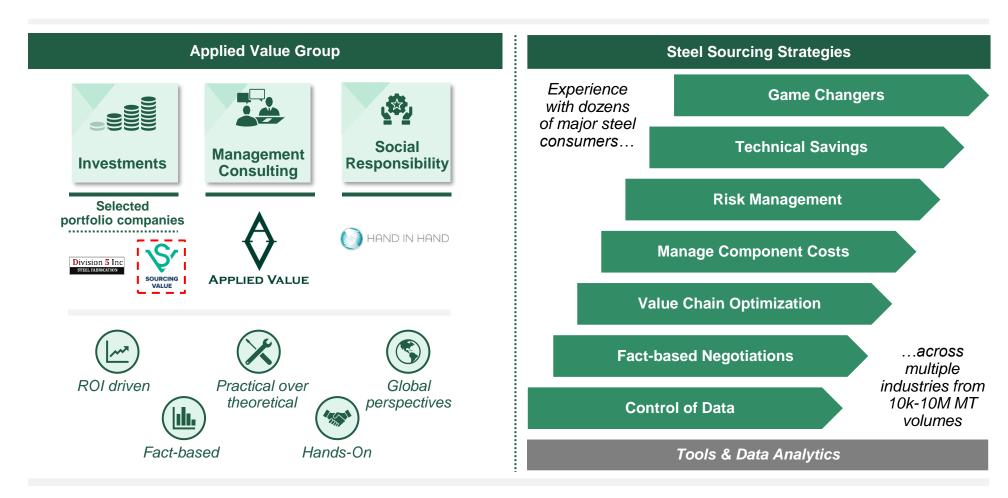


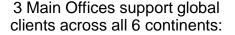


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# Applied Value is a management consulting & investment firm with deep expertise in supporting clients throughout the steel industry.





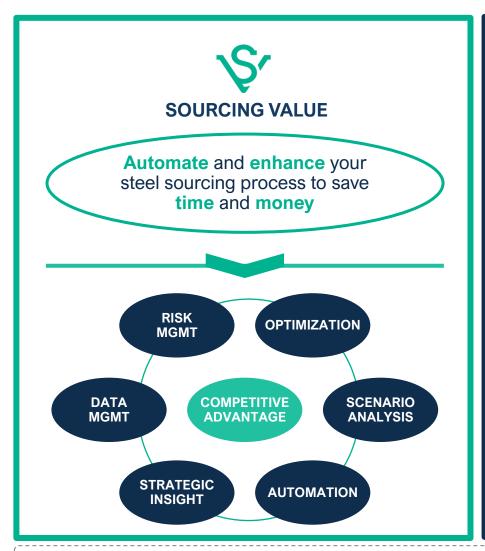


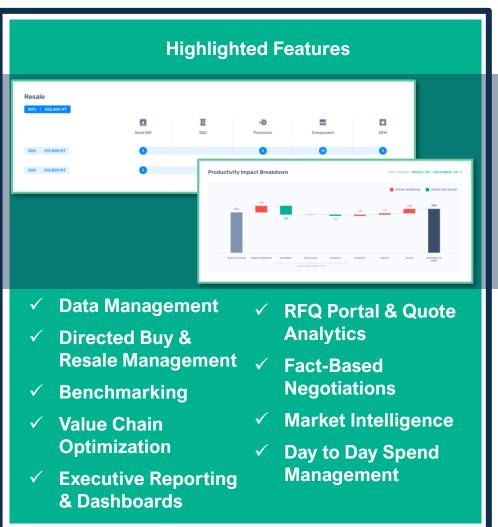






# Sourcing Value is a comprehensive digital analytics platform for steel sourcing, designed by Applied Value to save buyers time & money.





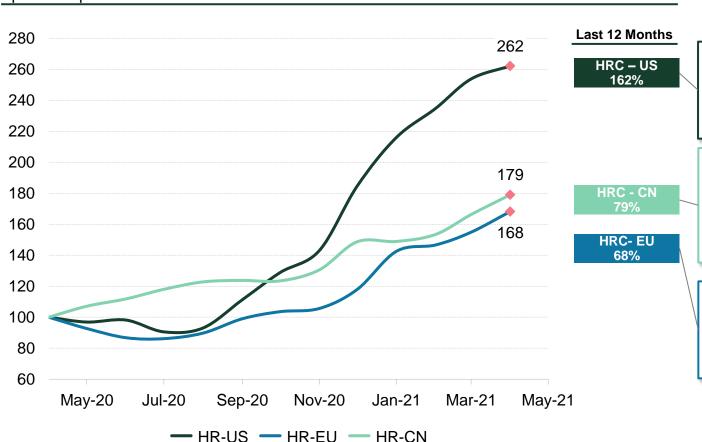




# Global HRC prices soared to multi-year highs in Q1 2021, defying market expectations of a correction with a growing outsized impact in the US.

#### **Indexed Hot-rolled Coil Costs**

Apr '20 - Apr '21



US HRC surged another 21% in Q1 '21 bringing the total LTM increase to 162%. The already significant difference in US impact vs. CN and EU continues to grow.

China HRC prices soared in Q1 '21 after a stable period at the end of last year. The growth is at least in part associated with inventory building ahead of looming production restrictions.

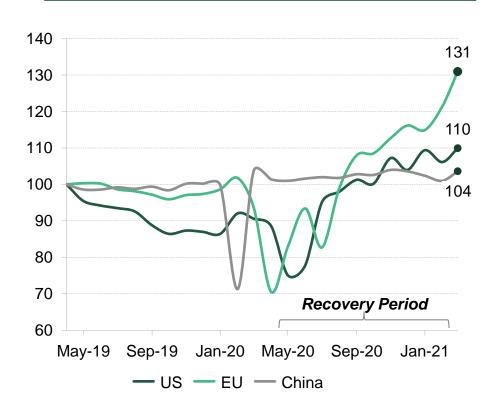
EU HRC prices have been accelerating since the beginning of 2021, largely caused by sustained demand strength in manufacturing sectors and scarcity of imports.



# Manufacturing activity continues to pick up in the US and EU, dragging out recovery of domestic supply while CN maintains record level steel output.

