

TMC NL - Components Center



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Bentley

Components Center and Cell Manager : Background

Components Center is part of an interrelated set of features that enable content creation and reuse over project lifecycles, including :

- 2D and 3D MicroStation modelling
- Parametric modelling
- Constraints and Variables
- Cells
- Placement Points
- Named Presentations
- **Element Visibility** (2026)
- Item Types
- Text Fields
- Text Favourites

Components Center and Cell Manager

What?

- Ways to share and manage reusable content.

Why?

- To save rework, increase consistency, etc.

How?

- Turn any MicroStation elements into reusable Cells.
- Share them within MicroStation using Cell Libraries and Cell Manager.
- Share them more widely using Components Center with additional features including publication workflow and sharing of associated documents.

Components Center and Cell Manager

What has changed?

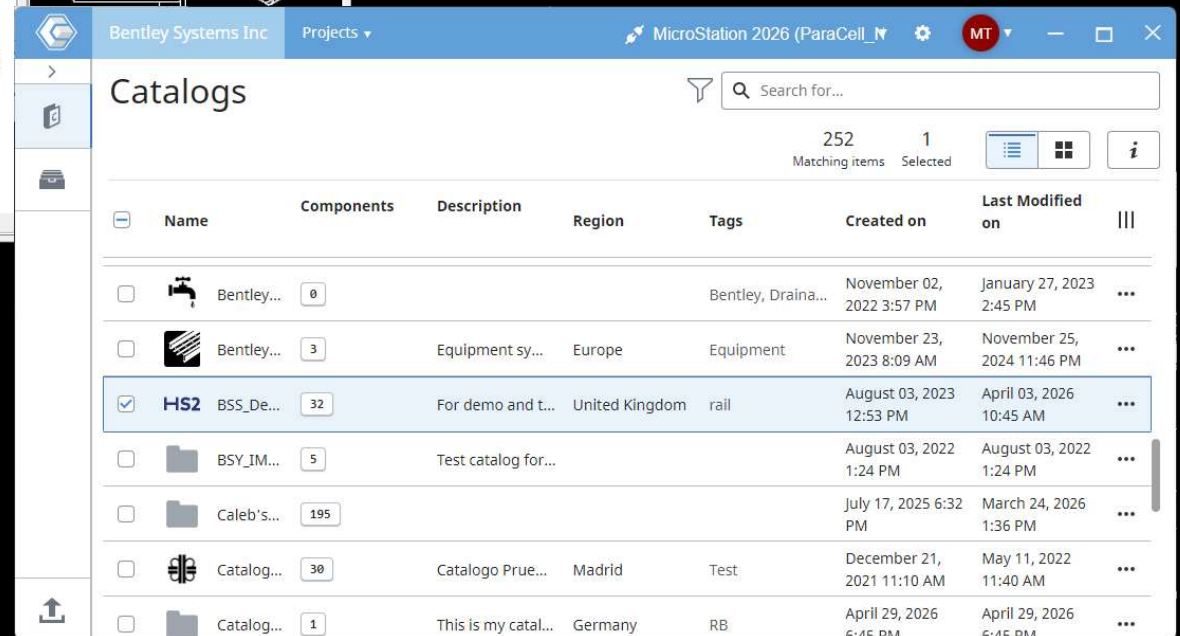
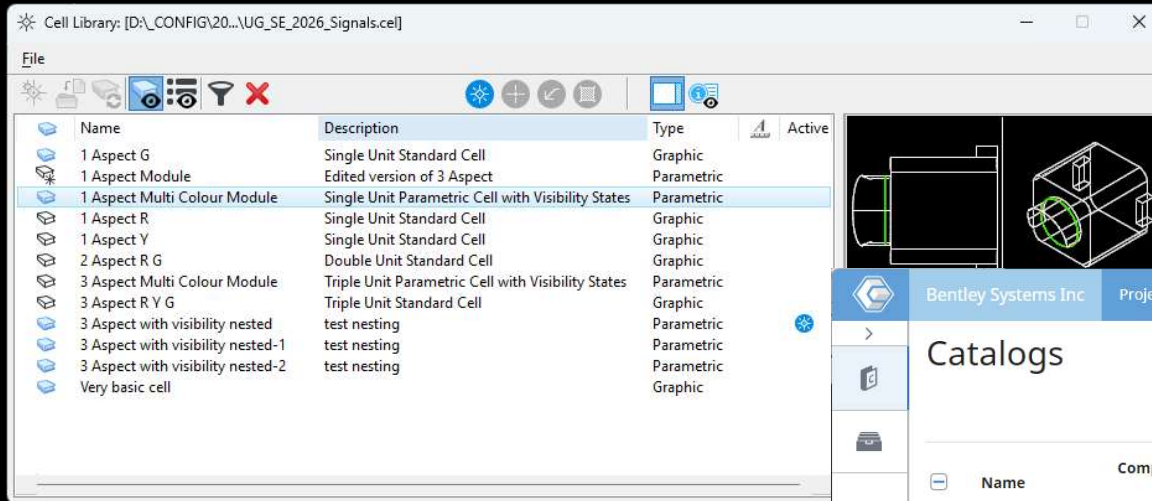
Cells:

- Direct editing of cells in DGNs
- Continuing development of Parametric cell capabilities

Components Center:

- Components Center is being re-engineered as a fundamental part of BIC
- It is running a fast development cycle
- Increased desktop integration with desktop/online user interface alignment
- Development continues on a quarterly cycle independent of desktop applications

Components Center and Cell Manager



Components Center and Cell Manager

Cells have always been part of MicroStation

- Graphic
- Point
 - Shared/not shared

And more recently...

- Parametric
 - shared by default

Components Center and Cell Manager

Cells may contain any MicroStation elements and associated data that can be stored at the Model level, including:

- Item Types
- Placement Points
- **Visibility States** (from 2026)



Parametric cells can also contain variables; these can be driven by external Excel data

Components Center and Cell Manager

Cell Creation

Standard method

Select elements, place cell origin, add to library as graphic, point or parametric.

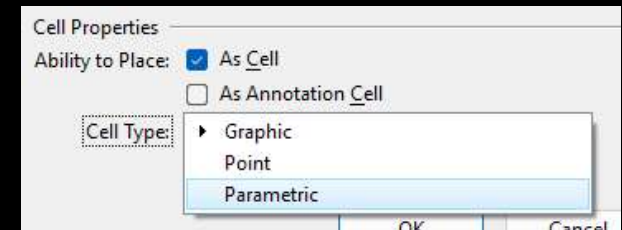
Good for on-the-fly cell creation for project specific content

Alternative method using Import Model

For more complex cells work in a DGN, one cell per model. This offers greater control over content and is easier to work with when the content design process is longer.

Import cells into an active CEL or DGNLIB when ready.

*Check the Model properties when creating cells in a DGN.
Cells with parametric content will not behave parametrically
unless the Model is set As Cell and Parametric.*



Related tip!

Place Model as cell - only turn on if needed

Turning on for models that are not cells can hit performance when creating 3D views.

Create Model

Type: Design 3D

Seed Model: <Not using seed>

Name: Untitled Design

Description:

Ref Logical:

Line Style Scale: Annotation Scale

☒ Auto-Update Fields

Annotation Scale

☒ Propagate

Cell Properties

Ability to Place: ☐ As Cell ☒ As Annotation Cell

Cell Type: Graphic

☒ Create a View Group

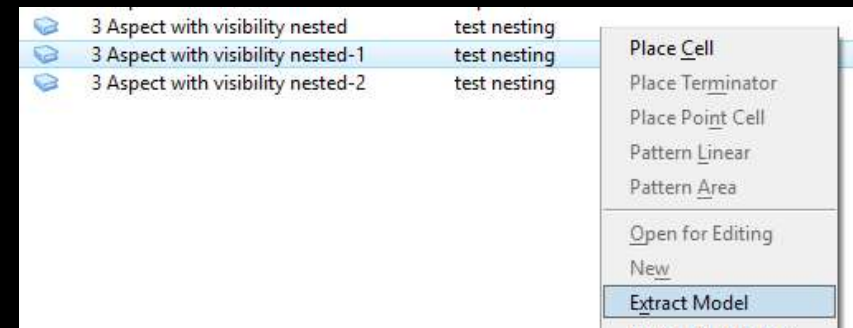
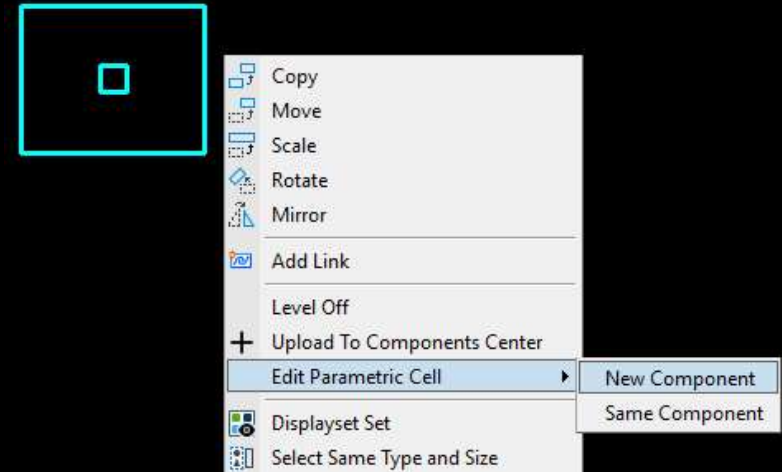
OK Cancel

