

ASME Model-Based Enterprise (MBE) Fall 2021 Update

Thomas Hedberg, Chair, MBE Standards Committee

Standards content is DRAFT-ONLY and information is subject to change.





Any information presented is governed by a rigorous ANSI process.
All standards content in this presentation is DRAFT-ONLY.

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- MBE Charter:

Develop standards or related products that provide rules, guidance, and examples for the creation, use and reuse of model-based datasets, data models, and related topics within a Model-Based Enterprise (MBE)

- MBE SC Scope:

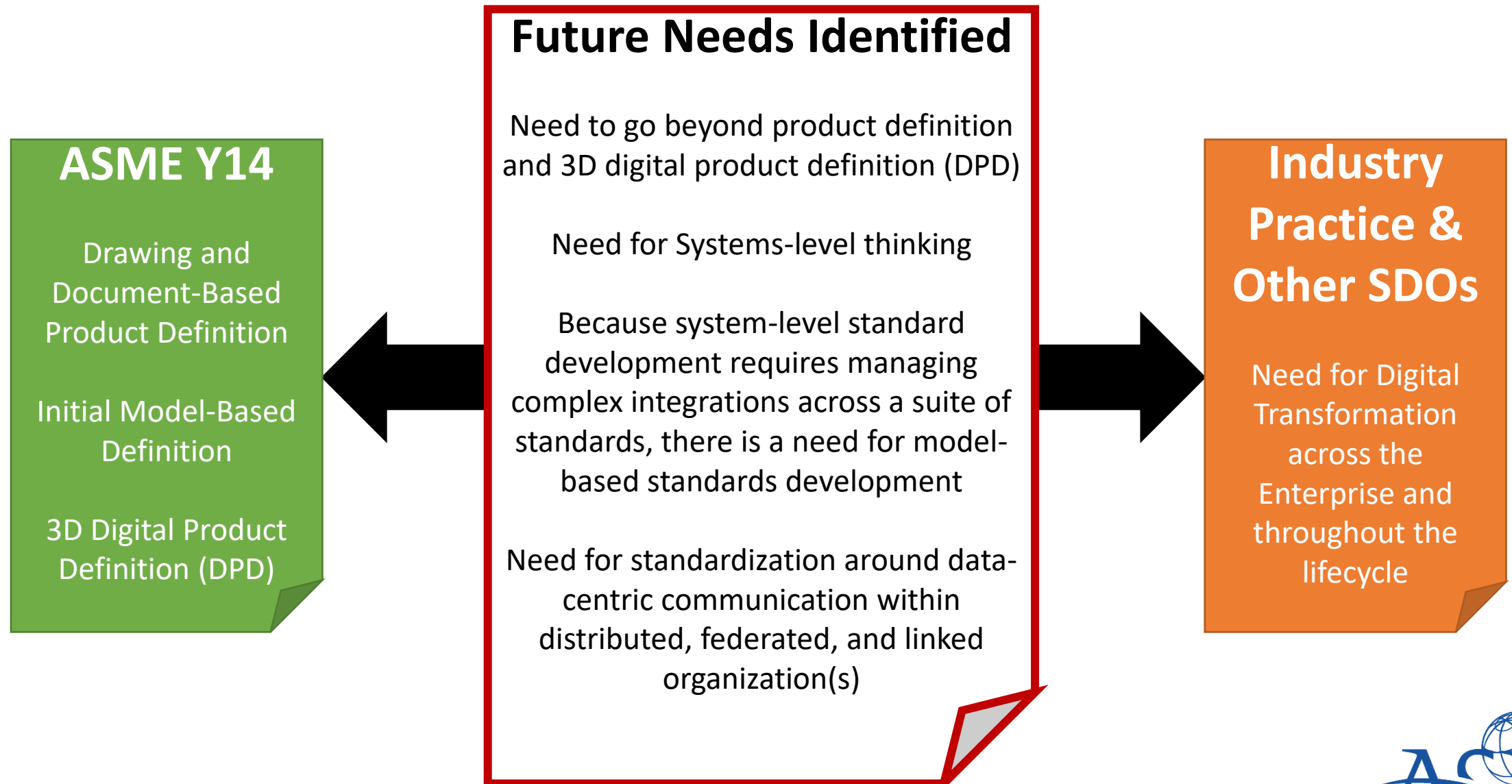
The recommended practices and requirements for the creation, exchange, and use of models within the mechanical engineering discipline, including the interface of mechanical engineering to other engineering and business disciplines.



