

strategy&

Metals industry

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**Growth strategies
to outlast
commoditization**



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Introduction



The global steel industry is the critical backbone of the industrialized value chain. An essential base material for significant sectors, such as automotive and aerospace, steel is a centerpiece of innovation and economic growth. But despite steel's importance, for the industry today, uncertainty seems to be the only certainty. The sector is still struggling to recover from the aftermath of the last decade's recession, when the number of new construction projects worldwide fell and investments in infrastructure and machinery plummeted.

And if weakness in customer demand was not bad enough, causing mills to sit idle or produce unwanted steel, companies have also had to contend with increasingly stringent environmental regulations, volatility in raw materials and steel prices, and greater competition from producers in developing economies such as China.

Much of the continuing demand shortfall is keyed to the recent slowdown in Chinese economic growth; China is responsible for nearly 50 percent of global steel consumption. In 2010, China enjoyed GDP growth of more than 12 percent; in 2016 it was below 7 percent. This less-than-rosy performance explains why forecasters estimate that global demand for steel will rise by only 2.9 percent annually through 2025.

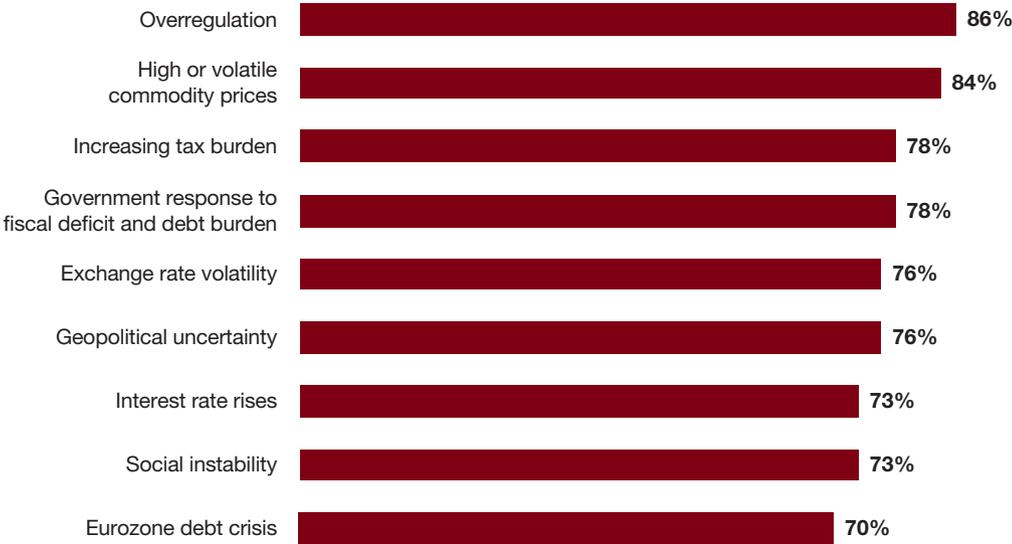
But China also exerts supply and price pressure on the steel market. Since emerging from its economic isolation, China has viewed a strong steel industry as an essential component in its progression from a developing country to a global superpower. With its inexpensive labor pool and government support, the Chinese steel industry has been able to flood the market with discounted steel, leaving Western nations at a loss to keep up. As a result, in August 2016, the European Union (E.U.) announced it would impose antidumping duties on Chinese and Russian cold-rolled steel, which is used to build automobiles and engineered products.

Beyond the macroeconomic forces, the steel industry is facing a raft of external challenges. Companies are compelled to transform their operations to satisfy calls for ever stronger and more durable steel, a more diversified and specialized portfolio of products and grades, and shorter innovation cycles, which enable enhanced flexibility in mill capacity and prioritize reliable delivery and service to downstream partners or customers.

