

Discussion with ASME VVUQ Standards Committee

May 19, 2026
Vanderbilt School of Engineering
Nashville, Tennessee, USA

V1.1.4

Contents

- How the Standards Committee's guidance helped the VVUQ 50.1 team
- The Rosetta Stone Project was spawned during this process
- What happened besides VVUQ50.1 approval--the growing significance of consistency management
- Request: How we hope the Standards Committee will continue to provide guidance during further collaboration
- Questions, discussion

- References

How we got here . . .

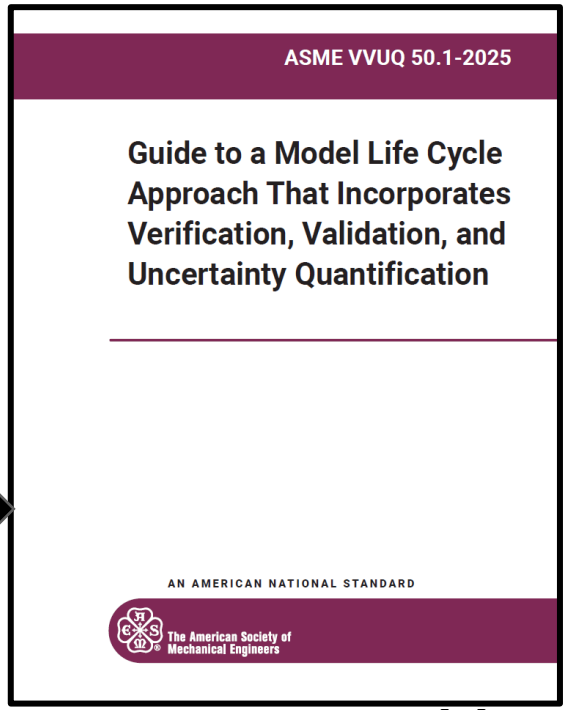
VV50.1 Authoring Team



Schenectady, 2016;
Gaithersburg, 2017; etc. . . . .

Standards Committee Guidance

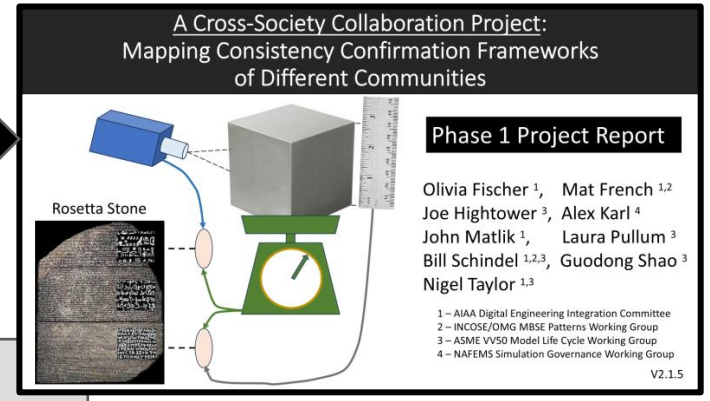
ASME VVUQ 50.1 Authoring Process (2016 - 2025)



January, 2026 [3]

