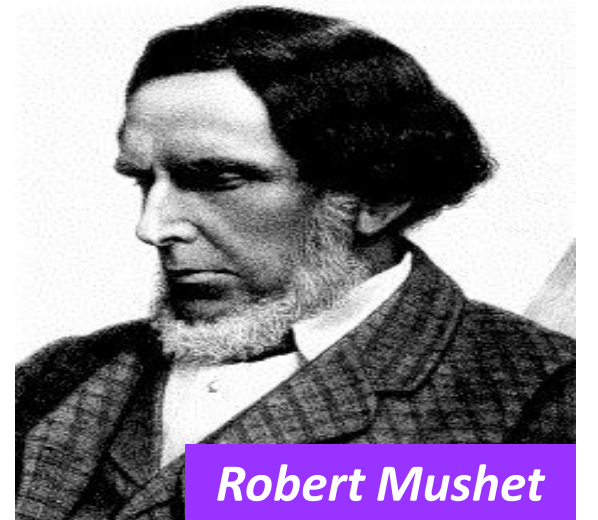
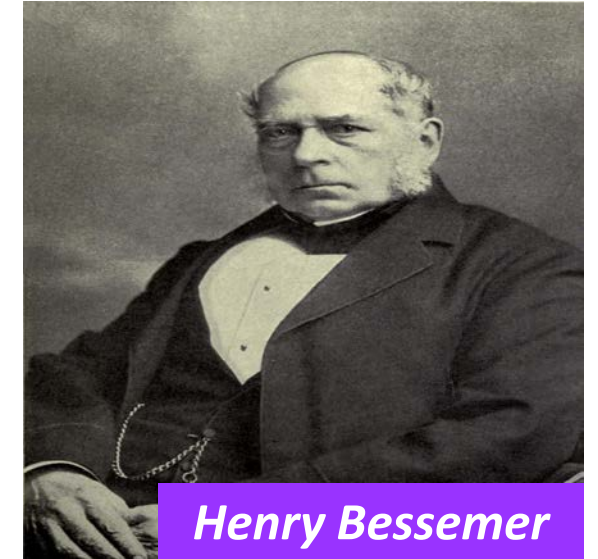
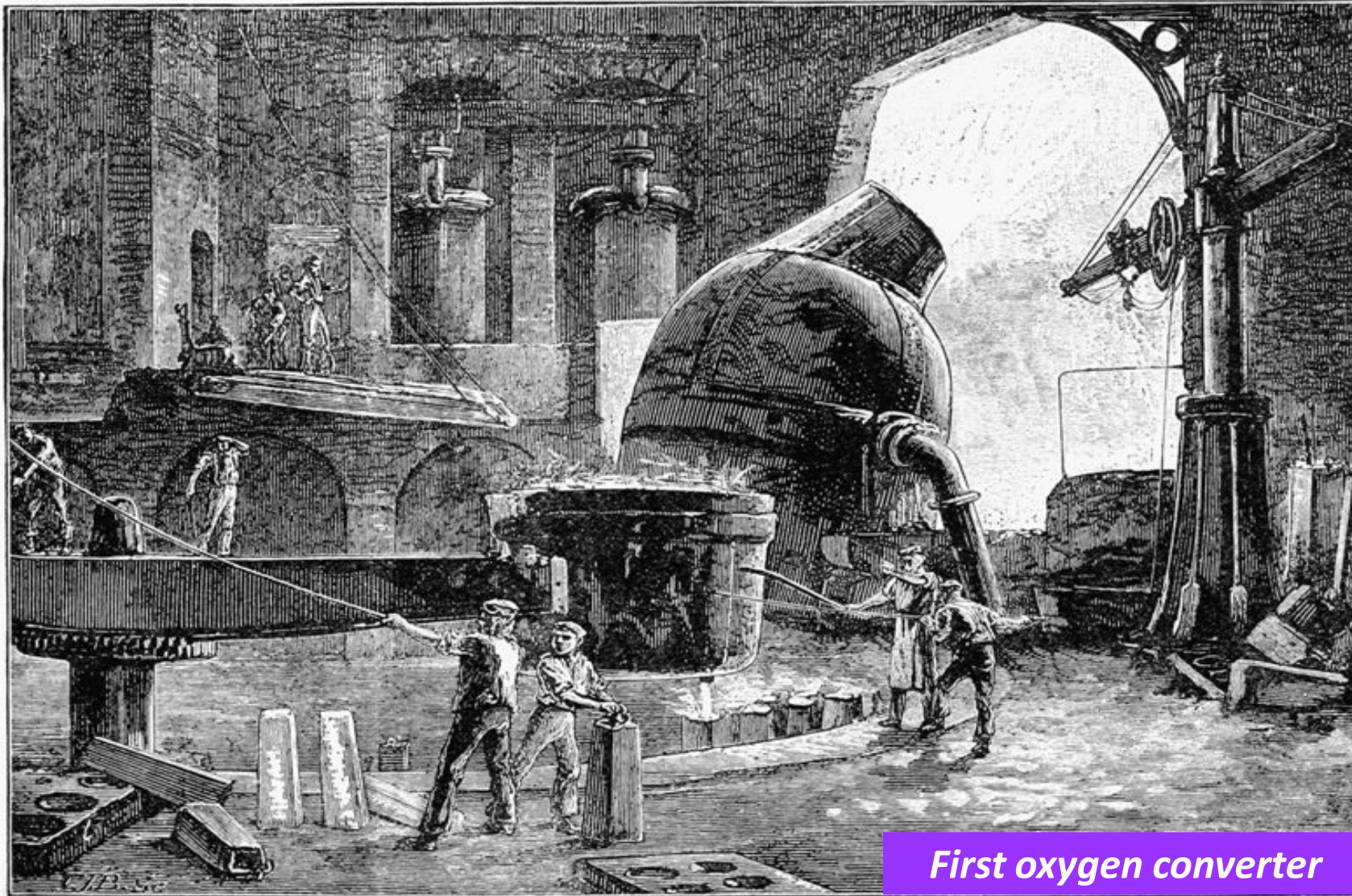
STATE OF THE STEEL SECTOR