Why a Model-Based Enterprise

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Why was the MBE Committee Formed



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Model-Based Enterprise Standards Committee Overview

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MBE?

- Interdisciplinary environment
- Models are the source, rather than documents
- Encompasses all business activities
- Classes of Models, e.g.,
 - System
 - Product
 - Process

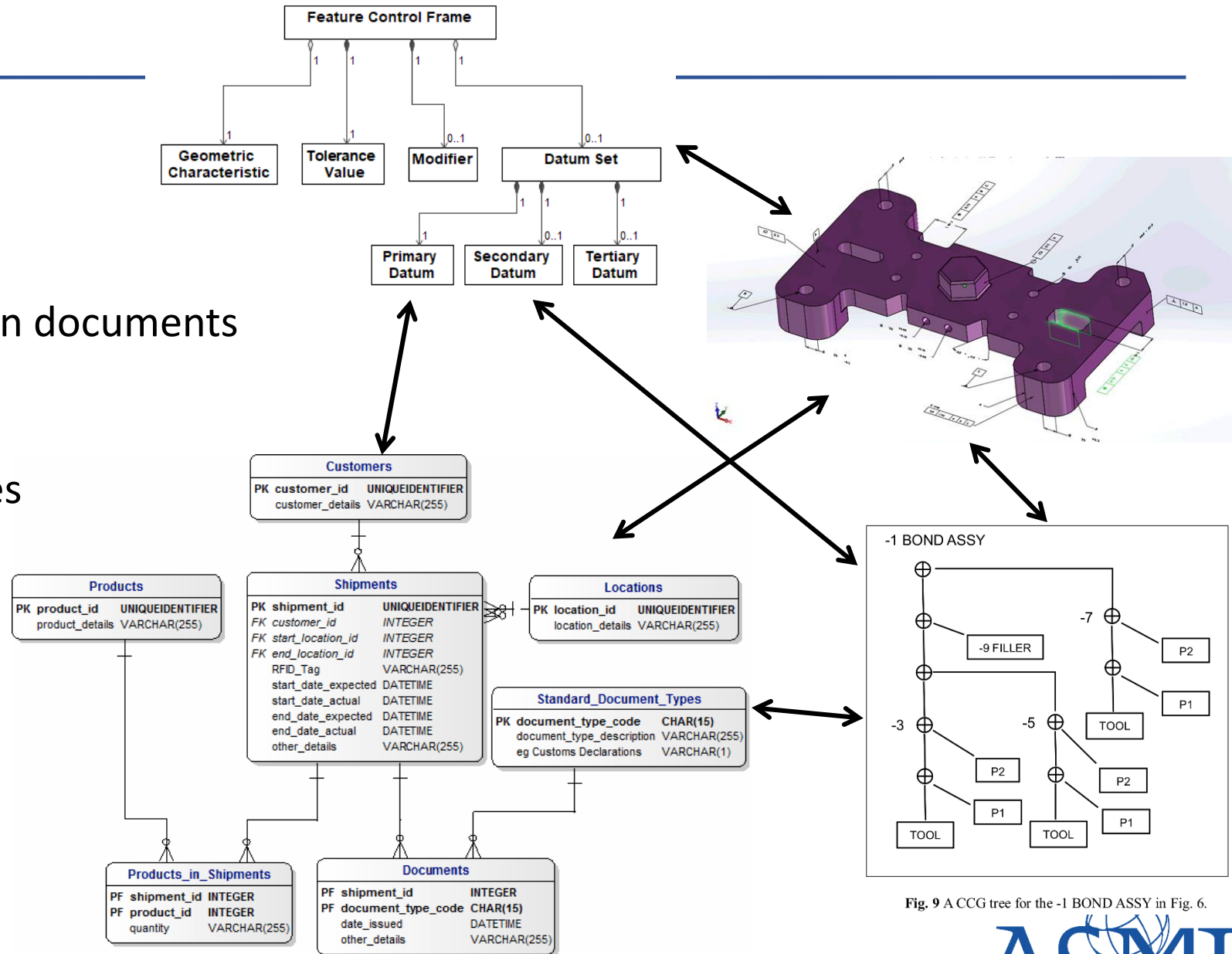
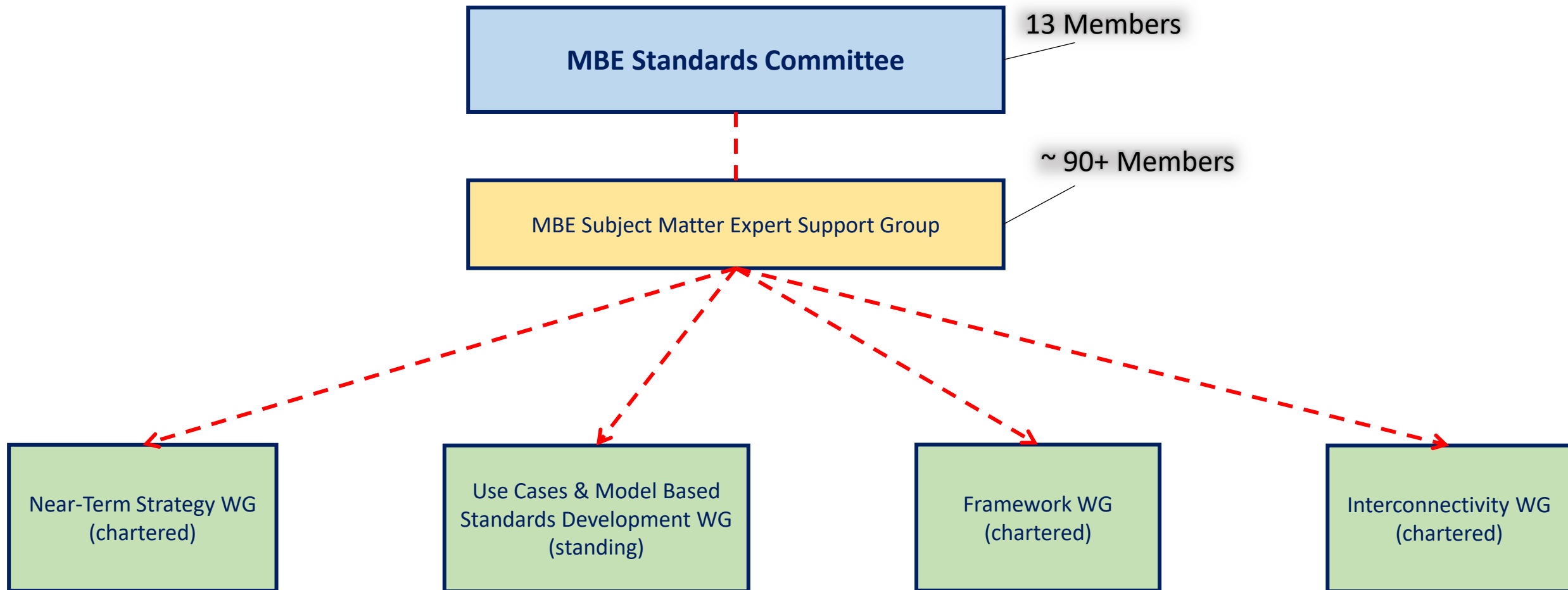


