



Computational and Collaborative tools for Composite Materials



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Accelerated Insertion of Materials – Composites (AIM-C)

Jointly accomplished by a Boeing Led Team and the U.S. Government under the guidance of the Office of Naval Aviation Systems Technology

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AIM-C Alignment Tool

The objective of the AIM-C Program is to provide concepts, an approach, and tools that can accelerate the insertion of composite materials into DoD systems.

AIM-C Accomplishes This Three Ways

Methodology - *Evaluates the historical roadblocks to effective implementation of composites and offers a process or protocol to eliminate these roadblocks and a strategy to expand the use of the systems and processes developed.*

Product Development - *Provides a software tool that facilitates evaluation of composite materials for various applications.*

Demonstration/Validation - *Provides a mechanism for acceptance by primary users of the system and validation by those responsible for certification of the applications in which the new materials may be used.*

All tasks in Phase 1 support development of a Phase 2 Transition Program



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Accelerated Insertion of Materials Is Achieved in AIM-C Methodology by

- Focusing on Real Insertion Needs (Designer Knowledge Base)
- Approach for coordinated use of
 - Existing Knowledge
 - Validated Analysis tools
 - Focused Testing
- Application of Physics Based Material & Structural Analysis Methods
- Use of Integrated Engineering Processes & Simulations
- Uncertainty Analysis and Management
 - Early Feature Based Demonstration
 - Tracking of Variability and Error Propagation Across Scales
- Rework Avoidance
- Disciplined approach for pedigree management

Orchestrated Knowledge Management to efficiently tie together the above elements to DKB

