

# ▶ A Strategic View on Pharma Operations

Eight Practices to Achieve Leading-Edge  
Pharma Operations

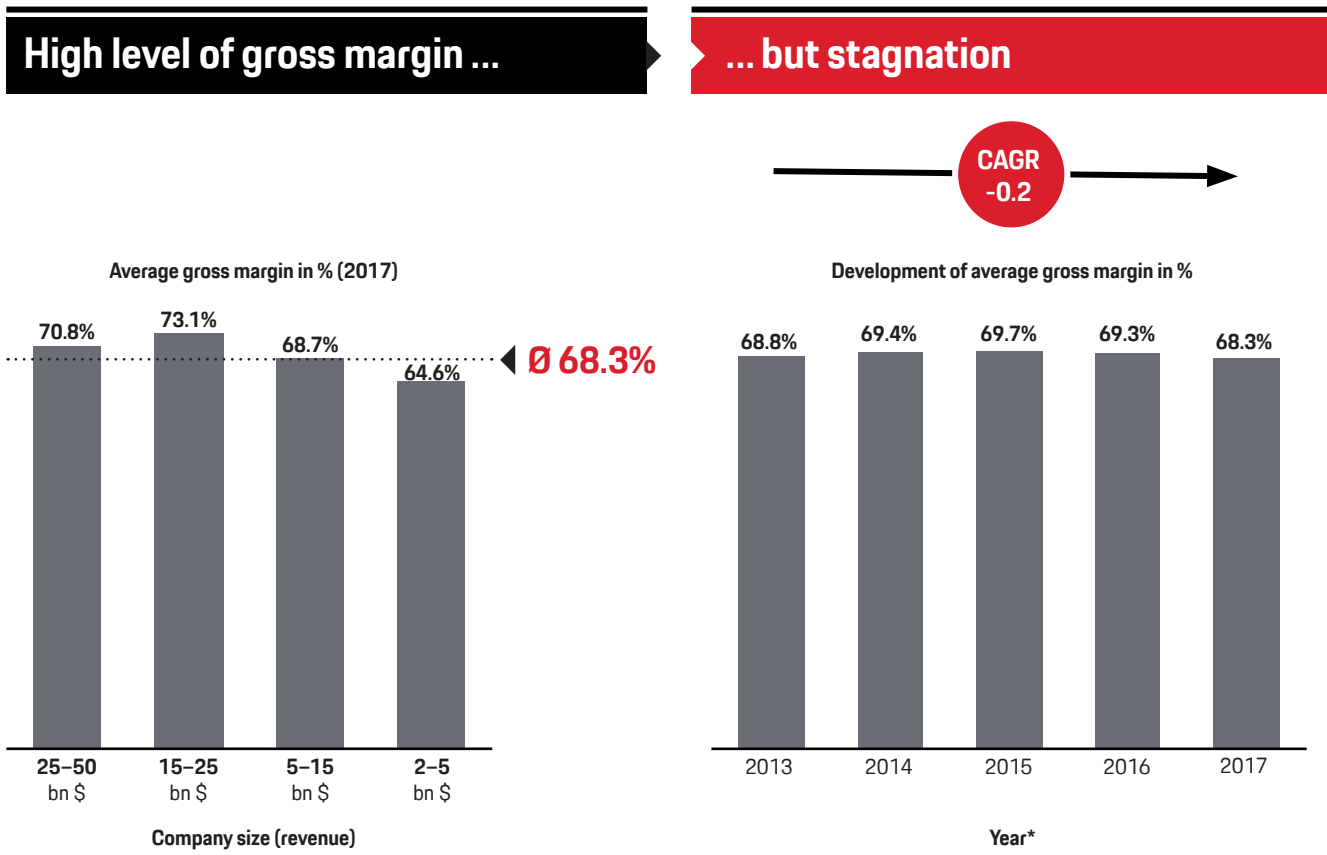
A Porsche Consulting study

# Introduction

## Successful Players of the Future Act Holistically: From Strategy to Transformation of Operations

We assume any pharma business leader is aware of the transformative power of strategic challenges within the sector. Proactive managers are currently deliberating how they can shape the future of their firms, asking themselves: "What will distinguish leading pharma companies in the digital century?" The public debate has centered on high-level strategic and technological considerations, which is tempting but also dangerous, as it neglects the impact of operations. We believe that successful pharma players act holistically: from choosing the right corporate strategy to transforming operations, where value creation becomes highly tangible. A time-series analysis of the gross margin level of the top 100 listed pharma

