



# Asset and Service Data Gravity

Whitepaper

Vanson Bourne and ServiceMax,  
a GE Digital company



Predix ServiceMax  
Field Service Software



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# Introduction

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Data is one of the key driving forces underpinning the modern-day economy, but asset and service data specifically is absolutely crucial.

Organisations collect, aggregate and analyse plenty of it, but the way in which they do this can either be the catalyst for soaring above competitors, or the iceberg that sinks the ship.

Equally, outcome-based business models, which could be considered the next generation of the modern economy, might be a “make or break” moment in the lifespan of many global organisations. An outcome-based business model is focused on the outcome for the customer rather than a specific product. Customers receive extensive maintenance and support services after they have purchased the product, helping to nurture their relationship with the supplier.

In addition, customers only pay-per-outcome. For example, the ability to only pay for a jet engine while it is in the skies, or an MRI scanner that is fully functioning and actually able to carry out a scan on a patient. Essentially, this type of model ensures that the customer always has the right outcome, enabling them to grow their own business while fostering a healthy client supplier relationship.

Whether organisations can make an effective transition to this relatively new form of business model will likely be intrinsically linked to their ability to successfully collect and use data derived from their assets – and will ultimately decide whether or not they stay afloat.



## Research Methodology and Scope

ServiceMax, a GE Digital company, commissioned independent market research specialist Vanson Bourne to undertake the research upon which this executive summary is based. A total of 600 IT and field service decision makers with a responsibility for or involvement in field service management in their organisation were interviewed during April and May 2018. All respondents came from organisations with 250 or more employees across the manufacturing; medical; oil and gas; energy and utilities; telecoms; and distribution, logistics and transport sectors, among others. Organisations also had to have at least 100 service engineers working for them. The research included the following number of interviews in each of the below countries:

Country	Number of interviews
United States	150
UK	100
France	100
Germany	100
Turkey	50
Saudi Arabia	50
UAE	50

The interviews were conducted using online interviewing, all of which were undertaken using a rigorous multi-level screening process to ensure that only suitable candidates were given the opportunity to participate. Unless otherwise indicated, the results discussed are based on the total sample.



# Summary of Key Findings

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Surveyed IT and field service decision makers would only categorise **19%** of their organisation's **current business model as outcome-based**, on average

The vast majority (**95%**) of respondents, whose organisation does not currently operate a 100% outcome-based business model, state that their organisation is **currently working towards** moving some or all of its products and/or services towards such a model, or is **planning to in the future**

Just under nine in ten (**89%**) respondents believe that a move to more outcome-based business models will **enhance the way that their industry operates**

Over eight in ten (**82%**) agree that **servitisation will make their company more competitive** than ever before

Only **50%** of respondents report that they or other service leaders in their organisation **completely trust the asset service data** that they have access to

A minority (**22%**) of respondents believe that the **IT and field service functions in their organisation work together completely effectively** to achieve the goal of better data utilisation

Over three quarters (**77%**) of respondents agree that the pace of data intelligence digitally collected by their organisation's assets is **outpacing the skills** of those responsible for using the data

More than four in ten (**43%**) of those surveyed assert that the process of collecting and entering asset service data in their organisation **needs to be automated to a huge extent, or that this is completely required**

The majority (**84%**) of respondents believe that the **successful utilisation of asset data can positively impact all areas** of the business

On average, respondents believe that their organisation's **revenue will increase by 14.15%** and their **operational costs will decrease by 12.03%** over the next 12 months **as a result of automatically collecting, aggregating and analysing asset service data**

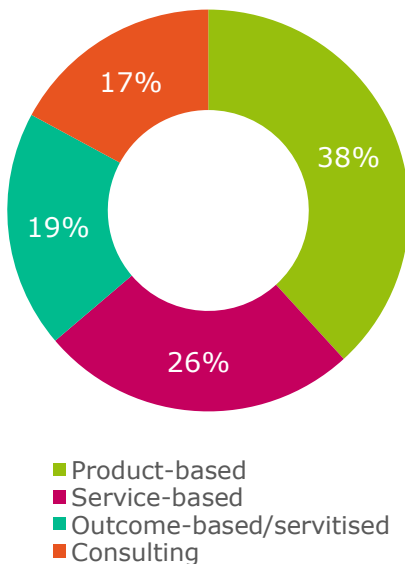
For every **\$1 invested** in ensuring that they can automatically collect, aggregate and analyse asset service data, respondents anticipate that their organisation would **expect a return of \$4.44**, on average

