



# ► **Beyond the product**

How industrial goods providers  
improve their competitive  
advantage with servitization

# INSIGHTS

## //01

Servitization provides significant business value that drives total shareholder return (TSR). Servitization champions can achieve double the TSR of their industry peers.

## //02

Digitalization fundamentally changes the way services are designed and delivered. The built-in scalability of advanced services or platform plays drives down cost and reshapes the economics of service business.

## //03

When transitioning to as-a-service business models, the key challenge is about managing risk. While the opportunities are tempting, taking over value creation from customers requires careful identification, assessment and continuous management of risks.

## //04

Bolder service transformations require a dedicated operating model as the DNA of an engineering-driven hardware company changes with increasing degree of servitization.

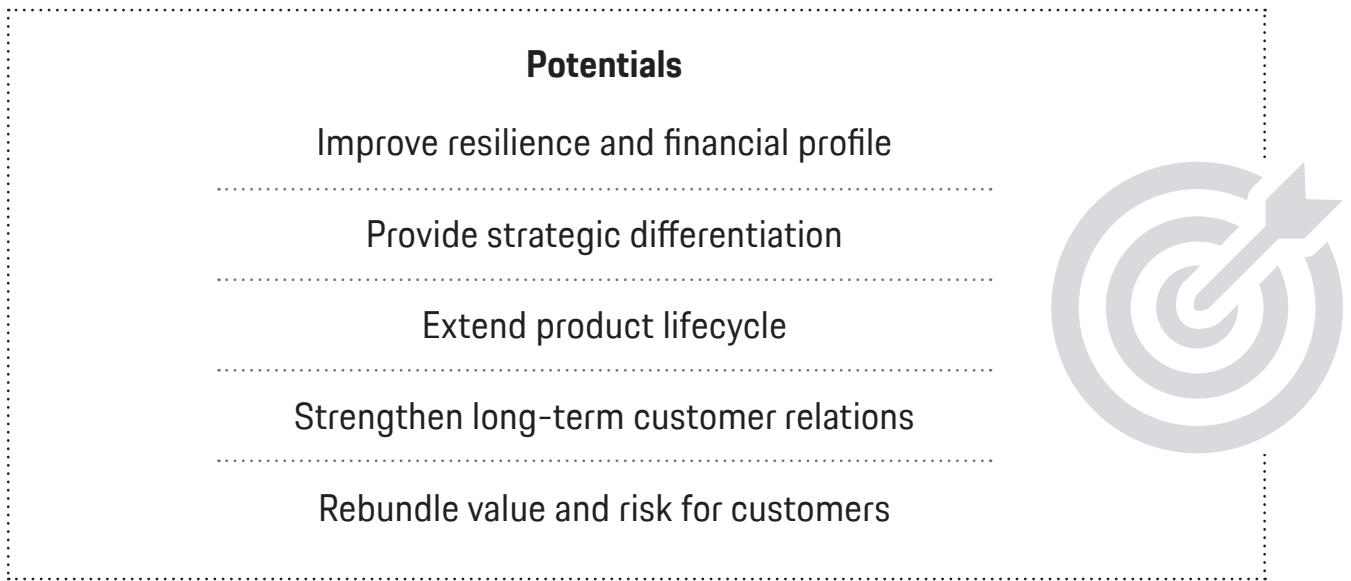
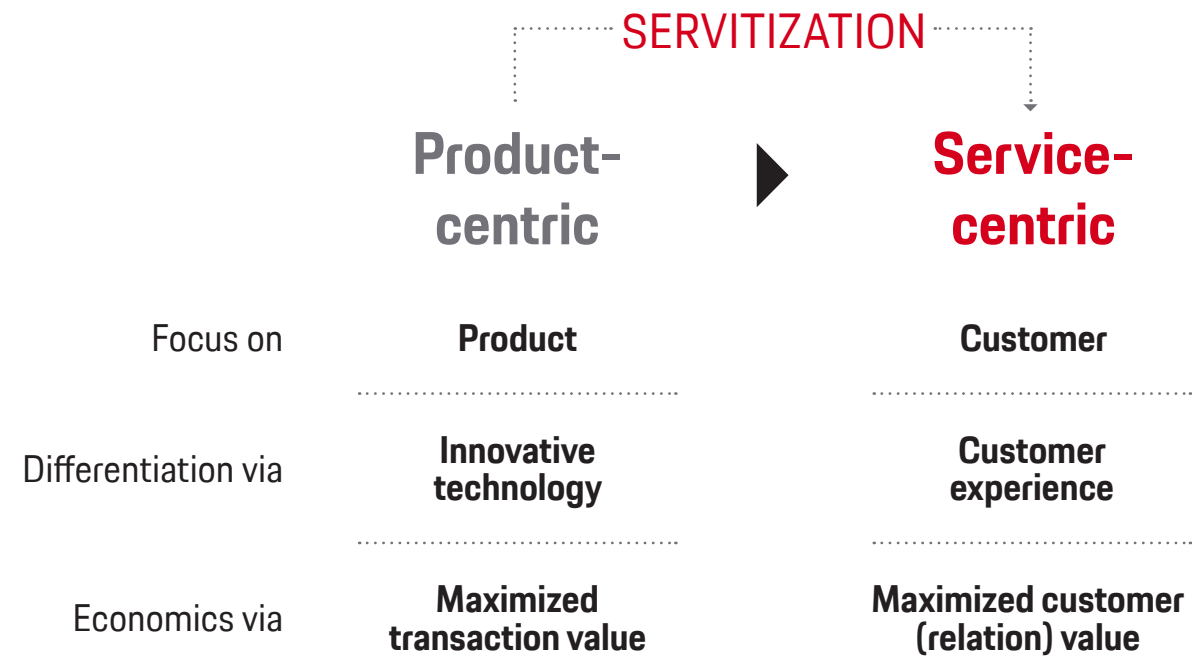
01

**The time for  
sustainable  
servitization  
is now**

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Intensified global competition and increasing commoditization in most industries are shifting value pools from hardware products to software and services. While the competitive advantages have been seemingly understood and published in academia such as in Michael E. Porter and James E. Heppelmann's landmark article "How smart connected products are transforming competition"<sup>1</sup>, servitization has not yet found the widespread adoption that one could assume.

At the same time, it appears that the transition into service providers has become an almost universal goal when speaking with C-levels across industrial goods industries. To understand what is driving this paradox, Porsche Consulting analyzed industries that traditionally focus on developing, building and delivering capital goods. Across a wide range of industries especially industrial machinery, medical technology and the specialty vehicles including agriculture, construction and mining equipment, this strategy whitepaper sheds light on actionable best practices. How do players that are well advanced in their servitization journeys navigate their transformation towards a service-centric business and reap the benefits described in figure 1.



**Figure 1.** Servitization as shift from product- to service-centric business

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## Why is the time for servitization now?

In the past, services offerings have always been tightly linked to the costs and availability of human labour, making it hard to cost effectively provide services at scale. Today, technological advancements enable access to abundant equipment and process-related data at low cost, irrespective of the equipment location. Digitalization has thereby fundamentally enhanced the way services can be designed and performed, enabling an easier scaling of service business at low incremental cost.

The capability to generate cheap insights about the actual usage from an installed base of connected products does allow for more efficient delivery of services or helps identify and provide new services to tap revenue and margin potentials. Where previously maintenance field force spent a high share of their time traveling, ubiquitous data of sensors provide near real-time data to substitute such activities. Further, services and business customers spun around them can help rebundle value for customers and fundamentally align interests of industrial goods companies with their clients.<sup>2</sup> By fulfilling specific customer needs that address all aspects of the customer's process, services help to build sustainable relations instead of relying on a transactional basis that implies competing solely on (more comparable) product specifications. While products can be compared on their features and their prices decomposed on components and assembly level, services are considerably more difficult to compare due to sheer amount of physical and non-physical parameters that influence the service experience plus the ability to continuously improve the performance of the system. The number of such (oftentimes customer-specific) parameters present significant opportunities for differentiation for companies that servitize.

