



2021
Annual **INCOSE**
international workshop
Virtual Event
January 29 - 31, 2021

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Update on ISO/IEC/IEEE CD2 24641:Systems and Software
Engineering – Methods and Tools for Model-Based Systems and
Software Engineering

Scope



International Standard, developed by ISO/IEC Joint Technical Committee 1/Standardization Subcommittee 7 (Systems and Software Engineering)/Working Group 4 (Tools and Environment) detailing reference model, processes, methods and tool capabilities for MBSSE

- Terms and definitions related to MBSSE;
- MBSSE reference framework;
- Process Reference Model for organizing all MBSSE-specific processes;
- MBSSE-specific processes for model-based systems and software engineering
- Methods to support the defined tasks of each process; and,
- Tool capabilities to automate or semi-automate tasks or methods.

MBSSE Process Reference Model



Four Process Groups

Plan MBSSE

Define the scope and objectives of MBSSE

Plan model development and governance

Plan resources and assets

Manage knowledge reuse

Perform MBSSE

Perform business and mission analysis

Perform functional analysis

Perform system structure design

Perform system analysis

Perform domain design integration

Perform system verification and validation

Build Models

Produce system models

Verify models

Simulate systems using models

Produce discipline-specific models

Validate models

Evaluate alternative models

Support Models

Manage technical quality

Manage technical configuration

Manage data and models

Share models for collaboration

Process Description Structure

1. Title of the process
2. Purpose of the process
3. Inputs to produce outcomes
4. Process outcomes
5. Tasks to achieve the outcomes
6. Method and tool capabilities for performing tasks effectively and efficiently

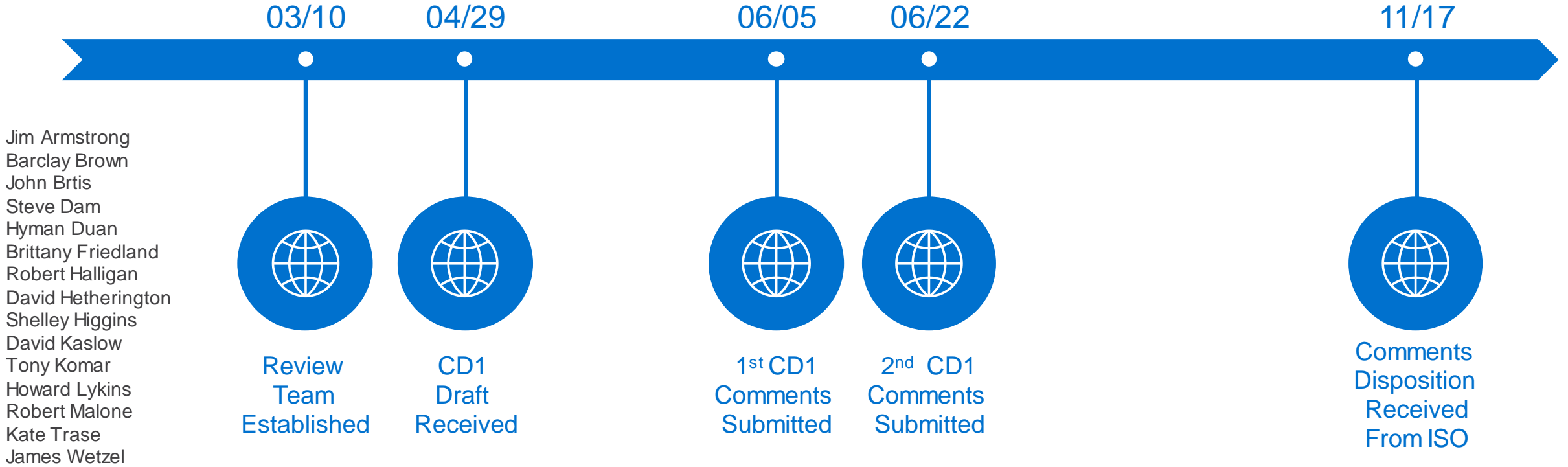


INCOSE CD1 Draft Review

INCOSE CD1 Draft Review Process



2020



CD1 Ballot Results



Approval (12)	Approval with comments (3)	Disapproval (5)	Abstention (15)
Brazil (ABNT) China (SAC) France (AFNOR) India (BIS) Ireland (NSAI) Kazakhstan (KAZMEMST) Malaysia (DSM) Mexico (DGN) New Zealand (NZSO) Russian Federation (GOST R) South Africa (SABS) Ukraine (DSTU)	Finland (SFS) Germany (DIN) Korea, Republic of (KATS)	Australia (SA) Canada (SCC) Japan (JISC) Spain (UNE) United States (ANSI)	Argentina (IRAM) Belgium (NBN) Czech Republic (UNMZ) Denmark (DS) Iran, Islamic Republic of (ISIRI) Italy (UNI) Netherlands (NEN) Panama (COPANIT) Poland (PKN) Portugal (IPQ) Slovakia (UNMS SR) Sweden (SIS) Switzerland (SNV) Thailand (TISI) United Kingdom (BSI)

