Product User Manual

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1 Introduction to Orien

Orien is a Total Asset Management Solution designed for organisations seeking to maximise return on investment and improve cost to revenue ratios. Orien brings together Ausenco's proven methodologies to assist your organisation to maximise the life of your assets and ultimately your bottom line.

Orien optimises the Life Cycle Plans of your assets, maximising their value to the business and ensuring the greatest return on stakeholder investment.

Orien is a next generation software solution offering the only comprehensive approach to Total Life Cycle Planning in an enterprise grade system.

1.1 BENEFITS OF ORIEN

Orien provides a single-entry point to define the business's requirements and relate them to the required performance of their assets. In addition, it enables iteration of changing requirements to ensure the optimal solution is never far away.

Built using the latest technology Orien is a user-friendly Enterprise Management Tool that can be integrated with your existing Maintenance Management Systems. Orien is helping organisations worldwide better manage their assets by understanding the true cost drivers within the business.

1.2 FEATURES OF ORIEN

Orien is a web based "software as a service" application. The architecture makes it compatible for Web Execution Platforms (WEP) integration and CMMS integration.

Being web based, Orien offers many advantages that web users will be familiar with:

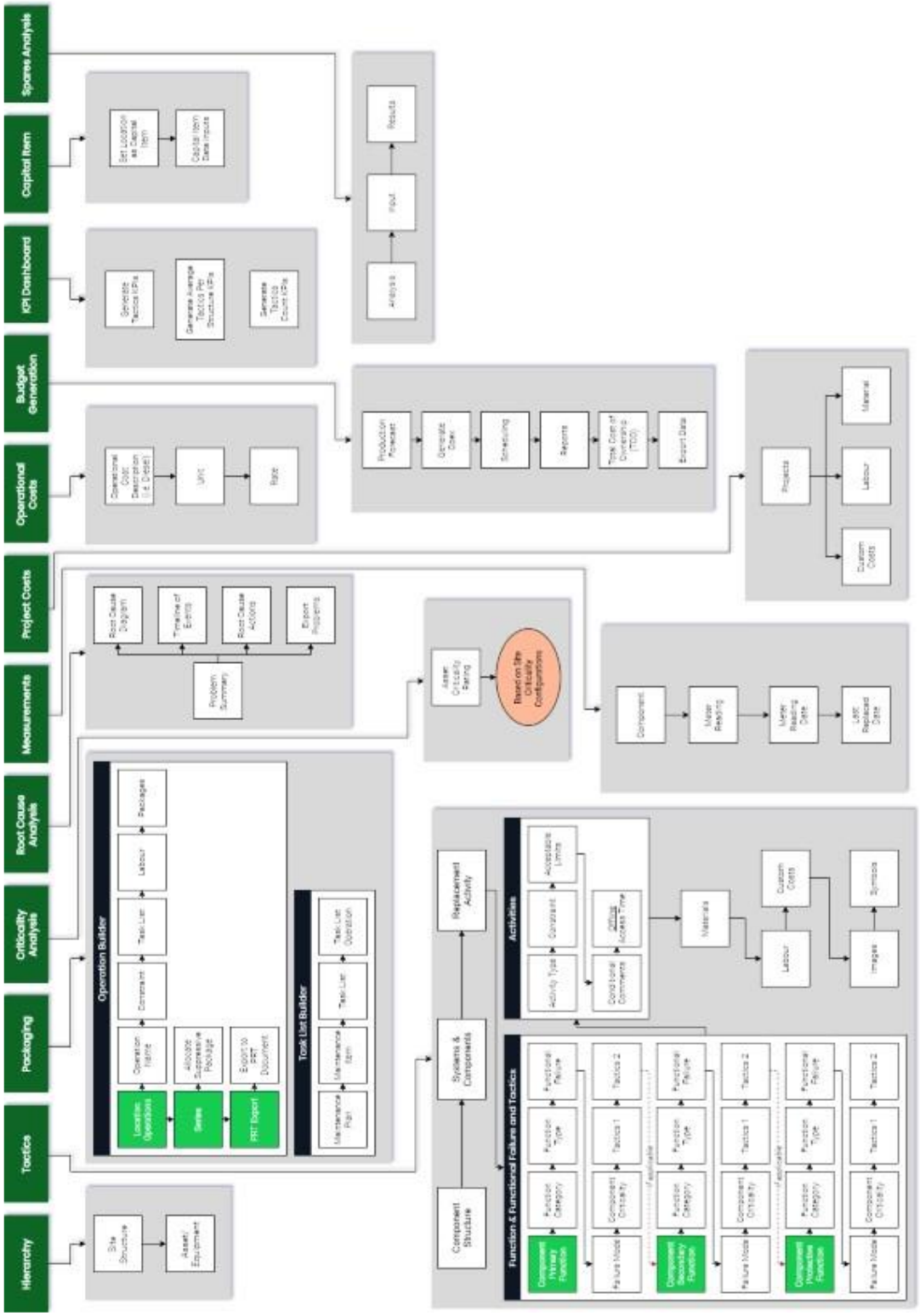
- Multi-platform access (PC/MAC/tablet)
- Simple user on-boarding
- Global access
- Bookmarks
- Back and forward buttons
- History

Orien has industry standard authentication (login) that inherits the security policy of customer's organization, allowing for simpler and more secure user access (via active directory user, no need for CITRIX, etc.).

Data migration/integration has destination approval/acceptance which enables data migration flow control to source-of-truth library.

1.3 FUNCTIONALITY OVERVIEW

The flowchart below provides a brief overview of the various functions available with Orien.



1.4 ORIEN SUPPORT

The current Orien Helpdesk is available from **8:00am – 5:00pm (AEST)** for all Orien queries. The Orien Helpdesk can be contacted via email, phone or through a support ticket lodged at Zendesk. The Orien website and Release Notes can provide helpful information and procedures for assisting in the use of Orien.

Orien Support Centre: https://orien.zendesk.com/

Orien Enquiries: +61 (07) 5334 9800

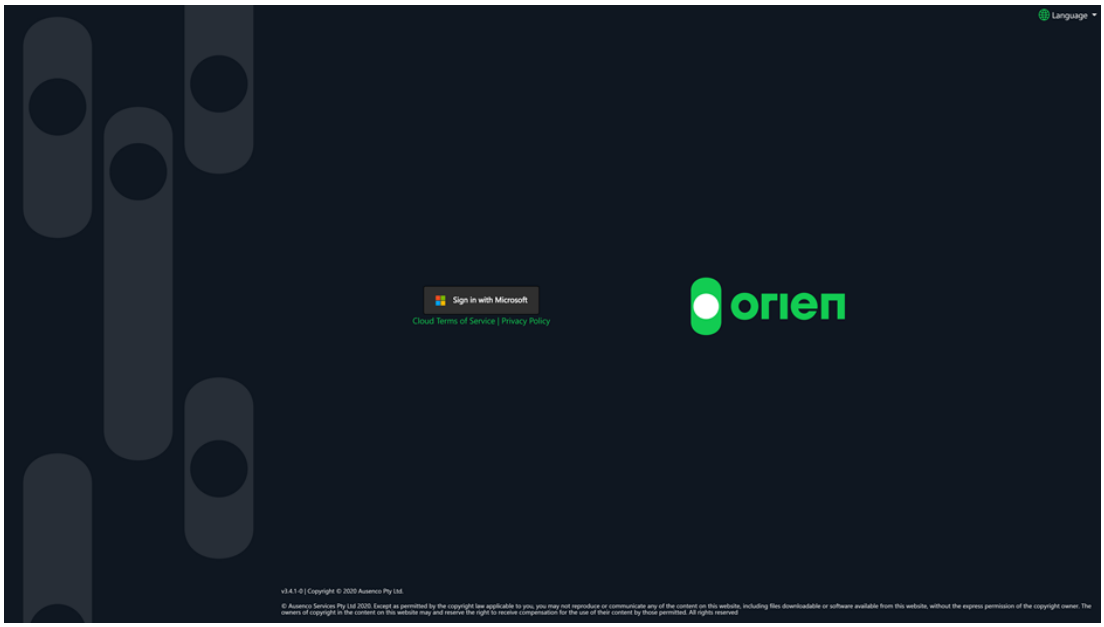
Orien Help Desk: +61 (07) 5334 9898

Orien Email: support@orien.zendesk.com

Within Orien you can click on our help button (situated at the top right-hand corner) to open a support window. This will allow you to view our knowledge base or send us a message through to our support desk.

2 Access & Navigation

The Orien login screen provides the entry point to the system. Once your Orien account has been created, and you sign in with your Microsoft Azure enabled account, you will be presented with the Orien application.



2.1 AZURE ACTIVE DIRECTORY LOGIN (SIGN IN WITH MICROSOFT)

The Azure Active Directory (Azure AD) enterprise identity service provides single sign-on and multi-factor authentication.

How to login:

1. Go to https://au.orien.app/login
2. Click on the ***Sign in with Microsoft*** button. You may see the screen flash a couple of times. This is normal as Active Directory is attempting to log you in.
3. Select your account (you may have to select ***Use Another Account*** to add your email).
4. Enter your credentials. Login using your active directory details.
5. You may see the page refresh as Active Directory logs you into Orien.
6. If you see ***Hierarchy Not Available***, your user account/profile has not been setup or given access to any databases.
7. Please lodge a support request by contacting support@orien.zendesk.com

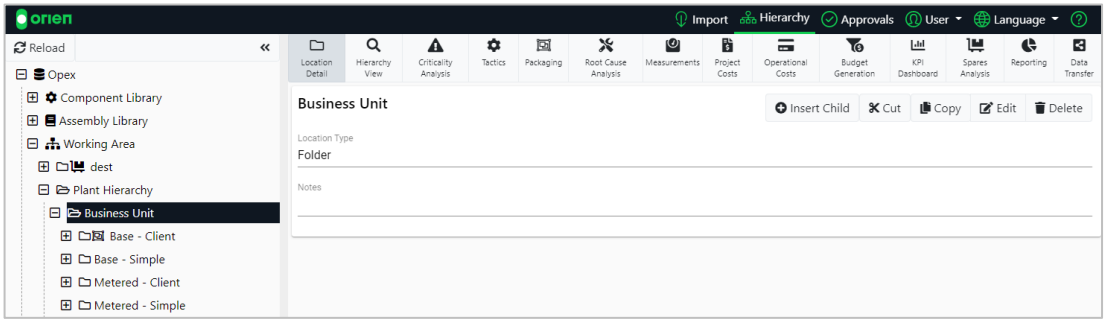
> **!** **IMPORTANT**
>
> We do not store your password or have access to this password. This is all handled by Microsoft.

2.2 NAVIGATING ORIEN

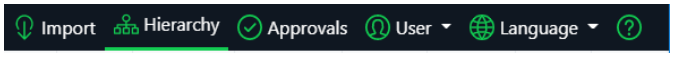
The figure below illustrates the main view of Orien. At the top right-hand side of the page is the main banner. This banner enables the user to configure elements related to their user, project, and the application.

The window on the left contains your hierarchy tree. The hierarchy is used to define a business organisation and the assets being managed into a hierarchical structure.

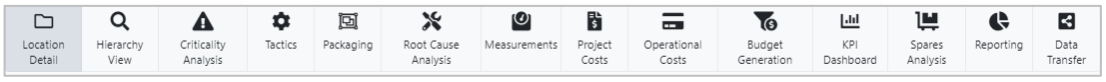
The modes/modules banner contains a variety of buttons, allowing for navigation between different modes available to the user. This banner will dynamically change the options available to the user based on the mode the user currently has selected, where the user is selected in the Hierarchy Tree and what permissions are assigned to the logged in user.



At the top right-hand side of the webpage is the main banner, as shown below. This banner enables the user to configure elements related to their user, project, and the application.



The secondary banner beneath the main banner contains a variety of buttons, allowing for navigation between different modes available to the user (as shown below). This banner will dynamically change the options available to the user based on the mode the user currently has selected, where the user is selected in the Hierarchy Tree and what permissions are assigned to the logged in user.



The figure below presents the view controls for Orien. The first button from the left prompts the application to refresh the Hierarchy tree, allowing any new or updated data to be reloaded in the tree. The arrow button hides the Hierarchy tree and shows the informational panel in full screen.

Once hidden, the arrow will point the other way. When selected it will show the Hierarchy tree alongside the information panel.

> **IMPORTANT**
>
> The primary navigation mechanism in Orien is by using the tree hierarchy, which is displayed on the left-hand side of the screen.

It is also important to become familiar with the standard User Interface (UI) components that you will encounter. Becoming familiar with these components is essential for the trouble-free use of Orien.

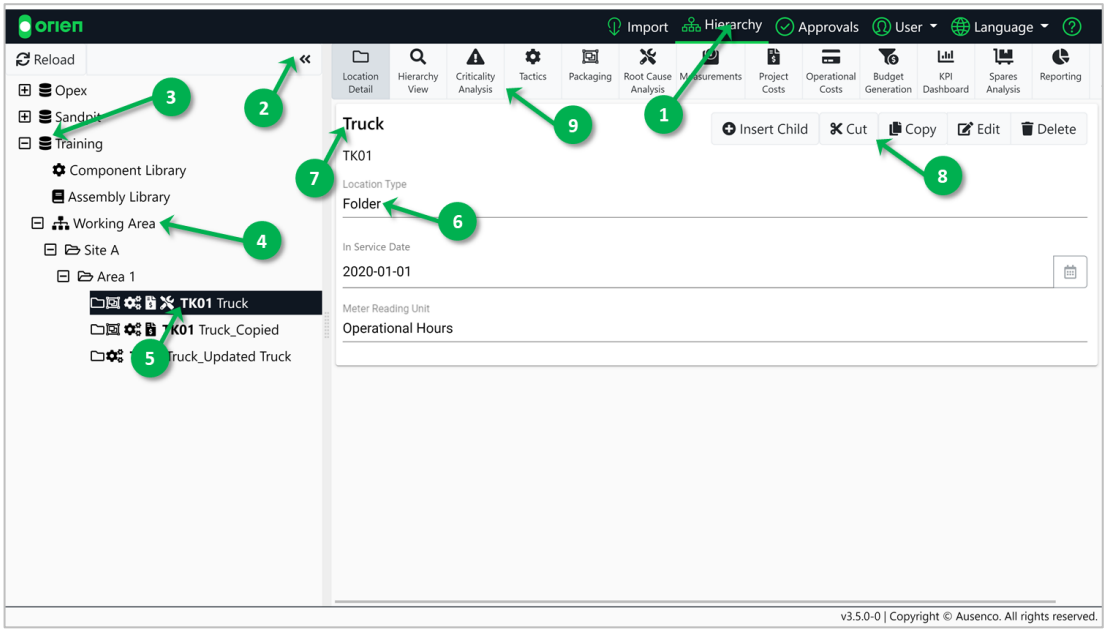


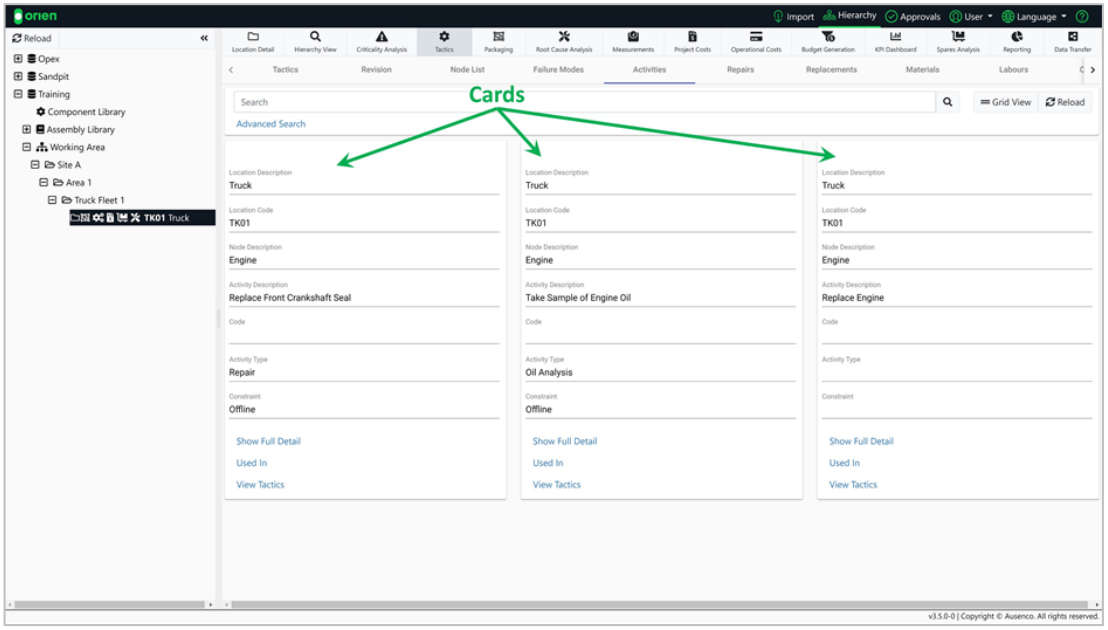
Table 2-1 Hierarchy Screen Breakdown Description

No.	Item	Description
1	Hierarchy Mode	Enables Hierarchy navigation.
2	View Control	Change view between a single window or dual window with Hierarchy shown.
3	Database	The currently connected database that is being used to store the information.
4	Working Area	Represents the organisational structure where all relevant assets are built under.
5	Functional Location	Defines the commercial entity or location.
6	Location Type	Defines the conceptual entity that is maintained.
7	Selected Item Card	Contains the information relating to the Functional Location, Equipment or component selected in the Hierarchy Tree.
8	Card Components	Buttons that allow the selected option to be ran against the card that is selected.
9	Modes/Modules Selection	Available modes that are currently accessible to the user.

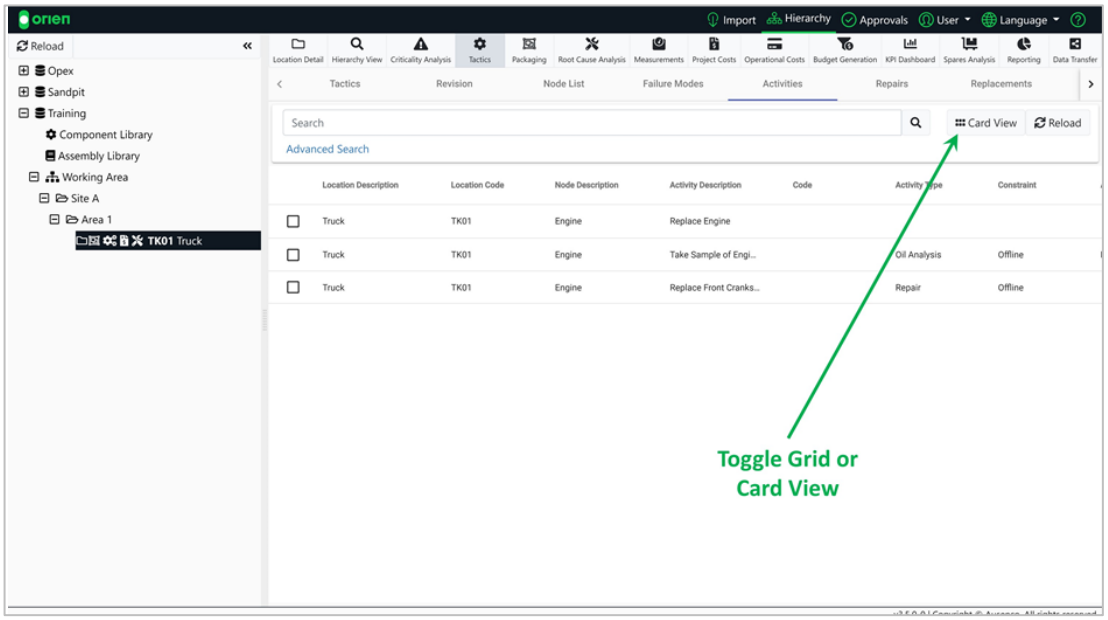
2.3 CARDS

Orien uses the concept of cards. Cards are a design principle in which content is displayed using a consistent font, style, and enclosure. Throughout the application of Orien you will be able to directly interact with cards as they will contain the necessary buttons to create, read, update, and delete information displayed on those cards.

Each card has interactable controls embedded into each element and display information relating to that object. These interactable controls allow you to modify information, create new entries, search, and filter your results and more throughout the application.



You can toggle between ***Card View*** and ***Grid View*** by clicking the button.

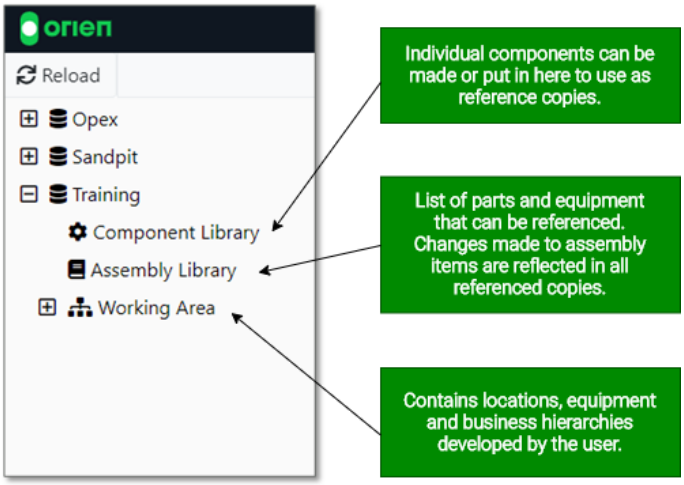


3 Understanding the Hierarchy

The hierarchy is used to define a business organisation and the assets being managed into a hierarchical structure. This hierarchy is the backbone of the system, creating a navigatable description of the commercial entity (business unit) through to the individual assets being managed.

The hierarchy contains three primary areas:

1. Component Library
2. Assembly Library
3. Working Area



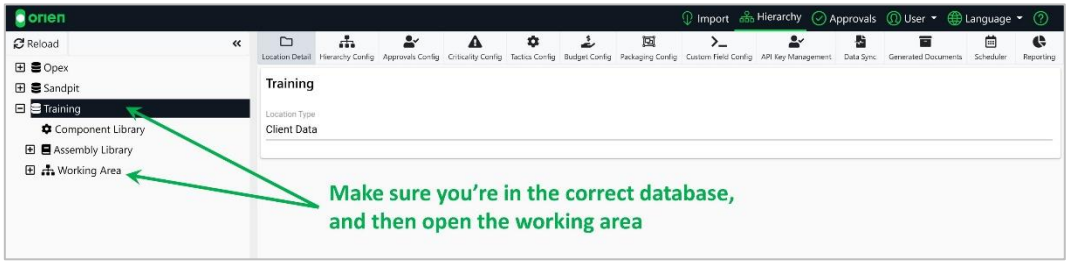
The key concepts of the tree hierarchy are:

- **FOLDER:** Allows conceptual grouping of areas of the tree.
- **FUNCTIONAL LOCATION:** Defines the commercial entity or location.
- **EQUIPMENT:** Defines the conceptual entity that is maintained. Typically, equipment represents a physical entity such as mobile fleet items (i.e. trucks, excavators, etc.) but can equally represent fixed plant (i.e. conveyors, crushers, etc.).
- **COMPONENT/ASSEMBLY LIBRARY:** Allows the user to develop a library of parts and equipment that can then be referenced. The benefit of this is that changes made to the library item are reflected in all referenced copies.
- **REFERENCE:** A reference is a copy of an item that links back to the original item.
- **WORKING AREA:** An area of the hierarchy that allows users to create and edit items without effecting the integrity of SAP or Plant Hierarchy.
- **MODULE:** Refers to the modes on the right-hand side on the screen which change the functionality of Orien.
- **CLIENT DATA:** The top node reference in your hierarchy. This is often also referred to as your database.

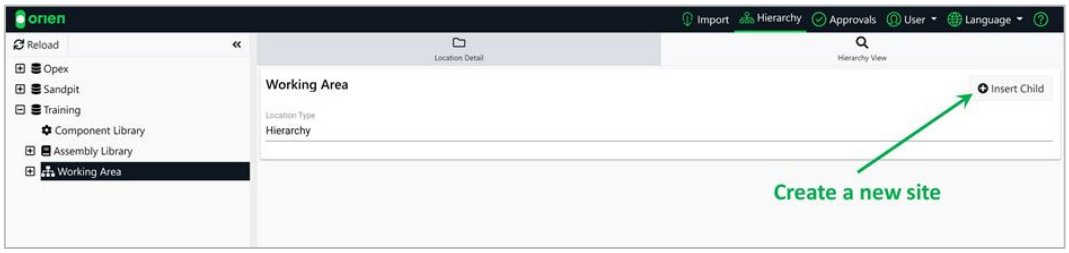
3.1 CREATING AN ASSET HIERARCHY

Creating an asset hierarchy in Orien involves several steps. Let's review these in some more detail.

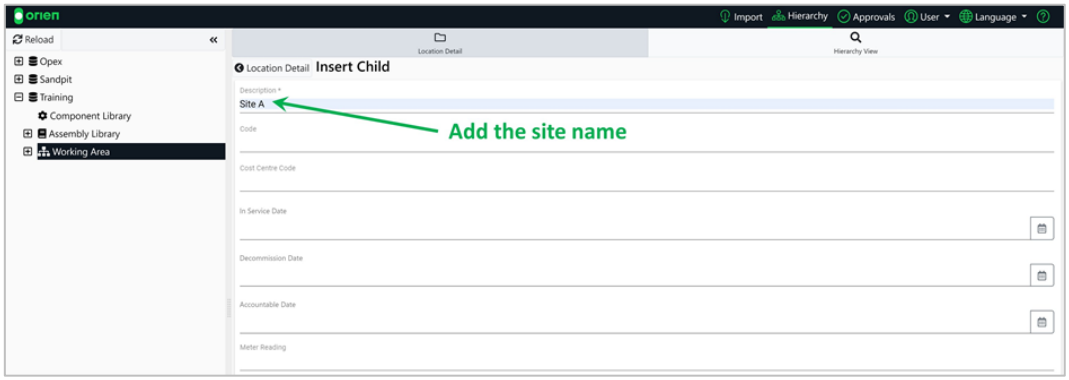
1. To start building an asset hierarchy, firstly you need to open the ***Working Area***.



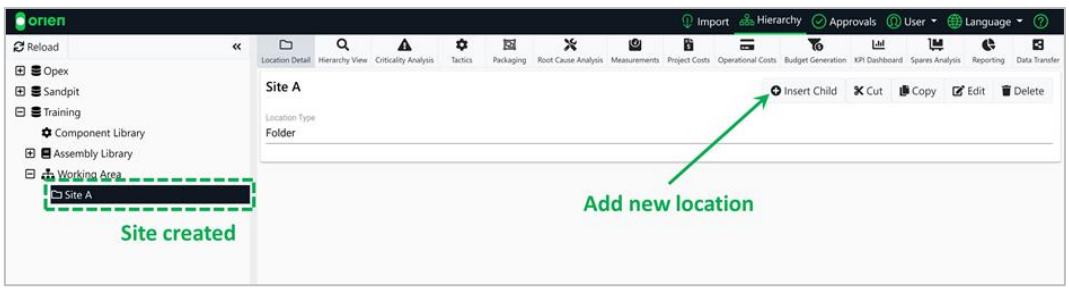
2. Now you can create a site in your working area. Clicking the ***Insert Child*** button allows you to add a new site.



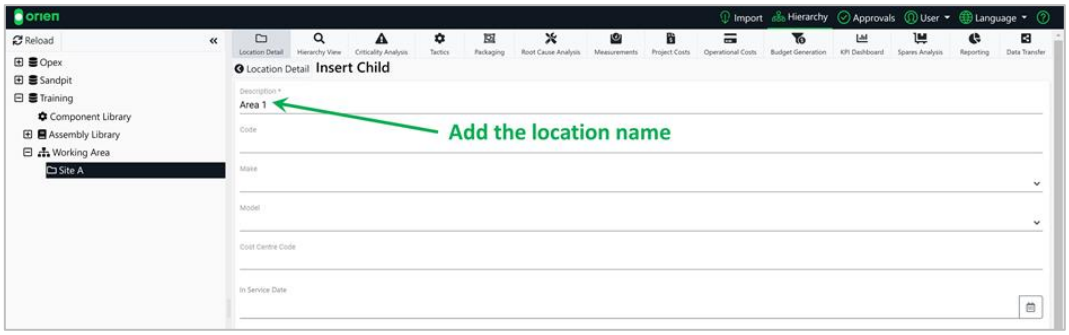
3. Create the new site by adding a name into the description field, and then complete all other relevant fields. Save your new site once you have finished.



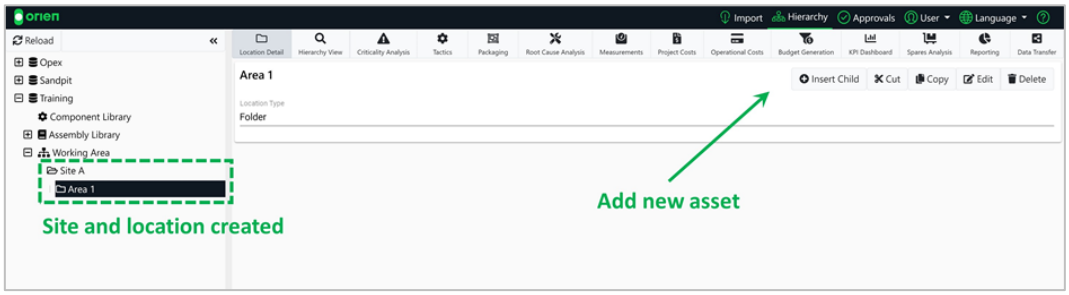
4. Now you can add your first location. It might be a physical location (ABC Smelter) or a group of assets (Mobile Fleet). Clicking the ***Insert Child*** button allows you to create a new location.



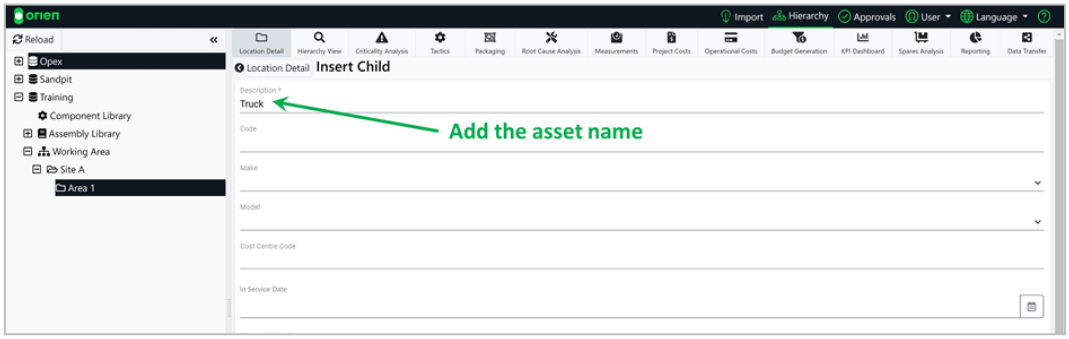
5. Create the new location by adding a name into the description field, and then complete all other relevant fields. Save your new location once you have finished.



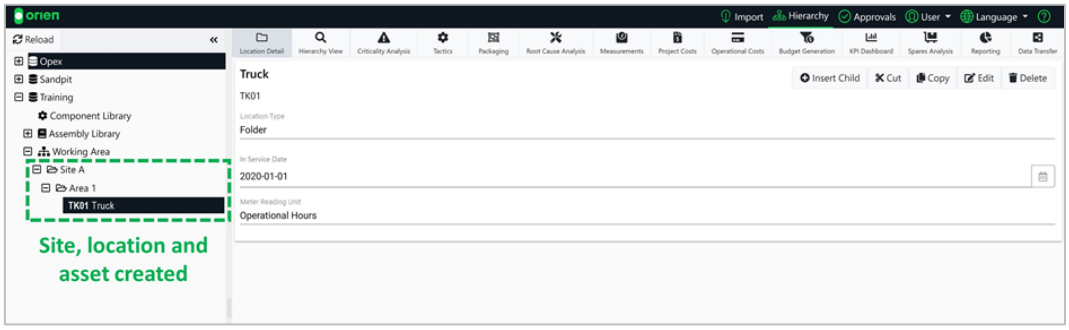
6. Now you can add your first asset. Clicking the ***Insert Child*** button allows you to add a new asset.



7. Create the new asset by adding a name into the description field, and then complete all other relevant fields. Save your new asset once you have finished.

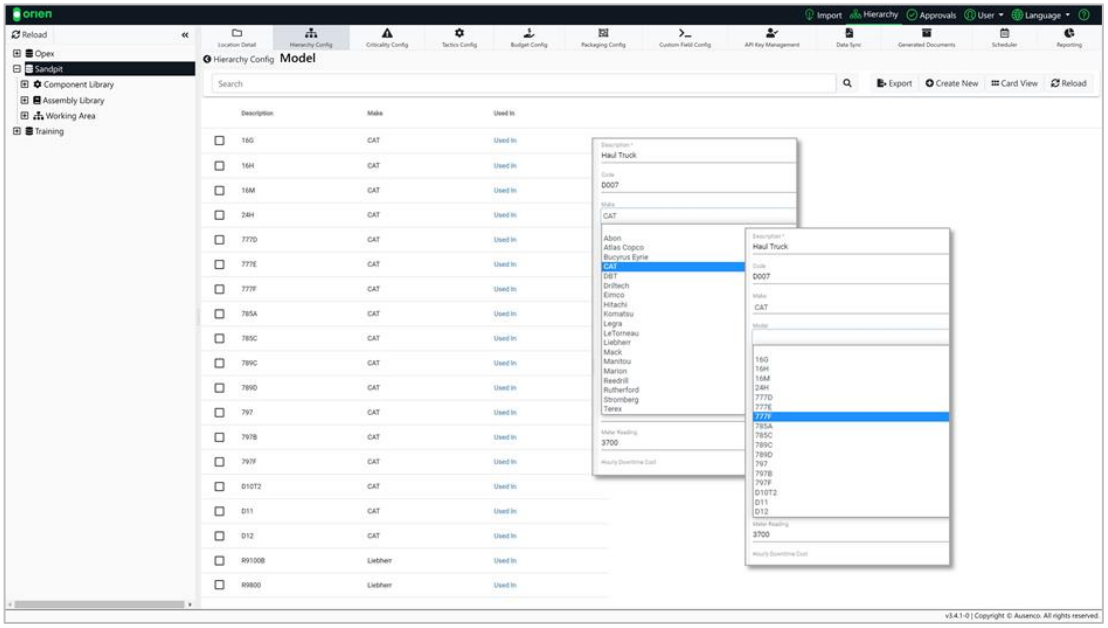


8. The asset hierarchy is now complete.

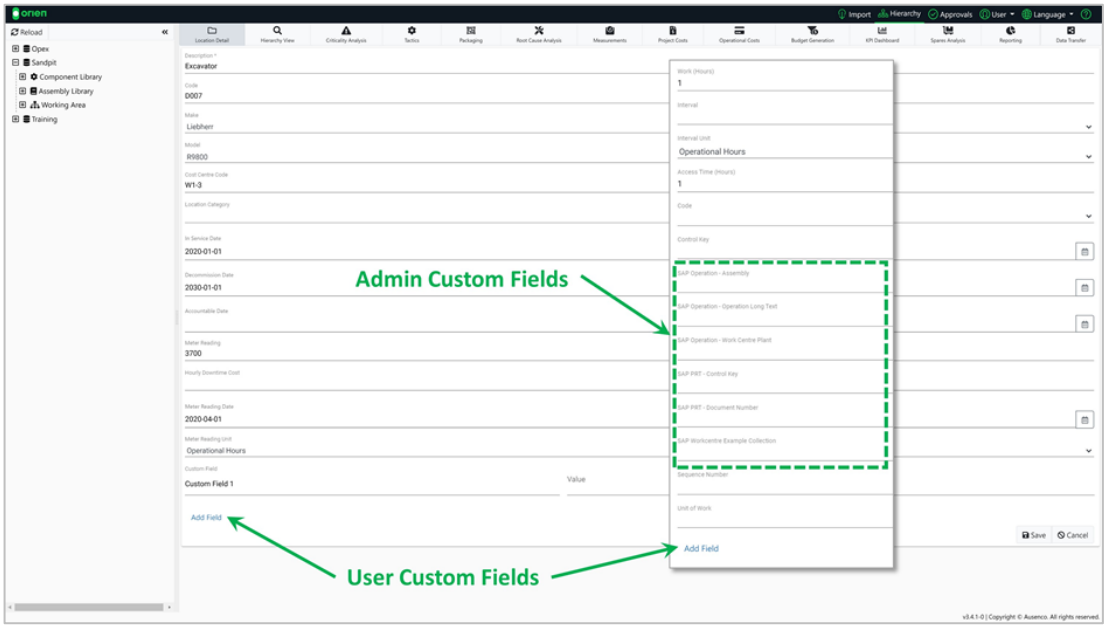


3.2 CUSTOM TABLES & FIELDS

Custom tables are available for equipment make and equipment model. These can be found in the database hierarchy configuration area. When applying these to equipment, Orien limits the selection of models to the appropriate make (i.e. a CAT 797 is valid but a Hitachi could not use 797).



Custom fields can be added throughout the software by the user to an area they are working in. Some users may see custom additional fields set up at administrative database level.



3.3 COMPONENTS

A component is any item for which maintenance can be performed, or where failures can be identified. Components enable users to define the functions of each component and the ways they can fail; this is referred to as Tactics.

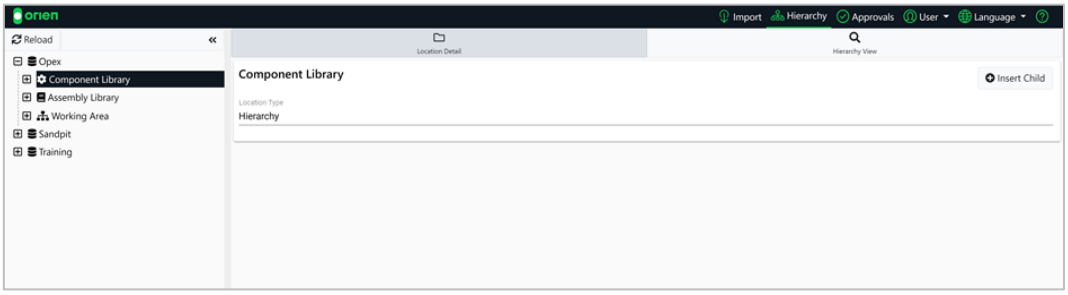
For more information on Tactics, please refer to section 4 Tactics Module.

3.3.1 Creating a New Component

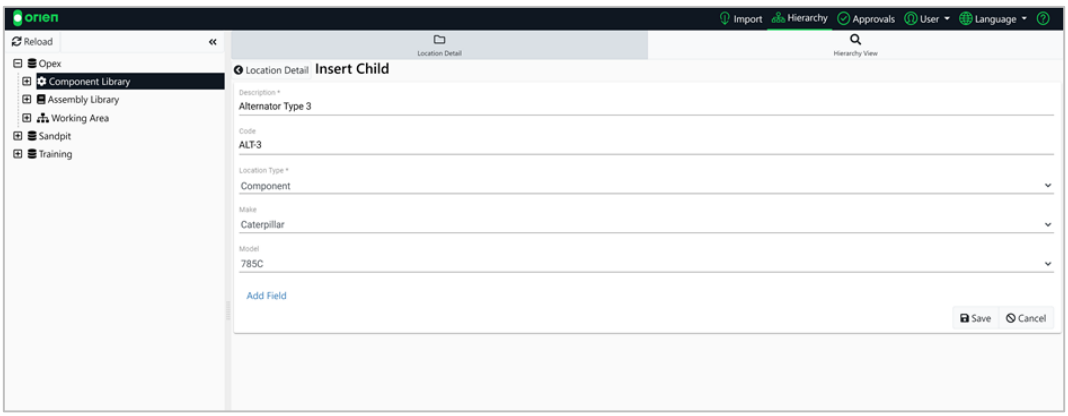
You can create new components in multiple ways. The first method is to create a component in the Component Library, as explained below. This will allow you to reuse the component throughout Orien (and make references to it).

Creating a component in the component library involves several steps. Let's review these in some more detail.

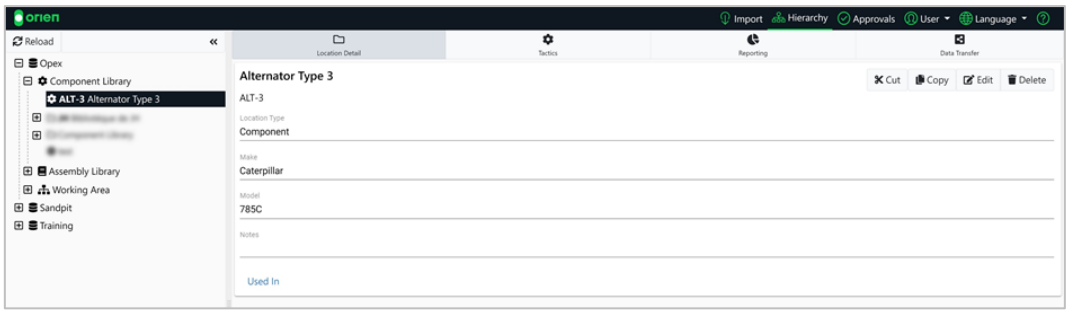
1. Select the ***Component Library*** (or a folder within the library) and the ***Insert Child*** button.



2. Create the new component by adding a name into the description field, add an item code (if required), and then choose whether it will be a component, or a folder to arrange other components.
    a) If you choose ***Component***, two additional fields will appear - Make and Model.
    b) If you choose ***Folder***, the make and model fields will not be shown.



3. Save your new component (or component folder) once you have finished, and you will see it appear in the hierarchy tree.



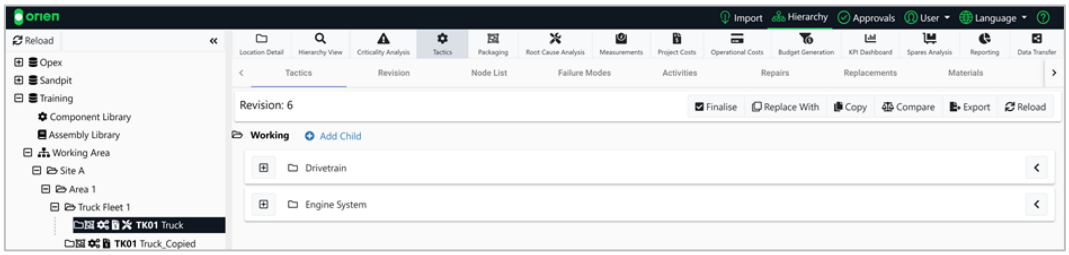
4. Once you have your component operational, you can select the Tactics module to start creating your Tactics for your component (refer to section 4 Tactics Module).

The second method of creating a component is through the Structures creation. This will be covered in more detail in 3.4 Structures.

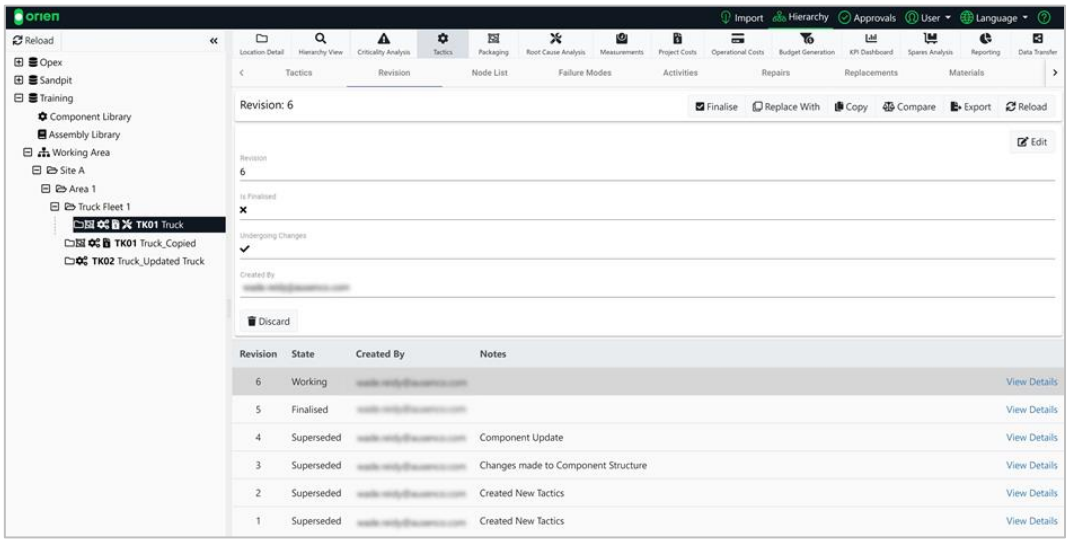
3.3.2 *Copying a Component*

Copying a component allows the user to duplicate a component from the component Library, a component attached to the equipment or location you are working in, or an equipment in the assembly library or from another equipment located elsewhere in the hierarchy.

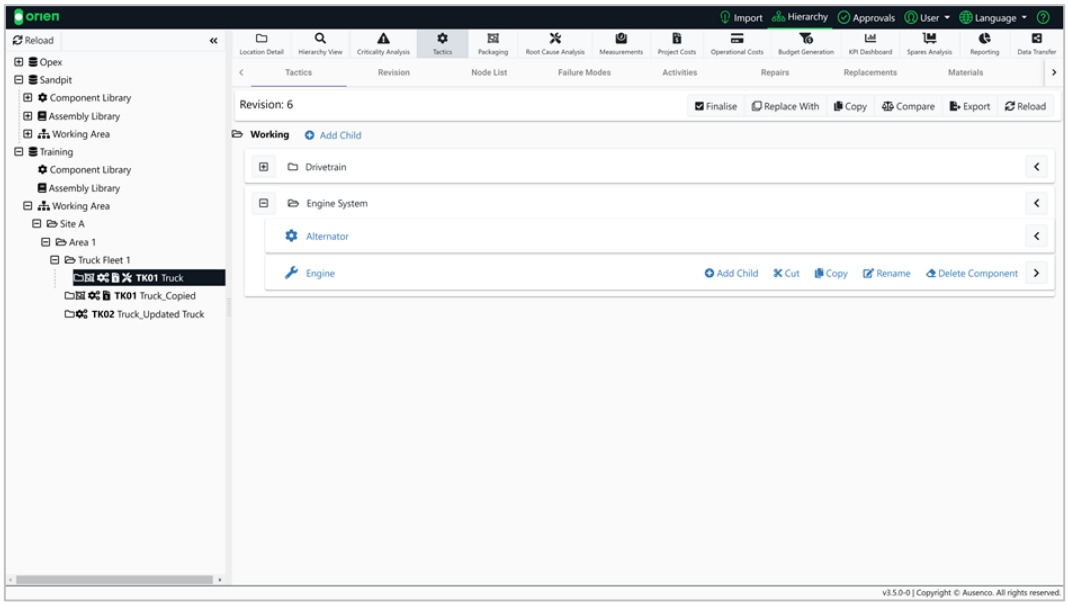
1. To copy a component, you need to be viewing the Component Structure. Navigate to the asset containing the component, and click on the ***Tactics*** module (for more information refer to section 3.4 Structures).



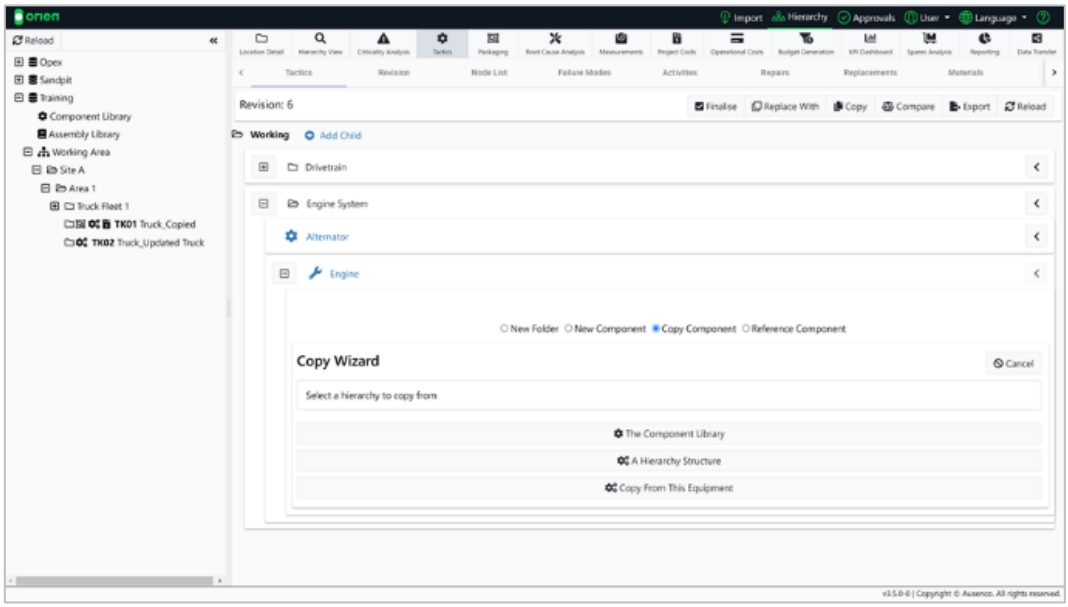
2. Ensure your structure is currently in a working revision. To do this, click on the ***Revision*** tab (for more information refer to section 7.1 Versioning & Revisions).



3. In the Tactics tab, click the arrow icon (‹) on the component you want to add the copy into, and then click on ***Add Child***.



4. Click the Copy Component radio button and select how you want to copy your component:

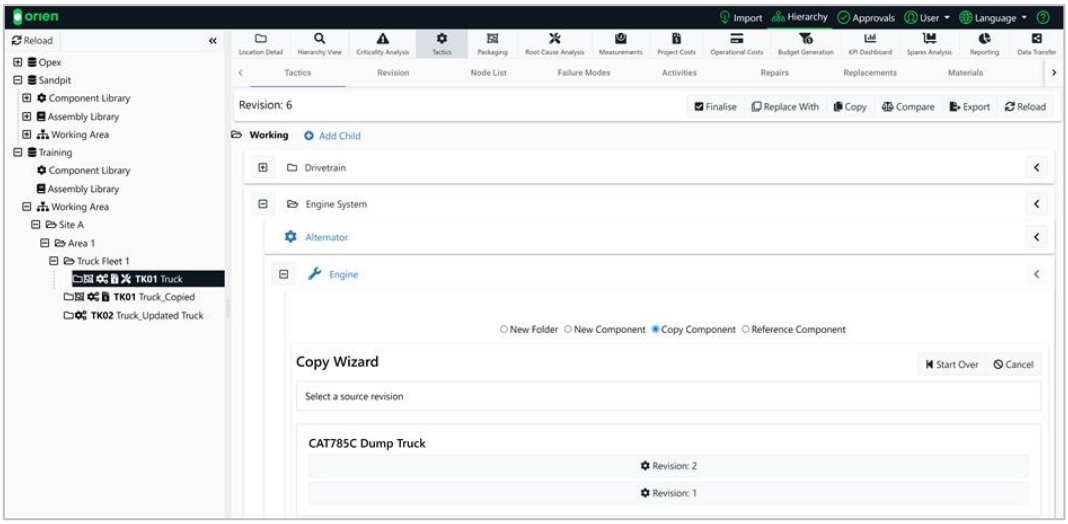


a) **THE COMPONENT LIBRARY:** Allows the user to select a component from the Component Library.

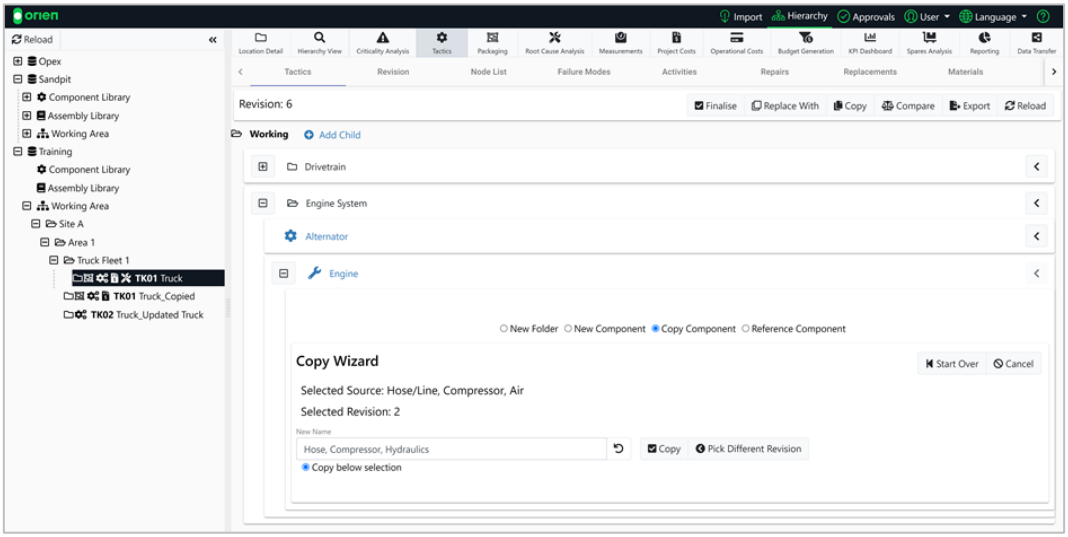
b) **A HIERARCHY STRUCTURE:** This will open the hierarchy allowing access to external equipment and locations to copy from.

c) **COPY FROM THIS EQUIPMENT:** Creates a copy of a component from the equipment or location you are currently working out.

5. Once you have selected your component to copy, you are prompted to which revision of that component to copy.



6. When the revision has been selected, name your component, and click on the ***Copy*** button to finish the copying process.



3.4 STRUCTURES

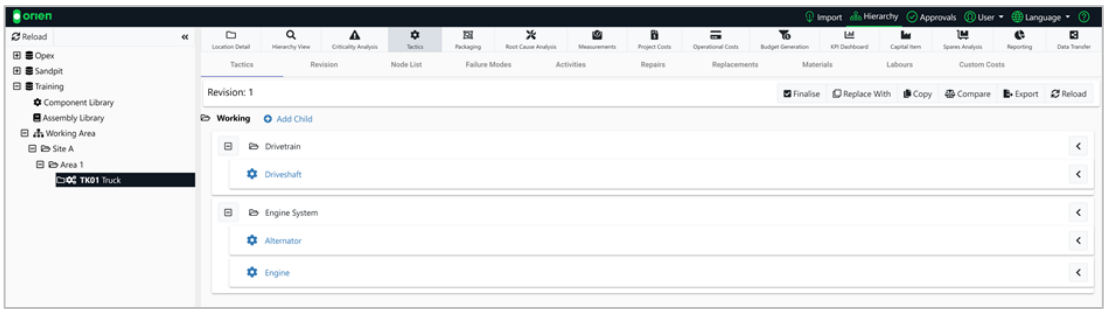
A Structure is a group of components that can be assigned to a location, business unit or equipment. Within a structure you will find the hierarchical information of assigned components attached to the selected item. The structure also contains revisions, which are snapshots of the data at different times.

To navigate to a structure:

1. Select the item in the hierarchy you are interested in viewing.

2. Select the ***Tactics*** module and then the Tactics tab (if required).

3. You can now see the structure of the selected item.

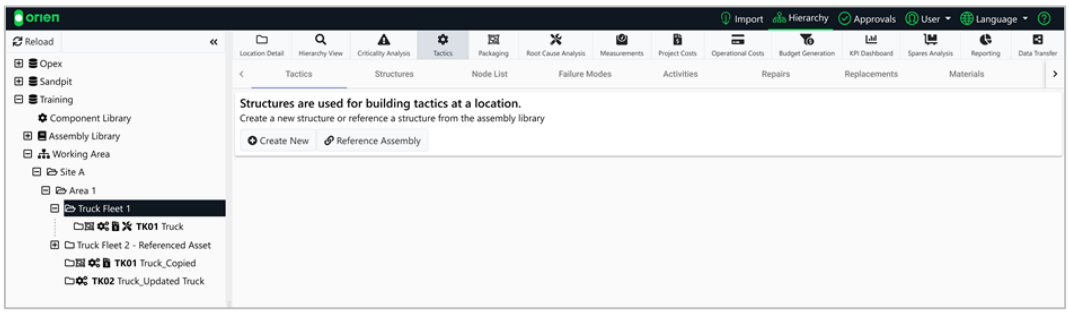


3.4.1 *Creating a New Structure*

Creating a new structure in Orien involves several steps. Let's review these in some more detail.