Components Center and Cell Manager

Direct Cell Editing

Parametric cells can be edited in place:

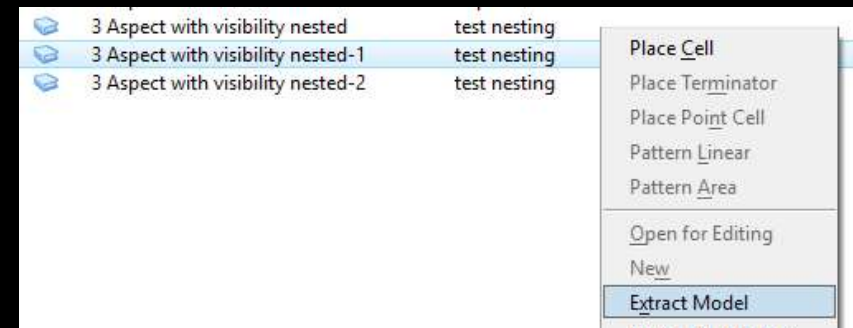
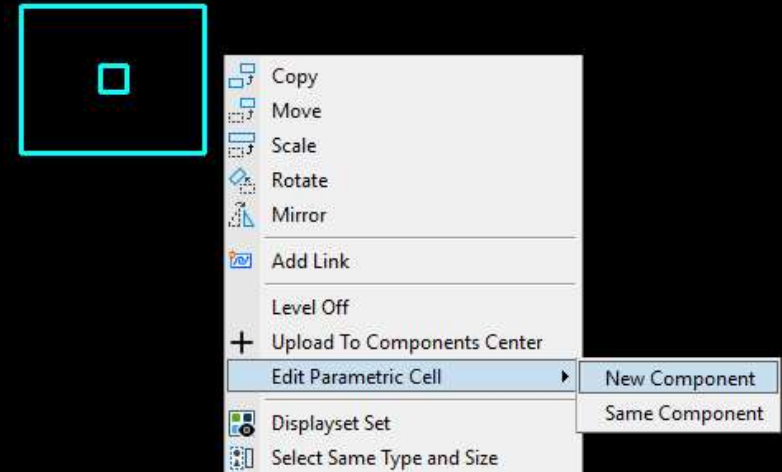
- Offers flexibility to end users for on-the-fly changes needed to meet project needs and deadlines.
- Edit a placed Parametric Cell to create a local version.
- Right-press to upload direct to **Components Center**.
A quick way for end users to share content to a managed library.
- Extract Model from Cell Manager to add to a Cell Library.



Components Center and Cell Manager

Direct Cell Editing

- **New Component** will create a local copy of the cell that can diverge from the source library instance.
 - MicroStation will prompt for a new name.
- **Same Component** will modify the locally stored definition.
 - It will need to be manually added to a library for reuse.
- For parametric cells only
 - Once placed, a hidden Model is stored in the DGN containing the Parametric Cell definition
 - This can be viewed and extracted from the Cell Manager

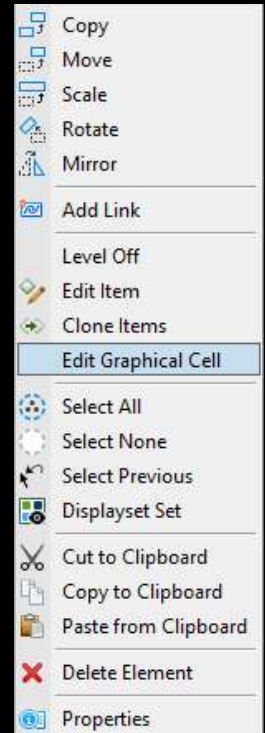


Components Center and Cell Manager

Direct Cell Editing

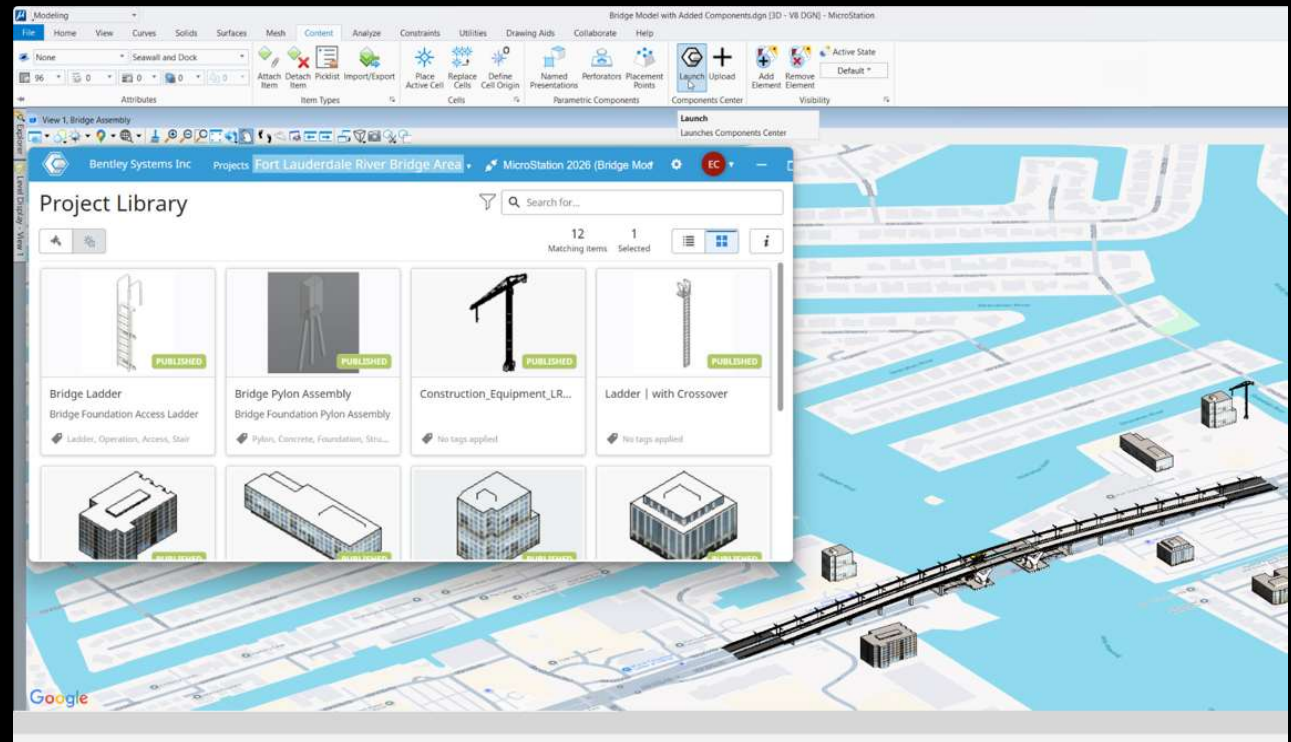
Graphic cells can also be directly edited, again good for local changes on the fly. But...this is unmanaged:

- No automatic renaming of edited instances.
- Contents diverge from source cell and library.
- Updating from source library by name will overwrite changes.
- Drop edited cell may be advisable before saving as new to avoid nesting the result.
(end users need to be aware of these factors)



Why Components Center 2.0?

- Cloud-based library with deep MicroStation + Bentley Infrastructure Cloud integration.
- Governance, catalogs, and traceability for connected, compliant design.
- iTwin-friendly; modern, consistent UI across design apps.
- Components can be directly used in: MicroStation and OpenX applications, Revit and Civil3D.
- Frequent updates.
- Bulk editing of metadata.
- External sharing of Catalogs.



Why Components Center 2.0?

The three most compelling reasons?

Single instance storage and versioning

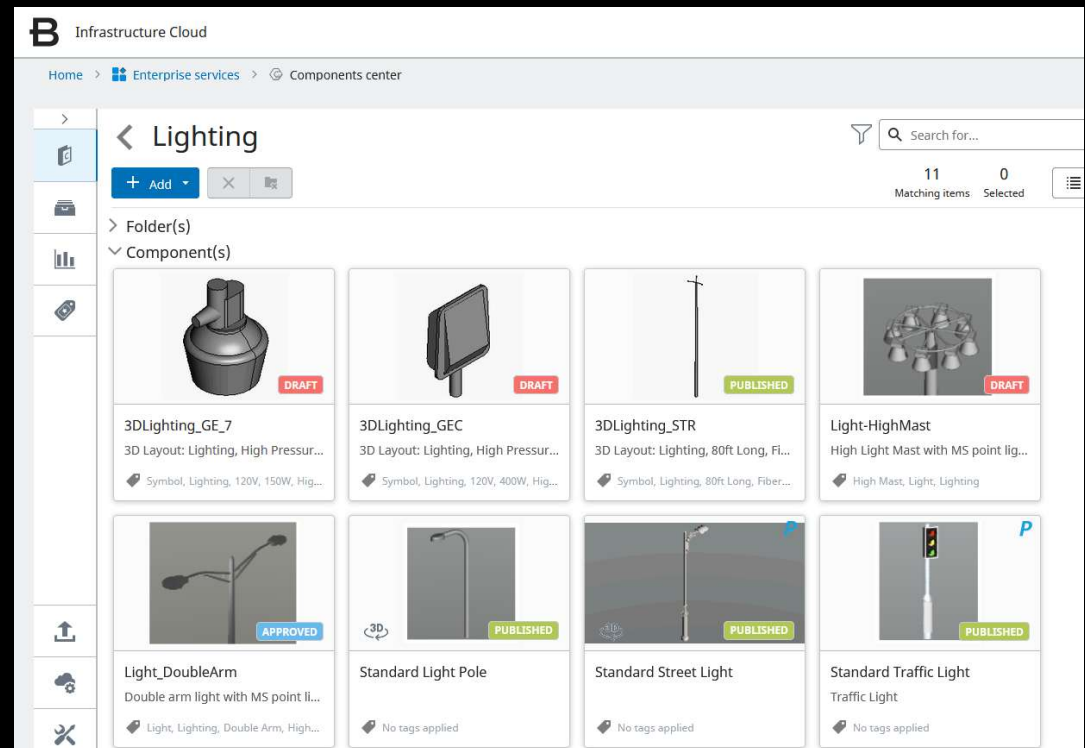
- One instance of each component with version control.

