

Model-Based Enterprise Standards Committee

Fall 2020, Virtual Face-to-Face

November 17, 2020

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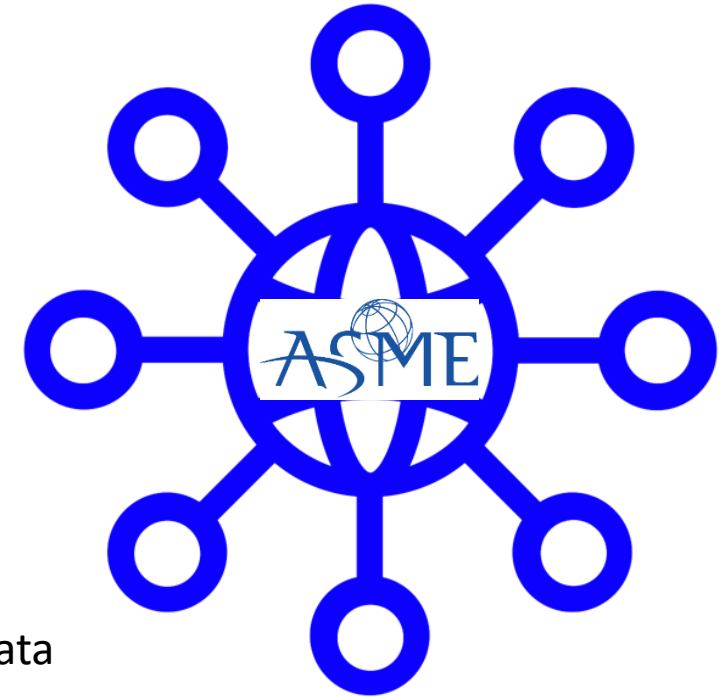


ASME MBE Standards Committee

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.

Areas of Concentration

- Types of models and their intended uses
- Rules for representing requirements and constraints
- Types of features and data elements for model-based datasets
- Schemas for datasets
- Management of links between product definition and process definition
- Rules governing data quality
- Creation, management, and use of product definition and process definition data
- Management of discrepancies between existing standards affecting MBE and MBD



