

➤ Webinar rules:

- You'll be muted all along the Webinar
- There's a *Question* section to ask your questions or send your comments whenever you want
- The Webinar will be recorded. A link to the recording will be sent to you in few days

Boosting Requirements Management capabilities in MS Word: Managing change



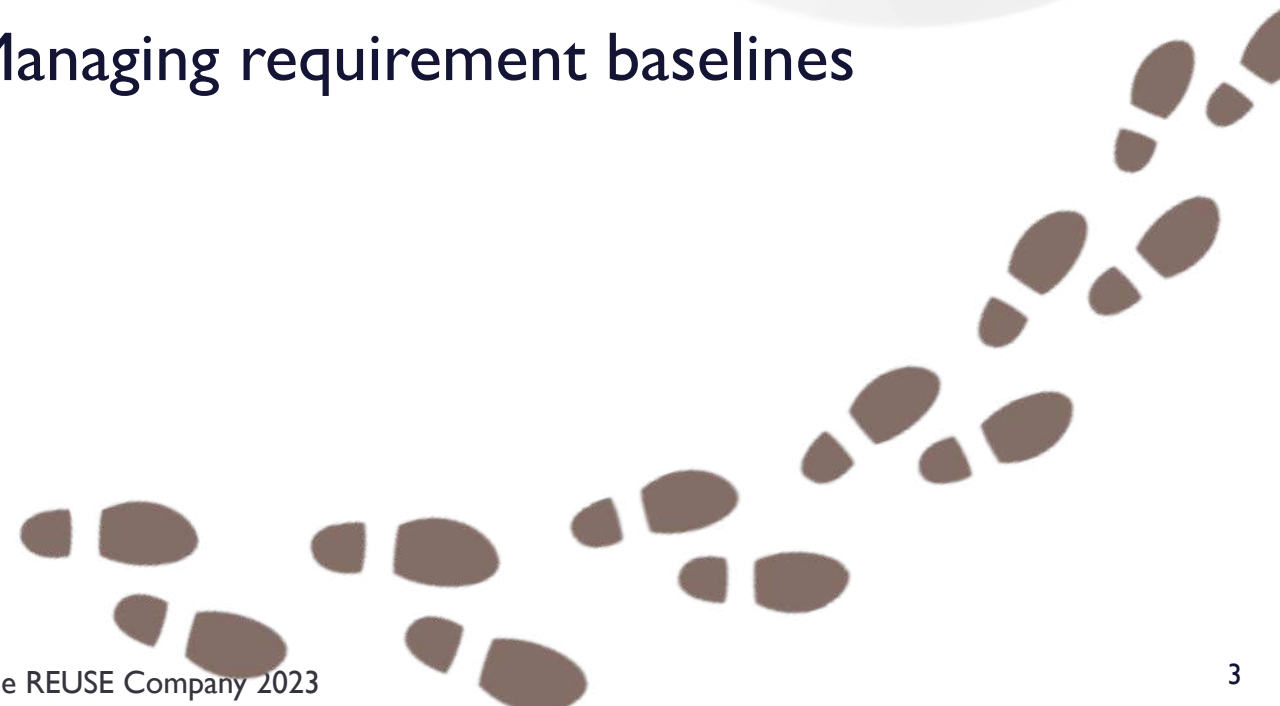
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THE
REUSE
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- Short introduction
- Managing change – Why?
- The SES approach to versions & baselines
 - Single work product – Managing requirement versions
 - Complete set (one connector) – Managing requirement baselines
- Live demo
- Q&A





- **The Systems ENGINEERING Suite:**
 - RQA – QUALITY Studio
 - RAT – AUTHORIZING Tool
 - TRACEABILITY Studio
 - V&V Studio
 - KM – Knowledge Manager

- SES ENGINEERING Studio
- **SES ENGINEERING Studio add-in for MS Word**



The PRESENTER



- ▶ Christer worked in the Medical and Defence sectors at either industrial organisations or as business entrepreneur for over 20 years at various operational and management levels.
- ▶ Currently he is the CEO of REUSE Scandinavia in Sweden which specializes in requirements quality services and tools within the Scandinavian region.
- ▶ Christer is a driven change facilitator and has successfully adopted and implemented international process frameworks and standards within industry.
- ▶ He has in recent years specialised in organisational learning, change management, process improvements, LEAN and Systems Engineering (SE) and Requirements Engineering (RE).



Managing Change Why?



Why should we manage change?

- ▶ A change to a **stakeholders' needs or stakeholder-owned requirements** **could impact** a **lifecycle concept**, which **could impact multiple needs**, which **could impact multiple design input requirements**, which **could impact** the design and **implementing design output specifications**, which **would impact production, system integration, system verification, and system validation**.