Porsche Consulting's empirical research on total shareholder return (TSR) as presented later in this whitepaper has shown, that servitized companies outperform their peers in the long-term by more than 50 percent. Within the sector of industrial machinery, the median TSR of the best leading servitized companies was 22 percent per annum between 2014–2019, compared to 3 percent per annum of their peers. The impact of servitization encompasses upside for corporate top-line, margin levels and market valuation. By transformation into service-centric organizations, companies can build economic moats around their businesses as a result of:

- ▶ Strategic differentiation due to a deeper understanding and integration into customer operations
- ▶ Competitive edge by generating proprietary data that cannot be replicated by competitors
- ▶ Long-term customer relationships that promote loyalty and stickiness
- ▶ Product lifecycle extension by providing value-added services across the lifecycle after initial product sales
- ▶ Rebundling value and risks that enhance the value proposition by addressing unmet customer needs

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Servitization creates resilience in times of crises and also help truly service-centric companies to emerge from economic downturns as market-share winners against their peers. The COVID-19 pandemic and previous economic downturns have shown a significant resilience of industrial goods companies that have already shifted from a product-centric towards a service-centric business. Service business is more robust both on top- and bottom-line, typically at even more attractive margins than product business. In the extreme event of a lock-down that shuts down customers operations, however, also services do not provide a complete downwards protection. Especially players that have already scaled their services beyond physical field activities, e.g. via data-driven services, profit. Their service operations are only to a minor degree impacted by limitations on physical site access. For instance, Siemens Healthineers has shown that their broad service business can limit negative impacts on hardware sales. With a wide range of digital services that do not need to be physically performed at the hospital, the medtech player delivered service growth throughout all four quarters of financial year 2020 despite the challenging business environments of a pandemic.<sup>3</sup>

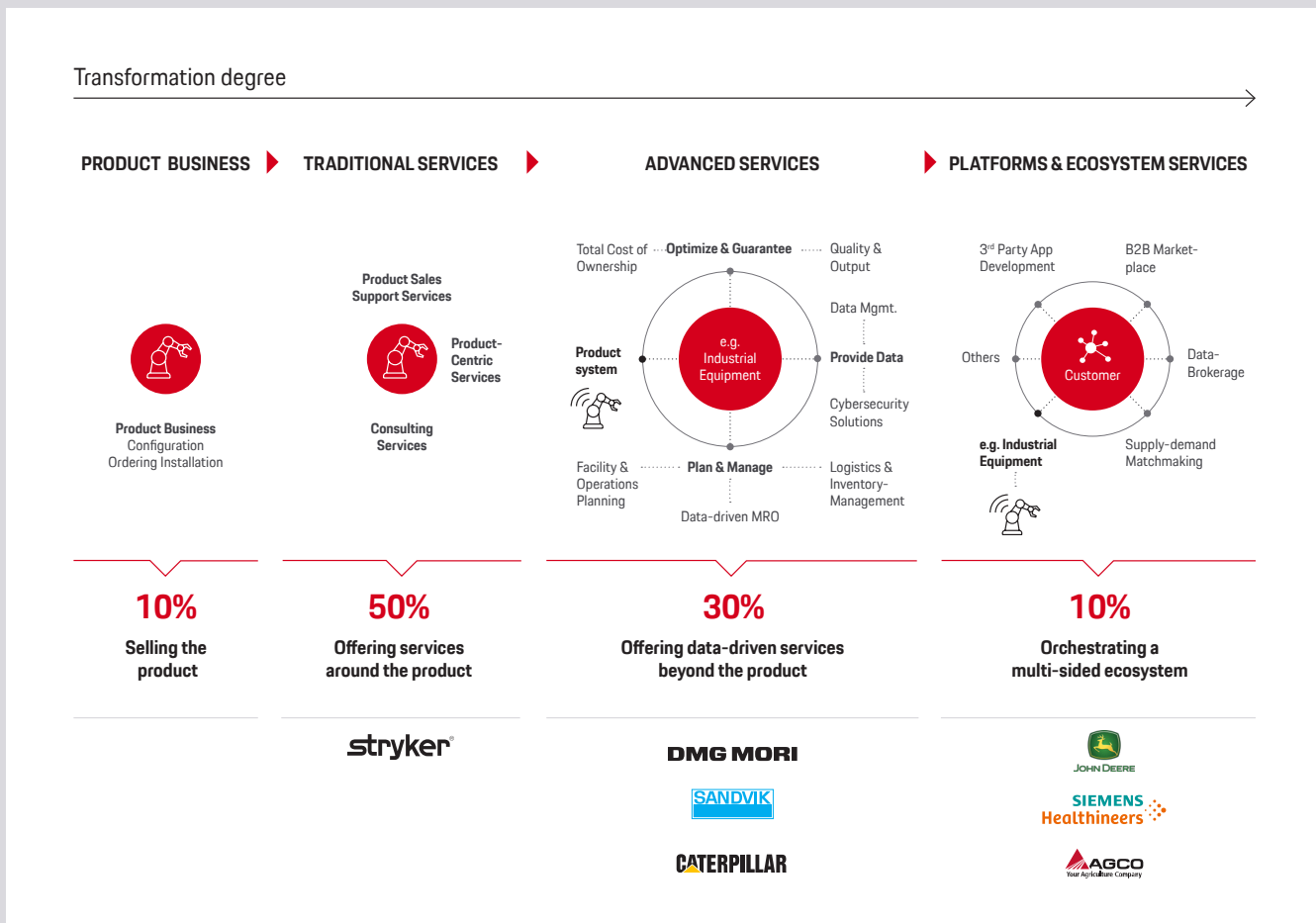
Given the apparent benefits of service transformations the questions arise: Why do not more industrial goods companies exploit the potentials of servitization strategies and what can we learn from companies that are already more advanced in their servitization journey?

This strategy whitepaper seeks to shed light on exactly these questions. Chapter 2 provides insights into the business value provided by services including a quantitative analysis across (sub) industries. Chapter 3 outlines the key considerations to define a winning service strategy, starting with the question when and if servitization is the right strategy for an industrial goods company. It further identifies the key elements of successful service strategies and transformations. Chapter 4 outlines how industrial goods players can operationalize such a comprehensive service strategy by adopting their overall operating model to successfully drive their service business. Finally, chapter 5 summarizes the strategic imperatives for executives of industrial goods players to define the servitization journey tailored to their very own company.

# WHAT IS SERVITIZATION

Literature defines servitization as the process of adding services to manufacturers' core product offerings to create additional customer value.<sup>4</sup> In this whitepaper, servitization should not be solely understood as a process of adding services, but rather as the evolutionary development of a company from a predominant product-centric business towards a service-first or even in highly specific

cases service-only business. Figure 2 showcases such a company-specific transformation path by tapping into new value pools that service play offers. The more a company advances from left to right, the more its DNA changes, exemplified by other business models and monetization options, other sales & marketing approaches and additional required capabilities.



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Figure 2. The evolutionary servitization path

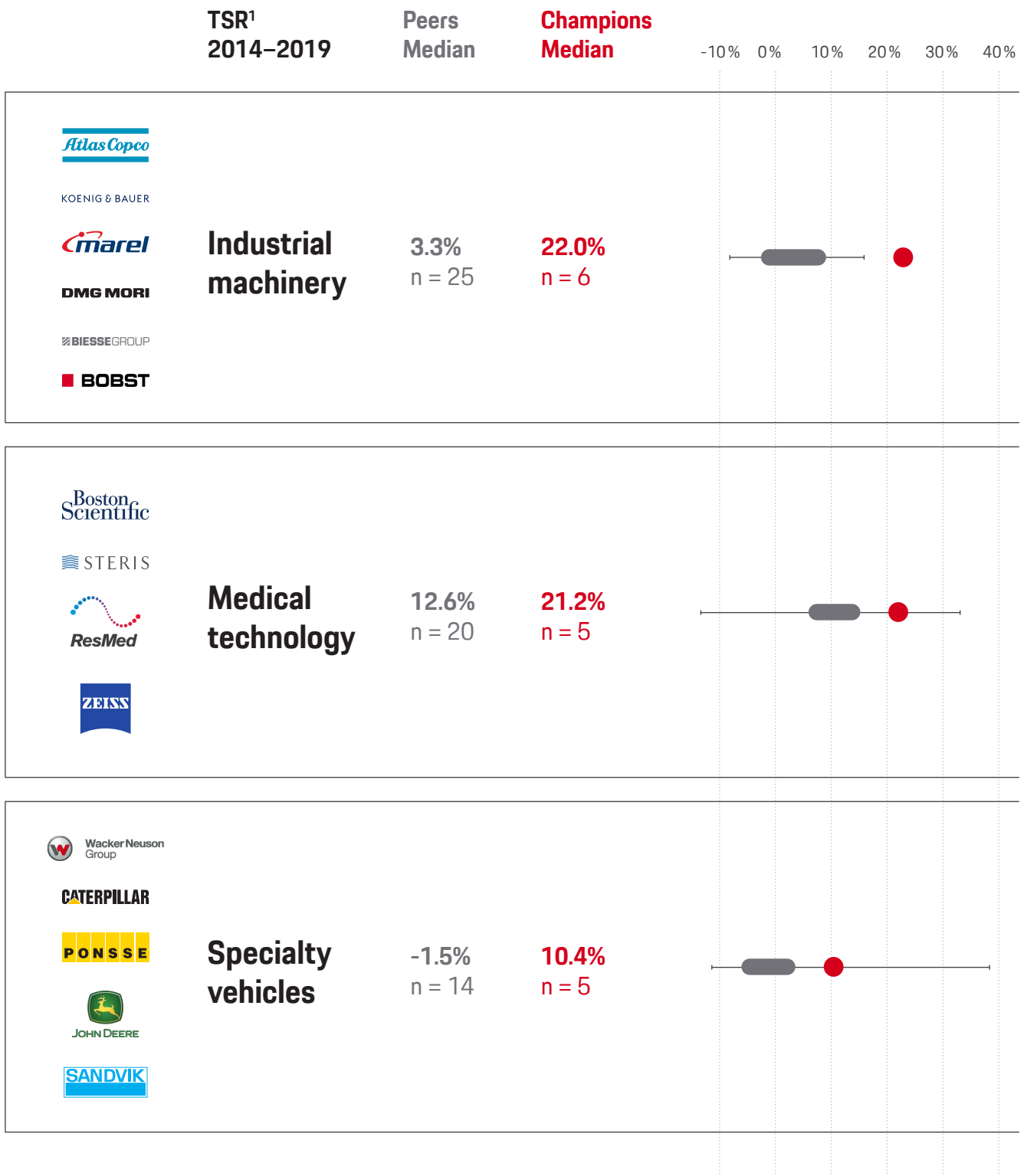
It should be noted that the terminology, definition and reporting of service business varies to a large degree across industries and individual companies. Based on the underlying nature of service business as relational customer interactions, this strategy paper adapts a wide definition of services. This starts with traditional services that include product-centric services such as technical field services, repairs, and other services provided along the equipment

