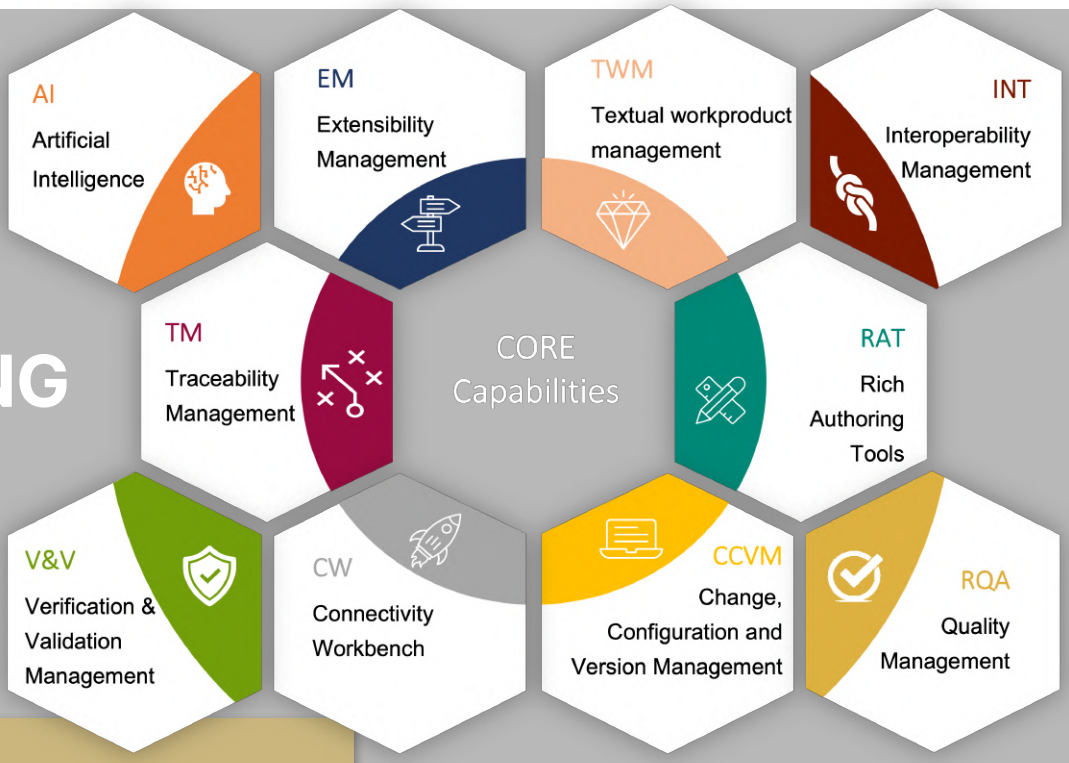
SES ENGINEERING STUDIO



Welcome!
If you are an old friend of ours, you are most likely familiar with RAT, RQA, and KM, which have been the core solutions of our toolset for several years now.

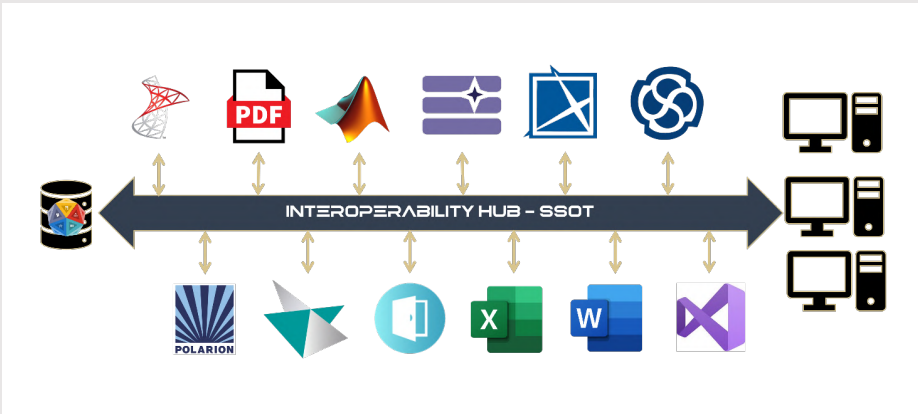
You also probably know that here, at The REUSE Company, we dedicate ourselves passionately to digitalizing the entire scope of ISO 15288 Systems Engineering processes with an approach guided by REUSE, driven by a KNOWLEDGE-CENTRIC and MODEL-BASED approach (supporting the concept of Authoritative Source of Truth), while integrating DOCUMENT-CENTRIC views inside an MBSE approach.