*From: INCOSE Needs and Requirements Manual
Needs, Requirements, Verification, Validation Across the Lifecycle*

- ▶ Any of these changes **could impact cost and schedule** or the ability of the system to address the **problem or opportunity** which the **system is supposed to address**.

*“A good systems engineer knows the
partial derivative of everything in respect to everything”
Gentry Lee, Jet Propulsion Laboratory*



Why should we manage requirements change?

- ▶ **Change is an inherent aspect** of the system- and software development life cycle
- ▶ Any **project need to define how change will be managed** over the duration of the project
 - ▶ This includes the **definition of configuration management** since we need to know the different work products to be managed. The smallest work product here is one requirement.
- ▶ **Changes need to be analysed**, which typically involve performing an impact analysis to evaluate the proposed change.
 - ▶ This includes managing **traceability** (often between multiple sources) and we will come back to the topic of traceability in the next webinar
- ▶ We need to be able to manage change of a **single work item** (a requirement) as well as managing change on a **set of requirements** (a specification)
- ▶ We do this by looking at two different perspectives:
 - ▶ **Managing versions** of one requirement (with attributes) over the requirements life cycle
 - ▶ **Managing baselines** covering multiple requirements and attributes in one set

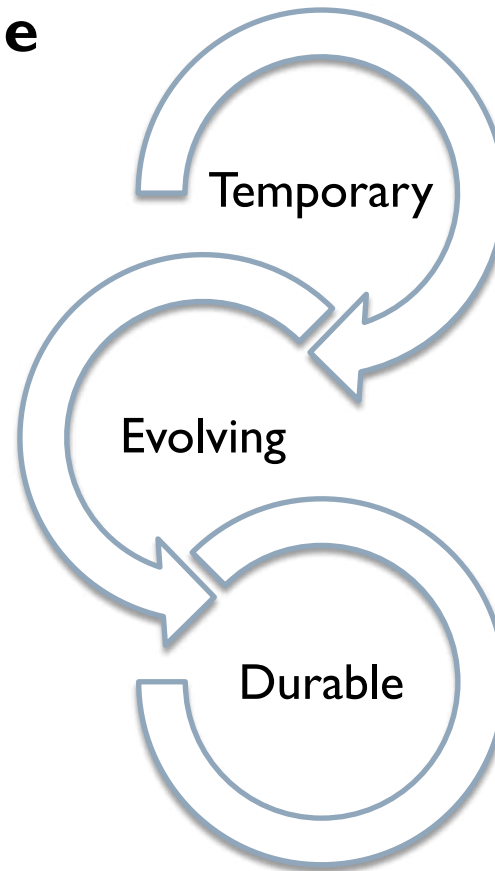


The characteristics of a work product demand different type of change management

Temporary → Evolving → Durable

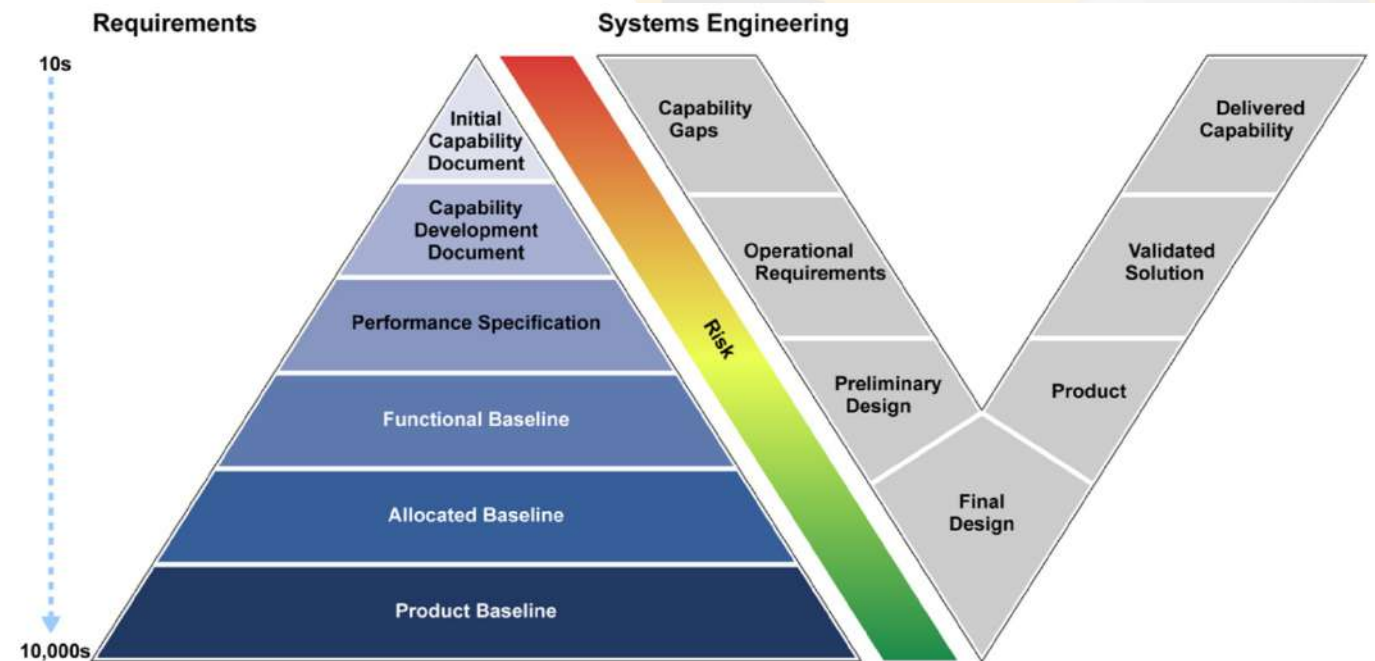
A **temporary** work product may become **evolving** when the RE decides to keep it. Some metadata (attributes) should be added to keep it under control.

