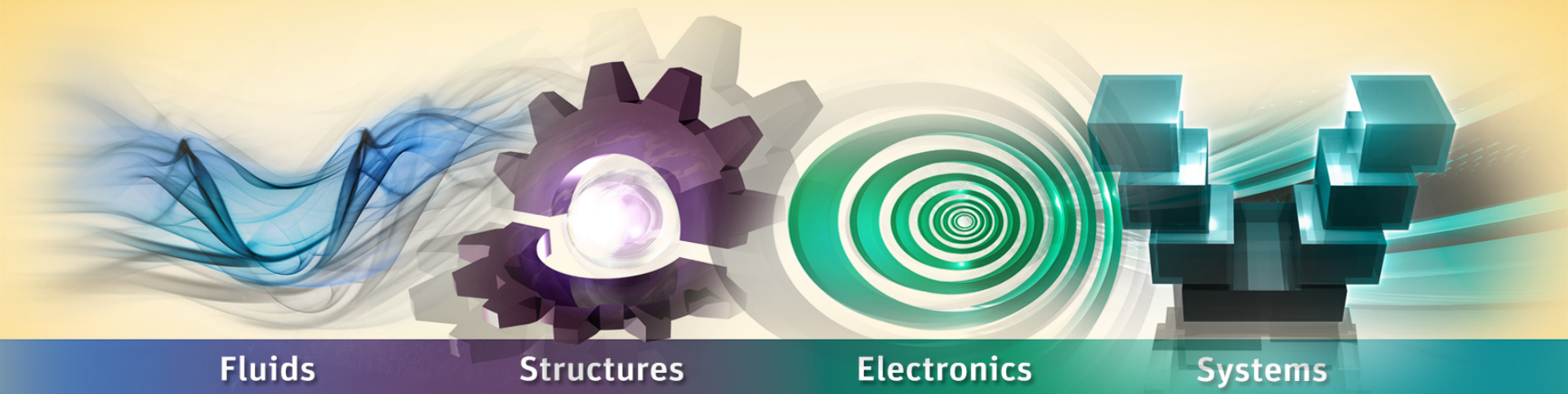
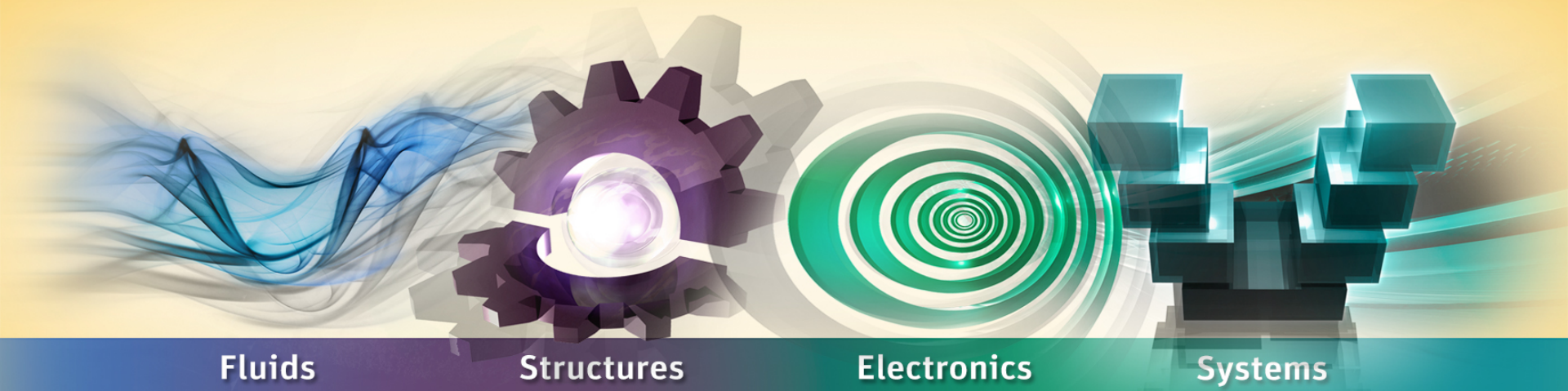


DO-178C SCADE Suite KCG Certification Kit & Certification Plans for SCADE Suite® Level A & B



DO-178C SCADE Suite KCG Certification Kit



Fluids

Structures

Electronics

Systems

DO-178C Certification Kit for SCADE Suite

KCG includes (1/2)