companies worldwide demonstrates the importance of having an eye on operations (fig. 1). While gross margin levels are still high as compared with other R&D-intensive industries, progress is clearly lacking. Since 2013 the average gross margin has incrementally decreased by 0.2 percent (CAGR). In view of the fact that pharma companies are facing major strategic challenges, it will certainly not become any easier to increase operational performance. This article outlines how these challenges are reshaping the requirements for pharma operations (manufacturing scope: production, supply chain management, quality). Moreover, we illustrate eight practices managers can use to prepare their operations for disruption.



**Figure 1.** Overview gross margin of the top 100 listed pharma companies worldwide  
\* For each company, the available data of the most recent 5 years was considered  
**Source:** Porsche Consulting Research, 2018

Graphic: Porsche Consulting

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# Reading the Signs

## Disruptive Forces Driving the Future of Pharma Operations

Forecasts predict that the value of the worldwide pharma market will reach \$1.06 tn by 2022 with a CAGR of 6.5%.<sup>1</sup> However, not every company will be able to participate in growth, as success factors will shift drastically within the sector. Firms need to respond properly to the disruptive forces at work. The first step is to translate drivers and brakes into specific impacts for pharma operations.

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### **A rising demand for healthcare pressures institutions to drive down prices and increase productivity**

The continuously increasing life expectancy is accompanied by a rise of chronic diseases and therefore leads to a climb in healthcare spending. As a consequence, a shift from a fee-for-service to a value-based healthcare model can be observed. In this system the payment is tied to health outcome, performance, and quality of care. For instance, the largest health insurers in the US, UnitedHealth, Aetna, and Anthem, want to shift 50 percent of their reimbursements to value-based care models by 2018,<sup>2</sup> forcing doctors to become more price sensitive. In a value-based healthcare system, the price of a drug has to correlate with its effect. Hence pharmaceutical companies have reduced leverage on price to increase their margin. A stronger focus has therefore to be placed on the productivity within the whole organization.

### **As tech giants enter the healthcare market, pharma companies must prepare by becoming more scalable and ready for efficient integrations and spin-offs**

The financial potential for mergers and acquisitions of the top five tech companies, including Google and Amazon, has reached \$1.5 tn in 2017.<sup>3</sup> That is 25 percent more than the financial potential of all pharma companies put together. At the same time, tech giants are paying more attention to the healthcare sector. Alphabet, for instance, has already formed three healthcare subsidiaries: Calico, Verily, and Cityblock. Their focus ranges from increasing the human life span to providing healthcare for low-income Americans. New chances can arise from partnering with these tech companies. In a joint venture with Verily, for example, Johnson and Johnson is building new kinds of surgical robots. Another trend can be seen in big pharma investing in digital health

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startups. One example is the investment of Pfizer in AMRA, a Swedish digital health firm that transforms MR images into precise body composition measurements. In conclusion, pharma companies should foster their transformation culture and become more open to diversity at all dimensions.