An **evolving** work product may become **durable** when it is **baselined** and released as part of an development effort



Baseline

- ▶ A stable, validated, and change-controlled configuration that **marks a milestone** or another kind of resting point in the project
- ▶ E.g. the configuration at the end of the design phase, just before starting the coding and/or build phase
- ▶ Useful for planning purposes as they represent a **stable starting point for a next phase**





Managing baseline

- ▶ **The baselines, or reference points, are established by review, commitment, and approval** of the needs, requirements, specifications, interface definition documentation, and other related **SE** artifacts and **PM** work products generated as **part of the lifecycle activities**.
- ▶ During the baselining activities, the needs, design input requirements, design output specifications, and interface definition documentation will be assessed and **reviewed to address any issues** concerning their content, quality, relationships to other artifacts and work products, and **resolve any misunderstandings** as to what they are communicating.



NOTE: For RE, its mainly requirements that is important. But in practice Configuration Management (CM) can be complex and a full time job managing design, code, test cases, system configurations, etc.



**The SES
approach to
managing
versions &
Baselines**

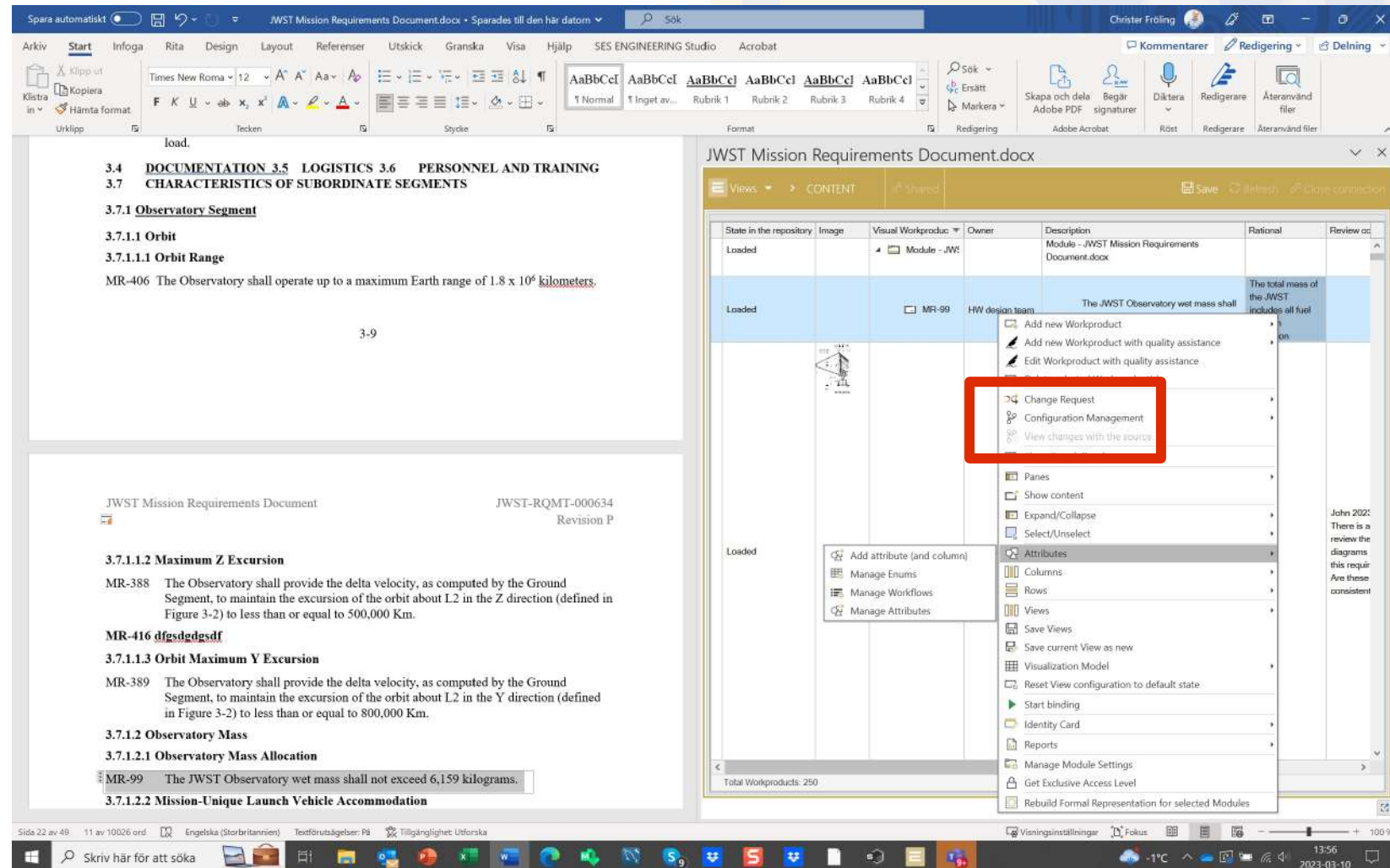
Example of Requirement attributes – Example from SES MS Word Add-in