Fig. 9 A CCG tree for the -1 BOND ASSY in Fig. 6.

ASME MBE Committee Structure



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ASME MBE Standards Committee 2018-2020

February 2018

Working Group formation approved by the ASME Board on Codes & Standards Operations and the Council on Standards and Certification

March 2019

MBE Standards Committee Formed

May 2019

First Call for Participation in MBE Working Groups

March-April 2020

Release of Request for Information (RFI) to aid in MBE Standards Development

April 2020

MBE Standards Committee and Working Group Meetings @ Virtual

Start

December 2018

MBE Steering recommendation report delivered to ASME

April 2019

First Public MBE Standards Committee Meeting @ NIST

November 2019

MBE Standards Committee Fall Meetings @ San Antonio, TX

September 2020

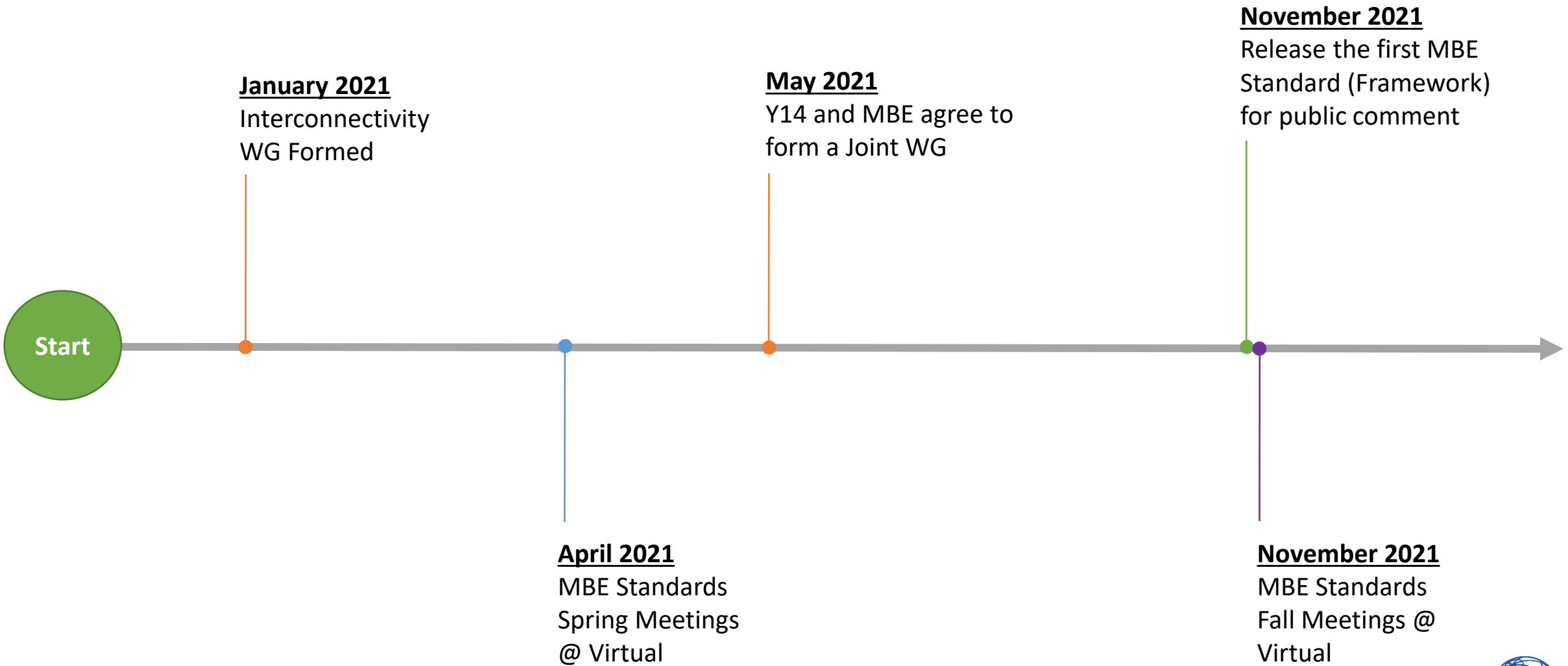
Initial findings from RFI published

November 2020

MBE Standards Committee Fall Meetings @ Virtual

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ASME MBE Standards Committee 2021