THE ORIGINS OF THE STEEL INDUSTRY



Source: URM Company

THE ORIGINS OF THE STEEL INDUSTRY



PROSPECTS FOR DEVELOPMENT OF THE STEEL SECTOR IN 2021



China is reducing steel production and exports, but increasing imports



Steel production in India is growing rapidly



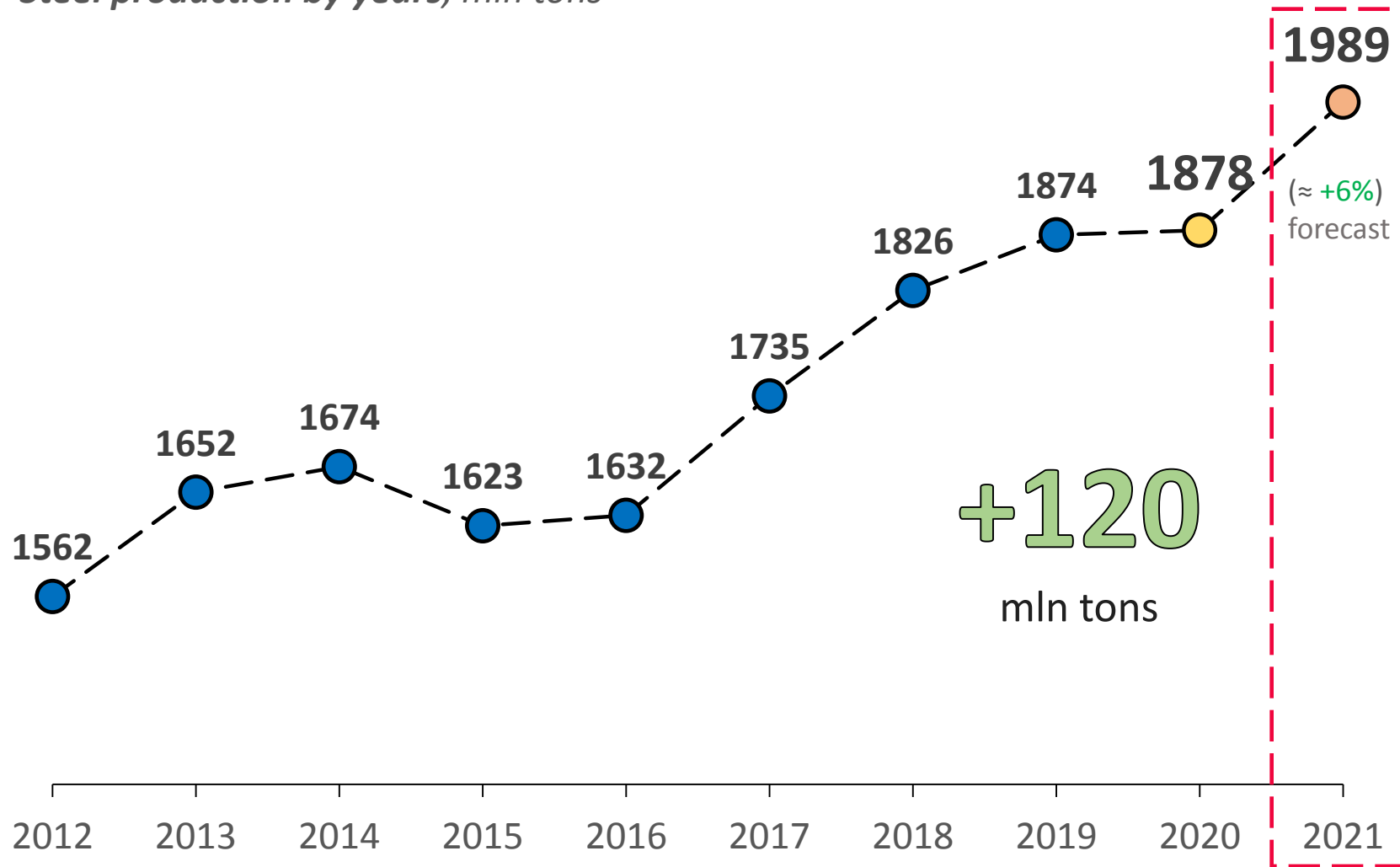
USA print money



Global decarbonization, i.e. transition from "gray" steel to "green" steel

WORLD STEEL PRODUCTION

Steel production by years, mln tons

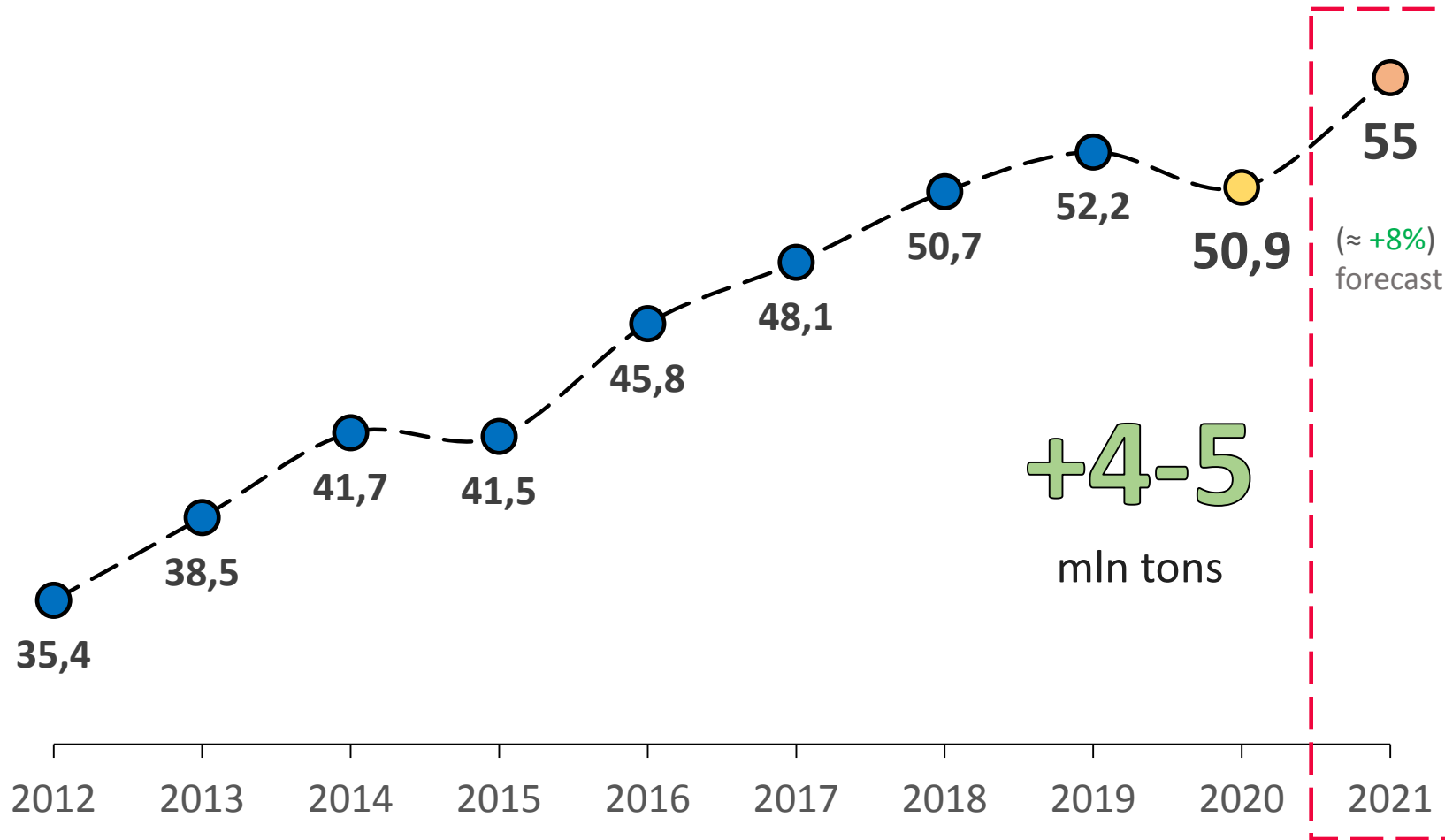


Steel production forecast by country in 2021, %

	China	+4%
	India	+25%
	Japan	+15%
	USA	+18%
	Russia	+4%
	South Korea	+8%
	Germany	+19%
	Turkey	+17%
	Brazil	+22%
	Iran	+10%

WORLD STAINLESS STEEL PRODUCTION

Stainless steel production by years, mln tons



Stainless steel production forecast by country in 2021, %



IMPACT OF INCREASED STEEL PRODUCTION

To produce an additional 120 mln tons of steel, it is necessary:



1,5 mln tons of silicon and manganese alloys



120 mln tons of iron ore



50 mln tons of coal



45 mln tons of scrap metal

To produce an additional 5 mln tons of stainless steel, it is necessary:



1,5 mln tons of chromium alloys



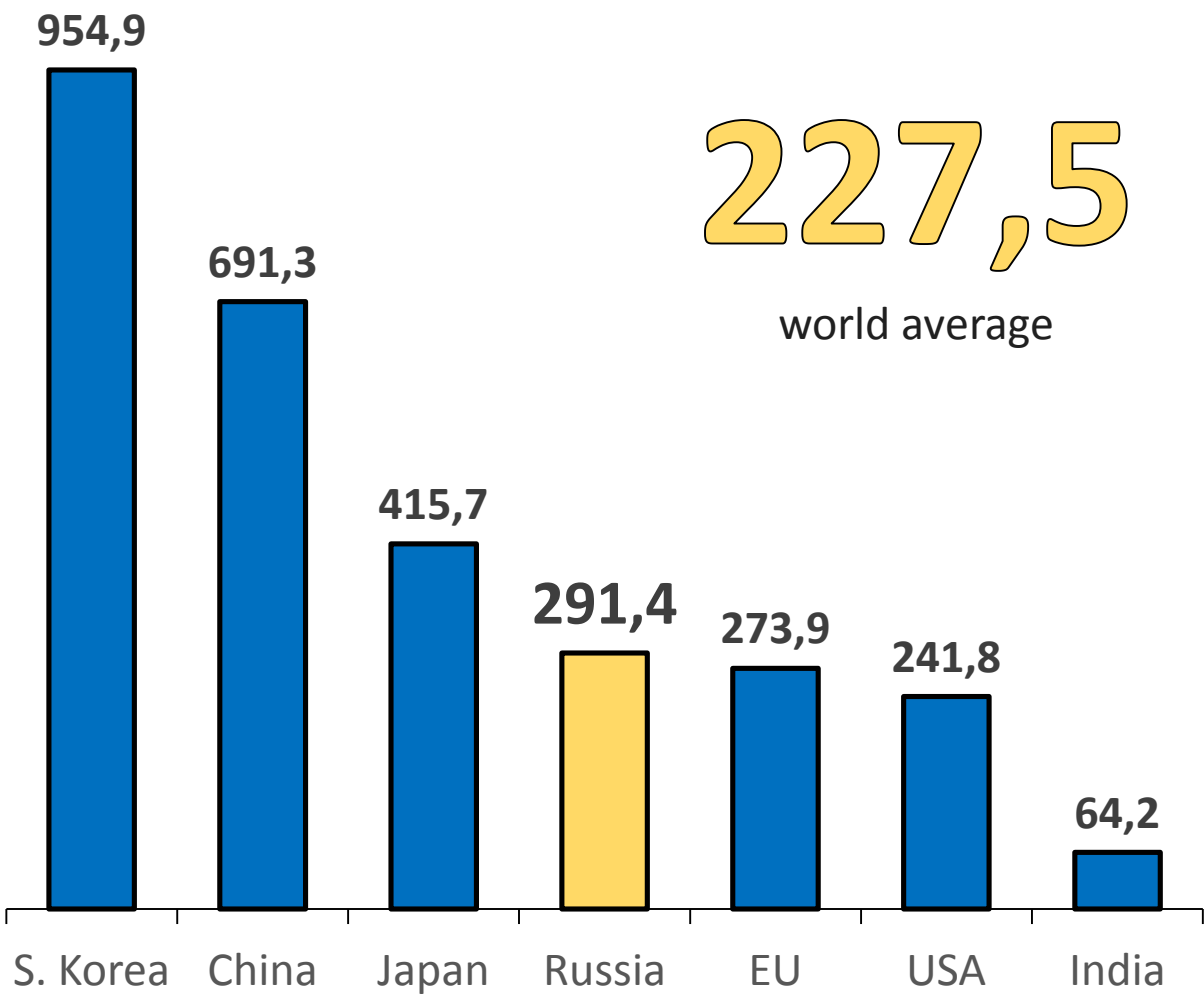
0,5 mln tons of nickel



1 mln tons of stainless steel scrap

CONSUMPTION OF STEEL IN RUSSIA AND ASIAN COUNTRIES

Apparent use of steel per capita in 2020,
kg/person



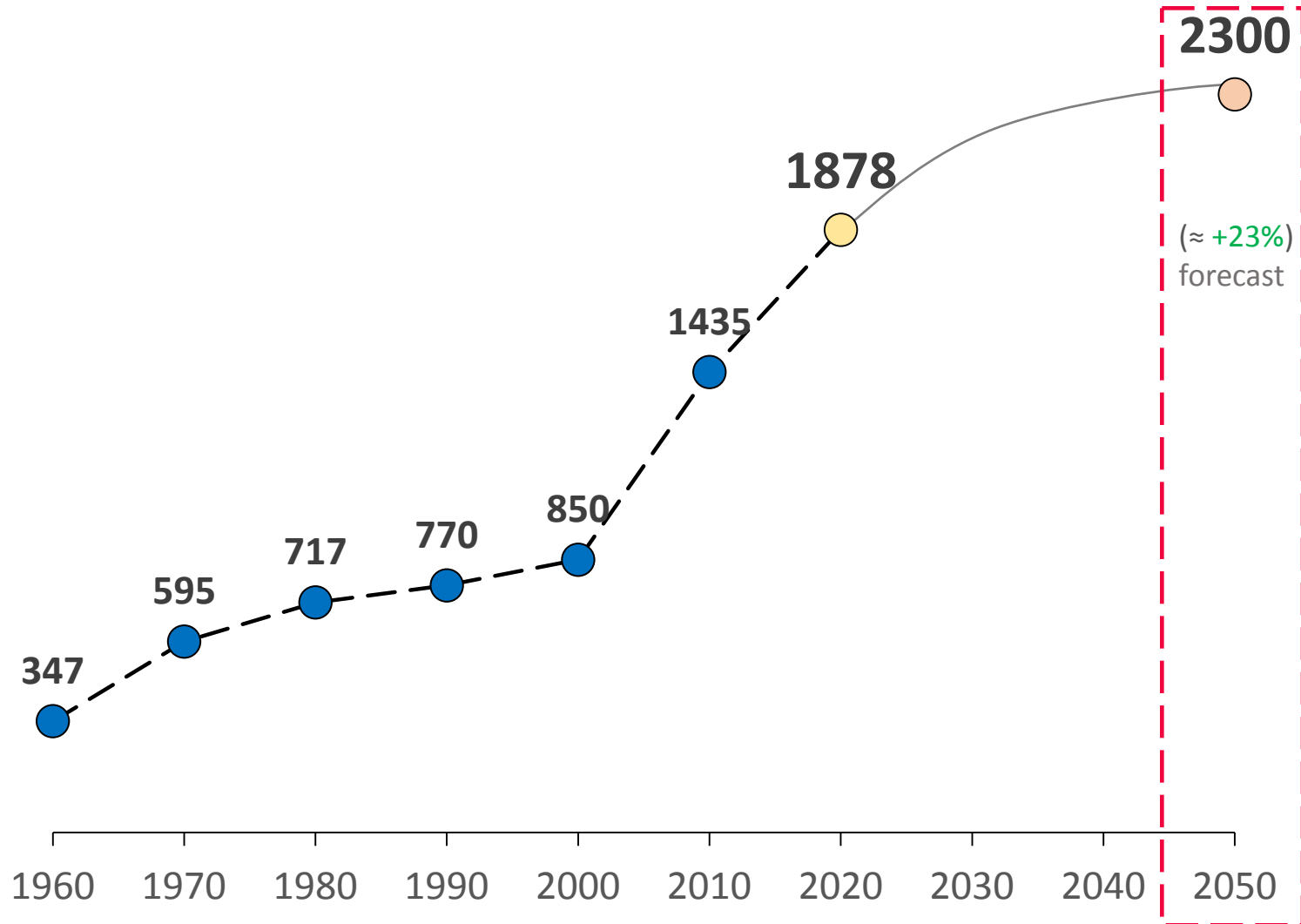
Source: WSA

Steel consumption in Asian countries, kg/person

Country	Production, mln tons	Population, mln	Consumption per capita
China	1064	1 490	691
India	100	1 366	64 
Japan	83,2	126	415
S. Korea	98,7	52	954
Taiwan	21	235	777
Vietnam	19,5	96	202 
Indonezia	9,3	271	34 
Malaizia	7,1	32	222 
Sum	1402,8	3 668	308 

WORLD STEEL PRODUCTION UNTIL 2050

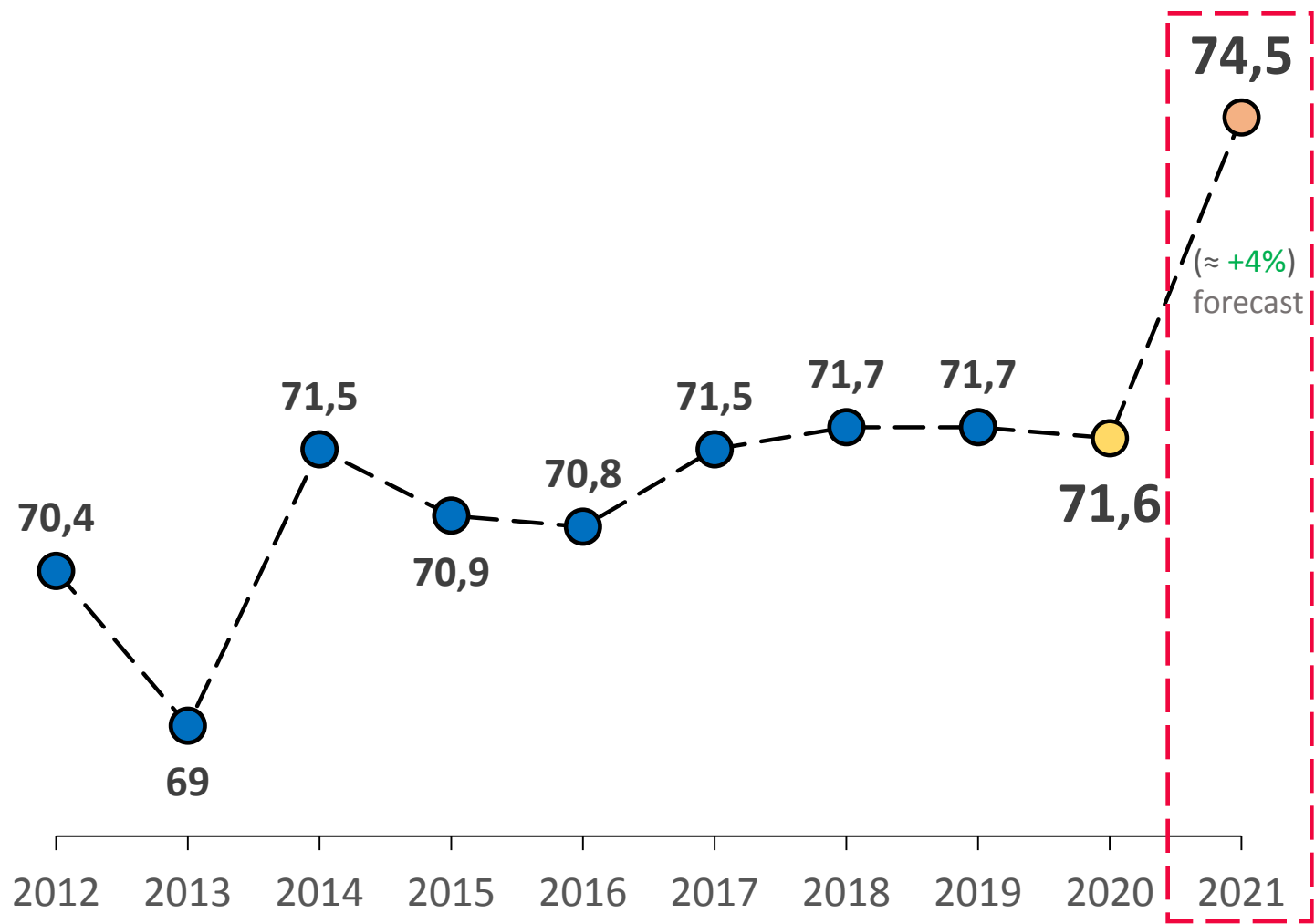
Forecast for global steel production up to 2050, mln tons



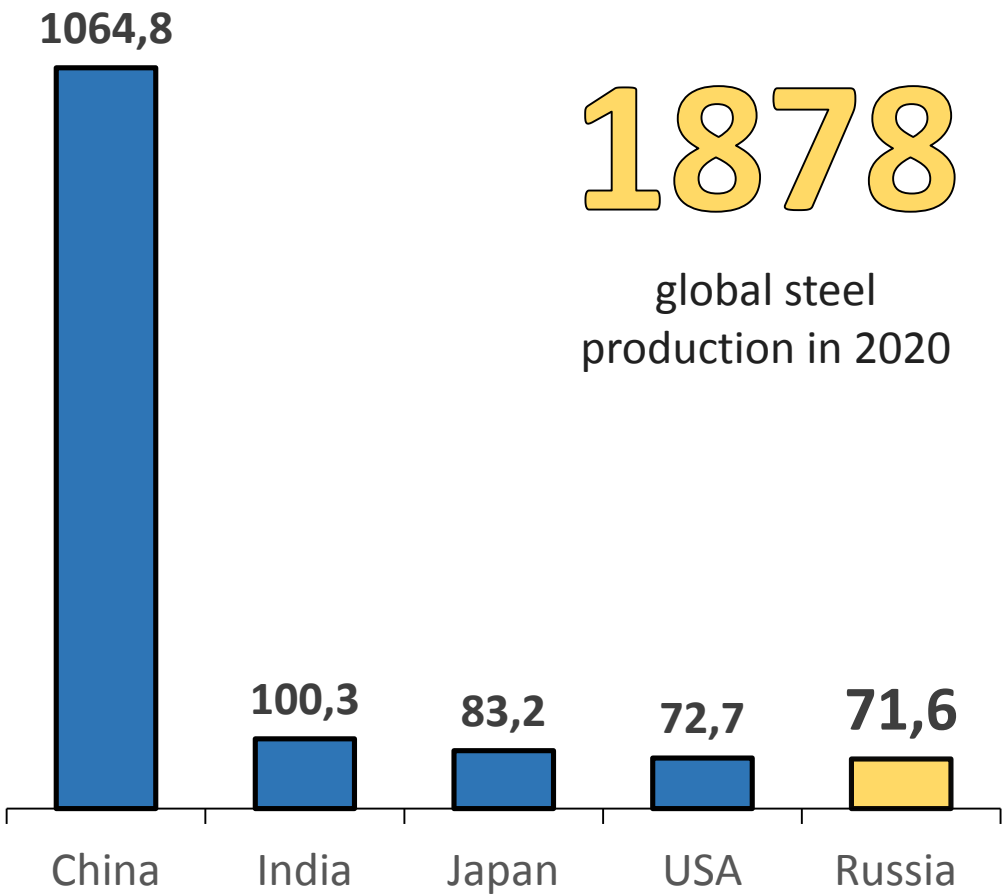
Steel production in Asian countries **will double** until 2040

