NASA NPR 7150.2C Compliant Flight Software Development Workflow

**REQUIREMENTS**

- Architecture, Design, Source Code and Test Case Traceability
- Simulink Requirements
- Architecture Model
- System Composer
- Coverage Metrics
- Design Error Detection and Property-Pruning
- Simulink Coverage

**ARCHITECTURE**

- Architecture Design
- Architecture Model
- Architecture Specification
- Architecture Interface

**MODEL**

- SW3 + SADD
- Model Coverage Analysis
- Simulation in the Loop Functional Testing
- Coder Settings
- Embedded Code

**SOURCE CODE**

- Software Requirements
- Software Design
- Software Implementation
- Software Operations, Maintenance, and Retirement

**EXECUTABLE OBJECT CODE**

- Simulink Requirements
- Embedded Code
- Source Code Traceability
- SW3 + SADD

**Effort Distribution in Traditional Development Workflows**

- Spec/ Req
- Unit Design & Verification
- Test Case Generation
- Code Validation Testing

**Effort Distribution in Model-Based Design Workflows**

- Spec/ Req
- Unit Design & Verification
- Test Case Generation
- Code Validation Testing

---

*NPR 7150.2C Compliant Flight Software Development Workflow*

Prepared by: Ossi Saarela, MathWorks

customerhelp.mathworks.com

Phone: +1-508-647-1018

December 2015