OLIVER WYMAN

PERSPECTIVES ON MANUFACTURING INDUSTRIES

ISSUE 2013

The evolution of digital communications has given life to a whole new category of challenges that companies have had to scramble to meet. To fend off their competitors, companies must seize these digital opportunities and recast their products, services, and business models. Smart remote solutions are the approach of choice, helping to cut costs and take advantage of extra sales potential with new business models. To reap these benefits, the profit generator of service will have to be rethought from top to bottom.

Lead article on industrial smart remote solutions, page 6

EDITORIAL

Dear Readers,

Our industry is doing quite well. Most companies are thriving, and stock prices have climbed to record highs, even without a major boost from external growth. It is the perfect time for companies to reflect on growth strategies and ways to fundamentally improve their efficiency over the long term.

THOMAS KAUTZSCH
Head of Oliver Wyman's Manufacturing Industries Practice

The digital revolution in the industry offers one key point of differentiation. It is the subject of our lead article, "Digital Service 2.0 – The Game Changer." This article outlines how plant and mechanical engineering companies can effectively employ smart remote solutions and use digital services to successfully transform themselves from machinery manufacturers to solution providers.

The expanding and increasingly complex world of globalization is impacting industry as well. It is true that the Western European plant and mechanical engineering industry has profited from the growth of globalization during the past ten years. But have these companies really evolved from export-driven enterprises to global players? The article "From Export World Champion to Global Player" offers insight into the German market and argues that more must be done to create competitive global structures.

I hope you enjoy this new issue and gain many valuable insights from it.

Best regards,

Thomas Kautzsch

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LEAD ARTICLE

PERSPECTIVES

PUBLICATIONS

DIGITAL SERVICE 2.0 – THE GAME CHANGER

SMART REMOTE SOLUTIONS

Hands down, digital communications have been the dominant force of change in our world during the past decade. This evolution has given life to a whole new category of challenges that companies have had to scramble to meet. To fend off their competitors, companies must seize these digital opportunities and recast their products, services and business models. The new digital economy has drawn up the blueprint of change for plant and mechanical engineering companies. Smart remote solutions are the approach of choice, helping to cut costs and take advantage of extra sales potential with new business models. To reap these benefits, the profit generator of service will have to be rethought from top to bottom.

≤30%

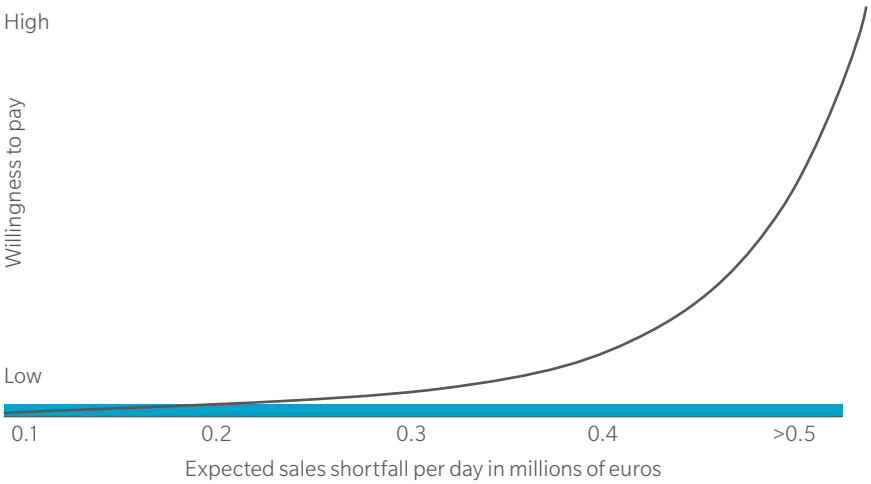
of effectiveness improvements in customer service can be achieved by smart remote services in mechanical engineering.

In recent years, revolution has filled the air in the world of consumer electronics, smartphones and tablets. Today, people expect to communicate with business partners, customers and service providers in real time, thanks to social networks and cloud services. The Internet of Things is the talk of the town. These changes in communication offer a valuable lesson for plant and mechanical engineering companies: The technology for real-time data communication among machines, operators, and manufacturers already exists. This electronic eye on business operations opens the way to automating service processes and devising completely new offerings. With new technology in mind, companies can act in a timely and even forward-looking manner to integrate this digital information into service offerings. For companies in industries like automotive, where time is of the essence, some smart remote services are already in use. An equipment breakdown in these industries can have a devastating effect, quickly destroying millions of euros in sales. The willingness of customers to shell out money for new services that will bolster operations will climb exponentially as these services address business risk.

THE EVOLUTIONARY STAGES OF DIGITAL SERVICE 2.0

Many plant and mechanical engineering companies just aren't ready to face these new market conditions. The transformation that will convert such

Rising willingness to pay for smart remote services amid increasing risk of sales shortfall



≤10%

of installation costs in plants can be saved by smart remote services.

companies as well as the commercial vehicles industry into service providers can be loosely broken down into four evolutionary stages:

1. The Traditionalist: The majority of plant and mechanical engineering companies currently offer reactive support when incidents occur. Billing is either on the basis of defined service levels or by the hours needed to provide these services. Many companies remain committed to technologically and organizationally simple offerings, even though these services fail to live up to the needs of the companies or their customers.

2. The Economist: Some companies automatically outfit their products with broadband connectivity. Doing so cuts installation and start-up costs by up to 20 percent, and also clears the way for effective use of remote services. This also boosts the productivity of customer service and other affected departments by up to 30 percent.

3. The Optimizer: Condition monitoring gives rise to new value-added services. This could involve a transformation from reactive to proactive, and then predictive, maintenance. The first objective is to reduce repairs and prevent defects through more regular maintenance. The next is to use operational data as a crystal ball to predict problems before they occur. The result is condition-based maintenance that can drive down customers' operating costs. The payoff is a strengthened relationship with the customer. Employing appropriate business models and use-based pricing can underpin the aftersales and upgrade business.

