



SAN DIEGO CHAPTER

# IEC 62368-1 and its impact on Global Certifications

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# Objectives

- Brief background & intro to IEC 62368-1
- Timeline, adoption and transition
- Actions and preparations
- Worldwide adoption

# Background - A New Safety Standard

## The Origins of IEC 62368-1

- ❖ The industry recognized that existing standards could not keep up with the convergence of technology, and that a new standard was needed to replace IEC 60065, safety of A/V equipment, and IEC 60950-1, safety of IT equipment, and formed a Technical Committee IEC TC108 to develop a safety standard for information technology equipment, office appliances, consumer electronics and telecommunication terminal equipment, as well as combinations of each.

## A new approach to safety for A/V and ICT equipment

- ❖ IEC 62368-1 “Audio/Video, Information and Communication Technology Equipment — Safety Requirements”, an outcome of almost eight years of planning, IEC TC108 led by industry experts i.e. Rich Pescatore (HP retired), Rich Nute (HP retired) laydown a foundation for development of IEC 62368-1.

## Background - A New Safety Standard - cont.

*“IEC 62368-1 is based on the principles of HBSE, which is a different way of developing and specifying safety considerations than that of the current practice. While this standard is different from traditional IEC safety standards in its approach and while it is believed that IEC 62368-1 provides a number of advantages, its introduction and evolution is not intended to result in significant changes to the existing safety philosophy that led to the development of the safety requirements contained in IEC 60065 and IEC 60950-1. The predominant reason behind the creation of IEC 62368-1 is to simplify the problems created by the merging of the technologies of ITE and CE.”.*

After publication of IEC 62368-1 Ed. 1.0 in January 2010 it has been concluded that Ed. 1 needed further refinement before formal adoption and implementation. Consequently, the standard was not widely adopted on a global basis, some countries did publish a first edition-based standard for informational purposes while Canada and the United States took a step further and published bi-nationally as an acceptable alternative to the IEC 60065 and IEC 60950-based standards.

This early adoption also permitted the IECEE CB Scheme for IEC 62368-1 work to be initiated, focusing on development of CB Scheme RTF since publication of Ed. 2 in February 2014.

# IEC 62368-1 - benefits

Current standards built around existing technology, require frequent revision, impede introduction of new technologies. Based on “collective inversion of bad experiences” rather than starting with sound engineering principles.

Get safety design back into R&D by applying HBSE principles – rather than afterthought.

Safety by design rather than by accident.

Better visibility of safety engineering principles and intent rather than relying on traditional certification “check the box” approach. New standard goes much further in providing rationale of requirements.

Moves the responsibility back to product safety engineer rather than the 3rd-party certifier.

Away from mindset of 3rd party certification = safe product.



# 62368-1 publications, adoption and transition

- IEC 62368-1 Ed. 2.0: 2014-02
- US/Canada UL/CAN/CSA C22.2 No. 62368-1 Ed. 2.0: 2014-12
  - UL published June 2019 for new submittals
- European Union EN 62368-1: 2014
  - EU OJ DOW date is June 20, 2019 which most likely will be pushed out to December 2020
- IECEE CB Scheme for IEC 62368-1 Technical Report Form (TRF)
  - Hybrid Test Report Master TRF IEC62368\_1&IEC60065&IEC60950\_1A issued in June 2015 nonetheless some countries are reluctant to accept the “hybrid test report.

# Latest 62368-1 update

## Standard immaturity

- CENELEC CLC/TC 108X has extend the DOW of superseded standards to 2020-12-20.
- European Commission has not revised yet DOW published in Official Journal of the European Union.

## IEC 62368-1 Ed. 3

- CDV (Committee Draft for Vote) IEC 62368-1 3rd Ed. Has been published for National Committees reviews and comment by Aug-Sep 2017
- Final IEC vote on CDV will be in October and if it passes, FDIS (Final Draft International Standard) could be issued in early 2018

# IEC 62368-1 impact on product design and certification

## Challenges with designing a product to IEC 62368-1

- Learning curve
- Some additional material cost examples, PCB space for insulation
- New surface temp limits
- New tilt requirements

## Challenges to certify a product to IEC 62368-1

- Certification to new standard should not fundamentally cost more but expanded scope of the standard and learning curve might impact the certification cost
- To do it right the manufacturer should be familiar with 62368-1 and be prepared to work closely with 3rd-party certifiers



