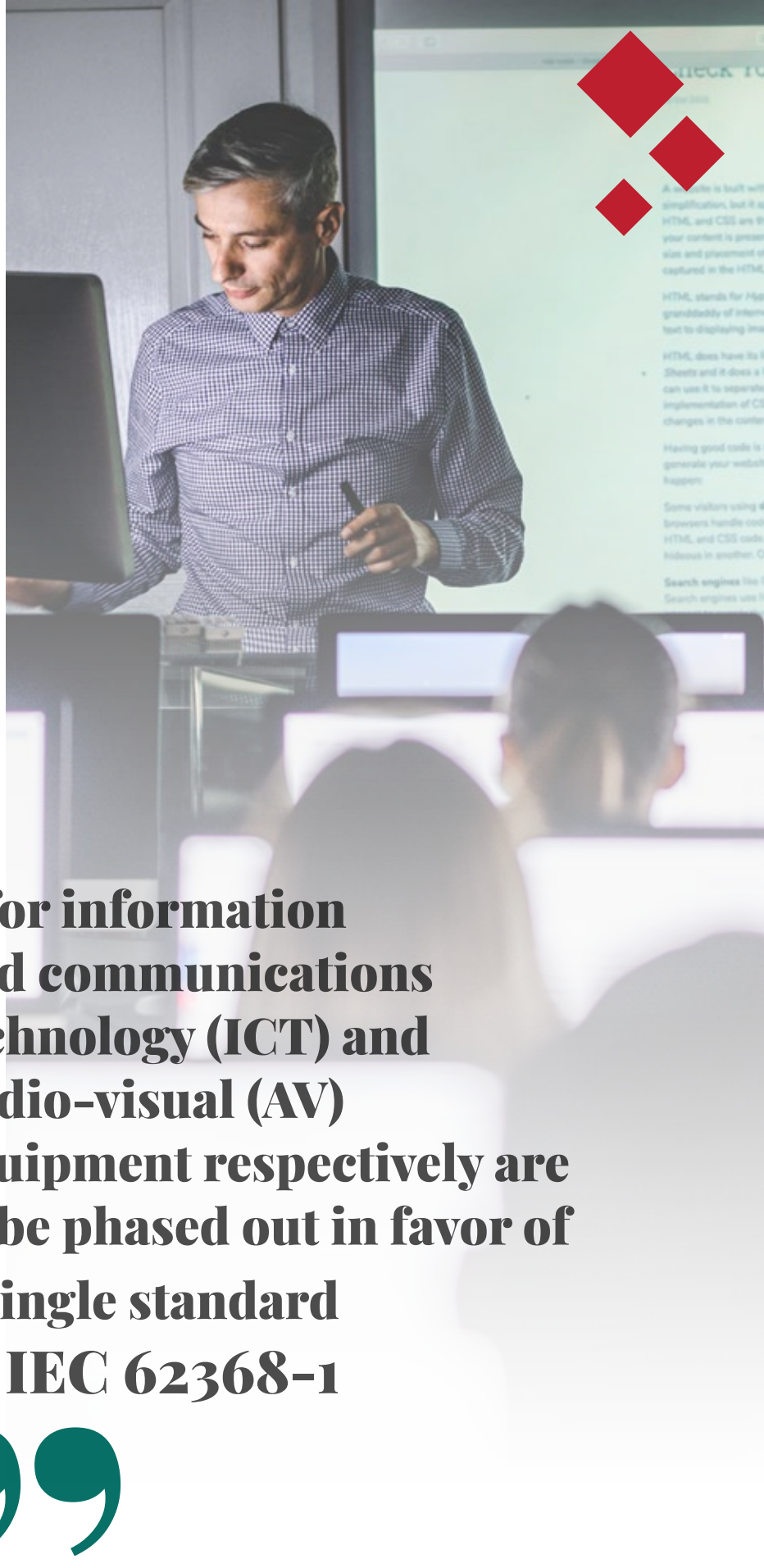
IEC 62368-1:

Fundamentals for OEMs

In the EU and North America, IEC 60950-1 and 60065 for information and communications technology (ICT) and audio-visual (AV) equipment respectively are to be phased out in favor of a single standard — IEC 62368-1. Targeted for full transition by December, 2020, the transition is not about standards replacement, but rather strengthening product safety in these broad and increasingly overlapping categories.