Publication workflow

- From end user uploaded draft to approved publication.

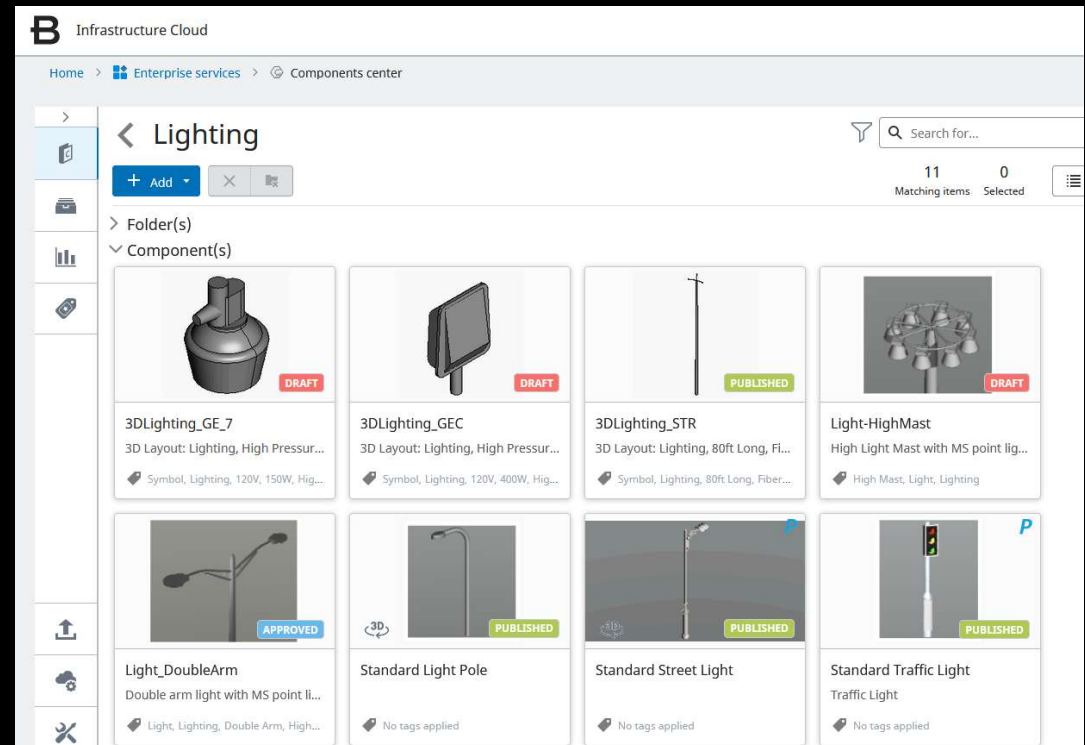
References

- Attachment of related documents as references.



Who is it for?

- Primarily larger organizations who wish to have a managed process for creating and maintaining **single instances** of shared components.
- This is provided by:
 - The **publication status** workflow
 - **Extensive metadata** management
- Organizations who wish to maintain **reference data** such as specifications, installation or maintenance manuals alongside their components.
- Smaller organizations may prefer to continue using local storage and MicroStation's Cell Manager tool.



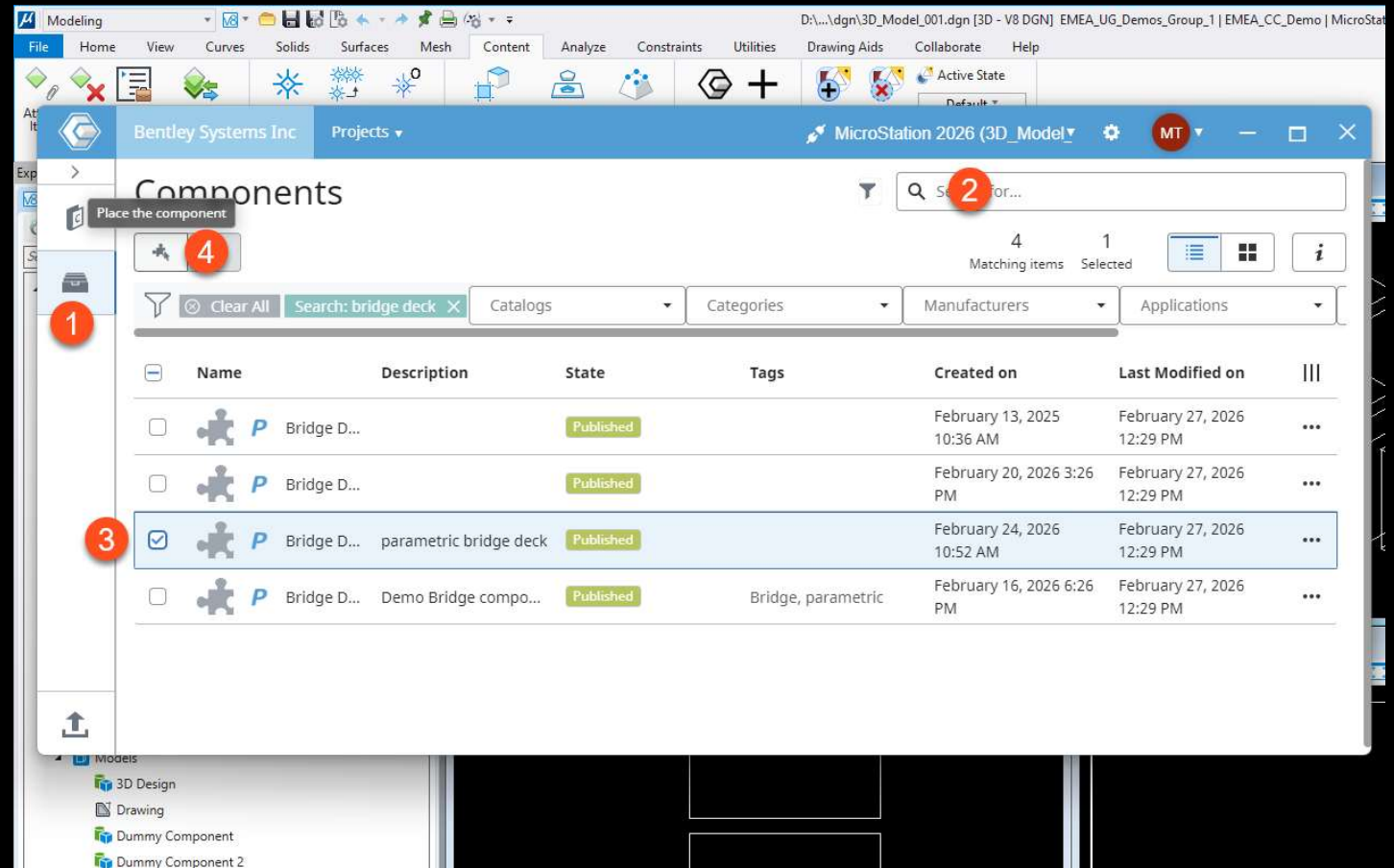
Components are king!

- Each is a **single instance**
- Components can be in multiple Catalogs
- They can carry multiple Tags
- Search is the primary filter method
- Component **Versioning** is now available

The Component View (1) shows all Components.

Search (2) by free text, tag and other filters.