- **Compliance Analysis with DO-330 Standard:**
 - Presents the compliance of SCADE Suite KCG with DO-330 objectives at TQL-1
- **Tool Qualification Plan (TQP):**
 - Presents all provisions taken for the qualification of KCG Code Generator and references the other project plans
- **Tool Operational Requirements (TOR):**
 - Describes the KCG functionality and usage. This document corresponds to the TORDeveloper as defined in DO-330.
- **Tool Requirements (TR):**
 - Describes the requirements used to develop KCG
- **Scade Language Reference Manual:**
 - Contains the language requirements

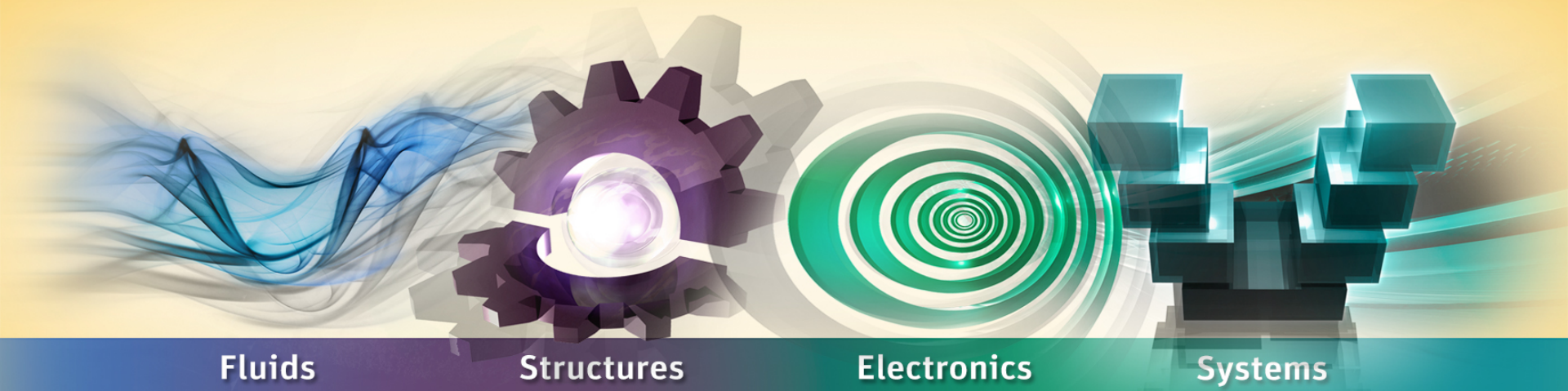
DO-178C Certification Kit for SCADE Suite

KCG includes (2/2)

- **Tool Accomplishment Summary (TAS):**
 - Presents the compliance status with the Tool Qualification Plan, the conditions of use, the list of unresolved defects, and tool limitations
- **Software Installation Procedure (SIP):**
 - Contains detailed instructions for installing KCG
- **Tool Configuration Index (TCI):**
 - Presents the configuration status and version content of the tool
- **Test Report:**
 - Describes the organization and execution of test cases and procedures for all tests

- **Esterel Technologies' support team sends regular Safety Status Reports that complement the Certification Kit by giving the status of all open problems in SCADE Suite KCG known at report publication date. These reports are also available on our Support web site.**
- **Updates to the Certification Kits and Safety Status Reports are provided to customers with maintenance service**

Certification Plans for SCADE Suite® Level A & B



- **Esterel Technologies DO-178 Certification Plans for SCADE Suite Applications Levels A and B,C**
- **Benefits**
- **Content of the Set of Plans**
- **SCADE V-Cycle Implemented in the SCADE Software Development Plan (SDP)**
- **Summary**

DO-178C Certification Plans for SCADE Suite applications Level A and B, C

- The plans include:
 - the Software Development Plan,
 - the Software Verification Plan,
 - the Software Configuration Management Plan,
 - the Software Quality Assurance Plan,
 - And the SCADE Suite Software Development Standard,
 - Additionally, basic procedures, and Compliance Matrix for DO-178C Level A and B are delivered.
- These plans can be customized to the specific project environment and then be audited by certification authorities (FAA, EASA, etc.) for compliance with DO-178C Level A or B objectives and DO-331

- Get a pre-established **set of plans, standards and procedures** for managing a SCADE-based software project that will meet DO-178C level A or B objectives
- Successfully achieve the DO-178C **SOI#1 Milestone** in a record time
- **Reduce** the effort of writing, approval and deployment of the plans by a factor of 5
- Implement an agile and efficient **software life cycle** that benefits from 10 years of experiences

Software Development Plan (SDP)

- Project organization
- Software life cycle and specific activities for each phase
- Software life cycle environment
- Software life cycle data
- Compliance analysis with respect to DO-178C §11.1 and §11.2