### **The ongoing shift from conventional drugs to biopharma pushes pharma companies to streamline their R&D process and transform their supply chain management, including production**

The share of conventional drugs has decreased since 2008 from 83 to 74 percent in 2017. Projections suggest that biopharmaceutical drugs will make up 30 percent of the prescription and OTC sales in 2022.<sup>4</sup> Given this market evolution, it needs to be considered that the preclinical out-of-pocket R&D costs for biotech drugs are significantly higher than for conventional drugs. A small-molecule generic drug takes three to five years to develop at a cost of \$1–\$5 million. A biosimilar takes on average seven to eight years to develop at a cost of \$100–\$250 million.<sup>5</sup> This becomes clearer when comparing Aspirin, consisting of 21 atoms, with Herceptin, consisting of around 25,000 atoms. Biopharma production predominantly relies on cell culture and protein purification procedures, instead of classical chemical reactions. The required equipment is more technology- and capital-intensive, accompanied by stricter production conditions and greater risk of contamination. Biosimilar companies are now in danger of not being able to offer significantly lower price variants than the original provider, as with Biocon's launch of Canmab. Biocon was criticized for offering their Herceptin alternative at only a 25 percent reduction in price compared to the original medicine. This leads to greater pressure on pharmaceutical companies to optimize the R&D and production costs, especially for biopharma.

1 Evaluate, Pharma World Preview 2017, Outlook to 2022, 2017 | 2 Forbes, UnitedHealth, Aetna, Anthem Near 50% Value-Based Care Spending 2017 | 3 EY, 2018 M&A Firepower Report, 2018 | 4 Evaluate, Pharma World Preview, 2017 | 5 Boehringer Ingelheim, Interview Biosimilars, 2015

## Global medicine volume growth

Standards units in billions

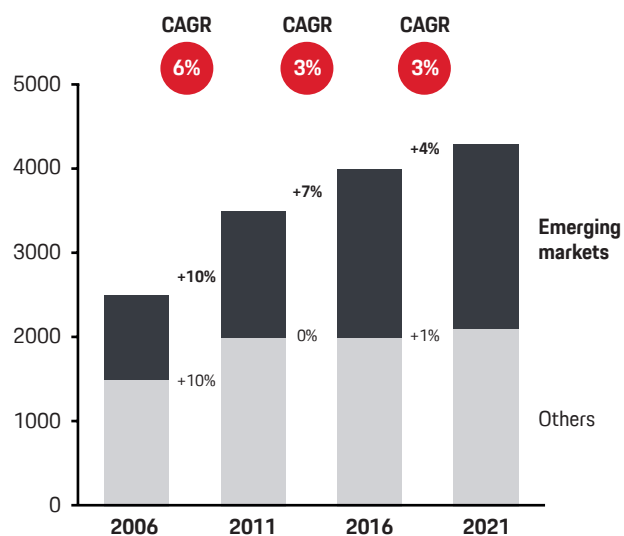


Figure 2. Global medicine volume growth, Quantiles IMS Institute  
Graphic: Porsche Consulting

**As the contribution of emerging markets to the pharma growth will become more relevant, pharma companies need to think about centralization and decentralization in order to keep up with the change of global footprint**

From 2011 to 2016 the global medicine market grew with a CAGR of 3 percent (see fig. 2). Almost all of this growth resulted from emerging markets, which will comprise nine of the top 20 markets in 2021, with China ranked second behind the United States. This evolution is connected with a growing uncertainty due to unstable economic conditions in emerging markets. For example, China has delayed issuing its updated national reimbursement drug list since 2009, limiting patient access to new medicines based on their affordability. Furthermore, Brazil's progress in expanding access to healthcare through a variety of schemes has been regularly interrupted by legal challenges to the speed and equality of access under a constitutional universal access guarantee. Hence, pharmaceutical companies need to overcome bureaucracy in order to increase the speed of decision-making and execution.

**As patient orientation is increasing and health transaction costs are decreasing, pharmaceutical companies need to adjust their business model to focus on additional value creation for the patient**

Today's healthcare ecosystem is characterized by "loose strings." Links between the patient, pharma companies, hospitals, research, and the state are often missing. As a result, enormous improvement potential along the entire value chain is as yet untapped. However, currently evolving initiatives are creating central healthcare platforms, thereby

optimizing workflows and reducing transaction costs. For example, ZHP.X3 by Telecom Healthcare Solutions is offering health insurance companies a seamless integration with a large range of connected care providers. The relevance of such cloud systems will continuously increase in the future. We believe that this transformation of the healthcare ecosystem will culminate in so-called "center-staged" health systems that focus on the patient. If pharmaceutical companies are able to keep pace, they will find new ways for additional value creation.