ASME MBE is hosting bi-weekly WG and weekly SC one-hour virtual working sessions

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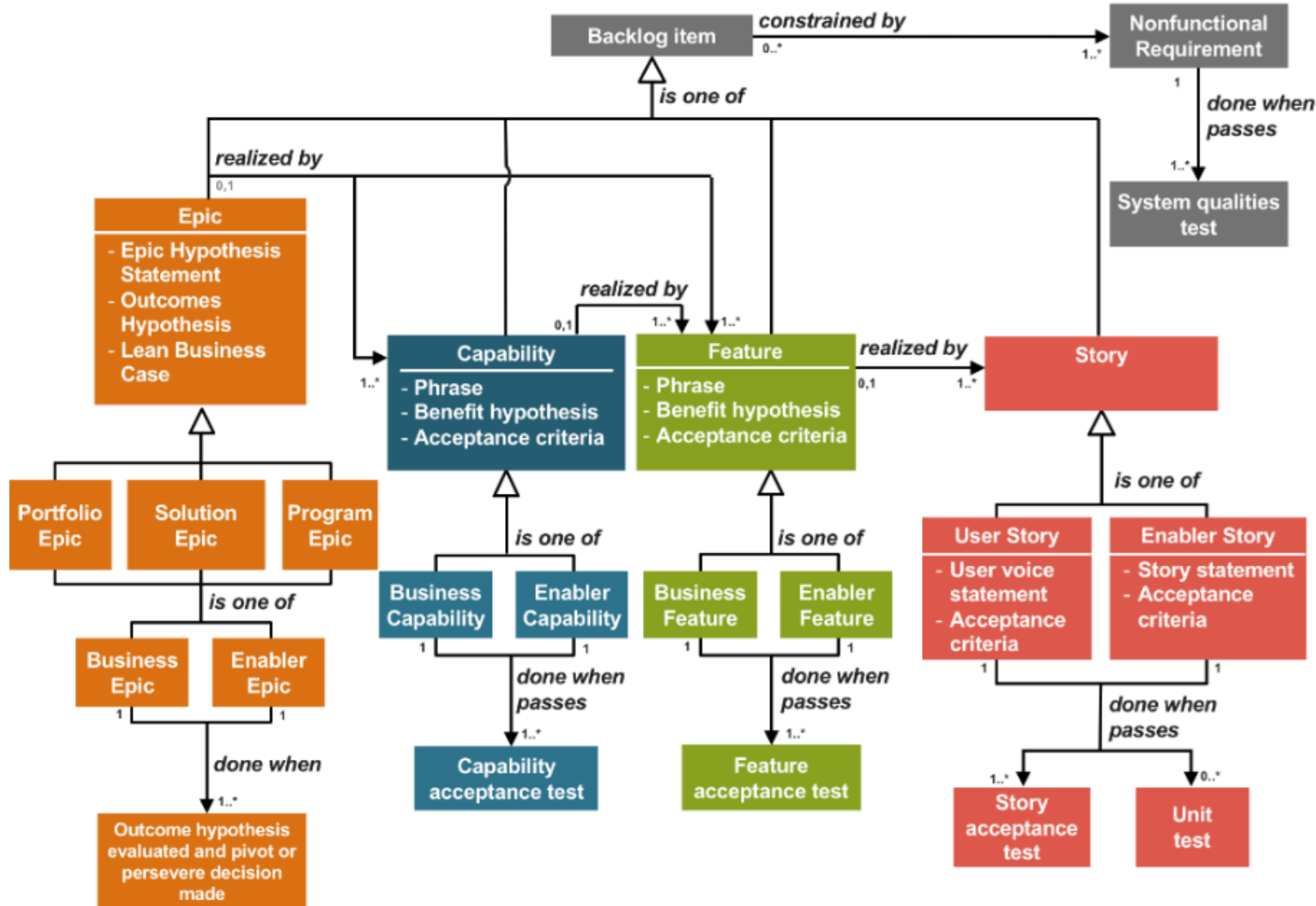
Changing the Standards Development Paradigm

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Change? Who moved my cheese?

- Can't develop standards for model-based “things” without the standards being model-based
- Goal: Increase the integration between different components of the standard and speed up developing and releasing of standards