Approaching nine in ten (**86%**) respondents agree that the **more asset service data is used, the more value it brings** to the organisation

# The Move to Outcome-Based Business Models

The idea of outcome-based business models has not completely taken off as yet, and this is reflected by what respondents' report is happening in their organisations. On average, respondents estimate that 19% of their organisation's business model is outcome-based, compared to 38% of the model that would be classified as product-based and 26% that is service-based.

## Current business models



**Figure 1:** Analysis showing the average proportions of respondents' organisations' business models that would fall into the above categories, not showing "Other specified categories" (0%) and "Don't know" (0%), asked to all respondents (600)

However, there is potential for an outcome-based approach to be a big hit and it is unlikely to be too long before large multi-national corporations realise that product and service-based models are not as relevant as they once were. It seems as though this realisation has already started to some extent; of respondents whose organisation does not currently operate a 100% outcome-based business model, more than nine in ten (95%) report that they are currently working towards moving some or all of their products and/or services in this direction or are planning to in the future. Surveyed organisations from the oil and gas sector appear as though they are looking to get a head start on their competition with 64%

of them reporting that their organisation is already working towards implementing a more outcome-based business model.

In recent times, organisations have found themselves in a race to the bottom, constantly undercutting their competitors on price, but often at the expense of product or service quality, simultaneously cutting their own profit margins. This is not sustainable as a business model, not only due to reducing profits but also reducing customer satisfaction levels. Outcome-based business models provide an opportunity to differentiate from the competition and raise standards across all industries.

## Enhanced Performance and More Competitive

The shift towards this type of business model is therefore somewhat unsurprising, and surveyed decision makers display overwhelmingly positive attitudes towards this approach. The vast majority (89%) believe that the move to more outcome-based business models will enhance the way their industry operates, and only slightly fewer (82%) agree that this model will make their company more competitive than ever before.

**"Servitisation will make my company more competitive than ever before"**

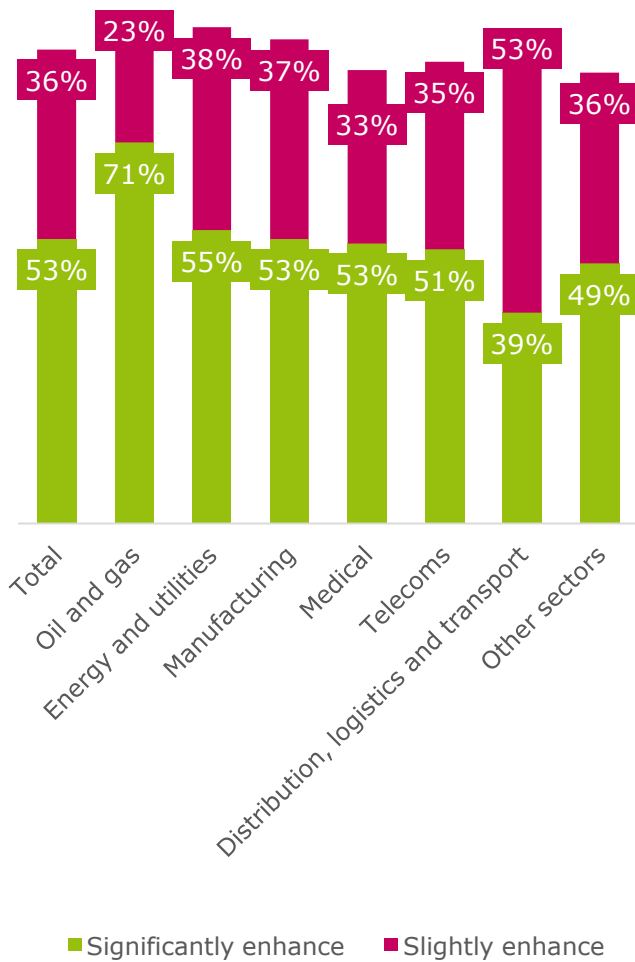
*Agree 82% of respondents*

Not only do organisations from the oil and gas sector appear to be making an early leap towards outcome-based business models, but surveyed IT and field service decision makers from organisations in this sector are almost completely convinced on the possible impacts of such a change. More than nine in ten (94%) respondents from the oil and gas sector believe that this switch will enhance the way that their industry operates, including 71% who believe it will lead to significant enhancements.

