Digital
Tech Ops
Ecosystem

open – modular – neutral

peach

Predictive Maintenance in Action

Peach Aviation's Success Story with AVIATAR

X

Singapore, PAM 2025

AVIATAR

Lufthansa Technik

Speaker Profiles

AVIATAR

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Lufthansa Technik AG
AVIATAR

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Engineering and Maintenance
Peach Aviation Limited

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Beyond the Ordinary
Seamlessly covering the value chain creates new opportunities

Digital Tech Ops Ecosystem

Integrated ecosystem of seamlessly connected solutions

Analyze

AVIATAR

Unleash the power of data-driven decision making

Condition Monitoring • **Predictive Health Analytics** • Reliability Suite • MRO-Management • eTLB

Manage

AMOS

Unlock an unmatched level of execution efficiency in Tech Ops

AMOSdesktop • AMOSmobile • AMOShub • AMOSeTL

Document

flydocs

Leverage aircraft records to drive asset value

Digital Records Management • Lifecycle Asset Management • Digital Engineering Services • flydocs Component Inspection

+ Joint products

- + Line Maintenance Planning Optimization
- + Inventory Optimization
- + Tech Ops Live

+ Partnerships

- + APU & Cabin Temperature Monitoring

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PREDICTIVE HEALTH ANALYTICS

AVIATAR at a glance

Supported Aircraft types

Airbus	Boeing
220	737NG
32x	737MAX
32xneo	777
330/340	787
350	
380	

AVIATAR

A strong **customer community** with

45+ partners

Increase **sustainability** of Tech-Ops

Aircraft

5000+

Control
Choice
Competition

system coverage

All major AC systems covered

200+ use cases

Unique feature sets

- **Event driven uplinks**
- **Work order creation directly within AVIATAR**
- **MTC recommendations and case tracking**
- **Fix effectiveness**

AVIATAR

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AVIATAR provides the quantum leap into digital TechOps

Multi-fleet ready & unique data combination

of airline operation expertise, data science, engineering knowledge and maintenance, climate & flight data. Applicable for all major Airbus and Boeing aircraft types

Independence and partnerships beyond LHT

Collaborations and services with and from airlines, OEMs and MROs all via one Interface

Control, Choice & Competition

Full ownership of your data, full choice who access your data & no limitation to solutions provider

AI and state-of-the-art technology

Access to in-house AI and strong partners (e.g., Google), analysis of customer environment and implementation of most suitable solution for the customer

Customer-centric development

thanks to prioritization of more than 8000 user feedbacks within the AVIATAR user community

PREDICTIVE HEALTH ANALYTICS

Collaboration & Customer centricity

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Leveraging shop & engineering know-how

Close collaboration between AVIATAR engineers and LHT shops for development & continuous improvement of predictive models

State-of-the-art technology & data science expertise

top in class data scientists working with scalable platform for fast research and development of new use-cases

Engineer in the loop (EITL)

Helping customers with the adaption of PHA & new use-cases

Customer-centric development

thanks to prioritization of more than 8000 user feedbacks within the AVIATAR user community + **regular PHA user group meetings for defining predictive use cases of tomorrow.**

Control Center Process

Orchestrating all predictive alerts and maintenance recommendations by leveraging a case workflow & measurement of fix effectiveness

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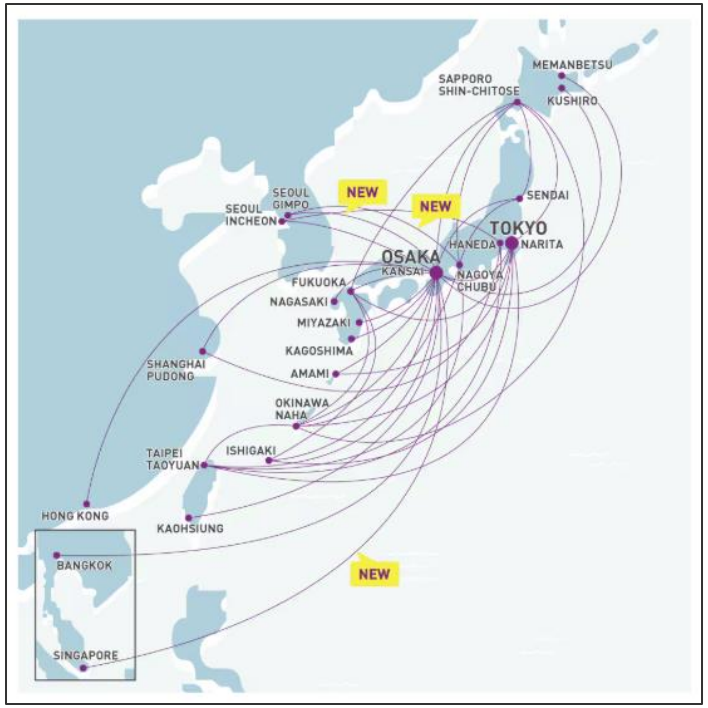
About Peach Aviation

