Industrial Servitization and Field Service Technology

IFS White Paper

by Charles Rathmann, Senior Marketing Communications Analyst, IFS

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What Were Products

Are now services...
or will be

Product or service?

Increasingly, the line between these two business models is blurring, and the resulting trend towards servitization of traditionally product-focused companies is bringing disruptive change across many industrial sectors.

Executive Summary

Some businesses have traditionally been run on a fee for service model, or in some cases a subscription model. Others have traditionally sold a product.

Increasingly, the line between these two business models is blurring, and the resulting trend towards servitization of traditionally product-focused companies is bringing disruptive change across many industrial sectors.

Cambridge Pro-Vice-Chancellor for Enterprise and Business Relations Andy Neely defines servitization as manufacturing firms "developing the capabilities they need to provide services and solutions that supplement their traditional product offerings."[1]

So, a manufacturer of flexographic presses, compressors, construction equipment or of machine tools may sell not only the capital asset itself, but an annual contract to maintain the asset, perhaps with a Service Level Agreement (SLA) guaranteeing a certain percentage of uptime or response time after an incident. These SLAs, payment terms, pricing and other contract terms may be customer-specific. This, along with more traditional service offerings like warranties, place new demands on enterprise software, requiring the adoption of new processes and technologies and systems agile enough to adapt to the changing business model.

1 http://andyneely.blogspot.com/2013/11/what-is-servitization.html

Just the Facts

To better understand this progression towards greater servitization, IFS in North America conducted a primary research study of companies across a spectrum of industries to determine where they were on this servitization journey.

In a recent article in Chief Executive magazine[2], Senior Vice President - Industries & Product Marketing - IFS, Antony Bourne (pictured right) characterized servitization as a journey through several tiered levels of sophistication:

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The first level is simply offering parts or consumables which all manufacturers already do. At the second level, manufacturers become involved in scheduling and performing maintenance and monitoring on the equipment that they sell. At the most advanced level, the manufacturer goes to the customer and offers to help with products and solutions. Rather than charging or selling directly, it may involve a risk and revenue-sharing agreement. 'Very few manufacturers are at that level, because it's a very different mindset that they need to operate with,' Bourne said."

A logical progression towards servitization maturity

Manufacturers in particular are being affected by this move towards servitization. This may be because global competition has reduced margins on manufactured products, leading manufacturers to seek more revenue after the sale. Aftermarket services may also enable a manufacturer or other product-oriented company to:

- Become a more value-added partner to their customer

- Gather information on how their customer is using their products to power design innovations

- Secure a recurring income stream, evening out lumpy business common in capital equipment industries

To better understand this progression towards greater servitization, IFS in North America conducted a primary research study of companies across a spectrum of industries to determine where they were on this servitization journey. A survey was distributed to industrial executives in Q1 2018 to determine where a sample of 200 respondents fell on the continuum of:

- We only sell products, with no aftermarket or other service revenues

- We sell products and sell some aftermarket service parts

- We support products through field services, mostly for break fix repairs.

- We offer customers service contracts with planed maintenance, or guaranteed service-level agreements (SLAs) for a packaged annual cost

- Outcomes-Based Service Model (charge by usage, by the hour, or outcome, instead of for the product)

2 http://chiefexecutive.net/servitization-growing-manufacturing-model/

Power By The Hour?

...very few companies reported operating in a fully servitized business model, where they deliver a product and charge for it based on usage, power-by-the-hour or, through revenue sharing based on revenue generated by an asset or piece of equipment.
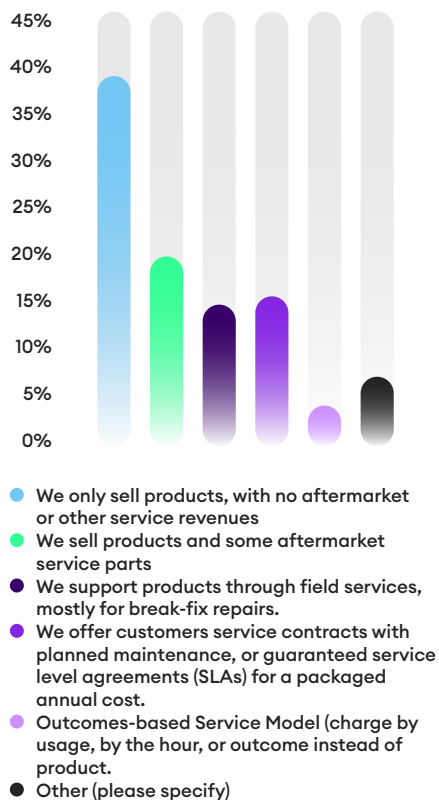
Major Findings

This document contains a detailed analysis of several key findings, as well as a complete accounting of study results. Top-line observations include:

- Servitization maturity is tied to profitability of the service organization.

  – Manufacturers involved in planned maintenance or service contracts were most likely to report service as a profit center with 62 percent reporting profitable service operations.

  – Respondents reporting involvement in field service for break-fix repairs were less likely to report service being a profit center for the organization than those simply selling aftermarket parts.

  – Companies reporting fully servitized operations were three times more likely to be profitable if they only offered services rather than manufacturing products.

- Companies selling aftermarket service under an annual contract were most advanced in terms of the field service technology they report having implemented in their business than are companies at other stages in the maturation process.

  – 65 percent have implemented a mobile interface for field service technicians.

  – 48 percent leverage data from the internet of things (IoT), and 63 percent have contract and warranty management software in place.

  – 58 percent have reverse logistics and repair depot software.

  – 47 percent use scheduling optimization software to automate dispatch.

- Companies involved in field service for break-fix repair seem intent on closing the gap with those offering service contracts. When asked what technologies they had funded projects for in the next 12 months, 47 percent have mobility projects planned and 15 percent have IoT projects planned— both at a higher margin than companies already offering field service management contracts (31 percent and 9 percent respectively).

- As expected, very few companies reported operating in a fully servitized business model, where they deliver a product and charge for it based on usage, power-by-the-hour or, through revenue sharing based on revenue generated by an asset or piece of equipment. Only 4 percent of respondents reported operating in this way.

  – 22 percent of medical device manufacturers.

  – 5 percent of metal fabrication businesses

  – 5 percent of companies in the oil and gas industry.

  – 38 percent of respondents reported only selling products, with no aftermarket services or revenue, 19.38 percent said they sell products and some aftermarket parts, and 14 percent said they engage in break-fix repair.

Overall, the results suggest that industrial companies are moving through the process of servitization, and realize real business benefits, particularly if they have implemented the software.

Greater service maturity = greater profit.

How would you describe your business?

- We only sell products, with no aftermarket or other service revenues
- We sell products and some aftermarket service parts
- We support products through field services, mostly for break-fix repairs.
- We offer customers service contracts with planned maintenance, or guaranteed service level agreements (SLAs) for a packaged annual cost.
- Outcomes-based Service Model (charge by usage, by the hour, or outcome instead of product.
- Other (please specify)

Outcome-based Service Model (charge by usage, by the hour, or outcome instead of product)

- Q21: Metal Fabrication
- Q21: Medical
- Q21: Oil & Gas
- Total
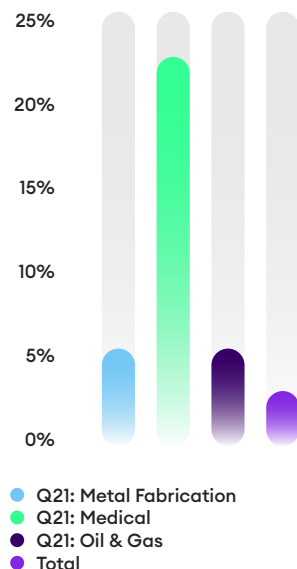
"Many companies are just now formalizing their plans and business strategy for servitization and how to monetize IoT. As recently as last year we rarely received requests for our IoT offering and its capabilities. Now this is in nearly every RFI/RFP. And IoT has not necessarily been listed as a critical 'must have' item but a 'nice to have.' This would seem to indicate that people are at the beginning stages of business planning to address servitization offerings."
Tom Devroy, Field Service Management Evangelist, IFS

Specialization Helps

Companies that report being in an outcomes-based servitization model are more likely to report profitable operation if they are a pure services organization with no manufacturing.

Key Finding 1

Greater service maturity = greater profit

Across both manufacturing and pure services businesses, companies that are further along in their servitization maturity journey also report greater profitability. Manufacturers selling aftermarket parts only were slightly more likely to report being profitable (47 percent) on service than those who do break-fix repair (just under 43 percent). This suggests that the transition from selling parts to reactive field service may be challenging. Among manufacturers involved in planned maintenance or service contracts, 62 percent reported profitable service operations.

- Manufacturers offering aftermarket service under an annual contract are more likely to be profitable than those who do break-fix repair. Manufacturers who reported offering customers contracts with planned maintenance or guaranteed SLAs for an annual price were 24 percent more likely to be profitable on their service offering.

- Companies that report being in outcomes-based servitization models are more likely to report profitable operation if they are a pure services organization with no manufacturing. 60 percent of pure service organiza-tions charging under a "power by the hour" model reported profitable operation as opposed to only 20 percent of manufacturers. This suggests that systems and software in place in these companies may not offer visibility into both product and services costs while bidding, estimating or executing against a contract.

- These pure services, non-manufacturing respondents were six times as likely to report profitable service operations if they were involved in outcomes-based services models than if they were simply selling after-market service contracts. Under 11 percent of pure services businesses involved in service contract and planned maintenance were profitable, while 60 percent of those involved in outcomes-based services like power by the hour or metered usage said they were profitable.