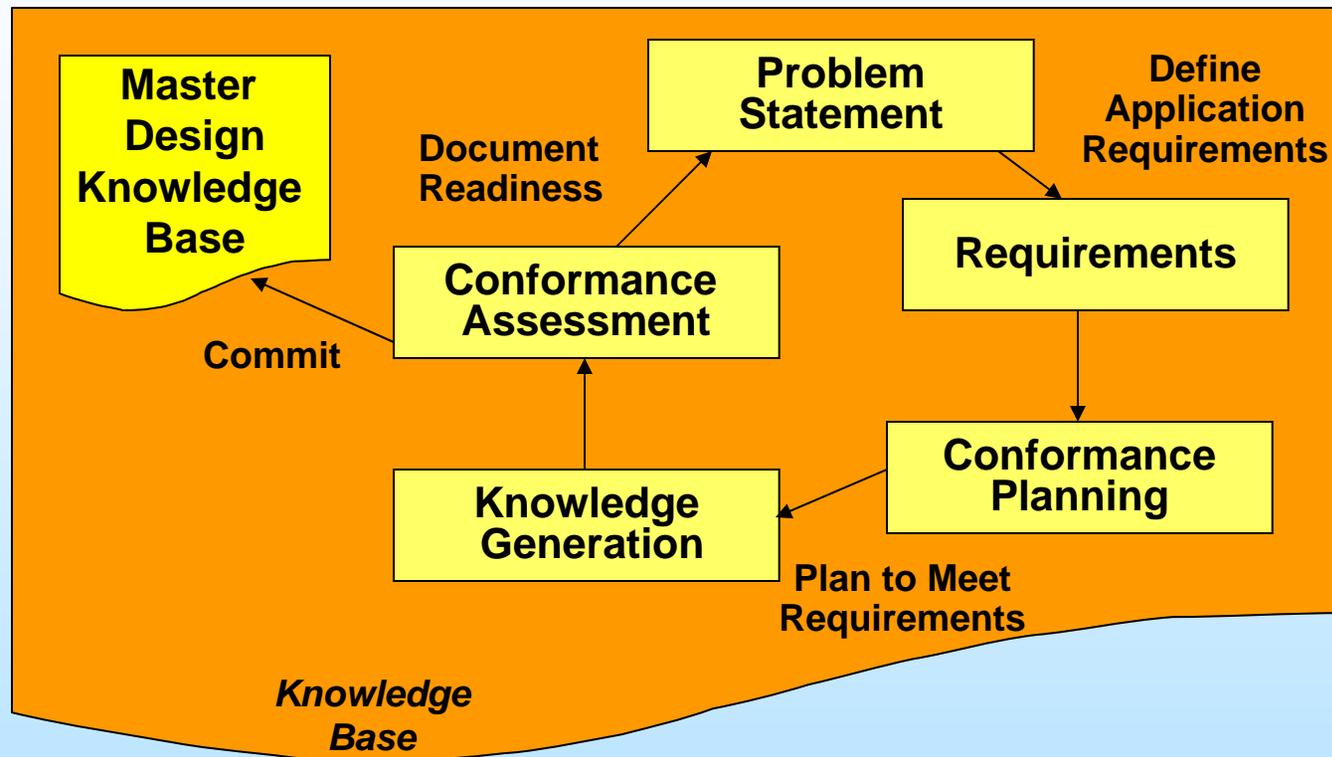


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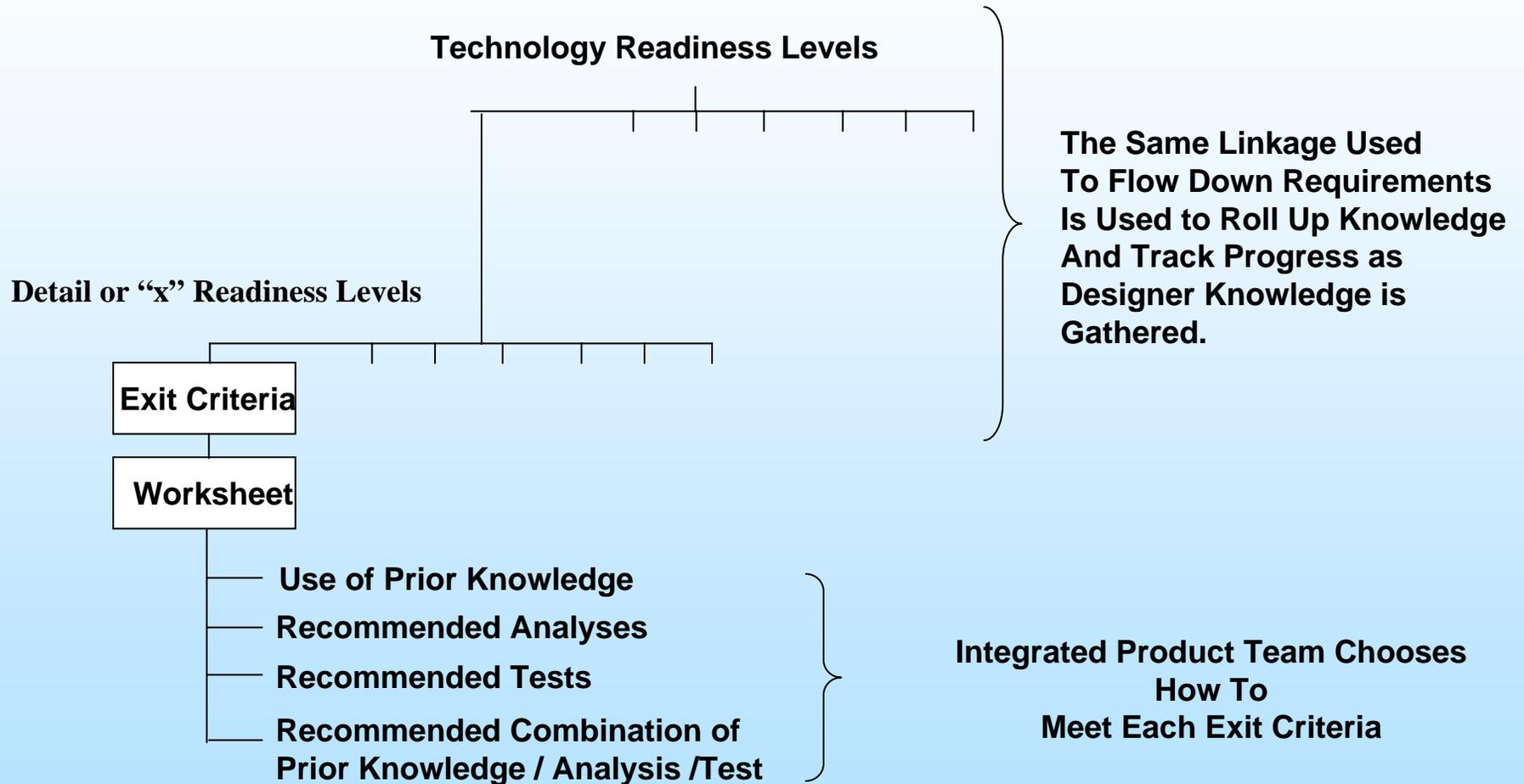


How Does the IPT Use AIM-C Methodology?



