FROM DESIGN REVIEW TO CHANGE
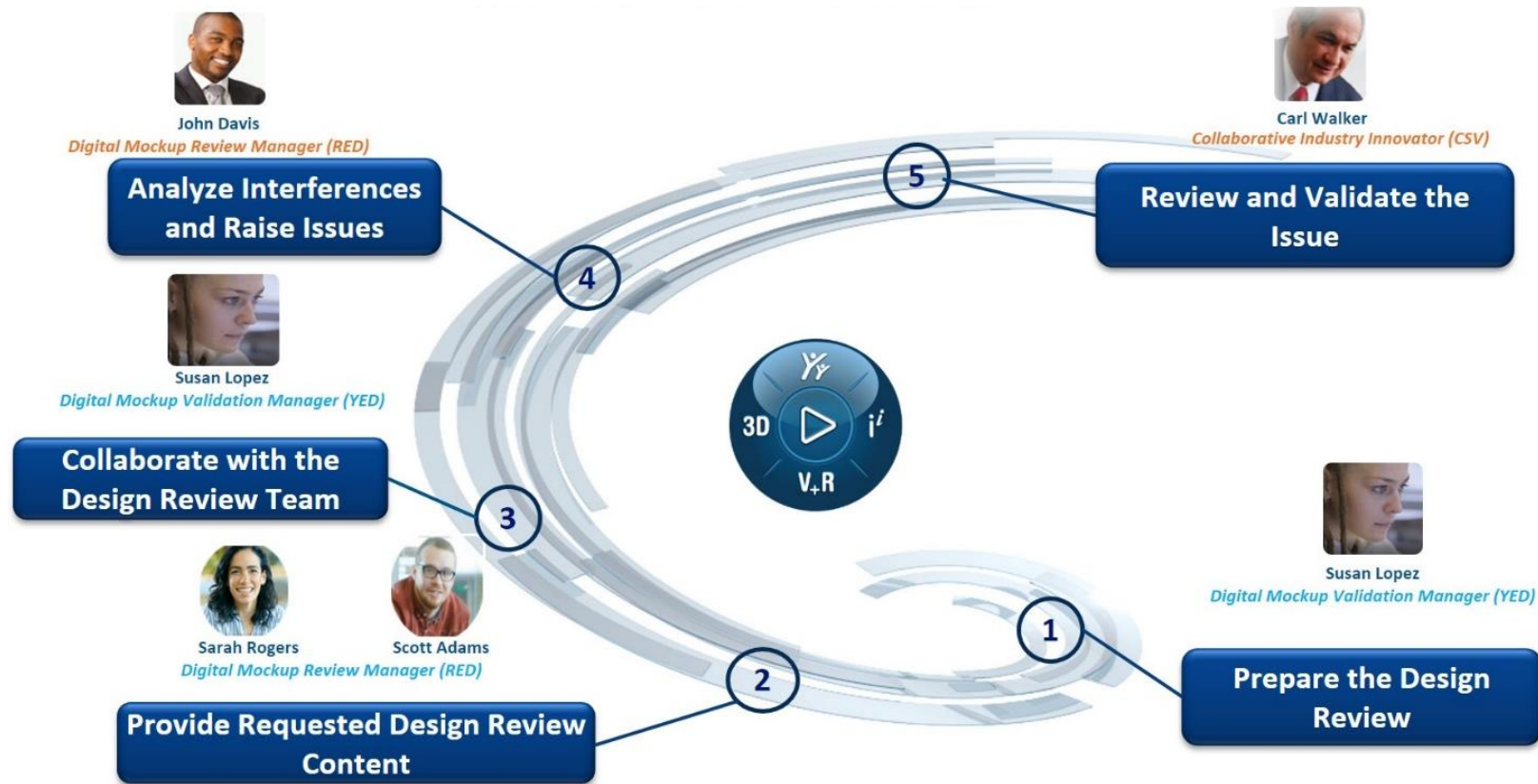
Focus on the web capabilities

COLLABORATIVE DESIGN REVIEW

Design reviews are important activities that contribute to the accuracy of the design work.

The 3DEXPERIENCE platform provides several roles and applications (native / web) to support efficient design review processes and collaboration.