ASME MBE Standards Committee Timeline

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

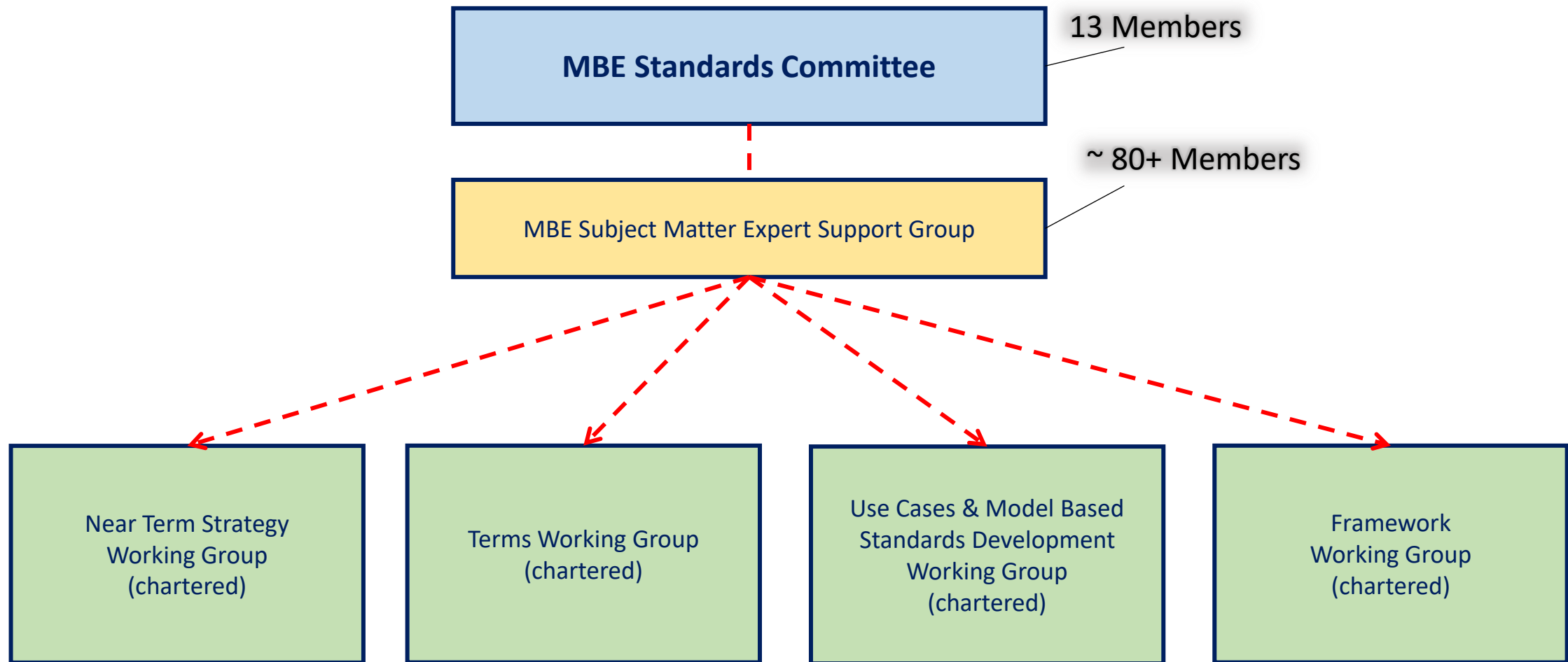
Initial findings from RFI published

November 2020

MBE Standards Committee Fall Meetings @ Virtual

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ASME MBE Committee Structure



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Organizations Represented in ASME MBE

GE Appliances	Purdue University	US Air Force	John Deere	US Navy
Capvidia	FDA	Sandia	Raytheon Technology	US Army
Action Engineering	Rolls-Royce	Boeing	LMI	Newport News
Sony	Ford	NIST	DS Solidworks Corp	Mitutoyo
ITI – International Technegroup	Tenneco	Lockheed Martin	UNC Charlotte	Allison Transmission
ICTT Systems Sciences	Woodward Inc.	Elysium	3D PDF Consurtium	Penn State Univ
Sigmatix	Siemens	Ribose Inc.	XSB Inc.	Nvariate Inc.
Hexagon Manufacturing	Anautics	Cadenas PARTsolutions	Univ of Ontario	Univ of Maryland
Industry for Process Excellence (IpX)	SAIC	Colab	JSL Innovations Inc.	MRIIOT LLC
Sub-Zero Group	Tech Azul	Youngtown State	Commonwealth Center For Advanced Manufacturing	

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Working Groups Overview and Status

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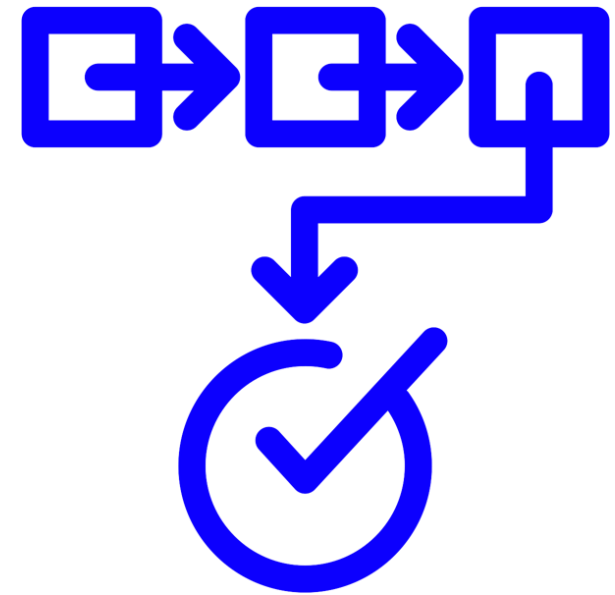
Near Term Strategy Working Group

