

IEEE PSES
20TH ANNIVERSARY

IEEE ISPCE 2024

IEEE International Symposium on
Product Compliance Engineering
APRIL 30 – MAY 2, 2024 | CHICAGO, IL

ISPCE 2024 SYMPOSIUM PROGRAM

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for more information!

2024.psessymposium.org

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WELCOME MESSAGE

Welcome to the IEEE 2024 International Symposium on Product Compliance Engineering (ISPCE) hosted in the 3rd largest city in America, Chicago, Illinois. Chicago has a rich history, unique architecture, diverse culture, vibrant music scene, amazing food, and significant contributions to various industries. We hope you get a chance to explore some of these things while you are here for our flagship symposium.

ISPCE 2024 is a milestone event for all of us. However, it is especially meaningful to members of IEEE's Product Safety Engineering Society (PSES) because this year PSES is celebrating the Society's 20th Anniversary. Since its initial formation in 2004, PSES has continually grown in membership, scope, and competence. Society membership is now comprised of some of the most internationally recognized, well-respected thought leaders and game-changers in this field of Engineering expertise.

As a member of the local Chicago Chapter since the beginning, I can say that it has been fun to be an active part of a growing Society which has kept pace with the rapid maturity and development in this field. It is a very exciting time to be part of this group. Product Safety and Conformity Assessment has evolved from once being focused primarily on fire, shock, and personal injury, to now also ensuring that products (AND systems) are cyber secure, functionally safe, environmentally friendly, and globally compliant. Compliance professionals today have very diverse backgrounds and expertise which include engineering, information technology, inspecting, biology, chemistry, law and more.

I am not aware of any other industry group or professional association that hosts an annual event like ISPCE where relevant, current information on all these topics is summarized & shared with such a gathering of diverse attendees. This week, we will all be learning, growing ... and celebrating!

If you've attended ISPCE events in the past, you're likely familiar with our welcome receptions, but this year on Tuesday evening, we added a few new surprises in honor of the Society's 20th Anniversary that are sure to make this reception even more memorable, and the most fun we've had in 20 years!

But first, we are proud to feature our keynote speaker, Mr. Peter Shearstone, Vice President of Global Quality & Regulatory Affairs at Thermo Fisher Scientific, who has more than 30 years in quality and regulatory affairs leadership. Mr. Shearstone will begin this year's event by delivering the keynote presentation on "Changing the Compliance Paradigm in Large Global Companies".

Following the keynote, our Technical Program Committee (TPC) for ISPCE 2024 has assembled a wonderful, multi-track program packed with educational content that you'll need to know to stay on top of your game and perform your job with the confidence that you have the latest business intelligence on these compliance-related topics.

There will also be many opportunities this week to network, meet your colleagues from other companies, and interact with vendors who supply goods and services that make our work more efficient. How many times a year do you get to do that?? In this 3-day event, please take advantage of this unique opportunity to not only reconnect with former acquaintances, but also to speak with people who you don't already know.

In this field of Product Compliance Engineering, individually we can't know all the answers, so it's critical to have a deep repository of contacts to reach out to when you need guidance on a topic. My bet is that someone in this event will know the answer to any question/challenge you may be faced with. This week is your opportunity to meet those people. Developing lasting relationships with other professionals here may prove to be just as valuable as the content offered in the educational technical sessions.

On behalf of everyone involved in this year's ISPCE event planning and technical program management, we want to say "Thank You" to all our Patrons, Exhibitors, Lanyard Sponsor, and T-Shirt sponsor for their support. It's their continued support that is essential to the success of this event.

We offer a special "Thank You" to Fluke for contributing the fabulous multimeters that the first 200 ISPCE registrants received as a gift honoring PSES's 20th Anniversary.

We also want to thank all the presenters. Without the papers and presentations these people have contributed, we would not have all the relevant technical content that will be shared this week.

Finally, on a personal note, I want to thank my co-chair, the members of the planning committee, the TPC, and the staff at Conference Catalysts who all put in tremendous efforts to work through all the details that go into planning an event of this size. It was a fun team effort to make this event happen and I've been enriched personally by working with each of you.

Attendees, whether this is your first time at an ISPCE or you've participated in the past, we hope this year's event exceeds your expectations. Welcome... Enjoy the symposium!



A handwritten signature in black ink that reads "Ron Borowski". The signature is fluid and cursive.

Ron Borowski
IEEE ISPCE 2024 Chair
IEEE Senior Member
Principal Manager of Global Codes & Standards
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Global Market Access Track