	Role	Native / Dashboard
1/2	Collaborative Industry Innovator (CSV)	Native/Dashboard
1	Digital Mockup Review Engineer (DRN)	Native
2	Digital Mockup Validation Engineer (DEY)	Native
3	Digital Mockup Review Manager (RED)	Dashboard
4	Digital Mockup Validation Manager (YED)	Dashboard

DESIGN REVIEW PROCESS, DASHBOARD

John Davis
Digital Mockup Review Manager (RED)

Analyze Interferences and Raise Issues

Susan Lopez
Digital Mockup Validation Manager (YED)

Collaborate with the Design Review Team

Sarah Rogers **Scott Adams**
Digital Mockup Review Manager (RED)

Provide Requested Design Review Content

Carl Walker
Collaborative Industry Innovator (CSV)

Review and Validate the Issue

Susan Lopez
Digital Mockup Validation Manager (YED)

Prepare the Design Review

5

4

3

2

1

3D V+R i

ENOVIA

DASSAULT SYSTEMES

COLLABORATIVE INDUSTRY INNOVATOR 1/2

Collaborative Industry Innovator – CSV provides the "3D Markup" app that enables a design review on web for multi-CAD product structures.
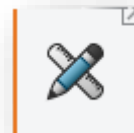
- This app delivers the following main capabilities:

  - Markup creation and review

  - Measure items, the distance between items, or thicknesses.

  - Cut through objects using a section plane.

  - Annotate objects using different types of annotations.

  - Create and play slides displaying specific states of the markup.
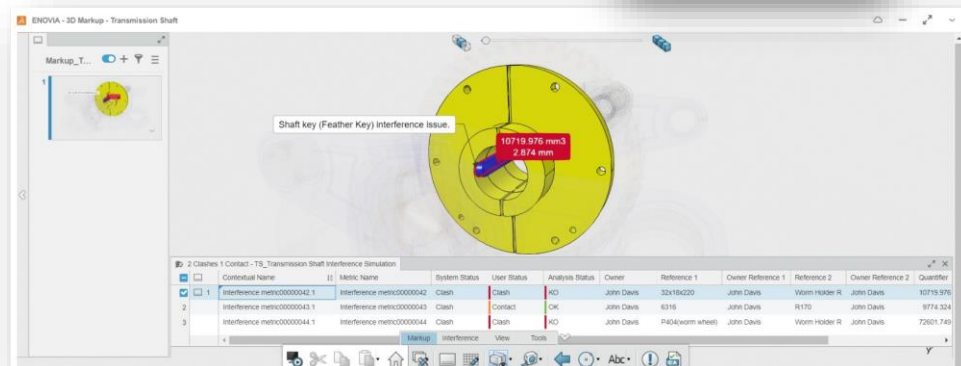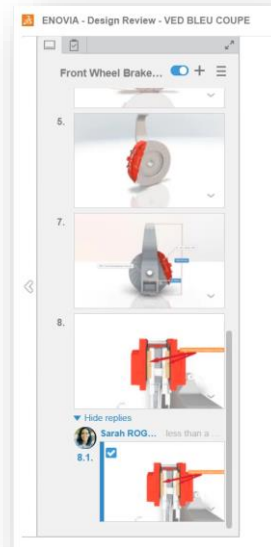
COLLABORATIVE INDUSTRY INNOVATOR 2/2

Collaborative Industry Innovator role provides also a set of apps that can help you collaborate around your design reviews:

	App	Main capabilities
1	Collaborative Tasks	Provides an intuitive user experience for simple task management (Without the need to create a project)
2	Issue Management	Enables a creation of issues that define problems to be resolved or functionality that needs to be investigated or improved
3	Change Action	Provides a formal change process that combines users, proposed changes, realized changes, attachments etc.

When creating a 3D Markup, you can directly raise an issue and/or a Change Action from the Markup itself. When both issue and Change Action are created from the same Markup, the Change Action is automatically linked to the Issue as "Resolved By" which streamlines the Issue definition.

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NEW!

DIGITAL MOCKUP VALIDATION MANAGER

YED

3D Annotation Insight

Design Validation

Interference Simulation

Validation Management

ENOVIA

DASSAULT SYSTEMES

Improve quality, reduce cost and time to market by effective management of the complete Digital Mockup review process

R2022x GA

Apps
- ❑ 3D Annotation insight
- ❑ Design Validation
- ❑ Interference Simulation
- ❑ Validation Management

Roles
- ✓ Digital Mockup Validation Manager (**YED**)

- The new role **Digital Mockup Validation Manager (YED)** enables users to validate virtual prototype & resolve issues by enabling formal management of the complete Digital Mockup review process using web browser.

- This new role provides the following benefits to the user:

  - Define and Manage all the elements of the design review process such as context, validated objects, checks, highlights, markups.

  - Validate review details in the slides and add appropriate stamp (Validated/Rejected). Create a Formal Issue and/or Change Action

  - Get real-time access of all the review elements and their Maturity/Validation status.

  - Define interference simulation details, context, specification, and initiate the simulation.