#### **Indexed PMI (Demand Indicator)**

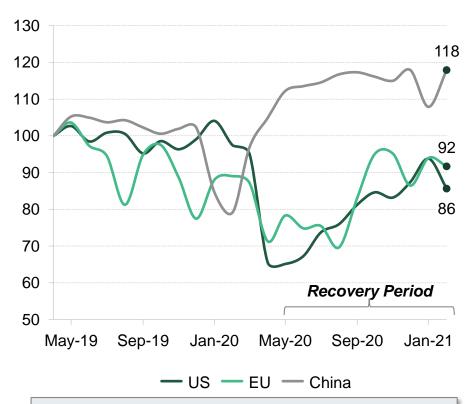
Apr '19 - Mar '21



- US and EU Manufacturing activity has not only recovered but has exceeded pre-pandemic levels
- > CN Manufacturing Activity is slightly above prepandemic levels, having bounced back much faster

### Indexed Crude Steel Production (Supply Indicator)

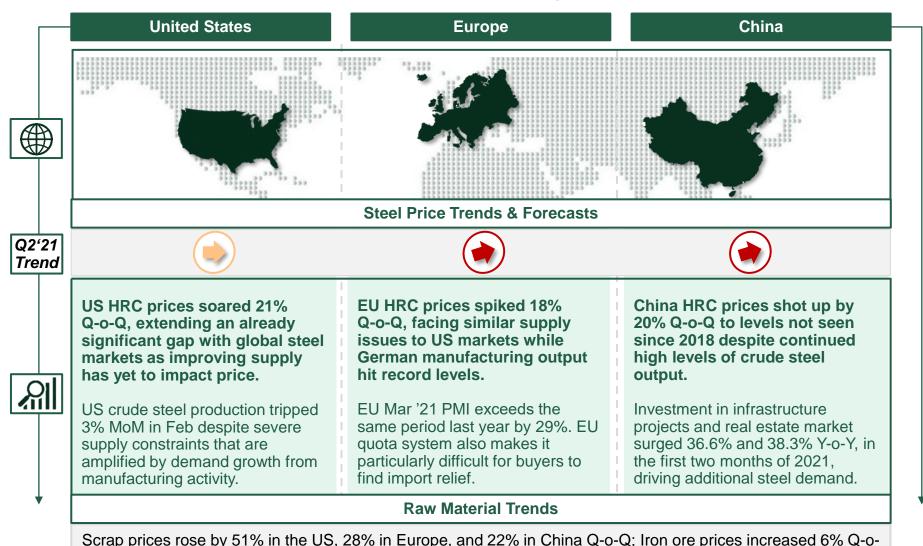
Apr '19 - Mar '21



- US and EU steel production took a long time to partially recover despite strong snap-back in demand
- CN Steel production was minimally affected by COVID and has soared well beyond 2019 levels



# As global steel prices touched new highs in Q1 2021, expectations of a market correction remained in place, although on an extended timeline.



Q: Global Raw Material inputs have been rising on the back of increased demand and higher production in China.



## **Global Steel Price & Trend Summary.**

Commodity			Latest Approx. Price*	Last 3 Months	Trend (3 Months Forward)	
	Flat	US	~\$1,469/MT	21%	$\Rightarrow$	
		EU	~€820/MT	18%	<b>→</b>	
		CN	~\$831/MT	20%	<b>→</b>	
	SS	US	~\$3,483/MT	23%	$\Rightarrow$	
		EU	~\$3,392/MT	32%	<b>→</b>	
		CN	~\$2,490/MT	9%	<b>→</b>	
	Plate	US	~\$1,202/MT	45%	$\Rightarrow$	
		EU	~\$954/MT	27%	<b>→</b>	
		CN	~\$776/MT	15%	<b>→</b>	
	Bar	US	~\$1,124/MT	57%	<b>&gt;</b>	
		EU	~\$800/MT	23%	<b>→</b>	
		CN	~\$727/MT	11%	<b>→</b>	

## **Major Market Drivers** Gov't Infrastructure Stimulus **Upward Drivers** Anti-dumping Mfg Activity Input Costs Direction of Impact M&A Consolidation **Downward Drivers** Regional Price Gaps Risk of Pandemic Extension Mill Utilization Rebound Capacity Expansion Low Med High **Level of Impact on Pricing @** USA China ΕU



<sup>\*</sup> Flat prices updated to reflect most recent Jan '21 prices due to extremely volatile market conditions; all other prices as of Dec '20.

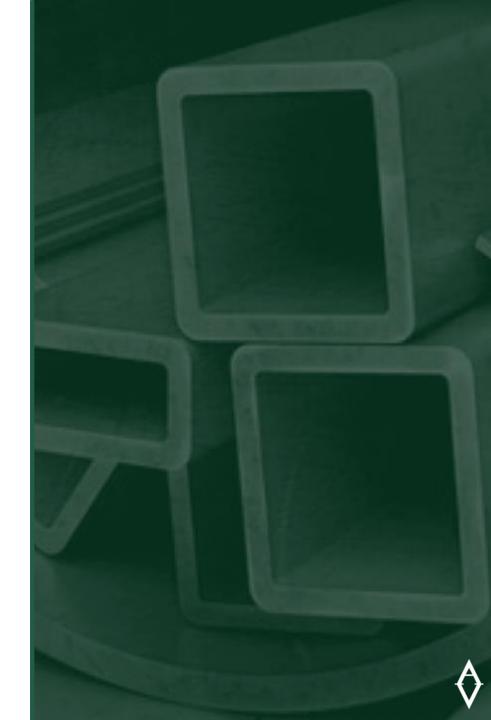
### **Applied Value Quarterly Steel Report**

Q2 2021

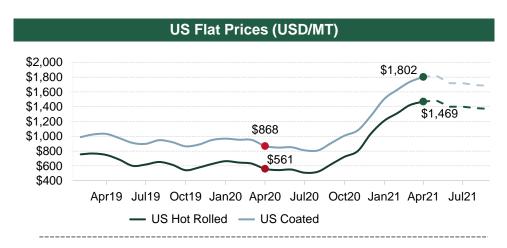
## **Market Conditions by Region**

**Steel Production Costs** 

Major Steel Mill Company Performance



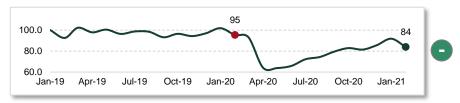
# US HRC prices recorded multi-year highs at \$1,469/MT in April 2021, up another 21% Q-o-Q on constrained supply & sustained by expensive inputs.