This suggests that as companies progress through the different levels of the servitization model, they may expect greater profitability if software is in place to facilitate adequate pricing and execution of promised deliverables. The highest level of maturation, outcomes-based, power-by-the-hour contracting where revenue is derived over the lifecycle of the product rather than at initial sale, seems to present challenges due to a disconnect between systems used for service delivery and product manufacturing. This suggests that integration of field service management and enterprise resource planning (ERP) dashboards are important to profitable operation in an outcomes-based field service environment.

When asked what service-related technologies they had implemented in their business, companies offering annual service contracts were the most advanced. It should come as little surprise that these companies, which need to be able to price and execute against customer-specific contracts, have adopted the technologies that enable successful operation. The surprise is that services companies reporting an outcomes-based service model where they charge based on performance rather than product reported lower levels of implementation of these technologies than those offering aftermarket maintenance contracts for products sold.
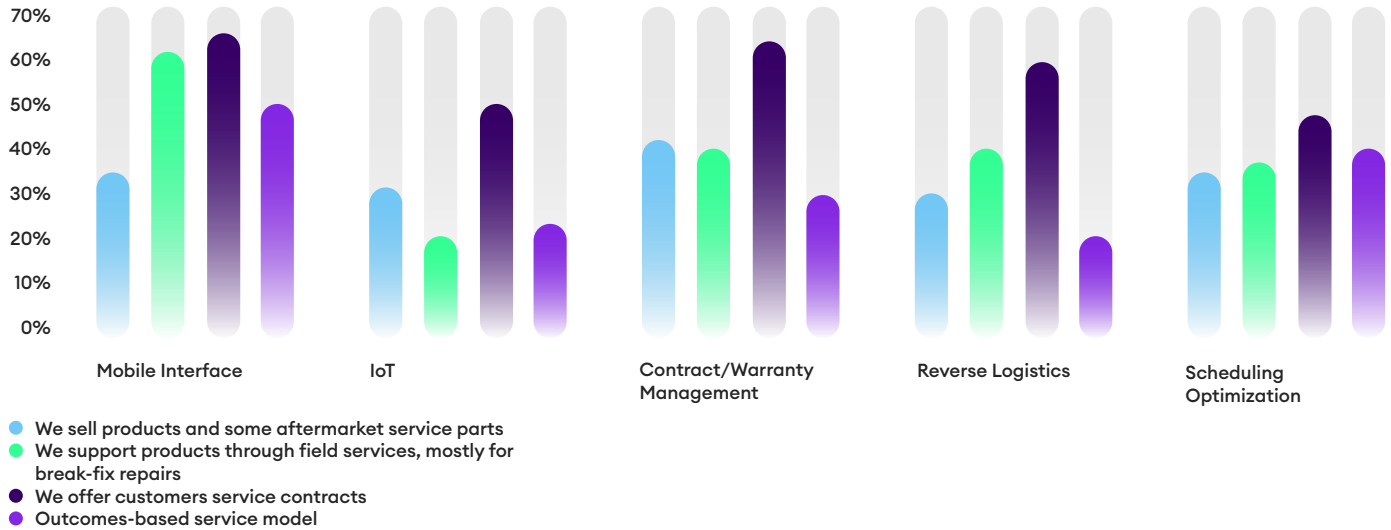
Overall, the results suggest that industrial companies are moving through the process of servitization, and realize real business benefits, particularly if they have implemented the software. **Greater service maturity = greater profit.**

Technology adopted by servitization maturity

- ● We sell products and some aftermarket service parts
- ● We support products through field services, mostly for break-fix repairs
- ● We offer customers service contracts
- ● Outcomes-based service model

How would you characterize the profitability of your service organization, if you have one?

Q2: We sell products and some aftermarket service parts

Q2: We support products through field services, mostly for break-fix repairs

Q2: We offer customers service contracts with planned maintenance, or guaranteed service level agreements (SLAs) for a packaged annual cost

Q2: Outcomes-based Service Model (charge by usage, by the hour, or outcome instead of product)

- ● We are a manufacturer and offer no aftermarket services to our customers
- ● We are a manufacturer and the aftermarket service we provide to our customers is a cost center
- ● We are a manufacturer and the aftermarket servie we provide to our customers is a profit center
- ● We are a pure services organization and consistently profitable
- ● We are a pure services organization and are marginally or not profitable

" Equipment OEMS usually have between 8 to 15 percent margin on new product sales. Aftermarket service can generate up to eight times that revenue in profit over the lifecycle of the equipment. This is why service is so important as a profit driver. It is not unusual for companies to generate 18 to 20 percent of their total profit from service operation even though service revenue may only account for 5 percent of total revenue. Taking this a step further, equipment with small sales margin can benefit greatly from offering the asset as a service. However, to successfully execute the strategy, a good first step is to put operation control systems in place to manage the infrastructure, and to treat service as a profit center."

" Planned revenue streams in service is a key profitability driver. Product can be priced with a margin baked in. You can monitor profitability of contract in a proactive way. Reactive service is primarily time and materials, and margin a much tighter. From contract-driven service to full servitization is just the next step in a planned revenue stream that includes product output or performance, where proactive service becomes a critical success factor. This is not to suggest that a service parts business can't drive significant revenue, it just is usually much more competitive."

Tom Devroy, Field Service Management Evangelist, IFS

Human Capital

Efficient utilization of the tecnician workforce is still a challenge for the most sophisticated, digitized companies.

Key Finding 2

Greater service sophistication brings different technology challenges

Companies involved only in selling aftermarket service parts experience fewer technological barriers to delivering service because their need is limited to the supply chain and securing and fulfilling orders. But by the time an organization is involved in break-fix repair, just under 40 percent reported problems due to inefficient back-office processes for warranty management. As sophistication progresses, and respondents report involvement with annual maintenance contracts, about 39 percent report challenges with efficient utilization of the field technician workforce.

Efficient utilization of the technician workforce is still a challenge for the most sophisticated, digitized companies. 60 percent of organizations saying they offered products through a fully-servitized model reported this as an issue. On a related note, 40 percent of these very advanced service organizations say they struggle with efficient technician routing and high fuel costs. And among this advanced group, it is remarkable that 60 percent also struggle with work that is completed but not invoiced in a timely fashion if at all. This may be because of ineffective methods to determine what is and is not covered by more complex and customer-specific contracts.

"

"Many times companies make the switch to maintenance contracting from break-fix repair because they want to move from service being a cost center and a necessary evil to service being a revenue enhancement opportunity that adds value to the customer. By moving to contracts, you can offer multiple contract types from simple time and materials all the way up to a fully inclusive 24-7 contract. Or you can scale it back to a 5x7 contract, depending on your customer's needs or hours of operation. These contracts enable a much greater margin than break-fix repair. Moving to a contract also allows your company to become stickier, and more strategic, in your customer base. It becomes harder for a customer to move their service work in a different direction, to a competing vendor. Let's say you have an agreement to keep the runway lights on at an airport by providing and maintaining lights, beacons and generators. The fact that you are a known entity providing the required level of service at a known cost to meet a specific outcome means the airport can offload some responsibility to you, the service provider. For the service provider, that deeper, trusting relationship creates a barrier to entry for any of your competitors."

Mark Brewer, Vice President, Service Industries, IFS

Which of the following are your company's three most significant barriers to achieving aftermarket service profitability?

Q2: We sell products and some aftermarket service parts

Q2: We ssupport products through field services, mostly for break-fix repairs

Q2: We offer customers service contracts with planned maintenance, or guaranteed service level agreements (SLAs) for a packaged annual cost

Q2: Outcomes-based Service Model (charge by usage, by the hour, or outcome instead of product).

- Inability to efficiently fix problems on-site in a single visit by a technician.
- Inefficient back office processes for warranty management
- Inefficient back office processes for management of customer-specific contracts, i.e. we do not know what the customer was promised or whether we delivered on that promise
- Missed service level agreements that lead to financial penalties

- Inefficient back office processes for reverse logistics or component repair.
- Inefficient management of subcontractors.
- Work that gets performed but not invoiced quickly or accurately.
- Contract pricing that is too aggressive to enable profitability.
- Inefficient utilization of the field technician workforce.
- Inefficient travel routing with high fuel costs and unbillable time.

"As noted, selling aftermarket service parts is not a difficult service revenue business. The parts are already defined in the manufacturing supply chain, so this becomes a distribution and fulfillment challenge but little else. Most of the infrastructure already exists for supporting this business, aside from perhaps an e-commerce web site. In service delivery, all the complexity of sales, delivery, and workforce manage-ment are part of the equation. It is a whole new set of challenges, but with great challenge can come great reward."

Tom Devroy, Field Service Management Evangelist, IFS

When companies move to providing annual maintenance contracts, they may have a number of contract types, perhaps with customer- specific terms. These yield very high profit margins, but in order to keep the business you have to deliver on those contract terms, which requires a sophisticated and agile approach to contract management. Not only do you have to track what was promised to each customer, or even multiple contracts for a specific customer, but you must ensure sufficient resources to meet the requirements. If you can augment that investment in contract management software with more sophisti-cated scheduling optimization, you can meet those SLA requirements without increasing headcount.

"Furthermore, service is not just resources in terms of people, but parts. You need to focus on parts utilization as well, and that means your parts and inventory logistics network must be just as thoroughly optimized as your technician scheduling."

Mark Brewer, Vice President, Service Industries, IFS

The Right Tool

The disparity when it comes to profitability and the ability to offer proactive contracts as opposed to strictly engaging in break-fix repair seems to be related to the fact that enterprise software has enabled these companies to adopt more advanced and comprehensive technologies for field service management.