  - Visualize interference simulations stored in the **3D**EXPERIENCE platform and update their User Status and Analysis Status.
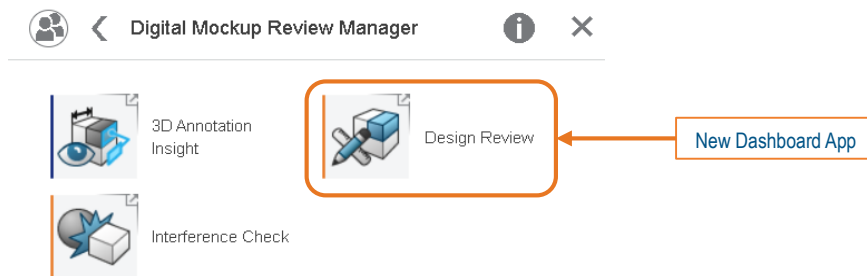
    Note:
    The role Digital mockup Validation Engineer (DEY) is still needed to compute interference simulation

Design Review Elements   Validation Management
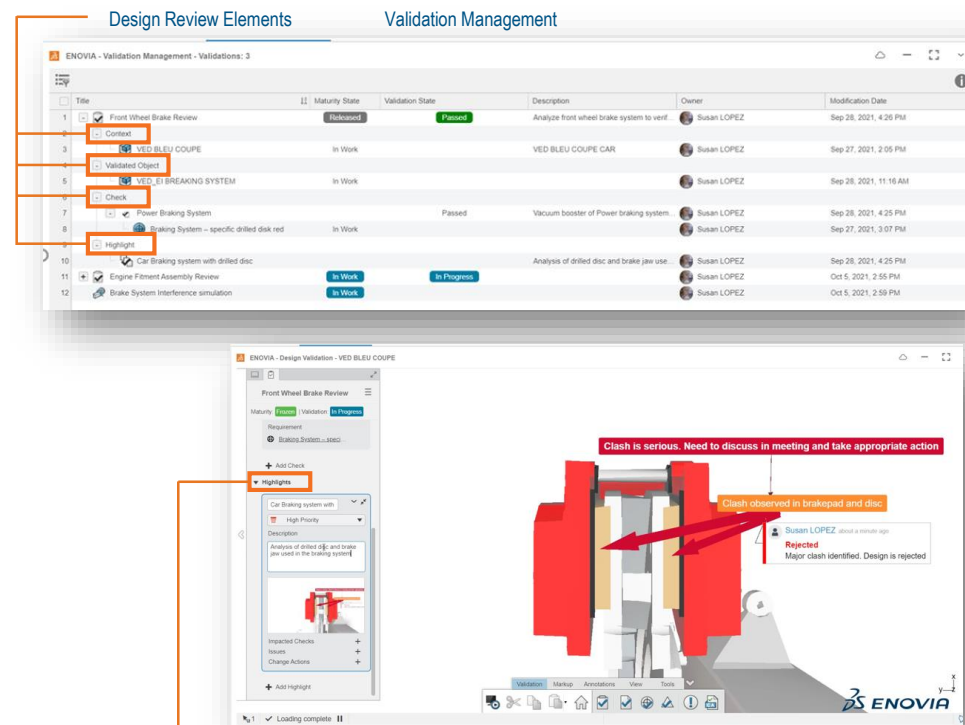
Highlight Creation for Critical Issues

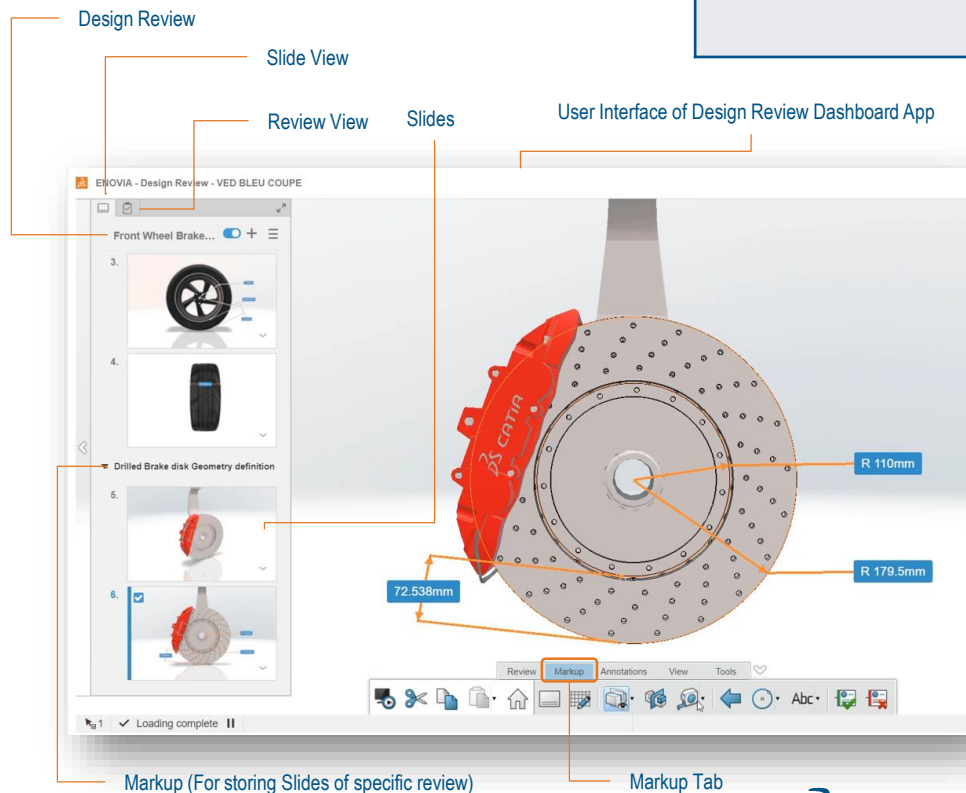# DIGITAL MOCKUP REVIEW MANAGER (RED)

