

IMPRES™ Battery Fleet Management WEB Interface User Guide

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Read Me First

This manual contains information about IMPRES™ Battery Fleet Management and how to use the system with ASTRO Over-the-Air, MOTOTRBO Over-the-Air, and chargers with IMPRES Battery Fleet Management data capabilities.

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1. Enter motorolasolutions.com in your browser.
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3. Select "Support" on the motorolasolutions.com page.

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- The page number or title of the section with the error
- A description of the error

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Related Publications

The following list contains part numbers and titles of related publications.

- MN007473A01, *IMPRES™ Battery Fleet Management Installation Manual*
- MN007495A01, *IMPRES™ Battery Fleet Management User Guide*
- MN007501A01, *IMPRES™ Battery Fleet Management Troubleshooting Guide and External Software and Component Configuration Guide*
- MN008435A01, *IMPRES™ Battery Fleet Management WEB Interface User Guide*
- 6880309T12, *MOTOTRBO System Planner*
- MN008144A01, *Intelligent Middleware Installation and Configuration Manual 5.2.4*
- MN005566A01, *Intelligent Middleware Installation and Configuration 5.2 and 5.2.2*
- MN008145A01, *Intelligent Middleware Feature Manual 5.2.4*
- MN005630A01, *MSI Charger Reprogrammer Installation Guide*

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DANGER: The signal word DANGER with the associated safety icon implies information that, if disregarded, will result in death or serious injury.



WARNING: The signal word WARNING with the associated safety icon implies information that, if disregarded, could result in death or serious injury, or serious product damage.



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CAUTION: The signal word CAUTION may be used without the safety icon to state potential damage or injury that is not related to the product.




IMPORTANT: IMPORTANT statements contain information that is crucial to the discussion at hand, but is not a CAUTION or WARNING. There is no warning level associated with the IMPORTANT statement.



NOTE: NOTICE contains information more important than the surrounding text, such as exceptions or preconditions. They also refer the reader elsewhere for additional information, remind the reader how to complete an action (when it is not part of the current procedure, for instance), or tell the reader where something is on the screen. There is no warning level associated with a notice.

Style Conventions

The following style conventions are used:

Convention	Description
Bold	This typeface is used for names of, for instance, windows, buttons, and labels when these names appear on the screen (example: the Alarms Browser window). When it is clear that we are referring to, for instance, a button, the name is used alone (example: Click OK).
Monospacing font in bold	This typeface is used for words to be typed in exactly as they are shown in the text (example: In the Address field, type <code>http://ucs01.ucs:9080/</code>).
Monospacing font	This typeface is used for messages, prompts, and other text displayed on the computer screen (example: A new trap destination has been added).
<i><Monospacing font in bold Italic></i>	<p>This typeface is used with angle brackets as placeholders for a specific member of the group that the words represent (example: <i><router number></i>).</p> <p> NOTE: In sequences to be typed in, the angle brackets are omitted to avoid confusion whether to include the angle brackets in the text to be typed.</p>
CAPITAL LETTERS	This typeface is used for keyboard keys (example: Press Y, and then press ENTER).
<i>Italic</i>	This typeface is used for citations. A citation usually is the name of a document or a phrase from another document (example: <i>Dimetra IP System Overview</i>).
→	An → (arrow pointing right) is used for indicating the menu or tab structure in instructions on how to select a certain menu item (example: File → Save) or a certain subtab.

Definitions

The following terms are used throughout this manual:

- ACTIVE - Applies to batteries that are in service.
- INACTIVE - Applies to batteries that are out of service, disposed, or recycled.
- DORMANT - Applies to batteries that have not been read by the battery fleet management system within a specified time. This time is typically set in the PC application preferences as LOST BATTERY (in days).
- LOST BATTERY - The outdated term for DORMANT batteries.
- BATTERY LIFE AGE IN YEARS - The expected life tracking for a battery replacement.
- SERVICE LIFE AGE IN DAYS - The outdated way the PC application tracks BATTERY LIFE AGE IN YEARS.
- BATTERY LIFE PREDICTION - Prediction of the remaining years a battery has before its charge drops below the anticipated ability to last a standard work shift.
- SERVICE LIFE HEALTH % - The outdated application way to track a battery remaining service before its charge drops below the anticipated ability to last a standard work shift. This is what the PC application uses to express BATTERY LIFE PREDICTION.

Chapter 1

Features of the Web Interface

The web interface consists of a main web page and a few dialog boxes. The interface limits the number of individual displays and instead presents a consolidated and informative view.

NOTE:

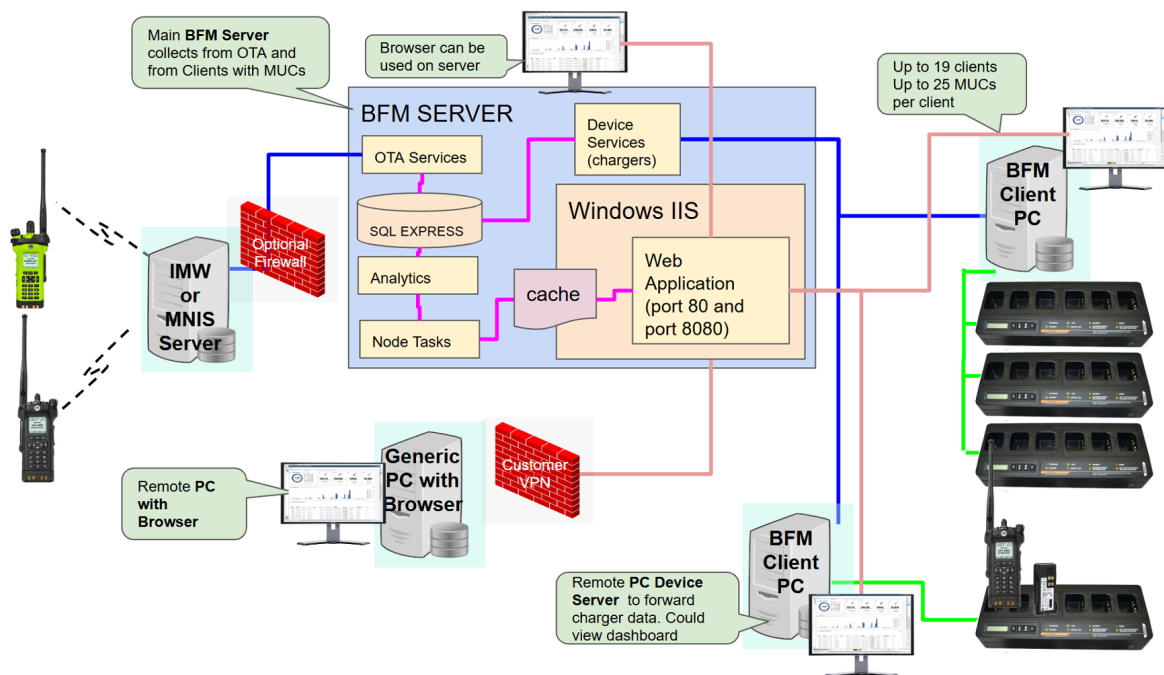
- PC application needs to be installed for the first release of the web interface of some of the server and client configurations. The PC application has limited scope, but it is required for configuration.
- Visit the following link to download the IMPRES Battery Fleet Management Software: https://www.motorolasolutions.com/content/dam/msi/Products/product-lines/impres/fleet_management.zip

1.1

Web Server Technical Overview

This section provides the technical overview of the main Windows Application and services with the web server architecture.

Figure 1: Web Server Technical Overview - System Deployment



The original 3.5.x components with some enhancements remain unchanged. To support the web services, some new database front end applications were developed to communicate with the SQL EXPRESS services. A browser can be used to access the web server which is the Windows-Internet Information Services (IIS) web server. The actual web page application to be served is located in this server. Once the application is served to the browser, it executes on the browser environment and fetches the data stored in the front end node services.

The Battery Fleet Management (BFM) Server contains the following information:

- Analytics Processing Service

- OTA services for both IMW and MNIS
- Device service for chargers connected via client PC running BFM in client mode
- NODE TASKS that are used for preprocessing of data for the web service
- Web Application using ports 80 and 8080 (both must be open to outside for external PCs to use the web)
- Windows IIS (Internet Information Service) to support web access
- SQL EXPRESS database service



NOTE:

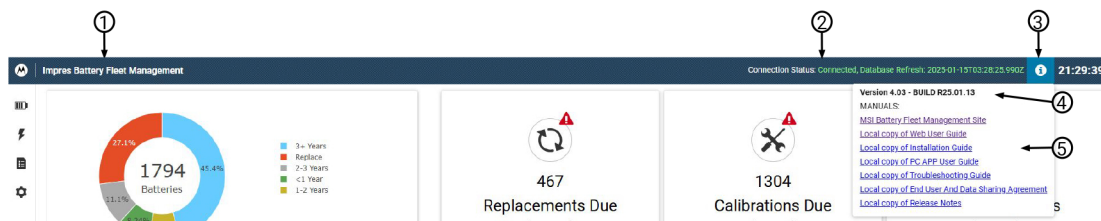
Accessing the web server data requires both TCP ports (80 and 8080) are opened in the firewall of the server.