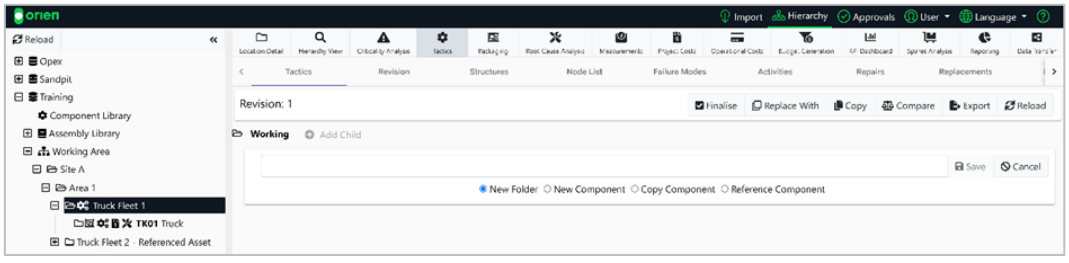
1. Select the item in the hierarchy you want to create the new structure for.

2. Select the ***Tactics*** module and then the Tactics tab (if required). You have the option to create a new structure, or to reference an existing structure from the Assembly Library.



3. Select the ***Create New*** button, and you will be presented with your first revision of your structure.

4. Select ***Add Child***, and the choose the appropriate radio button for how you want to design your structure:



a) **NEW FOLDER:** You will create a new folder in the component Hierarchy (enter the new name into text field and then save).

b) **NEW COMPONENT:** This option will allow you to create a new component and inserts it into the structure Hierarchy at that location. For more information on creating new components, for more information refer to section 3.3 Components.

c) **COMPONENT COPY:** Copies the information associated with a component from another location. For additional information on copying components, refer to section 3.3 Components.

d) **COMPONENT REFERENCE:** Reference a component located in your hierarchy. This will display a copy of the Hierarchy that you can navigate to, and find the component you want to create a reference towards. For more information on referencing components, refer to section 3.3 Components.

3.4.2 Structure Comparison

Comparing structures allows for easy visibility of differences between one structure and another. It enables the comparison of changes of in Tactics and the Structure of a Hierarchy. You can compare:

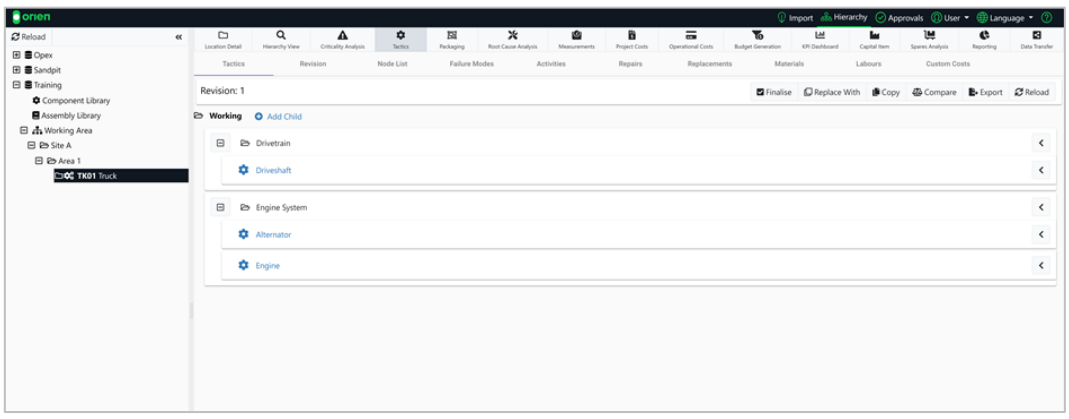
- Different revisions of the same structure (i.e. a comparison of Revision 6 against Revision 1 for Haul Truck HT0016).
- Structures for different assets (i.e. a comparison of Haul Truck HT0016 against Haul Truck HT0020).

Key terms displayed during the comparison process:

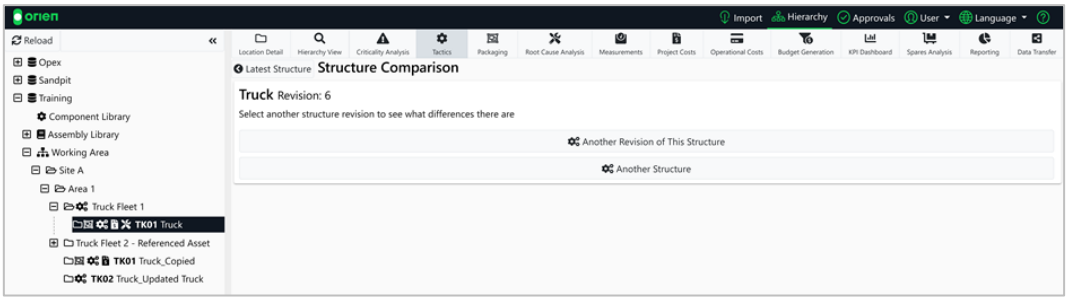
- **VIEW LEFT / RIGHT:** This will take you to the Tactic you are comparing allowing you to see the full details.
- **SELECT OTHER:** Use this prompt to select a new Revision or Tactic to Compare.
- **LEFT / RIGHT UNIQUE:** This indicates that this version is unique. This could be due to a value being added in or has been deleted. To view this notice the changes from one side to the other.
- **DIFFERENT:** When a value has changed it will be indicated by different.

Comparing a structure in Orien involves several steps. Let's review these in some more detail.

1. Choose the item in the hierarchy you want to compare, select the ***Tactics*** module and then the Tactics tab (if required). Select the ***Compare*** button.



2. Select how you want to compare your structure:

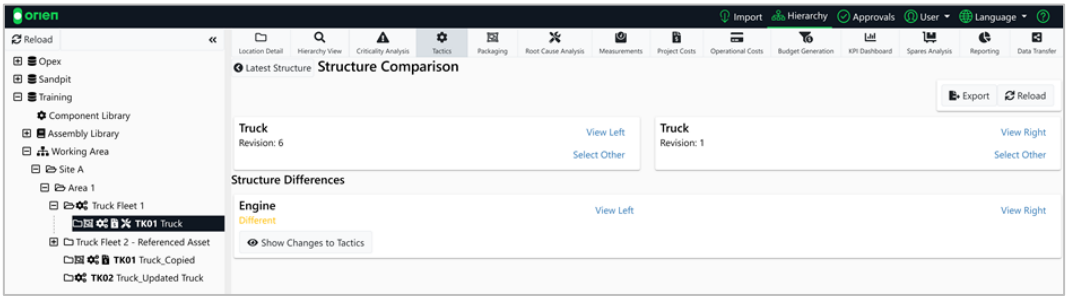


a) **ANOTHER REVISION OF THIS STRUCTURE:** Allows you to compare the earlier version of the current Structure.

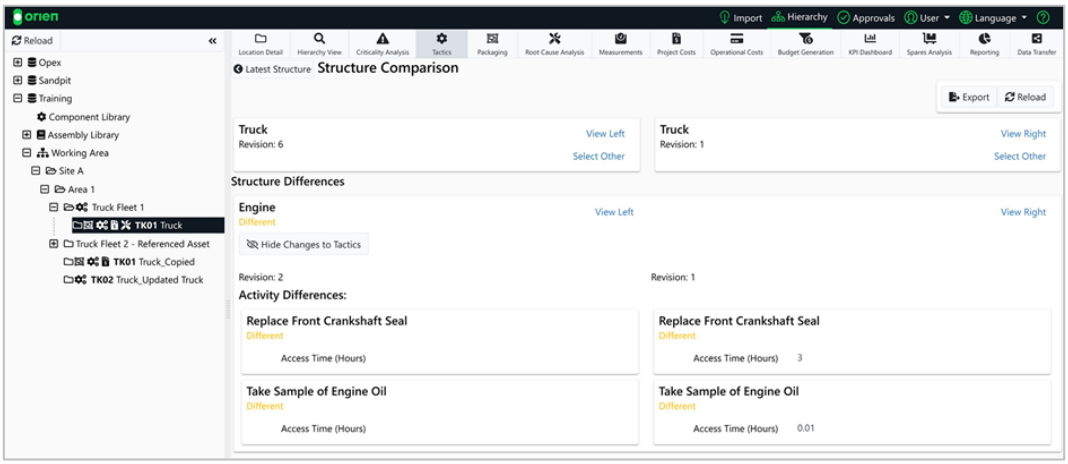
b) **ANOTHER STRUCTURE:** You will be presented with the Hierarchy to find the Tactic contained in that Structure.

> **IMPORTANT**
>
> If you see the message "**Structure compare has been queued for processing"**, click the Reload button.

3. Once you have selected the Structure and Revision, you will be presented with a summary of the comparison. You can browse the changes, select a new Structure to compare, view a Structure in the comparison and export the comparison.



4. Select ***Show Changes to Tactics*** to view the detailed comparison.



3.5 GRIDS

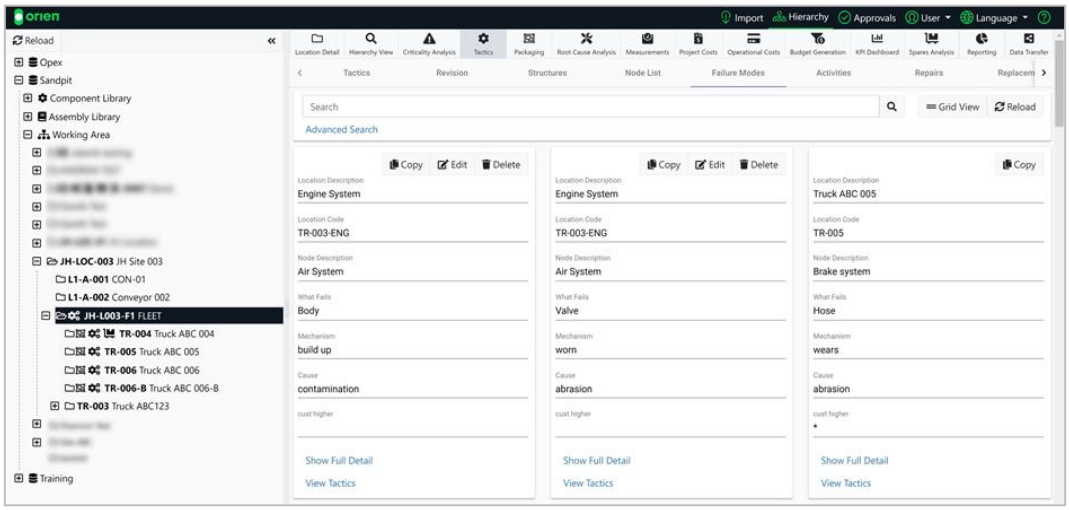
Grids are used throughout Orien to allow you to view bulk data in a compact standard. Grids can be toggled on when viewing certain modules and features that have the capability to switch from the ***Card View*** to the ***Grid View***. Some grids (such as the Tactics Module grids) will allow you to view the data for that Location and below in the hierarchy.

> **IMPORTANT**
>
> There is no bulk editing in the grid view; only single records can be adjusted. Please use data export functionality for large changes to your data.

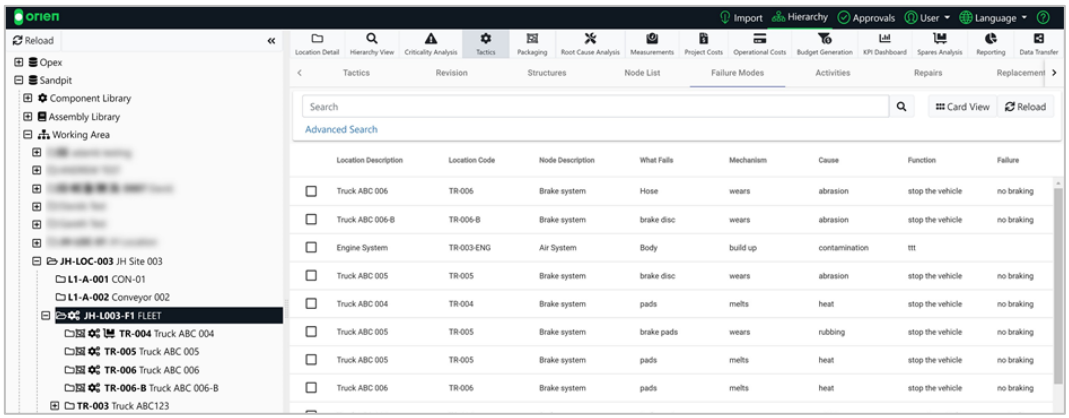
How to view tactics grids:

1. Select a location in the hierarchy and then select the Tactics module.

2. Select a tab within the Tactics module that has grid functionality.



3. Select ***Grid View*** and you will see the list of cards change into a records grid.



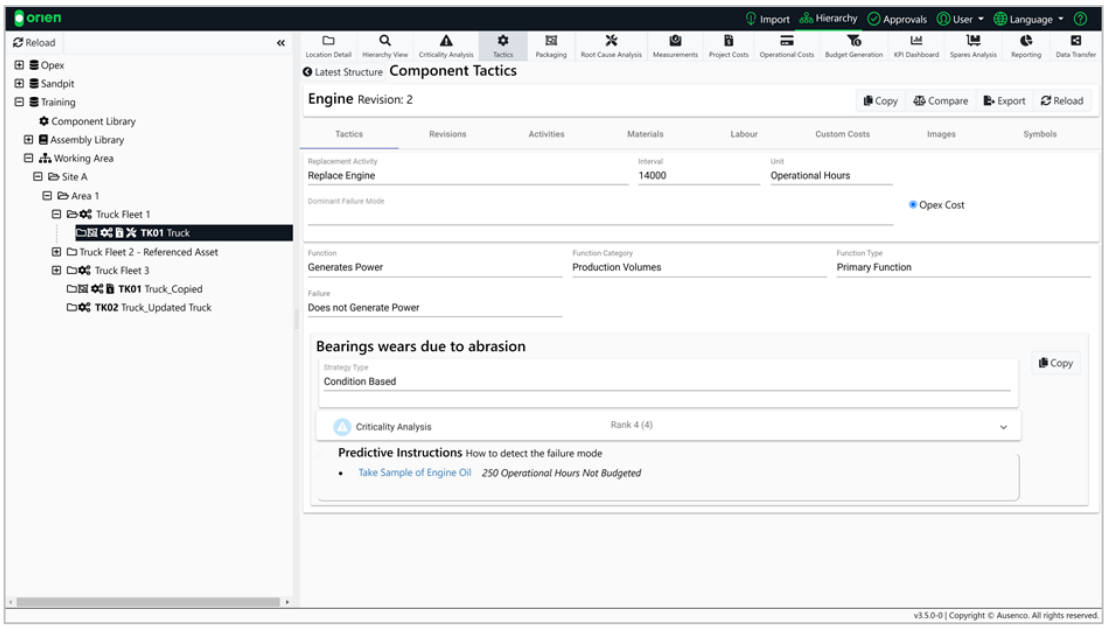
> **IMPORTANT**
>
> In the example above, we have selected a Location and then selected the ***Failure Modes*** tab. We can now view all the locations at the selected level and below.

4 Tactics Module

The Tactics module allows users to access the structure of a functional location/asset (i.e. a haul truck). Users can access components within the functional location, to attach associated failure modes and activities.

Functions within the tactics module include:

- Replacement activities
- Component function and functional failure
- Failure modes
- Component criticality
- Activities
- Material allocation
- Labour allocation
- Custom Costs
- Task images
- Task symbols



Multiple activities can be allocated to a single failure mode, for example:

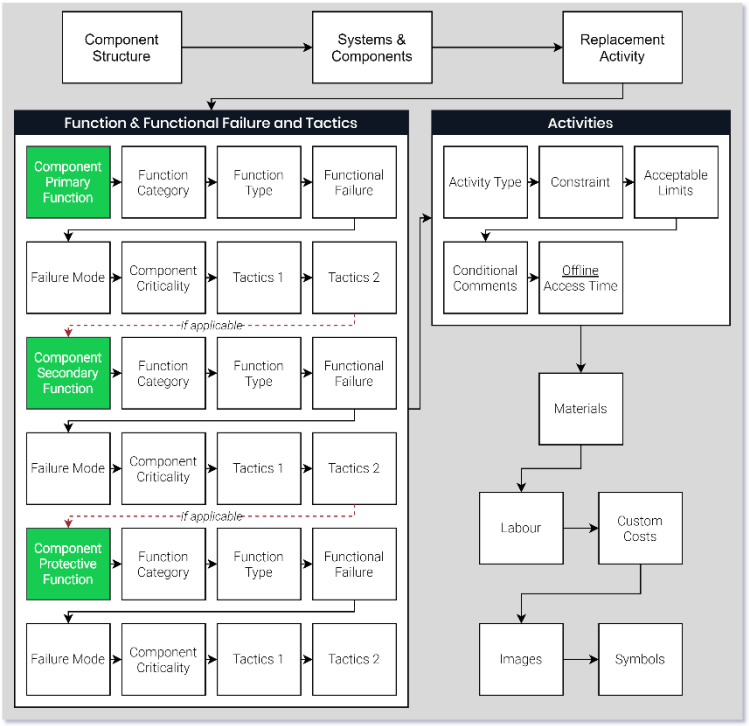
- In the component library, a component can be built with many allocated activities to a specific failure mode.
- When copied out of the component library and work-shopped, the non-applicable activities can be easily deleted.

Pre and post activities can also be added in the activities section (i.e. equipment isolation prior to work taking place, and de-isolation after work is complete). This is covered in more detail in section 4.2 Tactic Activities.

> **IMPORTANT**
>
> Your access level/permissions, along with where on the Hierarchy your user profile is located, will determine the functionality of the Tactics Module on the selected entity.

4.1 CREATING ASSET TACTICS

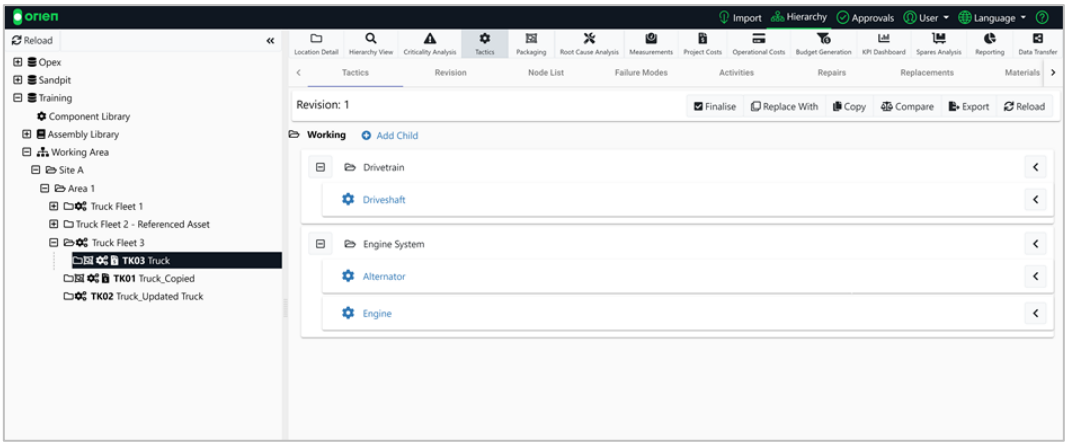
Tactics are created in the order as indicated in the flow chart below:



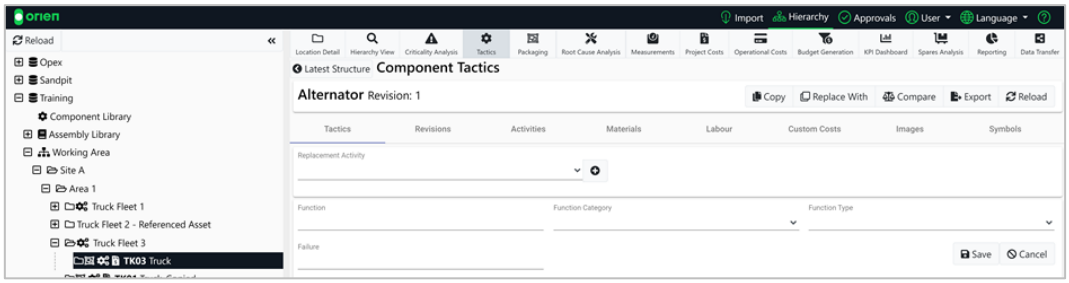
> **IMPORTANT**
>
> Tactics can only be created (or edited) in the working version of component or structure. For more information on creating a new revision of an item to enable editing, please refer to section 7.1 Versioning & Revisions.

Creating an asset tactic in Orien involves several steps. Let's review these in some more detail.

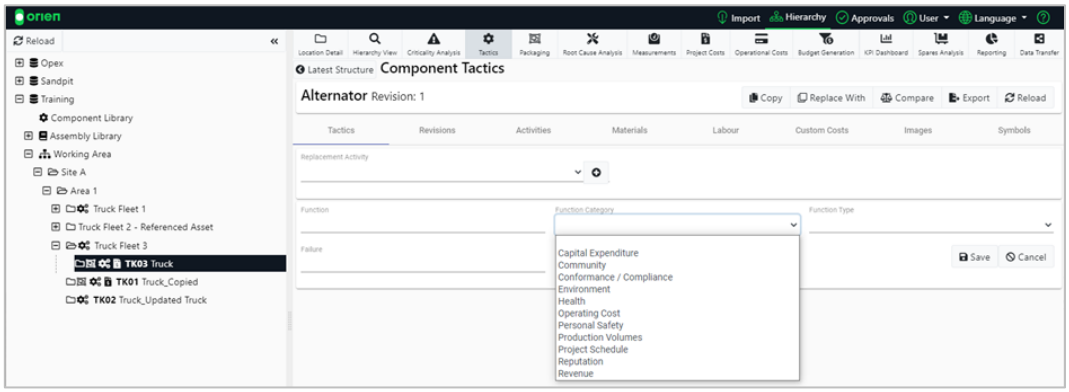
1. Choose the appropriate item in your hierarchy, select the ***Tactics*** module and then the Tactics tab (if required). You can now see the structure of the selected item.



2. Select the component you want to create a new tactic for, and you will be presented with an input card.



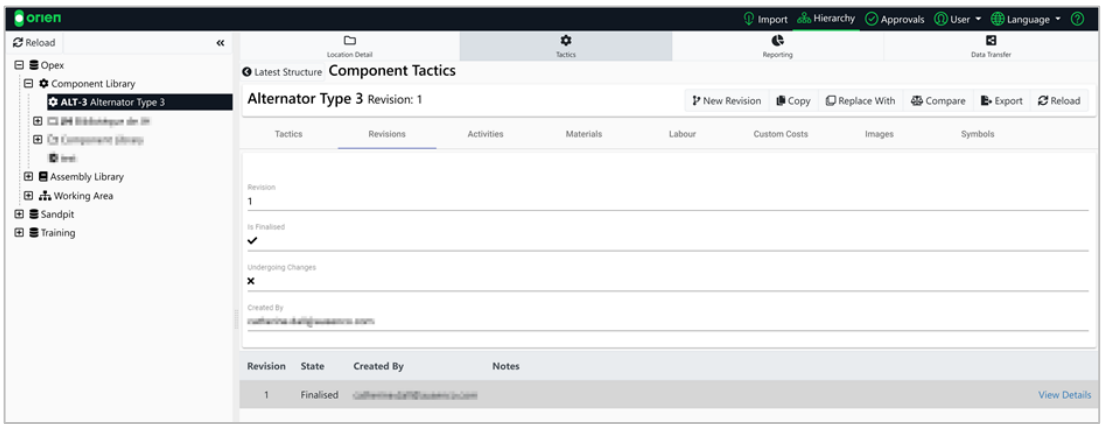
3. From here you can assign your Function, the category, type, and Failure. Once the Tactic framework has been created, you are able to assign Activities, the frequency of the activity and how the activity is budgeted directly towards the Tactic.



> **IMPORTANT**
>
> These drop-down options can be edited in the Tactics Configuration Menu (refer to section 7.8 Module Configuration) by users with the appropriately assigned permissions. You are not required to input these values at the creation of this Tactic.

4.1.1 Revisions

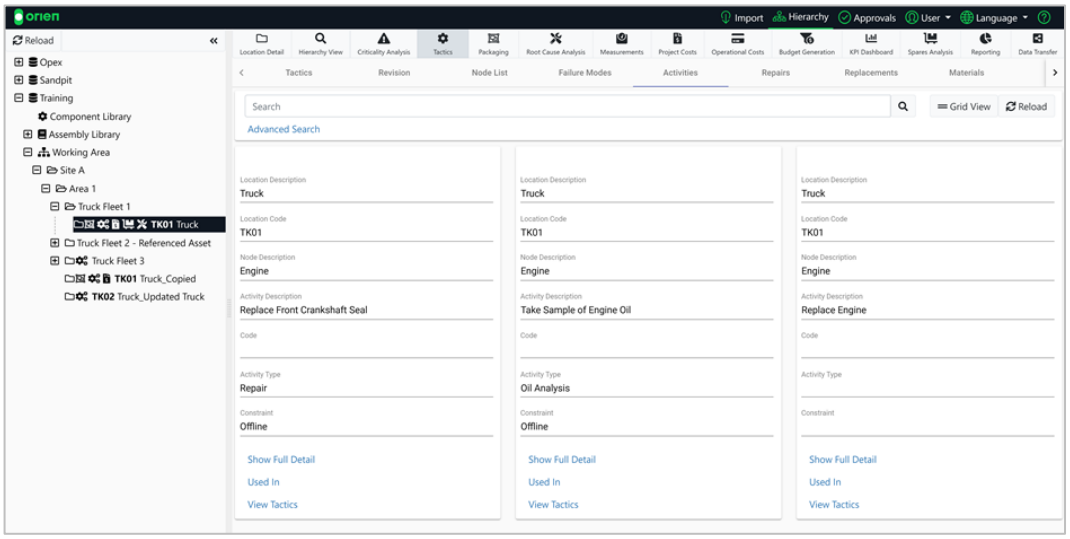
Revisions allow you to view the history of the Tactics. This records all the changes that have been made against the Tactic, who created the changes and if the Tactic is currently in development. For more information please refer to section 7.1 Versioning & Revisions.



4.2 TACTIC ACTIVITIES

The Activities tab allows a user to create activities associated with the Tactics of the component that is currently being edited. These activities will be used throughout Orien to assign costs, operations, tasks, etc.

Pre and post activities can also be added in this tab (i.e. equipment isolation prior to work taking place, and de-isolation after work is complete).



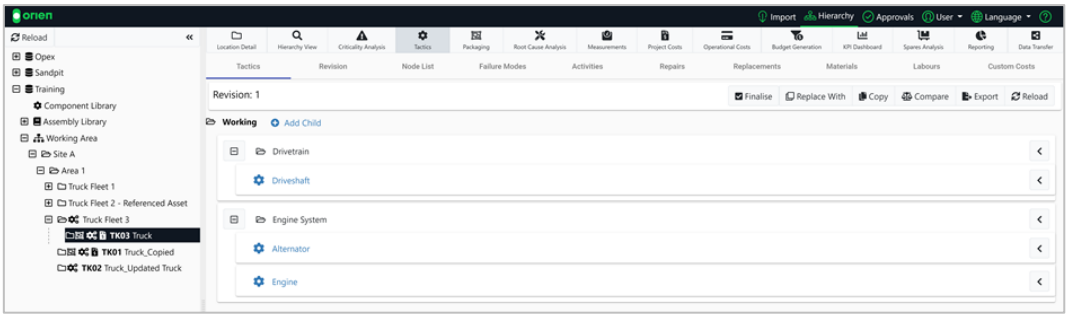
> **IMPORTANT**
>
> If you are connected to an external system you will have the ability to link and upload to that external system.

> **IMPORTANT**
>
> Activities can only be created (or edited) in the working version of component or structure. For more information on creating a new revision of an item to enable editing, please refer to section 7.1 Versioning & Revisions.

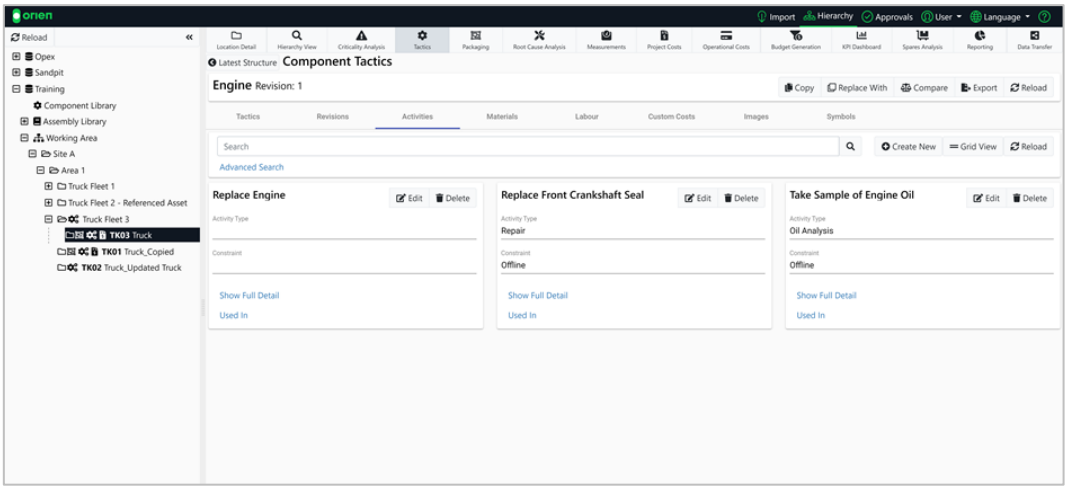
4.2.1 Create Tactic Activities

Creating an activity in Orien involves several steps. Let's review these in some more detail.

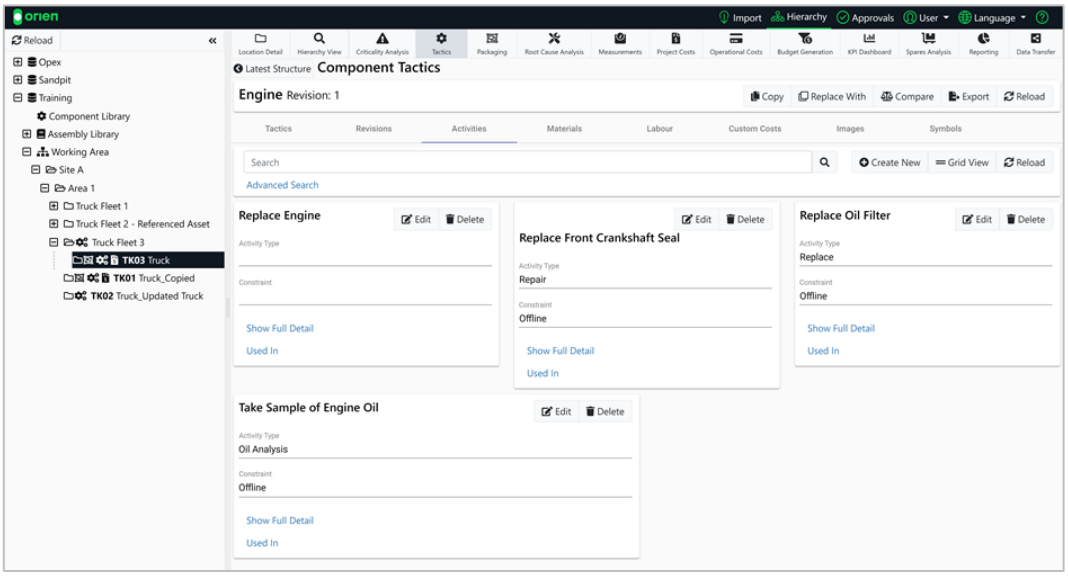
1. Choose the appropriate item in your hierarchy, select the Tactics module and then the Tactics tab (if required). You can now see the structure of the selected item.



2. Select the component you want to create the activity for, and then select the ***Activities*** tab.



3. Select the ***Create New*** button, and you will be presented with an input card allowing you to enter the required information. When you are finished creating your new Activity, click ***Save*** and the Activity will become available to use.



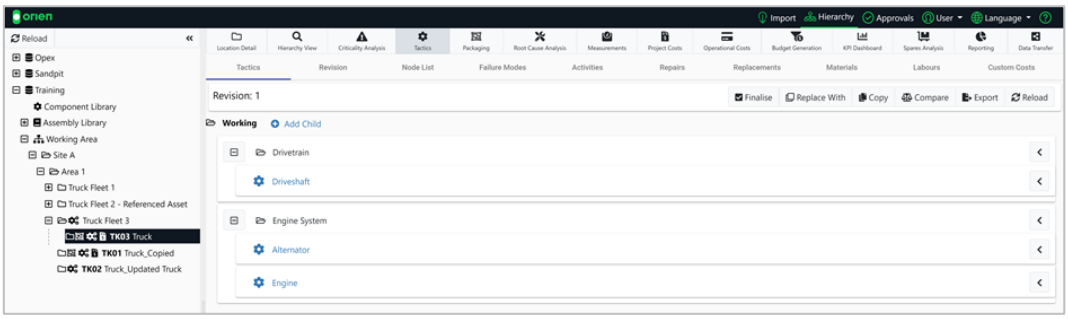
> **IMPORTANT**
>
> If you indicate the Activity is a ***Critical Activity***, this will mark the Activity. These marks will be used to generate any data or reports which are designed to present the critical activities.

> **IMPORTANT**
>
> You can setup a ***Review Period*** in which you will receive an email notification informing you that the Activity is indicated to be reviewed.

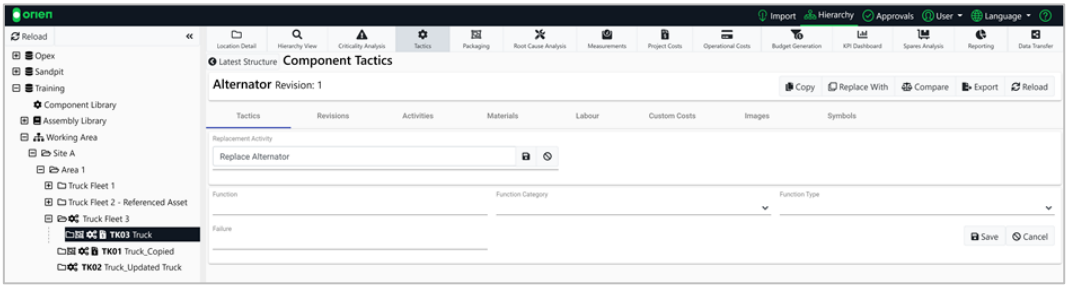
4.2.2 *Replacement Activities*

The replacement activity function allows for budgeting the replacement of a component within a structure. To assign a replacement activity for a component:

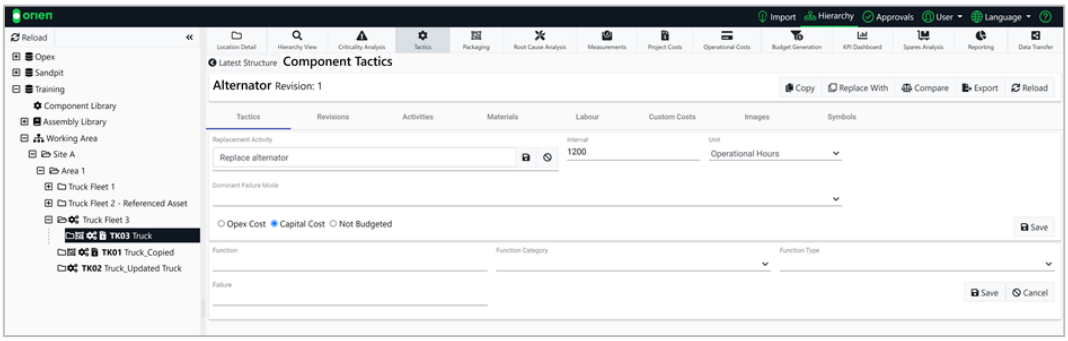
1. Choose the appropriate item in your hierarchy, select the Tactics module and then the Tactics tab (if required). You can now see the structure of the selected item.



2. Select the component you want to create the replacement activity for. You will be presented with an input card allowing you to enter the required information. When you are finished creating the replacement activity, click the ***Save*** icon.



3. You can now choose how the replacement activity will be budgeted by selecting the appropriate radio button - ***Opex Cost***, ***Capital Cost*** or ***Not Budgeted***. Select ***Save*** when complete.



> **IMPORTANT**
>
> You can only assign one replacement activity per component. For example, if the component is the engine, the replacement activity is about replacing the entire engine itself. All other maintenance activities associated with the engine must be created in the Activities tab.

4.2.3 *Follow Up Activities*

A Follow Up Activity is a secondary Activity to address the event of a failure occurring, or an Activity that needs to be performed after a specific Activity. For example, the Activity ***"Inspect axle seals for leaks"*** would occur after the Activity ***"Replace axle seal"*.**

Follow Up Activities are created when allocating functions and associated failure modes of a specified component. Refer to section 4.3 Function-Failure & Failure Modes for further information.

4.2.4 *Preparation Activities*

A Preparation Activity allows you to schedule an Activity to be performed before a specific Activity can be undertaken. For example, the Activity ***"Remove brake rotor or drum"*** would before the Activity ***"Replace axle seal"***.

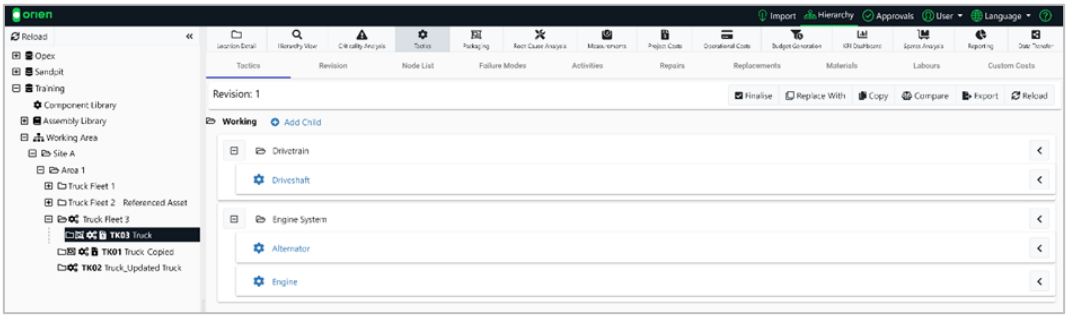
Preparation Activities are created when allocating functions and associated failure modes of a specified component. Refer to section 4.3 Function-Failure & Failure Modes for further information.

4.3 FUNCTION-FAILURE & FAILURE MODES

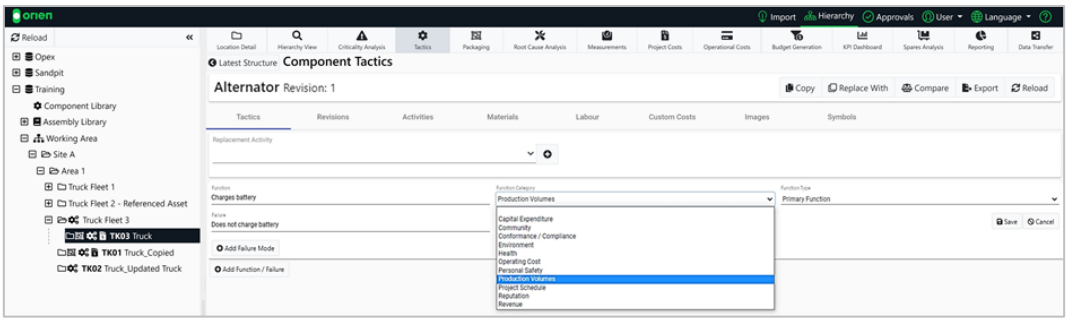
Now that you have created your components and associated activities, you can now allocate the function, failure, and failure modes for each component.

Let's review the process in more detail.

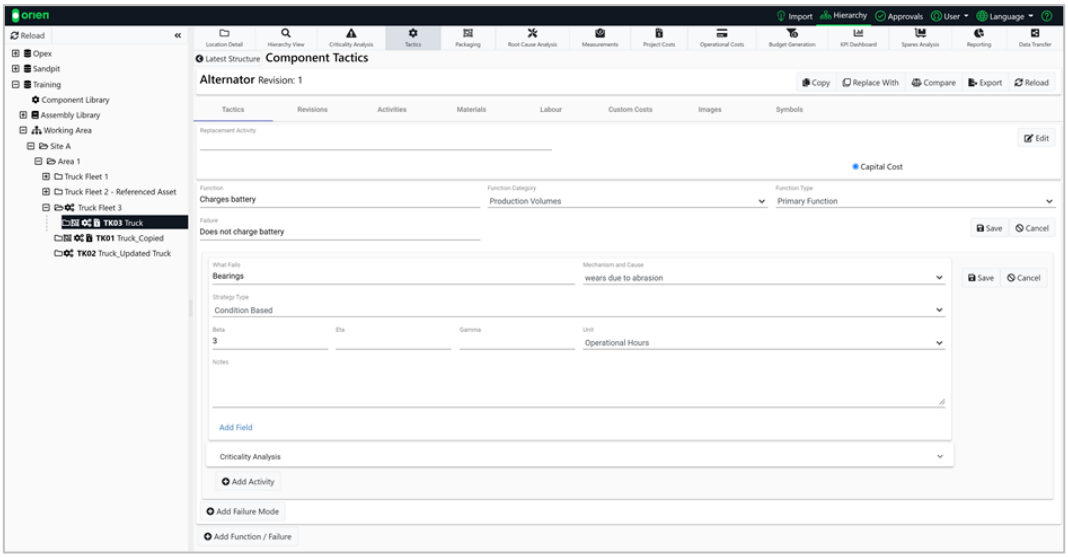
1. Choose the appropriate item in your hierarchy, select the Tactics module and then the Tactics tab (if required). You can now see the structure of the selected item.



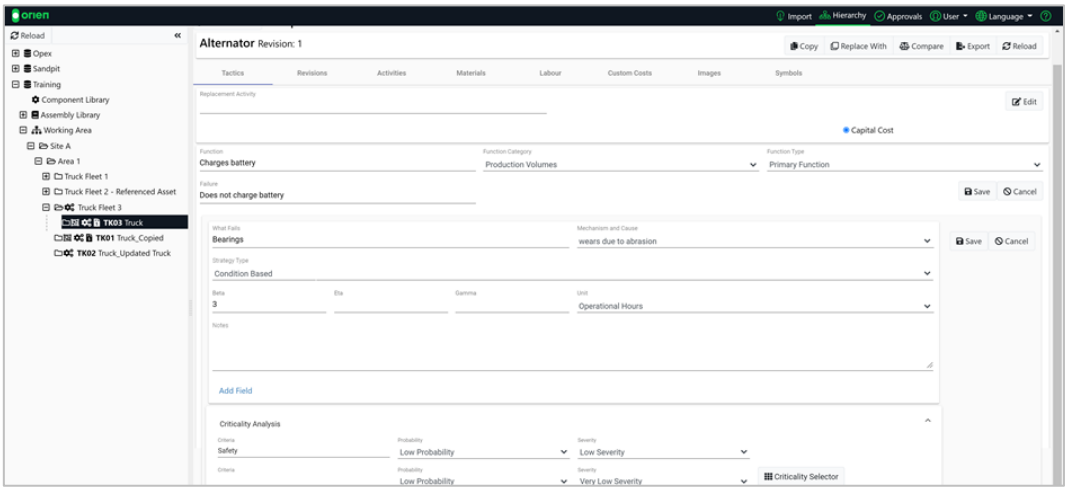
2. Select the component and you will be presented with an input card allowing you to enter the required information. When you are finished, click ***Save*** and the function-failure will become available to use.



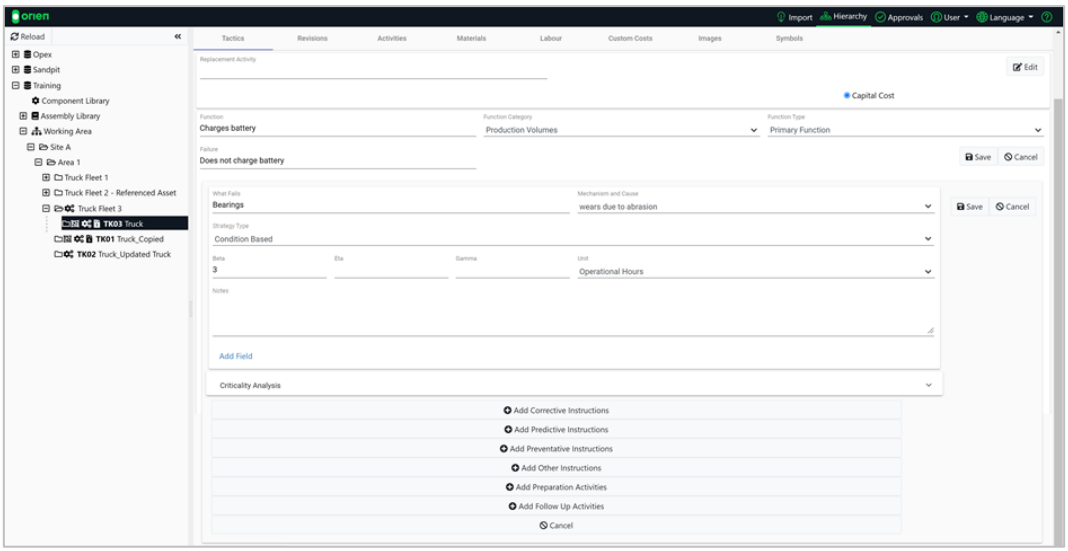
3. Select the ***Add Failure Mode*** button, and you will be presented with an input card allowing you to enter the required information.



4. Clicking on ***Criticality Analysis*** will allow you to assign a criticality to the failure mode. For more information on criticality please refer to section 6.1 Criticality Analysis.



5. Clicking on ***Add Activity*** will provide you with a variety of options:
    a) **CORRECTIVE INSTRUCTIONS:** Add an activity that will remedy the failure mode.
    b) **PREDICTIVE INSTRUCTIONS:** Add an activity that detects the failure mode.
    c) **PREVENTATIVE INSTRUCTIONS:** Add a routine maintenance activity to prevent the failure.
    d) **OTHER INSTRUCTIONS:** Add any other task.
    e) **PREPARATION ACTIVITIES:** Add preparation activities and link them to other activities. These can also be allocated as an Opex Cost, Capital Cost or Not Budgeted.
    f) **FOLLOW UP ACTIVITIES:** Add follow up activities and link them to other activities. These can also be allocated as an Opex Cost, Capital Cost or Not Budgeted.

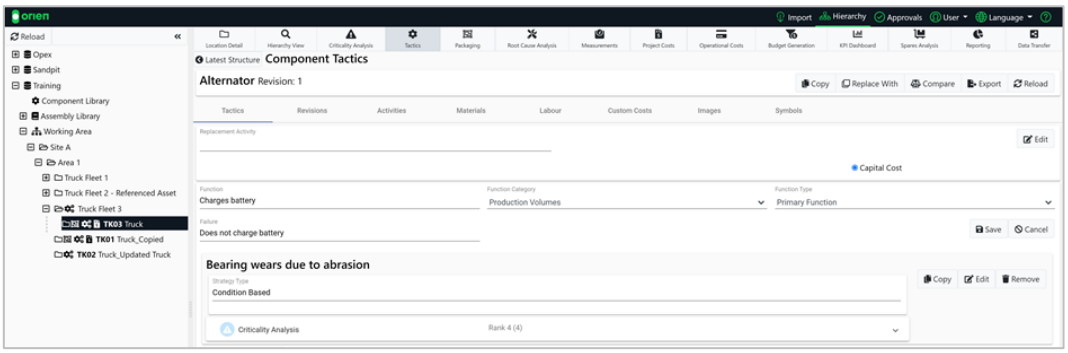


Beta, Eta and Gamma attributes are associated with reporting of Weibull parameters.

Table 4-1 Weibull Parameters

Attribute	Description
Eta	The Value of eta is the characteristic life (eta+gamma is the time at which 63.2% are expected to fail) of the maintainable item based on the occurrence of the associated failure mode
Beta	The Value of beta represents the shape (characteristic of failure profile) of the maintainable item based on the occurrence of the associated failure mode. Entering a value for beta will override what has been set as a default that is associated to this mechanism and cause
Gamma	The Value of Gamma represents the failure free time for the maintainable item based on the occurrence of the associated failure mode. This is the duration that a given failure mode will not be observed within (e.g. while a failure mode of corrosion can occur on an item upon immediate installation, a stress fracture can be guaranteed to not occur within the first day of productive operation).

6. ***Save*** the card when you've added all necessary information. The figure below shows a completed function-failure and failure mode for an alternator, where:
    a) **FUNCTION** = Charges battery
    b) **FAILURE** = Does not charge battery
    c) **FAILURE MODE** = Bearing wears due to abrasion



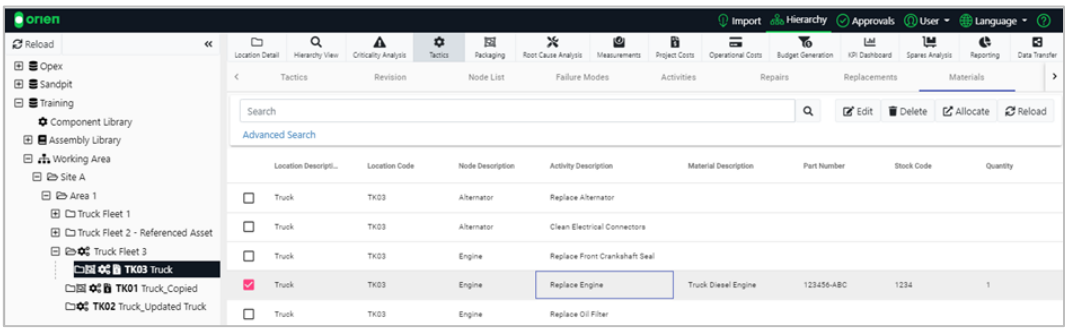
4.4 MATERIALS, LABOUR & CUSTOM COSTS

Once you have created tactic activities, you can assign each activity with the associated materials, labour, and custom costs. Let's review each of these processes in more detail.

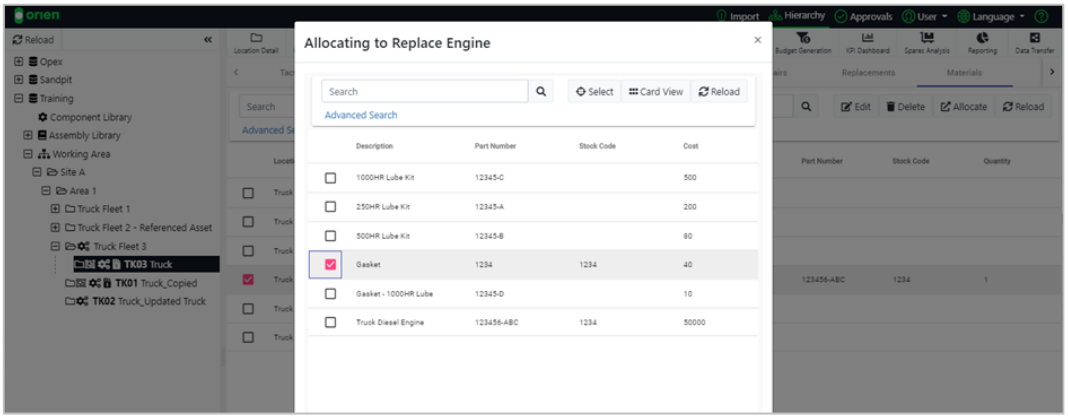
4.4.1 Materials

The Materials tab allows a user to allocate materials to an associated activity. To assign a Material to an Activity:

1. Choose the appropriate item in your hierarchy, select the Tactics module and then the Materials tab. Select the activity you want to allocate materials to, and then select the ***Allocate*** button.

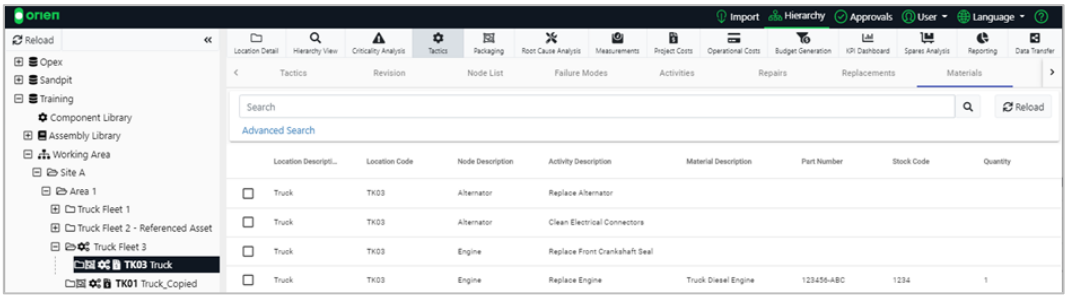


2. Choose the material you want to allocate to the activity, and then click the ***Select*** button. Note the ***Advanced Search*** function allows users to search by description, code, part number or stock code.



3. Enter the quantity of the material required. You have the option to ***Save and Add Another*** or ***Save and Close***.

4. The material allocation is now complete.

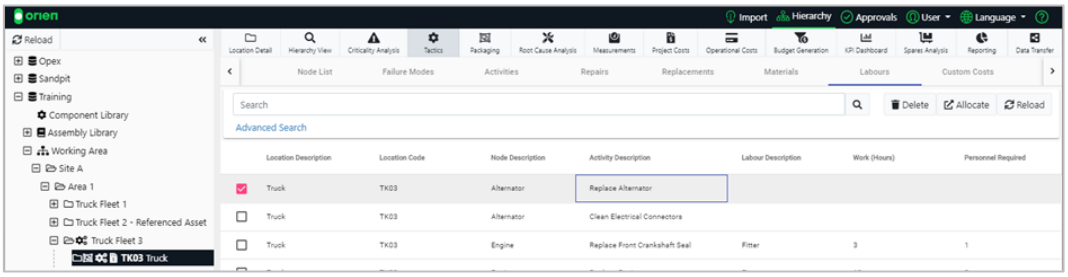


> **IMPORTANT**
>
> If you do not see any materials when allocating, you will need to add materials to the list. Please refer to section 7.8 Module Configuration.

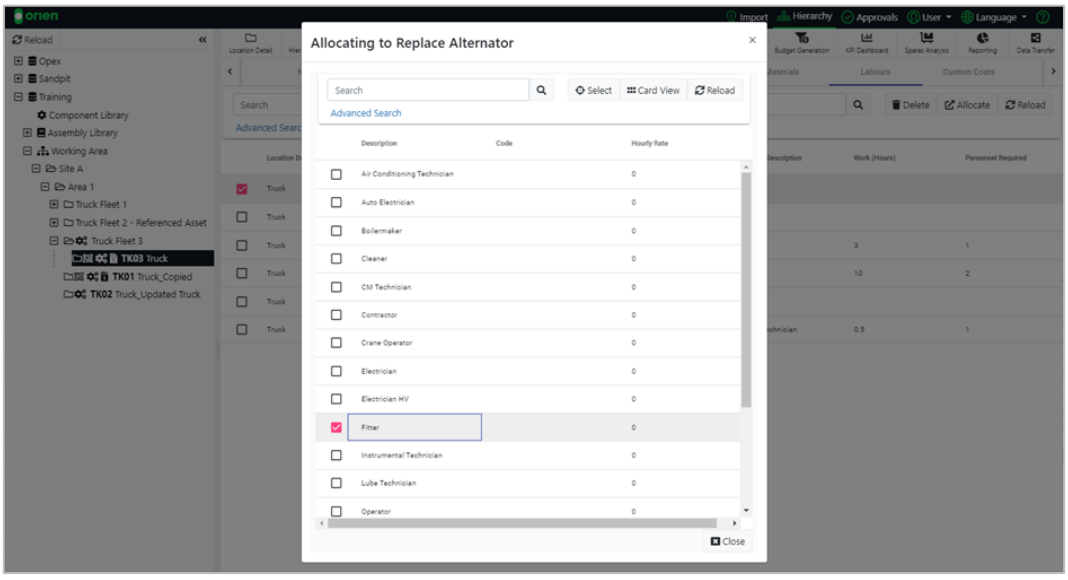
4.4.2 Labour

The Labour tab allows you to allocate labourers to an activity. To assign a Labour:

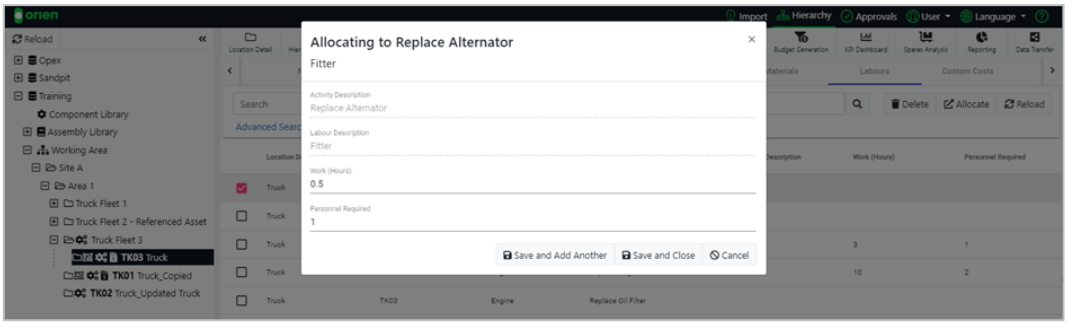
1. Choose the appropriate item in your hierarchy, select the Tactics module and then the Labour tab. Select the activity you want to allocate labour to, and then select the ***Allocate*** button.



