Teamcenter 13.3 and Active Workspace 6.0

What's new

Teamcenter 13.3
PLM00581 - 13.3

SIEMENS

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Contents

Teamcenter quality

Visualization

1. Teamcenter and Active Workspace documentation

Changes in Teamcenter and Active Workspace documentation

Consolidated What's new in Teamcenter and Active Workspace

Earlier, *What's new in Teamcenter* and *What's new in Active Workspace* were published as separate deliverables.

Now, *What's new in Teamcenter and Active Workspace* is a single consolidated deliverable. It is available in both the Teamcenter and Active Workspace documentation sets.

Browse help by product area

In previous releases, Teamcenter and Active Workspace documentation deliverables were organized by product areas and could be accessed as a set (referred to as a *collection* or *library*).

On Support Center, these collections do not exist. Instead, there is a listing of the individual deliverables for a release.

If you are looking for a listing of deliverables by product areas (similar to the structure in the collection), see *Browse Teamcenter 13.3 help by product area* and *Browse Active Workspace 6.0 by product area*.

Documentation enhancements

Significant documentation changes for any product area are highlighted in a *Documentation enhancements* topic under the respective areas in the What's new deliverable. Significant changes could include revamped, split, consolidated, or discontinued documentation deliverables for a specific product area.

In the current release, you can see *Documentation enhancements* for the following areas:

- **Installation and deployment**
- **System administration**
- **Structure management**
- **Visualization**

Videos

Over the last several releases, conceptual and procedural videos have been added to the documentation. These videos explain concepts as well as relatively complex Teamcenter procedures and processes.

See *Teamcenter Video Gallery* and *Active Workspace video gallery* for a list of all videos in the documentation.

> Note:
>
> Videos are available only in the HTML version of the documentation.

Process workflows and graphics with hyperlinked hotspots

Some graphics in the documentation now have hotspots that lead you to additional information. You can see examples of hotspots in the following topics:

- *Smart Discovery Indexing process flow*
- *Classification indexing workflow*
- System modeling business process

Such graphics provide an overview of a subject and then lead you to the topics you may want to delve further into.

> Note:
>
> The hyperlinked hotspots in the graphics work only in the HTML version of the documentation.

2. Fundamentals

Discussing snapshots can now be done in Active Collaboration

In the past, you have been able to insert images (GIF, JPEG, JPG, and PNG) in your discussions. These images are helpful when communicating about selected parts and receiving feedback from either specific team members or persons outside of your team. For example, you can interact with your project team, management, and suppliers to review product content or obtain technical information.

Now, if you have Teamcenter lifecycle visualization installed, you can also share snapshots created by you with other users in a discussion. This enables other users and business stakeholders to discuss the view where the snapshot was taken.

You can start a discussion for a snapshot from wherever your snapshots are located in Active Workspace, for example, **MY GALLERY**, or from the **Discuss** pane.

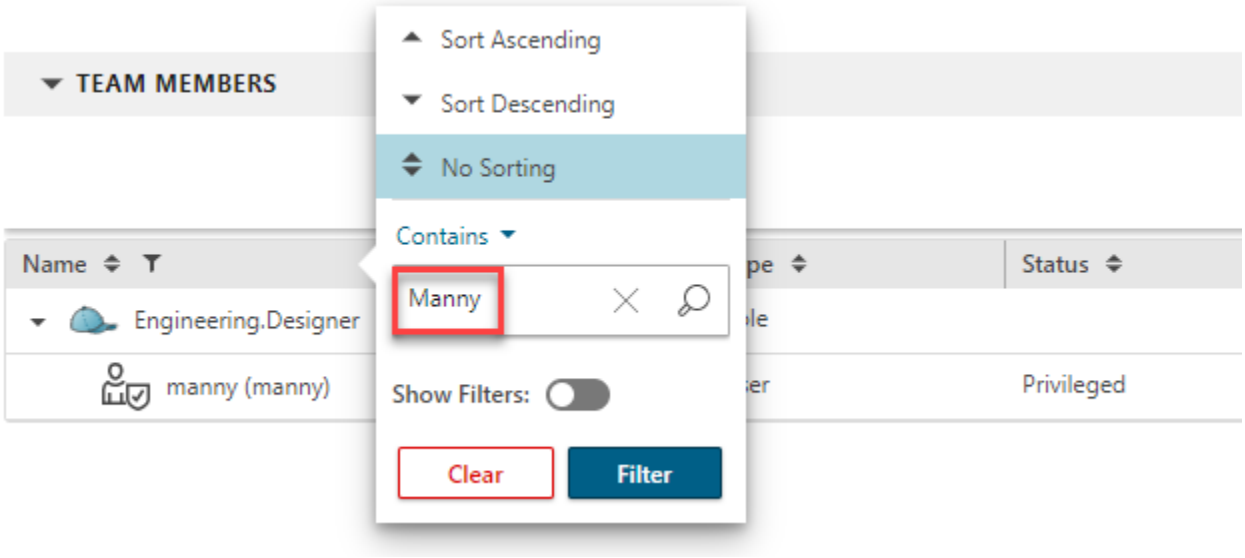
Sharing snapshots in discussions requires Teamcenter lifecycle visualization.

Create new programs and projects from existing ones and locate specific team members

In Active Workspace, you can use Projects to access your programs, which usually include cross-functional teams. This application provides you and your teams a secure place to interact with data. Your programs can have a collection of related projects under them, each of which focuses on a specific tangible output.

As a project administrator, it is now easier to create a new project or program. Based on your existing project or program, your new project or program is automatically populated with your existing team members. You also have the option of including your project data and libraries.

As a team member, you can quickly locate a specific team member in your project or program using both search and facet filtering from the **TEAM MEMBERS** section of the **Overview** tab.



As a team administrator, you can now set your current project as the default project for your team members. Users can view their default project from their profile icon.

3. Search and indexing

Index your file contents asynchronously

Previously, as an administrator, you have indexed your file contents in datasets synchronously as part of the standard object indexing flow. File indexing must complete before users can search for object metadata through Active Workspace.

Now, you can choose to index your file contents synchronously or asynchronously through the Deployment Center. Asynchronous file content indexing enables you to:

- Search for object metadata while file content indexing is in progress.
- Search for CAD file content using provided extractors for Solid Edge and NX.
- Extract and index data from proprietary files using your own custom extractor.

Determine the best file content indexing strategy for your system before installation and explore configuration options for indexing CAD files or other proprietary files.

Use delimiters in quick and advanced searches

Often times, you may want to search for multiple pieces of information. For example, you might want to search for **spindle** and **cap** in an object's properties. Now, instead of performing two separate searches, you can use delimiters to perform both searches at once using **spindle,cap** as your search criteria. Search results for both **spindle** and **cap** are displayed in the same table. Configure your system to enable or disable available delimiters.

As an administrator, learn how enabling delimiters can affect your user's search results.

Configure expanded filters for global search results

When search results are returned, you can choose the set of filters that are expanded automatically in the **Filters** panel.

In previous releases, the **Limit filters to expand** check box was cleared (and not selected) by default. As a result, the first few categories were automatically expanded in your filter list. Now, this check box is selected by default. Therefore, only the **Type** and **Category** filters expand automatically. As a user, you can personalize this directly in the **Filters** section located in the **Search Settings** panel.

As an administrator, you can configure the initial site preferences for your users. In previous releases, the **AWC_Limited_Filter_Categories_Enabled** preference was disabled by default. Now, this preference is enabled by default.

4. Installation and deployment

Documentation enhancements

Teamcenter installation documentation combines Teamcenter and Active Workspace deployment

In previous releases, Active Workspace installation was documented separately as an add-on process after Teamcenter installation.

Active Workspace Installation and the Teamcenter server installation guides for Windows and Linux have now been reorganized to integrate Active Workspace installation into the Teamcenter installation process. Descriptions of Teamcenter architecture include Active Workspace and Teamcenter components. Additionally, the overall process is organized in five phases:

- **Plan**: Download software and documentation and design the Teamcenter and Active Workspace environment.
- **Build**: Install Teamcenter and Active Workspace components in a development environment.
- **Test**: Validate the Teamcenter environment.
- **Deploy**: Deploy the development environment to a production environment, making Teamcenter with Active Workspace available to users.
- **Maintain**: Perform ongoing maintenance of the Teamcenter environment.

In addition, installation procedures are revised to better reflect installation using Deployment Center, as Teamcenter Environment Manager (TEM) is deprecated.

5. System administration

Documentation enhancements

New location for Import, Export, and Report Administration Data documentation

In previous releases, information about analyzing and exchanging administration data was located in *Managing Administration Data*.

For better findability and identification, this information is moved to *System Administration* in a new section titled *Import, Export, and Report Administration Data*. This section starts with the topic *What is administration data?*

6. Security

Optimized read privilege evaluations for Access Manager

Access Manager’s read privilege evaluation is optimized by introducing stored read expressions. These read expressions map to a given object and record its read access characteristics for any user, group, role, and session parameter (for example, session projects).

Teamcenter automatically maintains these read expressions by computing and updating them whenever objects are modified and by providing a new utility, **am_read_expression_manager**. This utility is, by default, active as a service. Depending on which mode you select, the utility updates stale read expressions, creates new read expressions, manages changes based on rule tree updates, and deletes superfluous data. Any objects without read expressions, which the system loads as part of any BOM expand (for example, search), are marked to receive read expressions generated by the **am_read_expression_manager** service when the system performs an update.

Although Access Manager produces the same result for access privilege checks regardless of whether read expressions exist, read access performance is optimized if read expressions exist.

Use HTML formatting to design the look of your company's confidentiality agreement and user consent page

In the past, you could configure both a geography entry and a custom confidentiality agreement for your users to complete prior to logging on to an Active Workspace session. The geography security measure is used if you require your users to enter their current working location for General Data Protection Regulation (GDPR) purposes. The customized confidentiality agreement is used if you require your users to agree to specific confidentiality terms. These security measures help you meet security protocols, for example, authorized data access (ADA) requirements.

You can now use HTML formatting to design the look of your company's confidentiality agreement and user consent page presented after a user logs on. These tags include heading and paragraph styles. For example, you can add color to your headings, use different font styles, and include images.

7. Capital asset lifecycle management

Associate BOM view revision assemblies to logical elements

Previously, BOM view revision (BVR) assembly elements could only be linked to their plant design elements. Now, this functionality is extended such that BVR assembly elements can also be linked to their plant logical elements.

Import enhancements

Import grouping of iModel elements into Teamcenter as a single element

Previously, the utility used to import iModel elements into Teamcenter did not support the import of template objects. Now, a template object containing a group of elements in the authoring tool can be imported into Teamcenter as a single element.

Import plant object's engineering properties

Previously, a subset of a plant element’s properties was imported into Teamcenter. Now, all properties available on model elements are imported, categorized, and displayed with their values on each plant object. These element properties are necessary for downstream detailed engineering, procurement, construction, and handover and for feeding Enterprise Asset Management (EAM) applications.

Administrators can use the **Pdm1ShowAllExternalAttributes** preference to designate whether properties with no values must be listed in the attribute table.

Import a plant's released engineering documents into Teamcenter

Previously, COMOS plant hierarchy data could be imported into Teamcenter as partitions and logical design elements. Now, the engineering documents in the released state and are associated with the plant hierarchy can be imported from the COMOS plant engineering application into Teamcenter as well. During the import process, a plant document revision is automatically created for each released document.

This document lifecycle management integration between Teamcenter and COMOS allows a user to do the following:

- Import P&ID, PFD, E&I diagrams, and other COMOS documents to Teamcenter.
- Manage the revision and lifecycle of COMOS documents inside Teamcenter.
- Manage the changes to COMOS documents inside Teamcenter.

8. Classification

Classification enhancements

- Previously, an administrator had to import advanced classification data using a command line utility. Additionally, to import BMEcat data, it had to be converted to the JSON format before the manual import.
  You can now import BMEcat XML files or JSON files directly in the user interface using the **New** > **Import Classification Data** command. You compress the data into a ZIP file, and select that file in the user interface. You are then automatically guided through the process of importing the classified data along with any supporting data. There is no need to run a utility to import this type of data, so you do not require administrator privileges for the import.

- Classification artificial intelligence (AI) helps provide class suggestions when classifying an object. The properties used as the basis to train the AI engine are listed in the **CLS_AI_Object_Properties** preference. You can now additionally specify run-time properties in this preference. Being able to specify more kinds of properties in this training helps the AI engine provide more accurate class suggestions.

- When migrating traditional basic classification classes to advanced classes, the migration utility:

  - Provides clearer utility output in tabular form.

  - Stores JSON files on your file system so you can preview or modify the classification standard taxonomy class before import.

  - Includes a dryrun mode by default that prevents you from migrating classes before you are completely satisfied with the results.

  - Adds a recursive option that migrates entire branches in one run. Previously, you could only migrate leaf classes and all their ancestors.

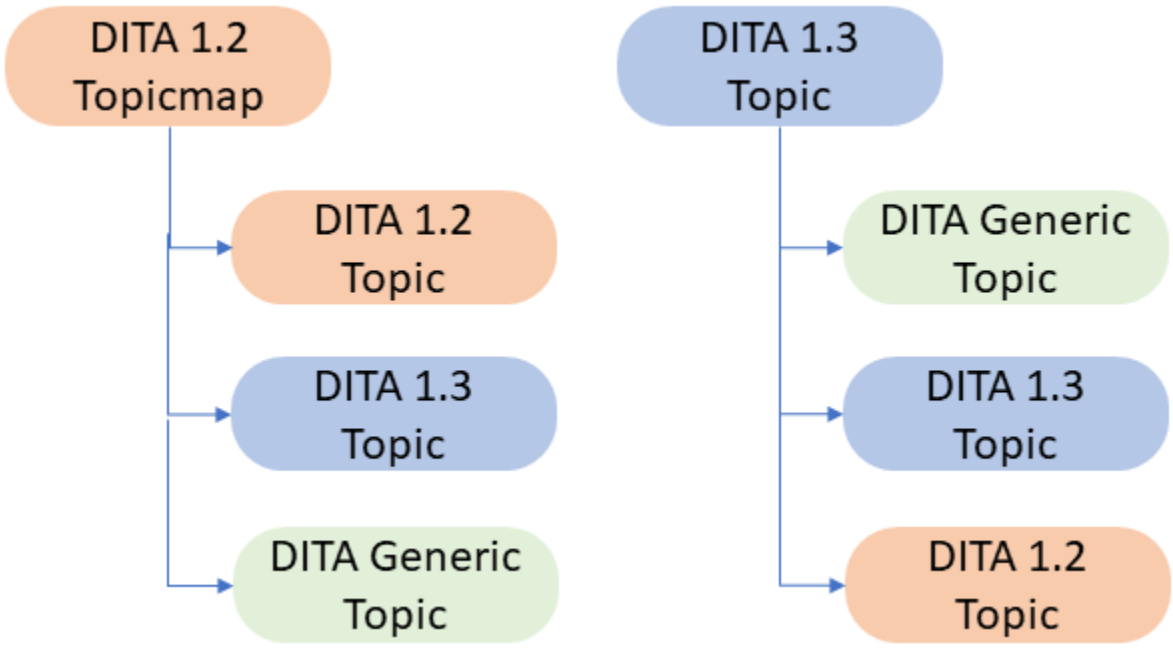
9. Content management

Content Management enhancements

Support for multiple DITA topic versions in a DITA structure

By default, a DITA topic structure can contain only the same version of a DITA topic. For example, a DITA 1.2 topicmap can contain only DITA 1.2 topic types.

Starting this release, as an administrator, you can enable multiple DITA topic versions in a DITA structure by setting the value of the **Ctm0Allow_Multiple_Version_In_DITA_Structure** preference to **true**.



Specify the reference topic type and key name when creating a child DITA topic

In Active Workspace, when you add a child DITA topic, you can now specify the reference topic type and key name if the parent and child relation is of the type **Composable** and if the child is added as a reference.

10. Data sharing

Monitor your organization's data exchange transactions

Your site may often share Teamcenter data with other sites and external organizations. Understanding how that data is being exchanged and any issues being encountered during those exchanges can help improve your organization's efficiency and workflow.

Data Exchange Transactions in Active Workspace provides a way to view and analyze your organization's history of Multi-Site and Briefcase transactions. You can filter the transactions by date, completion status, exchange type, and other criteria. With the transaction history, you can:

- Drill down through charts and graphs to quickly diagnose data exchange failures.
- Broadly view your data exchange activities to better identify patterns of failure across multiple sites.
- Analyze patterns and trends in data exchange usage to inform ongoing process improvements.

You can view a Teamcenter site's data exchange transactions at that specific site, or you can use a common central Teamcenter site to view the transactions for several of your organization's sites.

Compare Briefcase file contents to data in your Teamcenter database

When importing Teamcenter data in Briefcase files using Active Workspace, ensure the integrity of the incoming data by quickly comparing the contents of the Briefcase file to your current Teamcenter data.

When comparing Briefcase files, you can now:

- Directly open a Briefcase file in Active Workspace to preview its contents. Previously, you needed to select a Briefcase file and choose **View** > **Briefcase** to preview the contents of a Briefcase file.
- Use any of the common Search methods to locate the Briefcase files you want to compare while the **Compare Briefcases** pane is displayed. Previously, you needed to locate Briefcase files before comparing them.
- Select two Briefcases at the same time for comparison. Previously, you needed to select and add each file individually before comparing them.
- Drag and drop Briefcase files onto the **Compare Briefcases** pane to compare them.

Export multiple assemblies at once

When exporting Teamcenter data in Briefcase files, you may need to export multiple assemblies and subassemblies. Export your data more efficiently by selecting multiple assemblies in Active Workspace and exporting them in a single export. Each assembly is exported as a separate root item in the Briefcase file. Previously, you could export only a single assembly at one time.

Generate one-to-many mapping rules with Advanced Multi-Schema Exchanger

When transferring data between Teamcenter sites using different schemas, you may need to map multiple source objects to a single object at the target site. Creating the rules to return the data to the source site can be complex and error prone, as the rules must transform the data from a single object to the correct original source objects.

Advanced Multi-Schema Exchanger now automatically creates reverse mapping rules, that map objects at the remote site to their original objects at the source site.

11. Document management

Dataset enhancements in Document Management

Unlike in previous releases, now, when users create a new *document* object, a new MS Word dataset is not created automatically. Users will therefore no longer see the generic example document by default.

Miscellaneous enhancements to Document Management

Previously, when you dragged a file from your computer to Active Workspace, it was assumed that a new dataset or a document object must be created.

Now, when you do this, Active Workspace checks for an existing version of the file name. If the system finds an existing file with the same name, you can either replace the existing file or create a new one.

Additionally, when a *document* contains only a single file, the document displays the icon of the attached file type: Microsoft Word, Microsoft Excel, Microsoft PowerPoint, and Adobe PDF.

12. Integrated program and lifecycle management

Initiative Planning

A new solution to define, manage, and track campaigns and ideas

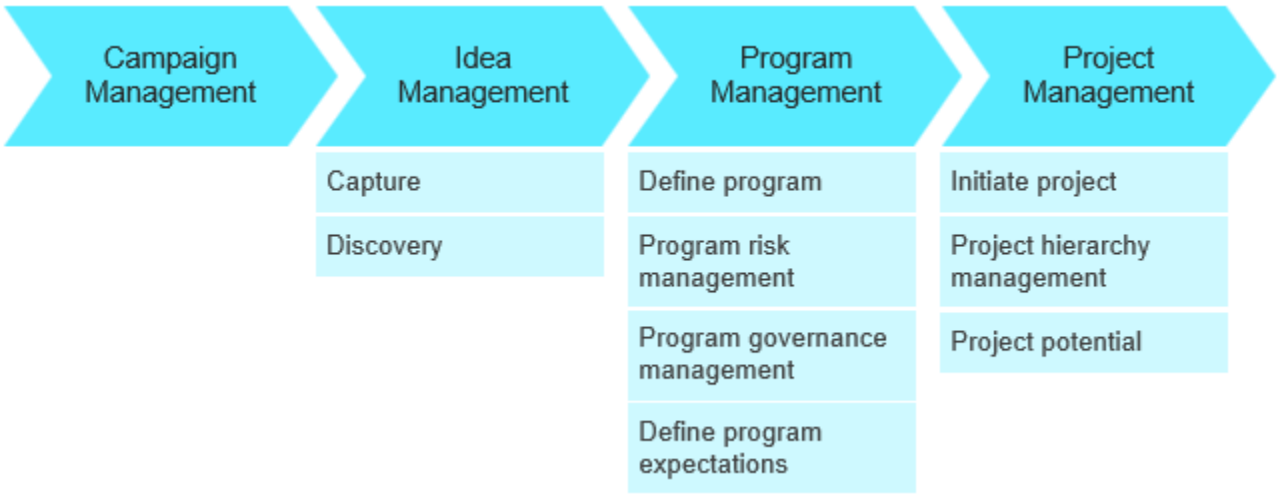
Initiative Planning uses a digital thread approach to enable speed and agility through integrating, adapting, and orchestrating relevant business processes. This solution supports the business process from capturing ideas to accepting them for realization. It allows your organization to accomplish the following:

- Realize more opportunities and speed up ideation by orchestrating project requests with campaigns.
- Close the digital gap between departments with a seamless innovation funnel to out-innovate competitors.
- Forward opportunities from research and development to accelerate commercialization of innovation.
- Manage the lifecycle of ideas and other project requests.

Initiative Lifecycle Management

A new solution to unify all relevant business processes from ideation to production

Initiative Lifecycle Management (ILM) leverages Program Planning capabilities and combines those with functional process groups that distribute work to the disciplines involved. ILM focuses on two core business processes - program management and project management.