For web browser performance reasons, the server makes a cache of the data approximately every 30 seconds. Any edits may not appear in the web page if it is refreshed before the cache is updated. If the web page is used to edit preferences or groups, wait approximately 30 seconds after saving the changes before performing a full refresh of the page.

1.2

Header Bar and Tabs

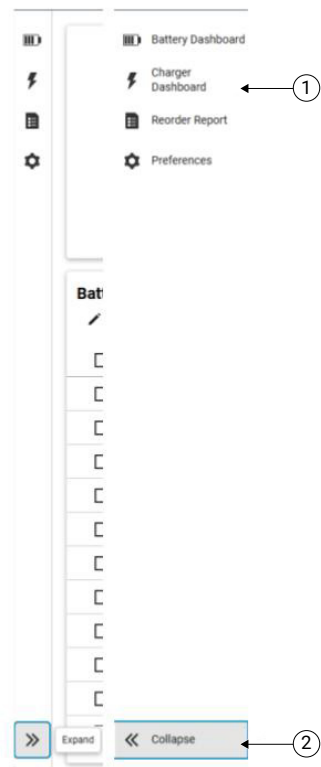
Figure 2: Header Bar and Tabs



2

Indicator	Description
1	Displays the application name
2	Displays the database connection status
3	Additional information button
4	Release version
5	Link to manuals and Battery Fleet Management website

Figure 3: Side Bar



Indicator	Description
1	Page navigation
2	Expandable or collapsible functionality

1.3

Radios and Batteries Dashboard

The main screen displays the fleet view, individual battery, and associated radio if any.

The top of the screen is broken up into the general overall fleet information and the bottom half of the screen is a full report of the batteries in the system. The data in the **Battery Table** is filtered using one of the four cards, the filter, or the search panel.

Figure 4: Dashboard



Indicator	Description
1	Health status donut chart
2	Breakdown of the health status using the status cards
3	Allows you to edit groups
4	Allows you to save the battery result
5	Allows you to filter the required data
6	Displays the result after applying filter
7	Quick search by Serial Number
8	Allows you to select multiple batteries

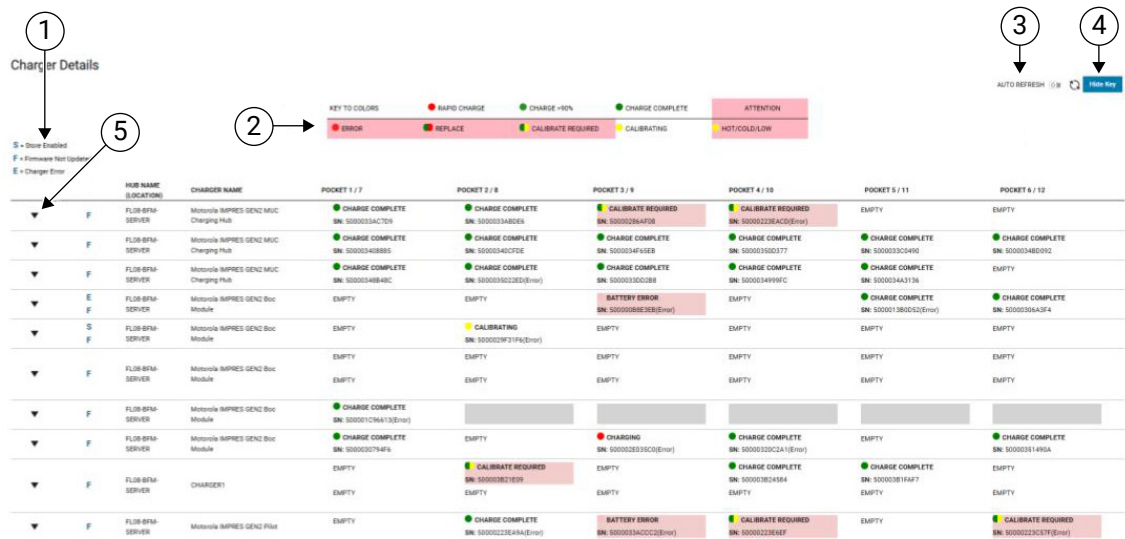
1.4 Chargers Dashboard

The charger screen shows a close to real time view of the chargers connected to the system.

Update interval is approximately five minutes. The chargers are displayed by the computer that is hosting the charger. The computer can be given an alias that could be used to indicate a building, room, or vehicle. Each charger attached to the client computer can also be given an alias to identify the charger, example Column 1 row 4 or police #2. If the computer or the charger are not given an alias, then the computer name and charger serial number is used.

NOTE: Batteries that are non-IMPRES or with unknown kit numbers have some of the fields hidden in the **Charger Dashboard**. The non-IMPRES batteries are indicated with "Non-IMPRES battery" and some of the IMPRES-specific fields hidden. Meanwhile, unknown batteries have some of the fields hidden and shown as having no value (blank).

Figure 5: Chargers Dashboard



Indicator	Description
1	Charger status indication
2	LED color key indication
3	Auto refresh toggle
4	Button to show or hide the key
5	Toggle to expand or hide the information

1.4.1 Charger Details

Each charger screen can show which batteries are connected to the charger. Batteries are updated to their particular pockets. When expanded, battery information are displayed in their pockets including serial number, kit number, and charge capacity.

Figure 6: Errors



Indicator	Description
1	Expanded state
2	Hub name - indicates the server that the computer charger is connected to

Indicator	Description
3	Displays the charger name and details
4	Allows you to click for battery detail modal expansion
5	Provides battery details by pockets
6	Displays the battery which needs attention

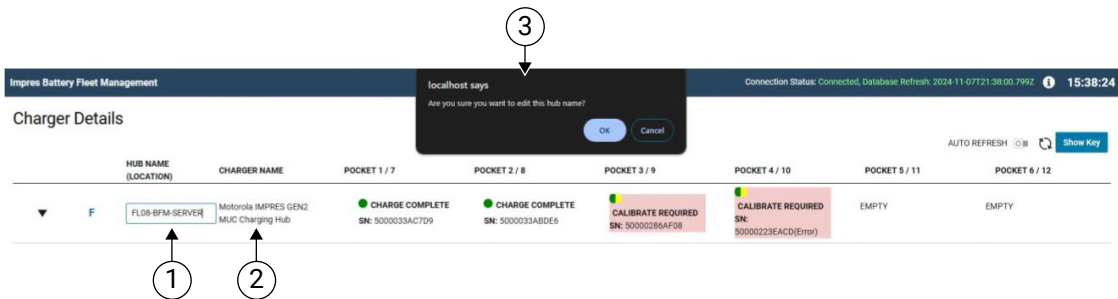
1.4.2

Editing Computer and Charger Name

Procedure:

1.
- To change the name of a hub, hover over the existing hub name and click.
The screen displays a text box to edit the name.
2.
- Change the hub name as required and click away from the text box.

Figure 7: Editing Hub and Charger Name



Indicator	Description
1	Hub name text box
2	Charger name
3	Prompt to confirm the changes

3.
- Perform the following action to accept or reject the edited name:

- a.
- To accept the edited name, click **OK**.
- b.
- To reject the edited name, click **Cancel**.



NOTE: The same procedure applies to change a charger name.

Chapter 2

The Fleet Status Overview

The fleet overview donut chart allows you to view the overall status of your fleet by displaying the fleet remaining lifespan.

The fleet lifespan is categorized into the following groups:

- Replace
- <1 Year
- 1-2 Years
- 2-3 Years
- 3+ Years

You can view the number of total batteries in the fleet and in each section by hovering over them.

Figure 8: Donut Chart

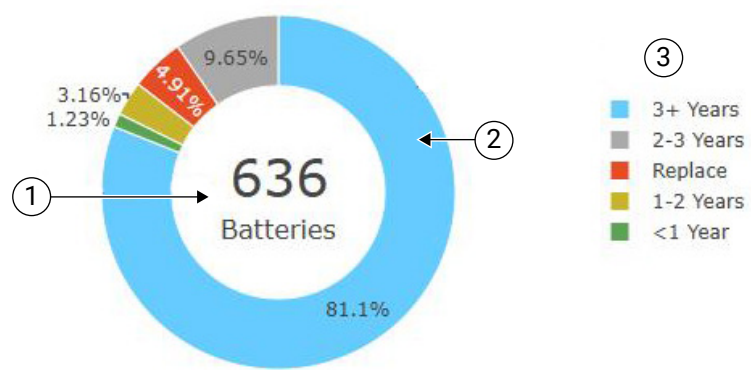


Table 1:

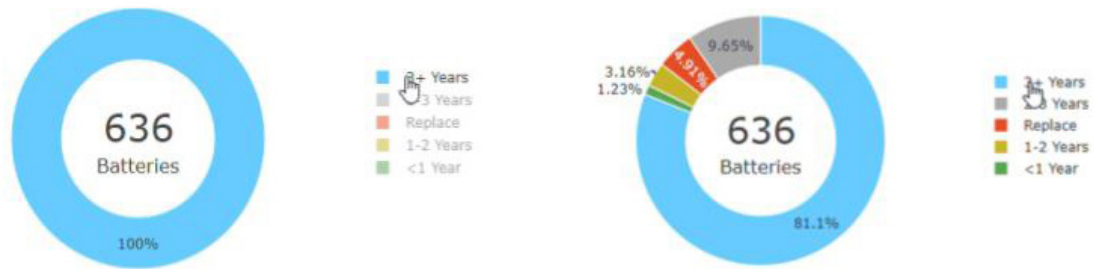
Indicator	Description
1	Total fleet
2	Fleet remaining lifespan
3	Fleet lifespan legend

