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Inventory Optimisation – Change is Not Optional

Have inventory strategies changed that much since supply chain problems entered the equation, and does demand forecasting help to mitigate certain supply challenges?

By David Dundas

Unexpected Aircraft on Ground (AOG) instances are every carrier's nightmare, and costly in the extreme. Whether a carrier performs MRO operations in house or contracts them out to a specialist operator, when an aircraft is grounded and requires repairs, speed is of the essence. Aside from the fact that it is not generating any profit while on the ground, if an aircraft is on lease, then you are losing anything up to US$15,000 per day on top of that for, say, an A320 or 737MAX.

For MRO operators, there are the standard challenges faced with having to hold inventory for hugely expensive parts and whether to opt for used serviceable material (USM), original equipment manufacturer (OEM) parts, 3-D printed parts or risk sourcing on an as-and-when-needed basis. There is then the question of how much reliance to place on external pools, as well as trying to identify where inefficiencies lie.

To cover every aspect of inventory management it would be possible to write something that might challenge Leo Tolstoy's *War and Peace* in terms of length, so for now we decided to concentrate on asking a number of professionals on the front line for their thoughts on areas of the supply chain that are undergoing radical changes.

How has the post-pandemic recovery and supply chain volatility changed inventory strategies?

Here we wanted to find out if, post pandemic, and with the latest challenge of supply chain shortfalls, we have only seen the instigation of reactive changes to inventory strategies, or whether those reactive changes have morphed into proactive adjustments.

According to Rhiannon Sheppard, VP Engine Supply Chain, AerFin Ltd, "In the immediate aftermath of COVID-19, many operators moved towards a more defensive, "just-in-case" approach - increasing stock levels to protect against disruption, long lead times, and constrained supplier capacity. As repair networks have recovered and supply chains have become more predictable, that position is shifting. We're now seeing a move away from bulk stockpiling towards more balanced, demand-led planning. Inventory is being managed with greater precision, using structured approaches such as EOQ models and consignment stock to optimise availability without tying up

unnecessary capital." She then concludes that: "The focus today is on agility. Rather than reacting to uncertainty, businesses are building more responsive supply chains that can adapt as conditions change - maintaining reliability while improving working capital efficiency." To add to this approach, Lindsay Cooper, Head of Asset Management at the AJW Group tells us that: "The industry has moved from lean efficiency to resilience and optionality. Where businesses may previously have been selective about inventory sources, there is now far greater openness to alternatives such as USM, driven by the need to maintain service levels in a constrained supply environment." She then adds: "At AJW, we've responded by taking a more balanced and deliberate approach to inventory, not just investing in stock but investing in the right stock. That means aligning short-term availability with long-term value, improving collaboration across the supply chain, and continuously refining how we manage and position inventory globally."

Morten Espenhein, Chief Operating Officer & Co-founder of Corax is very clearly of the opinion that there have been significant changes since the pandemic, pointing out that: "In today's market, the focus is on having stock readily available, which means maintaining higher buffer levels to prevent shortages of high-demand components." Meanwhile, Eoin Doherty, Pricing Director at EirTrade Aviation delves a little deeper into what is causing changes in how inventory is manages, including the broad-reaching effects of delays in aircraft deliveries. "Following the COVID-19 pandemic, the production of new aircraft material faced significant delays from the OEMs. It also resulted in Used Serviceable (USM) material becoming more expensive driven by the lack of supply to keep up with the demands of the industry. OEM inefficiencies during this time also meant longer lead times, which benefited parts traders and suppliers of used serviceable material, making the market for harvested parts from teardowns a lot stronger," he advises, before acknowledging that "... many airlines have chosen to extend current leases to alleviate the delay of new aircraft deliveries. To optimise the operation of these more mature aircraft, operators have become more receptive and focused on the repair and purchasing of USM, instead of replacing them with new surplus components. As a result of all this, parts trading companies like EirTrade Aviation ensure their inventories are sufficiently stocked with high-demand material in serviceable condition, to support asset owners during critical and AOG requirements."