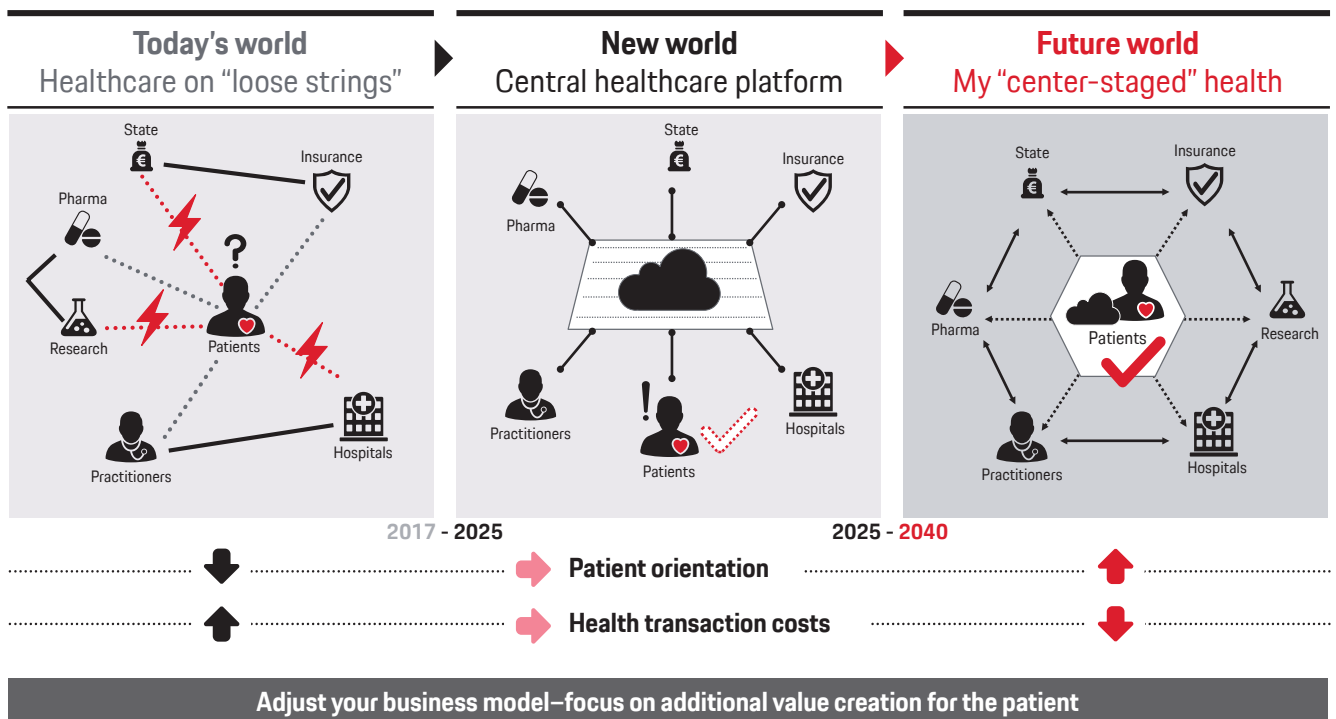


Figure 3. Healthcare of the future

Graphic: Porsche Consulting

# Right Conclusions

## Eight Practices to Achieve Leading-Edge Pharma Operations

Reading the signs of disruption is only the first step and must be followed by drawing the right conclusions quickly. Based on both our deep pharma expertise and exclusive insight into several leading industries, we believe that **AGILITY, OPERATIONAL EXCELLENCE, INNOVATIVENESS**, and **DIGITIZATION** are the key answers to navigating pharma operations successfully

through this time of great transformation. Combining these four elements in a consistent way will turn your operations into a shining company role model for change. For your inspiration, we have summarized two specific practices to push progress in each of the four elements.