4. The Solution Provider: Companies that are determined to make their products and services more competitive and to boost sales, quality, and profits must take two key steps. They must increase product functions and offer individual or bundled solutions. But before they can completely tap their potential, they must integrate this transition into service 2.0 and the solution business. The centerpiece of this effort is customer need: lower

The evolutionary steps of digital service 2.0

The Solution Provider

The Optimizer

The Economist

The Traditionalist

total cost of ownership, production certainty, high quality, and flexibility. Examples from industry show just where these efforts can lead: availability guarantees with high levels of compensation for breakdowns, coupled with multi-year full-service maintenance agreements covering such areas as industrial facilities or use-dependent leasing rates with use-dependent insurance coverage for commercial vehicles.

BENEFITS FOR ALL DIVISIONS AT A MANUFACTURING COMPANY

The payoffs of smart remote services and operational data collection are hardly limited to customer service and aftersales. Condition monitoring provides the database needed to conduct successful product life cycle management and to develop low-cost, user-focused products. This effort to expand the core business in line with customer needs can be bolstered by consulting services designed to boost plant productivity, as well as a systematic effort to market the retrofitting and new machinery business.

SOLUTION SKILLS SHARPEN THE PROFILE

Tapping this cross-company potential is difficult. It requires companies to purposefully rethink their practices and to consciously invest in new business areas. The provider must redefine its own concept of itself. Future products and services must include integrated service 2.0 concepts that extend across life cycles and improved product usage delivered by integrated smart remote solutions.

SMART REMOTE SERVICES REQUIRE NEW STRUCTURES

To tap the potential of these new types of services, companies must fundamentally rethink many of their processes. Smart remote services must be the core value generator in the company. To enable remote services to assume this pivotal position, the company must view its strategy, process landscape, and organization in a new light.

One essential conceptual and organizational step in the effort to integrate smart remote solutions into the business model is to determine how smart, data-based services can generate value for the company. This gives rise to many questions: Do the services become an independent revenue stream? Or is the new business designed for cost savings? What type of price models are used for the services? And one other important point must also be kept in mind: How can manufacturers themselves get a piece of the value enjoyed by customers?

A company's own value creation related to the provision of services and solutions must be aligned to the service range. The company must have a crystal-clear understanding of three points: It must know which core processes will be components of the new service offerings and models. It must identify the steps to focus on in the value chain. And it must pinpoint the areas where it makes more sense to call in a partner. Should the company offer services for its own machinery or include outside products? If the answer is to include outside products, what would adding them require? These

are just some of the questions that must be addressed during the work to develop an appropriate business model. One crucially important part of this process is coordinating all of the individual elements.

To ensure that the change is understood and implemented in all areas of a company, it is essential that the strategic importance of the new smart remote services be firmly anchored within the organization. The company must decide whether to manage the organization as its own business division or as a spin-off that buys machinery from other business units and then sells them as part of a complete solution. The company can prepare for this work by considering the following questions: Which organizational format is ideal for the new division? How should the company organize sales? How can the company perform administrative processes efficiently? Where are there the most synergies?

Developing and introducing this business model will require the skills of many experts in the company, from sales and controlling to engineering and IT. In the process, the company will face challenges that appear to be contradictory. On the one hand, the objective is to integrate all existing functions. On the other hand, the aim is to shed old ways of thinking in order to carry out the necessary changes. But huge rewards await the company that succeeds in blending these conflicting aspects into a hard-hitting business model: stabilized sales and improved costs in a market of increasingly short attention spans.

>90%

of on-site service calls can be reduced by smart remote services in the wind power industry.

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SUCCESS FACTORS FOR TRANSFORMATION

Outside-in focus	The company must divorce itself from established service offerings and make the customers' point of view the basis of its considerations.
Business case focus	The company must develop services on the basis of tangible business cases, on behalf of the customer and provider.
Clear strategy	The company must bid adieu to the opportunistic use of a new technology and focus on the strategic development of a business division.
Integrated approach	The company must define all elements of a business model. All necessary organizational functions should be incorporated into the project.
Speed	The company must act energetically to convince customers and employees of its commitment to the restructuring plan.

FROM EXPORT WORLD CHAMPION TO GLOBAL PLAYER

GLOBALIZATION

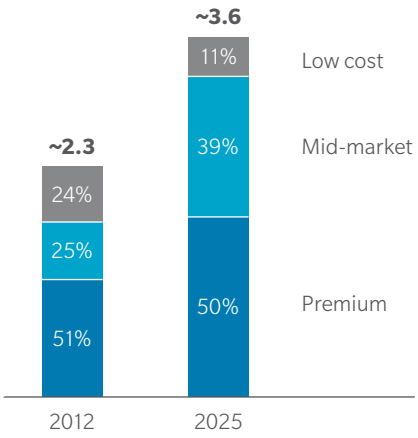
During the past ten years, globalization has been very good to Germany's plant and mechanical engineering companies, enabling the sector to bolster its position as the world's top exporter. But only a few companies have been able to shed their Germany-centric export business models and become truly global players. As the pull of the traditional triad markets wanes, this transformation remains a key strategic challenge.

With 16 percent of world trade, Germany's plant and mechanical engineering companies remain the world's export leaders, positioned ahead of Japan, the United States, and China. Excluding China, Germany has expanded its global market share among traditional industrial countries. But demand for machinery and plants has changed dramatically and is now coming from emerging markets. In 2002, the share of demand from the BRIC countries amounted to just 13 percent. Today, it has jumped to 35 percent. And in ten years, it will be nearly 45 percent. Generally speaking, the global character of the German plant and mechanical engineering industry, with the exception of a few companies, has changed at an astonishingly slow pace, when you consider the intense efforts that have been made. As a reflection of this, the number of industry employees working abroad has risen by just six percentage points, to 28 percent since 2000. And direct investments have increased by only four percentage points, to 17 percent today.

Market trend scenario 2025
Demand for machinery/plant in trillions of euros

Sources: The German Engineering Association, Oxford Economic Forecasting, Oliver Wyman analysis

Based on price segments



LOCALIZATION AND MID-MARKET FOCUS

If Germany's plant and mechanical engineering companies intend to defend and expand their global market leadership, they will have to increasingly expand their footprint beyond the country's borders. But this is not about setting up production operations in low-wage countries by the book. Rather, the goal is to get closer to customers, to better understand their requirements and be more responsive in satisfying their needs.