lifecycle such as refurbishments or upgrades. It stretches towards recurring aftermarket activities that include spares, wear parts, and includes consumables business that is aimed at supporting product sales of industrial goods. Further, advanced services in terms of data-driven services are included, as well as "software only" offerings fall under the service definition of this whitepaper. Chapter 3 provides extensive examples along these service clusters.



02

# **The business value of servitization**



● Servitization Champions  
 — Median | Servitization peers (Boxplot indicating Minimum, 25% quartile, Median, 75% quartile, Maximum)  
 1 Total Shareholder Return in % p.a. (CAGR)

Figure 3. Servitization champions provide excess shareholder return over peers

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The empirical evidence shown here confirms that servitization drives business value for industrial goods players. Corporate performance as measured by the total shareholder return (TSR) can provide insights along the different impact dimensions of servitization: revenue growth and margin expansions that can directly be found in corporate P&L statements as well as the impact on multiples as observed through capital market valuations aggregate into capital gains for investors. Additionally, free cash flow distributions to shareholders via dividends provide further capital returns to investors.<sup>5</sup>

While service is certainly not the only option to achieve above market TSR, successful service transformations provide high TSRs that exceed those of their industry peers. A comprehensive analysis of publicly listed companies across three key industries in the field of capital goods as displayed in Figure 3 underpins this link of an above market TSR of leading servitization champions.<sup>6</sup> For industrial machinery players, servitization champions displayed a median TSR of 22 percent compared to 3 percent median for their peers above € 1 billion in revenue. Servitization champions in the medical technology outperformed their peers with 21 percent versus 13 percent TSR. For specialty vehicles manufacturers from agricultural, construction and mining machinery, a broader range of TSR is observable. This accounts for the more diverse underlying market drivers. However, the TSR of servitization champions with a 10 percent exceeded the -1 percent median TSR of their peers.

The business value of service indicated by such above market TSR stems from a combination of different value drivers.<sup>7</sup>

Servitization provides additional revenue sources both driving product and service sales. While for most industries increased service sales typically go along with an improved product business. For instance Vestas started tapping into non-captive service for 3<sup>rd</sup> party wind turbines. By servicing 3<sup>rd</sup> party products that in the meantime account for a two-digit number of their serviced wind park fleet, services can also be decoupled from core product business.

Service business as asset-light business models with a more flexible cost-structure does typically provide attractive margin levels. Even under challenging structural market conditions, such as Heidelberger Druckmaschinen AG is facing, an introduction of new scalable digital services helps to provide stable margins when product business margins drop.

Another element of the overall created shareholder value can be attributed to the increased valuation multiples that mirror underlying competitive advantage, higher resilience and more favourable (recurring) cash flow profiles of service players. Capital markets reward servitization champions such as Caterpillar that managed to drive service revenue up to a third of overall revenue with further ambition to double their service sales within a 10-year timeframe.

The overall positive impact of service business is certainly also depending on market environment characteristics and the corporate strategic ambition. From an empirical point of view, however, the business value of service is not as easily isolated because building up an excellent service portfolio will also foster product business and vice versa.

## Servitization is a long-term play

Going into services will rarely deliver short-term growth. A significant service shift is often associated with a shift from one-time to recurring revenues, realized over the lifetime of a contract. In the short-run executives might even have to cope with the typical top-line dip and investment

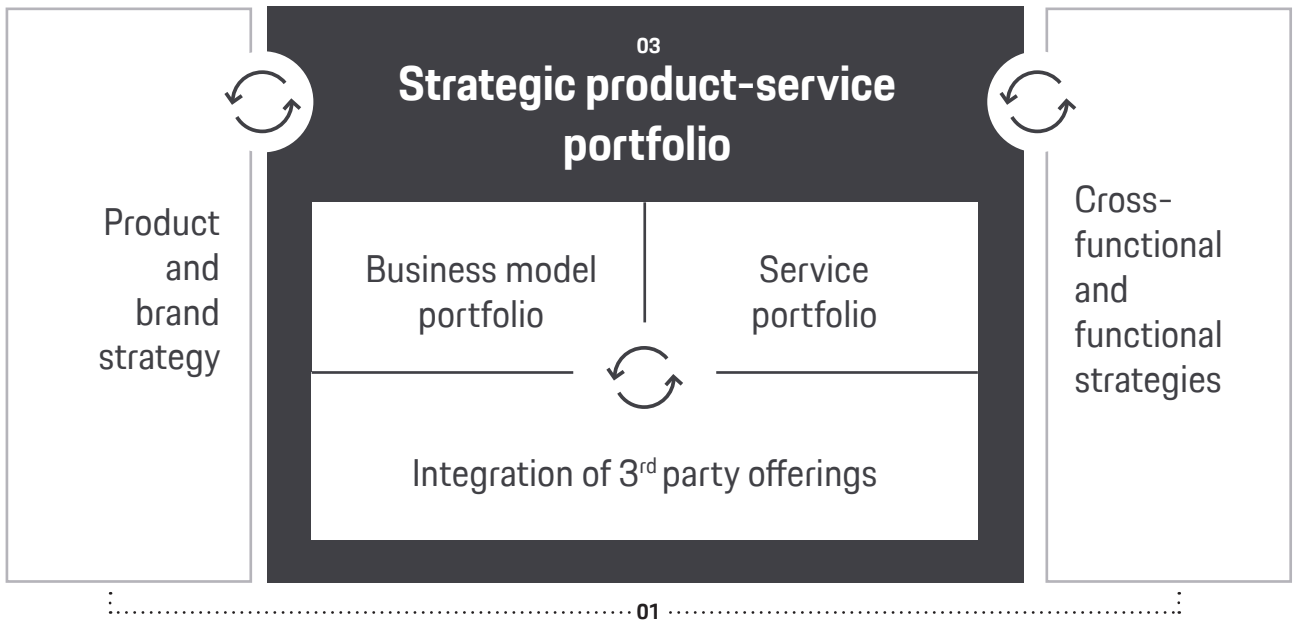
required for building-up the relevant service capabilities. Over a 2-to-5-year timeframe, the reduced revenue and high initial expenses will subside, and financial profiles improve. Such a transition period is real and almost impossible to mitigate.

03

# **Defining a winning service strategy**

**THREE STEPS  
TO DEFINING YOUR SERVITIZATION STRATEGY**

CORPORATE STRATEGY



**01**

**Suitability of a service-driven strategy**

**02**

**Ambition level and value pools**

**03**

**Strategic product-service portfolio**

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Figure 4. Three steps to defining your servitization strategy

To systematically reap the benefits of servitization, successful industrial goods companies take a structured approach in crafting their service strategy. They stringently integrate servitization as key pillar of their overall corporate strategy to ensure alignment across all company activities. Among others, this means that a serious service transformation will necessarily impact the overall brand positioning, requires a tight link to cross-functional innovation and digital transformation strategies, as well as a clear cascading into functional strategies.

The three-step approach depicted in figure 4 guides executives to answer the questions if servitization is the right strategy and how to craft a product/service portfolio that creates long-term value for both customers and the own company. Although the process is linear from the outset, its iterative nature means that new insights are integrated continuously. A periodic review of the service strategy as well as the derived product-service portfolio is key.