Key Finding 3

Enterprise software plays a role in facilitating digital transformation necessary to enable profitable servitization

There is a strong relationship between the ability of respondents' enterprise software to support digital transformation and their servitization maturity level. Among respondents, profitability and sophistication of the service organization both increase in organizations where respondents report their enterprise soft-ware does a good job facilitating digital transformation.

Respondents were asked how well their enterprise software prepared them for digital transformation. Those indicating it prepared them very well or pretty well were categorized as Digital Transformation Leaders. Those who said their enterprise soft-ware prepared them poorly were categorized as Digital Transformation Laggards.
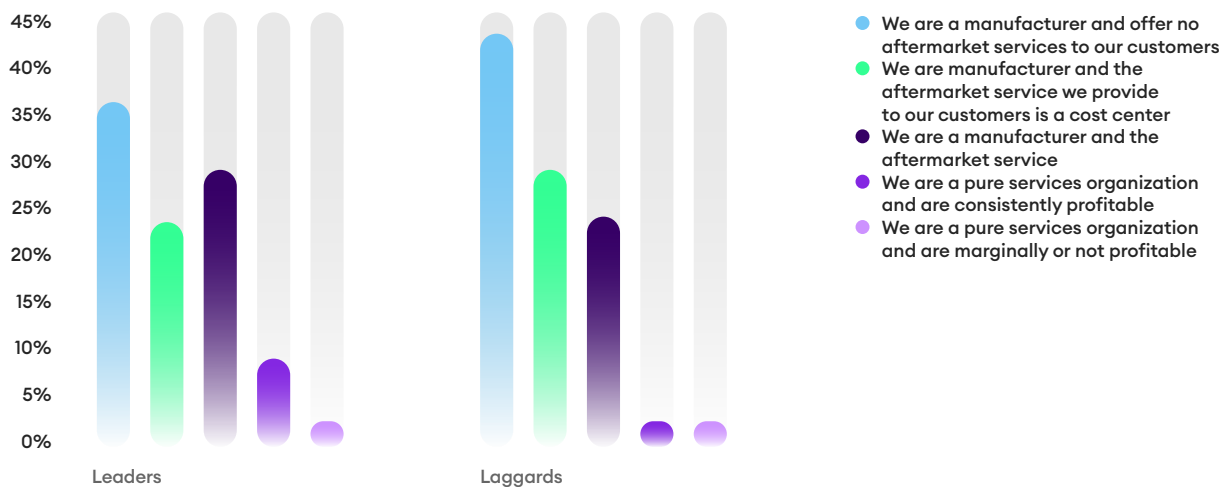
Digital Transformation Leaders were:

- 5 percent more likely to have aftermarket service functions that are a profit center than Digital Transformation Laggards.

- Twice as likely to offer service contracts with guaranteed service levels.

- Almost twice as likely to report involvement in fully-servitized business models that rely not on product sales but on delivery of capacity. In these situations, a product may be provided to a customer along with aftermarket support services and billed over an annual contract, by duty cycle, by output or some other measure.

The disparity when it comes to profitability and the ability to offer proactive contracts as opposed to strictly engaging in break-fix repair seems to be related to the fact that enterprise software has enabled these companies to adopt more advanced and comprehensive technologies for field service management.

- 28 percent of Digital Transformation Leaders report harnessing data from the IoT to automatically dispatch technicians based on equipment conditions, versus only 11 percent of Digital Transformation Laggards.

- 48 percent of Digital Transformation Leaders say their enterprise software offers a mobile interface to support technicians in the field while just over 20 percent of Digital Transformation Laggards have done the same.

- More than 41 percent of Digital Transformation Leaders have implemented software to manage contracts and warranties, as opposed to less than 12 percent of laggard.

- Digital Transformation Leaders are three times as likely to have software in place to manage reverse logistics to route parts returned from customer sites and repair depot functionality—34 percent to 11 percent.

- While just under 5 percent of Digital Transformation Laggards reported use of artificial intelligence (AI) in their customer-facing service software, almost 17 percent of Digital Transformation Leaders said they had AI-driven customer service lo reduce the load on live representatives.

Transformation Leaders said they had AI-driven customer service to reduce the load on live representatives.

How would you characterize the profitability of your service organization, if you have one?

- We are a manufacturer and offer no aftermarket services to our customers
- We are manufacturer and the aftermarket service we provide to our customers is a cost center
- We are a manufacturer and the aftermarket service
- We are a pure services organization and are consistently profitable
- We are a pure services organization and are marginally or not profitable

How would you describe your business?

- We only sell products, with no aftermarket or other service revenues
- We sell products and some aftermarket service parts
- We support products through field services, mostly for break-fix repairs
- We offer customers service contracts with planned maintenance or guaranteed service-level agreements (SLAs) for a packaged annual cost
- Outcomes-based Service Model (charge by usage, by the hour, or outcome instead of product).

Technologies Adopted by DT Status

- Leaders
- Laggards
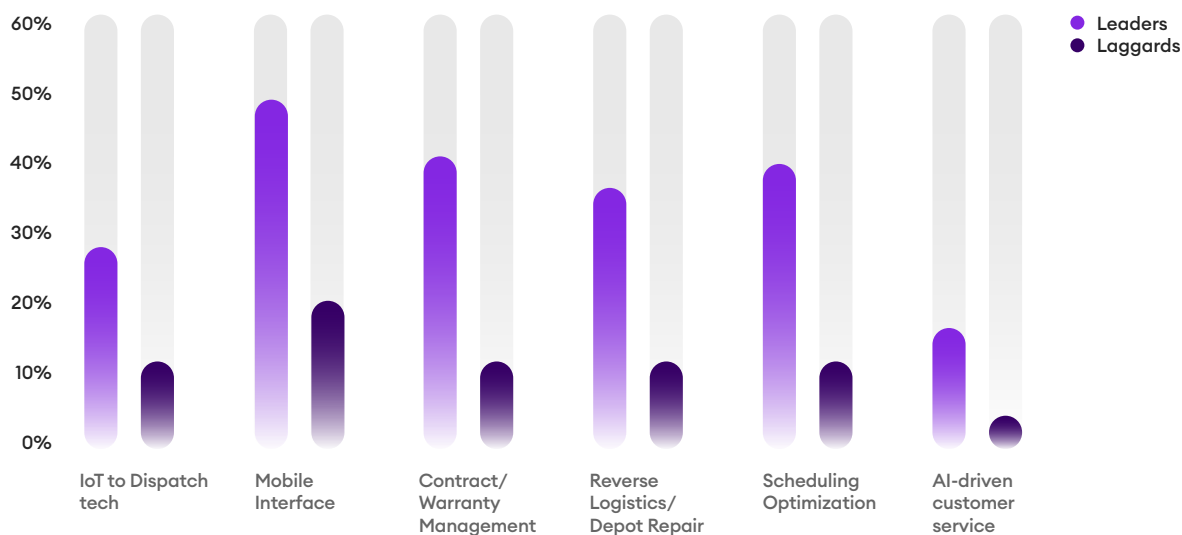
Imagination Required

...digital transformation, and the resulting ability to adopt new business models facilitated by technology, requires a future-facing culture and openness to innovation and change within the business.

The data suggests that some companies are more progressive not only when it comes to the technology they have in place, but their attitudes towards technology and its ability to contribute to business success. Digital Transformation Laggards were not only less likely to have implemented key field service technologies ranging from IoT to reverse logistics to scheduling optimization, but those who had not implemented them reported less interest in implementing them in the future. This suggests that digital transformation, and the resulting ability to adopt new business models facilitated by technology, requires a future-facing culture and openness to innovation and change within the business.

"

"Enterprise software facilitates digital transformation in two distinct ways. It helps the business scale and removes functional silos that enable business optimi-zation. Service is driven by humans, but a human cannot scale. Enterprise software does scale, and can formal-ize and automate repeatable processes, and with the inclusion of artificial intelligence in customer-facing interactions can reduce the demands placed on humans involved in service. But true digital transformation also requires the elimination of data and functional silos, so business processes can be integrated form end to end across the service lifecycle. There needs to be a clear view of what the contract means from an entitlement standpoint including SLAs, to customer-specific billing that comes out of your contracts module, inventory carrying costs, resource load which comes out of technician scheduling and revenue that comes out of invoicing. Only when all of these disciplines are integrated can you get to that point where 1+1=3. But that is precisely the result you can achieve when you have a holistic system and all of the components from mobility to logistics to scheduling are talking to each other."

Mark Brewer, Vice President, Service Industries, IFS

"

"Many manufacturers have experience with machine-to-machine integration, through factory floor automation in the form of CNC machines, and PLC-controlled packaging and production lines. The natural extension is to use technology to monitor the performance and outcome of asset utilization on behalf of a customer rather than inside the four walls. So servitization is an exercise on building on what is already known—packaging and marketing it, and putting in the control systems to manage delivery. Obviously, a big part of success is the service business that supports the entire offering."

Tom Devroy, Field Service Management Evangelist, IFS

Bottlenecks

...more respondents from middle-market companies– between $50 million and $1 billion–reported constraints in key areas including back-office functionality for warranty management, inefficient management of subcontractors and inefficient use of field technicians.