At the moment, about 85 percent of development and engineering employees of German plant and mechanical engineering companies are based in Europe. Without more localization, it is hard to imagine how German companies will be better able to understand the needs of these regions and address them. This is particularly the case for markets that

do not have premium requirements. At more than eight percent, this "mid-market" segment is expected to generate the highest rate of annual growth over the next decade. At the same time, German plant and mechanical engineering companies rely on European suppliers to cover more than two-thirds of their purchasing needs. If they fail to tap the potential of global procurement markets and create local supply chains, German companies will have tremendous difficulties defending their competitive position, particularly against Chinese rivals.

The correct balance between central and local approaches must be worked out through a function-by-function review. But will this be enough? Shouldn't management models and company leadership become more global as well? The potential is high, particularly because non-Europeans hold only five percent of the executive board positions in Germany's plant and mechanical engineering industry. Future management models must expand business responsibilities in international markets. Ultimately, this could result in the possible assignment of global business responsibility for individual business to a base in an emerging country.

Up to now, German companies have preferred organic growth as they ventured into global markets. But other nations are less one-dimensional, preferring instead to aggressively pursue M&A transactions. This approach is clearly reflected in the acquisition of German mechanical engineering companies by Chinese firms. The organic growth strategy has another weakness. It is hard to produce such growth in the markets of emerging countries that have been already largely split up. Companies must reevaluate non-organic options for the global marketplace, while keeping in mind the risks and drawn-out nature of M&A processes in these countries.

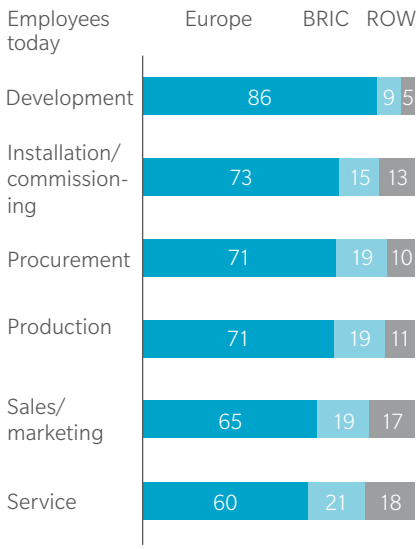
SAME, BUT DIFFERENT

Of course, there is no one-size-fits-all globalization strategy. For this, Germany's plant and mechanical engineering industry is simply too heterogeneous. Globalization needs vary greatly from segment to segment. Those needs are shaped by a number of different factors. Is demand generated by infrastructure investments, like in the construction machinery industry? Or by investments in production capacities, like in the automotive plant sector? Or by private consumption, like with machines and plants for the food industry? How globally homogeneous vs. locally heterogeneous are customer needs? Does the business involve standardized machinery or tailor-made systems? How relevant is the issue of "mid-market" in the specific segment? What role are Chinese competitors already playing in international markets? How much money has already been invested in the creation of a global footprint? What financial resources can still be mobilized for further globalization efforts? Which globalization model is appropriate for different sized companies?

Even though the answers to these questions will vary from company to company, the key strategic issue is the same for virtually all of them: The effort to set up competitive global structures must be intensified. After all, the average does not lie.

Percentage of employees per function

Source: Oliver Wyman survey of 15 leading German plant and mechanical engineering companies



95%

of German plant and mechanical engineering companies only employ Europeans in their executive management teams.

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THE NEW INDUSTRIAL STRATEGY PARADIGM

OPERATIONS FLEXIBILITY

The global economy has entered a low-growth phase, with more fluctuation than ever. Managing volatility is one of the major challenges for every manufacturing network. Developing flexibility will drive global competitiveness. Oliver Wyman's LEAP framework assesses levels of flexibility along the entire manufacturing network.

Since November 2008, the economic environment as we knew it has disappeared. In this new period of change, Europe is desperately seeking new policies and ideas for growth and prosperity. European growth can no longer depend on technology-led innovation, low production costs, or market proximity. Producing in low labor cost regions and selling in the West cannot be a long-term strategy anymore. Corporate strategies based solely on efficiency and cost cutting cannot ensure sustainable growth. Companies that can make more value with less, companies that are faster and better than their competitors, will win. If innovation is the path for growth and jobs in Europe, it is crucial to master operations.

FLEXIBILITY FOR AN OPERATIONS RENAISSANCE

While integrated operations, value chain improvement, and operations excellence have been described many times as drivers of an operations renaissance, there's an additional pillar that is new for industrial companies: operations flexibility. Forecasting global market trends involves big uncertainties. But in light of increasing costs and tougher reliability requirements, the ability to quickly respond to market evolution at a reasonable cost is becoming more important. Companies must capture new growth opportunities before they fade, and thrive during turmoil. To do so, they will have to engage in a relentless quest for flexibility.

Oliver Wyman's LEAP framework helps to analyze and improve a company's operations flexibility. A company can achieve this through the combination of two main dimensions, vertical flexibility types and horizontal flexibility themes. There are three types of vertical flexibility: System flexibility is the ability to coordinate activities across the manufacturing network and to manufacture the same product family in several plants. Process flexibility means the ability to manufacture a large variety of products at low cost at the production line level. Product design flexibility is the ability to increase flexibility through product architecture, taking into account both material costs and product

life cycle costs. These types should be used as tools within four horizontal themes: Technology (what flexibility could technology provide?), physical network (how could we increase the flexibility of the network?), production system (what flexibility could we gain within the production plant?), and labor empowerment (how to increase labor flexibility?). The two dimensions allow us to build a framework that each company can use to evaluate its flexibility level.

Examples of methods to boost flexibility

Three types of flexibility	Four horizontal themes of flexibility			
	Technology	**Physical network**	**Production system**	**Labor empowerment**
System flexibility	– Standardize equipment, technology, and industrial processes – Master processes – Clarify core and non-core functions	– Develop local third-party capacity – Externalize activity – Use flexible suppliers	– Use highly reactive product modification processes – Transfer production rapidly – Invest in capacity	– Develop labor skills, versatility, and cross-training programs – Pool the workforce internally and/or externally – Share employees with other companies – Annualize working time level
Process flexibility	– Employ rapid die changing technology – Use flexible equipment – Reduce variability	– Redesign process flow and layout for higher responsiveness and lower variability	– Employ a U-shaped production line – Reduce set-up times – Reduce process variability for machines and jobs – Build in quality	
Product design flexibility	– Design for manufacturability – Use modular architecture for products and equipment – Share components	– Select local manufacturers for responsiveness improvement	– Make plants modular – Use postponement strategies – Differentiate late in the process	– Design for manufacturability

REAPING THE BENEFITS

The reaction to market disruption cannot be the industrial status quo. Every industrial company should look at its current manufacturing principles and market development, and think about what it needs to evolve. Manufacturers must take a holistic approach that is oriented around flexibility. Executives can use the LEAP framework to understand and evaluate the market, customers, competition, and product portfolio. The exercise allows transparency into the company, allowing executives to understand and reduce a company's complexity. Cutting complexity improves flexibility.

