GLOBAL STEEL PRODUCERS MUST REINVENT THEMSELVES AS DEMAND GROWTH DISAPPEARS

How does a $1 trillion industry continue to deliver shareholder value when the fire of underlying demand growth that has sustained it for decades dims?

The global steel industry is about to find out.

Business as usual in the steel industry is over. Disruptive forces will lead to a significant slowing of global demand for steel over the next several decades with the potential for “peak steel” by mid-century. Growth in emerging markets will not be the salvation that the industry expects.
THE REALITY OF FUTURE STEEL DEMAND

The steel industry remains mired in the down phase of this century’s commodity cycle and its continued slow global capital formation since the Great Recession. While some cyclical recovery is to be expected, there are also structural trends underway that will limit steel’s future growth potential. (See sidebar, Three drivers of steel demand disruption).

Accenture Strategy analysis forecasts that under base case conditions (i.e., “incremental” disruption from the three trends) global steel demand will grow at only 1.1 percent a year to 2035. This is down from 5 percent during the first decade of the century and below most industry expectations of at least 2 percent annual growth. At this growth rate, global demand reaches only 1.87 billion tons in 2035, still well below today’s global capacity of more than 2.3 billion tons.

Demand is not disappearing. Society will need steel and other basic materials to meet essential requirements and facilitate economic and social development. Material substitution battles have long been part of the steel industry. However, what is new is the rate at which new materials and technologies are emerging as well as the speed at which end markets are being disrupted. To win, steel must continue to create lighter, longer lasting products, which means less demand in volume terms.

THE FORECAST FOR EMERGING ECONOMIES

Growth momentum will continue to be strongest in emerging economies based on demographic and economic development drivers. India and parts of Southeast Asia have the brightest prospects.

However, steel demand growth in even fast-moving economies will be impacted by the same technological and circular economy factors affecting mature economies. Due to digital disruption in both consumer and industrial sectors, the time lag between developments in mature and emerging economies is collapsing, with disruption frequently originating in the latter. As such, these countries will reach their steel intensity peak earlier in GDP terms and at lower intensity than the past trajectories of mature economies’ development paths would suggest.
For some emerging economies, it may already be too late to follow a growth path that includes manufacturing. China’s pivot from infrastructure and manufacturing toward services and consumer spending signals the elimination of the primary engine of global steel demand growth since the turn of the century. It also potentially unleashes more of the country’s massive manufacturing capacities on world markets, creating enormous challenges for domestic manufacturing to develop in other emerging countries.

Three drivers of steel demand disruption

**MATERIAL SUBSTITUTION ACCELERATION**
Increasing material substitution battles combined with acceleration in steel’s efforts to resist substitution.

**PREMATURE DEINDUSTRIALIZATION**
Some emerging economies “skip” the expected steel-intensive manufacturing stage of development partly due to massive scale efficiencies in other manufacturing countries.

**CIRCULAR ECONOMY**
The arrival of the circular economy combined with changes in consumer preferences that will disrupt future demand for end products.
IRON ORE PRODUCERS ARE NOT IMMUNE

For iron ore producers, the outlook is even more severe. Accenture Strategy research suggests that iron ore’s share of the global steel industry’s metallic requirements will decline due to the growing availability of scrap together with increasing circular economy pressures. Under aggressive disruption conditions, peak iron ore demand could be reached before mid-century.

THE IMPACT OF THE CIRCULAR ECONOMY

As the industry and consumers look to reduce consumption of finite resources and lower greenhouse gas emissions through re-use and re-manufacturing, the circular economy will decrease steel intensity in all regions.

Accenture Strategy base case analysis shows an “incremental” circular economy impact on global steel demand through 2035. However, under “aggressive” circular economy conditions, demand growth could drop to only around 0.4 percent annually, with total demand reaching just 1.63 billion tons in 2035. (See graph, The future of steel). In this case, today’s overcapacity problem would soon become catastrophic.
**THE FUTURE OF STEEL**

Under potential aggressive circular economy conditions, steel demand growth could drop to 0.4 percent annually to reach 1.63 billion tons in 2035—which is almost 13 percent below the incremental forecast of 1.87 billion tons.

![Graph showing steel production over time](Image)

Source: Accenture Strategy forecasts using historical data from the World Steel Association

**SHORT-TERM FIXES FOR GROWTH FALL SHORT**

Periods of slow growth are not new to the global steel industry. When they have hit the past, steel producers have turned to well-established strategies to drive enterprise growth until global demand growth rebounded.

Cost takeout efforts are chief among them. In his message in the 2015 annual report, U.S. Steel President and Chief Executive Officer Mario Longhi describes “necessary decisions” to idle facilities, reduce the workforce and delay the construction of its electric arc furnace.2 Moves like these are common for steel producers of all sizes across regions in today’s market.