### STEP 1

#### SUITABILITY OF A SERVICE-DRIVEN STRATEGY

The process starts with determining the suitability of servitization as a strategy pillar along four dimensions: the fit to the corporate strategy, customer base, product market saturation and competitive rivalry.

### STEP 2

#### AMBITION LEVEL AND VALUE POOLS

Companies cannot achieve an effective transformation if people have hidden agendas. There needs to be one vision and a clarity of fundamentals. Clearly defined ambition levels with a bold aspiration often help achieve better outcomes. Depending on a company's individual positioning, market and competitive environment, the narrative for a service-driven strategy will differ. Any good (service) strategy starts by working backwards from the customer to truly understand their needs and pain points. Based on the gained insights, companies can create what is sometimes referred to as the "value pool map" to link customer value with business value opportunities. This comprehensive overview helps to focus resources and funds on the most promising opportunities, instead of rushing down one predetermined service trajectory prematurely. The clarity and consensus about what a company should not do is just as important — and it requires this comprehensive picture.

### STEP 3

#### STRATEGIC PRODUCT-SERVICE PORTFOLIO

To put strategy into action, successful industrial goods companies build up a modular portfolio of products and services based on (customizable) building blocks that can easily be tailored to specific customer needs. Just as important as the portfolio itself, are the mechanism to govern and steer the transition. An integrated product-service roadmap defines what and when future services are developed and launched. More crucially, it also helps to manage interdependencies to the evolving product offering.

## INDUSTRY-SPECIFIC DETERMINANTS

### 01 CORPORATE STRATEGY FIT

#### Value proposition

Does service-driven value proposition towards customers align with corporate strategy?

#### Transformation benefit-risk trade-off

Does the expected business value outweigh required investment and risks to successfully transform?

#### Service maturity level

Is the current operation model suitable to successfully support and scale service business?

#### Criticality in customer value chain

How critical is your product for managing customer operations?

#### Customer retention

What is the level of customer churn?  
How high are switching costs for customers?

#### Customer intimacy

To what extent are customer processes known?  
Is there an opportunity for co-creation?

### CUSTOMER BASE 02

## COMPANY-SPECIFIC DETERMINANTS

### 03 PRODUCT MARKET SATURATION

#### Installed product base

What is the ratio of new product installations to the installed product base?

#### Product lifetime

What is the average product lifetime?  
How significant is aftermarket business?

#### Installed base management

Which transparency level exists?  
What is the share of connected products?

#### Commoditization degree

How homogeneous is the product business?  
How complex is the product on hand?

#### Industry norms and standards

Which external standards exist?  
Which regulatory requirements need to be met?

#### Prevalence of differentiation strategies

Is competition driven by price-/cost-, or product differentiation?

### COMPETITIVE RIVALRY 04

**Suitability of a service-driven strategy**

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Figure 5. Determinants for the suitability of a service-driven strategy<sup>8</sup>

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## Suitability of a service-driven strategy

Whilst servitization presents attractive economic opportunities for most industrial goods companies, service business itself is not a panacea and every individual company needs to answer the general question of whether to servitize itself. Both company-specific and industry-specific factors influence the decision. Figure 5 describes the key determinants for the relevance of service business.

When looking at the **corporate strategy fit**, the link to the customer-facing value proposition is key. Take for instance the value proposition of construction and mining machinery producer Liebherr Group “to offer innovative products of impressive quality at competitive prices [with] well-planned parts supply logistics and high standards of aftersales service”.<sup>9</sup> A key consideration in Liebherr’s mission of supplying technically advanced, user-oriented product of highest quality is attributed to longer maintenance intervals compared to its competitors. This directly impacts the role and magnitude of its service business relative to the product business.

SKF, a global leading provider of bearings, has strong company-specific indicators that point at significant value opportunity for service business. Regarding the corporate strategy fit, SKF has extended its former value proposition. Besides providing products around the rotating shaft they added the improvement of rotating equipment performance as second element to their customer-facing value proposition. Looking at their customer base, the criticality of the product in the customer value chain is a major determinant for the underlying service business opportunities. SKF identified that their products are a critical part of their customers value chain across different verticals like wind energy turbines or cruise ships. While rolling bearings are per se a small component of a larger asset system, sensors that capture data such as temperature, vibrations or audio signals can provide crucial insights into the assets health. From early on, SKF leveraged this control point to extend its core product business by offering asset management services. They now monitor and manage offshore wind parks, cruise ships or even entire oil drilling rigs 24/7 on behalf of their customers. By continuous monitoring, predicting and providing early warnings

of potential events to tailor maintenance reviews, provide spare parts and manage inventory or lubrication, SKF added a new fee-based business model that goes way beyond the bearing product business itself.<sup>10</sup>

For Heidelberger Druckmaschinen AG the relevance and even necessity of service business is largely driven by industry-level determinants. Given the high product market saturation and fundamentally decreasing new equipment sales of their print machinery, leveraging their installed offset-print equipment base for service business is key strategic trajectory for the corporate re-positioning as “full-service provider”. Under the roof of the newly formed Lifecycle Solutions business segment that now accounts for 40 percent of revenues, Heidelberger focuses on extending their lifecycle services and subscription business to safeguard revenue and secure profitability despite challenging market fundamentals. With now approximately 350 lifecycle services contracts that include services, consumables, and optionally their print workflow software Prinect offered as bundle on a pay-per-month basis and around 70 subscription contracts that also include consulting and training as well as equipment charged at a pay-per-outcome basis, Heidelberger is aiming at achieving 11 percent of group sales with these new service-driven business models in FY 2021 — more than doubling this revenue in a 3-year timespan.<sup>11</sup>

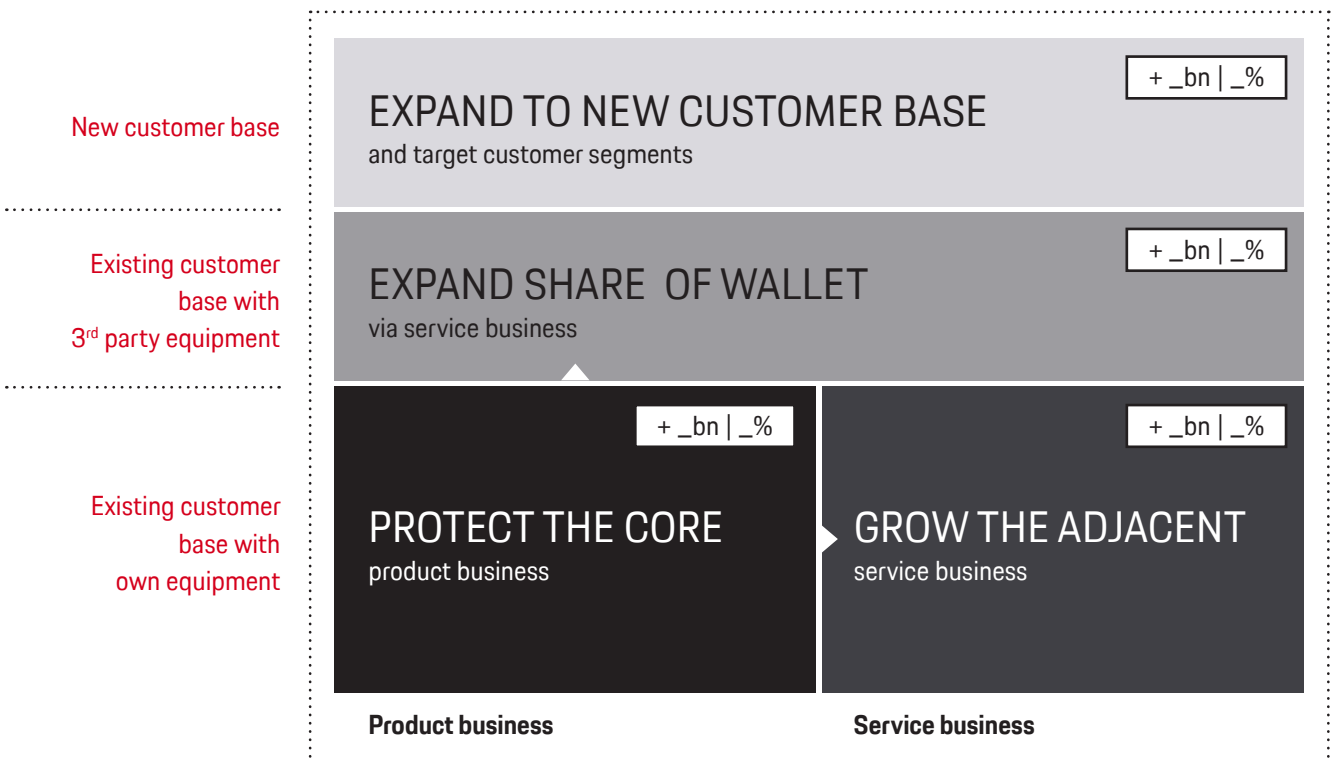
In the medical imaging products market characterized by increasing competitive rivalry e.g. from Chinese players, leading incumbents such as Siemens Healthineers, Philips or GE Healthcare leverage servitization as value adding strategy in face of maturing core technologies for magnetic resonance imaging or computed tomography scanners. While high tech products such as MRI or CT modalities do not fit the common notion of commodities, services, especially advanced services such as digital solutions that improve clinical workflows in the imaging department, can help differentiate on customer experience. For instance, service business at GE Healthcare accounted for about 35 percent of their healthcare system revenues in 2019.<sup>12</sup>