It was time to upgrade, and now, we have gone beyond our previous limits and expanded with new capabilities. This brand-new solution is called SES ENGINEERING Studio.

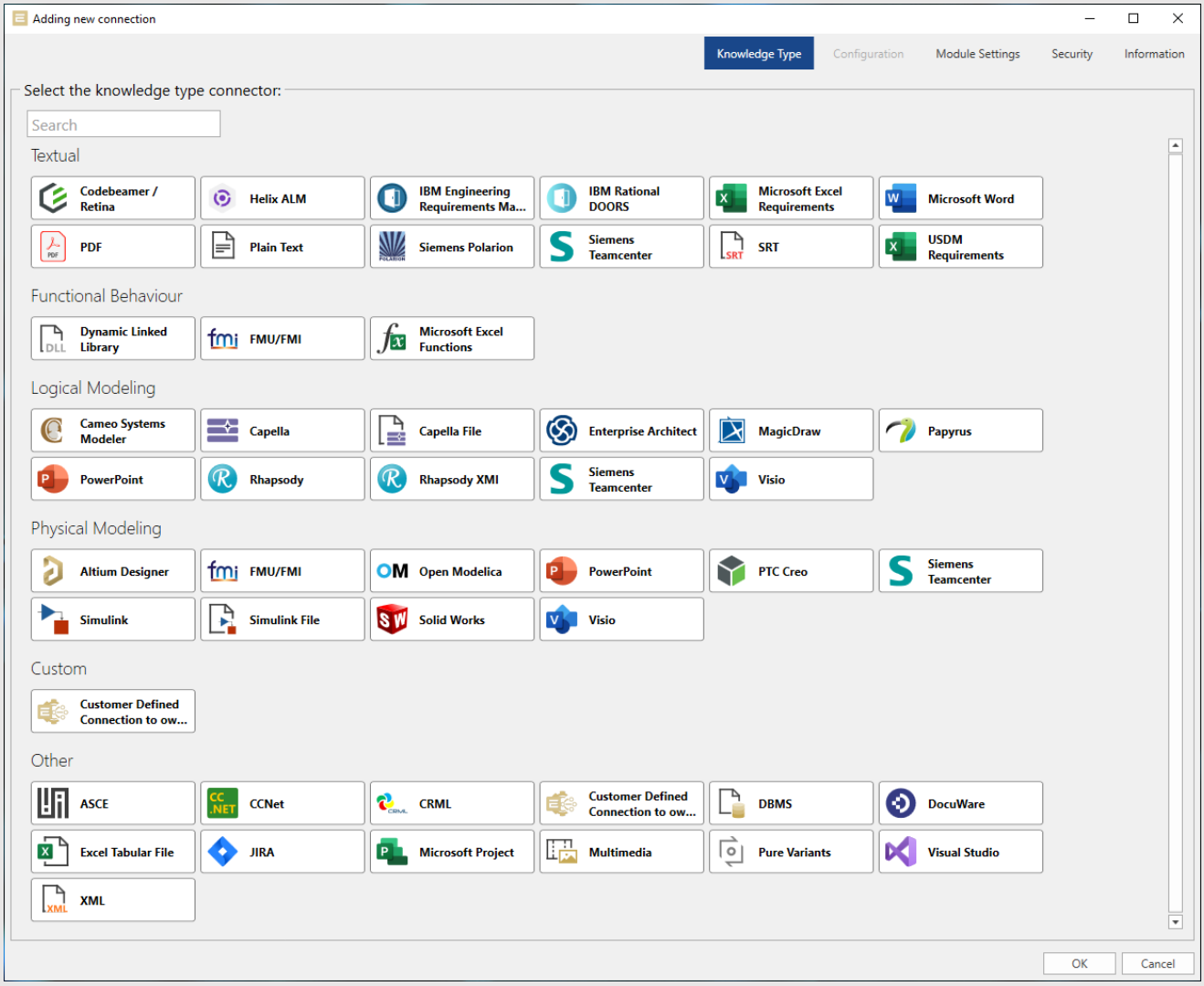
Break down the walls among the different tools used throughout the lifecycle and empower connectivity. Take your Digital Thread to the next level based on:

- Connectivity to integrate your entire tool ecosystem (+50 Connectors available. Including MBSE, RMS, ALM, PLM, and MS Office tools).
- Semantic traceability among multiple sources.
- Interoperability among engineering tools based on the concept of Interoperability HUB, enabling transformation and synchronization of work products.
- Technical management support for data, information, and knowledge managed all along your lifecycle (e.g. Requirements and model verification, system verification, validation, ...).
- Semantic search and reuse of the work products identified and connected throughout the lifecycle.
- Management of project workflows from a tool-centric viewpoint.

This approach is essential considering the current situation with organizations using hundreds of applications, tools, databases, and models to support the development of systems with ever-growing complexity



SES ENGINEERING Studio currently connects to +50 tools and continually adds more. There are, of course, hundreds of tools in the market (including in-house tools) for all disciplines in the digital thread: not just RMS and MBSE tools, but 3D CAD, electronics, fabrications, simulation, electromagnetic compatibility,...).



But, no worries, if your tool is not on the list, just contact our team. The REUSE Company, or even you, can easily develop compatibility with your selected tools. All the use cases shown in this flyer will then be accessible from this new tool.

SES ENGINEERING Studio has implemented the notion of Interoperability HUB (SSoT – Synchronized Source of Truth):

- No one-to-one (point-to-point) connectors: Every tool connects to the hub
- Bidirectional transformation from every source to the HUB's upper ontology
- Source tools from many different disciplines: RMS, MBSE, PLM, ALM, MS Office, PDFs, DBMS
- No wipe-out approach at all, those sources remain as the Authoritative Source of Truth (ASoT)
- Changes in the source are notified in the SES ENGINEERING Studio and raise the notion of suspect links
- Changes in the SES ENGINEERING Studio persist in the corresponding source tool (ASoT)

IOP-01 – Exchange of models between different MBSE tools

Transform a model created with a tool like Cameo, EA, or Rhapsody into another of these tools, or even Capella. Filter the elements to be transformed, map different stereotypes between the tools, different frameworks, map properties, create new elements in the transformation...

IOP-02 – Interoperate SysML v1 with SysML v2

Transform your legacy SysML v1 models into the modern SysML v2.

IOP-03 – Generate skeletons of physical models based on conceptual models

Use the corresponding information in a conceptual model (SysML) to generate the skeletons of your physical models.

IOP-04 – Remote access for partners or suppliers

An OEM can grant access to their own models to one or more suppliers. The OEM configures access rights, and suppliers can pull the model while transforming it into their desired MBSE tool. Changes are eventually reconciled and transformed into the tool used by the OEM.

IOP-05 – Migration of legacy requirements

Transform your requirements managed in a legacy RMS into your modern RMS. Requirements with their corresponding attributes and traces are created in the target RMS.

IOP-06 – Exchange requirements with your partners/suppliers

Transform requirements documents from one tool to another, exchanging all the attributes that you're interested in, and keeping traceability between both documents.

IOP-07 –Synchronize changes in 2 or more copies of a requirements document

When two copies of a requirements document have evolved separately, the HUB guarantees reconciliation of changes and synchronization.

IOP-08 – Zig-Zagging requirements with MBSE tools

Transform requirements documents from one tool to another, exchanging all the attributes that you're interested in, and keeping traceability between both documents.