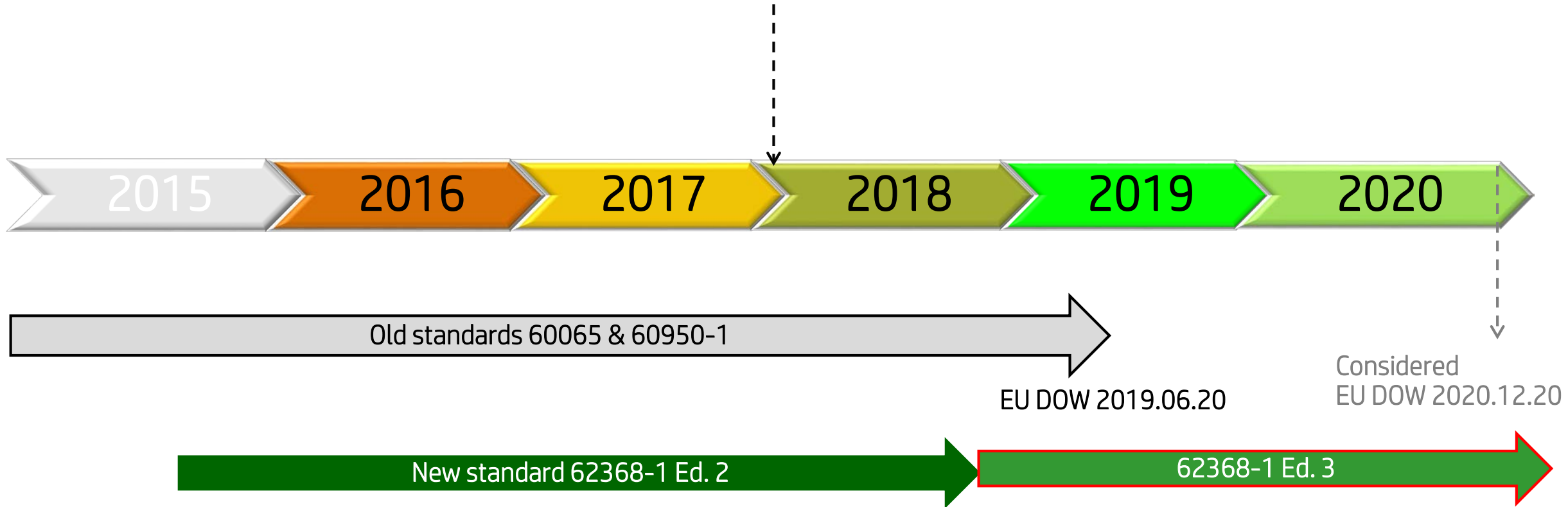
# IEC 62368-1 Transition

## Transition Period

- WW adoption would vary greatly by country/region
- Key manufacturers may be early adopters
- “Grandfathering” of current products? Recertification's? still big unknown

# New Safety Standard rollout plan timeline

## 62368-1 Editions & Timelines



# Transition phase

## Challenges

- Worldwide adoption of 62368-1 is not synchronized so double certification would be required for first few years
  - This results in additional certification cost ~\$6-8k / project, depending on complexity

# International Adoption

Member Country	Country Code	P/O Status	Adopted 62368-1 Ed 2 (y/n)	National Standard number	First Use Date	Mandatory Use Date	Studying 62368-1 Ed 2 (y/n)	Anticipated Adoption Date mo-yr	Adopted Hybrid TRF?
Australia	AU	P-Member		AS/NZS 62368.1			Y	TBD 2018	N/A
Belarus	BY	O-Member							
Canada	CA	P-Member	y	CSA/UL 62368-1	Dec-14	Jun-2019			
China	CN	P-Member				2019?	Y	Q4 2018?	
India	IN	P-Member					Y	TBD	
Iran	IR	O-Member							
Israel	IL	P-Member							
Japan	JP	P-Member		J62368-1			Y	2019?	N/A
Korea, Republic of	KR	P-Member		KN 62368-1			Y	?	
Mexico	MX	P-Member		NMX-I-62368-1 NYCE-2015		Voluntary			
European Economic Area	NL	P-Member	y	EN 62368-1	Dec-14	Jun-2019			
New Zealand	NZ	O-Member					Y	TBD 2018	N/A
Russian Federation	RU	O-Member							
Singapore	SG	O-Member							
South Africa	ZA	P-Member	n	SANS 62368-1:2011 (Ed 1.00)		Voluntary	y	TBD	
Thailand	TH	O-Member							
Turkey	TR	P-Member	y			Jun-2019			
Ukraine	UA	O-Member							
United States of America	US	P-Member	y	CSA/UL 62368-1	Dec-14	Jun-2019			

