

## TELEMATICS CAN LEAD YOU TO BETTER INVENTORY LEVELS

**When do we need a part in stock? Well the simple answer is: when it is needed**

So, if the part is to be fitted at a workshop, then we need to get the stock to the workshop just before it is to be fitted.

The key, now and in the future, is when do we know that the part is needed, and where, and in what quantity? With telematics and even service booking apps, we can know what is needed in each workshop or sub-region potentially days in advance.

Imagine workshop systems being integrated with the various supply systems and with the vehicle records, and even with records held in the vehicle (a little like human medical records). Afterall, if a Caterpillar dozer can sense when there are too many particulates in the oil and send an alert, why not a Commodore?

This ability to use advanced warnings means, especially for low demand parts, that we can position parts in the main DC or in regional or sub-regional warehouses, and these can be called down into the network ready for delivery to the branch or warehouse from which the final delivery to the requiring workshop can be made.

Just imagine that we have a part where we normally get a day or two of warning and we have ten warehouses that are all averaging about one sale year. Do we stock one in each of the ten warehouses? Or better, do we stock perhaps two or three in a central DC or regional super-branch and ship when needed? For low demand, expensive parts, the answer is very likely to be the latter, and the inventory savings could be very large.

This is something that is well understood in many industries. Many years ago now, one of our clients had a branch in a mining region and when we implemented advanced inventory management for that branch, the recommended inventory levels were reduced by 60 to 70 percent. This was because the bulk of the demand for parts from this branch were for preventive rather than breakdown maintenance. Afterall, you simply do not decide to strip down a conveyor belt on a whim. This sort of maintenance is planned weeks and even months in advance - more than enough time to shift parts from a central DC to the requiring branch.

It might sound simple - all you need to know is when the part is needed. However, you need an inventory planning system that can use the right intelligence from your ERP to position the inventory in the required places to be fully effective. So, what does your inventory planning system really need to be able to do?

### It starts with intelligence

Some breakdown parts will be needed immediately, because the need might only be

appreciated when the car is literally on the hoist. However, for other wearing parts that can be recognised as needed by telematics sensors on the vehicle, and for many service parts, the need can be known days in advance. Over time you can then factor in the usage patterns and start to use this intelligence in making much smarter estimates of when and where to hold inventory and in what quantity.

For example, in the forecast graph, the historical demand can be classified into what needs to be 'covered' at a warehouse, and what is either too big or has a long enough customer lead time to be sourced from an upstream warehouse.

In the forecast graph illustrated, the green columns reflect long lead time orders. They are judged as 'long lead time' as there would have been sufficient warning given by the workshop or business ordering them to source them from a warehouse higher up the supply chain. The effect of this can be seen in the extract of a short report below:

Total number of orders	=	175		
No. orders after remove long l/t & abnormal	=	76	43.4%	
Number left after remove large orders	=	73	41.7%	41.7%
Total quantity in orders	=	341		
Quantity after remove if long lead time	=	168	49.3%	
Quantity after remove large orders	=	124	36.4%	

By taking account of the customer's lead time information, the amount of demand that has to be serviced from a warehouse is more than halved in this example. Start with 175 orders, but if you take out 99 which have longer lead times then you need a lot less inventory. And if you also exclude really BIG orders (another three) that are probably for stock orders anyway, you can reduce planned stock levels even further. Worth looking at? Maybe ask the CFO?

### What else is needed after we know the lead time?

Of course, it is not quite that simple. Consider the following:

- If you have a very low-cost part, holding the inventory higher up the supply chain may create an onerous amount of extra handling which would totally undo all the carrying cost savings from lower inventory holdings.
- Parts will behave differently. For example, different parts may get more forewarning via capabilities like telematics or service booking apps. The prizes are most likely to be in the



high cost parts with sufficiently long customer lead times. Haven't got time to find them? Well, no, your inventory management system ought to be able to find them for you.

- Telematics could also help you understand how a range of parts is wearing. Might you be able to understand when warranty claims will hit you, or aftermarket replacements could emerge as an opportunity?
- It does not necessarily have to be something like telematics either. What about when a panel shop quotes for an insurance repair of a motor vehicle? Even if you know that one repairer is not necessarily going to win a job, even the price and availability enquiry might be a trigger to ensure you have stock positioned and ready.

Obviously these capabilities have to be automated as much as possible.

Inventory optimisation has to be driven by a set of policies and an optimisation platform that can consider the many factors that really should inform such a decision.

### Where is this leading?

With apps and telematics becoming more available to help give you earlier visibility of when stock might be needed, can you afford to ignore this extra intelligence? The service level expectations of your customers are also on the rise. When Elon Musk is suggesting that twenty-fold increases in the speed of production lines are possible, can anyone afford to sit on their hands when it comes to utilising all the tools at their disposal to make sure they are as competitive as possible? Information + Optimisation can equal a lot of Value - are you positioned to take advantage of new information as it becomes available?

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