Key Finding 4

Middle market companies struggle more with servitization

When asked about the barriers to aftermarket service profitability, companies in the middle market reported struggling more than larger or smaller companies. Companies of all sizes reported various problems. But more respondents from middle-market companies– between $50 million and $1 billion–reported constraints in key areas including back-office functionality for warranty management, inefficient management of subcontractors and inefficient use of field technicians.
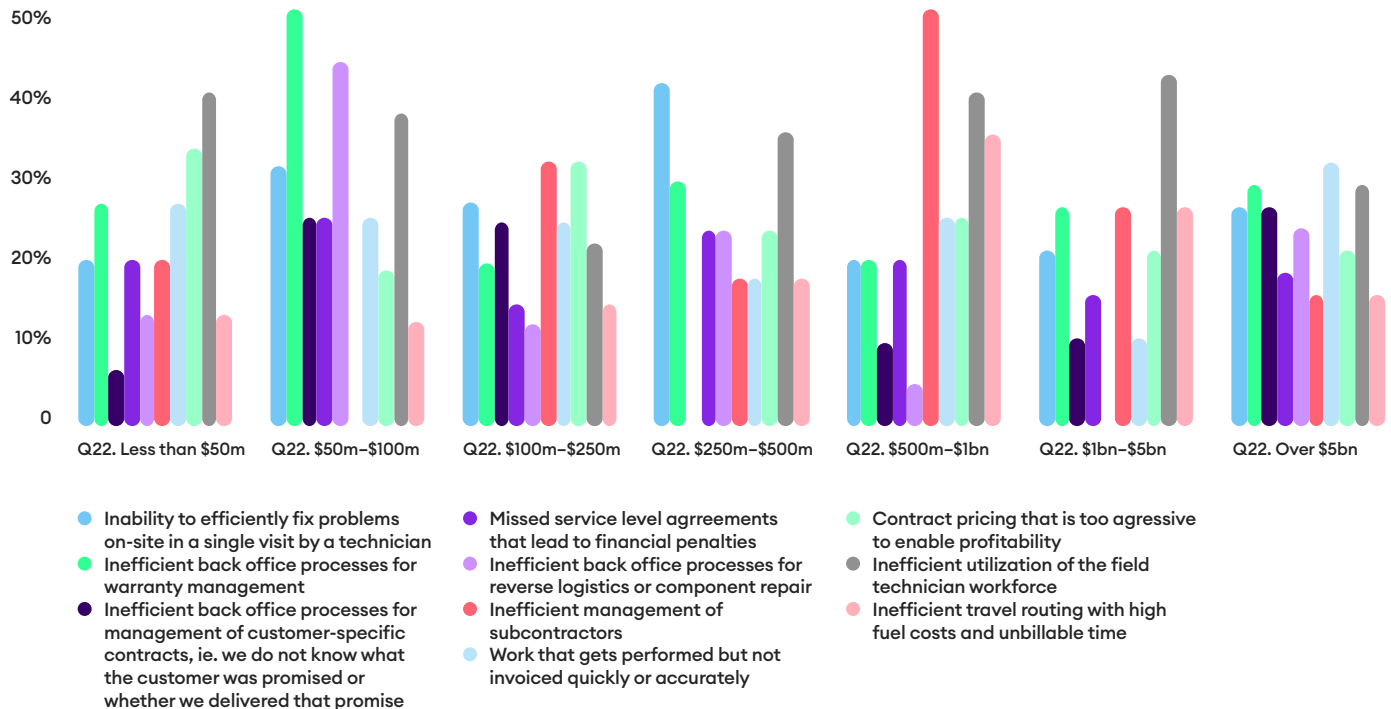
The smallest companies, those under $50 million, reported more problems with work that gets done but not invoiced (40 percent) and contract pricing that is too aggressive to deliver profitably (33 percent).

Which of the following are your company's three most significant to acheiving aftermarket service profitability?

- ● Inability to efficiently fix problems on-site in a single visit by a technician
- ● Inefficient back office processes for warranty management
- ● Inefficient back office processes for management of customer-specific contracts, ie. we do not know what the customer was promised or whether we delivered that promise
- ● Missed service level agrreenalties that lead to financial penalties
- ● Inefficient back office processes for reverse logistics or component repair
- ● Inefficient management of subcontractors
- ● Work that gets performed but not invoiced quickly or accurately
- ● Contract pricing that is too agressive to enable profitability
- ● Inefficient utilization of the field technician workforce
- ● Inefficient travel routing with high fuel costs and unbillable time

Key Finding 5

Capital equipment manufacturers and medical device manufacturers are among the most advanced in servitization

Servitization of manufacturing is affecting each industry in the survey, even process manufacturers to a marginal extent.

But the companies leading the charge towards servitization and adoption of certain enabling technologies are those in the medical device industry and industrial manufacturers. Capital equipment and medical device manufacturing lead even traditionally service-focused sectors like HVAC manufacturing and telecommunications in their use of key enabling technologies, as well as profitability of the service organization.
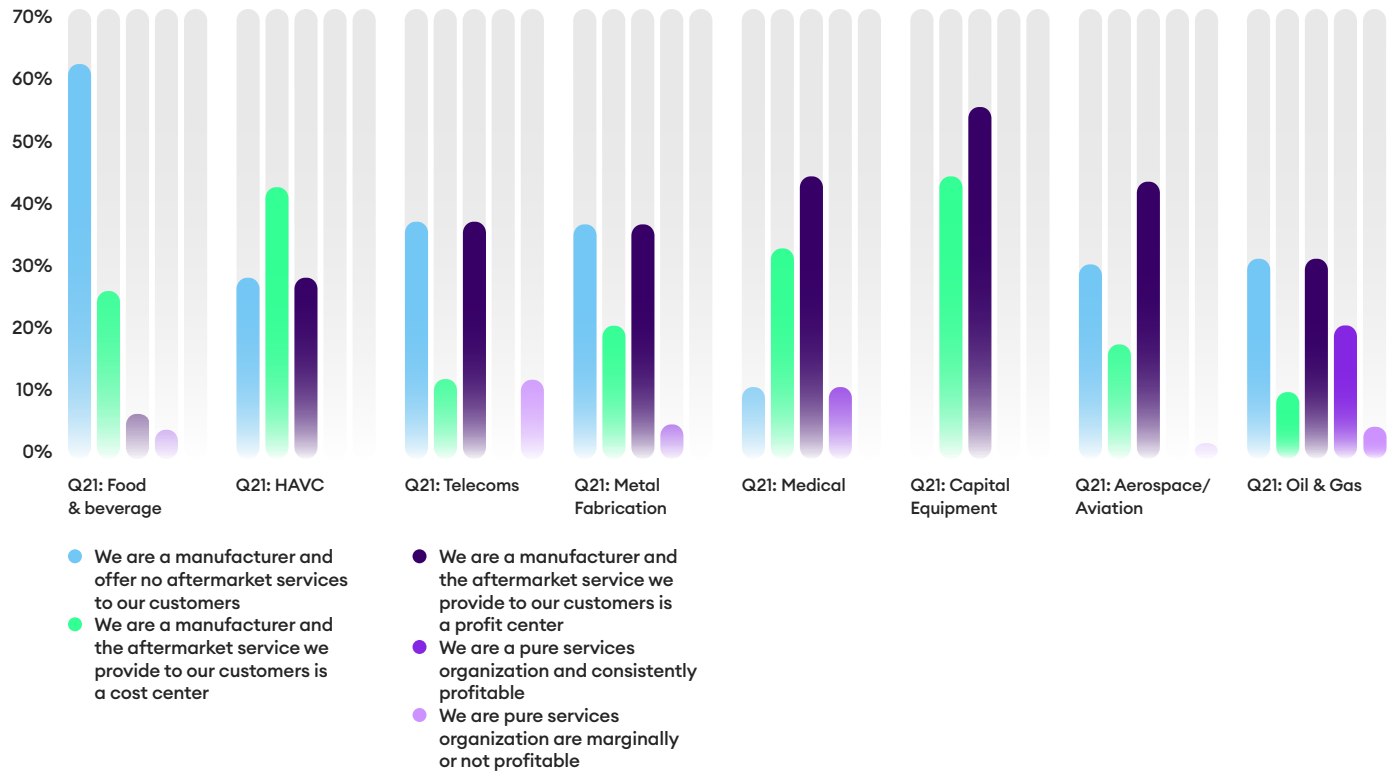
- Industrial manufacturers were most likely to report aftermarket service as a profit center, at just over 55 percent. Medical device manufacturers were second at 44 percent, just ahead of aerospace and defense at 43 percent.

- While HVAC manufacturers were the most likely to have implemented a mobile interface for use by field technicians at 71 percent, capital equipment manufacturers were not far behind at 62 percent.

- Medical device manufacturers were most likely to have implemented reverse logistics/repair depot software at 50 percent, and scheduling optimization at 62 percent.