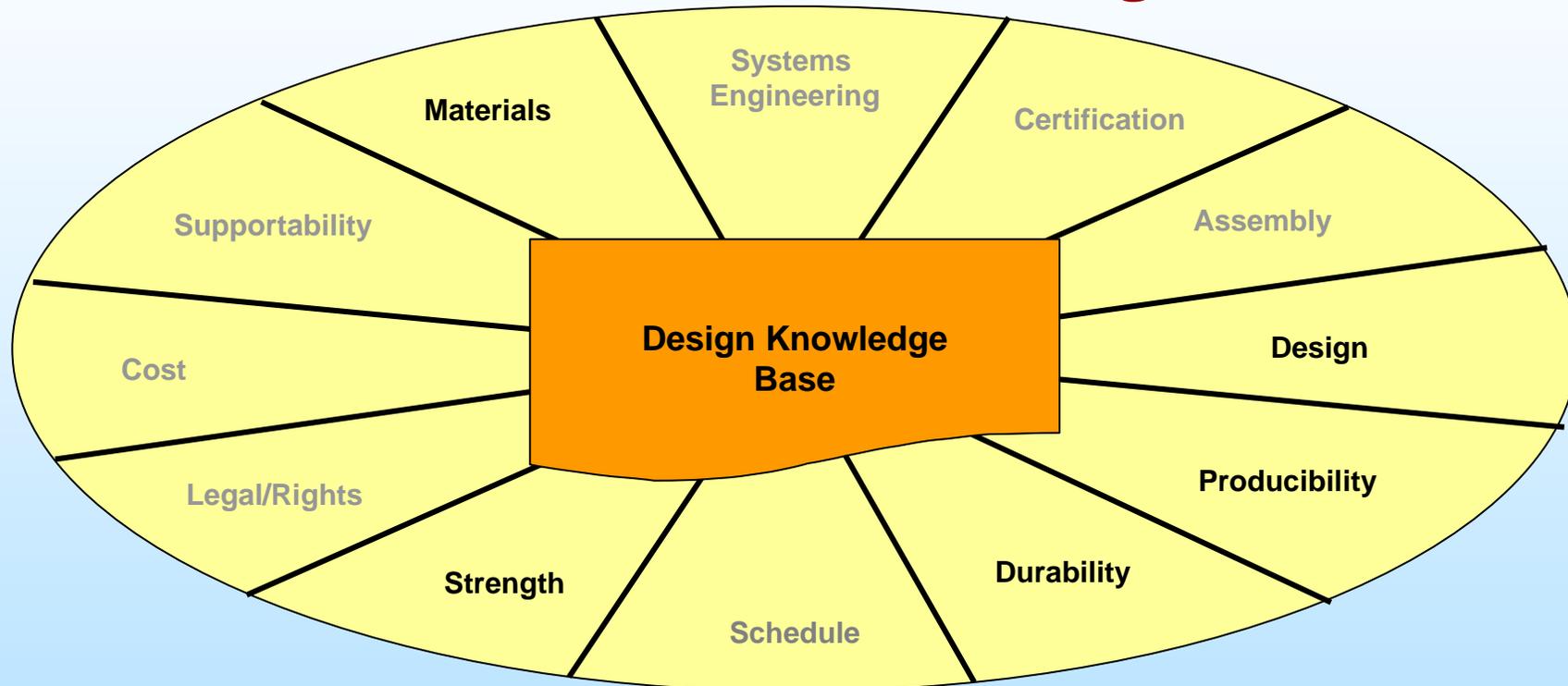


Knowledge Gathering





The AIM-C Process Uses an Integrated Product Team to Commit Data to the Knowledge Base



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