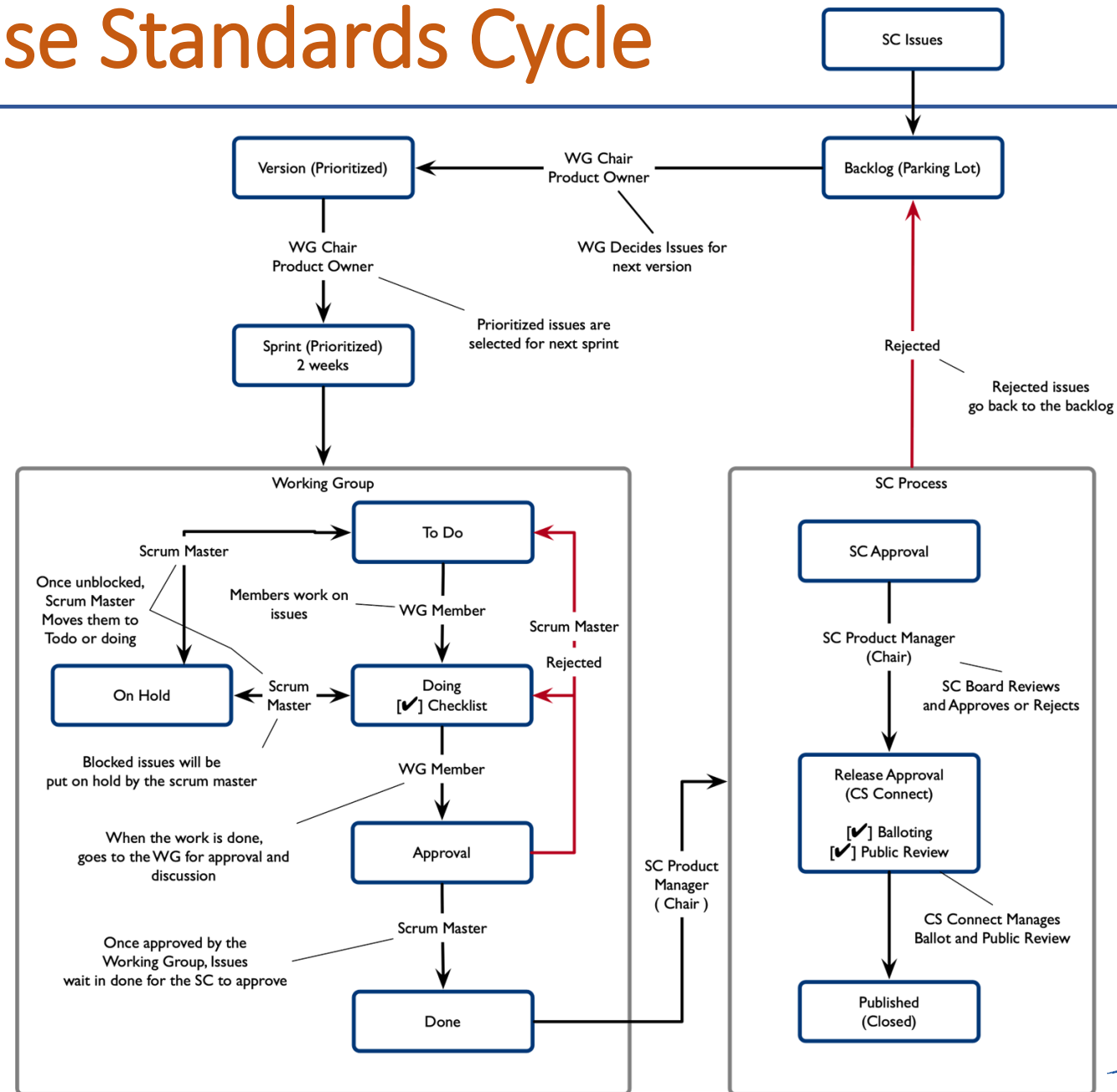
Agile Approach for Building Models of Standards



- A development policy to be used across all MBE Standards Committee and sub-groups

Proposed Release Standards Cycle

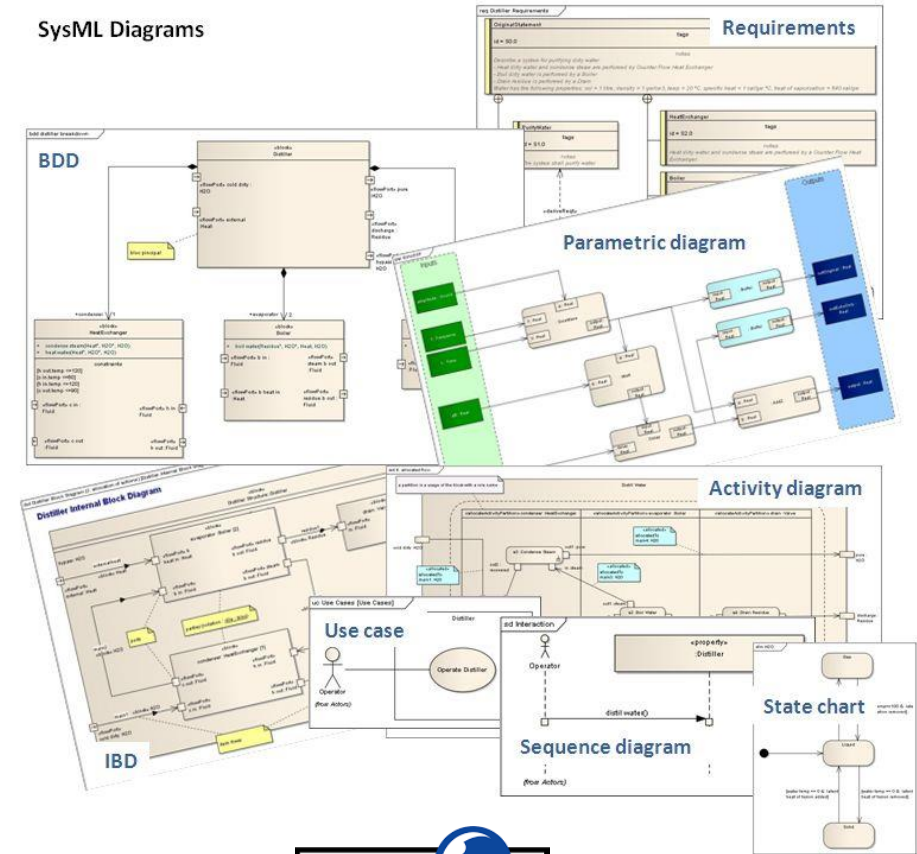
- The standard is the model
- Informative documents derived from models