The LEAP analysis also can identify problems and offer guidance for manufacturing strategy. The next step is to identify and assess flexibility scenarios and evaluate the feasibility of each one: implications, impact on client needs, conditions for success, investment, and costs. This process draws on a wide range of expertise within the company, from technology to legal to human relations, and frequently leads to unexpected scenarios. The scope of this approach shows that increasing flexibility is not a quick fix for a manufacturing network. It is important to choose a transformative process: a pilot and rollout covering all relevant elements. Addressing the entire manufacturing network requires a high level of management commitment and attention.

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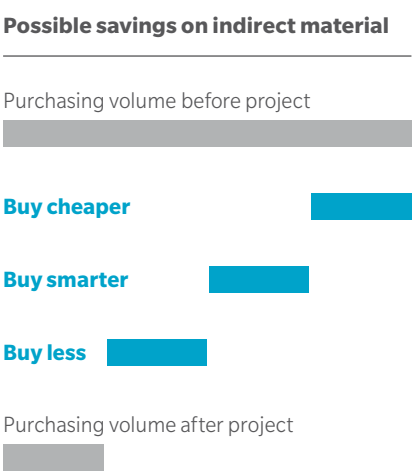
THE UNTAPPED VALUE IN SOURCING

SPENDING SMARTER

Procurement officers generally spend a lot of their time focusing on direct production material. In the process, indirect material like travel costs, telecommunications, and IT hardware frequently become a mere afterthought. By taking this approach, purchasers fail to address hidden potential, potential that is easy to uncover. To mine this high-promise vein of savings, traditional procurement practices and the division of responsibilities in the purchasing department must be cast aside and new strategies applied.

Over the past few years, most industrial companies have made tremendous strides in their material procurement practices. Unfortunately, it was only direct production material that generally caught the eye of purchasing employees. By contrast, the purchasing of indirect material usually bears all of the hallmarks of a hit-or-miss enterprise. On top of this, the breakdown of responsibilities and processes is fuzzy, the supply structure outspread, and the organization decentralized. The result: a dearth of transparency in indirect material procurement regarding purchasing volumes and an unsystematic approach to a significant share of a company's external spend. This is where the cache of potential is buried, ready to be quickly and easily uncovered if the right tools are applied.



CROSS-FUNCTIONAL COLLABORATION

As a rule, only a slight amount of indirect material costs fall under the purview of the purchasing department. Instead, this task is frequently taken under the wing of other departments – IT will handle IT hardware, production will manage work uniforms, and the finance department will take care of company vehicle leasing. Furthermore, indirect material is generally obtained in a decentralized process at each location, rather than being bundled and conducted through framework agreements. There are many reasons for this. One of them is that the extent of some purchases cannot be addressed because they are done by specialists from particular departments. Such purchases can involve things like tooling. It is sometimes also believed that the expected savings will not amount to more than a hill of beans. This can be the case for such things as office supplies. The secret to tapping the

wealth of cost savings in indirect material is to put more authority into the hands of the procurement department. The first step that must be taken is to forge a cross-functional alliance between procurement and each individual department. As part of this push, a company's top managers have to define ambitious top-down targets for indirect material for the whole company, including the purchasing department. These targets should be based on robust analytical principles. This is the only way to cement the acceptance of all parties involved and to facilitate an acceptable breakdown by business department, region, and material category. These joint targets will turn procurement and the business departments into allies. While the business departments ask procurement to lend a hand, purchasing employees can push new initiatives. By considering the overall target in the budget at an early stage, the entire company can be brought into the process and actions will not end up being a series of isolated activities carried out by a smattering of employees.

EXPANDING THE PLAYING FIELD

If indirect material costs are to be driven down, a company must take its purchasing game to a new level, one that moves it beyond traditional procurement practices. The commonplace tricks of purchasing (buy cheaper) apply to only about one-third of the hidden potential offered by indirect material. To bring the remaining two-thirds to the surface, companies will also have to buy smarter and buy less. To make the deepest possible cuts in indirect material costs, companies must leverage all three of these approaches. "Buy cheaper" boils down to restructuring prices and payment conditions, exploiting economies of scale, consolidating suppliers, and seizing market opportunities. This includes pooling of volumes, optimizing the supplier panel, investigating alternative sourcing, and negotiating master agreements. "Buy smarter" involves optimizing specifications to tailor products and services bought to actual internal needs. Levers to buy smart include preparing a standardized catalog, examining total operating costs, improving guidelines, and revising specifications. "Buy less" is all about optimizing consumption levels. This can be achieved through sharing of best practices, the monitoring of key consumption indicators, internal benchmarks, a fundamental consumption analysis, and a budget cap.

REALIZE POTENTIAL

Companies determined to reap the potential of indirect material costs must keep several success factors in mind: The key step is to develop transparency about indirect material costs and a reliable way to measure purchasing success. Another essential action is to bring top management and other stakeholders on board. A cross-functional and a cross-location alliance must be struck. It can be established by setting cross-functional targets as well as by reassigning areas of responsibilities. By employing proven tools and approaches for the respective level of purchases, a company can rapidly address a maximum amount of potential. After all, effective implementation will be facilitated and supported with the aid of suitable tools and methods. In the end, old habits have to be broken if the hidden potential in procurement is to be continuously realized.

~2/3

of the potential of indirect material procurement is not addressed by traditional approaches.