Leader: Bryan Fischer and Larry Bergquist
larry.w.bergquist@outlook.com

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

Status

- Focused on two-year timeframe
- Meeting during the fall meetings to establish tactical plans to address strategic needs



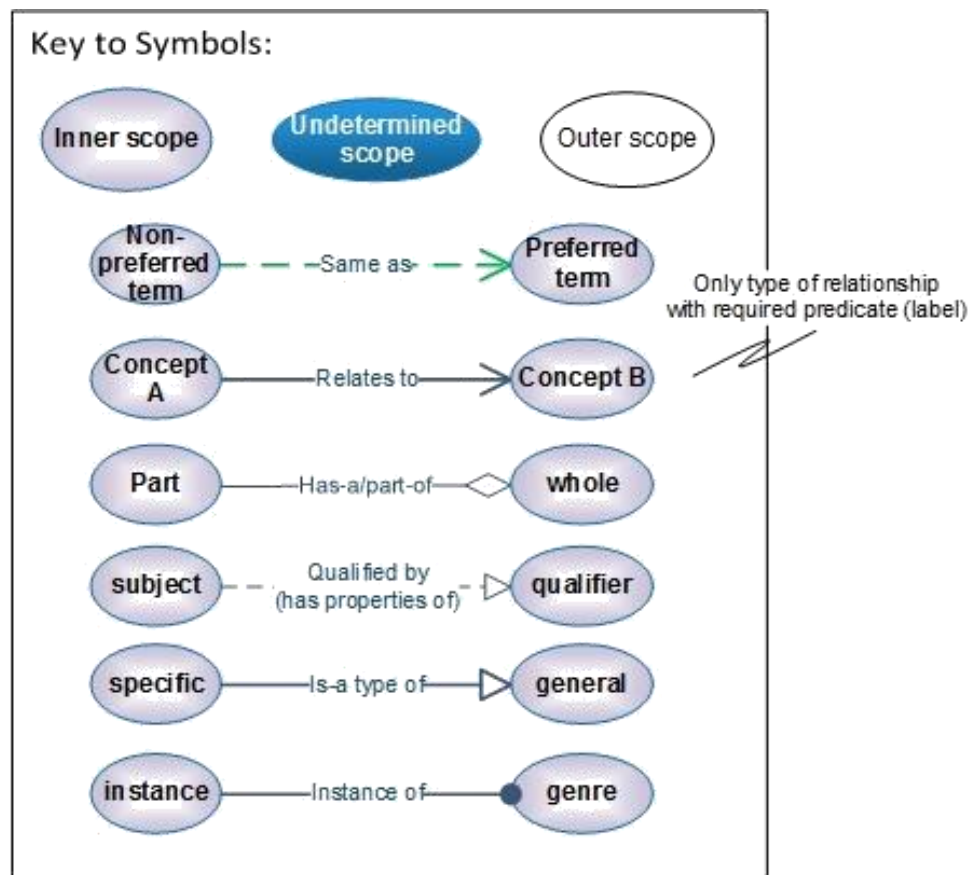
Terms Working Group

Leader: Curtis Brown, cbrown@kcncsc.doe.gov

Charter: Collect and define terms, acronyms, and abbreviations for use in ASME MBE Standards

Status

- Developed a “model proof” technique to diagram each term with relationships to other terms
- Gathered and proofed a large set of terms and definitions
- Submitted 48 terms to the MBE SC for review.
 - Each term included a broad definition along with a model proof.
- Received feedback on 8 high priority terms and now working to understand how these 8 terms fit within the framework proposed by the Framework Working Group.