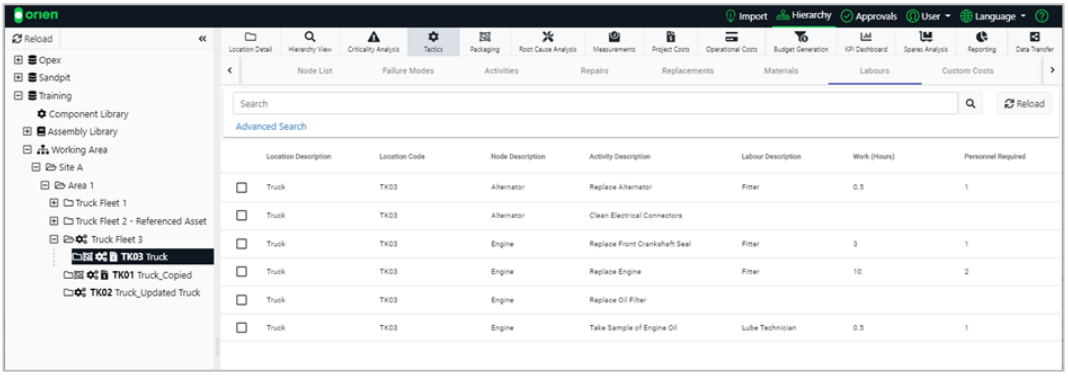
2. Choose the labour you want to allocate to the activity, and then click the ***Select*** button. Note the ***Advanced Search*** function allows users to search by description and code.



3. Enter the hours of work and number of personnel required. You have the option to ***Save and Add Another*** or ***Save and Close***.



4. The labour allocation is now complete.

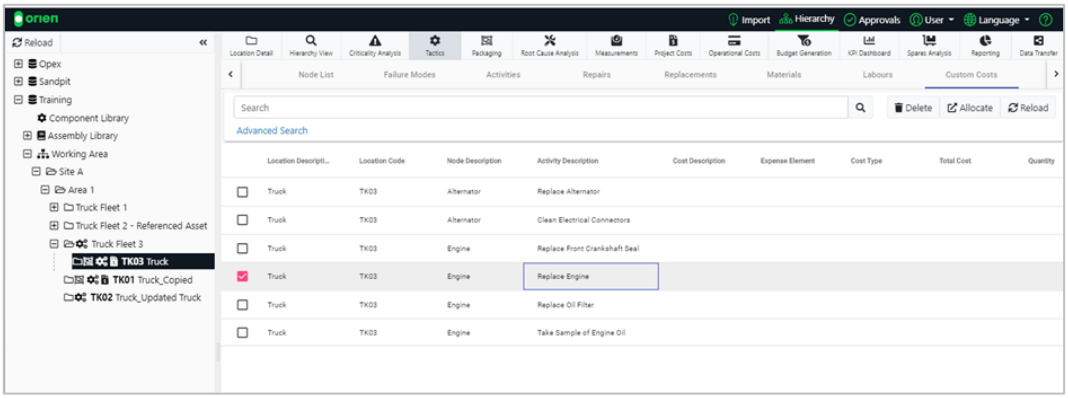


> **IMPORTANT**
>
> If you want to add a new labour, navigate to section 7.8 Module Configuration to add a new value into Labours.

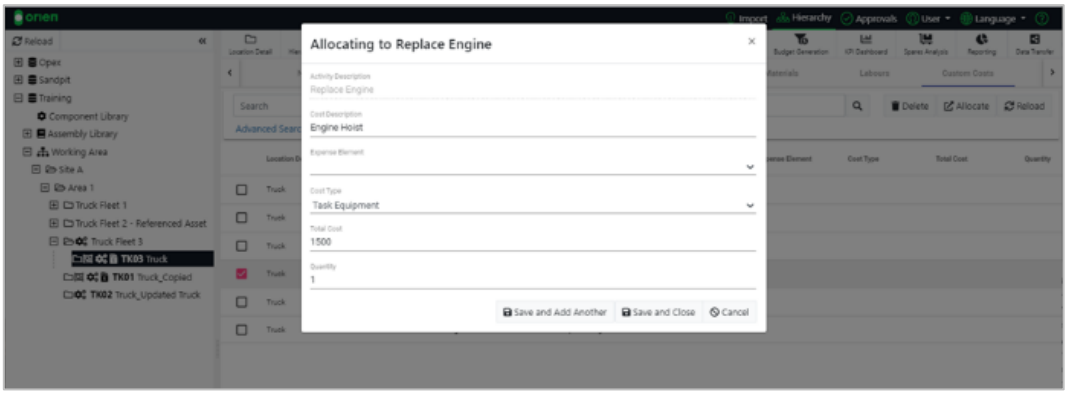
4.4.3 Custom Costs

If you have additional costs that need to be accounted for within your Tactics, custom costs allow you to assign these costs. The process is like the previous methods of labour and material allocation.

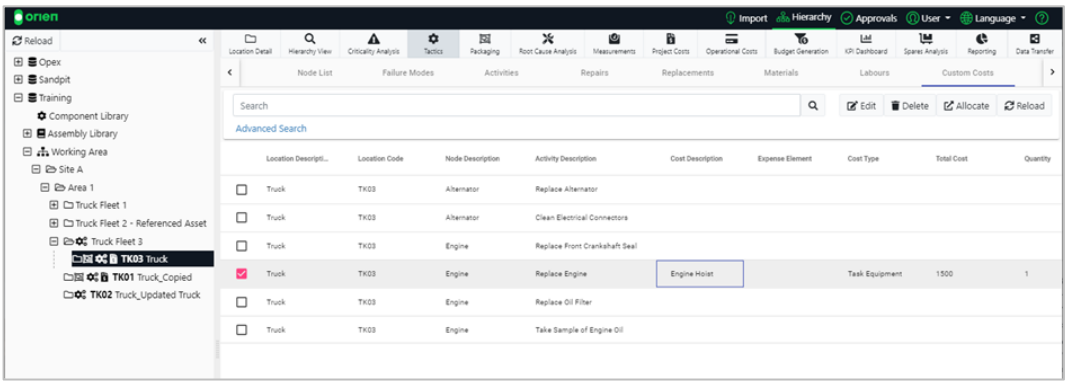
1. Choose the appropriate item in your hierarchy, select the Tactics module and then the Custom Costs tab. Select the activity you want to allocate custom costs to, and then select the ***Allocate*** button.



2. Enter the details associated with the custom cost. You have the option to ***Save and Add Another*** or ***Save and Close***.



3. The custom cost allocation is now complete.



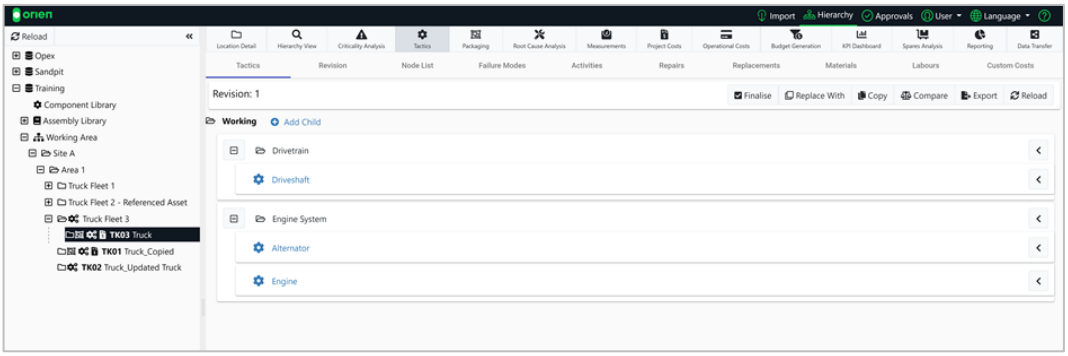
4.5 ADDING IMAGES & SYMBOLS TO ACTIVITIES

This function allows the user upload and allocate images to an activity, or to allocate a symbol to an activity. Let's review each of these processes in more detail.

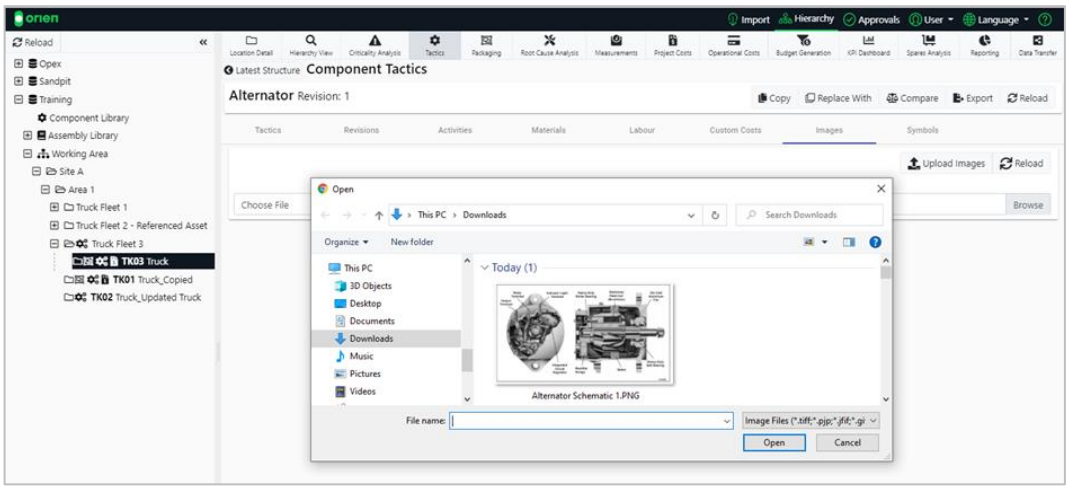
4.5.1 Allocating Images

The Images tab allows a user to allocate an image to an associated activity. To assign an Image to an Activity:

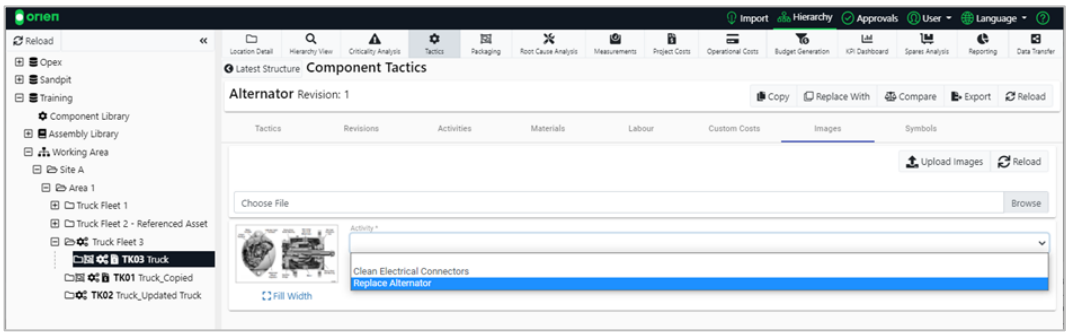
1. Choose the appropriate item in your hierarchy, select the Tactics module and then the Tactics tab (if required). You can now see the structure of the selected item.



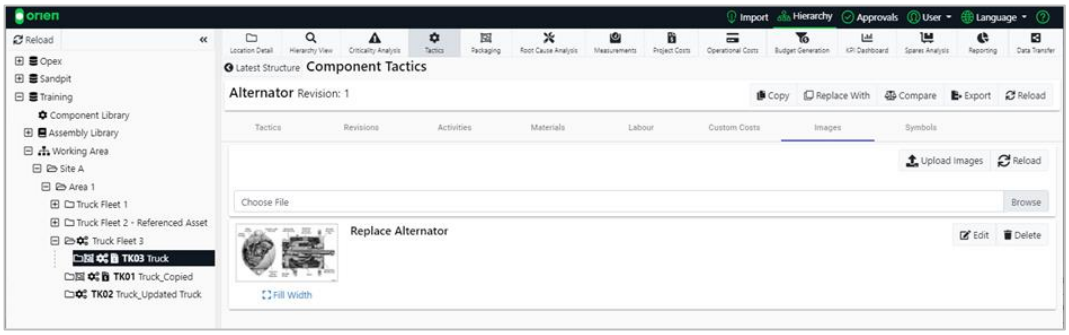
2. Select the component you want to allocate an image to, and then select the ***Images*** tab. Clicking the ***Upload Images*** button and then ***Browse*** will open a file explorer window, allowing you to navigate to the file you wish to upload.



3. You have the option link the image to a specific activity, and then select ***Save***.



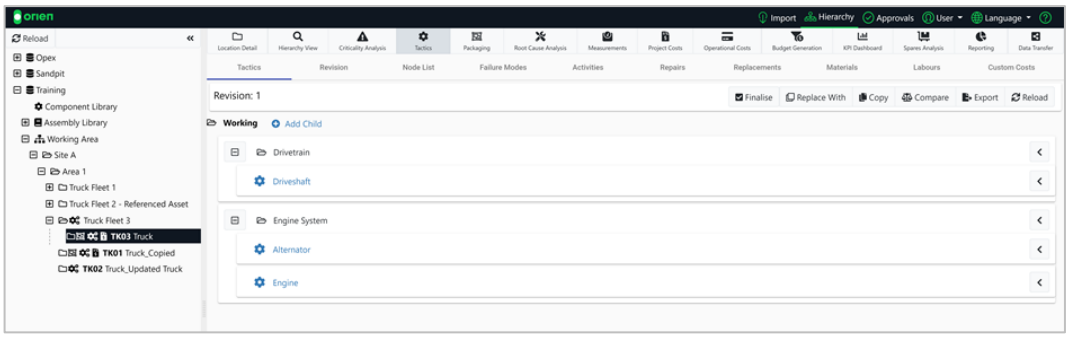
4. The image upload is now complete.



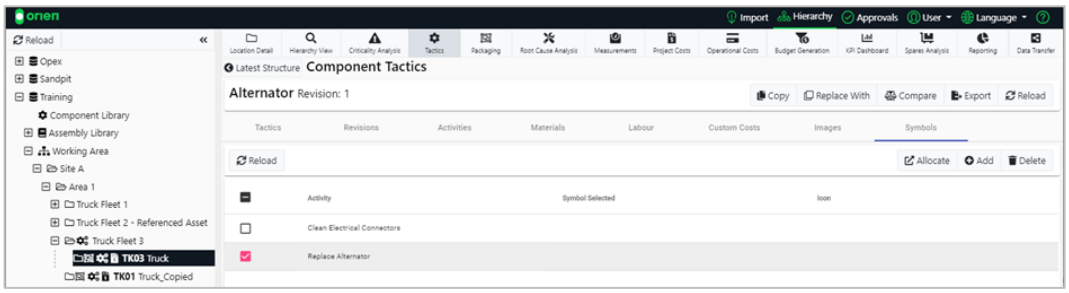
4.5.2 Allocating Symbols

The Symbols tab allows a user to allocate a symbol to an associated activity. To assign a Symbol to an Activity:

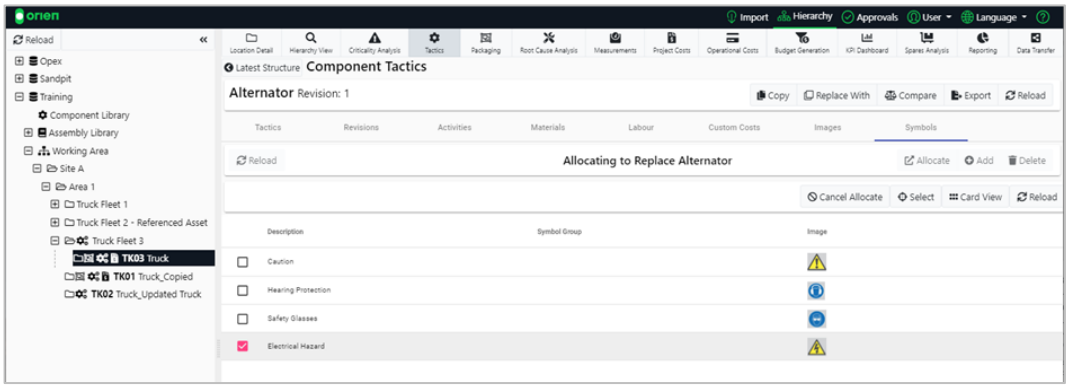
1. Choose the appropriate item in your hierarchy, select the Tactics module and then the Tactics tab (if required). You can now see the structure of the selected item.



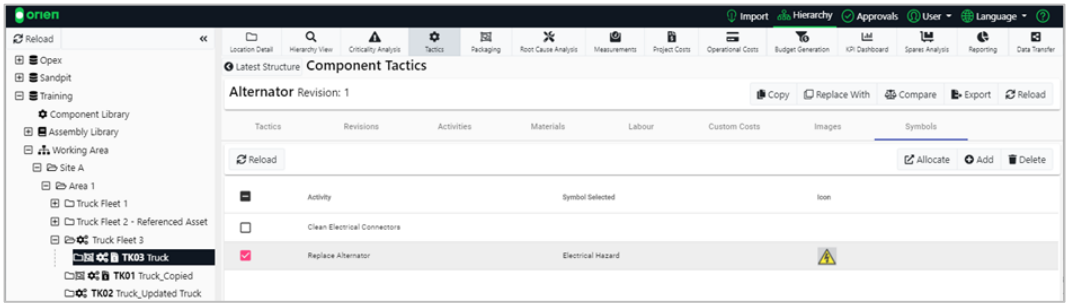
2. Select the component you want to allocate a symbol to, and then select the ***Symbols*** tab. Select the relevant activity and click the ***Allocate*** button.



3. Select the Symbol you want to allocate, and then click the ***Select*** button.



4. Repeat this process to allocate more symbols, and then select ***Save***.



> **IMPORTANT**
>
> If you do not see any symbols when allocating, you will need to add symbols to the list. Please refer to section 7.8 Module Configuration.

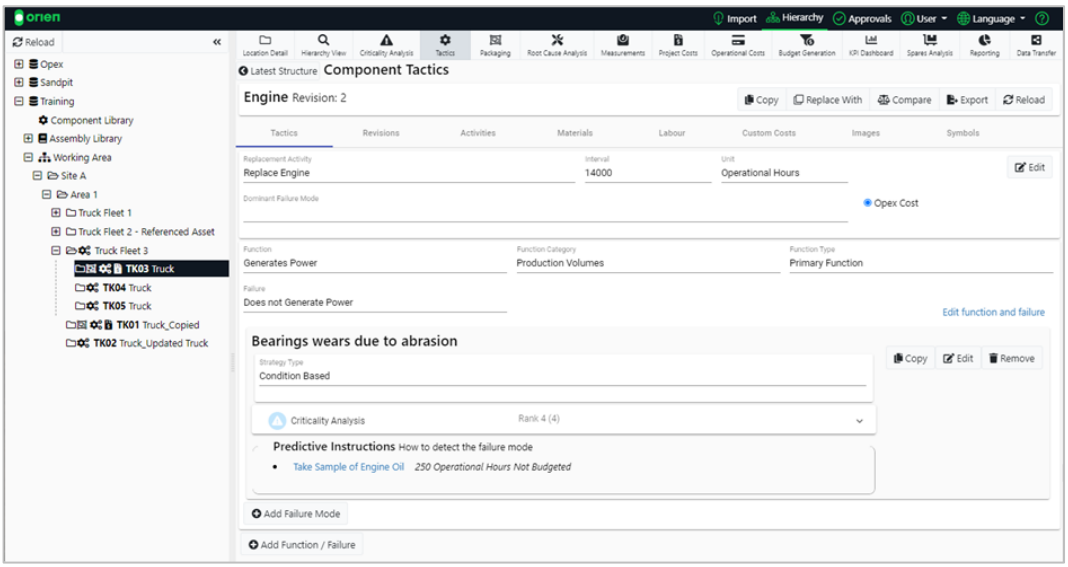
4.5.3 *Tactics Wizard*

Tactics Wizard is a step by step questionnaire that helps further identify Function-Failure & Failure Modes for a component. After each question is answered you will be presented with another question until you reach the end of the questionnaire tree.

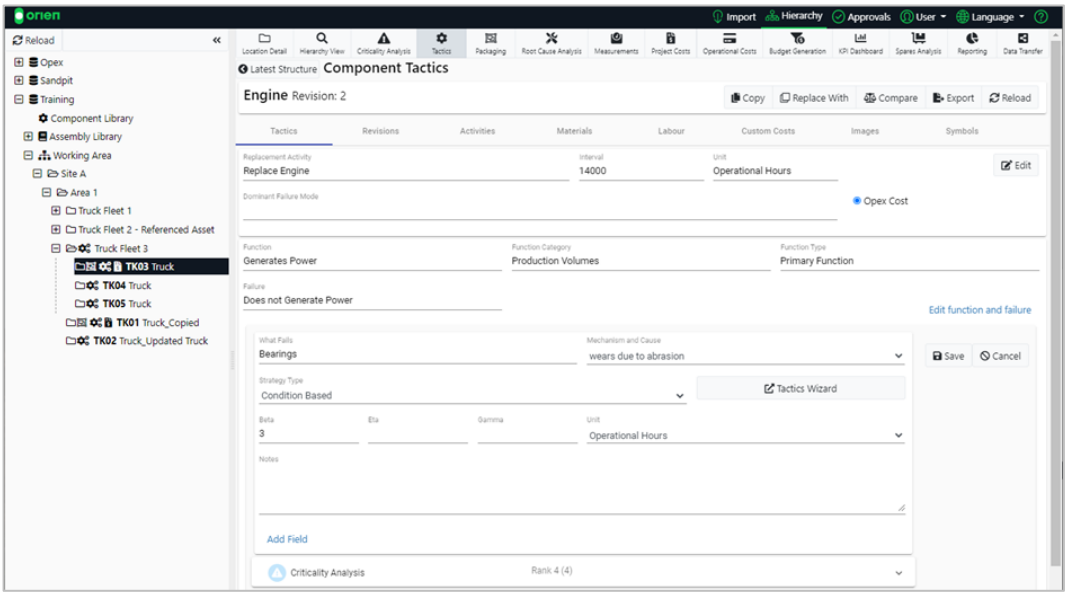
> **IMPORTANT**
>
> ! If the Tactics Wizard has not been configured, it will not be available for use in the Tactics module. The questions are created in the Tactics Configuration Module by your administrator (refer to section 7.8 Module Configuration).

How to use the Tactic Wizard:

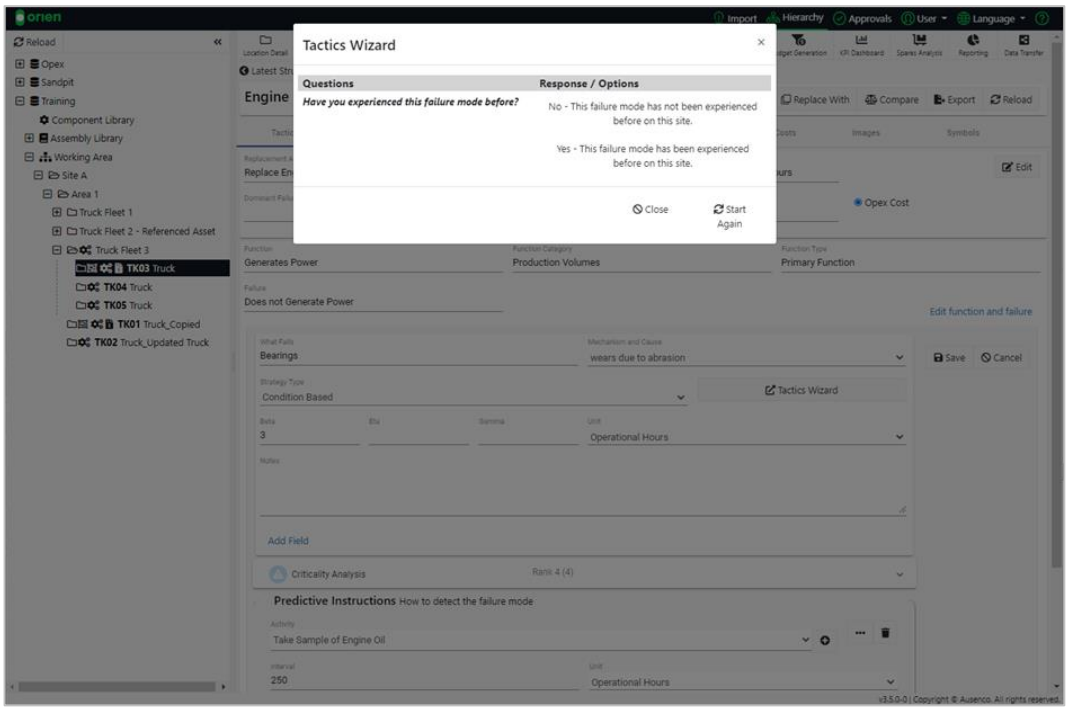
1. Choose the appropriate item in your hierarchy, select the Tactics module and then the Tactics tab (if required). Select the Component from the Structure to open the Component Tactics, and then select the ***Edit*** button against the Failure Mode you want to edit.



2. Select the ***Tactics Wizard*** button.

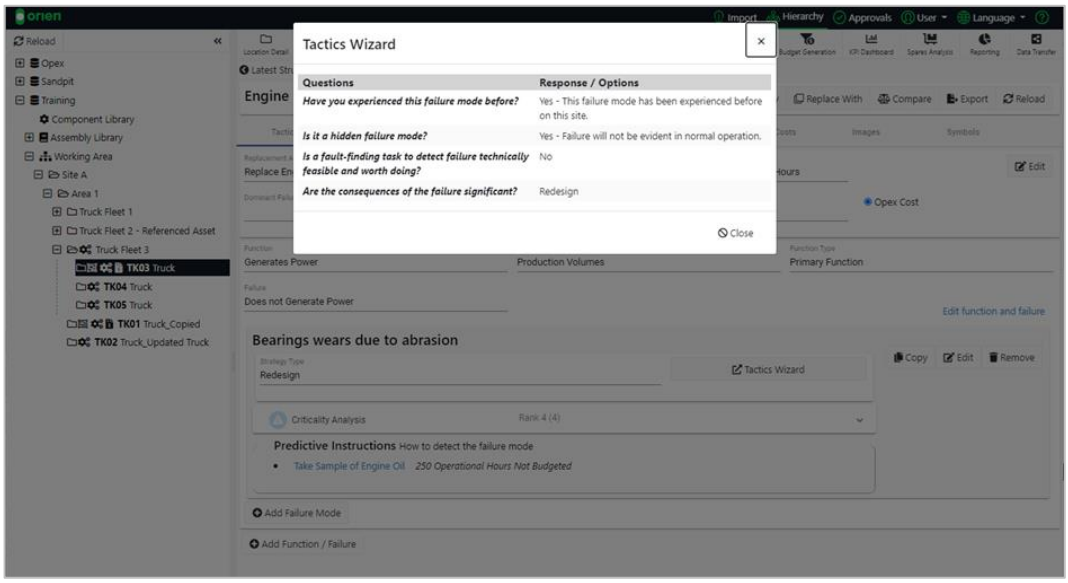


3. You will be presented with first question of the questionnaire tree. Answer each question until the Tactics Wizard disappears. Finalise your answers by clicking the ***Save*** button on the Failure Mode card.



> **IMPORTANT**
>
> If you close out of the questionnaire while in progress, you will lose the data you have entered.

4. To view your answers, Select the ***Tactics Wizard*** button.

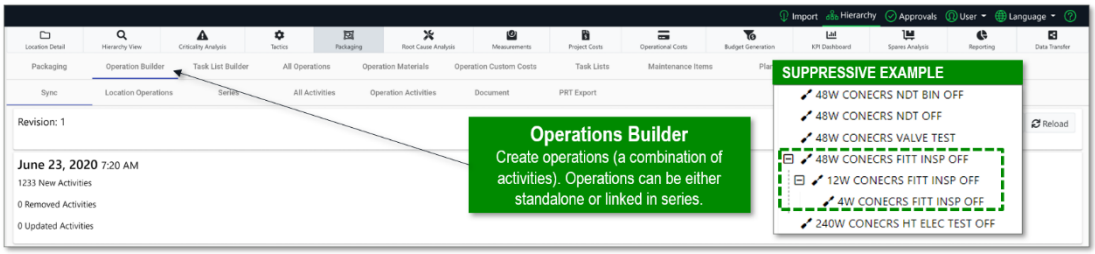


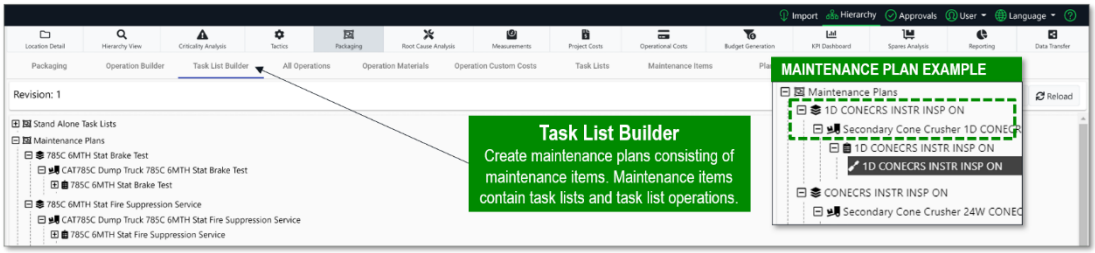
> **IMPORTANT**
>
> Depending on what your administrator sets, you can have more than one response to a question, and you may set the response to more than just YES or NO.

5 Packaging Module

The Packaging module allows users to group activities into packages (or operations). This is ideal for activities that are performed at similar frequencies, or where the activity can be done more efficiently when performed in conjunction with other activities on a piece of equipment. The packaged activities (operations) can also be exported into a PRT document.

There are two key sections within the packaging module - the Operations Builder and the Task List Builder.

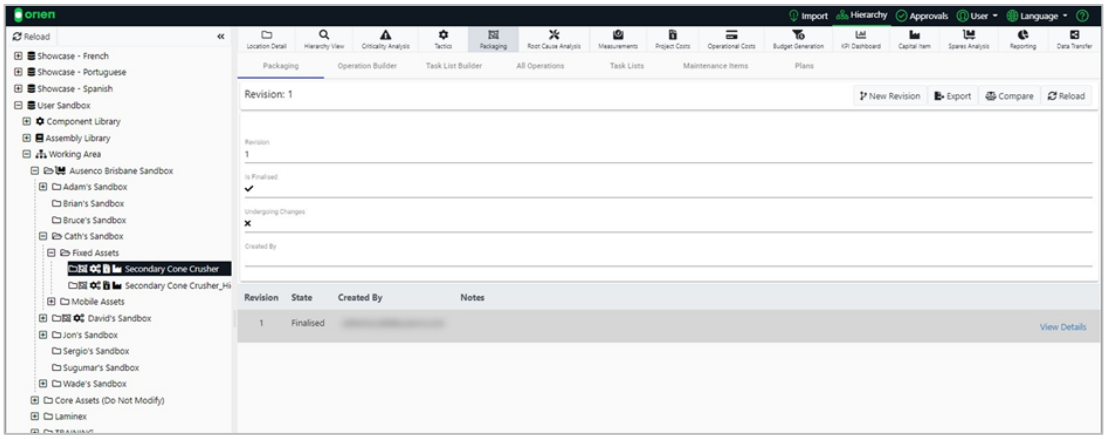




Within the Packaging module, the following features allow you to view the select data of the asset at this level of the hierarchy and below:

- All Operations
- Tasks Lists
- Maintenance Items
- Plans

The Packaging tab shows you the history of the Package. It records all the changes that have been made against the Package, who created the changes and if the Package is currently in development. For more information please refer to section 7.1 Versioning & Revisions.



5.1 OPERATIONS BUILDER

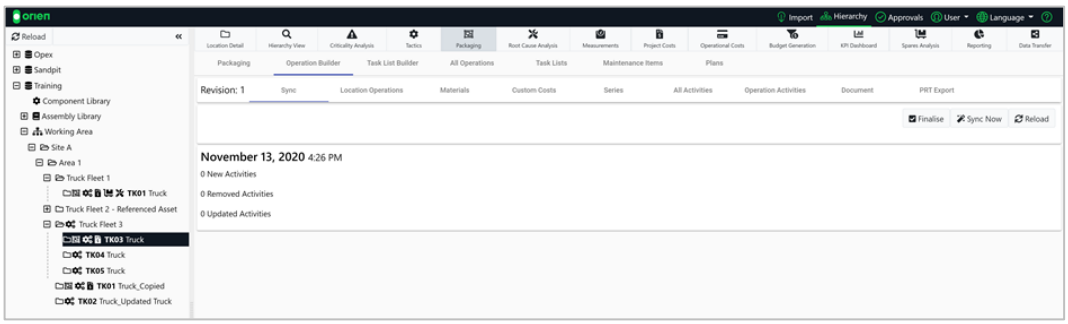
Operations are a group of maintenance tasks that allow optimization of required resources. In the operation builder, you can create, modify, and delete operations. You can create activities and assign them to operations for use in document and work package generation.

5.1.1 Synchronize Tactics

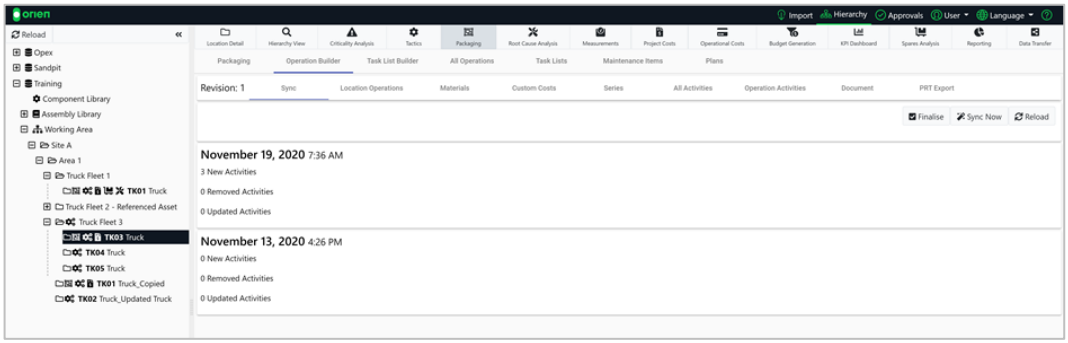
Prior to creating or editing an operation, you must synchronize any completed tactics to the packaging module. The synchronize function loads all new, removed, or updated tactic activities (both at and below the selected level on the Hierarchy tree) since the last synchronization was completed.

To synchronize your operations:

1. Choose the appropriate item in your hierarchy, select the Packaging module, and then the Operations Builder tab. Select the ***Sync Now*** button.



2. Once the synchronization is complete, a new record will be shown on the screen.

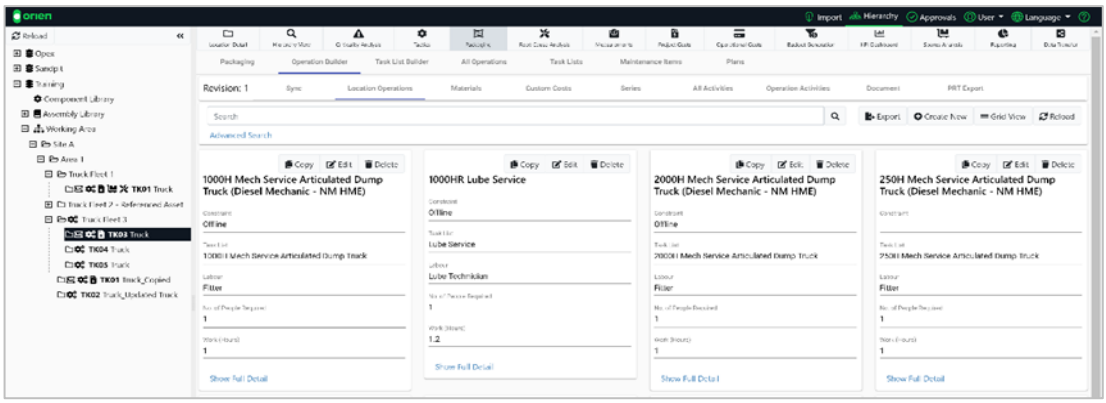


> **!** **IMPORTANT**
>
> Please make sure your Tactics are finalised. If they are not finalised, you will not receive any results from the Synchronization.

5.1.2 Creating an Operation

The ***Location Operations*** tab shows all the operations that have been created in this package. You can create new operations, edit, or delete currently active operations.

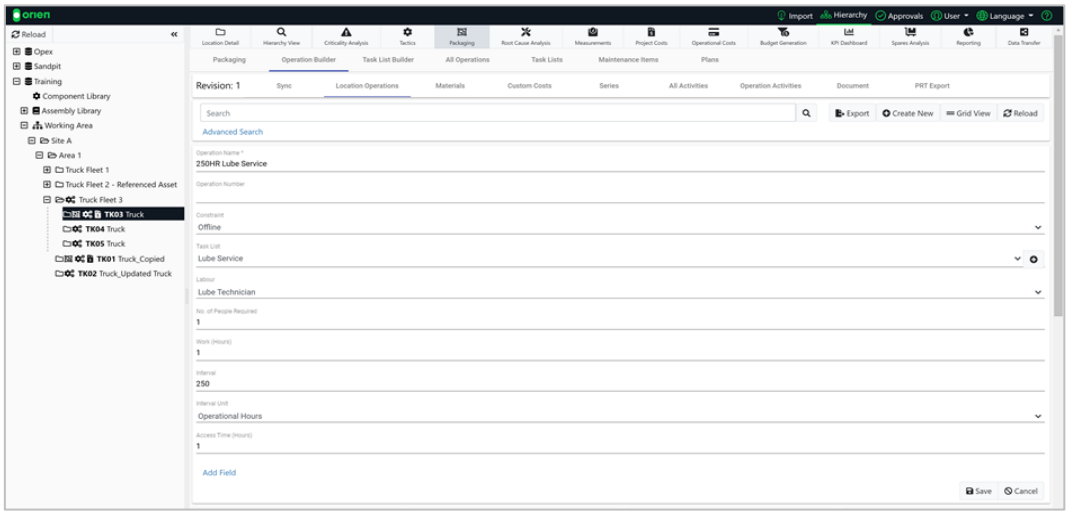
The reload button allows you to reload the list for any additional operations that have been created elsewhere, either from a different user, imported through a spreadsheet or from grid modifications.



To create an operation:

1. In the ***Location Operations*** tab (as shown in figure above), select the ***Create New*** button. You will be presented with an input card allowing you to enter the required information.

2. When you are finished creating your new Operation, click ***Save*** and the Operation will become available to use.

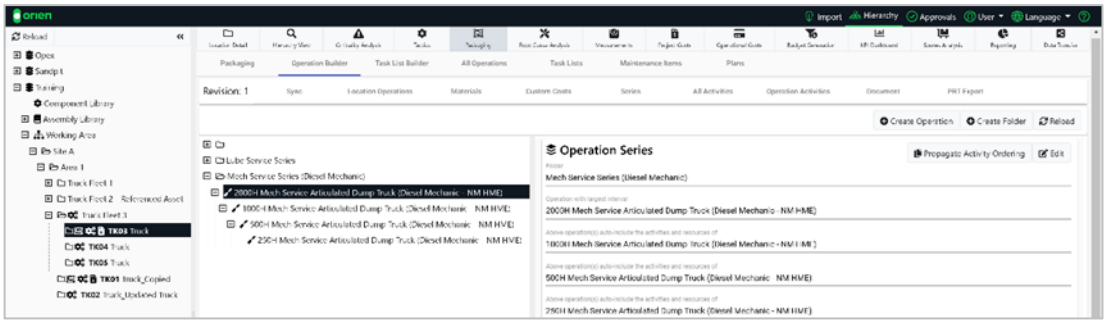


> **IMPORTANT**
>
> If you select the ***Create New*** button when the Location Operations tab in displayed in Card View, the input card will look different to the image above.

5.1.3 Creating Series Operations (Suppressive)

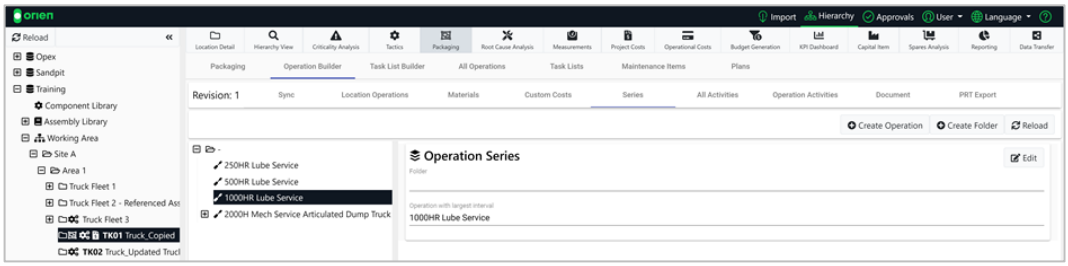
The Series tab allows you to setup a hierarchy of Operations to create a rule. This rule allows you to set the highest packaging frequency Operation, and then select Operations that will automatically include their resources into the parent Operation in the series.

The below is an example of a series in effect. On the left-hand side of the image is the series hierarchy, and there is a folder called ***Mech Service Series (Diesel Mechanic)***. Below the folder is the series that has been created. On the right hand is the options for this Series. The highest frequency set is the ***2000hr Mech Service***, and below this we have the following ***1000hr***, ***500hr*** and ***250hr*** services. With this series setup, we will see the 250hr Operation resources included in the 500hr Operation, the 500hr Operation in the 1000hr Operation and the 1000hr in the 2000hr Operation.

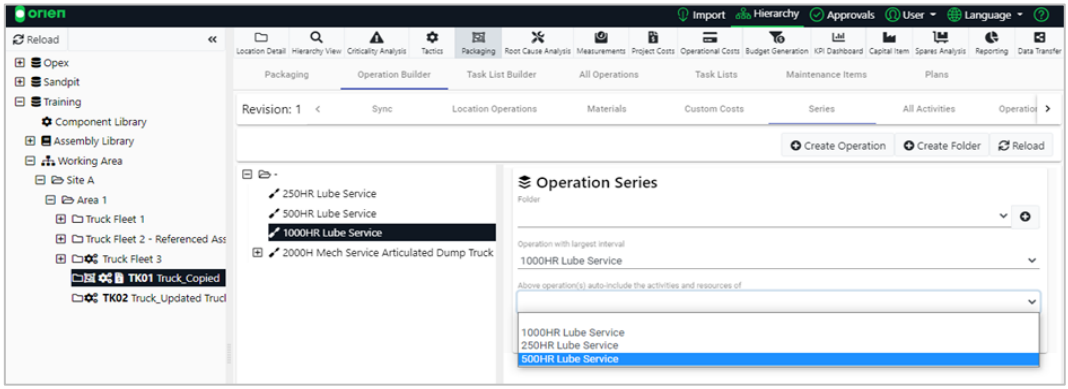


Creating a suppressive series operation in Orien involves several steps. Let's review these in some more detail.

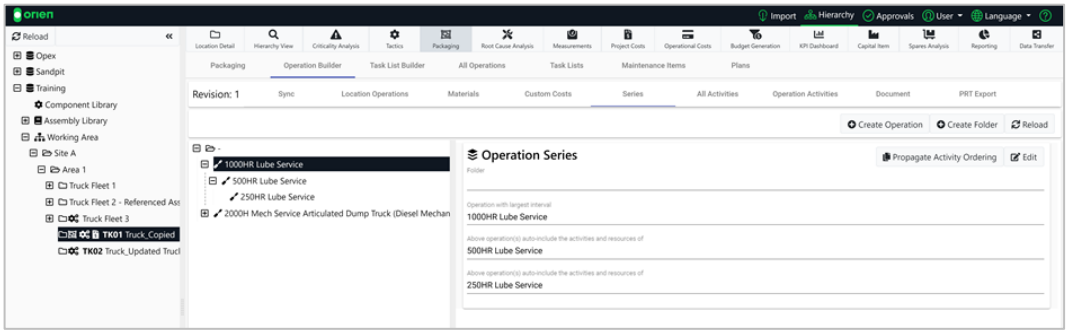
1. Choose the appropriate item in your hierarchy, select the Packaging module, then the Operations Builder tab, and then the Series tab. Select the highest frequency Operation and then the ***Edit*** button.



2. Assign the lower frequency Operations you want included in this package, and then ***Save*** your changes.



3. All selected Operations will now be linked as part of the package.



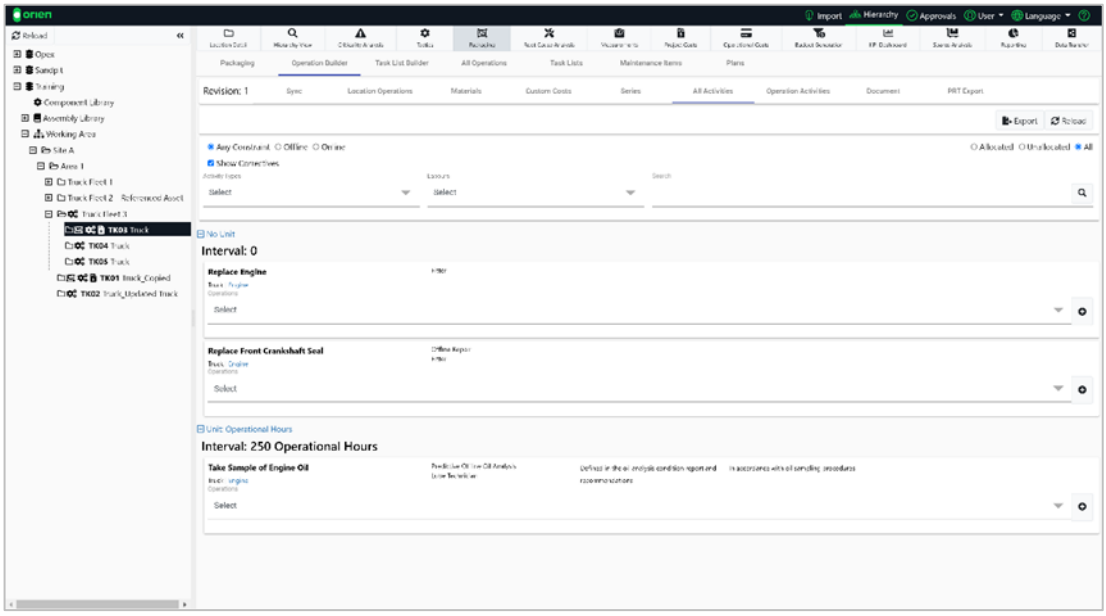
Propagate Activity Ordering

This function will copy the Activity Ordering from the Operation that has the largest interval, to all other Operations in the series. Referring to the example in the figure above:

- If we have setup Activity Ordering in the ***2000hr Mech Service*** Operation, the ordering will be assigned to all Operations below the ***2000hr Mech Service***.
- This allows you to create activity ordering once and apply it to all Operations in the Series.

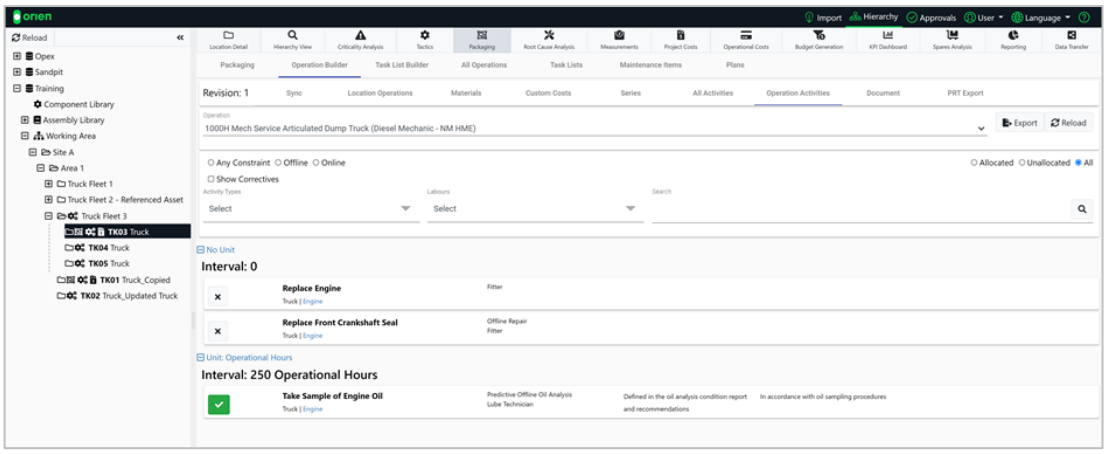
5.1.4 Allocating Activities

The ***All Activities*** tab allows a user to view all activities that are present at this packaging level. You can assign activities towards operations through this screen. There is an export function to bring the activities into a CSV file to view the data externally of Orien.



5.1.5 Allocating an Operation to an Activity

The ***Operation Activities*** tab allows the user to assign activities on this package towards the operation. As per the last section, there are search controls to help filter towards the desired activity, as well as an export function.



5.2 MAINTENANCE STRATEGIES

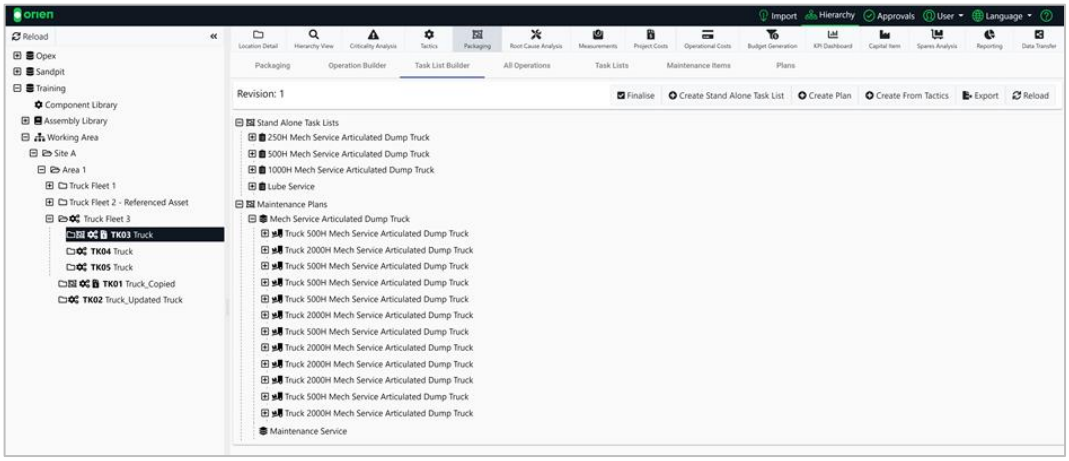
Maintenance Strategies govern how your Task Lists organise your Operations, and how the Operations will perform in the series. A Maintenance Strategy will contain Packages which will be allocated against an Operation.

> **IMPORTANT**
>
> Maintenance Strategies must be configured before you can allocate/assign them to a Task List. Refer to section 7.9 Configuring Maintenance Strategies for more information.

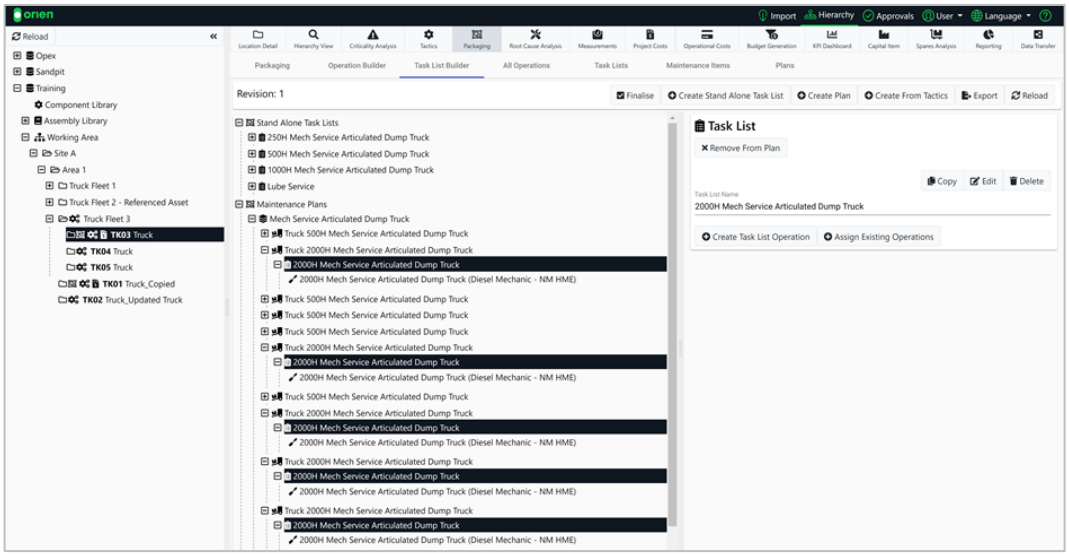
5.2.1 Assigning a Maintenance Strategy

Assigning maintenance strategies in Orien involves several steps. Let's review these in some more detail.

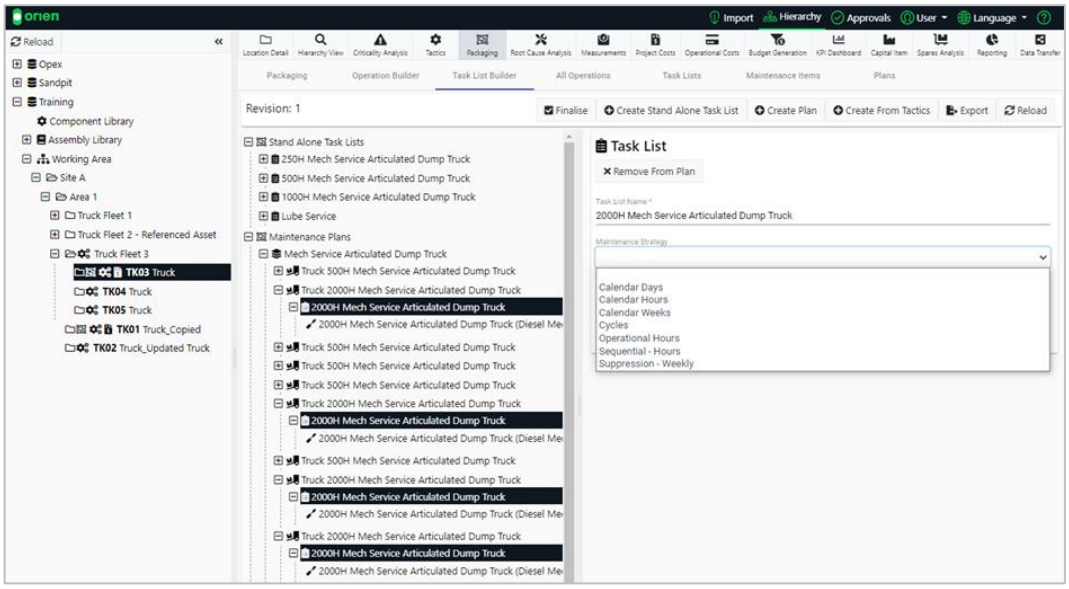
1. Choose the appropriate item in your hierarchy, select the Packaging module and then the ***Task List Builder*** tab. You can now see all Maintenance Plans and Stand Alone Task Lists for this asset.



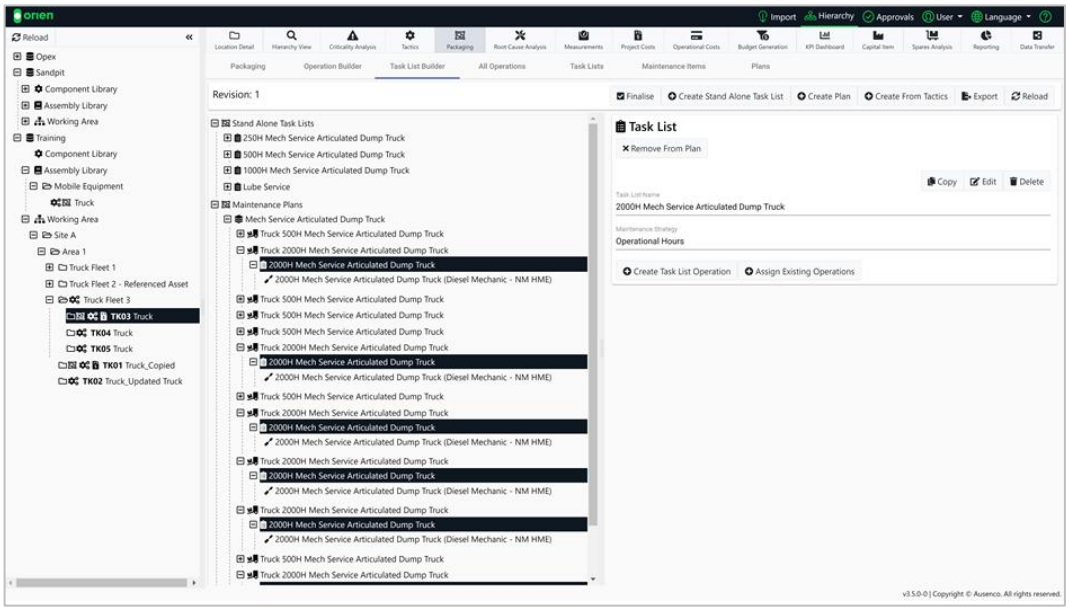
2. Select the Task List you want to assign a Maintenance Strategy to, and then select the ***Edit*** button.