# Ambition level and value pools

Value pools mapped along your customer's value chain help to comprehensively analyze, size and prioritize service opportunities based on current or anticipated customer needs, as laid out below in the infobox "The customer side of servitization". It forms the basis to define the ambition level for servitization as clear answer of why to strive for service transformation. The decision of how to position the firm on the product/service

spectrum is an ultimate strategic one that requires full C-level attention and close alignment across the entire board. Along the strategic rationales for service business as depicted in Figure 6, executives should concretize their ambition levels both on top- & bottom-line as basis to size transformation efforts accordingly.



Financial ambition level 2025

Revenue contribution [in € bn]	EBIT margin [in %]
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Figure 6. Ambition level along growth trajectories via service-driven strategies

A distinctive servitization “north star” along with the clearly defined ambition level serve as a guidance to develop and align the service portfolio, business model and integrate it into a seamless value proposition. The relevance for internal communication and change as well as for external communication should not be underestimated.

Wind turbine producer Vestas has clearly mapped out their ambition levels capturing growth opportunities. Vestas' service business is established as third strategic business area besides the onshore and offshore wind turbines business. By expanding its service to a multi-brand offering also servicing non-Vestas wind turbines Vestas is pursuing the ambition to become global leader in fleet-wide wind service solutions with a service revenue growth above projected 8–10 percent per year market growth compared to new onshore wind turbine installations growing at 1–3 percent per year. Additionally, also industry leading profit growth driven by service business is clearly laid out as corporate priority — with attractive service EBIT margin of around 25 percent compared to an overall 8–9 percent EBIT margin on group level.<sup>13</sup>

To operationalize their service strategy, Vestas has thoroughly analyzed their main customer segments' needs. To build suit-

able value propositions — for instance for financial investors that value business case certainty in a first place — Vestas supports performance optimization and takes over operative risks in order to align incentives with its customers. The derived service offerings address those service value pools: 1) Maintenance partnering business models in the form of Active Output Management packages range from preventive maintenance contracts, shared risk packages, time-based availability guarantees for up to 97 percent uptime, towards a “move wind from hour to power” package where energy output in terms of 97 percent energy-based availability is guaranteed instead of measuring uptime also when no wind is blowing. Looking at 2) fleet optimization solutions, Vestas has acquired the Utopus Insights software platform to offer advanced plant and data management, diagnostics, and forecasting capabilities. These digital solutions help identify upgrade potentials to yield more energy and thereby improve an existing wind power plant's output, thus improving the customers' business case. Improvements of the production efficiency of a wind power plant can be carried out through site-specific optimisation of operational parameters, implementation of intelligent software algorithms, and enhanced aerodynamic add-ons – in turn fuelling product business.

## THE CUSTOMER SIDE OF SERVITIZATION

While industrial goods firms ultimately want to create business value for their company, the underlying rationale must start by understanding and addressing customer needs. Whether these needs are explicitly mentioned by customers (pull), or implicitly observed customer needs (push), successful services must provide value to customers. Typically, such customer value can be provided along the following dimensions:

- ▶ **Increase operational efficiency** via optimized Overall Equipment Effectiveness (OEE) that in turn helps increase output, improved plannability, or lower total cost of ownership (TCO) can be achieved.
- ▶ **Optimize cash flows** by shifting CAPEX to OPEX, front-loaded high investing cash flows can be converted into continuous operating costs, synchronized with the cash inflows generated through the output of the equipment operations.
- ▶ **Reduce risk** by sharing operational and market risks with the service provider for fast reaction to changing business environments, such as shifts in market demand.
- ▶ **Focus resources on core business** when service providers are taking over processes that range from out-tasking, e.g. single tasks such as repairs to out-sourcing entire support processes like quality or maintenance, customers can reallocate their own resources.

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# Strategic product-service portfolio

Successful industrial goods companies do not consider services stand alone. Rather, services are linked to the product business including hardware, software and system integration. Forming suitable product-service bundles helps to deliver customer value along a precise value proposition. So how do successful service-centric industrial goods companies build up their portfolio along the product-service spectrum?

A strategic product-service portfolio is built upon three interwoven elements: 1) the business model portfolio, 2) the service portfolio, as well as 3) the integration of 3<sup>rd</sup> party offerings.

## Define appropriate business model(s) to capture value

As described in the Porsche Consulting publication "Digital Machinery Decoded"<sup>14</sup> three different business models<sup>15</sup> can be differentiated along the degree of risk exposure shifted from the customer to the business model provider (see figure 7):

- ▶ **Ownership-based**
- ▶ **Usage-based**
- ▶ **Outcome-based**

Certainly not all companies need to strive for usage- or outcome-based business models. The required deep understanding and assessment of risks along such business models typically comes with expertise built up in years of service business to truly understand customer operations. For industrial goods players, the additional business opportunities need to outweigh risks incurred in such new business model — both via direct financial gains and more indirectly via competitive differentiation.

Within traditional **ownership-based business models**, services can be sold both on a transactional basis (e.g. spare or wear parts) or relational approach (e.g. as part of maintenance contracts). Services such as financing or product maintenance are supplemental to the product business and typically sold in separate contractual arrangements. The rise of digi-

tal technologies creates the opportunity for product manufacturers to move ownership-based services from reactive to data-based predictive or even prescriptive services that further increase customers' process efficiency. Doing so helps build up extensive product and process knowledge, however without — yet — transferring operational risks.

In contrast, **usage-based business models** focus on providing availability of a product for the time that customers need it. The customer does not buy and own the product, but instead pays a variable fee depending on the actual usage (per usage time or per usage unit). Since all lifecycle cost in usage-based business models remain with the provider, such business models create strong incentives to optimize products for the cost of usage including the operations at the customer's site. Consequently, the selling industrial goods company necessarily must be able to predict and influence the operations and processes of the customer to control incurred operational risks and foresee market demand risks.

A crucial element in the revenue model of usage-based business models is the pricing approach that needs to be oriented along the perceived value of the customer rather than a cost-only approach. An additional risk premium is typically included to account for not foreseeable or not manageable customer-specific parameters and the uncertainty of revenue streams and accruing cost.

Upon the successful deployment, services with a usage-based business model present an attractive opportunity both financially and to increase customer intimacy. Due to the continuous development of digital technologies, especially IoT and data analytics, industrial goods companies are now better positioned than ever to offer services with usage-based business models and learn about their customers' operations. Technological advances enable for example easier and more accurate tracking and prediction of product usage, improved product operations and maintenance planning driving down cost of equipment operation. Lower cost of operation and easy to calculate cost linked to the actual usage also directly

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translate into lower risk and in turn into a decreased barrier for potential new customers. Usage-based business models therefore oftentimes help companies, that would otherwise shy away from CAPEX but accept OPEX, to expand into new customer segments.

In **outcome-based business models** the customer pays a fee that depends on the achievement of a contractually agreed outcome, such as output and/or output quality. At first sight, these services seem to present highly attractive financial opportunities as the contributed value can be directly related to the value creation for the customer. However, these opportunities come with a significant increase in risk exposure for industrial goods companies. The outcome is determined by many aspects that might be beyond their control. Moving toward outcome-based business models need to be well considered and are highly customer specific rather than one-size-fits-all solutions.

To determine whether industrial goods companies should provide outcome-based services, the pivotal question is about how well they understand their customers' processes and influencing factors that determine the outcome. Overlooking the smallest influencing factors can have disastrous economic consequences. As this deep customer knowledge the result of long-standing business relationship and deep domain expertise. When designing outcome-based business models the alignment of interests is key. The careful crafting of underlying measurement mechanisms needs to ensure that there is no damage done to the customer relationship, e.g. by instilling messy debates about outcome or discussions around pricing models.

When designed carefully, outcome-based business models can create lock-in effects like no other type of product-service bundles. The knowledge to offer these services that so closely interlink provider and customer processes constitute enormous switching costs even in a mid- to long-term time-frame.