Ashley Neeley, VP Product Services, Inventory Locator Service

Beyond the above, Ashley Neeley, VP of Product Services at Inventory Locator Service (ILS) acknowledges that: "Post-pandemic supply chain volatility has pushed some airlines away from lean, just-in-time inventory models toward more resilient, buffer-based strategies... or 'just-in-case availability without just-in-case ownership'". However, she also suggests that: "To balance out the added cost and risk of holding more stock, airlines are getting creative. Some are offloading certain parts packages or using consignment models, so they can access what they need without tying up as much capital. At the same time, there's a shift toward shared, network-based inventory, where suppliers and MROs manage pooled stock across multiple operators," before concluding: "Overall, I believe the priority has shifted. It's no longer just about minimising inventory. It's about making sure the right parts are available when and where they're needed to keep operations running smoothly." James Roché, SVP Global Parts Trading, Setna iO on the other hand has identified USM as a key area, commenting that: "The post-pandemic recovery, combined with persistent supply chain volatility, has fundamentally shifted airline aftermarket inventory strategies from lean, just-in-time models toward resilient, buffer-heavy approaches. OEM production delays, extended repair turnaround times, and labour shortages require airlines to increasingly rely on the Used Serviceable Material (USM) aftermarket to ensure component availability amid shortages. USM has transitioned from a pure cost-saving tactic to a frontline availability strategy. With production delays from Boeing and Airbus and persistent new-generation engine issues there have been slower retirements. With ageing fleets come more maintenance occurrences, further increasing component demand. As the aftermarket looks to secure component and material supply for airlines, competition for end-of-life assets continues to increase." He then adds that: "In addition, many airlines and lessors who traditionally would not accept PMA parts or DER repairs have shifted their policies due to OEM shortcomings. In the MRO space, these are becoming more common place to ensure faster TATs and increase overall component reliability. The focus has moved from minimizing holding costs to balancing availability risk." Tony Kondo, President and CEO, Werner Aero, LLC is of a like mind to Roché when he explains that: "Because of both factors, there are less available aircraft for teardown (because there is strong demand for used aircraft as a 'flyer') and less availability of USM. Also, because of supply chain volatility, some parts from OEMs tends to have very long TAT, so we see there is more demand for USM than pre-pandemic."

What data inputs are most critical for accurate demand forecasting?

With this question, we wanted answers to focus on a proactive as opposed to reactive element of inventory management,

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and that is the challenge of demand forecasting, and in particular which data inputs are the most critical.

Lindsay Cooper gives us an excellent overview of the entire forecasting scenario. "Forecasting starts with clean, reliable demand history, but it's the context around that data that drives accuracy. We don't just look at what sold; we break demand down into routine consumption, high-frequency items, and AOG-driven events, because each behaves very differently. Treating them the same is where forecasting often goes wrong. Beyond that, operational data is key - flight hours, cycles, fleet plans, and maintenance schedules. Through our PBH (Power-By-the-Hour) programmes, we gain visibility of upcoming events, which allows us to move from reactive supply to proactive positioning," she informs us, before rounding off with a word of caution: "Ultimately, it's not one dataset that matters most, it's how well you connect them to build a realistic picture of future demand." For Craig Skilton, VP Components, APOC Aviation, it isn't so much a question of quantity of data but more about its integration. "Accurate demand forecasting relies on the integration of multiple, high-quality data inputs rather than solely being based on historical consumption alone. As a supplier, we at APOC consider inputs from our customers such as utilisation, removal trends and maintenance schedules. From an MRO standpoint, we need to consider OEM Service Bulletins and ADs, supplier turnaround times and capacity. It is also important we consider external factors, which can have a considerable impact on demand, especially given recent global conflicts. The challenge isn't always a lack of data but rather the integration of data across various different inputs and systems."

