WEBINAR RULES

- You'll be **muted** all along the Webinar
- There's a '***Question'* section** to ask your questions whenever you want, you don't need to wait until the end. All questions will be addressed at the **end of the webinar**.
- If you have any **technical issues** please use this chatting box, or mail us at: support@reusecompany.com
- You will receive a survey either after the webinar or by mail. Your **opinion** is **EXTREMELY VALUABLE**!
- The Webinar **will be recorded**. A link to the recording will be **sent to you** in few days.

STARTING SOON

09:00

CET

REQUIREMENTS MANAGEMENT IN MS WORD

LEARN FAST, COLLABORATE SMARTER

THE REUSE COMPANY

01

What we DO

The REUSE Company is a solution provider specialized in the application of **semantic technologies** and **artificial intelligence** to improve the **digitalization of the Systems Engineering life cycle.**

Ilyes Yousfi

- **Current position:** Senior Consulting Engineer - The REUSE Company
- Master's degree from the University of Montreal (Canada) and the IMT Atlantique School of Engineering (France). Background in energy and mechanical engineering
- Involved in a research project around the environmental impacts of end-of-life management of aircrafts (2014)
- Consulting services to help industry actors leverage Systems Engineering activities.
- Active member of INCOSE – ASEP Certified
- Major contributor of the Requirements Working Group's INCOSE Guide to Writing Requirements (v4)
- Co-author of the book Real-time quality assessment of the INCOSE Guide for Writing Requirements Rules : A Tailoring Guide, by the REUSE Company.
- Passionate about international projects and learning languages, Ilyes speaks 4 languages fluently: English, French, German and Spanish.

CONTENTS

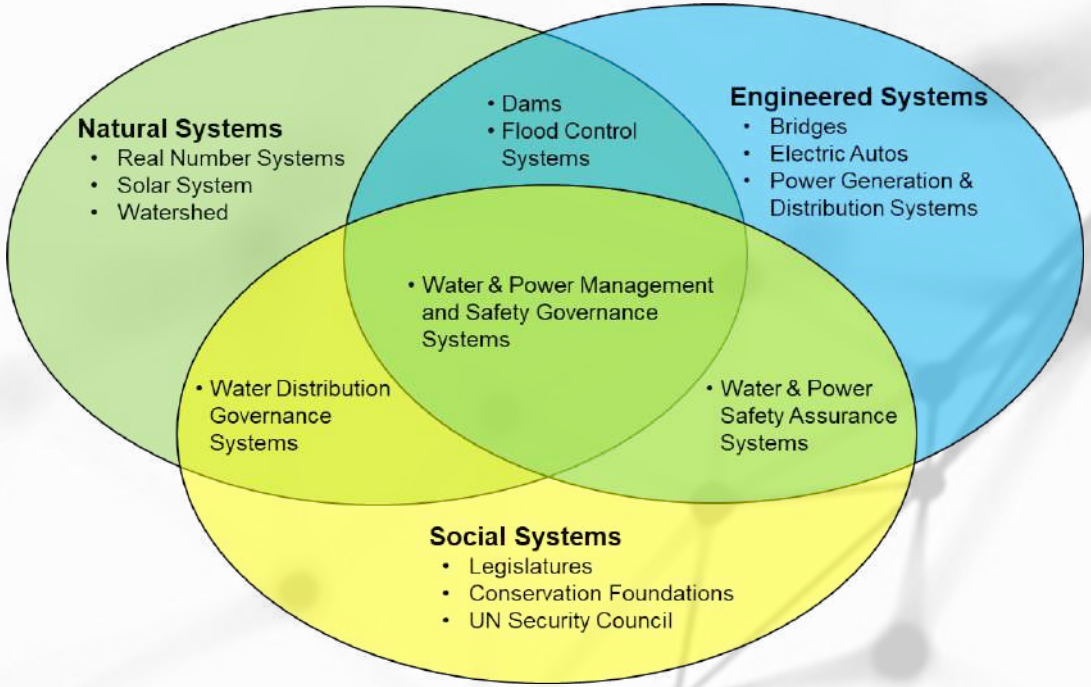
INTRODUCTION

COLLABORATIVE ENVIRONMENTS IN SYSTEMS ENGINEERING

- **Modern SE:** Increasing complexity
  - Complex systems
  - Complex organizations
  - Complex toolchains

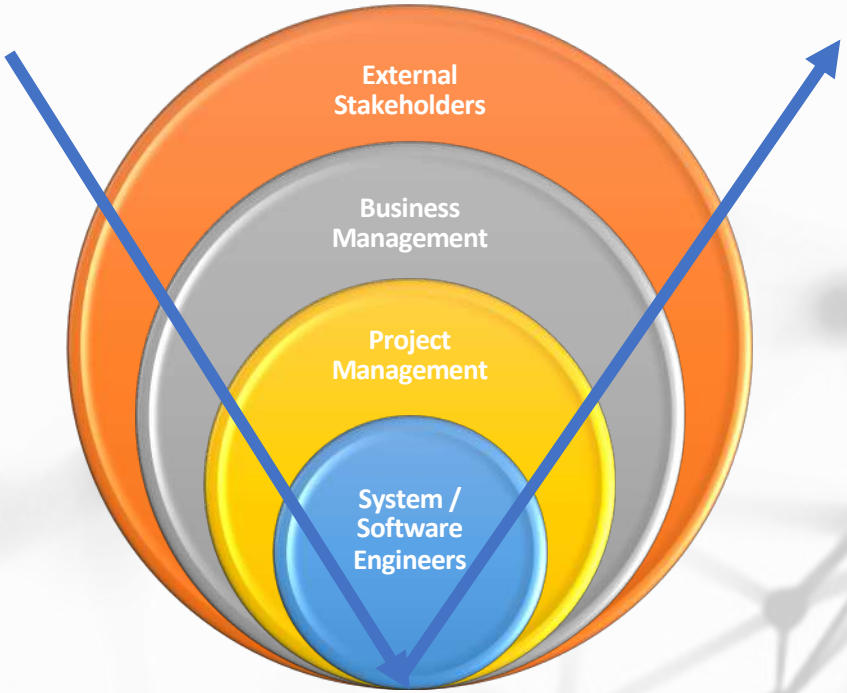
- **Modern SE:** Increasing complexity
  - **Complex systems**
    - Systems of Systems (SoS) : a system whose elements are independent systems.