- Capital equipment manufacturers were most likely to be offering and executing against maintenance contracts at 56 percent, while medical device manufacturers were most likely to be engaged in outcomes-based services, at 22 percent.rvice lo reduce the load on live representatives.
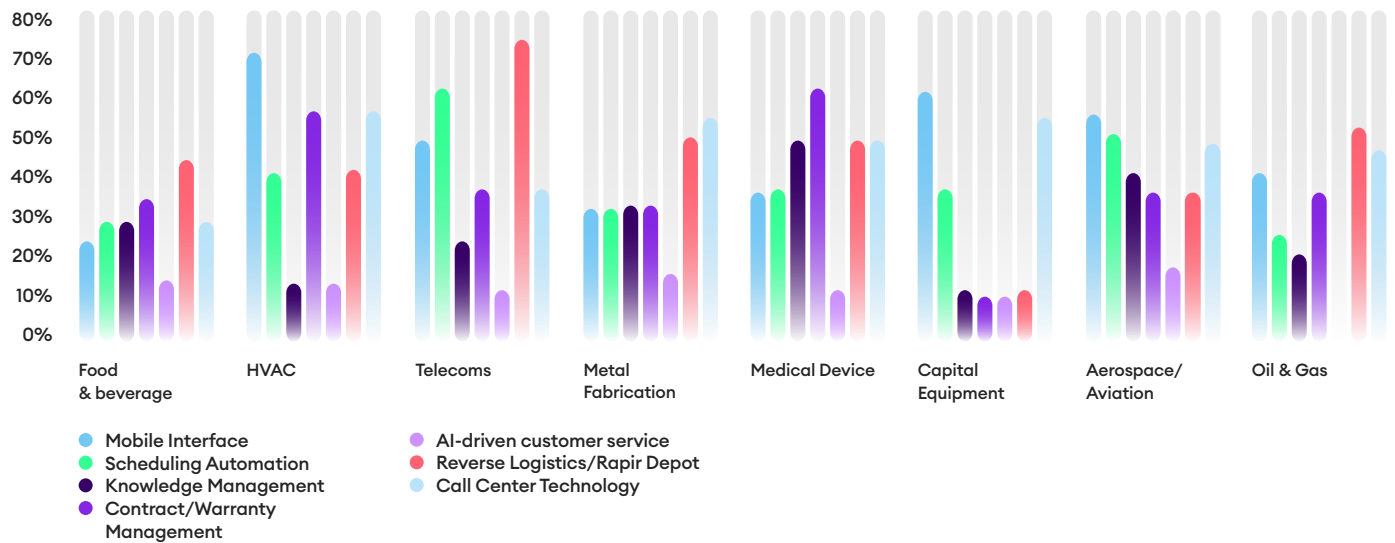
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Middle-market companies generally are quite distributed organizations. They are not local– they have several locations perhaps around a region or around the country, but they are not global enterprises that have extensive IT resources at their disposal. Because they are distributed, their processes become somewhat more fragmented than if they had a single location. This disconnect between locations and service areas is due in part to the processes and tools they employ in their facilities and regions. If these processes don't lend themselves to harmonization, the fragmentation leads to increased costs, and a challenge when trying to present a single ace to the customer. If you fail to give the customer a consistent experience wherever they are, you pay the price in terms of higher costs and lower customer satisfaction. With IFS Field Service Management, we are able to provide holistic coverage and can harmonize your processes across your organization in an optimized and efficient way. We can even harmonize these processes if you are using different ERP systems in your different regions or locations by integrating seamlessly with each one. We can do this by acting as a system of record for service that actually sits above your multiple ERP systems, so you can provide that unified customer experience.”

Mark Brewer, Vice President, Service Industries, IFS

How would you characterize the profitability of your service organziation, if you have one?

Categories shown (Q21 by industry: Food & beverage, HAVC, Telecoms, Metal Fabrication, Medical, Capital Equipment, Aerospace/Aviation, Oil & Gas):

- We are a manufacturer and offer no aftermarket services to our customers
- We are a manufacturer and the aftermarket service we provide to our customers is a cost center
- We are a manufacturer and the aftermarket service we provide to our customers is a profit center
- We are a pure services organization and consistently profitable
- We are pure services organization are marginally or not profitable

Adopted by Tech Industry

Categories shown (Food & beverage, HVAC, Telecoms, Metal Fabrication, Medical Device, Capital Equipment, Aerospace/Aviation, Oil & Gas):

- Mobile Interface
- Scheduling Automation
- Knowledge Management
- Contract/Warranty Management
- AI-driven customer service
- Reverse Logistics/Rapir Depot
- Call Center Technology

How would you describe your business?

Legend:
- **We only sell products, with no aftermarket or other service revenues.** (light blue)
- **We sell products and some aftermarket service parts.** (green)
- **We support products through field services, mostly for break-fix repairs.** (dark navy)
- **We offer customers service contracts with planned maintenance, or guaranteed service level agreements (SLAs) for a packaged annual cost** (purple)
- **Outcomes-based Service Model (charge by usage, by the hour, or outcome instead of product).** (light purple)
- **Other (please specify).** (red)

> **"**It makes sense that servitization is more advanced in industries where you have mission-critical assets that are complex and expensive to operate and maintain. Consider a medical devices like an MRI scanner, which is critical to the success of the clinic. It must operate reliably in order to deliver revenue against the capital and lifecycle cost, and it must operate within very defined and precise parameters in terms of imaging gradients. This makes it attractive for owners of MRI and other medical equipment assets to offload some or all of the responsibility for uptime and calibration to the OEM vendor or a maintenance contractor, who will guarantee certain levels of performance and availability. They can do this through annual maintenance and service contracts or, ultimately, by pursuing an asset-as-a-service delivery method. This of course requires advanced servitization capabilities on the part of their vendor.
>
> 'What other industries can learn is that it is not the asset itself but the capability and the outcome the asset delivers that you are ultimately delivering to your customer. The medical device industry has known this for a long time, but so have some others. For instance, in the elevator industry, they don't even talk about selling elevators any-more—they sell people flow. How do you measure the benefits your product delivers to your customer in real time using the IoT so you can sell metered service instead of a capital asset? That is the question product-oriented companies will be asking in the years to come—how can well sell a product as a service?"
>
> **Mark Brewer, Vice President, Service Industries, IFS**
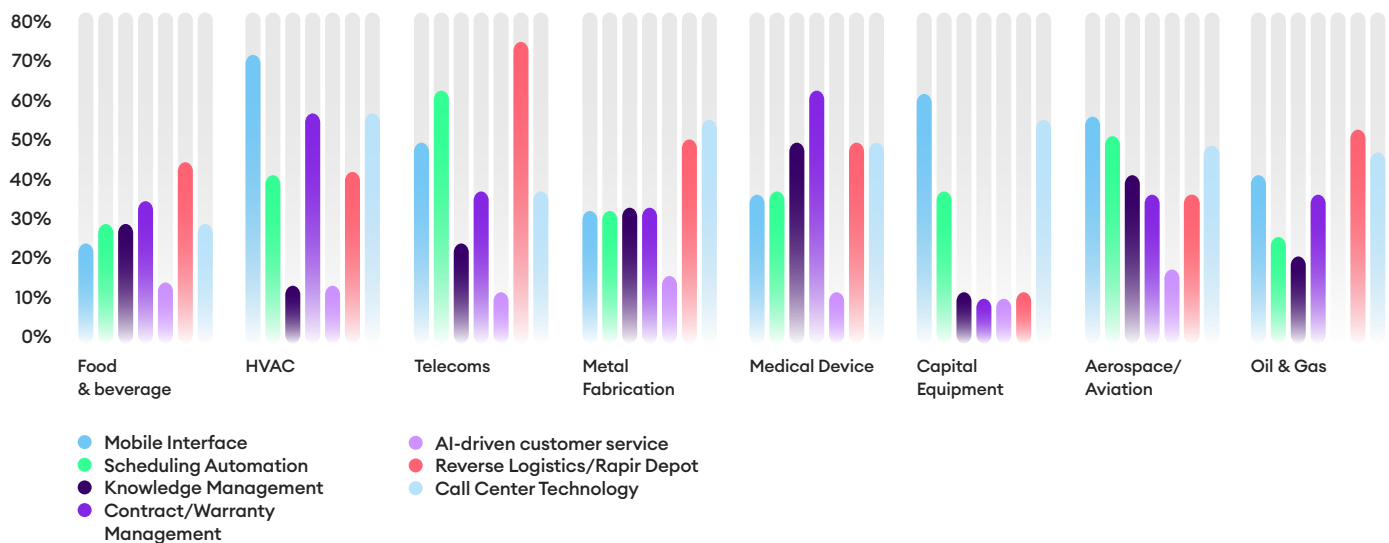
Key Finding 6

HVAC, telecommunications and medical device manufacturers are most advanced in technology used in the field

Servitization affects back-office operations like contract management, inventory and reverse logistics, some technologies. But some industries represented with longstanding and mature field service operations were more likely to have adopted technologies to optimize a field service workforce.

- 71 percent of HVAC contactors have implemented a mobile interface for technicians in the field and to use data from IoT to automatically dispatch a technician.

- More than 82 percent of medical device companies and 57 percent of HVAC contractors had implemented scheduling optimization to automatically send the right technician to the right job.

- 72 percent of telecommunications companies had implemented call center technology like VOIP, call routing and interactive voice response (IVR).

- 57 percent of HVAC contractors have implemented knowledge management tools for diagnostics. Tied for runners-up are metal fabrication and capital equipment manufacturers at just over 55 percent.

Telecom companies also were relatively advanced in some back-office functionality. 62 percent of telecommunications companies had implemented contract and warranty management software.