RED

NEW DASHBOARD APP: DESIGN REVIEW

Improve quality of your design by collaborative design review from anywhere and on any device

Apps	☐	Design Review Dashboard App
Roles	✓	Digital Mockup Review Manager (RED)

- This new dashboard app lets you manage reviews and markups from anywhere and on any device.

- Following are the major capabilities of this app:
  - Create new reviews, slides, measures, and sections.
  - Create markers such as picture markers, text markers, and labels.
  - Compare review objects and drawings.
  - Read validated objects, checks, and highlights.

- Following are the two intuitive interfaces provided with this app:
  - Review View: This provides a global overview of the review content. You can navigate through reviews, highlights, and checks.
  - Slide View: This view displays the markups under the review and the slides created under these markups

Design Review

Slide View

Review View

Slides

User Interface of Design Review Dashboard App

ENOVIA - Design Review - VED BLEU COUPE

Front Wheel Brake…

Drilled Brake disk Geometry definition

R 110mm

R 179.5mm

72.538mm

Review   Markup   Annotations   View   Tools

Loading complete

Markup (For storing Slides of specific review)

Markup Tab

SLIDE REPLIES

Improved collaboration with seamless slide replies

Apps ☐ Design Review Dashboard App

Roles ✓ Digital Mockup Review Manager (RED)

(FUN108878)

- You can now create a reply to a markup slide. The new reply slide is added under the main slide.

- The photo and name of the creator is also added on the top of reply slide thumbnail.

  Note:

  - Reply slides are sorted based on their creation date
  - A "Highlight' icon is added on top of the preview if the slide is pointed by a highlight

- If the width of the review panel is sufficient to accommodate more than one column, then:

  - Markup slides and slide replies are displayed horizontally for each markup
  - A blue line is displayed between a markup slide and its replies.

Design Review: Slide View
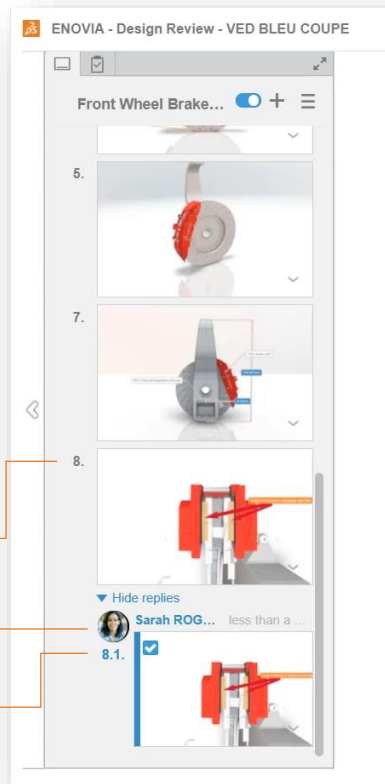
Main Slide

Name and Photo of person who Reply Slide creator

Reply Slide
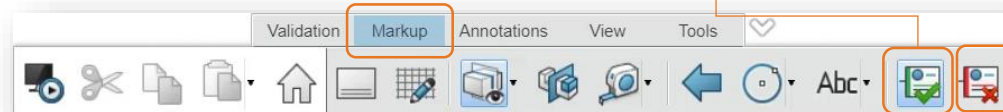
10

VALIDATED/REJECTED STAMP MARKERS

Enhanced collaboration with effective use of appropriate stamp markers

Apps	☐ Design Review Dashboard App
Roles	✓ Digital Mockup Review Manager (**RED**)

- You can now add visual stamp markers (Validated/Rejected) to clearly communicate the result of the analysis to other collaborators.