**Content is not released – DRAFT only*

UCMBSD Working Group

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

Leader: Will Sobel, will@govimana.com

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

Status

- Developed, Sent, Analyzed a Request for Information (RFI) survey to solicit stakeholder input
- Baseline trained working group in ontology theory
- Rolled out an Agile process with-in Redmine to release standards
- Defined initial ways to collaborate on those standards
- Created a draft of a reference modeling methodology

The screenshot shows the ASME Model-Based Enterprise (MBE) Standards Committee Agile board. The board is organized into columns: To Do (10), Doing (4), Approval (2), Done (1), On Hold (1), and Deferred (1). The 'To Do' column contains three action items: #186 (explore methods / processes to effectively and sustainable connect: appropriate Standards Committ...), #50 (Review and comment on current ASME MBE Recommendation Report), and #49 (Review and comment on current ASME MBE Charter). The 'Doing' column contains one action item: #150 (Plan and execute Fall 2020 public meetings). The 'On Hold' column contains one action item: #123 (Review Terms in the Model-Based Enterprise and Model Themes). The 'Deferred' column is empty. The board is titled 'SC Board' and has a search bar. The top navigation bar includes links for Overview, Activity, Issues, Agile, Backlog, Calendar, News, Documents, Wiki, Files, and Settings. The bottom of the board shows 'Action Item' and 'SC Members' for each item.