2.1 Selecting Donut Data

Procedure:

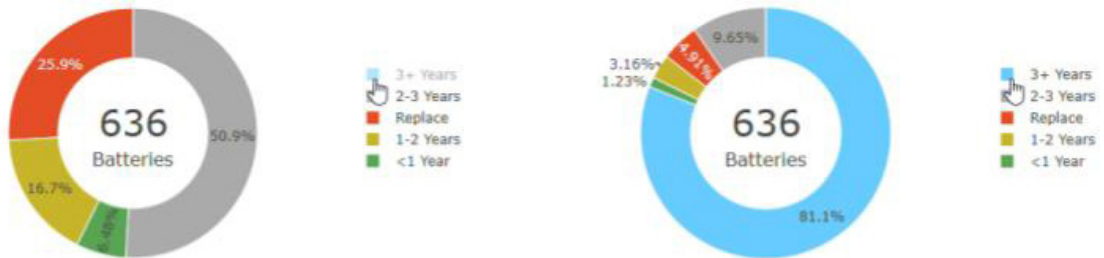
- Perform the following actions to select a specific battery health status:
 - a. Double-click on the corresponding item in the legend.
 - b. To re-select all the legend entries, double-click again.

Figure 9: Selecting Single Section



- Perform the following actions to remove a specific battery health status:
 - Click on the box next to the corresponding item in the legend to deselect.
 - Click in the same spot to replace the entry.

Figure 10: Removing Single Section



2.2

Filtering by Donut Section

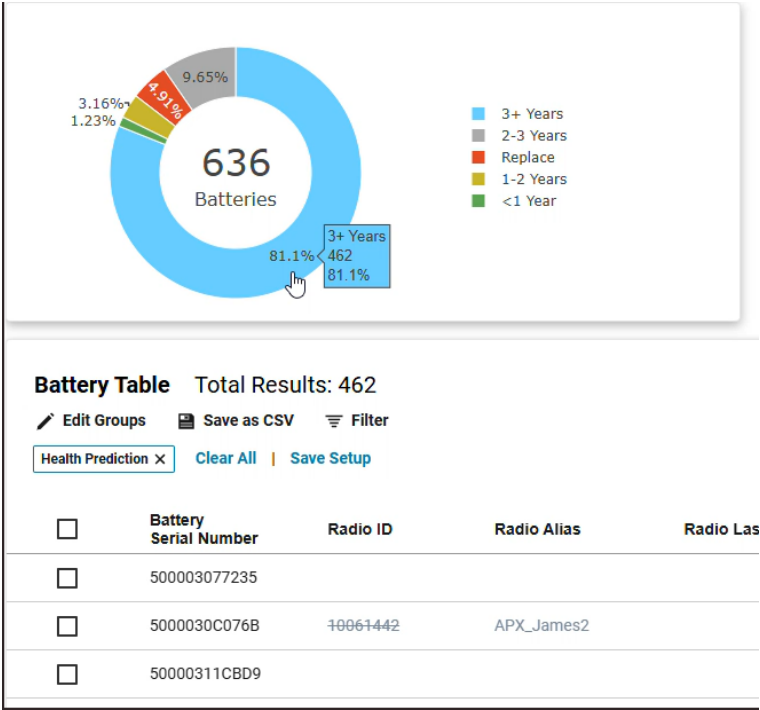
You can filter the battery details table by selecting a donut section.

Procedure:

Click on the donut section for the required fleet lifespan.

The battery table displays the batteries with the selected lifespan.


Figure 11: Filtering by Donut Section



Chapter 3

Cards

Cards display total battery information and can be used to filter the main battery table.

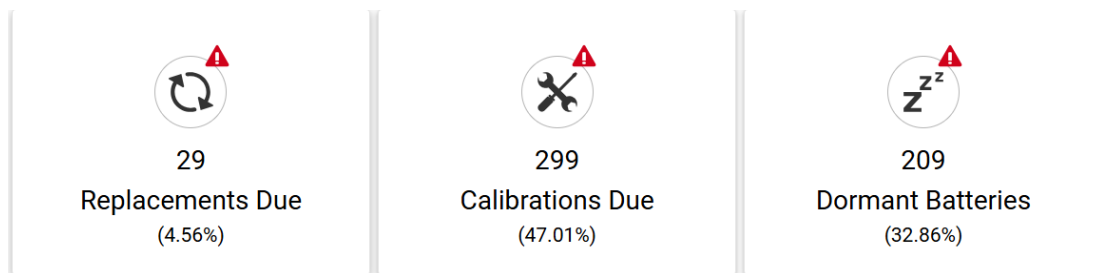
 **NOTE:** The cards affect the content of the Battery Details table and do not change the content of the donut chart, life, or age prediction histogram bar chart.

3.1

No Cards Selected

When no cards are selected, the battery table displays all batteries including active, inactive, and dormant batteries.

Figure 12: No Cards Selected



Each card indicates the total batteries within the category.

The cards are categorized into the following groups:

- Replacements Due
- Calibrations Due
- Dormant Batteries

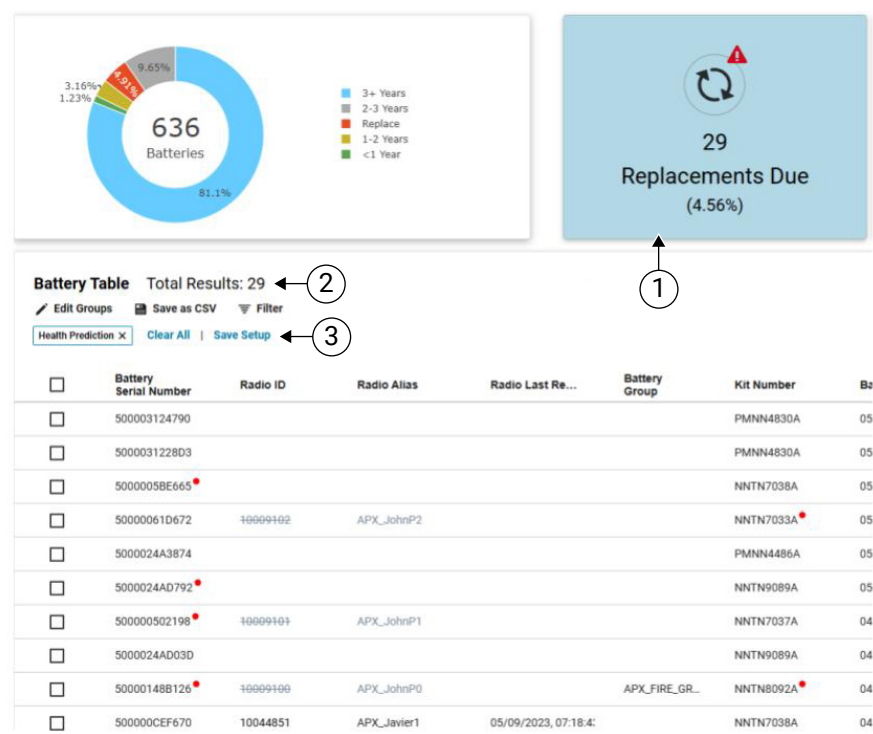
3.2

One Card Selected

The battery table displays the details of the selected card.

For example, when you select the **Replacements Due** card, the battery table shows how many batteries require replacement, along with the total number of filtered results.

Figure 13: One Card Selected

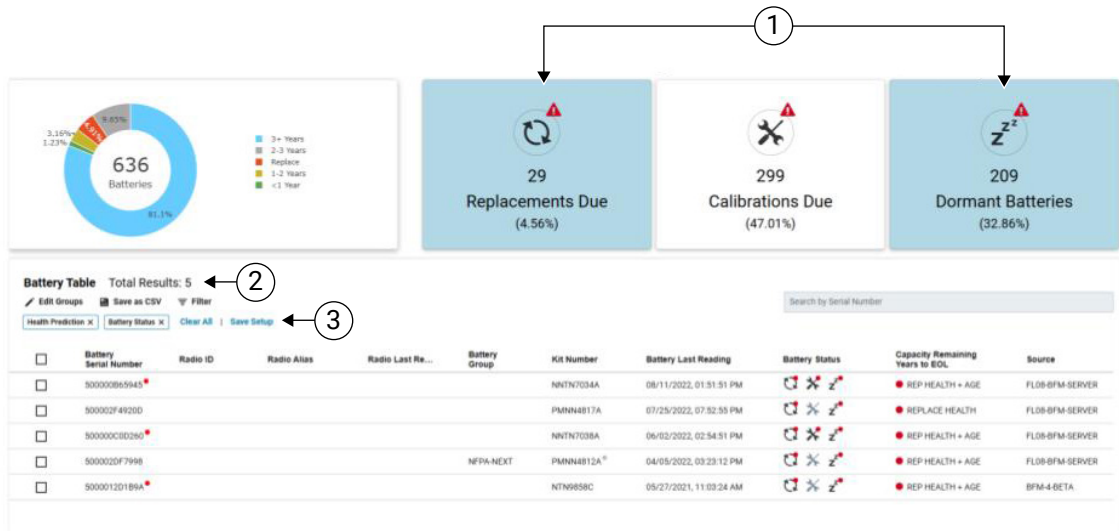


Indicator	Description
1	Selected card
2	Total result based on the selected card
3	Displays the applied filter


3.3
Multiple Cards Selected

The battery table displays the details of all the selected cards when multiple cards are selected. For example, when the **Replacements Due** and **Dormant Batteries** cards are selected, the battery table shows the number of batteries that are both dormant and need replacement.