- A stamp marker contains the following information:
  - Marker (Validated/Rejected) based on your selection
  - Name and photo of the person who created this marker
  - Date of the marker creation
  - Additional comment to document more details

- Once marker is created, the following information cannot be changed:
  - Validation type
  - Name of the creator
  - Date when the marker is created

- The comment can be edited or removed. Also, all the graphic properties, leader pointing position, and box position can be customized after the marker creation.

"Validated" Stamp

"Rejected" Stamp

Name and Photo of the person who created the marker

Clash is serious. Need to discuss in meeting and take appropriate action

Clash observed in brakepad and disc

Susan LOPEZ less than a minute ago

Rejected

Major clash identified. Design is rejected
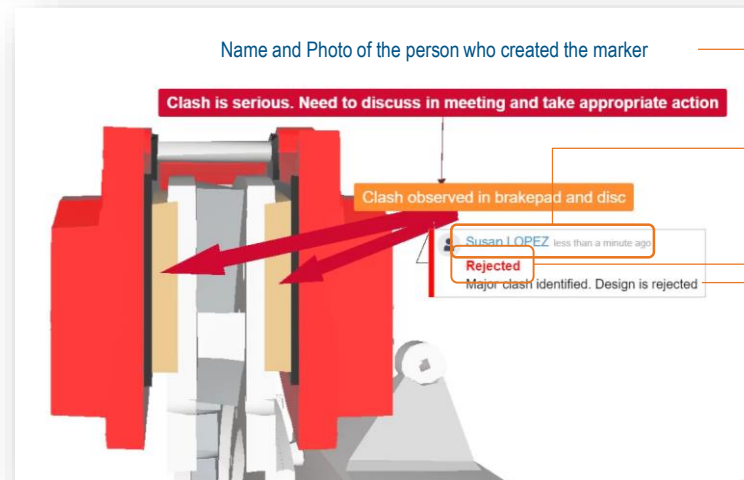
Comment

3D MARKER RESPONSIVE DISPLAY

Improved visibility decluttered display while viewing markups

Apps	❑ Design Review Dashboard App ❑ 3D Markup
Roles	✓ Digital Mockup Review Manager (**RED**) ✓ Collaborative Industry Innovator (**CSV**)

- You can now use the new **3D Marker Responsive Display** command available in the **View** section of the action bar.

- This option enables the responsive display of markers. When selected, it hides the 3D markers when zooming out, and displays them again when zooming in.

- The opacity of the 3D Markers is also modified based on the current viewpoint ensuring that the view is not overcrowded and unreadable when you zoom out.

- This option is unselected by default.

3D Marker Responsive Display

View Tab

Markup   Interference   View   Tools

3DS ENOVIA

DASSAULT SYSTEMES
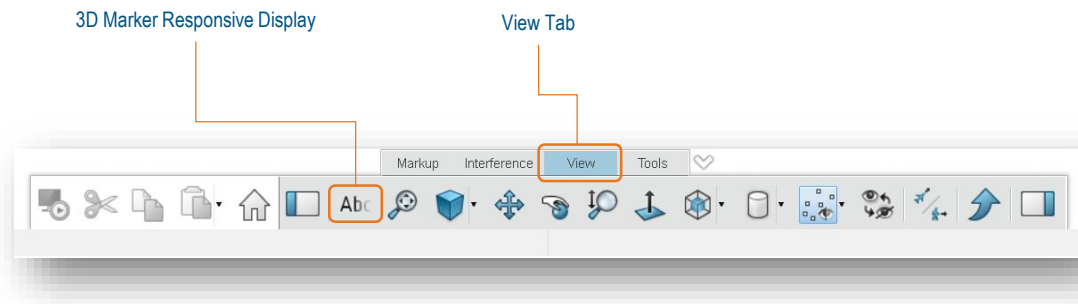
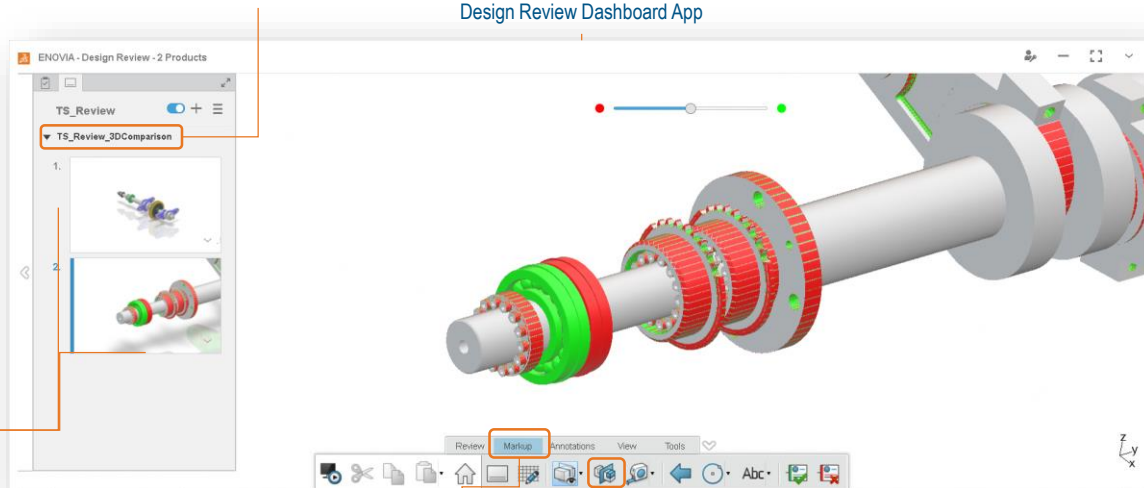# COMPARE TOOL AVAILABLE IN THE SLIDES