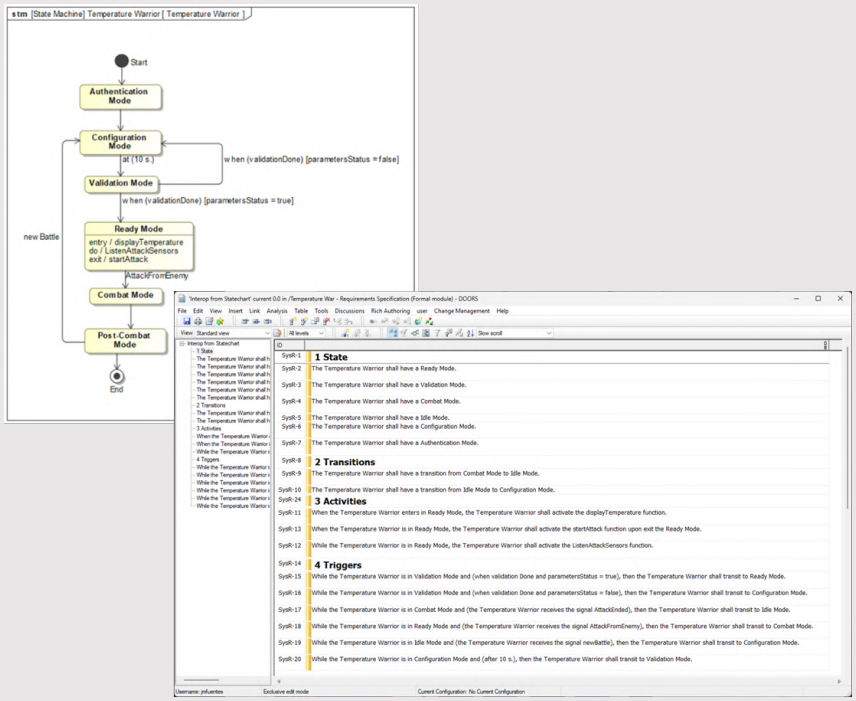
IOP-09 – Generation of models from requirements

Well-formed requirements can easily be translated into conceptual models: PBS, properties, state charts, functions allocated to components...

SES ENGINEERING Studio has implemented the notion of Interoperability HUB (SSoT – Synchronized Source of Truth):

IOP-10 – Generation of requirements from conceptual models

A requirements document written automatically using the information in a conceptual model



IOP-11 – Binding of named elements

Following the transformations in the previous IOP-06, requirements are not only traced to model elements, but they can also be bound, so that changes in the name of the model element might trigger changes in references to this element in the textual requirements.

IOP-12 – Binding of properties

Use case IOP-07 can now be extended so that changes in the properties of a model element can trigger changes in a textual requirement, even if the models and requirements are managed in different tools connected to the HUB.

IOP-13 – Software generation

Automatic generation of the foundation Software program classes within Visual Studio Code based upon models or textual requirements.

IOP-14 – Exchanges between MBSE and domain-specific vocabularies

Enabling knowledge extensibility by connecting to Logical MBSE models and other sources to enhance the project ontology (domain-specific vocabulary) and ensure semantic consistency between the work products of the different sources.

IOP-15 – LOTTAR and MOSSEC

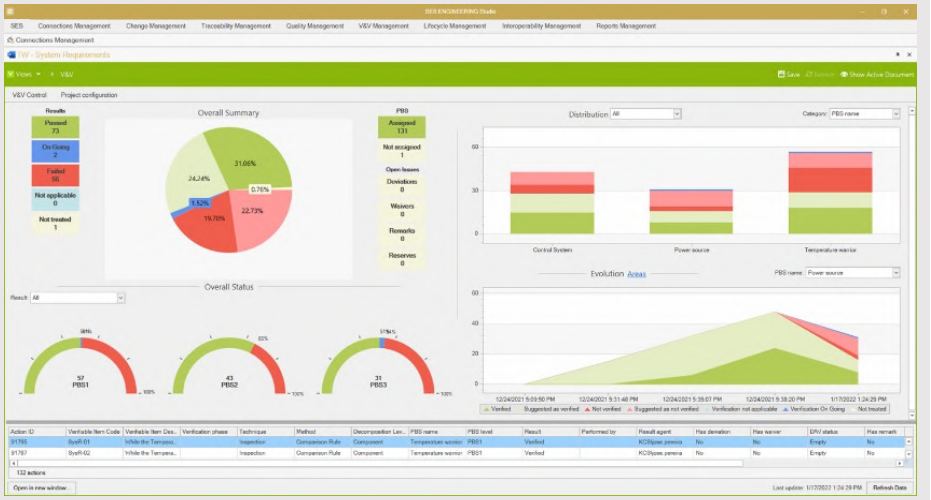
LOTAR and MOSSEC Standards are supported by all the connected work products.