3. Select the strategy type you want to use from the Maintenance Strategy drop-down, and then ***Save***.



4. The Maintenance Strategy has now been assigned to your Task List.



5.2.2 Packaging Maintenance Strategies

You can also assign groups of maintenance tasks (Operations) to allow optimization of the required resources. This allows you to allocate packages of Operations that will run at varying intervals, based upon your chosen Maintenance Strategy.

> **IMPORTANT**
>
> Packages are the series of intervals within the Maintenance Strategy. Each package will define the cycle frequency to operate at. A package that has been allocated against an Operation will cause that Operation to run at that frequency.

Prior to assigning a packaged maintenance strategy, it is important to understand the difference between the most common types - suppressive packaging and sequential packaging.

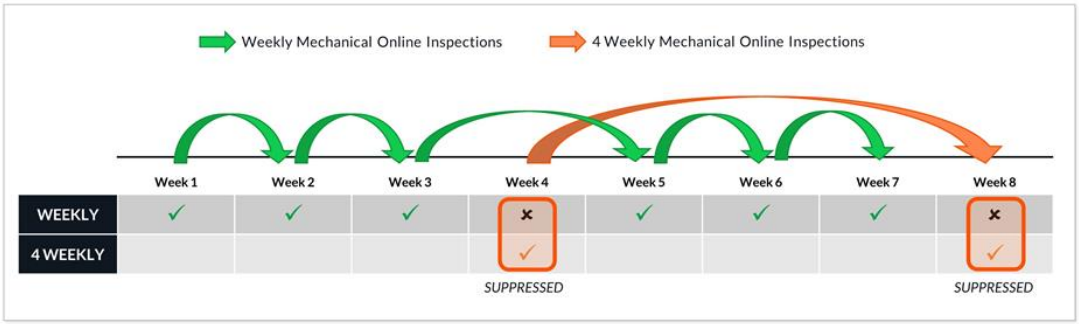
Suppressive Packaging

Also known as series or suppression maintenance strategies, these are used when:

1. Tasks are performed at different frequencies; **AND**

2. The frequencies are all divisible by the higher frequency task.

This is demonstrated in the image below.



Sequential Packaging

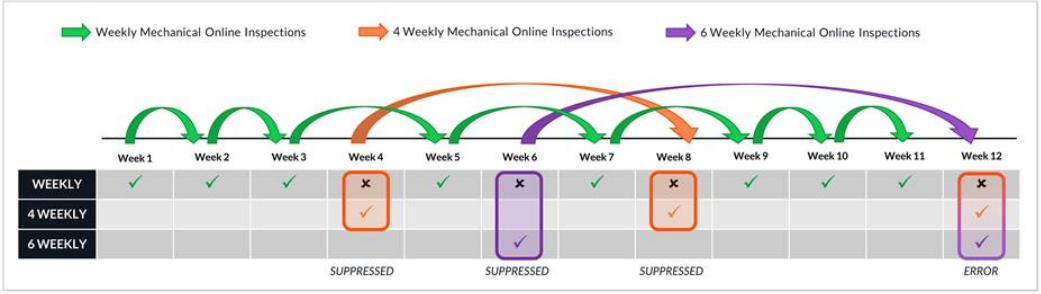
The primary difference between suppressive and sequential maintenance strategies is in the work packages, where:

1. The Tasks are performed at different frequencies; **BUT**

2. The frequencies are **NOT** divisible by the higher frequency task.

As an example, the higher frequency work package tasks may be included in the lower frequency ones, but not all the lower frequency work packages align. Therefore, a suppressive maintenance strategy is not appropriate.

The figure below is an example of sequential packaging (1 week, 4 week, 6 week work packages), where the 4 week and 6 week work packages may include the 1 week package; however, the 4 week and 6 week cannot be combined.



5.3 TASK LIST BUILDER

The Task List Builder allows you to perform operations in a logical series based on the Maintenance Strategies that have been created. An example of this practice is a Mechanical Service series in which you have a set of operations to be performed at 250, 500 and 1000 operational hours.

You can set this in Task List builder against the appropriate Maintenance Strategy. This will then be reflected in your Budget Generation, where your 250hr operation will be performed, followed by 500hr, 250hr again and finally your 1000hr (refer section 6.8 Budget Generation for more detailed information).

The Task List Builder is based on a hierarchy structure:

1. **MAINTENANCE PLANS:** A collection of Maintenance Items.

2. **MAINTENANCE ITEMS:** The association of a Task List to a Functional Location.

3. **TASK LISTS:** A list of Operations (you will allocate a Maintenance Strategy to a Task List).

4. **OPERATIONS:** The grouping of maintenance tasks to allow optimization of the required resources. Based upon your Maintenance Strategy, you will have the ability allocate Packages against an operation to allow the Operations to run in a series based upon the Maintenance Strategy.

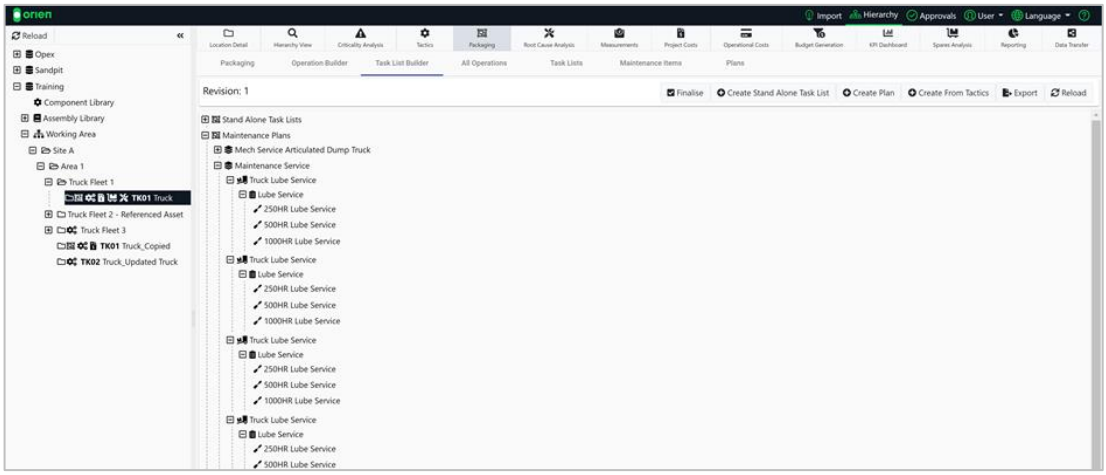
The figure below is an example of the hierarchy structure, where:

1. **MAINTENANCE PLAN** = Maintenance Service

2. **MAINTENANCE ITEM** = Truck Lube Service

3. **TASK LIST** = Lube Service

4. **OPERATIONS** = 250hr Lube Service, 500hr Lube Service, 1000hr Lube Service

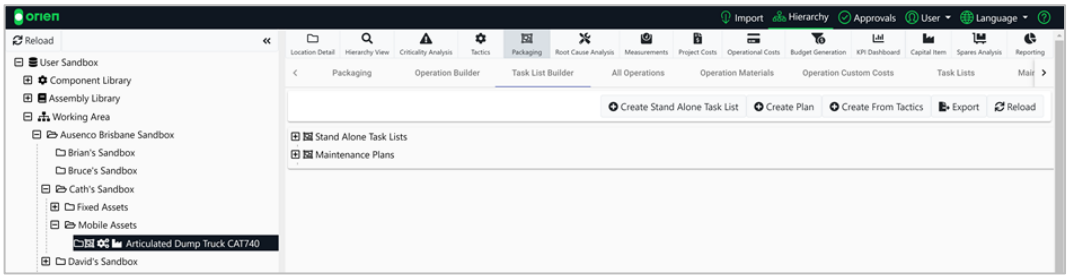


> **IMPORTANT**
>
> Ensure you familiarise yourself with Maintenance Strategies before creating your first maintenance plan.

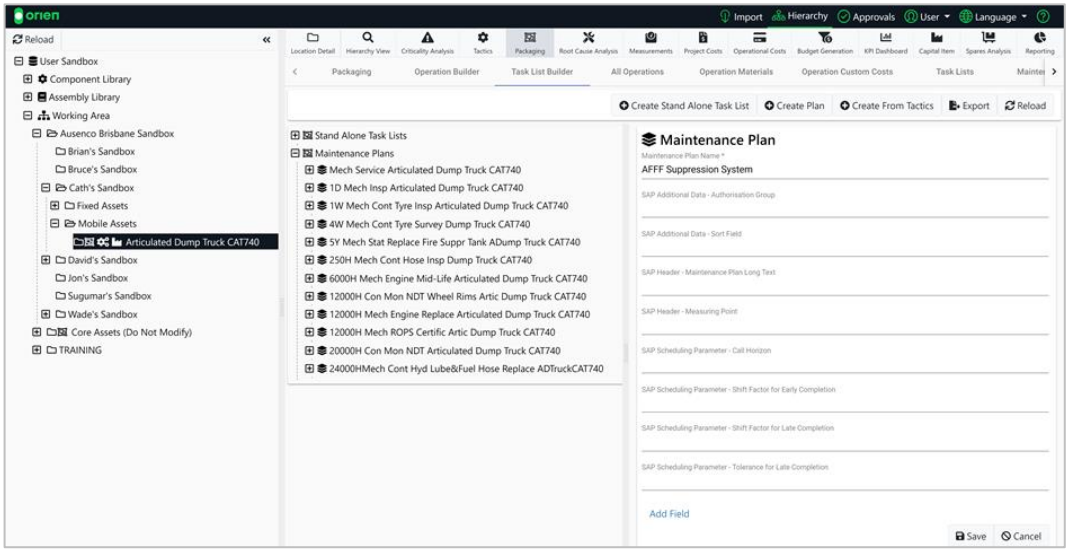
5.3.1 Create Task List

To create a new maintenance plan:

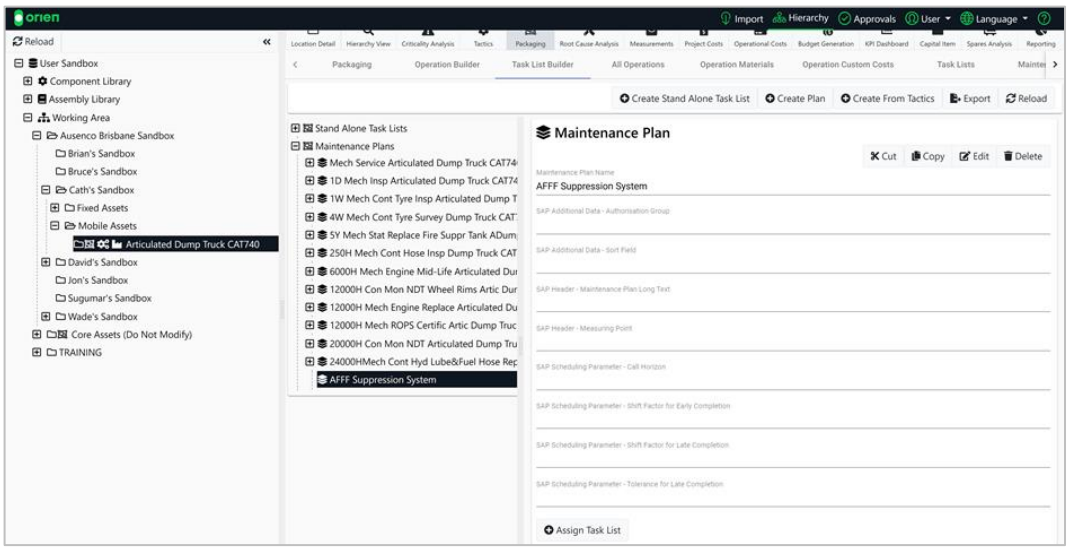
1. Choose the appropriate item in your hierarchy, select the Packaging module and then the Task List Builder tab. Select the ***Create Plan*** button.



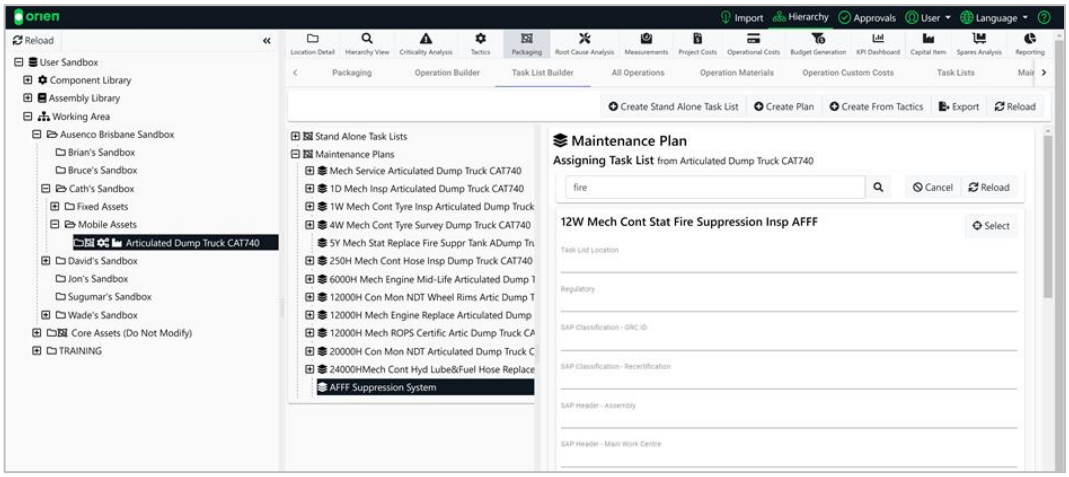
2. Enter the name of your new maintenance plan and then ***Save***.



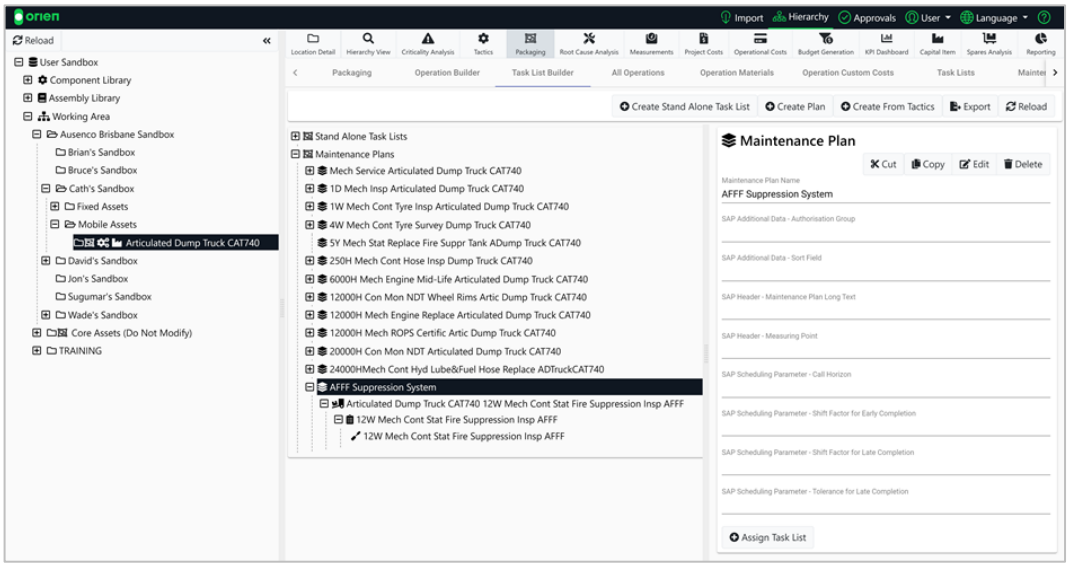
3. If you have created any Task Lists already, you can assign them by clicking the ***Assign Task List*** button.



4. Choose the appropriate task and then click the ***Select*** button.



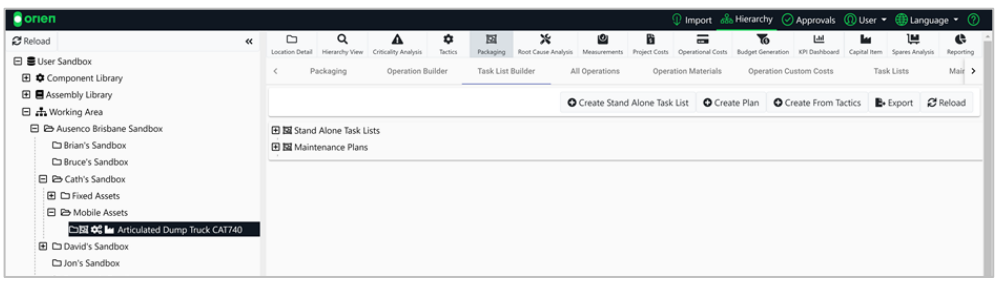
5. Your new maintenance plan is now complete. The Maintenance Item, Task List and Operations have all been allocated to the newly created Maintenance Plan.



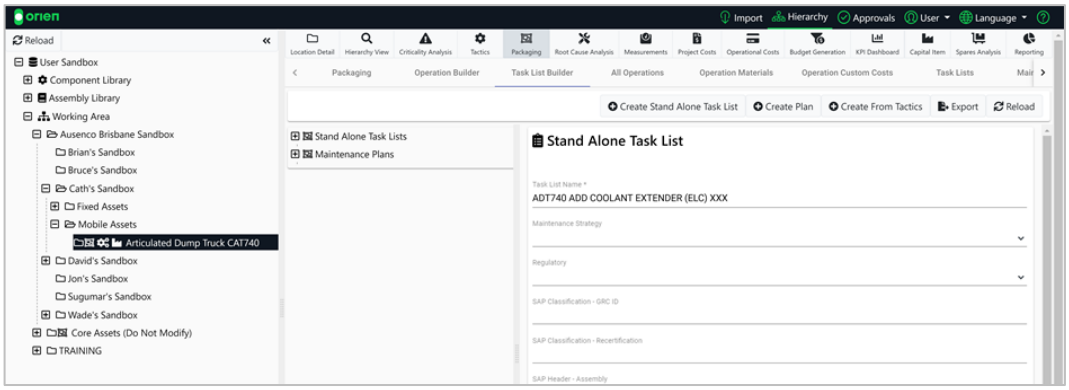
5.3.2 Stand Alone Task List

Stand Alone Task Lists are a list of Operations that do not have an associated Maintenance Item or Plan. To create a Stand Alone Task List:

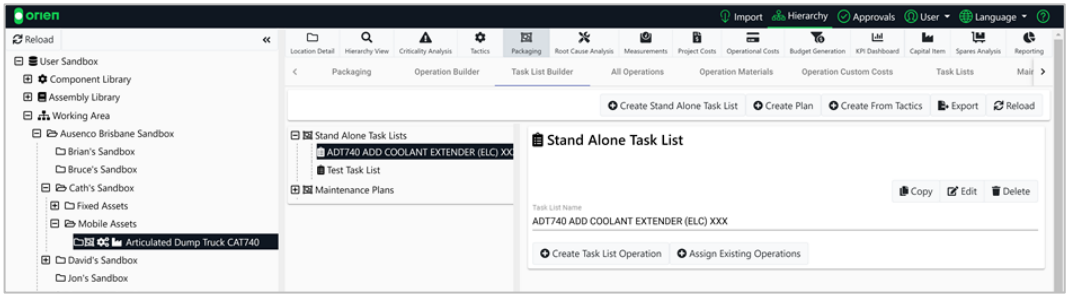
1. Choose the appropriate item in your hierarchy, select the Packaging module and then the Task List Builder tab. Select the ***Create Stand Alone Task List*** button.



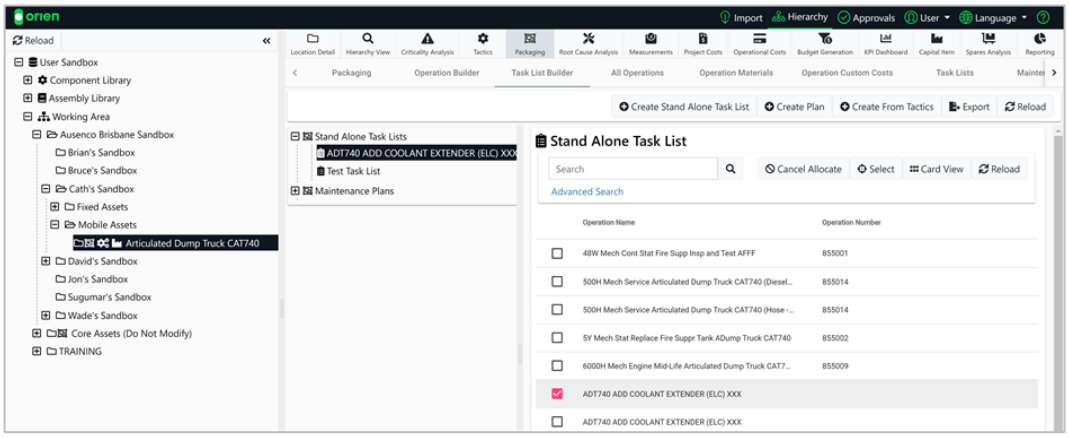
2. Enter the name of your new stand alone task list and then ***Save***.



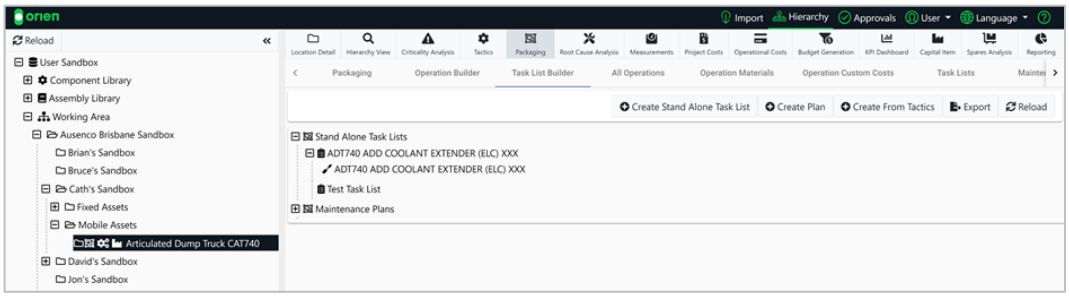
3. If you have created any Operations already, you can assign them by clicking the ***Assign Existing Operations*** button.



4. Choose the appropriate operation and then click the ***Select*** button.



5. Your new stand alone task list is now complete.

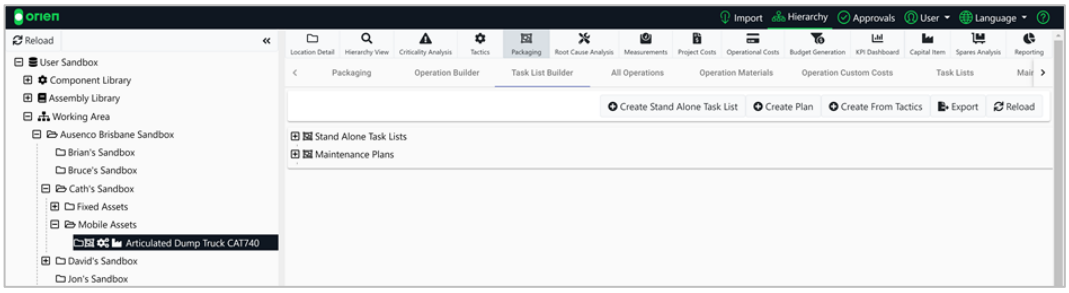


5.3.3 *Create from Tactics*

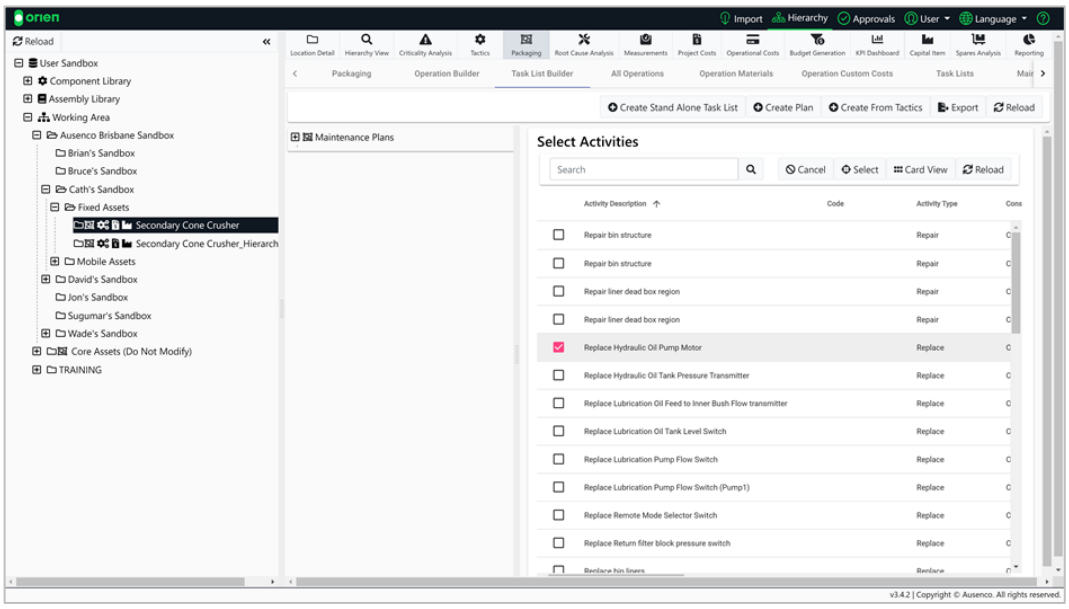
Create From Tactics is a feature that will allow you to select an Activity from a Location, which will then be allocated to an Operation assigned to a Standalone Task List.

How to Create From Tactics:

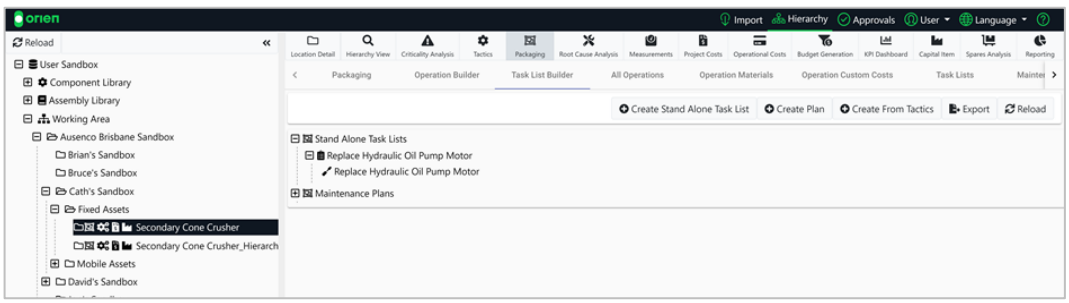
1. Choose the appropriate item in your hierarchy, select the Packaging module and then the Task List Builder tab. Select the ***Create From Tactics*** button.



2. A new window will appear to that will allow you to select a Location from the hierarchy. Once a Location has been selected, you will be presented with a list of Activities from that Location's Tactics to select. Tick a checkbox next to an Activity, then select the ***Select*** button.



3. Your new stand alone task list (created from tactics) is now complete.



5.4 OPERATION MATERIALS & CUSTOM COSTS

Operation materials and custom costs allows you to allocate materials and sundry expenses to a location or piece of equipment. Additional materials or custom costs not allocated to activities can be added to an operation (i.e. “250 Hour Service Kit” in Operation Materials).

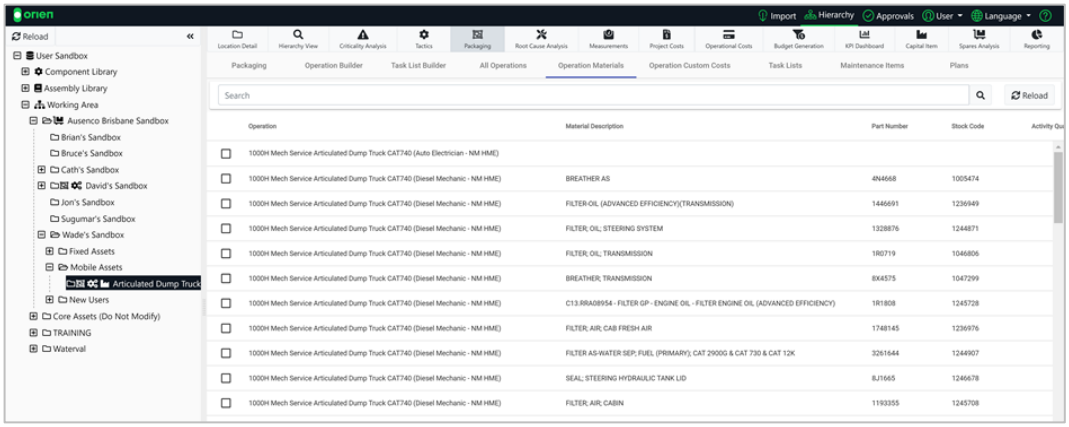
5.4.1 Task List Operation Materials

This screen will show the user the quantities of all the materials for any activities that are allocated to the operations. You can choose not to include those materials, and you can allocate additional materials that are not on any allocated activities.

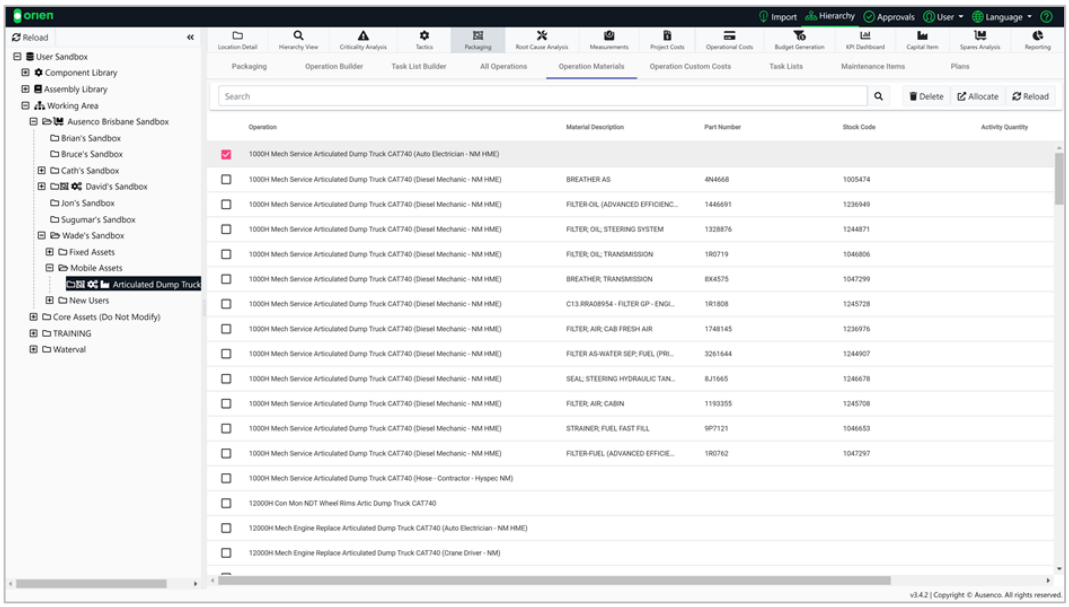
Operation materials only allows you to assign materials that are in the databases Materials list (i.e. custom costs such as tools, ancillary task equipment or any miscellaneous cost).

To allocate operation materials:

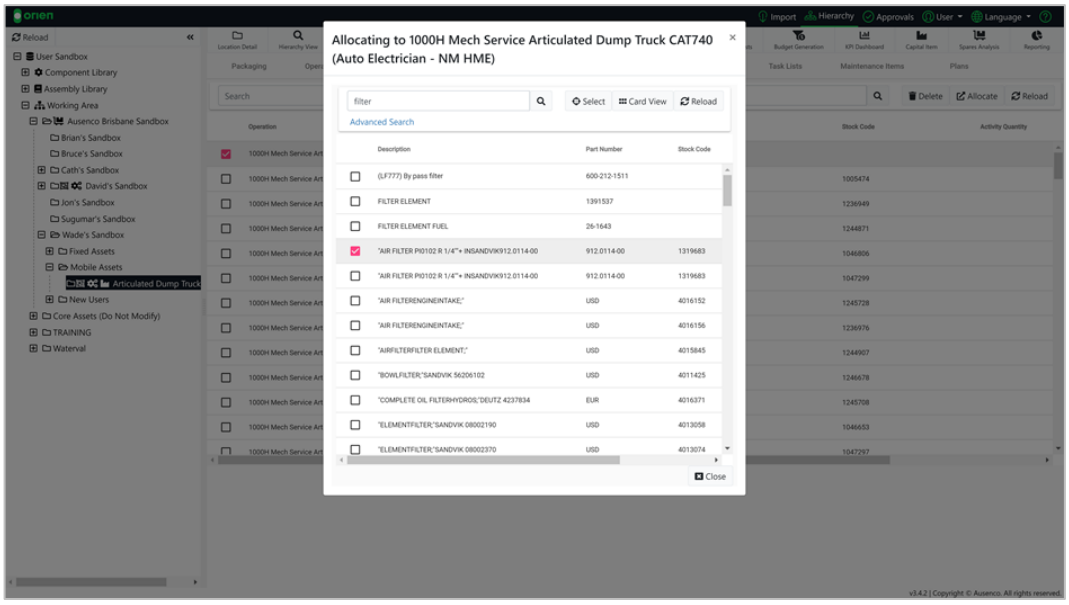
1. Choose the appropriate item in your hierarchy, select the Packaging module and then the ***Operation Materials*** tab.



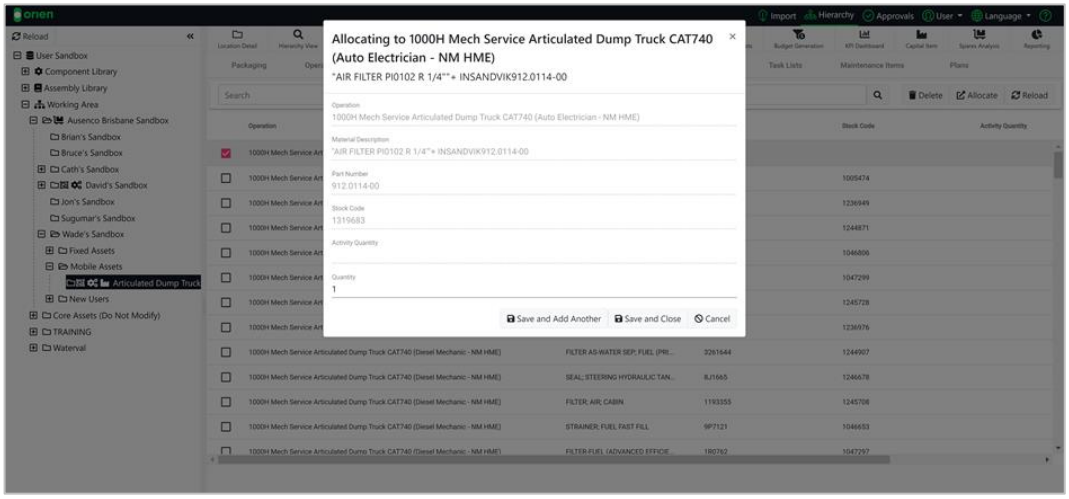
2. Select the operation you want to add operation materials to, and then select ***Allocate***.



3. Select the material you want to allocate, and the click the ***Select*** button.



4. Add the quantity of material required. You can ***Save and Add Another*** or ***Save and Close***.



> **IMPORTANT**
>
> If you do not see any materials, please navigate to Module Configuration to add new entries to the materials list.

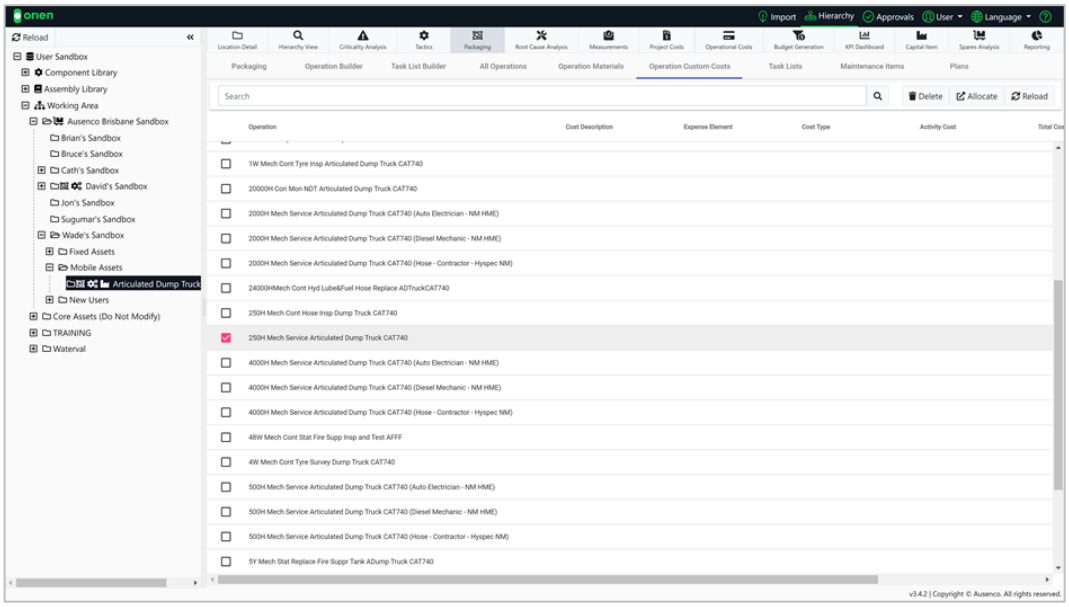
5.4.2 Task List Operation Custom Costs

Task List Operation Custom Costs are any cost other than labour and materials (for example, tools and task equipment). You can assign Operation Custom Costs at a location and define the Cost Type, Quantity and Cost.

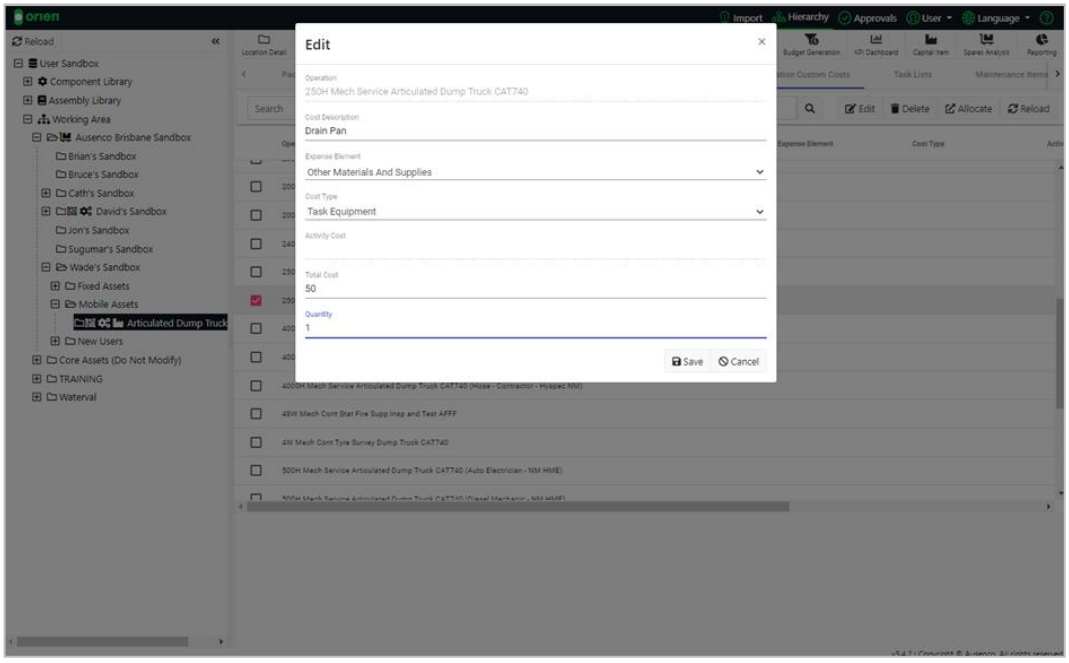
To allocate operation custom costs:

1. Choose the appropriate item in your hierarchy, select the Packaging module and then the ***Operation Custom Costs*** tab.

2. Select the operation you want to add custom costs to, and then select ***Allocate***.



3. Add a description of the custom cost, select the type of cost, add the value and quantity. Select ***Save***.



> **IMPORTANT**
>
> Any activities that are assigned custom costs on a Component Tactic will be visible here once the Synchronize function has been used.

> **IMPORTANT**
>
> Activity cost is auto allocated from an Activity; you cannot complete this field manually.

5.5 MODIFYING & EXPORTING DOCUMENTS

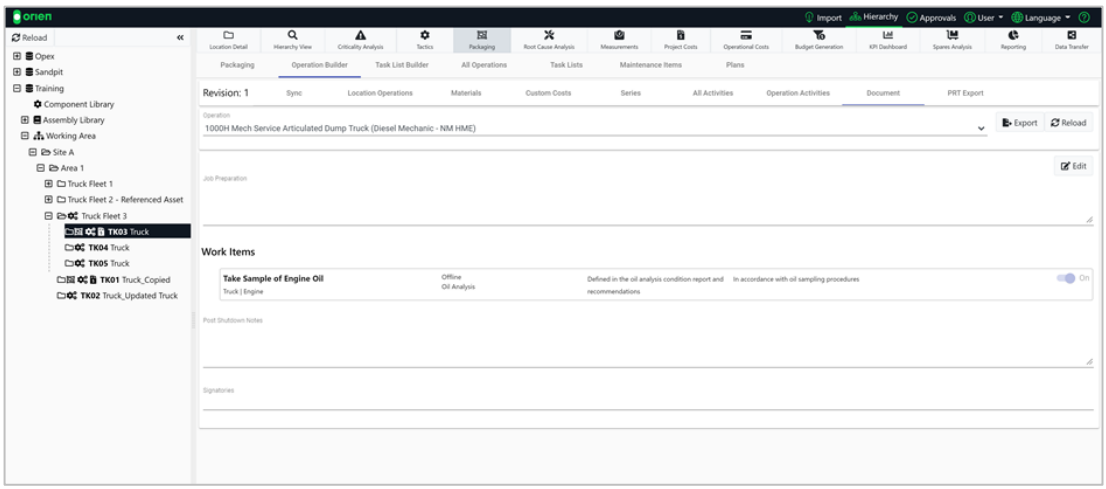
Within the packaging module, you can also modify, and export documents associated with a package.

5.5.1 Document

The ***Document*** tab allows you to add information towards the package. This includes Job Preparation, Post Shutdown Notes and assign any Signatories. You can adjust the ordering of the activities to create a workflow process. Also provides ability to create groups, and group activities into the groups.

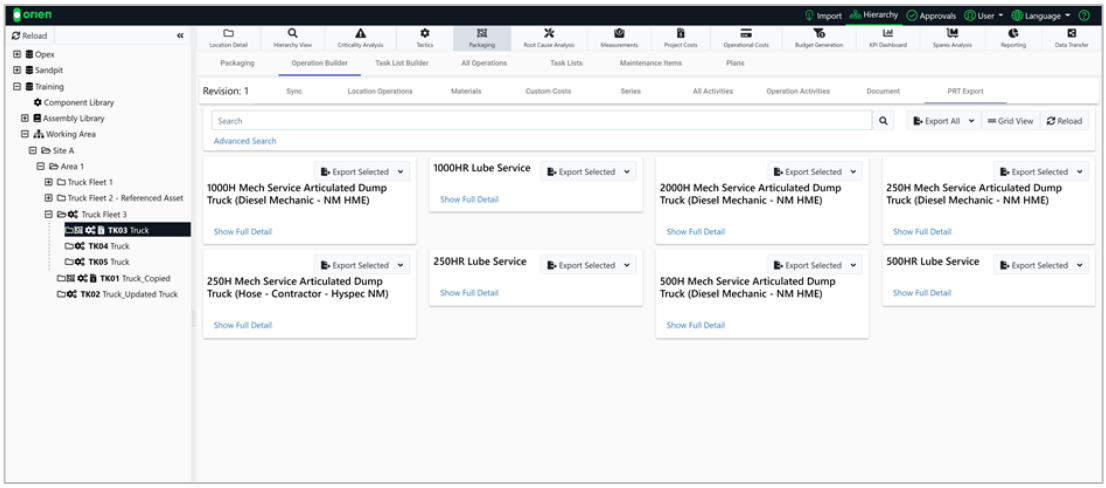
1. **JOB PREPARATION:** Provide details about any additional preparations that must be made prior to maintenance.

2. **POST SHUTDOWN:** Provide details about any additional preparations that must be made after/post maintenance activities.



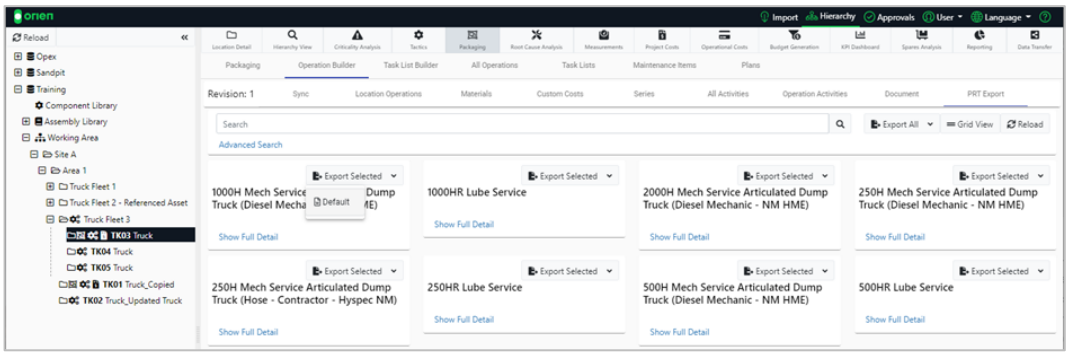
5.5.2 PRT Export

PRT's (Production Resource Tool) are movable operating resources that are required to perform an activity and can be used repeatedly. The ***PRT Export*** tab allows you to export the selected item into a document that can be easily viewed and used outside of Orien.

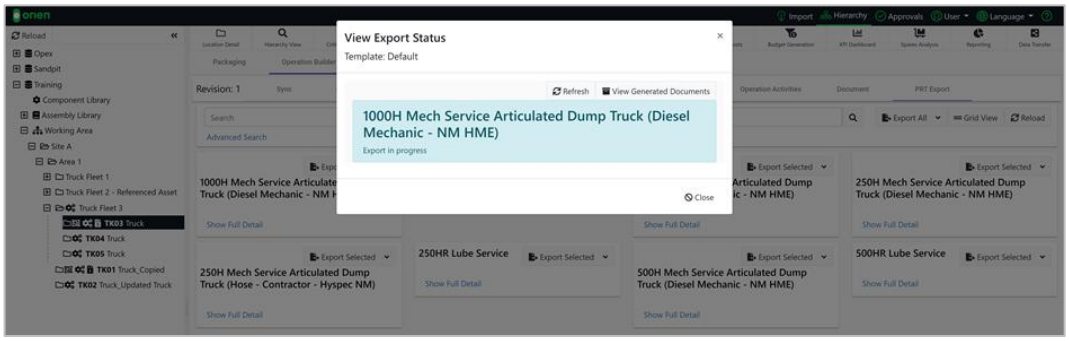


To export a PRT:

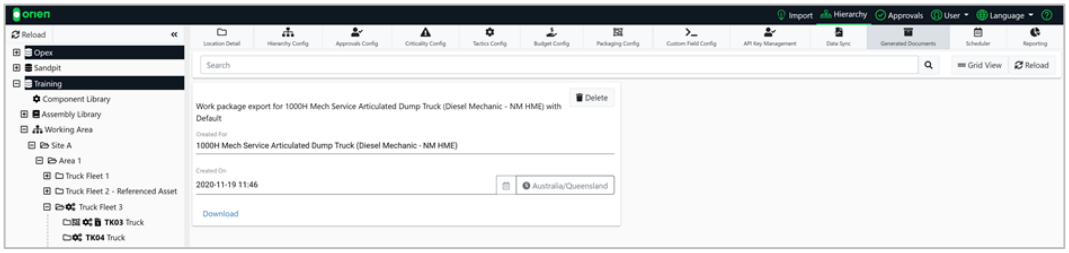
1. Select the ***Export Selected*** button and then ***Default*** on the operation you wish to export.



2. This will start an export in the background of the program. Select ***View Generated Documents*** to view the exported document.

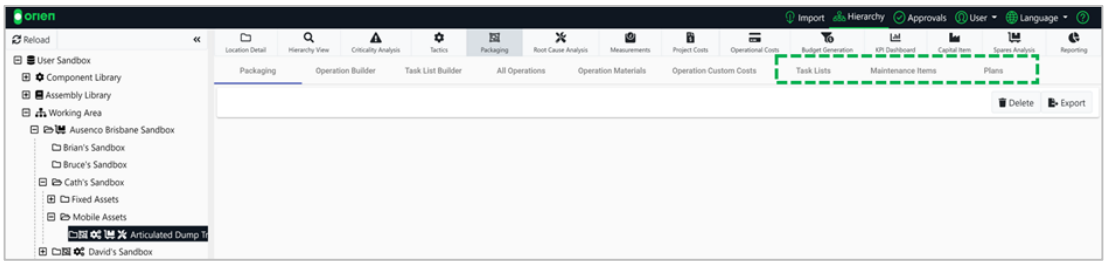


3. Click on the ***Download*** link to access the exported document. To find previous documents that have been exported, navigate to your Document Library (refer to section 6.7 Generated Documents).



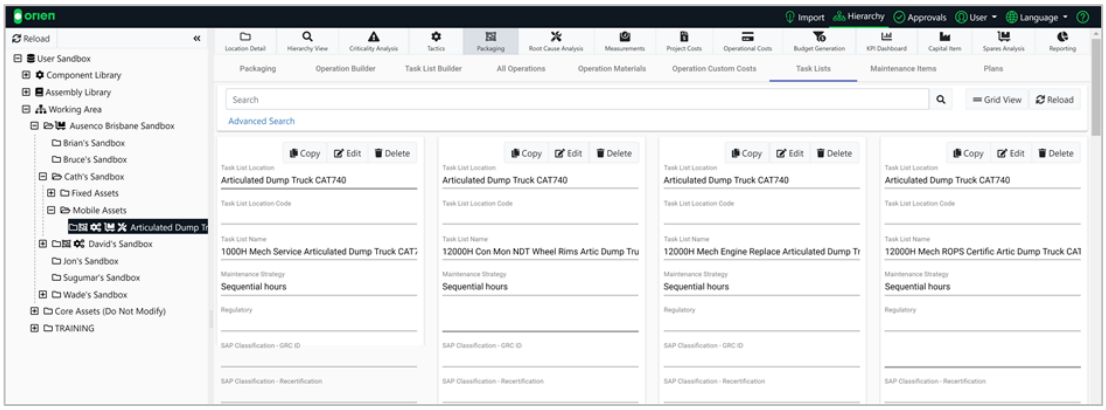
5.6 OTHER PACKAGING FUNCTIONS

The Packaging module in Orien includes a variety of other functions. These are described in more detail below.



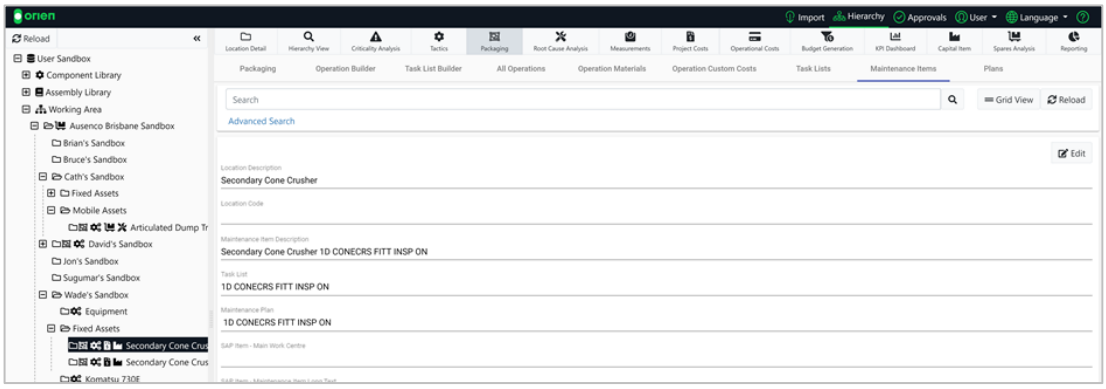
5.6.1 *Task Lists*

The ***Task List*** tab provides an overview of all task lists that have been created in the Task List Builder. In this tab you can copy, edit, or delete your task lists.



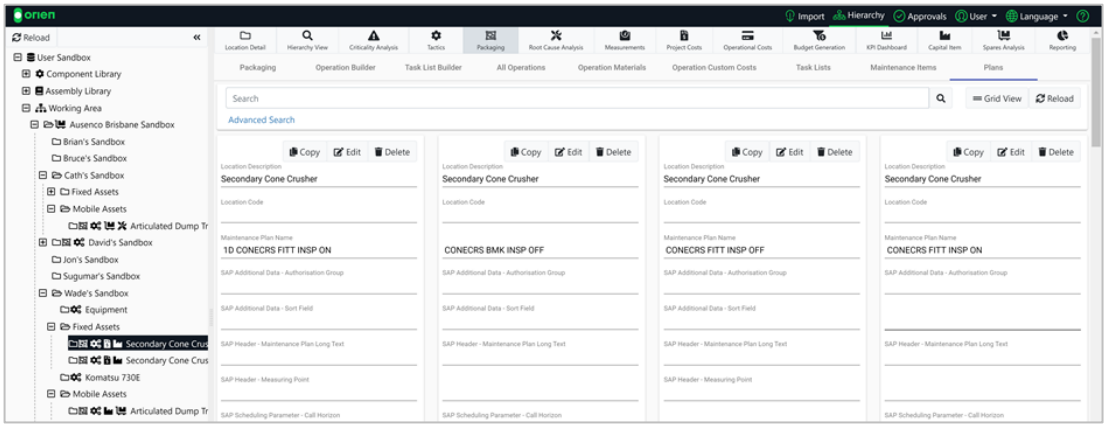
5.6.2 *Maintenance Items*

The Maintenance Items tab allows you to easily view all the task lists that have been created in the Task List Builder. In this tab you can assign a Last Performed date on the tasks.



5.6.3 *Plans*

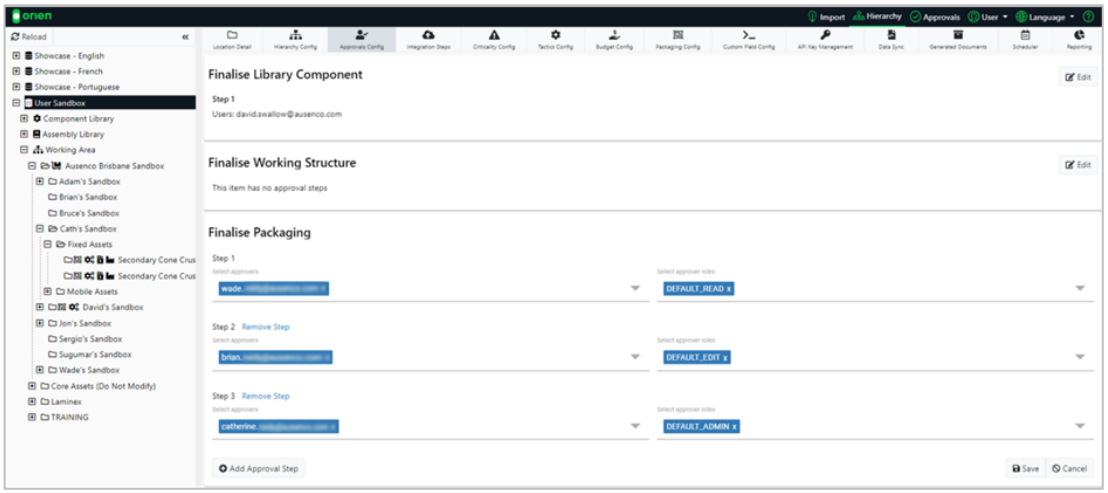
The Plans tab provides an overview of all maintenance plans that have been created in the Task List Builder. In this tab you can copy, edit, or delete your maintenance plans.



5.6.4 *Approvals*

Approval steps can be configured for the Packaging module (within each database). This will ensure that each package will need to be approved by a specified person before being entered into the system. Packaging revisions also links into SAP Document Info Record Creation and Integrations.