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# AGILITY

Be dynamic, flexible, and scalable by establishing a strong transformation culture. This is an important precondition to face potential industry consolidation but also to be able to respond quickly to changing market conditions in an increasingly globalized industry.

## ► PRACTICE 01

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### **Drive decentralization: remain receptive to selected advantages of centralization**

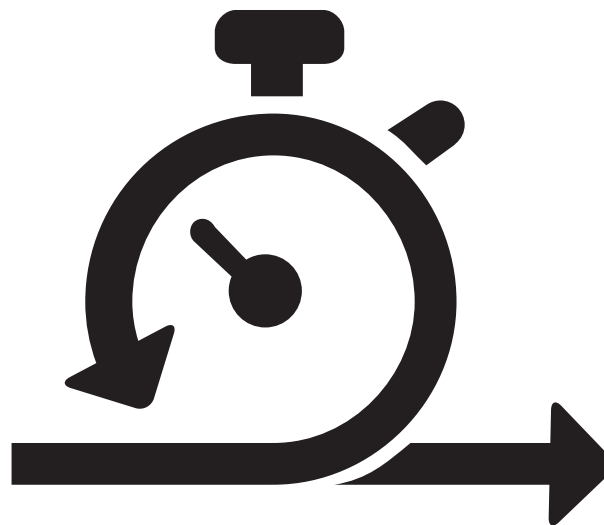
Define the most suitable macrostructure for your operations network. Attributes such as flexibility and speed are facilitated through stronger decentralization. Bearing this in mind, centralization should only be considered if there are end-to-end productivity synergies greater than 20 percent, major strategic advantages in terms of standardization and knowledge sharing, or binding regulatory needs. For example, due to diverse technological requirements of production sections, maintenance should be under decentralized control. Nevertheless, do not ignore synergies in maintenance; overall IT systems, special technology expertise (e.g., for robotics), or spare parts management should remain centralized.

## ► PRACTICE 02

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### **Streamline your staff leadership approach: retain your top talent**

Evaluate whether it is possible to reduce hierarchy levels in your organization structure. Especially within matrix organizations, employees are typically engaged in multiple projects led by different managers. Leadership tasks executed through a direct superior are thereby reduced to a minimum, which allows for larger spans of control without risking under-management. Elimination of one hierarchy level is certainly feasible, perhaps even more so in very hierarchical or large corporations. The benefits of hierarchy level reduction include boosted speed of decision-making, stimulation of swarms' creativity, and personnel cost reduction. Consider that when reducing management levels, you need to provide other career benefits to retain your top talent, e.g., crucial project leader roles.



# OPERATIONAL EXCELLENCE

Intensify your operational excellence efforts. Considering the global cost pressure within healthcare, we expect a “survival of the fittest” scenario for the upcoming years. Be prepared.