Steel producers have also traditionally turned to mergers and acquisitions in pursuit of operating and capital expenditure efficiencies amid challenging market conditions. Another tactic—forward integration into the downstream supply chain—has helped steel producers secure volume, sustain revenues and reduce volatility.
Over the past decade, many steel players have become more customer-centric. Pivoting to the customer represents a tectonic shift for “old line” steel companies whose operating models and cultures have been production driven.

This is certainly a positive development. Yet customer-centricity is no antidote for sluggish demand growth when today’s customers could disappear tomorrow as new ones arise in disrupted markets. This is the reality in the global steel industry just as it was when the market for digital cameras was disrupted by smartphones and has now shifted to niche players like GoPro.

The circular economy will disrupt—and in some cases even eliminate—entire value chains. This disruption is already starting to occur in the automotive sector which, according to Accenture Strategy analysis, represents only 15 percent of global steel demand. Yet it contributes over 50 percent of the gross margins of some steel producers (and absorbs a similar ratio of capital investment.)

The advent of driverless vehicles and car-sharing is already transforming the automotive sector. Several automotive OEMs, anticipating reduced demand for new vehicles, are pivoting from manufacturing toward services to adapt. In what would have been an unimaginable move even five years ago, General Motors (GM) entered the car-sharing business in 2016. The company launched a car-sharing service that meets customers’ expectations for mobile-enabled, on-demand services while providing GM with a new revenue source and a productive use of its inventory.\(^3\)
Ride-sharing, continuing urbanization and other trends will disrupt the historical linkage between vehicle ownership and economic development. As a result, growth in new vehicle demand will slow, and the 2035 global inventory of passenger vehicles-in-use may be 25 percent smaller than historical models would suggest.

When combined with the pivot to new automotive designs and materials—including advanced ultra-high-strength steels—the impact on global steel demand will be severe. Accenture Strategy analysis suggests that base case annual global consumption of automotive steels in 2035 could be only 20 percent higher (in tons) compared to 2015. Under the aggressive disruption scenario, 2035 steel consumption may be quite close to current levels—recognizing that there will be positive growth in early years prior to major disruption taking effect.

Steel producers are also at risk of being pushed further down the value chain as auto assembly is outsourced to second or third tier suppliers. It will be more important than ever for producers to play a more active role in helping customers lower the total cost of ownership.

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AN INNOVATIVE APPROACH FOR TOPLINE GROWTH

Austria’s voestalpine Group is pursuing new approaches to drive growth that stand apart from the short-term fixes that other steel players are pursuing. With several specialized companies, a decentralized structure, and a combination of materials and processing knowledge, voestalpine is positioned to be agile in the market, both in meeting customer’s needs and in introducing new products and services that strengthen the steel value chain.4
Leading steel producers are just starting to anticipate these shifts and develop new business models to support new products and services for new customers. What will distinguish early movers is their proactive response to this wake-up call of faltering global demand growth. They will face challenges head on—viewing them as opportunities—by taking the following actions:

1. **UNDERSTAND THE BIG PICTURE**
   Steel players must identify how reduced demand, re-use and remanufacturing in the circular economy will reshape the steel marketplace. They need to acquire greater visibility and exert greater influence over the extended value chains for their products. The goal is to create a more resilient order book without the blinders of yesterday’s assumptions. Leaders will take a preemptive view of whether customers are viable for the long term or not, while preparing to serve new and unexpected customers.

2. **ALIGN GROWTH WITH THE NEW**
   Steel industry leaders will align product and service innovation around hot growth areas being created by the circular economy—from renewable energy generation to modular construction approaches to enhanced waste recover. Instead of providing the steel for end users who determine how it can be used, steel producers need to be more engaged in reducing the total cost of ownership. This can create a virtuous circle of demand, with steel producers at the center.

3. **INVEST AND INNOVATE OUTSIDE THE LINES**
   The industry can invest in new lines of business to strengthen the steel value chain. This could mean exploring partnerships in the recovery and remanufacturing phases, especially in markets where the current business is most vulnerable. Steel producers also need to rethink innovation of products and services to add value to downstream businesses. While the industry is still trying to crack the code on “steel as service,” players can explore unconventional business models influenced by shared economy principles. Steel players can also explore circular design for reuse and remanufacture, such as small steel housing kits for use in developing economies.
Change takes nerves of steel

With peak steel looming, the steel industry faces a clear imperative to reinvent not only itself, but also the entire value chain. Pursuing new growth sources will challenge the industry’s industrial roots as companies find the green space to become key players in the circular economy.
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NOTES

1 The concept of premature industrialization was originated by Rodrik, Dani (2016). Premature deindustrialization. *Journal of Economic Growth*, 21(1), 1-33. It is adapted here for the steel industry.

2 United States Steel Corporation, 2015 Annual Report and Form 10-K.

3 Kris Timmermans, Gaining a Competitive Edge Through Today’s Circular Economy, July 15, 2016.

4 Voestalpine Group identity.