Rosetta Stone Project (Consistency Management) 2024-2026

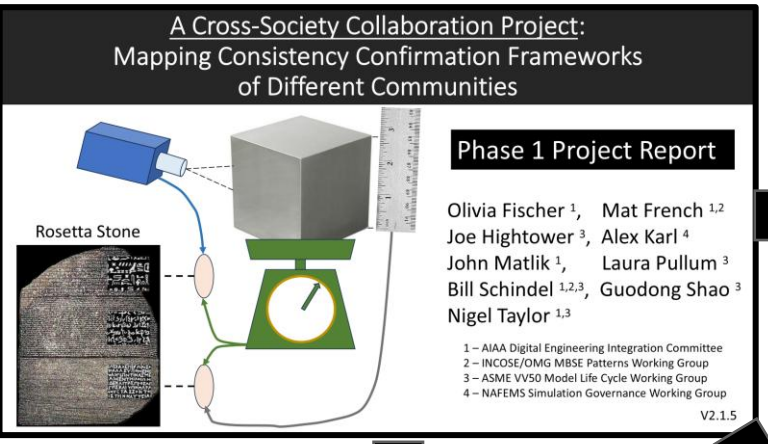
AIAA | **INCOSE** | **NAFEMS**

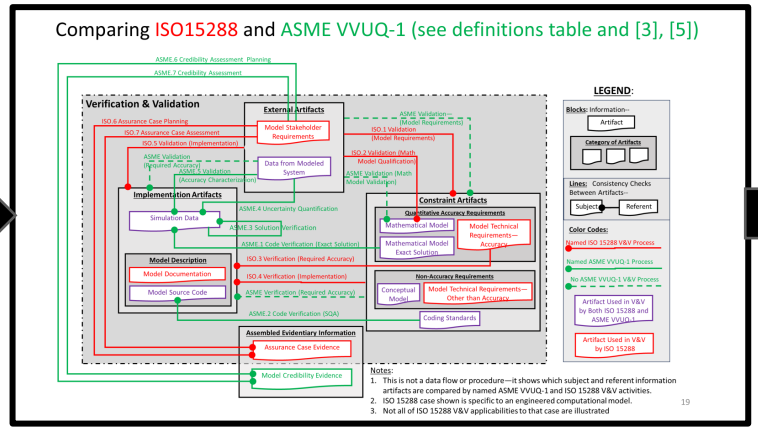


January, 2025 [1,2]

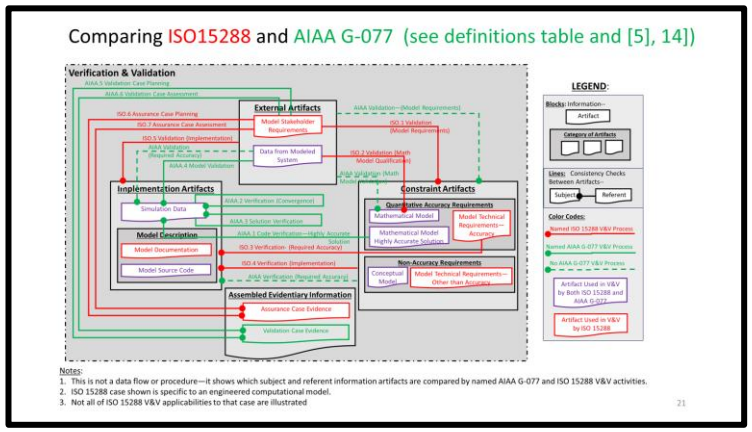
Mappings relate standards without changing them