For Morten Espenheim, agility seems to be a key factor, acknowledging that: "Historical demand is essential, but it's just as important to apply sound judgment to any model. That means factoring in real-time demand drivers such as sudden OEM supply chain disruptions, geopolitical developments, or overnight tariff changes. Ultimately, success comes down to staying agile and being able to respond quickly to minimise inventory risk." That said, Eoin Doherty looks at two additional areas in detail. "EirTrade relies on real-time market data and trading activity to help forecast component demand accurately. With the help of our internal ERP system and historical data, we can forecast the demand for USM by analysing requests for quotes (RFQs) for components, historical sales history & frequency, current inventory levels and pricing fluctuations. Component scrap rates and failure rates also provide a good indication of component failure rates. Through the analysis of all these data points, we can accurately forecast demand and have various components ready to go on the shelf for critical requirements," he says.

Over at ILS James Scott, VP of Information Services looks at the situation from both the consumer- as well as the supply-side of the situation. He points out that: "The most critical inputs for accurate demand forecasting start with buyer-intent data. Search activity, including part-number lookups, keyword trends, and repeated searches for the same components, often provides the earliest signal of rising market interest. RFQ volume is equally important because it reflects stronger buying intent, especially when measured by part number, condition, quantity, and urgency. In an aviation industry where many transactions still move offline through phone, fax, and email, these marketplace signals are especially valuable because they reveal demand patterns even when final order data is not fully visible." He then adds that: "Just as important are the supply-side and market-response inputs that help explain whether demand can be met. Quote activity, including no-quote rates, supplier response times, and price variation, can indicate tightening supply or growing urgency in the market. The number of active suppliers per part, visible inventory, lead times, and inventory updates—especially decreases in available quantity that may suggest fulfilment—also provide important forecasting context. To make these signals accurate, they must be supported by clean part master data such as normalised part numbers, interchangeability, condition codes, and aircraft applicability. Together, these inputs can provide a clearer view of demand by combining buyer behaviour, supplier responsiveness, and market availability."

James Roché acknowledges the challenges demand forecasting comes with, noting that those with access to information have an edge in predicting accurate component demand. He points to six critical data inputs as being: "1. Aircraft utilisation metrics: Flight hours, cycles, and daily utilization rates, which directly correlate with part wear and failure probability. 2. Maintenance schedules and history: Scheduled checks (e.g., C-checks, D-checks), unscheduled events, and back-to-birth traceability records for serialised parts. 3. Fleet composition and age data: Aircraft type, age, configuration, and retirement forecasts, as older fleets drive higher and more variable demand. 4. Historical demand and consumption patterns: Time-series data on part usage, including intermittent "lumpy" demand for high-value rotables, adjusted for AOG events. 5. Repair and supply chain variables: Current TATs, repair queue data, OEM lead times, and supplier performance metrics. 6. Real-time operational/sensor data: Engine and component health monitoring, predictive maintenance alerts from sensors/IoT, and market trends (e.g., route changes or utilisation spikes)."

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To round off the answers to this particular question, Rhiannon Shepperd discusses the merits of combining elements to create effective models: "Strong forecasting starts with a clear view of historical demand - understanding usage patterns, seasonality, and recurring trends. But on its own, that's not enough. Real-time operational data is just as important. Inputs such as shop visit rates, component removals, and utilisation trends give a much clearer picture of near-term demand and help ensure inventory is positioned where it's needed. OEM-driven inputs also play a key role. Airworthiness Directives, Service Bulletins, and repair developments can all shift demand quickly, so they need to be factored into any forward view. The most effective models bring these elements together - combining historical insight, live operational data, and forward-looking triggers to create a forecast that is both accurate and responsive."

What are the biggest inefficiencies today: overstocking, understocking, misallocation, or data quality?

We suspected that data quality may well be a primary consideration here, but we were interested to see if responses would see data quality as an inefficiency alongside overstocking, understocking and misallocation, or whether these three elements were affected by data quality.