Model	Engine	Number of aircraft
320-214 (CEO)	CFM56-5B4/3	14
320-251N (NEO)	LEAP-1A26	19
321-251NX (NEO)	LEAP-1A32	3

NUMBERS OF PEACH

- **Fleet Size** 36
- **Domestic** 25 Routes
- **International** 15 Routes
- **Completion Factor** 99.5% Result for FY2024
- **Number of Passengers** 9 million Result for FY2024

as of April 1st, 2025



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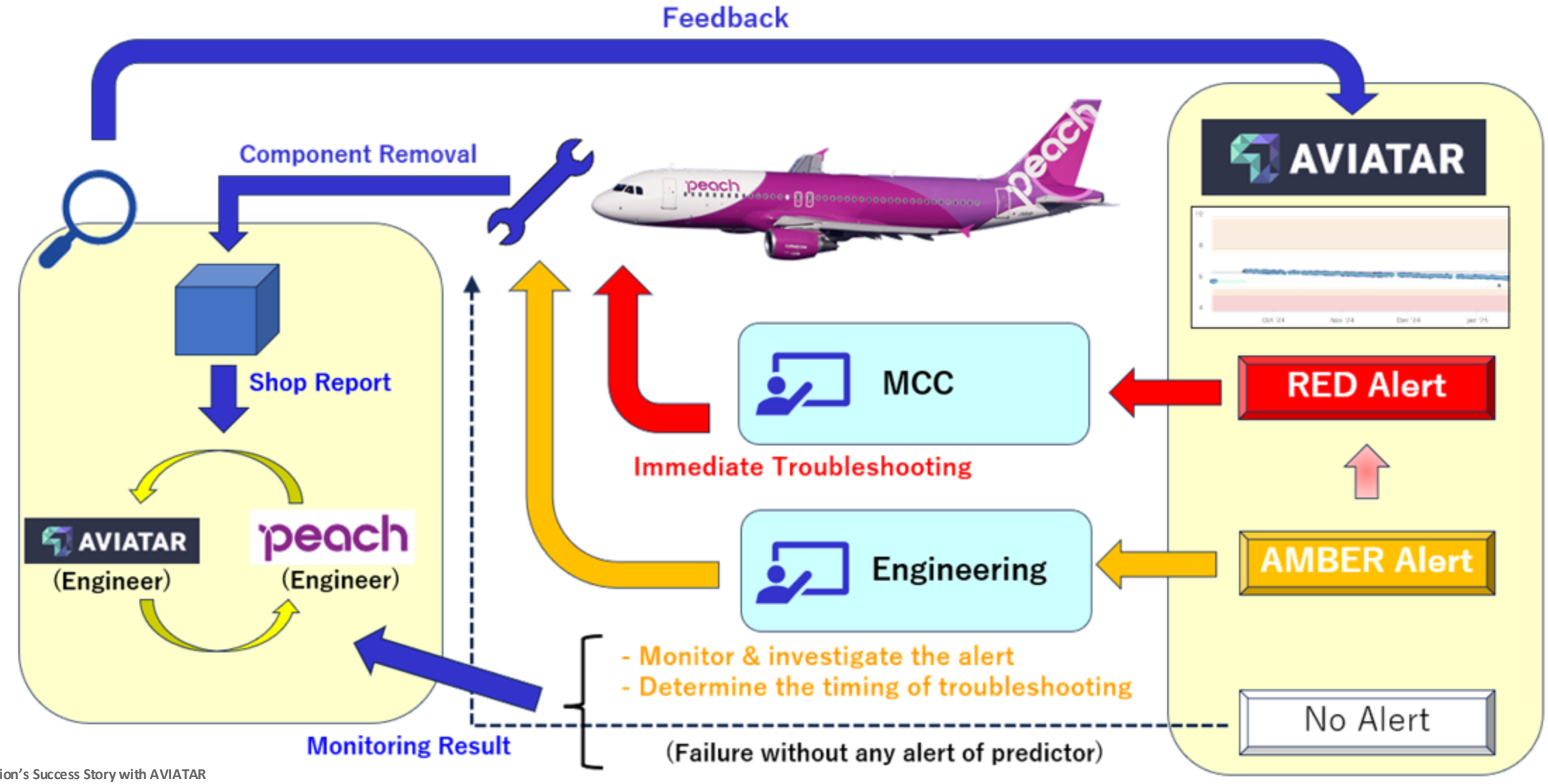
Work Process for Predictors