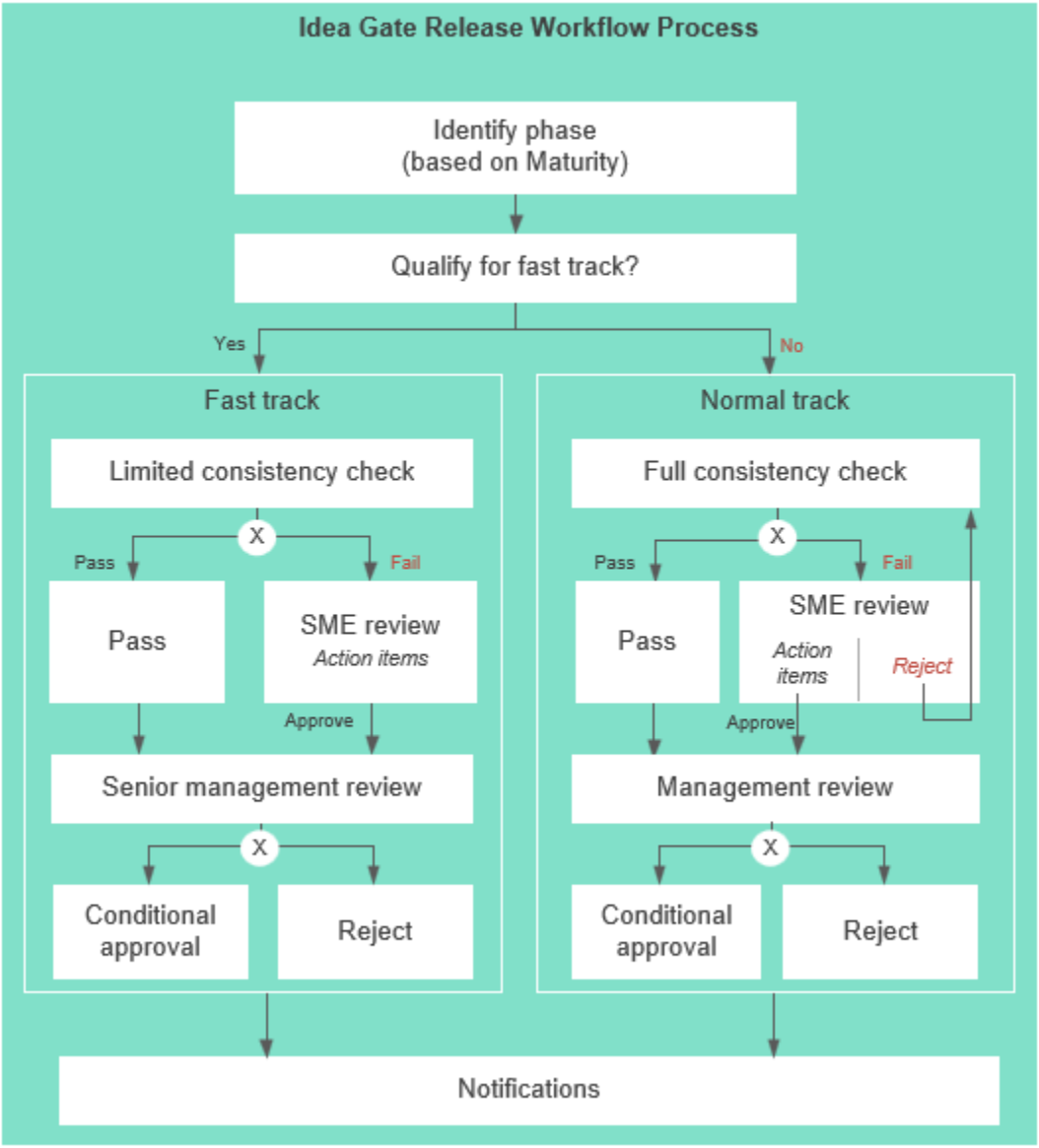
This solution allows your organization to accomplish the following:

- Manage the full program hierarchy, breaking down programs to projects and projects to process groups.
- Streamline and speed up the decision process, and define the lifecycle of programs and projects.
- Compare program expectation scores to project potentials to improve project qualification.
- Frame schedules by defining targets on the program roadmap and identifying due dates on the project.

Initiative Lifecycle Management - Consumer Packaged Goods Reference Implementation

A reference implementation of the Initiative Lifecycle Management solution for the consumer packaged goods industry

Initiative Lifecycle Management - Consumer Packaged Goods Reference Implementation (ILM - CPG Reference Implementation) leverages Program Planning capabilities and combines those with functional process groups that distribute work to the disciplines involved. In addition, the solution provides industry-specific process groups and a phase-gate approval process for *idea* objects.



This template workflow facilitates the advancement of ideas from one phase to the next and allows a user to do the following:

- Mark an idea as fast-track qualified during the *capture* and *discovery* phases. Objects that qualify for fast track automatically receive elevated attention by senior management during reviews and go through fewer consistency checks.
- Grant a *Conditional Release* status for an idea, allowing gates to be passed with open action items and avoiding delays from having to shift or reject a gate.
- Use consistency checks to verify data entry for completeness at the end of a phase, avoiding the use of forms with mandatory entry fields and increasing data quality.

13. Manufacturing process planning

Save objects as collaboration contexts with studies

You can now save loaded structures to a new collaboration context that is linked to released studies or all studies.

14. Microservice framework

Container registry for microservices on Linux

Earlier, on Linux deployments of microservices and the microservice framework, microservice container images were copied during installation to each configured microservice node. This was necessary to enable the spin-up of microservices on the node.

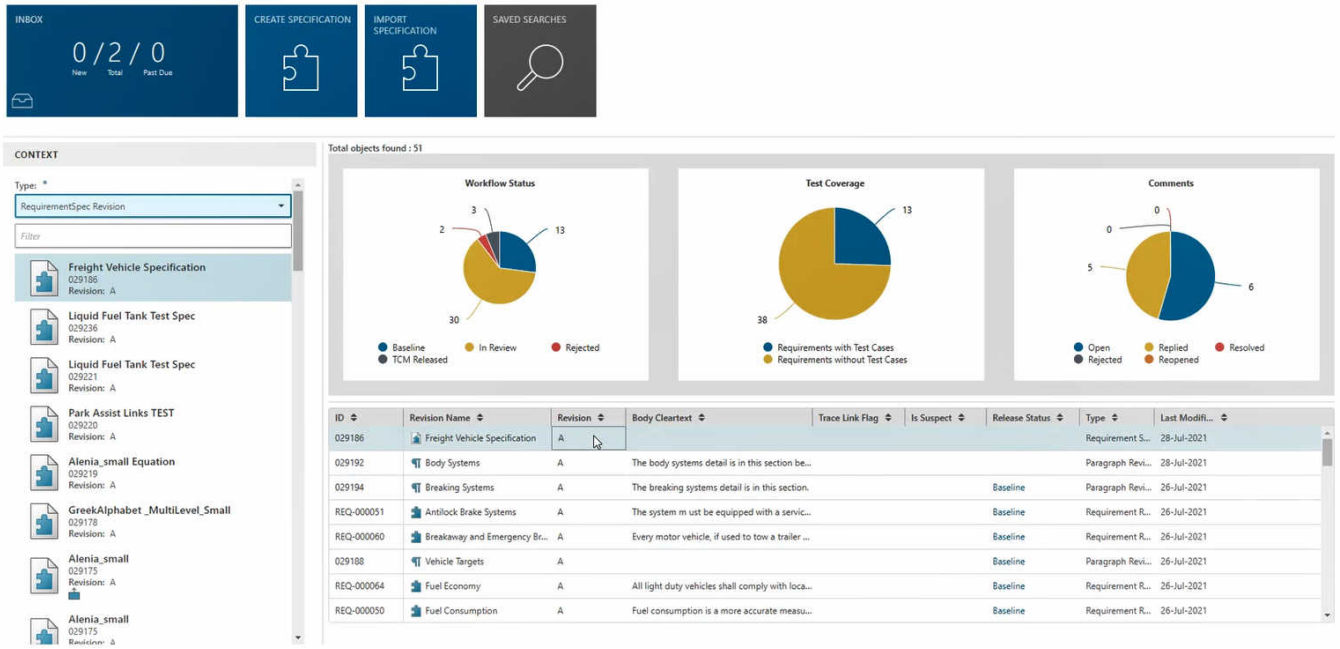
Now for microservices and microservice framework deployments on Linux, microservice container images are stored in a container registry. The Docker swarm or Kubernetes cluster automatically fetches and deploys microservice container images, which provides support for elastic scaling.

15. Model based systems engineering

Requirements management

Requirements workspace landing page

With the Requirements Manager Workspace mode enabled, you now have access to a new landing page that provides a dynamic overview of requirement workflow, test coverage, and comment status.

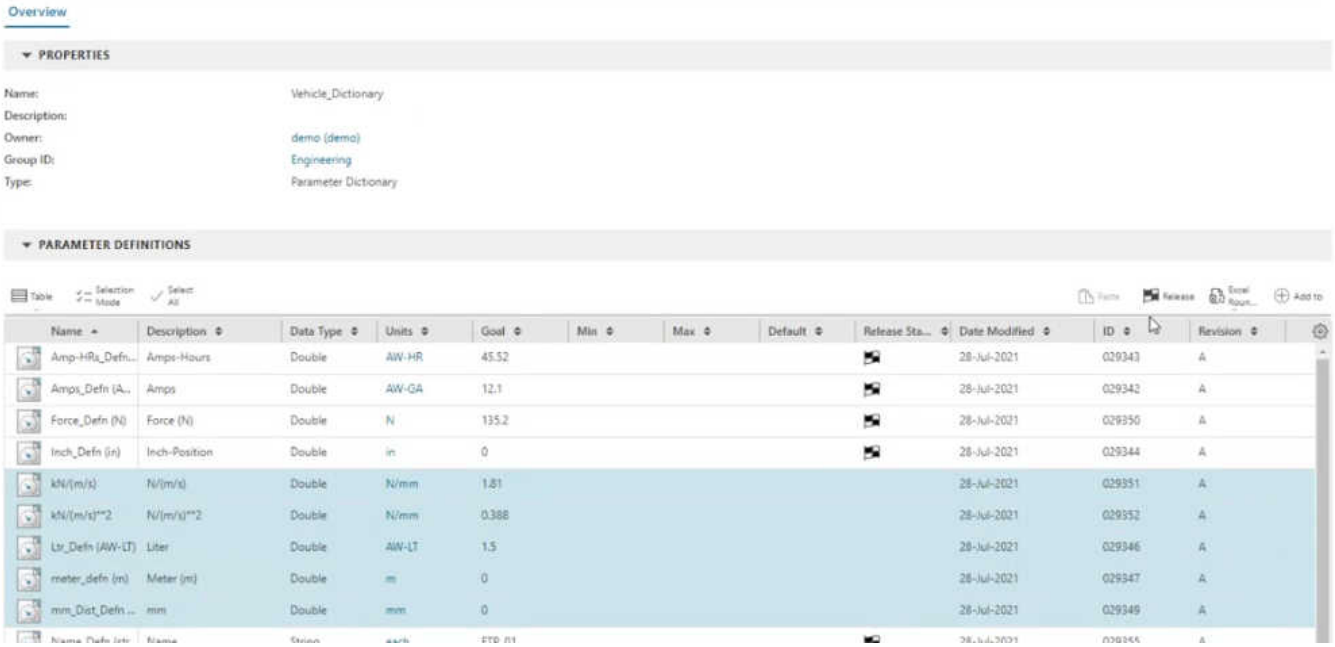


- Verify that all requirements are complete with requirements verification information directly exposed in Active Workspace.
- View requirement status at a glance with the new requirements verification summary available on the home page.
- View key requirements information more easily with improved views.

Parameter management

Parameter management efficiency enhancements

After you create or import parameter definitions, you must release them before they are available for use. Previously, you had to manually start a workflow to release a parameter definition. Now you can release one or more parameter definitions with a single click.

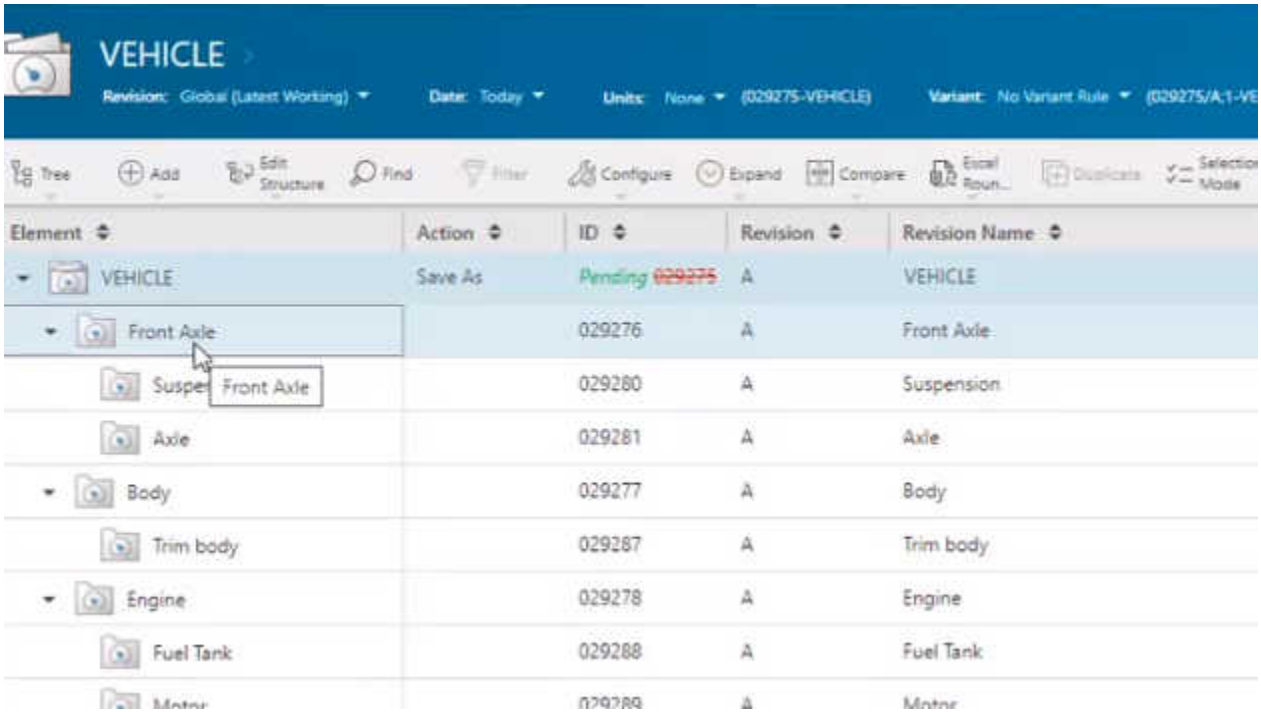


- Parameter definitions now auto-release upon import; you do not have to manually start a workflow.

- When importing parameters using Microsoft Excel, if the parameter does not have a corresponding parameter definition, Active Workspace automatically creates the parameter definition. The parameter definition name is the same as the name of the parameter.

Parameter project as a BOM structure and project migration utility

The parameter project and parameter sets are now BOM structures, which allows you the flexibility to perform structure operations on parameter projects, such as revise, freeze, and duplicate.



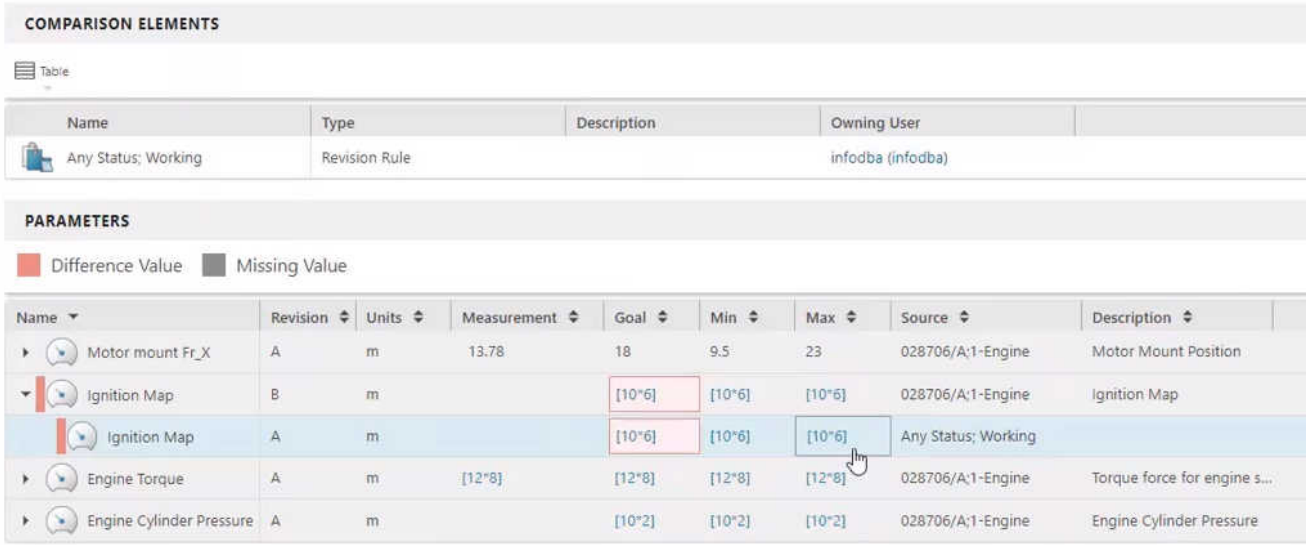
A new utility migrates the legacy parameter project and groups to the corresponding new item-based project and groups.

Multidimensional table value parameters

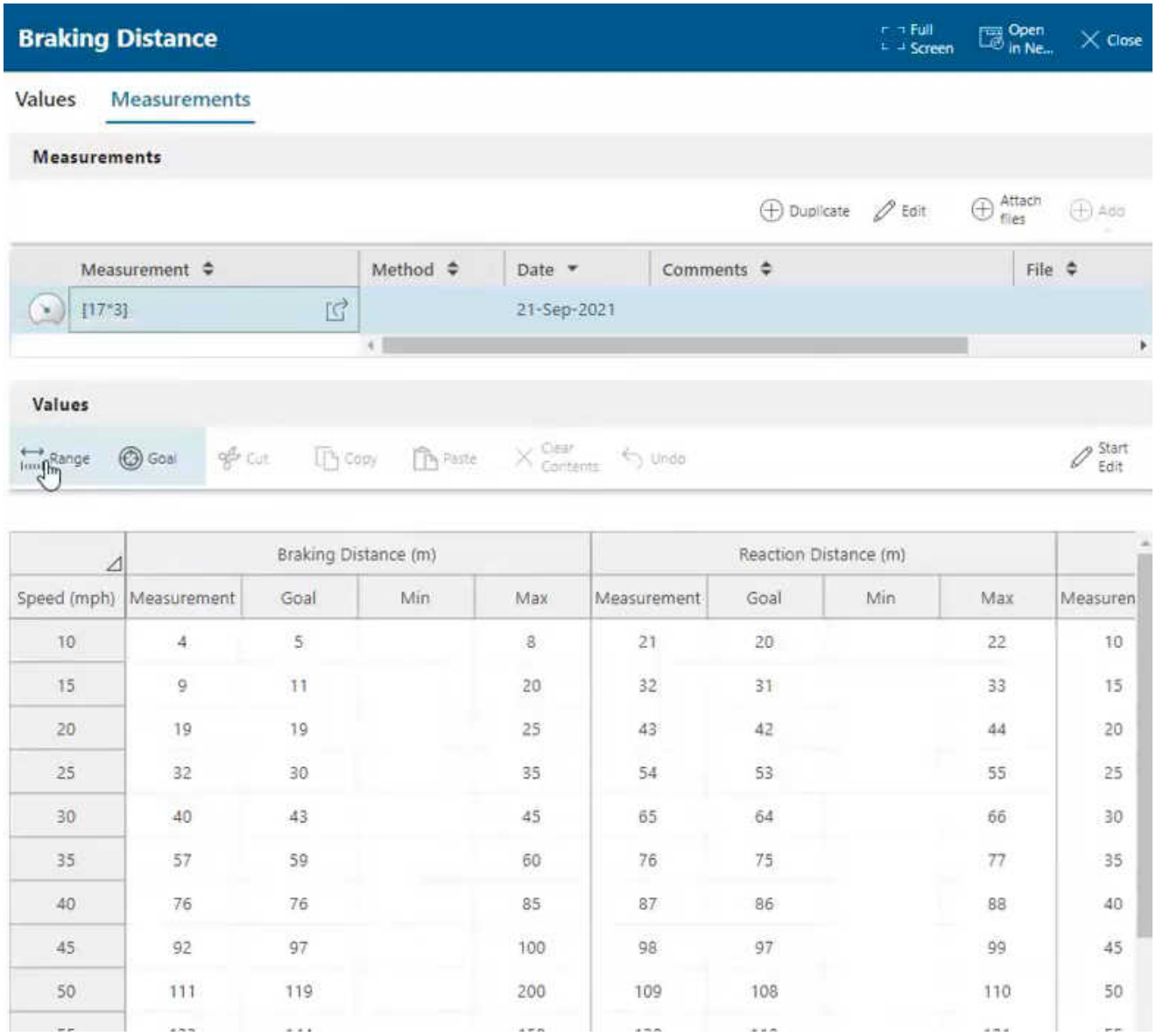
In engineering disciplines like MCAD designs or CAE analysis, parameter values are often curves and maps with multiple values, which are required for a multidomain parameter management solution. Therefore, parameter values can be a 2D or 3D curve with discrete values captured in a table. You can now author or import parameters with multidimensional table values.

Speed (mph)	Braking Distance (m)			Reaction Distance (m)			Stopping Distance (m)		
	Goal	Min	Max	Goal	Min	Max	Goal	Min	Max
10	5	1	8	20	5	22	25	9	30
15	11	2	20	31	6	33	42	10	53
20	19	3	25	42	7	44	61	11	69
25	30	4	35	53	8	55	83	12	90
30	43	5	45	64	9	66	107	13	111
35	59	6	60	75	10	77	134	14	137
40	76	7	85	86	11	88	162	15	173
45	97	8	100	97	12	99	194	16	199
50	119	9	200	108	13	110	227	17	310
55	144	10	150	119	14	121	263	18	271
60	172	11	180	130	15	132	302	19	312
65	202	12	210	141	16	143	343	20	353
70	234	13	235	152	17	154	386	21	389
75	268	14	270	163	18	165	431	22	435
80	305	15	310	174	19	176	479	23	486

- You can compare parameters with multidimensional tables values.



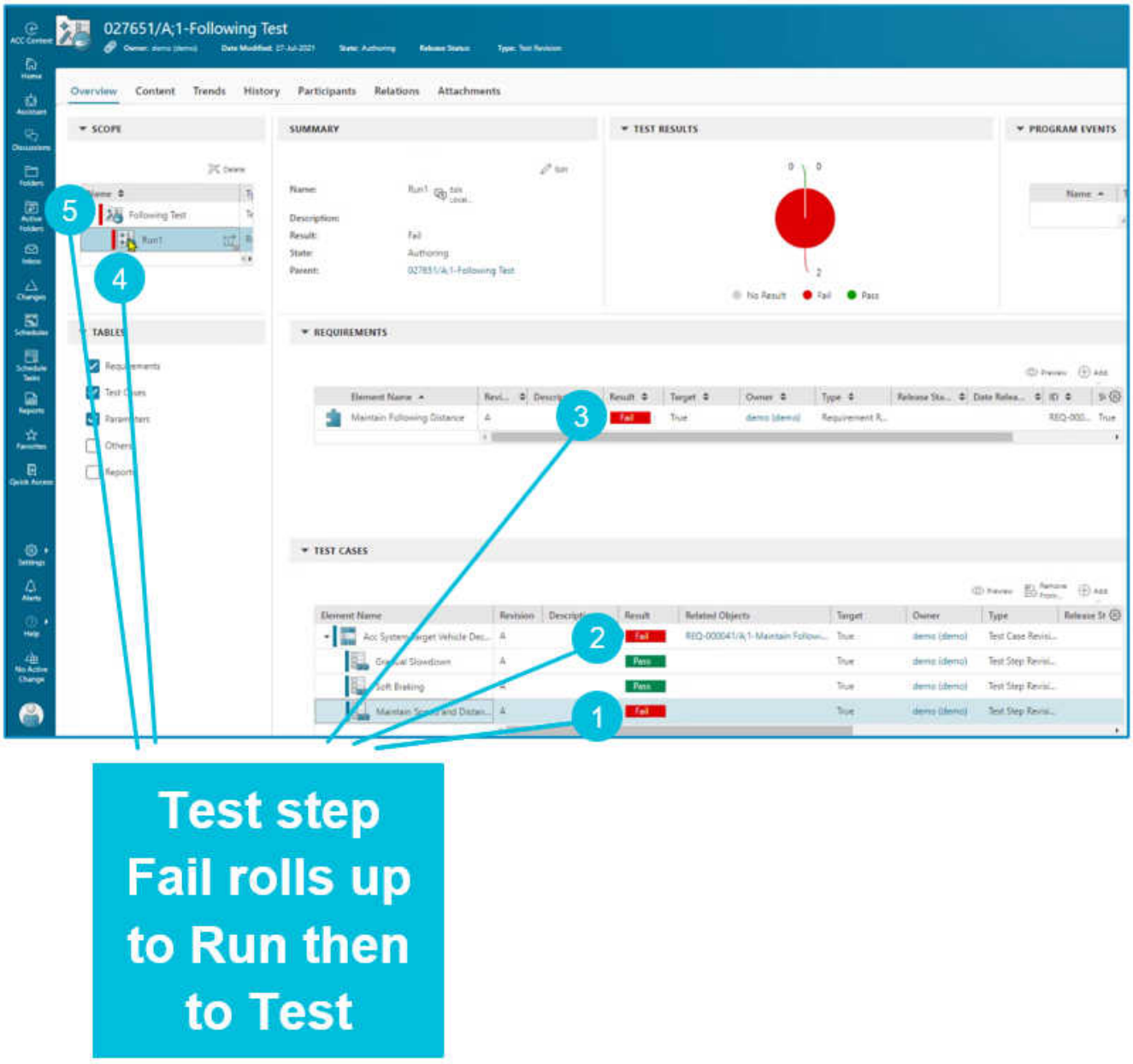
- You can now perform roundtrip editing with multidimensional table values in Microsoft Excel.
- You can now use multiple measurements with parameters.