IOP-16 – Semantic Search Engine

All the elements included in the Interoperability Hub will be part of the semantic search engine. They can be searched for and reused at any time.

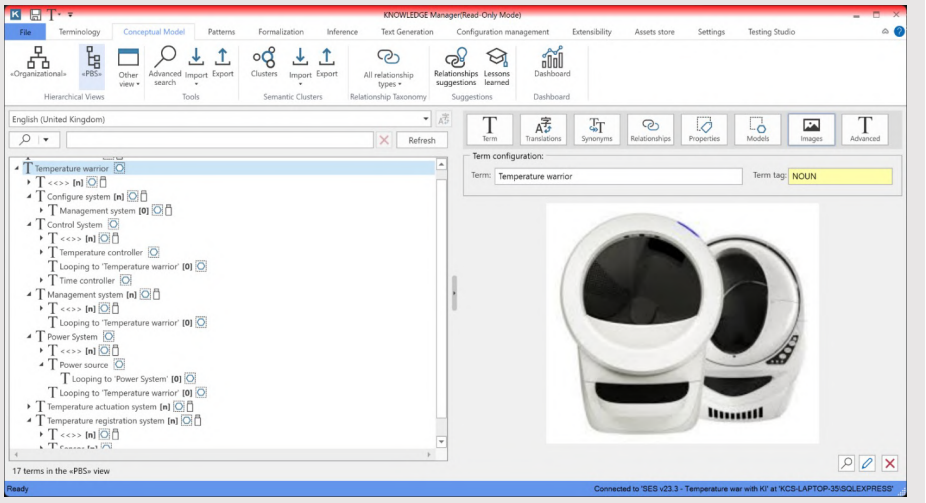
Technical Management Processes

SES ENGINEERING Studio also implements processes such as information and knowledge management within a project/ program-related ontology; provides configuration and baseline management, decision management, and project planning and control.



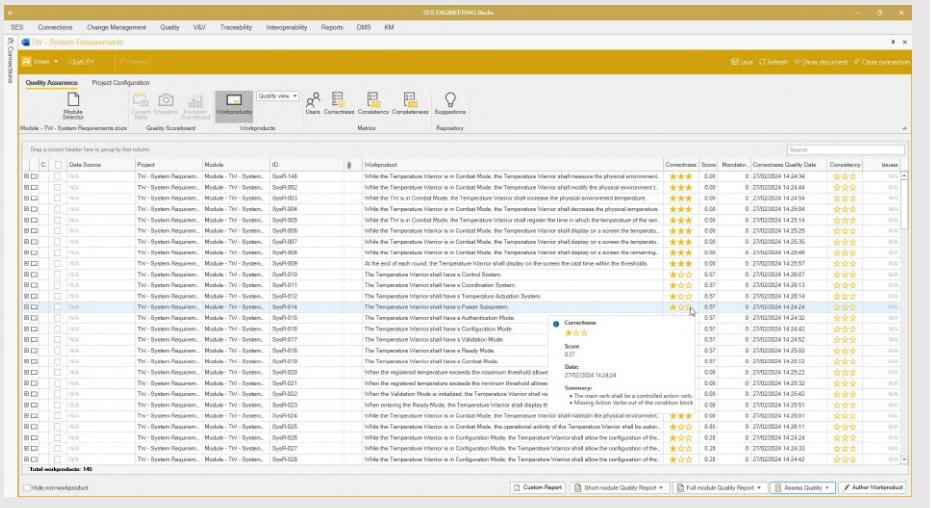
TP-01 – Information and Knowledge Management

A complete ontology management tool called KNOWLEDGE Manager can be used to represent domain-specific vocabularies, glossaries, taxonomies, system conceptual models...