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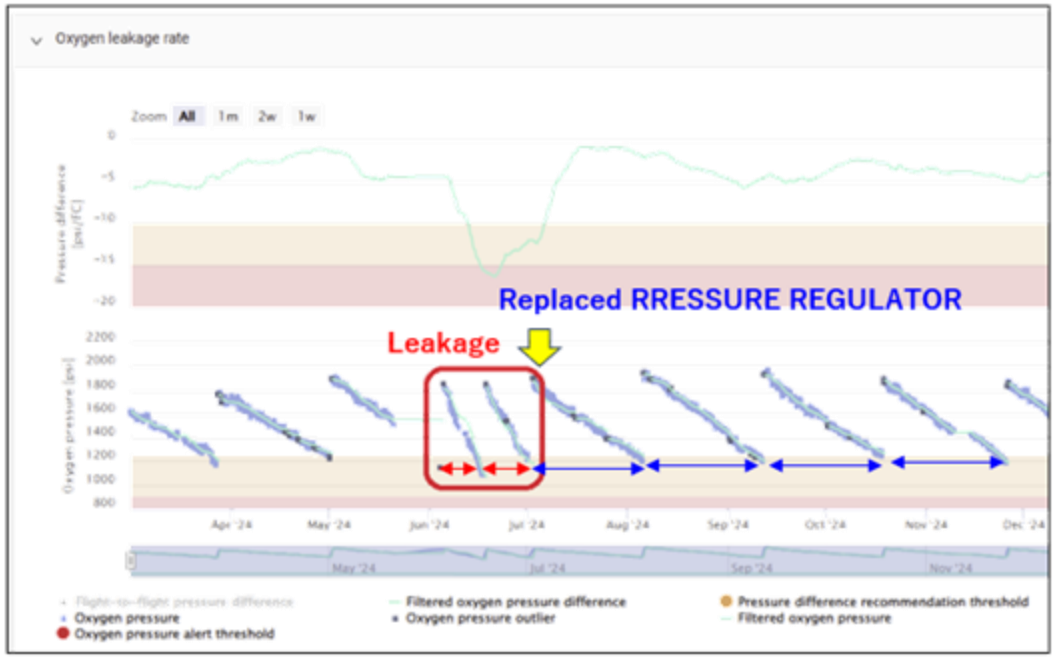
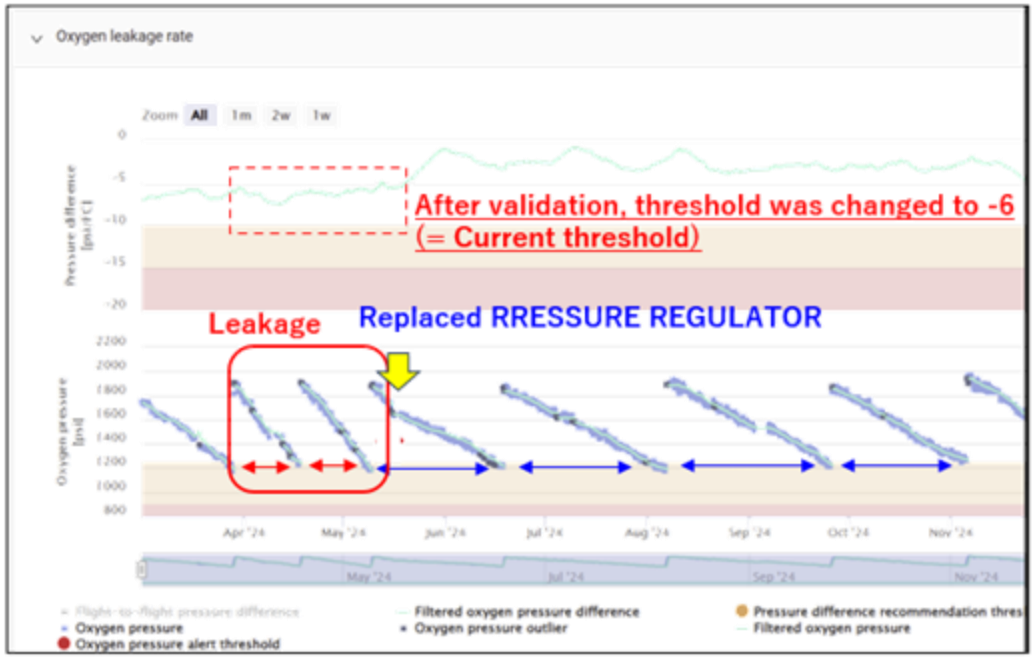
Predictor - Crew Oxygen Leakage