## ▶ PRACTICE 03

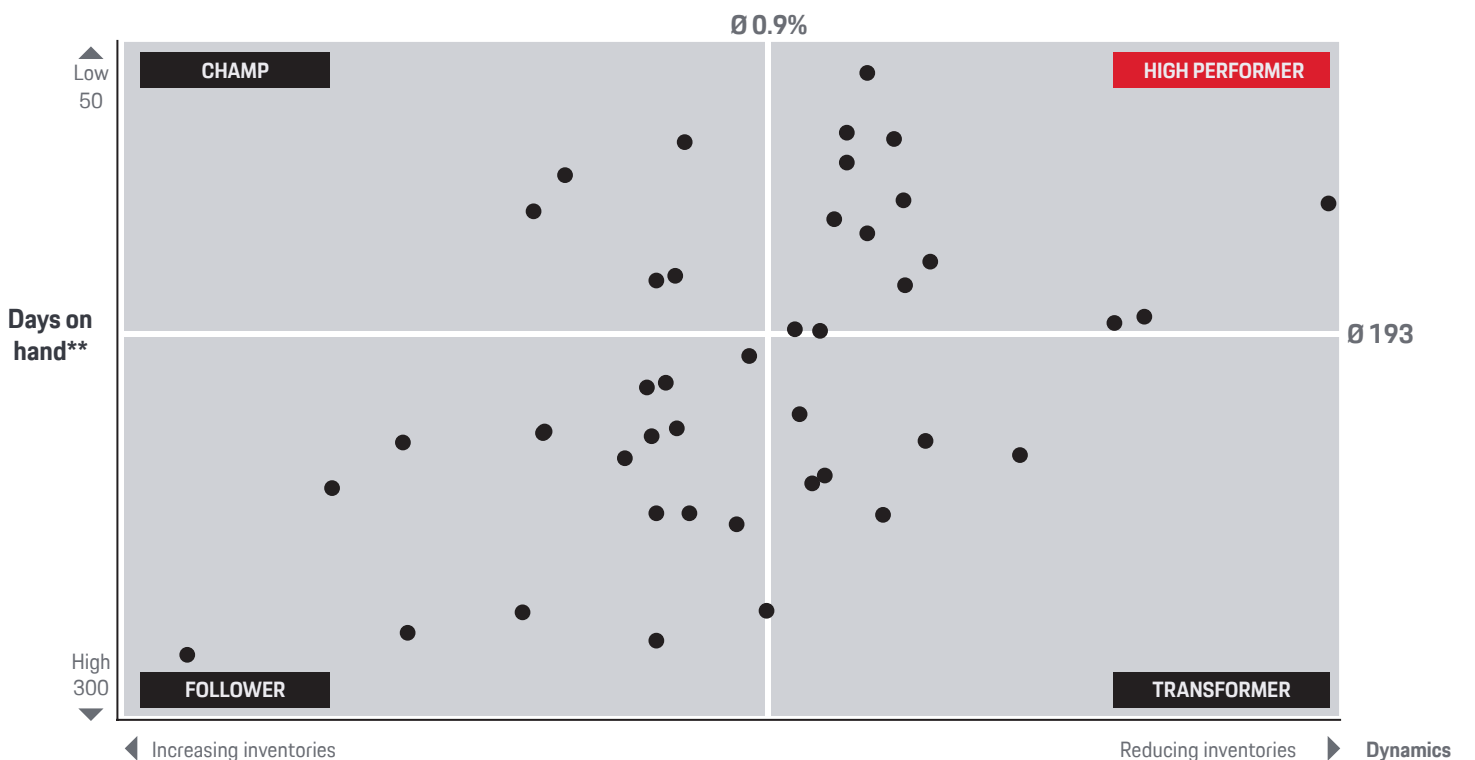
### OpEx beyond Lean: implement next-generation operational excellence

Include and actively push digital approaches within your operational excellence function; solely focusing on physical assets is outdated. Use innovative methods to shift your operational excellence function to the next level. Equipping trainers with innovative methodological skills from the digital age, such as design thinking or SCRUM, can significantly improve the effectiveness of operational excellence programs. Applying such methods will foster creativity and innovativeness, thereby surpassing continuous improvement of existing processes. In addition, use your OpEx organization as an interface to external partners. Partnering can range from collaborating with startups to quickly develop and implement new solutions to cooperating with scientific institutions to absorb deep expert knowledge for specific optimizations (e.g., use deep learning to revolutionize quality control).

## ▶ PRACTICE 04

### Get your capacities under control while limiting inventories

If you want to sell, you have to be able to deliver. Take the challenge of synchronizing global customer orders with your production capacity and supplier inputs. However, companies often tend to plan and dispatch against unlimited capacities. Our solution is to level the different influence factors. That means that the entire steering process should be pooled at one single source. The program planning branch takes care of the flow of information between sales and production. The demand and capacity management branch guides the interplay between production and purchasers in the procurement. Altogether, the method will safeguard delivery capability while limiting inventories at a reasonable level. Figure 4 depicts the inventory days of the top 50 pharma companies, for both the most recent year (Y-axis) and the development over time (X-axis). You are not situated in the upper right area? Do not wait any longer: optimize your planning processes and use the released cash for strategic M&A, for example.