Maja Bland, UL Solutions, LLC, USA

Compliance 101 Track

John Allen, Product Safety Consulting, Inc, USA

EMC and Wireless Track

Jim Bacher, IEEE, USA

Ethical Cornerstones of Effective Compliance Track

Jim Bender, Intertek, USA

Ted Dorenkamp, Bowman and Brooke LLP, USA

Medical Track

Rich Gardner, Amazon, USA

Carolynn Leonard, ASP, USA

Global Hazardous Locations Track

Paul Kelly, UL Solutions, LLC, USA

Jerilyn Merrill, UL Solutions, LLC, USA

HBSE/Safety Science Track

Tom Burke, UL Solutions, LLC, USA

Legal Track

Arun Kapoor, NOERR Partnerschaftsgesellschaft mbH, USA

Ted Dorenkamp, Bowman and Brooke LLP, USA

Forensics Track

Daren Slee, Exponent, USA

Functional Safety Track

Layne Lueckemeyer, CSA Group, USA

Energy Storage and Batteries Track

Rich Byczek, Intertek, USA

Innovation and Emerging Technologies Track

Ted Eckert, Microsoft, USA

Cybersecurity

Paul Miller, UL Solutions, USA

Environmental, Sustainability, Governance Track

Jamie Wallisch, Assent, USA

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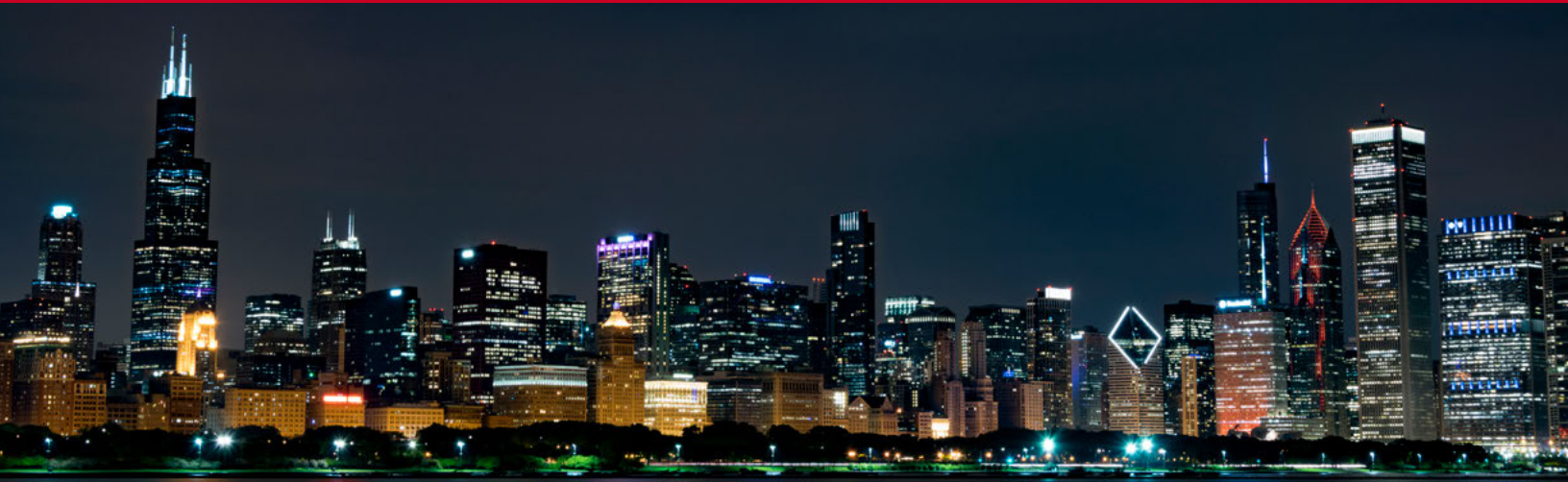
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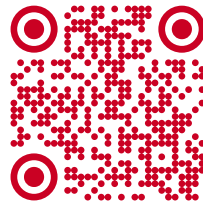
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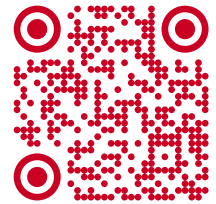
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Use the QR codes to visit our sites for more information

For further information on ISPCE, visit <https://2024.psessymposium.org/>

ISPCE 2024 GENERAL INFORMATION

Welcome Reception

Welcome to the IEEE Symposium on Product Compliance Engineering. The Symposium Steering Committee invites attendees to join old friends and meet new acquaintances at the ISPCE 2024 Welcome Reception in celebration of the PSES 20th anniversary on **Tuesday, April 30th, 6:00 PM – 8:30 PM**. The Welcome Reception will be held in the exhibit hall and is included with your registration.

Exhibit Hours

	Morning	Lunch	Afternoon	Evening
Tuesday	7:30 AM – 8:00 AM	11:40 AM – 1:30 PM	3:30 PM – 4:00 PM	6:00 PM – 8:30 PM Reception
Wednesday	7:30 AM – 8:00 AM	12:00 PM – 1:30 PM	3:30 PM – 4:00 PM	

Registration Hours

Monday	4:00 PM – 6:00 PM
Tuesday	7:30 AM – 6:00 PM
Wednesday	7:30 AM – 6:00 PM
Thursday	7:30 AM – 4:30 PM

Speaker Orientation

On the day of your presentation, please join the ISPCE 2024 Technical Program Chairs for a special Speaker Orientation in the Ohio room.

Tuesday	7:00 AM – 7:30 AM
Wednesday	7:00 AM – 7:30 AM
Thursday	7:00 AM – 7:30 AM

Note: Breakfast is NOT provided during the ‘Speaker Orientation’ sessions (as breakfast is included in the room fee and is available at the hotel); please take your breakfast at your convenience, outside the ‘Speaker Orientation’ sessions.