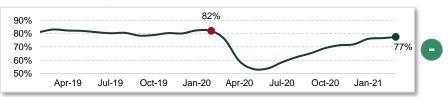
- US hot-rolled and coated maintained extreme growth in first quarter of 2021, climbing 21% and 20% Q-o-Q, respectively. Supply has been unable to keep up with demand despite improvements in mill utilization and production levels. Demand also continues to surprise market participants and exacerbate the supply constraints.
- Scrap skyrocketed ~51% Q-o-Q in Q1 2021 reaching ~\$550/MT in March, driven by increasing production levels and export competition. Scrap demand from China in particular, which recently removed barriers to scrap imports amid plans to transition to a more scrap-based steel production model, but also from Turkey have supported the increase. An estimated ~13.5mMT of additional EAF production capacity expected in the US market over the next ~3-4 years is also expected to drive additional demand for scrap.
- US crude steel production volume rose early in 2021, but already began to cool in February despite the supply constraints and elevated market prices, which typically incentivize mills to push for more production. Mill utilization currently hovers at 77%, 5ppt below pre-pandemic levels.
- US HRC is priced ~\$638/MT higher than steel in the Chinese market. The gap is ~6x larger compared to same period of last year. Factoring in a 25% tariff on the Chinese steel, it would still be \$430/MT less than US domestic.





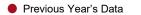


#### **US Mill Capacity Utilization**









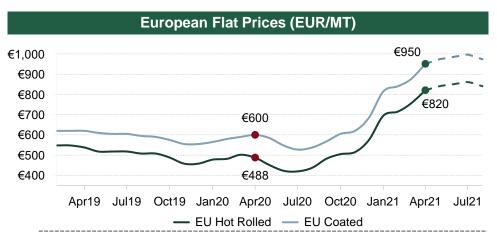
Latest Data

Correlation to Market Price

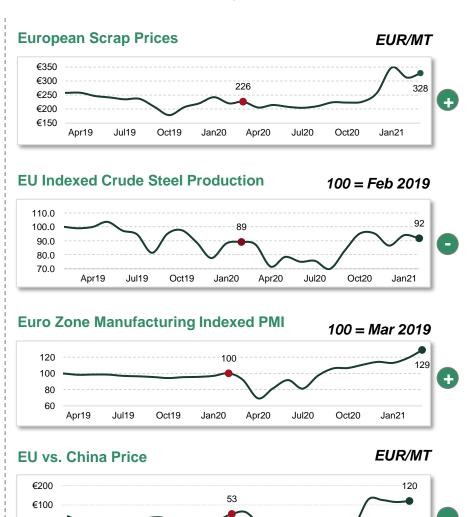


USD/MT

# EU HRC prices rose another 18% Q-o-Q in the first quarter of 2021 on further increases in manufacturing activity and constrained supply.



- EU HRC and coated steel prices grew 18% and 17% Q-o-Q, respectively, driven by increasing manufacturing activity and lagging supply, amplified by pre-existing import quotas and anti-dumping policies. Prices likely face more upward pressure in Q2 given high levels of demand.
- EU scrap prices showed the first signals of correction, falling 10% M-o-M in February before rebounding to 328 EUR/MT in March for a 28% total rise Q-o-Q. The swift rise in scrap prices has been supported by demand from China, which recently lifted trade restrictions on ferrous scrap imports and Turkey.
- In February 2021, EU crude steel production ticked downward. German production was down by ~10.4% relative to the same period last year despite 4 continuous months of recovery.
- > EU PMI achieved 2-year new high in March 2021, exceeding the same period of last year by ~29%. The EU manufacturing pandemic-recovery quickly turned into growth in Q4 of 2020 and continued its rise in Q1, putting additional pressure on domestic supply. The manufacturing resurgence has been led by Germany.
- The EU-China spread slumped slightly down to 120 EUR/MT in Q1 2021, as Chinese prices pressed upward. However, the gap between the regions remains high on a historical basis.

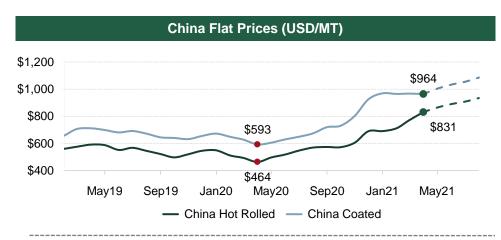


Latest Data

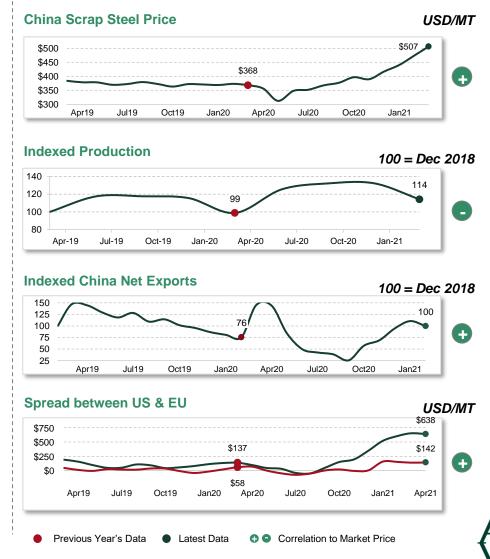
Correlation to Market Price

Previous Year's Data

# CN HRC prices increased 20% to \$831/MT in April, on domestic demand and anticipation of Government mandated production cuts expected late 2021.



- China hot-rolled April steel prices reached their highest point since 2018, up by 20% Q-o-Q and settling at \$831/MT; the growth has been supported by high demand from construction and Tangshan city's suspension of 30% of its blast furnace capacity. Market is anticipating that similar output cuts will be extended beyond Tangshan as part of a government-led initiative to curb production.
- Domestic steel scrap continued its staggering rise, reaching \$507/MT, a 22% increase Q-o-Q; the surge was credited to both the growth in steel production and the increasing tendency to rely on electric-arc furnaces as a more environmentally friendly production method. EAF capacity utilization was 63% in March.
- Production tapered in Q1 '21, declining by 4% Q-o-Q on the back of the environmental protection in Tangshan that saw 30% of blast furnace capacity suspended. Despite the decline, production remains at high levels, about ~14% above the same period last year, driving up raw material prices globally.
- In Q1'21, China's net exports trended downward as domestic prices rise to a multi-year high. The Chinese Government has announced cuts in export tax rebates for steel products, which could dampen export activity. However, the major regional price gaps remain high with US prices at a \$638/MT premium and EU prices at a \$142/MT premium to current domestic Chinese prices.