The Software Life Cycle is adapted to the SCADE Development and is compliant with DO-178B, taking into account the need to prototype the software (fast prototyping with SCADE) to validate the requirements specification, thus reducing the risk of iterations during the DO-178B compliant process

Software Verification Plan (SVP)

- Verification organization and environment
- Presentation of the global verification strategy
- Compliance analysis to DO-178C Tables MBA-4, MBA-5, MBA-6, MBA-7
- Verification activities, including specific activities to be performed for a SCADE Suite-based software development, such as: verification of correct code generation, model coverage analysis, etc.
- Checklists to support the technical reviews
- Compliance analysis with respect to DO-178C §11.3

Global verification strategy with SCADE tools and verification checklists are established from our experience of customer projects

Software Configuration Management Plan (SCMP)

- Software configuration management organization and environment
- Software configuration management activities
- Forms for problem reports and change requests
- Compliance analysis with respect to DO-178C §11.4

SCMP takes into account the specifics of a development with SCADE (specific outputs)

Software Quality Assurance Plan (SQAP)

- Software quality assurance organization and environment
- Software quality assurance activities
- Checklists to support the software quality assurance reviews
- Compliance analysis with respect to DO-178C §11.5

SQAP takes into account the specifics of a development with SCADE (specific outputs and specific checks)

Software Development Standard (SDS)

- Rules for designing with SCADE Suite
- Rules for developing manual C code compliant with SCADE Suite-generated C code
- Compliance analysis with respect to DO-178C §11.7

An extremely useful document for SCADE new users, based on more than 12 years of experience

SCADE Suite C Code Generation Procedure

- Procedure for **generating the C code** with SCADE Suite KCG, and verifying correct generation of C code

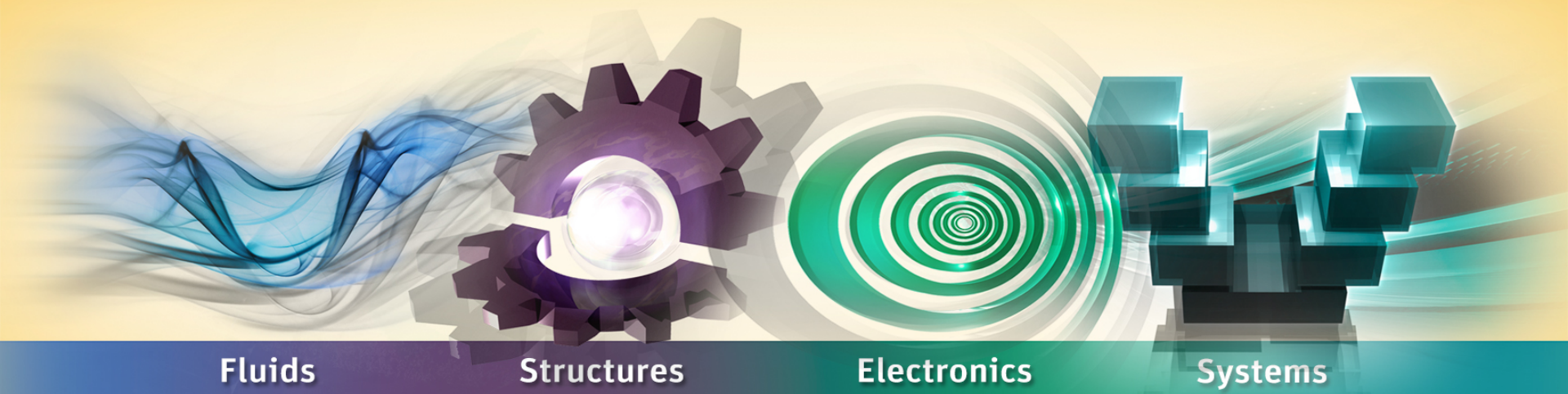
SCADE Suite Software Simulation Procedure