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FAST AND HIGH-IMPACT PROFITABILITY IMPROVEMENT

THE EBITDA X-RAY APPROACH

The top items on the to-do lists of manufacturing companies are to drive down costs and ramp up profit. The key: an unvarnished examination of all major cost pools, which are the source of up to 90 percent of total costs. With these results in hand, companies can then quickly define the most effective levers and approaches to reduce their costs. The levers and approaches used in this work will vary by company and must be implemented on an individual basis.

~90%

of costs at manufacturing companies are quickly addressed by the "EBITDA X-ray."

The point of a new survey of the manufacturing industry is hard to miss: 95 percent of surveyed companies rank cost cutting as their top priority, and nearly 90 percent identify improved earnings as an important issue. On the other hand, respondents showed very little interest in launching activities to drive sales during the next few years. The takeaway of this poll for industrial companies: It is time to put their cost pools through a systematic wringer that will improve their profitability.

SYSTEMATICALLY ADDRESSING COST POOLS

Manufacturing cost pools largely boil down to material, production, and overhead costs. In general, these are the sources of up to 90 percent of total costs. As a result, they offer the deepest vein of potential savings. Companies that systematically and comprehensively tap this lode of hidden savings are able to improve their profitability (EBITDA) by up to five percentage points.

These three cost pools consist of a wide range of categories, including personnel and materials costs, and are influenced by a number of different cost drivers. But all three have one thing in common: A high-speed, targeted examination of them can uncover areas teeming with savings and improvement potential. The reason? All three cost pools are influenced by comparable cost drivers in most companies.

QUICKLY IDENTIFYING THE RIGHT LEVERS

As part of a systematic review conducted during a period of about two weeks, companies can identify the levers they need to pull to get the job done. During the review, they must pay particular attention to four areas: purchasing, production, product costs, and overhead – the so-called "x-ray modules." These four modules examine the fundamental cost pools from

various angles. This work produces a picture that can be used to devise a hypothesis-based solution. Using as their North Star hypotheses on cost drivers and best practices, companies can quickly find cost-cutting levers and pinpoint potential.

In the purchasing module, transparency can play a key role in identifying the right levers and delivering valuable information about purchasing volume, the supplier base, and results from recent years. The exercise also can create a structured assessment of the maturity of the purchasing function. Acting in a similar fashion, an analysis of key performance indicators in the production module serves as a test lab for devising strategies for improvement. In the product cost module, constructive levers can be identified by structurally outlining cost-cutting steps that have been carried out and their impact. The review of the overhead module gets a helping hand from the fact that companies' key performance indicators can be easily weighed against each other. This enables hypotheses to be drawn up on the basis of suitable benchmarks. Each module will have its own set of hypotheses regarding the levers and focal points that promise to improve profitability.

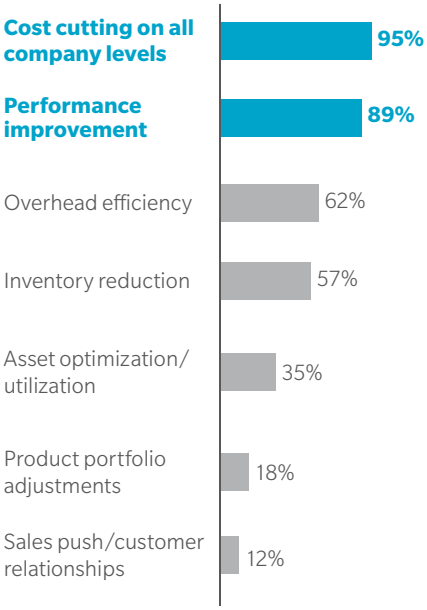
Once completed, the systematic review of the four x-ray modules will achieve two objectives: It will identify the amount of savings potential ready to be tapped and outline key improvement strategies. This review will create the blueprint for action a company can take to meet its individual needs. As a company moves forward with this plan, it must also keep its expected time frame and individual needs clearly in mind.

BOLSTERING SUPPORT IN THE COMPANY

In its business cases, Oliver Wyman uses the "EBITDA X-ray approach" to quickly pinpoint savings potential and to find the right cost-cutting levers. As a result, it is possible to wrap up a review of the key cost pools in the four modules in about two weeks and, thus, to set the stage for successful, sustainable cost cutting. Thanks to its modular design, this approach can also be applied individually to each x-ray module.

For the "EBITDA X-ray" to succeed, a company must be prepared to cooperate. This cooperation can take various forms, such as a company's willingness to take an uncompromising look at its operations, to provide data and information, to have top managers and other experts join the process, and to commit itself to driving down costs. In return, the "EBITDA X-ray approach" will reward companies in many ways. It will size up a company's own cost position in comparison with companies that use best practices. It will produce quantitative indicators of company weaknesses and improvement potential, offer feedback on data availability and transparency in the company, and provide recommendations about improvement levers and approaches based on Oliver Wyman's project experience.

Focus topics of industrial companies
Number of responses



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CHINESE AND RUSSIAN INVESTORS AS AN EXIT CHANNEL

PRIVATE EQUITY

Chinese and Russian investors have spent billions to acquire significant shares in German corporations. As this trend is very likely to continue, it is important to understand the drivers of these deals and to derive recommendations for shareholders who are considering a sale to Chinese and Russian investors.

50%

of Chinese M&A targets in Germany in the past four years came from the industrial sector.

The past ten years have seen more than 130 publicly announced transactions of Chinese and Russian investors in Germany. The development of Chinese investments is particularly impressive. Prior to 2008, the average transaction value was well below USD 100 million. It has more than doubled in the past two years. In December 2012, Weichai Power of China announced the acquisition of German forklift manufacturer Kion for approximately USD 900 million, the largest investment by a Chinese company in Germany to date. A few months earlier, two separate purchases of German firms put the global concrete pump market under Chinese control. Sany acquired market leader Putzmeister for more than USD 700 million and XCMG purchased world number two Schwing for an undisclosed amount. Lately, Sinomach intended to take over MAG Europe, a leading machine tool manufacturer for the automotive industry. Russian investors also have closed head-turning deals. Russian state-owned oil and gas company Rosneft spent approximately 1.6 billion euros in 2011 to acquire a 50 percent stake in Ruhr Oel, which at the time controlled about a quarter of Germany's refinery capacities.