Particularly when industrial goods players decide to pursue innovative business models, they have to thoroughly understand the incurred risk and define suitable strategies to protect their balance sheets. An elegant option is bringing in 3<sup>rd</sup> parties such as financiers that are willing to own risks.

While not an industrial goods player itself, industrial IoT powerhouse relayr supports industrial goods companies in introducing innovative usage- or outcome-based contracts. For instance, they formed a strategic partnership with the TRUMPF Group to provide laser-cutting machines in a "pay-per-part model". Customers only have to pay for each cut sheet metal part, instead of having to buy or lease TRUMPF's laser equipment. With the backing of Munich RE as financier for new business models that will own investment risk for machinery, such new business models allow customers to make production processes more flexible and react faster on changes in market demand.

Together with FLANDERS, a company specialized in designing, engineering, producing, and servicing electric rotating machinery for high-demand applications across mining, mills, and heavy industry, they recently started offering guaranteed uptime. The new digital services reduce capital expenditures and ensure maximum production of critical assets, guaranteed again via relayr's parent company Munich RE.

### **Define your service portfolio along the service clusters**

As second element of the product-service portfolio, industrial players goods need to craft their service offering within their business model(s). Executives of industrial goods companies need to understand the entire spectrum and evolutionary nature of potentially relevant services as outlined in figure 2, tangible examples along those service clusters are provided in figure 7.<sup>16</sup> The more crucial step is, however, understanding how to determine the single elements of a winning service portfolio and their interplay.

## Service clusters

## Description

## Exemplary services

Traditional services

### Product sales support services



Non-standalone services that are closely related to or enable product business sales

- Spare parts
- Consumables
- Financing
- On-demand equipment and rental

### Flex Financing Options

e.g. capital and operating leases, fee per disposable, or implant

**stryker**

### Product-centric services



Standalone services complementing traditional product-focused business or aftermarket activities

- Technical services
- MRO<sup>1</sup> services
- Equipment-related training
- Project management

### Air compressor parts delivery plan

customizable to individual needs

**Atlas Copco**

### Consulting services



Project-based consulting support and training, education, or performance optimization around product business

- Training
- Expert consulting services
- Process consulting services
- Performance benchmarks

### Virtual Training Platform

for dealers and customers incl. physical driver training

**AGCO**  
Your Agriculture Company

### Advanced services



Data-driven services related to the product or to solve adjacent customer problems

- Data-driven MRO<sup>1</sup> services
- Asset tracking
- Equipment fleet management
- Data-driven TCO<sup>2</sup> and quality mgmt.

### myDMG MORI

24/7 central customer service portal incl. extension to 3<sup>rd</sup>-party equipment via WERKBLIQ

**DMG MORI**

### Platform and ecosystem services



Multi-sided digital platform connecting service provider(s) with the demand side by integrating service offerings beyond the product business

- B2B marketplace
- Digital services platform
- Equipment capacity platform

### teampay

Digital health platform around imaging-related administrative and clinical workflow services

**SIEMENS Healthineers**

<sup>1</sup> MRO: Maintenance, Repair, and Overhaul | <sup>2</sup> TCO: Total Cost of Ownership

Figure 7. Overview of service clusters along industrial good examples

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### Traditional services

The first three service clusters represent the traditional service offering of industrial goods companies.

Product sales support services relate to sales measures such as financing, on-demand and rental services or adjacent consumables and spare parts to complement equipment sales (e.g. Atlas Copco's Air compressor service kit for spare parts).

Product-centric services relate to technical services, installation, maintenance, repair, and overhaul services incl. refurbishment or project management for systems integration.

Consulting services relate to product-focused support and training along the lifecycle from installation, to operation, to maintenance (e.g. AGCO Fendt's training for drivers of heavy vehicles). To stay competitive and improve margins, industrial goods players should undertake a more detailed examination of aftermarket lifetime value — the total revenue they receive from servicing their installed base. This measure, which is typically calculated for each product line, provides a more comprehensive view of aftermarket value than commonly used metrics, such as service revenue captured per customer. Companies that examine aftermarket lifetime value closely may find that certain services, including core offerings, offer significant upsides. For OEMs this could also mean that the lion-share of its near-term growth could come from core services, even though initial estimation suggest that advanced services are the main driver in the long run.

### Advanced (data-driven) services

The top players across all industries are actively leveraging digital opportunities to enhance their existing service portfolio with advanced services. These services use digital technologies to provide customer specific, data-driven services like insights into the performance of equipment, need-based maintenance, over-the-air product updates, or even comprehensive asset or fleet management. Data-driven remote monitoring is leveraged by companies across all sub-industries.

Atlas Copco's SMARTLINK, for example, collects operational data from air compressor equipment and translates it into actionable insights in order to improve uptime and increase energy efficiency. Similarly, German industrial machinery provider DMG MORI offers 24/7 access to an extensive service range via their central service portal "myDMG MORI"

for to over 25,000 customers covering more than 100,000 machines. An upgrade to the equipment provider-agnostic WERKBLiQ solution further extends their portal towards optimizing service and maintenance processes also for third party equipment — a crucial success factor in a heterogeneous manufacturing environment. The one-stop shop platform "BOBST Connect" provided by the Swiss packaging print provider BOBST, goes beyond maintenance to also orchestrate the entire production process, while fleet optimization solutions like "MySandvik Insights" extend the service offering of the Swedish mining equipment manufacturer. Sandvik further extended their service offering by automation software along their OptiMine process analytics and optimization solution, and AutoMine teleoperation system. To successfully offer and scale such advanced services that require connectivity of the installed based, however, the implications on product architecture should not be overlooked.

A few selected industrial goods providers already decided to transform into platform and ecosystem businesses that typically extend the established value propositions and reach beyond industry boundaries. Particularly in the arising digital health and precision agriculture space both open and closed platforms are battling for a dominant position. Given the number of external factors influencing such a wide-ranging transformation, the decision to launch an own platform business rather than becoming part of such an ecosystem should be based on very solid strategic considerations.

Within the arising field of digital health, leading medical technology and diagnostics players have chosen the path to position themselves as ecosystem orchestrators. Siemens Healthineer, for example, is continuously enlarging the ecosystem around its cloud platform "teamplay". Stakeholders within the healthcare industry such as medical doctors or their medical-technical radiology assistants can access currently more than 20 applications via a digital marketplace. Applications range from supporting doctors with interpreting medical images, managing radiation dosage for patients, or securely sharing medical images between healthcare providers. Similarly, GE Healthcare has created the Edison Intelligence Platform to offer healthcare-specific applications which can be easily deployed and readily available for customers via the Edison Cloud that go beyond imaging modalities and are deeply integrated into clinical workflows.

### **Integrate 3<sup>rd</sup> parties into strategic product-service portfolio**

As seen with the described platform plays, an increasing number of industries also in the B2B context are eyeing for ecosystem approaches of their own.

In agriculture, such a battle for becoming the predominant industry platform is on full speed. Next to a handful of startups that try and harmonize the data necessary for precision farming, some of the top agricultural machinery companies have been heavily investing in building platforms and linked value-added services of their own.

John Deere developed their own suite of precision farming technologies, marketed under "Precision AG". The endeavor is aimed at maximizing yield from field preparation to meet individual field conditions, data analytics optimized planting, precise application of inputs such as fertilizer or pesticides, and yield-optimized harvesting. By connecting machines of different brands, John Deere tries to define industry wide standards and aggregate agronomic documentation data and a growing number of applications into one system — all at the fingertips of farmers. Leveraging the John Deere brand and market reach, such a platform and ecosystem play provide stickiness. A farmer that got acquainted to use several applications and their specific benefits won't easily give up these applications of switch to new ones. This inconvenience built into switching goes beyond customer loyalty.<sup>17</sup>

The "Fuse platform" driven by multi-brand agricultural machinery group Agco-Fendt has been developed to connect products from their different machinery brands and beyond. Combining customers from their different brands into one platform helps to reach the minimal user base to become attractive platform for other partners to provide their services via the platform. Following an open platform approach, the Fuse platform tries to attract 3<sup>rd</sup> party service developers.<sup>18</sup>

Spin-off "365Farmnet", a subsidiary of the CLAAS group positions itself as an end-to-end service provider for farmers offering different service packages for optimizing the farmers activities. Besides integrating CLAAS machine data, the company has successfully formed partnerships with companies like Bayer (fertilizers) and meteoblue for weather data, amongst others, to harvest the different insight for optimal action for farmers.<sup>19</sup>

But also players from adjacent industries such as agrochemicals with undertakings such as BASF's "xarvio" online-platform, or other agricultural processing equipment players like Ag Growth International with their "AGI Suretrack" platform have joined the battlefield for precision farming.<sup>20</sup>

As seen with the precision farming example, it remains questionable how many players will finally succeed in an arena that tends to end up in oligopolistic structures based on strong network effects. While some companies may choose to build their own closed platforms and services, exploring mutually beneficial partnerships and integrating into winning ecosystem plays may provide a faster and more efficient way to deliver value to customers and business.