STEEL PRODUCTION IN RUSSIA

Steel production in Russia by years, mln tons



Largest steel producers in 2020, mln tons



SHARE OF STEEL PRODUCERS IN RUSSIA

Company	2019	2020	2021 (F)	Weight 2020, %
Evraz	11 600	11 900	11 600	80%
MMK	12 200	10 900	12 600	
Severstal	11 200	11 300	11 400	
NLMK	12 430	12 430	14 002	
Metalloinvest	4 900	5 005	5 000	
Mechel	3300	3418	3 400	20%
TMK	3 000	3 000	4 010	
ChTPZ	850	1 000	---	
OMK	900	900	900	
Others	10 062	11 105	10 688	
Total	70 900	71 600	74 500	100%

Main steel producers in Russia

		Производство стали, млн т	Выручка, млрд \$	EBITDA, млрд \$
ММК	2019	12,5	7,566	1,797
	2020	11,6	6,395	1,492
	1п.2021	6,701	5,44	2,161
ЕВРАЗ	2019	13,814	11,905	2,601
	2020	13,63	9,754	2,212
	1п.2021	6,777	6,178	2,082
Северсталь	2019	11,847	8,157	2,805
	2020	11,314	6,87	2,422
	1п.2021	5,737	5,165	2,809
НЛМК	2019	15,7	10,6	2,6
	2020	15,9	9,2	2,6
	1п.2021	9	7	3,2
Металлоинвест	2019	4,867	6,96	2,514
	2020	4,966	6,409	2,471
	1п.2021	2,484	5,064	2,916
Мечел	2019	3,61	3,943	0,729
	2020	3,655	3,647	0,565
	1п.2021	1,724	2,54	0,714

Source: WSA, URM Company, metallplace.ru

STATE OF THE FERROALLOY SECTOR

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PROSPECTS FOR THE DEVELOPMENT OF FERROALLOY SECTOR IN 2021



China incapacitates the furnace below 25 MVA and limit power consumption



Growth in steel production in India, and, accordingly, an increase in the consumption of ferroalloys.



Increasing the cost of industrial electricity on the main markets



Ferroalloy production decarbonization

WORLD PRODUCTION OF FERROALLOYS

Ferroalloy production by country, th. tons

Type	China	CIS	South Africa	India	EU	USA	ROW	TOTAL
FeSi	5 300	920	130	90	410	53,4	710	7 613
SiMn	11 700	1610	150	2000	505	73	810	16 848
FeMn	1 900	394	760	520	263	12	830	4 679
FeCr HC	5600	1900	3 050	970	712	4,1	286	12 522
FeCr LC	536	180			16		41	773
TOTAL	25 036	5 004	4 090	3 580	1 906	143	2 677	42 436

90%

The world average consumption of ferroalloys per **1 ton of crude steel** is **20 kg**

WORLD PRODUCTION OF FERROALLOYS

Region	FeMn, т	SiMn, т	Mnмет, т	FeSi, т	FeCr, т	SiCr, т	Share, %
Chongqing		521400	85000				2,3
Sichuan	47700	120500		104560	258507	12318	7,1
Xinjiang Uyghur		154100					
Shanxi	522500	327000			335118	15968	
Yunnan	49100	306100					1,3
Hunan	50500	166400	119900		166793	7948	1,9
Liaoning	80000						0,3
Guangxi Zhuang	225800	1683750	246100		355037	16917	9,4
Guizhou	82200	937000	230900		424863	20245	6,3
Gansu		286600		354680	232022	11056	21,8
Shaanxi				942900			
Qinghai				1026700			
Xinjiang Uyghur							
Ningxia Hui	37200	2157700		829200			
Henan	146800	581500					2,7
Inner Mongolia	573200	4539200		2062950	3986835	189971	42,2
Other	103500		690000		469625	22377	4,8
Total	1918500	11781250	1371900	5320990	6228800	296800	100

42%

of Chinese ferroalloys are produced in the Inner Mongolia region



China in 2000

Steel production *125 mln tons*

Ferroalloy production:

SiMn – *900 th. tons*

FeMn – *1020 th. tons*

FeSi – *1400 th. tons*

FeCr – *500 th. tons*

3,9

mln tons

Export in 2000 - *1 mln tons*

Export in 2020 - *300 th. Tons (1,5%)*



India in 2020

Steel production *100 mln tons*

Ferroalloy production:

SiMn – *2000 th. tons*

FeMn – *520 th. tons*

FeSi – *90 th. tons*

FeCr – *970 th. tons*

3,5

mln tons

Export in 2020 – *1,5 mln tons*

Export in 2040 – *1,5% th. tons*

FERRALOYS PRODUCERS IN THE CIS COUNTRIES

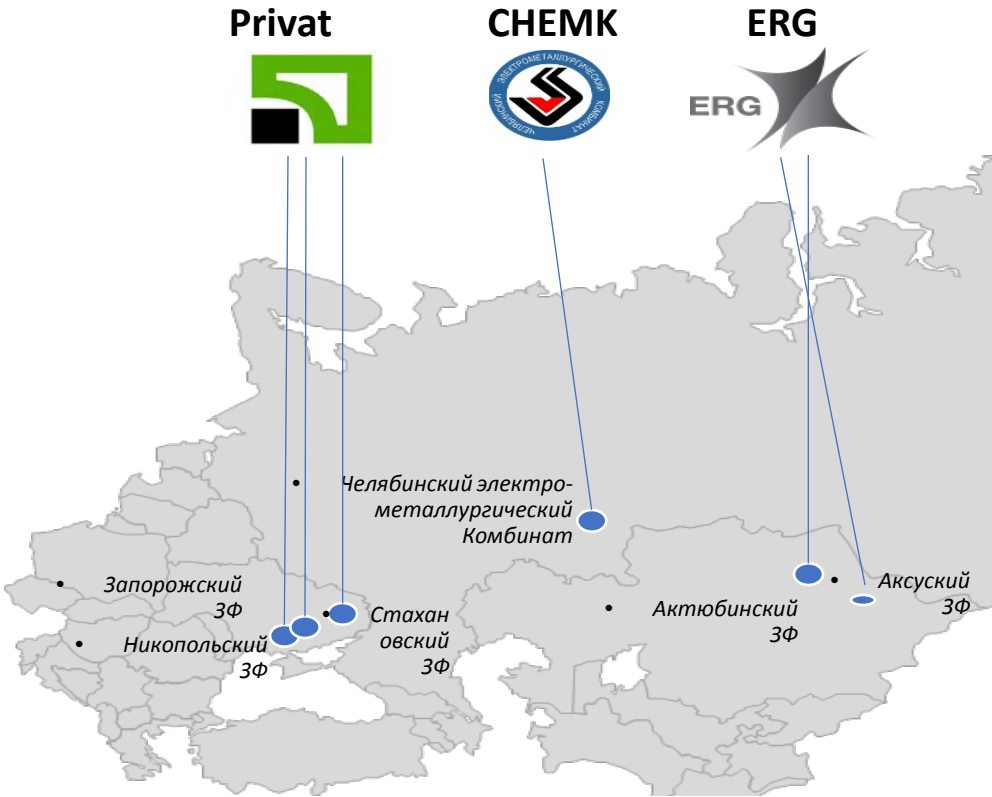
Total production ferroalloys in CIS is about 4.9 mln tons
(25 plants)



THE BIG THREE

Producers of Ferroalloys, tons (2020)

	ERG 	Chemk 	Privat 
FeCr HC	1 660 000	200 000	--
FeCr LC	70 000	180 000	--
SiMn	80 000	400 000	700 000
FeMn-78	--	12 000	120 000
FeSi	40 000	530 000	70 000
Total	1 850 000	1 322 000	890 000



CONSUMPTION OF FERROALLOYS IN RUSSIA

'000 mt	Consumption	Production except THE BIG THREE	Overcapacity	Production THE BIG THREE
FeSi	174	280	+14%	+640
SiMn	440	430	(+/-) 0%	+1 180
FeMn	172	270	+56%	+124
FeCr	65	90	+38%	+2 010
Total	851	910		+3 954

COMPETITION IN THE WORLD MARKET OF FERRALOYS

Country	Production, tons	Consumption, tons	Overproduction, tons	%
CIS	5 040 000	1 087 000	3 900 000	300 %
India	3 580 000	1 817 000	1 700 000	60 %
China	25 036 000	24 700 000	300 000	3 %
EU	2 158 000	3 796 000	-	-
USA	210 000	1 194 000	-	-
Japan	300 000	1 540 000	-	-