Decision makers in oil and gas seem to be tired of the shortcomings of product and service-based business models, and are ready to embrace the positive changes that outcome-based models will inevitably have. Everything has a shelf-life, and it is evident that old school approaches to business have run their course – it is time for a change, and oil and gas are hoping to lead the way.

In business, those who can be first to the punch will often be very successful, but with a transition such as this, organisations must ensure that their plan is rigorous and well thought out. Implementing a fully functional outcome-based model will not necessarily be a straightforward process and could be fraught with difficulties along the way, but it is certainly a step worth taking to improve customer satisfaction levels, the bottom line and the way industries operate as a whole.

### Industry enhancements



**Figure 2:** Analysis showing the percentage of respondents who believe that a move to more outcome-based/servitised business models will significantly enhance or slightly enhance the way their industry operates, split by sector, asked to all respondents (600)

# Current Asset and Service Data Practices

Asset and service data will be a crucial element of making this transition to a more outcome-based business model. However, at present, surveyed organisations are not accessing the full potential of this data due to their inconsistent use of digital tools and technology. While 98% of respondents report that their organisation uses automated digital tools and technology to aid the collection and utilisation of asset service data, only around half or fewer state that these tools are used in the collection (51%), aggregation (43%) or analysis (52%) stages of the process.

This intermittent use of automated technologies is not only opening the door for inefficiencies but is also directly leading to difficulties with data collection and utilisation. Around four in ten respondents report that when it comes to the management of access to asset service data in real time (40%), aggregating asset service data in a structured way (39%), analysing asset service data (41%), and sharing asset service data analysis with the rest of the business (42%), their organisation either needs huge improvements in these areas, a complete overhaul or that they simply do not do this at all yet.

The difficulties regarding asset and service data are exasperated further by the 59% of respondents who agree that their organisation is held back from the successful analysis of data because the quality of it is usually poor. Struggles are rife throughout the entire process, right from who is collecting it and how they do this, down to how it is being analysed and shared across the business. How can these organisations possibly expect to make any informed, strategic decisions using the data that is readily available to them if the process is so disjointed, outdated and under developed digitally?

## Struggles with asset service data



**Figure 3:** "Where do you believe your organisation is concerning how it handles the following aspects of asset service data?", not showing "Don't know" responses, asked to all respondents (600)

## Lack of Data Confidence

And these struggles have led to a distinct lack of confidence among surveyed decision makers and their colleagues, with only 50% of respondents reporting that they or other service leaders in their organisation completely trust the asset service data that they have access to. But this will need to change because asset and service data is becoming an ever more integral part of organisations, and this is summed up by the 85% of respondents who agree that service asset data should be central to strategic decision making.

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**“Service asset data should be central to strategic decision making”**

*According to 85% of respondents*

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The requirement to boost trust levels is especially pertinent in those organisations where the C-suite is already using asset service data today (39%) or have plans to in the future (34%) because they will need to be able to trust in the data in order to make well-informed decisions for the business. The use of asset and service data by the C-suite will also serve to set an example for leaders across other departments that this is the best way forward for the organisation.

## Glaring Skills Gap

However, it is not just these deep lying trust issues that are a concern for organisations, which is clear from the fact that only 22% of respondents are willing to admit that the IT and field service functions in their organisation work together completely effectively to achieve the goal of better data utilisation. This lack of collaboration is compounded by a glaring skills gap whereby over three quarters (77%) of surveyed decision makers concede that the pace of data intelligence digitally collected by their organisation’s assets is outpacing the skills of those responsible for actually utilising the data.

Further to this, more than four in ten respondents report that the skills of engineers (45%) and the skills of management (44%) are a cause for concern when it comes to using data produced by

advanced technologies (such as a digital twin) meaningfully. This should set alarm bells ringing for organisations because they are struggling with skills among both their employees on the ground and those higher up the organisation as well. It seems that even with the implementation of the appropriate technology for the collection and utilisation of asset and service data, there will still be work to be done in order to extract as much value as possible – this will likely need to be in the form of a rigorous training program.