Test management

Rollup reporting

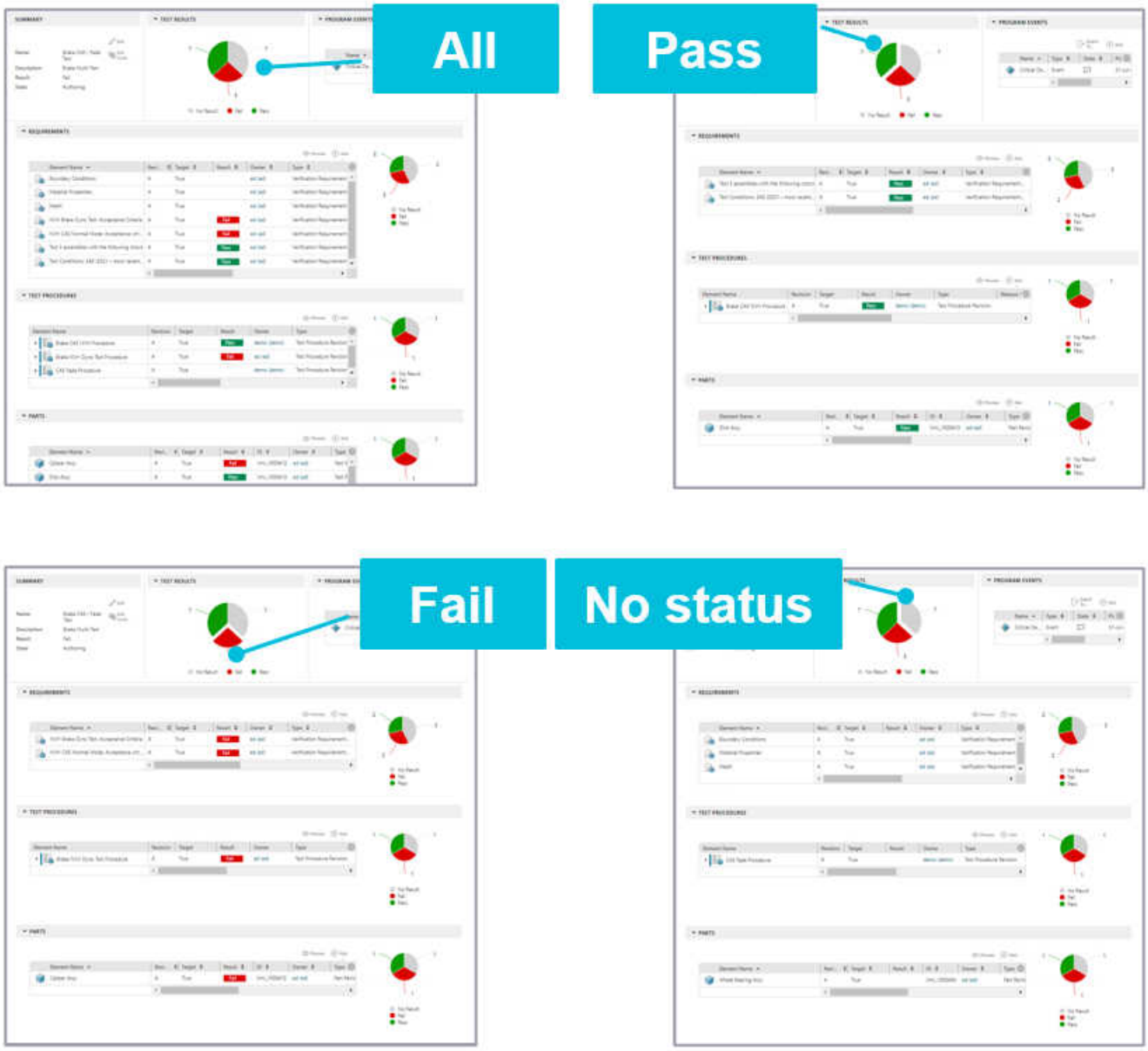
Pass and **Fail** results now propagate from child to parent in test and verification requests. This allows you to see results status at any level more quickly.



- If all child tests are a **Pass**, then the parent is set to **Pass**; if any child test is a **Fail**, then the parent is set to **Fail**.
- The measurement result's **Pass** or **Fail** propagates from the bottom-up: Parameter → Test step → Test case → Requirement → Run → Study → Test or Verification request.
- Propagation is a configurable preference that you can set. You can set test and study objects rollup behavior to **Overall** or **Latest**.
- Use recipes to control the rollup hierarchy.

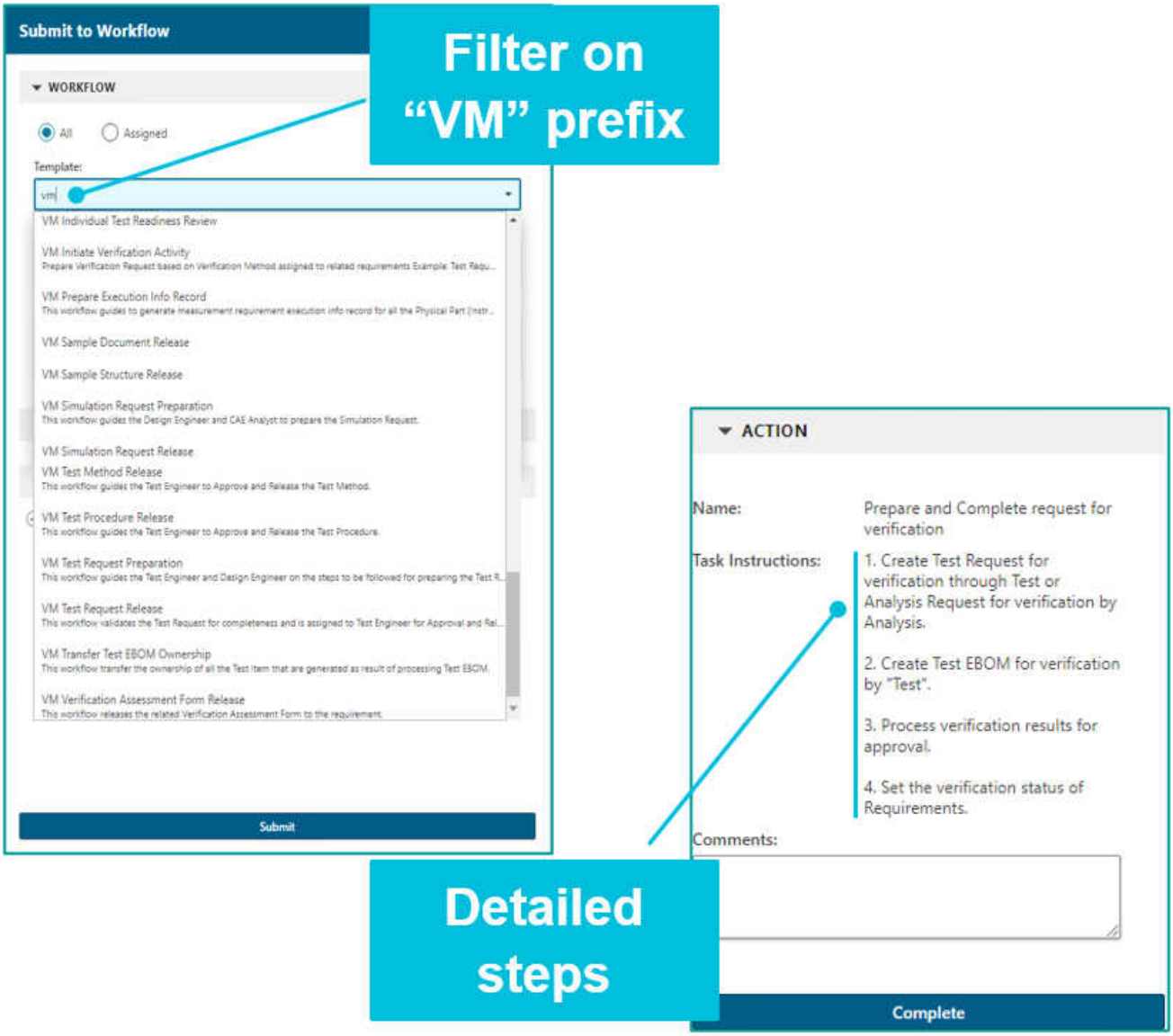
Filter report tables with a pie chart

You can now click a test status chart pie slice in the **TEST RESULTS** tab to filter the data in all tables, so that you can quickly focus on the data of interest. However, the **Parameters** table is not filtered, so that you can evaluate all the parameters for a specific test artifact.



Optimized physical testing process

Workflow names, descriptions, and instructions are improved and made consistent to provide you with better user guidance.

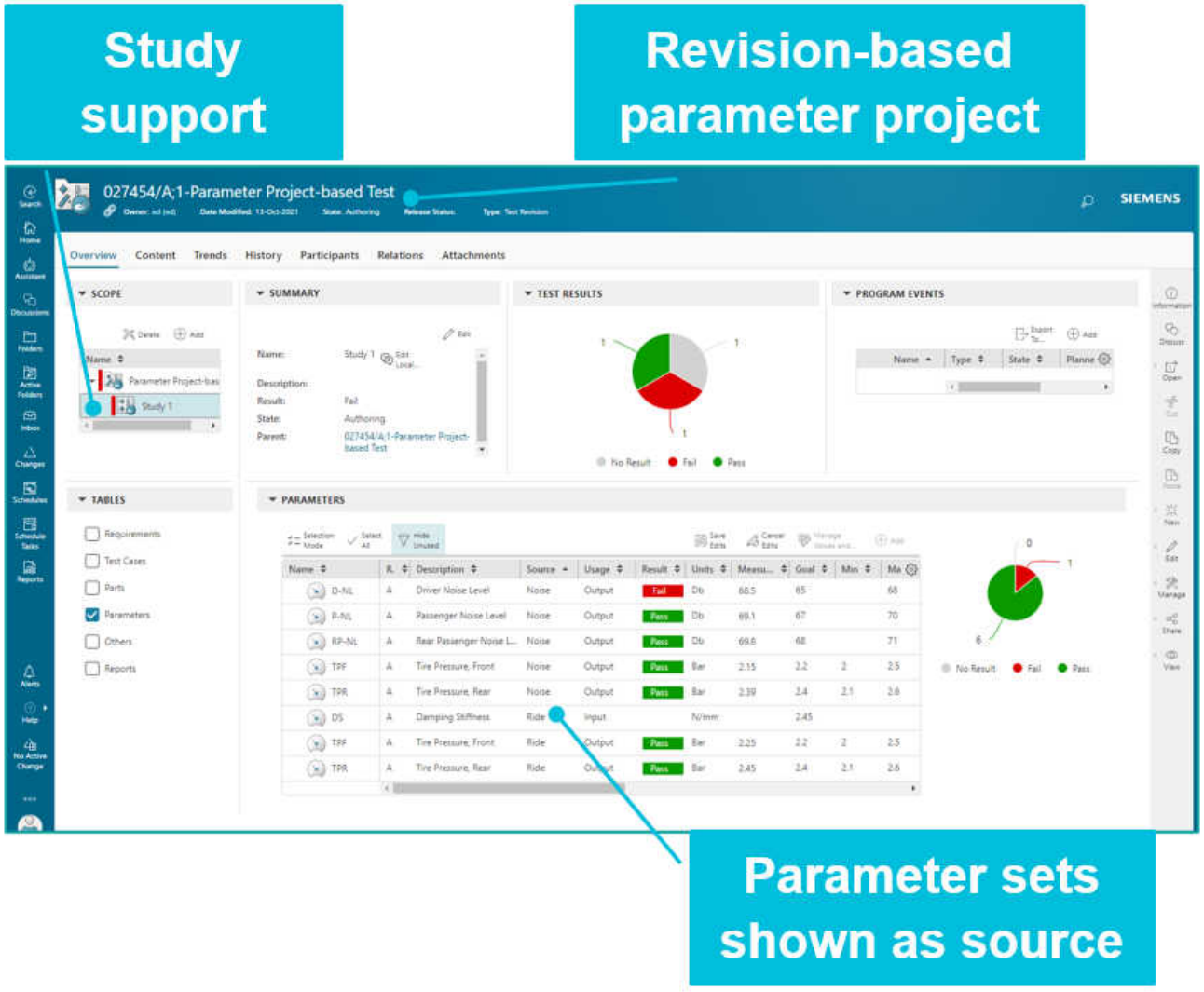


- The prefix for verification request and test workflows is updated as **VM** for Verification Management, so that you can search and locate the workflows easily.
- Provided workflows are consolidated to a total of 13, which simplifies process management. Now you can more efficiently maintain test oversight and control.
- The **Test Request Preparation** workflow is updated to allow your different teams and domains to add test procedures for both flexibility and collaboration.

Support revision-based parameter projects and multidimensional table value parameters

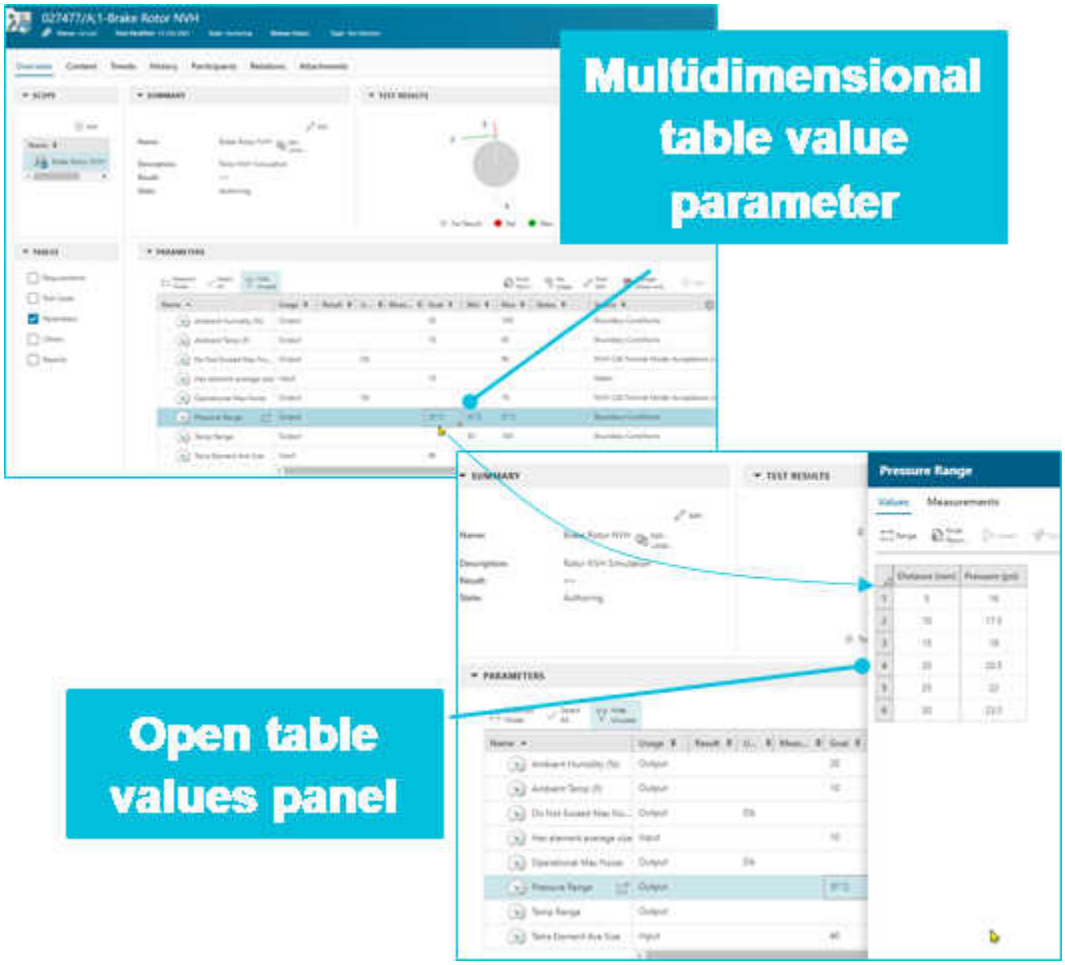
You can now create verification requests or tests from revision-based parameter projects.

The parameter set is recognized as if it is an owning requirement for the parameters and is therefore reported as the source for the parameters in the table.



Specifically, you can:

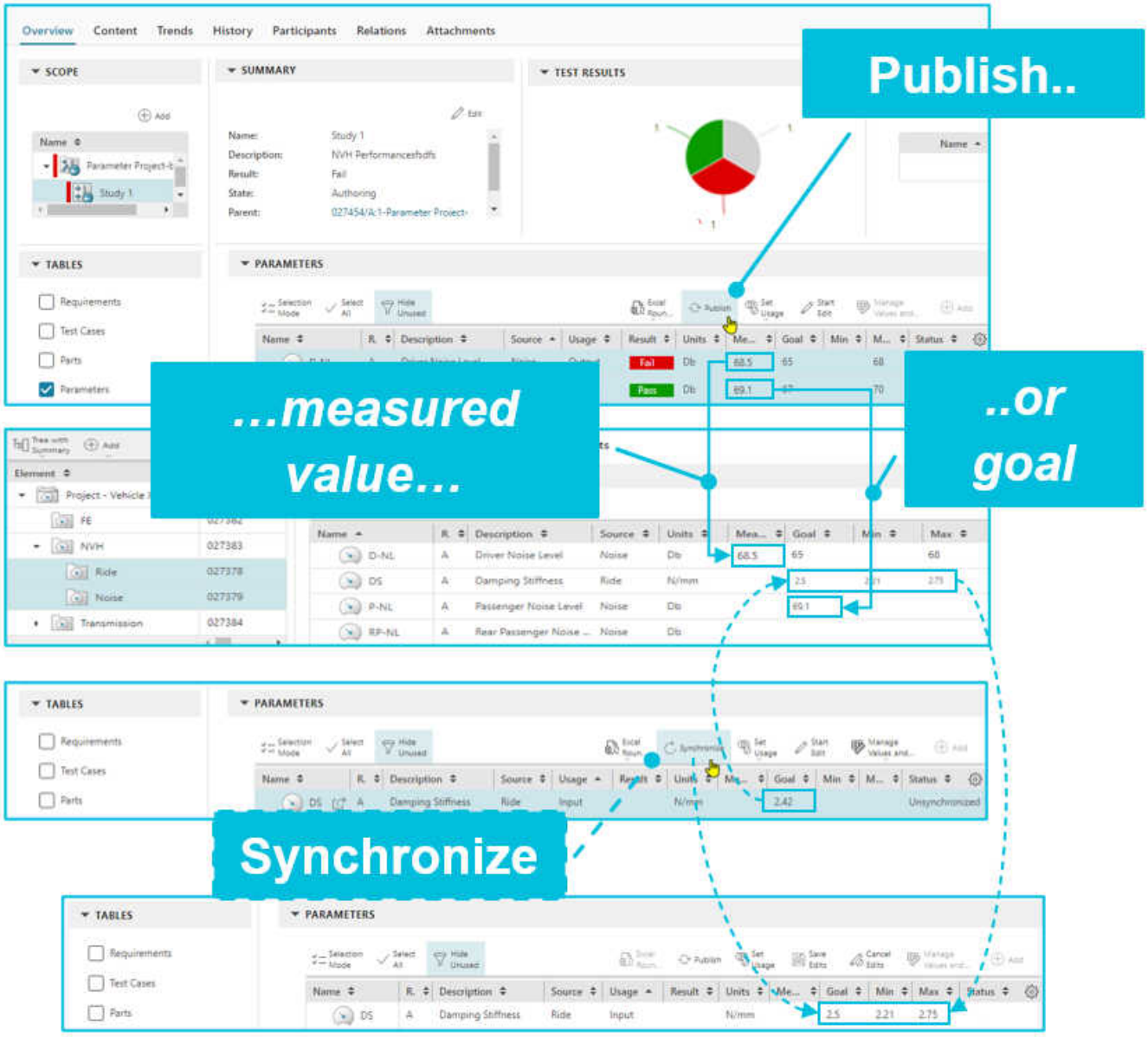
- Create studies and runs from within a parameter project.
- View and edit support for multidimensional table value parameters in tests.



- For additional details, see the *What's new* updates for **Parameter management**.

Synchronize and publish information from parameter project-based tests

The verification request system allows you to synchronize and publish parameter value information between the verification request and the source parameter. While this capability was previously available for the tests and verification requests in general, the capability now extends to verification requests created from parameter projects as well.