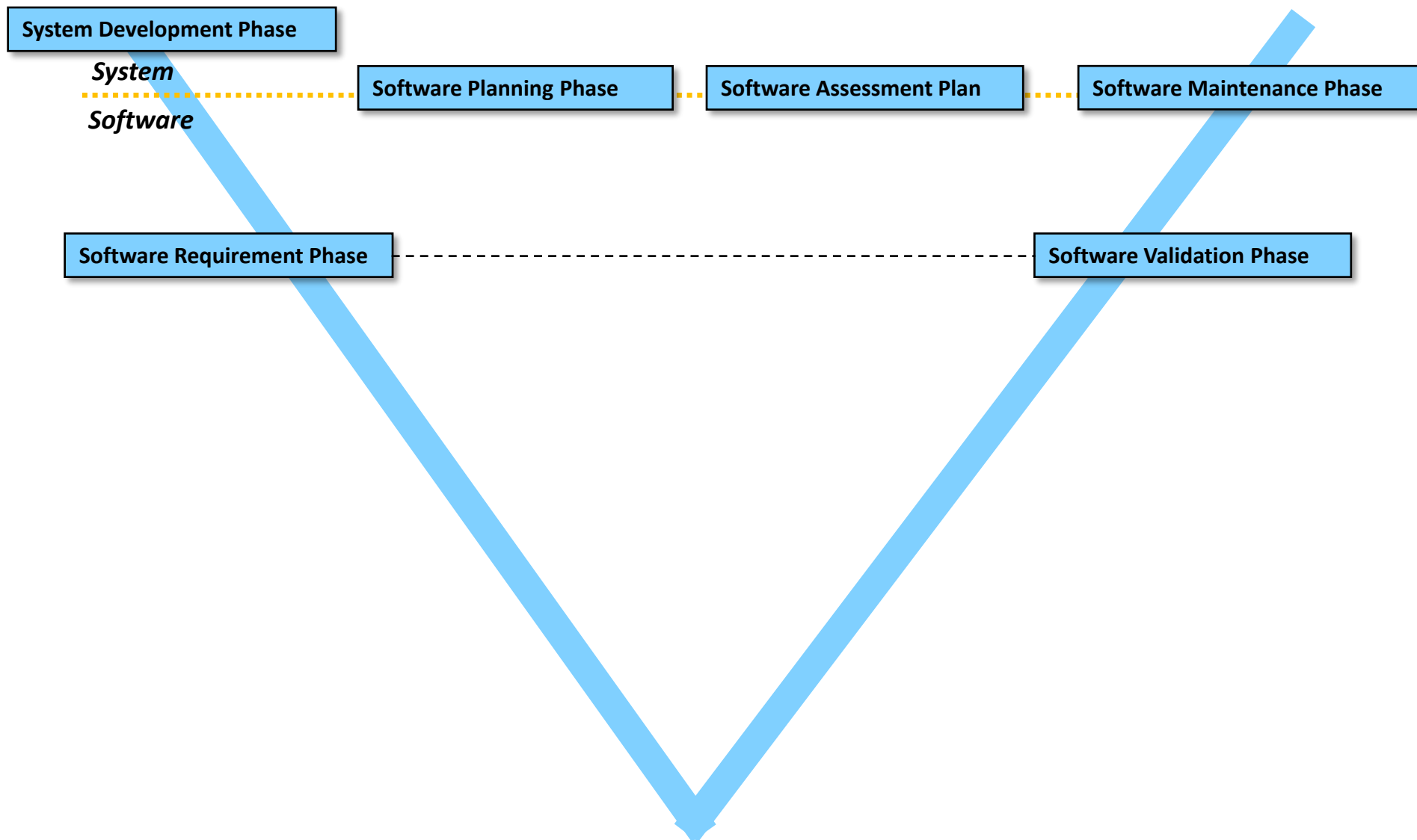
- Procedure for performing **model simulation** with SCADE Simulator, SCADE MTC, SCADE QTE, etc. and **preparing test procedures** for target testing