For more information about Approvals please refer to section 7.8.6 Approvals Configuration.



6 Other Modules

6.1 CRITICALITY ANALYSIS

Criticality is the ability to identify critical path components by using failure modes and the weighting of 'risk'. Criticality analysis allows a user to quantitatively rank equipment in terms of:

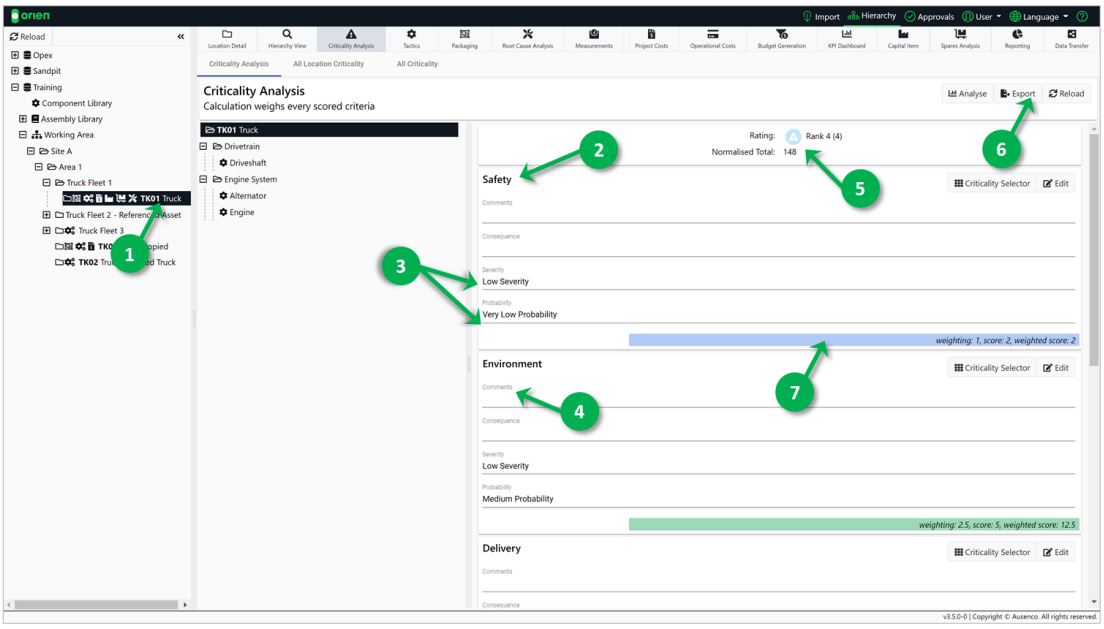
1. Their importance to the business, and
2. The associated cost to the business if they were to fail.

The importance is based on key criteria that the business considers relevant, with the criteria configured in the Criticality Configuration. Please refer to section 7.8 Module Configuration for further information. Criticality data can be entered at any location of the hierarchy below a database connection. This includes SAP functional locations and equipment. Once data has been entered, it is possible to query the number of locations for each rating in the analysis tab.

Key terms displayed during the criticality analysis process:

- **CRITERIA:** Categories the user will assess criticality against.
- **COMMENTS:** Allows the user to specify their reasoning for selecting the criteria's specific probability and consequences ratings.
- **PROBABILITY:** Denotes the likelihood of this criteria having an influencing factor.
- **CONSEQUENCE:** Denotes the likelihood of this criteria having an influencing factor.
- **WEIGHTING:** A read-only calculated field, where the value denotes the additional influence a criterion has on the final criticality result.
- **WEIGHTED:** Displays the calculated and weighted value for the criteria (updates when the probability and consequence have been selected).

A breakdown of the key components on the criticality analysis screen is detailed in the images and table below.



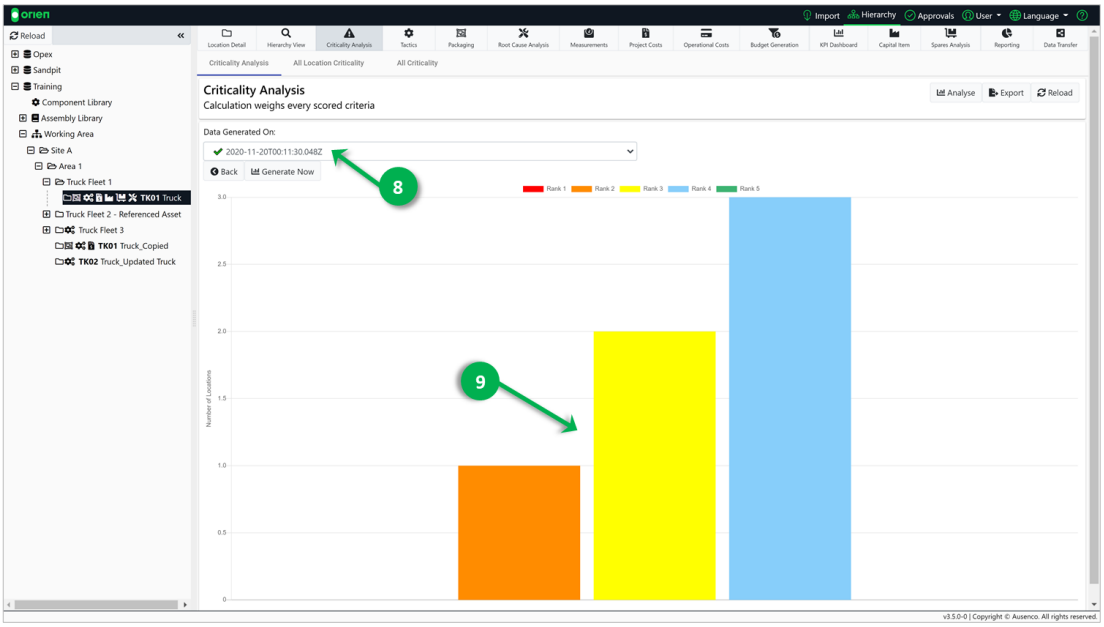


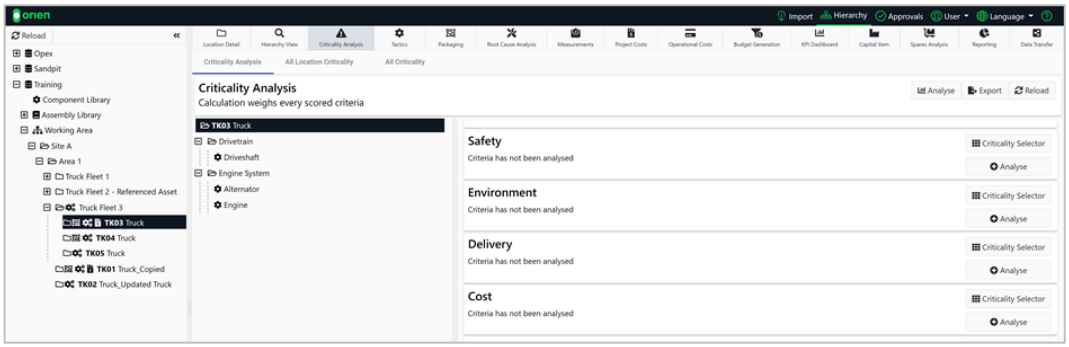
Table 6-1 Criticality Screen Breakdown Description

No.	Item	Description
1	Selected Item	The selected equipment or component in the Hierarchy.
2	Criteria	The criteria name
3	Details	Details relating to the criteria. These can be adjusted and set on a per criteria basis.
4	Comments	Comments can be added to the criteria through the edit function.
5	Overall Criteria Rating	This section contains a visual and statistical input from all the criteria you have added data for. The colour of the bar will change based on how critical the overall sum of criteria. The colours can be adjusted in Criticality Configuration.
6	Criticality Controls	These allow you to export the currently displayed information or allows you to run further analysis tools on the selected functional location or equipment (refer to 3.4.2 Structure Comparison for further details).
7	Criticality Weight	This contains the weight and score of the probability and severity added together. These values are determined by the Criticality Scoring in Administration mode.
8	Document Generation Date	This dropdown box contains a list of reports that have been run against this entity.
9	Risk Profile	This graph displays the number of functional location or equipment and their ranking grouped by the criticality weighting.

Creating a Criticality Analysis

Creating an analysis in Orien involves several steps. Let's review these in some more detail.

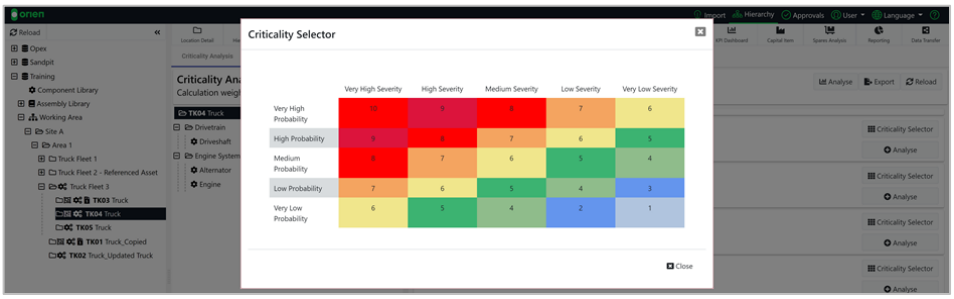
1. Choose the appropriate item in your hierarchy and select the Criticality Analysis module.



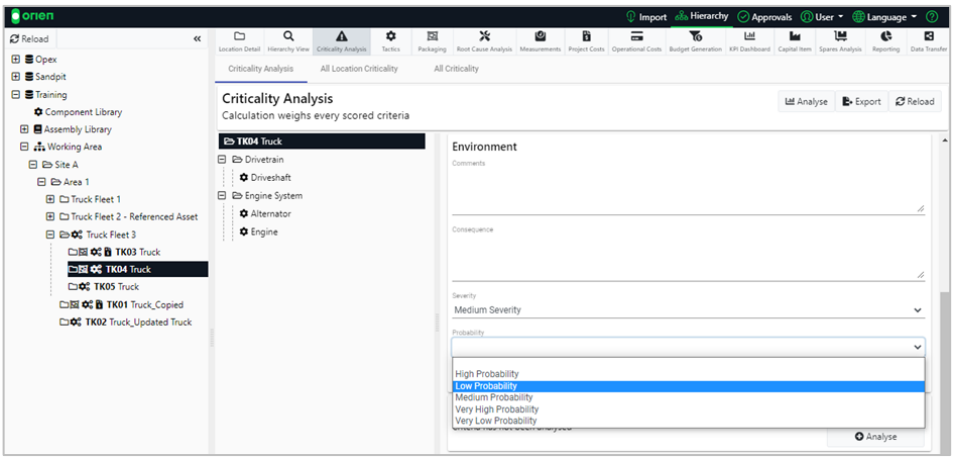
> **IMPORTANT**
>
> Please note this must be an item that is ***NOT*** in a component library or assembly library.

2. There are two ways to assign a criticality to each criteria:

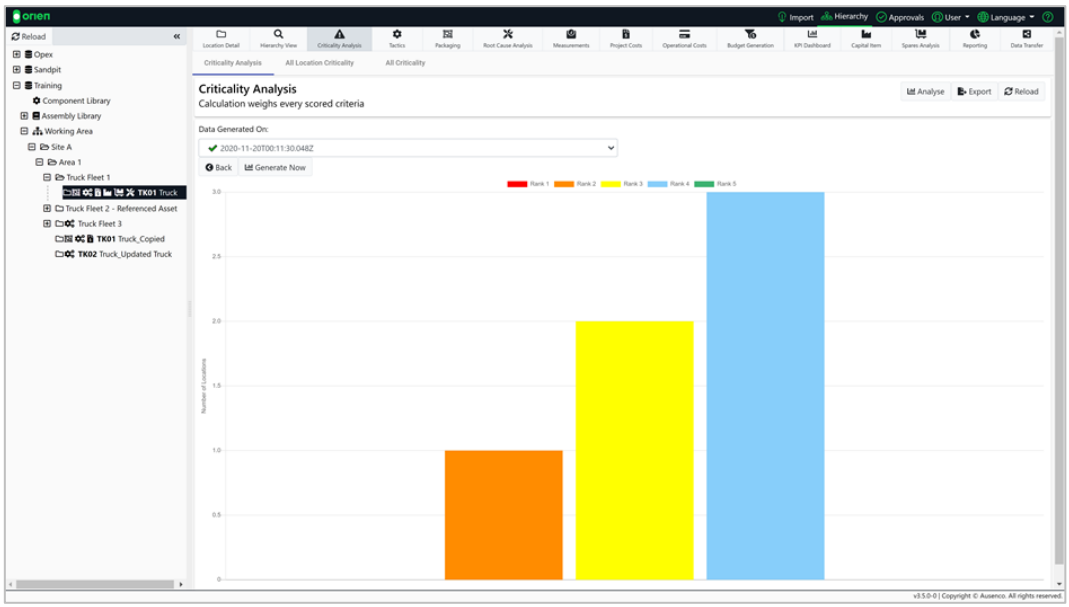
   a) Select the ***Criticality Selector*** button and you will be presented with a grid. Choose the square which best represents the criticality of the criteria. Select ***Edit*** if you want to add any comments or consequence information.



   b) Select the ***Analyse*** button and add any comments or consequence information. Choose the appropriate Severity and Probability from the drop-downs. ***Save*** your changes.



3. When you have completed your risk assessment of all the Criteria, select ***Analyse*** and then ***Generate Now***. You will see a screen that generates a graph of all assigned risk assessments at this level on the Hierarchy and below.



6.2 ROOT CAUSE ANALYSIS

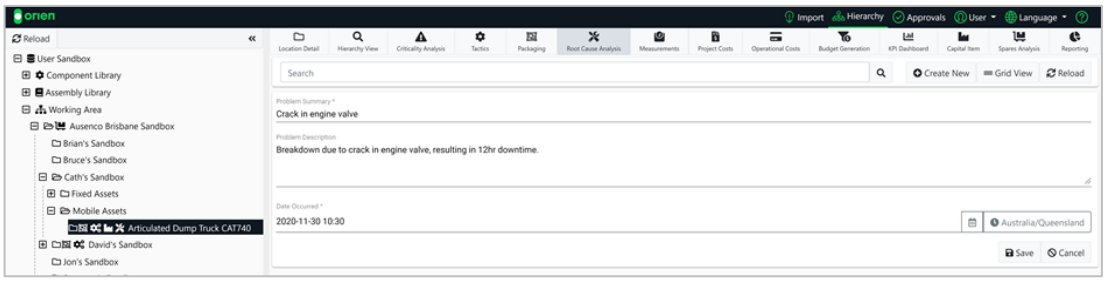
Root Cause Analysis (RCA) mode provides a tool for documenting the analysis carried out. RCA is a method of problem solving that assists to identify the root causes of faults or problems. The RCA module contains 3 features:

1. **RCA DIAGRAM:** Block diagram set up to record a detailed description of each cause of problem.

2. **RCA TIMELINE:** Input different events that led up to an incident.

3. **ROOT CAUSE ACTIONS:** Describe actions for each root cause identified in the analysis.

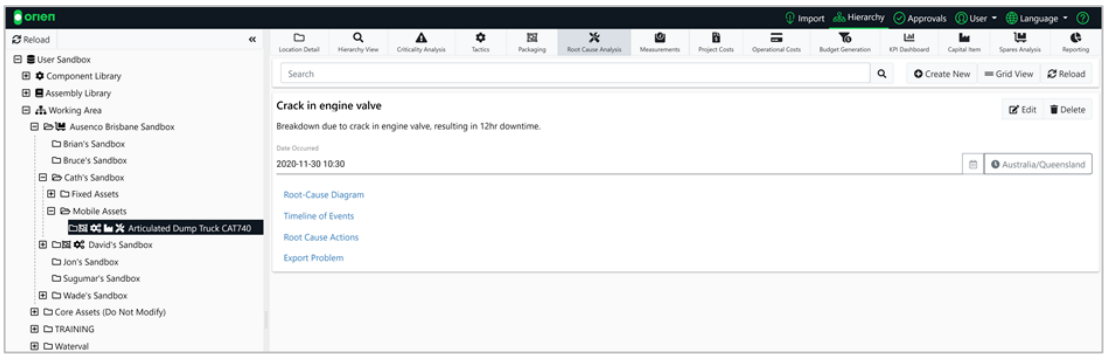
To create an RCA, choose the appropriate item in your hierarchy, select the Root Cause Analysis module and then the ***Create New*** button. Enter the details and then then ***Save*** your RCA.



IMPORTANT

Please note this must be an item that is **NOT** located in a component library or assembly library.

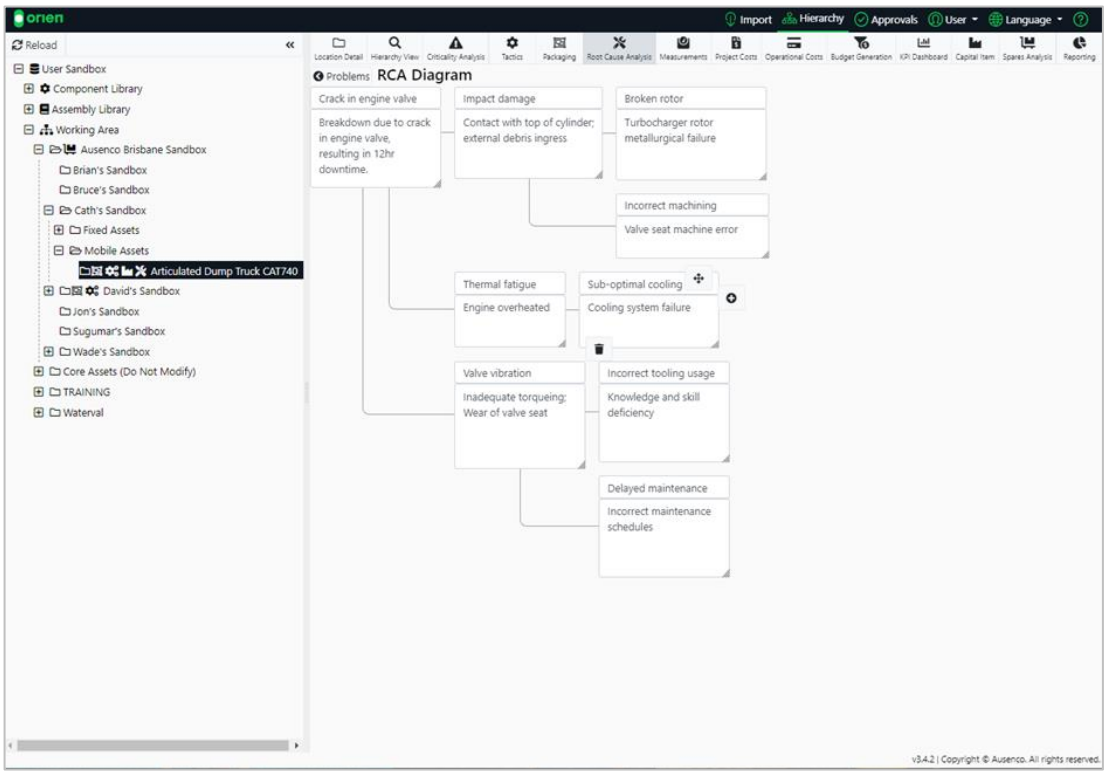
Once saved, you can continue your analysis by adding further information. Let's start with the Root-Cause Diagram.



Root Cause Diagram

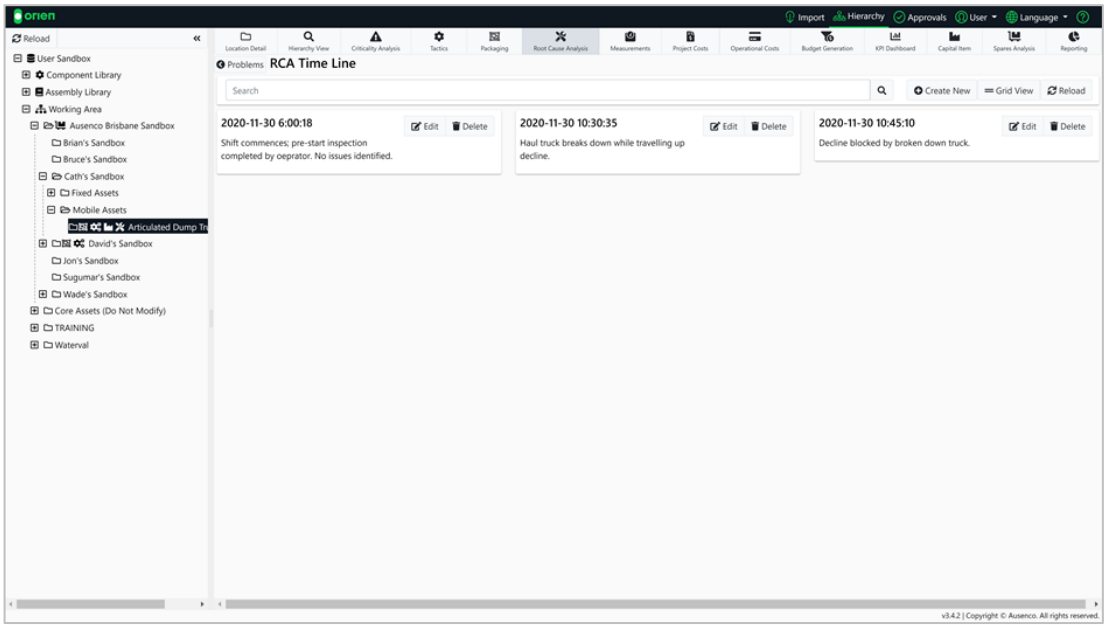
The RCA diagram allows you to easily record detailed descriptions of each problem and the associated cause/s. You can create branching structures of events and causes.

1. To create a new entry into the RCA Diagram, select the ⊕ button.
2. Input your information and select the 💾 button.
3. You can rearrange entries by using the ✥ button. Select the new location in the diagram for your entry by clicking on the ⌖ button.
4. During editing you can revert changes by using the button.
5. You can delete entries using the button.



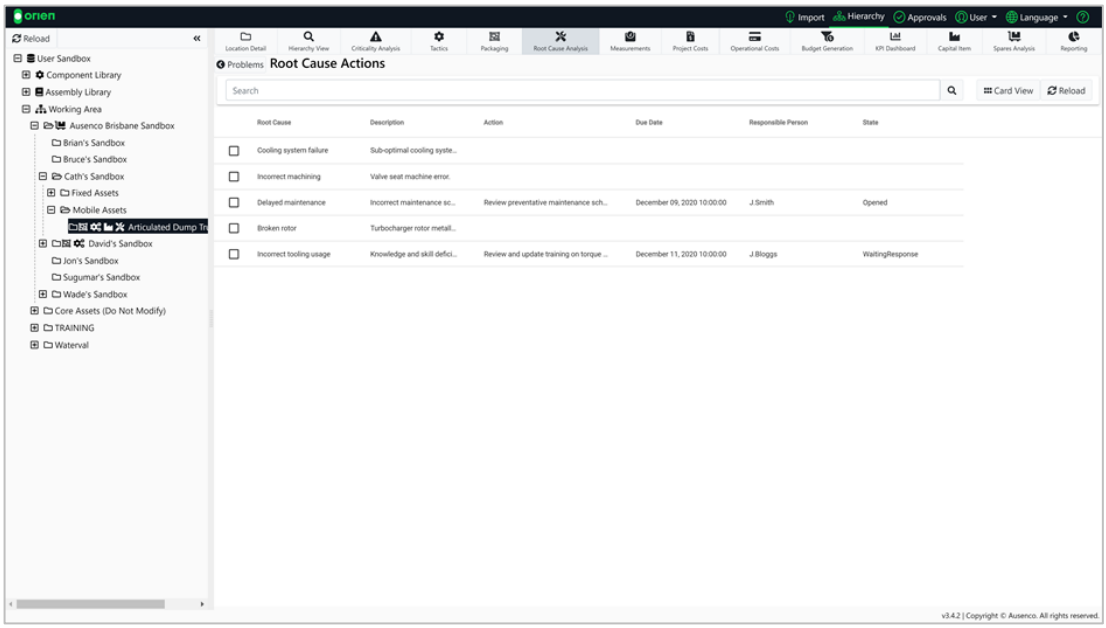
Timeline of Events

The RCA timeline allows a user to input the different events that led up to an incident. A user can input multiple events with a description and date. This will allow a user to visually see a list of events.



Root Cause Actions

Each root cause typically requires an action to remedy it. An action resulting from a root cause analysis may be corrective (corrects immediate causes) or preventive (addresses preconditions and latent failures to prevent recurrence). Regardless, all actions should be appropriately prioritized, organized, automated, and analysed.



6.3 OPERATIONAL & PROJECT COSTS

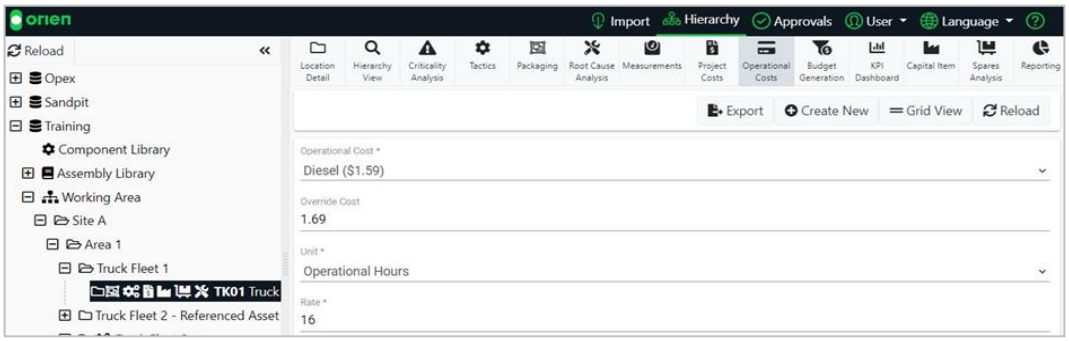
Operational Costs are sundry expenses associated with the day-to-day operation of a piece of equipment. These are ongoing expenses unrelated to maintenance such as fuel consumption or administration costs. Operational costs provide a way to include non-maintenance expenses into the budgeting reports that are not based on tasks. They are calculated using the following formula:

$$Production \times Admin\ Cost\ or\ Override \times Functional\ Location\ Rate \times Cumulative\ Escalation$$

To create a new Operational Cost:

1. Choose an item from the Hierarchy and then select the Operational Cost module.

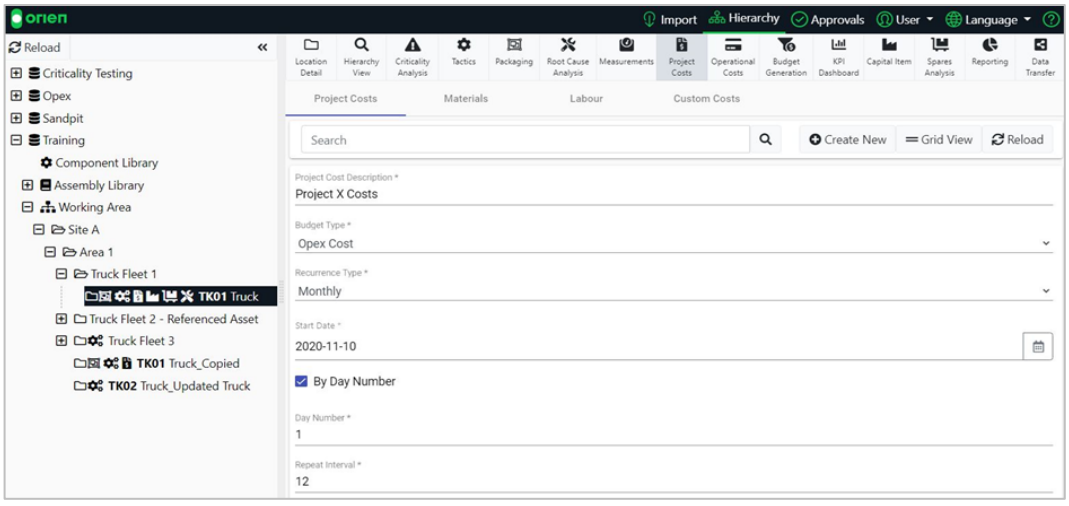
2. Select the ***Create New*** button and you will be presented with an input card. Enter the cost details and then ***Save*** your changes.



Project Costs allows a business to take advantage of creating a scheduled based budget without the need to create complete maintenance strategies. This enables you to account for costs that would otherwise be unaccounted for in your strategies and expenditure. Examples of project costs could include monthly administrative costs, weekly staff lunches or a single project scoping cost. To create a new Project Cost:

1. Choose an item from the Hierarchy and then select the Project Cost module.

2. Select the ***Create New*** button and you will be presented with an input card. Enter the cost details and then ***Save*** your changes.



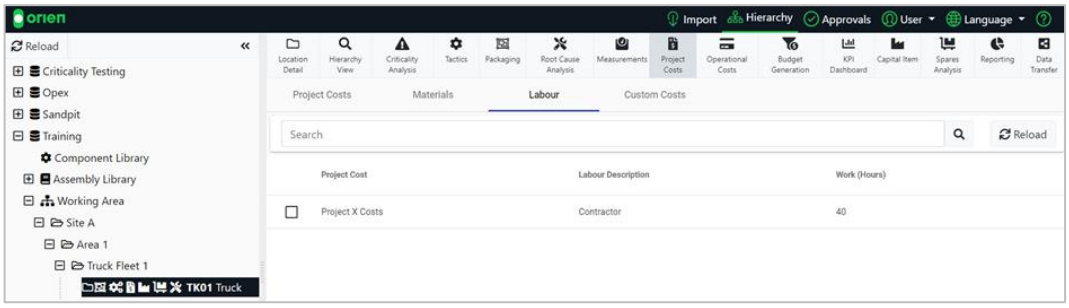
IMPORTANT

Repeat Interval is how many Recurrence Types will happen before the task will run again.

For example, a Recurrence Type of Weekly with a repeat type of 8, the task will be scheduled to run every 8 weeks.

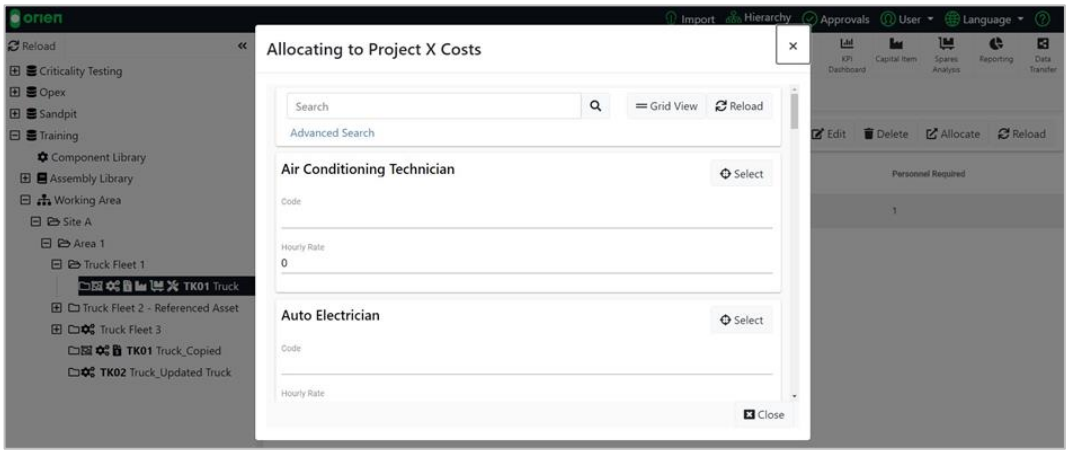
3. Once you have created your Project Cost, you are now able to start assigning Custom Costs, Labour and Materials towards the Project Cost.

4. To assign a cost towards a project, select the appropriate Tab and then select the Project Cost. Select ***Allocate*** on your newly created record.



5. This will display a new window that will allow you to select and allocate the type you are creating a project cost record against (in this example, this will be a Labour).

6. Once allocated you can assign figures on the project cost, select ***Save***.



IMPORTANT

For the above example Labour, Work Centres and Materials follow the same workflow.

IMPORTANT

Custom Costs works like the previous workflow; however, you do not have the allocate function.

6.4 PRODUCTION

Production is used for forecasting maintenance events within Orien. Production is defined in operation units but are converted to a time-based hour equivalent.

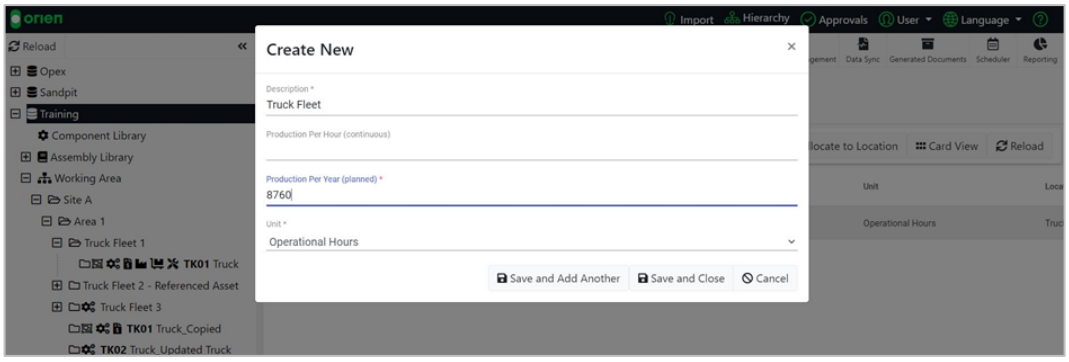
Key terms displayed during the criticality analysis process:

- **PRODUCTION DEFINITIONS:** Create production forecasts and assign them to location. Assign production to a higher functional location (i.e. site), and it will allocate production to all sub locations. If a sub location has its own allocated production, it will override the parent production forecast.
- **FUTURE FORECASTS:** Production forecast may be different each month. The future forecasts tab allows the user to view future forecasts that have been assigned in production definitions tab.
- **PRODUCTION ASSIGNMENT:** Allows the user to view all allocated production forecasts that have been assigned in the production definitions tab.

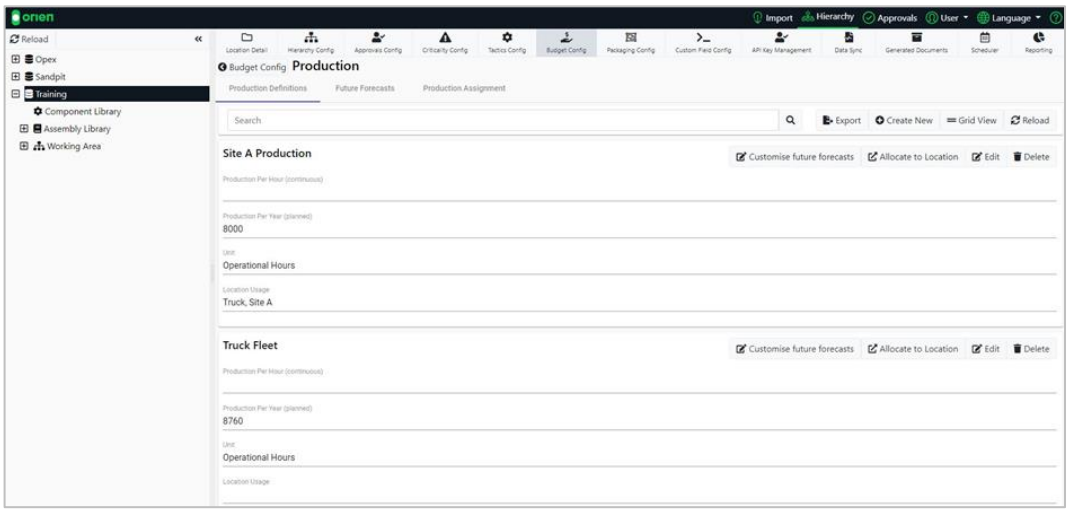
To create a new Production:

1. Select the appropriate Database, the Budget Config module and then ***Production***.

2. Select the ***Create New*** button and you will be presented with an input card. Enter the production details and then ***Save*** your changes.



3. Once you have saved your Production details are you now able to assign this Production to locations within your hierarchy. Future forecasts will also be enabled on your new Production.



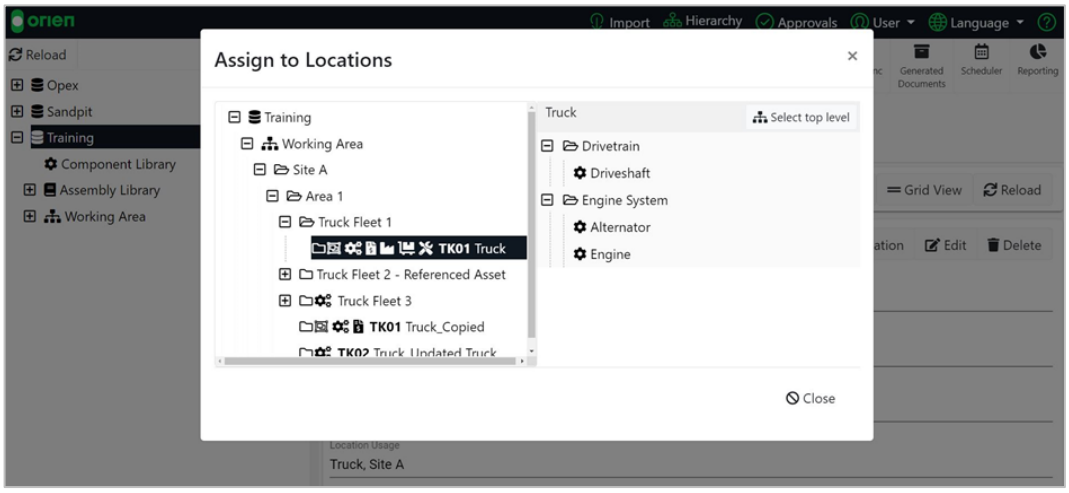
6.4.1 *Allocating Production to Locations*

Every equipment item has a production forecast that defines the output capacity of future operation. This might be as simple as operational hours that state the number of hours in each time period that a machine will be operating, or it might be a value that represents a level of productive output.

To do this a Production forecast will need to be allocated to an Asset. It is worth noting it can be assigned to any level including locations. However, this means all sub Assets/Folders will have the same Production forecast unless overridden and a separate forecast is assigned. When you have setup your Production, you can allocate this production towards a Location on your hierarchy.

To allocate a Production to a location:

1. Select the Production you want to allocate, and then the ***Allocate to Location*** button. This will open a window showing you the hierarchy.



2. Select the location you want to assign Production to, and then select ***Assign to Location***.

3. The locations the production has been assigned to will be displayed in the ***Location Usage*** field.

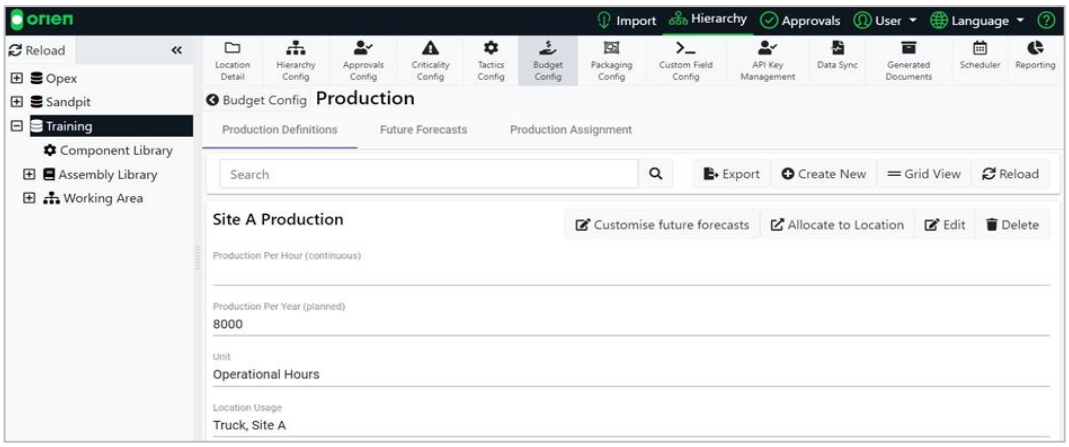
> **IMPORTANT**
>
> You can assign the production to either a component individually or Select Top Level which will assign the production to the entire Structure.

6.4.2 *Forecast Dates*

Future Forecasts allows the user to pre-define production forecasts depending on the unit measurement required for site. This allows for a non-linear production input into the software to give greater accuracy when forecasting Maintenance and Budgets. The Future Forecasts tab can be set up as a monthly or yearly forecast.

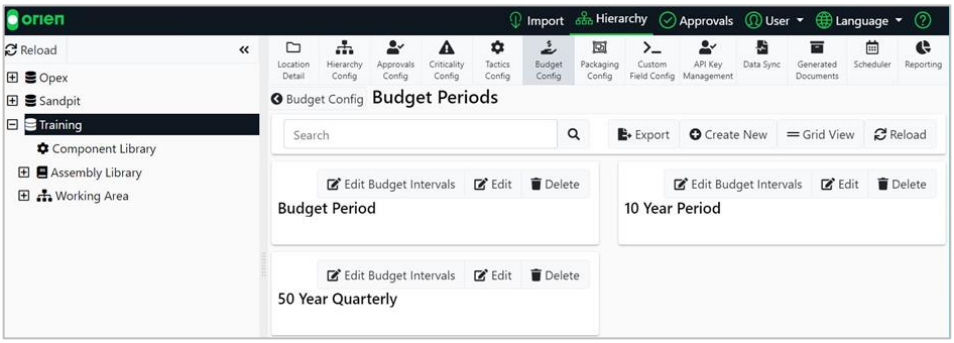
To allocate a forecast:

1. Select the production you want to assign a forecast to ***Customize Future Forecasts*** button.

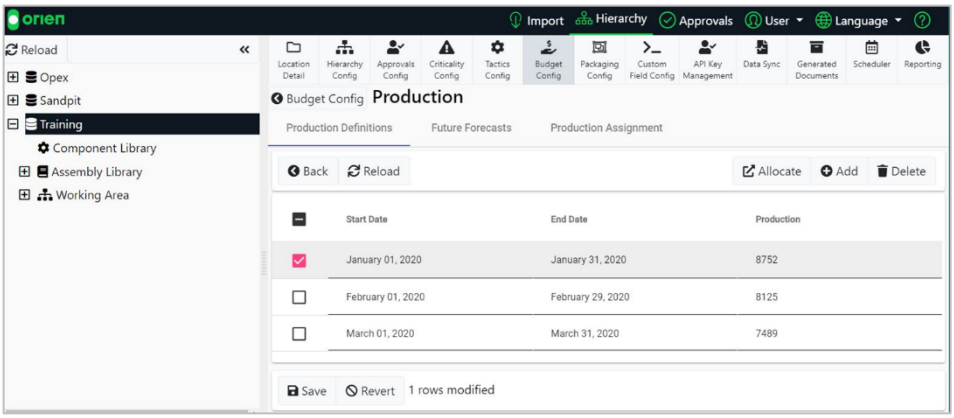


2. You will now be presented with grid. You can assign a forecast in one of two ways - the ***Allocate*** button (allows you to use a Budget Period that has already been defined on the date), or the ***Add*** button (allows you to manually input a date range into the grid).

    a) **ALLOCATE:** A new allocation window will appear. Select ***Allocate*** against the Budget Period you want to add to your forecast. Once you have assigned your period, insert your Production values against the date period, and then ***Save*** your data.



    b) **ADD:** A default date value will be added. Select the Start Date and End Date to modify them using the incorporated calendar. ***Save*** your data.



> **IMPORTANT**
>
> You can only save the rows of data which has an assigned production against it.

6.5 MEASUREMENTS

Measurements uses the component structure at the location you have select to enable you to insert Last Replace Date, Meter Readings, Meter Reading Date and Meter Reading Unit. Measurements also enables you to insert Last Performed Dates onto an Operation located at this location.

To assign a Measurement:

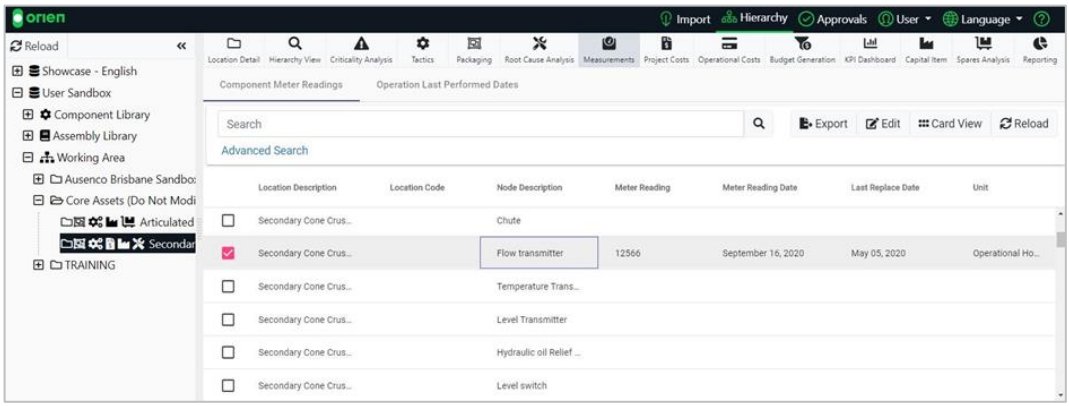
1. Choose an item from the Hierarchy and then select the Measurements module.

2. To insert a date, double click on the cell of ***Last Replace Date*** or ***Meter Reading Date*** (in Grid View).

3. You will be presented with a calendar drop-down that will allow you to select the date.

4. To insert a ***Meter Reading***, double click on the cell and type in your value.

5. Finally, to add a ***Meter Reading Unit***, double click on the cell and a drop-down will present the options to assign. Remember to ***Save*** your work.



6.6 SCHEDULER

The Scheduler allows a user to setup a repeated job that is scheduled to run on a date and at an interval specified by the user. The scheduler will email the user who setup the job with information outlining the job when the date has been reached.

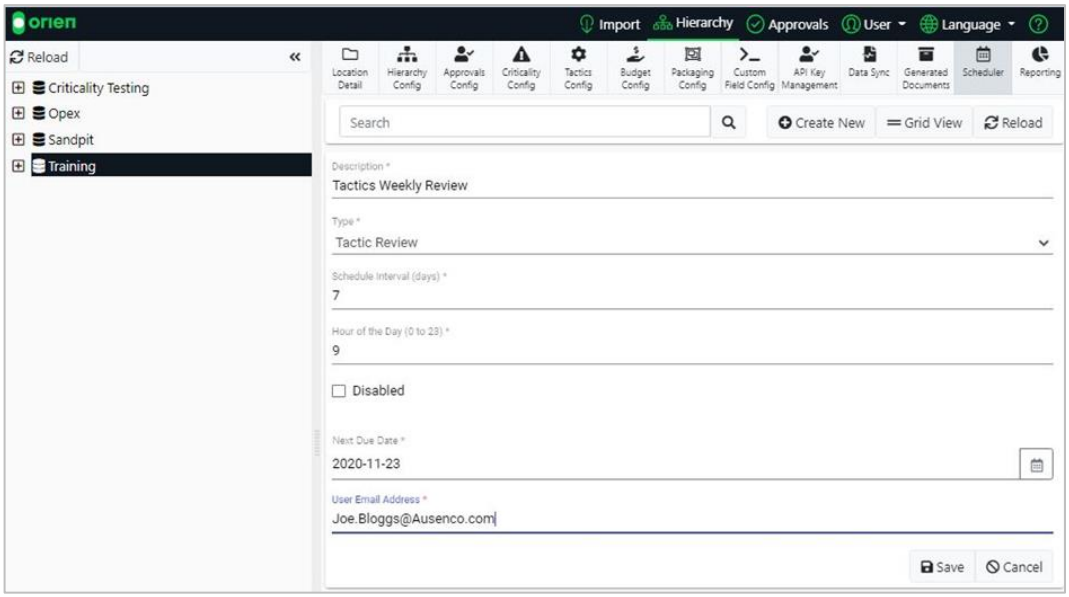
To create a Scheduled Job:

1. Select your Database, the Scheduler module and then select ***Create New***. Insert a description and select the type of job you want to schedule.

2. Select the Schedule Interval (days). Make sure to leave the Disabled box unchecked unless you want to deactivate a current scheduled job.

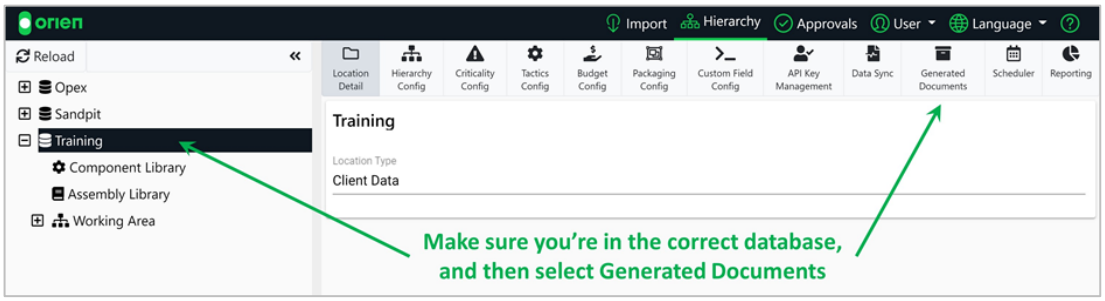
3. Insert the date you want your job to first run on and then ***Save*** your Scheduled Job.

> **!** **IMPORTANT**
>
> The Schedule Interval is the amount of time that needs to be elapsed before the job will run.

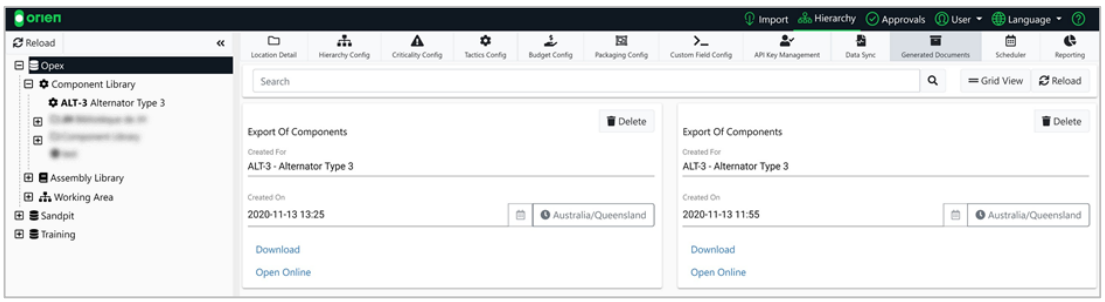


6.7 GENERATED DOCUMENTS

Document Management allows you to view the documents that you have previously exported. To find your documents, select the root of your hierarchy (also known as your database), and then select ***Generated Documents***.



You can select the ***Download*** button on any of the previously exported documents to re-download them to your device. You can also delete any previous entries into the generated documents.



IMPORTANT

If configured to do so, you will also be able to setup the ability for all users apart of the same domain to access all documents that have been initiated to export.

6.8 BUDGET GENERATION

Budget generation allows you to use the Tactics that have been budgeted and Operations that have a frequency set within a location to produce a budget. The budget can be generated for a pre-defined duration and be deconstructed by years or a customisable budget period. It also allows you to create 'tags' to record historic data. Running validations ensures data integrity and successful budget generation.

There are three prerequisites to be able to successfully generate a budget:

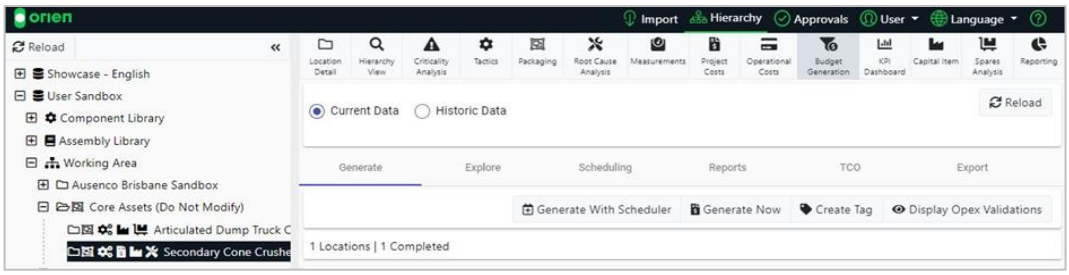
1. Tactics and failure modes;
2. Packaging's maintenance strategies setup and assigned; and
3. Production allocated to the asset.

> **IMPORTANT**
>
> Refer to section 6.4 Production for more information allocating Production and Forecast Dates.

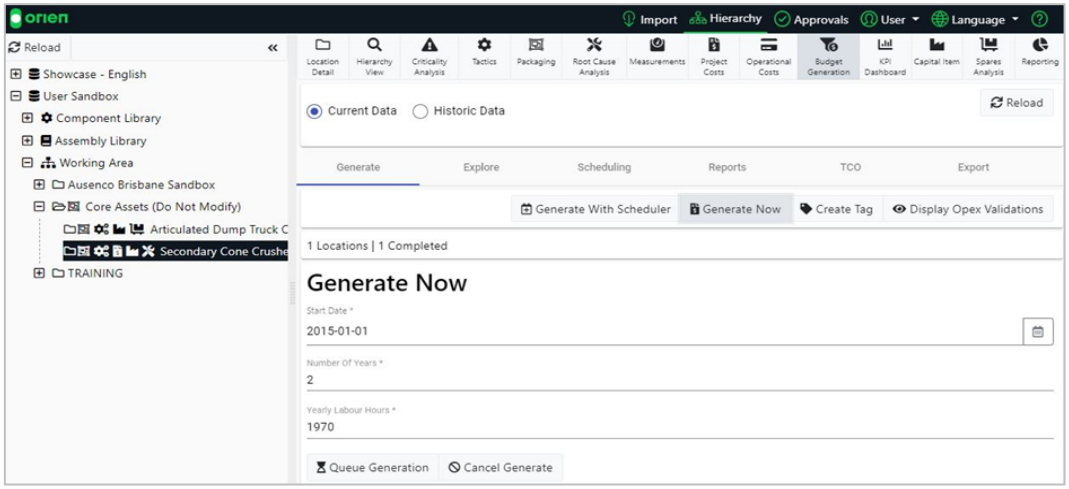
6.8.1 Generating a Budget

To generate a budget:

1. Choose an item from the Hierarchy, select the Budget Generation module and then the ***Generate Now*** button.



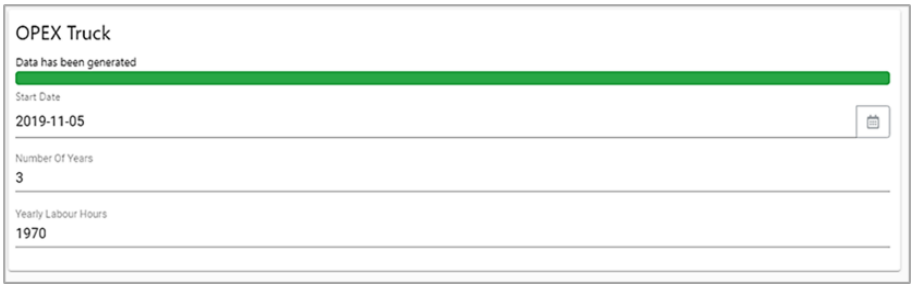
2. Enter the appropriate parameters for the budget you want to generate, and then select ***Queue Generation***. This loads all the data for the location you are working and will start processing your budgeting configuration onto the data.



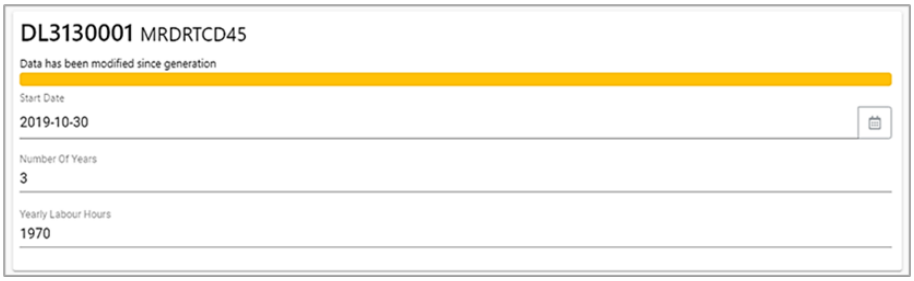
> **IMPORTANT**
>
> Please remember to select Reload to get an update on the progress of the Budget Generation.

3. When you have reloaded the section, you will be presented a generation bar and message to indicate if the budget was successful.