▶ Configuration Management

- ▶ Versions of a requirement
- ▶ Managing versions of a set of requirements (in a baseline)

▶ Change Request

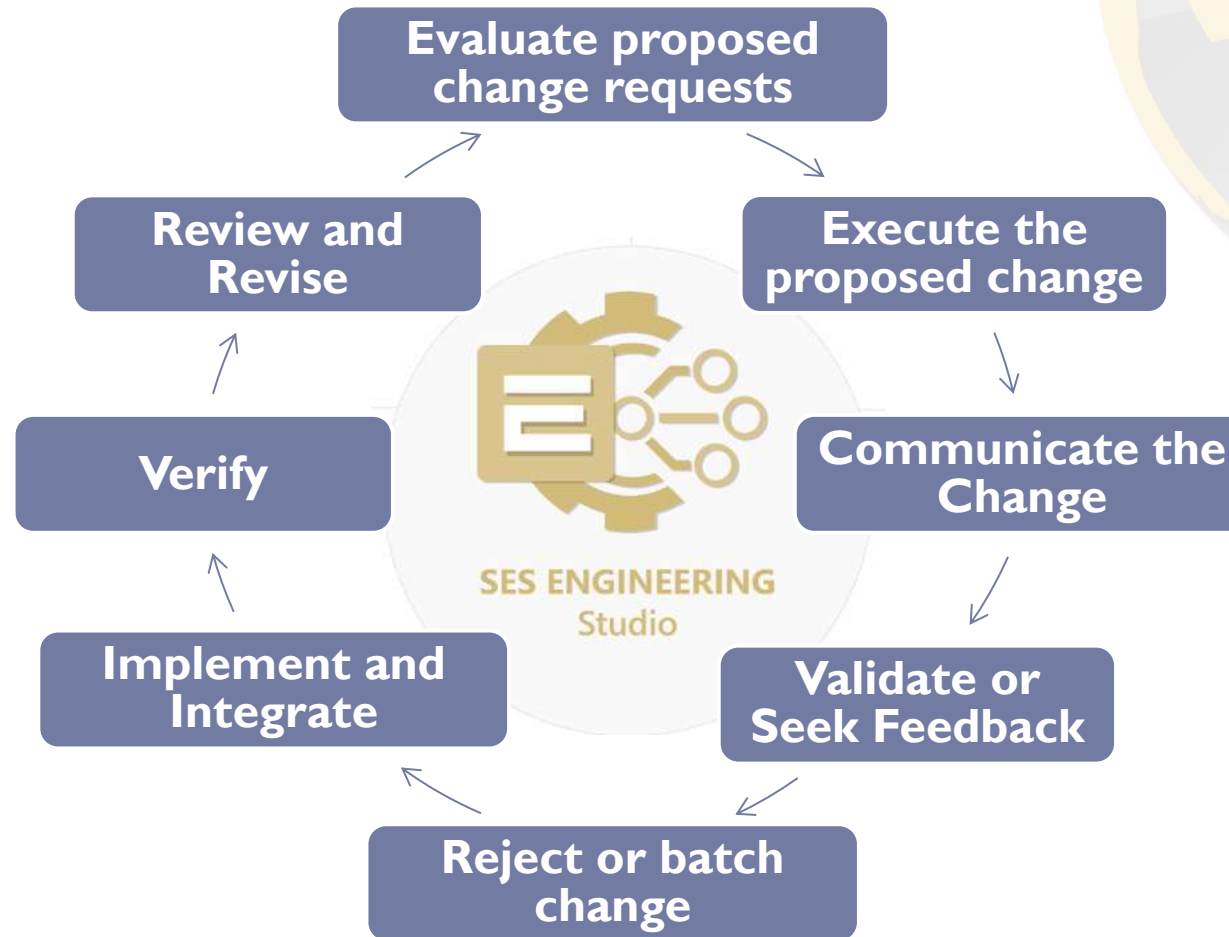
- ▶ In coming versions of SES



The screenshot displays a Microsoft Word document titled "JWST Mission Requirements Document.docx" with the SES ENGINEERING Studio add-in. The document content includes sections for "3.4 DOCUMENTATION", "3.5 LOGISTICS", and "3.6 PERSONNEL AND TRAINING". Under "3.7 CHARACTERISTICS OF SUBORDINATE SEGMENTS", there are sub-sections for "3.7.1 Observatory Segment", "3.7.1.1 Orbit", and "3.7.1.1.1 Orbit Range". A requirement entry "MR-406" is shown with the text: "The Observatory shall operate up to a maximum Earth range of 1.8 x 10⁶ kilometers." Another requirement "MR-388" is shown: "The Observatory shall provide the delta velocity, as computed by the Ground Segment, to maintain the excursion of the orbit about L2 in the Z direction (defined in Figure 3-2) to less than or equal to 500,000 Km." A third requirement "MR-416" is shown with the text "dfgsdgdgdf".

