

White Paper

Everything As a Service: How servitization changes every business

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Introduction

Airlines want their planes to be ready for take-off and automotive manufacturers want to make cars that are ready to hit the road. Neither group is much concerned about which manufacturing technologies their suppliers use to help them achieve these goals, providing aero engines keep planes flying and vehicles keep rolling off the production line on time. That's where servitization comes in. With critical equipment suppliers agreeing to deliver the capability of the machine in terms of capacity & uptime, rather than simply selling machinery.

Of course, it's not just the aerospace and automotive industries that can benefit from this approach. Sectors as wide-ranging as offshore wind, white goods and food & beverage all stand to gain from servitization arrangements, with machine OEMs contracted to deliver, say the right number of bottles filled per month.

It's pretty obvious how a manufacturing company can benefit: a properly managed and resourced servitization contract effectively passes the risk of production hold-ups or other problems caused by breakdowns in operators' key machines back to equipment suppliers. However, it's a mistake to overlook the significant benefits that OEMs and other organizations throughout the supply chain can also enjoy, provided everyone is willing to embrace the greater openness that servitization demands.



A new take on proven best practice

Servitization is a great success in some niche areas and 'edge applications' such as aerospace, with Rolls Royce's 'Power-by-the-Hour' program arguably the most famous example.

'Power-by-the-Hour', a Rolls-Royce trademark, was invented in 1962 to support the Viper engine on the de Havilland/Hawker Siddeley 125 business jet. A complete engine and accessory replacement service was offered on a fixed-cost-per-flying-hour basis. This aligned the interests of the manufacturer and operator, who only paid for engines that performed well.

Other sectors such as agriculture and transport have also enjoyed great success with the servitization from tractors to trains, and today there is enormous potential to roll out similar arrangements across other industries.

What's more, many businesses in other sectors may be more familiar with servitization than they realize, having already adopted a similar approach when it comes to outsourcing peripheral activities, such as cleaning or building services. In essence, servitization simply extends that model to include functions that are central to the core business.



WHY OPT FOR SERVITIZATION?

For end users, servitization is typically part of a wider drive to increase operating efficiency and capitalize on opportunities in the market. Servitization can support these ambitions by reducing the risk of investing in new equipment, as well as increasing efficiency and slashing downtime. All this benefits the bottom line.

For OEMs, servitization improves relationships with end-user customers and increases transparency around how equipment is performing in the field. By deploying condition monitoring and predictive maintenance as part of the solution, OEMs can optimize their use of maintenance resources and spares. This is great news for OEM businesses looking to serve existing customers better, grow their customer base, control costs, and increase profit margins.

For companies further up the supply chain, servitization creates strong incentives to free up the flow of information in both directions. It helps foster better, more co-operative relations with OEM customers and can inform development efforts by providing valuable feedback on the performance of devices in the field.

OEMs should be the drivers for change...

OEMs are typically best-placed within the supply chain to drive servitization. That's because they're providing end users with critical assets that deliver the functionality users need to carry out their core activities. Whether we're talking about robots, CNC machines, presses, case packers or bottling machines, such systems need to keep working smoothly so that the end user's core business can thrive.

In theory it might be possible for the suppliers of subsystems or even components to offer end users a servitization model. But in reality, users are far more concerned with the critical functions that impact directly on their core business than they are with ensuring that every single bearing, seal or valve keeps delivering its optimum performance. In other words, they want to be confident that robots will keep meeting their welding targets or that bottling machines are meeting filling demand.





...but everyone can benefit

So suppliers of subsystems and components are unlikely to drive the servitization model forward. However, they should still prepare for the important role they play in supporting OEMs to deliver servitization.

In a classic OEM-driven servitization model, there will often be a pull from the OEM for a corresponding level of servitization of components. That transforms the conversation between OEM and supplier.

Servitization makes the OEM more focused on the performance and availability that its supplier can provide in the operating environment. Will a motor still be as reliable when the going gets tough, hot, cold, wet or dusty, for instance? This in turn means that there needs to be an open exchange of information in both directions. OEMs and their suppliers can take this opportunity to optimize supply chains and maintenance resources.

Suppliers looking to prepare for the evolving servitization market should be planning to offer smarter devices, complete with access to data in standard forms that make them interoperable. They should also remove any lock-in. That may sound counterintuitive, but a failure to open up and compete with adjacent suppliers could leave companies locked out of the selection process, since OEMs are increasingly incentivized by servitization to prioritize security of supply and redundancy.



Condition monitoring and predictive maintenance

The need for greater openness for the two-way flow of data and information throughout the supply chain also extends to end users. OEMs need access to plant information in order to monitor the condition and performance of their equipment in the field to ensure that it continues to meet agreed performance criteria. In fact, effective online condition monitoring forms the backbone of successful servitization because it enables predictive maintenance.

Ideally, condition monitoring enables the OEM to monitor assets remotely and predict when maintenance is needed. The system provides an alert in time for the OEM to act and avert any problem before it can impact on the end user.

For the end user, this means that the OEM only appears on site when needed. Even more importantly, it protects the performance of critical assets and minimizes downtime. For the OEM, it means that they don't waste resources (maintenance effort and spares) on maintaining assets that could continue running without a hitch for the next three months. Ultimately, of course, everyone benefits by not being left to deal with unplanned shutdowns.

True predictive maintenance has been tricky to achieve until quite recently, since it traditionally demanded huge amounts of time and expertise from data specialists to spot when problems were about to occur. That is now changing thanks to the arrival of systems such as Senseye, which relies on cloud computing and advanced machine learning algorithms to automate the entire process.





How Senseye can help

Senseye is at the leading edge of using advanced machine learning for condition monitoring. Its unique algorithms can turn data into an accurate prediction of the Remaining Useful Life (RUL) of manufacturing assets – a technique known as prognostics.

Senseye delivers proven results by enabling true predictive maintenance:



50%

Reduction in unplanned machine downtime



55%

Increase in maintenance staff productivity



85%

Improvement in downtime forecasting accuracy

This scalable system breaks down old cost barriers to condition monitoring and brings servitization business models within the reach of many more businesses. See how Senseye technology has lowered the barriers to entry into servitization.

Book a demo of Senseye today.



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ABOUT THE AUTHOR

Robert Russell is the Chief Technology Officer at Senseye. After graduating with a BEng in Mechanical Systems Engineering, Rob spent 20 years designing and deploying asset management and condition monitoring systems within the aerospace, defense and transport sectors.

Having a mechanical engineering background in the software sector has enabled him to bridge the gap between the end user and his software teams. Since 2015, Rob has guided the vision for the ongoing development of the world's first complete automated PdM and prognostic solution, built for the scale of the IIoT – Senseye.

About Senseye

Senseye™ is the leading cloud-based software for predictive maintenance. It helps manufacturers avoid downtime and save money by automatically forecasting machine failure without the need for expert manual analysis. Its intelligent machine-learning algorithms allow it to be used on any machine from any manufacturer, taking information from existing Industrial IoT sensors and platforms to automatically diagnose failures and provide the remaining useful life of machinery.

Visit <https://senseye.io/free-predictive-maintenance-webinar> to join an upcoming webinar to learn more!

