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The Global Transition to IEC 62368-1: A New Product Safety Standard for Audio/Video, Information and Communication Technologies

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The Global Transition to IEC 62368-1:

A New Product Safety Standard for Audio/Video, Information and Communication Technologies

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ITI Member Companies

ITI – Who We Are, How We Can Help

- 50 top information and communication technology companies…advocate for policies that advance industry leadership, innovation and ensure open access to global markets…including technical standards and regulations
- Our members work to develop internationally accepted standards, including product safety (IEC60950 and IEC62368)
- Maximizing the trade benefits of this alignment requires coordinated adoption and implementation by countries
- **ITI works directly with regulators and can share our technical expertise, standards knowledge, and regulatory experience- to benefit all stakeholders**

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Today's Discussion

- Information about IEC 62368-1 and country specific standards based on this standard
- A review of the scope and some of the key technical changes in the new standard including Hazard Based Safety Engineering
- Why manufacturers, test houses and component suppliers will need more time to implement this standard
- **Why regulators must provide a long range effective date when they adopt IEC 62368-1**
- Implementation recommendations by the ICT industry

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IEC Standards in Product Safety

- **IEC standards are the primary safety standards for electro-technical products globally**
  - Adopted by national standards organizations with very few national differences
  - Applied as the basic product safety standard for most electro-technical products
  - Incorporated into the IECEE CB Scheme for international conformity assessment and test reporting
  - Cited directly in national product safety and trade regulations
  - Essential to trade of globally distributed products

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Recommended Transition Plan

- **International Standard (IS) IEC62368-1 was published in January 2010**
  - **Combined product scope (IT, A/V, and Communications equipment) from IEC 60950-1 and IEC 60065.**
- **IEC 62368-1 incorporates a new, hazard based approach to safety that will impact ICT products and sub-components globally.**
- **ITI recommends a minimum 5 year transition plan (after the IEC or EN 62368-1, 2nd edition is published)**

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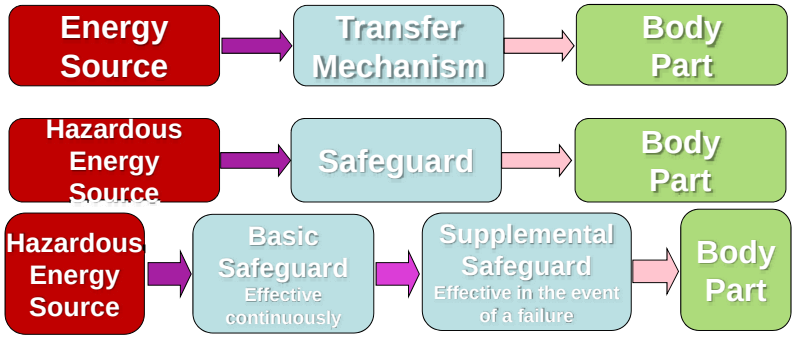
62368-1 Principles



- Three types of energy sources
- Includes both Performance Requirements and Construction Requirements where possible
- Clause orientation by type of hazardous energy
- Electric Shock, Fire, Chemical, Mechanical, Thermal and Radiation (Acoustics)
- Safeguards for 3 types of persons (Ordinary, Instructed, Skilled)

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Work in Progress

- IEC TC108 is working now to publish IEC TR 62368-2, the rationale document to assist with application of IEC 62368-1, 1st Edition.
- Leading certification bodies have a new Test Report Form to document product testing and conformity assessment of product design (UL).
- IEC 62368-1, 2nd Edition is expected to be published in Q1 2013, addressing at least 66 proposed changes to fix problems raised with the 1st Edition including:

Batteries
Interlock Switches and Circuits
MOVs, GDTs and SPDs
Definition of TV
Clarification of Application of HF, PF and Peak Voltage Clearances

High frequency creepage distances
Slide/rail mounted equipment
Acoustics (sound pressure level for portable devices)
Glass Breakage
+ 12 other topics identified by TC 108 to date

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Work in Progress

There are totally new and original requirements for:

- Liquid filled heat sinks
- Slide/rail mounted equipment
- K factor for moving fan blades
- IC current limiters when used to meet LPS
- High frequency clearances and solid insulation

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Mandatory Effective Date

ITI seeks to minimize the impact on trade through alignment of transition periods by regulators. Our recommendations:

- IEC 62368-1 not be adopted as a mandatory standard until 5 years minimum after publication of the 2nd edition (8 years recommended).
- During the transition period, permit suppliers to choose compliance of a product with either IEC 62368-1 or with the existing applicable IEC safety standard (i.e., IEC 60950-1, or IEC 60065).
  - Components certified to IEC 60065 or IEC 60950-1 should be acceptable without further evaluation to IEC 62368-1.
  - Products already on the market should not need to be recertified.
- After the transition period, all new products shipped should conform to IEC 62368-1.