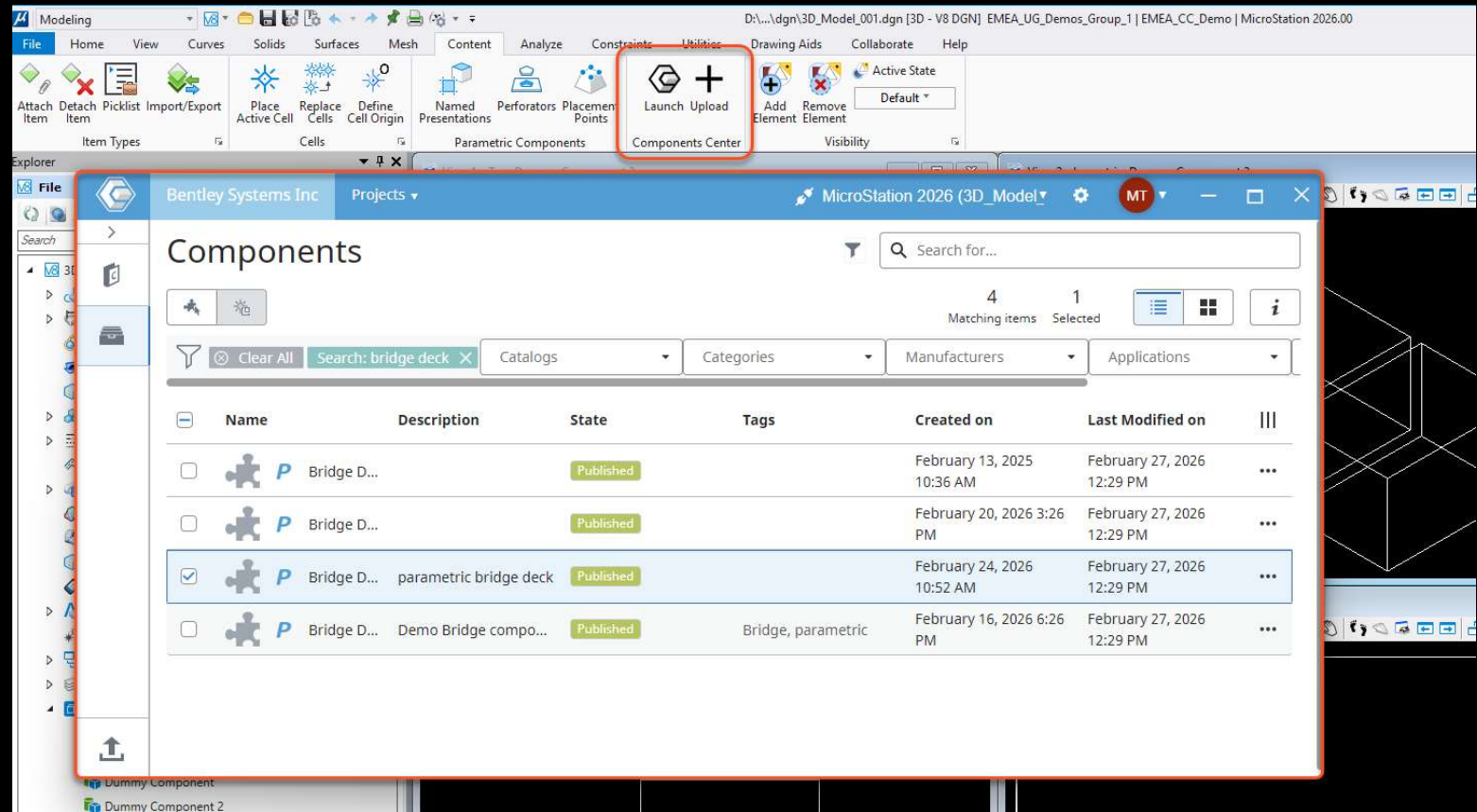
Select the Component (3) then place (4) to open the Place Cell tool in MicroStation.



Aligned Interfaces 2026

The 2026 Client interface and technology align with the online portal.

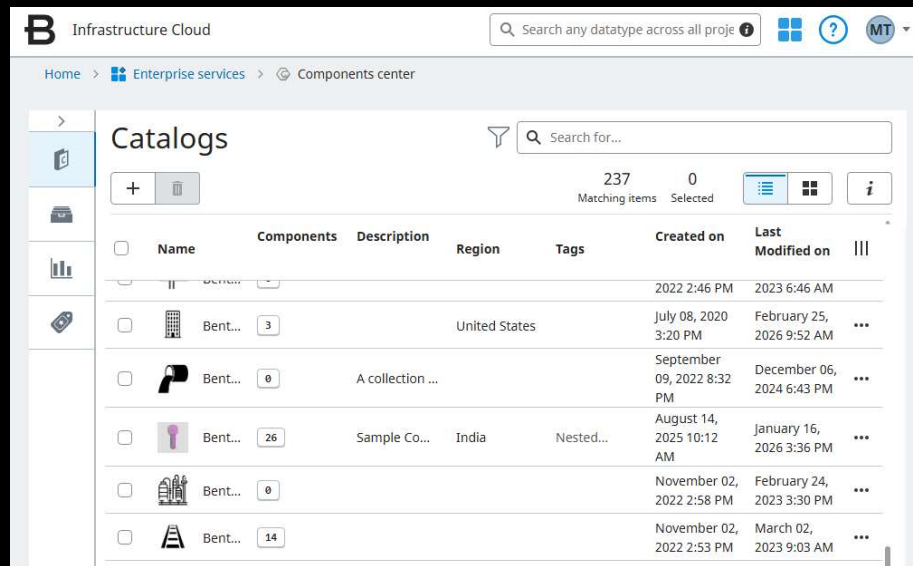
Catalog and Components views are visually and functionally very similar making it easier to work across both desktop and online contexts.



Aligned Interfaces 2026

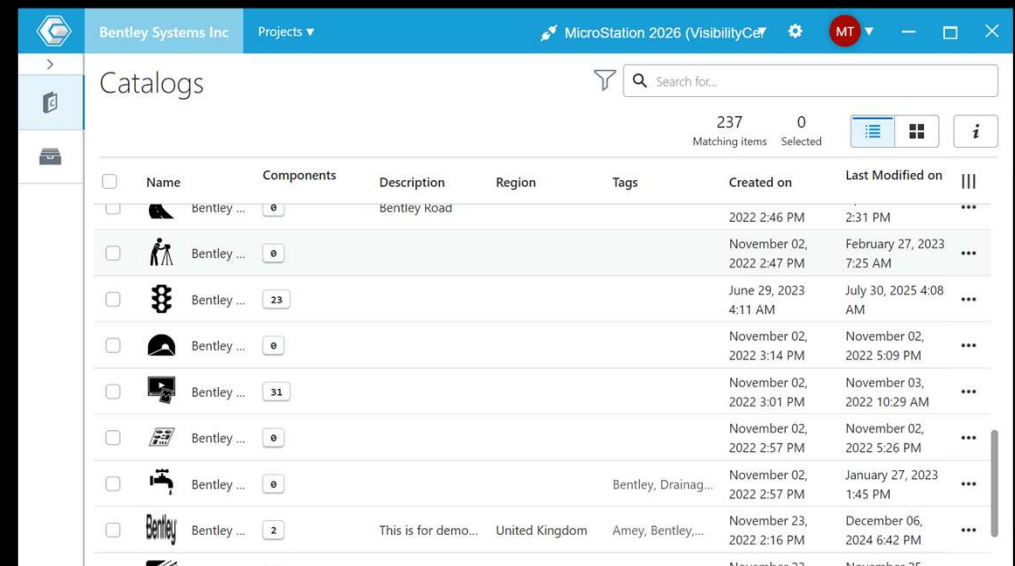
Online Catalog View

Note additional management options in the online interface.



MicroStation 2026 Catalog View

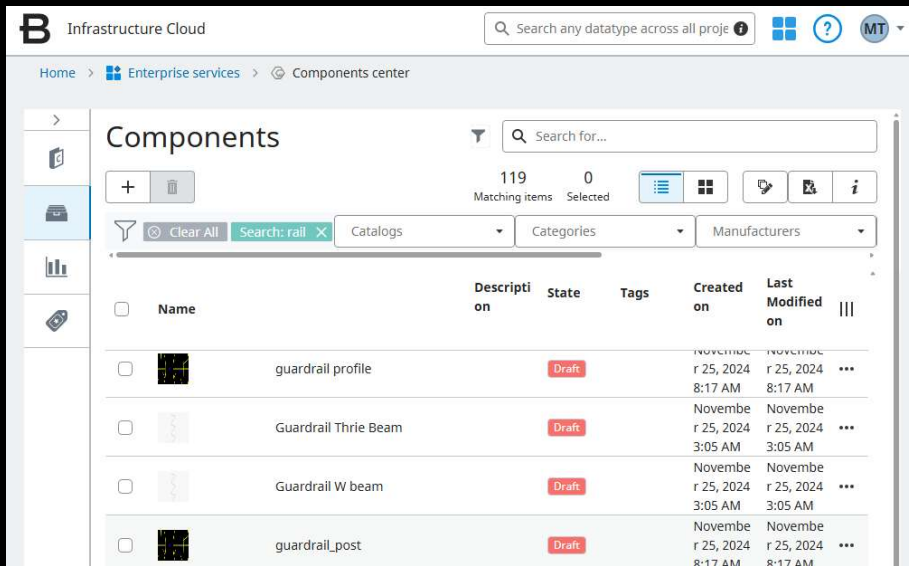
Desktop interface is focused on placement.



Aligned Interfaces 2026

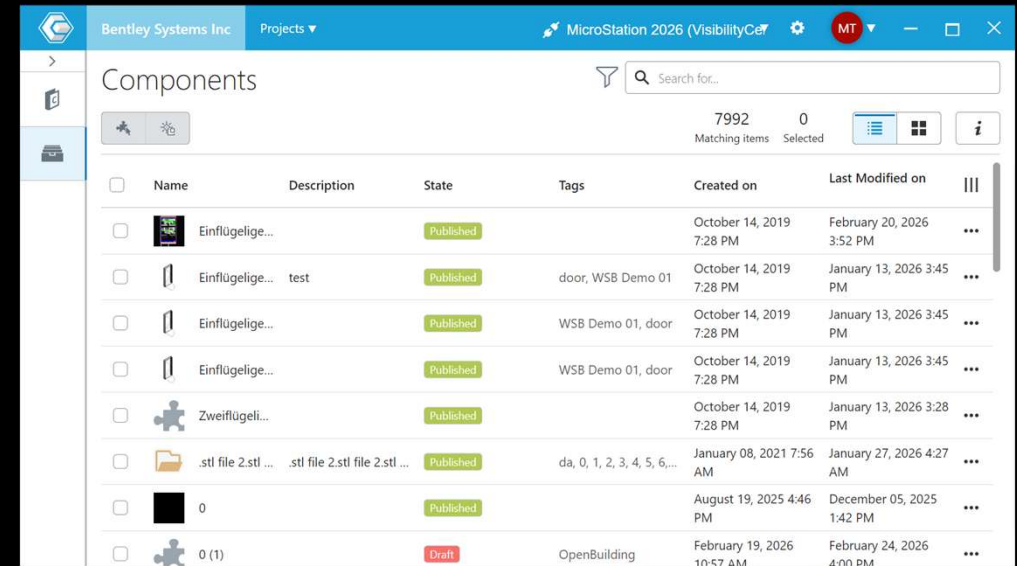
Online Components View

Note additional management options in the online interface.