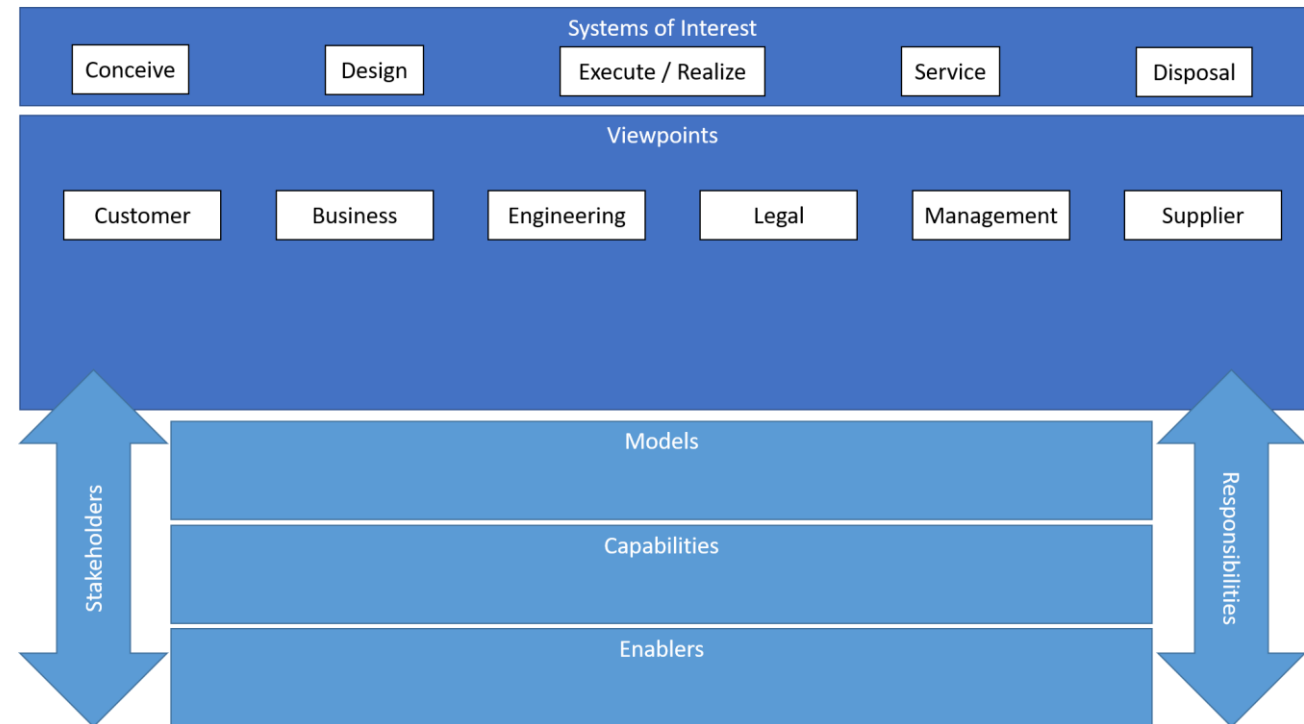
Framework Working Group

Leader: Tom Hedberg thedberg@umd.edu

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

Status

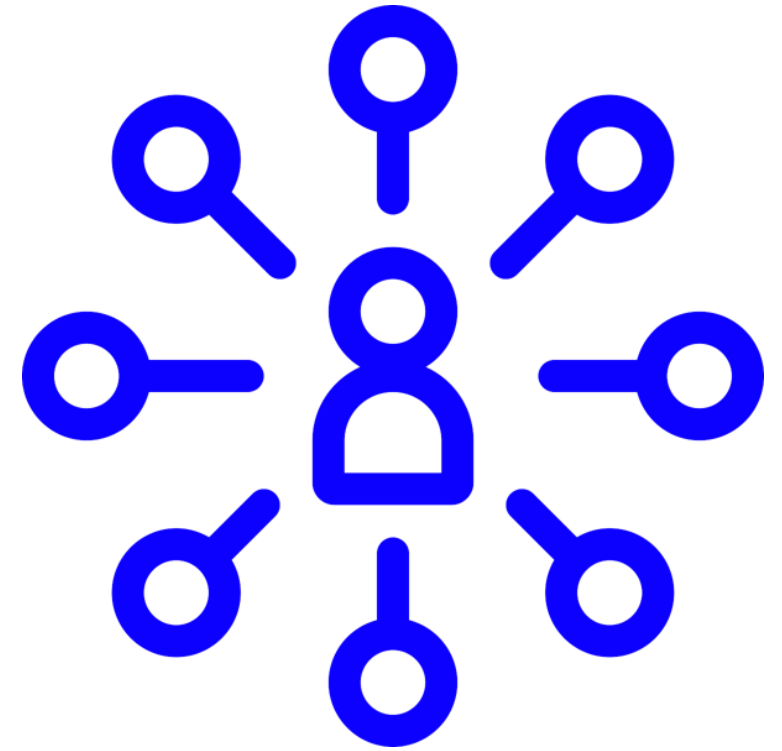
- Surveyed existing Concept of Operations, Frameworks, Taxonomies, and more
- Created version 1 of a baseline framework



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We need ...

- Domain experts from diverse industry sectors, such as:
 - Automotive
 - Medical
 - Infrastructure
- Enterprise architects with modeling expertise
- Experts and liaisons from other standards organizations

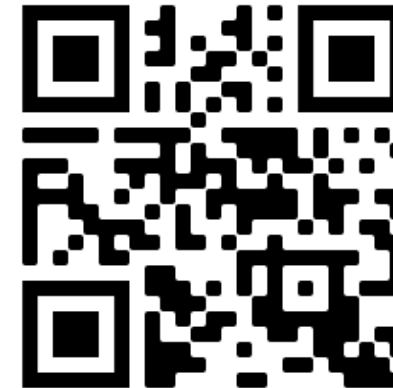


ASME MBE Recommendation Report

- *A Starting Point for MBE Standards Activities*

- Developed by the ASME MBE Steering Group, which consisted of 8 existing ASME volunteers and 2 new members
- Establishes direction, activities, priorities, and organizational structure of the ASME MBE Standards Committee and its subcommittees
- Presents background and motivation for MBE
- Provides methodology for developing MBE standards using a model-based approach
- Outlines a roadmap for the MBE standards development process
- Describes a marketing and adoption strategy for MBE

“MBE will transform industry by increasing productivity, quality, profitability, and types of products, and by reducing wasted effort, wasted time, non-value-added work, lost information, missed opportunities, and time to market.”



Download:
go.asme.org/MBEreport

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

Tom Hedberg – MBE Chair

E-mail: thedberg@umd.edu

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