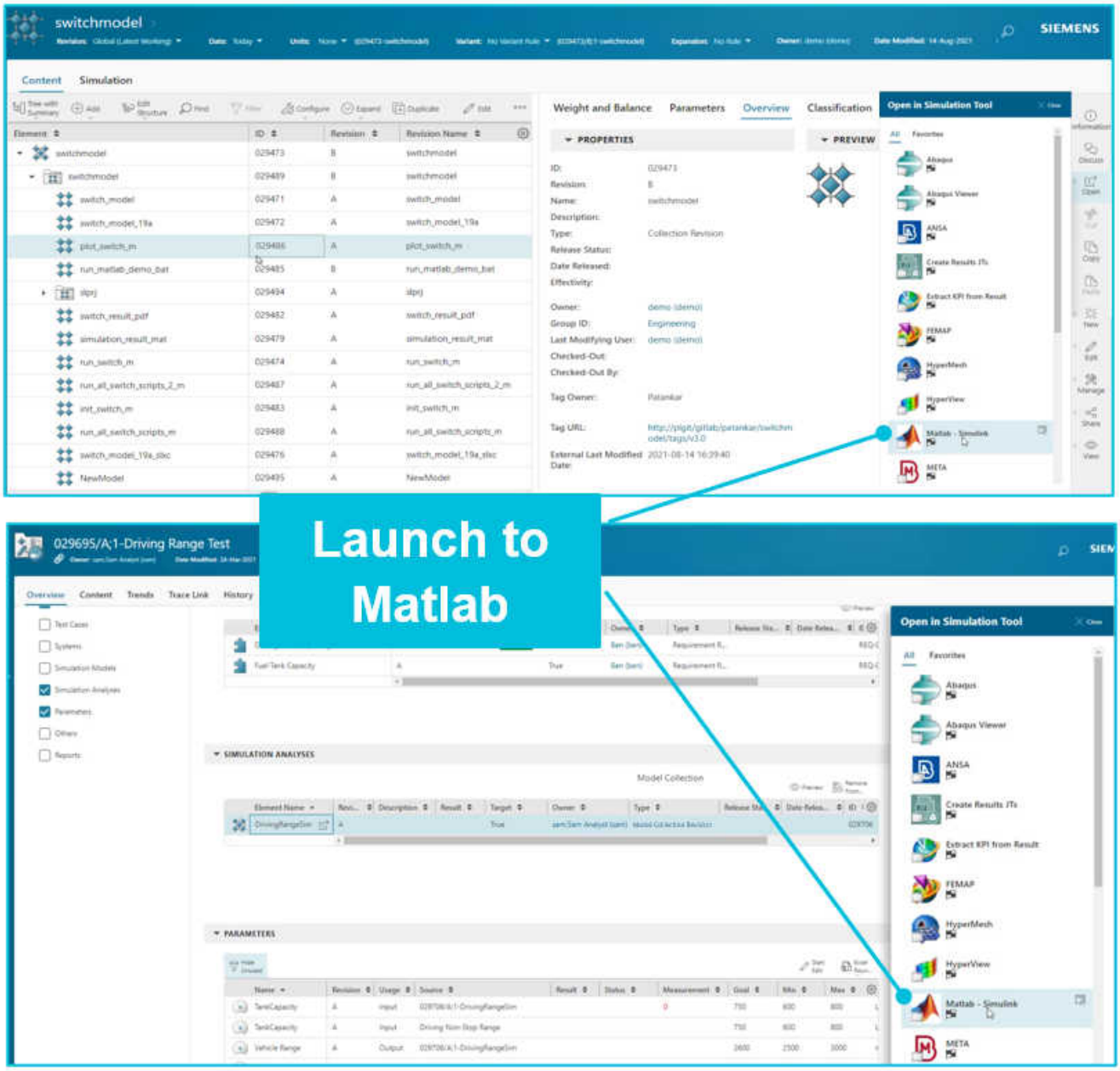
- Publish new measured values from a project-based test and then back to the source project's parameter.
- Synchronize changes to **Goal**, **Min**, or **Max** values from a project into project based tests.
- Configure the **PLE_Publish_Measurement_To_Goal** preference to publish the measured values to the source parameter's goal value field instead of the measured value field. This feature is available for verification request types and not only parameter project-based types.

Simulation-based test automation

You can now leverage the Simcenter launch framework for semi-automated testing with model collection-based 1D models. You are provided with a default configuration for Matlab simulations, which you can execute:

- Directly from the model collection.
- With a selection of the model collection in a verification request or test.

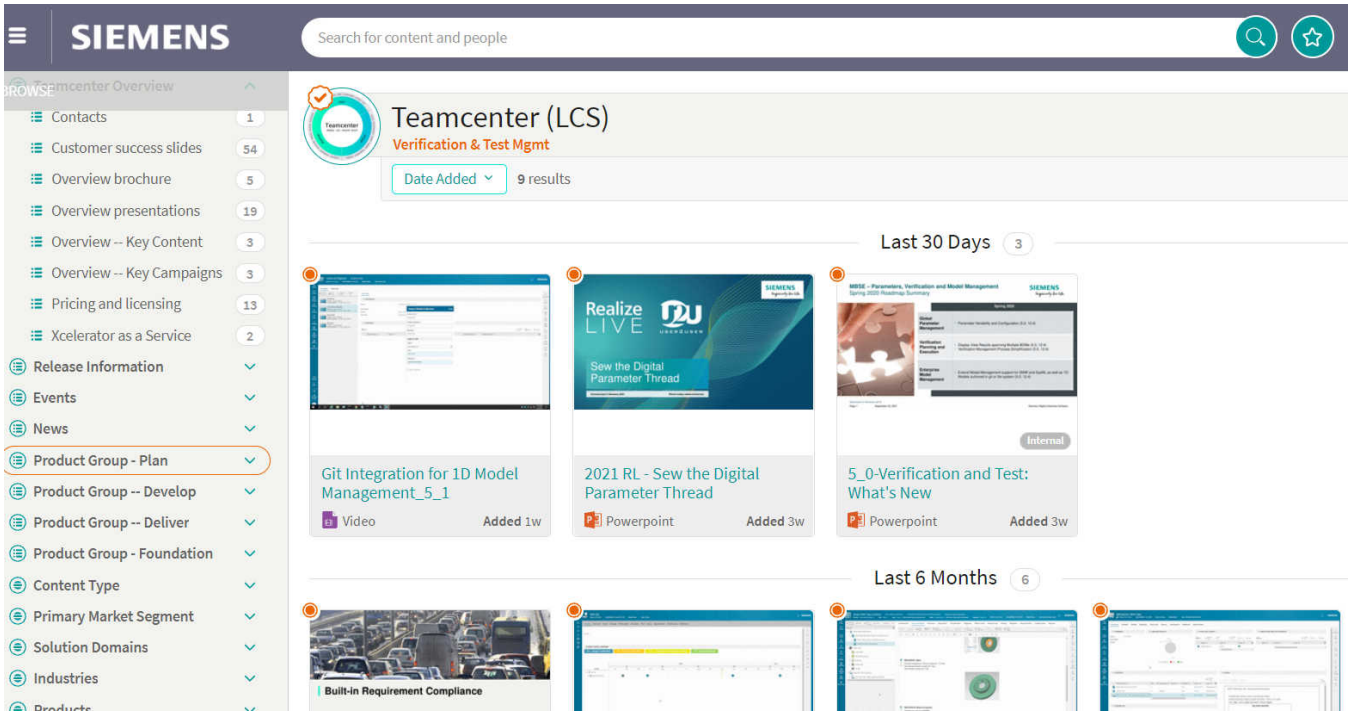
As with other simulations, you can send the driving values of the parameters from the verification request and automatically receive the resulting parameter values as well as result files during the simulation execution.



The model collection supports any kind of 1D modeling tool as well as modeling project concepts where more than one tool's models are used and executed. You can configure Matlab to support other tools' executions using the Simcenter launch framework configuration and scripting mechanism.

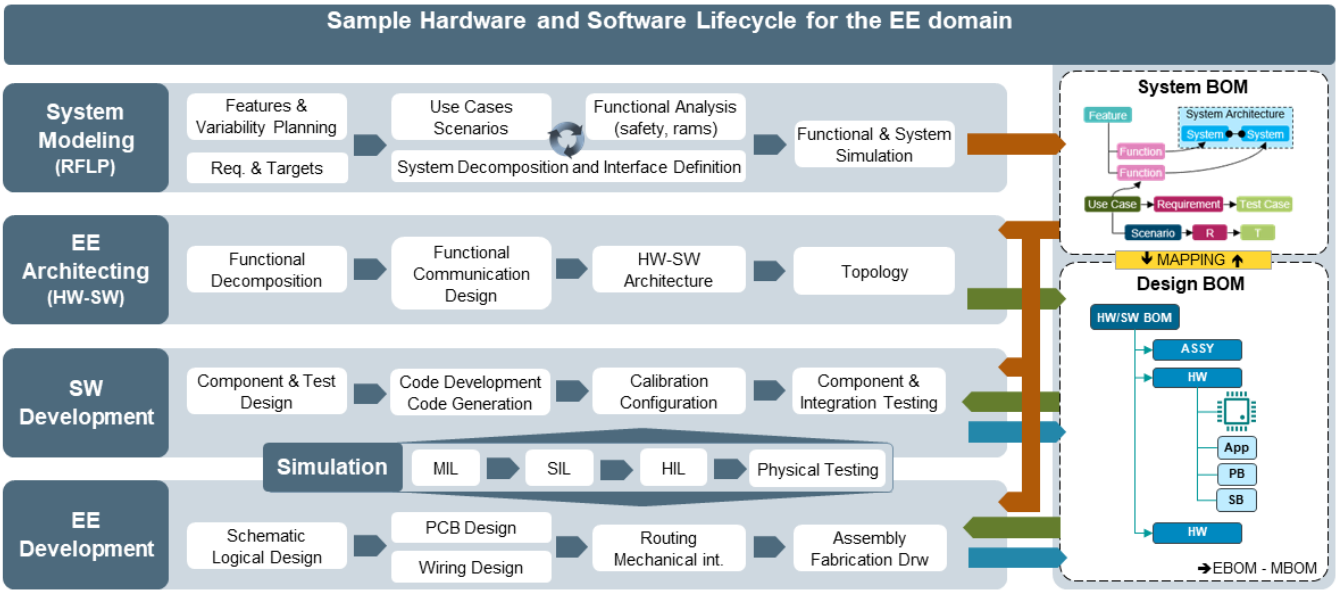
Verification and Test Management on Siemens Highspot

Don't forget to add **Verification and Test Management on Highspot** as a favorite spot for videos, presentations, and insights.



Hardware and software management

Continuity from systems to design



The MBSE solution integrates multiple domains starting with system modeling, architecture, and design.

As part of the MBSE suite of solutions, Hardware and Software management integrates the architecting phase and the software development phase with the overall systems solution.

This solution includes:

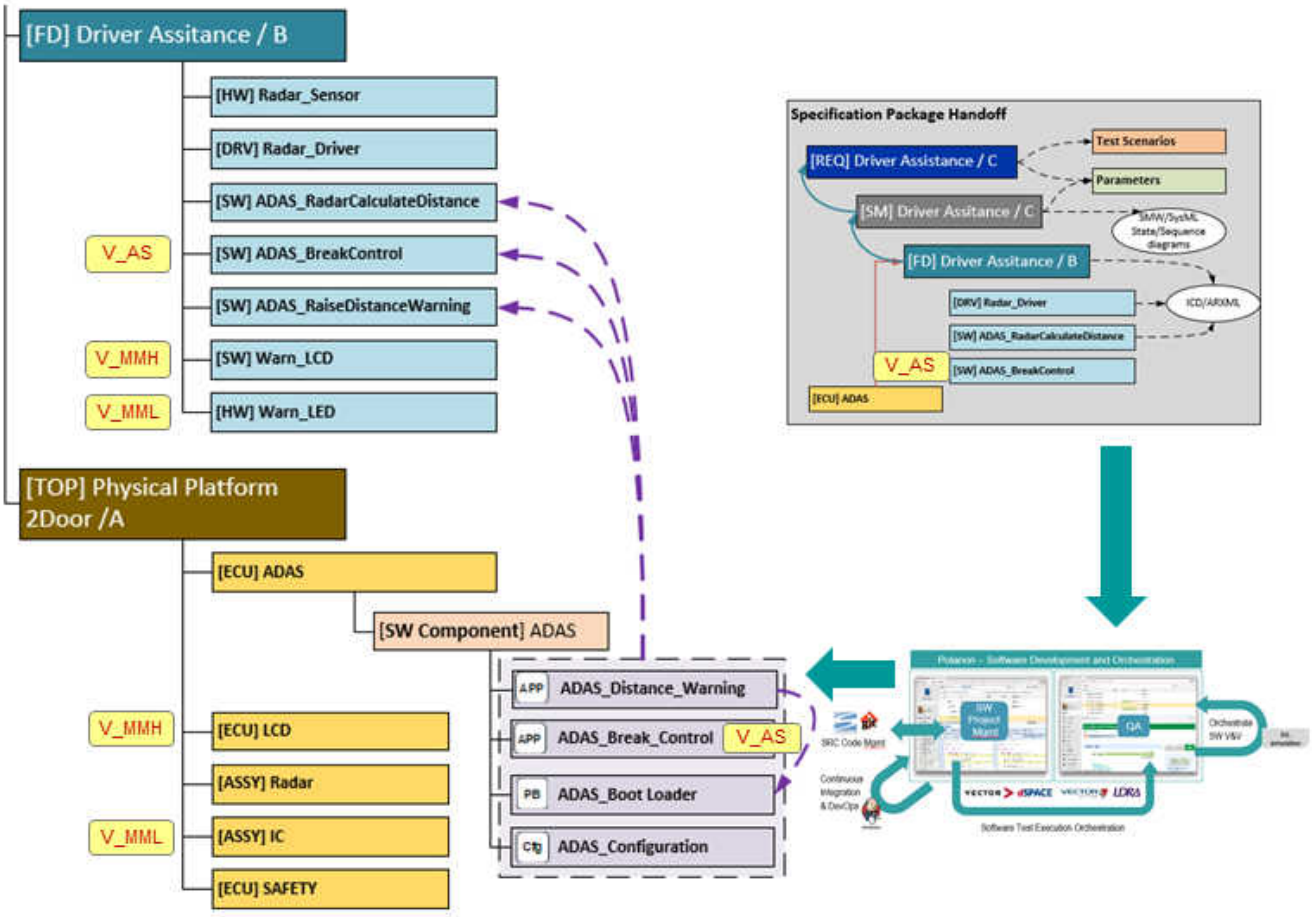
- Preparing a software specification package that consists of the hardware-software BOM and associated components. This software specification package is extracted from Teamcenter in the form of a JSON file. You can process this JSON file so that your ALM tool such as Polarion or Jira can use it.
- Uploading of the software deliverables generated by CI/CD systems such as Polarion-Jenkins or Jira-Jenkins to the appropriate software BOM in Teamcenter
- Uploading of the software deliverables using a command-line tool.

Preparing a software specification package for handoff to an ALM tool

In the software development phase of the hardware-software lifecycle, the ALM tool needs the data from Teamcenter to perform software development processes such as code development, and testing. In Teamcenter, you can prepare a software specification package that consists of the software BOM and other associated data. This package can be used by an ALM tool such as Polarion or Jira.

Using the Hardware and Software Management solution, you can generate the software specification package. APIs are available for your ALM integration to extract this package from Teamcenter in the form of a JSON file with files attachments. You can process the JSON file to import the package contents in your ALM tool.

CI/CD systems integration to upload software deliverables to BOM



The software deliverables that are generated by your CI/CD systems such as Polarion-Jenkins or Jira-Jenkins can be integrated with Teamcenter. This integration uploads the software deliverables to a Teamcenter hardware-software BOM.

After the upload, you can link the software deliverables to function designs and define and capture the compatibility between hardware-software and software-software versions.

16. Part planning

CAM machining time

You can now configure which NX CAM machining time values are passed to Teamcenter Part Planner from NX models. The machining time values data, which can now be visualized as table columns in the **Activity** view of the NC package, provides more meaningful information to third-party systems, such as shop-floor integration.

Total Time	Cutting Time	Material Cutting Time	Air Cutting Time	Secondary Time	Positioning Time
02:39:15	02:37:55	02:25:53	00:12:01	00:01:20	00:01:20
02:39:15	02:37:55	02:25:53	00:12:01	00:01:20	00:01:20
02:39:15	02:37:55	02:25:53	00:12:01	00:01:20	00:01:20
00:08:37	00:08:09	00:04:57	00:03:11	00:00:28	00:00:28
00:08:37	00:08:09	00:04:57	00:03:11	00:00:28	00:00:28
02:30:38	02:29:46	02:20:56	00:08:50	00:00:52	00:00:52
01:39:14	01:38:56	01:32:05	00:06:51	00:00:18	00:00:18
00:35:28	00:35:09	00:33:30	00:01:39	00:00:19	00:00:19
00:15:56	00:15:42	00:15:21	00:00:21	00:00:15	00:00:15

17. Product configuration

View models, groups, families, and features

From Active Workspace, you can now view the configurator data created in rich client. This includes models, groups, families, and features for a configurator context and groups, families, and features for a configurator dictionary. Moreover, you can view variant rules and variant criteria for a configurator context.

You can view this configurator data based on a specific revision rule or based on effectivity. This data is displayed as columns in a tabular format. It provides options to arrange the columns you require, sort the columns, and filter the columns.

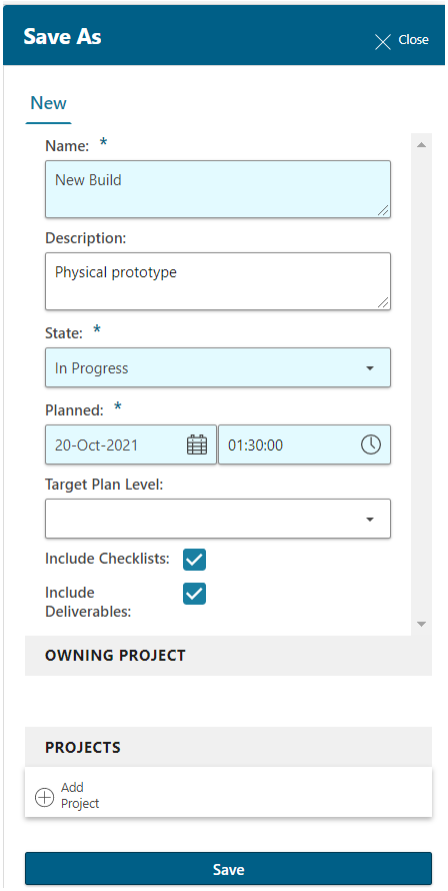
Change the rule date behavior on SVRs by using preference values

The configurator Work in Progress (WIP) objects are configured using their creation date instead of the modification date. When users apply a previously-created saved variant rule (SVR) on a configuration for which an availability rule is modified, the configuration becomes invalid. Users can now change the rule date behavior on SVRs by creating the **Cfg0RuleDateTranslation** user preference and by setting the required preference value. This preference is not available by default and it has to be created manually.

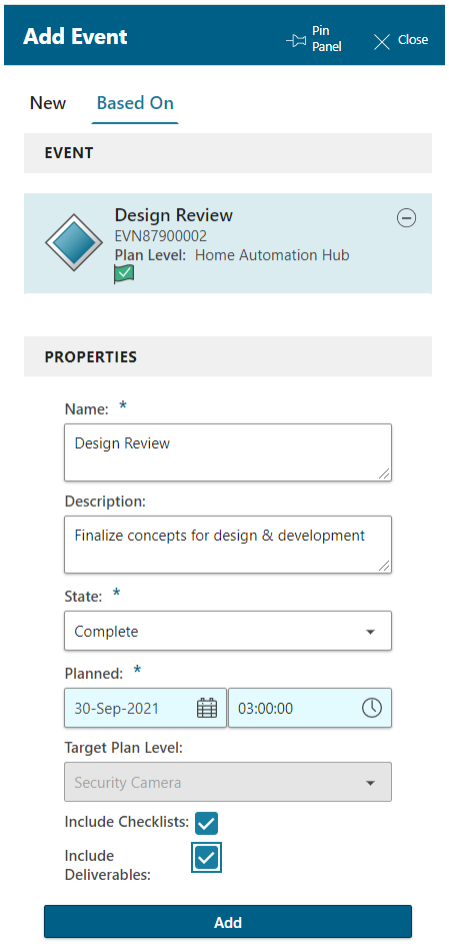
18. Program planning

Enhancements to program events

- There are now multiple ways to create a new event from an existing one.
  - You can perform a **Save As** operation and carry over the event information, deliverables, and checklists to the new event.



  - When adding a new event to a plan level of your program, you can search for the existing event to base it on, or select it from a list of your recently viewed, copied, or favorited events.



- When editing a program event, you can now select the **Keep Related Objects in sync with Planned Date** check box to automatically update the planned dates of event artifacts, such as criteria, checklists, risks, issues, and opportunities, when the planned date of the event changes.

- When adding a deliverable to an event, the due date now defaults to the planned date for the event. You can change this to a different date if necessary.

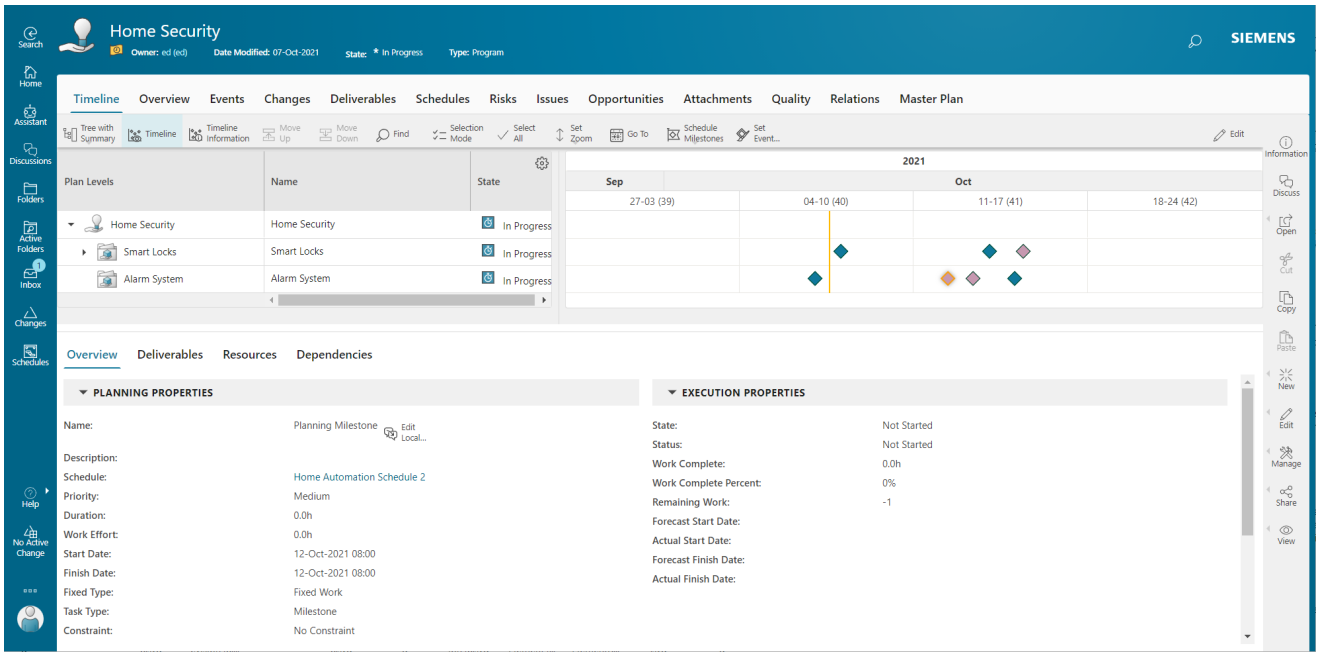
Enhancements to the program timeline

This release also introduces several enhancements to the program timeline:

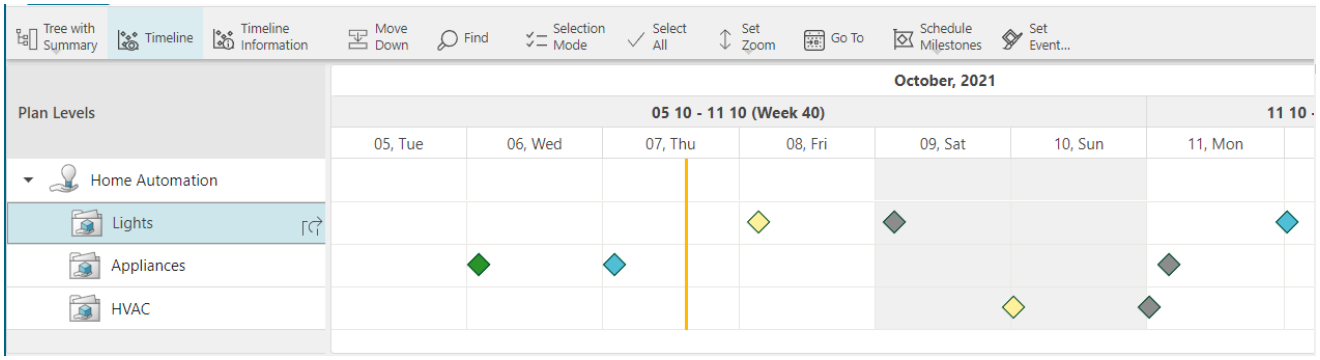
- Dragging events to a new date on the program timeline now gives you the option of moving secondary events by the same number of days as the primary event. This helps keep your dates in sync as you make adjustments to events in your program, projects, and subprojects.
  You can also adjust the planned date from the **Information Panel** or by clicking **Shift Event** in the primary toolbar.