Figure 14: Multiple Cards



Indicator	Description
1	Selected card
2	Total result based on the selected cards
3	Displays the applied filter

 **NOTE:** The **Battery Table** displays the dormant and inactive batteries by default.

Chapter 4

The Battery Details Table

The Battery Details table displays the Active, Dormant, and Inactive batteries.

Applying the required filters allows you to view the Active, Dormant, and Inactive batteries.

When the dormant card is not selected, the table may also be augmented by the other cards to only show active batteries. The table displays the active batteries details that meet the conditions of the other cards that are selected such as Recondition Required and Low Battery Event.

The battery detail table supports a detailed view of an individual battery by clicking on the serial number.

For radios reporting but without battery data, selecting the **NOT REPORTED** value in the **Battery Serial Number** column displays the detailed view. You can sort the columns by clicking the column headers.

4.1

Hide Radio Data

Without Over-the-Air (OTA) setup, the radio data is of no use and can be hidden.

Even with OTA, detoggling **Show Radio Information** on the **View Preferences** section removes or adds columns to the battery details table that do not include radio data.

When toggled off, the radio information is hidden. When toggled on, the battery details table displays the radio information.

Figure 15: Hiding and Showing Radio Data

The figure displays two side-by-side screenshots of the 'Impres Battery Fleet Management' settings page, illustrating the 'Show Radio Information' toggle.

Left Screenshot (Show Radio Information ON):

- Battery Settings:**
 - End of Service Life Health (%): 80
 - End of Service Life Age (Days): 1000
 - Dormant Battery (Days): 120
 - Inactive Battery Purge (Months): 60
 - Battery Data Refresh Timer (Days): 7
- Radio Settings:**
 - Dormant Radio (Days): 21
 - Radio Hold Off Timer (Hours): 2
 - Radio History Purge (Months): 10
- View Preferences:**
 - Hide Hover Messages: ☐
 - Show Radio Information: ☒ (Blue toggle)
 - Hide Not Reported: ☐

Right Screenshot (Show Radio Information OFF):

- Battery Settings:**
 - End of Service Life Health (%): 80
 - End of Service Life Age (Days): 1000
 - Dormant Battery (Days): 120
 - Inactive Battery Purge (Months): 60
 - Battery Data Refresh Timer (Days): 7
- Radio Settings:**
 - Dormant Radio (Days): 21
 - Radio Hold Off Timer (Hours): 2
 - Radio History Purge (Months): 10
- View Preferences:**
 - Hide Hover Messages: ☐
 - Show Radio Information: ☐ (Grey toggle)
 - Hide Not Reported: ☐

Both screenshots include a 'Save' button at the bottom of the View Preferences section.

4.2

Hide Not Reported Batteries

Radios can report in without reporting battery information.

Detoggling **Hide Not Reported** on the **View Preferences** section hides the batteries that displays as **NOT REPORTED**. The **Hide Not Reported** section removes or adds rows to the battery table that contain an unreported battery.

Figure 16: Hiding and Showing Unreported Batteries

The figure shows two side-by-side screenshots of the 'Impres Battery Fleet Management' web interface. Both screenshots display the 'Battery Settings', 'Radio Settings', and 'View Preferences' sections. In the 'View Preferences' section, there are three toggle switches: 'Hide Hover Messages', 'Show Radio Information', and 'Hide Not Reported'. In the left screenshot, 'Hide Not Reported' is checked. In the right screenshot, 'Hide Not Reported' is unchecked, and a hand cursor is pointing at the toggle switch. A 'Save' button is located at the bottom of the 'View Preferences' section in both screenshots.

4.3

Battery Table Column Details









NOTE:




If a column reports **NOT SUPPORTED**, **NOT REPORTED**, or **UNKNOWN**, the battery dormant state cannot report this field or a radio is reporting that it is registered but has not reported its battery data. The latter is indicated by the kit number containing **UNKNOWN** value.

Non-IMPRES batteries do not have a kit number and are not able to report over the radio network.

Table 2: Battery Table Column Details

Column Title	Description
Battery Serial Number	<p>The serial number of the battery</p> <p>A red dot next to a serial number indicates that the battery has had a memory error recorded some time in the past. May be non-fatal.</p> <p>A green dot next to a serial number denotes a Motorola Solutions NON-IMPRES battery type.</p> <p>If the value in the battery serial number field is equal to NOT REPORTED, then a radio has connected to IMW but has not sent in battery infor-</p>

Column Title	Description	
		mation or is not programmed to send battery information.
Radio ID	ID of the radio associated with this battery	If the radio is not connected, the value is displayed in light-gray to indicate this was the last known radio connected to this battery.
Radio Alias	User Assigned Alias	<p>This is an assigned alias from the following systems:</p> <ul style="list-style-type: none"> Unified Network Services (UNS) or Intelligent Middleware (IMW) Motorola Network Interface Service (MNIS)
Battery Group	User Assigned Group	User can assign a battery group to a battery or set of batteries. This allows the user to sort by or search for a specific battery group.
Intrinsic Type	The type of certification supported by the battery	TIA4950
		UL 2504 DIV2
		CSA157
		FM
		ATEX
Kit Number	The model number of the battery	<p>If the kit number displays UNKNOWN:</p> <ul style="list-style-type: none"> Not an IMPRES battery. The radio has not reported the battery that is connected to it. The radio is not enabled to report battery data.
	PMNN4804A 	A green dot next to the kit number indicates TIA 4950 intrinsic type.
	PMNN4803A 	A blue dot next to the kit number indicates UL 2504 DIV2 intrinsic type.
	PMNN4803A 	An orange dot next to the kit number indicates CSA157 intrinsic type.
	PMNN4803A 	A red dot next to the kit number indicates FM intrinsic type.
	PMNN4803A 	A purple dot next to the kit number indicates ATEX intrinsic type.
	PMNN4803A 	A silver dot next to the kit number indicates NFPA intrinsic type.
Battery Last Reading	The last time the battery data was read	The last reading can be delivered either from a connected charger or from a radio sending Over-the-Air (OTA).
Radio Last Registration	The last time the radio registered with the system	A radio must register before sending battery data. The radio does not send battery data immediately after registering.

Column Title	Description	
Battery Status	 Replacement Due	A red dot on this icon indicates that the battery must be replaced.
	 Calibration Due	A red dot on this icon indicates that the battery must be calibrated or conditioned.
	 Low Battery Event	A red dot on this icon indicates that the battery is in a low charge state.
Capacity Remaining/Percent Health	This indicates the battery health as a green, orange, or red dot	The age next to the dot is the remaining years left. It is a combination of age and health.
Radio Family	Indicated the battery radio family	A radio family is a group of radio models that the battery is designed to be used with.
Source	Source of the battery information	The bolded source indicates the battery is currently in a charger or received in OTA. The unbolded sources show its last known charger.

4.4

Show Inactive Batteries

Inactive batteries are batteries that are taken out of service. The system retains the data for a default setting of 60 months and then the system purges the batteries from the database to free up storage.

Setting **Battery Status** to **Inactive** filter allows you to view inactive batteries. The battery table displays only inactive batteries.


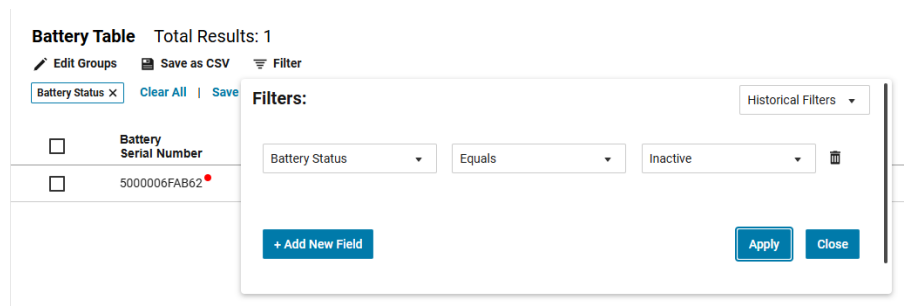
 **NOTE:** This release introduces the ability to show or hide inactive batteries in the battery table using filters.

Figure 17: Inactive Batteries



4.5 Serial Number Search

This feature allows you to search for a battery using a serial number or a substring within a serial number. The table filters as you type in the search bar.