Source: INCOSE SE Vision 2020



Acknowledgement: INCOSE BKCASE

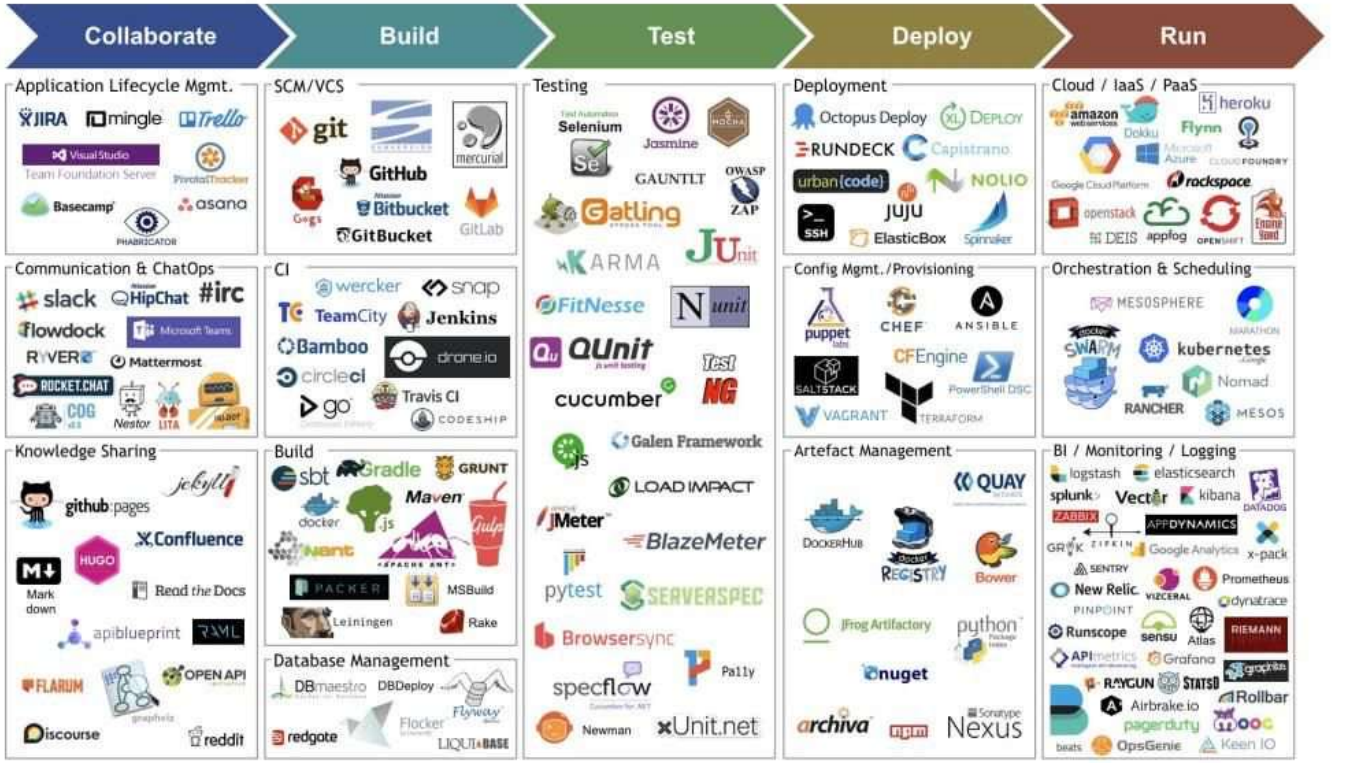
- **Modern SE:** Increasing complexity
  - **Complex organizations**
    - Diversity of stakeholders: The onion diagram
    - Need to work **<u>across</u>** entities and beyond a single company / business unit.



Modern SE: Increasing complexity

Complex toolchains

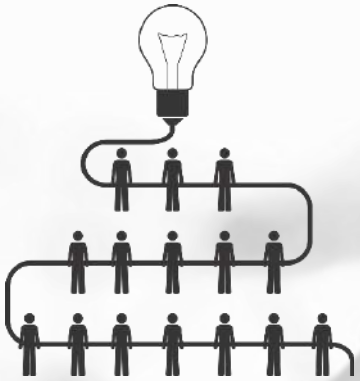
- The increasing complexity of systems and organizations gives rise to **complex toolchains**



INTRODUCTION: COLLABORATIVE ENVIRONMENTS

COLLABORATION

= Working **together** to achieve a **common** goal



Together…

- Avoiding siloed entities and enhancing **cross-domain** teams
- Enabling common platforms for **multidisciplinary** contributions and **sharing** knowledge

Common…

- Meeting the **organization's** business objectives, **stakeholder** needs and the overall **project**'s schedule.

- Key process to mitigate the risks of change, which are **multiplicated** in collaborative environments!
  - Change is a factor we cannot avoid!

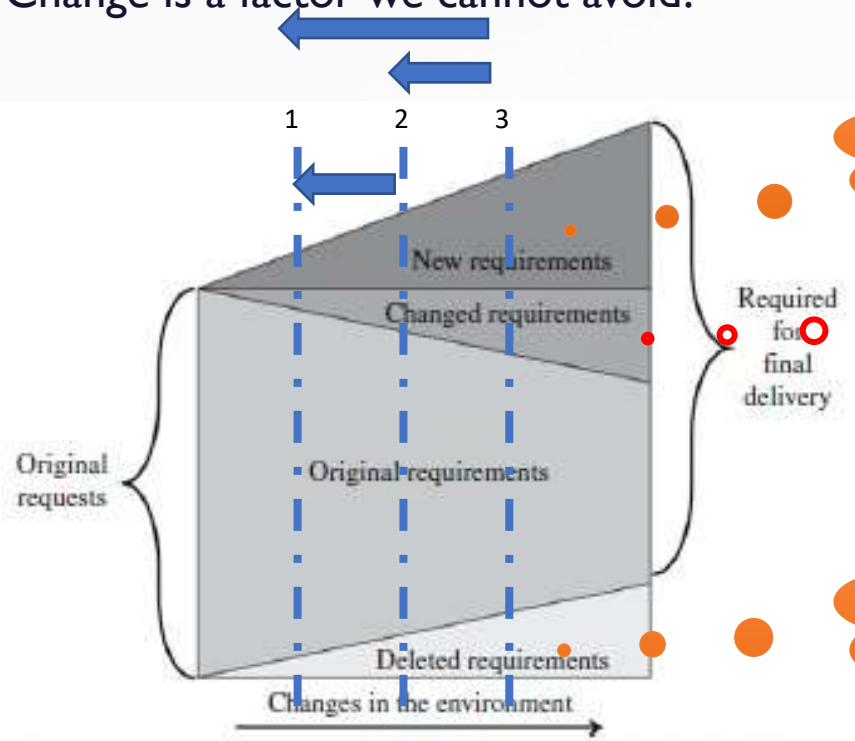


FIGURE 5.9 Requirements changes are inevitable. Derived from (Forsberg et al., 2005) Figure 9.3. Reprinted with permission from Kevin Forsberg. All other rights reserved.

Are these new requirements necessary?

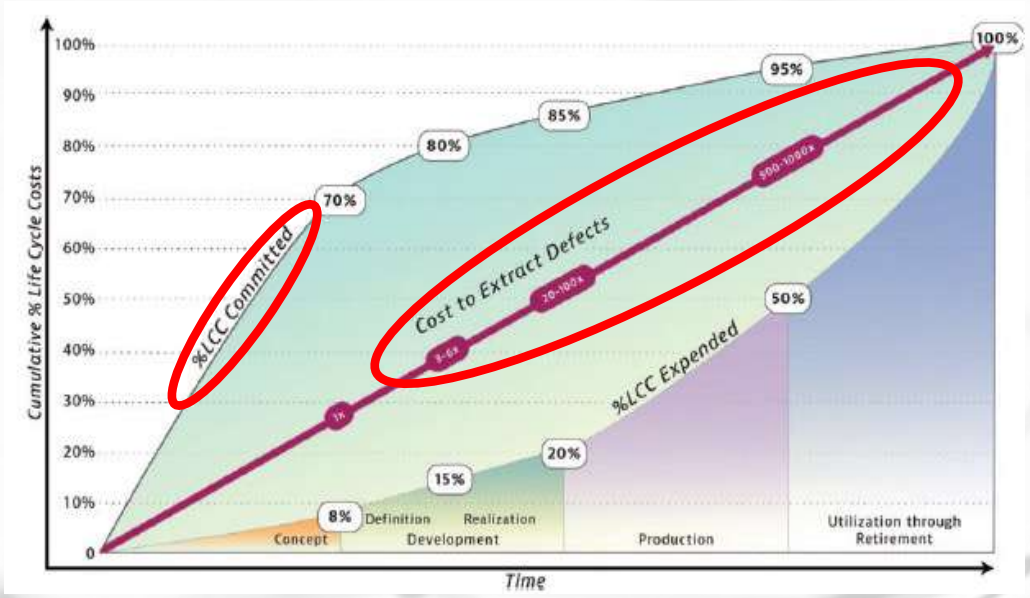
Am I introducing conflicts?

May this new version underspecify the system?

Agile principle (from the Agile Manifesto): "Welcome changing requirements, even late in the development. Agile processes harness change for the customer's competitive advantage."