- The program timeline can now be filtered by clicking the column headers and entering your filter criteria.

- You can now view schedule milestones on the program timeline if you have a schedule associated with one of your program plan levels. The milestones are displayed in the timeline along with the events that make up your program.



- When viewing events on the timeline, you can now set the event color based on the state of the event. This allows you to see the progress of your events without having to hover over them to see their current state.



- You can now create event-to-event dependencies between events in your program, projects, and subprojects. You also have the option to show or hide these dependencies when viewing the program timeline, or remove the dependencies if necessary.

- The program timeline now automatically scrolls and highlights newly added events when they have a planned date that is beyond the date range displayed on the timeline.

- Active Workspace can now hide some of the event information on the program timeline to prevent overlapping of text.

19. Reporting

Display the table tile on My Dashboard

My Dashboard is a personalized list of your favorite reports. You can create active summary or active item reports in Active Workspace and add them to **My Dashboard**.

You can now display the table tile on **My Dashboard** for active summary and active item reports. From the table tile, you can directly open an object or sort, hide, and freeze columns. Additionally, you can select multiple objects from the table tile, copy them, add them to **My Changes**, or perform some other similar action.

20. Resource management

Tooling component sequence number enhancement

Now you can navigate a tooling assembly more easily, because Resource Manager assigns the same sequence number to each component when you add multiple identical components to the assembly, for example cutting inserts. Having the same sequence number helps make the assembly easier to navigate by packing the components into a single node in the resource diagram.

Enhanced NX tool assembly support

After you create a tool assembly, Resource Manager assists you to create or update the NX tool assembly part file. The option **Create NX Tool Assembly** sets CAM-related tool information required by the machine tool builder in NX so this tool can later be used for tool path simulation.

Three additional options in Resource Manager in Active Workspace 6.0 provide information for the associated NX CAM tooling assembly.

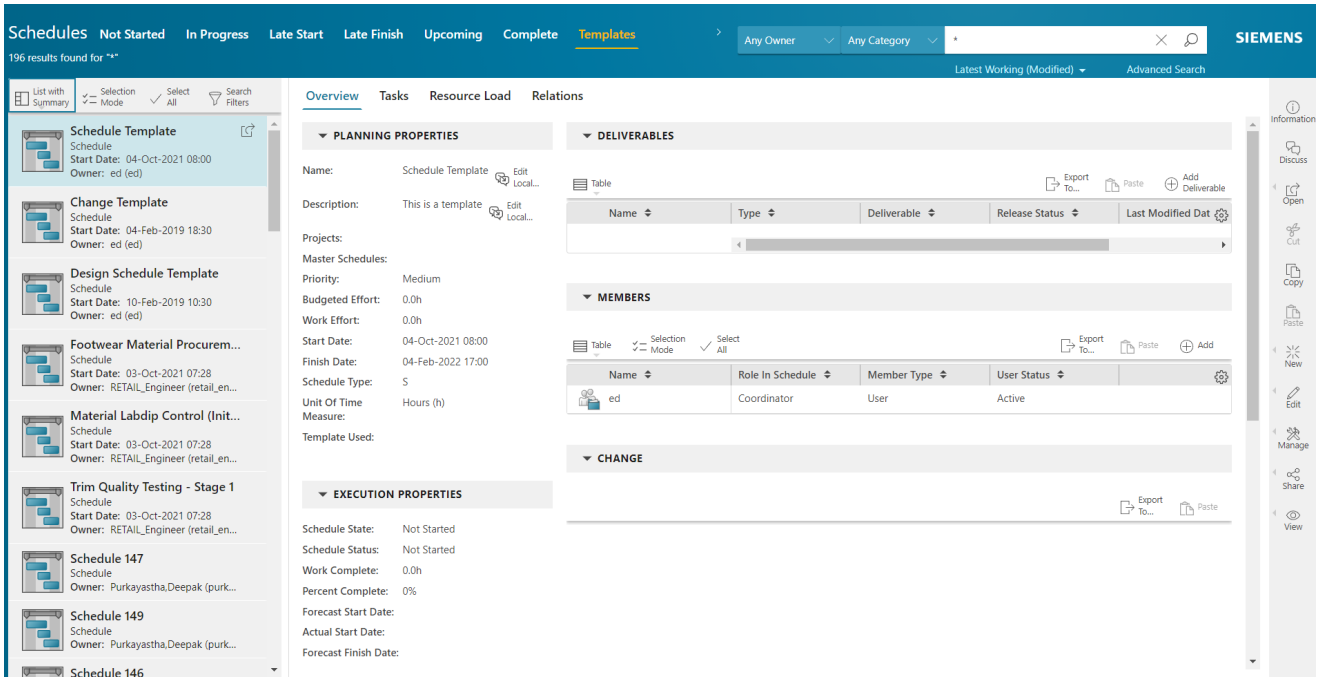
- **Extract Holder Data**—Calculate simplified holder parameters based on the 3D tool geometry.
- **Create Setup Sheets**—Create a drawing sheet using NX templates and include the 3D graphics, the list of components, and classification attribute values.
- **Check NX CAM Tool Retrieve**—Check whether the tool parameters are correct so the tool can be retrieved in NX CAM.

21. Schedule management

General Schedule Manager enhancements

This release introduces several enhancements to Schedule Manager:

- Earlier, when you wanted to view one of your schedule templates, you had to search for it. Now, you can view your schedule templates and other templates you have permission to view by clicking the **SCHEDULES** tile on your home page and then clicking the **Templates** tab.

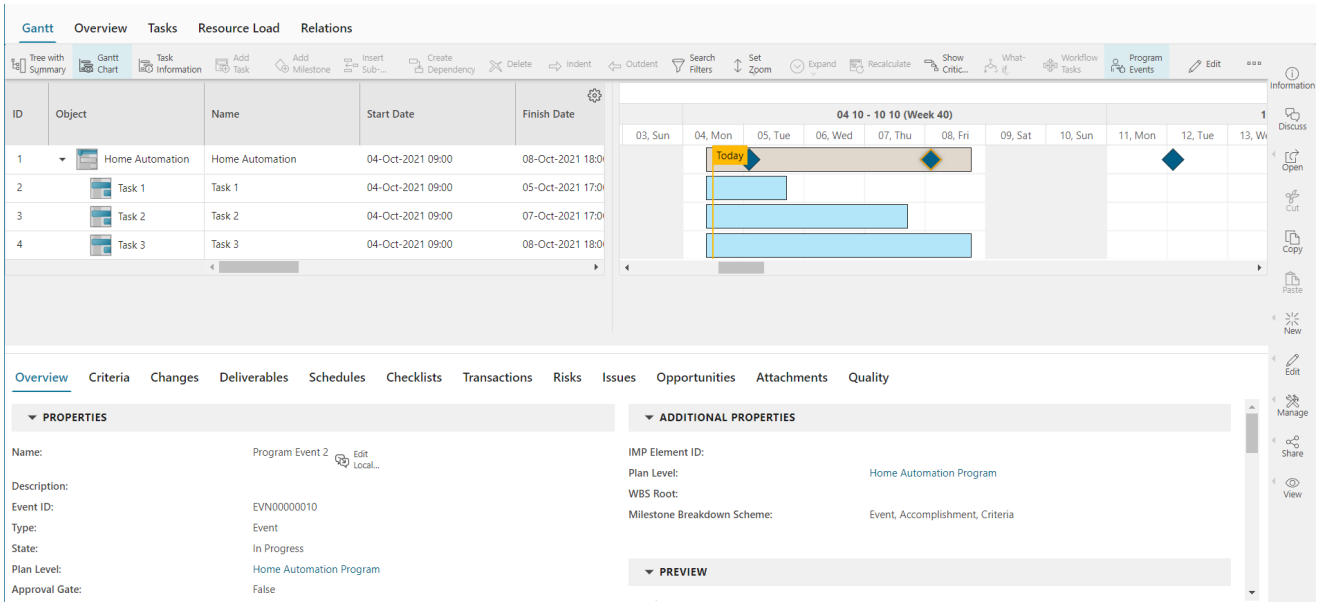


- Previously, when you changed a schedule task's **Start Date**, you also had to change the **Finish Date** if you wanted it to remain in sync. Now, when you change the start date, the finish date is automatically updated based on the new date. For example, if you move your task's start date forward by two days and save your edits, the finish date also moves forward by two days.

Enhancements to the Schedule Manager Gantt view

- The schedule Gantt view can now be filtered by clicking the column headers and entering your filter criteria. The type of data displayed in the column determines the type of filtering possible.

- You can now view program events in the Gantt chart when you open a schedule that is associated with one of your programs. The program events are displayed in the Gantt chart along with the other objects that make up your schedule.



- Timesheet entries for work done on schedule tasks are now logged in hours instead of minutes.

22. Simulation process and data management

Create 1D model and 1D analysis objects for simulation

One-dimensional computer-aided engineering (1D CAE) modeling is used to explore different concepts at the early stages of the design. These 1D models are precursors to the detailed 3D CAE models in the entire design cycle. This is usually done even before any CAD geometry is available. The parameters for these models can be refined, and the details can be added later when they are available.

Previously, only the Simcenter Flomaster integration was available in Active Workspace for 1D modeling.

Simulation analysts can now create CAE 1D Model and CAE 1D Analysis revisions in Active Workspace to capture model and analysis data for integrations such as Simcenter Amesim or Simcenter System Architect.

Analysts can launch and execute Simcenter Amesim or Simcenter System Architect using default simulation tool integrations.

In addition, you can search for the input and output parameters for 1D model revisions by using the **Advanced Search** option.

Mark model and analysis revisions as up-to-date for changes to attachments and related revisions

In a complex product development environment, different analysts perform different tasks in the overall analysis. For example, abstractions are delivered by one group, models are built by another group, and load cases are defined by a different group. In such scenarios, it becomes critical to know when the analysis data, possibly with multiple dependencies, is out of date. The analyst can then act on it and ensure that the analysis is built with the correct set of data to deliver accurate results.

When analysts complete their work, they have to mark the model revisions and analysis revisions they worked upon as up-to-date for changes to attachments and related revisions. When they open a model or an analysis revision, the header section displays the CAE status as **Up-to-date** or **Out-of-date**. If the status is **Out-of-date**, analysts can hover over the status to view a tooltip. The tooltip provides the reason for the revision being out of date, such as, the dependent item revision has a newer revision.

Analysts can now:

- Open and search for multiple model or analysis revisions and mark them as up-to-date.
- Execute the simulation dashboard and mark model and analysis revisions as up-to-date

- Release CAE objects using a workflow and mark them as up-to-date.
  Analysts can do this if the simulation administrator has configured a workflow process using the **CAE-mark-up-to-date** action handler. This allows the system to automatically mark model and analysis revisions as up-to-date when analysts release them through a workflow process.

View the traceability of simulation data

When you execute the simulation processes and capture artifacts such as abstractions, models, materials, load cases, solver input decks, results, and Teamcenter reports, they are stored in different business objects with relationships. To view the traceability of simulation data, you can access the **Simulation** tab to view related objects in a table format or the **Relations** tab to view them in a graphical format.

The **Relations** tab provides a simulation-specific view in the context of CAE objects. In addition, you can apply filters to both objects and relationships to view only relevant information and to navigate through related CAE objects and view their pedigree.

Usability enhancements

The usability enhancements in this release are as follows:

- Analysts can now access the **Subscription** tile to view all the past and current alerts and logs generated during simulation workflows.
  The **Subscription** tile is enabled by default in the **Analyst** workspace. However, the **Subscription** feature must be installed on the Enterprise and Client tiers to enable subscriptions.

- The **Simulation Tool** panel now automatically adapts to longer simulation tool names to improve readability. Previously, the names were truncated in the panel.

- You can now access the **Open in Simulation** command directly from the primary toolbar in the **Analyst** workspace. Previously, users had to use the **Open** command on the primary toolbar and then access the **Open in Simulation** command.

- CAE relations display names have been modified such that they are now consistent across the system.

Old relationship name	New relationship name
CAE Criteria Relationship	CAE Criteria
CAE Defining Relationship	CAE Defining
CAE Include Relationship	CAE Include
CAE Parameter Relationship	CAE Parameter
CAE Results Relationship	CAE Results
CAE Source Relationship	CAE Source
CAE Target Relationship	CAE Target

Old relationship name	New relationship name
CAE Deck Relationship	CAE Deck
CAE Master Relationship	CAE Master
CAE Structure Map Filter Relation	CAE Structure Map Filter
CAE Generated By relationship	CAE Generated By
CAE Target Occurrence Relationship	CAE Target Occurrence

23. Structure management

Performance considerations while applying SVRs to structures

For structures that are configured using Product Configurator variants, the system performance can be improved for BOM solves by setting the **Cfg0CompletenessEvalEnabled** site preference to **True**. This preference is not available by default and must be created.

Setting this preference to **True** has other effects. The previously created SVRs become outdated if some configurator rules, families, or features are changed. In such cases, they must be revalidated manually to get accurate BOM solve results.

Structure management on Active Workspace

Default column arrangement based on the root type

Earlier, when you opened a structure, a single type of column arrangement was applied by default regardless of the type of structure. You then needed to correct the column arrangement manually.

Now, the column arrangement applied by default is based on the type of the root element in the structure. For example, if the root type is design, you see the columns that are specific to design elements. If the root type is part, you see columns specific to part elements. The system saves your last applied column arrangement for each root type. When using a split view, if the structures on either side have a different root type, they can have different column arrangements.

Arrange columns separately in split view

Earlier, a column arrangement that you specified in the split view was applied to both views.

Now, you can set a different column arrangement for each split view. A change in one view does not affect the other view.

Import a structure from Microsoft Excel

Earlier, when importing a structure from Excel, if a cell in the input spreadsheet was blank, the corresponding value in Teamcenter would be cleared.

This does not happen now. Teamcenter ignores the blank cells in the input spreadsheet instead. Therefore, while creating a new structure by referencing the existing components, you can leave the object type blank for the existing components. You only need to specify the required properties of the topmost element in the assembly. Teamcenter creates a new structure by referencing the existing components.

Configure mass and balance rollup report templates

As a business user, you use the **Mass Properties** and **Mass and Balance Properties** templates to perform rollup calculations. Earlier, you could not personalize these and had to use these templates with their default properties.

Now, your administrator can include additional BOM line properties in the rollup report templates. The administrator can configure the rollup report templates by using certain preferences. Each preference contains properties for the columns that are to be displayed in a report. The administrator can choose which columns are to be displayed in the report and also change the arrangement of the columns. Additionally, if you want a column arrangement different from this, you can override the column properties set by your administrator as well.

Export and import structures along with partitions

You, as a BOM engineer, can now export and import structures along with partitions to and from other Teamcenter sites. For this, you can use:

- Briefcase files
- Multi-Site Collaboration

Generate solution variants from structures with variability

For a product with a large variability, it is efficient to manage all its variants in a single structure. To build each variant, you need to derive a fixed structure from the variable structure based on multiple variant configurations. Therefore, for each variable part in the structure, you need a corresponding fixed part (component or assembly) that represents a physical part that can be assembled, ordered, or sent to manufacturing.

To create a fixed part, you can now derive a *solution variant* based on a valid variant configuration applied to the variable structure. In a solution variant, along with the BOM content, a unique part number is assigned to the generated fixed part. Additionally, the solution variant is linked to the source structure from which it is derived so that any updates to the structure can be propagated to the solution variant.

You can also update any existing solution variants through a workflow.

Your administrator sets up the column configuration for solution variants so that you can see the columns specific to solution variants on Active Workspace. The administrator also sets up a workflow process task so that you can update solution variants.

Enhancements to help complete a configuration

When configuring a product, you can now use the **Next** and **Previous** commands to help complete a configuration in the **Variant Configuration** tab. In addition, you can view a list of all the required

families to ensure a complete configuration and view the status in **Guided mode** or **Manual mode** by using the completeness indicator which shows whether the configuration is **Valid and Complete**, **Valid and Incomplete**, or **Invalid**.

Smart Discovery for structures

New way to create and inspect the Smart Discovery index

Earlier, as an administrator, you could create the Smart Discovery index, and inspect its status by using the **smart_discovery_index** or **structure_discovery_index** utility, depending on the versions of Teamcenter and Active Workspace deployed at your site.

Now, you can also use the **TcFTSIndexer** utility to create the Smart Discovery index and inspect its status.

Partition management for structures

Export and import structures along with partitions

You, as a BOM engineer, can now export and import structures along with partitions to and from other Teamcenter sites. For this, you can use:

- Briefcase files
- Multi-Site Collaboration

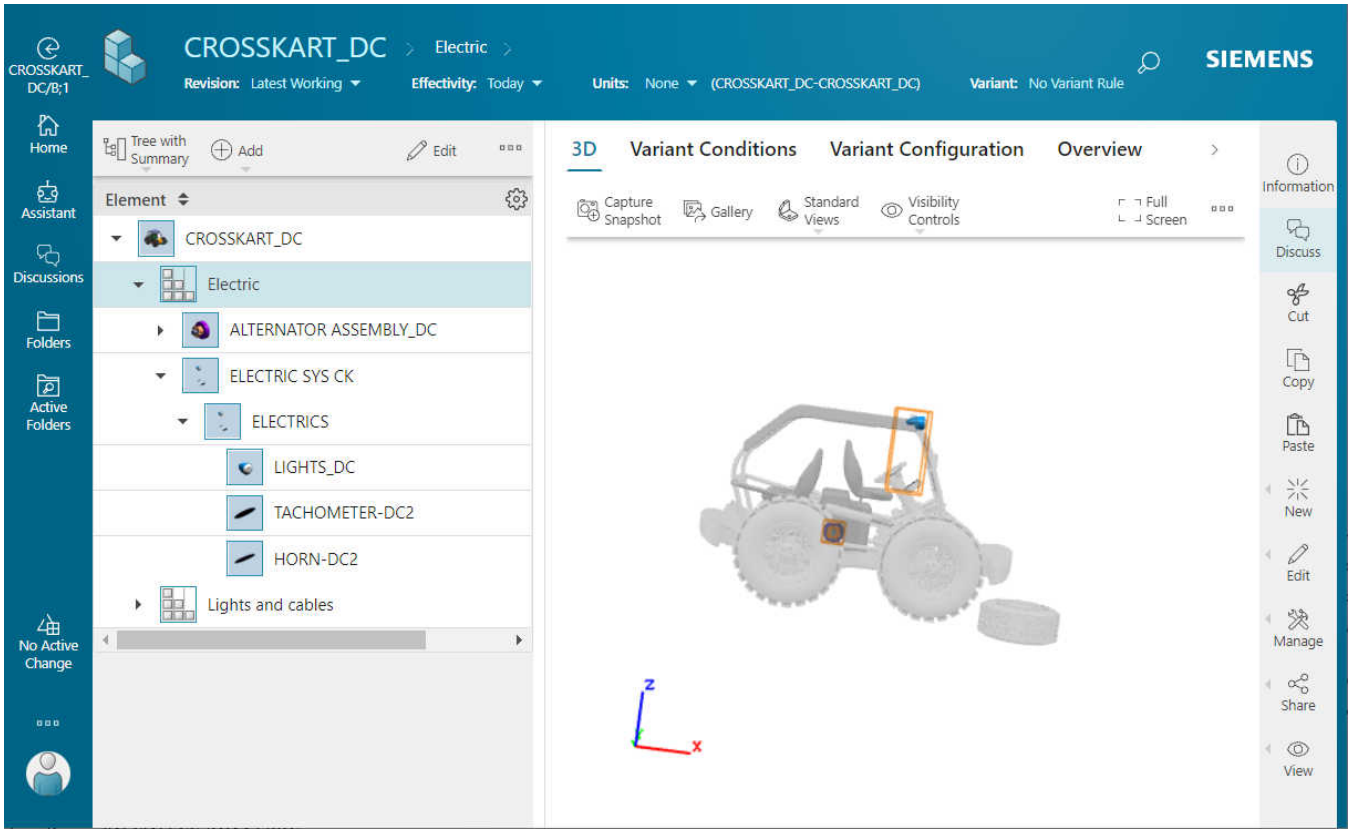
Add structure elements to partitions automatically

Earlier, users had to manually add structure elements to partitions using the Active Workspace user interface.