# Global steel markets have been driven to new heights by the bull-whip effect of the Pandemic, and strong upward drivers will slow market corrections.

#### **Upward Market Drivers**



#### **Limited Supply**

- > EU & US: Market participants continue to report lack of material availability and extended lead times, despite domestic production currently operating at normally sustainable levels. Planned maintenance outages could have an incremental effect in the coming months in both regions.
- > CN: The Chinese Government ordered seven Tangshan-based steelmakers to halve their production from late March through the end of June 2021, and reduce production by 30% from July through December 2021. Similar mandates for North China mills are expected.



#### **Macroeconomic Environment**

- US: President Biden signed a \$1.9 trillion pandemic relief bill on March 11, and unveiled a plan to spend roughly \$2 trillion on infrastructure like roads and bridges over 10 years on March 31, 2021.
- EU: On February 26, 2021, the European Commission considered prolonging safeguard measures against steel imports that are set to expire on June 30, 2021. There is no firm decision yet, but an extension decision would prolong supply issues in 2021.



#### **Demand Surge**

- > EU: EU economy showed an expansion, mainly due to a record surge in manufacturing output, especially with in Germany PMI hitting 37-month high.
- > CN: Investment in China's infrastructure projects and real estate market surged 36.6% and 38.3%, respectively, in the first two months of 2021.



#### **Supply consolidation**

US: In December 2020, US Steel announced it would be completing its acquisition of Big River Steel. This comes on the back of two large acquisitions by Cleveland Cliffs earlier in the year, which acquired both AK Steel and Arcelor Mittal USA (except for AM/NS Calvert). Those consolidations will reduce the number of suppliers comprising 80% of US production from 6 to 5.



#### Logistical Challenges

Global: A worldwide container shortage expected to continue through the summer is affecting supply of steel and raw materials; in February, a lack of containers pushed transportation costs from \$1,500-\$6,000 per container to \$9,000+. Additionally, the March BDI of 1,490 is up nearly ~3x from the same period last year.



#### **Raw Material Increase**

Global: China's high pace of production over the last nine months created significant demand for raw material inputs like iron ore and scrap steel, drawing raw material prices upward globally. These high prices will slow any market correction in the near term.



# A global correction in steel prices is anticipated as the supply situation in US & EU stabilizes and Chinese production falls to normal levels.

#### **Downward Market Drivers**



#### **Market Correction**

- Global: Current price levels have risen to heights that are difficult to reconcile with underlying fundamentals, including the currently high input costs.

  Market participants have been in fire-fighting mode, buying up available capacity without much leverage in the shortage environment. However, this is expected to correct as supply stabilizes and Chinese production cools to normal levels.
- US: Without a correction, significant regional price gaps will push buyers to look at foreign materials despite tariff penalties.



#### **Chip Shortages & Supply Chain Bottlenecks**

Global: Multiple automotive manufacturers have idled their factories or cut production in Q1 '21 due to the global shortage of chips, with consequences for steel demand. Global supplies of chips are lagging 10% to 30% behind demand and the condition could persist into the Q2 '21.



#### **Capacity Expansion**

US: Major US producers have not yet recalled large-scale strategic plans to expand domestic capacity. Public announcements indicate an upcoming ~13.5mMT (+10%) of new annual steel output is expected to flood into the market as many mills plan to restart old capacity by June and build new EAFs in the H2'21, and the price may get controlled in H2'21. Notable announcements include SDI's new 3mMT flat-rolled steel mill in Sinton, TX; BRS' (now USS) plan to double production in AR by ~1.65 mMT; JSW's 1.5mMT upgrade in OH; and ArcelorMittal's new 1.5mMT EAF facility in Calvert, AL.



#### Iron Ore Outlook

- Global: Iron Ore prices fell slightly in March by 0.7% compared to the previous month. Due to the government mandated steel production cut in Tangshan China, as well as expected additional production cuts throughout the remainder of 2021, iron ore demand is expected to shrink.
- > CN: China aims to build globally significant overseas iron ore mines by 2025 to boost its supply of raw materials and strengthen its bargaining power in iron ore. These mines are expected to account for more than 20% of China's iron ore imports, which would help China to reach its goal of a 45% domestic self-sufficiency.

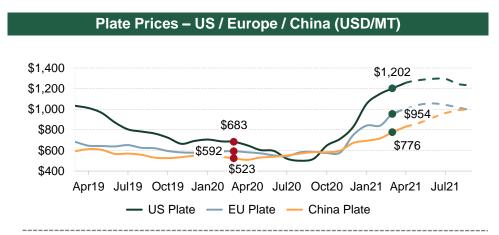


#### **EU Safeguard Quotas**

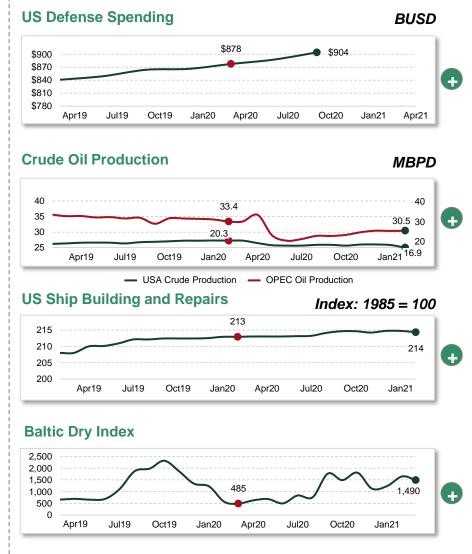
> EU: Turkey filed a complaint with the WTO about safeguard measures imposed by the EU on steel imports, which reduced its import quota and raised tariff rates on 26 grades of steel products beginning in July of this year. The decision is expected to be announced by mid-2021. If the quota were to ease in the current rolling 12-month period, steel imports would exert some pressure on domestic European steel prices.



# Plate prices in all regions were on the rise in Q1, but US plate prices saw the largest price surge of 45%, reaching \$1,202/MT in March.