Best Paper Nominees

The Best Paper Award shines a light on some great papers. We are embarking on an initiative to increase the authorship of formal papers at the ISPCE symposium. We want the PSES to be the source that professionals go to first for critical information on product safety engineering and compliance issues. So, check out the Best Paper Nominees at our award ceremony on May 1st during lunch and think about a topic that could make you a winner!



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KEYNOTE SPEAKER



Tuesday, April 30, 2024 - 8:00 AM

Peter Shearstone

Vice President, Global Quality & Regulatory Affairs, Thermo Fisher Scientific

Bio

Peter Shearstone is Vice President of Global Quality and Regulatory Affairs for Thermo Fisher Scientific, a position he's held since 2018. He leads a team of over 8,000 quality and regulatory affairs (Q&RA) professionals at the enterprise level and in Thermo Fisher Scientific's many businesses and operations spanning more than 140 countries. Peter leads a comprehensive Q&RA ecosystem that includes Clinical Affairs, Design Quality, Quality Assurance, Quality Control, Quality Engineering, Quality Systems, Regulatory Affairs, Reimbursement and Supplier Quality.

Under Peter's leadership, the Q&RA organization introduced the company's first enterprise-wide quality policy, launched a company wide initiative challenging every employee to make quality personal, built a talented global team, supported the approval and launch of hundreds of new products, and improved performance across key Q&RA metrics. Prior to joining Thermo Fisher, Peter held executive quality and regulatory roles with companies in the health care and life sciences industries during the course of nearly 35 years.

Peter is passionate about inspiring and developing the quality and regulatory leaders of tomorrow, and participates in programs promoting science, technology, engineering and mathematics (STEM) education. He speaks at universities, has hosted visits for STEM classes at Thermo Fisher facilities and encourages and mentors students to pursue careers in the life sciences industry. Peter also encourages his teams to mentor STEM students and participate in efforts to increase awareness of opportunities in the Q&RA profession. Peter holds a bachelor's degree in biology from Salem State University in Salem, Massachusetts.

Abstract

Changing the Compliance Paradigm in Large Global Companies

Compliance, quality and safety are in the news – and the subject of discussion in corporations and regulatory agencies around the world – like never before. At the same time, customers are seeking better products, while companies want greater collaboration, faster time to market and higher efficiency without affecting compliance or quality. While the Compliance function has evolved and is firmly established at more companies, it's still often in a reactive posture with late-stage involvement in the product development cycle, creating a significant opportunity. In this keynote presentation, you'll learn how to seize that opportunity by changing the compliance paradigm across a large, global company.

The keynote will be delivered by Peter Shearstone, Vice President of Global Quality & Regulatory Affairs at Thermo Fisher Scientific, a company with 18 different businesses in life sciences solutions, specialty diagnostics, analytical instruments and laboratory products, and biopharma services, operating throughout the world with annual revenues of over \$40 billion. Based on the experience, knowledge and insights gained during a career spanning more than 30 years in quality and regulatory affairs leadership roles at six companies in the life sciences, diagnostics and health care industries, Shearstone will provide a suggested roadmap on how to approach the formidable challenge of changing the compliance paradigm in a complex, international organization.

He'll also discuss the need to show how earlier Compliance involvement can positively affect business results, the importance of Leadership support, developing understandable policies, processes and roles, effective directed learning, impactful communications and measuring success. When the paradigm is changed, Compliance can become a greater contributor to the product development process, be received as an indispensable partner for success, reduce the amount of time to receive compliance and go to market, and provide customers with better products, faster.



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PSES AWARDS

The IEEE PSES will present Y2023 awards at the awards ceremony at ISPCE 2024 in Chicago, IL on May 1, 2024.

Sustained Service Award – IEEE PSES Plaque Award

Description: To recognize members of the IEEE Product Safety Engineering Society for their sustained service to the Society in a given calendar year.

Prize: Plaque of Appreciation and a monetary gift of US\$500.

Funding: Funded by the IEEE Product Safety Engineering Society.

Eligibility: Sr. member (Senior, Life or Fellow) in good standing with IEEE Product Safety Engineering Society. The recipient must have served at least one term on the Board of Directors/Board of Governors of the PSES since the inception (including the time as a technical society within the EMCS) or served at least one term as part of the executive team (ExComm).

Basis for Judging: Sustained service to the IEEE Product Safety Engineering Society for an extended period of time (ie, >10 years), dedicating their time and efforts to support the development of the PSES.

Presentation: IEEE PSES awards are presented annually at the awards ceremony during ISPCE.

Service Acknowledgment Award: IEEE PSES Certificate of Appreciation Award

Description: To recognize members of the IEEE Product Safety Engineering Society for performing a service to the Society in a given calendar year.

Prize: Certificate of Appreciation.

Funding: Funded by the IEEE Product Safety Engineering Society.

Eligibility: Member of the IEEE Product Safety Engineering Society.

Basis for Judging: Service to the IEEE Product Safety Engineering Society.