Improved efficiency and collaboration by comparing products and storing the results

- You can now use the **3D Compare** option to visually compare two products, two parts or two revisions of the product, and store the comparison result in a slide.

- The geometries are displayed as follows:

  - Those of the <u>first</u> part or product are displayed in red

  - Those of the <u>second</u> product or part are displayed in green

  - The <u>common</u> geometries are displayed in gray

Note:
You can change the colors representing the two objects from the preferences.

Markup

3D Compare in the Design Review Dashboard App

Slides to store the result of visual comparison

Markup Tab

3D Compare

CHANGE MANAGER   CHG

Change Governance

Meeting Management

Enhanced app

NEW WIDGET: CHANGE GOVERNANCE (CR/CO)

Orchestrate an effective change governance processes with new Change Request/Order widgets

Apps	☐	Change Manager
Roles	✓	Change Manager (CHG)

Change Governance

- A new widget "Change Governance" is available now and allows the review and creation of:
  - Change Requests
  - Change Orders
  - Change Actions

- New content is introduced in the Change Request/Impact Analysis:
  - Affected Items (in CR)
  - Change orchestration (in the CR)
  - Analysis Basis (in the Impact Analysis)
  - Impacted Items (in the Impact Analysis)

Change Governance

Use change governance to request, evaluate and implement your changes.

Access Your Work
- 🕐 Recents
- 📁 Open
- 📄 My Change Requests
- 📄 My Change Orders

Start a New Activity
- New Change Request
- New Change Order

Change Request

Impact Analysis

Change Orchestration

02 Transmission Enhancements
Maturity State : Completed
Owner : Sarah Rogers
Collab Space : 3DS Collab Space
Applicability : No
Attachments : No
Reported Against : No
Organization : Company Name   02 Tran

Affected Items | Impact Analysis | Change Orchestration | Members | Approvals

Affected Items

	Title		Type	Name
1	02_1_P404(worm wheel)		Physical Product	prd-34108881-00002003
2	02_1_Worm Holder R		Physical Product	prd-34108881-00002001

Change Order

🏠 > Assembly modification 100

Assembly modification 100
Maturity State : Draft Set to "In Work"
Owner : Sarah Rogers
Collab Space : 3DS Collab Space
Applicability : No
Dependency : No
Attachments : No
Organization : Company Name
Change Request : Unassigned
Reported Against : No
Assembly modification 100

Change Orchestration | Members | Approvals

Change Orchestration

	Title	Name	Maturity State	Severity
1	New Handle design	CA-34108881-00000031	Draft	🟢 Low
2	New CO to enhance performance of product 120	CO-0000102	Draft	🔴 High

CHANGE REQUEST IMPACT ANALYSIS

Enhance understanding of the change impact though enhanced change assessment process

- The Change Request has a new attribute "Analysis Type" that can have one of the following values:

  - Simple
    - The Change Request <u>can be</u> submitted for approval even if the Impact Analysis is not in state "Frozen"
    - In this case, the system will automatically promote the Impact Analysis to "Frozen"

  - Detailed
    - The Change Request <u>can not</u> be submitted for approval if the Impact Analysis is not in state "Frozen"

- When the Change Request is "Approved", all Impact Analysis will be promoted to "Completed"

Impact Analysis

Impact Analysis in Change Request

16

6 Key Change Processes with alternative implementation paths

Changes can be initiated by stakeholders or by innovation driven functional organizations