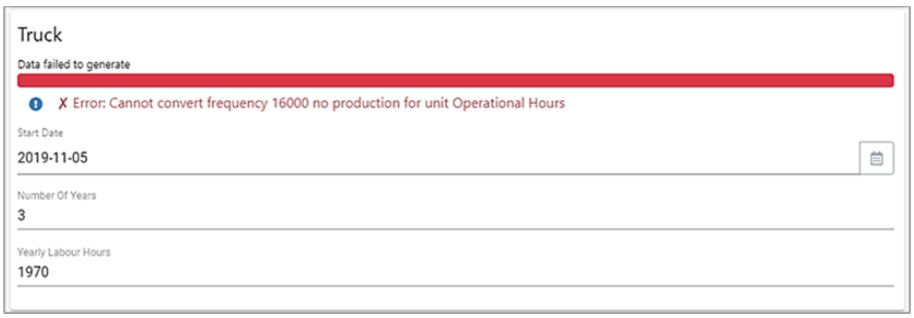
   a) **GREEN:** Indicates the generation at this location has been successful.



   b) **YELLOW:** Indicates that the data has gone 'stale'. This infers that the data for this Location has been changed or updated, and the currently generated data does not reflect the most recent values.

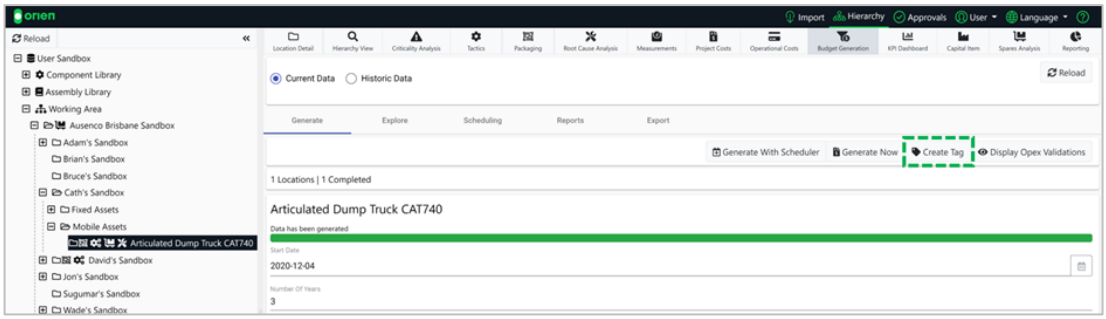


   c) **RED:** Indicates that there has been an issue with the generation. This can indicate that one of the Opex Validations has failed or that there was an error during generation. Refer to section 6.9 Running Budget Validations for further details.



6.8.2 Creating a Tag

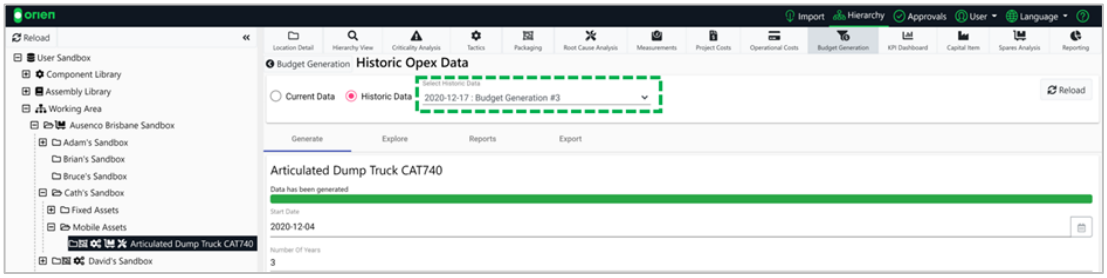
Creating a Tag allows you to store the data for the currently generated budget. This will allow you to store it as Historic Data and compare it with future results. To create a tag, ensure your Budget has been generated for this functional location, and select the ***Create Tag*** button. Insert a name for your generated budget and then select ***Save***.



> **IMPORTANT**
>
> If a tag is created at a high level, all the children of the asset will also get tagged with the same name and the same data. You currently cannot view the specific data of a child from the parent's tag.

6.8.3 *Viewing Historic Data*

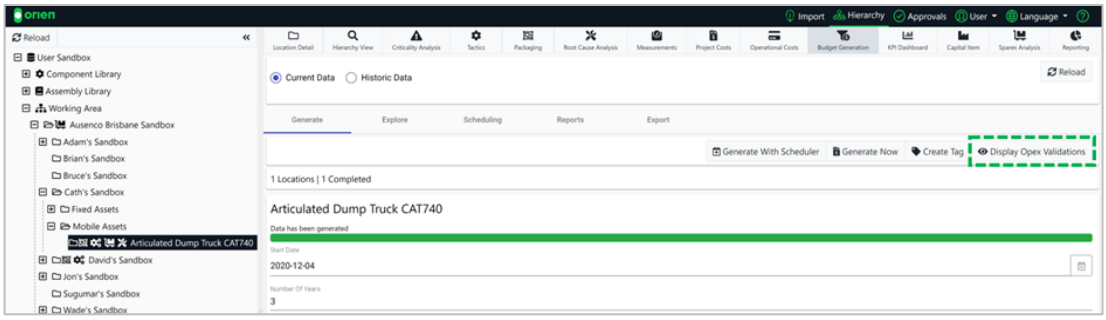
Once you have started creating Tags for your generated budgets, you can start selecting your tagged budgets to view the different budgets. To view historic data, select the drop-down and then select your Tagged Budget.

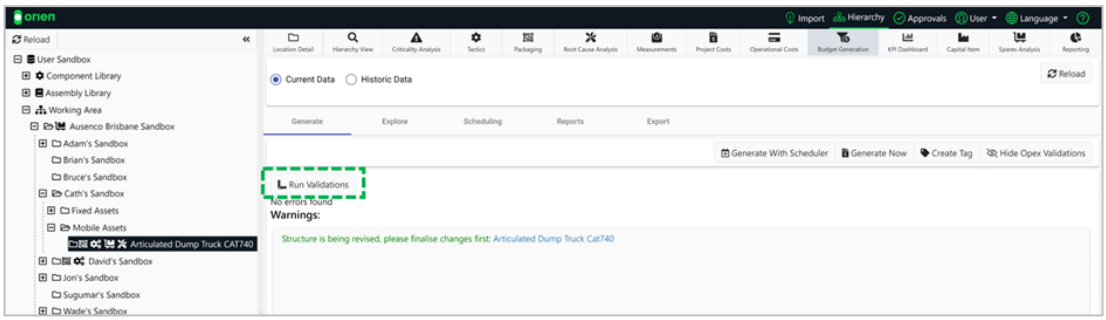


Once you have selected your new budget. The screen will reload and show your new data values. You can now explore the budget, view your reports or your Total Cost of Ownership and export using this selected data set.

6.9 RUNNING BUDGET VALIDATIONS

Validations help to keep your data in state that allows Budget Generation to successfully complete. To run validations, select ***Display Opex Validations*** and then select ***Run Validations***.





This will now queue up the validations on the selected location. You are now able to leave this screen to work in other areas while the data is being validated. Potential budget validation warnings and errors are detailed in the table below.

> **IMPORTANT**
>
> Please select Reload to check whether the data has been validated.

> **IMPORTANT**
>
> The time to run the validations will vary based on how large the data is in your location.

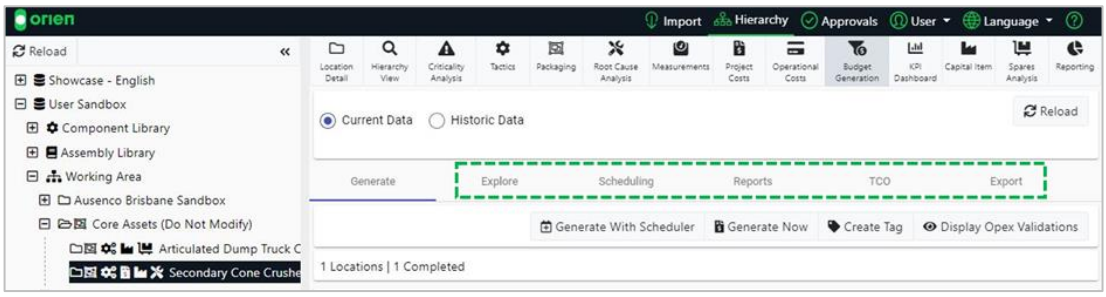
Table 6-2 Budget Validation Warnings and Errors

Type of Warning or Error
Budgeted Life should be greater than 0 for this strategy, if a replacement is used
Insufficient available production found for Failure Mode
Frequencies need to be set for this activity
Insufficient available production found assigned to
No budgeted life assigned to replacement
Replacement activity frequency is larger than 500 Years
Budgeted activity frequency is larger than 500 Years
Operation frequency is larger than 500 Years
Replacement activity will occur more than 500 time per day
Budgeted activity would occur more than 500 time per day
Operation would occur more than 500 time per day
No production assigned for budgeted activity
No production assigned for replacement
No production assigned for operation
No frequency units assigned to this operation
No production assigned for operational costs
Unit must be assigned to the Operational Cost
Location needs In-Service Date Assigned

Type of Warning or Error
A Unit must be assigned to the Replacement Activity
A Unit must be assigned to the budgeted activity
A Unit must be assigned to the Operation Activity
No Matching Unit is assigned to this Operation
No Matching Unit is assigned to this Maintenance Strategy
No Unit assigned to Maintenance Strategy
Invalid Maintenance Strategy
Budgeted replacement is also budgeted as an activity on a failure mode
Budgeted follow on and preparation activities are linked to other follow on and preparation activities at the following location
A Budgeted Preparation Activity is linked to a non-Budgeted activity at the following location
A Budgeted Follow-up Activity is linked to a non-Budgeted activity at the following location
There are overlapping production forecasts found at the assigned Production

6.10 BUDGET SCHEDULING & REPORTING

The Budget Generation module in Orien includes a variety of other functions. These are described in more detail below.



6.10.1 Explore

The ***Explore*** tab allows you to start deconstructing the costs associated with the selected period. You can see a list of the budgeted tasks and then can delve into the task to view all the costs linked to that task.

To set up the parameters:

1. Select the ***Explore*** tab.

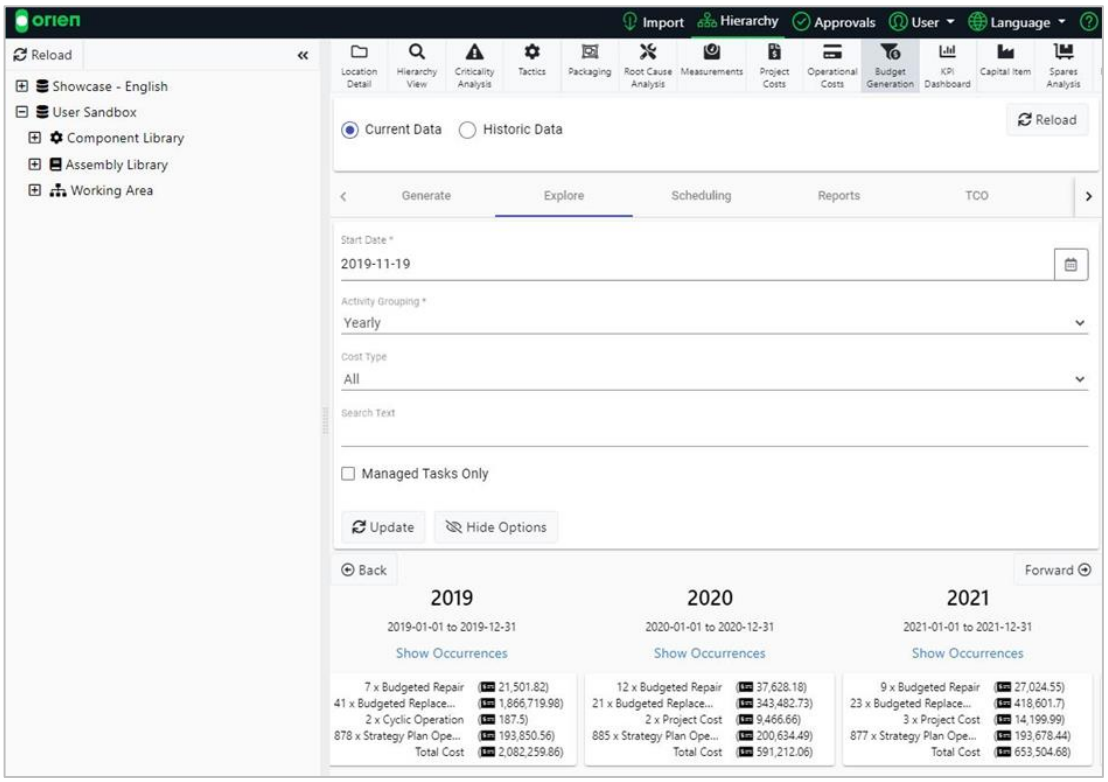
2. Enter the Start Date and then select the appropriate Activity Grouping from the drop-down. This allows you to group the budgeted tasks into a dater grouping (i.e. yearly, monthly, weekly, customized budget periods, etc.).

3. Select appropriate Cost Type from the drop-down. You can choose a costing grouping to display (i.e. capitalised, budgeted repairs, operational costs, etc.).

4. Enter any relevant search text Search Text (this optional field allows you to filter the results down to a specific query; it can search through Expense Elements, Resources Assigned, Operations and Activities).

5. The ***Managed Tasks Only*** checkbox allows you to filter to show only those tasks that have been selected as Managed. These are defined in the Scheduling tab and are covered in more detail below.

6. Once you have your options configured, select ***Update*** to apply your filters. You can also select ***Hide Options*** to hide the filter options and start working on your budgets.

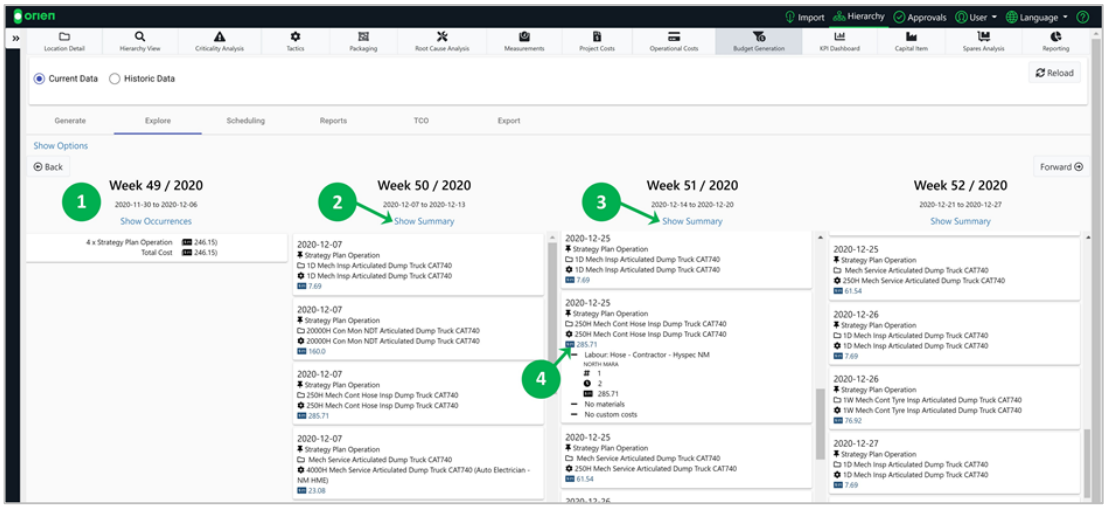


Once you start viewing your budgets you can view the data in multiple ways. The figure below will show the budget for the last few weeks of 2020.

- In the first column you will see a consolidated view of your costing types with the values associated to those types (see 1 below).

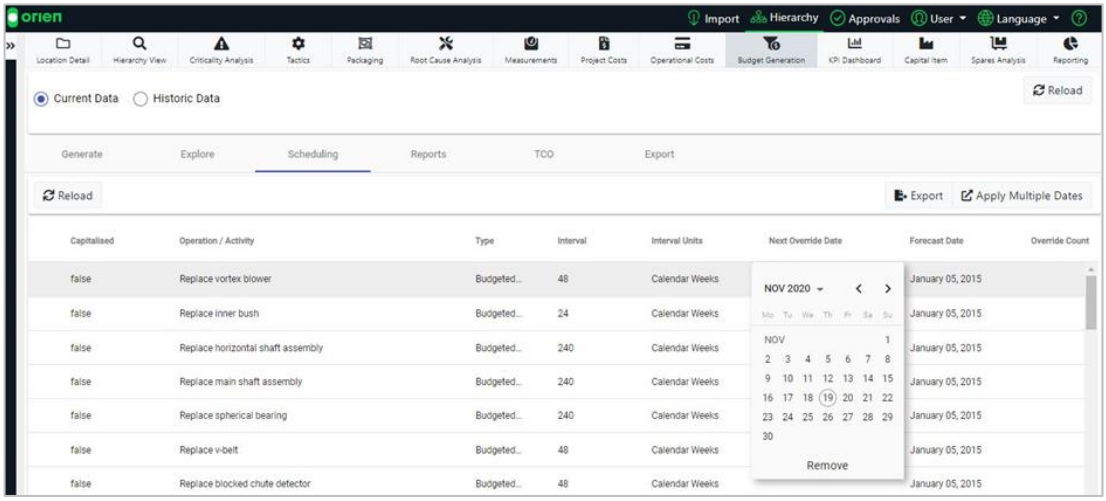
- The second column, you will need to select ***Show Occurrences***. This will expand the values into showing each costing into their respective Activities and Operations (see 2 below). To collapse the values click ***Show Summary***.

- Finally, in the third column select ***Show Occurrences*** (see 3 below) and then select the total value of the Operation or Activity (see 4 below). This will expand the selection to show all allocated resources against the selection. To collapse the values click ***Show Summary***.



6.10.2 *Scheduling*

The ***Scheduling*** tab allows you to manually set, override or offset the next date that an Operation or Activity will be scheduled to occur. In the scheduling grid, you will see all the details related to that component.



To schedule an Override Date:

1. Select the ***Scheduling*** tab.
2. Find the Operation or Activity you want to set an Override date for.
3. Double click on the ***Next Override*** Date box for that Operation or Activity.
4. Select the date to assign as Next Override Date.

> **IMPORTANT**
>
> The managed column allows you to allocate an Operation or Activity a managed 'tag' which allows you to use this column in filtering. This does not have any effect on your budgets or scheduling.

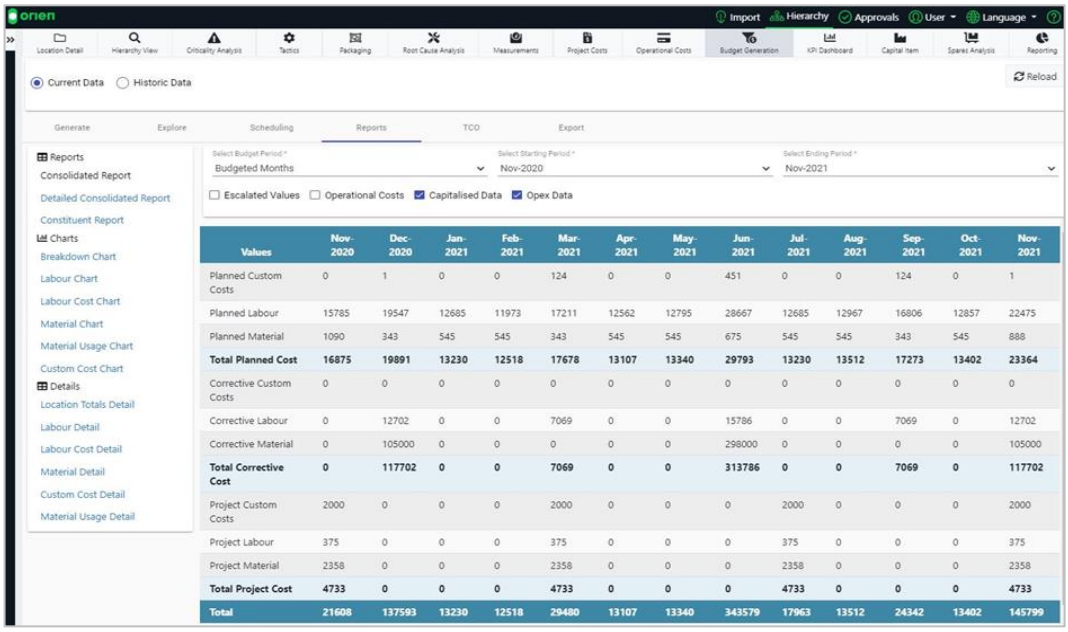
6.10.3 Reports

The Reports tab allows you to view your generated budgeted data in a tabular or chart format. You can further customise your report by using choosing your budget period, time frame and filters on what values to include. To generate a Report:

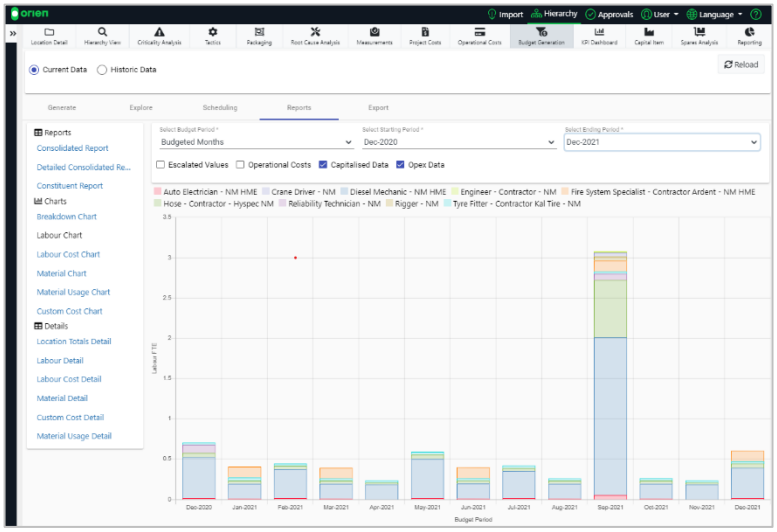
1. Select the ***Reports*** tab.

2. Adjust the parameters of your report (i.e. budget period, start and end dates, additional budget values to include).

3. Select the Report, Chart or Details you wish to view for your data.



Values	Nov-2020	Dec-2020	Jan-2021	Feb-2021	Mar-2021	Apr-2021	May-2021	Jun-2021	Jul-2021	Aug-2021	Sep-2021	Oct-2021	Nov-2021
Planned Custom Costs	0	1	0	0	124	0	0	451	0	0	124	0	1
Planned Labour	15785	19547	12685	11973	17211	12562	12795	28667	12685	12967	16806	12857	22475
Planned Material	1090	343	545	545	343	545	545	675	545	545	343	545	888
Total Planned Cost	**16875**	**19891**	**13230**	**12518**	**17678**	**13107**	**13340**	**29793**	**13230**	**13512**	**17273**	**13402**	**23364**
Corrective Custom Costs	0	0	0	0	0	0	0	0	0	0	0	0	0
Corrective Labour	0	12702	0	0	7069	0	0	15786	0	0	7069	0	12702
Corrective Material	0	105000	0	0	0	0	0	298000	0	0	0	0	105000
Total Corrective Cost	**0**	**117702**	**0**	**0**	**7069**	**0**	**0**	**313786**	**0**	**0**	**7069**	**0**	**117702**
Project Custom Costs	2000	0	0	0	2000	0	0	0	2000	0	0	0	2000
Project Labour	375	0	0	0	375	0	0	0	375	0	0	0	375
Project Material	2358	0	0	0	2358	0	0	0	2358	0	0	0	2358
Total Project Cost	**4733**	**0**	**0**	**0**	**4733**	**0**	**0**	**0**	**4733**	**0**	**0**	**0**	**4733**
Total	**21608**	**137593**	**13230**	**12518**	**29480**	**13107**	**13340**	**343579**	**17963**	**13512**	**24342**	**13402**	**145799**



IMPORTANT

! If you change any parameters while the report, chart or details are showing, you will need to press 'Reload' to refresh the information displayed. Changing which report, chart or details you are viewing will also update the data with your new parameters.

6.11 CAPITAL ITEMS & TOTAL COST OF OWNERSHIP (TCO)

Within the Budget Generation module, the Total Cost of Ownership (TCO) tab provides an analysis tool for predicting what the overall cost of a piece of equipment will be throughout the future life of that equipment. A variety of infographics are available; however, they are only viewable if the asset has been made a capital item (this is set in the Capital Item module).

6.11.1 Setting a Capital Item

To set a functional location (i.e. an asset such as a haul truck) as a capital item:

1. Select location in your hierarchy and then the ***Capital Item*** module.

2. Select the ***Set as Capital Item*** button and input all relevant details into the fields (see table below for more information). ***Save*** your changes.

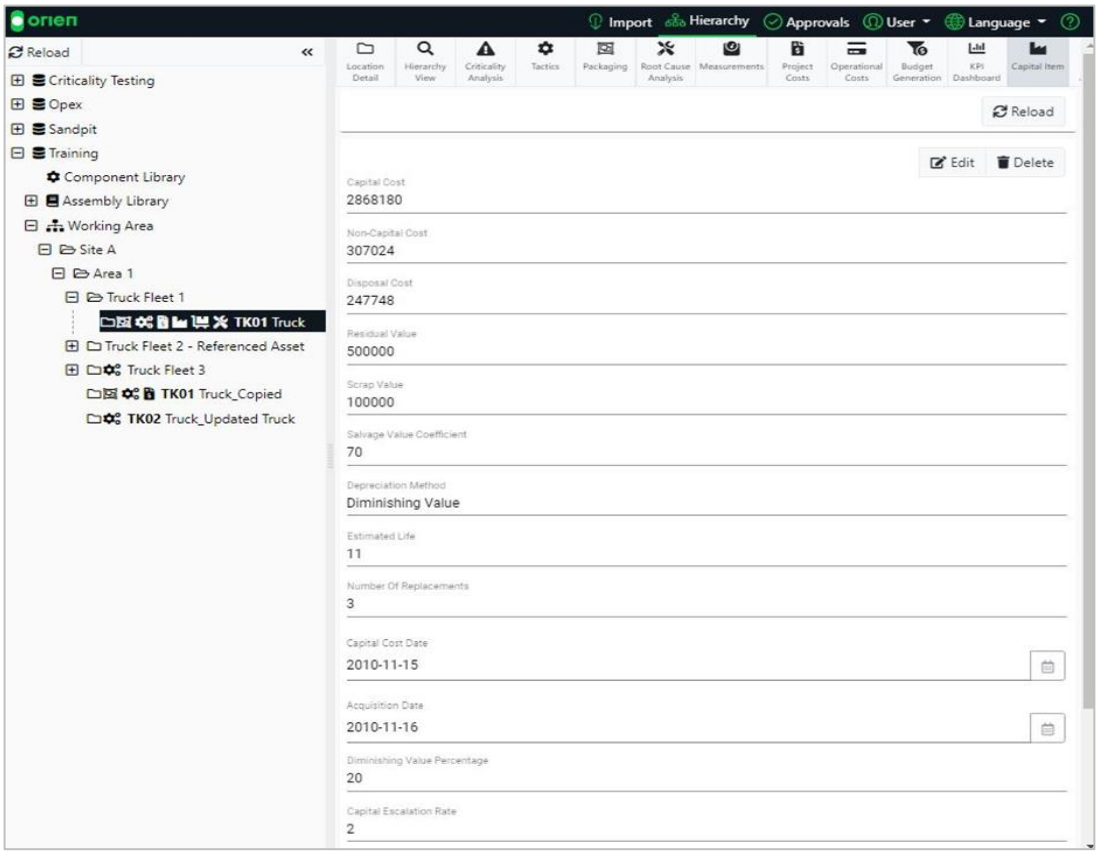


Table 6-3 Capital Item Field Descriptions

Field / Attribute	Description
Disposal Cost	The cost associated with disposing the capital item (asset) in context to the Capital Cost Date.
Residual Value	The remainder of non-depreciated value against the capital Item over the course of its life. The Residual Value is the On-Paper value remaining after depreciation has been applied over time.
Scrap Value	The inherent value of the scrap associated with the selected capital item.

Field / Attribute	Description
Salvage Value Coefficient	Key input to the salvage value calculator. The default value is 0.7 which infers a maximum return of 70% of capital cost if the asset is disposed of in year 1.
Depreciation Method	The method used for reporting depreciation of the asset. Orien supports Declining Method, Diminishing Value, Double Declining Balance, Prime Cost and Straight-Line methods.
Estimated Life	The estimated life of the capital item is the number of years that the asset is going to be used before replacement occurs.
Capital Cost Date	The date that the Capital cost is valid for when considering inflation over time. Due to Orien providing the ability to escalate costs annually we require a date to determine whether it has since increased in value to purchase.
Acquisition Date	The date the asset was acquired and is used to calculate any variance in the calculated Capital Cost due to escalation against the provided Capital Cost as specified at the Capital Cost Date
Diminishing Value Percentage	When Diminishing Value is selected for the depreciation method the decline in value of the asset is expressed as a percentage of the original purchase price.

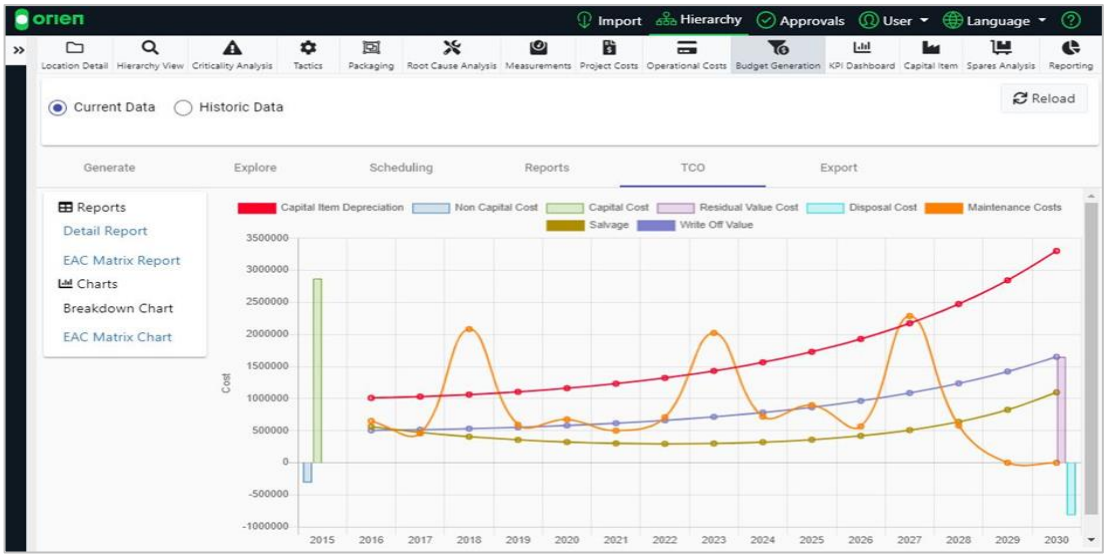
6.11.2 Total Cost of Ownership (TCO)

The TCO tab (within the Budget Generation module), provides an analysis tool for predicting what the overall cost of a piece of equipment will be throughout the future life of that equipment.

Currently there are four data info-graphics available in the module, and there are two reports and two charts. To generate a TCO:

1. Select location in your hierarchy and then the ***Budget Generation*** module.

2. Select the TCO tab and a report or chart from the list on the left side. If ***Detail Report*** is selected, make sure to adjust ***Retain Insitu*** to adjust the amount of years to show in the report.



6.12 SPARES ANALYSIS

Performing maintenance requires that spare parts need to be carried. This is particularly important where the nature of some equipment means that the parts are not readily available when they are needed. Spares which fall under this category considered critical spares and are defined as slow moving spare parts. They generally can be identified as spares that:

- Cause excessive downtime when they fail,
- Are high cost,
- Have long lead times, and
- Are ordered individually.

Failure to hold an optimum level of critical spares exposes the business to risk. Consumables are defined as fast moving spare parts (i.e. nuts, bolts, filters, oil, grease etc.).

> **IMPORTANT**
>
> For the purposes of a Critical Spares Analysis, all spare parts with an Annualised Failure Rate of 0.5 or higher are considered consumables and should be omitted from the analysis.

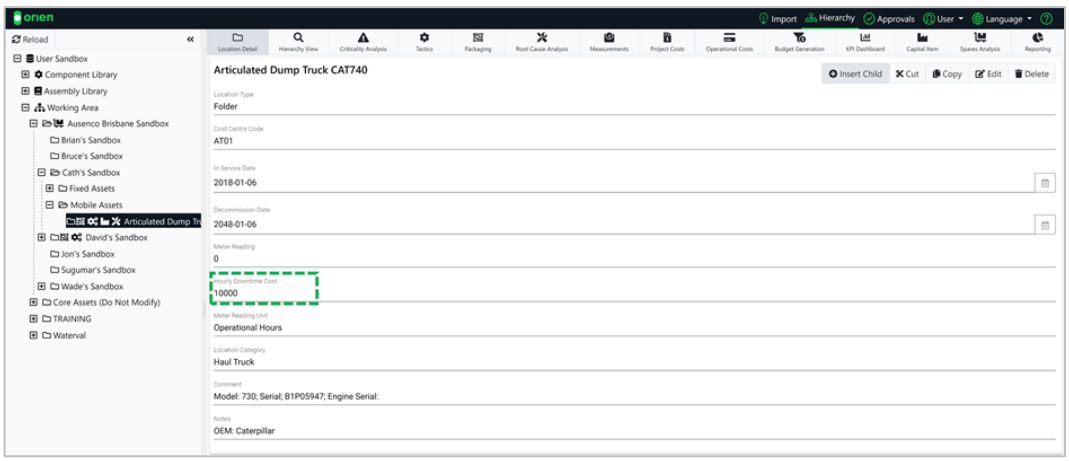
A successful critical spares analysis is one that delivers value. Value can be delivered by:

- Ensuring optimum holding of critical spares (balances risk cost of failure with cost of holding the spare part).
- Ensuring critical spares are purchased only when recommended.
- Reducing holding where recommended.
- Ensuring analysis takes account of commonality across equipment types and redundancy (where applicable).

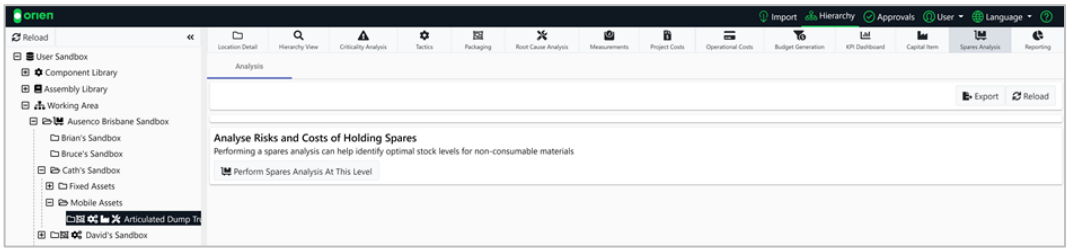
6.12.1 Creating a Spares Analysis

Creating a spares analysis in Orien involves several steps. Let's review these in more detail.

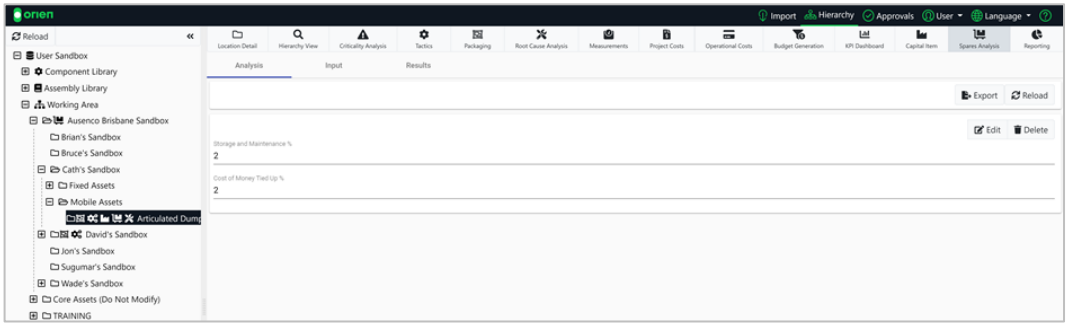
1. Ensure you have an hourly downtime cost associated with your functional location (in this example, we're looking at the articulated dump truck, which has an hourly downtime cost of 10,000).



2. Select the Spares Analysis module and then ***Perform Spares Analysis At This Level***.

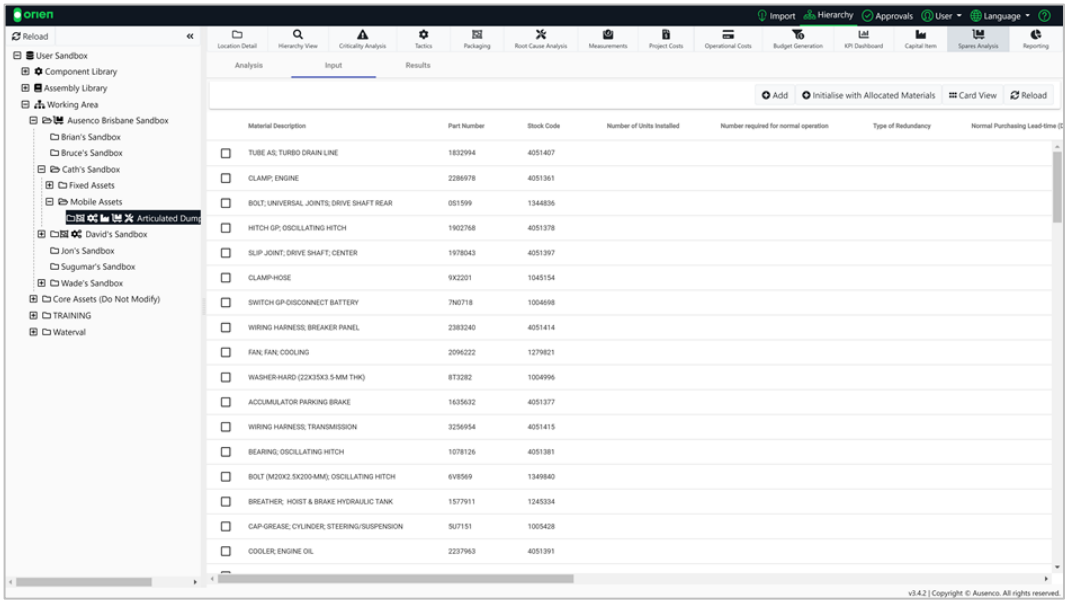


3. Select Edit and then enter the appropriate percentages in the Storage and Maintenance field and the Cost of Money Tied Up field. For this example, we've used 2%. ***Save*** your changes.



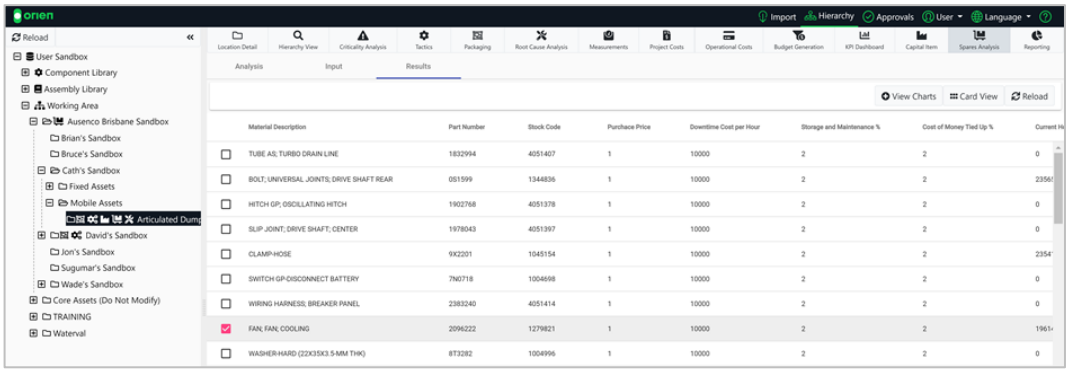
4. Select the Input tab. You can either add spares individually (***Add*** button) or from the allocated material from the asset's location (***Initialise with Allocated Materials*** button).

5. For this example, we're going to use the allocated materials. Select ***Initialise with Allocated Materials*** and then the ***Reload*** button. You will be presented with a list of allocated materials.

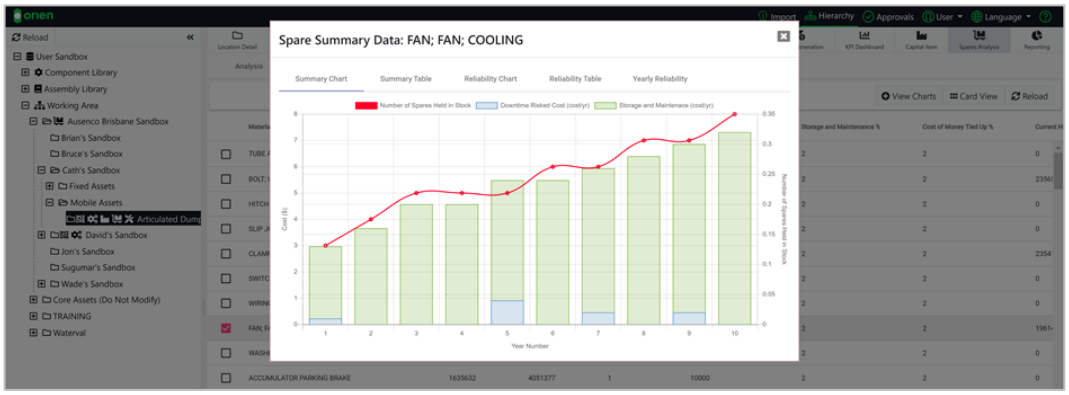


> **IMPORTANT**
>
> If no materials appear, you'll need to add your spares individually using the Add button.

6. Now we can generate results for our Spares Analysis. Select the ***Results*** tab, and then the Material you want to analyse. Select the ***View Charts*** button.



7. There are five different info-graphics that will display the Spares Analysis for your selected Material. (the Summary Chart is shown below; select the other tabs to view the associated charts).



Your spares analysis can produce the following data for export:

- Current holding total impact
- Recommended spares holding
- Recommended year of initial purchase
- Reliability of the system
- Downtime risked cost
- Storage and maintenance costs
- Total impact
- Saving compared to current holding
- Stock change

The key terms displayed during the spares analysis process are detailed in the table below.

Table 6-4 Spares Analysis Descriptions

Attribute	Description
Item Description	The name of the material prefilled from the materials table.
Expense Element	Prefilled from the materials table.
Stock Code	Prefilled from the materials table.
Part Number	Prefilled from the materials table.

<table>
<tr><th>Attribute</th><th>Description</th></tr>
<tr><td>Number of Units Installed</td><td>Specify the number of concurrent installations of this part in equipment that could potentially fail. This includes where this part is used in equipment that is used as a standby or backup.</td></tr>
<tr><td>Number Required for Normal Operation</td><td>The number of parts required for normal operation provides the differentiator between those spares installed for the purpose of redundant backups. If Redundancy exists, then this number should differ from no of units installed.

Unlike the calculated value for the number of units installed, this field requires manual entry in Orien.</td></tr>
<tr><td>Type of Redundancy</td><td>Three options for describing the type of redundancy: Active, standby or none. Downtime cost is dependent on whether standby exists or not. This field requires manual entry in Orien.
<table>
<tr><th>Redundancy</th><th>Description</th></tr>
<tr><td>Active</td><td>All units installed are online and production can continue if a unit were to fail. Failure of one unit places a greater stress on the remaining units (i.e. two units installed operating at 50% capacity). If one unit were to fail the single unit can take over at 100% capacity.</td></tr>
<tr><td>Standby</td><td>Involves extra units that are not brought online until the failure of the main unit (i.e. two units installed 1 online and 1 offline). If a failure were to occur on the operational unit, the offline unit can be turned on.</td></tr>
<tr><td>None</td><td>No redundancy is where all installed units are required for normal operation.</td></tr>
</table></td></tr>
<tr><td>Purchase Price</td><td>Purchase price of the spare part as advised by the Supplier/Manufacturer. Prefilled from the Materials Table.</td></tr>
<tr><td>Normal Purchasing Lead Time</td><td>Normal lead-time to acquire the spare part as advised by the Supplier/Manufacturer. Expressed in days. Manual entry in Orien</td></tr>
<tr><td>Expedited Lead Time</td><td>Expedited lead-time to acquire the spare part as advised by the Supplier / Manufacturer. If downtime is being incurred, it is possible to expedite the spare part (at a cost). This value cannot be zero.

If the supplier is unable to provide this value, then use the normal lead-time. Expressed in days. Manual entry in Orien.</td></tr>
<tr><td>Additional Cost to Expedite</td><td>Additional cost to acquire the spare part when an expedited request is made as advised by the Supplier/Manufacturer. If downtime is being incurred, it is possible to expedite the spare part (at a cost). This cost can be significant and should be included. Manual entry in Orien.</td></tr>
<tr><td>Probability of Item Available for Expediting</td><td>The probability that the spare part can be expedited as advised by the Supplier/Manufacturer.

If downtime is being incurred, it is possible to expedite the spare part (at a cost). If the supplier cannot provide this value, then please refer to the table of values to assist. Expressed as a percentage. Manual entry in Orien.
<table>
<tr><th>Dispatch Location</th><th>Probability of an Item Available (for expediting)</th></tr>
<tr><td>Stocked at closest store</td><td>95%</td></tr>
<tr><td>Supplied from closest store sourced from other stores in same State/Territory</td><td>85%</td></tr>
<tr><td>Stocked at other stores in Country</td><td>80%</td></tr>
<tr><td>Stocked at other stores outside of Country</td><td>75%</td></tr>
<tr><td>Manufacturer in/outside of Country</td><td>20%</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Attribute</th><th>Description</th></tr>
<tr><td>Chance of Repairing the Failed Unit</td><td>A probability rating for what the chance is that the item/part can be repaired? Is it technically feasible to repair the item/part in any way? Orien does NOT considering if it is repaired, or if it is an economical repair, major repair, or normal repair.

The “Chance of repairing the failed unit (%)” should be determined by considering if equipment, training, and publications on how to repair such units exist.

<table>
<tr><th>Chance of repairing the failed unit (%)</th><th>Repair success</th></tr>
<tr><td>0%</td><td>No chance</td></tr>
<tr><td>10%</td><td>Very low chance</td></tr>
<tr><td>30%</td><td>Low chance</td></tr>
<tr><td>50%</td><td>Average chance</td></tr>
<tr><td>70%</td><td>Relative chance</td></tr>
<tr><td>95%</td><td>High Chance</td></tr>
</table>
</td></tr>
<tr><td>Repair Lead Time</td><td>The time taken to carry out the repair as specified whilst understanding the chance of repairing the failed item. Expressed in days. Manual entry in Orien.</td></tr>
<tr><td>Estimated Cost of Repair</td><td>The cost to carry out the repair as specified whilst understanding the chance of repairing the failed item. Factors such as labour, cost of materials needed for the repair and location should be considered.

The estimated cost of repair for the item is taken as 50% of the purchase price where costs could not be identified by other means. Manual entry in Orien.</td></tr>
<tr><td>Downtime Cost per Hour</td><td>The cost of downtime should failure of part affect operation. If failure of this part does not affect operation, then the cost of downtime is zero.

Downtime is prefilled from the value specified at the Equipment Group in Orien however can also be manually overwritten. Expressed as a cost per hour.</td></tr>
<tr><td>Downtime Delay</td><td>The delay before a downtime cost is incurred. This is particularly useful where a buffer exists in the process which allows operations to continue for a period before operations in impacted. Expressed in hours. Manual entry in Orien.</td></tr>
<tr><td>Annualised Failure Rate</td><td>Annualised Failure Rate is the failure rate expected per year. Very simplistically it is the yearly production forecast divided by the MTBF of the spare part.</td></tr>
<tr><td>Estimated Shape Factor</td><td>The average shape factor for all failure modes associated with a replace of the spare part. The shape factor (beta) will be specified at the failure mode level in Orien.

This value will be prefilled however this cell can also be edited in the Spares Analysis screen.</td></tr>
<tr><td>Current Holding Policy</td><td>The current spares holding policy for this spare part. Generally, this is the re-order point specified in the spares catalogue. Manual entry in Orien.</td></tr>
<tr><td>Current Holding Total Impact</td><td>Calculated Value, included for export purposes.</td></tr>
<tr><td>Recommended Spares Holding</td><td>Calculated Value, included for export purposes.</td></tr>
<tr><td>Recommended Year of Initial Purchase</td><td>Calculated Value, included for export purposes.</td></tr>
<tr><td>Reliability of System</td><td>Calculated Value, included for export purposes.</td></tr>
</table>

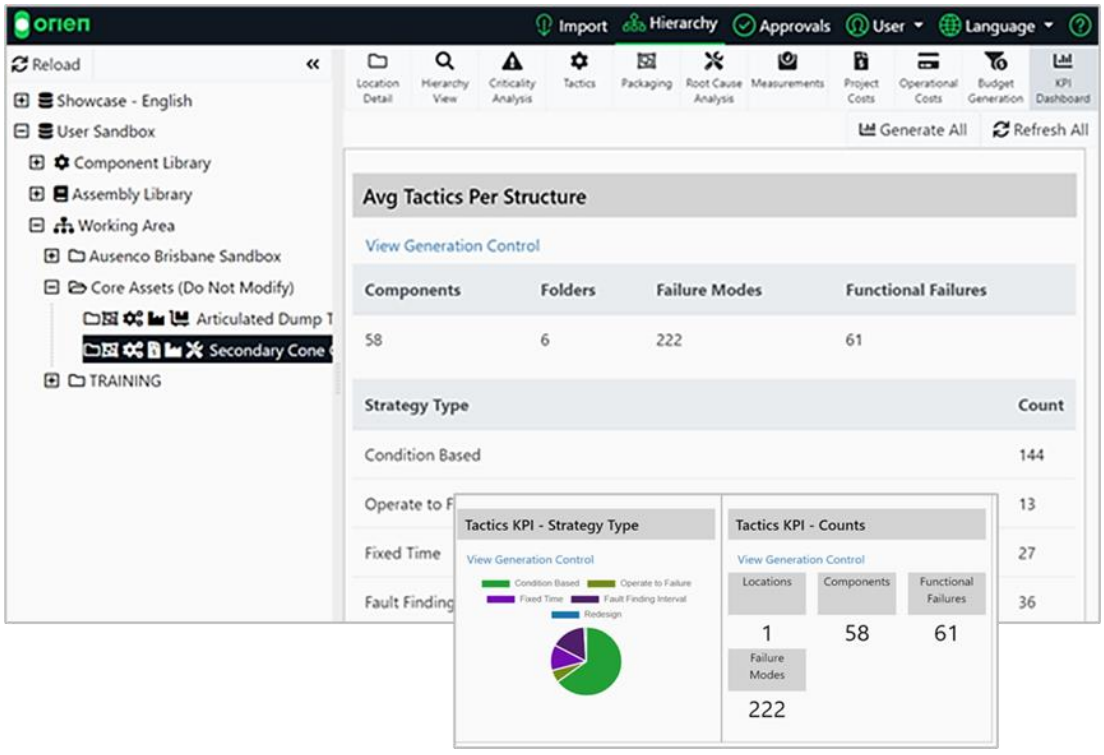
Attribute	Description
Downtime Risked Cost	Calculated Value, included for export purposes.
Storage and Maintenance	Calculated Value, included for export purposes.
Total Impact	Calculated Value, included for export purposes.
Saving Compared to Current Holding	Calculated Value, included for export purposes.
Stock Change	Calculated Value, included for export purposes.

6.13 KEY PERFORMANCE INDICATOR (KPI) DASHBOARD

The KPI Dashboard enables an easy to use interface to view statistics relating to the Item you have selected and below it on the Hierarchy. Each section on the Dashboard is self-contained, this will allow you to run reports individually on each section. Each section contains history to when the reports have been generated and enables the ability to view previous reports.

To access the KPI dashboard, first you must select the Location or Component and then select the ***KPI Dashboard*** module.

> **IMPORTANT**
>
> Please note this must be an item that is not located in a component or assembly library.



7 Advanced User Functions

7.1 VERSIONING & REVISIONS

Versioning is the history of changes that have been recorded against a Component or Structure. A revision records the previous versions of the item before it has been changed. The user can click view on any of the previous revisions to check the state and information of the item at the time the revision was created and who created the revision.

Key terms displayed during the versioning process:

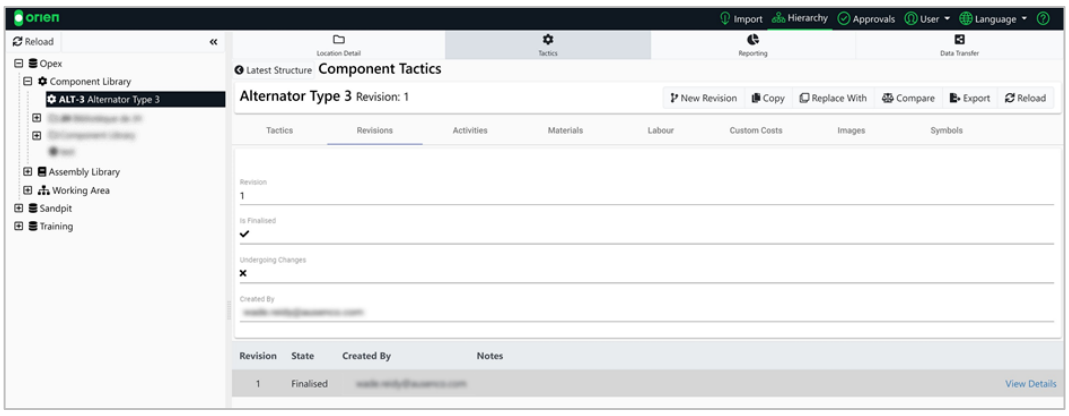
- **REVISION:** The version number of the item that is currently being viewed.
- **IS FINALISED:** If this is set to true, this denotes that this revision is currently the most current version of this item. If set to false, the item is not current.
- **UNDERGOING CHANGES:** Is the current revision that is being displayed able to be edited.
- **STATE:** This shows what state the revision is currently in:
  - ***Active*** indicates this is the current version of the item.
  - ***Working*** indicates that the revision is currently undergoing changes.
  - ***Superseded*** indicates that there is a newer revision that is currently finalized.

> **IMPORTANT**
>
> New revisions can only be created in a finalised component or structure.

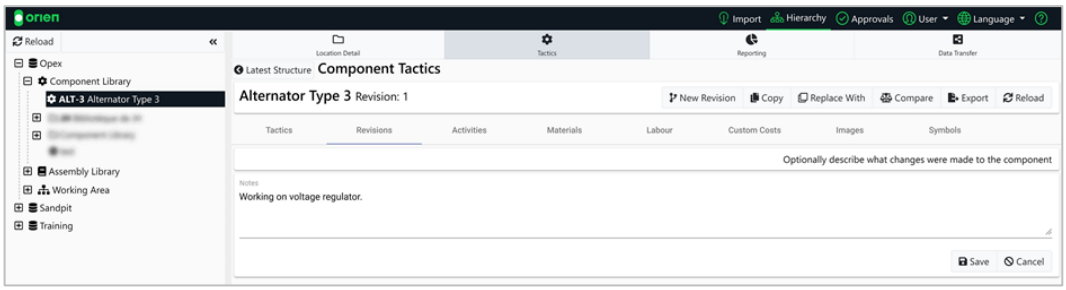
7.1.1 Create New Revision

Creating a new revision in Orien involves several steps. Let's review these in some more detail.

1. Choose the item in the hierarchy you want to revise, select the ***Tactics*** module and then the Revision tab (if required). Select the ***New Revision*** button.



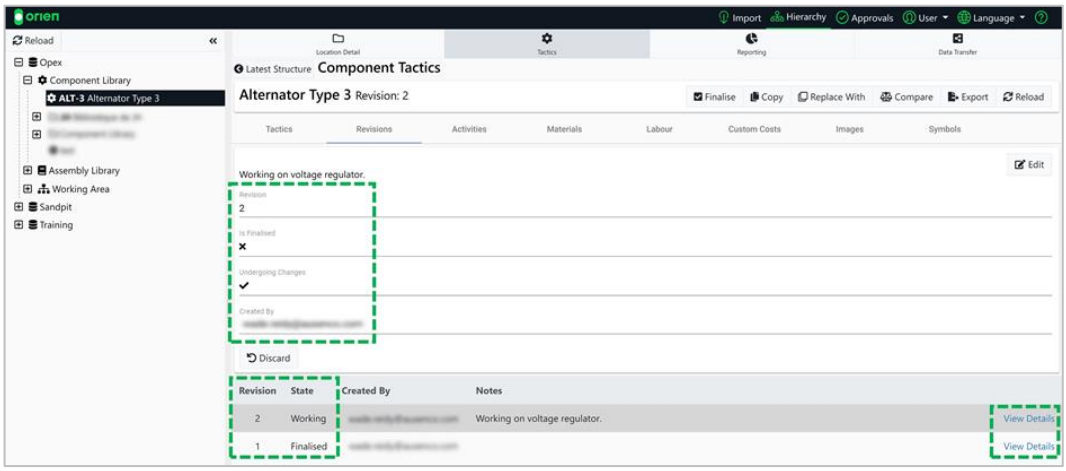
2. You will be presented with notes screen, which allows you to input a description about what changes will be made. Clicking on will put the item into an editable state, allowing you to start making changes.