Presentation: IEEE PSES awards are presented annually at the awards ceremony during ISPCE

Service Acknowledgment Award: IEEE PSES Certificate of Recognition Award

Description: To recognize non-members of the IEEE Product Safety Engineering Society for contributions to the Society in a given calendar year.

Prize: Certificate of Recognition.

Funding: Funded by the IEEE Product Safety Engineering Society.

Eligibility: Non-member of the IEEE Product Safety Engineering Society.

Basis for Judging: Contributions to the IEEE Product Safety Engineering Society.

Presentation: IEEE PSES awards are presented annually at the awards ceremony during ISPCE

IEEE PSES Chapter-of-the-Year Award

Description: To recognize the most outstanding IEEE Product Safety Engineering Society chapter in recognition of their contributions to and promotion of the Society through its meetings, programs, and member services. This award is to be provided for activities in the previous calendar year.

Prize: Certificate and \$250 – Given to the Society chapter recognized for promotion of PSES through meetings, programs, and services. The name of the Society shall appear prominently on the certificate associated with the award.

Funding: Funded by the IEEE Product Safety Engineering Society.

Eligibility: This award is given to the most outstanding Society chapter in recognition of its contributions to and promotion of the Society through its meetings, programs, and member services. A Chapter-of-the-Year winner in one year shall not be eligible in the subsequent year. Please see this link for the Chapter of year questionnaire.

Basis for Judging: The awards program shall be coordinated by the Chapter-of-the-Year Administrator under the oversight of the Awards Committee and responsibility of the VP – Member Services. This award is given to the most outstanding Society chapter in recognition of its contributions to and promotion of the Society through its meetings, programs, and member services. The award is for the year immediately prior to the award presentation.

Presentation: IEEE PSES awards are presented annually at the awards ceremony during ISPCE.

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Program Grid - Tuesday, April 30, 2024

CST	General Session /Meal Room (Chicago Ballroom)	Ohio	Mississippi		Illinois		Rock River		Des Plaines		
7:00 AM		Speaker Orientation									
7:20 AM											
7:30 AM	Networking										
8:00 AM	Opening Ceremony, Day 1 Keynote (Chicago Ballroom)										
8:30 AM											
9:00 AM											
9:30 AM	Transition / Networking									Intertek Patron Session (open to attendees)	Tammy Seaman
9:40 AM		Origins and Basics of Electrical Fire and Shock Protection Mike Sherman #65	John Allen	Coin cell safety - Reese's Law requirement update Ted Eckert #52	Rich Byczek	Design, Risk, and Efficacy While Testing to Standards - Tradeoffs for Surge Protective Devices Eric M Schultz #71	Daren Slee	China regulations update Paul Wang #74	Maja Bland		
9:50 AM											
10:00 AM											
10:10 AM											
10:20 AM											
10:30 AM	Transition / Networking										
10:40 AM		Misquoting Jargon: the Speculation on Weird Alterations of Standard Texts and Why Lingfeng CHEN #67	John Allen	Deciphering UN 38.3: Updates and Interpretations Rich Byczek #103	Rich Byczek	Not Worth a Nickel! A Nickel Metal Hydride Battery Failure Investigation Brian May #87	Daren Slee	Global Regulatory Approvals: Beyond Certification with an emphasis on labelling Peter Grinager #24	Maja Bland	UL Solutions (private event)	Margaret/Lindsay
10:50 AM											
11:00 AM											
11:10 AM											
11:20 AM											
11:30 AM	Transition / Networking										
11:40 AM	Lunch / Exhibitors (Chicago Ballroom/Foyer Area)									Nemko Meeting (private event)	David Gastan
12:00 PM											
12:20 PM											
12:30 PM											
1:00 PM											
1:20 PM	Transition / Networking										