Figure 18: Searching Using Serial Number

Battery Table Total Results: 2

ABQ

<input type="checkbox"/>	Battery Serial Number	Radio ID	Radio Alias	Radio Last Re...	Battery Group	Kit Number	Battery Last Reading	Battery Status	Capacity Remaining Years to EOL	Source
<input type="checkbox"/>	50000192FABC					PMNN4487A	04/19/2023, 10:59:32 AM		REPLACE AGE	FL08-BFM-SERVER
<input type="checkbox"/>	500001D59ABC					PMNN4486A	05/27/2021, 07:51:34 AM		REPLACE AGE	BFM-4-BETA

4.6 Battery Modal for More Information

This feature allows you to view the individual battery details.

You can view the following individual battery details:

- Battery Details
- Battery Charging Histogram
- Radio Details
- Charger Details

You can access the battery details modal by clicking on the required battery serial number.

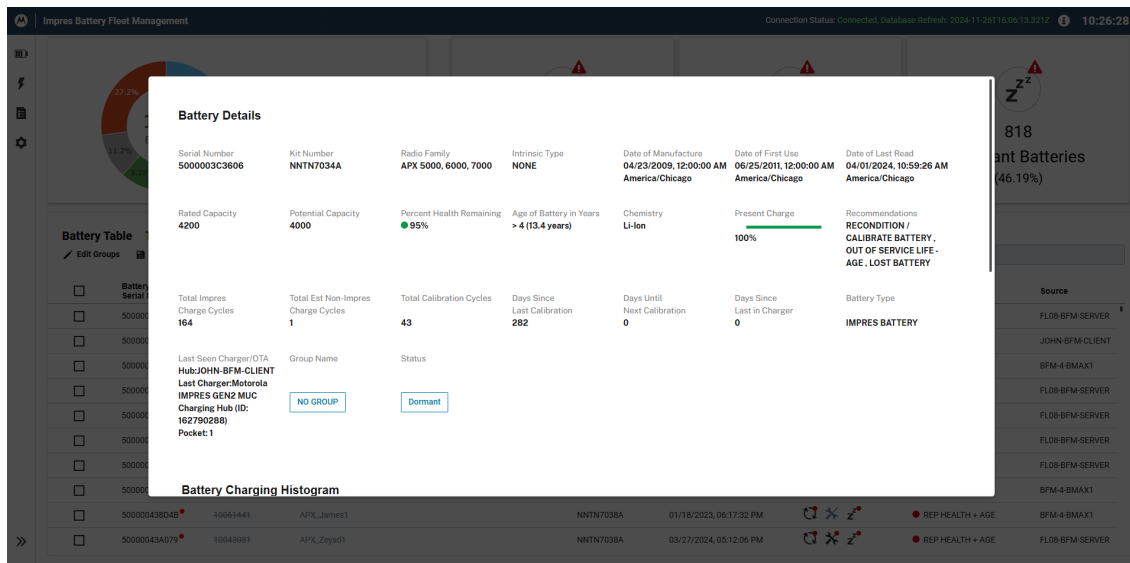
Figure 19: Accessing Battery Details Modal

Battery Table Total Results: 1771

Search by Serial Number

<input type="checkbox"/>	Battery Serial Number	Radio ID	Radio Alias	Radio Last Re...	Battery Group	Kit Number	Battery Last Reading	Battery Status	Capacity Remaining Years to EOL	Source
<input type="checkbox"/>	5000003A9AB7					NNTN7037A	03/07/2024, 10:17:49 AM		REPLACE AGE	FL08-BFM-SERVER
<input type="checkbox"/>	5000003C3606	10061441	APK_James1	11/12/2024, 07:58:0...		NNTN7034A	04/01/2024, 10:59:26 AM		REPLACE AGE	JOHN-BFM-CLIENT
<input type="checkbox"/>	5000003C5A78					NNTN7034A	11/07/2022, 04:32:10 PM		REPLACE AGE	BFM-4-BMAX1
<input type="checkbox"/>	5000003D2C8D					NNTN7036A	06/12/2024, 03:11:08 PM		REP HEALTH + AGE	FL08-BFM-SERVER
<input type="checkbox"/>	5000003D61C7					NNTN7037A	11/16/2023, 12:10:18 PM		REPLACE AGE	FL08-BFM-SERVER
<input type="checkbox"/>	500000434349					NNTN7038A	05/19/2023, 11:40:11 AM		REPLACE AGE	FL08-BFM-SERVER
<input type="checkbox"/>	50000043698C	10057541	APK_JasonA1			NNTN7038A	12/08/2022, 01:22:24 PM		REP HEALTH + AGE	FL08-BFM-SERVER
<input type="checkbox"/>	50000043841C	10061441	APK_James1			NNTN7037A	12/14/2022, 11:46:29 AM		REP HEALTH + AGE	BFM-4-BMAX1
<input type="checkbox"/>	500000438D48	10061441	APK_James1			NNTN7038A	01/18/2023, 06:17:32 PM		REP HEALTH + AGE	BFM-4-BMAX1
<input type="checkbox"/>	50000043A076	10043981	APK_Zeyad1			NNTN7038A	03/27/2024, 05:12:06 PM		REP HEALTH + AGE	FL08-BFM-SERVER

Figure 20: Opening Battery Details Modal



You can assign batteries to a user defined group or set the status as **ACTIVE** or **INACTIVE** in the **Battery Details** section.

Figure 21: Battery Details

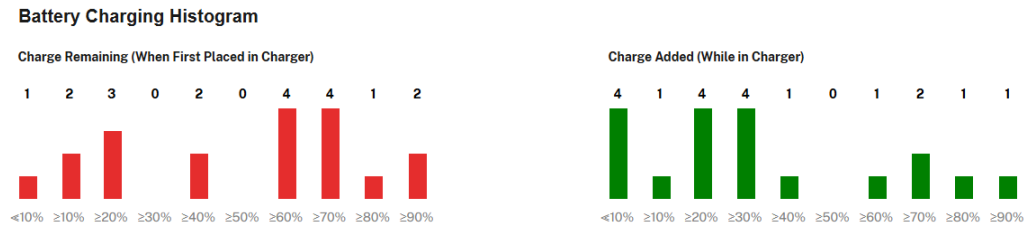
Battery Details

Serial Number 50000223C57F	Kit Number NNTN9087A	Radio Family APX NEXT	Intrinsic Type NONE	Date of Manufacture 07/29/2019, 12:00:00 AM America/Chicago	Date of First Use 10/30/2019, 12:00:00 AM America/Chicago	Date of Last Read 11/26/2024, 11:52:21 AM America/Chicago
Rated Capacity ● 3850	Potential Capacity 3453	Percent Health Remaining ● 94%	Age of Battery in Years > 4 (5.1 years)	Chemistry Li-Ion	Present Charge 100%	Recommendations OUT OF SERVICE LIFE - AGE
Total Impres Charge Cycles 9	Total Est Non-Impres Charge Cycles 1	Total Calibration Cycles 7	Days Since Last Calibration 108	Days Until Next Calibration 0	Days Since Last in Charger 0	Battery Type IMPRES BATTERY
Last Seen Charger/OTA FL08-BFM-SERVER Motorola IMPRES GEN2 Pilot, Motorola IMPRES GEN2 MUC Charging Hub (ID: 181161113), SN: 181161113 Pocket 6	Group Name NO GROUP	Status Active				

The battery charging histogram displays two histograms showing the frequency of different battery charge levels upon charging. These levels are grouped in 10 % increments, ranging from less than 10 % to more or equal to 90 %.

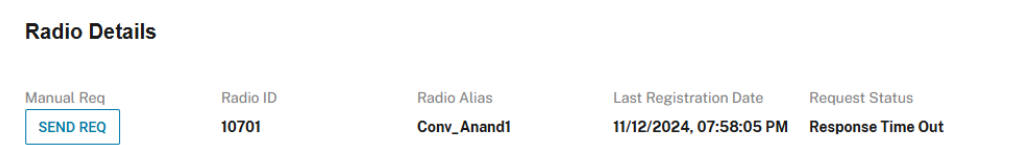
The **Charge Remaining (When First Placed in Charger)** histogram indicates the initial charge level. The **Charge Added (While in Charger)** histogram indicates the charge level when the battery is charging.

Figure 22: Battery Charging Histogram



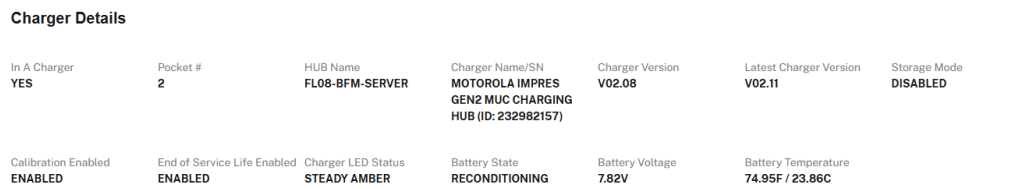
If Over-the-Air (OTA) is enabled, the radio section displays information about the radio and the associated battery. You can click on **MANUAL REQ** button when a radio status shows **ACTIVE** on the system. A request to read the battery is generated to ask the system to fetch the battery data.


Figure 23: Radio Details



Charger details including the battery pocket location are provided in the **Charger Details** section.