- US plate prices boomed 45% Q-o-Q to \$1,202/MT in March, blowing further into multi-year highs. Despite steady improvement in mill capacity utilization, US plate prices demonstrated the largest price surge among all three regions.
- > EU plate prices reached \$954/MT in Q1, representing an increase of 27% Q-o-Q. The rise in steel slab prices along with substitution to hot-rolled coils have contributed to the plate price surge.
- China plate prices followed the bullish market sentiment, standing at \$776/MT in March, a 15% increase Q-o-Q. Rising material costs have provided a price floor for any plate market correction and the spread against US and EU plate has been widened.
- OPEC countries are steadily restoring crude oil production in Q1 '21, production has been kept at ~30MPD. US crude oil output diminished near quarter end due to Texas freeze, but is expected to trend up in Q2.
- BDI reached 1,490 in March 2021. The index continues to soar in part due to events like the Suez Canal blockage and tightened vessel supply globally. Cost of renting some vessels from Asia to Middle East has jumped by 47%. Increased ocean lead time further contributes to container shortage.



Latest Data

Correlation to Market Price

Previous Year's Data

# Stainless prices rose in Q1 '21 across all regions, with EU recording the most dramatic increase of 32% Q-o-Q, settling at \$3,392/MT in March.

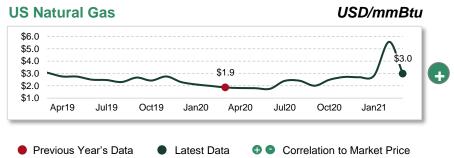


- US Stainless continued to strengthen in the first quarter, prices were up by 23% Q-o-Q to \$3,483/MT. This is a combined outcome of bullish raw material market, healthy downstream demand, and subdued steel imports.
- EU stainless prices experienced a massive, 32\$ Q-o-Q spike in Q1, ending the quarter at \$3,392/MT. Market stock quickly depleted after the demand upturn, and domestic supply shortage is weighed into Q1 prices, along with EU antidumping measures, EU stainless steel prices saw the most rapid growth across regions.
- China prices increased by ~\$200/MT in Q1 to \$2,490/MT, representing 9% Q-o-Q increase. Price movement is correlated with nickel prices which demonstrated an upward trend in LTM.
- The price of nickel rose by 12% Q-o-Q in Q1 2021 to \$18,788/MT supported by increasing demand from EV and constrained supply from Glencore's Murrin Murrin plant in Australia. Until recently, Chinese nickel giant Tsingshan's decision to produce large amount of nickel in Indonesia has eased the concern over soaring nickel prices.
- Chromium prices continued upward trajectory as Chinese producer Inner Mongolia downsized production.



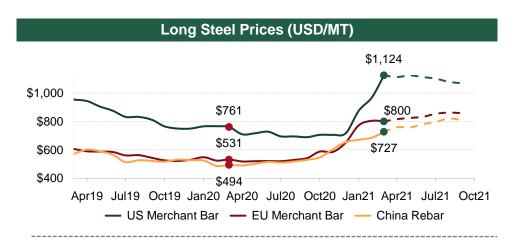




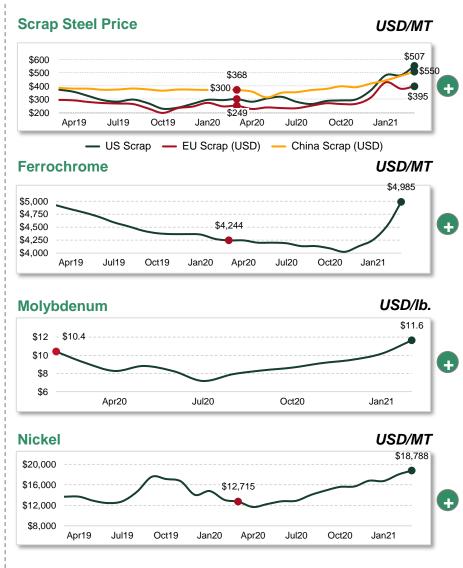




# Global long products have experienced significant increases in their primarily scrap material input costs along with other key costs like chrome.



- US Merchant Bar prices skyrocketed by 57% in Q1'21, reaching highs of \$1,124/MT. Massive infrastructure plans coming from governmental stimulus have boosted the demand for MBQ steel products, leading mills to push several rounds of price adjustments.
- EU Merchant Bar prices have been rising steadily since last August and prices were pushed 23% Q-o-Q to \$800/MT by the end of Q1'21. Access to imported long steel products are still restricted by quotas imposed by European Commission.
- China rebar prices were also on an upward trend, reaching year-to-date high of \$727/MT in March, up 11% Q-o-Q. Stepping into Q2, April and May are seasonally strong for domestic construction activities. Rebar prices are backed by demand.
- Ferrochrome prices rebounded by 20.7% Q-o-Q, bringing prices to prepandemic levels. Efforts of producer Inner Mongolia to restrict ferrochrome production and constrained supply from Merafe Resources in South Africa have contributed to the recent price surge.
- Molybdenum prices have exceeded 2019 levels, reaching \$11.6/lb in March. Downstream demand in machinery, energy, and transport sectors along with shipment disruptions in early 2021 have provided upward momentum.



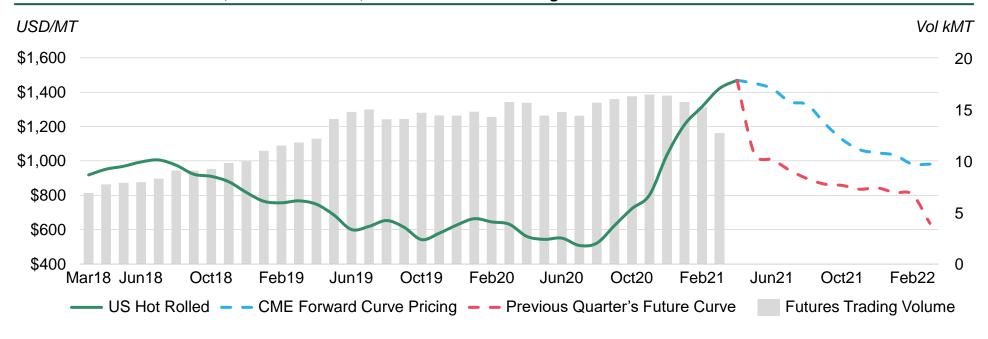
Latest Data

Correlation to Market Price

Previous Year's Data

# US HRC future prices reflect market sentiment of a slower market correction, keeping estimates through the end of the year above \$1,000/MT.