Adopted by Tech Industry

Legend:
- Mobile Interface
- Scheduling Automation
- Knowledge Management
- Contract/Warranty Management
- AI-driven customer service
- Reverse Logistics/Rapir Depot
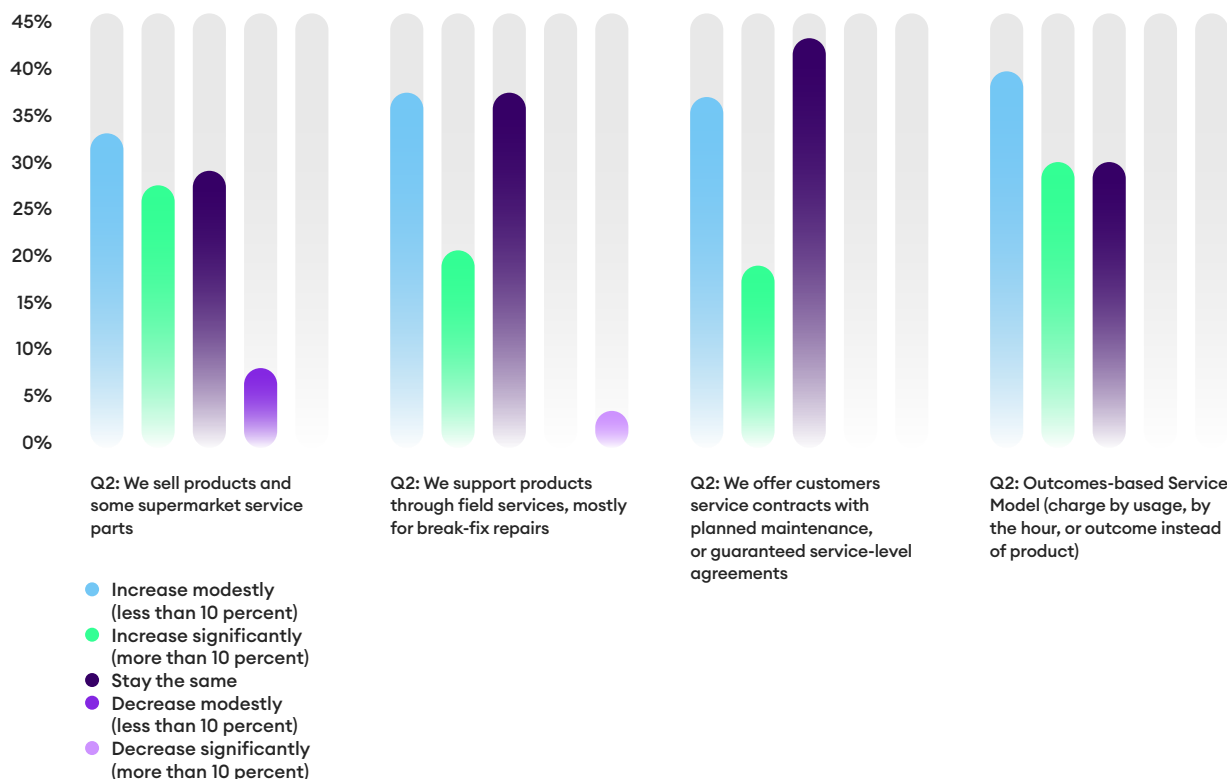- Call Center Technology

Key Finding 7

Companies are investing in their servitization maturity level
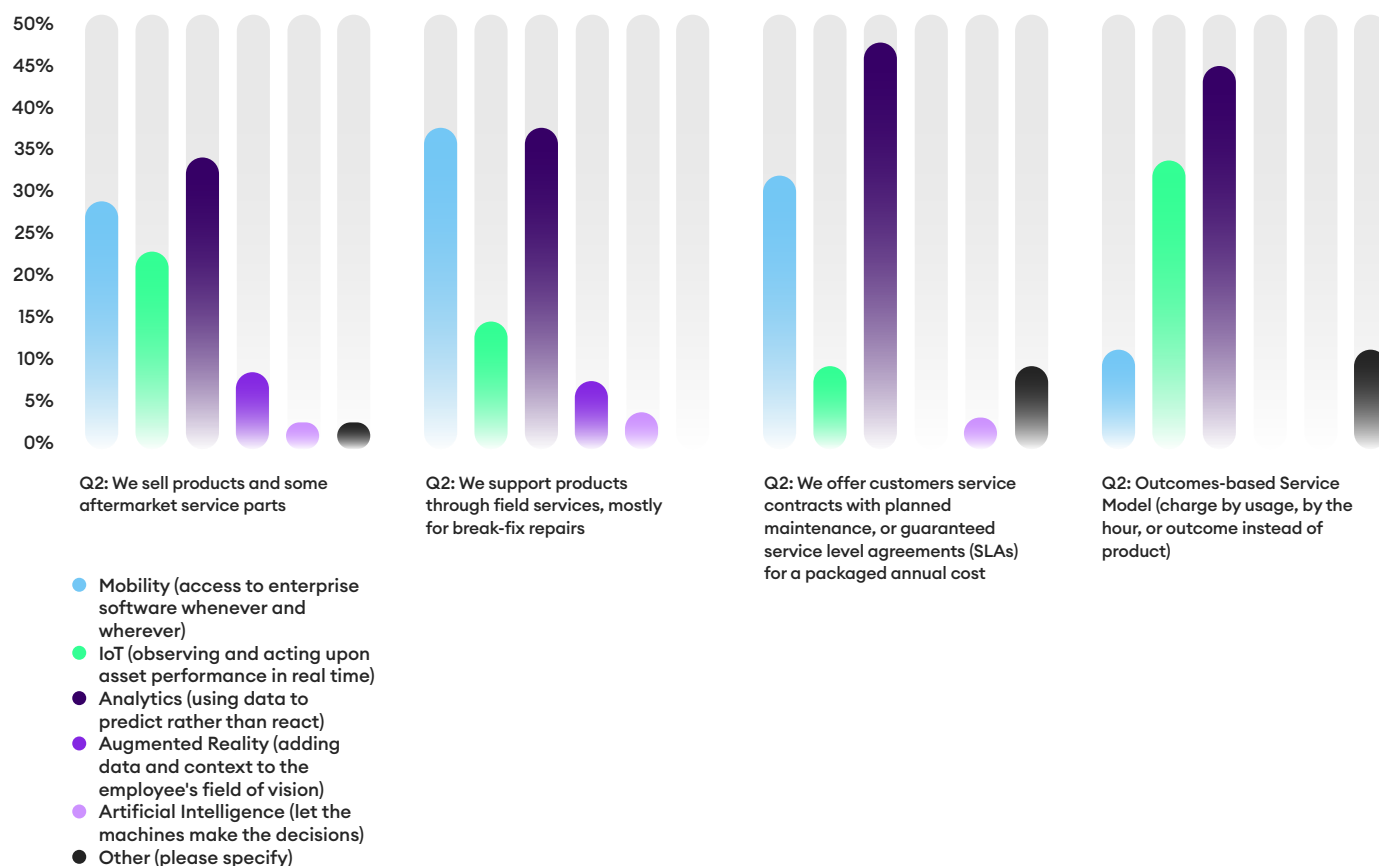
Companies who are more advanced in their journey towards servitization seem to be budgeting for more increases in funding for even more digital transformation than their peers. But companies in the lower maturity process are still planning increased budgeting and have funded projects that could prepare them to offer more proactive services offerings.

- 27 percent of respondents who offer only aftermarket service parts are expecting digital transformation budgets to increase by more than 10 percent, trailing the more progressive outcomes-based services organizations by less than 3 percent.

- 40 percent of companies doing field service for break-fix repair have budgeted for mobility-related projects.

- Across all servitization maturity categories, analytics was the most popular area for planned expenditures. Companies involved in annual maintenance contracting lead by the charge with 47 percent planning analytics projects—a key factor to intelligently pricing and executing on contracts over the product and service lifecycles.

Do you expect your company's budget for these and other digital transformation-enabling technologies to increase, decrease or stay the same over the next two years?

Q2: We sell products and some supermarket service parts

Q2: We support products through field services, mostly for break-fix repairs

Q2: We offer customers service contracts with planned maintenance, or guaranteed service-level agreements

Q2: Outcomes-based Service Model (charge by usage, by the hour, or outcome instead of product)

- Increase modestly (less than 10 percent)
- Increase significantly (more than 10 percent)
- Stay the same
- Decrease modestly (less than 10 percent)
- Decrease significantly (more than 10 percent)

For which of the following technologies do you have funded projects in place?

Q2: We sell products and some aftermarket service parts

Q2: We support products through field services, mostly for break-fix repairs

Q2: We offer customers service contracts with planned maintenance, or guaranteed service level agreements (SLAs) for a packaged annual cost

Q2: Outcomes-based Service Model (charge by usage, by the hour, or outcome instead of product)

- Mobility (access to enterprise software whenever and wherever)
- IoT (observing and acting upon asset performance in real time)
- Analytics (using data to predict rather than react)
- Augmented Reality (adding data and context to the employee's field of vision)
- Artificial Intelligence (let the machines make the decisions)
- Other (please specify)

Methodology

IFS in North America designed a survey instrument to capture insights on how industrial companies were progressing towards servitization. IFS then collaborated with the research arm of IEN, a joint venture between Thomas Register and Rich Media Group, which collected 200 survey respondents from a sample of industrial executives. Respondents were asked a screening question on whether they were involved with decisions about or usage of enterprise software in their company, and only those who responded in the affirmative were allowed to take the survey. Data collection and tabulation were managed by Jeff Reinke of IEN. IFS in North America reviewed these tabulations and cross-tabulations to draw inferences relevant to enterprise technology used to manage industrial organizations in specific NAICS codes including:

Contractors

- **238220** – HVAC
- **515** – Telecom
- **517** – Telecom

Manufacturers that service

- **332** – Fabricated Metal Manufacturers
- **333** – Machine Manufacturers
- **334510** – High Tech Manufacturers
- **3391** – Med Device

General manufacturing

- **332**
- **333**
- **334**
- **335**
  - A. Excludes **334511** (Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing. See Defense Manufacturing table for details.
  - B. Excludes **3364** (Aircraft Manufacturing) and **336992** (Military Vehicle Manufacturing). See Defense Manufacturing table for details.