BRIDGING THE GAP BETWEEN MS WORD AND REQUIREMENTS ENGINEERING

- Requirements = **The lifeblood for Systems Engineering**
  - Design input and technical expression of stakeholder/user needs
  - System verification criteria
  - Validation of the system requirements and underlying design, implementation and operating systems.
  - A high cost if overlooked…



Life cycle costs and defect costs against time. INCOSE SEHB original figure by Walden derived from DAU (1993).

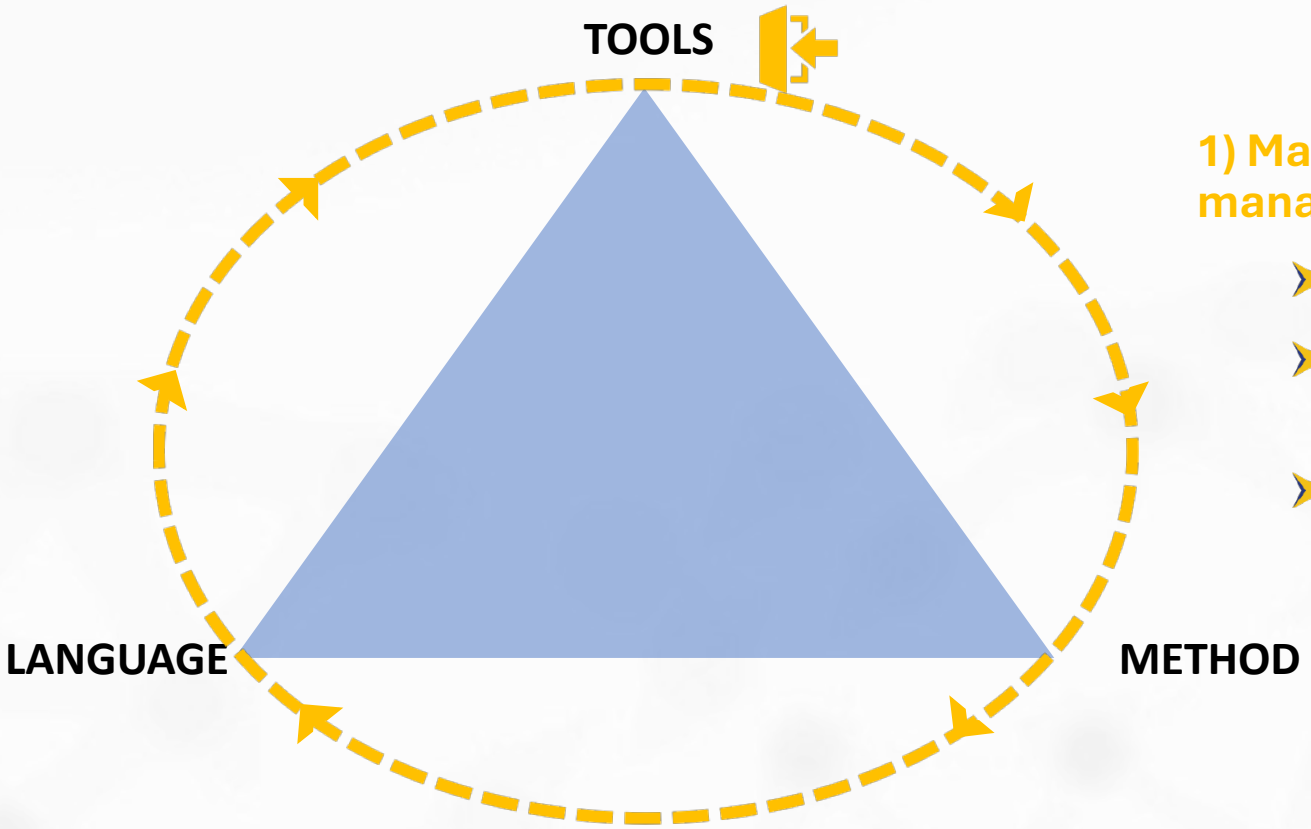
- Why MS Word for Requirements Engineering ?
- The clash of 2 approaches :
  1) **Make users adopt a standard requirements management tool:**
  - Limited access to licenses :
    - Number
    - External users : Contractors, suppliers
  - Steep learning curve
  - Resistance to change working environments / company standard

- Why MS Word for Requirements Engineering ?
- The clash of 2 approaches :

2) Bring requirements management features to MS Word:

- User-friendliness, broader audience / user base
  - Involves more stakeholders in **early phases of system development** (“High level requirements” from which the design input is defined).
    - **Early detection of defects and inconsistencies and reduced risk of rework!**
- Instil a common requirements management framework at higher scale:
  - Writing rules, attributes management, change & conflict management, workflows…
- Extend the digital thread to meet both ends of the V model

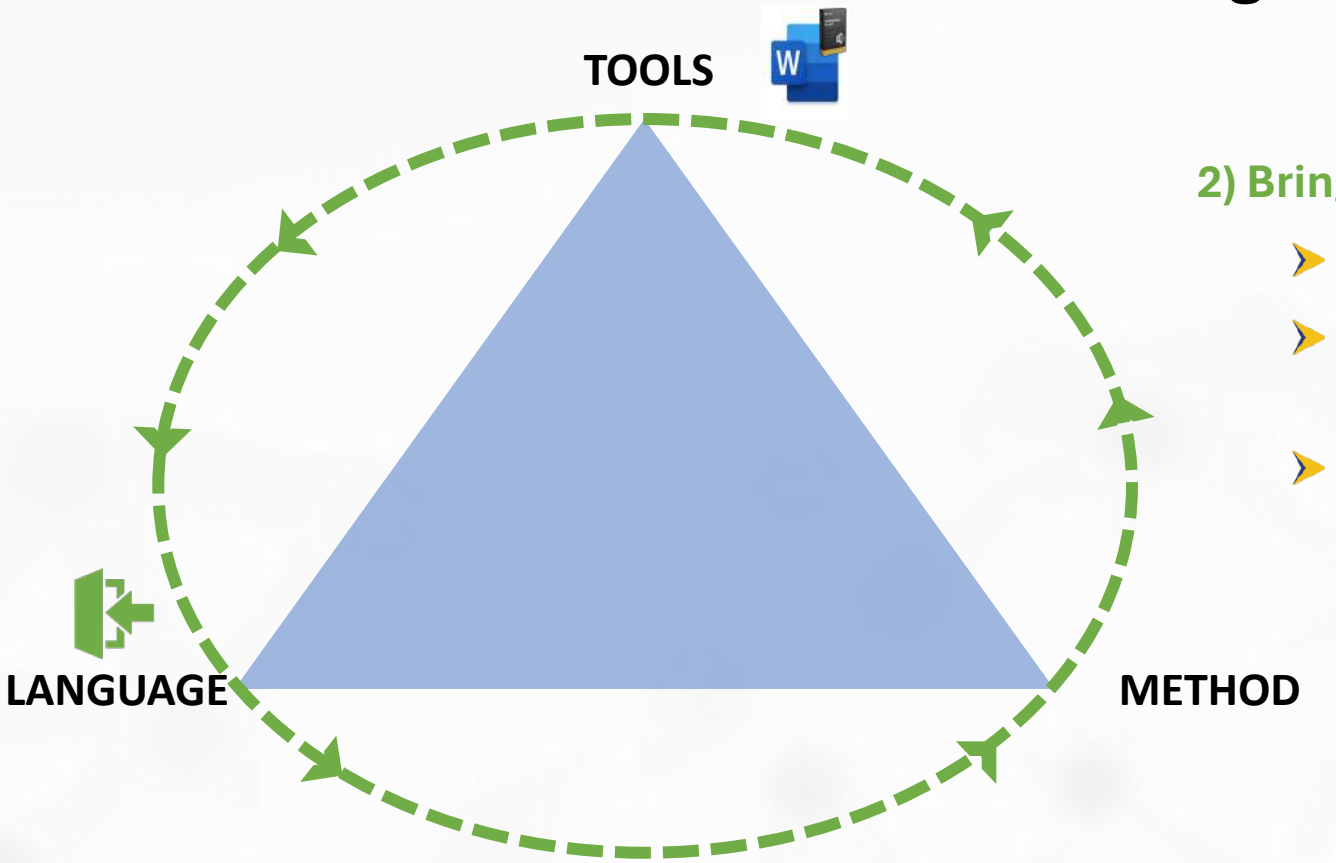
TOOL-METHOD-LANGUAGE Triangle:



1) Make users adopt a standard requirements management tool:

- *Tool:* Requirements Management Tool, ALM, PLM, etc.
- *Method:* application is linked to the tool learning curve and **adoption rate**
- *Language:* Natural Language**,** tool's internal data model, ReqIF…

TOOL-METHOD-LANGUAGE Triangle:

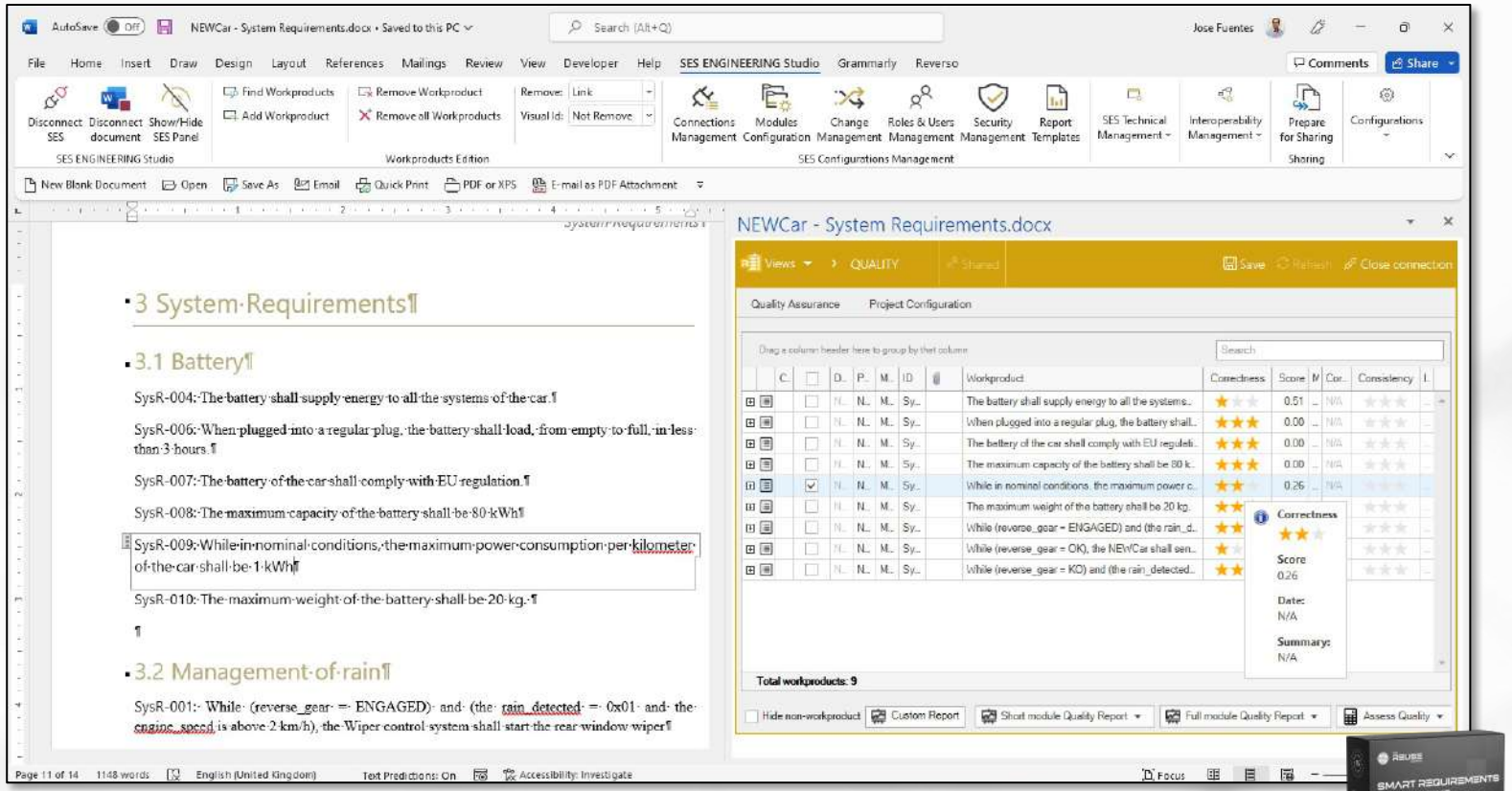


2) Bring requirements management features to MS Word:

- *Language:* **Natural Language**
- *Method:* Fast-track requirements management principles, agile / flexible, broader audience
- *Tool:* MS Word with **SES ENGINEERING Studio add-in**

MEET THE SES ENGINEERING STUDIO ADD-IN FOR MS WORD

MEET REX – REQUIREMENTS MANAGER FOR MS WORD



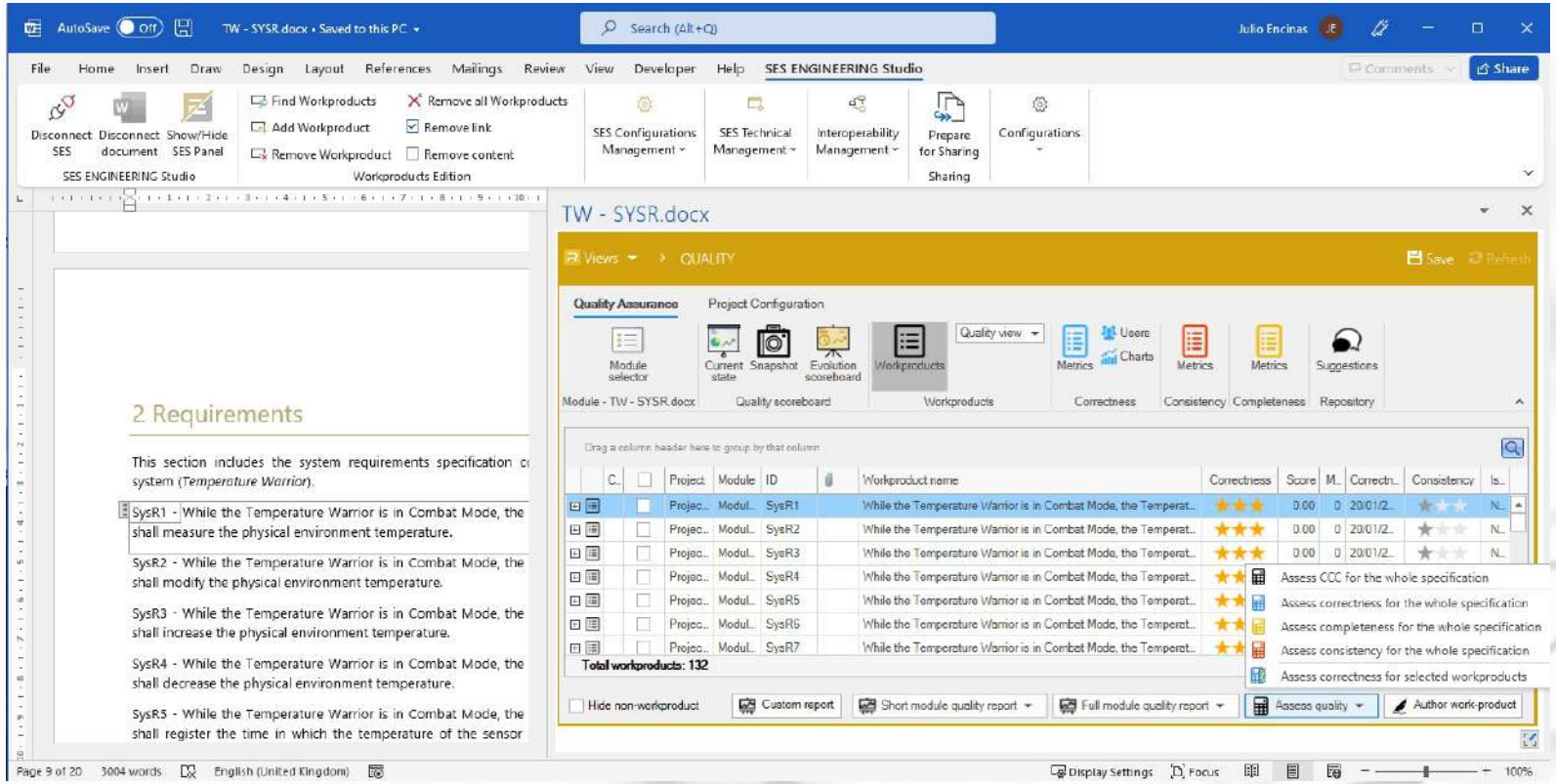
1. **Create a requirements document**.
2. **Parsing** existing documents.
3. **Attribute management** in MS Word.
4. **Baselines and versions**
5. **Requirements Quality**
6. **Traceability** with other documents, sources and models.
7. **Interoperating** with other tools.
8. **Propagating changes** in requirements to other sources.
9. **Collaborative** Change Management.