1:30 PM		Achieving Product Safety through Positive Human Interaction: Humans, Humor, and Getting Things Done Mike Sherman #66	John Allen	EU Battery Regulation Update Ibrahim Jilani #104	Rich Byczek	Navigating Consumer Product Safety: Engineering and Human Factors Insights Emanuele Grossi #101	Daren Slee	Enhancing Safety Compliance: Exploring the OSHA NRTL Program and Future Trends Kevin Robinson #120		Open Platinum Patron Session	
1:40 PM											
1:50 PM											
2:00 PM											
2:10 PM											
2:20 PM	Transition / Networking										
2:30 PM		PSES Tutorial: Part 1: Compliance 101	John Allen	Understanding the Risks Posed by User Replacement of Non-OEM Batteries	Rich Byczek	IEC and EN 62368-1, many editions, what to do for Europe?	Thomas Burke	Regulatory For MENA Region	Maja Bland	Open Platinum Patron Session	
2:40 PM											
2:50 PM		Ken Kapur #61		Keith Beers #106		Grant Schmidbauer #4		Lars K Mellander #49			
3:00 PM											
3:10 PM											
3:20 PM	Transition / Networking										
3:30 PM	Break / Networking (Chicago Ballroom/Foyer Area)										
3:40 PM											
3:50 PM	Transition / Networking										
4:00 PM		PSES Tutorial: Part 2: Compliance 201	John Allen	Unveiling Trends in the Battery Industry: Insights from Third-Party Testing	Rich Byczek	Proposed National Differences for Canada and the U.S. Associated with Edition 4 of CSA UL 62368-1 Thomas Burke #59	Thomas Burke	Indian Regulatory Demography - An overview on Electrical & Electronics segment Saibal Mukhopadhyaya #54	Maja Bland	Fluke Patron Session (open to attendees)	Thomas Smith
4:10 PM											
4:20 PM		John Allen #117		Chara A Diaz #110							
4:30 PM											
4:40 PM											
4:50 PM	Transition / Networking										
5:00 PM		PSES Tutorial: Part 3: Global Market Access	John Allen	New EU Battery Regulation Primer	Rich Byczek	Developing the Dynamic Hazard-Based Safety Engineering (D-HBSE) by Introducing the Control-Oriented Model Shun Zhang #109	Thomas Burke	6GHz adoption and challenges in Latin America	Maja Bland	Element Materials Technology Patron Session (open to attendees)	Tamara Grubhot
5:10 PM											
5:20 PM		Grant Schmidbauer #5		Jody Leber #114				Elizabeth Perrier #62			
5:30 PM											
5:40 PM											
5:50 PM	Transition / Networking										
6:00 PM	Welcome Reception & PSES 20th Anniversary Celebration (Ballroom Foyer)										
6:30 PM											
7:00 PM											
7:30 PM											
8:00 PM											
8:30 PM											

Program Grid - Wednesday May 1, 2024

CST	General Session/Meal Room (Chicago Ballroom)	Ohio		Mississippi		Illinois		Rock River	
7:00 AM		Speaker							
7:30 AM	Networking								
8:00 AM	Regulatory Jeopardy								
8:30 AM	(Chicago Ballroom)								
8:50 AM	Transition / Networking								
9:00 AM		The need for CMDI (Clinical Medical Device Information)- An Alert Signal Steli Loznen #118	CL	The Importance of Hearing Aid Compatibility Testing for Regulatory Compliance Nima Molaei #93	Jim Bacher	Environmental, Social, and Governance 101	Jamie Wallisch	Preview of key 2026 National Electrical Code (NEC) public input Joseph J Wages Jr. William T. Fiske #19	Paul Kelly
9:10 AM									
9:20 AM									
9:30 AM									
9:40 AM									
9:50 AM	Transition / Networking								
10:00 AM		Determining safety compliant components - Breaking the mystic! Maria N Martinez #82	John Allen	Customer Call Centers - Risk and Reward	Ted Dorenkamp	Environmental Compliance of Electronics - an Overview	Jamie Wallisch	Differences in how U.S. ANSI HazLoc and Global IEC Ex standards approach safety Steve Blais Erin LaRocco #1	Paul Kelly
10:10 AM									
10:20 AM									
10:30 AM									
10:40 AM									
10:50 AM	Transition / Networking								
11:00 AM		Basics to sanitation certification Brunno Covolan #2	John Allen	Product Compliance 3.0 - Raw material and supply chain compliance in Europe Arun Kapoor #31	Ted Dorenkamp	TSCA PFAS and Reporting Requirements	Jamie Wallisch	ATEX and IECEx Quality Assessment compared to OSHA NRTL factory surveillance Frederick S Kiddle #72	Paul Kelly
11:10 AM									
11:20 AM									
11:30 AM									
11:40 AM									
11:50 AM	Transition / Networking								
12:00 PM	Lunch & Awards Ceremony (Chicago Ballroom/Foyer Area)								
12:30 PM									
1:00 PM									
1:20 PM	Transition / Networking								

1:30 PM		Efforts to improve the quality and efficiency of product safety evaluation as a certification body Ryota Naganuma #85	John Allen	Mission: Impossible Distinctions - Cracking the Code of Intended, Foreseeable, and the Unbelievably Unpredictable in Product Compliance Susanne Wende #30	Ted Dorenkamp	Mounting pressure on standardizing ESG regulations: Deep Dive into CSRD and CS3D Jamie Wallisch #26	Jamie Wallisch	Two Years On: Reflecting on Brazil's Updated Regulations for Ex Equipment. Jeff Iverson #44	Paul Kelly
1:40 PM									
1:50 PM									
2:00 PM									
2:10 PM									
2:20 PM	Transition / Networking								
2:30 PM		Risk Assessment: When have you reached Acceptable Risk?	John Allen	Ø Navigating through legal vs ethical dilemmas in product safety compliance: An audience discussion James Bender #29	Ted Dorenkamp	Current Trends for Eco-friendly Electronics - Case Studies Aurelien Hathout #47	Jamie Wallisch	High hazard fire & gas detection applications Jon D Miller #20	Paul Kelly
2:40 PM									
2:50 PM									
3:00 PM		Wylie Wong #96							
3:10 PM									
3:20 PM	Transition / Networking								
3:30 PM	Break / Networking (Chicago Ballroom/Foyer Area)								
3:40 PM									
3:50 PM	Transition / Networking								
4:00 PM		Fundamentals of Laser Safety – Part 1 - The Basics	John Allen	The European Batteries Regulation – Supercharged with requirements on energy storages. Ulrich Spiegel #116	Ted Dorenkamp	The PFAS Challenge - Supplier info, analytical testing and database tracking Ken Kapur #73	Jamie Wallisch	FCC and ISED certification requirements Julia Gresser #70	Maja Bland
4:10 PM									
4:20 PM									
4:30 PM		Regan Arndt #53							
4:40 PM									
4:50 PM	Transition / Networking								
5:00 PM		Fundamentals of Laser Safety – Part 2 - Laser Product Compliance	John Allen	Legal track open panel discussion Arun Kapoor Ted Dorenkamp #115	Ted Dorenkamp	EU Battery Regulation and ESPR Jamie Wallisch #28	Jamie Wallisch	Wireless Type Approvals and select country updates Maja Bland #18	Maja Bland
5:10 PM									
5:20 PM									
5:30 PM		Gus Anibarro #56							
5:40 PM									
5:50 PM	Transition / Networking								