**Figure 4.** Supply chain performance (focus on inventory) of the top 50 listed pharma companies worldwide

\* For each company, the available data from the most recent five years was considered. | \*\* Data regarding most recent year.

Graphic: Porsche Consulting

Dynamics

CAGR since 2013\*



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# INNOVATIVENESS

Foster innovativeness in all areas of your entire organization. Do not limit your innovation efforts to business models and R&D; you will also need a strong culture of innovation within operations.

## ► PRACTICE 05

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### **Create freedom for innovation activities: leverage the intrinsic motivation of your high-potential employees**

Avoid allowing the scarce time resources of your talents to be absorbed by daily troubleshooting activities. Successfully steering your business through the great pharma transformation requires the active contribution of the brightest minds within your organization. One possible approach is to guarantee space for crucial project work, e.g., by offering a central platform where employees can apply to collaborate in the projects they identify with the most. By leveraging the intrinsic motivation of your people, chances of success for your strategic innovation projects will strongly increase. You do not necessarily need a "big bang" solution: start by giving your employees a couple of hours per week off to work on these projects. Once you have reaped the first success, scale the approach and leverage it to find new ways for the most complex problems within pharma operations. The model also helps matching roles to people, which facilitates employee satisfaction and performance.

## ► PRACTICE 06

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### **Strengthen cross-functional collaboration to foster innovation: use innovative nudge theory of Nobel Prize winner Richard Thaler**

Encourage cross-functional collaboration to overcome harmful silo mentality in your operations. This could be achieved by establishing a system of balanced powers in operations, implementing cross-functional tasks in decentral units, e.g., by sharing technology experts among several production sections within a site. Besides such subtle interventions within your operations structure, using Richard Thaler's 2017 Nobel Prize-winning nudge theory is another way to foster a shift in mind-set towards collaboration. Some of our clients have found this approach to be a successful accelerator of cross-functionality. Concepts ("nudges") can be as simple as stocking each recreation area with a different kind of snack to get employees moving and encourage informal knowledge exchange across departmental boundaries. In effect, breaking the silos increases the innovative power of your operations teams.



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# DIGITIZATION

Use digitization in a smart way—not only to be digital. When choosing and implementing an opportunistic approach, the potential to improve productivity in pharma operations is enormous.

## ► PRACTICE 07

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### **Delegate digital competencies to operations: empower operations to be part of the “digital thread”**

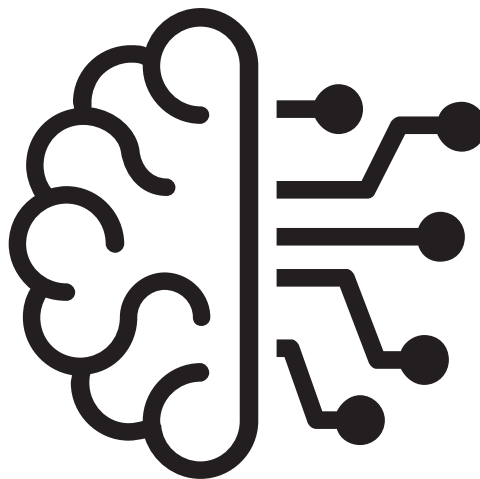
Institutionalize an IT function with defined powers in manufacturing operations. It is obvious that corporate IT functions are more important than ever for digital transformation, global standardization, and harnessing synergies. Nevertheless, shifting some IT power closer to the business is imperative to facilitating the digital penetration of the supply chain. One of the main tasks: the key to digital excellence is an end-to-end digital information flow along the entire product lifecycle. Operations are certainly part of this “digital thread.” It is not enough, however, to anchor IT functions in operations with a clear agenda. A real cultural shift in IT is required—from reactive service provider to value-creating business partner with specific process knowledge. Innovative ideas will thereby be generated in a collaboration between production and IT operations experts, instead of being forced in a top-down approach. Since behavioral change can take years, begin as soon as possible.