- Webinar Series: “Boosting Requirements Management Capabilities for MS Word”
  - 9 short episodes (15-20 minutes each)

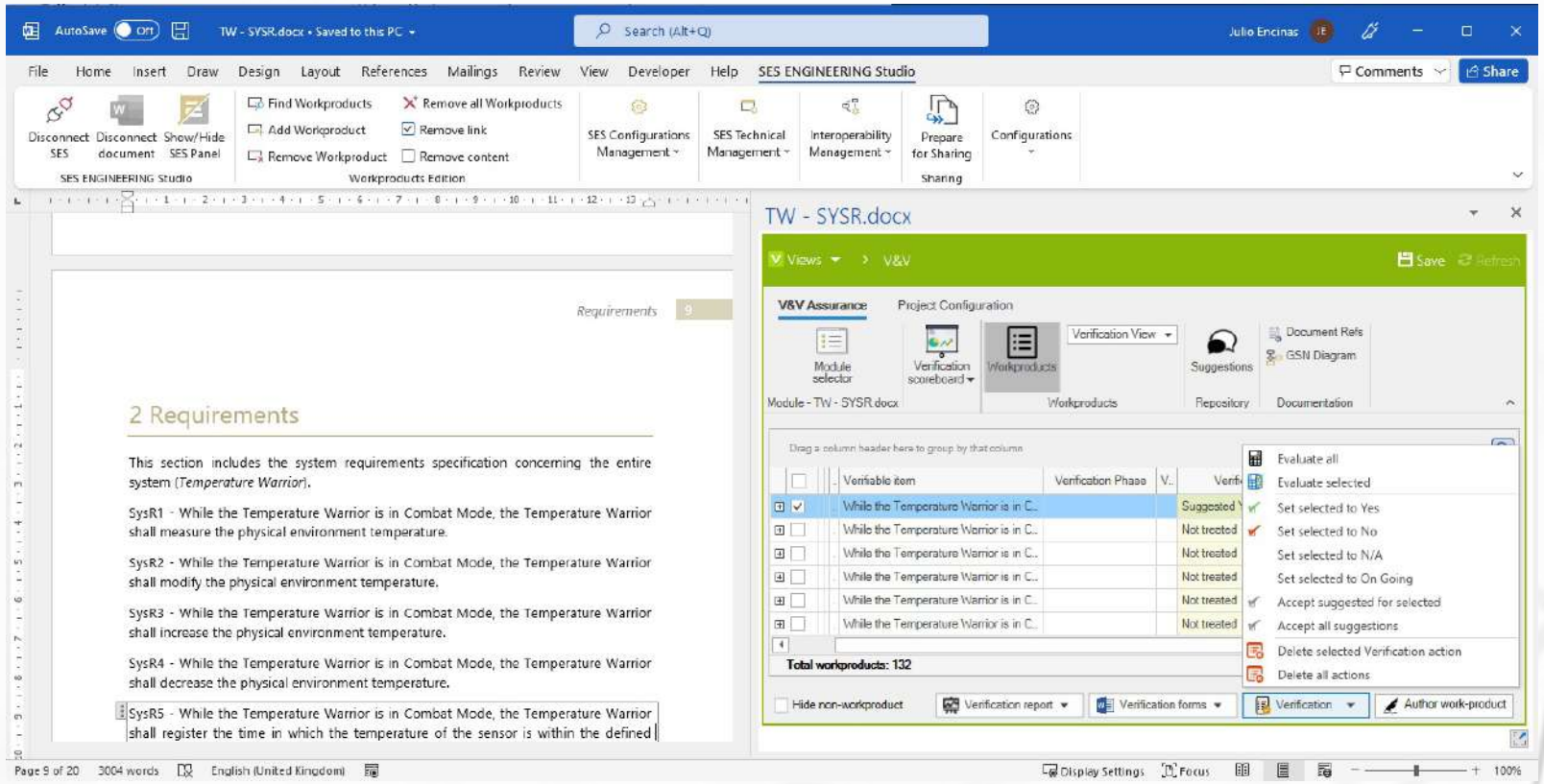
Webinar series

Capability	IBM DOORS	MS Word	MS Word with SES Add-in
Object boundaries	★★★	☆☆☆	★★★
ID management	★★★	☆☆☆	★★★
Attribute management	★★★	☆☆☆	★★☆
Tracing	★★☆	☆☆☆	★★★
Data Quality	☆☆☆	☆☆☆	★★★
Reporting/Doc generation	★☆☆	★★☆	★★★
Co-working capability	★★☆	★★★	★★★
Security management	★★★	☆☆☆	★★☆
Change Management	★★☆	☆☆☆	★★☆
Versioning/baselining	★★☆	☆☆☆	★★★
Licensing	★☆☆	★★★	★★☆
∑	22	8	29