IEC 62368-1 introduces a hazard-based standard to product testing. What does it mean for power-based products going forward, and how can OEMs best manage the transition?



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Transitioning From IEC 60950-1 and 60065 to IEC 62368-1

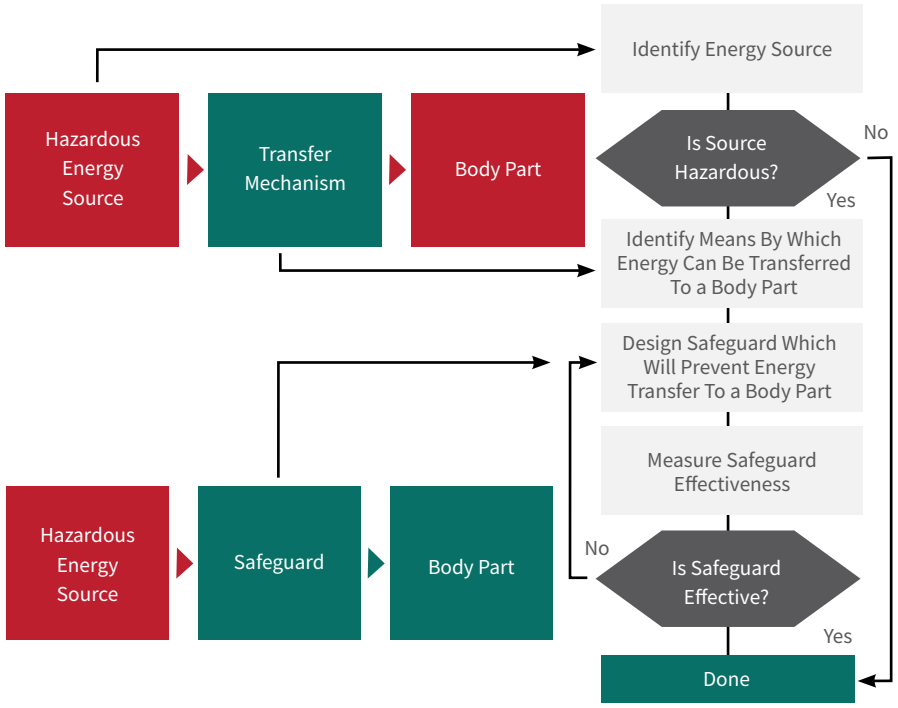
As lines continue to blur between ICT and AV equipment, separating safety requirements into two distinct categories is no longer necessary. Enter IEC 62368-1, a single standard that bridges the ICT and AV industries and the products within it[1], including:

- Computing and networking products (servers, PCs, routers, notebook/laptop computers, tablets, and their power supplies)
- Consumer electronics (amplifiers, home theater systems, digital cameras, and personal music players)
- Displays and display units (monitors, TVs, and digital projectors)
- Telecommunication products (network infrastructure equipment, cordless and cell phones, and similar communication devices, including battery-powered devices)
- Office appliances (copiers and document shredders)
- Various other types of ICT and AV equipment used in homes, schools, and professional environments

While new in implementation, the logic and structure of IEC 62368-1 are not. The harmonized standard has been continuously refined by the IEC Technical Committee since 2002. First and second editions of IEC 62368-1 were published in 2010 and 2014, which met with spotty adoption in the EU and North America[1].

The current third edition is set for global adoption by December 20, 2020, but it comes with a word of caution. Defining IEC 62368-1 as a "replacement" of IEC 60950-1 and 60065 is common — it's also errant.