Figure 24: Charger Details



 **NOTE:** Motorola Solutions Non-IMPRES batteries or batteries with unknown kit numbers can have some of the fields hidden in the **EXTENDED RADIO AND BATTERY DATA**, applicable to **Battery Details** and **Charger Details**. The hidden fields are shown as having no value (blank).

4.6.1 Radio Details

Column Title	Descriptions
Manual Request	The radio sending manual request
Radio ID	Radio ID associated with the battery
Radio Alias	User assigned alias
Last Registration Date	The radio last system registration
Request Status	Manual request status

4.6.2

Battery Details

Column Title	Descriptions
Serial Number	The battery serial number
Kit Number	The battery model number
Chemistry	Type of chemistry in the battery
Group Name	User assigned group
Status	Indicate the battery status as active, inactive, or dormant
Date of Last Read	The last time the battery data was read
Radio Family	The battery radio family
Intrinsic Type	The type of certification supported by the battery (TIA4950, UL 2504 DIV2, CSA157, FM, ATEX)
Date of Manufacture	The battery manufacturing date
Date of First Use	First use date with an IMPRES charger or radio
Days Since Last Calibration	The last battery calibration date
Days Until Next Calibration	The next battery calibration date
Rated Capacity	The battery original rated capacity
Potential Capacity	The battery current capacity
Present Charge	The current charge in the battery
Percent Health Remaining	Battery health is indicated by a green, amber, or, red dot
Age of Battery in Years	Battery age in unit year
Recommendations	Recommendation for the battery: <ul style="list-style-type: none"> • No recommendations • Recondition or calibrate battery • Cool battery before charging • Warm battery before charging • Out of service life-Health • Out of service life-Age • Lost battery-Dormant battery
Total Calibration Cycles	Total number of battery calibrations
Total Impres Charge Cycles	Total number of charging cycles with an IMPRES charger
Days Since Last Removed from IMPRES Charger	The last day the battery was removed from the IMPRES charger
Total Estimated Non-IMPRES Charge Cycles	Total number of charging cycles with a Non-IMPRES charger

4.6.3

Charger Details

Column Title	Descriptions
Currently In a Charger	Indicates if the battery is in a charger. Identifies the charger and the pocket location
Hub Device	The computer to which the battery attached to a charger is connected
Charger Name/SN	The charger name and serial number (ID) connected to the battery
Charger Version	The charger version connected to the battery
Battery State	The battery current state
Storage Mode	Storage mode of the charger is enabled or disabled
Calibration Enabled	The calibration mode of the charger is enabled or disabled
EOS Enabled	The end of service life indication of the charger is enabled or disabled
Charger LED Status	The battery current charging status
Pocket Number	The pocket location where the battery is in a charger
Battery Voltage	The battery voltage
Battery Temp	The battery temperature

Chapter 5

Report Generation and Exporting

This feature allows you to generate and export reports.

5.1

Filters

This feature allows you to apply various filters by applying conditions to different fields.

The fields and operations that the filter allows are similar to those in the PC App Custom Report Generation Tool.

Depending on the fields, the followings are the filter operations:

- contains
- begins with
- range
- ends with
- match
- no match
- equals

After creating filters for multiple fields to generate a report, you can save the filter as a custom report to reuse.

5.1.1

Applying and Saving Filters

Procedure:

1. Click the **Filter** button in the battery table.
2. Filter the data by selecting a category, operator, and value for the operator.



NOTE: You can add a new field to apply more filters as required.

3. Click the **Apply** button.

The battery table displays the result based on the filters.

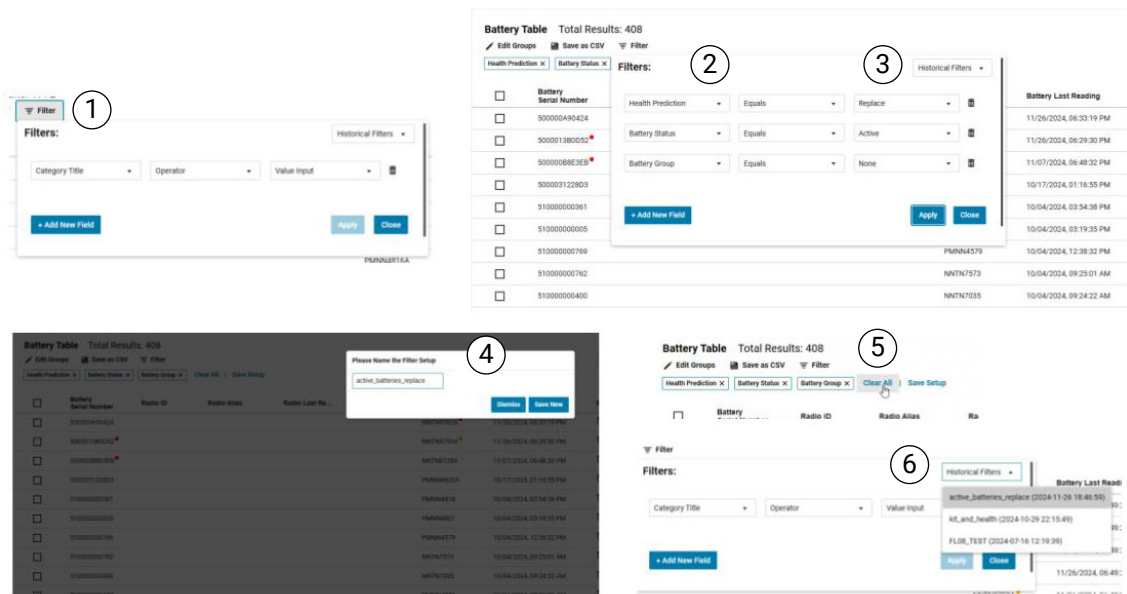
4. Perform the following action to save and name the filter:
 - a. To save the filter, click the **Save Setup** button.
 - b. Name the filter setup and click the **Save New** button.

The filter is available after 30 seconds from the **Historical Filters** option.

5. Click the **Clear All** button to remove all filters simultaneously.

You can close individual chips to remove specific conditions.
6. To use an existing filter, click on **Filter** and select the saved filter.

Figure 25: Applying and Saving Filters



5.2

Save the Report as CSV

This feature allows you to export the data in the battery table into a CSV file, including only the rows that match any applied filters. You can export every column simultaneously or select individual columns, with a total of 16 columns available for selection.

Procedure:

1. Apply the required filters to the battery columns.
2. Click on the **Save as CSV** button in the battery table.
3. Select the columns that you want to view in the report.
4. Use the selectable option to move the values to the left and to the right using the list builder.

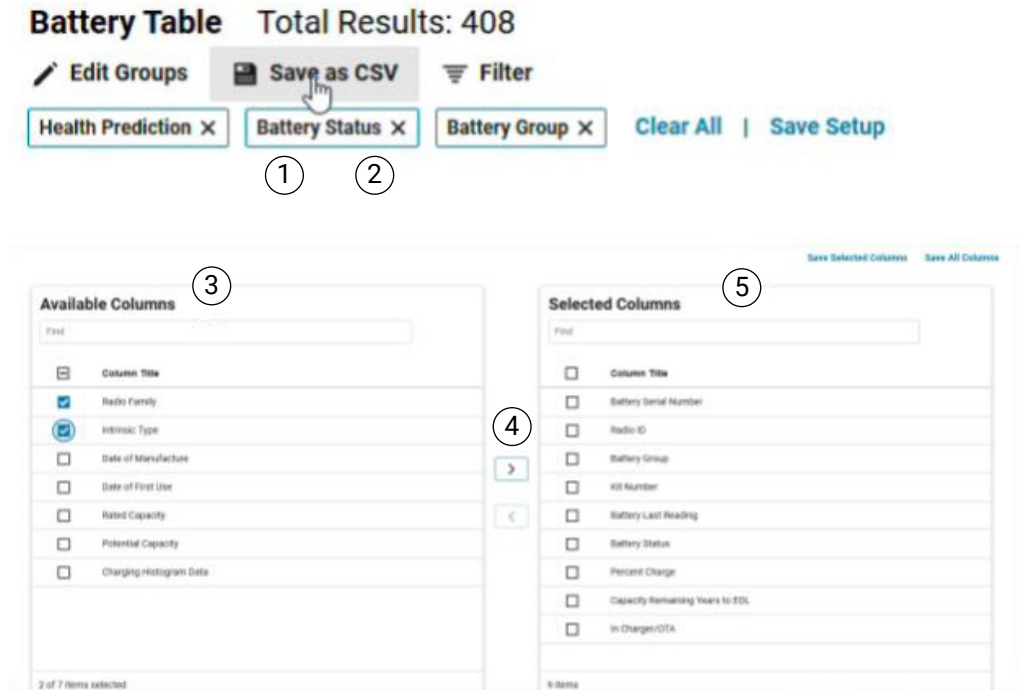
The left side displays the available columns for the report. The right side lists the columns selected for download.

5. Save either the selected columns or save all columns.

The report is downloaded to your computer.

The PC App custom report feature is enabled by setting and saving filters, and then saving the report as a CSV file.

Figure 26: Saving the Report



5.3

Reordering Report

When and where to use: This feature allows you to generate a list of kit numbers needed for reordering batteries that no longer meet the health or age criteria.