Program Grid- Thursday May 2, 2024

CST	General Session / Meal Room (Chicago Ballroom)	Ohio		Mississippi		Illinois		Rock River		Des Plaines	
7:00 AM		Speaker Orientation									
7:30 AM	Networking										
8:00 AM		IEC 60601-1 Amd. 2, Main differences	Carolynn Leonard	Consumer Cybersecurity, a piecemeal of regulations/standards and amalgamation of requirements Ravi Sharma #22	Paul Miller	The Next Step of Wi-Fi Evolution: Wi-Fi 6E(ax) / 7(be) + UNII4 + AFC	Jim Bacher	Criteria for Product Certification in Brazil – Inmetro vs. Anatel regulations	Maja Bland	How to Analyze a Schematic for Safety Compliance	John Allen
8:10 AM											
8:20 AM											
8:30 AM											
8:40 AM											
8:50 AM	Transition / Networking										
9:00 AM		Alarm System in Medical Electrical Equipment or Medical Electrical System	Carolynn Leonard	Demystifying ISO 26262: An Automotive Functional Safety Case Study	Layne Lueckemeyer	Vehicle-to-Everything (V2X), the Future of Vehicle Communication	Jim Bacher	India - TEC and Security Testing	Maja Bland	Fundamentals of Risk Assessment – Part 1	John Allen
9:10 AM											
9:20 AM											
9:30 AM											
9:40 AM											
9:50 AM	Transition / Networking										
10:00 AM		Risk Management in Medical Devices: An application of ISO 14971	Carolynn Leonard	Plugging into Safety: Addressing Functional Safety in eMobility	Layne Lueckemeyer	FCC RF exposure on URS (Unintentional Radiator Sources)	Jim Bacher	Understanding PFAS: Regulations & Relevance for Companies	Maja Bland	Fundamentals of Risk Assessment - Part 2	John Allen
10:10 AM											
10:20 AM											
10:30 AM											
10:40 AM											
10:50 AM	Transition / Networking										
11:00 AM		ETSI EN 303 645, A globally applicable standard for consumer IoT cybersecurity Sean McMahon #40	Paul Miller	AI in Automotive Functional Safety: Unveiling Emerging Techniques and Future Requirements Kevin Connelly #16	Layne Lueckemeyer	Radio Signal Management in a Medical Environment	Jim Bacher	Vietnam MIC regulation and updates	Maja Bland	Circuit Spacings – Determining Product Safety Requirements	John Allen
11:10 AM											
11:20 AM											
11:30 AM											
11:40 AM											
11:50 AM	Transition / Networking										
12:00 PM	Lunch / Networking										
12:30 PM	(Chicago Ballroom/Foyer Area)										
12:50 PM	Transition / Networking										

12:50 PM	Transition / Networking											
1:00 PM		Cybersecurity Regulations Evolution in Latin America	Paul Miller	Functional Safety for Automation Technologies	Layne Lueckemeyer	Safety Concerns for ITE in Immersion Cooling Systems	Ted Eckert	Virtual worlds: Introduction, technology and regulatory framework	TBD	Independent Studies—Creating a Personal Curriculum for a Successful PSC Career	John Allen	
1:10 PM												
1:20 PM												
1:30 PM		Elizabeth Perrier #63		Layne Lueckemeyer #12		Ken Arenella #83		Thomas L Killam #86		Mike Sherman #64		
1:40 PM												
1:50 PM	Transition / Networking											
2:00 PM		What is a "cyber device"?	Paul Miller	Creating Functionally Safe Software	Layne Lueckemeyer	Development of Laboratory Information Management System 4.0 (LIMS 4.0) in the TIC Industry through Industry 5.0 and CMMI assessment model	Ted Eckert	Evolution of Robot Safety - Including an Introduction to ANSI/CAN/UL/ULC 3300	TBD	Integrating Wireless Technology into Products	John Allen	
2:10 PM												
2:20 PM												
2:30 PM												
2:40 PM						Kishore Sharma #68		Peter Brink #21		Chi Ho Li #78		Jason R Smith #41
2:50 PM	Transition / Networking											
3:00 PM		Protect Your Company's Assets: Risk Management and ISO 27001	Paul Miller	Beyond Functional Safety for Automated Systems	Layne Lueckemeyer	Quantum Computing & Information Supported Future Product Safety Requirements for 6G Advanced Mobile Systems	Ted Eckert	V2X Connected Vehicle Future Product Safety Requirements for Advanced Autonomous and Urban Air Mobility Vehicles	TBD	Live to LOVE your CB report	John Allen	
3:10 PM												
3:20 PM												
3:30 PM												
3:40 PM						Sean McMahon #39		Jayalekshmi Krishnamoorthy #17		Minsoo Joo #97		Wonsuk Yoo #98
3:50 PM	Transition / Networking											
4:00 PM	Closing Session / Prize Raffle											
4:30 PM	(Chicago Ballroom)											