In the past

Monitor the interval of the Oxygen Cylinder replacement periodically.
If shorter than average several times, troubleshooting is started.

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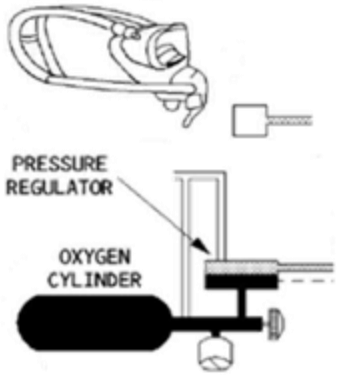
If leakage is observed, it can be detected immediately by alert.
(= save cost for the replacement)

<u>Another benefit</u>
No Fault Found (NFF) rate of the PRESSURE REGULATOR is high.
The ones by above 2 alerts were also NFF.
➡ But it's obvious that the leak rate backed normal after the replacement.
➡ Improvement of the troubleshooting procedure was requested to OEM/MRO.



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Predictor - PRV (CFM56-5B)

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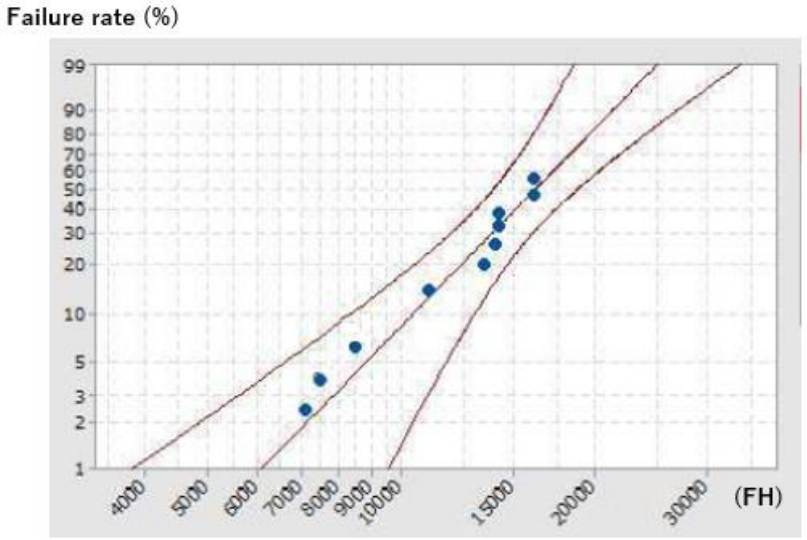
In the past

Pressure Regulator Valve (PRV) is affected by aging issue.