Then there’s the environment to consider. By its very nature, the steel industry churns out products that lead to CO₂ emissions. Consequently, in some Western countries the sector is highly regulated — or highly overregulated, depending on whom you ask. In a 2015 survey (see Exhibit 1) about the most pressing threats to the growth of their company, 86 percent of steel industry CEOs cited overregulation as their chief concern; that was followed by volatile commodity prices (84 percent), an increasing tax burden (78 percent), and their government’s lukewarm response to the deficits or debt accrued by companies operating in the industry (78 percent).

Exhibit 1
Metals CEOs are worried about changes in the external environment

Q: How concerned are you about the following potential economic, policy, social, and business threats to your organization’s growth prospects?



Note: Base is all metal industry respondents.

Source: PwC 19th annual Global CEO Survey: Metals industry key findings: Redefining business success in a changing world (2015)

What does keeping pace with environmental issues entail? Spending money, and lots of it. In Europe, regulations dictate that steel companies purchase CO₂ certificates or permits for their mills where emissions exceed specific levels. The rules are less rigid in the Asian bloc, which is a net plus for Chinese steel companies. And in the U.S., the Environmental Protection Agency recently strengthened ambient air quality standards by lowering emissions limits for iron and steel facilities. Where the rules are stringent, minimizing CO₂ emissions requires investments by steel companies in new technologies and the costly replacement of older, out-of-date processes and supply chain practices.

There are spillovers from the embrace of environmental consciousness. In the wake of the 2011 Fukushima power plant disaster in Japan, Germany began aggressively phasing out nuclear energy in favor of renewable sources. While doing so, the German government exempted the steel industry from additional charges resulting from bringing new energy sources online; however, the government has not yet settled on how long to extend this benefit.

At times like these, when the outlook for an industry is challenging, companies face a series of difficult choices. The obvious temptation is to cut costs to remain competitive — and there certainly is value in making sure that budgets and spending decisions are logical and under control. But at the same time, companies must continue to grow, to adapt to the rapidly changing landscape, and to make the right investments to stay ahead of their rivals.

Even successful companies often find themselves uncertain how to proceed at such a difficult crossroads. Companies may be tempted to abandon their proven capabilities in favor of a brand-new focus or an overhaul of their business model — but that can backfire, because building entirely new capabilities is an arduous and very expensive task and may clash with the culture and institutional DNA that the organization has nurtured for a long time.

In our view, the most efficacious choice for steel companies today is to anticipate and exploit change, rather than react to it. That may sound obvious, but few businesses do it well. To undertake this, steel companies should first commit to an identity — that is, determine the market sector in which they can best provide value to customers and in which they can differentiate themselves and grab market leadership. Next, they should shape their own future by updating, prioritizing, and extending their distinctive capabilities to allow them to deliver on this value proposition — their “way to play.” They should use knowledge about their customers’ preferences to create new demand for what they do best. If a steel company does all this right, it can become a

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supercompetitor — the type of company that creates sufficient value for its customers and itself to shape its business sector, rather than reacting to the moves of its competitors.

There are three distinct ways to play that companies in the steel industry should explore in an attempt to forge a new future for their business and restructure the industry. Of course, these approaches are often complementary, and it's not uncommon for companies to engage in more than one pathway as they try to enhance the strength and results of their existing capabilities. But it is important to remember that steel companies can no longer be all things to everyone; they have to make hard choices when choosing ways to play, based on capabilities that they can build to world-class level. Broadly speaking, a steel company can focus on becoming a customer-centric innovator, a supply chain expert, or a cost leader (*see Exhibit 2, next page*).

Exhibit 2

Three possible strategic approaches for steel companies

Customer-centric innovator

Create value through a strong focus on customer needs, providing unique technical services and commercial excellence, investing in product and process innovation with a close proximity to sales to optimally serve the customer.

Supply chain expert

Create value through demand-oriented and lean supply chain, focusing on operational efficiency, economies of scale, and integrated margin optimization, implementing capacity, and demand forecasting using Industry 4.0 as enabler.