A&D civil aviation

- **481**
- **4,881**
- **488,999**

Oil & gas

- **211**
- **213111**
- **213,112**
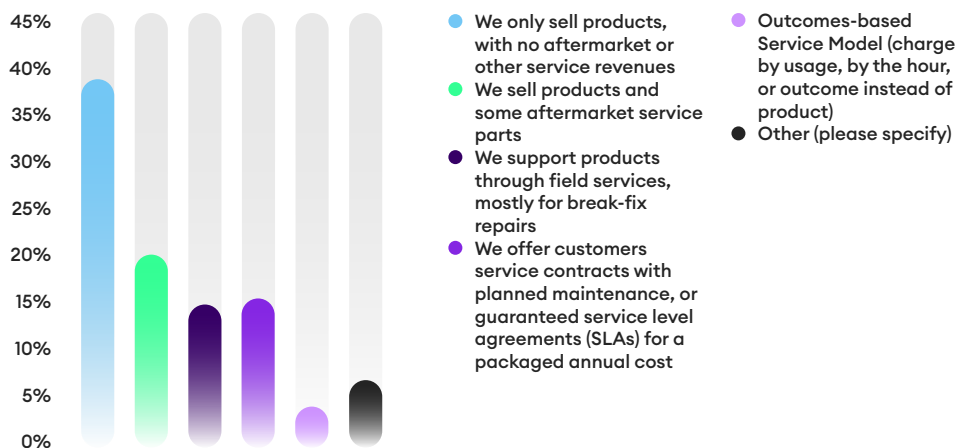- **32411**
- **4869**

Food & service

- **311**
- Excludes **3115** (Dairy Manufacturing), **3116** (Carcass Processing), and **31181** (Retail & Commercial Bakeries)
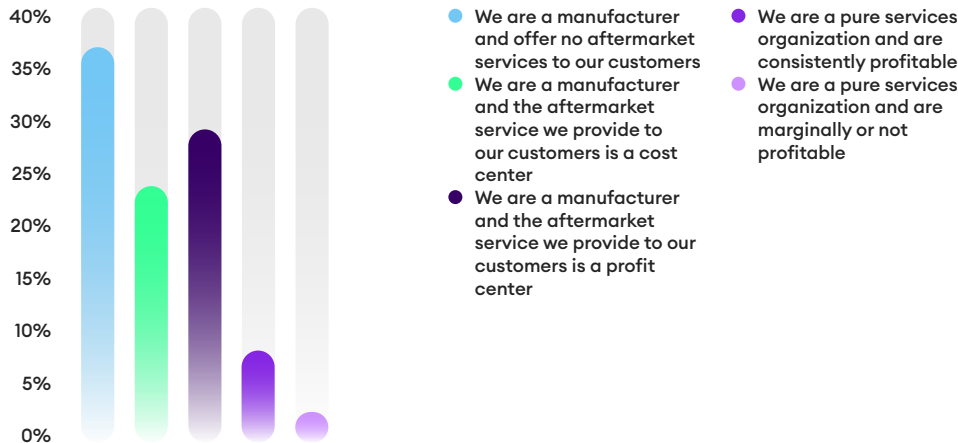- **312**

Defense manufacturing
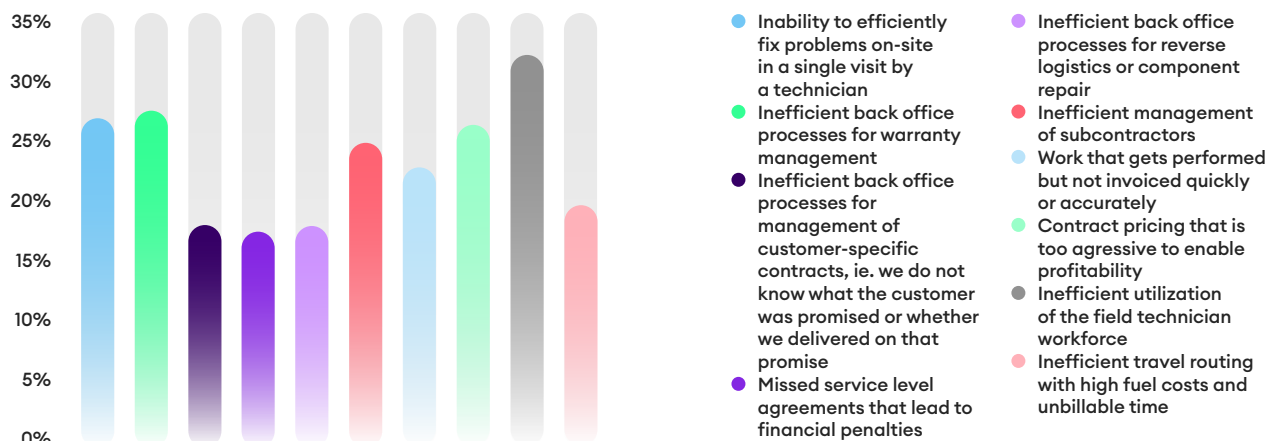
- **334511**
- **3364**
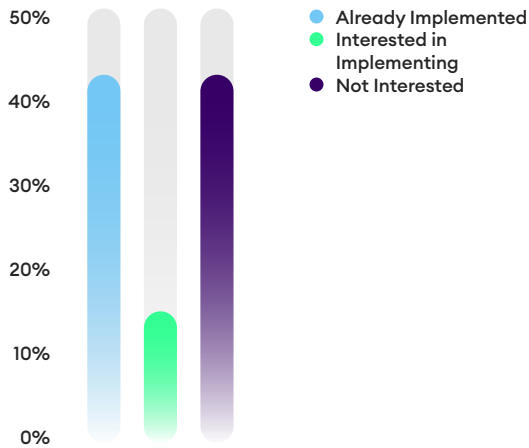- **336992**

Results

How would you describe your business?

- We only sell products, with no aftermarket or other service revenues
- We sell products and some aftermarket service parts
- We support products through field services, mostly for break-fix repairs
- We offer customers service contracts with planned maintenance, or guaranteed service level agreements (SLAs) for a packaged annual cost
- Outcomes-based Service Model (charge by usage, by the hour, or outcome instead of product)
- Other (please specify)

How would you characterize the profitability of your service organization, if you have one?

- We are a manufacturer and offer no aftermarket services to our customers
- We are a manufacturer and the aftermarket service we provide to our customers is a cost center
- We are a manufacturer and the aftermarket service we provide to our customers is a profit center
- We are a pure services organization and are consistently profitable
- We are a pure services organization and are marginally or not profitable

Which of the following are your company's three most significant barriers to achieving aftermarket service profitability? (Please select your top three choices)

- Inability to efficiently fix problems on-site in a single visit by a technician
- Inefficient back office processes for warranty management
- Inefficient back office processes for management of customer-specific contracts, ie. we do not know what the customer was promised or whether we delivered on that promise
- Missed service level agreements that lead to financial penalties
- Inefficient back office processes for reverse logistics or component repair
- Inefficient management of subcontractors
- Work that gets performed but not invoiced quickly or accurately
- Contract pricing that is too agressive to enable profitability
- Inefficient utilization of the field technician workforce
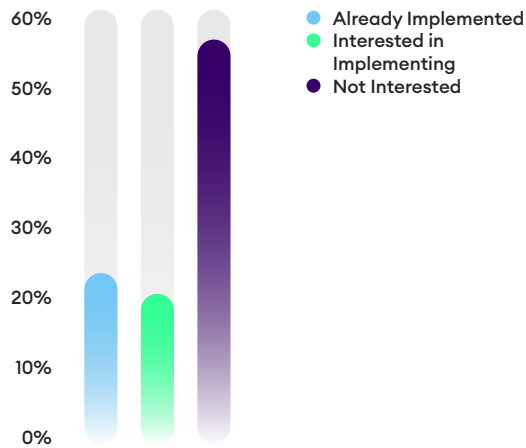- Inefficient travel routing with high fuel costs and unbillable time

Which of the following service-related technologies do you currently use in your business? Which are you interested in implementing? Mobile interface for technicians in the field.
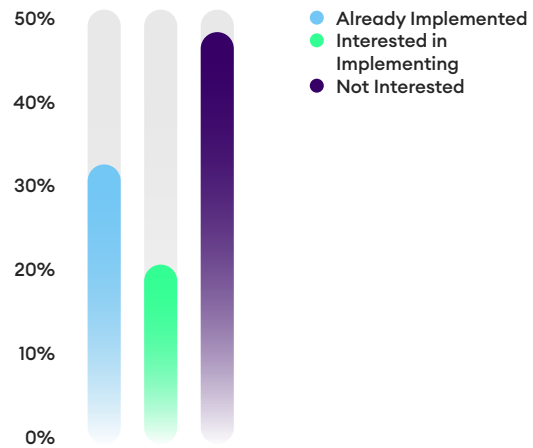
- Already Implemented
- Interested in Implementing
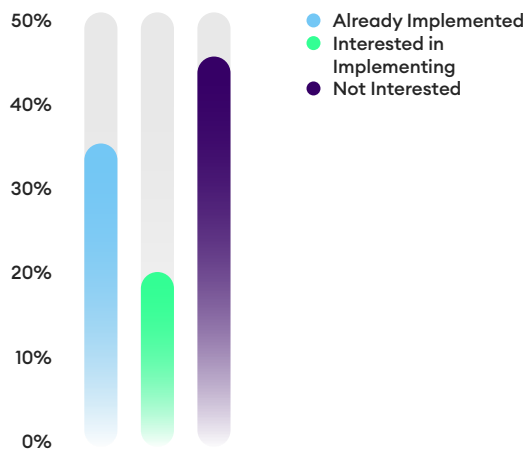- Not Interested