- Performed Weibull analysis.
- Overhaul (OH) program was set at the interval of 10,000FH (Failure rate : 10%)



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Predictor - PRV (CFM56-5B)

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S/N	TSO	CSO	Alert by AVIATAR	Fault Confirmed	Shop Finding
6774-16406	10387	6273	Y	Y	Worn shafts and bearings
6774-16450	8560	5254	Y	Y	Pressure reducer clapper leakage
6774-14532	6792	4287	Y	Y	Worn seals, clappers and bearings
6774-14578	6439	4051	Y	Y	Worn seals, clappers and bearings
6774-16418	9864	5936	Y	Y	Worn seals, clappers and bearings
6774-15320	12602	7069	Y	Y	Worn seals, clappers and bearings
6774-14342	12765	8190	N	Y	Worn seals, clappers and bearings

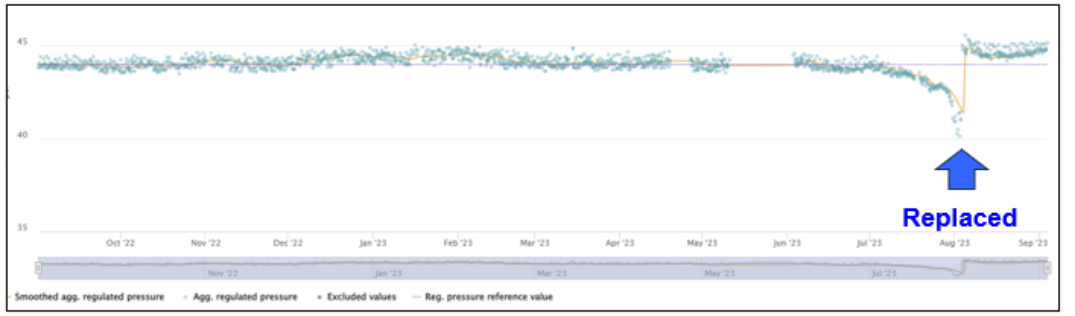
High Accuracy of the predictor

OH Program → (Switched) → **AVIATAR** (Predictive Health Analytics)

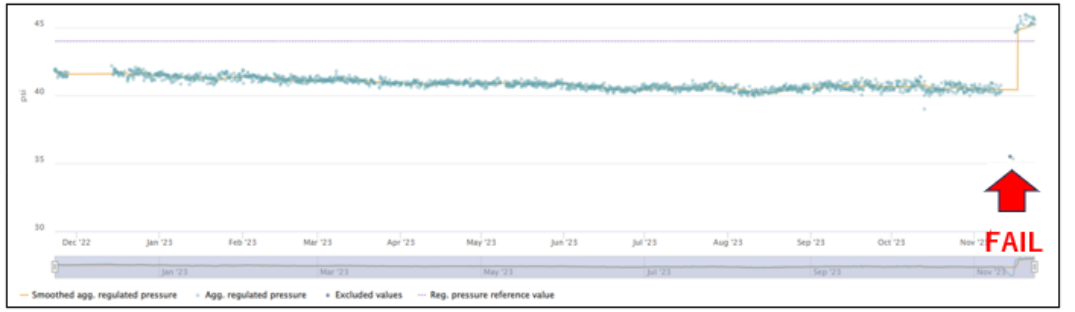
Benefit

- Optimization of the timing of the replacement
- Early failure is also detectable

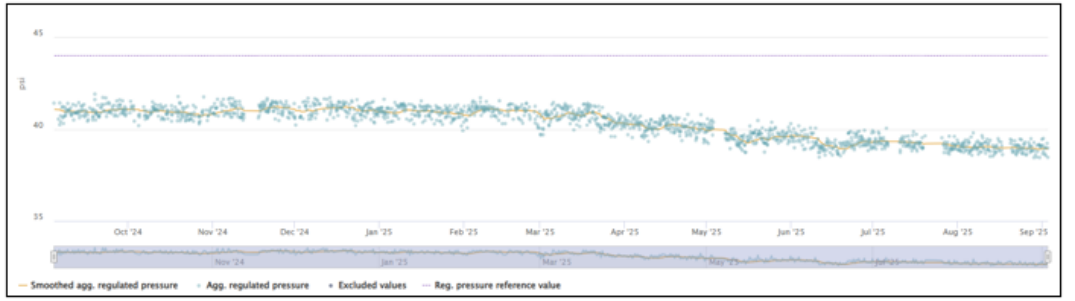
➡ Avoid operational interruption + >40 % cost saving