> **IMPORTANT**
>
> The notes field can be still be changed later while the entity is still active.

3. You will now see that you are working on the next revision of the item. In the figure below, you will notice the revision number has incremented, the item is no longer active (indicating that this is not the current version of the component structure), and that this revision is currently undergoing changes (indicating it is in an editable state). This will also be reflected in the revisions table to indicate the revisions is in a working state. While in an editable state you can view another revision without losing the changes you have made in the current working revision.

4. Once you are ready to commit the changes, click ***Finalise***. This will show the notes screen one final time to make any adjustments or add any further description to the revision.



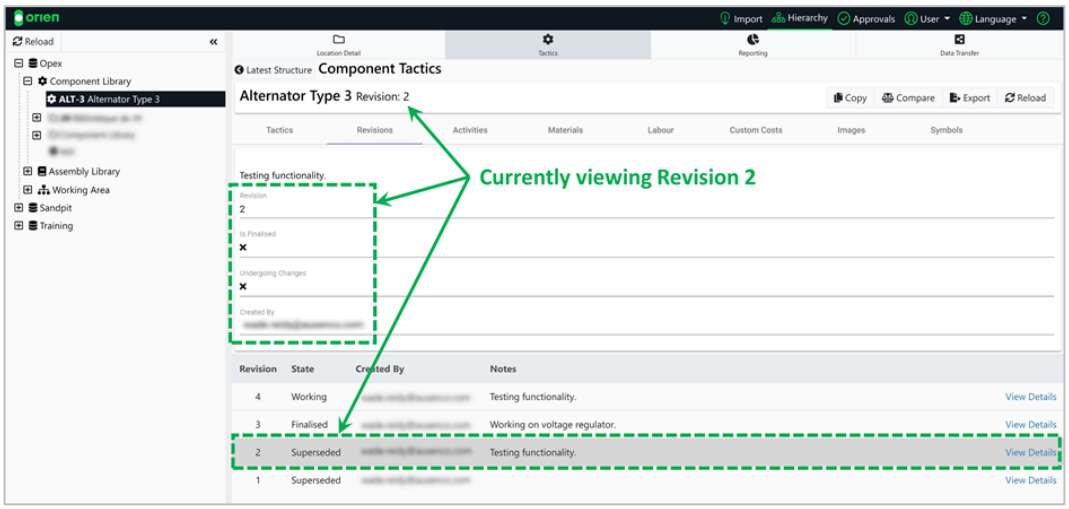
> **IMPORTANT**
>
> If a revision is not Finalised, any changes will not be reflected in the rest of the program (i.e. packaging, budget generation, etc.).

7.1.2 Viewing Alternative Revisions

Reviewing earlier versions allows you to view previous editions of the Tactics or Component Structure without affecting the currently selected Tactics. To view an alternate revision:

1. Choose the item in the hierarchy you want to view, select the ***Tactics*** module and then the Revision tab (if required).

2. Select ***View Details*** on revision you wish to view (right-hand side of the Revisions Card), and then select the Revisions tab (selecting view details automatically redirects you to the tactics tab for that revision).



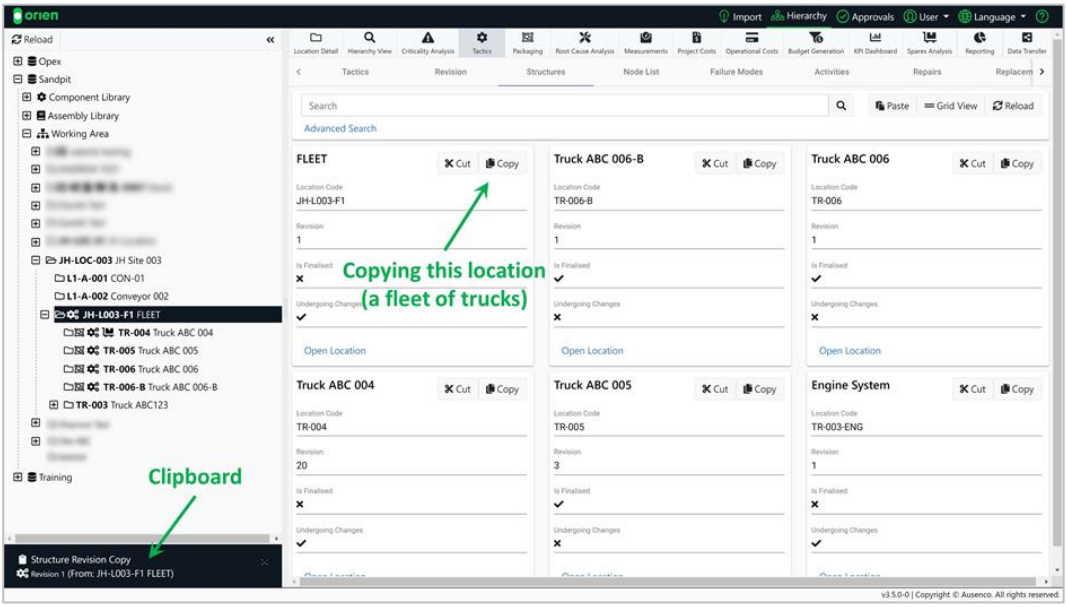
3. You will see the component now references the revision you are viewing is a different version, and that it has been ***Superseded***, indicating it is no longer the most recent and active version.

4. The revision history card will show the current revision that is being reviewed is not finalized, and that it is not ***Undergoing Changes***. This indicates the revision is not currently being worked on.

7.2 COPY, CUT & PASTE

Throughout the software you can copy and paste specific data. This allows you to easily create, transfer and reallocate data across Functional Locations, Components, Tactics and more.

- **COPY:** Allows you to take a copy of the current data and save it to your clipboard (which is located below the Hierarchy).



- **CUT:** Allows you to move locations and data. Cut will take the existing item you have selected, and once you Paste the item, the data will be copied to the selected location and deleted from the previous location in the software.
- **PASTE:** Allows you to put the item you have copied or cut into the selected location in the software. When you go to Paste, you will be presented with options surrounding your Paste.

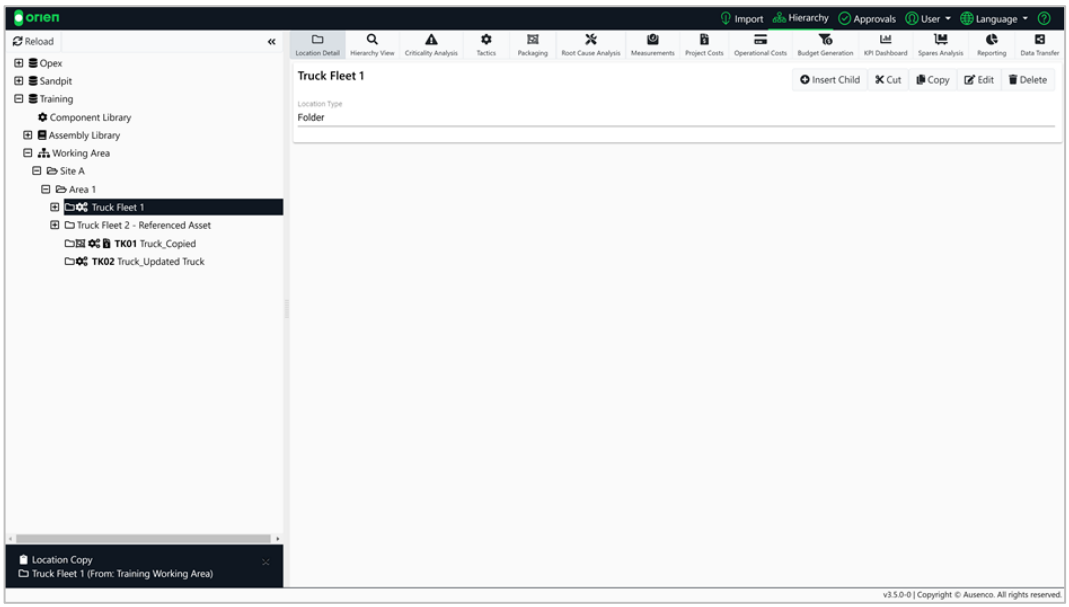
Key terms displayed during the copy, cut, and paste process:

- **KEEP REFERENCES:** If you have Referenced Components, once your copy is created the Components will automatically be referenced to the same components as the original.
- **HIERARCHY ONLY:** Allows you to copy only the Functional Location and the Component Structure. You will not copy across any Tactics, Packaging or other information associated to the source location.
- **FULL COPY:** Will copy all relevant information that is associated with a location.
- **NUMBER OF COPIES:** Allows you to choose how many copies to create of the asset.
- **CUSTOMISE:** Allows you to edit the copies of the same asset before creation of the new assets. This allows you to adjust the description of each asset and the code.

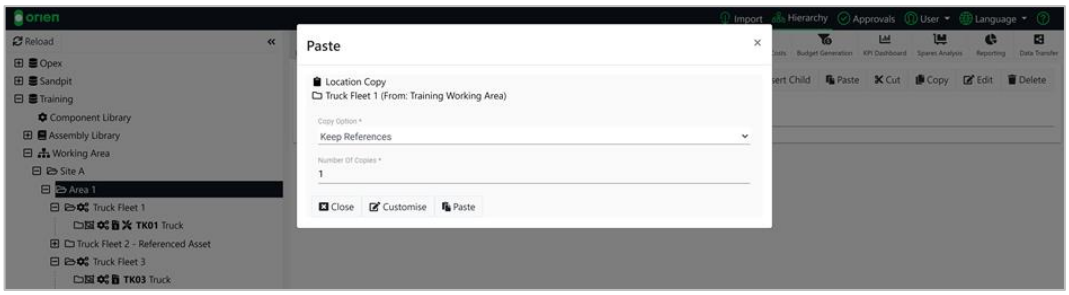
> **IMPORTANT**
>
> ***Full Copy*** will not copy Measurements, Criticality Analysis, Root Cause Analysis, or other asset specific data that would not generally be duplicated across assets.

To Copy or Cut a Functional Location:

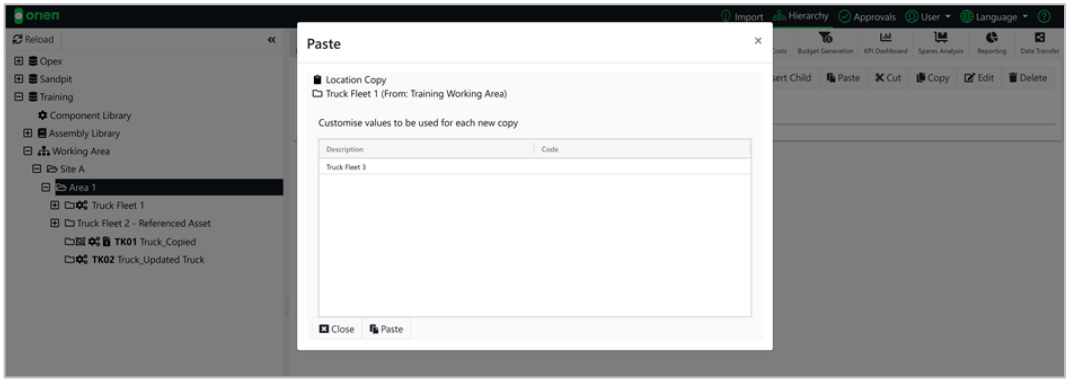
1. Choose a location and select ***Copy*** or ***Cut***. In the example below, we are making a copy of Truck Fleet 1.



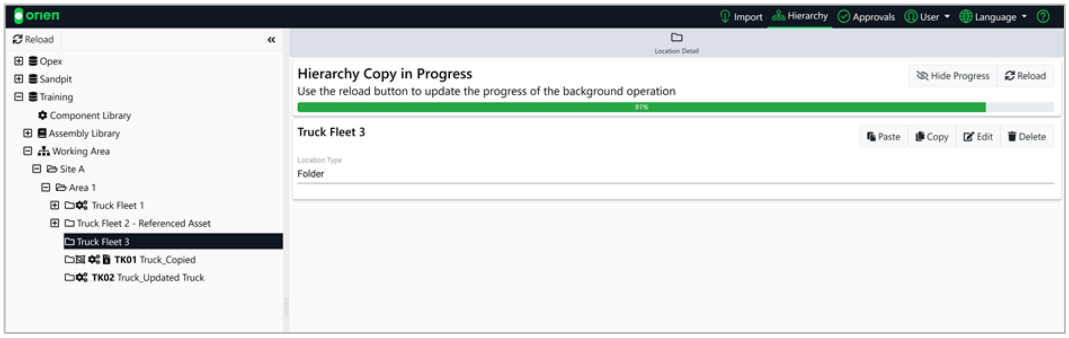
2. Select a new Functional Location in the Hierarchy, and then select ***Paste***. Select any relevant options for the Paste. For this example, we are creating a new fleet of trucks within Area 1. This fleet will be known as Truck Fleet 3.



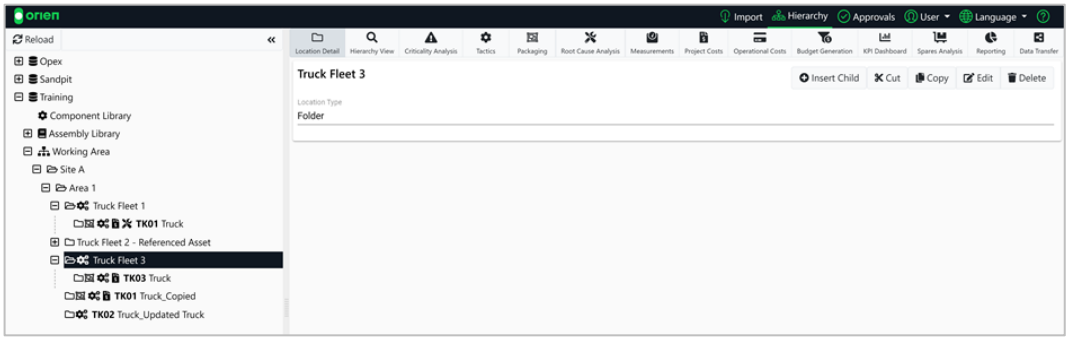
3. Selecting ***Customise*** allows you to make any edits to multiple assets (i.e. we renamed the new fleet to Truck Fleet 3). Select ***Paste*** when finished.



4. You will be presented with a screen showing the progress of your copy/cut action. Select ***Reload*** (if required) or hide the progress screen to continue working in the system.



5. When the process is complete, the new functional location will be shown in the hierarchy. In this instance, you can see Truck Fleet 3 has now been added to the hierarchy.



7.3 ASSEMBLY LIBRARY (COPYING & REFERENCING)

The Assembly Library allows the user to develop a library of generic assembled Components and/or Equipment. It will include Tactics and Packaging only for Equipment or Assembled Components.

The primary function of the Assembly Library use is for referencing Equipment (Tactics & Packaging) and storing basic versions of equipment to be copied into the working area to be modified for the particular application.

7.3.1 Copying into Assembly Library

Copying into the Assembly Library allows the user to move an Assets Tactics and Packaging Modules into an area to be saved for future use as a referenced item or to store base model data for use in different applications.

The Copy function into the Assembly Library works in the same way as the Copy function previously discussed in section 7.2 Copy, Cut & Paste. By copying and pasting into the Assembly Library the user will create a copy of all Tactics and Packaging associated.

7.3.2 Referencing from Assembly Library

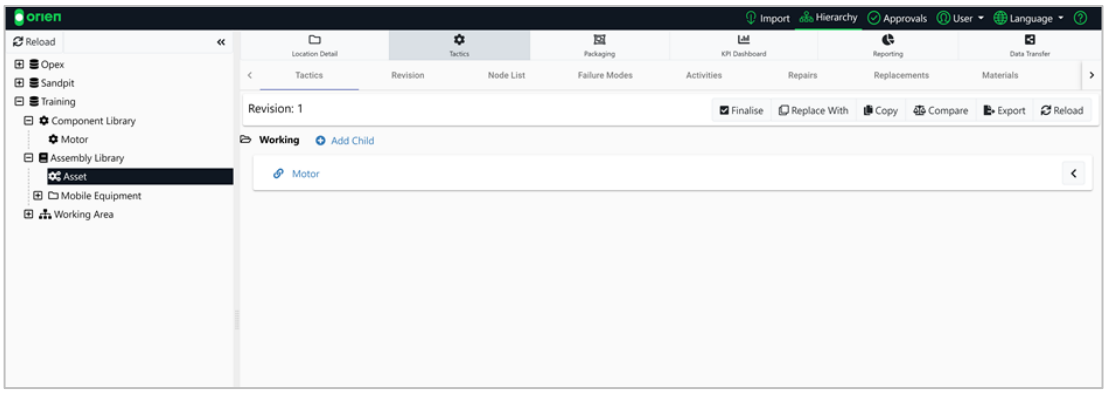
A Reference is a copy of an Item (Tactics & Packaging) that links back to the original Item that is in the Assembly Library. The benefit of Referencing allows the user to create one Item in the Assembly Library and copy/reference it multiple times into the working area.

An example of this would be a fleet of Trucks. If changes are needed to Tactics or Packaging, the user only needs to modify the item in the Assembly Library and all referenced items will update to reflect.

Component referencing gives the ability to reuse components in multiple Structures throughout Orien. Referencing allows you to attach a referenced component to the Structure you are working in, which creates a link to the component in the Library you have selected.

In the Component Structure, you can select the referenced component and you will be taken to the component in the Library. Whenever a change is made to the referenced item, it will be reflected in each location that the component is referenced in.

A referenced component will contain a linked chain icon (🔗) to differentiate from a standard component.



7.4 COMPARING, COPYING & REPLACING TACTICS

This section covers the process of comparing tactics, copying a tactic, or replacing an existing tactic.

7.4.1 Comparing Tactics

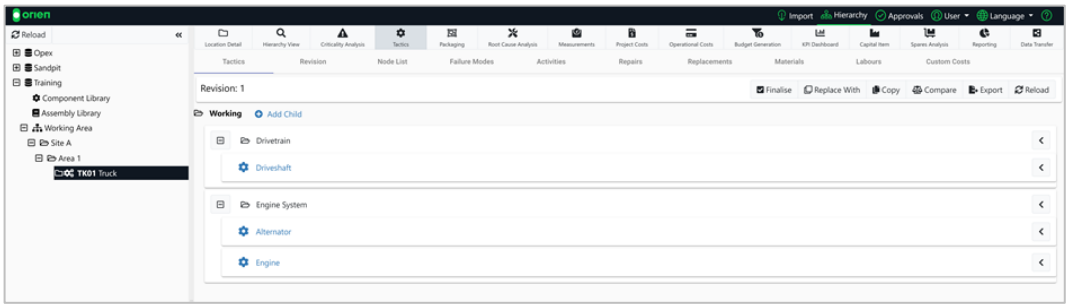
Comparisons of Tactics are available between Revisions, Components on the same or different Structure, and Library Components. Comparing allows you to see the differences between the two Tactics you wish to compare.

Key terms displayed during the comparison process:

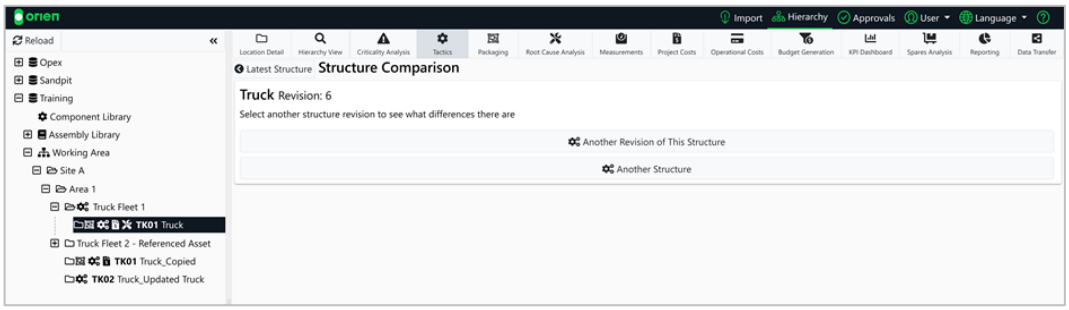
- **VIEW LEFT / RIGHT:** This will take you to the Tactic you are comparing allowing you to see the full details.
- **SELECT OTHER:** Use this prompt to select a new Revision or Tactic to Compare.
- **LEFT / RIGHT UNIQUE:** This indicates that this version is unique. This could be due to a value being added in or has been deleted. To view this notice the changes from one side to the other.
- **DIFFERENT:** When a value has changed it will be indicated by different.

Comparing tactics in Orien involves several steps. Let's review these in some more detail.

1. Choose the item in the hierarchy you want to compare, select the ***Tactics*** module and then the Tactics tab (if required). Select the ***Compare*** button.



2. Select how you want to compare your tactic.

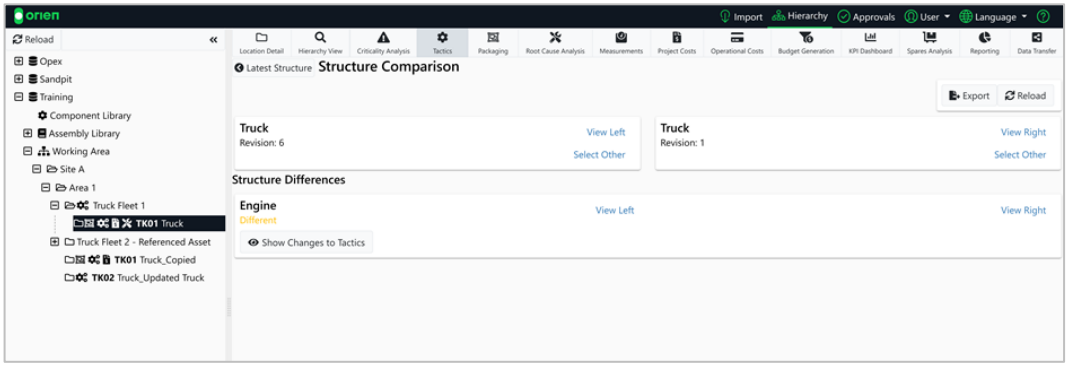


   a) **ANOTHER REVISION OF THIS STRUCTURE:** Allows you to compare the earlier version of the current Structure.

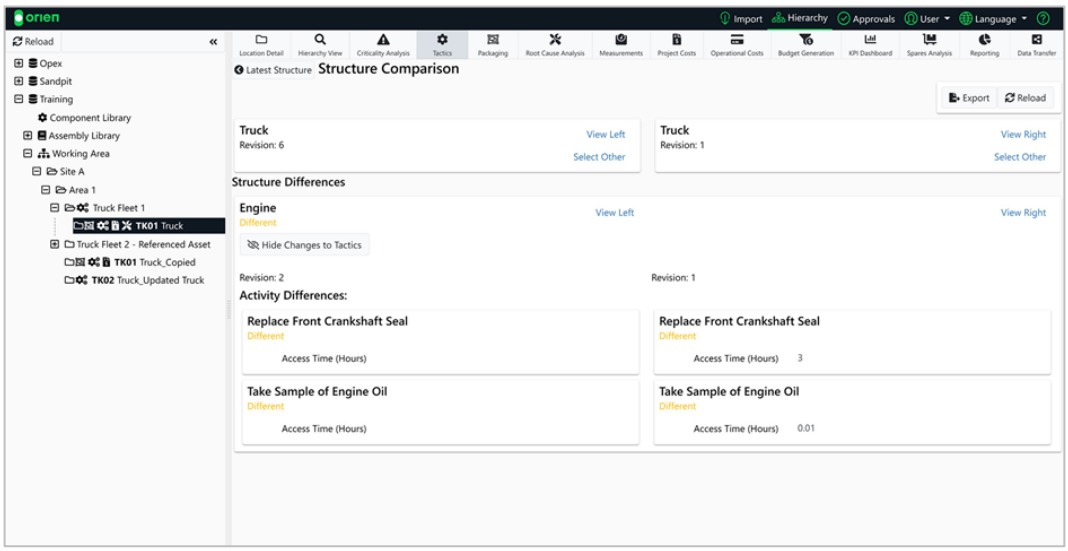
   b) **ANOTHER STRUCTURE:** You will be presented with the Hierarchy to find the Tactic contained in that Structure.

> **IMPORTANT**
>
> If you see the message Structure compare has been queued for processing, click the Reload button.

3. Once you have selected the Structure and Revision, you will be presented with a summary of the comparison. You can browse the changes, select a new Structure to compare, view a Structure in the comparison and export the comparison.



4. Select ***Show Changes to Tactics*** to view the detailed comparison.

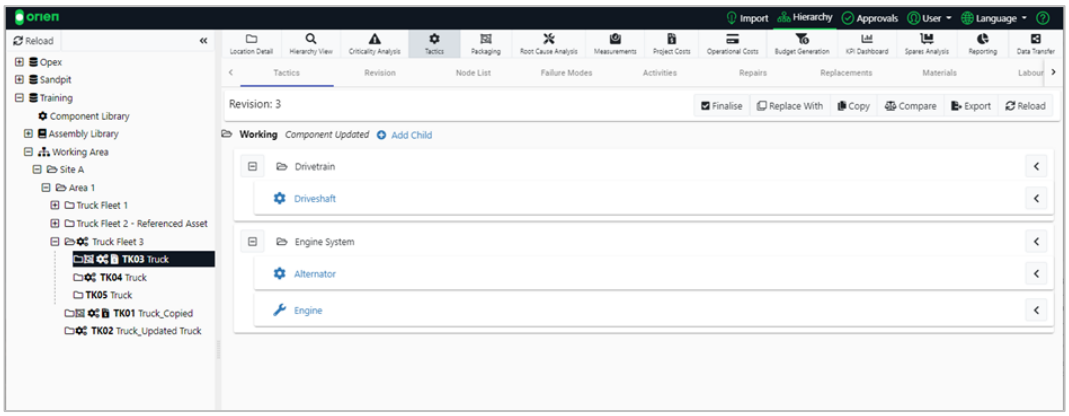


7.4.2 Copying Tactics

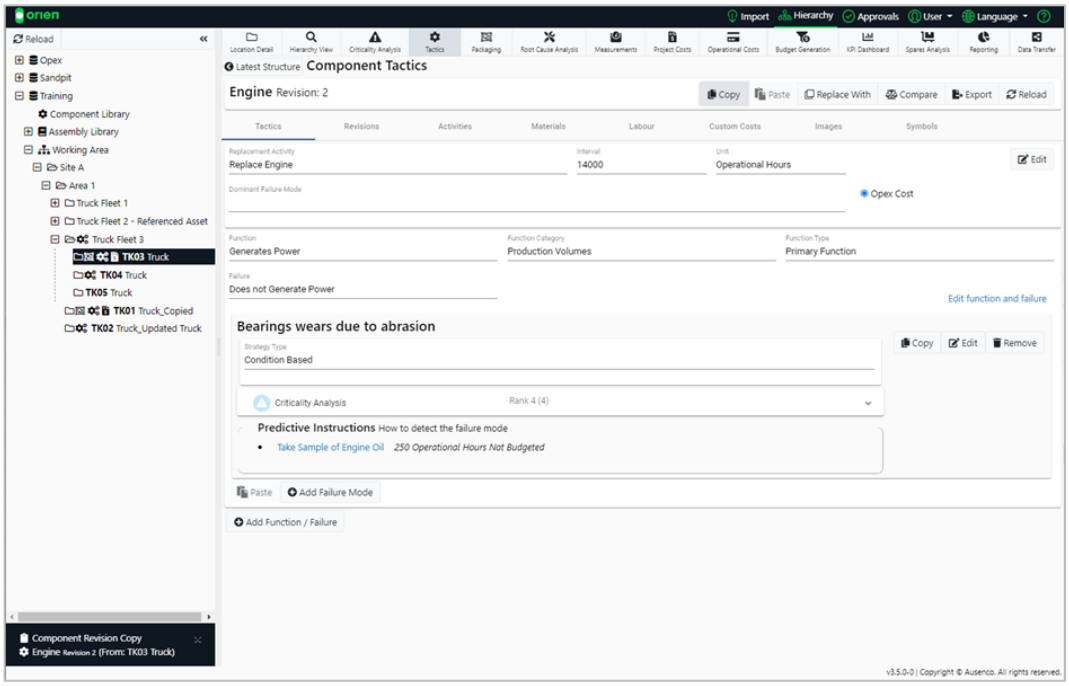
Copying Tactics allows you to copy the Tactics from the currently selected component to a different component. It also allows you to assign the copied tactic to a newly created component. This component can reside in the Component Library, or any component that has a Structure associated with the item.

Copying tactics in Orien involves several steps. Let's review these in some more detail.

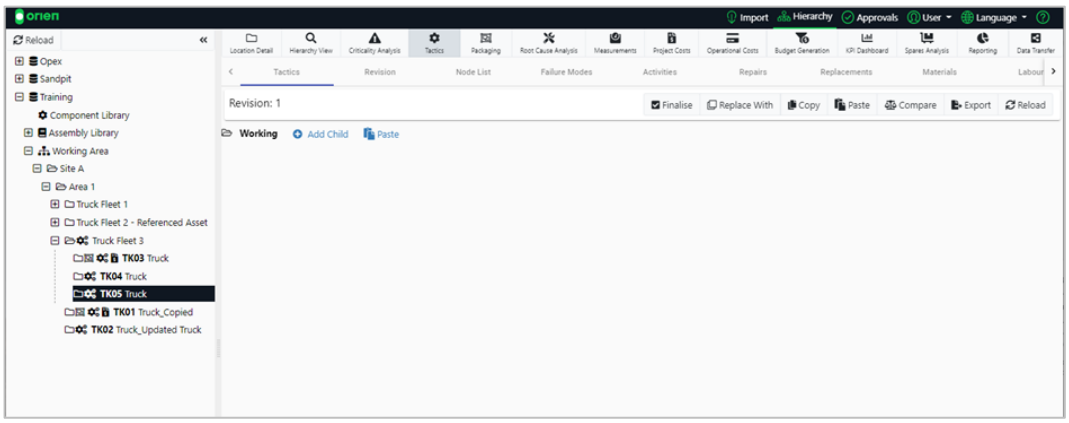
1. Choose the appropriate item in your hierarchy, select the Tactics module and then the Tactics tab (if required). Select the component you want to copy the tactics from. For this example, we're going to copy the tactics for the engine from TK03 over to TK05.



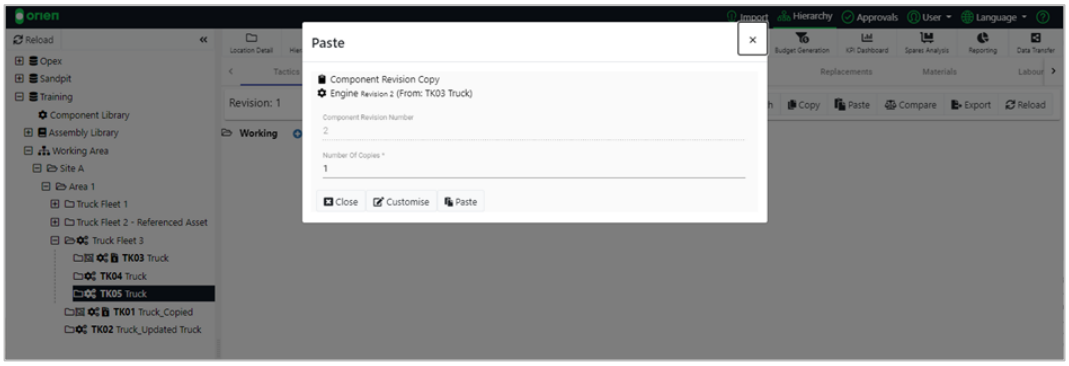
2. Once you've selected the component (in this case, the engine), then select ***Copy***. A copy will be saved to your clipboard (bottom right under the Hierarchy).



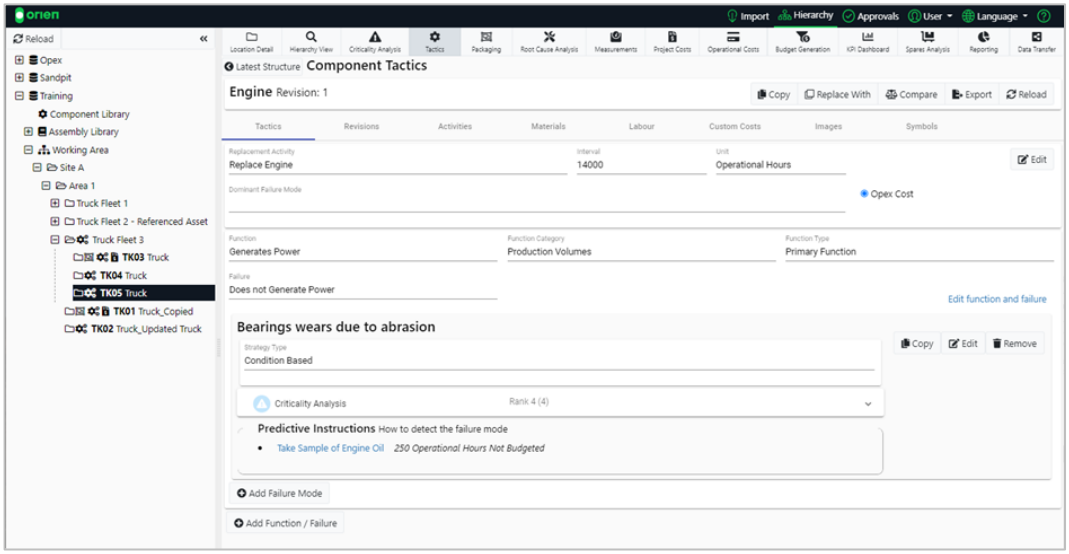
3. Select the hierarchy item where you want to paste the copied tactics, and then select ***Paste***.



4. Selecting ***Customise*** allows you to make any edits to the copied tactics. Select Paste when finished.



5. When the process is complete, the copied tactics will be shown against the component. For this example, the engine for TK05 now has the same component tactics as the engine for TK03.



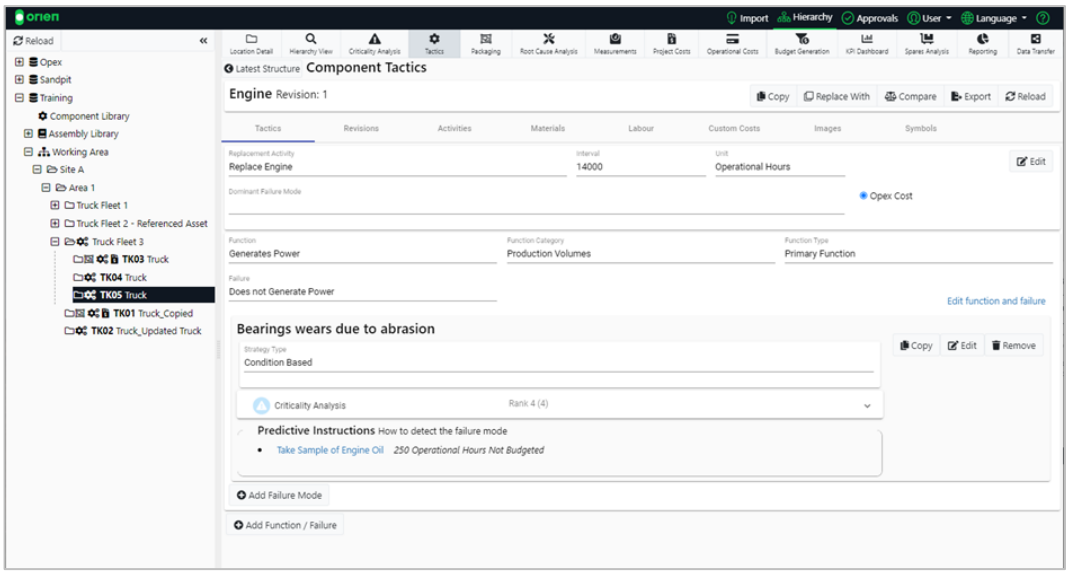
7.4.3 Replacing Tactics

Replacing Tactics allows the user to copy Tactics from another Tactic and replace the Tactics that are currently active on this revision.

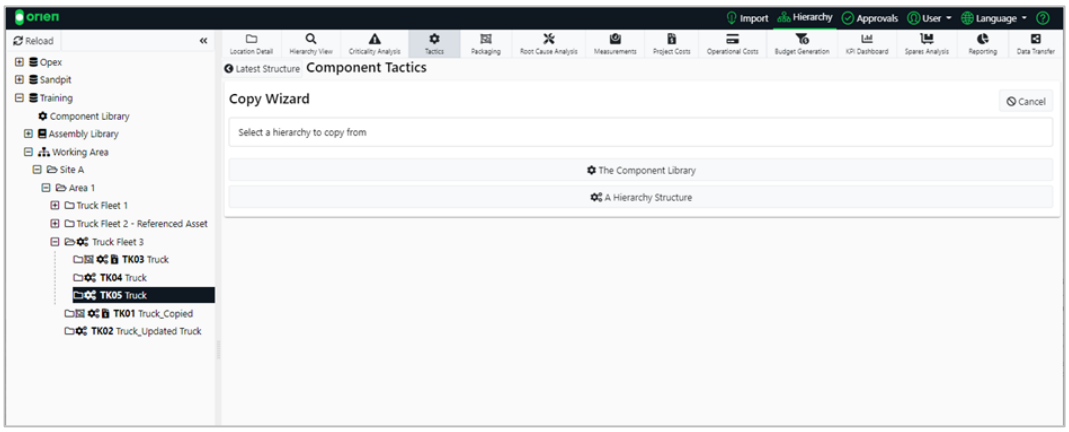
> **IMPORTANT**
>
> This process will overwrite all existing data associated with the current Tactic.

Replacing tactics in Orien involves several steps. Let's review these in some more detail.

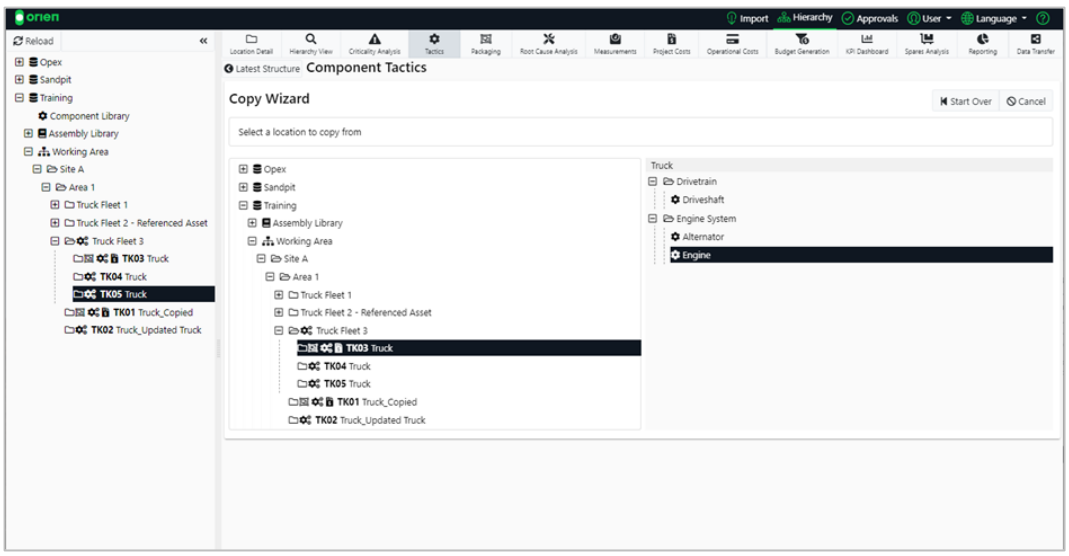
1. Choose the appropriate item in your hierarchy, select the Tactics module and then the Tactics tab (if required). Select the component you are going to replace the tactics in. For this example, we're going to replace the tactics for the engine in TK05, with the tactics from the engine in TK03. Select the ***Replace With*** button.



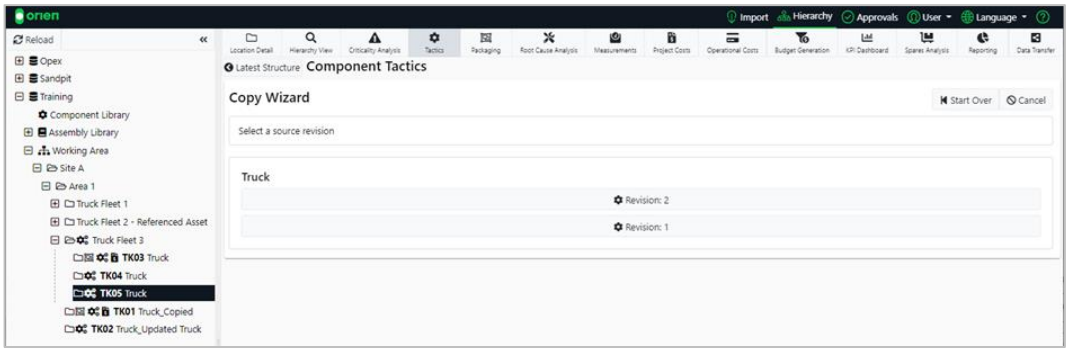
2. Select the hierarchy you want to copy/replace the tactics from. you want to hierarchy item that will replace your tactics. For this example, we selected ***A Hierarchy Structure***.



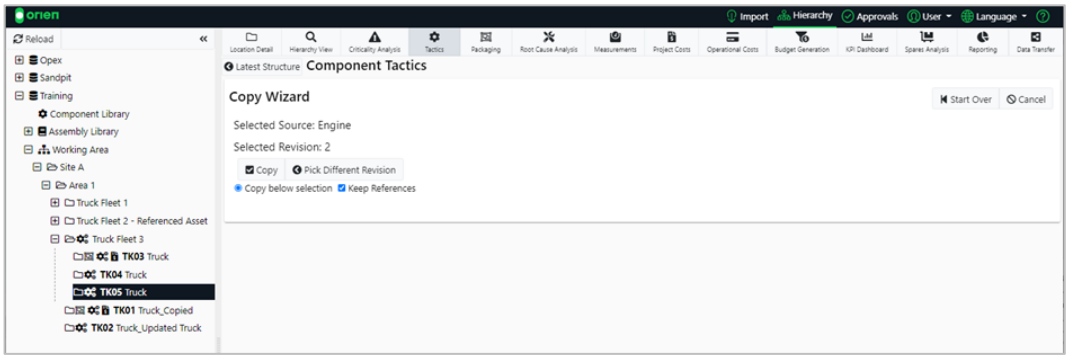
3. Select the appropriate hierarchy item and component.



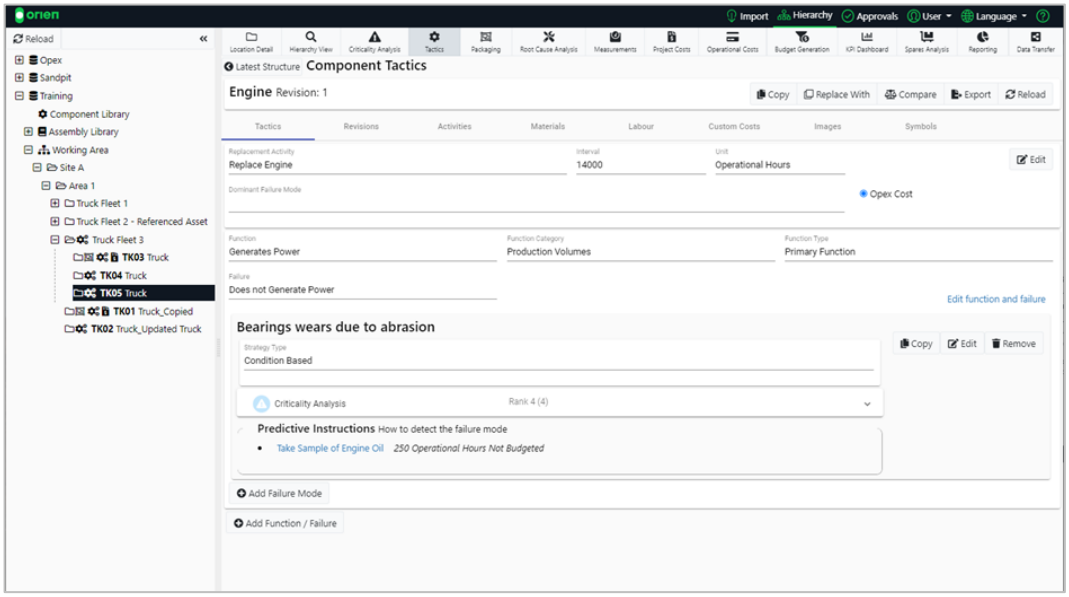
4. Select the appropriate source revision.



5. If the source tactic has Referenced Components that you want to keep as part of the replacement, select the ***Keep References*** option. Select the Copy button when you are ready to finalise the tactic replacement.



6. When the process is complete, the replacement tactics will be shown against the component. For this example, TK05 now has the same component tactics for the engine) as TK03.



7.5 EXPORTING & IMPORTING DATA

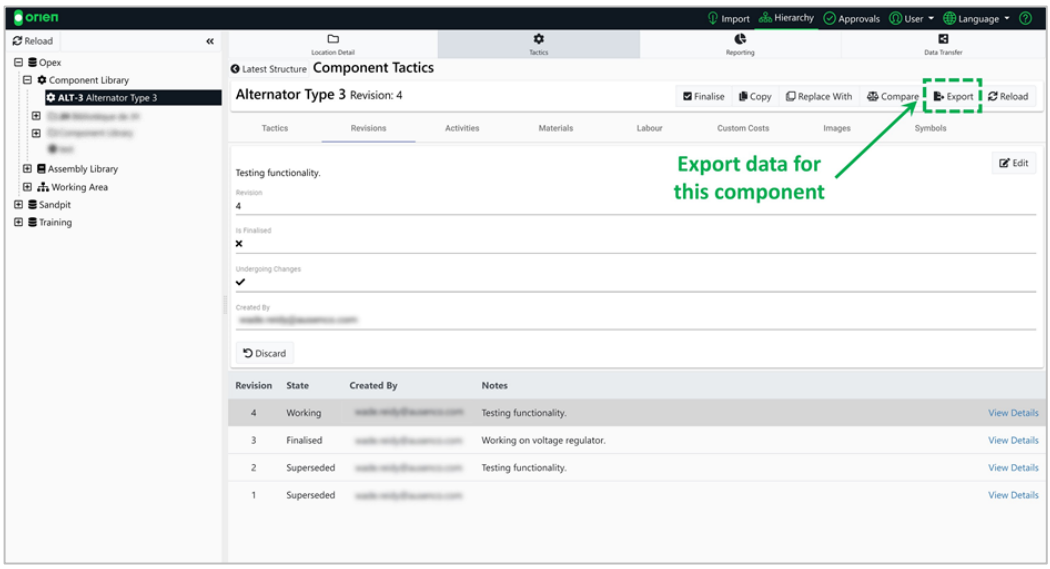
Orien provides the capability to export its data in formats that can be imported by spreadsheet applications. Throughout the application there will be export links that will allow you to export data at the current level in the Hierarchy tree and in the current mode you have selected.

7.5.1 Data Export

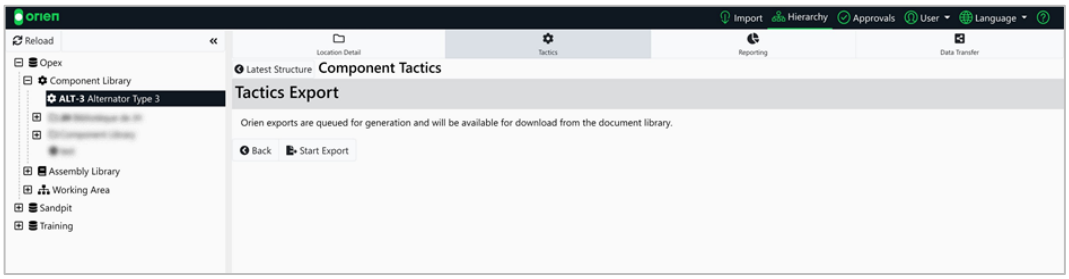
Exporting data from Orien involves several steps. Let's review these in some more detail.

1. Select the item in the hierarchy that you want to export data from.

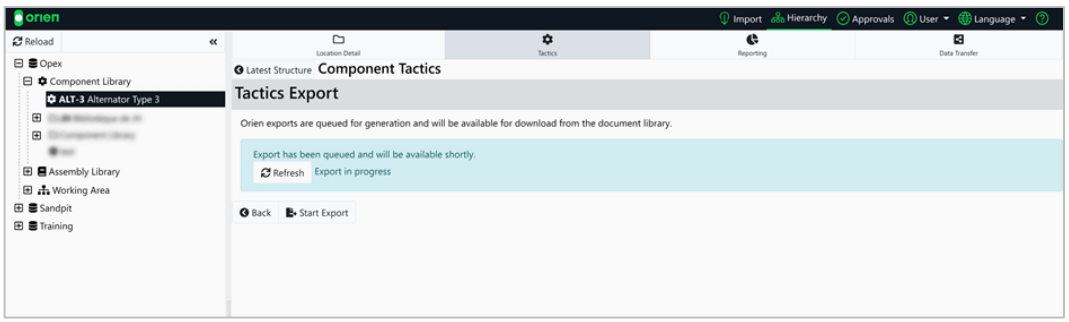
2. Select the ***Tactics*** module, then the Tactics tab (if required), and then select ***Export***.



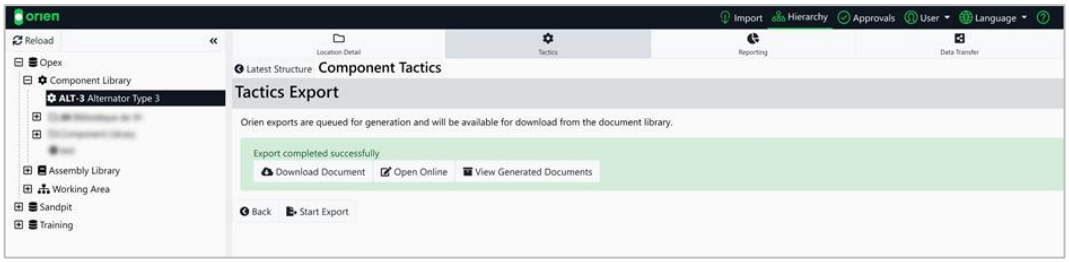
3. You will be presented with the export screen. Select ***Start Export***.



4. The export will be queued for processing. Select the ***Refresh*** button.

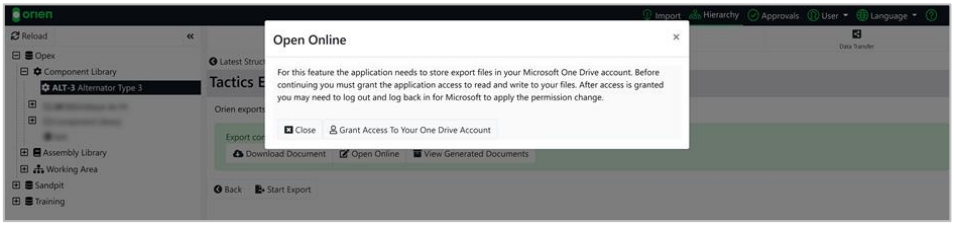


5. The final screen presents you with options to view the exported data:

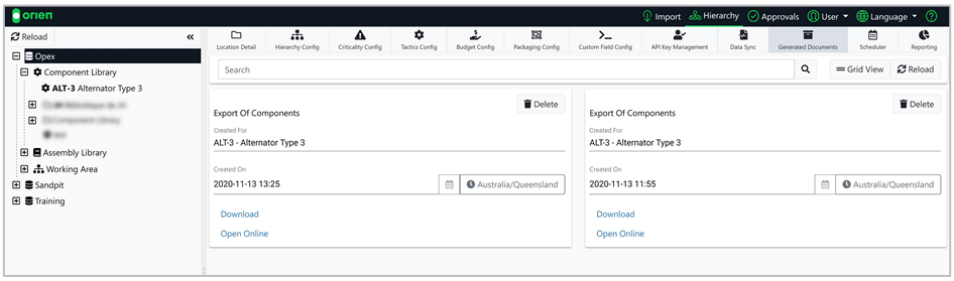


a) **DOWNLOAD DOCUMENT:** Your exported data will be downloaded in a CSV or Microsoft Excel spreadsheet format.

b) **OPEN ONLINE:** If your Microsoft account has enabled integration with Office Online, you can select the Open Online option to access your document within the Microsoft's Office Online.



c) **VIEW GENERATED DOCUMENTS:** Your exported data is available for download in the document library. You can navigate to Generated Documents to access the new export (refer to section 6.7 Generated Documents). From here you can download the export or open it online (this will open a new tab in your browser showing your new export).



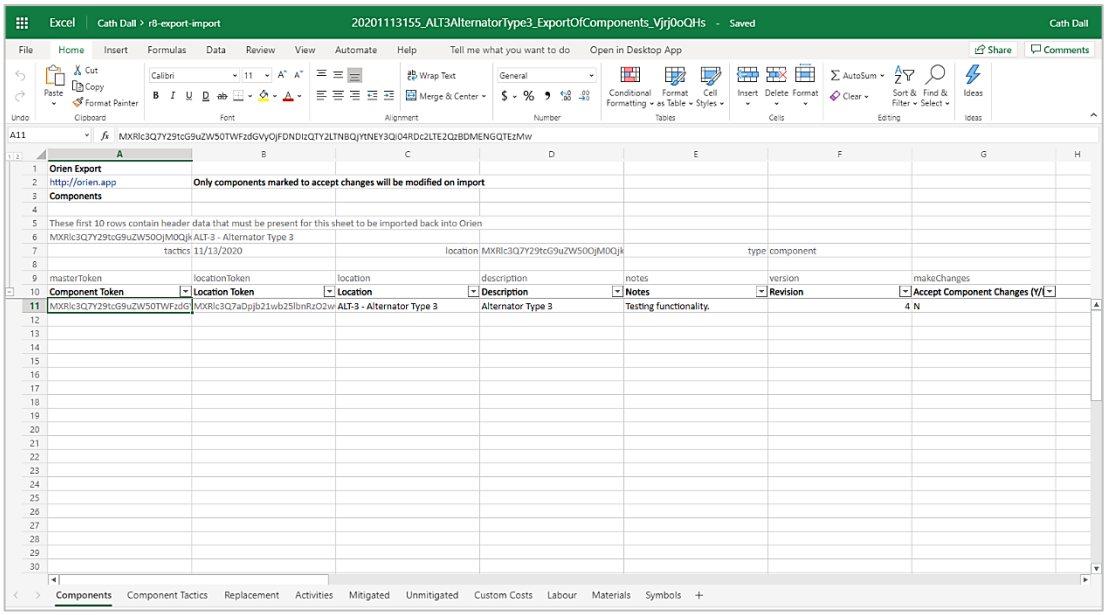
IMPORTANT

On your first attempt at opening a document online, you may be prompted by Microsoft to allow Orien access to save, modify, and open documents that will be stored by our software. Please allow access to enable this functionality.

IMPORTANT

If the new window does not popup, please make sure that you have whitelisted Orien to allow popups.

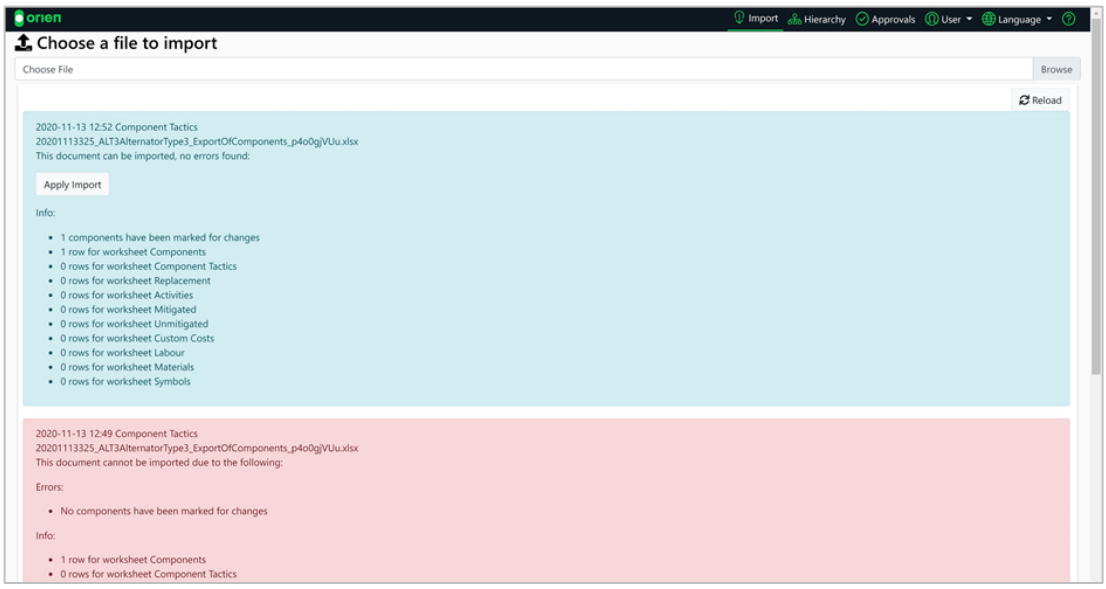
A sample of a data export is shown below.