## An Appetite for Automation

A lack of collaboration between teams, an ever-increasing skills gap and an inconsistent use of the appropriate technology, leading to trust issues could become a recipe for disaster in these organisations if not addressed quickly. The need for automated digital tools has rarely been clearer, and respondents recognise this. Only 7% believe that automating the process of collecting and utilising asset service data is not at all required because all data manually entered by service engineers is structured and entirely usable. Whereas over four in ten (43%) report that the automation of this process in their organisation is required to a huge extent, or that it is completely required because manually entered data never/rarely provides value.

Organisations will need to utilise automated digital tools more consistently if they are to progress, but they will also need to upskill their workforce and address any collaboration issues internally. These three areas are crucial if asset and service data is to be utilised to its full potential and this will ultimately underpin the successful transition to an outcome-based business model.





# The Benefits of Automating Asset and Service Data Collection and Utilisation

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In addition to the smooth transition toward an outcome-based business model, the organisation-wide and bottom line benefits of automating asset and service data collection and utilisation are vast. The benefits are perhaps no clearer than when it comes to achieving minimal unplanned downtime, where over nine in ten (94%) respondents report that the automated collection and utilisation of asset service data will be absolutely fundamental or an important factor in actually achieving this asset specific benefit. A similar proportion (91%) report the same for improved first time fix rates.

## Plugging the Holes – Revenue Leakage

Further to this, 82% believe that automating asset and service data processes will be pivotal when it comes to lower leakages, and contract leakage is something that is causing a great deal of damage to organisations currently. On average, respondents' organisations are undertaking 187,470 work orders per year, but an estimated 8.34% (17,542 work orders<sup>1</sup>) of these work orders are left unaccounted for by engineers according to those respondents who know how many are carried out on a yearly basis. This can lead to huge financial deficits and wasted resources and is clearly a problem that organisations should be taking notice of if they want to remain financially viable.

The issue of contract leakage is proving particularly problematic for organisations in the oil and gas, and telecoms sectors – on average, respondents from the oil and gas sector report that their organisation carries out 228,261 work orders on a yearly basis, and those in the telecoms sector are undertaking 213,424 work orders. The level of contract leakage in organisations from these two sectors is staggering. The respondents from the telecoms sector who know the number of work orders being carried out per year, report an average leakage of 9.64% (26,321 work orders), and this is only slightly lower at 9.41% (23,093 work orders) according to those from oil and gas. It seems

unthinkable that organisations are unaware of such a gaping hole in their business, and it raises the question of what else could they be missing?

The process of automating asset and service data practices will not only benefit those involved in keeping track of work orders, but can have wider reaching benefits as well, exemplified by the 84% of respondents who agree that the successful utilisation of asset data can positively impact all areas of the business. The specific departments that are expected to benefit include, but are not limited to, sales (38%) and marketing (37%) who will be able to better leverage customer usage behaviour, finance (33%) who will be able to provide more accurate billing, and even corporate social responsibility (27%) who will be able to monitor the environmental impacts of assets more effectively.

## Bottom Line Benefits: Double-Digit Revenue Growth

While these organisation-wide benefits are impossible to ignore, the truly jaw dropping potential of automating the collection, aggregation and analysis of asset and service data comes from the bottom line benefits. On average, respondents estimate that this process and using it to drive new marketing, sales and financing models can increase their organisation's revenue by 14.15% over the next 12 months. In addition, it is thought that operational costs could be reduced by as much as 12.03%, on average. An increase in revenue and decrease in operational costs can only lead to one thing – increasing profit margins.

The figures around revenue and operational costs show slight variation by region, with those in the US and MENAT particularly confident about the revenue increases that their organisations will witness – average increases of 15.67% and 15.43% are forecast respectively. Furthermore, those from the MENAT region are almost equally as bullish about the prospects of reducing their operational costs, predicting an average reduction of 14.21%. This is likely to be at least in part

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<sup>1</sup> Please note that this average has been calculated using our survey software and therefore gives a more accurate average than using the amalgamated average figures provided in this whitepaper

down to organisations in the MENAT region starting with a clean slate – the region is currently booming with new business and they are less likely than their counterparts in Europe or the US to have existing legacy technologies in place which would slow down any transition towards the automation of processes. This in turn means that they can begin to witness the financial benefits almost immediately – exciting times for the MENAT region providing that any transition is rigorously planned and diligently implemented.