Within the industrial machinery segment, leading players alike DMG MORI, Dürr, Software AG and Carl Zeiss AG have set-up the ADAMOS platform to join forces for developing Industrial IoT applications for machine builders.<sup>21</sup>

The question of integrating 3<sup>rd</sup> parties is, however, not only relevant for platform and ecosystem services. Particularly for advanced services and innovative business models, strategic partners can play a significant role. Such partnerships can be considered as enablers for transformation processes. Teaming up with more mature players can help kick-start service transformations of traditional industrial goods players. While the experience, technological capabilities and digital talent does not necessarily change what advanced services are developed and scaled, strategic partner can dramatically increase time-to-market, provide the opportunity to split costs, and use learning curve effects.

04

# **Executing the service transformation**





## KEY SHORTCOMINGS

**Missing breakdown of the service ambition level**  
to provide alignment and counteract cannibalization fears

**Lacking service development and delivery capabilities**  
to ensure customer-centric service design

**Missing sales force enablement**  
to educate customers and apply required sales approaches

**Unclear monetization strategies**  
that go beyond only focusing on direct ROI

**Missing consideration of distribution and service partners**  
to anticipate change and avoid channel conflicts



## SERVICE TRANSFORMATION SUCCESS FACTORS

**Define strategic steering metrics**  
breakdown into strategic-tactical-operative KPIs

**Design dedicated organizational and structural setup**  
with C-level anchoring bridging across functions

**Transform sales capabilities**  
around specialized experts and upskill sales force

**Establish structured innovation process**  
to support shift in management mindset

**Ensure proactive integration of channel partners**  
in strategy and execution to support change

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Figure 8. Success factors for service transformations

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Any “bulletproof” strategy fails without the right approach to execution. B2B industrial goods players that aim to successfully execute upon their servitization strategy have to adapt their operating model accordingly. Experience shows that when companies try to translate strategy into action, they often do so by slightly adapting their old established and proven operating model. This strategy makes sense from a risk perspective to avoid disturbances within the existing product business. However, an honest commitment to service transformation requires bold moves also on the operating model. This will almost certainly impact the way the product business is operating as well.

Figure 8 summarizes five key success factors that should be considered when building a suitable operating model that helps to translate servitization strategy into action and avoid typical shortcomings that impede transformations in terms of their speed and lasting business impact.

### **Define strategic steering metrics**

Missing or poorly designed steering metrics on a strategic level and their breakdown into operative KPIs can easily create wrong incentives. Instead of aligning the organization to strive for a global optimum on corporate level, fragmented steering metrics lead to local egoism between product and service business segments that try to optimize their individual view. Political infights based on fears that service or new business models will cannibalize established product business need to be carefully anticipated by the underlying steering metric design and cascaded from strategic level down into individual sales representative incentive schemes.

Besides the incentive function, KPIs provide the most tangible form of signalling. Ambition levels that are clearly translated into strategic KPIs enable corporate-wide alignment to the top-down strategic trajectory. Particularly for (digital) services that are developed in constant iteration with customers this alignment is key. The resulting autonomy on an operative level speeds up decisions and improves decision quality by embracing a more data-driven way of working.

Steering metrics cascade down from strategic company-level, over tactical product-service portfolio level, to operative service-level KPIs. The KPIs need to be closely interlinked with corporate level KPIs and are therefore tailored to the individual company.

### **Dedicated organizational and structural setup**

Services are deployed much more closely — or even specifically tailored — to the specific context of B2B customers. Customer-specific processes and the active role of customers in the delivery of services can be the source of variation. Compared to product business this makes it much more difficult to decide on which level services can be standardized and how to ensure service quality. A proximity to customers when developing and delivering and continuously optimizing services is therefore pivotal. The arising trade-off between productivity through centralization of organizational structures and increased customer value through market-specific customization for specific customers needs to be carefully considered. The decision of central versus decentral organizational elements will oftentimes also deviate from the organizational setup for the product business.<sup>22</sup>

Irrespective of the location decision, the organizational setup for a service business follows the develop-sell-deliver logic. Successful industrial goods players build the required capabilities accordingly: service development and operations, service sales and marketing, as well as service delivery.

A key factor to successfully scale advanced services are integrated development and operations for digital solutions. End-to-end accountability, dedicated product teams, and a DevOps approach ensure the continuous evolution of the digital solution along changing customer needs that is key for successful scaling. Digital capabilities in the area of data management, analytics and artificial intelligence form the technological basis. At the start of transformations, these digital capabilities are best built centrally and, in the following, gradually spread across the organization. The Porsche Consulting publication “Leading the Way to an AI-driven organization” provides further detail of how to build up a suitable operating model that fuels innovative data and AI-enabled services.<sup>23</sup>

Due to their reliance on machine-level data that come from sensorized products, advanced services almost necessarily impact the product architecture. The resulting interdependencies that are managed via the integrated product-service roadmap also needs a structural embedding in the organization. Directly anchoring the service organization on C-level helps to ensure clear interfaces that bridge service with product roadmaps and allow fast escalation in case of impediments.

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In line with the strategic importance, industrial goods players with significant service revenue share even introduce a Chief Service Officer role with a board seat, like Vestas did in 2019.

To highlight the commitment to service business, Swedish access solution specialist Assa Abloy has set-up its "Digital Factory". As cross-functional digital service organization it aims at delivering "a world-class customer experience" via its digital products by linking product development, service operations, and IT operations with the customer.<sup>24</sup>

French industrial engineering group Fives has built up their "CortX" team to push data science capabilities for the entire group. As cross-functional team they act as service center across all Fives subsidiaries to provide core technology such as computer vision-based quality control that can be implemented according to end-industry specifics. Their solutions span from centralized supervision and alerts, predictive maintenance, breakdown prediction, predictive quality to production optimization. The required domain expertise for specific use case implementations, namely deep process knowledge is ensured via a close collaboration with the Fives core business segments.<sup>25</sup>

### **Transform sales capabilities**

For years customers have gotten used to product-centric sales approaches from industrial goods players. Unsurprisingly, breaking away from an established transactional and CAPEX-focused mind-set needs education. Developing your customers to shift away from traditional buying behaviours and customary tender processes for equipment will be a gradual approach. Particularly around new business models, this also means addressing the different involved decision makers at the customer side early on — a transformation also for industrial goods firms, their sales processes, capabilities and skills.

Skills and mindset for selling and successfully delivering services are inherently different from selling products. Most notably, a lack of understanding for the particularities of service business and digital technology (e.g. different channels, 24/7 availability) impede service sales at scale. Successful indus-

trial goods players therefore start with building up specialized experts while gradually upskilling their salesforce with suitable training concepts.

Swedish bearing provider SKF has strongly focused on supporting their value-based selling approach for services and new business models. By transporting success stories for value-based selling, stringent reporting of value creation from a customer perspective, and introduction of support software to calculate customer value they paved the way for service growth.<sup>26</sup>

### **Establish structured innovation processes**

As with any kind of innovation, services that are new to a company need a suitable environment to grow. Many good ideas die along cumbersome path towards execution, rather for the sake of process than quality or potential of the idea. Other ideas or services, in contrast, make the way towards execution — however, without really contributing customer or business value.

Innovation accounting can provide a suitable approach to ensure both incremental but also more disruptive (service) innovations to thrive. Along a structured gate-staged process cross-functional teams are working on innovation topics in a metered funding concept.

### **Ensure proactive integration of channel partners**

The magic in developing services that provide actual customer value is about proximity with customers. Nevertheless, for scaling such services, the go-to-market is equally important. Industrial goods players frequently rely on channel partners for their product as well as their service business. If not considered early on, these distribution and service partners will hardly support the service transformation.

Advanced services typically imply a stronger channel control than traditional services. The early consideration or even integration of channel partners into the co-creation process of services and business model help counteract fears of being "left-out" for future service or bundle business. Potential channel conflicts that can also hurt the product business should be avoided by design.

## IN BRIEF:

# IMPERATIVES FOR SUCCESSFUL SERVITIZATION

How can industrial goods executives navigate their individual servitization journey? Let nine imperatives guide your way from understanding the business value, over defining the strategic basis, to building the required operating model required for a successful transformation into a service-centric company.