## ► PRACTICE 08

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### **Accelerate industry 4.0 rollout: choose use cases with high business impact that are also feasible**

Develop and implement a holistic approach of piloting, connecting, and deploying digital use cases across your value network. While many firms in different industries have initiated a digital transformation process, most initiatives become sidelined in the pilot phase. In order to prevent failure, choose the right use cases (high business impact yet feasible). Based on our experience, predictive maintenance is a well-suited starting point for initiating a digital agenda in pharma. To successfully manage the transition from pilot project to global rollout, make sure that you provide sufficient project steering capacities and follow a clear deployment approach. Keeping this in mind will enable you to prevent common pitfalls and to reap the benefits of increasing efficiency and flexibility within your operations.



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You do not feel challenged enough, perhaps you have already implemented several digital use cases successfully in your operations. Then go ahead and strive for the real paradigm shift: realizing the vision of a “smart factory.” We estimate that the impact of comprehensively digitized pharma factories might achieve up to 25 percent efficiency gains, or even higher. This goes far beyond the incremental 1–3 percent annual productivity improvement potentially achieved by your “traditional” OpEx function. While we would never dare dampen your enthusiasm, keep one thing in mind: do not run too many projects at once. Assign your best employees carefully to the most crucial initiatives and prevent failures that would discourage your workforce.

**Are you ready to push the boundaries?**

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## Further reading

Porsche Consulting regularly publishes reports and articles on major trends, innovations, and ways to keep companies competitive.



Strategy Paper  
**MedTech Transformation:  
A Practical Guide**



Strategy Paper  
**MedTech Operations:  
A Strategic View**



Strategy Paper  
**How Companies Become  
High Performers**



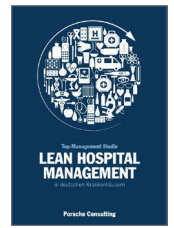
Top Management Study  
**Healthcare  
of the Future**



Top Management Study  
**Improving Quality  
at Hospitals**



Patient Survey  
**Patient Centricity  
in Hospitals**



Top Management Survey  
**Lean Hospital  
Management**

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## Porsche Consulting

Headquartered in Bietigheim-Bissingen, Porsche Consulting GmbH is a subsidiary of the Stuttgart-based sports car manufacturer Dr. Ing. h.c. F. Porsche AG. Founded in 1994, the company currently employs 500 people and is among the top 10 management consultancies in Germany (Lünendonk analysis). Active around the globe, it has offices in Stuttgart, Hamburg, Munich and Berlin as well as in Milan, São Paulo, Atlanta, Belmont (Silicon Valley) and Shanghai. Following the principle of “Strategic Vision, Smart Implementation,” its experts support companies worldwide primarily with their major transformations, the improvement of their performance, and enhancement of their innovative capacity. Their clients are large corporations and medium-sized companies in the automotive, aviation and aerospace industries, as well as industrial goods. Other clients originate from the financial services, consumer goods, retail, and construction sectors.

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## Life Sciences Expertise

Porsche Consulting supports its clients from the pharma, biopharma, medical technology and healthcare provider sectors in strengthening their global competitive position. This includes in particular the collaboration in the areas of digital transformation, innovation, high performance organization, and operations transformation (e.g. supply chain strategy, smart factory).

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## Strategic Vision. Smart Implementation.

As a leading consultancy for putting strategies into practice, we have a clear mission: we generate competitive advantage on the basis of measurable results. We think strategically and act pragmatically. We always focus on people—out of principle. This is because success comes from working together with our clients and their employees. We can only reach our aim if we trigger enthusiasm for necessary changes in everyone involved.

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