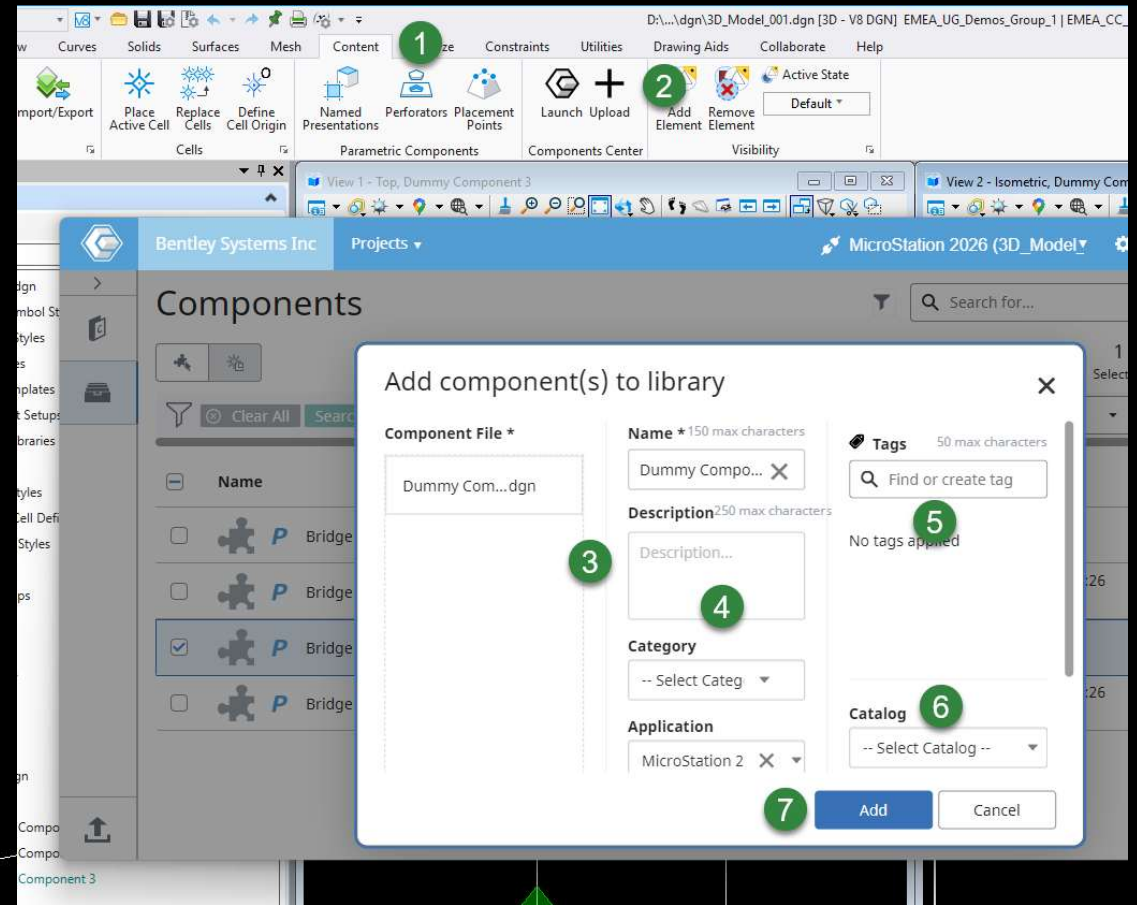
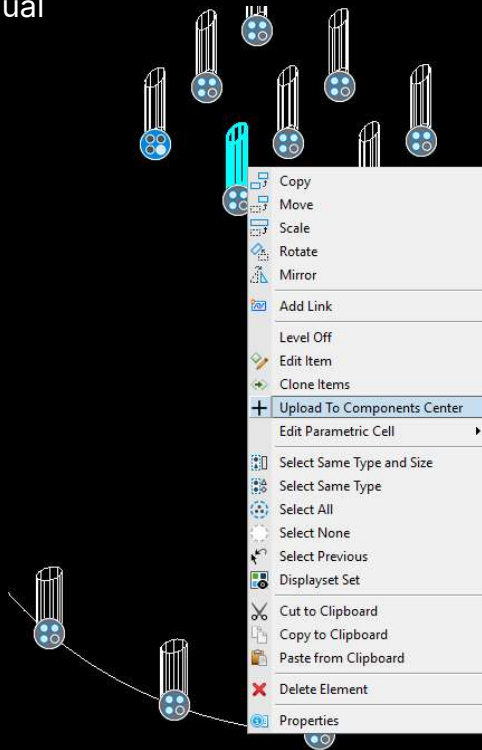
MicroStation 2026 Components View

Desktop interface is focused on placement.



Desktop Upload

- Direct from a design
- Via the portal
- Automatically split cell libraries into individual components

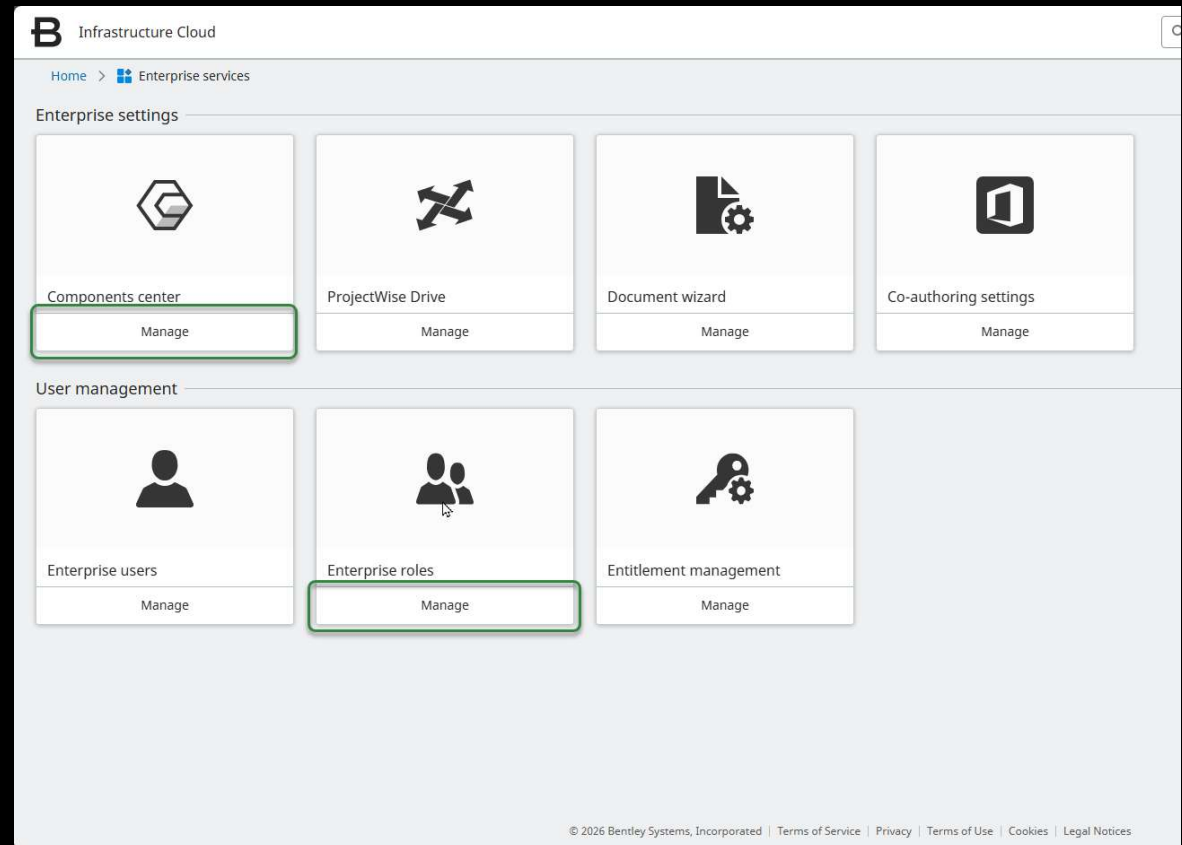


Getting Started...

The [Bentley Infrastructure Cloud \(BIC\)](#) start screen features two key links.