Technical Program -Tuesday, April 30, 2024

Time: 9:40 – 10:30AM

Room: Ohio

Origins and Basics of Electrical Fire and Shock Protection

Mike Sherman (Sherman PSC LLC)

Abstract: The basic needs for fire and shock protection for electrical equipment emerged during a tumultuous period in the late 1880s and early 1890s. This presentation looks at that history, summarizes current best protection practices, and adds some hard-earned lessons from 30 years of electrical product safety work experience.

Time: 9:40 – 10:30AM

Room: Mississippi

Coin cell safety - Reese's Law requirement update

Ted Eckert (Microsoft)

Abstract: There are new laws in a number of countries that impose additional requirements on products that contain coin/button cells. Reese's Law in the United States was enacted in 2023 and has among the strictest requirements in the world. This presentation will go over the history of the law, its rationale, and the new requirements.

Time: 9:40 – 10:30AM

Room: Illinois

Design, Risk, and Efficacy While Testing to Standards - Tradeoffs for Surge Protective Devices

Eric M Schultz (Engineering Systems Inc); Louis Bilancia (Engineering Systems Inc.); Thomas Bajzek (Engineering Systems Inc.)

Abstract: Nationally Recognized Test Laboratories (NRTL) provide testing and standards for verifying the safety of electrical and electronic devices, however, it is almost impossible to anticipate all the misuse situations, lifetime wear-out conditions, and possible failure modes. Safety standards try to avoid dictating how a device should be designed and instead focus on the outcomes of defined tests. This paper discusses the issue of safe failure effects of Metal Oxide Varistors (MOV) as used in Relocatable Power Taps (RPT) for Transient Voltage Surge Suppression (TVSS) and whether the end user is getting the expected transient protection and product end-of-life hazard.

Time: 9:40 – 10:30AM

Room: Rock River

China regulations update

Paul Wang (G&M Compliance Inc)

Abstract: This presentation updates the latest regulations of China certifications. For CCC certification it will cover product category change and standards update for electrical products. For SRRC type approval it will introduce regulations about IPv6, 2.4GHz, 5.1GHz, 5.8GHz frequency regulation, series application, wireless power charging, etc. For NAL certification there are product category change, Satellite Internet equipment and Functional virtualization device introduction. And there are China Energy Label (CEL) category update, China Cyber Security certification update, China RoHS test standards update, and more.

Time: 10:40 – 11:30AM

Room: Ohio

Misquoting Jargon: the Speculation on Weird Alterations of Standard Texts and Why

Lingfeng Chen (CSA); Avery Yearwood (CSA)

Abstract: With three case studies, this paper argued that behind those weird alterations of standard texts, there were good intentions to perfect standard texts. Nevertheless, by mistaking a near jargon, misquotation occurred. The source of misquotation and root cause behind the failure of correction were speculated. A more open and inclusive information sharing mechanism on the formation of standard texts was then advocated as a practicable solution.

Time: 10:40 – 11:30AM

Room: Mississippi

Deciphering UN 38.3: Updates and Interpretations

Rich Byczek (INTERTEK TESTING SERVICES NA, INC.)

Abstract: The UN 38.3 Transportation tests for Lithium and Lithium-Ion batteries are a global requirement for all producers, assemblers and distributors of Lithium Batteries and Battery-Powered Devices. These tests are similar in nature but different in purpose than UL and IEC Products Safety tests. This session provides the most recent and expected updates to the UN 38.3 test regime, focusing in common misconceptions, and provides interpretations of failure modes and test applicability.

Technical Program -Tuesday, April 30, 2024

Time: 10:40 – 11:30AM

Room: Illinois

Not Worth a Nickel!

A Nickel Metal Hydride Battery Failure Investigation

Brian May (ESi)

Abstract: An energetic event in a nickel-metal hydride battery cell resulted in the failure of the product powered by the battery and the battery itself. During this presentation, the methodology used to diagnose the failure mode and a review of battery materials, chemistry, and appropriate standards will be discussed.

Time: 10:40 – 11:30AM

Room: Rock River

Global Regulatory Approvals: Beyond Certification with an emphasis on labelling

Peter Grinager (Approve-IT Inc.)

Abstract: We'll review the topics below and add several detailed label case studies to discuss how labelling the product itself can be avoided and where alternate locations are available. Product Roadmaps, Think Global Testing, Distribution Hubs, Design Ownership, Labeling, Larger Organizational Involvement, Managing Renewals, The Importance of the Technical File Standards Updates, Protecting Products from Regulatory Changes.