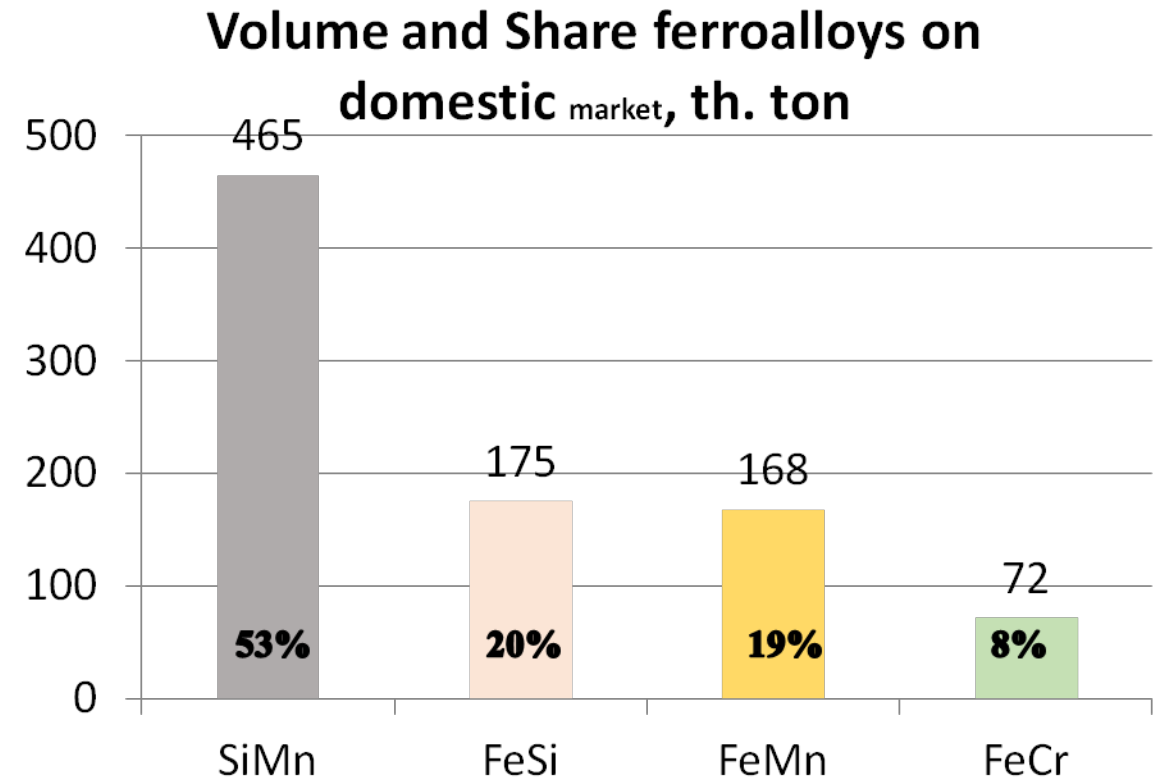
FERRALOYS CONSUMERS IN RUSSIA

	SiMn	FeSi- 45/65/75	FeMn-78	HC FeCr	LC-MC FeCr	Sum
EvrzHolding	108 000	22 000	9 600	3 600	2 520	145 720
MMK	72 000	24 000	24 000	-	2 520	122 520
Severstal	36 000	15 600	24 000	480	140	76 220
Lipetsk	42 000	24 000	40 000	-	140	106 140
Metalloinvest	54 000	15 600	3 600	12 000	4 200	89 400
Mechel	24000	24 000	30 000	6 000	2 520	86 520
TMK (+ChTPZ)	45 000	2400	6 000	6600	3 600	63 600
OMK	8 400	2 500	840	1 680	840	14 260
Others	75 000	45 000	30 000	13 000	12 000	175 000
Sum	464 400	175 100	168 040	43 360	28 480	879 380

CONSUMPTION OF FERRALOYS IN RUSSIA

Consumption of ferroalloys in Russia in 2019-2021, th. tons

'000 mt	Total consumption	Consumption kg/mt steel
FeSi	175	2,48
SiMn	465	6,2
FeMn	168	2,42
FeCr	72	0,91
Total	880	12,2



Average consumption ferroalloys in the world **20 kg/mt** steel

FERRALOYS PRODUCERS IN RUSSIA

Group	Company	SiMn	FeSi	FeCr	FeMn	Sum
CHEMK	Kuznetsk ferroalloys	400	530	380	12	1322
	Chelyabinsk EMP					
	Serov FP					
	Yurginsky FP					
Mechel	Bratsk FP		85			85
NLMK	Novolipetsk MP		24			24
SGMK	Siberian EMP	50	12			62
Eldemir	Tikhvin FP			80		80
MidUral	Klyuchevsky FP			12		12
Satka IH	Satka ISP				120	120
	Kosogorsky FP				70	70
Metalex	Metalex		12			12
	Total, th. tons	450	651	472	202	1787

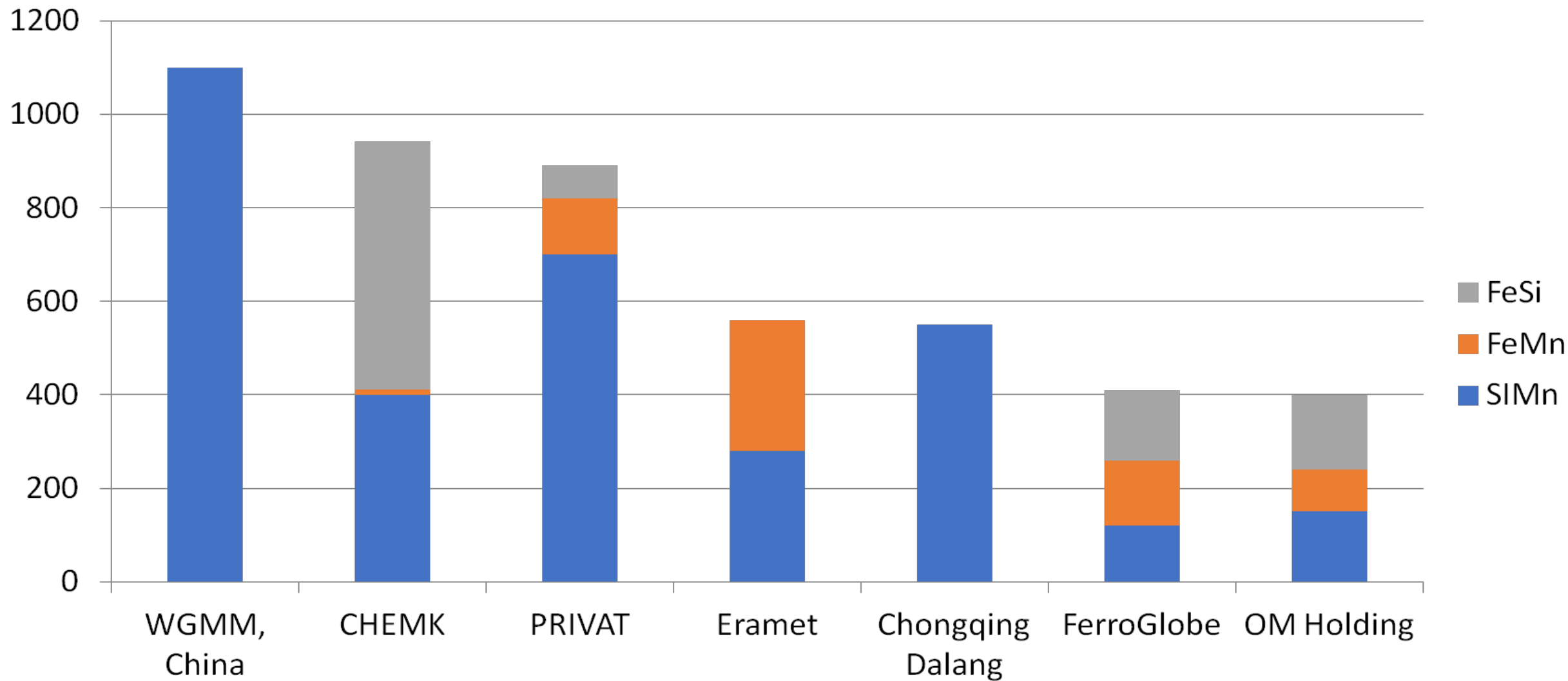
75%

CHEMK's share in the market

25%

share of other companies in the market

CHEMK IS ONE OF THE LARGEST COMPANIES IN THE WORLD



PRODUCTION:

1,5
mln tons/year

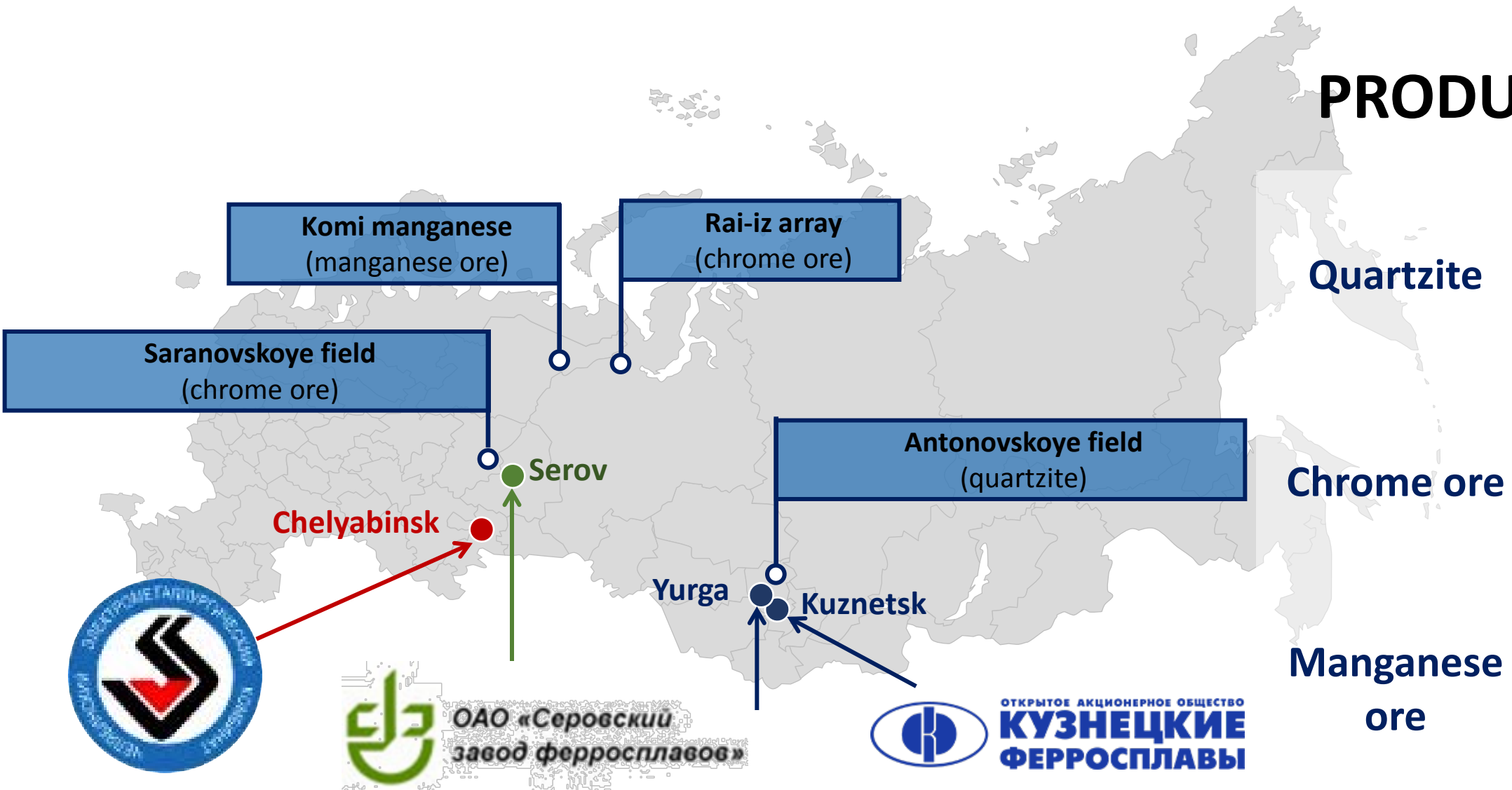
Quartzite

700
th. tons/year

Chrome ore

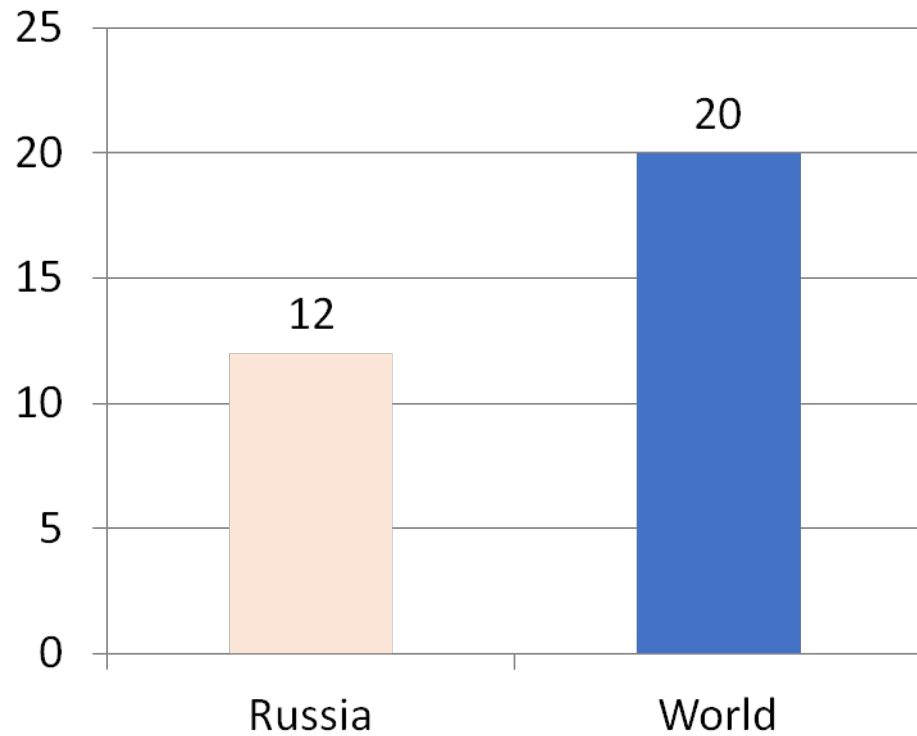
100
th. tons/year

Manganese ore

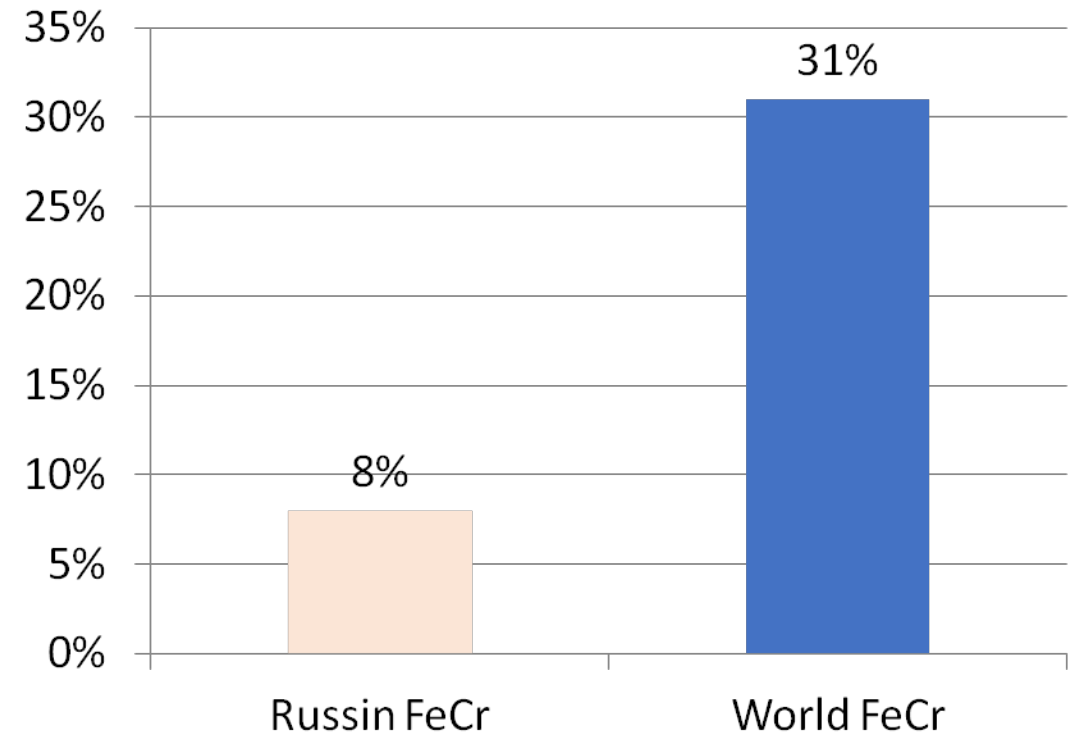


FERROCHROME AND STAINLESS STEEL PRODUCTION