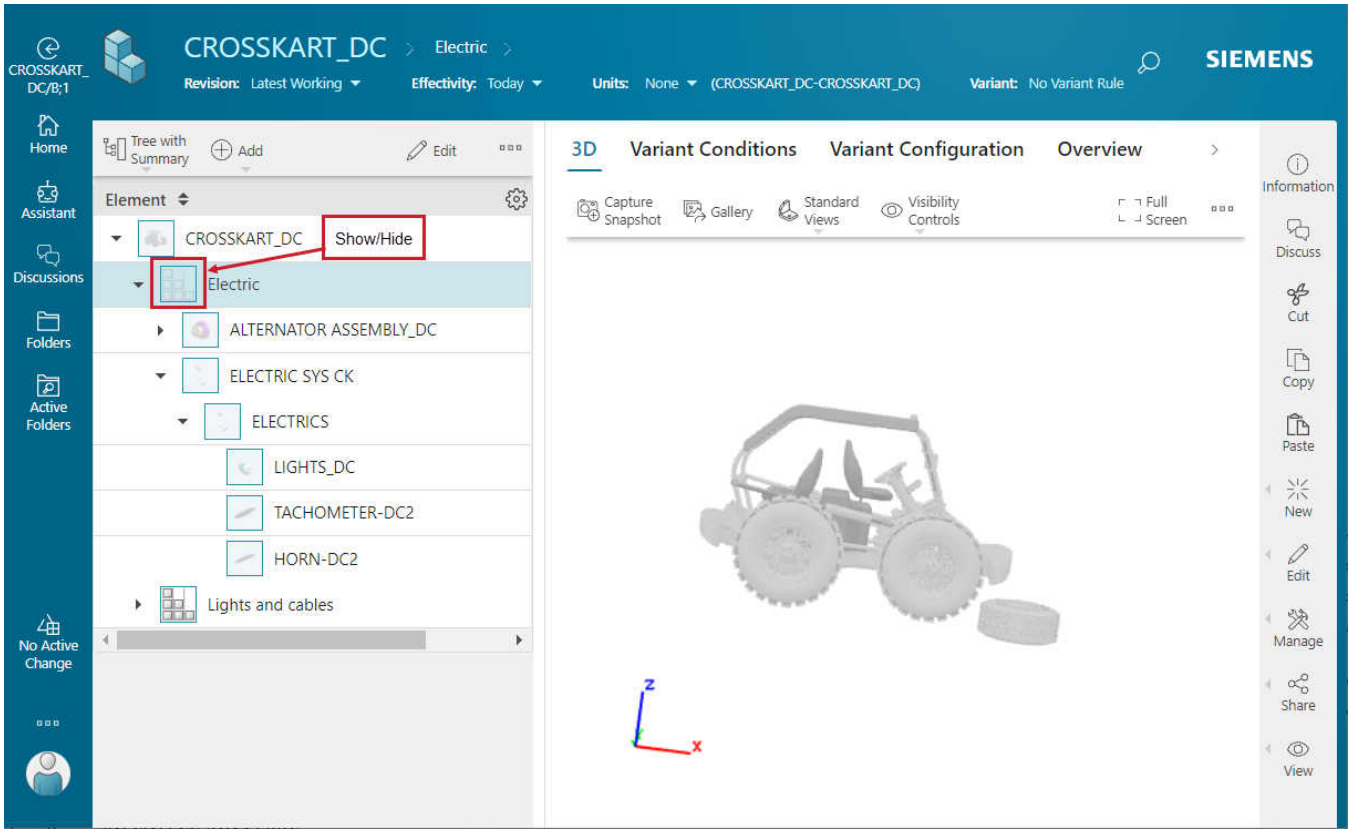
Now, as an administrator, you can automate the process to create and populate partitions with structure elements based on structure properties, such as item revision properties or occurrence properties. After identifying the properties, you must index the structure and the properties by using Smart Discovery Indexing, if they not already indexed.

Visualize structure elements located within partitions

You can now visualize the structure elements that are available within a partition in the **3D** viewer. On selecting the partition, all the elements within it are highlighted in the 3D tab with bounding boxes. If the selected partition in turn has child partitions within it, the elements of the child partition are also highlighted.



Additionally, you can choose not to visualize the elements of a specific partition by clicking the **Show/ Hide** icon next to it.



Design BOM and engineering BOM alignment

Generate a summarized engineering BOM

Earlier, as a BOM engineer, when you generated an engineering BOM from a design BOM, the engineering BOM listed each occurrence of a part that was aligned to a design occurring multiple times separately.

Now, for a design that occurs multiple times, the corresponding part occurrences are grouped together in the generated engineering BOM.

Your administrator sets the criteria to group the part occurrences.

New way to view the alignment for a specific part occurrence and design occurrence

Previously, just to view the alignment between a specific part occurrence and design occurrence, you had to perform an alignment check.

Now, you can view the alignment between a specific part occurrence and design occurrence by clicking the **Intermediate** status that is displayed by default in the **Alignment Status** column. However, while

the alignment check functionality also checked for the alignment of the children of a selected occurrence, clicking this status only checks for the alignment of the selected occurrence.

Discontinued documentation deliverable and shifting of its contents

Starting this release, the *Smart Discovery for Structures* deliverable is no longer available. The information related to filtering structures, configuring structures by proximity and selection, and saving filtered and configured structures in a session is now available in the *Structure Management on Active Workspace* deliverable.

24. Teamcenter quality

APQP

Automatic rollup of RYG ratings in quality checklist specifications

Previously, the RYG rating of the quality checklist specifications from the Quality Master Data library was not rolled up to the events and the program.

Now, when you add quality checklist specifications from the Quality Master Library to an event, based on the answers to the questions in the checklist, the RYG ratings that indicate the status of the various criteria are automatically rolled up to the events and the program.

Control Plan

Control Plan object is renamed to Quality Process

Starting this release, the **Control Plan** object is renamed to **Quality Process**. This is particularly relevant when creating a Bill of Quality.

FMEA

Create variants of an FMEA structure

Previously users could not create variants of an FMEA structure.

Now, you can create a variant of an existing master FMEA that is released. This reduces the time required to create FMEA structures.

After you create a variant of an FMEA structure, you can also compare the master FMEA and the variant FMEA or vice versa. After studying the differences, you can align the FMEA structures to retain or discard the differences between the target FMEA and the source FMEA.

Creating FMEA variants can help you to create a knowledge database within a company by transferring knowledge between all FMEAs.

All the derived variants of the FMEA are displayed in the **FMEA Variants** tab.

Administrators can configure the create, compare, and align operations for the variant using the configuration files.

Create prevention and detection actions as action groups

Action groups for failure causes

While performing FMEA, you now do the following for each failure cause:

- During risk analysis you first create the **Initial State** action group, and then add the initial prevention and detection actions to the group.
- During optimization analysis you first create the **Revised State** action group, and then add the optimized prevention and detection actions to the group.

You can specify the occurrence and detection values for these initial and revised prevention and detection action groups. The action groups attached to any failures and the dependent actions are displayed in the net view.

To view the action groups in the FMEA structure, administrators must set the **Show_actions_in_FMEA_tree** preference to **True**.

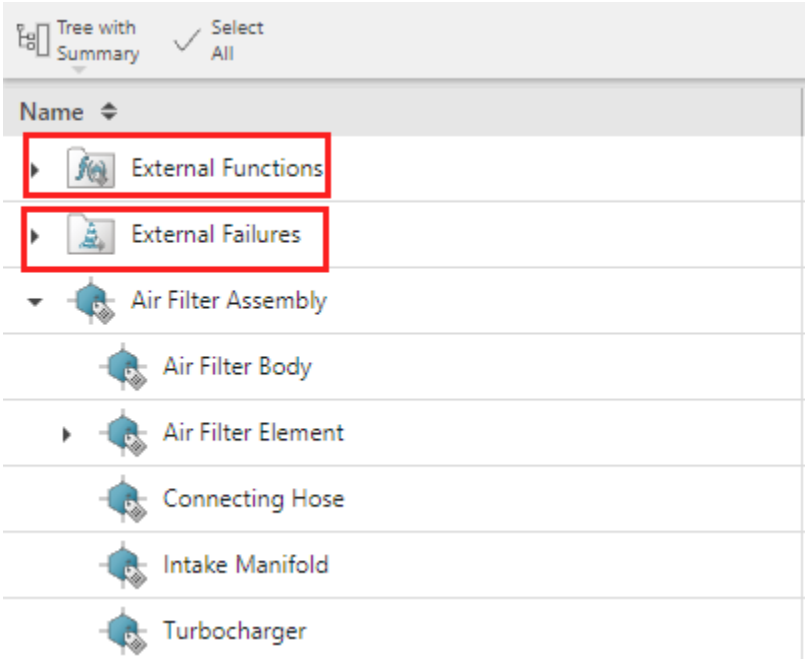
Action groups and actions are now linked to a failure

Previously, when a failure was the cause of multiple failure modes, when performing risk or optimization analysis, you needed to create the prevention or detection actions for each of the different failure modes.

Now, action groups and actions are linked to a failure. So, if a failure is the cause of multiple failure modes, these action groups and actions are automatically applied to all the failure modes and need not be recreated.

View external functions and failures in the FMEA tree structure

You can now view the external (local) functions and failures of an FMEA under **External Functions** and **External Failures** in the FMEA tree structure.



Create FMEA master data while creating FMEA representations

Earlier, you could create system element, function, and failure specifications only in the **Quality Master Data** library.

Now, while creating the representations for an FMEA, you can create the system element, function, and failure specifications as master data in the **Quality Master Data** library. To do this, the **Create and link its master data** check box is available in the **Add** panel.

These specifications are created at the highest level in the **Quality Master Data** library and can be used in other FMEA structures. This makes the creation of FMEA representations and its related specifications in the **Quality Master Data** library more efficient.

Problem Solving

Quality Management workspace for Problem Solving processes

The **Quality Management** workspace is a workspace dedicated to working with issues and Problem Solving processes. In this workspace, you can click the **Problem Solving Process** tile and do the following:

- View a chart of the existing Problem Solving processes. Select the required chart views from the **Chart by** list.
- Create only Problem Solving processes in the **Create Change** panel.

- Access a Problem Solving process in the relevant page of the header depending on the updates made to it.

- Create a personalized list of your favorite reports on the **My Dashboard** page.

Usability enhancements in Problem Solving

- Add checklists to the plan of a Problem Solving process.
- View all the Problem Solving processes that are assigned to the vendor in the vendor's **Quality Management** tab when you create a plan for the Problem Solving process.
- To implement Partner Connect for Problem Solving, assign the partner representatives of the vendor to work on the Problem Solving process as *External Users*. You can do this if your company has signed a partner contract with one of your vendors.
- Derive a *simple change* from a Problem Solving process.

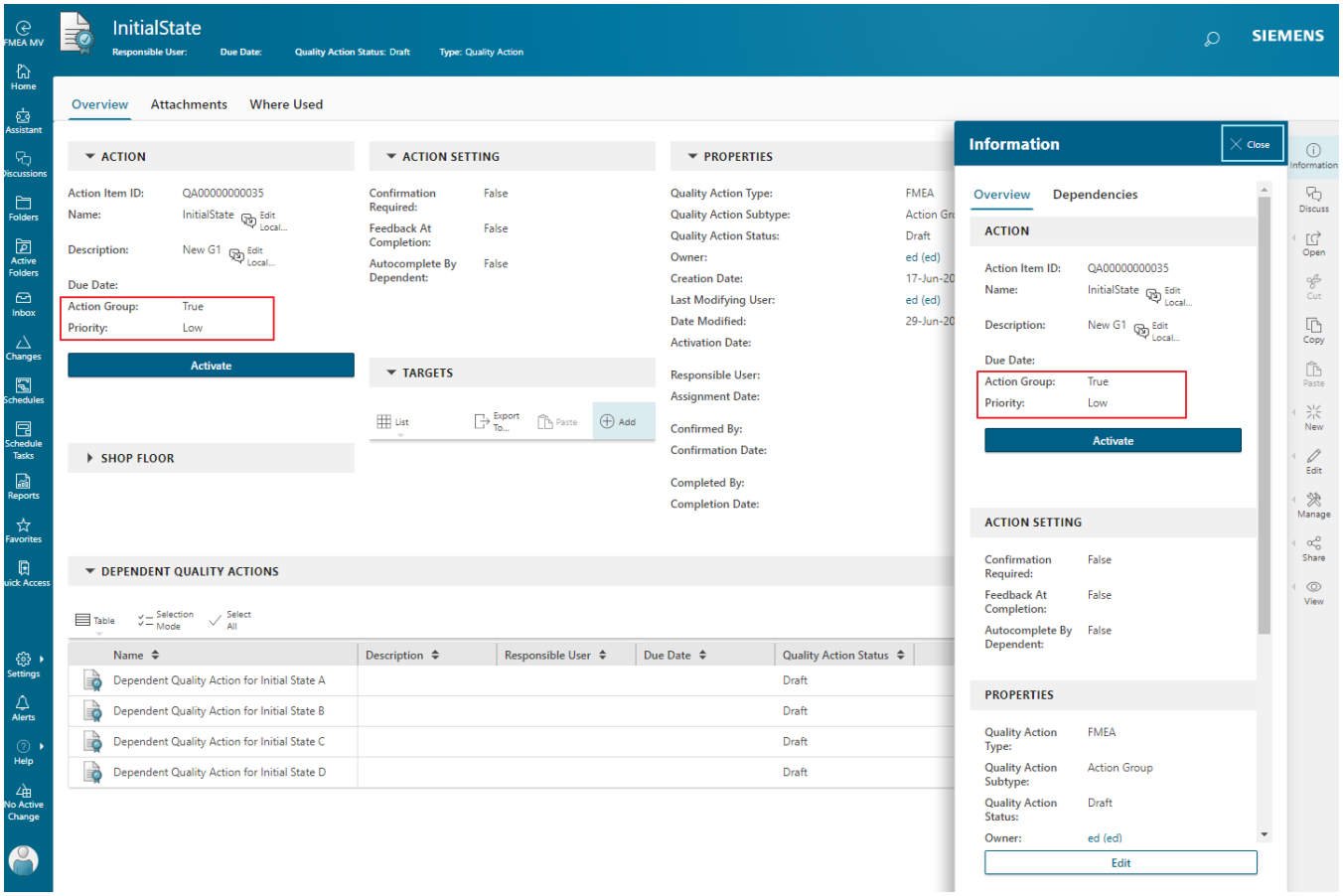
Quality Actions

Create groups of quality actions and prioritize quality actions

When you create quality actions, you can now do the following:

- Create quality action groups to segregate or categorize quality actions for different areas.
- Specify the priority of the quality actions as **Low**, **Medium**, **High**, or **Critical**.

You can view the action groups and the priority in the **Overview** tab and in the **Information** panel respectively.



Quality Audit

Perform quality audits

Quality Audit is part of the Teamcenter Quality suite of products that helps you examine whether processes, requirements, and guidelines meet the required standards. You can use Quality Audit to plan, schedule, execute, and track quality audits. The solution supports a wide variety of audit approaches such as process audits, system audits, supplier audits, and assessments.

Where do I go from here?	Documentation links
To install Quality Audit	Installing Quality Audit
To configure Quality Audit	Configuring quality audit guidelines and finding guidelines
To work with Quality Audit	Using Quality Audit

Quality Issue Management

Quality Management workspace for issues

The **Quality Management** workspace is a workspace dedicated to working with issues and Problem Solving processes. In this workspace, you can click the **Quality Issue Management** tile and do the following:

- View a chart of the existing issues. Select the required chart views from the **Chart by** list.
- Create only issues in the **Create Change** panel.
- Access an issue in the relevant page of the header depending on the updates made to it.

- Create a personalized list of your favorite reports on the **My Dashboard** page.

Usability enhancements in Quality Issues

- Provide additional details in the **Summary** section when you edit an issue:
  - Select the **Is Valid** check box to indicate that the issue is valid.
  - Select the **Reject Action** check box to reject the issue.
  - From the **Resolution Type** list, select the type of resolution required to resolve the issue.
  - In the **Resolution Description** box, type a description for the resolution.
  - In the **Closure Comments** box, type the comments to be added when closing the issue.
- View all the issues that are assigned to the vendor in the vendor's **Quality Management** tab when you create a plan for the issue.
- To implement Partner Connect for Quality Issue, assign the partner representatives of the vendor to work on the issue as *External Users*. You can do this if your company has signed a partner contract with one of your vendors.
- Add a thumbnail image and attachments to an issue.
- Derive a *simple change* from an issue.

Training and Qualification

Train employees and certify equipment

Training and Qualification, a part of the Teamcenter Quality suite of products, helps you manage the training and qualification requirements of people and certification of equipment and gauges. When an employee takes a course or certification or reads a document for a certain subject or area (for example, solar installation or welding), a *qualification record* is created in the employee's *qualification profile*. You can certify equipment and gauges for a particular capacity or calibration and record the certification in the qualification records in the equipment's qualification profile. You can open the qualification profile and view the details of the qualification records. The qualification profiles are used to capture the certification of equipment and the qualification of employees who take the training (courses and certifications).

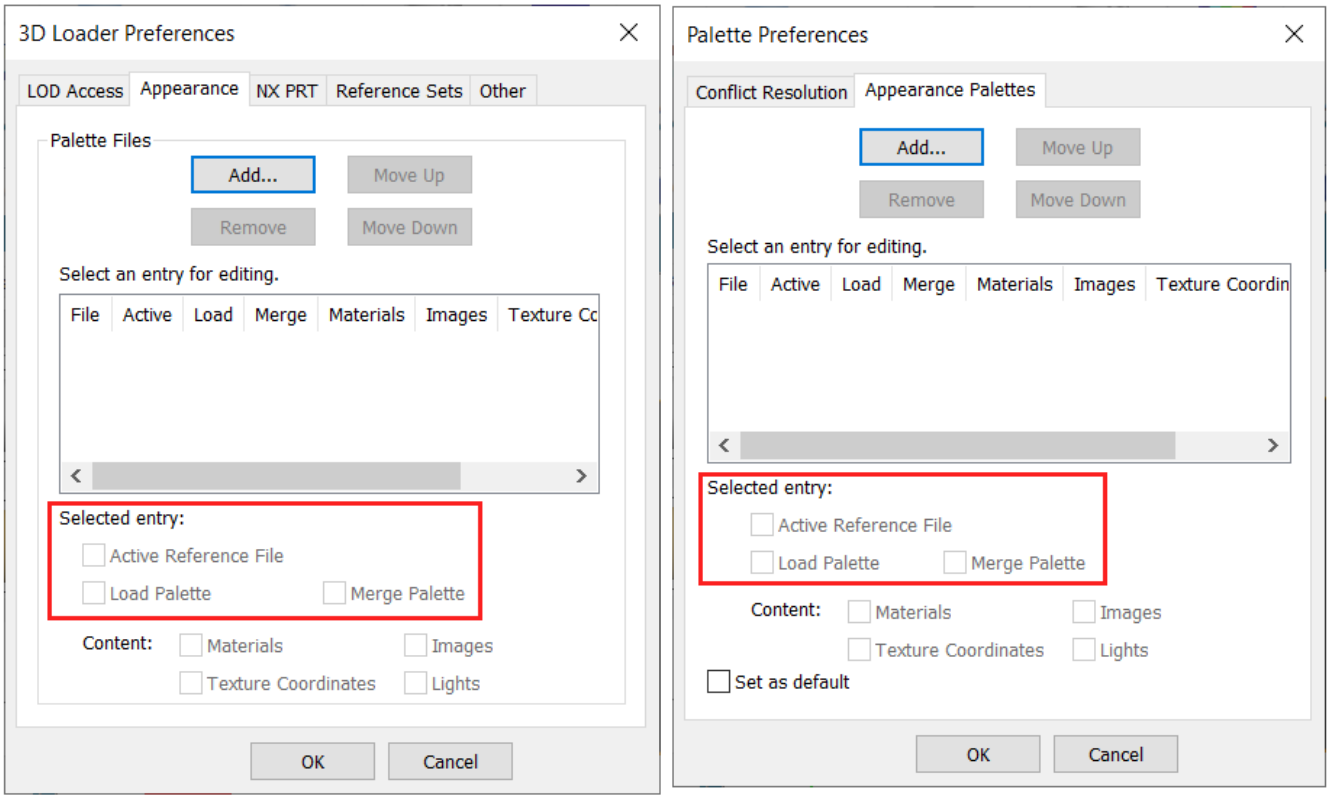
Where do I go from here?	Documentation links
To install Training and Qualification	Installing Training and Qualification
To work with Training and Qualification	Using Training and Qualification

25. Visualization

New features for base

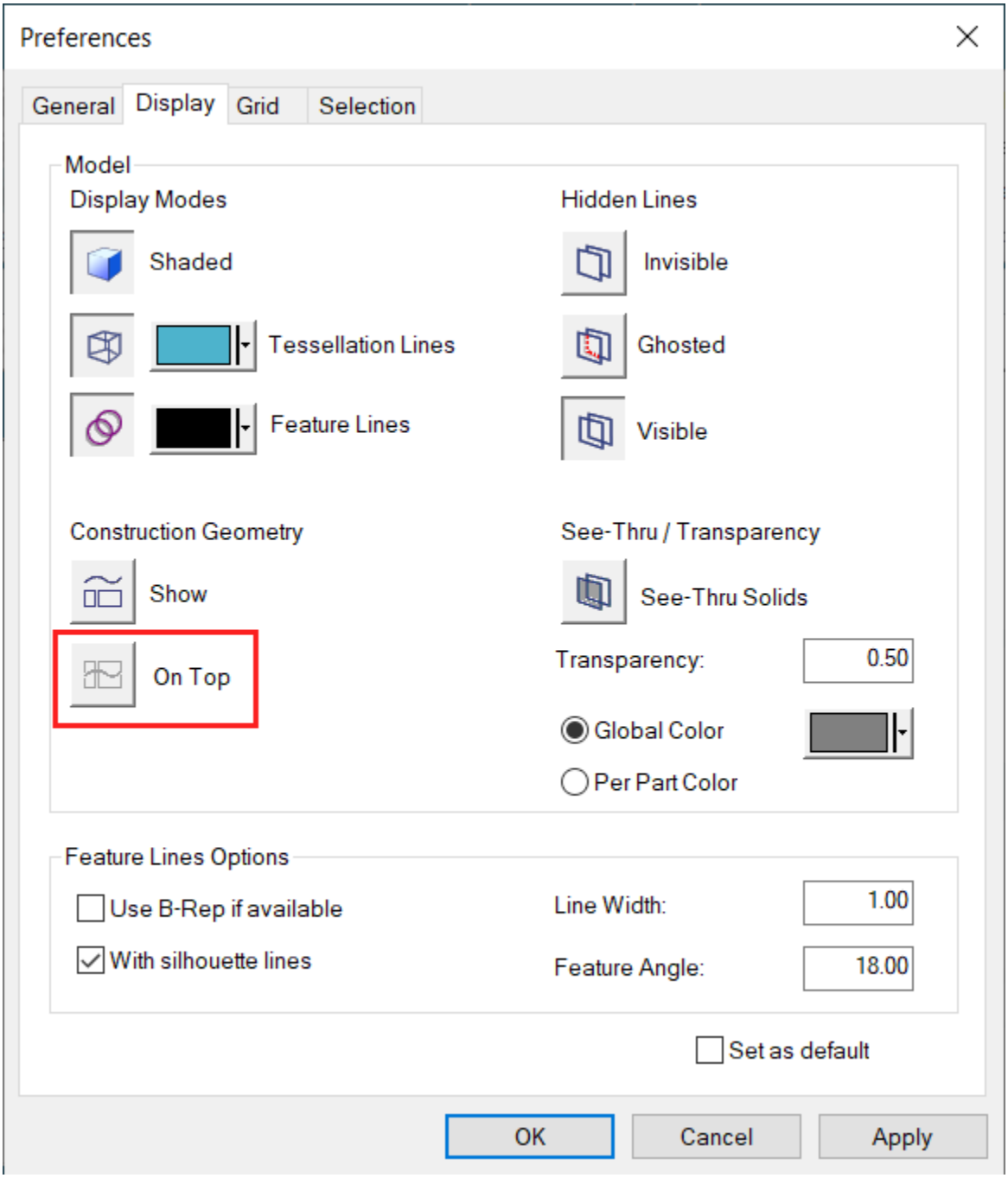
Appearance palette improvements

Prior to this release, users had to manually locate and load Appearance Reference Files. Starting in this release, users can set an Appearance Reference File to automatically load when an assembly is opened. In addition, Reference Files can automatically merge with the appearance palette for the next opened 3D document. These options can be found on the 3D Loader Preferences and Palette Preferences dialogs.