Among other concerns, Eoin Doherty includes documentation problems for retired aircraft in terms of part traceability. "Stocking issues in general can cause large inefficiencies. A common issue is overstocking low demand components due to large volumes of certain aircraft being retired, or some components becoming obsolete. EirTrade notes that component demand can fluctuate quickly as more of the same aircraft type are retired. This can have a negative impact on storage space and result in sunk costs if these parts are repaired or overhauled. On the flip side of this, parts traders need to anticipate the demand for stock items which often need to be replaced because of high failure rates, and long lead times. Other inefficiencies can include poor quality data from technical records which can hinder the purchasing of components and assets. The standards of technical paperwork and records have become increasingly important in recent years. However, when aircraft are being retired, much of the documentation that requires complete traceability is either difficult to obtain or has inconsistencies in the record history. This increases the time to conclude transactions and increases the risk of transactions failing due to documentation issues."

For James Roché, Ashley Neeley and Rhiannon Sheppard, once again the quality of the data is key, as Roché explains: "Todays biggest inefficiency stems from data quality. With perfect information, forecasters could make perfect decisions on stocking material to have the right component, at the right place, at the right time. However, OEMs, airlines, MROs, and the aftermarket have limited scope to data availability through the whole supply chain to make perfect decisions. Due to this, many of the decisions that are made are educated guesses. With many aging ERP systems and siloed data, it is challenging to paint a perfect picture of demand, so many components are overstocked, understocked, or misallocated." Ashley Neeley believes that: "... the biggest inefficiency in aviation today is poor data quality, which drives many downstream problems across inventory and operations. Because systems are fragmented and data is inconsistent, companies can struggle with accurate forecasting and real-time visibility. This leads to misallocation, where parts exist within the network but are in the wrong locations, often causing costly AOG situations. To compensate for uncertainty, companies can overstock inventory, tying up capital, while still experiencing pockets of understocking when critical parts aren't available where needed." Last, but not least, Sheppard sees data sitting at the centre of all the challenges mentioned. "Overstocking, understocking, and

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misallocation are often symptoms - the root cause is incomplete, inconsistent, or poorly structured data. As the industry moves towards more automated and AI-driven forecasting, the reliance on accurate data has only increased. Without it, forecasting models become unreliable, manual intervention increases, and decision-making slows down. When the data is right, inventory can be managed with confidence - stock is held at the right levels, in the right place, at the right time. When it isn't, inefficiencies quickly follow. Getting the data foundation right isn't a technical detail - it's fundamental to making inventory strategies work," she shares with us.

Lindsay Cooper feels that all four elements are linked, suggesting that most issues stem from data quality and decision-making discipline. She adds that: "If your data isn't right, you end up overstocked in the wrong areas, understocked where it matters, and constantly repositioning inventory to compensate. That drives cost and impacts service. The real challenge is misallocation of capital. Holding inventory isn't the problem, however, holding the wrong inventory is. The focus must be on understanding what truly moves, what supports your customers, and what is simply tying up cash. Getting that balance right is where strong inventory management adds real value." Tony Kondo is of the opinion that there are not a lot of airlines who buys USM for future utilization based on plan / prediction. Therefore, he sees more of the AOG type of requirements and thinks that from an efficiency point of view, "... airlines in general should buy more USM for future utilization to avoid AOG situation, which eventually costs more," he suggests.

How do pooling agreements influence internal stocking levels?

We were curious to see if the responses to this question would reveal if pooling agreements were a positive alternative to individual management of stocking levels, or if they were a solution where effective inventory optimisation was proving problematical.