Why? IEC 62368-1 is a hazard-based standard engineering (HBSE), meaning it focuses on how energies perform within a power-based product and could be detrimentally transferred to a user. Generally, HBSE testing and safeguarding occurs in four parts, as illustrated here:



Product safety is determined by the effectiveness of the safeguards in place to mitigate the risk/impact of hazardous energies[2]. This is an important distinction since it takes IEC 62368-1 out of the realm of being a product-dependent, incident-based regulation. As technologies emerge — which happens more often and rapidly — IEC 62368-1 is better positioned to cover them. It also gives OEMs some latitude in safeguard design.

What IEC 62368-1 Isn't

IEC 62368-1 shouldn't be viewed as:

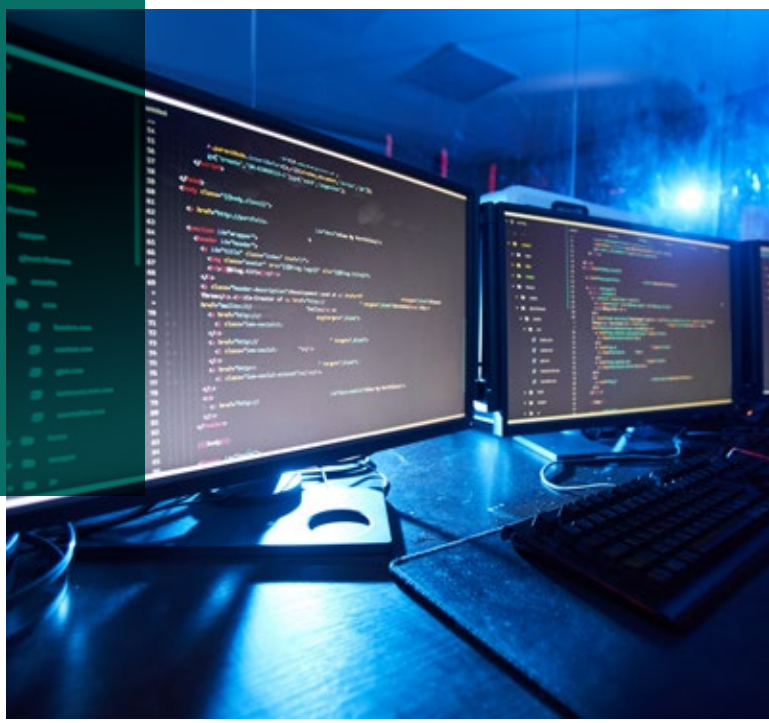
- A simple merger of 60950-1 and 60065
- A strictly hazard-based standard
- Product-dependent or prescriptive

Compliance Considerations

The “big picture” approach is not to suggest that IEC 62368-1 applies solely to end-user products. Like IEC 60950-1 and 60065, the new safety standard covers components and subsystems, such as power supplies and assemblies. This puts OEMs in a somewhat precarious position in that any parts must align with the new safety requirements starting in December, 2020 (the target implementation timeframe in the EU and North America).

Working with experienced contract manufacturers is a significant step OEMs can take toward compliance since there is a temporary clause in the new safety standard that addresses components:

> **“Components & subassemblies that comply with IEC 60950-1 or IEC 60065 are acceptable as part of equipment covered by this standard without further evaluation other than to give consideration to the appropriate use of the component or subassembly in the end-product.”**



It’s important to emphasize that this is a temporary measure, and eventually grandfathering in components and subassemblies will not be allowed. Having a contract manufacturing partner that can manage IEC 62368-1 from a component-based perspective eases the worry of inadvertent non-compliance as the standard evolves.

As technologies continue to expand the need for products and connectivity, considerations for end-user safety are at an all-time high. In response, IEC 62368-1 is bridging ICT and AV standards and allowing contract manufacturers to play a larger role in supporting OEMs.

GMI Solutions has the experience, expertise, and processes in place to help you manage the transition to IEC 62368-1, and execute it to perfection in the future.

Contact GMI to discuss your needs — we're here to help!

SOURCES

[1]CUI, Inc. IEC 62368-1: An Intro to the New Safety Standard for ICT & AV Equipment, Undated
[2]In Compliance, IEC 62368-1: What Can We Expect?, July 31, 201

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