The SES add-in interface is overlaid on the right side of the document. It features a table with columns for "State in the repository", "Image", "Visual Workproduct", "Owner", "Description", "Rational", and "Review oc". A row for "MR-99" is highlighted, with a description: "The JWST Observatory wet mass shall not exceed 6,159 kilograms." A context menu is open over this row, with "Change Request" and "Configuration Management" highlighted in a red box. Other menu options include "Add new Workproduct", "Add new Workproduct with quality assistance", "Edit Workproduct with quality assistance", "View changes with the source", "Panels", "Show content", "Expand/Collapse", "Select/Unselect", "Attributes", "Columns", "Rows", "Views", "Save Views", "Save current View as new", "Visualization Model", "Reset View configuration to default state", "Start binding", "Identity Card", "Reports", "Manage Module Settings", "Get Exclusive Access Level", and "Rebuild Formal Representation for selected Modules".

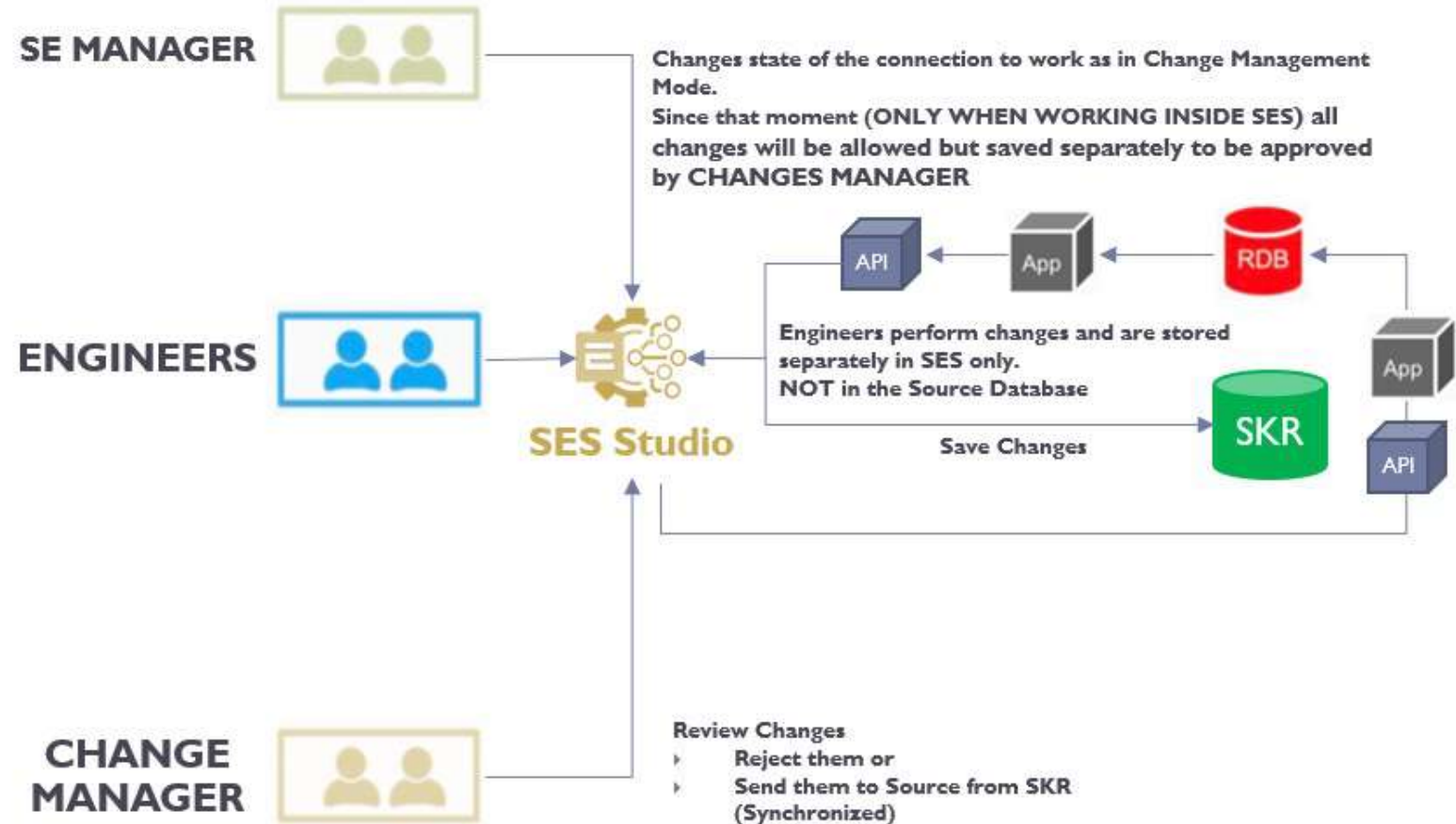
The Change request process – In coming releases of SES