Pooling agreements (including traditional rotable pools, consignment programs, repair-by-the-hour bundles, and virtual/data-driven pools) significantly reduce internal stocking levels by shifting from full ownership of redundant spares to shared, on-demand access. Instead of each airline maintaining its own complete set of high-value rotables at every station, operators contribute to or subscribe to a centralized managed pool. James Roché at Setna iO continues by advising that: "The operator pays predictable fees they can budget around in exchange for rapid dispatch. When a part fails, the pool supplies a serviceable unit; the unserviceable core returns for repair and re-entry. This eliminates duplicate capital investment, lowers holding costs, improves cash flow, and slashes AOG downtime. The net influence: internal stocking can drop dramatically—especially for smaller fleets or high-cost rotables—freeing capital while maintaining or improving service levels. Challenges like long-term commitments, quality/ownership concerns, and administration have limited broader adoption." Pooling allows airlines to rethink how much inventory they need to hold themselves. With access to a defined pool of components under agreed service levels, operators can reduce internal safety stock and rely on shared availability instead, Nick Breeze, VP Airframe Supply Chain at AerFin Ltd suggests, before expanding further: "This has a direct impact on capital. Fewer owned assets mean less cash tied up in inventory, particularly for low-utilisation or slow-moving parts that are more efficiently covered through a pool. There are also operational benefits. Reduced internal stock lowers warehousing requirements and simplifies logistics, while responsibility for repair cycles, movements, and exchanges shifts to the pool provider. That allows internal teams to focus on keeping aircraft flying, rather than managing assets. Pooling also limits exposure to risks such as obsolescence or SB/AD-driven changes, as ownership - and therefore depreciation risk - sits with the provider."

Meanwhile, at AJW Group, Lindsay Cooper feels that pooling and PBH agreements fundamentally shift inventory from a reactive model to a planned and structured one, adding that: "With visibility of fleet plans, utilisation, and maintenance events, we can build stock profiles that reflect expected demand rather than historic averages. That allows us to position inventory ahead of requirement, improving both availability and efficiency. At AJW, tools like Apollo support this by applying probabilistic modelling, helping us balance service levels with capital investment. The objective is simple: deliver resilience without overstocking." At EirTrade Aviation, Eoin Doherty makes a salient point when he mentions about components that rarely fail. "Some operators rely heavily on pooling agreements with third party providers to maintain the availability of parts for replacements, especially during AOG events. This means that airlines can have access to material with a third-party provider, instead of having to stock the inventory themselves. This can be particularly helpful when a component which rarely fails needs to be replaced, operators have faster access when this failure occurs. EirTrade observes that these pooling agreements can also benefit airlines by reducing the amount of capital that needs to be tied up in stockpiling inventory."

At ILS, Rob Suhs, the company VP of Global Sales sees pooling as a tool for

Eoin Doherty Pricing Director, EirTrade Aviation

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access, not a replacement for inventory strategy. He feels that its real value is that it gives operators a way to access high-value, lower-frequency material without having to own every unit themselves, adding that it can lower the capital tied up in inventory, but in the current environment, he does not think pooling is driving broad de-stocking. He goes further, saying: "What I am seeing instead is a more selective approach to internal stocking. Operators still need to protect the parts that are truly dispatch-critical or time-sensitive, especially when supply conditions remain uneven. So, the stronger model today is a hybrid one: hold the inventory that directly protects the operation, and use pooling to add flexibility where ownership is less efficient. That is also where market visibility becomes much more important. The better informed you are about supply options, the better decisions you can make about what to stock internally, what to source externally, and where pooling makes the most sense." To conclude, Tony Kondo at Werner Aero and Morten Espenhein at Corax both have succinct responses. "That will reduce stocking level for sure, but it does not necessarily mean cheaper option overall. There are airlines who do not have a pooling agreement but manage stock levels very efficiently based on future usage predictions," says Kondo, while Espenhein adds: "Airline demand is treated as actual demand. Any pooling agreements they have are already factored into the determination of stocking levels."

Lindsay Cooper, Head of Asset Management, AJW Group

What are the operational risks of over-relying on external pools?

It is rare that any solution to a problem doesn't have additional factors that have to be taken into consideration. That is very much the case with over reliance on external inventory pools, as you will discover from the responses below.

"Operators may become dependent on their provider's inventory depth, forecasting capability, and financial stability and any weakness in these areas directly impacts their own operations. By relying on shared inventory models, they have less individual buying power compared to large-scale providers, like AJW, which can affect pricing, priority access during supply constraints, and the ability to influence stock positioning decisions. In short, the risk is dependency. Operators lose the flexibility and must trust that their provider's forecasting models accurately

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anticipate their needs, making them more vulnerable to disruptions that fall outside their provider's standard forecasting assumptions," Lindsay Cooper warns us, while Morten Espenheim is equally cautious when he advises that: "Relying on external pools and providers carries significant risks, as it means losing control over ensuring a streamlined product flow through a third party. Timely delivery could become an issue, and gaining immediate visibility and updates on the status may also be challenging."