These apply to the entire enterprise:

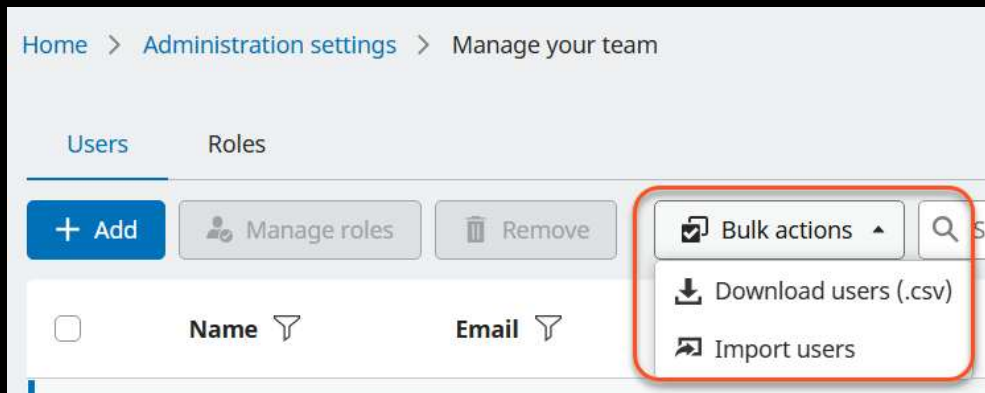
- **Components Center**
This launches the Components Center online portal where content can be created and managed.
- **Enterprise Roles**
This accesses user management for all Bentley online features.
The default Project Administrator Role includes access to all Components Center functions.
Other Enterprise Roles will need to be added or edited to deliver appropriate access for production use.



Workshop

Workshop preparation

Adding multiple users



The screenshot shows an Excel spreadsheet with the following data:

	A	B
1	Email	Role
2	thomas.balajan@almelo.nl	Components Center User
3	a.mermer@almelo.nl	Components Center User
4	e.westra@amsterdam.nl	Components Center User
5	d.wetzels@amsterdam.nl	Components Center User
6	v.wijnands@amsterdam.nl	Components Center User
7	n.schuurbiers@bergenopzoom.nl	Components Center User
8	daniel.klaassen@denhaag.nl	Components Center User
9	i.blaauw@hilversum.nl	Components Center User
10	m.schurink@hilversum.nl	Components Center User
11	ld.kerkhof@gmail.com	Components Center User
12	henk.besselink@tilburg.nl	Components Center User
13	emma.kaandorp@tilburg.nl	Components Center User
14	jeroen.snoeren@tilburg.nl	Components Center User
15	c.peek@operaballet.nl	Components Center User
16	rjd.heijnsbroek@syntrophos.nl	Components Center User
17		

Demo/workshop steps

From MicroStation create and upload a cell to Components Center as-is (ask then to bring their own cells optionally) Save settings before upload to create a thumbnail of the object.

Review the options available for the end user, note that default state is draft

End user can create tags?

Move to online portal

Find the component, modify the metadata, using tags, categories, applications, manufacturers

Discuss value or otherwise of Catalogs (could be useful for project grouping if it is useful to store project specific docs?)

Discuss approvals, the available states (draft and archive not visible in applications), options for Enterprise Roles to control approval workflow etc.

Bulk upload and upload of cell libraries as individual components via portal (note the thumbnail problem)

Upload job progress logging

Bulk rename of tags via external manipulation in Excel.

Some more detail and tips

Content publication workflow

Multiple Components may be selected (1).

People with Approve or higher Catalog Role can change the State (2,3) and save the changes (4).

The screenshot displays the Bentley Infrastructure Cloud Components center interface. The main view shows a list of components under the 'BSS_DemoSet' folder. Two components are selected, indicated by red circles and a '1' in a red circle. The 'Properties' panel on the right shows the 'State' dropdown menu, which is open, and the 'Published' option is selected, indicated by a red circle and a '3' in a red circle. The 'Common Tags' panel also shows the 'Published' option selected, indicated by a red circle and a '4' in a red circle. The 'State' dropdown menu is also open, showing options like 'Draft', 'Published', 'Checked', 'Archived', and 'No tags found', with 'Published' being the selected state, indicated by a red circle and a '2' in a red circle.

Infrastructure Cloud

Home > Enterprise services > Components center

BSS_DemoSet

+ Add X

Folder(s)

- BSS Rail Dem... 4
Contains obj...
- Demo Folder 4
Demo folder ...

Component(s)

	Name	Description	State	Tags	Created on	Last Modified on	
☒	Dummy Compone...		Draft		January 20, 2026 12:51 PM	January 20, 2026 12:51 PM	...
☒	PCC_Platform...	Precast Concrete Rail Plat...	Published		October 04, 2023 4:39 PM	August 07, 2025 11:52 PM	...
☐	ST 1.01	Insitu Concrete Piles - Co...	Published	HS2 Demo	August 03, 2023 11:58 AM	January 06, 2026 4:50 PM	...
☐	ST 1.01 DGN		Published	HS2 Demo	August 03, 2023 12:08 PM	January 06, 2026 4:50 PM	...
☐	ST 1.02		Draft	HS2 Demo	October 02, 2023 2:24 PM	January 06, 2026 4:50 PM	...
☐	ST 1.03		Draft	HS2 Demo	October 02, 2023 2:24 PM	January 06, 2026 4:50 PM	...
☐	ST 1.04		Draft	HS2 Demo	October 02, 2023 2:24 PM	January 06, 2026 4:50 PM	...
☐	ST 1.04-		Draft	HS2 Demo	October 02, 2023 2:24 PM	January 06, 2026 4:50 PM	...

2 Items selected

Properties Design Files References

4

Multiple Components Selected

Folder(s): N/A

Category: Mixed

Manufacturer: Mixed

Application: Mixed

2 State: Mixed

Common Tags

Find or create

No tags found

Approved

Archived

Checked 3

Draft

Published

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Managing Components

Components are single instance objects that may be viewed in various ways.

Switch to Components View (1) to see every Component in the Enterprise.

Add or Delete Components (2).

Filter and search for Components (3,4).

After enabling filters use the drop-down lists to narrow the search source (5).

Open the Information Panel (6) to view and edit Component details (7).

The screenshot displays the Bentley Infrastructure Cloud Components center interface. The main area shows a list of components with columns: Name, Description, State, Tags, Created on, and Last Modified on. Two components are selected, and the Information Panel on the right displays their details, including Catalog(s), Category, Manufacturer, Application, and State. Red numbered callouts (1-7) highlight key features: (1) Components View icon, (2) Add/Delete icons, (3) Search bar, (4) Filter icon, (5) Filter dropdowns, (6) Information Panel icon, and (7) Multiple Components Selected message.

Name	Description	State	Tags	Created on	Last Modified on
Einflügelige Tür - ...		Published		October 14, 2019 7:28 PM	December 05, 2025 3:44 PM
Einflügelige Tür - ...	test	Published	door, WSB Demo 01	October 14, 2019 7:28 PM	January 13, 2026 3:45 PM
Einflügelige Tür - ...		Published	WSB Demo 01, door	October 14, 2019 7:28 PM	January 13, 2026 3:45 PM
Einflügelige Tür - ...		Published	WSB Demo 01, door	October 14, 2019 7:28 PM	January 13, 2026 3:45 PM
Zweiflügelige Tür - ...		Published		October 14, 2019 7:28 PM	January 13, 2026 3:28 PM
.stl file 2.stl file 2.s...	.stl file 2.stl file 2.stl file 2....	Published	da, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9...	January 08, 2021 7:56 AM	January 13, 2026 3:28 PM
0		Published		August 19, 2025 4:46 PM	December 05, 2025 1:42 PM
000-525-1of5		Published		September 23, 2025 7:43 PM	September 23, 2025 8:31 PM
000-525-2of5		Published		September 23, 2025 7:43 PM	September 23, 2025 8:31 PM
000-525-3of5		Draft		September 23, 2025 7:43 PM	January 13, 2026 3:28 PM
000-525-4of5		Published		September 23, 2025 7:43 PM	September 23, 2025 8:31 PM

Information Panel (Multiple Components Selected):

- Catalog(s): 01 - Upload, Caleb's Catalog, Dem...
- Category: Türen
- Manufacturer: N/A
- Application: OpenBuildings Designer 2024
- State: Published
- Common Tags: door, WSB Demo 01

Managing Catalogs - References

References are links to related material that supports use of the Catalog in some way. They can be:

1. Documents

Add Document opens a Windows file browser to locate and upload the document(s). These could contain Catalog contents, usage guidelines, specifications, etc. Once uploaded the referenced documents may be downloaded by the end user.

2. Links

Add Link prompts to specify link name and URL. Links are likely to be more flexible for future updating of the referenced content and avoid needing to update downloaded documents.

The screenshot shows the Bentley Infrastructure Cloud interface for the 'BSS_DemoSet' catalog. The main area features a large 'HS2' asset card with a description 'For demo and testing for users inc HS2' and a 'Tags' section with 'rail'. To the right, there's a 'References (1)' section showing a document 'Catalog Content and Usage Guidelines.docx'. Below the asset card, there's an 'Add Reference' dropdown menu with options for 'Add Documents' and 'Add Link'. An 'Add Link' dialog box is open, prompting for 'Name' and 'URL'. The dialog box has fields for 'Name' (with a 50 max characters limit) and 'URL'. The background shows a list of shared items and an 'Access Control' section.

Access Control

Components Center access roles

Role								
Role	Read	Upload	Write	Approve	Share Catalog	Access Control		
General	☒							
Designer	☒	☒						
Creator	☒	☒	☒					
Approver	☒	☒	☒	☒	☒			
Admin	☒	☒	☒	☒	☒	☒		
No access								
							Cancel	

Access Control

Enterprise default Roles:

1. Project Administrator
2. Team Member

Home BAS Engineering

Account management

Users Roles

+ Create Edit Delete

	Name
☒	Project Administrator 1
☐	Team Member 2
☐	
☐	
☐	
☐	
☐	
☐	
☐	
☐	

1 row selected

Role details

Role name: Project Administrator

Role description: Project Administrator

Selected permissions: Expand all

Permission groups

> Administration	9/10
> Project Activities	1/11
▼ Components Center	8/10
Read	
Upload	
Write	
Approve	
View Analytics	
Share Catalogs	
Delete	
Edit	
> Construction Services	1/2
> iModelHub	5/5
> Project Insights Service	2/2
> ProjectWise Deliverables Management	5/5
> ProjectWise Forms	10/10
> Reality data and geospatial features	4/4

Access Control

Assign Components Center permissions to generic or explicit Roles as appropriate to the organisation.