#### Hot Rolled Historical Prices, Contract Volume, and Futures CME Pricing



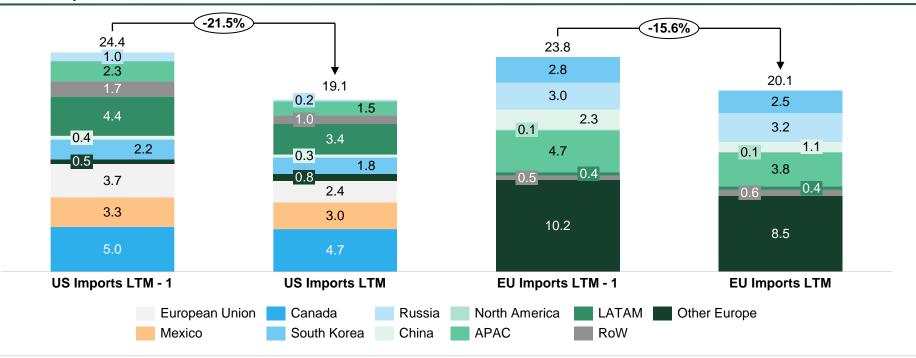
- The CME forward curve has gone up from last quarter's future curve levels, an adjustment indicating market expectations for a slower recovery than initially anticipated. Even as the supply situation corrects, expensive raw material inputs will slow the downward trajectory. Traders now forecast an HRC price decline of 28.7% through the end of the year, reaching \$1,047/MT by December.
- > HRC futures are trading at a lighter volume during the first quarter, volume was down by 22% Q-o-Q in March. With the inflation of the forward curve, hedging activity is entering a wait and see period.



# Trade barriers have been effective in curbing steel imports in US and EU, however regional price gaps could reverse these efforts.

#### **US and EU Imports – All Steel Products MMT**

LTM: FEB 20 – JAN 211



- US steel imports plunged by 21.5% Y-o-Y as the Biden administration reveals no plan of reversing Section 232 tariffs. All regions have suffered a decline in steel export to the US, and the trade barriers are set to remain in place by the new administration. Imports from EU declined by 30% on Y-o-Y basis but has demonstrated signs of recovery recently. Canada led the way in supplying to US steel market after being exempted from the additional tariffs.
- EU steel imports declined by 15.6% Y-o-Y to 20.1 MMT in LTM, keeping import level at historical lows. Along with domestic supply shortage of finished steel products, the European Commission has initiated a review on extension of safeguard measures due to expire by June 30<sup>th</sup>. The Suez canal blockage in March will ultimately push up freight costs that prevent overseas steelmakers from selling to EU.



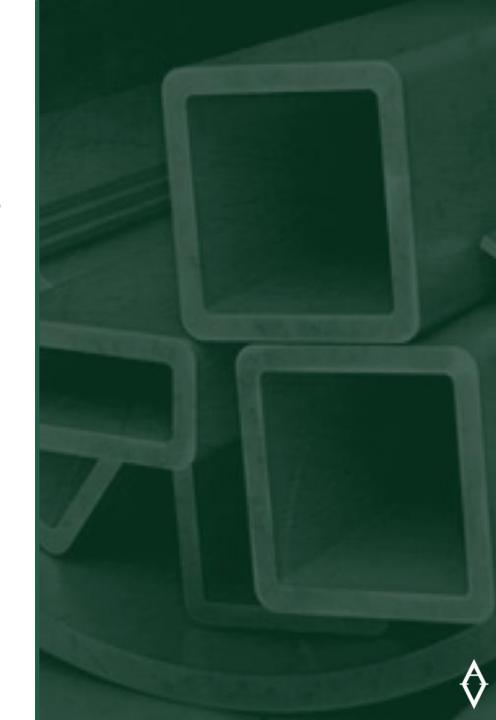
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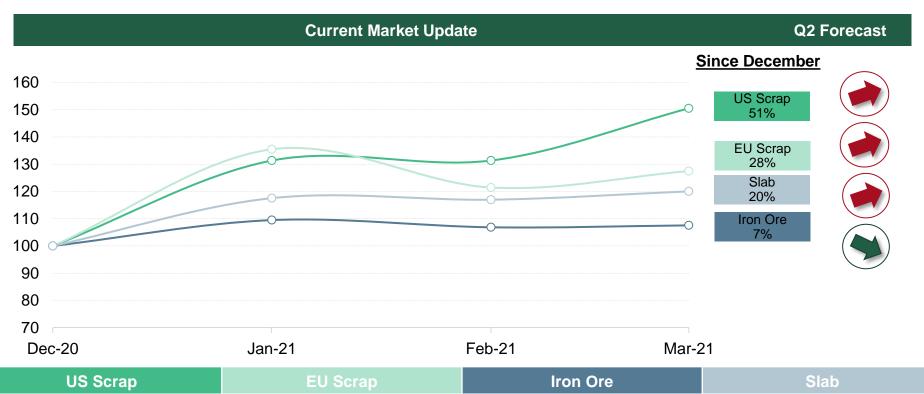
Market Conditions by Region

## **Steel Production Costs**

Major Steel Mill Company Performance



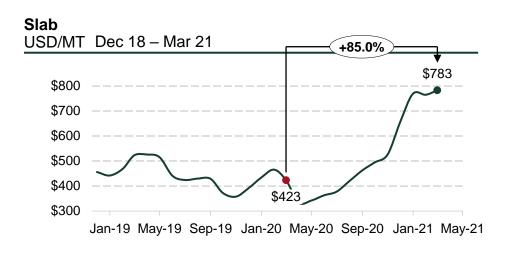
## Raw Material prices continue to etch upwards, driven mainly by higher-thannormal demand from China and additional upward drivers on the horizon.

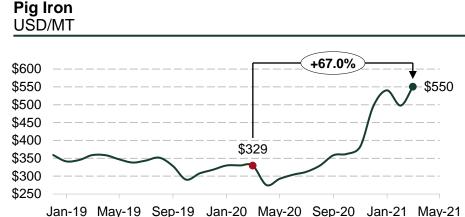


- US Scrap continues a strong upward trajectory, rising 50% Q-o-Q. Prices expected to continue climb on growing demand new domestic EAF capacity and exports to China.
- EU Scrap also saw a significant increase of 28% Q-o-Q in 2021, which was driven by several factors including the general steel deficit in combination with additional demand from China and Turkey.
- Iron ore prices have remained stable in early Q2 of 2021 albeit at historically high levels. Prices expected to maintain or slightly decrease driven by China production cut and increasing EAF usage.
- Steel slab prices increased mildly in Q2 of 2021, price expected to hold at relatively high levels as construction demand remain strong in the US.