Rosetta Stone Phase I Report

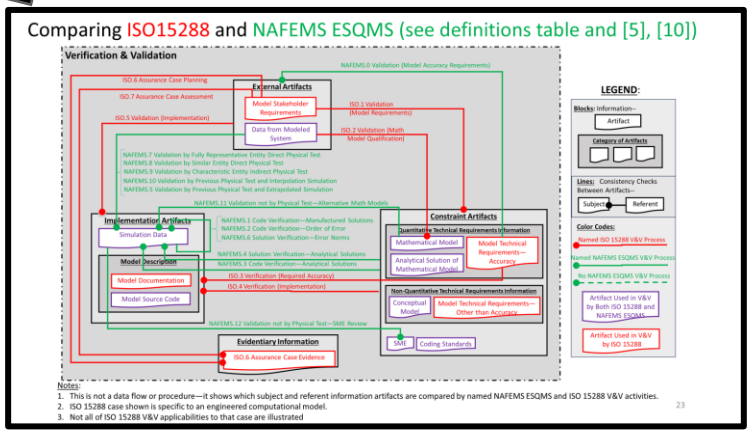




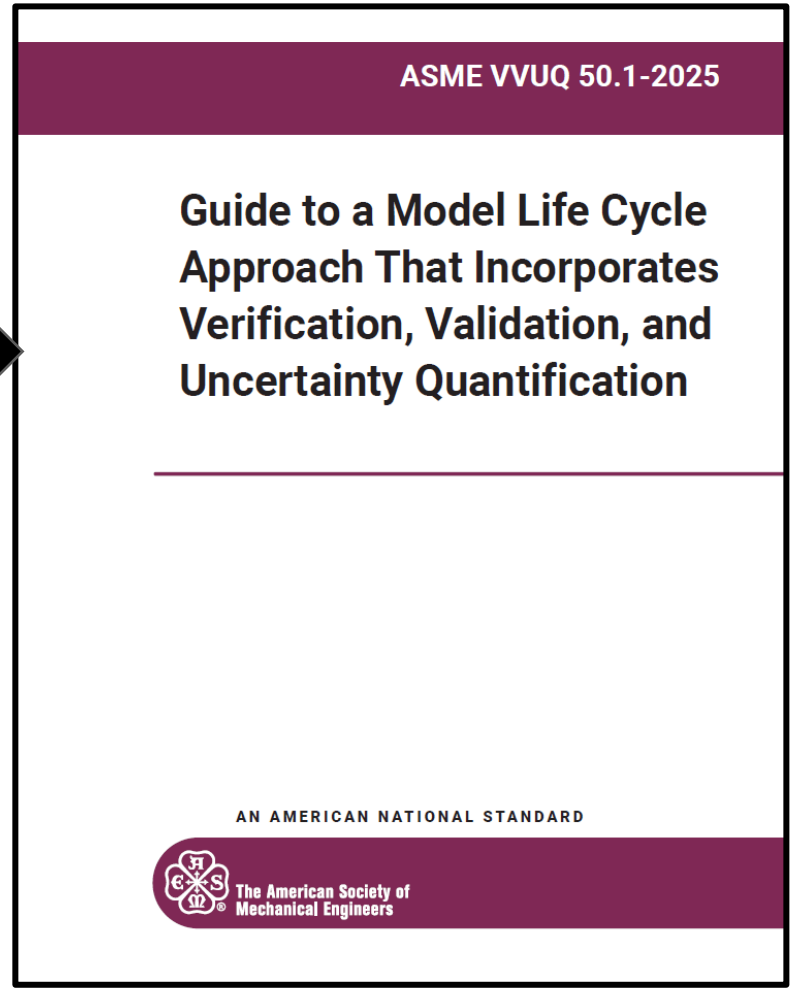
✓ ASME VVUQ 1 – ISO 15288 Mapping



✓ NAFEMS ESQMS – ISO 15288 Mapping

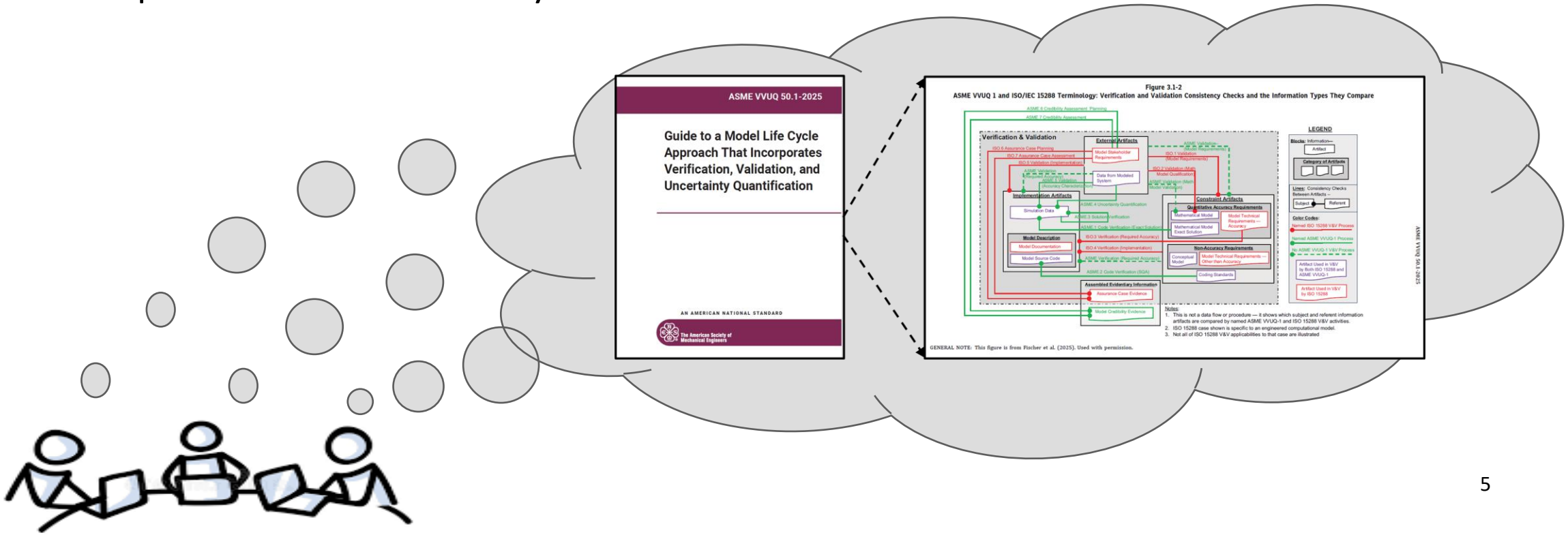


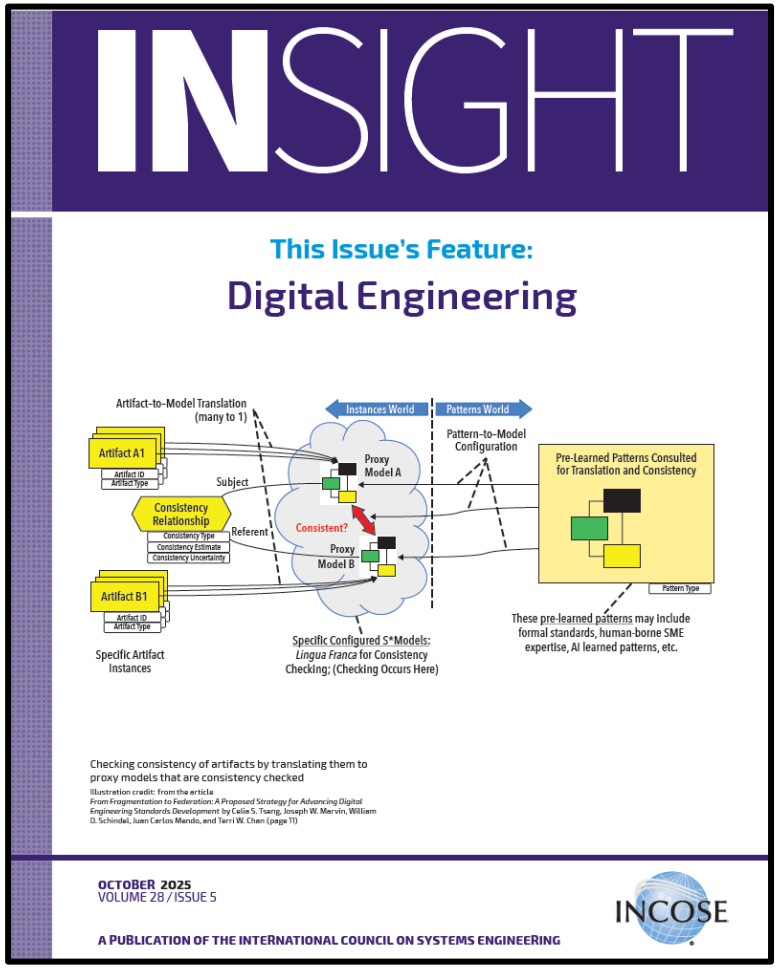
✓ AIAA G078 CFD – ISO 15288 Mapping



Rosetta Stone enables collaboration across discipline communities

- ASME VV50.1 shows that it is not necessary to change terminologies in order to understand and integrate practice of the whole set of discipline-specific VVUQ methods in a single project:
  - Understanding of different concepts as well as terminologies is both feasible and constructive.
- Denigration of communities or their practices does not contribute to better outcomes:
  - The ASME VVUQ Standards Committee has taken a leadership role in publishing VVUQ50.1 as a first step in the cross-community collaboration to follow.





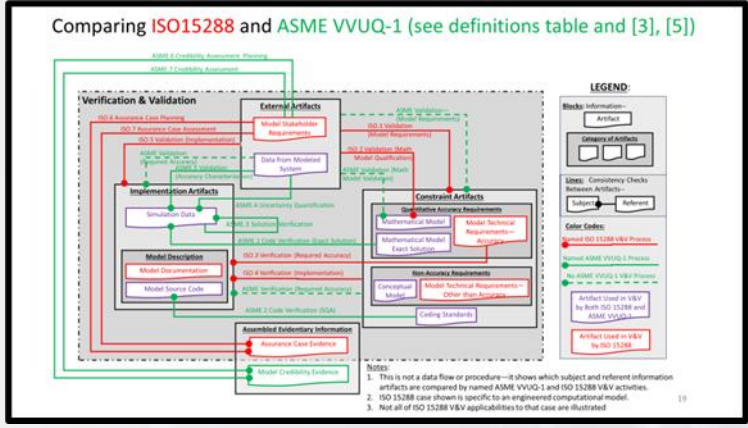
Oct 2025 Digital Engineering Special Issue [4]