- For example, Components Center General only contains the Components Center > Read permission. This could simply be added to Team member.

The screenshot shows the 'Account management' interface with the 'Roles' tab selected. The interface includes a navigation bar with 'Home', 'BAS Engineering', 'Assets', and 'Projects'. Below the navigation bar, there are tabs for 'Users' and 'Roles', with 'Roles' being the active tab. A toolbar contains three buttons: '+ Create', 'Edit', and 'Delete'. The main content area displays a list of roles, each with a checkbox and a name. The roles are: Project Administrator, Team Member, BIC0001 BIM Coordinator, Component Center Approver, Component Center Creator, Components Center Administrator, Components Center General, iTwin Creator, and iTwinX. The last four roles are highlighted with an orange box.

☐	Name
☐	Project Administrator
☐	Team Member
☐	BIC0001 BIM Coordinator
☐	Component Center Approver
☐	Component Center Creator
☐	Components Center Administrator
☐	Components Center General
☐	iTwin Creator
☐	iTwinX

Components, Catalogs and Folders

Components are single instance objects viewed as members of these three containers.

Components View

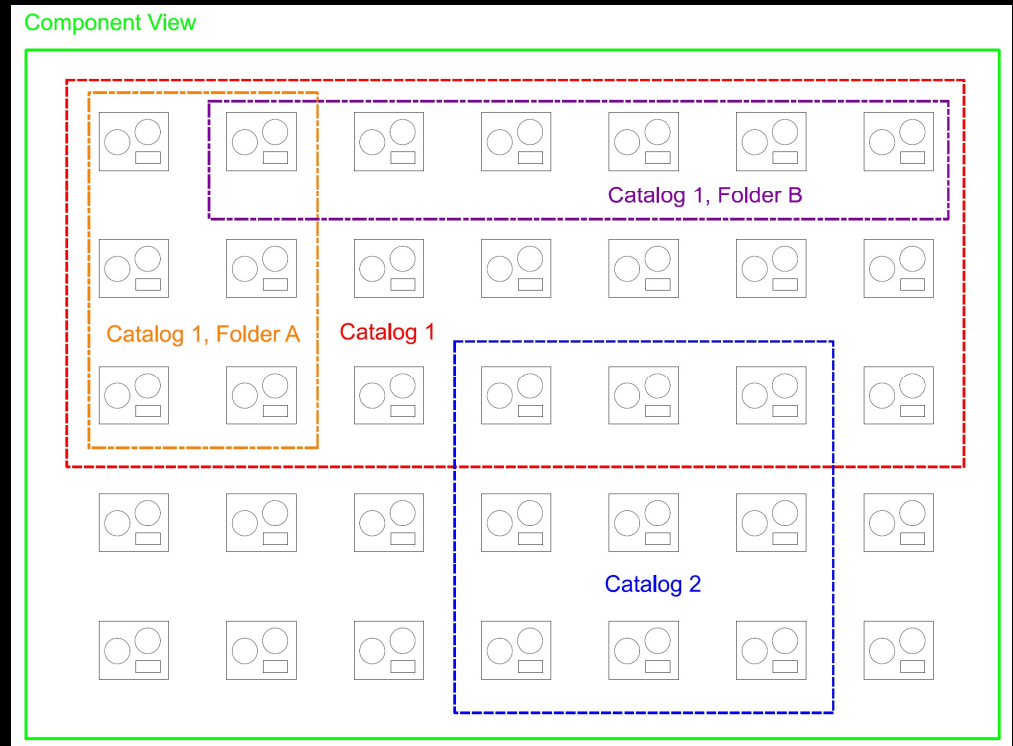
- All Components are visible in an unfiltered Components View of the Enterprise.
- Any Components can be accessed directly from this View.

Catalogs

- Components may be members of multiple Catalogs.
- The Catalog Components View will only show Components present in the active Catalog.
- Catalogs may contain Folders that can help to organize Catalog content.

Folders

- Folders are only visible from their parent Catalog.
- Components may be members of multiple Folders.
 - The Folder Components View will only show Components present in that Folder.
 - Once added to a Folder, Components are no longer visible in the Catalog Components View.



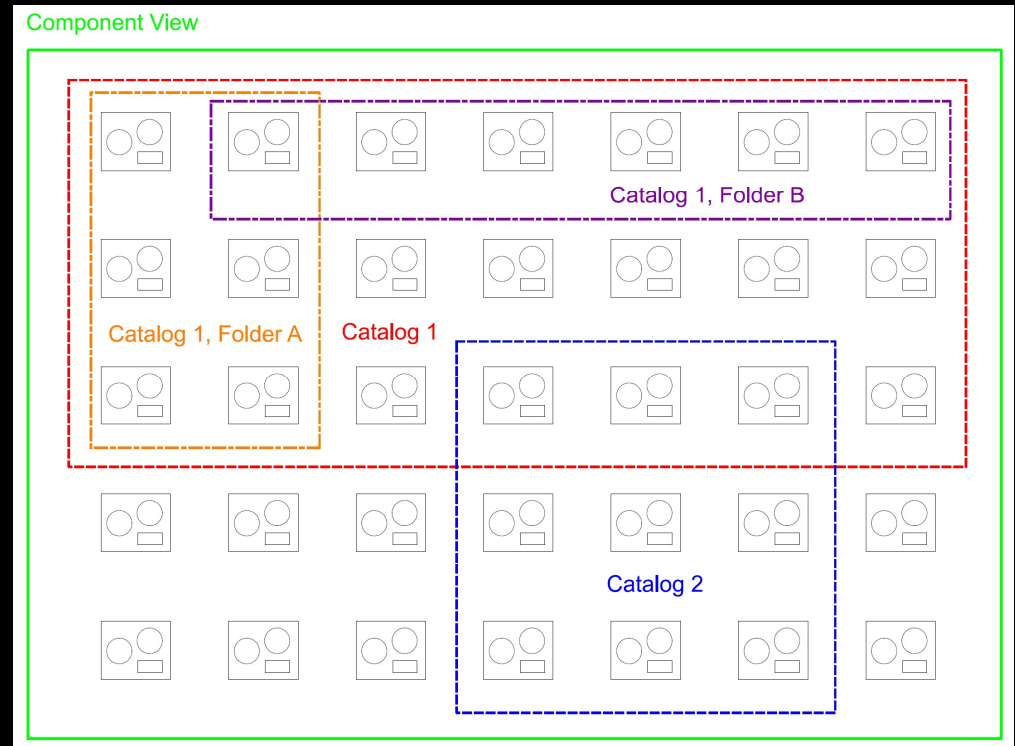
Tags and Component Names

Tags

- Components may be filtered by Tags in any View.
- When in Catalog or Folder Components Views, Tag filtering will apply only to Components included in those containers.
- To enable consistent search results Tag names should follow consistent patterns appropriate to the Enterprise's activities.
 - Tags can be created on the fly. We recommend that either this is discouraged so consistent naming can be maintained or robust naming protocols are communicated to end users.

Component Names

- Search by name is most useful when Component names are consistent and well structured.
- Consider using:
 - Structured abbreviations or codes
 - Consistent word order
 - Underscores instead of spaces to reduce error



Metadata/Properties

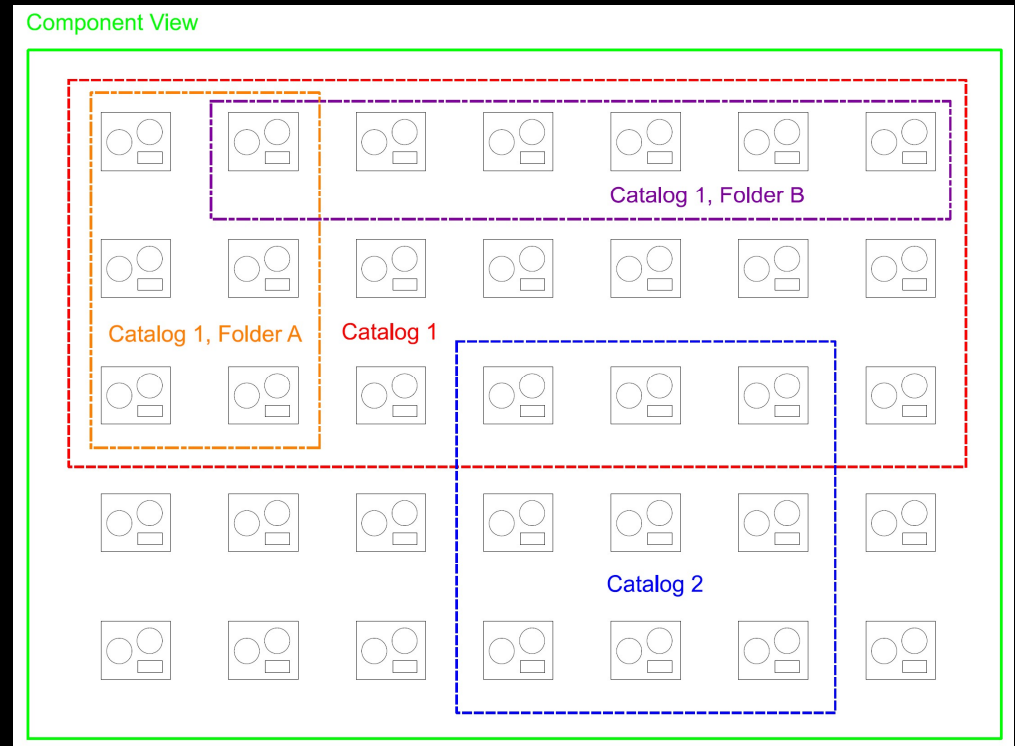
Pre-set lists

There are four pre-set lists, three are editable:

- Categories:
Appropriate high-level grouping suitable for the enterprise's activities.
- Manufacturers:
Component vendors and suppliers.
- Applications:
The application that a Component was created with (where appropriate).
- States:
Hard-coded publication process states.