Employees

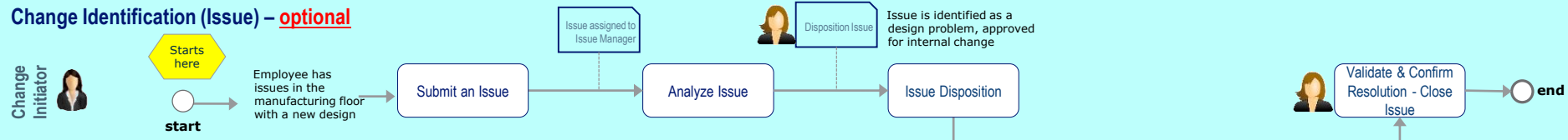**Stakeholders**
(includes: Change Board & assigned Change Coordinator)

Functional Governance
(Change Coordinator)

Functional Assignments
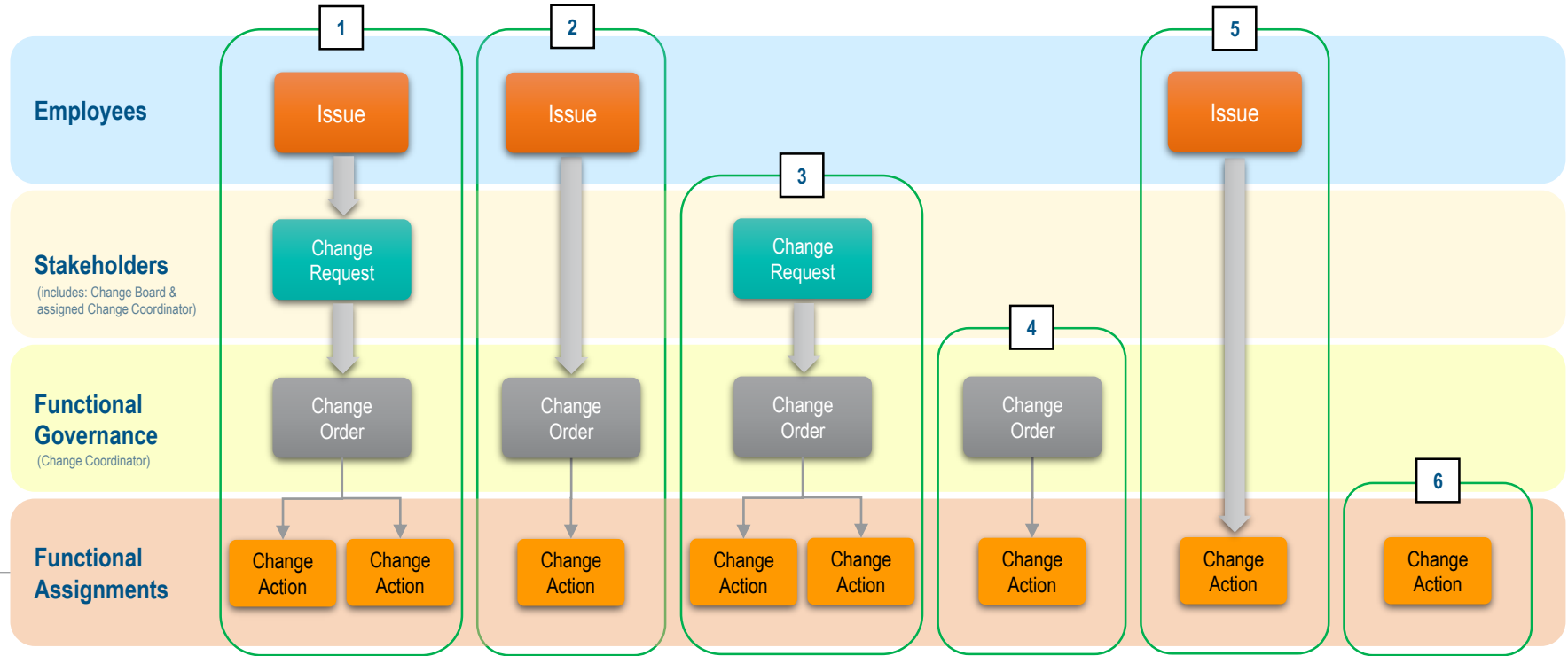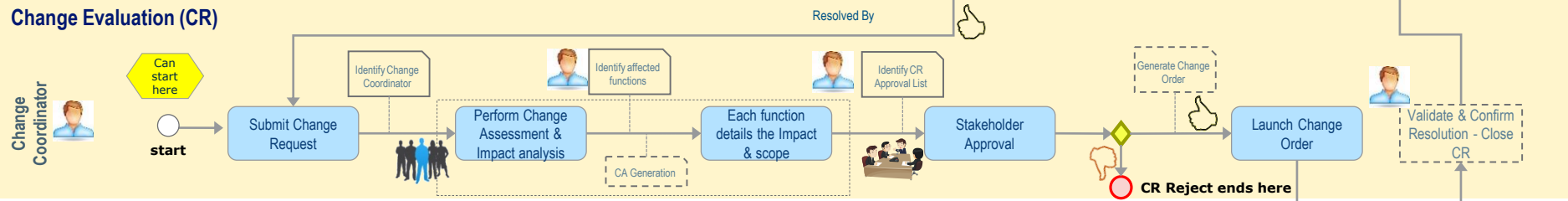
(*) mandatory