Cost leader

Create value through commercial and operational efficiency to provide cost advantages by focusing on core value chain steps and lean processes.

Source: Strategy& analysis

Customer-centric innovator

These companies seek to innovate by tapping into their knowledge of customer needs and emerging trends. The impetus for taking this approach shows up in the survey PwC conducted in late 2015 of global steel company CEOs: Fully 92 percent of the executives reported that their customers and clients were the stakeholders that had the most influence on their corporate strategy. The capabilities required to succeed in this category include extensive product and process innovation and specialized technical services that keep the customer satisfied. There also must be close ties between the manufacturing and sales teams to make sure that factory utilization is aligned with customer preferences and is flexible enough to quickly deliver new, perhaps unfamiliar, product offerings.

A focus on innovation additionally requires that companies establish a multidisciplinary R&D department that is sufficiently agile to adapt to changing market tastes and regulatory constraints. Companies must also develop the capabilities to build an effective sales management team, with representatives from both ends of the value chain — from steelmaking to the service center — and specialized departments, such as heavy plates or sheet metal, in between. And companies must be able to use all that they've learned from the aligned departments in their organization to practice high-quality needs-based customer segmentation that can guide customer-centric innovation and product planning.

One company that has based its strategy on innovating with the customer in mind is the Austria-based Voestalpine AG. Although not the biggest player in the steel world, Voestalpine has earned a reputation as being at the forefront of innovative technologies and processes, with a focus on producing high-quality steel and specialized products for its clients in the automotive, railway, and tool manufacturing sectors. Voestalpine focuses on delivering what its customers want, which primarily means higher grades of steel that are lighter, are more resistant to abrasions or corrosion, and have greater elasticity. With automakers on the lookout for novel ways to reduce the weight of their vehicles' components, this is an especially timely innovation.

Supply chain expert

Companies that adopt this second way to play take a demand-oriented approach to streamlining their supply chain, in the process creating value for customers by offering greater flexibility in lead times and order sizes as well as a source for metals in many geographic regions. The goal is to achieve maximum utilization of the supply chain to best serve internal and customer needs. The capabilities required for this way to play include reliable tracking and forecasting of both capacity and demand by employing the latest cloud-based computing solutions, data analysis systems, and automation technologies. Companies can use an expansive supply chain network to spread out the responsibility for meeting regulatory requirements, and should exploit fine-tuned production capabilities to satisfy demands for smaller batches of specialized materials or individual orders from key clients.

Being a supply chain expert also entails highly integrated sales and operations planning, smoothly turning customer demands and contractor proficiencies into products rolling off the factory floor. A central, dedicated supply chain management team should be established to oversee raw materials, inventories, customer project deadlines, and transportation and distribution. Information and material flow should be as transparent as possible, so different segments of the supply chain can stay up to speed. This approach also emphasizes the importance of using the supply chain advantage to engage in competitive pricing, taking into account the mill costs and transportation outlays of rival companies.

Germany-based thyssenKrupp is one of Europe's larger steel producers, with multiple companies worldwide, and has used its extensive supply chain and large network of partners and contractors to gain an edge. Across a segmented business structure that was reorganized in 2009, the company is involved not only in steel production, but also in distribution and steel service centers. With multiple steel plants, thyssenKrupp can instantly shift production among sites and allocate resources from end to end along its supply chain.

Cost leader

The third way to play is to become a cost leader. These companies offer customers the lowest prices, in hopes of maintaining higher market share mainly for commodity products and 100 percent asset utilization. By operating their mills in low-wage countries that have flexible rules on labor and carbon emissions, companies can put most of their resources into refining the operational and commercial aspects of their business. In this approach, corporate culture should emphasize lean management techniques such as continuous improvement, using the fewest resources to extract the most value, and eliminating wasteful or redundant practices.