Eoin Doherty continues the cautious theme, identifying risks in several different areas. "The potential risks of relying on pooling agreements are varied. If, for example, the demand of a particular component spikes across a certain fleet due to SBs/ADs, reliability issues or any other reason, the availability of acquiring a replacement may become more limited. Also, depending on the location of the parts, the response time may be slower than if the part was held in stock internally, especially with possible customs or logistics delays. There is also a lack of control for the operator when it comes to inventory ownership. The provider could prioritise other parts, or other customers, which may cause delays for certain airlines." Rob Suhs, however, sees positivity as well as the need for caution. To begin with, he sees that: "... the biggest risk is loss of control. A pool can work very well when conditions are stable, but when the market tightens, the question is no longer whether a part exists somewhere. The question becomes whether it is available in the right place, at the right time, with enough certainty to protect the operation. That is where over-reliance can become a problem. If too much of your strategy depends on outside access, you can end up exposed to slower response times, lower priority in a constrained environment, and higher AOG risk when multiple operators are competing for the same material." However, he also believes that: "... pooling is most effective when it is part of a broader resilience strategy, not the entire strategy. Operators still need enough internal protection, enough sourcing flexibility, and enough visibility into alternatives to avoid turning an external pool into a single point of failure."

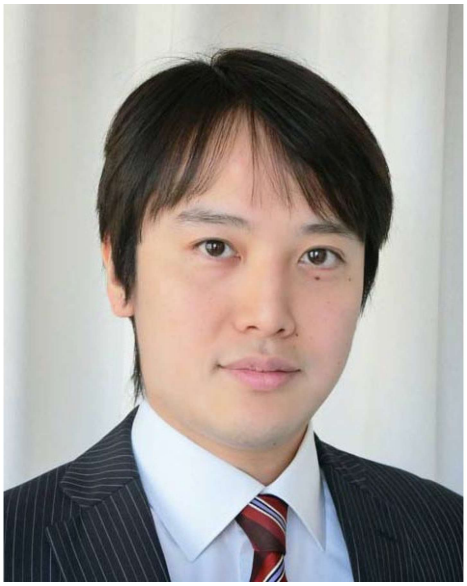
James Roché takes a pragmatic view in terms of the risk-reward balance. He explains in greater detail: "Although external pools can reduce capital tied up in inventory and improve overall availability for high-value and intermittent-demand parts, over-relying on external pooling agreements introduces several operational risks including loss of direct inventory control and prioritisation (especially for larger pools on scarce assets). Long tail costs such as penalties for BER cores and late core returns can add unplanned costs to the pool agreement. In practice, many operators mitigate these by maintaining minimal internal buffers for critical items, diversifying across multiple pool providers, or blending pools with owned/leased stock. The risk-reward balance favours pooling for most rotables, but over-reliance without contingency planning can turn availability advantages into operational vulnerabilities." Once again Tony Kondo gives us a succinct response, this time to encapsulate the risk of over reliance, when he says: "A pooling agreement always has a level of guarantee of availability, but it's not always 100%. Therefore, it's better for airlines not to over-rely on external pools."

How do you see AI influencing spare parts forecasting?

It is impossible to avoid the influence of AI in business today, but it is still in its infancy as everyone comes to terms with its capabilities as well as its limitations. The MRO industry is no different, and the effects it is having on inventory management are already profound. However, on has to ask if these effects are foolproof, or simply improvements on a far-from-perfect set-up?

