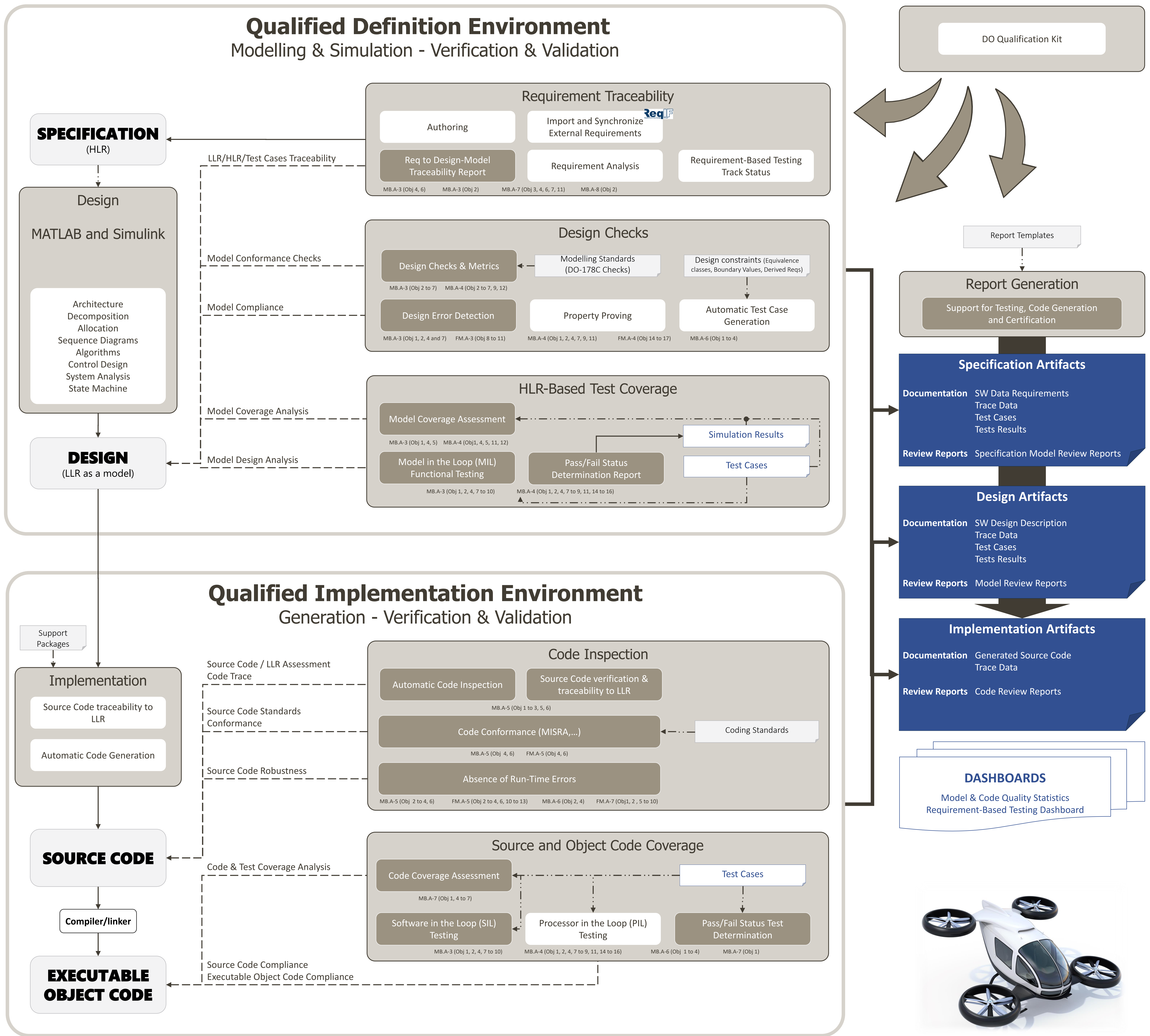


DO-178C Workflow with Qualified Code Generation



DO-331 - MODEL USAGE EXAMPLE 1

- DO-178C supplements
- DO-330 for Tool Qualification
 - DO-331 for Model-Based Design (MB.A-y table)
 - DO-333 for Formal Methods (FM.A-y table)