Procedure:

1. To view which batteries require reordering, navigate to the **Battery Reorder Report** screen.
2. Do one of the followings when the report is generated:
 - Print
 - Generate a PDF file
 - Save as a .CSV file to import to a spreadsheet

Figure 27: Reordering Report

Impres Battery Fleet Management

Connection Status: Connected, Database Refresh: 2024-11-27T01:11:24.043Z 19:13:09

Battery Reorder Report

PRINTEXPORT

Reorder Report

Kit Number	Radio Family	Chemistry	FM	TIA4960	UL2504 DL...	CSA157	ATEX	NFPA	Rated Cap...	Quantity
HNN4001	HT/GP/PRO Series	NIMH							1800 MAh	1
HNN4002	HT/GP/PRO Series (FM)	NIMH							1690 MAh	4
HNN4003	HT/GP/PRO Series	Li-Ion							2000 MAh	5
HNN9028	HT/GP/PRO Series	NiCd							1300 MAh	4
HNN9029	HT/GP/PRO Series (FM)	NiCd							1500 MAh	4
HNN9032	XTS 3500, 5000 (FM)	NiCd							1525 MAh	3
HNN9033	Saber	NiCd							2000 MAh	1
HNN9034	Saber	NiCd							2000 MAh	6
NNTH4321	APX4000KH	Li-Ion							2050 MAh	2
NNTH4435	XTS 3500, 5000	NIMH							1800 MAh	5
NNTH4436	XTS 3500, 5000 (FM)	NIMH							1700 MAh	6
NNTH4437	XTS 3500, 5000 (FM)	NIMH							1700 MAh	4
NNTH6034	XTS 3500, 5000	Li-Ion							4150 MAh	2
NNTN7033	APX 5000, 6000, 7000	Li-Ion							4100 MAh	8
NNTN7033A	APX 5000, 6000, 7000	Li-Ion	YES						4100 MAh	1
NNTN7034	APX 5000, 6000, 7000	Li-Ion							4200 MAh	4
NNTN7034A	APX 5000, 6000, 7000	Li-Ion							4100 MAh	1

Chapter 6

System Preferences Settings

The System Preferences feature allows the authorized person to change various IMPRES™ Battery Fleet Management operational parameters for battery and radio preferences.

Changing the following parameters allows the radio and battery data to be filtered according to the desired preferences.


Preference	Descriptions
Service Life Health (%)	This determines the percentage of the battery health, or below, that the batteries have by the end of their service life.
Service Life Age (Days)	This determines the number of days after the date of manufacture, or below, that the batteries have by the end of their service life.
Dormant Battery (Days)	The number of days that qualifies the radios as dormant or inactive since their last use.
Inactive Battery Purge (Months)	The maximum number of months that inactive batteries can be stored in the database. Batteries that are inactive for longer than the specified number of months is removed automatically.
Battery Data Refresh Timer (Days)	The maximum number of days between battery data reads. The range is from 7 to 21 days.
Dormant Radios (Days)	The number of days that qualifies the radios as dormant or inactive since their last use.
Radio Hold Off Timer (Hours)	<p>The time period in which the radio should register its data on the IMPRES™ Fleet Management application after it powers up. The range is from 2 to 8 hours.</p> <p> NOTE: Larger radio fleets require longer hours to minimize message collisions and congestion during shift changes, where many radios power up within a short period of time.</p>
Radio History Purge (Months)	The maximum number of months that the radio history data can be stored in the database. Data that are present for longer than the specified number of months are automatically removed. The range is from 1 to 10 months.
Hide Hover Messages	View setting to either show or hide hover messages with information about various fields.
Show Radio Information	View setting to either show or hide radio information. If Over-the-Air (OTA) data is not collected, displaying radio information is not required.

Figure 28: Preferences Page

The screenshot displays the 'Preferences' page with a sidebar on the left containing icons for a battery, a lightning bolt, a document, and a gear. The 'Preferences' option is highlighted. The main content area is divided into three sections: 'Battery Settings', 'Radio Settings', and 'View Preferences'. 'Battery Settings' includes five input fields: 'End of Service Life Health (%)' (80), 'End of Service Life Age (Days)' (1000), 'Dormant Battery (Days)' (120), 'Inactive Battery Purge (Months)' (60), and 'Battery Data Refresh Timer (Days)' (7). 'Radio Settings' includes three input fields: 'Dormant Radio (Days)' (21), 'Radio Hold Off Timer (Hours)' (2), and 'Radio History Purge (Months)' (10). 'View Preferences' includes three toggle switches: 'Hide Hover Messages', 'Show Radio Information', and 'Hide Not Reported'. A blue 'Save' button is located at the bottom of the 'View Preferences' section.

Battery Settings	
End of Service Life Health (%)	80
End of Service Life Age (Days)	1000
Dormant Battery (Days)	120
Inactive Battery Purge (Months)	60
Battery Data Refresh Timer (Days)	7

Radio Settings	
Dormant Radio (Days)	21
Radio Hold Off Timer (Hours)	2
Radio History Purge (Months)	10

View Preferences	
Hide Hover Messages	<input type="checkbox"/>
Show Radio Information	<input type="checkbox"/>
Hide Not Reported	<input type="checkbox"/>

Save

6.1

Edit and Change Battery Groups

Battery Fleet Management supports the ability to assign a battery or set of batteries to a BATTERY GROUP. This allows for creating a collection with a specific user definable name such as PRECINCT 4 or FIRE GROUP 3 and tag batteries to be in such a group assignment.

6.1.1

Creating a Battery Group

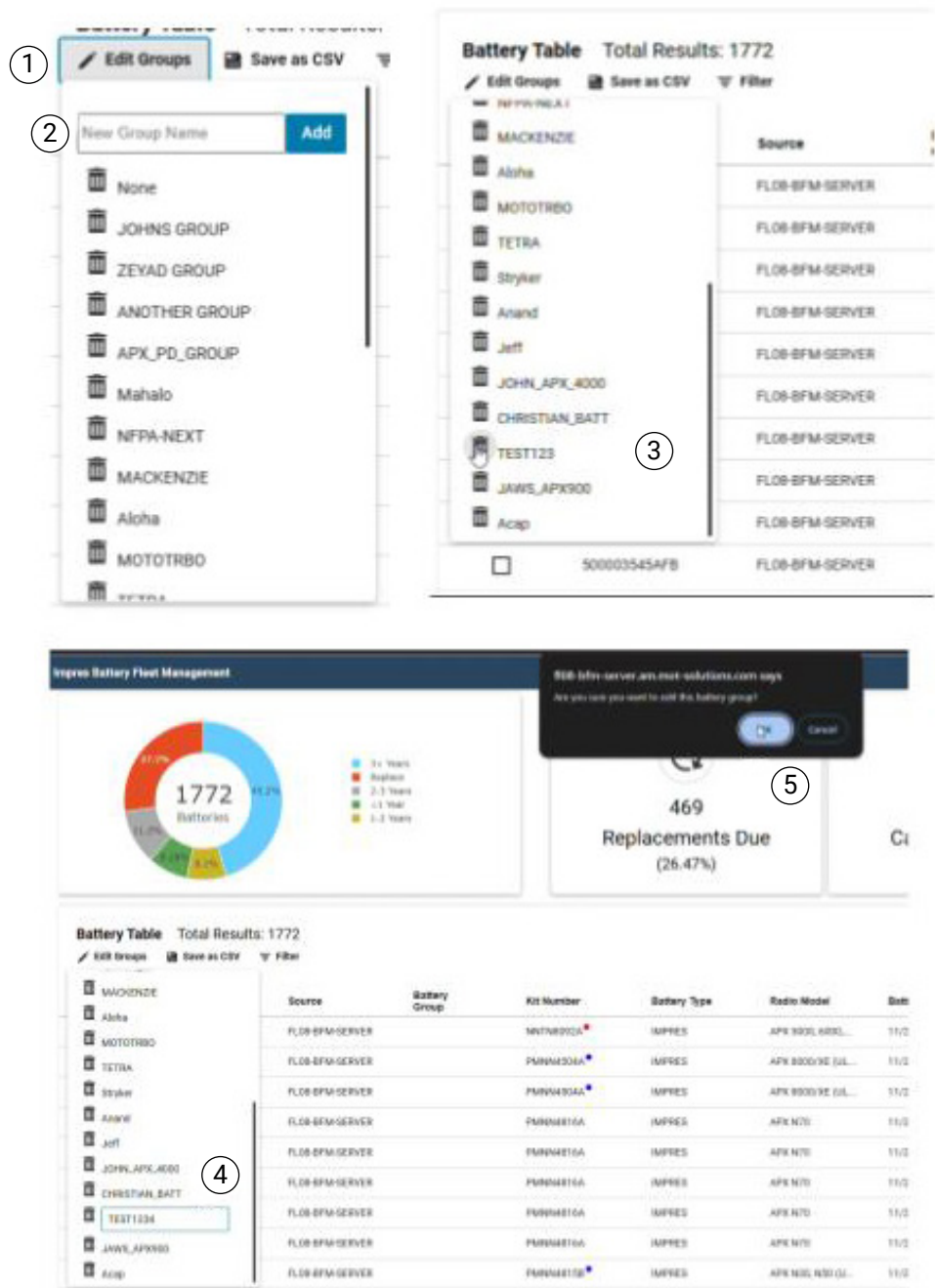
Procedure:

1. Navigate to the battery dashboard details table and click the **Edit Groups** button.
2. To add a new group, type in a new group name and click the **Add** button.
3. To remove an existing group, click the **Trash** icon in the drop-down list.
4. To edit an existing group, click the name of the group that you want to change and type the new name in the text box.
5. Click out of the text box after editing and click **OK** to accept the changes or click **Cancel** to reject the changes.