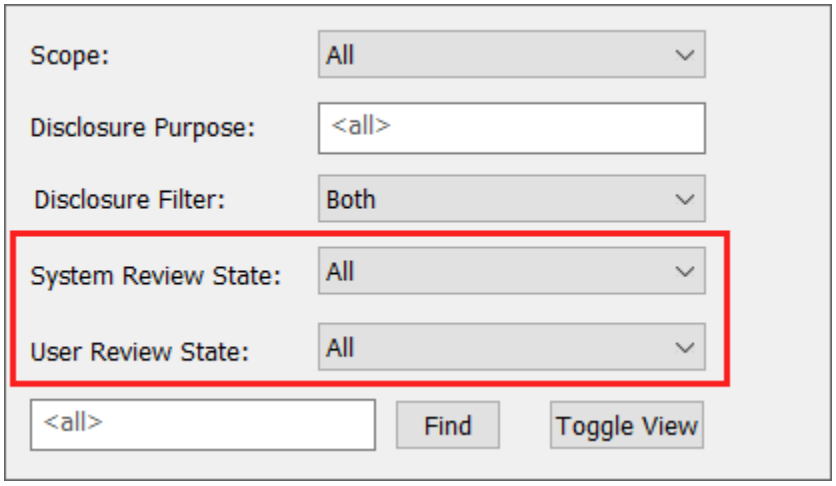
Display construction geometry on top

In previous versions of Teamcenter lifecycle visualization, construction (wireframe) geometry would be hidden from view if it were within a solid element. In the current release, users may select the **Construction Geometry On Top** option to display the wireframe geometry on top of the solid model elements. This option is available in the **Style** group on the **View** tab and on the **Display** page in the Preferences dialog.

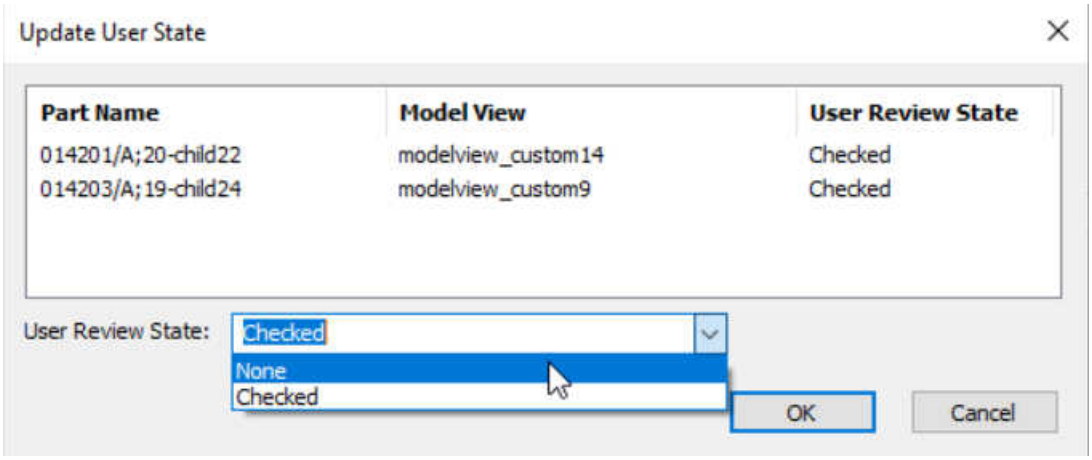


View and update the review status on model views

Users can select from the System Review State and **User Review State** lists to refine their view and organization of NX 3D design disclosure structure model views.



In addition, users can change the user review state value on model views within Lifecycle Visualization.



View BVR partitions in Lifecycle Visualization

Previously, you could view partitions in the assembly tree only for 4GD worksets open in the stand-alone application viewer or the Lifecycle Viewer.

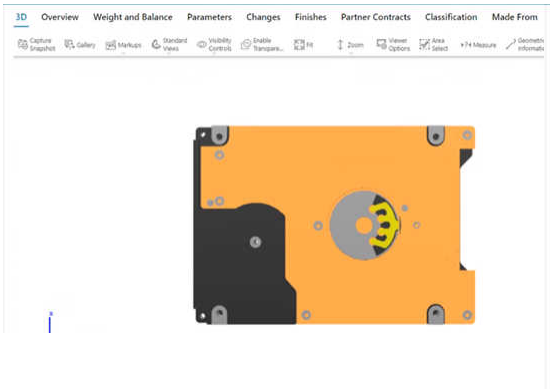
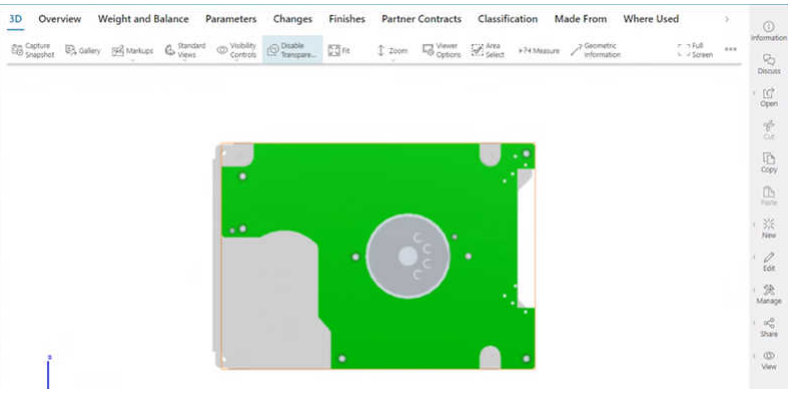
Now, when you open and display a BOM view revision (BVR) structure in the stand-alone application viewer or the Lifecycle Viewer, you can choose the partition scheme to display for the root node of the model.

Change background and part selection color in the 3D viewer

Earlier, in the Active Workspace 3D viewer, the default color theme was set to **Siemens**.

Now, the default color theme is set to **White**, in which the background color is set to white and the part selection color is set to orange.

You can also change this to **Gray Ramp**, in which the background color and part selection color are set to gray and yellow, respectively.

When transparency is disabled	When transparency is enabled
	

To enable you to switch between the two themes, your administrator must set the **AWC_visColorScheme** preference to override the default color theme. Your administrator can also add new colors in the *Initialization.xml* file.

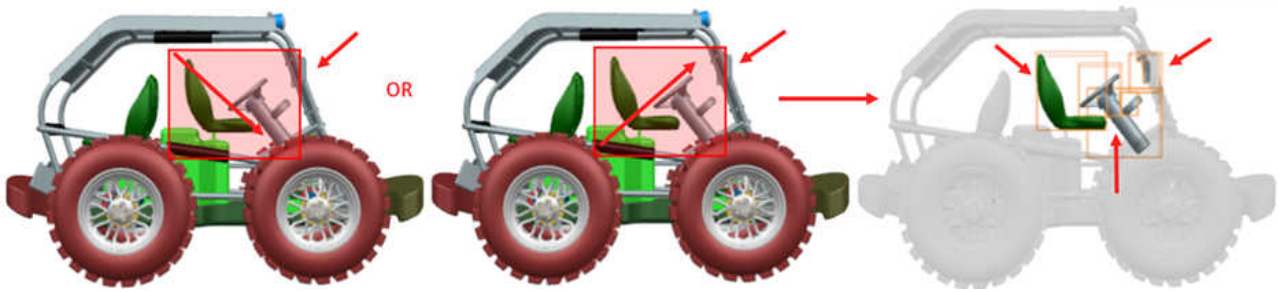
Enhancements to the 3D toolbar

This release introduces several enhancements on the Active Workspace 3D toolbar and panel UI.

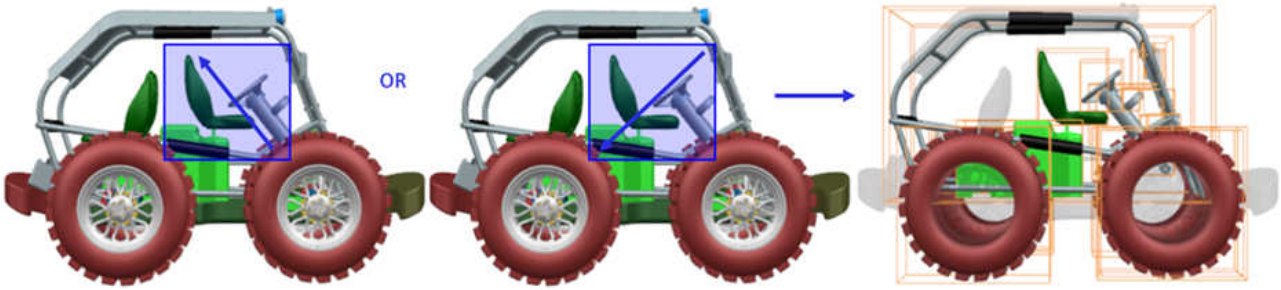
- **Area Select**

  The **Area select** command on the 3D viewer helps to select parts that are:

  - Completely inside the red rectangle.



  - Completely inside of and intersected by the blue rectangle.



- **Shaded with Edges**

  The **Shaded with Edges** option in the **Viewer Options**→ **Render Options** section is now available for assemblies as well.

- **Geometric Information**

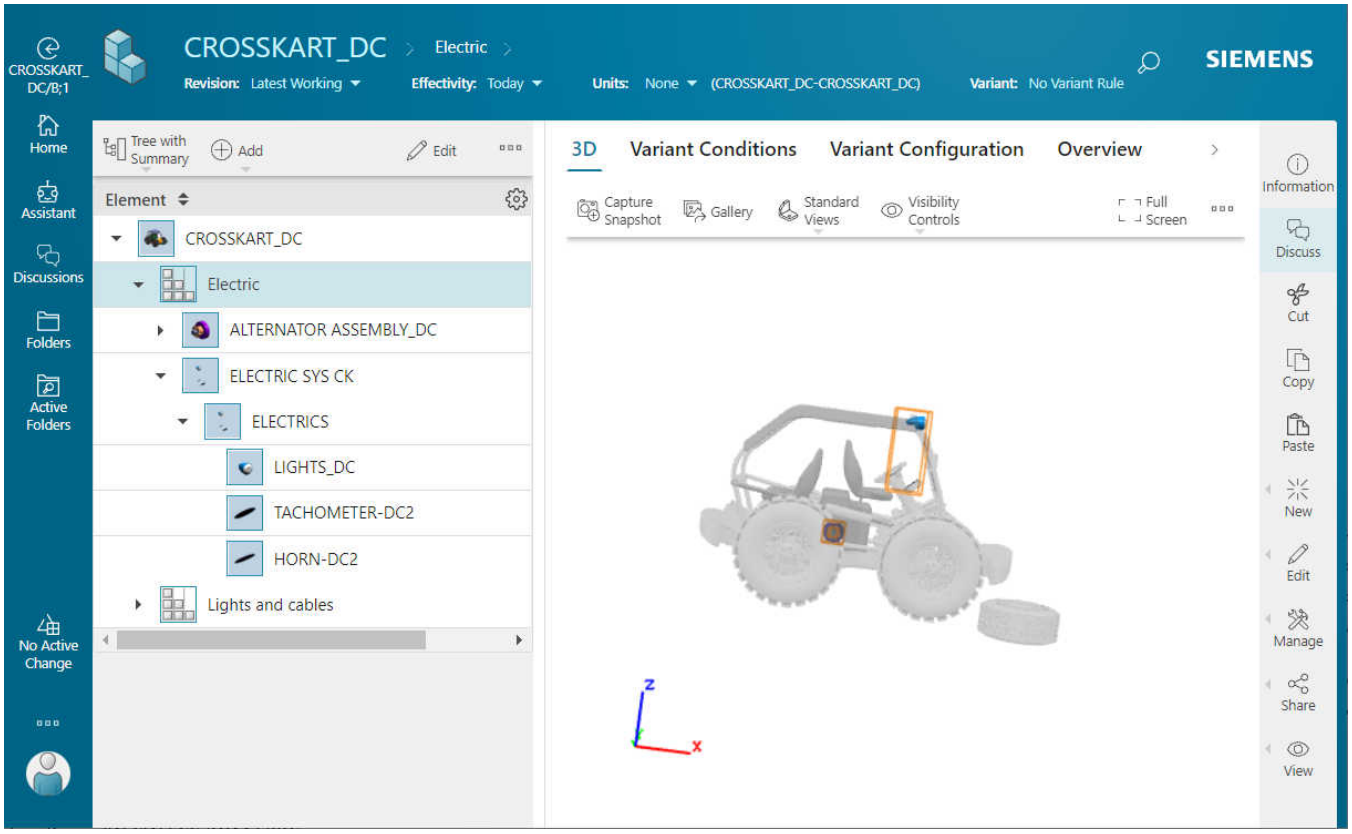
  You can use the **Geometric Information** command to get geometric data about part entities (points, vertices, edges, faces or surfaces, and arc centers) in an assembly.

- **Create Section**

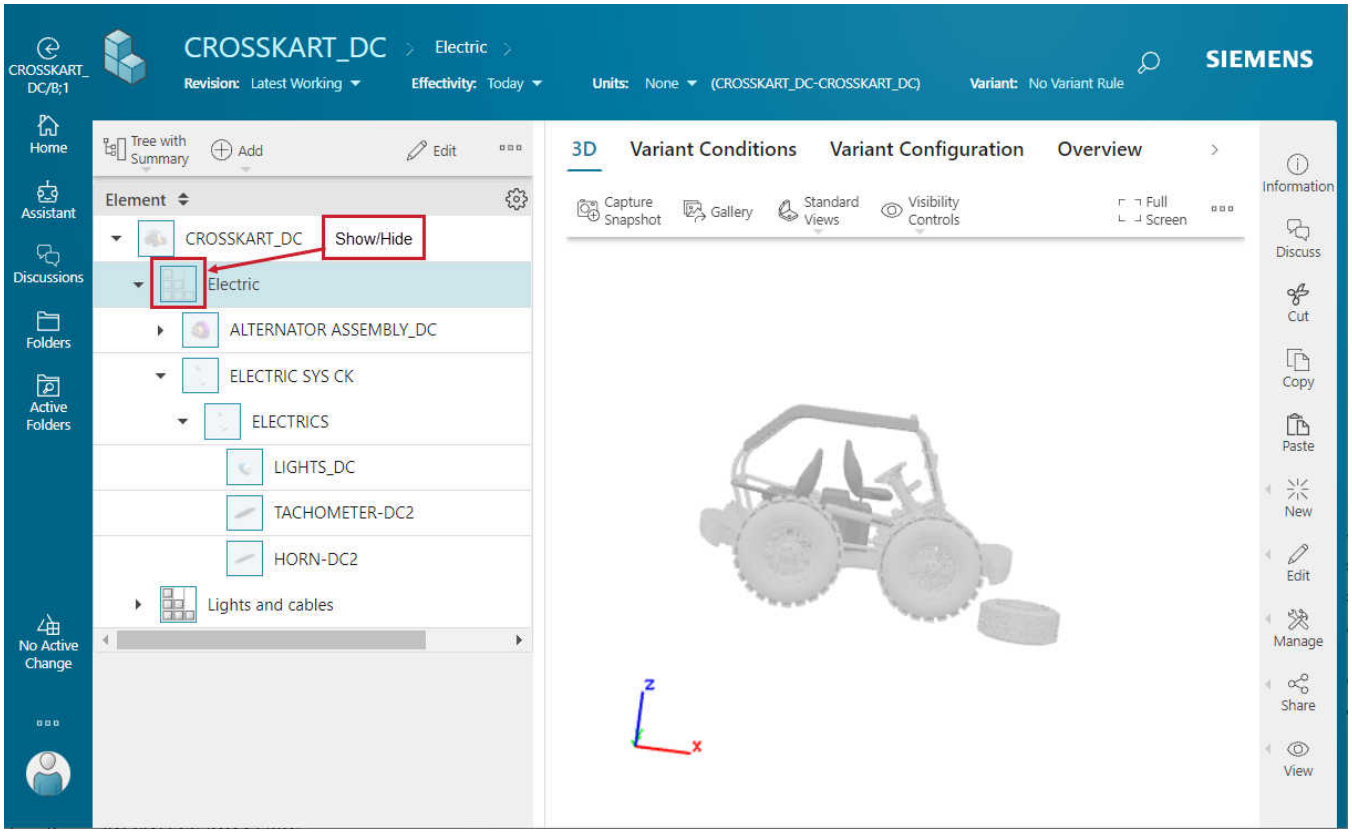
  You can now use the **Normal to Edge** or **Coincident to Plane** options from the **Create Section** command list to create a section by selecting an edge or a surface feature.

Visualize structure elements located within partitions

You can now visualize the structure elements that are available within a partition in the **3D** viewer. On selecting the partition, all the elements within it are highlighted in the 3D tab with bounding boxes. If the selected partition in turn has child partitions within it, the elements of the child partition are also highlighted.

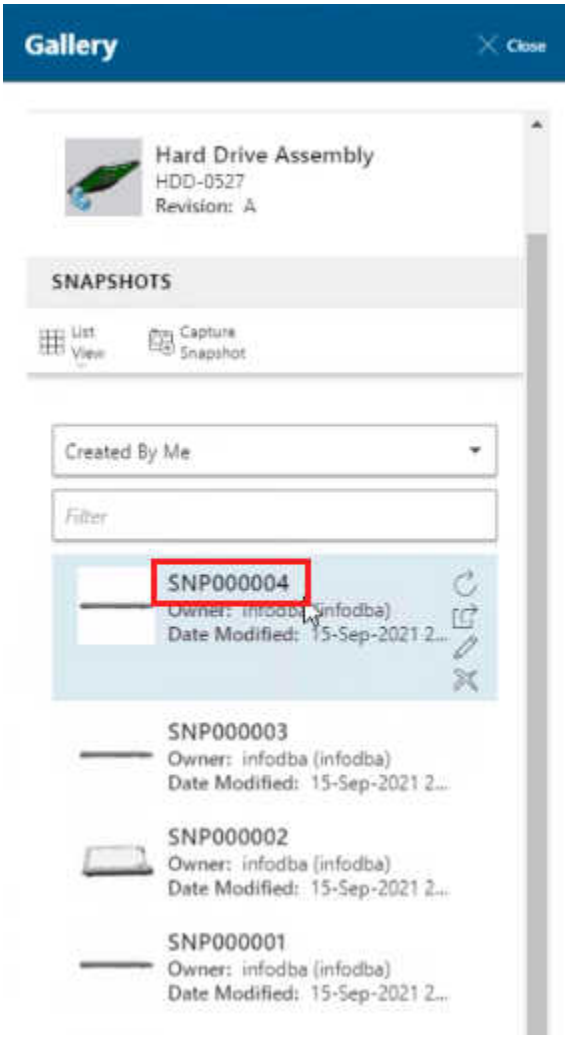


Additionally, you can choose not to visualize the elements of a specific partition by clicking the **Show/Hide** icon next to it.



Product snapshot names easier to read

The automatically generated product snapshot naming convention has been shortened so that the snapshot name fully displays within the application, making it easier to see the entire name.



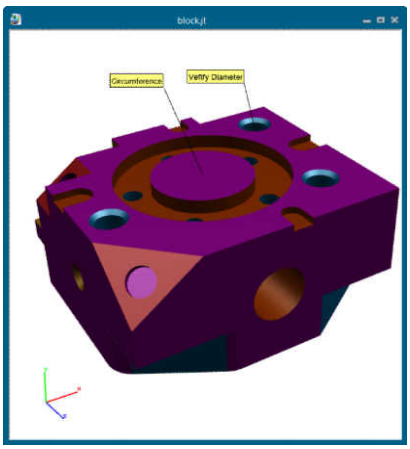
New features for standard

Display markup leader lines on top of the model

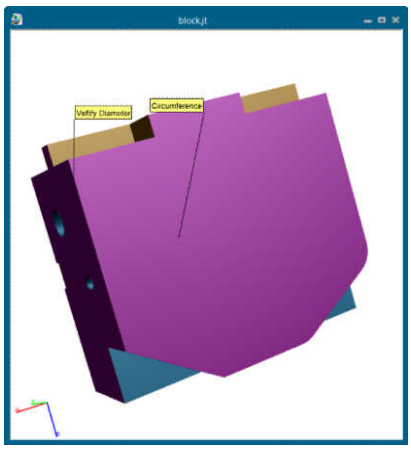
Previously, for anchored text and inset image markups, when the model was rotated, the markup leader lines were always on top of the geometry.

Now, as a designer or a reviewer, when you rotate geometry, you have the option to either retain the leader lines on top or hide them behind geometry. This helps avoid the leader lines from pointing to incorrect visible locations.

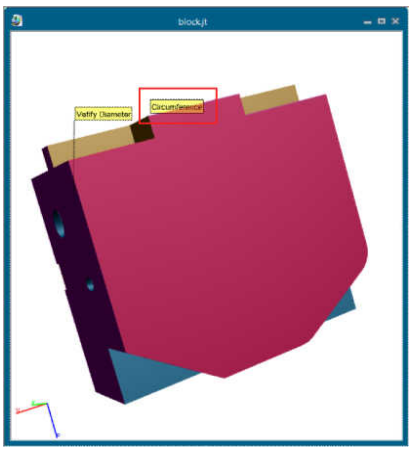
Model with text markups



Before: On rotating the model



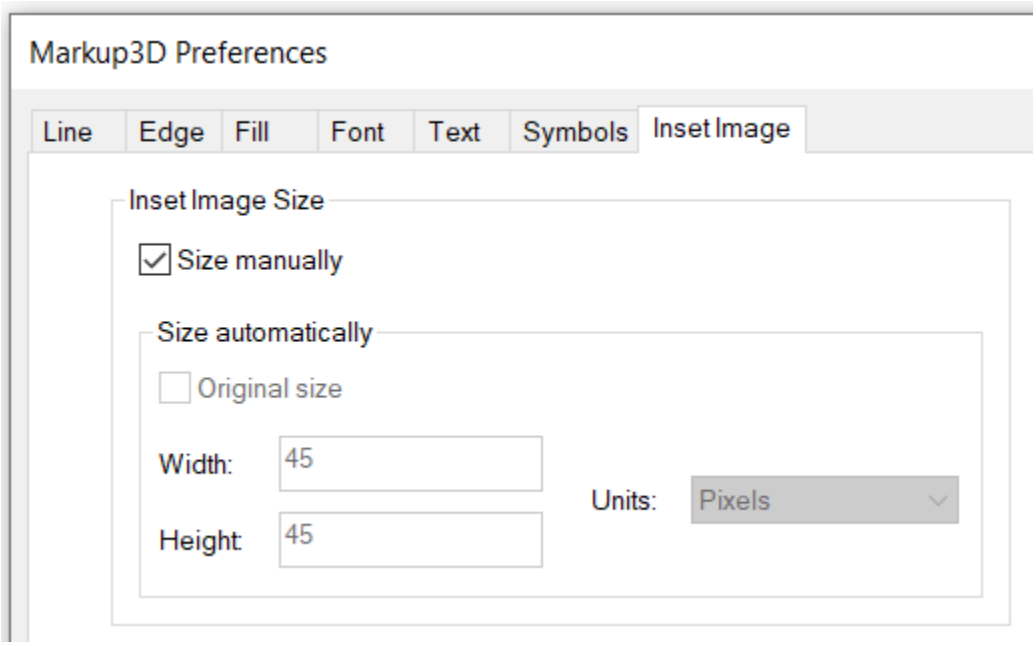
Now: On rotating the model



Insert inset image markups at their original size

Previously, you could only provide fixed height and width parameters for automatically sizing anchored and floating inset image markups.