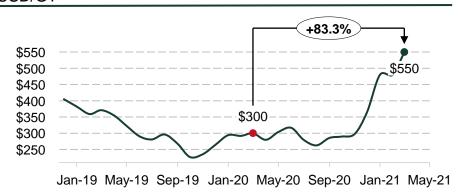


# Slab and Pig Iron prices have risen significantly in Q2 of 2021 driven by strong global demand and supply deficit.

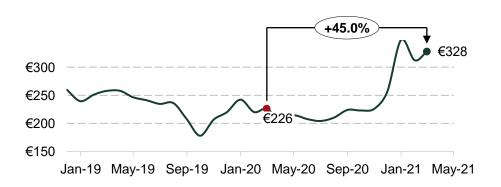


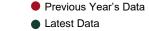


## Ferrous Scrap US USD/GT



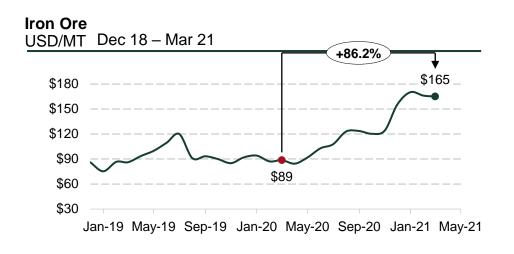
## Ferrous Scrap Europe EUR/MT

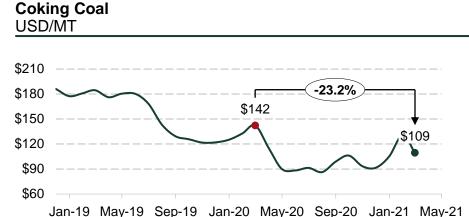




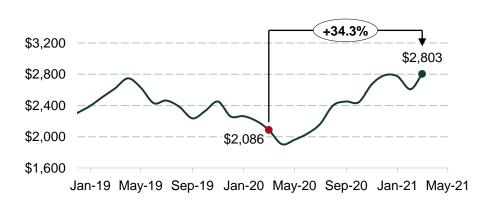


# Iron Ore price reached historical highs in Q2 of 2021 driven by tremendous steel demand and general steel deficit.

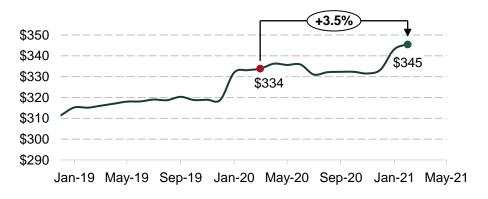


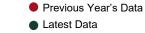


#### Zinc USD/MT



#### **Limestone – Producer Price Index**

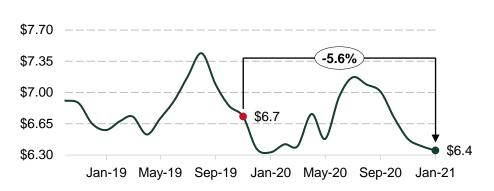




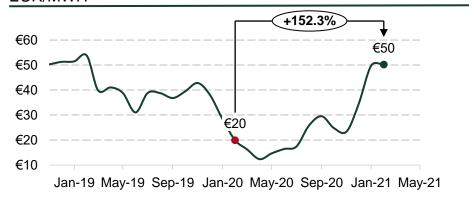


# US natural gas price softened due to lower demand from power sector, price is expected to increase slightly as commercial consumption increases.

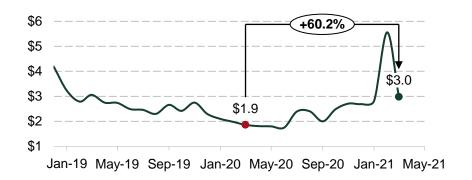
## Electricity US US cents/KWH



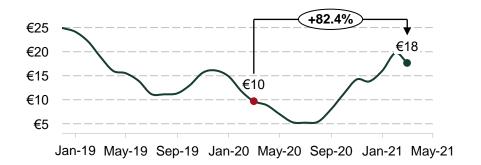
## **Electricity Europe** EUR/MWH

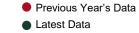


#### Natural Gas US USD/mmBtu



#### Natural Gas Germany EUR/MWH







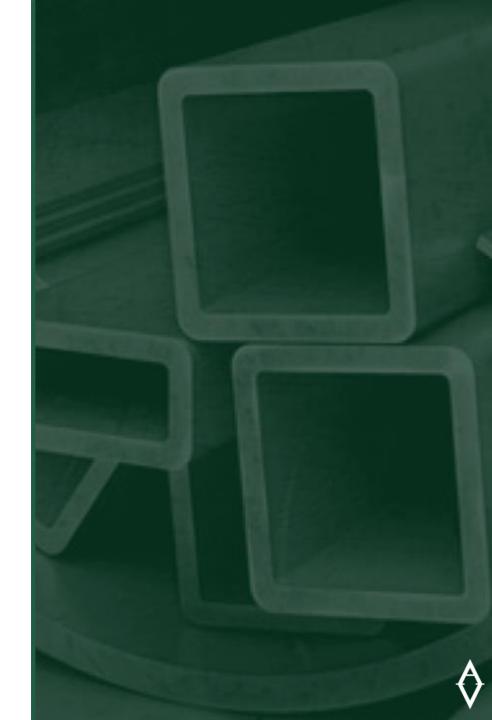
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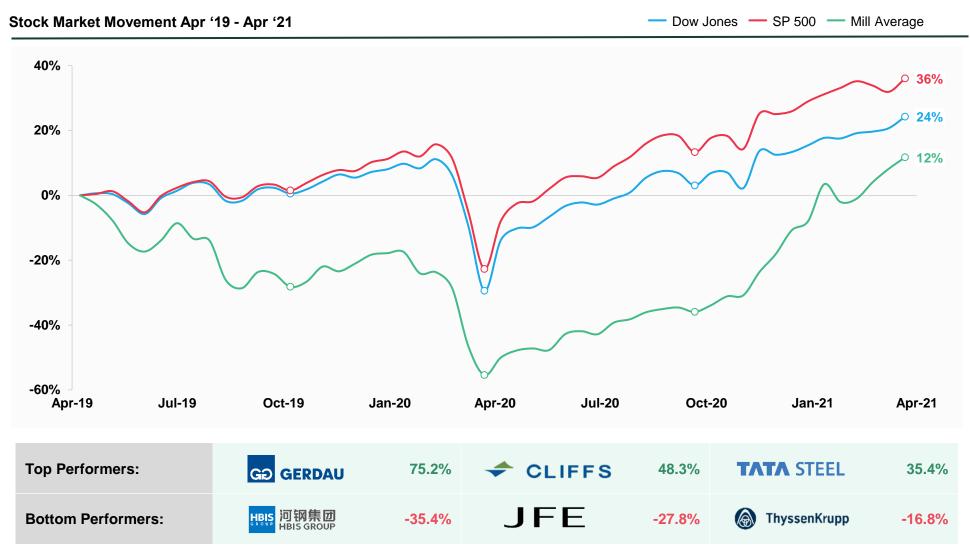
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**Steel Production Costs** 