Tony Kondo cuts straight to the chase when it comes to hurdles AI will face. "AI will help airlines / USM players to analyse data for sure, but the difficult part of this industry is that we not only deal with a huge variety of parts, but also the requirement for each part is limited. Therefore, there are a lot of factors impacting on supply / demand of each part, which is hard for AI to predict based on past data, so this is where only experience will give us the right answer," he advises. Rhiannon Sheppard sees AI as neither a replacement for fundamentals, nor a shortcut, pointing out that: "AI is already starting to reshape how forecasting is approached. It allows operators to move beyond static models, analysing large and complex datasets to identify patterns, adjust forecasts in real time, and respond more quickly to changing conditions. This can drive more accurate demand planning, with automated adjustments to reorder points and replenishment cycles helping to maintain availability while reducing excess stock. But AI isn't a shortcut. Its effectiveness depends entirely on the quality of the data behind it. Without strong data governance, even the most advanced models will produce unreliable outputs. Used properly, AI is a powerful enabler - not a replacement for good fundamentals, but a way to strengthen them and make inventory management more responsive and efficient."

In a market where capital efficiency and availability are both critical, that ability to balance service, risk, and investment in real time is where AI delivers a genuine competitive edge, Lindsay Cooper confidently believes, based on the fact that "AI is already reshaping forecasting; but the real differentiator is how effectively it's applied in a commercial environment." She adds that "AJW has developed its



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own in-house optimisation tool, Apollo, which goes beyond traditional forecasting. By applying probabilistic modelling, we're not just predicting demand, we're quantifying risk, understanding variability, and making ROI-driven inventory decisions. What sets us apart is the combination of data, technology, and real operational insight. We're integrating inputs from PBH programmes, fleet plans, and live demand signals to continuously refine how and where we position inventory across our global network. This allows us to move away from static forecasting models and towards a dynamic, decision-led approach to ensure we're not just reacting to demand but actively shaping our inventory strategy around it." Craig Skilton is one of many who have, throughout this topic, touched on the adage of "rubbish in : rubbish out" in that AI has to be trained on accurate data, or else... "AI is expected to be transformative, particularly in moving from reactive to predictive inventory management. Machine learning models can be used that incorporate real-time operational and environmental data, whilst the addition of predictive maintenance further enhances the quality of that output. The transformative change is however dependant on high quality, structured data and being able to share data in a constructive, collaborative manner across engineering, supply chain and MRO," he says.

Greg Creekmore, Regional Sales Manager at ILS would seem to be a proponent of there being no substitute for experience, although he does see "... AI taking a lot of the guesswork out of spare parts forecasting, which has always been part science, part experience. It builds on historical usage and seasonality but goes further by processing far more variables and surfacing patterns you'd otherwise miss, like failure trends, shifts in demand, and early reliability signals," then adding that: "That lets one forecast more accurately and adjust stocking before issues hit operations. It also helps strike a better balance between availability and cost, so operators can run leaner without increasing risk. Tools like ILS add another layer by bringing in real-time market data and sourcing visibility, strengthening both forecasting and supply decisions." He concludes: "That said, AI doesn't replace experience. It's a tool. You still need someone who understands the operation, the fleet, and AOG realities. The best results come from combining AI, trusted data sources like ILS, and practical judgment."

Morten Espenheim, COO & Co-Founder, Corax

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James Roché sees AI changing the landscape from one of a reactive nature to a proactive one as he explains: "AI is rapidly transforming spare parts forecasting in the airline aftermarket from reactive, history-based methods to proactive, multi-dimensional predictive models. AI ingests continuous streams of data and consistently iterates on itself at speed that humans are incapable of. AI can pull from IoT sensors, flight data, predictive maintenance alerts, repair queues, and external factors (supplier TATs, OEM delays, MRO lead-time, market trends) to make accurate real-time decisions. Models auto-retrain with fresh data, shifting from static forecasts to living predictions that adjust for emerging patterns." And to conclude the article, Morten Espenheim has some very sage words of advice. "To some extent, yes, it can be useful. However, from our perspective, common sense will always outperform AI when it comes to managing inventory in the aviation aftermarket. A prime example is the 1906 experiment on the "wisdom of the crowd": if everyone blindly followed the crowd, they would end up stocking the wrong inventory. The real advantage goes to those who apply an extra layer of common sense on top of AI insights."

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