End-to-End Formal Change Process

Formal

Process Flow 1: End-to-end close-loop formal change process - new product portfolio strategy that impacts multiple functional organizations
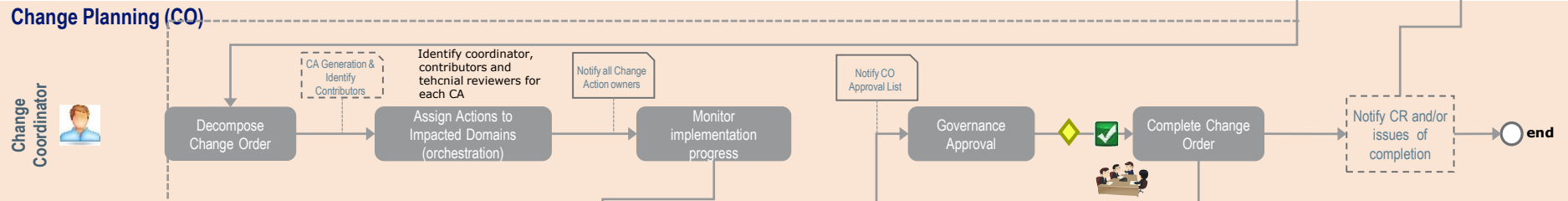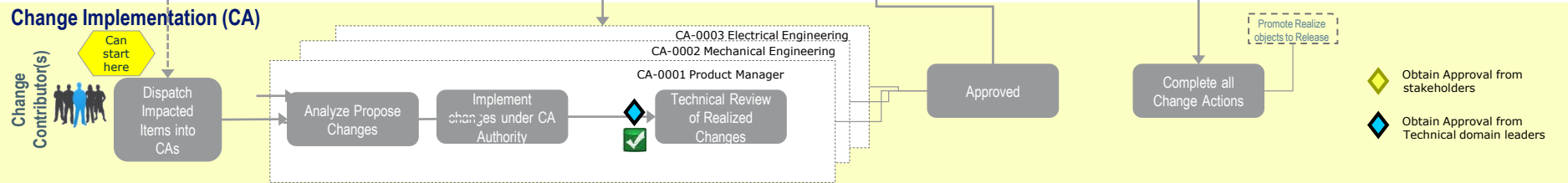
Change Identification (Issue) – optional

Change Initiator

Starts here

start

Employee has issues in the manufacturing floor with a new design

Submit an Issue

Issue assigned to Issue Manager

Analyze Issue

Disposition Issue

Issue Disposition

Issue is identified as a design problem, approved for internal change

Validate & Confirm Resolution - Close Issue → end

Change Evaluation (CR)

Change Coordinator

Can start here

start

Resolved By

Submit Change Request

Identify Change Coordinator

Perform Change Assessment & Impact analysis

CA Generation

Identify affected functions

Each function details the Impact & scope

Identify CR Approval List

Stakeholder Approval

Generate Change Order

CR Reject ends here

Launch Change Order

Validate & Confirm Resolution - Close CR

Change Planning (CO)

Change Coordinator

CA Generation & Identify Contributors

Decompose Change Order

Identify coordinator, contributors and tehcnial reviewers for each CA

Assign Actions to Impacted Domains (orchestration)

Notify all Change Action owners

Monitor implementation progress

Notify CO Approval List

Governance Approval

Complete Change Order

Notify CR and/or issues of completion → end

Change Implementation (CA)

Change Contributor(s)

Can start here

Dispatch Impacted Items into CAs

CA-0003 Electrical Engineering
CA-0002 Mechanical Engineering
CA-0001 Product Manager

Analyze Propose Changes

Implement changes under CA Authority

Technical Review of Realized Changes

Approved

Complete all Change Actions

Promote Realize objects to Release

Obtain Approval from stakeholders

Obtain Approval from Technical domain leaders

FROM INTERFERENCE DETECTION TO CA (FULL PATH)

FULL PATH, INTERFERENCE TO CA