SEPT 25 - 28 2023

Airside Fleet Sustainability Combatting Supply Chain Issues





New Vehicles and Equipment with Electronic/Digital Systems

500+ Days?

What are the problems with supply chain in vehicle and equipment industry? The biggest challenge facing global supply chains is *instability*. Recent disruptions have led to delays in the delivery of critical components — in particular, microchips —and price peaks due to high demand and low supply.



500+ Days?

Will the Chip Shortage End in 2023? Here's What Experts Say

How long will the chip shortage last?

Is the semiconductor crisis finally over? Some chip shortages could remain through 2023 and into 2024, though supply of semiconductors and raw materials will generally improve in the auto sector. April 18, 2023 J P Morgan

People also ask:

Is the chip shortage still happening?

Sam Fiorani, vice president of global vehicle forecasting at AutoForecast Solutions, told reporters that he believes the industry will see 2-3 million units cut from production in 2023. Sep 6, 2023



500+ Days?

Parts & Support

Emergency (i.e. ARFF) & Operational Priority Vehicle Fleets (i.e. SNIC) must be kept in service:

New, capital kit deliveries have been delayed, reducing the ability to retire or delegate to reliable standby 'sparing' of equipment being replaced.

There's been difficulty in sourcing spare parts, and in some cases, OEM or vendor support for inoperative kit.



Parts & Support

After unsuccessful normal sourcing of parts from your vendors, OEMs and normal suppliers, and from your peer to peer sources, ...





500+ Days?

Parts Nothing new here for most of our airport tech support Teams

Broken, or worn beyond serviceable parts can be 3D scanned, with modern scan-to -CAD software assisting in re-creating CAD to CADCAM or additive manufacturing







Parts damaged or worn beyond dimensional evaluation:

Sourced from another vehicle in your, or your friends' ^(c) fleets that is scannable, or can be used to create 'as-built' dwgs, then CAD, (for manual or CADCAM mfg.) drawings











In many cases it will make sense to go to a 3D printing shop that specializes in, or is capable of quick and efficient one-off, or prototype additive manufacturing. Might save on costs as well, as some, or all of the time consuming forging, casting, and machine shaping operations may not be required.





500+ Days?

Parts damaged or worn beyond dimensional evaluation:

In an emergency, 'borrow and replace with new' from another source, eg. another airport or vendor with used/salvage kit: (old fleets are being scrapped for parts)







Obsolete or unavailable electric/electronic/computer/hydraulic etc. parts:

If in-house or peer to peer assistance unavailable, reach out to a trusted OEM vendor or SME of equipment/systems to help cross reference or design a subsystem. Thomasnet if you have enough spec info.





CAPEX Challenges & Solutions

Refresh, rebuild, budget, cash, rent, rent to own, operating lease, capital leases, and relatively new to our industry, pay per use.













 Pay only for equipment use – better alignment of CAPEX and O&M

 Telemetry-driven billing & equipment use insight

 Enable refresh/upgrade of fleet without significant upfront investment



Potential to:

- Preserve Capital Budget for other needs
- Eliminate burden of ownership
- Off-balance sheet treatment of assets







- Do your business' equipment needs change seasonally?
- Are your CAPEX and long term LCC and benefits misaligned?
- Do you need more assets than your capital budget may allow?
- Have you experienced issues getting the assets you need when you need to use them?
- Have you recently acquired equipment that you would prefer to pay for only when they are in use?

- Pay for equipment use better alignment of cost & revenue
- Telemetry-driven billing & equipment use insight
- Enable refresh/upgrade of fleet without significant upfront investment
- Potential to:
 - Preserve Capital Budget for other needs*
 - Eliminate burden of ownership*
 - Off-balance sheet treatment of assets*

*Accounting treatment subject to individual auditor opinion. All participants should consult their financial advisors to determine specific accounting / tax treatment.

It is sometimes very costly to continuously exercise and certify our old hanger queens to a condition where we feel we will be able to rely on their operational viability if we have to because of a breakdown, or to complete scheduled or unscheduled maintenance/repair.









A possible hi value and robust solution might be to have airports in an area join in a cooperative effort to store, maintain and exercise a newer, current technology vehicle(s) that can be made available to the cooperating airports



Regional placements might be available as a pay per use solution / FMV buyout, or other creative 'financing'.

Several airports sharing new '<u>spare</u> equipment'



Participation costs of regional placements might sometimes be much less than yearly refreshing, repairing, certifying each airports individual stand by units.

A supply partner might agree to put in an additional spare, and 'store' properly (i.e. dry, heated, properly PM's and maintained, ready for deployment) for each X # of regionals i.e an ARFF truck for each 3 regions would have a spare at partner?

Making a comprehensive study and evaluation of this potential Fleet Readiness and Sustainability consideration, for many airports this would likely be a revenue positive solution by a reduction in normal standby equipment readiness costs.

One of the most important benefits would be that proper inspection, monitoring and maintenance would be built into the cooperative agreements. i.e. pay per use, etc.

Each of the participating partners could have almost instant use of a new, or nearly new, current technology vehicle or equipment less than 5 years old, with the only hours on the machine being those while 'rented' at a daily, weekly or monthly cost borne by a partner while actually needing standby kit

Eg. An ARFF truck to maintain category and safety, or a SNIC machine to maintain rwy, twy occupancy requirements. . i.e \$2500/week new ARFF

Recently an airport indicated that this might be a good program for parts for airports sharing some fleet commonalities, with parts 'depots' at regional hubs. Possible 'next flight' shipment of emergency parts to regionals, GAs and other hubs.







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VISITORS

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Thanks!

"I got 30 days with no parole, Mildred. Don't waste your life. Find someone else."