### Understanding the business value

**Imperative 01** **Assess the relevance of servitization on company- and industry-level.**  
Start by assessing the suitability of servitization as part of your corporate strategy, for your customer base, product market saturation level and competitive rivalry. Leverage insights from other comparable industrial goods industries that can provide analogies.

### Service transformation strategy

**Imperative 02** **Focus on understanding your customer and set the ambition level for your service transformation.**  
Successful transformations require a shared purpose supported throughout the top-level management. Clearly defined long-term ambition levels linked to a concise north star statement provides orientation for your organization.

**Imperative 03** **Explore business model(s) to provide a new source of value to customers.**  
The suitability of new business models is highly depending on your customers. Introducing new business models is a change process, for your company and the customer. Co-creation based on well-established relations and a deep knowledge of your customers' operations are keys to assess incurred risks that must not exceed the created value for customers.

**Imperative 04** **Identify service opportunities to push aftermarket lifetime value for your target customer segments.**  
Starting from the defined strategic goals, a structured process to identify, prioritize and co-create services is key. An integrated product-service portfolio roadmap highlights interdependencies for successful execution.

**Imperative 05** **Design your partnering strategy and leverage 3<sup>rd</sup> parties.**  
Determine which partners can extend or improve your value proposition or help you scale in a platform ecosystem. Also include time-to-market into your considerations.

## Service transformation operating model

- Imperative  
**06**
- Break your ambition level down into a stringent steering metrics cascade.**  
Give direction and provide a mechanism for alignment via KPIs on strategic, tactical and operational level. Leverage them in your communication, target setting, and to foster autonomous decision making at the lowest level possible.
- 
- Imperative  
**07**
- Design a dedicated organizational and structural setup with C-level anchoring.**  
If service business is a key pillar of your strategy, this should also be visible in your organizational chart with short reporting lines and direct escalation to the board level. Along the develop-sell-deliver logic the necessity of a central vs. decentral footprint and interfaces to the product business are the core considerations.
- 
- Imperative  
**08**
- Transform your sales capabilities and gradually upskill your salesforce.**  
Build up dedicated resources for (digital) service and innovative business model sales. Gradually transform your sales DNA starting by upskilling service, then product sales force via suitable training concepts.
- 
- Imperative  
**09**
- Introduce innovation accounting along a structured stage-gate innovation process.**  
Metered funding of teams that must show progress helps foster speed, continuously review the service innovation portfolio and kill endeavors before they become zombie projects that consume time and budgets.

Along the journey, it is fundamental to understand servitization as a transformation process that will require time. As with every transformation the impact will rather follow an exponential than a linear form. A solid strategic anchoring and dedicated operating model build the foundation for sustainable transformation success.

**IT'S TIME TO GET MOVING AND UNLOCK THE POTENTIAL OF SERVITIZATION!**

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# Appendix

- (1) See Michael E. Porter, James E. Heppelmann "How smart, connected products are transforming companies", *Harvard business review* 93 (10), 96-114, 2015; Christian Kowalkowski and Wolfgang Ulaga "Service Strategy in Action: A Practical Guide for Growing Your B2B Service and Solution Business", Service Strategy Press, 2017
- (2) The infobox "The customer side of servitization" on page 6 describes the value for customers in more detail, while this strategy paper subsequently focuses on the service provider perspective of industrial goods player companies.
- (3) See [https://cdn0.scrvt.com/ec41840e14df52192984582863de63fa/a175fa466a84085f/28bf6d979ba6/Q3\\_FY2020\\_Analyst-presentation.pdf](https://cdn0.scrvt.com/ec41840e14df52192984582863de63fa/a175fa466a84085f/28bf6d979ba6/Q3_FY2020_Analyst-presentation.pdf), [https://cdn0.scrvt.com/ec41840e14df52192984582863de63fa/425e7a-be662c24f3/36c5f425f804/Q4\\_FY2020\\_SHL\\_Analyst\\_Presentation.pdf](https://cdn0.scrvt.com/ec41840e14df52192984582863de63fa/425e7a-be662c24f3/36c5f425f804/Q4_FY2020_SHL_Analyst_Presentation.pdf)
- (4) For instance see Raddats et al. , 2015 or Marjanovic, 2019
- (5) TSR values represent compound annual growth rates (CAGR) over a five-years period calculated as  $TSR = (IQ\_CLOP\_RICE\_ADJ \text{ as of } 28.12.2018 / IQ\_CLOSEPRICE\_ADJ \text{ as of } 30.12.2013)^{(1/5)} - 1$ . The S&P Capital IQ adjusted share price data in local currency includes dividend pay-outs and accounts for changes in shares outstanding
- (6) The analysis comprised overall 260+ (261)
- (7) See also meta study of Visnjic Kastalli, I. and B. Van Looy "Servitization: Disentangling the Impact of Service Business Model Innovation on Manufacturing Firm Performance", *Journal of Operations Management* 31(4): 169-180, 2013
- (8) See also *Service Strategy in Action: A Practical Guide for Growing Your B2B Service and Solution Business*: Christian Kowalkowski, Wolfgang Ulaga, Service Strategy Press, 2017
- (9) See Liebherr Group Annual Report, 2019
- (10) See SKF Annual Report 2019. [https://investors.skf.com/sites/default/files/pr/SKF\\_AR19\\_ENG\\_bookmarks\\_.pdf](https://investors.skf.com/sites/default/files/pr/SKF_AR19_ENG_bookmarks_.pdf)
- (11) See Heidelberg Annual Report 2019/20, and Investor Presentation September 2020. [https://www.heidelberg.com/global/media/en/global\\_media/investor\\_relations/general\\_17/2020\\_6/pdf\\_92/HDD\\_Investor\\_Presentation\\_Sep\\_2020.pdf](https://www.heidelberg.com/global/media/en/global_media/investor_relations/general_17/2020_6/pdf_92/HDD_Investor_Presentation_Sep_2020.pdf)
- (12) See General Electric Healthcare Investor Day Presentation 2019. [https://www.ge.com/sites/default/files/ge\\_HCIInvestorDay\\_12022019.pdf](https://www.ge.com/sites/default/files/ge_HCIInvestorDay_12022019.pdf)
- (13) See Vestas Capital Markets Day 2016, Capital Markets Day 2018, Annual Report 2019, and Second Quarter 2020 Report. [https://www.vestas.com/en/investor/financial\\_reports#!pr%C3%A6sentationer](https://www.vestas.com/en/investor/financial_reports#!pr%C3%A6sentationer)
- (14) <https://www.porsche-consulting.com/en/press/insights/detail/study-digital-machinery-decoded/>
- (15) A business model is oftentimes referred to "a plan for the successful operation of a business [...]", which in private companies is to make a profit performing its business activities. In context of this strategy whitepaper, we focus the on a company's value proposition, revenue and cost model.

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- (16) For further examples of services and their empirical frequency of adoption please refer to Adrodegari, Federico, et al. "From ownership to service-oriented business models: a survey in industrial goods companies and a PSS typology" *Procedia CIRP*, 2015, 30. Jg., page 245-250
- (17) See CES Analyst Day January 2020, Las Vegas, Investor Presentation August 2020-October 2020, accessible via <https://investor.deere.com/home/default.aspx>
- (18) See <https://www.fusesmartfarming.com/>
- (19) See <https://www.365farmnet.com/>
- (20) See <https://www.xarvio.com/> or <https://www.agisuretrack.com/>
- (21) See <https://www.adamos.com/>
- (22) See Christian Kowalkowski and Wolfgang Ulaga "Service Strategy in Action", Service Strategy Press, 2017
- (23) See Porsche Consulting's "Leading the Way to an AI-driven organization: A practical guide for executives to navigate tectonic shifts and build an enduring competitive advantage with AI", <https://www.porsche-consulting.com/en/press/insights/detail/study-ai-driven-organizations/>
- (24) See <https://www.assaabloy.com/Global/Investors/Annual-Report/2019/EN/Annual%20report%202019.pdf>
- (25) See <https://cortex.fivesgroup.com/en/>
- (26) See Christian Kowalkowski and Wolfgang Ulaga "Service Strategy in Action", Service Strategy Press, 2017

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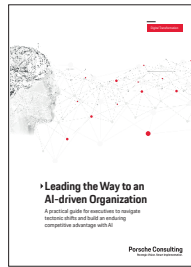
## Further reading



The Future of  
Construction  
Machinery  
Manufacturers



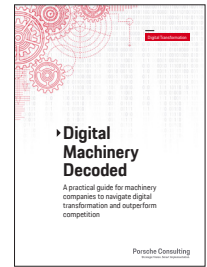
The Future  
of B2B Sales



Leading the Way  
to an AI-driven  
Organization



How Digital is the  
Agricultural  
Equipment Sector?



Digital  
Machinery  
Decoded

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## Porsche Consulting

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