**Major Steel Mill Company Performance** 



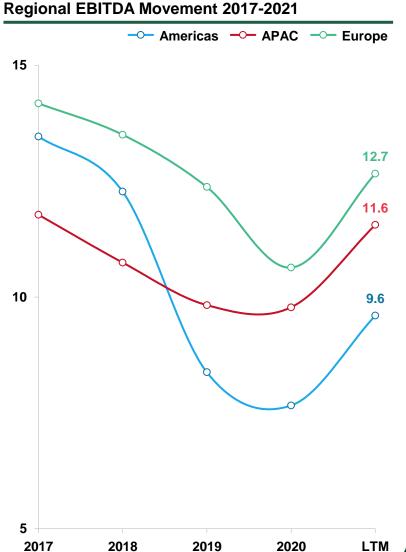
# Global steel mill stocks have mostly recovered decline in market value due to pandemic, but still performs well below market averages.





# EBITDA margins of global steel mills have recovered but still remain lower than pre-pandemic levels.

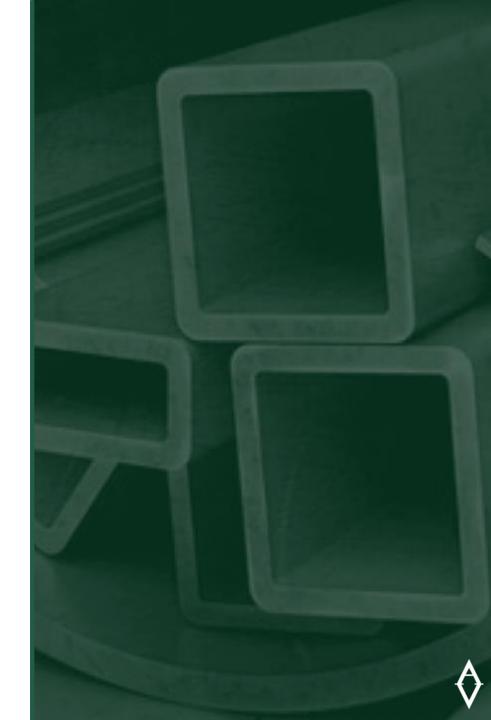
Pagions	Mills	EBITDA %				
Regions	IVIIII2	2017	2018	2019	2020	LTM
Americas	CLIFFS	26.1	24.1	12.9	9.8	10.0
	GD GERDAU	12.4	11.4	11.6	12.8	17.1
	NUCOR	12.0	11.2	10.5	10.6	12.0
	(USS)	3.4	2.4	-1.5	-2.6	-0.7
APAC	BAOSTEEL BAOSTEEL GROUP CORPORATION	12.6	11.1	11.0	10.7	11.2
	HBIS 河钢集团 HBIS GROUP	11.7	12.6	13.2	13.9	14.5
	JFE	8.3	7.3	5.6	3.7	5.3
	TATA STEEL	14.5	12.0	9.5	10.8	15.1
Europe	ArcelorMittal	6.3	5.6	5.1	5.0	9.8
	<b>■</b> EVRAZ	21.2	20.4	19.5	20.6	21.8
	Severstal	33.7	33.3	32.7	31.9	34.3
	ThyssenKrupp	0.3	-0.9	-3.6	-12.3	-11.5
	voestalpine	9.5	9.0	8.2	8.0	8.9





## **Introduction to Applied Value**

**Background** 



Macroeconomic

# Applied Value has 15+ years of experience working with clients in numerous industries involved in various facets of steel purchasing.

Client Annu Consumption	al on, tons	Data Control	Fact-based Negotiations	Leverage Creation	Manage Steel Component Costs	Risk Management	Factors on Global Steel Trade	Game Changers
10M	Automotive OEM	✓	✓	✓	✓	✓	✓	✓
	White Goods OEM	✓	✓	✓		✓		✓
	Automotive OEM		✓	✓		✓		
1M	Global Engineering		✓	✓				
	Global Construction	✓				✓		✓
	Industrial Products		✓			✓		
	4 Food Producers		✓				✓	✓
	Heavy Truck OEM		✓	✓	✓			
	Defense/Heavy Truck	✓	✓	✓	✓			
	Security Solutions	✓	✓	✓			✓	
	Heavy Truck OEM	✓	✓	✓	<b>√</b>	✓		
	Truck Tier 1	✓	✓	✓		✓		
	Lifting OEM	✓	✓	✓	<b>√</b>	✓		✓
	Global Engineering	✓	✓	✓		✓		
0.1M	Consumer Goods OEM		✓	✓				✓
	EU Turbine Manufacturer	✓	✓	✓	<b>√</b>	✓		
0.01M	Automotive Tier 1	✓	✓		✓	✓		
	Scand. Engineering	✓	✓	✓			✓	
	Scand. Construction	✓	✓	✓				



# Our Lean Growth framework is based on Focus, Simplicity, Speed – guiding principles to raise client performance.





# Applied Value challenges and supports global clients across industries from four offices

#### **Selected Clients**

### **Applied Value Offices and Footprint**



Applied Value opened its office in Helsinki 1st of September 2020 to further support the Finnish clientele







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