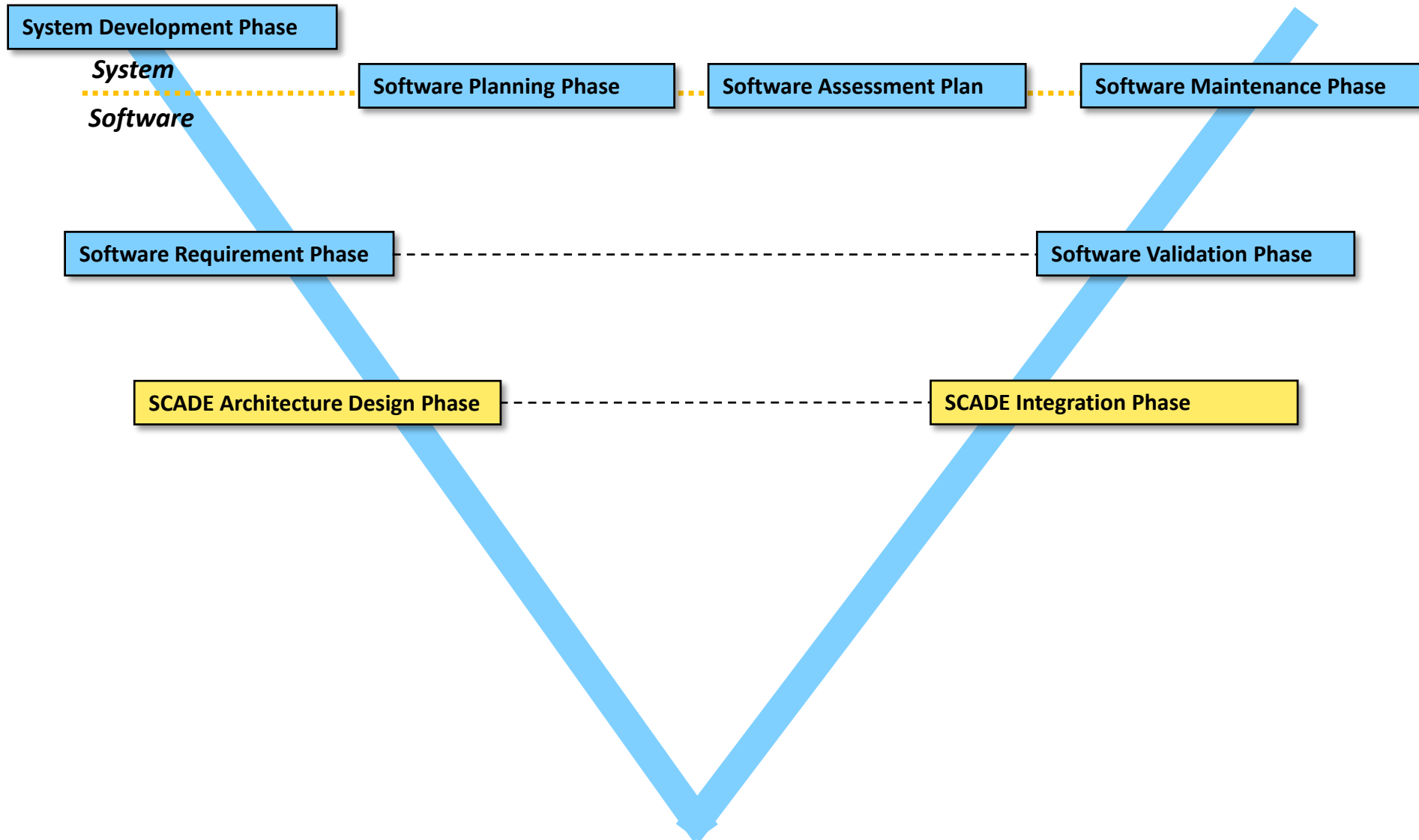
SCADE Suite Compliance Matrix for DO-178C Level A & B

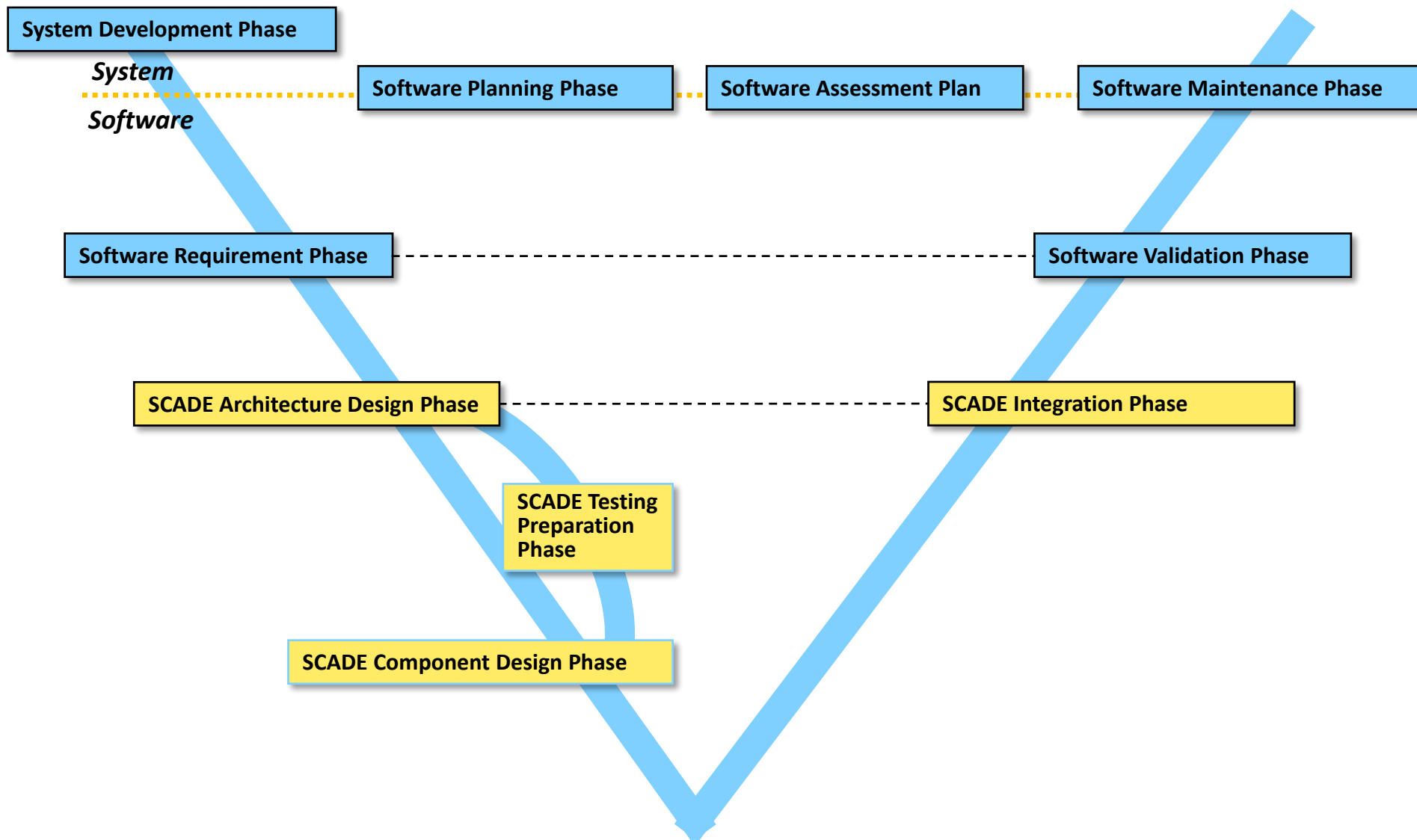
- A compliance matrix between the objectives of DO-178B Tables A1 to A10 and the software certification plans, to ensure that the plans meet DO-178B objectives, and prepare the SOI#1 audit