Consumption ferroalloys on 1 mt crude steel, kg/mt

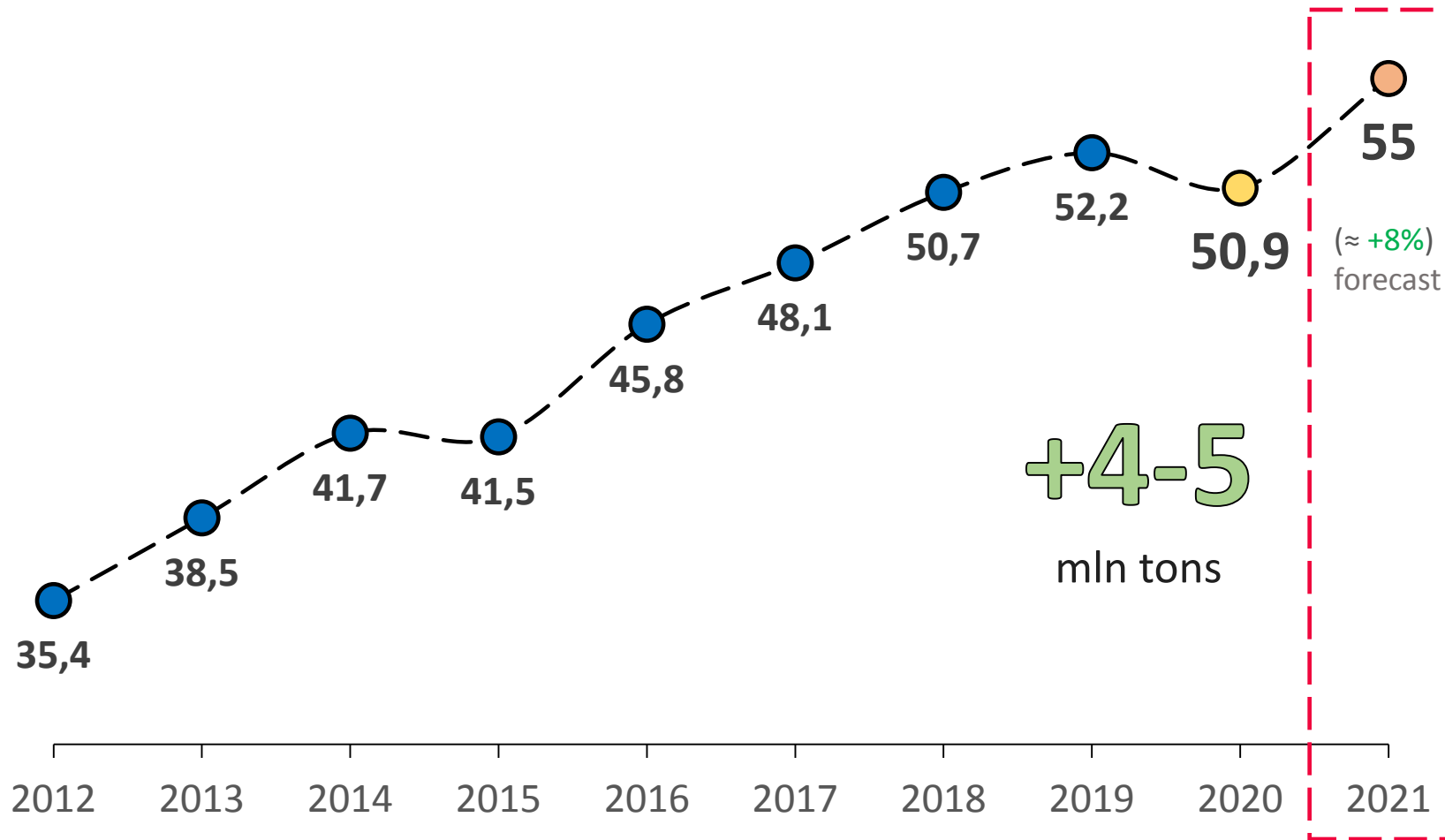


Share FeCr on the market among other ferroalloys



WORLD STAINLESS STEEL PRODUCTION

Stainless steel production by years, mln tons

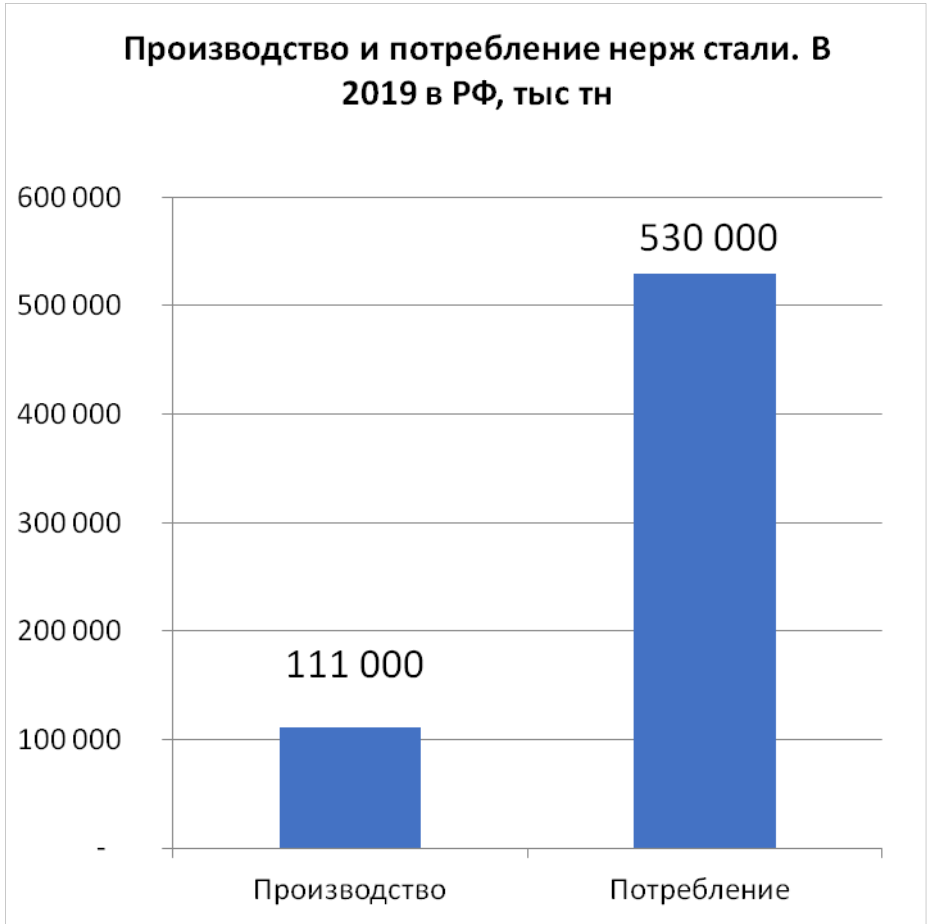
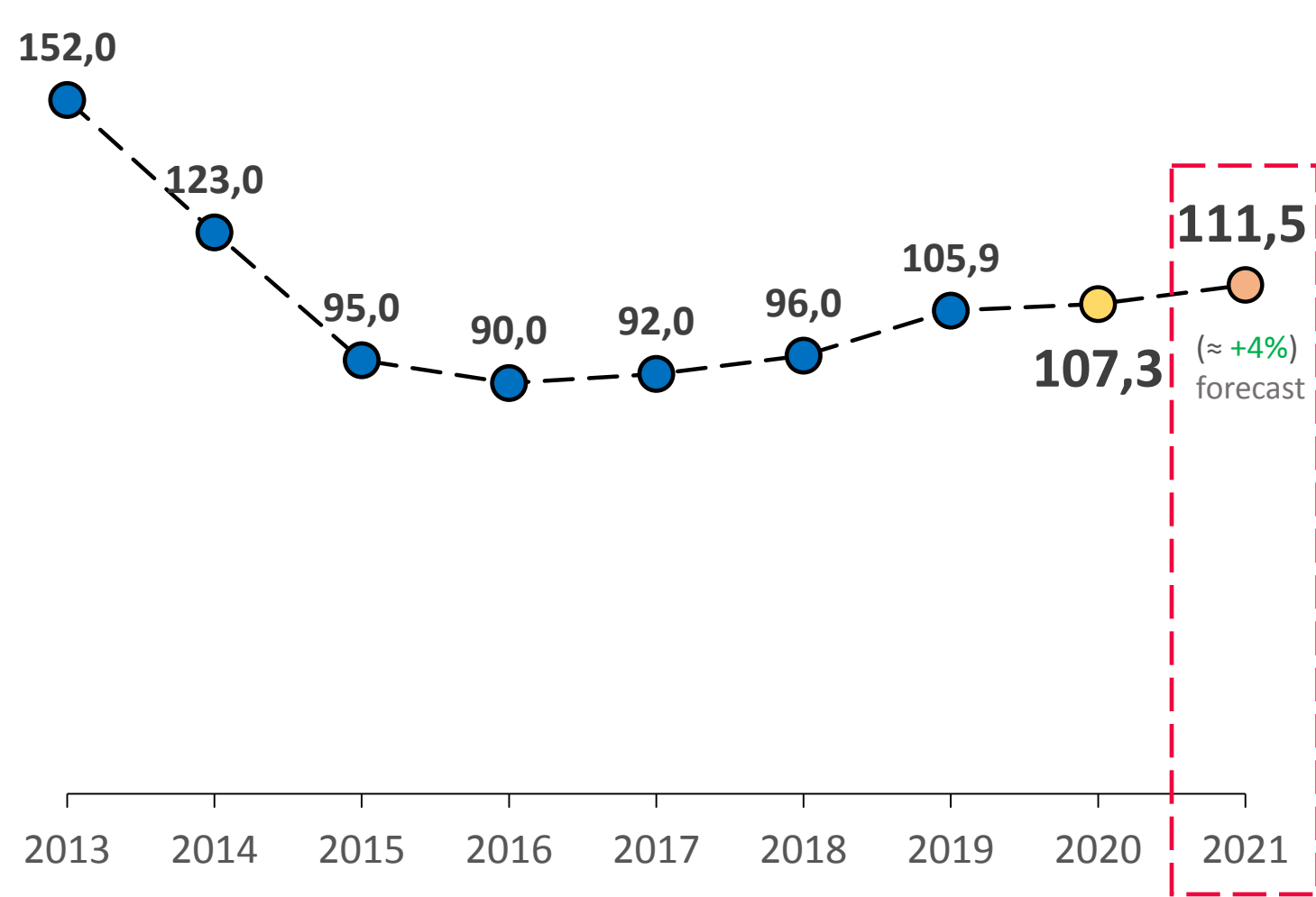