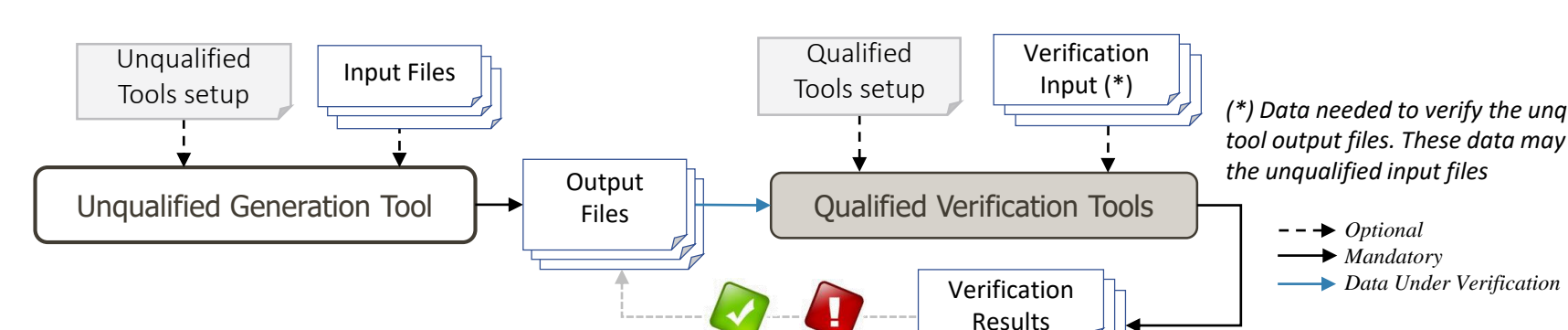
SW Production →
Used as Input Reference →
<Destination> Under Evaluation →

- Feature
- Qualifiable Feature
- Specific Inputs
- Deliverable Artifact
- Intermediate Artifact

DAL A Certification using a Qualified V&V Approach

Demonstrate the objectives are met using Qualified V&V Tools

DO-178C: Section 12.2
DO-330: Appendix D: FAQ.D.7



Tool Qualification Level: Our tools enable to eliminate or reduce reviews, same as a qualified code generator would. Enabling to support up to a DAL-A system certification with:

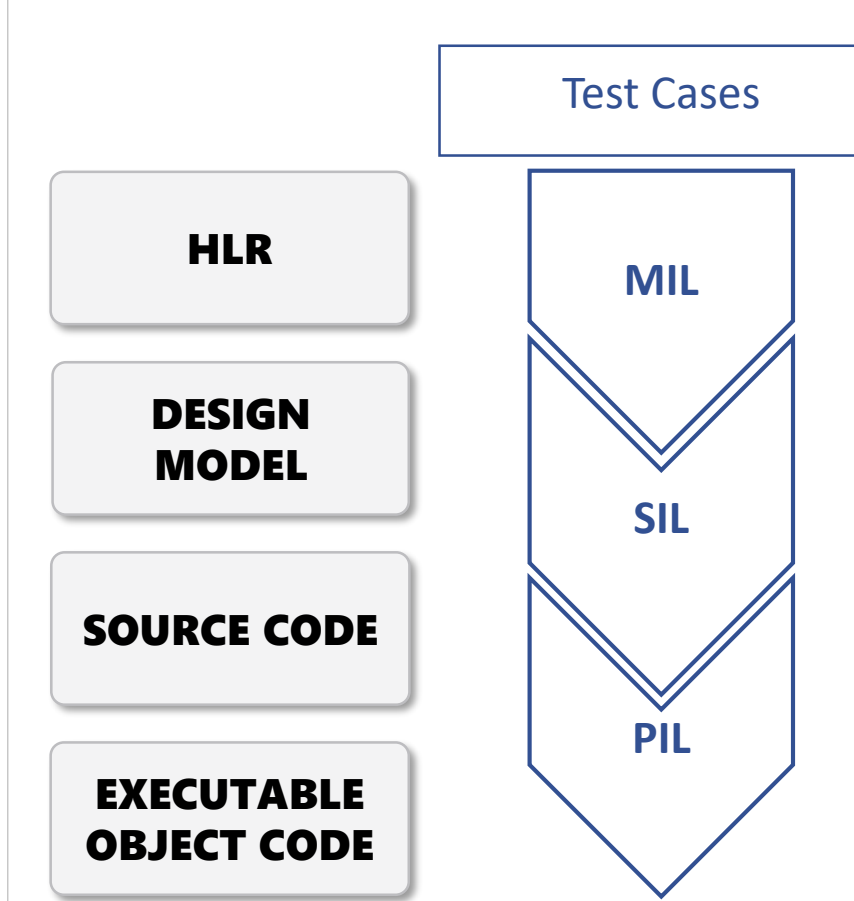
- A TQL-4 qualification - for Polyspace Code Prover only - when used to justify the elimination or reduction of process(es);
- A TQL-5 qualification, otherwise.

- DO Qualification Kit**
- Tools Requirements, User Manual and other MathWorks documentation
 - Workflow Documentation and Tool Qualification Plans templates
 - Verification Inputs Test Cases and Expected Results

Leverage Simulation to Reduce Low Level Testing Effort

Get Credit from the Simulation Test Cases using PIL Execution

DO-178C: Section 6.4
DO-331: Appendix MB.B: FAQ #16
DO-331: Sections MB.6.7 & MB.6.8.2



MB.B.16 **FAQ #16:** Can simulation support the assessment of test coverage of the low-level requirements contained in a design model?

- Testing Strategy:**
- Define Test Cases in MIL to cover the HLR
 - Re-Use the Tests Cases in SIL to validate the Source Code
 - Re-Use the Tests Cases in PIL to assess the EOC compliance
 - Get Credit from End-to-End Requirement-Based Testing