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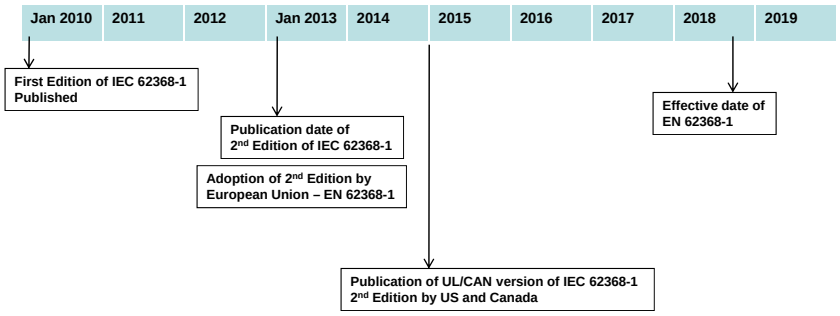
Anticipated (Recommended) Timeline

Development and Adoption of the IEC 62368-1 standard



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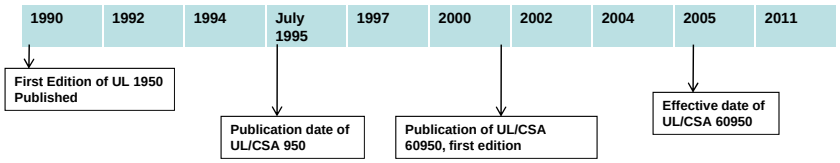
Example of UL 60950-1 Implementation

Development and Adoption of the UL 60950-1 standard



TOTAL NUMBER OF YEARS GIVEN TO THE INDUSTRY FOR IMPLEMENTATION OF UL/CSA 60950 = 15

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Issues for the Users of the Standard

- **Users of the standard* may not know about the significant changes from IEC 60950-1 and IEC 60065 to IEC 62368-1, and not allow adequate time to transition.**

*** Users of the standard: OEMs, Contract manufacturers, Component and sub-assembly manufacturers (e.g., hard drives, CD/DVD drives, power supplies, peripherals, printed circuit cards, battery assemblies, display panels), including product development engineers, safety engineers and their managers**

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Risks for Manufacturers, Test Houses and Suppliers of Components

- **Product safety managers and engineers are not trained and prepared for the new standard**
- **factory processes and equipment have not been reviewed in preparation for the new standard**
- **No experience of working with third-party certification bodies**
- **Products may not get certified in time as specified in contracts**
- **Compliance documentation may not be available; As a result, the product is at risk from third-party and government surveillance and audits**
- **New standard may be interpreted and applied in non-uniform manner by labs, certifiers and manufacturers**

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Regulatory Considerations

Regulators need to consider the following when deciding the mandatory date:

Manufacturers, test houses and suppliers of components need time to:

- **gain real experience and understanding of the standard and find any problems in the application of the standard**
- **add this new standard into specifications; quality and compliance documents; position plans and performance objectives for product safety managers and engineers**
- **make changes into their procedures; qualify test labs to the new standard for IECEE CB scheme in a timely fashion before the effective date**
- **demonstrate product compliance; maintain supporting test reports (e.g., techniques applied; tests performed; document test results; and engineering assessments)**

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In Summary

In determining when to implement IEC 62368-1, regulators need to consider this is a new approach to product safety that will require time to:

- **Educate suppliers to prepare for transition of certification to the new standard**
- **Educate test labs (those who do not participate in the standards development process)**
- **Introduce a new test report form (TRF), certification reports, and test data sheets to ensure correct interpretation and coordination within the conformity assessment community**
- **Learn how to apply the new standard effectively**

ITI recommended implementation date of 2018

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