DIFFERENT MOTIVATIONS

A closer look reveals that Chinese and Russian investors have been driven by different factors when seeking out targets. Between 2008 and 2012, more than two-thirds of the 55 Chinese investments took place in the industrial and high-tech sector. This is in line with the significant size and growth of the Chinese industrial sector and the development of import and export relationships with Germany: The Chinese industrial sector is responsible for 40 percent of gross national product – compared to about 26 percent in Germany. And in 2012, exports of these goods accounted for more than half of Chinese exports to Germany, a 20 percent increase since 2002. In addition to this "sector logic," the increased M&A activity in Germany is due to subsidies given by the government following the "Go Abroad" strategy ("Zou Chu Qu").

Investors from Russia follow a different pattern. While the number of investments of Russian companies in Germany is steady, it is smaller than that of Chinese companies. Also, there appears to be no clear target sector. Most investors from Russia seem to invest rather opportunistically along their value chains. The largest transactions have taken place in the materials sector. Like in China, the government's influence on investments is significant. Despite market liberalization, the Russian government still controls a large proportion of the economy through its ownership of key enterprises, especially in strategic industries such as oil and gas. The government increases its control of international markets when its state-owned companies become more global. Consequently, the largest transactions have been driven by government-backed companies, which are considered strategic enterprises (for example, Rosneft).

MOVING IN DIFFERENT DIRECTIONS

Chinese and Russian investors have different backgrounds, and the outlook for future development points in different directions. Yet, for investors from both countries, the know-how and the customer access of German market leaders are attractive. In 2011, the Chinese government implemented its five-year-plan to show that it wants to grow in seven areas: bio-technologies, new energy, high-end equipment manufacturing, energy conservation and environmental protection, clean-energy vehicles, new materials, and next-generation IT. Since the government is determined to make China competitive in these sectors, investors will receive strong support. China's enormous currency reserve of approximately USD 3.5 trillion serves as a good basis to support this growth strategy. Another factor that supports increased corporate action is that many Chinese companies have become successful global players: Twenty-three of the fifty fastest growing companies on the Fortune 500 list are from China. In addition, the number of Chinese companies ranked in Fortune's list of the world's 500 largest companies increased to 61 in 2012 from 24 in 2007.

Investors from Russia are also likely to continue to invest in Germany, as trade between the countries is facilitated by Russia's entry into the World Trade Organization. Investors will most likely continue to come from core Russian industries such as the oil and gas sector. However, a real government-driven investment strategy seems to be missing. Therefore, less M&A activity is expected from Russian investors than from Chinese investors.

BUILD KNOWLEDGE

Overall, the number of investments from Russia and China in Germany is likely to increase in the coming years. Chinese investors appear especially ready and determined to step up their M&A activities. This should make them a key target group for sellers of German assets. Market timing – waiting with a sale – could be an option in this context, given "takeover power" (many corporations are becoming real global players, government backing is available, and foreign currency reserves built up). But the Chinese are no "silver bullet": Their particular interest lies in industrials with attractive technological know-how and good market access.

M&A investment activity in Germany

Sources: Thomson One, Mergermarket

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SPECIALIZATION: A WAY TO WHIP THE BIDDING COMPETITION

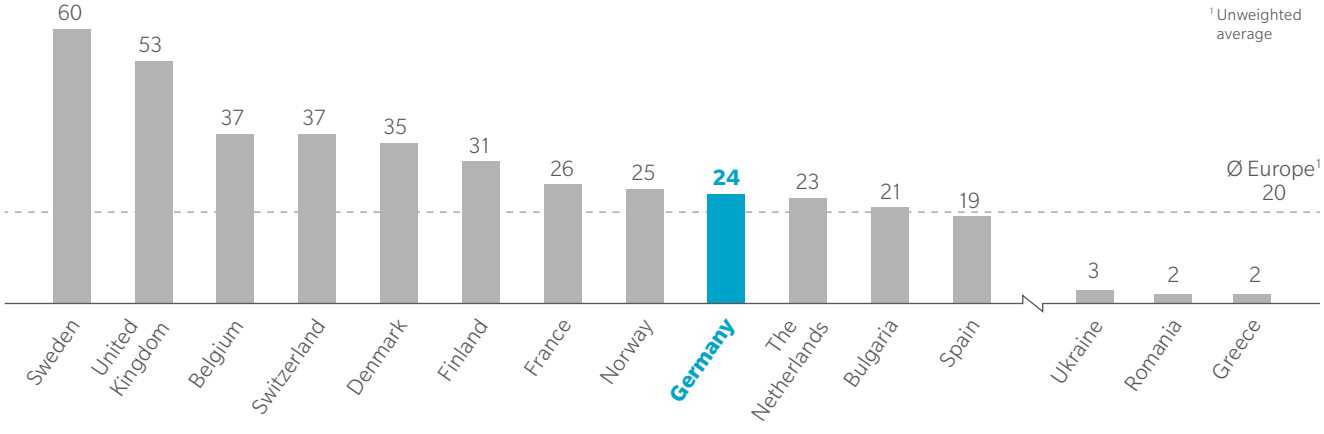
PRIVATE EQUITY

As the market matures and new international contestants join the game, the competition for the best private equity deals has become fiercer. One approach that investors can employ in such bidding showdowns is to specialize more closely in particular industries or special situations. Furthermore, the ability to generate value-adding operational improvements at portfolio companies will be called on to deliver a powerful contribution to returns.

The private equity business is undergoing a transformation in Germany. Not only is private equity increasingly becoming socially acceptable, but it also offers additional growth potential in the long term. A European comparison of private equity investments as a share of gross domestic product shows just how much ground Germany has made up in this regard. With a total of about 24 basis points (bps) for 2012 (compared with roughly 12 bps for 2009), Germany has now moved past the unweighted European average of about 20 bps. Nonetheless, the country still trails far behind Sweden (60 bps) and the United Kingdom (53 bps). Germany has also been making tremendous strides in other areas, such as in the ratio of private equity takeovers among all takeovers and acquisitions since 2009. In 2012, this figure reached 13 percent, putting Germany just below the European average of 14 percent.

Value of private equity investments as a share of gross domestic product in Europe 2012
In basis points

Source: EVCA



GERMANY APPEALS TO INVESTORS

There is indeed good reason for this shift. A study on data covering the time period since 1971 has found that Germany has been a high-performance marketplace for private equity, churning out above-average returns of about 25 percent annually for investors. In the process, huge amounts of money have been poured into the industrial sector. This is a place teeming with hidden champions that have become prime takeover targets because of the nettling problems they face with business succession or their hunger for capital to finance growth strategies.