TP-02 – Quality checking of your requirements

Customize the rules defined in the INCOSE Guide to Writing Requirements or many other standards and guidelines to check the correctness, consistency, and completeness of your requirements documents.



TP-03 – Quality checking of your models

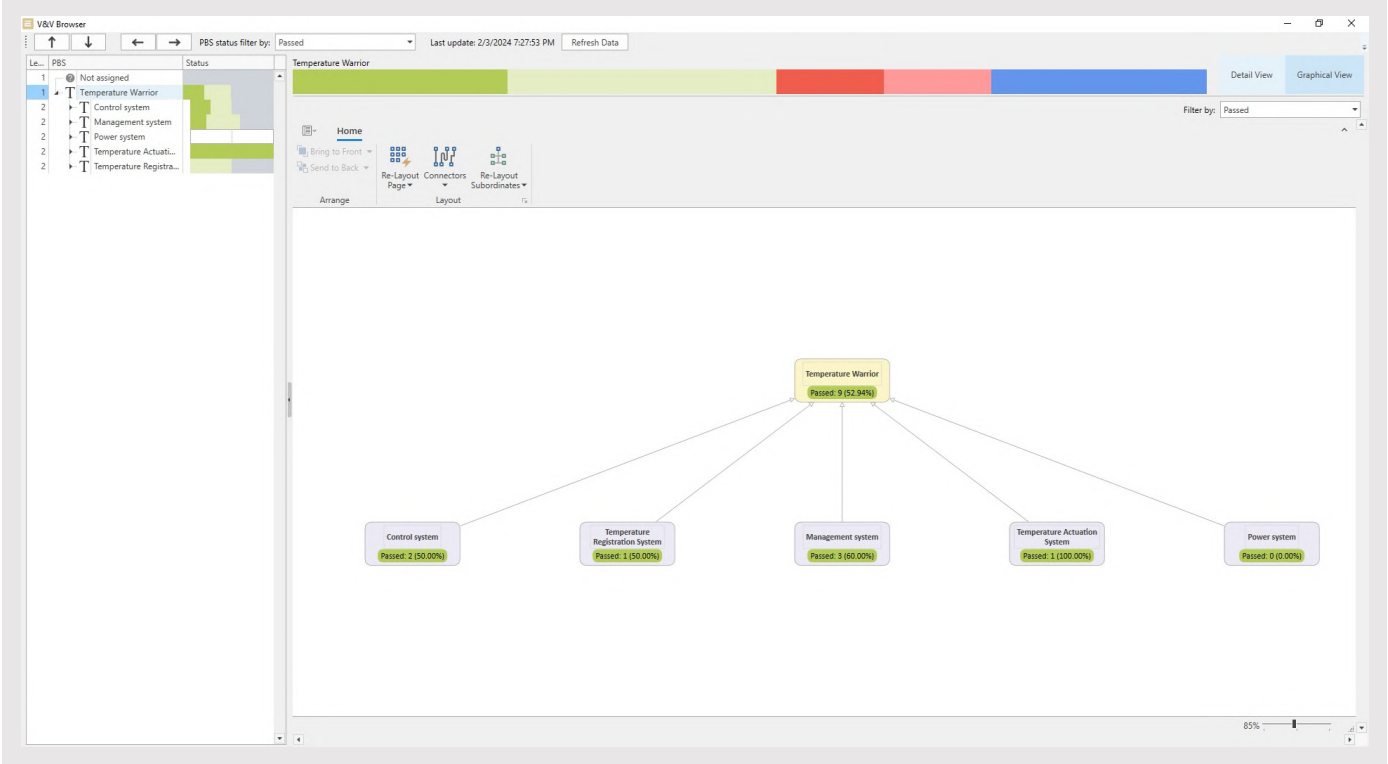
Define your own rules to perform static checking on your models, logical or physical to guarantee compliance with standards.