(Example) Detection of early failure



(Example) Sudden drop of the monitored parameter



(Example) Highest time PRV on aircraft (18,100 FH)

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Predictor - FAV (LEAP-1A)

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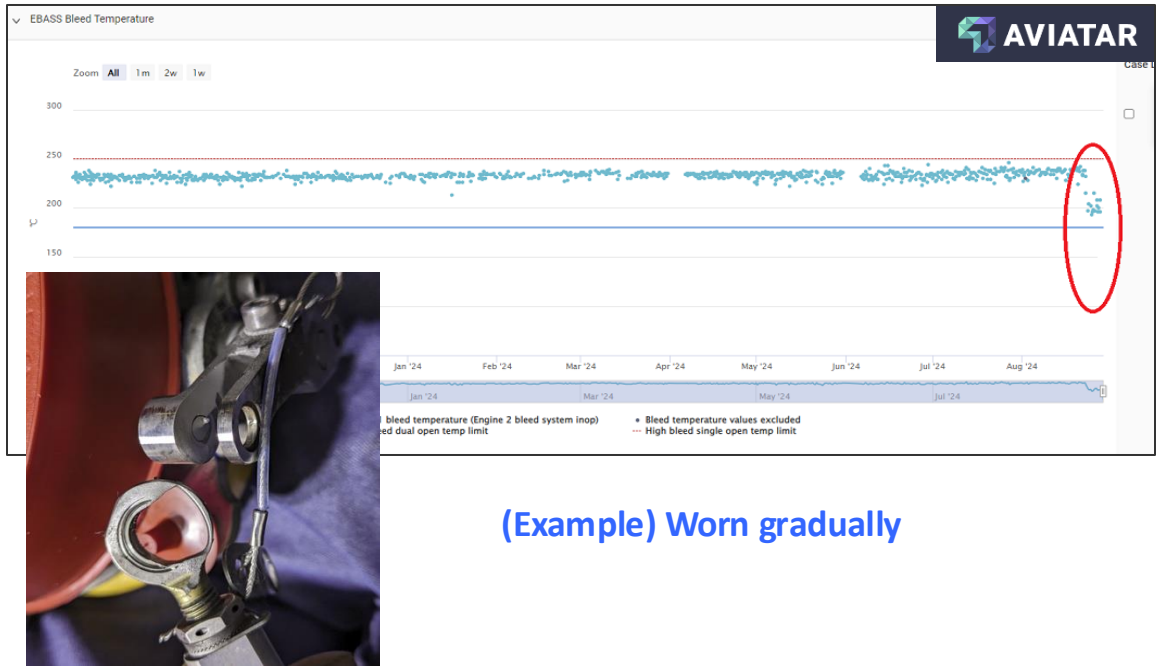
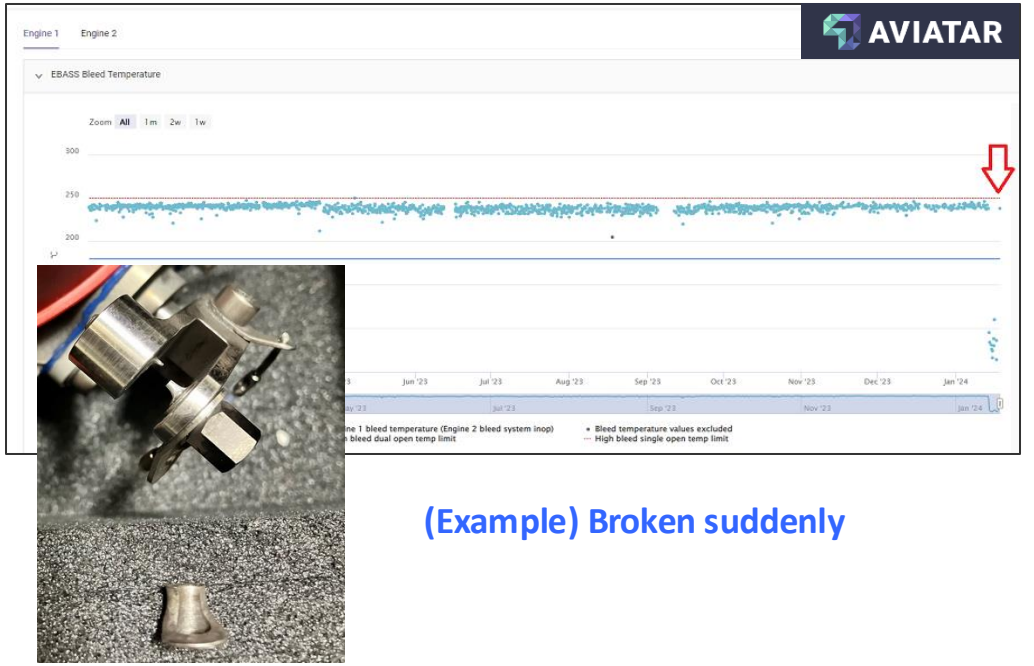
Known OEM-part design issue