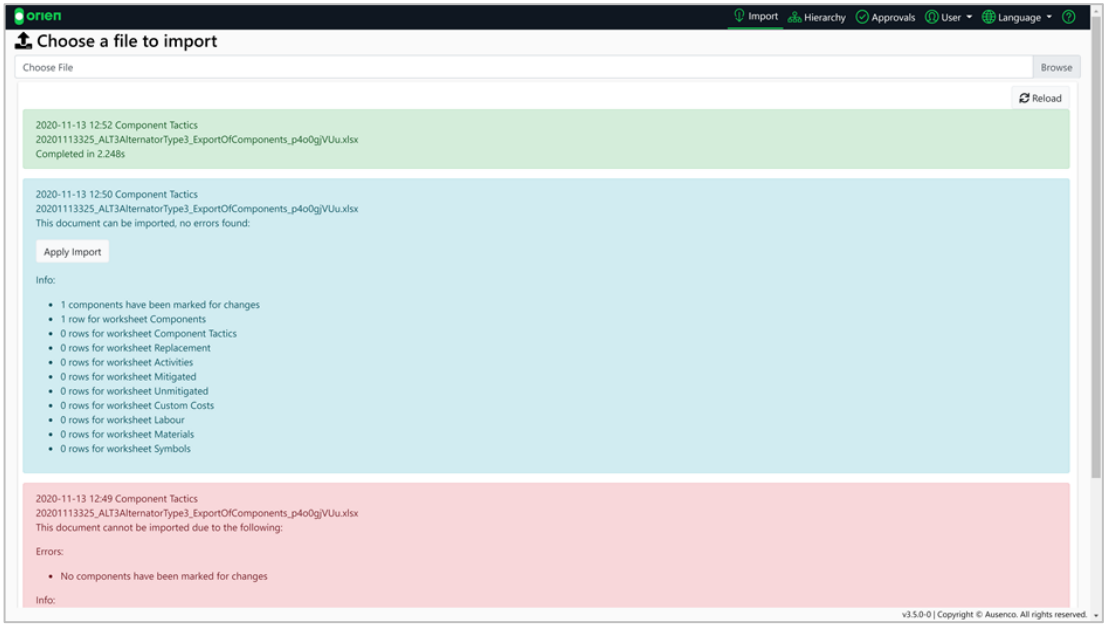
7.5.2 *Data Import*

Data can also be imported from a CSV or Excel file to update existing information in Orien. When selecting the ***Import*** button from the main banner, you will be presented with a screen where you can select the files to import into Orien.

When you import the document, there will be validations of the document that will be run before the results can be applied to the data. You will get a list of results informing you of any errors, and how many records of data will be imported into the system. Please remember to press ***Apply Import*** if you are happy with the data you are importing, and no errors are showing in the Info section of the screen.



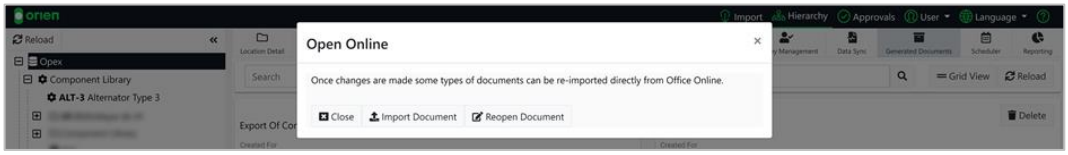
If the import of the document succeeds you will see the item highlighted in green. If the highlighted box is red, this indicates the imported file has failed. An error message will indicate the time and date, the type of import, a small description of why the import failed, and the duration.



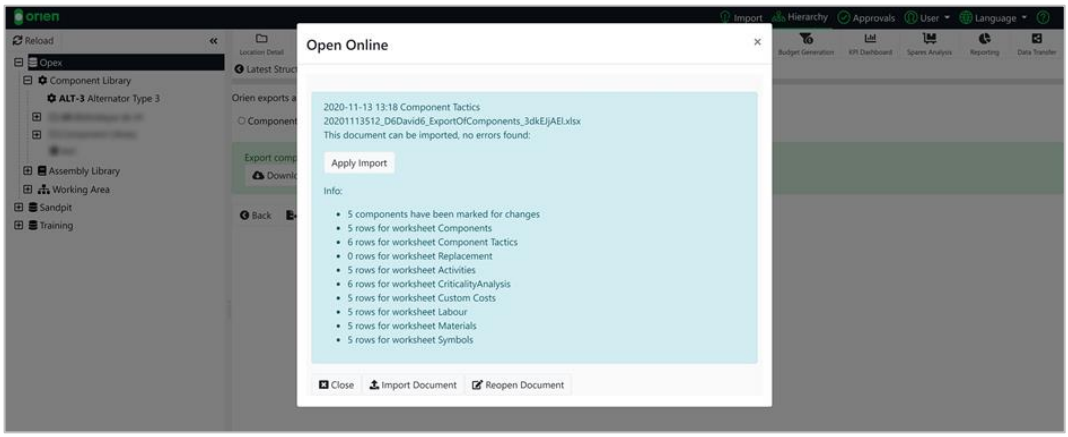
7.5.3 *Import from Office Online*

If you have used the Open Online feature, you can re-import your document directly back to the system. How to import from Office Online:

1. Once you close the browser tab of the document you are working on, you will return to the Orien window. Select ***Import Document***.



2. This will now run the importation validations. Once this is complete you will see the results of the validation. Select ***Apply Import*** to finish the import process.

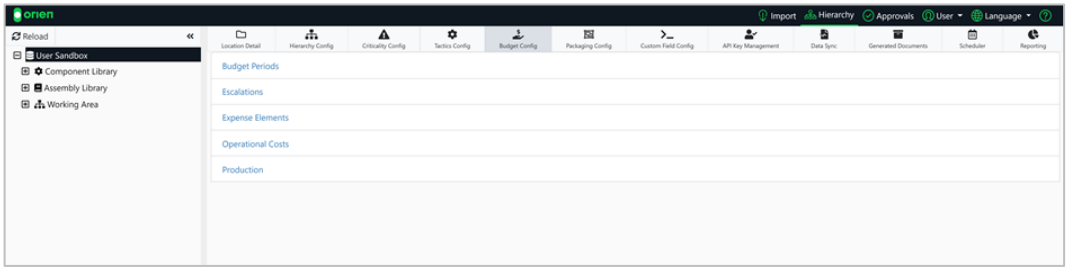


7.6 ESCALATIONS

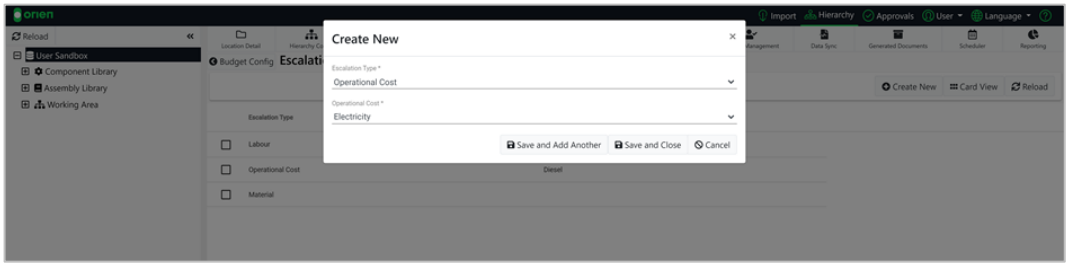
Escalations allows the user to setup discrete escalation percentages for all sundries specified on the database. Once you have setup your escalation type, you can then assign escalation dates and an escalation percentage.

To create an escalation:

1. Select the database you want to put an escalation on and then select the ***Budget Configuration*** module.



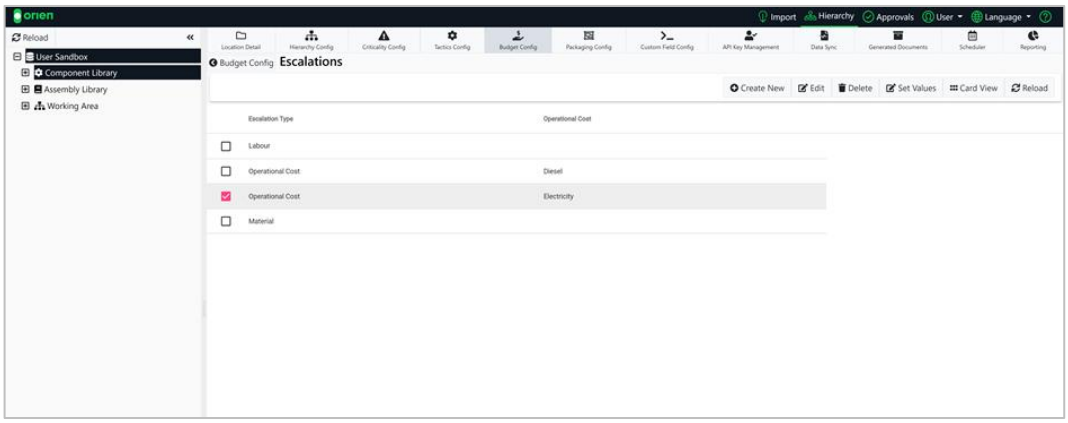
2. Select Escalations and then the ***Create New*** button. Enter the details for your escalation, and then you can ***Save and Add Another*** or ***Save and Close***.



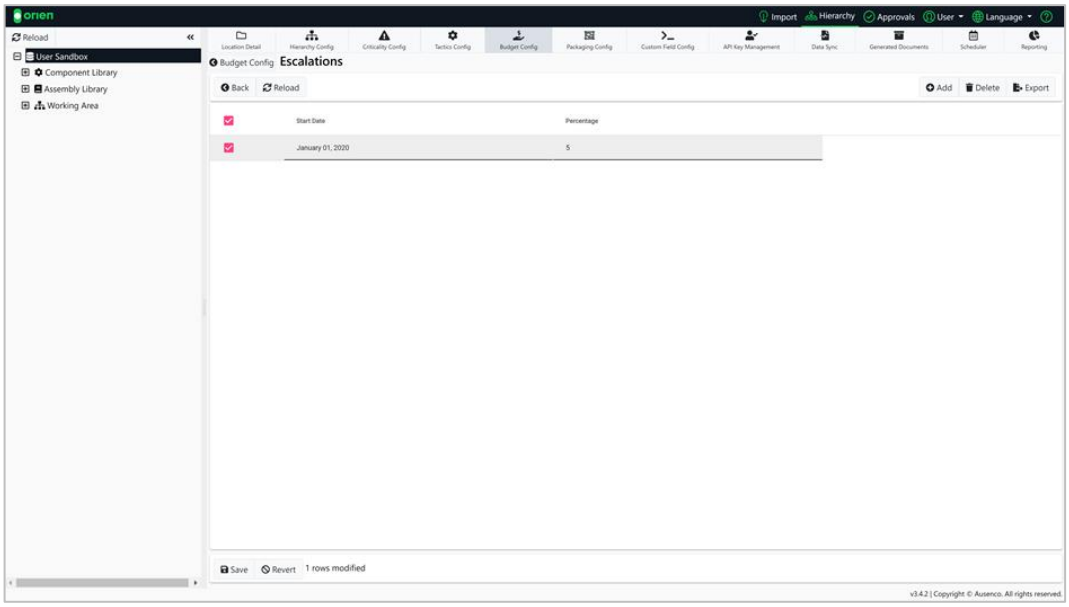
> **IMPORTANT**
>
> You will need an operational cost setup before having access to assigning Operation Costs as an escalation.

Once you have setup your escalation type, you may now assign that escalation dates and an escalation percentage. To assign dates and percentage:

1. Select your escalation and then the ***Set Values*** button.



2. Select the ***Add*** button and enter the dates and percentage of the escalation. Select ***Save*** when you're finished.



7.7 DATA TRANSFER

Data Transfer is the function which enables assets to be moved between databases. It functions similarly to 'copy' and 'paste' functions. You first locate the asset on the hierarchy and then select the ***Data Transfer*** module on the top menu.

7.7.1 Export

Once you are in the Data Transfer tab, select the secondary tab labelled 'Export'. You will be able to see all previous exports from the database (this section will be blank if you have not exported anything yet). You will only be able to export from the selected location on the hierarchy.

Once you have selected the file you want to export and are in the Data Transfer tab, select ***Data Transfer Current Location***. You will then be shown the confirmation screen. This screen will show what you wanted to export (in this case Engine System) and given two options:

1. **EXPORT:** The file will then be placed into a queue and will be exported shortly after.

2. **CANCEL:** This will take you back to the initial Data Transfer screen.

Once it has been exported you will be able to Download the exported file. Once you have selected Download, it will automatically download and should appear in the Recent Downloads or Downloads folder on your device.

> **!** **IMPORTANT**
>
> The download location may be different if the device's settings have been recently changed.

7.7.2 Import

To import the file, select the secondary tab labelled Import. This will display all the previously imported files (this section will be blank if you have not imported everything yet).

To import a file:

1. Select ***Import Data Transfer File***, then select ***Browse*** (this will open the device's file explorer).

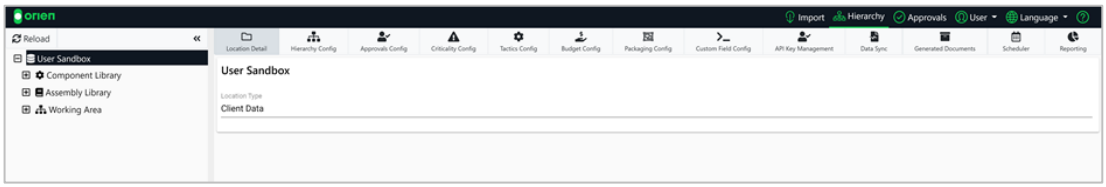
2. Select to the exported file and then Open at the bottom of the window. The file will be added to the queue and will be imported shortly.

3. When the file is imported the State of the import will change from ***Queued*** to ***Completed***.

The file has now been successfully imported into the database. Please note that imports can from the same file (see below) but can be identified by the time and date associated to each import.

7.8 MODULE CONFIGURATION

To configure the settings, you will need to select the Client Data/Database or the top-level Structure that encompasses the entirety of the project. This will allow the module banner bar at the top of the screen to dynamically change to show the configuration selections for the different modules.

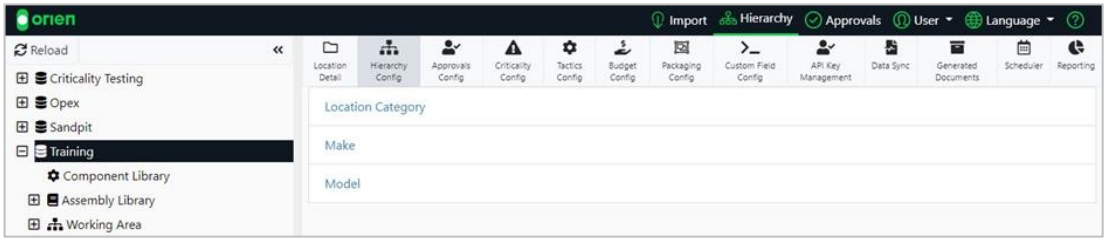


7.8.1 Hierarchy Configuration

Hierarchy Configurations allows you to adjust the following areas:

- Make
- Model
- Location Category

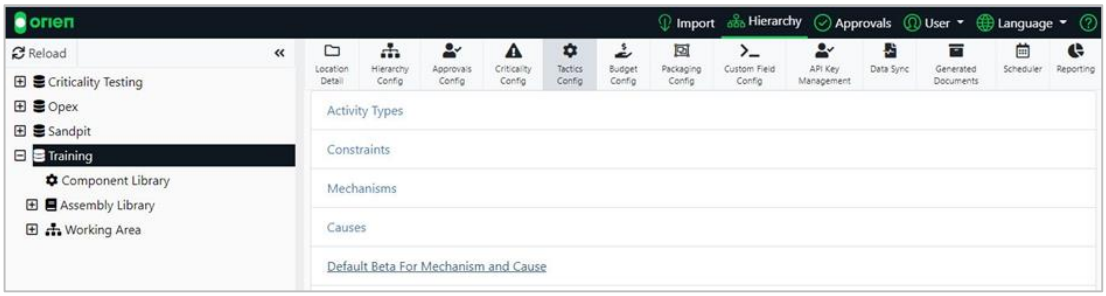
Once values are added into these categories, their respective fields will appear on the location edit screen and will be allowed to be selected and assigned against that location.

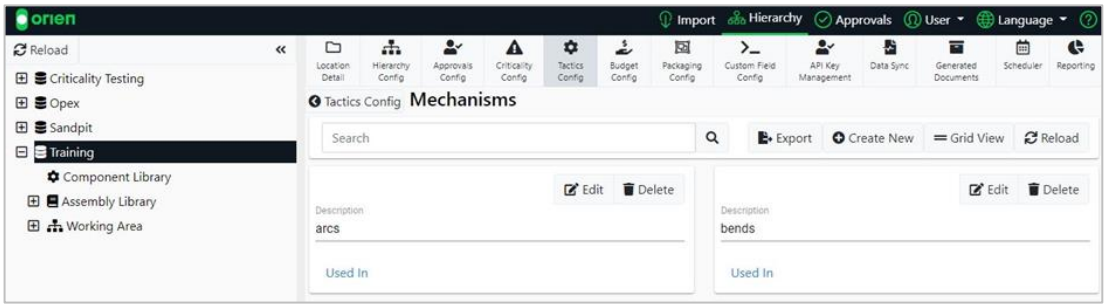


7.8.2 *Tactics Configuration*

The Tactics Configuration menu allows a user with appropriate access to adjust settings and values relating to the Tactics Mode in Orien. To configure a setting, select the appropriate value you want to adjust.

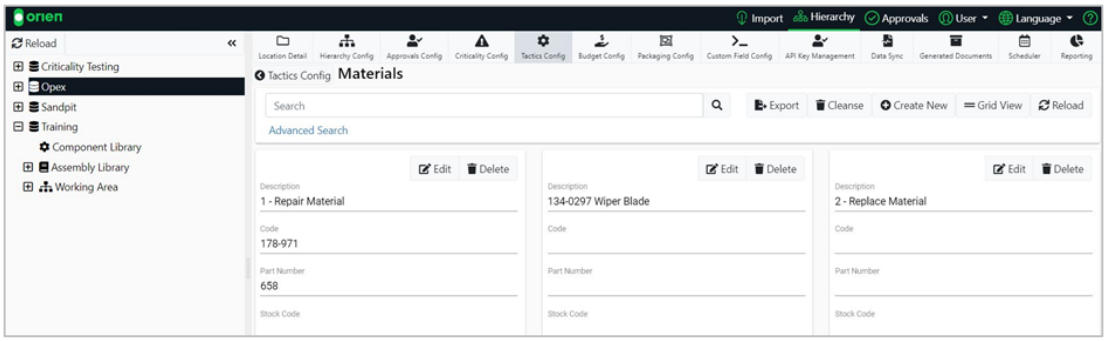
When in the configuration screen of that type, ***Create New*** will allow you to add a new value to be used throughout Orien. All Tactics configuration screens use similar controls of creating, editing, deleting and the ability to export.





7.8.3 *Materials Configuration*

Materials configuration allows you to create a list of materials that will be used globally across your database. To add a Material select ***Create New***, insert your data, and select any relevant fields. Select ***Save*** to finalise.



If you have unused Materials in your database, you can select the ***Cleanse*** button on the Action bar. This will go through your databases and delete all Materials that are not allocated in a Tactic, Operation, Project/Operation Costs or Spares Analysis modules.

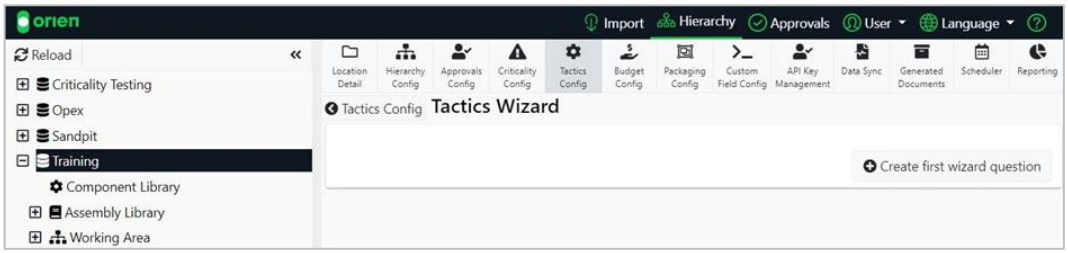
> **IMPORTANT**
>
> You cannot undo the Cleanse action.

7.8.4 Tactics Wizard Configuration

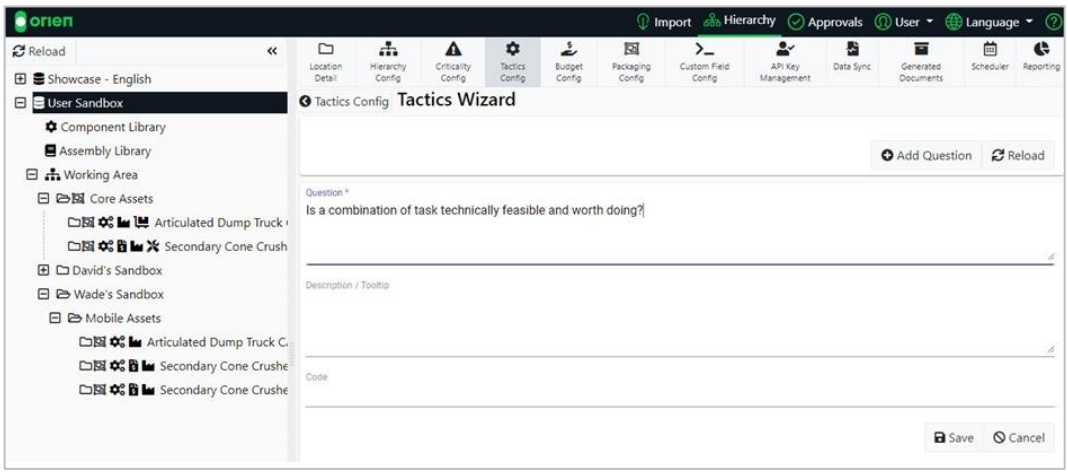
The Tactics Wizard Configuration menu allows you to build the step-by-step questionnaire that is part of the Function-Failure & Failure Modes function within the components area.

To create your Tactics Wizard:

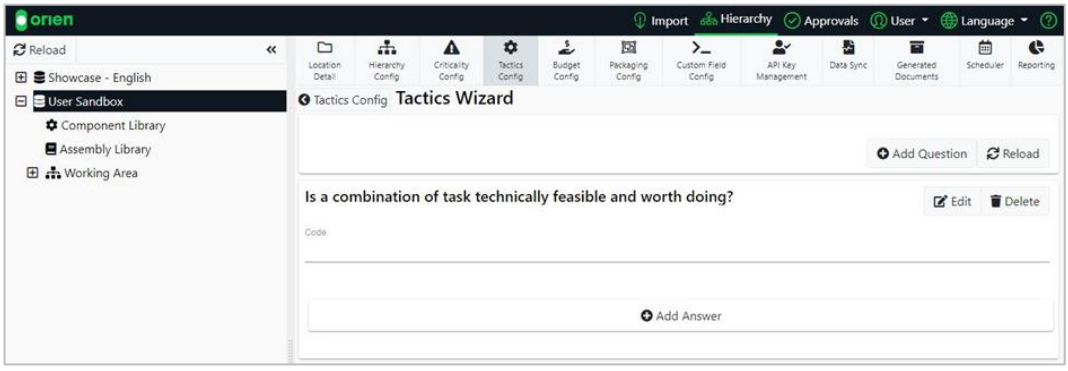
1. Select ***Tactics Wizard*** from the Tactics Configuration Menu and then ***Create first wizard question***.



2. Create your question (optional – you can assign a description or code). Once you click ***Save***, you can add answers your users will be able to respond with. You can also go back and edit the questions.



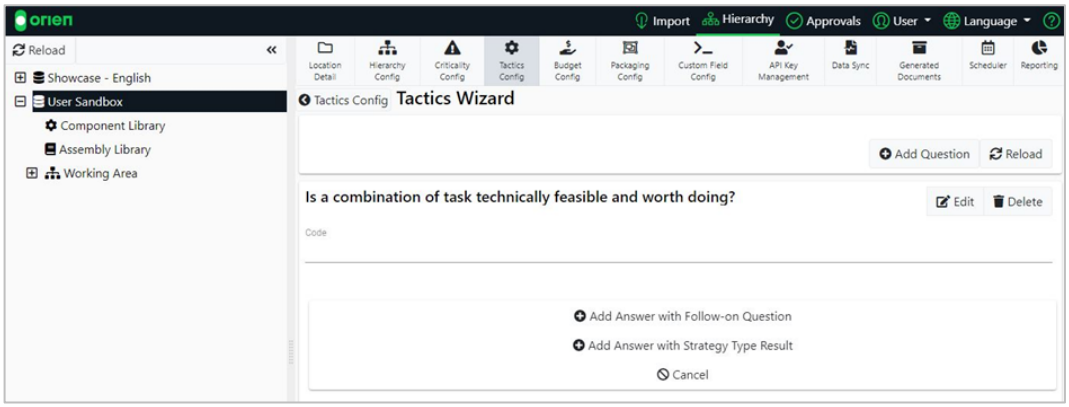
3. Once the initial question is setup, you will be able to assign answers and how the answer will progress the questionnaire.

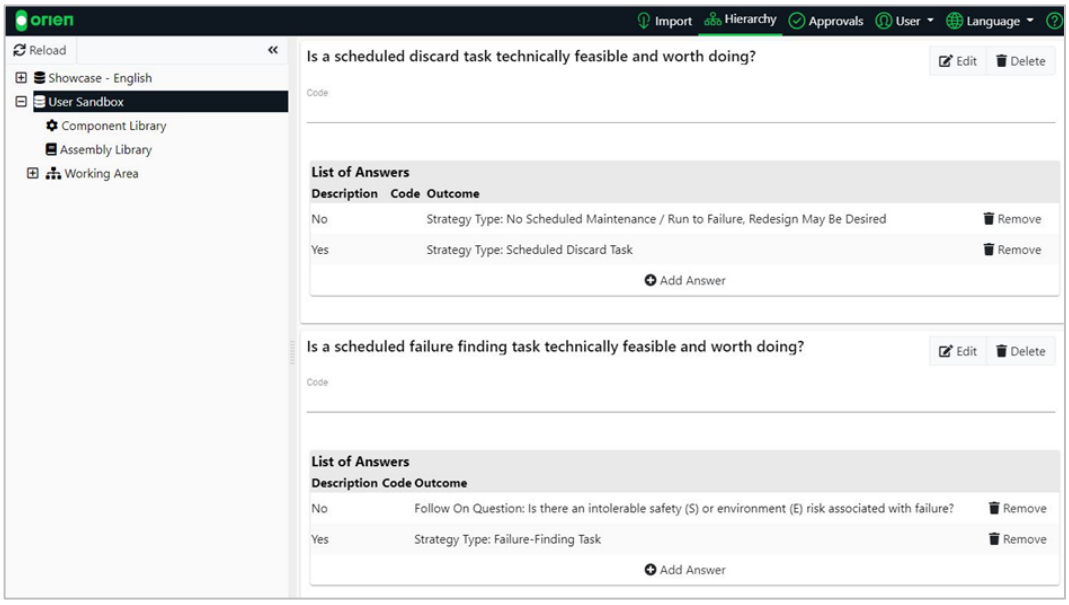


4. When you click ***Add Answer*** you will be presented with two options to how the questionnaire will proceed from this question:

    a) **ADD ANSWER WITH FOLLOW-ON QUESTION:** You can create an answer that will allow you to add a question that follows on from the current question.

    b) **ADD ANSWER WITH STRATEGY TYPE RESULT:** This will allow you to set an answer that will have a result. This will close off the questionnaire and record the failure with the result that you have added a part of the answer.

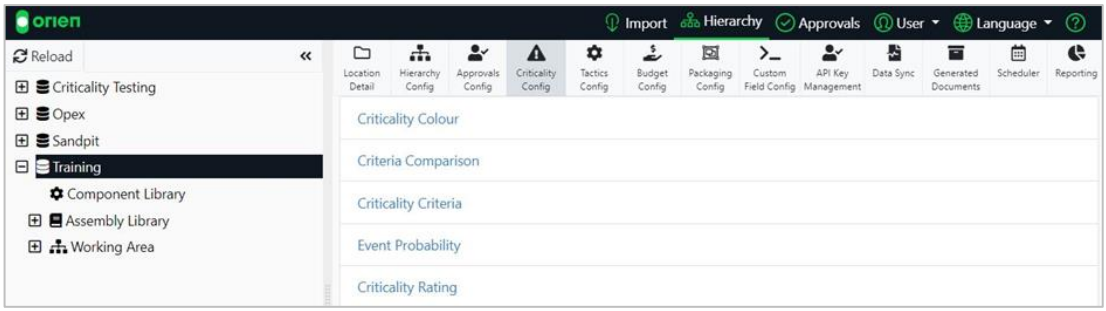




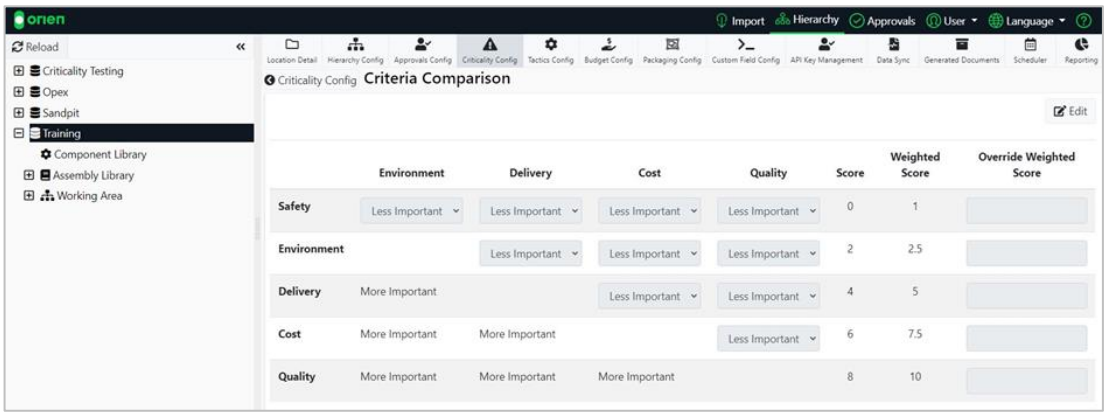
7.8.5 Criticality Configuration

The Criticality Configuration menu outlines the criteria used in the Criticality mode. You can adjust multiple settings that are used to display and create criticality ratings and reports.

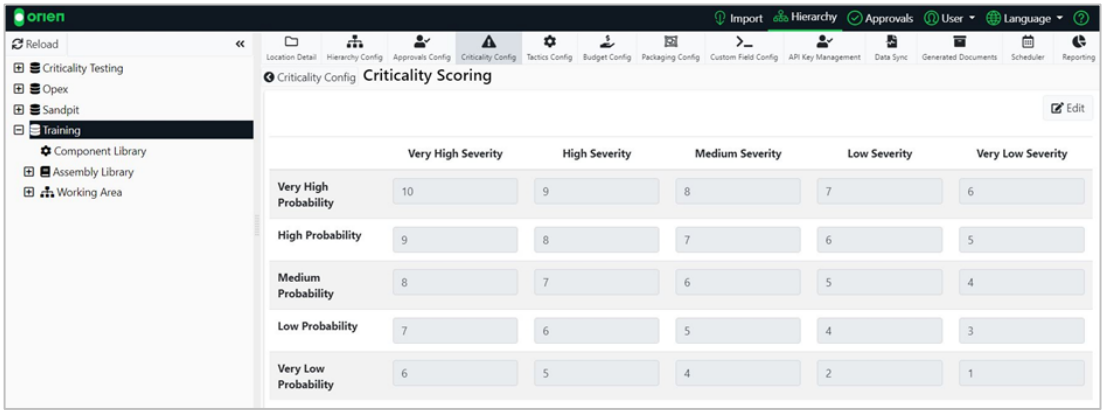
To configure a setting, select the appropriate value you want to adjust. When in the configuration screen of that type, ***Create New*** will allow you to add a new value to be used throughout Orien. Most Criticality configuration screens use similar controls of creating, editing, deleting and the ability to export. The exceptions will be outlined below.



Criticality comparison configuration screen shows the importance of a specific Criterion against another Criterion. This screen is setup slightly different to previous screens. You are presented with a grid outlining the importance of Criteria against other Criteria. When you adjust a setting through the drop-down box you will see a reflective change on the other half of the grid. The possibility to override the default scores are also available.



Criticality Scoring allows you to adjust the ratings when two Criterion are selected together in Criticality. Outlined is a grid which can be edited to set your ratings.

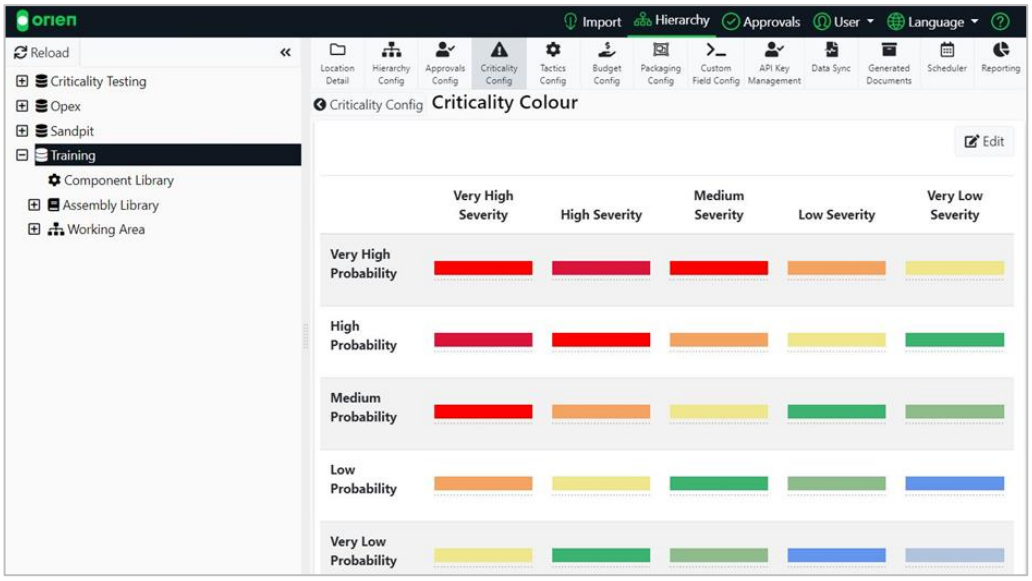


Criticality colour works like the previous Criticality Scoring. In this screen you are assigning colours to the ratings you previously entered. To assign a colour:

1. Select the box in the corresponding location.

2. A colour picking window will open, select the colour you want to assign.

3. Once you are happy with the colours, make sure to ***Save*** before exiting.



7.8.6 *Approvals Configuration*

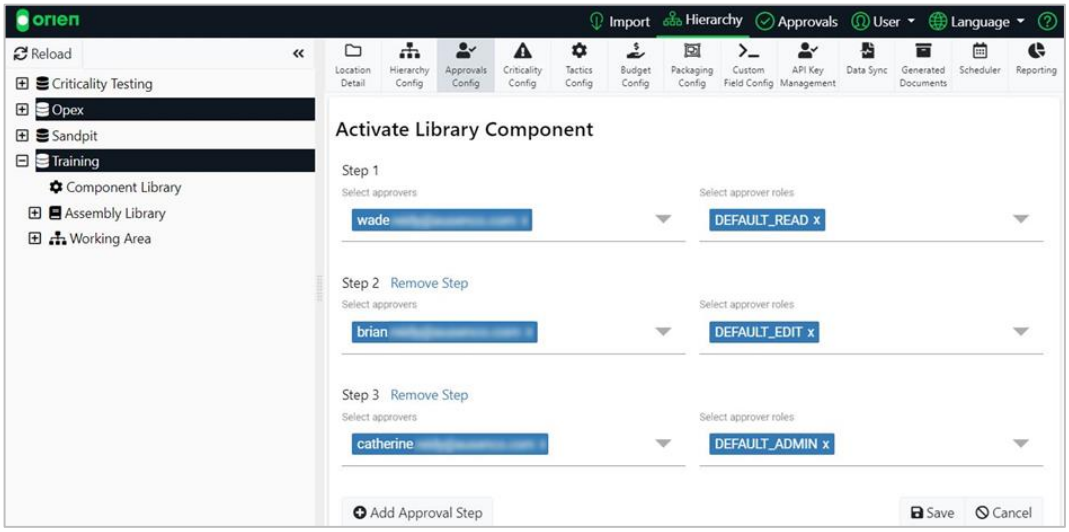
Approvals configuration screen allows you to configure the steps required for an item to be allowed to be entered into the system. Each approval option follows a similar configuration workflow. To create an approval workflow:

1. Start typing in the ***Step One*** field and you be presented with a drop-down list of users. You can also click on the box for a drop down of users.

2. Select the user and add another approval step (if required).

3. ***Save*** the approvals when completed.

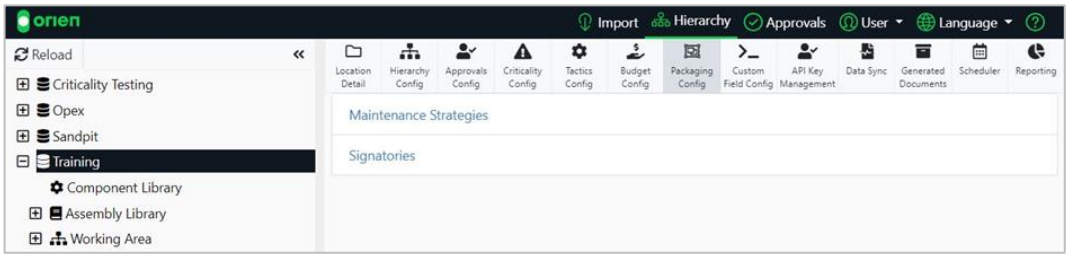
In the below example you will notice the first step of the approval process will be directed towards “Wade”. After Wade has given the approval, it will move onto the next assigned person (which in this example is Brian), and then onto Catherine. You can assign a role or group that will be able to be a part of the approval process. Using the below example, you could replace Catherine with “Approval Team” and all users who have that permission set will be able to give the approval confirmation at that step.



7.8.7 *Packaging Configuration*

Packaging Configurations allows you to adjust extra fields that will become present in the packaging module. You can adjust the Maintenance Strategies that are able to be selected. You can also add in any Signatories that can be added within the packaging module. To create a new entry:

1. Select the menu option present on the configuration screen.
2. Select ***Create New***.
3. Insert the required information and then select ***Save***.
4. You will now notice this fields will be selectable from the packaging section.

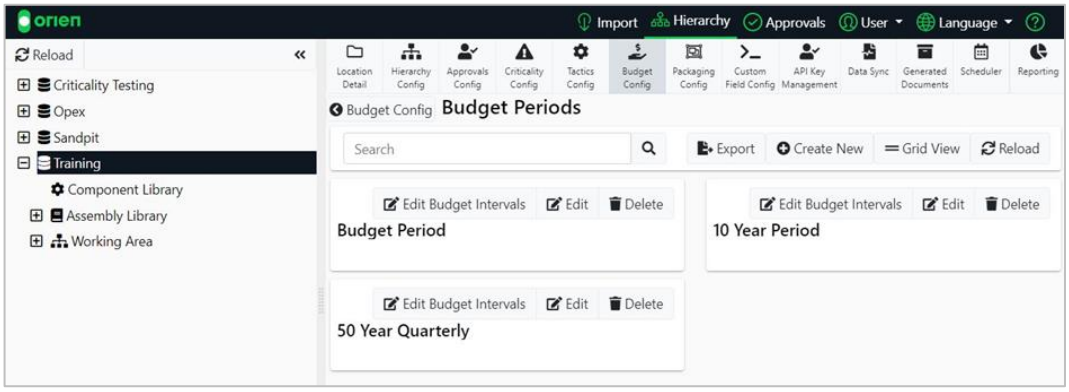


7.8.8 *Budget Configuration*

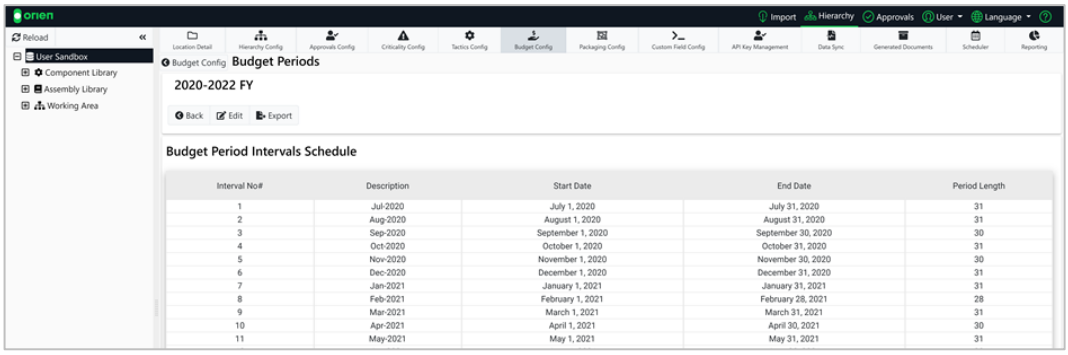
There are a variety of budget configurations options with Orien. Each is described in more detail below.

<u>Budget Periods</u>

The budget periods configuration screen allows you to setup multiple budget period intervals that can be used in modules that allow you to select time periods. To create a new budget period interval select ***Create New***. You can now assign a name to your budget period, select interval frequency, a prefix naming convention and the start and end date of your budget period.



Once you click ***Save*** this will generate the dates and all the information you need for your budget period.

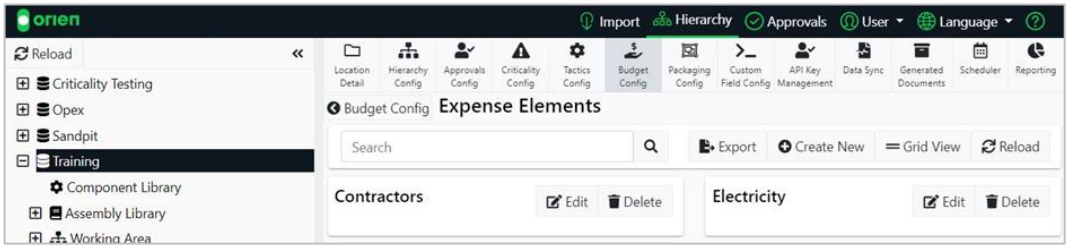


Escalations

Please refer to section 7.6 Escalations for more information on this functionality.

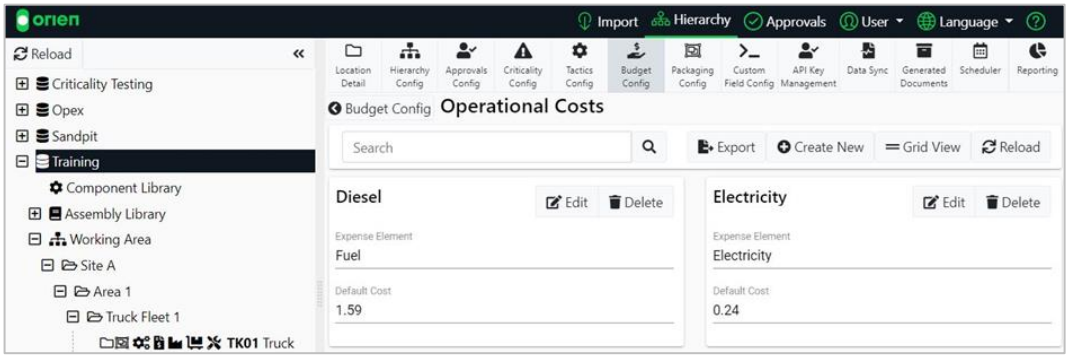
Expense Elements

Expense Elements configuration allows you to create a list of Expense Elements that will be used globally across your database. To create a new Expense Element select ***Create New***, insert the relevant details, and select ***Save***.



Operational Costs

Operational Costs configuration allows you to create a list of Operational Costs that will be used globally across your database. To create a new Operational Cost select ***Create New***, insert the relevant details, and select ***Save***.



Production

Please refer to section 6.4 Production for more information on this functionality.

7.9 CONFIGURING MAINTENANCE STRATEGIES

Prior to assigning a Maintenance Strategies, they must be configured in accordance with organisational requirements. There most common strategies are:

- Suppressive/suppression strategies
- Sequential strategies

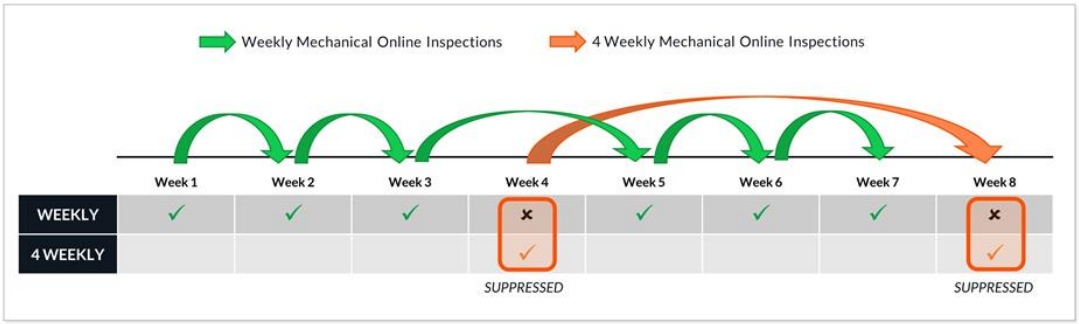
The differences between these types, and how to configure each of them is discussed in more detail below.

7.9.1 Suppressive Maintenance Strategies

Also known as series maintenance strategies, these are used when:

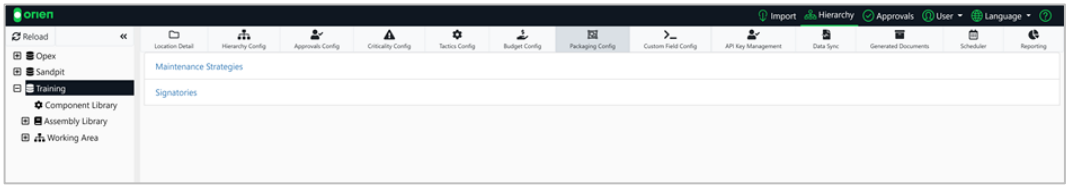
1. Tasks are performed at different frequencies; **AND**
2. The frequencies are all divisible by the higher frequency task.

This is demonstrated in the image below.

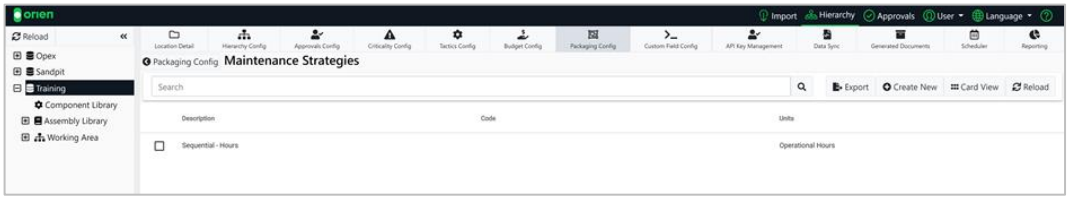


Configuring suppressive maintenance strategies in Orien involves several steps. Let's review these in some more detail.

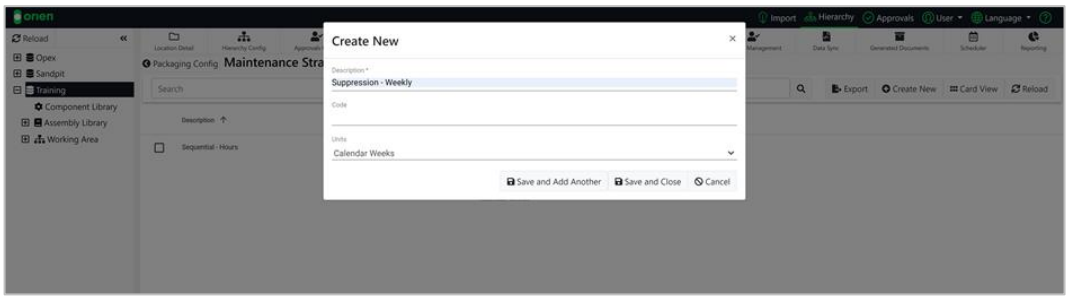
1. Choose your database from the hierarchy and then select the ***Packaging Config*** button. Now select ***Maintenance Strategies***.



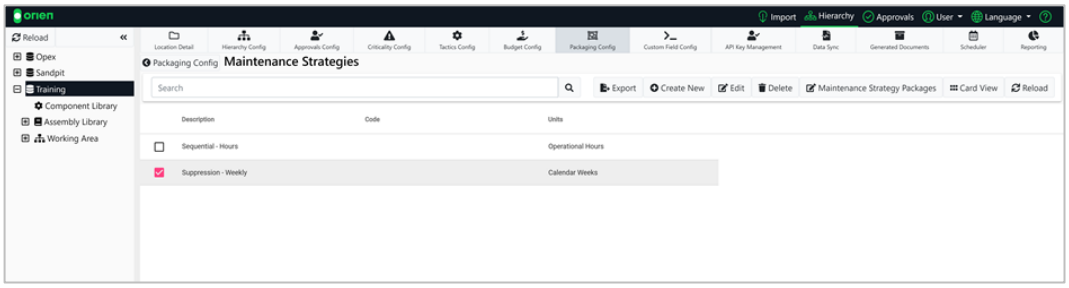
2. If other maintenance strategies have already been configured, you will see them in the list. Select ***Create New*** to configure a new strategy.



3. Enter a description for your maintenance strategy and select the appropriate unit of measurement from the drop-down (i.e. calendar hours, days, weeks; operational hours; etc.). You can ***Save and Add Another*** or ***Save and Close***.



4. The next step is to create the suppression packages for your maintenance strategy. Select the new strategy, and then the ***Maintenance Strategy Packages*** button.



5. Select the ***Create New*** button and enter the details for your strategy package:

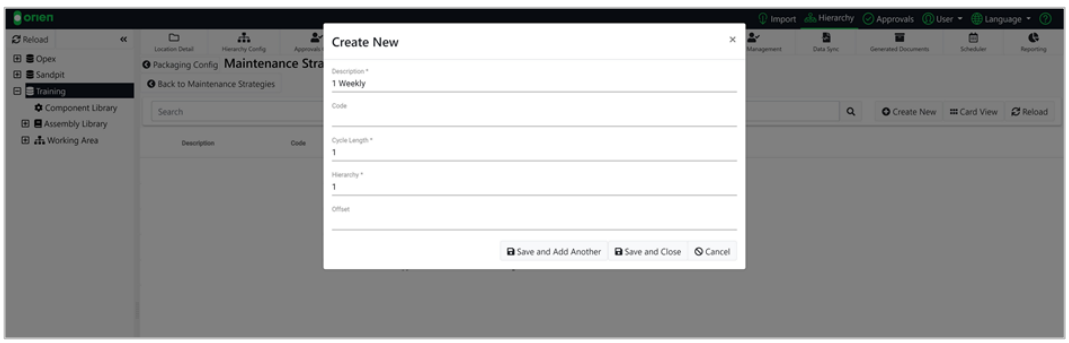
    a) **DESCRIPTION:** The name to describe your package (this will be visible in Task List Builder when assigning a package to an operation).

    b) **CYCLE LENGTH:** The frequency the package will operate at.

    c) **HIERARCHY:** The priority of the package. The larger hierarchy number will always take precedence over a lower hierarchy number.

    d) **OFFSET:** This allows you to move the occurrence of the cycle length. This commonly occurs when you want to setup a reoccurring cycle length that is not divisible by your largest cycle length.

6. To continue adding more strategy packages, ***Save and Add Another***; or ***Save and Close*** if you are finished.



7.9.2 *Sequential Maintenance Strategies*

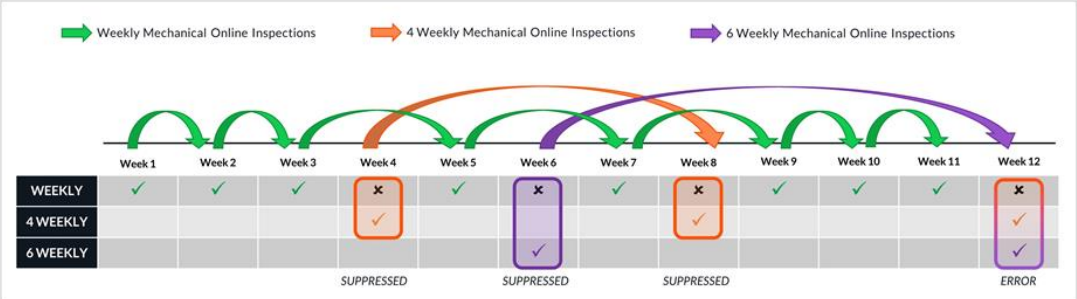
The primary difference between suppressive and sequential maintenance strategies is in the work packages, where:

1. The Tasks are performed at different frequencies; **BUT**

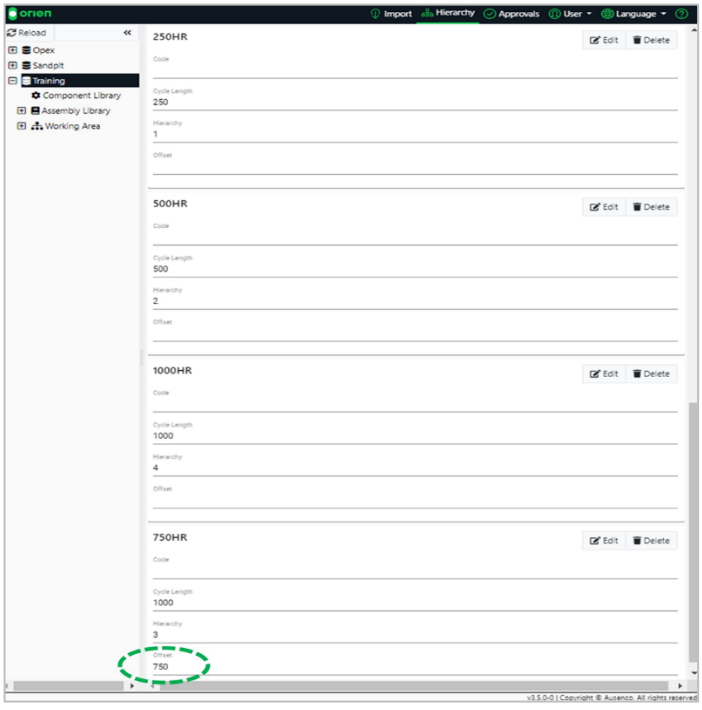
2. The frequencies are **NOT** divisible by the higher frequency task.

As an example, the higher frequency work package tasks may be included in the lower frequency ones, but not all the lower frequency work packages align. Therefore, a suppressive maintenance strategy is not appropriate.

The figure below is an example of sequential packaging (1 week, 4 week, 6 week work packages), where the 4 week and 6 week work packages may include the 1 week package; however, the 4 week and 6 week cannot be combined.



To create a sequential sequence, you need to create an offset from the highest Cycle Length. The offset will set the Task List to be performed at that cycle time. As shown in the figure below, the highest Cycle Length is 1000. However, 750 is not divisible into 1000 evenly. If Cycle Length is set at 1000, we can offset it (750) so the Task is performed at 750HR. This creates an even frequency across the Sequential Maintenance Strategy.



Revision Status

Revision	Date	Description	Author	
			Name	Position Title
1.0	23/11/2020	Public release of Manual.	Wade Reidy / Catherine Dall	Consultant / Snr Inst Designer
1.1	04/01/2021	Updates to reflect new content in Orien Support Centre	Catherine Dall	Snr Inst Designer
1.2	19/01/2021	Updates to Packaging revisions and approvals	Rhys Pichanick	Help Desk Officer
1.3	11/02/2021	Updates to Orien flowchart; screenshot updates	Catherine Dall	Snr Inst Designer
1.4	24/02/2021	Creating Series Operations moved from Maintenance Strategies to Operations Builder.	Catherine Dall	Snr Inst Designer
1.5	03/03/2021	Removed “Upcoming Feature” notification from Data Transfer.	Catherine Dall	Snr Inst Designer