Capabilities required to be a cost leader include high-level monitoring of budgets and key performance indicators. In-depth performance analysis skills are also critical in a search for new ways to cut costs. To keep expenses as low as possible, companies should divest noncore capabilities and outsource assets, logistics, and services that are beyond their primary business focus. They should simultaneously invest in their core capabilities: the technologies, processes, and employee know-how that enable companies to compete on the cost front but still deliver a quality product.

This is a common strategy for steel companies in Eastern Europe. NLMK, one of the largest and most profitable companies in the Russian steel market, sources its raw materials and hires personnel at a very low cost, and doesn't have to abide by stringent E.U. environmental rules — although the company has made significant investments to reduce its wastewater discharge and cut emissions. With a large stake in one of the country's biggest producers of iron ore, NLMK is all but self-sufficient in obtaining that resource. The company also used the ruble devaluation against the euro to its advantage, selling its products in Europe at a high profit margin.

A combination company

No steel company follows exclusively one way to play. Generally, companies embrace parts of all three but focus on building capabilities in areas that they hope to emphasize. The world's largest steel producer by some distance, Luxembourg-based ArcelorMittal is a prime example of a competitor that has borrowed elements from all three strategies to leverage its strengths and market power. It operates iron ore and coal mines around the world, and has factories on several continents. With a fully integrated supply chain, ArcelorMittal can quickly tweak its global or country-specific operations — which is almost a necessity when supplying some of the world's leading automakers.

ArcelorMittal's sheer scale positions the company well as a cost leader, allowing the company to use consolidated procurement strategies to strike bargains and deals with major suppliers. The company was also a step ahead in globalizing its R&D processes, so that R&D teams work closely with individual business units. By encouraging some of the best plants in the world to compete with one another, ArcelorMittal employs an effective internal, peer-based benchmarking system.

At the same time, ArcelorMittal still has room for improvement. Although the company has made great strides as a supply chain expert, it still has to enhance its capabilities in this regard to utilize its vast global network more efficiently. Like all steel companies, it also needs to further accelerate and refine its digitization efforts — both horizontally and vertically along its value chain — to better integrate consumer demand and production capabilities, and thus upgrade its performance as a customer-centric innovator.

Still-developing steel companies cannot afford to pour resources into all three ways to play as ArcelorMittal has; for them, something closer to specialization — in both strategy and execution — seems to be the most promising path. The industry has progressed far beyond the stage where selling commodities is paramount; investments in higher steel grades and specialized products for specific customers or regions is where higher margins are. These specialized products don't sell at nearly as high a volume as basic or bulk offerings, so for this strategy it

is also wise to adopt aspects of all three ways to play. Companies need to be flexible in their supply chain management and make sure they can accommodate as many small or custom orders as possible. Operations need to be excellent, and companies should focus on cultivating relationships with their key customers.

The specialization approach leaves room for innovative thinking up and down the supply chain. In particular, the steel industry should explore Industry 4.0, or strategies made possible by the wave of digital breakthroughs and enhanced data-processing technologies that have the potential to transform the way many types of companies, including manufacturers, do business (see *Exhibit 3, next page*).

So far, most digitization endeavors in the steel sector have been customer-centric, allowing customers to purchase and customize orders online, for example. But now the focus should fall on internal systems. The exploitation of big data, such as that from cameras and sensor systems that monitor production, or data analytics that provide fresh insights on operational efficiency, should allow the steel industry to better plan production schedules, reduce maintenance costs, and integrate from raw steel production to finishing.