Consistency management has extended significance

<u>INCOSE INSIGHT Digital Engineering cover story</u>:

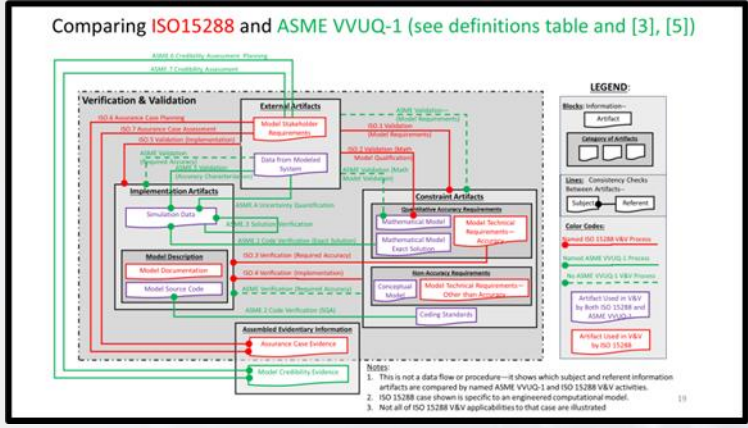
- Extending MBSE models in a vector metric space.
- Creates distance metrics for otherwise non-quantitative MBSE models.
- Extends the power of ASME computational model VVUQ standards to MBSE VVUQ.
- Enables machine learning with MBSE models.
- [5, 6]

A request



- As we continue to collaborate across these communities . . .
- Our near-term goal is not out of reach:
  - Build awareness of <u>how</u> the VVUQ standards are related, although different.
  - Not change to these standards, but increased awareness of their relations.
- As the ASME VVUQ community members participate, we request that the VVUQ Standards Committee continue to serve as an authoritative ASME point of focus for their engagement.

