

Porterbrook

Case Management

7th January 2026

Steven Das

Project Manager/Data Engineer



Problem Statement

ID	Description	Mitigation
I01	MS Forms does not enforce strict data handling, leading to missing data	Replace with structured case creation in portal
I02	Users can't easily see patterns and metrics across fleet, units, or subsystems	Building filters, summary counters, train diagram, and diagnostic charts.
I03	Overly permissive security model with Power BI reduce user confidence	Case Management uses existing FRP login, no Power BI dependency.
I04	Multiple tools being used creates complex and error-prone process	Consolidated view from within the FRP

Progress



ID	Description	Commentary	Due	Status	RAG
PI_01	Basic Case Management UI Implementation	Main page accessible from menu Filters for TOC, Class, Depot, and Unit Summary counters, case list, and detailed case views being built Ability to manually create new cases	24/11/2025 12/01/2026	In Progress	
PI_02	Database Design and Implementation	Data storage structure designed and approved System is being connected to existing maintenance records and intervention history Core features ready for testing with sample data	24/11/2025 12/01/2026	In Progress	
PI_03	Graphical Drilldown	Clickable train diagram designed and approved. Making it interactive so you can click on train subsystems to filter cases. Key diagnostic charts (Boost Pressure, Air Leaks, Coolant Temperature) scheduled for release next week.	19/12/2025 12/01/2026 19/01/2026	In Progress	
PI_04	Quality Assurance (QA) and User Acceptance Testing begins (UAT)		19/12/2025 12/01/2026	To Do	
PI_05	Regression Testing and Prod Deployment completed	Final checks to ensure existing portal features still work correctly	01/12/2025 19/01/2026	To Do	



Demo



Assumptions

ID	Description	Notes	Status
AS01	Scope is limited to DMU's in the initial release	Version1 supports DMUs only. EMUs are excluded but future expansion is allowed for in the design.	Closed
AS02	Existing FRP authentication and access controls are reused	No new login system required. All users access Case Management through their existing FRP portal credentials and permissions.	Closed
AS03	SQL Server is the system of record for case data	Cases and relationships are stored in SQL Server, while telemetry and tracker data continue to originate from Databricks	Closed
AS04	Cases may be manually created or system-proposed	Version 1 allows manual case creation. Automatic case suggestions from RCM alerts will be added in Release 2.	Closed
AS05	Cases and work orders have a many-to-many relationship	A single case may link to multiple work orders, and work orders may span multiple cases.	Closed
AS06	Unit-level filtering is a core user interaction	Users will frequently switch between units. Fast filtering by TOC, Class, Depot, and Unit is central to the interface design.	Closed
AS07	Tracker data is presented as aggregated summaries	Boost Pressure, Air Leaks, and Coolant Temperature displays show daily or weekly averages, updated once per day.	Closed
AS08	Case escalation rules are predefined and stable (Updated 9/1/26)	Cases can have the following statuses: Open, Re-opened , Monitored NFF (No Fault Found) , Completed, or blank (newly created) Rejected. These statuses and their progression rules are agreed and will remain unchanged during delivery.	Closed



Risks & Issues

Risks

ID	Description	Mitigation	Status
R01	Case status definitions may change during development, causing rework	Statuses confirmed (Open, Re-opened, Monitored NFF , Completed, Rejected). Changes require formal approval.	Closed
R02	Performance may degrade as case volume grows	Designed for current fleet size. Optimisation options identified for future scaling.	Closed
R03	Users may resist moving from MS Forms and Power BI to new system	Engage users early, validate workflows in UAT, and align the solution closely to existing operational practices.	Open
R04	Selecting the correct related signals from created alerts	FE to explain which signals are related to also be returned	Open

Issues

ID	Description	Mitigation	Status
I01	Awaiting vehicle image assets from Porterbrook; may impact production release timeline if not received by 9/1/26	Utilising placeholder graphics until received	Open
I02	Vehicle to car mapping per TOC	Using basic rules until rules are confirmed	Open



Actions

ID	Description	Notes	Who	Date	Status
A01	Porterbrook to confirm UX design with train images	Train schematic design approved	Porterbrook	19/12/2025	Open
A02	Switch from test data to live case data	Currently showing sample data; needs connection to real maintenance records	Trigger	19/01/2026	Open
A03	Make historical case management data available in system	Connecting existing case records for display in new interface	Trigger	19/01/2026	Open
A04	Add metrics to display in diagnostic charts	Boost Pressure, Air Leaks, Coolant Temperature panels for Release 2	Trigger	19/01/2026	Open
A05	Create a user acceptance testing (UAT) log	Document all test cases and functionality to share with Porterbrook	Trigger	12/01/2026	Open
A06	Create an open items log	Document all the remaining open items to share with Porterbrook	Trigger	08/01/2026	Open
A07	Provide unit images for all fleets	For all two car and three car units for each TOC	Porterbrook	07/01/2026	Open
A08	Provide logic to allocate vehicle to cars within the unit	For consistent display for vehicle sub-systems	Porterbrook	07/01/2026	Open
A09	Updated conditions to generate alerts	To be able to automatically generate alerts	Porterbrook	07/01/2026	Open
A10	Assess new raw data dump for schema updates	Review latest data from J. Wilson to determine if Case schema needs modification	Trigger	07/01/2026	Open
A11	Provide signal list for each alert type	List of relevant signals per alert type for visualisation purposes	Porterbrook	07/01/2026	Open



Quality and Testing Summary

- Release 1 Dev Testing (12/01/26)
 - Core features tested during development (filters, case grid, case creation, diagram interaction)
 - Basic functionality tested with test data
 - Walk through with Porterbrook stakeholders
 - Feedback collection
- Release 2 Production Release (19/01/26)
 - Core features tested with real data
 - Verification that existing FRP features still work correctly



Additional Requirements

Change Log

ID	Description	Approval Status	Approval Date
C01	Add right-click edit functionality on engine intervention page	Approved	05/01/2026
C02	Merge 'Records' and 'Meeting Notes' tabs into single tab	Approved	05/01/2026
C03	Visual distinction between actual and proposed cases	Approved	15/12/2025
C04	The ability to be able to reject an alert independent of cases	Approved	05/01/2026
C05	Case Management page in dedicated sub-menu	Approved	07/01/2026
C06	Alerts/Traces must exist independently from cases	Approved	07/01/2026
C07	Add case closeout metadata fields	Approved	07/01/2026



Change Requests

Change Request Log

ID	Description	Approval Status	Approval Date
T0085_PCR_01	<p>Scope Change – Relocate the Case Management page to a top-level item in the navigation menu. This change requires a corresponding update to the identity and access management (IAM) configurations to ensure proper access control.</p> <p>Timeline Change – Due 26/01/26.</p>	Awaiting Approval	