TP-04 – Requirements authoring

Use the Requirements Authoring Tool – RAT as your assistant to write the perfect requirement. In accordance with your selected guidelines (see TP-02) and following standard requirements patterns like EARS or others. No matter which is your preferred tool to manage your requirements, The REUSE Company offers authoring add-ins for most of the RM tools in the market.

TP-05 – End-to-End traceability

From needs, requirements, conceptual models, physical models, source code, tests... no matter the tools used to manage all this information, SES ENGINEERING Studio breaks the silos and allows seamless traceability among all these sources.

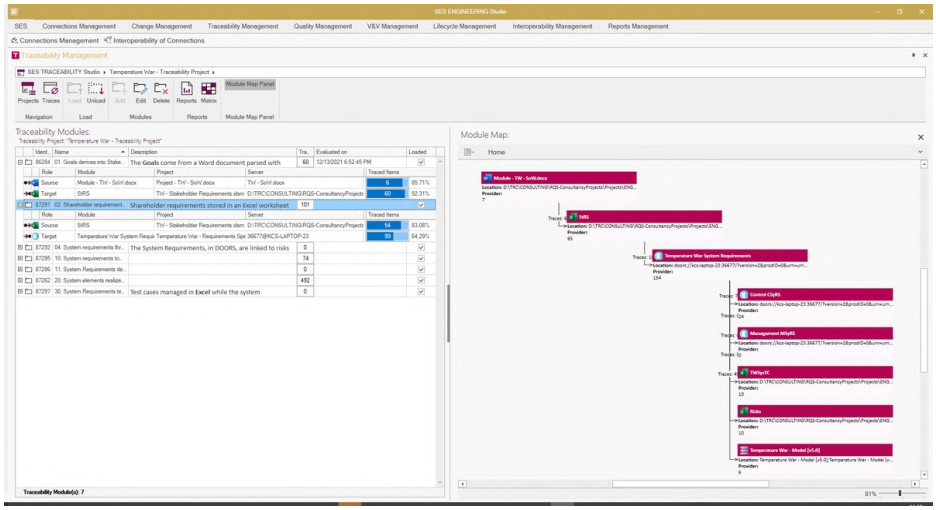


TP-06 – Semantic traceability

Semantic and AI/LLM-based algorithms assist engineers by suggesting potential traces across the digital thread.

TP-07 – Impact analysis

Changes in any HUB-connected tool can trigger impact analysis on other sources. View it with SES ENGINEERING Studio's graphical viewer, traceability matrices, or export to Excel.



TP-08 – Verification and Validation

Define your quality plan based on the definition of verification actions, linking your components and system with the corresponding requirements, no matter the tools used for the definition of these requirements. Record and collect pieces of evidence in SES ENGINEERING Studio.

TP-09 – Configuration management

When using MS Office as productivity tools to perform engineering, SES ENGINEERING Studio provides change management and baselining for any document connected to the HUB: PDFs with regulation, requirements in MS Word format, FMEA in Excel...

TP-10 – Comparison of sources

Compare two versions of the same model or the same requirements document. Compare two different copies of the same model. Reconcile changes with a click of a button.

TP-11 – Generic reporting

Create a report template and populate it with the information managed in any of the tools connected to the HUB.

TP-12 – Project management and project control

Define activity sequences in SES ENGINEERING Studio, track KPIs for each process, set inputs and outputs based on HUB-connected tools and documents, and record your system's verification status.