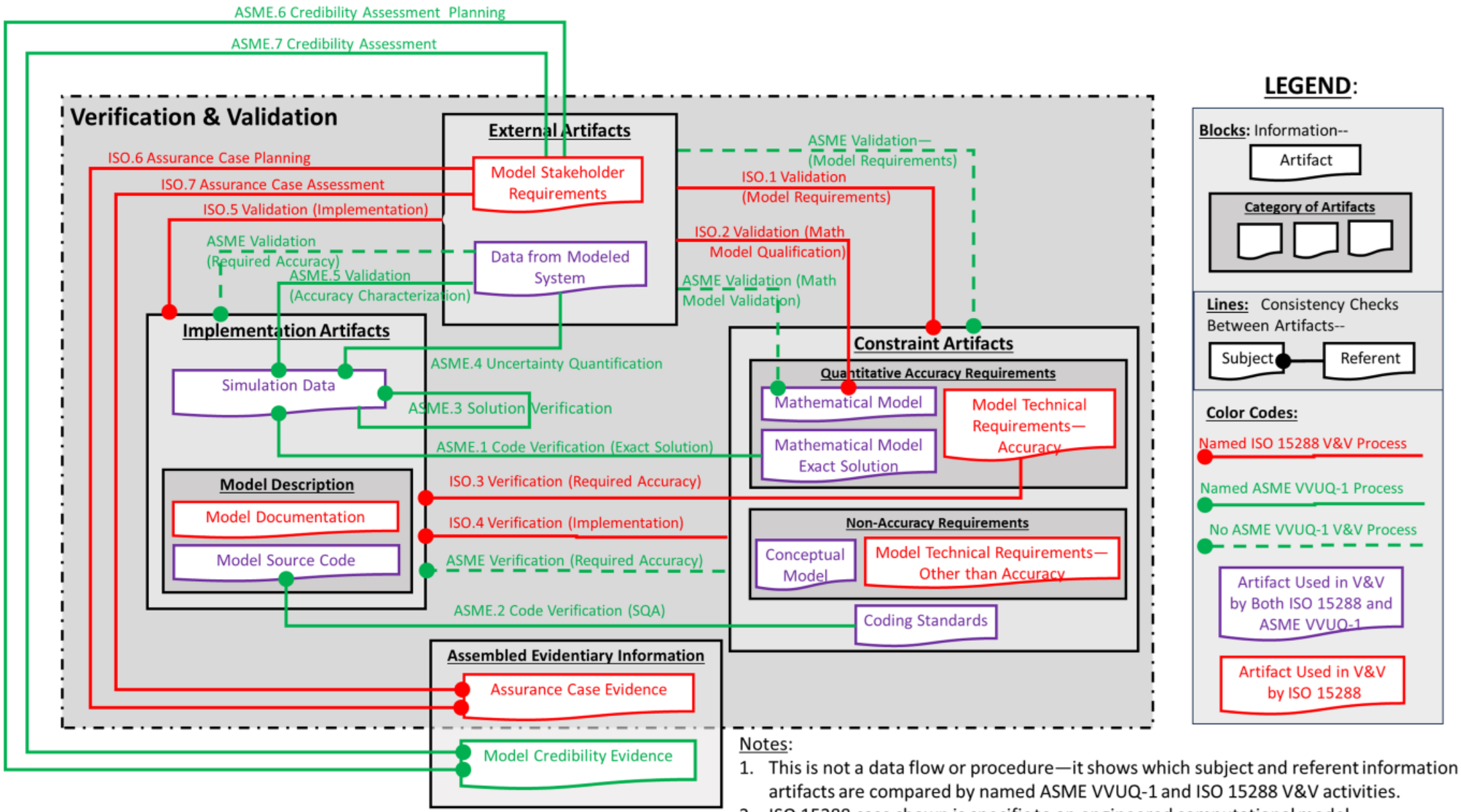
Questions, discussion



References

1. Fischer, O., French, M., Hightower, J., Karl, A., Matlik, M., Pullum, L., Schindel, W., Shao, G., Taylor, N., "A Cross-Society Collaboration Project: Mapping Consistency Confirmation Frameworks of Different Communities". Download from -- https://www.omgwiki.org/MBSE/lib/exe/fetch.php?media=mbse:patterns:rosetta_stone_project_report_01.08.2025_v2.1.5.pdf
2. Fischer, O., French, M., Hightower, J., Karl, A., Matlik, M., Pullum, L., Schindel, W., Shao, G., Taylor, N., "Results of the 2024 Rosetta Stone Project— A Cross-Societies Collaboration", in *Proc. of ASME VV2025 Symposium*, 2025. Download from -- https://www.omgwiki.org/MBSE/lib/exe/fetch.php?media=mbse:patterns:rosetta_stone_project_historical_context_discussion_for_asme_vvuq2025_v1.8.5.pdf
3. ASME VVUQ 50.1: "Guide to a Model Life Cycle Approach That Incorporates Verification, Validation, and Uncertainty Quantification", ASME, January 2026. Download from -- ASME Store
4. Tseng, C., Marvin, J., Schindel, W., Mendo, J., Chan, T., "From Fragmentation to Federation: A Proposed Strategy for Advancing Digital Engineering Standards Development", from *INCOSE INSIGHT Magazine*, October, 2025. Download from -- https://www.omgwiki.org/MBSE/lib/exe/fetch.php?media=mbse:patterns:incose_insight_excerpt_oct_2025.pdf
5. Schindel, W., "Vector Spaces, Projections, Patterns: Support for MBSE, Learning, and Trust", presented to INCOSE Fellows meeting at INCOSE 2025 Symposium, July, 2025. Download from -- https://www.omgwiki.org/MBSE/lib/exe/fetch.php?media=mbse:patterns:is2025_fellows_27_july_v1.2.1.pdf
6. Schindel, W., Taylor, N., "Consistency Management—The Expanding Rosetta Stone", ASME VVUQ2026 Symposium, May, 2026.

Comparing ISO15288 and ASME VVUQ-1



Notes:

1. This is not a data flow or procedure—it shows which subject and referent information artifacts are compared by named ASME VVUQ-1 and ISO 15288 V&V activities.
2. ISO 15288 case shown is specific to an engineered computational model.
3. Not all of ISO 15288 V&V applicabilities to that case are illustrated