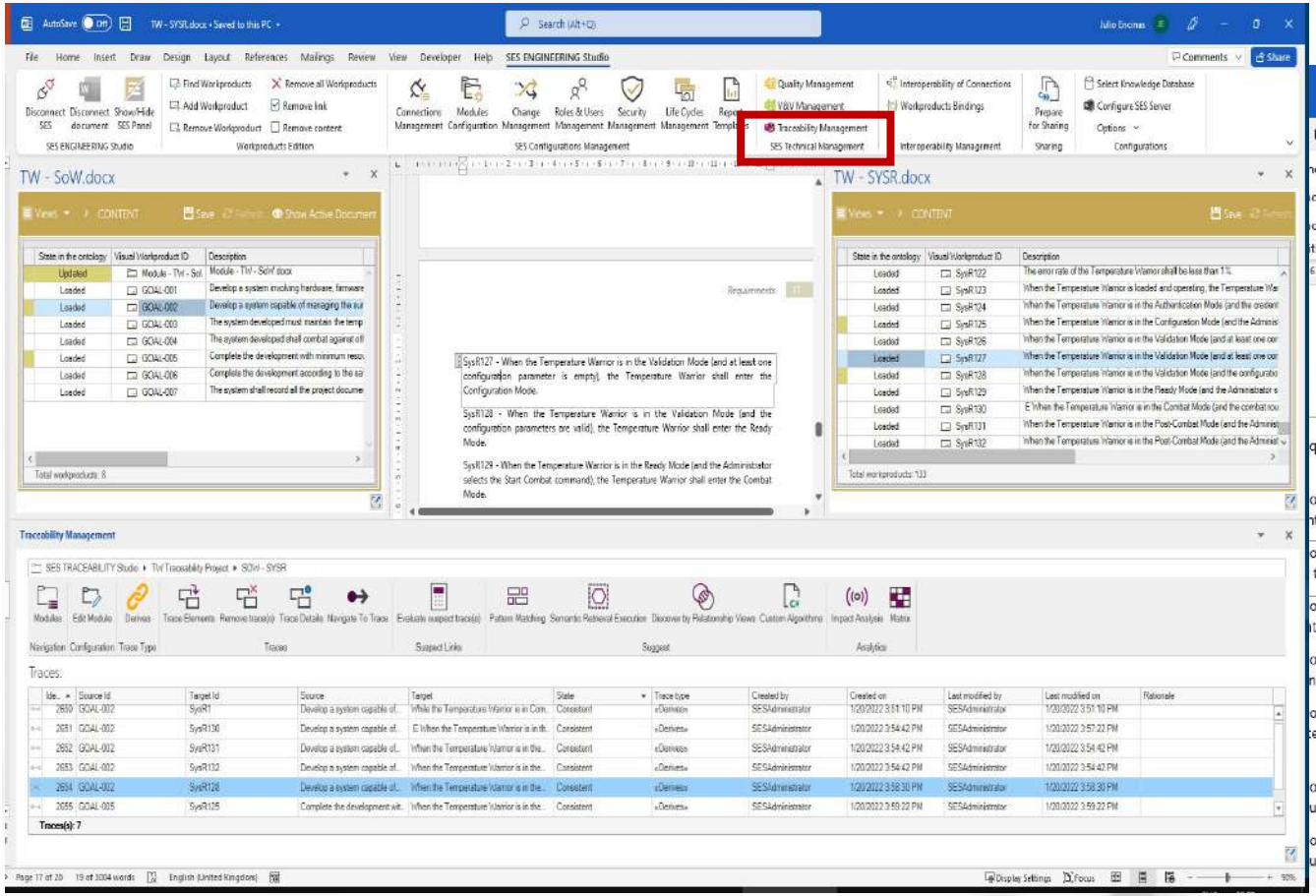
Embedded capabilities of SES ENGINEERING Studio : Quality