Broken of the rod connecting Fan Air Valve (FAV) body and actuator



(Example) Worn gradually



(Example) Broken suddenly

The detection rate before fully broken is about 50%

➡ **Further improvement was requested to AVIATAR Team.**

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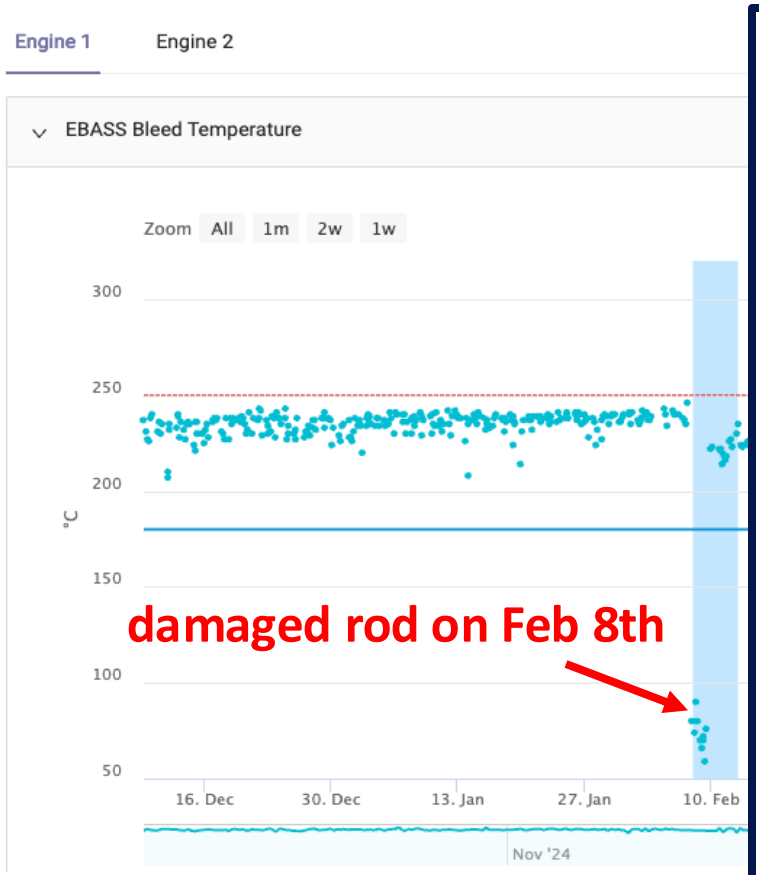
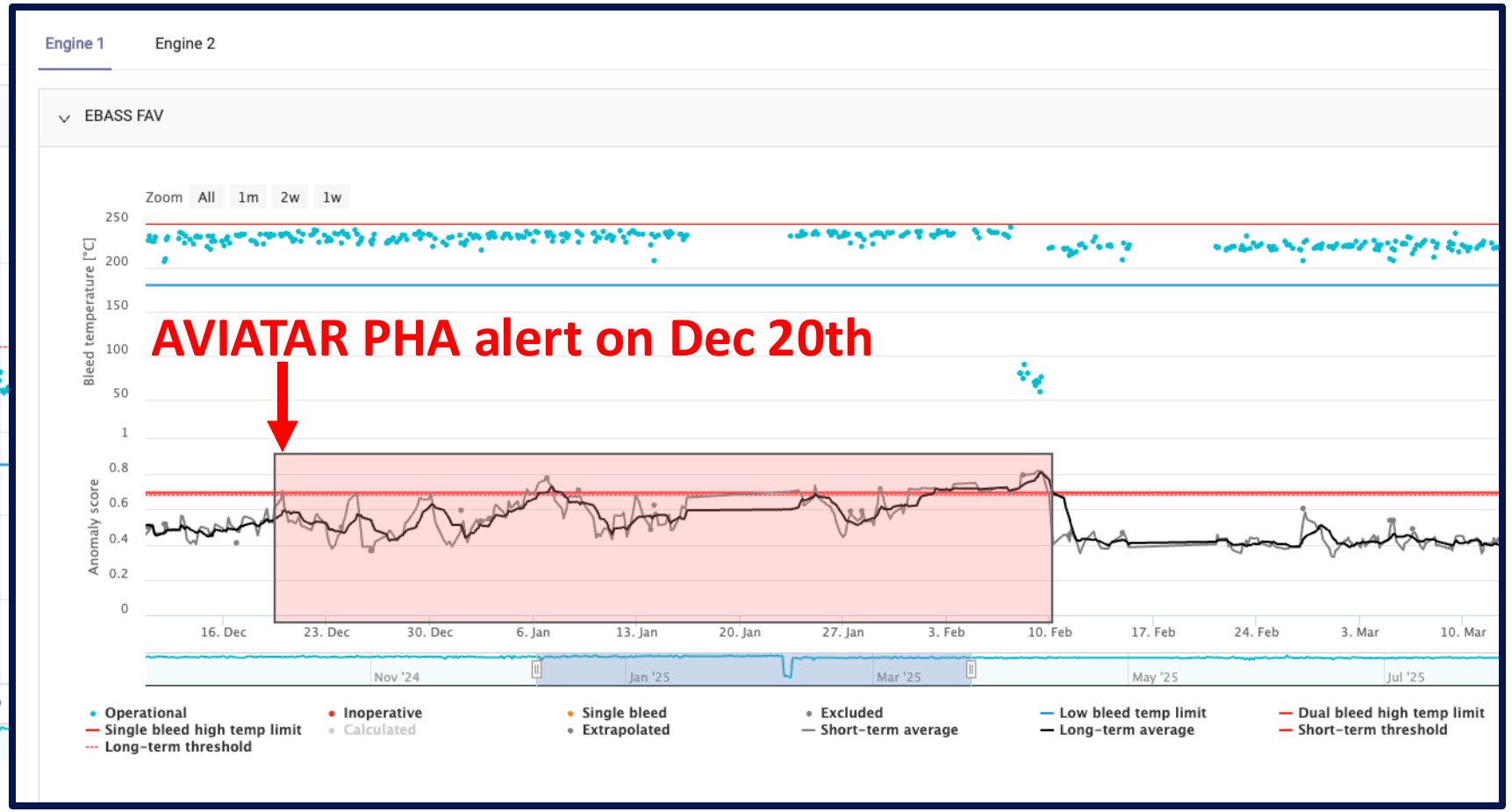
PREDICTIVE HEALTH ANALYTICS

Predictor - FAV (LEAP-1A)

New FAV machine learning predictor rolled out for APJ in August





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Summary & Outlook

Key Highlights

- High precision and recall
- Precise Recommendations
- Reduced OI-related cost & troubleshooting effort
- Engineer in the loop (EITL)
- Customer Centric Development: User Community defines & prioritizes the Roadmap
- Fulfillment automation: semi-automatic creation of workorders for predictive alerts

What's next?

- Self Service Prediction
- Integration of Shop Report Data
- MSG-4: Condition Based Maintenance

PREDICTIVE HEALTH ANALYTICS

Gotta catch ‘em all! Visit us at MRO APAC!

Source: AI-generated image, ChatGPT (OpenAI), 2025

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