Stainless steel production forecast by country in 2021, %



STAINLESS STEEL PRODUCTION IN RUSSIA

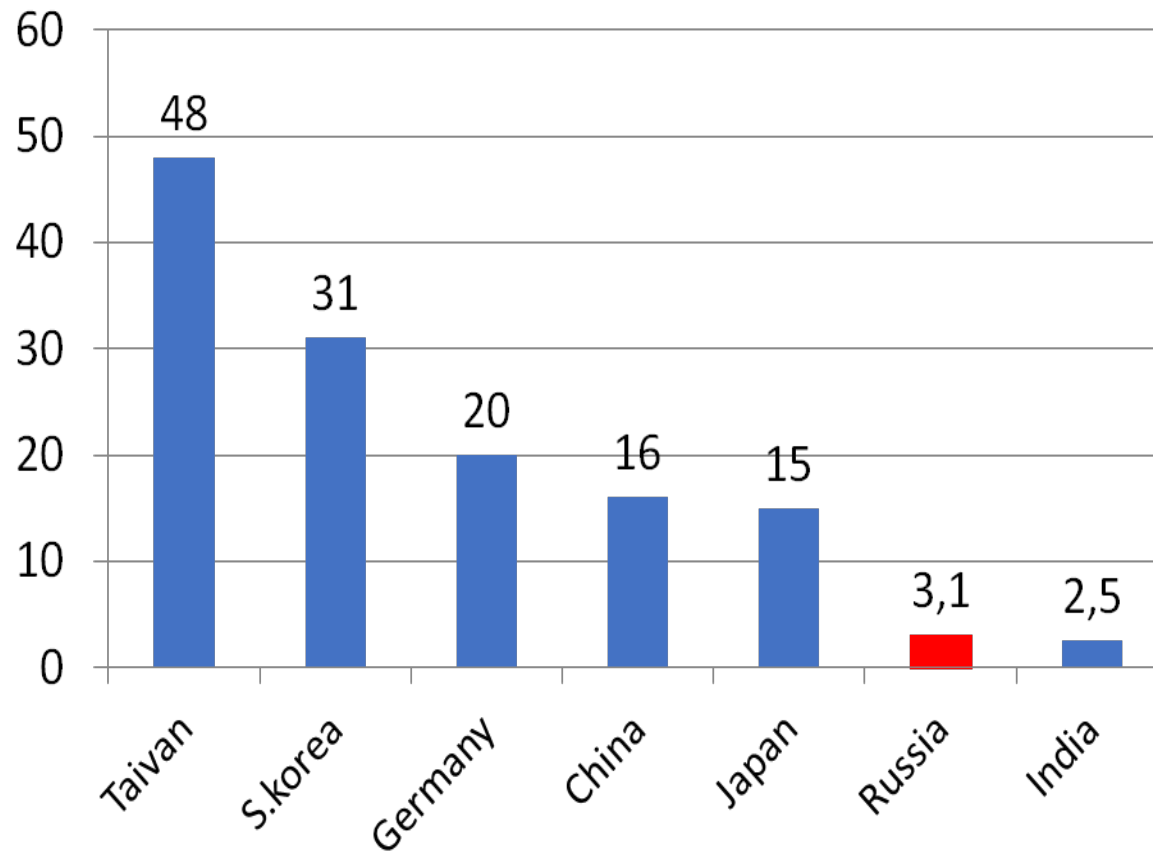
Stainless steel production in Russia by years, th. tons



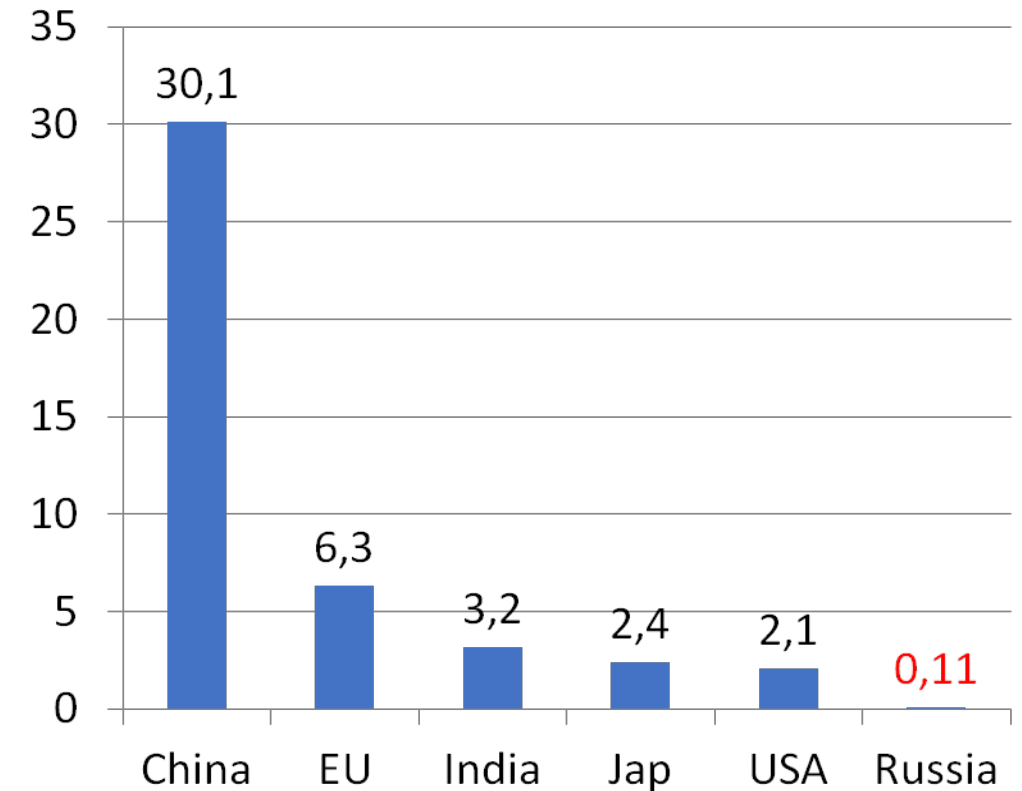
Source: ISSF

PRODUCTION AND CONSUMPTION OF STAINLESS STEEL

Consumption Stainless steel per capita



World stainless steel production , th. tons



NEW STAINLESS STEEL PLANT IN RUSSIA



6000

th. tons of finished
stainless steel flat
products

50%

HRC of carbon steel grades

33%

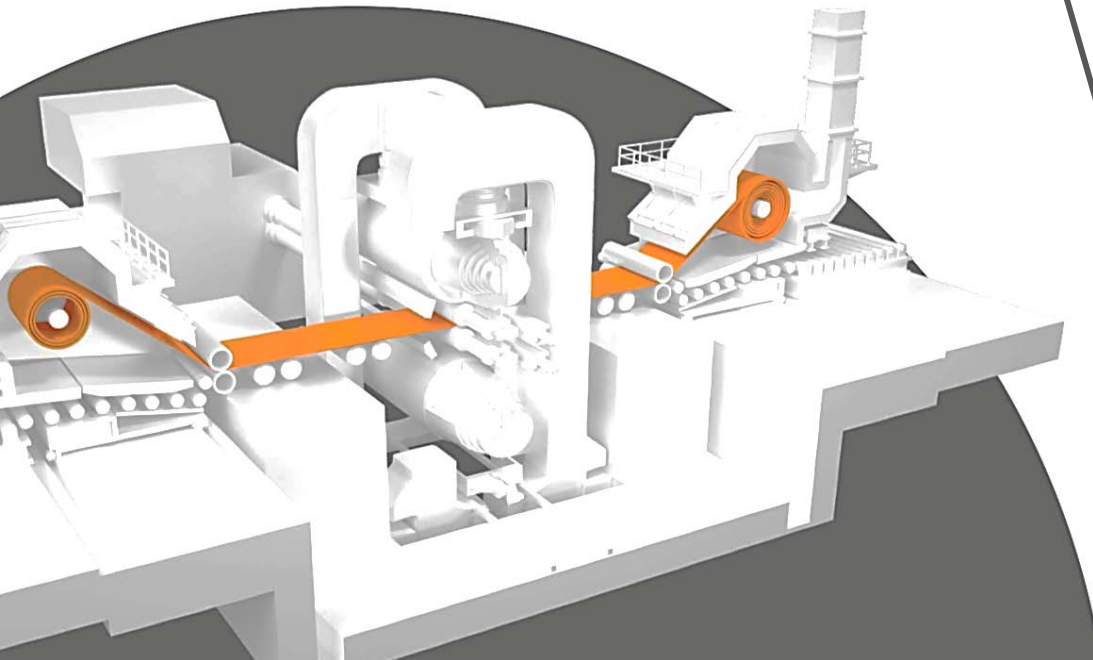
CRC of stainless steel grades

15%

HRC of stainless steel grades

2%

other



COMPETITIVENESS FACTORS

The classical structure
of the cost of
ferroalloys

40%

electricity

50%

ore + reducing agent

10%

other

Cost item	FeSi	SiMn	HC FeCr
	Cost contribution, %		
Electricity	40	20	20
Ore	10	40	40
Coke	10	13	14
Coal	15	2	1
Other	25	25	25

*Electricity cost by country in 2021,
USDc/kWh*

	China	6-8
	South Africa	5-6
	India	5-6
	Russia	4-5
	Kazakhstan	2-3

- На мировом рынке ферросплавов происходят серьезные изменения, которые потенциально могут изменить ситуацию на рынке ферросплавов. Это дефицит и рост цены электроэнергии в основных производящих странах, вывод из строя устаревшие печи и ограничения производства из-за экологических проблем.
- 4 мировых региона контролируют 90% всего ферросплавного рынка, при этом экспортоориентруемы остаются страны СНГ, Индия и ЮАР. Индия в ближайшее время будет наращивать производство стали и уменьшать экспорт ферросплавов.
- Российский рынок ферросплавов СНГ является одним из самых конкурентных в мире, где предложение значительно опережает спрос. Однако текущие события на мировых рынках позволят значительно облегчить ситуацию с конкуренцией.
- Себестоимость производства ферросплавов у крупнейших ферросплавных компаний СНГ конкурентноспособна с лучшими мировыми компаниями.
- Дальнейшее изменение цены будет обусловлено экономической ситуацией на мировом металлургическом рынке, себестоимостью у конкурентов и валютными изменениями на развивающихся рынках.

A photograph of a nuclear power plant with several large cooling towers and tall smokestacks emitting white steam into a blue sky with scattered clouds. The scene is captured from a low angle, making the structures appear imposing.

THANKS ALL FOR YOUR ATTENTION!

Speaker: Dmitry OSTROVSKIY

Commercial Director
SPTC «URM» LLC

www.urm-company.ru