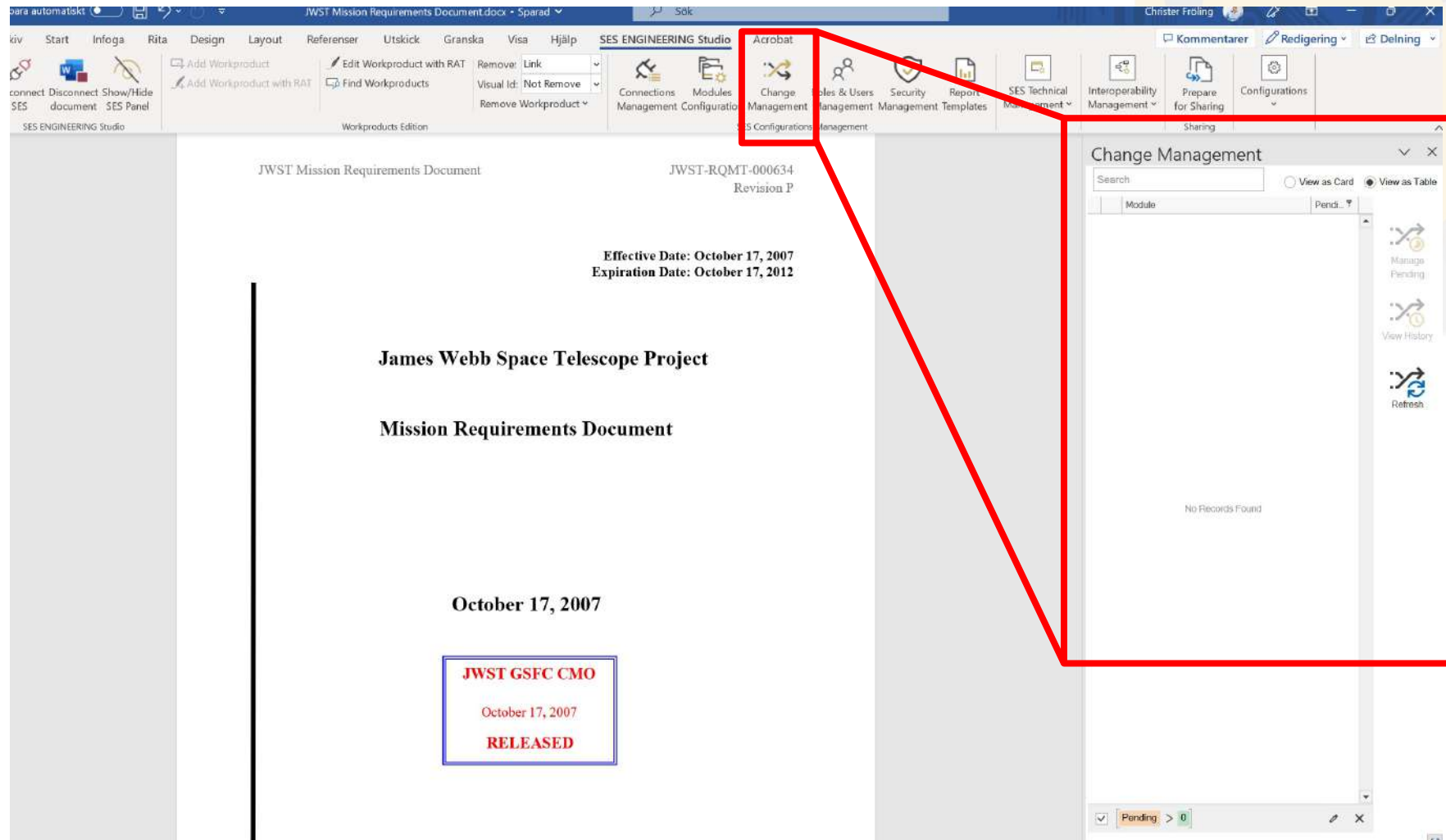
In coming releases of SES V23.x

Change Request

- 1) SE MANAGER defines that a connection should be under Change control (i.e. a Word file)
- 2) Engineers must now send change requests within SES, never pushing changes in the source tool (our Word file)
- 3) The Change Managers will approve/reject the change requests, meaning that the proposed changes will be pushed to the source tool in case of approving



In coming releases of SES V23.x



The screenshot displays the SES ENGINEERING Studio interface. The main window shows a document titled "JWST Mission Requirements Document" with the following details:

- JWST-RQMT-000634
- Revision P
- Effective Date: October 17, 2007
- Expiration Date: October 17, 2012
- James Webb Space Telescope Project**
- Mission Requirements Document**
- October 17, 2007**
- JWST GSFC CMO**
- October 17, 2007
- RELEASED**

A "Change Management" window is open on the right side of the interface. It features a search bar, a "View as Card" / "View as Table" toggle, and a table with columns for "Module" and "Pendi...". The table currently displays "No Records Found". On the right side of the window, there are icons for "Manage Pending", "View History", and "Refresh". At the bottom of the window, a status bar shows "Pending > 0".



Demonstration



Steps:

1. Open MS-Word
2. Connect to your ontology