## Predicted financial benefits over the next 12 months

Region	Increased revenues	Decreased operational costs
US	15.67%	11.03%
MENAT	15.43%	14.21%
Europe	12.73%	11.43%

Another key way of making money is to improve cash flow and automating the collection and utilisation of asset and service data can also assist in this domain – over eight in ten (83%) respondents believe that the automatic collection, aggregation and analysis of asset service data could have a positive impact on their organisation’s cash flow over the next 12 months. But what about return on investment?

Ultimately organisations are going to have to spend a fairly significant amount of money on the automation of asset and service data processes which might put some businesses off, but if the reward outweighs the risk then this is surely going to be a worthwhile expenditure.

## Strong RoI

When taking into account all of the benefits that their organisation could experience, respondents believe that for every \$1 they invest in ensuring that they can automatically collect, aggregate and analyse asset service data they would expect a return of \$4.44, on average. Respondents from organisations in the US are even more convinced about the possible returns that they could experience, believing that this figure could soar as high as \$5.29. The potential returns dwarf the initial outlay and it is hard to imagine a stronger case for investing in this process in order to guarantee a better future for organisations.

## Return on investment

“For every \$1 spent, we’d expect a return of...”

\$ 4.44

**Figure 4:** Analysis showing the average return on investment that respondents’ organisations expect on every \$1 spent ensuring that they can automatically collect, aggregate and analyse asset service data, asked to all respondents (600)

These financial benefits all culminate in enhanced competitiveness within the industry, and 87% of respondents agree that the automatic collection and utilisation of asset service data will have a positive impact on their organisation’s ability to remain competitive in their sector.

This is crucial because the more that organisations across the globe begin to realise the value that this process can bring the more that asset and service data will be used, explaining why the vast majority (86%) of respondents agree that the more asset service data is used, the more value it brings to the organisation.

A success loop will inevitably be created, opening the door for those who are brave enough to take those initial steps to get a jump on the competition and put themselves out there as leaders in their industry.

# Conclusion

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Asset and service data is not an easy conundrum to solve, but if organisations can do so then they could see themselves rise head and shoulders above their competitors. The successful collection, aggregation and analysis of asset and service data requires internal skills, collaboration between departments and, realistically, the utilisation of tools that can automate the process. The automation element is key because it can help to identify weaknesses in the current methods such as contract leakage and can also lead to vast benefits with regards to revenues, operational costs and cash flow.

It is not only the prospective benefits that will be drawing organisations towards automating the collection and utilisation of asset and service data. The success of transitioning to an outcome-based business model depends on it. In outcome-based models, the organisation is responsible for ensuring that their customers always receive the right outcome via ongoing maintenance and support. They cannot do this without effectively collecting, aggregating and analysing asset and service data.

If organisations hope to foster improved relationships with their customers which increase loyalty, deliver tangible cost reductions, and increase profit margins, then they must take this transition to an outcome-based model seriously. The first step on this path to an outcome-based utopia is through the automation of their asset and service data – the rest of the transition will follow naturally thereafter.



Predix ServiceMax  
Field Service Software



### **About GE Digital:**

GE Digital is reimagining how industrials build, operate and service their assets, unlocking machine data to turn valuable insights into powerful business outcomes. GE Digital's Predix portfolio – including the leading Asset Performance Management and Field Service Management applications – helps its customers manage the entire asset lifecycle. Underpinned by Predix, the leading application development platform for the Industrial Internet, GE Digital enables industrial businesses to operate faster, smarter and more efficiently. For more information, visit [www.ge.com/digital](http://www.ge.com/digital).

### **About Vanson Bourne:**

Vanson Bourne is an independent specialist in market research for the technology sector. Our reputation for robust and credible research-based analysis, is founded upon rigorous research principles and our ability to seek the opinions of senior decision makers across technical and business functions, in all business sectors and all major markets. For more information, visit [www.vansonbourne.com](http://www.vansonbourne.com)

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