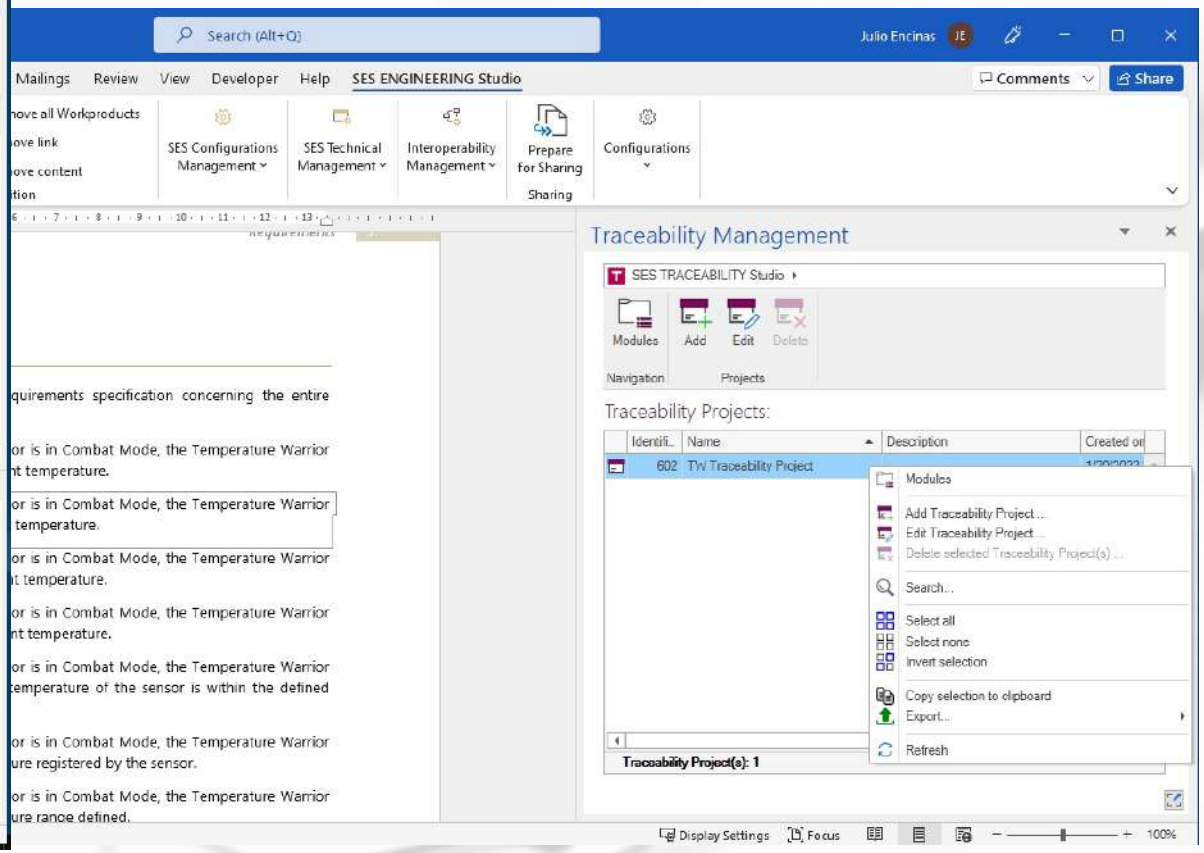


Embedded capabilities of SES ENGINEERING Studio : V&V

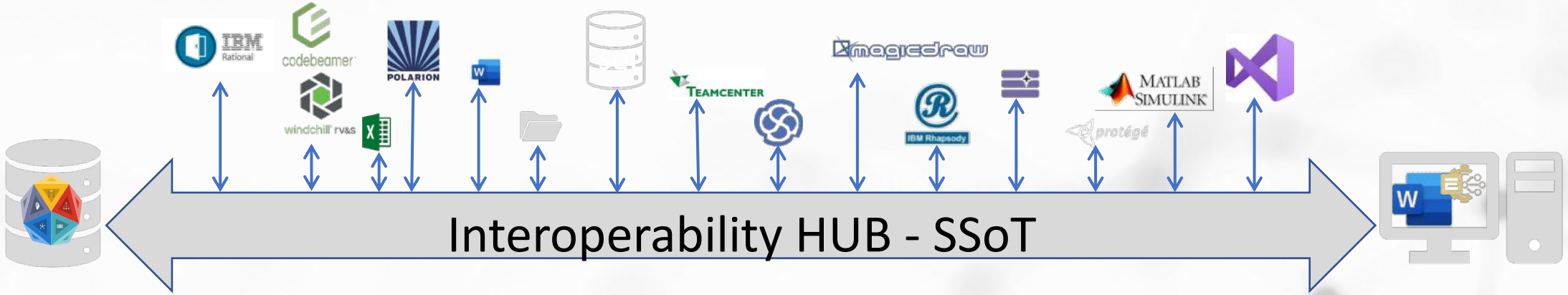


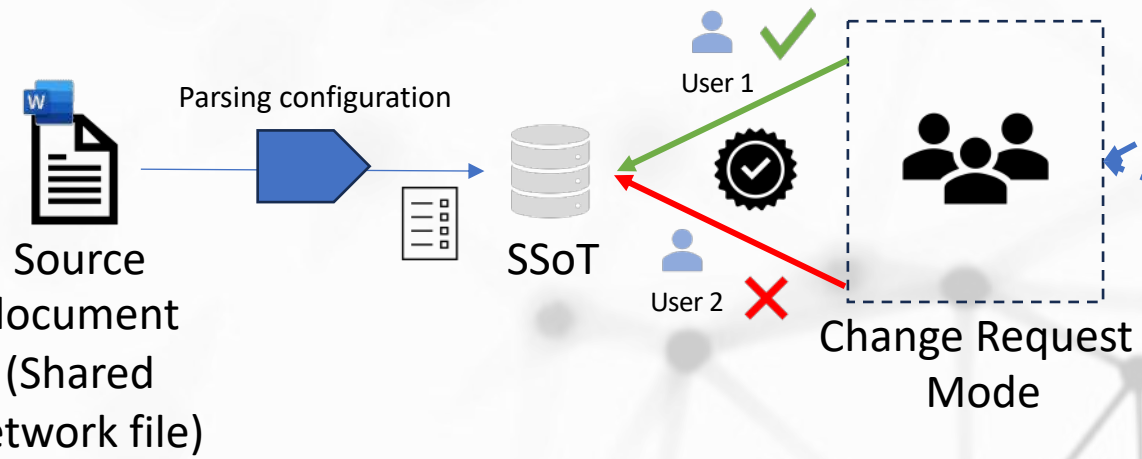
Embedded capabilities of SES ENGINEERING Studio : Traceability





- 2 Users accessing a document to edit
  - Document is stored in a shared network
  - Synchronized into a common repository (SSoT = Synchronized Source of Truth)





COLLABORATION SCENARIO EVOLUTION

- 2 Users accessing a document to edit
  - Document is stored in a shared network
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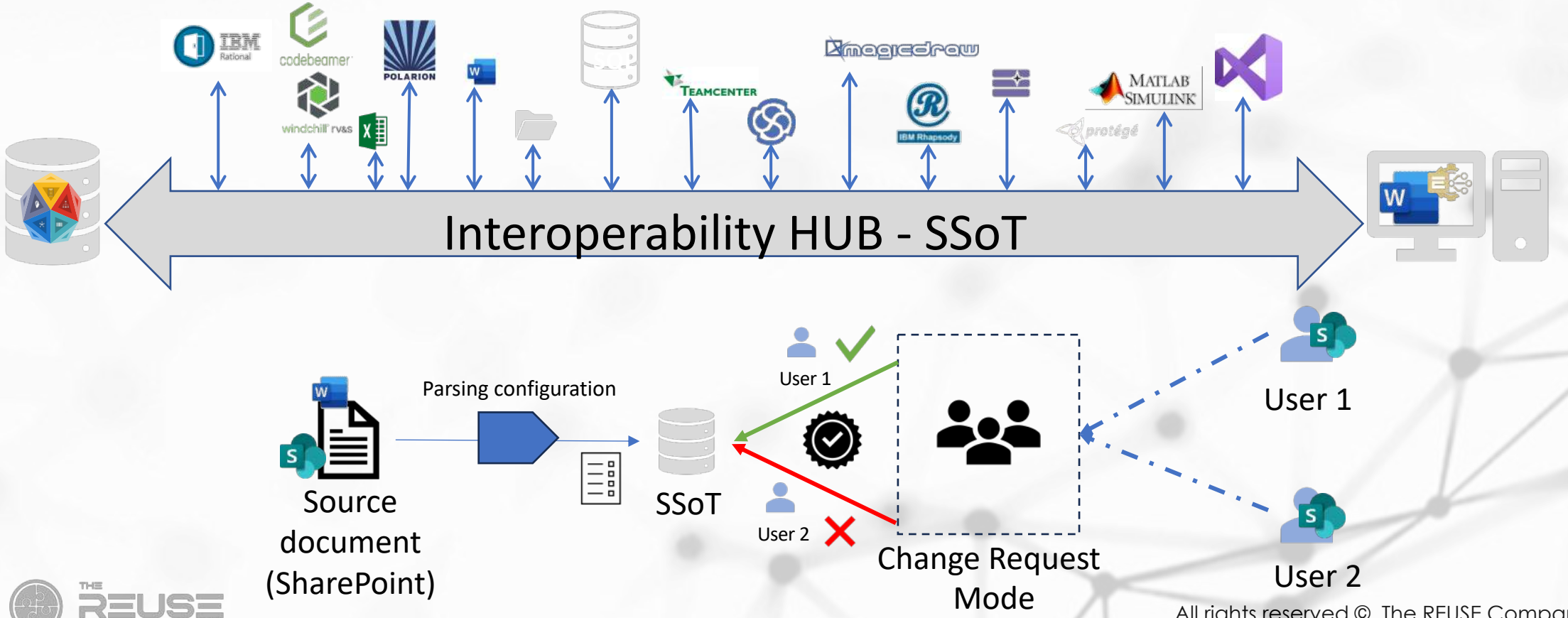
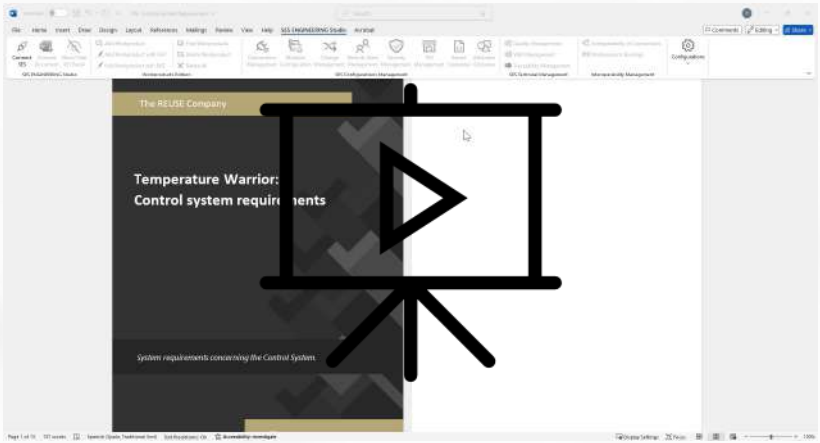
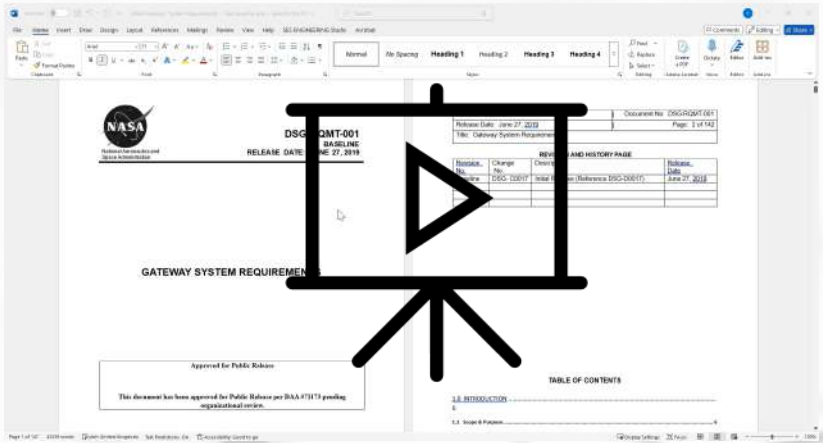
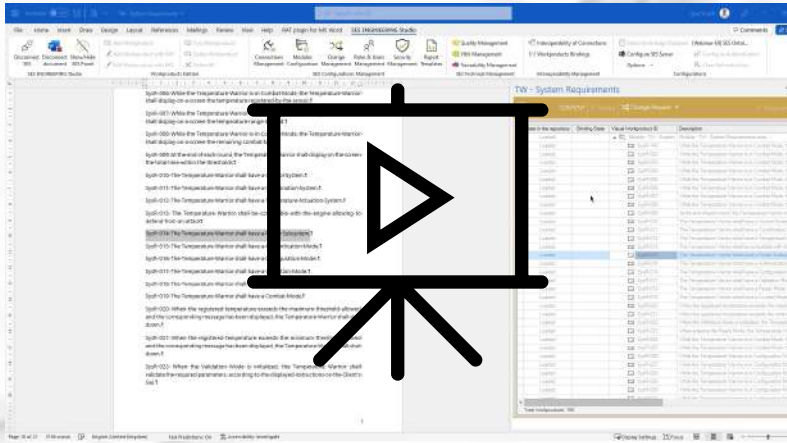


DEMO : REX FOR FAST-TRACKED COLLABORATIVE REQUIREMENTS MANAGEMENT

- Convert your document in a set of engineering configuration items.
- User roles & access level configuration
- Change Request Mode
  - Individual Change Proposal (User suggesting a change to 1 object)
  - Change Request resolution (Approve/Decline)







- **SAVE THE DATE:**

--------April 3, 2025---------

Why you should join:

- Updates about the SES Integration with Capella MBSE & related features
- Synchronization from/to other SE tools through Interoperability functions.