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Standards Development Infrastructure

- Standards must be readable and *understood* by computational systems
- NoMagic Technology Stack
 - Cameo / MagicDraw for Modeling
 - Teamwork Cloud for model management and collaboration



Agenda for the Week

- **Day 1, TUE 11/16:**

- Overview of direction and purpose of MBE and the Standards
- Standards Committee & Working Groups Status
- MBSD Processes and Practices
 - Modeling / Architecture frameworks
 - Modeling artifacts
 - Testing, Evaluation, Verification, and Validation

- **Day 2, WED 11/17:**

- Development Workflows
 - Use of XMI, meta use cases, etc.
- Release Workflows
 - What kind of releases (0.y, X.0, X.y, etc.)?
 - Relationship between release types

Agenda for the Week

- **Day 3, THU 11/18:**

- How will industry adopt and consume the standards?
- Plan for acquiring early adopters

- **Day 4, FRI 11/19:**

- Summary / capture of development ecosystem status and additional needs
- Review of emerging new-work packages
- Implementers Support / Forum
- Develop and vote on resolutions



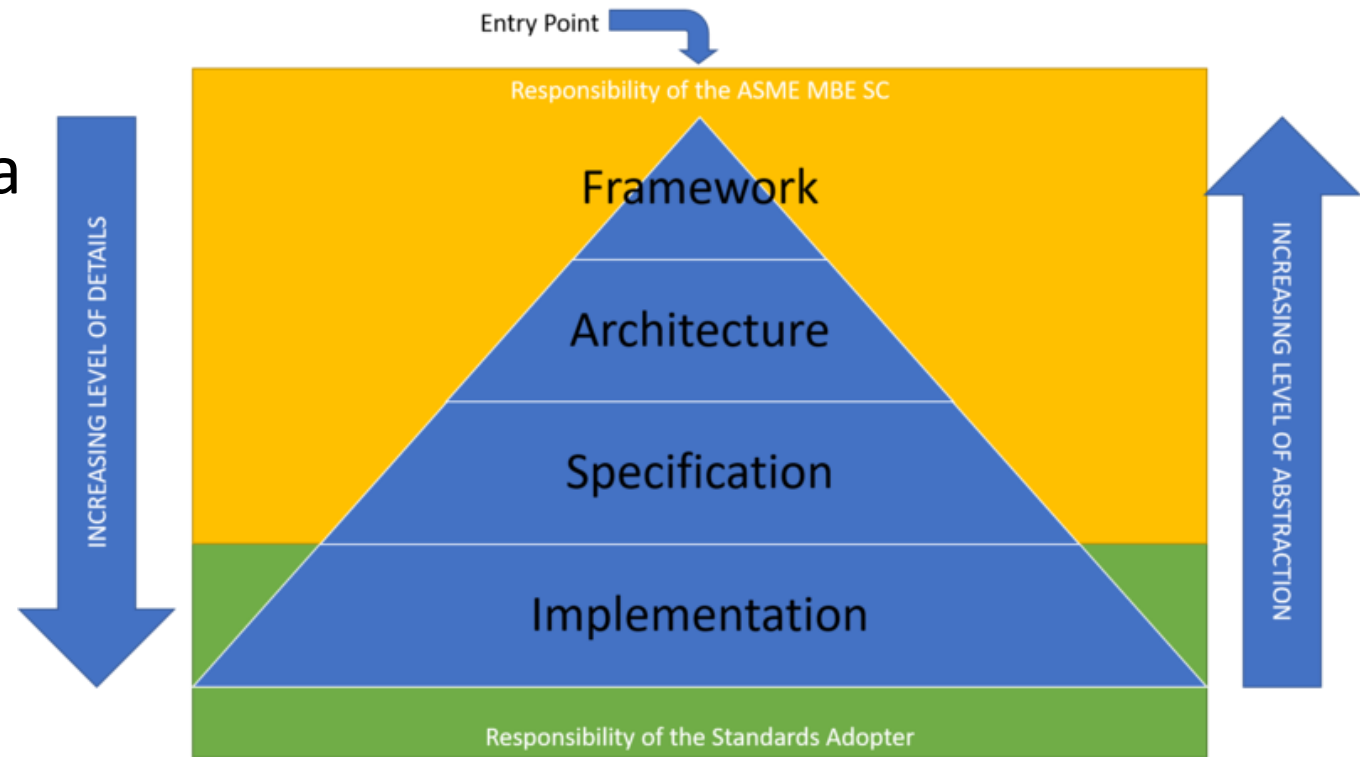
Working Groups Overview and Status

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Framework Working Group

Leader: Tom Hedberg,
thedberg@umd.edu

Charter: Define the concept of a Model-Based Enterprise by providing a high-level structural definition