3. Open SES Engineering Studio
4. View the configuration management options
5. Perform change and show:
 1. How change to one requirement can be tracked
 2. How changes to the current document will show changes compared to the saved baseline







Don't miss our series of webinars!

Boosting MS Word with Requirements Management Capabilities

1. Introduction to the MS Word Add-in of SES ENGINEERING Studio
2. Writing high-quality requirements in MS Word
3. Parsing existing MS Word documents using different techniques
4. Managing requirement attributes in MS Word
5. Managing requirement baselines and versions in MS Word
6. Managing traceability in MS Word
7. Transforming MS Word requirements
8. Propagating changes from traceability links
9. Collaboration
10. Reporting Systems Engineering artifacts through MS Word

Sign up and recordings

15 '
webinar

Episode 5. Managing requirements baselines and versions in MS Word.

This episode will cover how the SES ENGINEERING Studio provides basic Requirements Management capabilities like **managing requirements traceability** of a set of requirements. All while using MS Word and the SES Add-in to perform your requirements work.

Date:

Tuesday, April 11th, 2023, 5:00 PM CET (Madrid)/ 5:00 PM JST (Tokyo)/ 7:00 PM AEDT (Sydney)

Thursday, April 13th, 2023, 9:00 PM CET (Madrid)/ 8:00 AM PST (Los Angeles)/11:00 AM EST (Detroit)