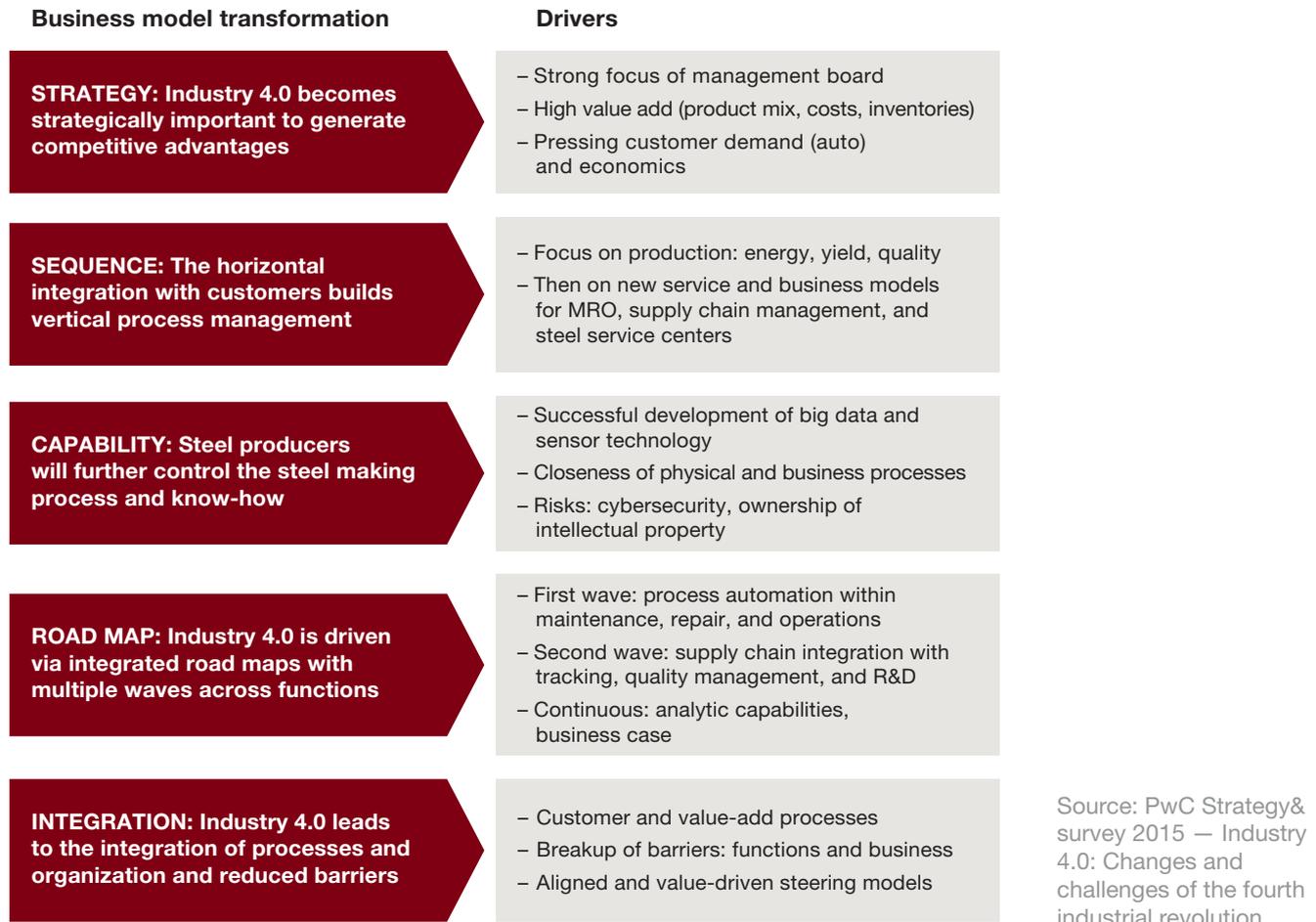
Companies should also take advantage of established innovation networks around universities and R&D centers that give the steel industry an opportunity to develop new technologies and products. Of course, doing this also requires the right people — employees with the advanced skills and technical know-how to master complex equipment and take products beyond the concept stage.

The steel industry has a lot of challenges going forward. But choosing the right way to play (an activity that can start by trying out the [Strategy That Works profiler](#)), or adopting the right combination of ways to play, is essential for established and newly developing companies if they are to overcome the difficulties that stand in the way of success.

*The
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Exhibit 3

Industry 4.0 will substantially change steel industry business models but will be challenging



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