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Interconnectivity Working Group

Leader: Brandon Sapp,
brandon.us@gmail.com

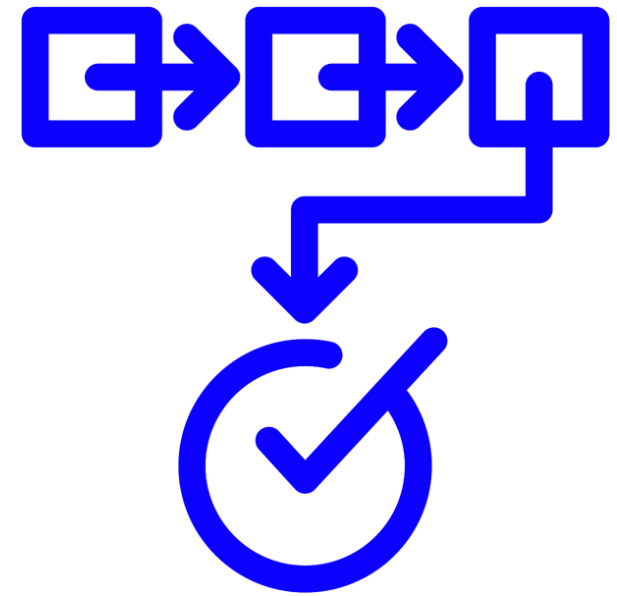
Charter: The MBE
Interconnectivity Working Group
is to define the connections and
exchange of information between
enterprise domains and process
activities



Near Term Strategy Working Group

Leader: Jennifer Herron, jennifer@action-engineering.com

Charter: Identifies challenges, gaps, and problems inhibiting understanding and adoption of model-based methods.



UCMBSD Working Group

Use Cases and Model-Based Standards Development (MBSD) Methodology

Leader: Will Sobel, will@wvsobel.llc

Charter: Define methods that the MBE Standards Committee will use to develop use cases and model-based standards

ASME MODEL-BASED ENTERPRISE (MBE) STANDARDS COMMITTEE

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WG					Deferred (1)
To Do (10)	Doing (4)	Approval (2)	Done (1)	On Hold (1)	
<p>▼ Action Item 3</p> <div><div><p>Action Item #186</p><p>explore methods / processes to effectively and sustainably connect: appropriate Standards Committ...</p><p>Jennifer Herron</p><p>Action Item #50</p><p>Review and comment on current ASME MBE Recommendation Report</p><p>SC Members</p></div><div><p>Action Item #49</p><p>Review and comment on current ASME MBE Charter</p><p>SC Members</p><p>Action Item #150</p><p>Plan and execute Fall 2020 public meetings</p><p>SC Members</p></div><div><p>Action Item #123</p><p>Review Terms in the Model-Based Enterprise and Model Themes</p><p>SC Members</p></div></div>					

How to Get Involved

- Complete the PAF and PF-1 forms. Send them to the ASME Staff Secretary, Fred Constantino (constantinof@asme.org).
- Then you will:
 - become a member of the MBE Subject Matter Expert Support Group;
 - be granted access to C&S Connect and the MBE Collaboration Site; and
 - be able to participate with Working Group once the above is complete. Contact the Working Group Leader to start contributing.



Join an ASME Standards & Certification Committee

Want to Learn More?

Fredric Constantino - MBE Standards Committee
Staff Secretary

ASME S&C Project Engineering Advisor

E-mail: ConstantinoF@asme.org

Michelle Pagano – MBE Staff Support

ASME S&C Engineer

E-mail: PaganoM@asme.org

ASME MBE Standards Committee C&S Connect Page

<https://cstools.asme.org/csconnect/CommitteePages.cfm?Committee=102216151>

ASME MBE Redmine Collaboration Site

<https://projects.mbe.institute/projects/asme-mbe-public-page>



Scan Me: Collaboration Site