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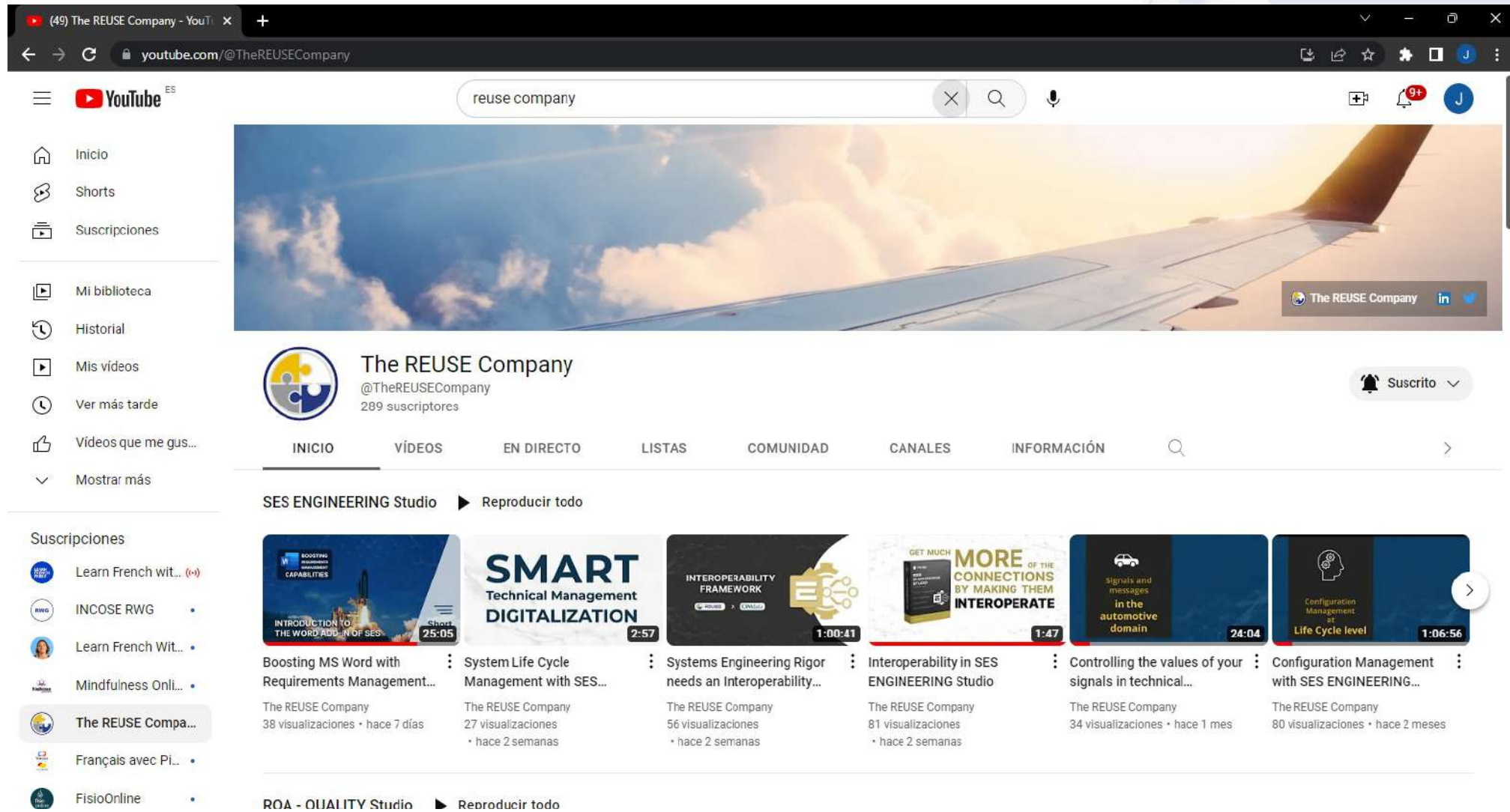
- www.reusecompany.com
- Resources -> Webinars (15' and 1hr)
- Services
- Support Forum

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 <p>Requirements management through AIIG Contracts</p>	 <p>Connecting the Dots: Interoperability between your favourite Systems Engineering tools</p>	 <p>Semantic traceability: how to keep the digital thread all along the SE lifecycle</p>	 <p>The MBSE Podcast Trust us we are Systems Engineers MBSE around the world: Spain with Juan Llorens</p>
 <p>Passive voice requirements: Why "passive voice" actually can become a nightmare</p>	 <p>(In Spanish) Invitados al podcast 'Sistemistas': V&V ¿Qué es qué?</p>	 <p>Connecting textual requirements and Capella models (Invited presenters)</p>	 <p>Requirements Management: Managing data over entire life cycles</p>
 <p>How to kick off your KM – KNOWLEDGE Management project</p>	 <p>Taming the System Engineering Life cycle using Connectivity and Interoperability: the SES ENGINEERING Studio</p>	 <p>Raise the ante: high-quality models is the only way forward after high-quality requirements</p>	 <p>Digitalizing the V&V process on both sides of the V-Model</p>



The screenshot shows the YouTube channel page for 'The REUSE Company'. The channel name is 'The REUSE Company' with the handle '@TheREUSECompany' and 289 subscribers. The page features a navigation menu on the left with options like 'Inicio', 'Shorts', 'Suscripciones', 'Mi biblioteca', 'Historial', 'Mis vídeos', 'Ver más tarde', and 'Videos que me gus...'. Below the channel header, there are tabs for 'INICIO', 'VÍDEOS', 'EN DIRECTO', 'LISTAS', 'COMUNIDAD', 'CANALES', and 'INFORMACIÓN'. The main content area displays a video player for 'SES ENGINEERING Studio' and a grid of six video thumbnails:

- Boosting MS Word with Requirements Management...** (25:05)
- System Life Cycle Management with SES...** (2:57)
- Systems Engineering Rigor needs an Interoperability...** (1:00:41)
- Interoperability in SES ENGINEERING Studio** (1:47)
- Controlling the values of your signals in technical...** (24:04)
- Configuration Management at Life Cycle level** (1:06:56)

Each video thumbnail includes the title, duration, and view count. The channel also has a 'Suscrito' button and a search icon.

The REUSE Company in YouTube: <https://www.youtube.com/user/TheREUSECompany>



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