Jose Fuentes

Chief Sales Manager of The REUSE Company

- Former Product Manager of RQA and the Systems Engineering Suite
- INCOSE CSEP Certified
- Graduated in the INCOSE Institute for Technical Leadership
- Member of the board of AEIS – The Spanish chapter of INCOSE
- Active contributor to the INCOSE Guide to Writing Requirements
- Other certifications: ITIL
- Other interests: Project Management, Business Analysis, Risk Management

Ilyes Yousfi

Sales & Consulting Engineer

- Member of INCOSE (AEIS - Spanish Chapter) and INCOSE ASEP Certified
- Active major contributor to the "INCOSE Guide to Writing Requirements" from INCOSE's Requirements Working Group
- Co-author of "Real-time quality assessment of the INCOSE Guide to Writing Requirements : A Tailoring Guide" by the REUSE Company
- 8+ years of experience supporting projects to enable a synchronized source of truth / digital thread and to improve requirements quality in companies of different industries : Aerospace/defense, automotion, biotech, etc.

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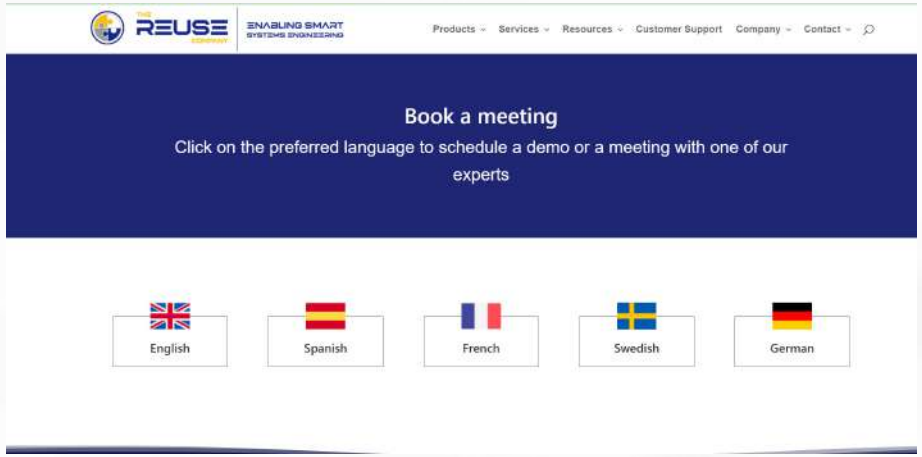
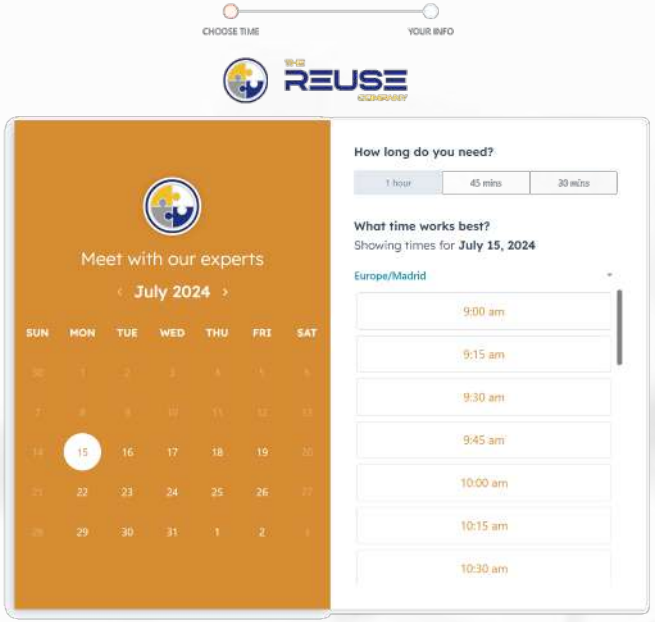
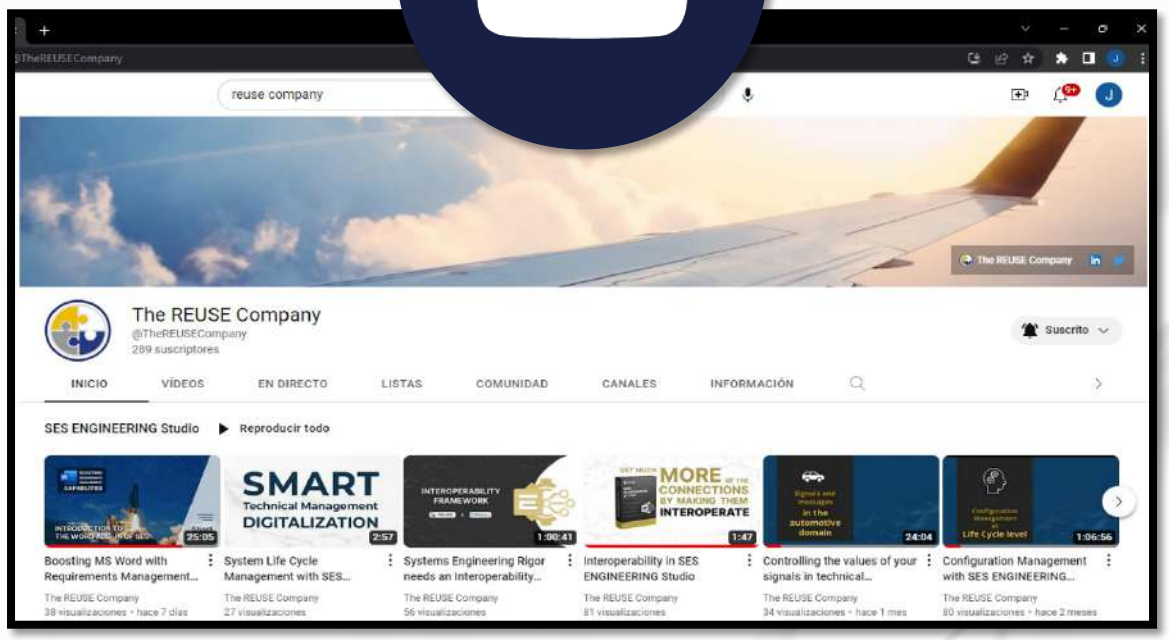
- **Willing to go further? You have different options!**
- Book a meeting with a consultant





- ***Requirements Analysis Service :*** https://www.reusecompany.com/personalized-requirements-analysis
- **Trial license request**: contact@reusecompany.com
- Get further information…



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- Next event participation :
  - **INCOSE Symposium 2025**
  - Ottawa, ON – Canada
  - 26-31 July 2025

- Last updates about our tools & services to leverage Systems Engineering
- Get to know the team!
- Ideas are welcome!

Ilyes Yousfi

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