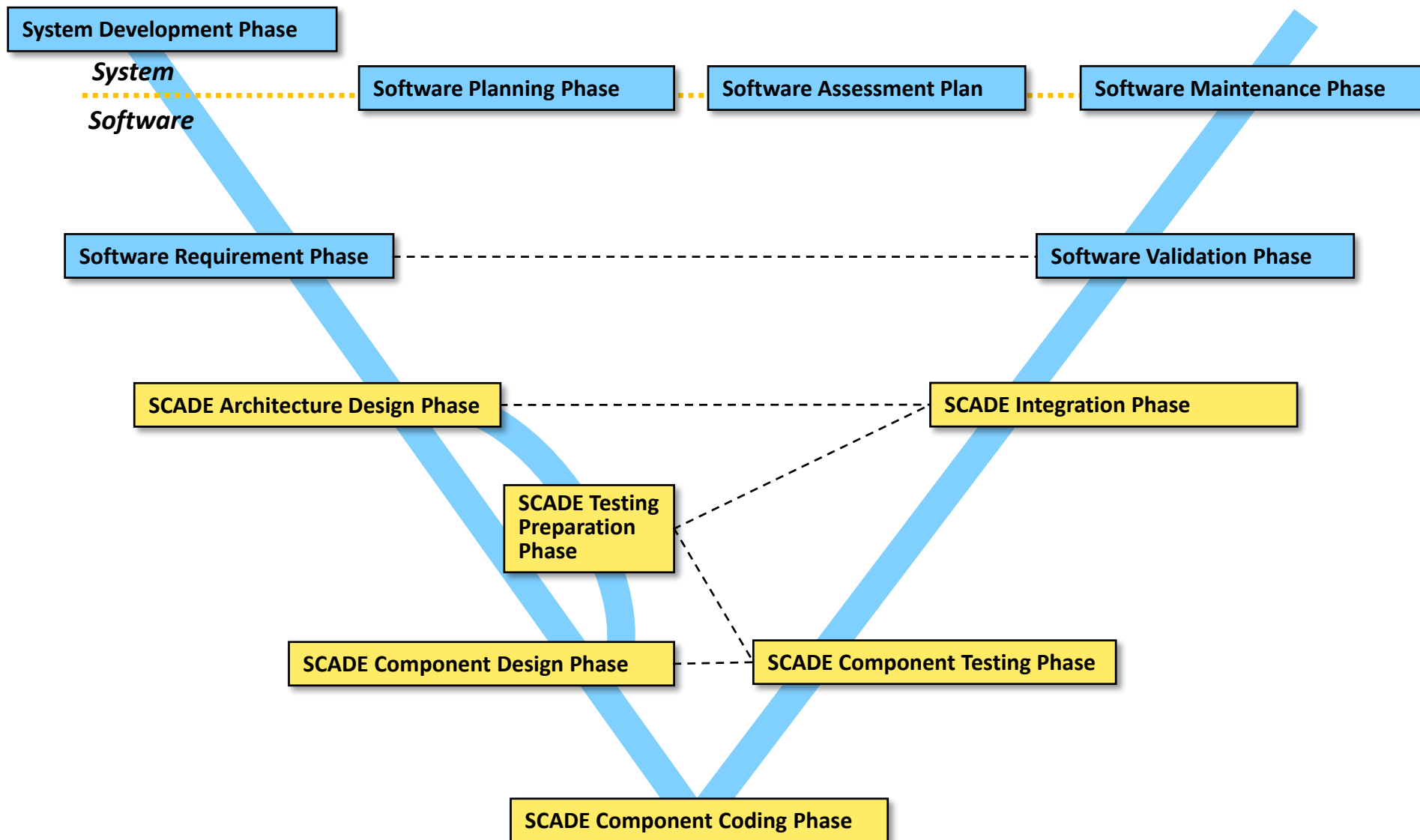
SCADE V-Cycle of the SDP

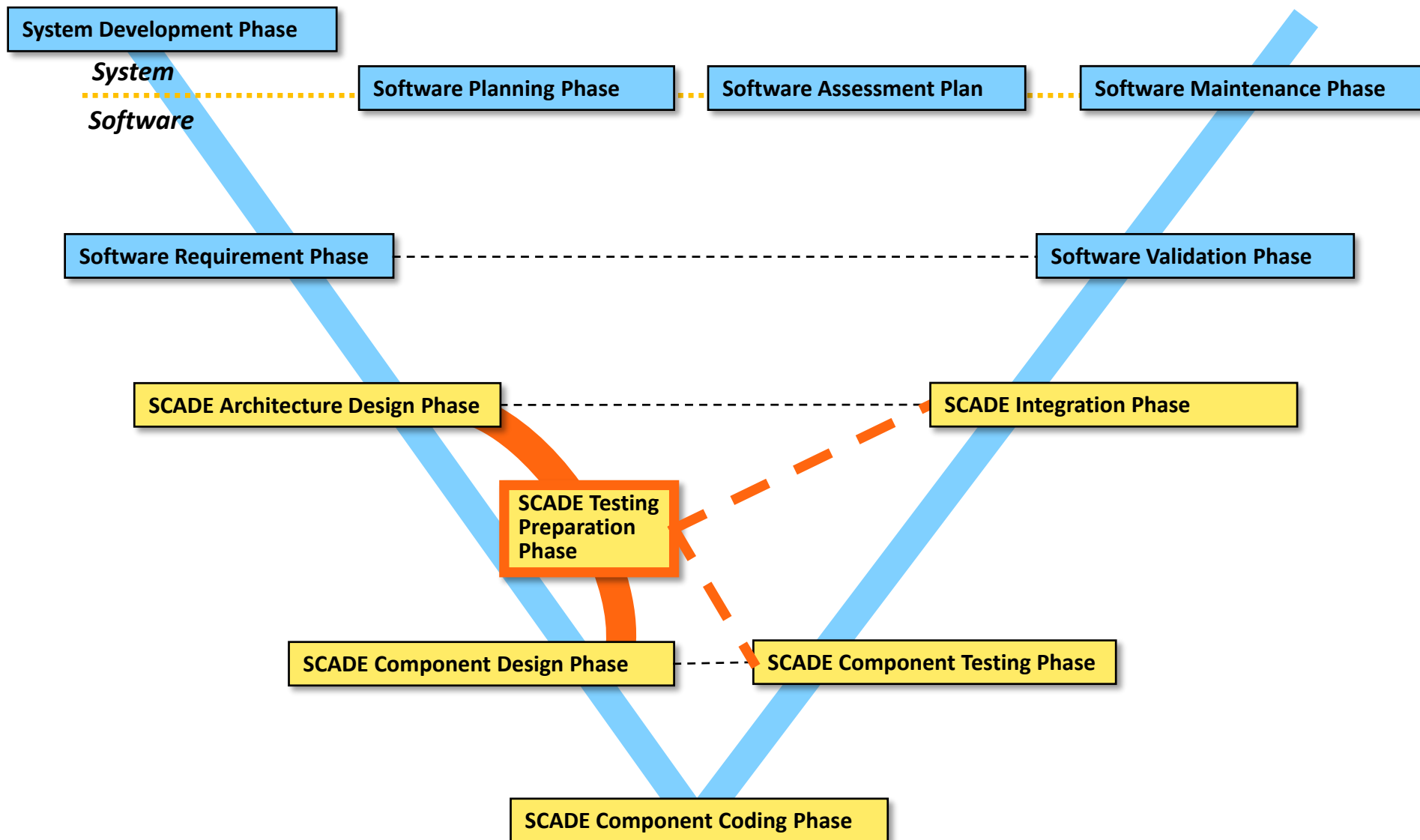


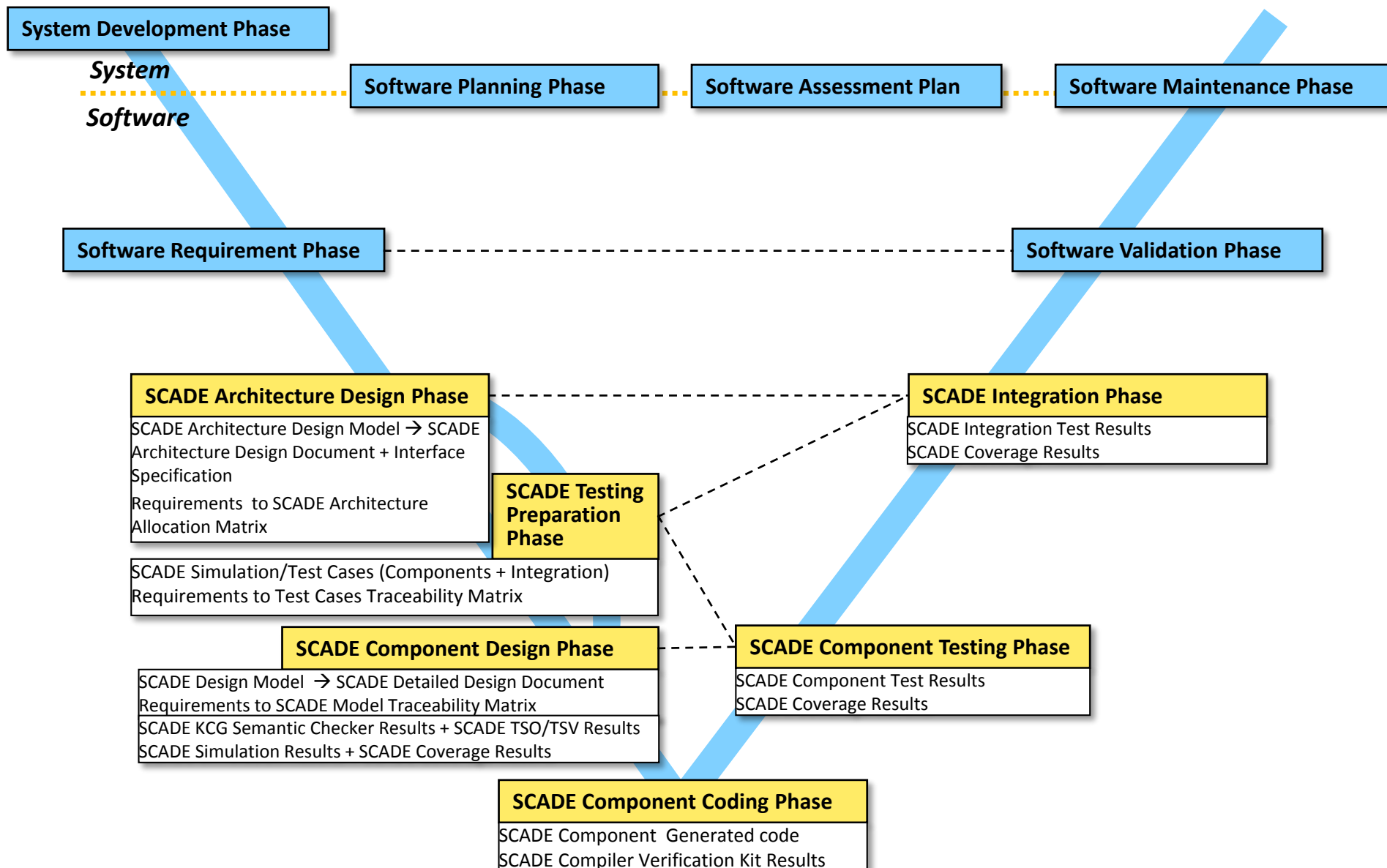












Esterel DO-178B Certification Plans

- Are based on the experience of **25 DO-178B programs and 70 SCADE certifications** during the last **12 years**
- Save **3 months** of the DO-178B certification program schedule
- Reduce the cost of writing plans **by 90%**
- **Divide by 2** the effort to discuss, review, refine, and formally approve the plans
- Create **a standard** that is reusable for other programs

Thank You For Your Attention