The improved availability of debt capital to finance acquisitions has given a further lift to the German private equity market as well. In Europe, the average share of equity in private equity transactions remains at a solid level of more than 50 percent. By contrast, the private equity transactions carried out in Germany revealed an increase in the share of debt capital last year. Moreover, the bond market's appetite for acquisition financing has further increased in 2013. Generally speaking, top investors increasingly have been able to devise ways that enable them to generate very good returns with a modest leverage ratio. More specifically, top investors have accomplished value-creating operational improvements via organic growth, increased productivity and efficiency, repositioning, targeted acquisitions, and entry into new markets. These operational moves are backed up by programs that shift the focus of management and incentive systems.

SPECIALIZATION REQUIRED

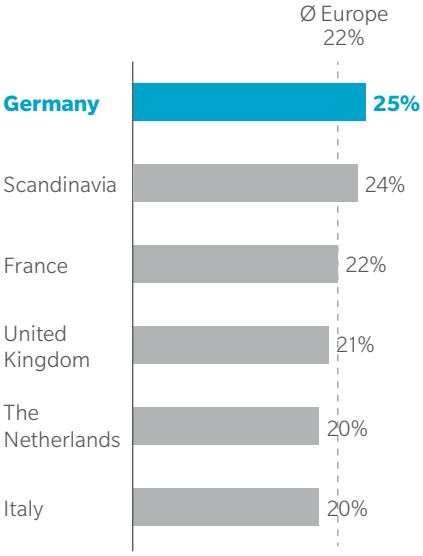
The allure of the German private equity market is clearly seen in the all-star lineup of international investors who have set up shop here. Over the past few years, a number of heavy hitters from the United States, including the Blackstone Group, General Atlantic, KPS Capital Partners, the Gores Group, and AEA Investors, have opened offices in Germany. As market density and maturity increase, the pitched battle being waged for takeover targets has gained an even sharper edge. Increasingly, the investors who emerge from the fray with the prize in their hands are those who have developed a specialized expertise for the German market, certain industrial sectors, special situations like restructurings and turnarounds, or growth financing.

These investors can underpin their offers with a credible, long-range industrial concept that can win over both the people selling a company and those who will bankroll a deal – giving a true upper hand to this wily group when bids stack up pretty much evenly. As far as attractive takeover targets are concerned, the sun is setting on plain-vanilla buyouts. By contrast, the time-honored virtues of the investment industry have lost none of their luster at all. Traits like a good reputation, negotiating savvy, fast decision-making skills, and an effective network still go a long way. At the same time, new components have been added to the mix of ingredients used to create a killer takeover bid. These include intensive, value-focused due diligence and the planning of operational value-generating programs that will be put into action once the acquisition comes to fruition. Such skills form the strong foundation on which future returns will be built.

Average private equity return by the European target country of the investment

Internal rate of return per year, long-range analysis since 1971

Sources: University of Amsterdam, École des hautes études commerciales (HEC) Paris



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HOW CORPORATIONS HAVE TO ACT NOW

BANK REGULATION

The global financial crisis caused lawmakers to tighten regulation on banks. With the Dodd-Frank Act and EMIR passed and Basel III to be implemented in the European Union, banks' business models are about to change. The changes will very likely have an effect on the overall economy. Thus, it is important to know what those changes are, how companies should react, and how to optimize demand for banking products.

Due to the regulatory changes, financing costs could increase up to

40%

The offering of financial products will change dramatically. Current regulatory measures target what have been identified as the enablers for the most recent financial crisis. Basel III brings rules for higher equity ratios as well as a new composition of bank equity. The Dodd-Frank Act and EMIR regulate derivatives markets in the United States and the EU. Especially the credit business is under review. The new regulatory measures will cause "production costs" of banks to rise. Traditionally, banks tended to accept losses from credit products, expecting future earnings from the relationship and, even more so, from cross-selling. Now, those earnings-generating cross-selling opportunities are becoming less profitable. The banks are likely to react to this change in the following four ways:

First of all, banks could be forced to pass on their additional costs to their clients. This holds especially true for those costs caused by higher refinancing and equity requirements. Second, banks could react by changing their product portfolio. They could set different focuses on the marketing of their products, such as an increased focus on monetary transaction products and deposits. Another possible reaction could be a voluntary (or non-voluntary) retreat from certain product and geographic markets. Last, banks could concentrate on preferred customers in the "premium segment", mostly medium-sized to large corporations which have a positive rating and a high revenue potential for banking products. Premium-segment corporations will face less consequences of regulatory changes while others will face less availability and higher costs of banking products.

Effects from competition, such as foreign banks entering the German market, could offset some aspects of the new regulations. However, a recent Oliver Wyman survey of capital providers found that more than 50 percent

of the respondents see a future rise in interest rates or an adjustment of conditions as a reaction to the changes in regulation.

MULTIFACETED EFFECTS

An analysis of regulatory consequences in relation to the current product offering of banks shows multifaceted implications. Especially corporations with an international customer base are likely to face a different financial product offering in the future. Additional costs may occur when banks have to cut down on their product offering or may not be able to price their products competitively. The exhibit gives an overview of the implications of current regulatory concepts for banks. The overview shows that almost the entire product portfolio of banks is affected, which means corporations will have to prepare themselves for much more than just changes in the "classic" credit offering. Globally oriented companies relying on trade finance may have to re-think their supply chain financing. An initial analysis by Oliver Wyman indicates that spending for financial products could increase by up to 40 percent. As a result of the regulatory changes, corporations may be forced to look for alternative banks and to potentially give up some of the advantages of a long-term relationship with their original relationship bank.

FOUR-STEP APPROACH

With its deep-rooted understanding of the financial services sector and its globally structured "real economy" sector, Oliver Wyman can help identify weaknesses and support in optimizing your demand for financial products. This can be achieved via a structured four-step approach:

1. Kick-start workshops: Hold interactive workshops on the new bank regulations. The goal is to set the baseline of understanding and create first hypotheses on possible repercussions to the client's balance sheet and P&L.