NOTE: The **None** group cannot be deleted or changed.

Figure 29: Editing Battery Groups



6.1.2 Assigning a Battery to a Battery Group

Procedure:

1. To assign a battery to a group, select **Group Name** from the → **Battery Details** → **Battery Details Modal** section.
A drop down menu appears, displaying the list of group names that can be assigned.

2. Choose the group name or select **None** to unassign.
The changes are saved when you clicked away from the drop down menu.

Figure 30: Assigning Battery to a Group

Battery Details

Serial Number

50000311CBD9

Rated Capacity

5600

Total Impres
Charge Cycles

14

Last Seen Charger/OTA
Hub:EMUC:10.53.41.44
Last Charger:EMUC (ID:
065TYT0220)
Pocket: 10

None

APX_FIRE_GROUP

Zeyad_Group

APX_TEST_TEAM

APX_PD_GROUP

Mahalo

NFPA-NEXT

MACKENZIE

Aloha

MOTOTRBO

TETRA

Radio Family

KP7000

Percent Health Remaining

106%

Total Calibration Cycles

Status

NO GROUP

Active

6.1.3
Assigning Multiple Batteries to a Battery Group

Procedure:

1. In the **Battery Table**, select all the batteries you want to assign to a specific group.
2. Click on the **Assign to Group** button at the top of the table.
3. Choose the group name from the drop down menu or select **None** to unassign.
The changes are saved when you clicked away from the drop down menu. The selected batteries are assigned to the selected group.

Figure 31: Assigning Batteries to a Group

Battery Table

Total Results: 636

Set Status

Assign to Group

Edit Groups

Save as CSV

Filter

		Radio Alias	Radio Last Re...	Battery Group
<input checked="" type="checkbox"/>	APX_FIRE_GROUP			
<input checked="" type="checkbox"/>	Zeyad_Group			
<input checked="" type="checkbox"/>	APX_TEST_TEAM	APX_James2		Mahalo
<input checked="" type="checkbox"/>	APX_PD_GROUP			
<input type="checkbox"/>	Mahalo			
<input type="checkbox"/>	NFPA-NEXT			
<input type="checkbox"/>	MACKENZIE			
<input type="checkbox"/>	Aloha			
<input type="checkbox"/>	MOTOTRBO			
<input type="checkbox"/>	TETRA			
<input type="checkbox"/>	500003124036			

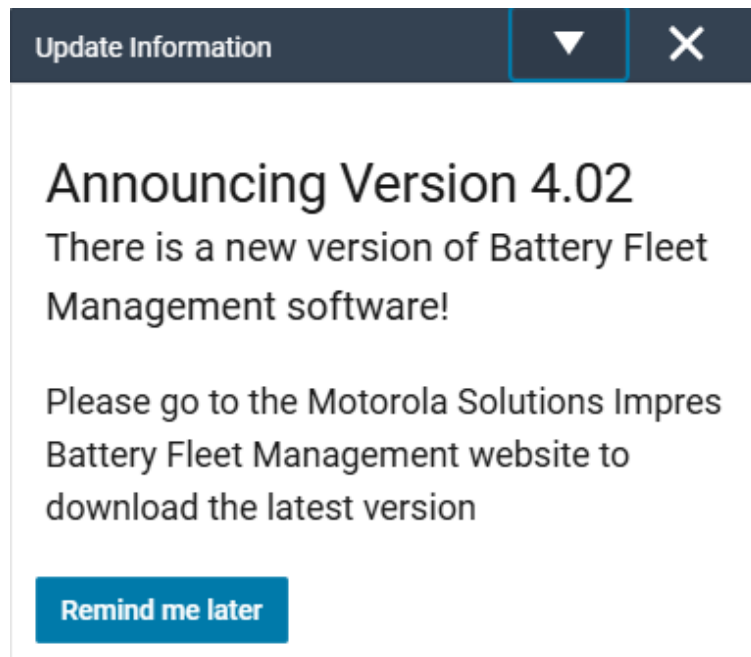
Chapter 7

Web Interface Update

The system checks the Motorola Solutions Battery Fleet Management periodically for the Battery Fleet Management upgrade version when the web service is connected to the internet.

If a new version is detected, the web interface displays the new version notification after the next web screen refresh.

Figure 32: New Version Display



The notification disappears when you click on the X icon.

The notification closes for five days when you click on **REMIND ME LATER**.

Chapter 8

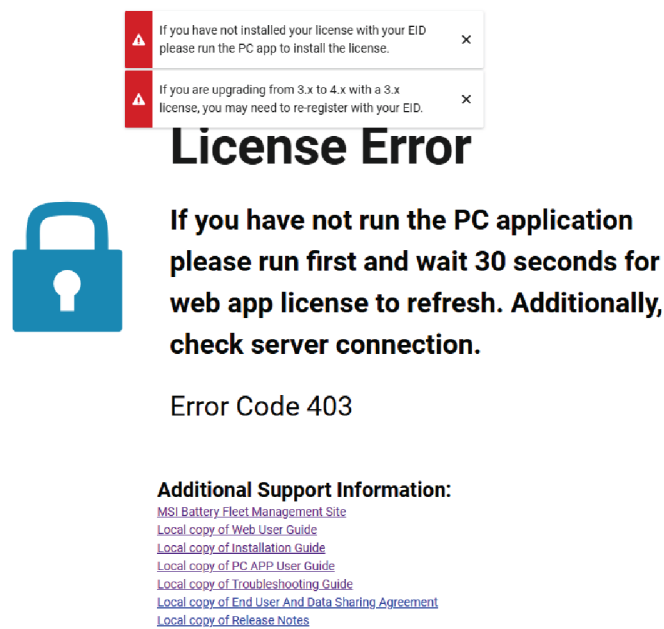
Troubleshooting Common Errors

Web Page Access Error

If the web browser displays an error screen, the followings are the possible causes:

- The EID/License was not entered in the PC APPLICATION first before using the web app.
- The SQL Database service is not running.
- The NODE_SQL service has a continuing fault.

Figure 33: License Error Page



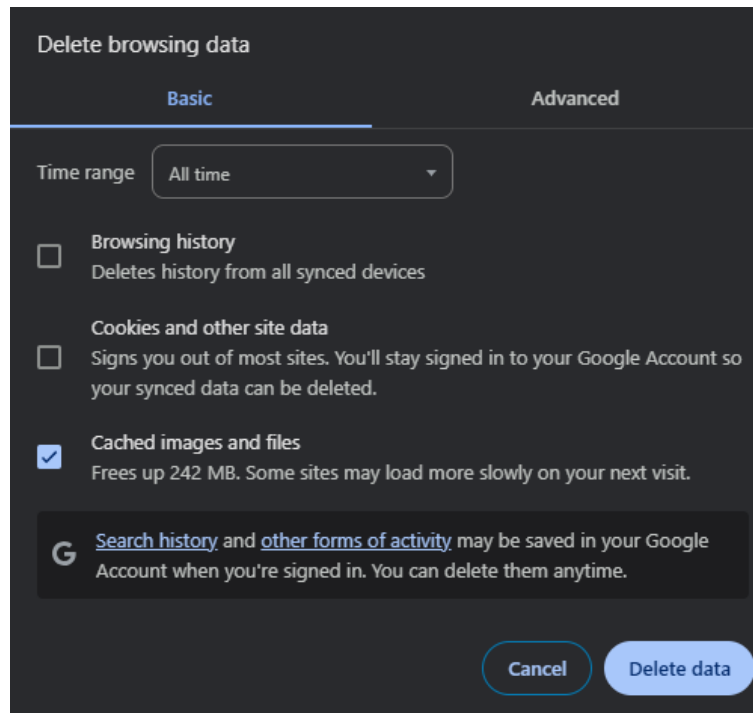
The Web Page Still Shows the Previous Version

The web browser is retaining a cache of the outdated web application. To resolve, navigate to the browser cache settings and clear the cache. Clearing the cache of images and files from the last hour enables the new web application to load.



NOTE: For Google Chrome, pressing **CTRL-SHIFT-DEL** brings up the clear cache dialog.

Figure 34: Clearing Browser Cache



The Web Browser Reports an Error Accessing the Database

The SQL EXPRESS service is not running or unable to run or some permissions for the web application to access the database are not configured properly.

Figure 35: Not Connected to Database

Connection Status: **Not Connected to Database**

The Web Browser Unable to Connect to the WEB SERVICE

The WEB SERVICE is not running or the web service node applications are aborting.

Figure 36: Error Connecting to BFM Service

Connection Status: **Error Connecting to BFM Service**