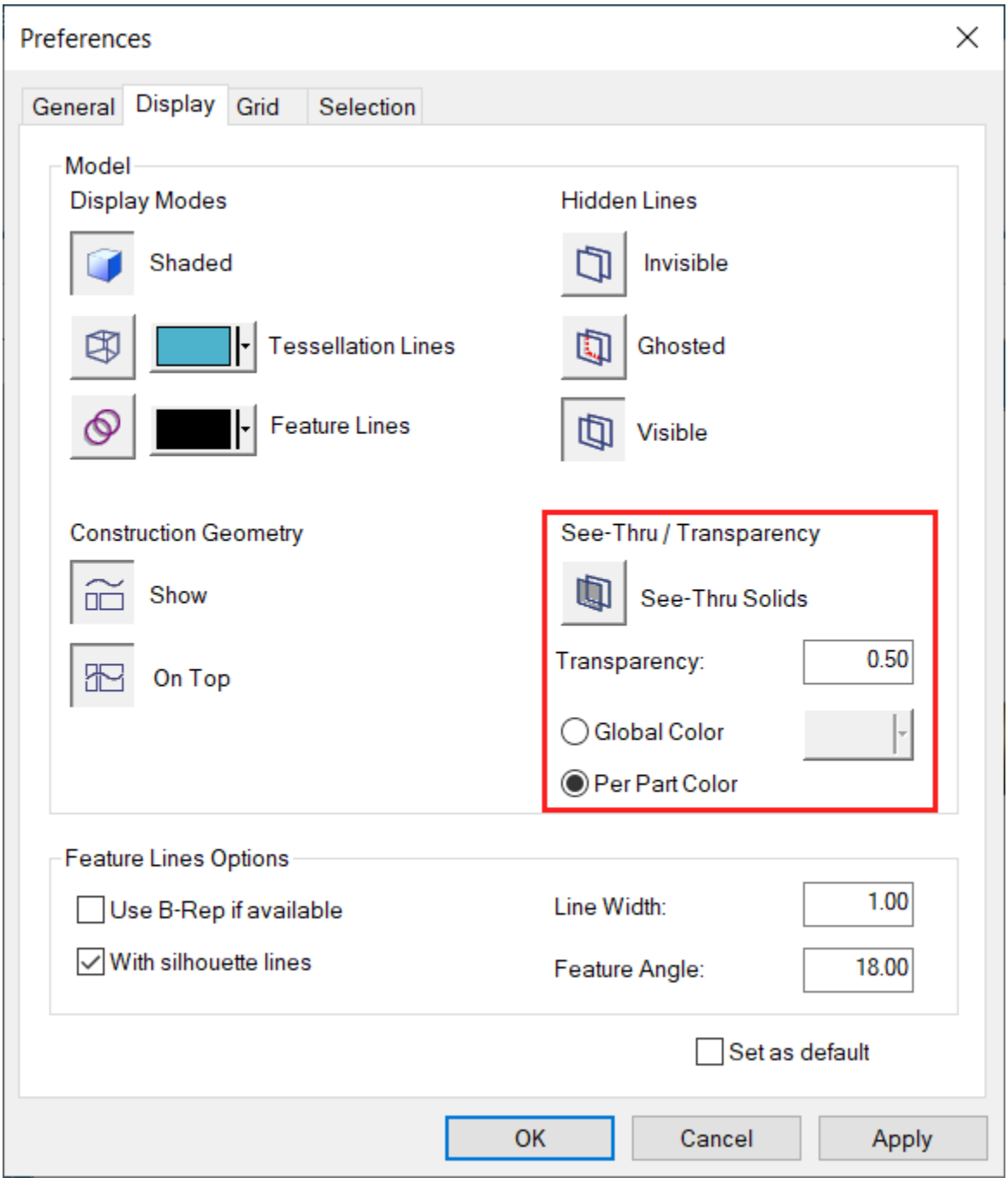
Now, as a reviewer, when automatically sizing images, you can insert an inset image markup at its original image size or change the existing size settings for the inset image markup to the original size of the image.



New features for professional

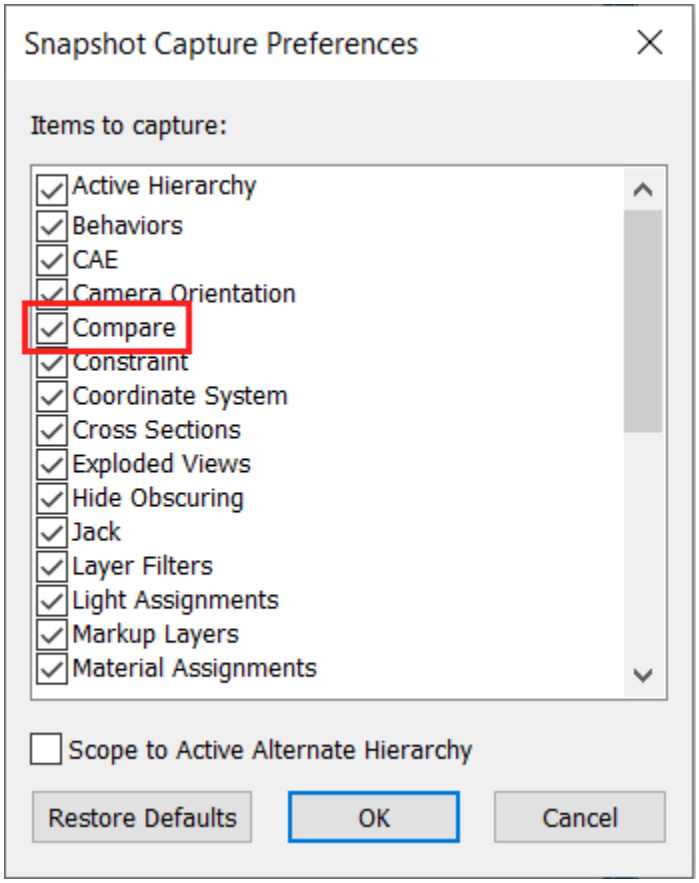
Per part color support for See-Thru transparency

Changes to the 3D view **See-Thru** transparency color options allow the user to select either **Global Color** or **Per Part Color** when **See-Thru Solids** is selected. If **Global Color** is selected, all **See-Thru** transparency options reflect the selected color. If **Per Part Color** is selected, the **See-Thru** transparency settings are applied to the parts' original colors.



Compare recipe saved with snapshot session

Snapshots can now capture compare recipe and parts and the compare data can be saved when saving snapshots to a session or a .plmxml file. This allows users to quickly restore a compare recipe from a saved snapshot. Compare data is included in the snapshot asset list and users can select **Compare** in the **Snapshot Capture Preferences** dialog box to include this data in the snapshot recipe.



New features for mockup

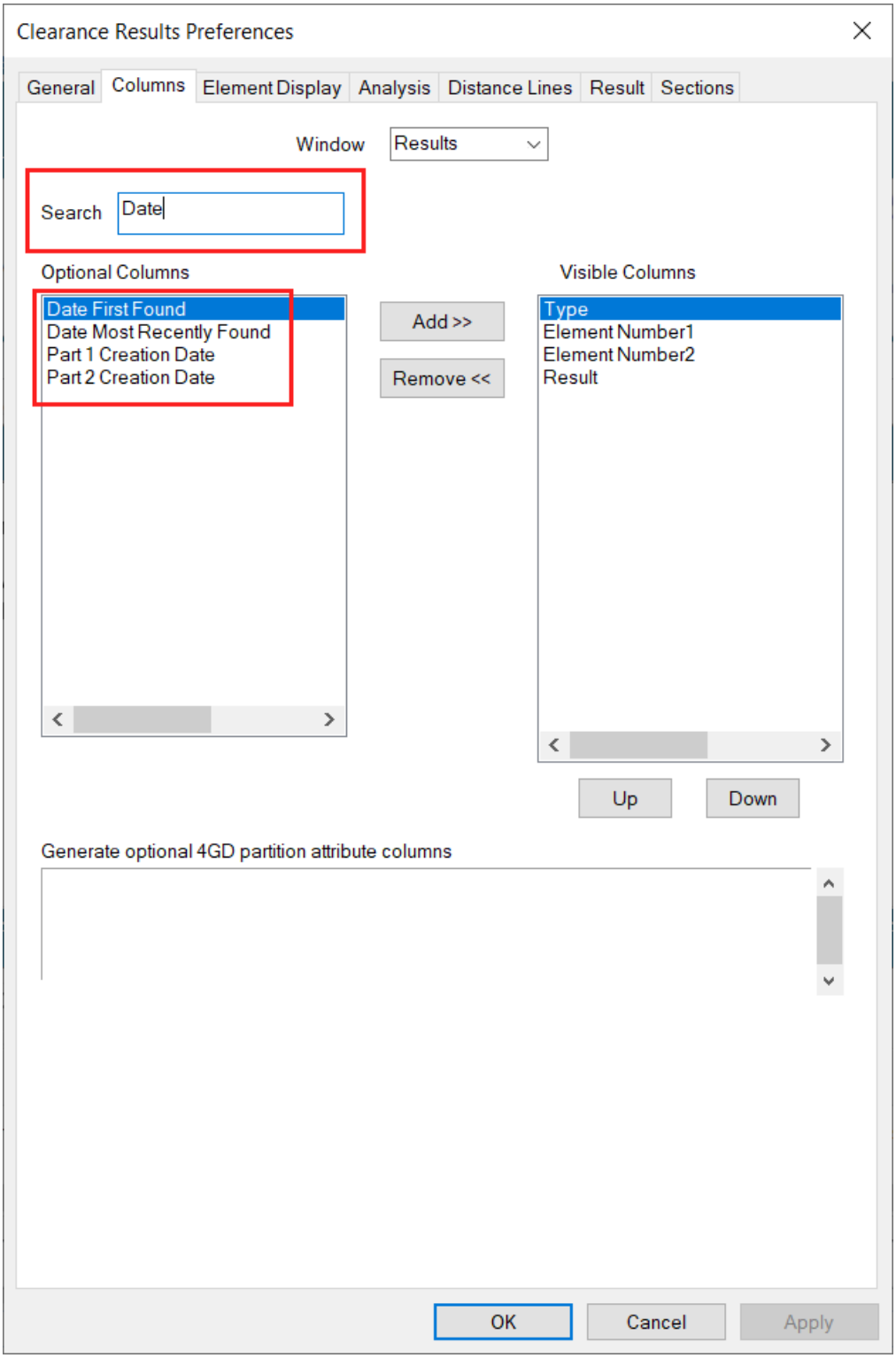
Simplified clearance analysis Visibility Action behavior

The behavior of the clearance analysis Visibility Action has been simplified to make it easier to understand and use. Now, the **Visibility Action** is applied to the top level (macro) analysis only, and does not affect the detailed (micro) analysis that occurs when you double-click on an element pair in the clearance result list.

Search box added to the Columns page

A **Search** box has been added to the **Columns** page on the Clearance Results Preferences dialog to make it easier for end users to search for and filter column name values. As the user types a value into the

Search box, the values in the **Optional Columns** list are filtered so that only values containing the search value are displayed.



New violation reporting option for Selected and Dynamic clearance

Starting in this release, users can specify whether they want to see violations for Selected and Dynamic clearance analyses reported at either the selected assembly level, or at the leaf level within the selected assembly (part, leaf component, or end item).

Selected clearance report for the assembly handle_assembly_1.

Item Name	Typ	Element Number1	Element Number2
Clearance Results (9/9)			
Result (1/9)	C	handle_assembly_1	body
Result (2/9)	D	handle_assembly_1	rotor
Result (3/9)	D	handle_assembly_1	Part1
Result (4/9)	D	handle_assembly_1	spool
Result (5/9)	D	handle_assembly_1	drag_knob
Result (6/9)	D	handle_assembly_1	bail_wire2
Result (7/9)	D	handle_assembly_1	Part5
Result (8/9)	D	handle_assembly_1	Part4
Result (9/9)	D	handle_assembly_1	button

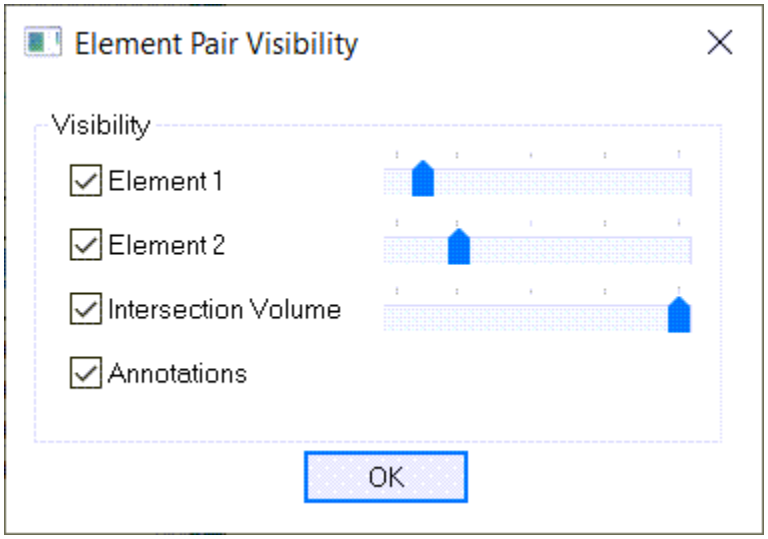
Violation results when **Report violations at the selected assembly level only** is selected.

Item Name	Typ	Element Number1	Element Number2
Clearance Results (27/2...			
Result (1/27)	C	handle1_2	body
Result (2/27)	D	handle	body
Result (3/27)	D	handle1_2	rotor
Result (4/27)	D	handle	rotor
Result (5/27)	D	handle1_2	Part1
Result (6/27)	D	handle	Part1
Result (7/27)	D	handle_2	body
Result (8/27)	D	handle1_2	spool
Result (9/27)	D	handle1_2	drag_knob
Result (10/27)	D	handle	drag_knob
Result (11/27)	D	handle	spool
Result (12/27)	D	handle1_2	bail_wire2
Result (13/27)	D	handle	Part5
Result (14/27)	D	handle1_2	Part5
Result (15/27)	D	handle_2	Part1
Result (16/27)	D	handle_2	rotor
Result (17/27)	D	handle	bail_wire2
Result (18/27)	D	handle	Part4
Result (19/27)	D	handle1 2	Part4

Violation results when **Report violations with descendants of selected assemblies** is selected.

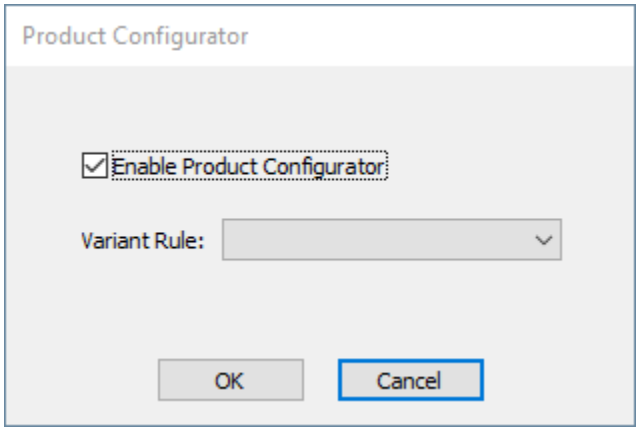
Controlling the visibility of element pairs in the clearance results list

Choose the new Element Pair Visibility  option on the **Clearance Results** toolbar to adjust the visibility of the element pair, the intersection volume, and the clearance annotations for the selected element pair on the clearance results list. This enables the user to change these settings temporarily without redefining the default transparency values defined in the **Clearance Results Preferences** dialog.

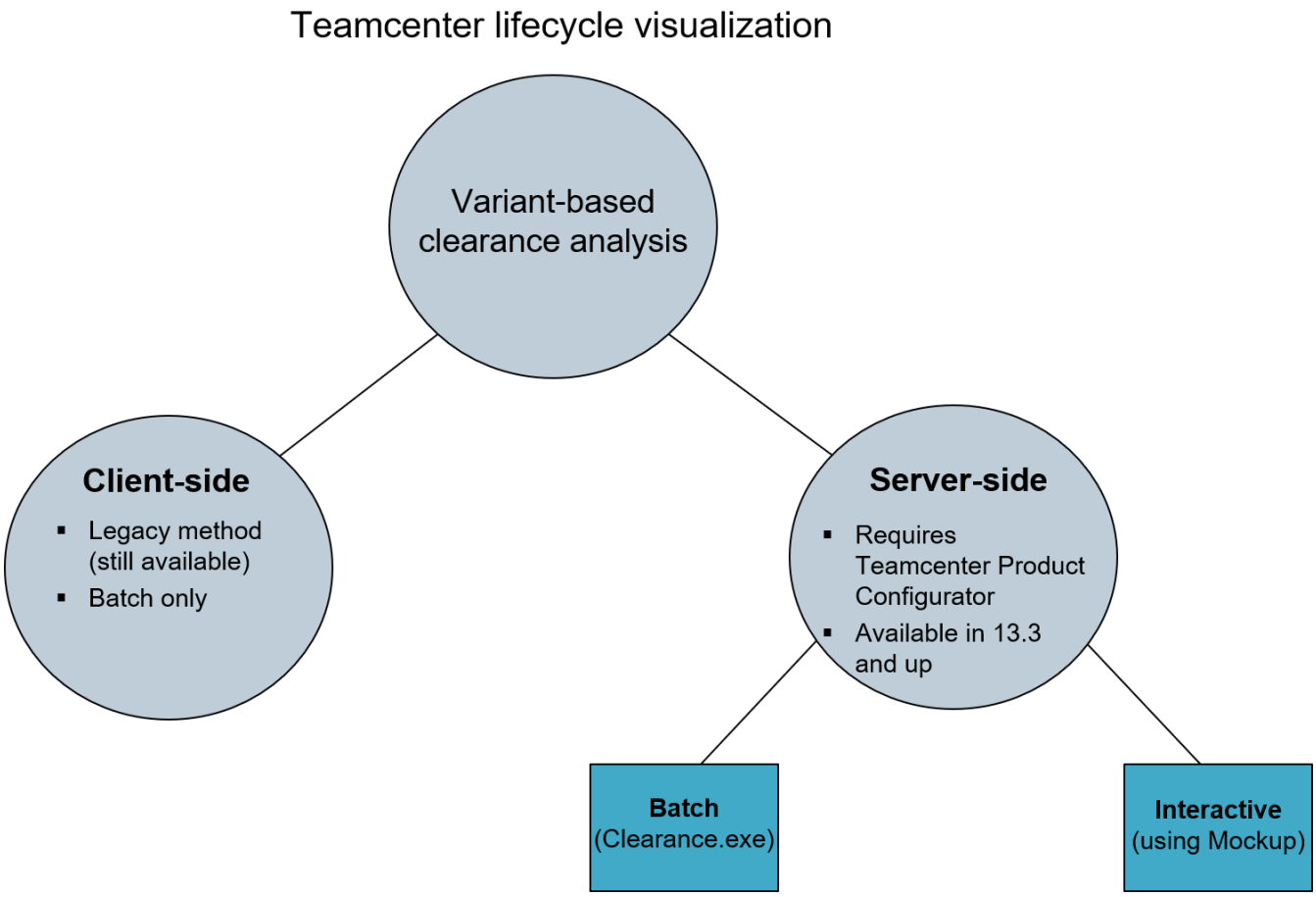


Variant-based clearance analysis using Teamcenter Product Configurator

Beginning in the current release, users can perform variant-based clearance analyses using Teamcenter Product Configurator, either in batch mode (*Clearance.exe*) or using the Lifecycle Visualization user interface. Users can select variant rules from Teamcenter Product Configurator and use them to perform clearance analyses for multiple variations of a particular model.



In earlier releases of Lifecycle Visualization, variant-based clearance analyses could only be performed in batch mode on the client.



Capture and manage product snapshots

In the previous releases, in Active Workspace, you could capture snapshots from within a session.

Now, when working with products, you can capture product snapshots to preserve the BOM configuration and view its state and save it for later use. Additionally, you can perform the following actions on the product snapshots:

- Restore the state of the assembly from a product snapshot.
- Update an existing product snapshot to replace the snapshot with the current BOM and 3D state of the assembly in the 3D view.
- Rename a snapshot.
- Share a product snapshot with other users using the *Discussion* feature in Active Workspace.
- View the snapshots created by you or shared by you or with you by other users from either **My Gallery** on the Active Workspace home page or **Gallery** on the work area toolbar.

Documentation enhancements

Lifecycle Visualization Integration no longer contains a separate section for preferences.

Preferences are now specified in topics based on their usage. For example, Configuring Active Workspace for connection with Lifecycle Visualization includes details about the preferences required to establish a connection between Active Workspace and Lifecycle Visualization.

For details about obtaining a list of preferences or creating new ones or edit existing ones, see Teamcenter preferences.

26. Workflow

Enhancements when submitting a workflow

Previously, in Active Workspace, users could submit a workflow only if at least one object was selected. Similarly, additional target objects and references could not be added during the workflow (or ad-hoc subworkflow) submittal process.

The current release introduces several enhancements when submitting a workflow:

- A new **Inbox** menu item, Create Workflow, can be used to create and submit a new workflow without any target objects selected. Targets and references can be added during the workflow creation process if desired, but the workflow can be submitted successfully without a target object.

- When a target object is submitted to a workflow, additional target objects and references can be added during the submittal process as well. A new **Add** button is available on the Submit to Workflow panel that lets users add additional targets and references to the workflow.

Restart workflows paused for error handling

Previously in Active Workspace, tasks were only accessible by a user if they were in the Started state.

Now, error handling is easier if a workflow is stalled due to an error. If a workflow is paused, users can now directly access the task to correct the error. Once fixed, the user can select and complete the task to resume the workflow. See Error processing for more information.

Remote inbox

This release introduces remote inbox enhancements in both the rich client and Active Workspace.

Previously, in Teamcenter, if you had a user account at a remote Teamcenter site, you could subscribe to that site to access its Inbox. This inbox is called a *remote inbox* and you could access your tasks at this remote site.

However, you could not connect to an Active Workspace site to access a remote inbox. A Teamcenter site could only connect to a remote inbox at another Teamcenter site. This remote inbox functionality was not available at all for Active Workspace users.

This release introduces the ability for users to connect to a remote inbox at another Active Workspace location. Teamcenter users can also connect from a Teamcenter site to a remote Active Workspace site's Inbox.

27. Xcelerator Share

Collaborating using Xcelerator Share

Xcelerator Share is a new cloud application that lets you share project files with your collaborators.

With this new browser-based collaboration, you can work on new products and designs with your partners, team members, and with manufacturers, and then share your projects with customers for approval or manufacturers for production.

When Xcelerator Share is integrated with Teamcenter, you can:

- Share CAD files such as NX and Solid Edge part files and non-CAD files such as Microsoft Office documents and PDFs from Active Workspace to Xcelerator Share.
  You can log on to Xcelerator Share and invite suppliers to collaborate with you to work on those files. Suppliers receive an email notification with a link to log on to Xcelerator Share.

- Replace data in Active Workspace with data imported from Xcelerator Share.
  After suppliers upload updated versions of their files back to Xcelerator Share, you can replace the existing files with the updated ones in Active Workspace.

- Import additional files from Xcelerator Share to Active Workspace.