2. Factbook: Create an overview of the current use of financial products in the client organization. Understand the need or possible dispensability for each product, provide an evaluation and comparison of the demand for financing products and the current practices across all business units / legal entities.

3. Vulnerability analysis: Complete a quantitative analysis to estimate the impact of changing regulation on the corporation's portfolio of financial products.

4. Optimization: Elaborate options for the optimization of financial resources, revise the financial strategy so that it is optimized for upcoming changes, and prepare concrete options for action, including a high-level estimate of time and cost requirements for implementation.

To sum up, the expected repercussions from banking regulation will be far-reaching. But they depend on a number of factors and will differ from corporation to corporation. Hence, understanding these factors and finding the right counter strategy should be on the CFO agenda.

Consequences of regulation for banks

Customer requirement Product	**Profitability**
Credits	
Short- and long-term financing	
Credit and liquidity lines	
Capital market financing	
Structured financing	
Trade financing	
Acquisition and project financing	
Leasing	
Transaction banking	
Deposits	
Monetary transactions	
Risk management	
Derivatives	
Foreign currencies	
Investment banking	
ECM, DCM, and M&A	

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IT – THE CHANGE AGENT

ENGINEERING AND IT

Mechanical engineering companies are under attack from all sides today, squeezed by costs, competition, globalization, and customer demands. These companies must fundamentally rethink their approach to providing engineering services. They must change their view of the role of information technology (IT), and integrate IT more directly into the business, in order to work their way out of the dead end and get back on the road to success.

The past few years have not been easy for mechanical engineering companies in Western Europe, due largely to competition from Asian rivals. With each passing month, the challenges mount, turning up the pressure on these companies to overhaul their business models. Prices, technology, and quality are all part of this headlock. The presence of Asian competitors also indicates change. As globalization affects the mechanical engineering business, companies must get down to work rebuilding their business models. The aim must be to professionalize the project initiation, planning, and realization approaches that have served them for so long. Customers, too, are becoming more insistent. On the one hand, they are demanding higher levels of standardization to maintain a better hold on the management of their global operations networks. On the other hand, they are looking for a grab bag of options to help meet their individual needs.

PARADIGM CHANGE IN ENGINEERING

If mechanical engineering companies want to remain in the race, they will have to undergo a paradigm shift in their business models. They must jettison the old approach of contract-specific development and replace it with a new way of thinking that puts concurrent engineering methodologies, mechatronics, and modular designs into the driver's seat. This new model will offer tremendous flexibility, enabling companies to meet demands for the highest standards or the lowest costs, depending on what exactly the customer has in mind. Spurred by globalization trends and cost pressures, mechanical engineering companies must venture out into the world to generate value. But this process will not be easy. To meet rising levels of systemic and organizational complexity, companies will have to up their game when it comes to managing projects and integrating various functional departments.

16%

efficiency gains through the introduction of integrated processes and systems in engineering.

NEW ROLE OF IT

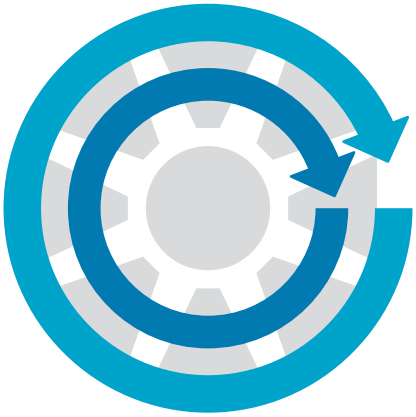
At the moment, IT is often considered a cost factor locked into silos where such systems as ERP, PDM, and CAD reign. IT will have to learn the same lessons as engineering and reinvent itself. The result of this metamorphosis will be state-of-the-art, integrated systems that cover the entire process chain from the preparation of cost estimates to warranty handling. This transformation will fit preliminary cost forecasts, controlling, and configuration into the same system. Likewise, CAD and product life cycle management (PLM) will be efficiently integrated into the ERP system. Cutting-edge PLM systems take over a number of jobs as well, including the management of modular systems. Acting as guides, they will also direct users to work in predefined system structures. The aim here will be to work with reusable modules and drive down costs. The benefits will be manifold. Requirements can be coordinated end-to-end, dependencies identified, and errors in the design phase avoided early on. This will result in the added benefits of significant gains in quality and on-time work, as well as lower costs. The key is the effective integration of all data, processes, and systems.

In this work, IT is emerging as the star that will headline the company's next successful act in business. But before IT can take the stage, companies must rearrange their organizational scenery and accept IT as an indispensable link in the value-creation chain. This horizontal approach requires the development of functional, process-related, and personal interfaces in all company departments. IT must guide and advise the functional departments in setting up the best technical support system for engineering, assembly and aftersales. A number of plant and mechanical engineering companies are taking this exact approach in their transformation processes.

INDUCING CHANGE

Western European mechanical engineering companies intent on becoming tough, long-term competitors in global markets have several tasks: restructure operations, processes, and structures from top to bottom, and strengthen the bonds between IT and functional departments. The top priority is to draw on the expertise of IT to craft and carry out far-sighted actions, particularly around operational project initiation, planning, and realization. This work amounts to a fundamental rebirth. It must be an all-inclusive process that leaves no functional department or international location untouched. Of course, such a sweeping change will create enormous internal challenges for the firmly rooted structures of mechanical engineering. IT can induce this transformation process. An ERP or PLM implementation project involves all functional departments from sales and engineering to materials management, assembly, and service. If IT takes on this strategic job, it can play the key role that will result in rave business reviews and long-range competitiveness.

Integrated process and system landscape



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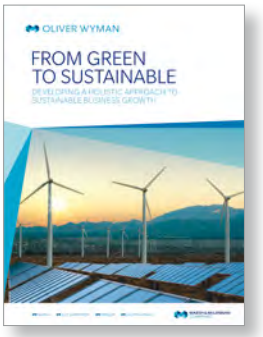

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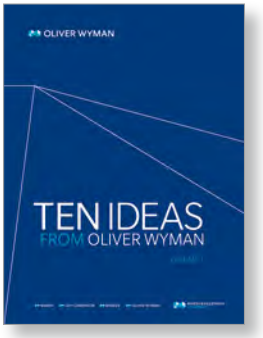

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