TP-13 – Decision Management

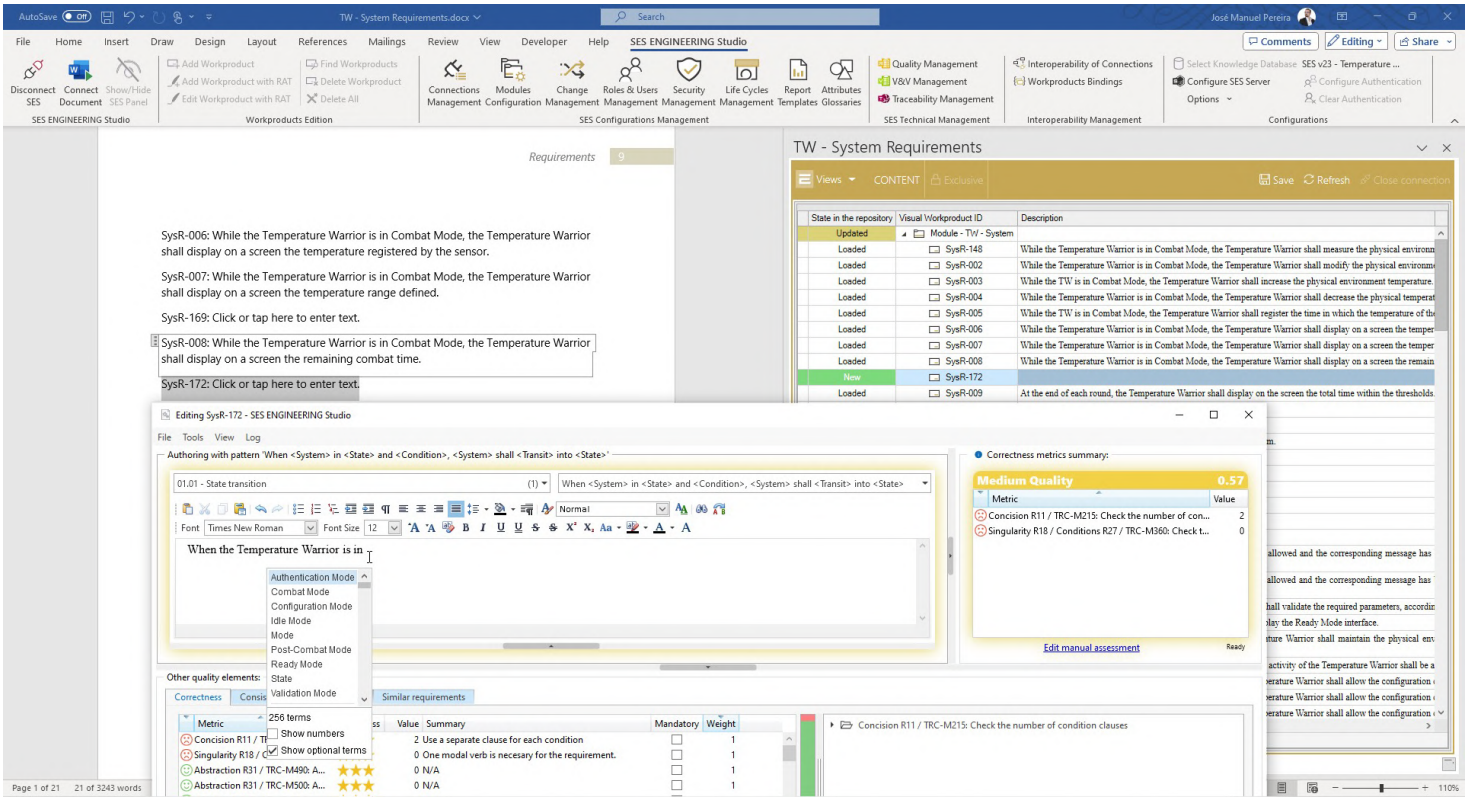
SES ENGINEERING Studio offers a complete decision workbench, combining classical AI with modern LLMs. Build decision workflows using connected sources as inputs and chain AI-driven operations.

TP-14 – Cost models

Implement cost models like COSYSMO with all the work items defined in the HUB for a given project or program.

TP-15 – Requirements Engineering

Working with a small engineering team and not using a traditional requirements tool? SES ENGINEERING Studio now offers full requirements management, either with its new RM capabilities or as an add-in for MS Word.



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