Liaison: INCOSE

CD1 Draft Comments



National Body	# Comments	Editorial	General Editorial	Technical	Other
Australia	133	2	2	129	
Canada	16	5	1	10	
Japan	12	6	1	5	
Spain	16	5	1	10	
United States	58	6	2	47	3
Finland	26	5	14	7	
Germany	13	1	12		
Korea	22	15	4	3	
INCOSE (06/22/20)	233	108	11	112	2
INCOSE (06/05/20)	225	47	54	124	0

Major organizational, structural, content and process changes

CD1 Draft Comments



Clauses	Title	# Comments (~)	Editorial	General Editorial	Te
1-2		28	6	4	18
3	Terms & Definitions	47	21	4	22
5	MBSSE Reference Framework	43	22	4	17
6	Plan MBSSE	136	49	9	78
7	Build Models	107	22	1	84
8	Support Models	25	7	1	17
9	Perform MBSSE	78	9		69
Annex A-D		24	6	8	10
Other		41			
Total		529			

ISO Feedback on CD1 Draft Comments



- Very exhaustive (all clauses or near)
- Very constructive (editorial and technical)
- Strong involvement from INCOSE (as a liaison)
- Some redundancies (e.g. on the usage of the proposed pattern)
- Annex B (ARCADIA), Annex C (Capella) deleted



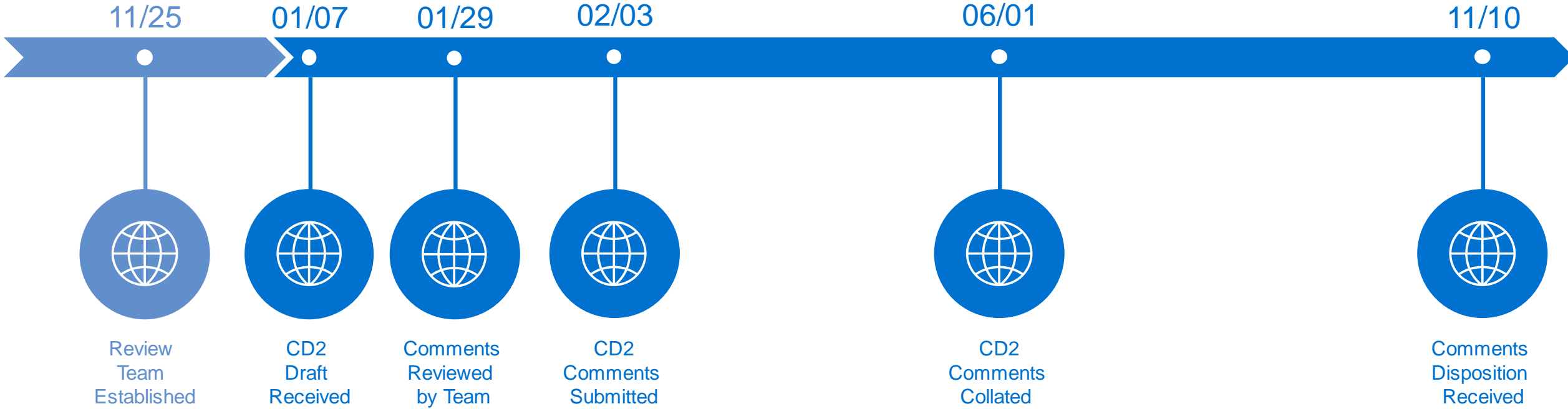
INCOSE CD2 Draft Review

INCOSE CD2 Draft Review Process



2020

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INCOSE CD2 Draft Comments



National Body	# Comments	Editorial	General Editorial	Technical	Other
INCOSE (02/03/21)	203	160	2	41	0

Terms, definitions, relationships to other standards



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www.incose.org/IW2021

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