Reverse logistics/ repair depot software

- Already Implemented
- Interested in Implementing
- Not Interested
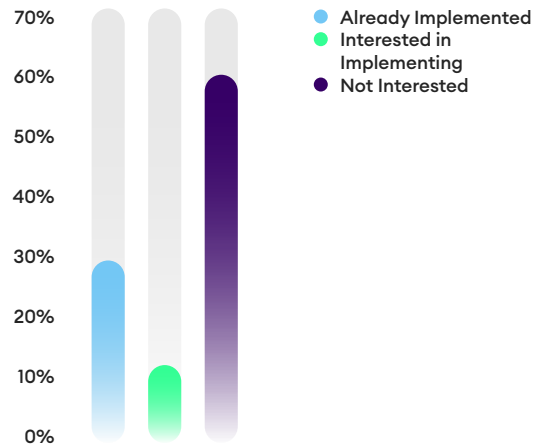
IoT field service integration to automatically dispatch a technician based on equipment operating conditions

- Already Implemented
- Interested in Implementing
- Not Interested

Scheduling optimization to automatically send the right technician to the right job

- Already Implemented
- Interested in Implementing
- Not Interested

Contract Management/ Waranty Management Software

- Already Implemented
- Interested in Implementing
- Not Interested

Artificial intelligence-driven customer service to reduce load on live representatives

- Already Implemented
- Interested in Implementing
- Not Interested
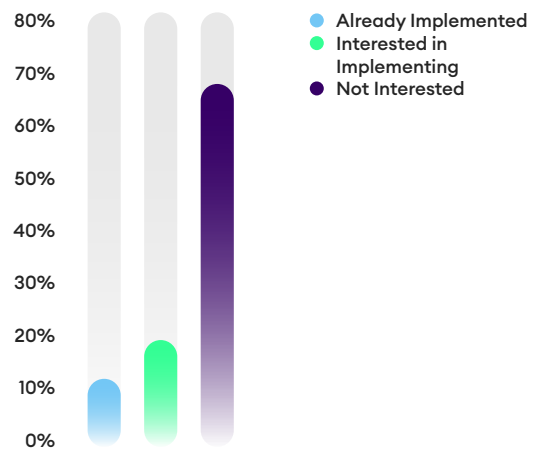
Call center technology (VOIP, call routing, interactive voice response/IVR)

- Already Implemented
- Interested in Implementing
- Not Interested
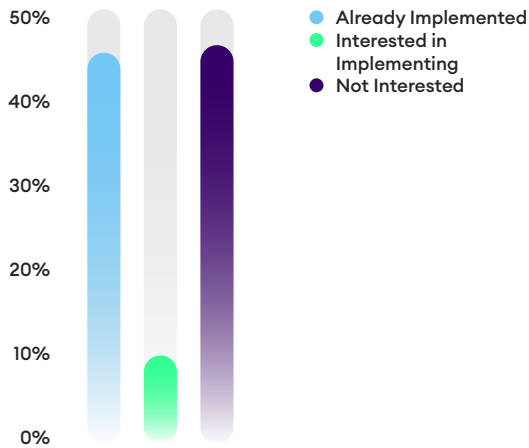
Knowledge management for diagnostics

- Already Implemented
- Interested in Implementing
- Not Interested
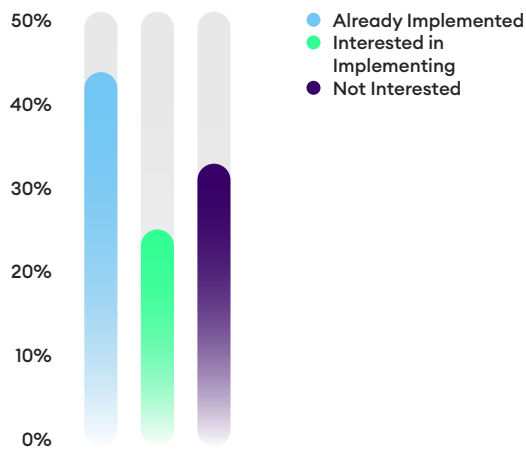
How well does your enterprise software prepare you for digital transformation?

- Very well
- Somewhat well
- Not very well
- It is an impediment
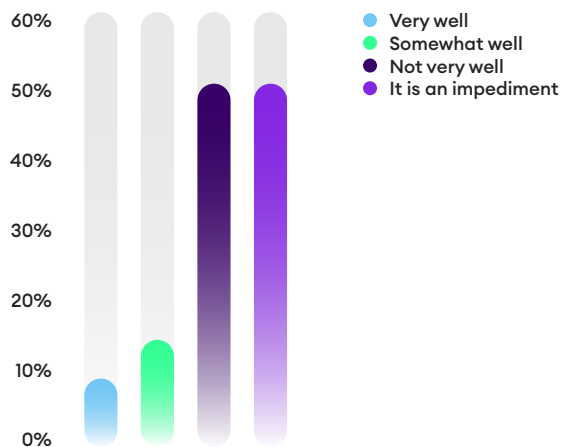
For which of the following technologies do you have funded projects in place? (Check all that apply).

- ● Mobility (access to enterprise software whenever and wherever)
- ● IoT (observing and acting upon asset performance in real time)
- ● Analytics (using data to predict rather than react)
- ● Augmented Reality (adding data and context to the employee's field of vision)
- ● Artificial Intelligence (let the machines make the decisions)
- ● Other (please specify)
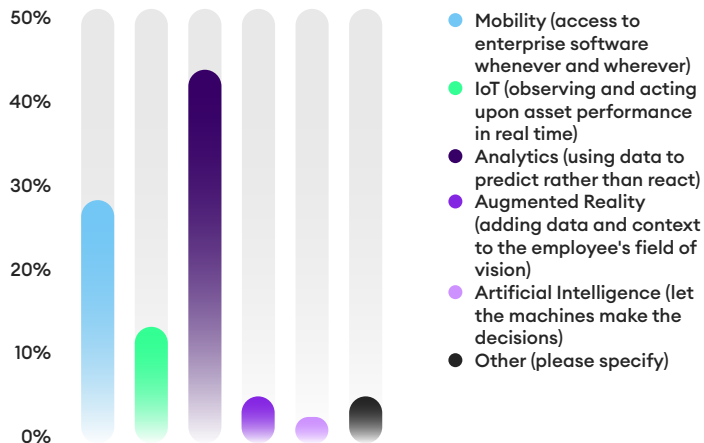
Your company is most closely aligned with which of the following industry segments:

- ● Food & Beverage
- ● HVAC
- ● Telecommunications
- ● Metal Fabrication
- ● Medical
- ● Captial Equipment
- ● Aerospace/Aviation
- ● Oil & Gas
- ● Other (please specify)
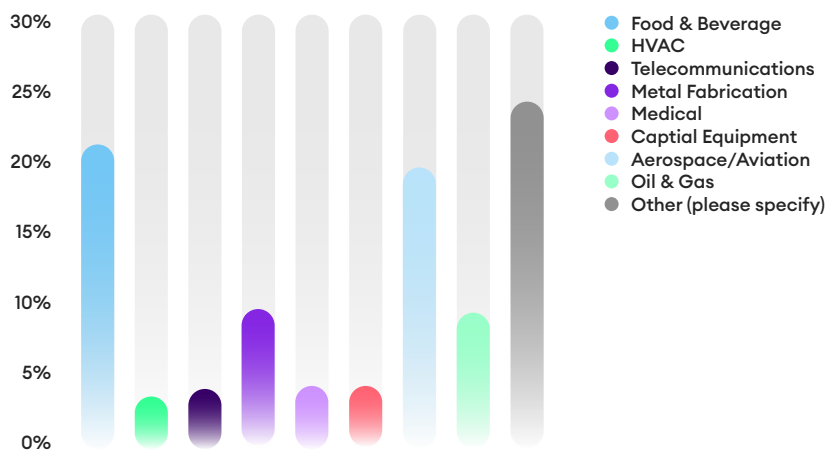
Your company's estimated annual revenue is:

- ● $100m – $250m
- ● $50m – $100m
- ● $250m – $500m
- ● $500m – $1bn
- ● $1bn – $5bn
- ● Over $5bn
- ● Less than $50m
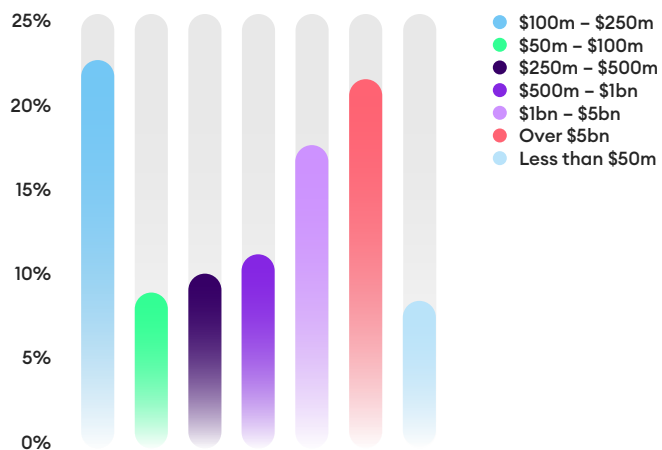
About IFS

IFS develops and delivers enterprise software for companies around the world who manufacture and distribute goods, build and maintain assets, and manage service-focused operations. Within our single platform, our industry specific products are innately connected to a single data model and use embedded digital innovation so that our customers can be their best when it really matters to their customers – at the Moment of Service. The industry expertise of our people and of our growing ecosystem, together with a commitment to deliver value at every single step, has made IFS a recognized leader and the most recommended supplier in our sector. Our team of 4,000 employees every day live our values of agility, trustworthiness and collaboration in how we support our 10,000+ customers. Learn more about how our enterprise software solutions can help your business today at ifs.com

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