Free Text

The Components Description is a free text field.



Sharing Externally

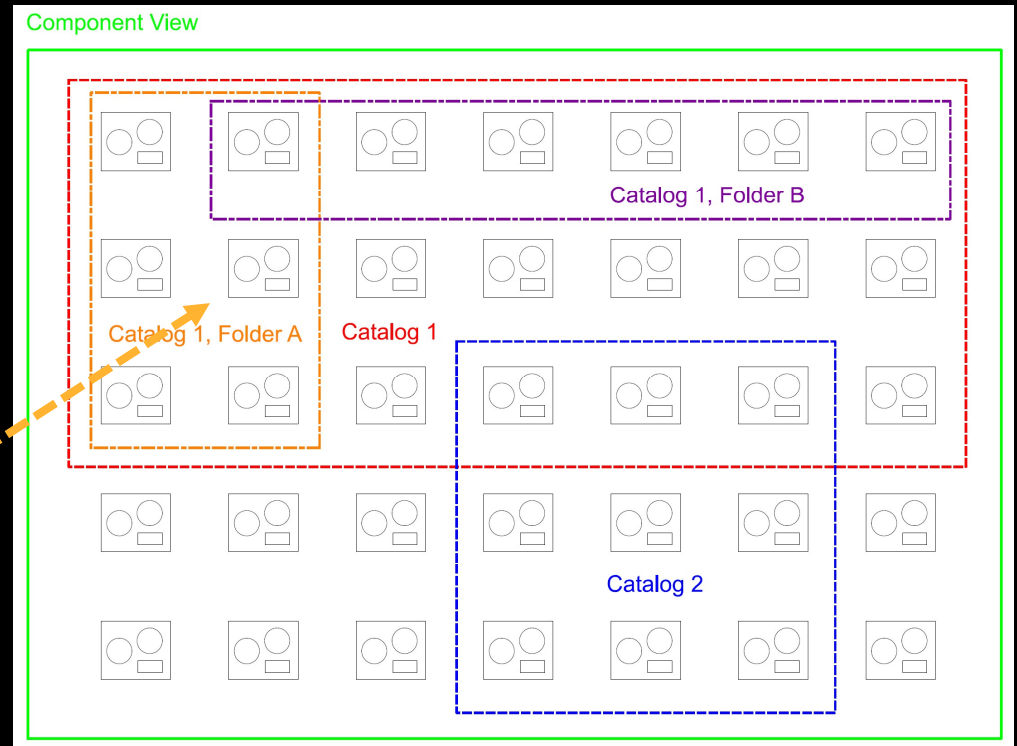
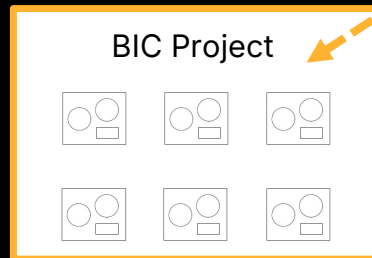
Internal Access

Everyone within the host enterprise has access to their Components Center, subject to assigned User or Role Mode access permissions.

External Access

Catalogs can be shared to users from other organizations via Bentley Infrastructure Cloud Projects.

When a Catalog is added to a BIC Project all users, internal or external automatically have access to the Catalog contents. Permissions do not need to be added in Components Center.



Managing Catalogs

The Manage Catalog page offers an overview and several features:

1. **Edit Catalog**
Enables modification of Catalog properties.
2. **Add Reference**
Enables Catalog related documents to be attached.
3. **Manage Security**
Opens the User Management view.
4. **Shared with projects**
Lists any projects the Catalog has been shared with.
5. **Folders and Components**
Opens the Components view.

The screenshot displays the 'Manage Catalog' interface for a catalog named 'BSS_DemoSet'. The interface is divided into several sections:

- Header:** Shows the catalog name 'BSS_DemoSet' with a back arrow and an edit icon (1).
- Components:** A donut chart showing 153 total components, with 3 Published (green) and 149 Draft (red). A legend indicates 3 Published and 1 Approved (blue).
- Activity:** Lists metrics: 6 Downloads, 28 Placements, 0 Loads, and 0 Opens.
- Access Control:** Shows user roles MT and RJ, and a 'Manage Security' button (3).
- References (0):** A section for adding references, featuring a chain link icon and an '+ Add Reference' button (2).
- Shared with projects (6):** A list of projects shared with the catalog, including 'BSS_Mstn_DemoProject_01', 'BSS_Mstn_DemoProject_02', and 'BSS_Mstn_DemoProject_03'. A share icon (4) is present.
- Folders and Components (51):** A grid of components and folders, including 'BSS ...onents', 'PCC...ntWall', 'ST 1.01', 'ST 1.01 DGN', 'ST 1.02', and 'ST 1.03'. A 'View All' button (5) is located at the top right.

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Q & A

Thank you

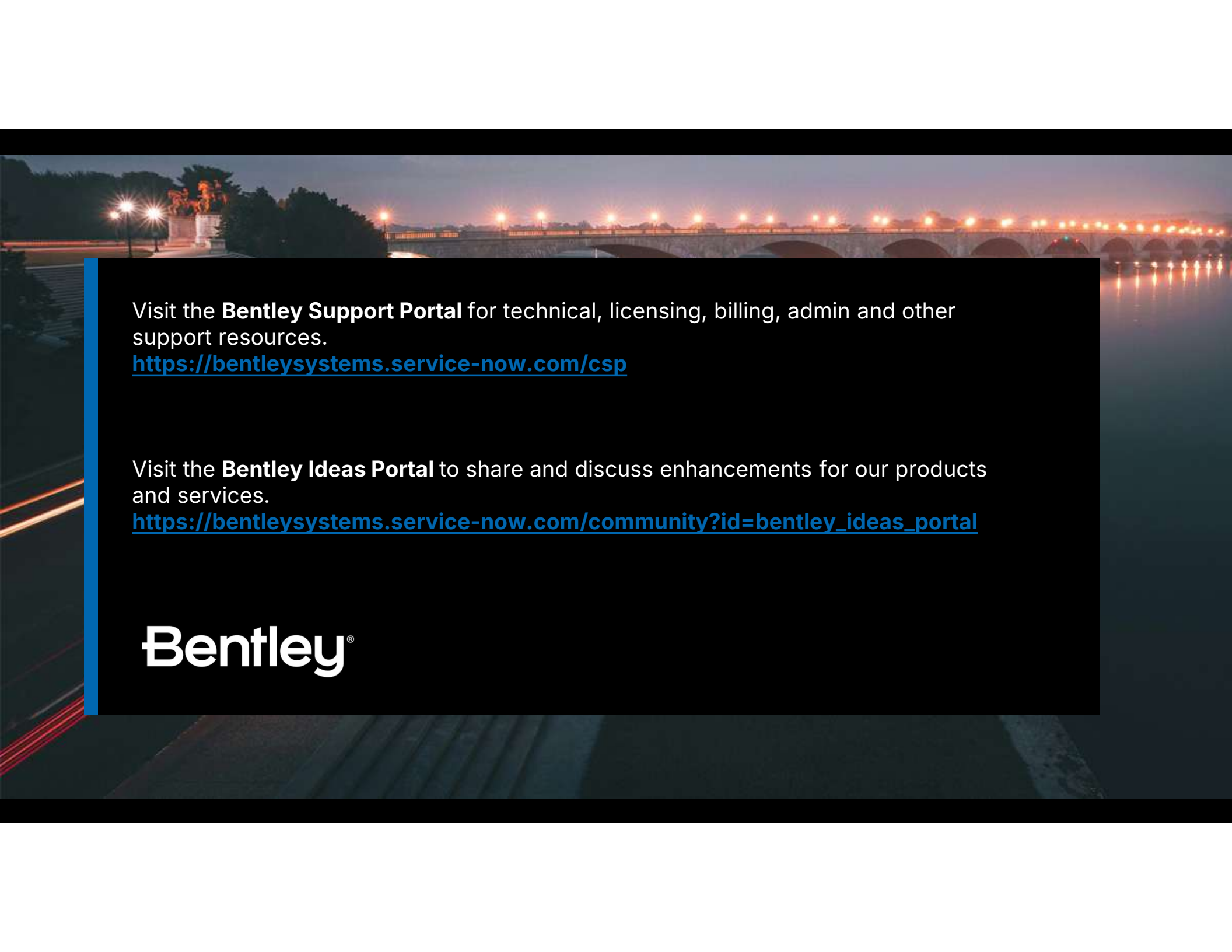
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