Time: 1:30 – 2:20PM

Room: Ohio

Achieving Product Safety through Positive Human Interaction: Humans, Humor, and Getting Things Done

Mike Sherman (Sherman PSC LLC)

Abstract: Persuasive communication skills make our product safety and compliance (PSC) jobs easier. Concise, pithy, and humorous sayings break the ice to help us focus on and solve product safety problems. This presentation provides time tested sayings, insights and philosophies to help you become a more effective product safety professional.

Time: 1:30 – 2:20PM

Room: Mississippi

EU Battery Regulation Update

Ibrahim Jilani (UL Solutions)

Abstract: Provide update on EU Battery Regulation. Summary available on <https://www.ul.com/insights/industry-insights-eu-battery-regulation-20231542>

Time: 1:30 – 2:20PM

Room: Illinois

Navigating Consumer Product Safety: Engineering and Human Factors Insights

Emanuele Grossi (Exponent); Daniel Palac (Exponent)

Abstract: Navigating consumer product safety often requires engineering and human factors considerations to determine overall risk of injury, understand user behavior, and assess and investigate regulatory issues and compliance. Using practical examples, this presentation provides engineering and human factors insights into consumer product development and failure analysis focused on product safety.

Time: 1:30 – 2:20PM

Room: Rock River

Enhancing Safety Compliance: Exploring the OSHA NRTL Program and Future Trends

Kevin Robinson (US Department of Labor – OSHA)

Abstract: As we enter over five decades of OSHA's NRTL program, we will take a brief look back at the program beginnings, examine the changes over the last 50 years and discuss the requirements for equipment manufacturers, employers, and independent testing laboratories. the presentation will provide insights into the recent updates in the NRTL Directive and its alignment with ISO/IEC 17025 & ISO/IEC17065 standards. We will also explore the impact of a global pandemic and increased utilization of remote/web-based assessments and our planned changes for the future.

Technical Program -Tuesday, April 30, 2024

Time: 2:30 – 3:20PM

Room: Ohio

PSES Tutorial: Part 1: Compliance 101

Ken Kapur (Thermo Fisher Scientific)

Abstract: The intent of this presentation is to provide a basic knowledge of Product Safety and Regulatory Compliance for products sold worldwide. The presentation covers the requirements for those involved in new and existing products and those who need to address global safety requirements. This training will provide the fundamental guidance for product safety which can support geographic sales for import and export around the world.

Time: 2:30 – 3:20PM

Room: Mississippi

Understanding the Risks Posed by User Replacement of Non-OEM Batteries

Keith Beers (Exponent)

Abstract: With the proliferation of consumer electronic devices without user-replaceable batteries, there has also grown a market for the replacement of OEM batteries with third-party / non-OEM ones. Regardless of device, there exist numerous options for consumers looking for DIY options. Often the batteries used for this purpose are not supported by the device OEM and may include numerous differences, including different manufacturers, quality, designs, and certification testing. In this presentation, we will examine several third-party/non-OEM batteries and review them against common industrial practices, such as those listed in IEEE 1725. We will explore the battery design, manufacturing quality, and response to select tests. The discussion will be relevant to other consumer electronic devices such as laptops, tablets, and the like. We will also discuss potential risks for user replacement of batteries, and factors to consider when designing products to account for this potential use case.

Time: 2:30 – 3:20PM

Room: Illinois

IEC & EN 62368-1 - Navigating multiple editions of IT/AV standard - Strategies and Solutions

Grant Schmidbauer (Nemko North America, Inc.)

Abstract: With the many different editions of the two standards, what should manufacturers do, also taking into account the 4th ed. of IEC 62368-1 just recently published. This session will give an overview of the different IEC and EN (European) versions of 62368-1, and then delve into the European system for CE marking for LVD when considering a harmonized standard (giving presumption of conformity) vs using a standard that is not harmonized to the OJ. The presentation will provide many useful web links and a glossary of terms.

Time: 2:30 – 3:20PM

Room: Rock River

Regulatory For MENA Region

Lars K Mellander (Nemko)

Abstract: Over the last few years, there appears to be a much greater need for MENA based certifications. Certifications and type approvals that have been "required" for years, are now becoming a must to obtain or at least consider. This presentation provides the reasons for the recent growth in this requirement, detailed and specific information in regard to requirements and best practices to gain market access to the MENA region.

Time: 4:00 – 4:50PM

Room: Ohio

PSES Tutorial: Part 2: Compliance 101

John Allen (Product Safety Consulting, Inc.)

Abstract: This presentation is a continuation of presentation #1 (covering Product Safety and Regulatory Compliance for products sold worldwide), looking into the requirements in more detail. We will review requirements in product safety standards and the impact to new designs. Understanding the level of product safety testing in accordance with safety standards will also be covered. We will discuss product safety risks (Electrical, Mechanical, Lasers, Radiation, etc.) and methods to mitigate risk and ensure compliance. 'Design For Compliance' techniques will be discussed as they pertain to complying with global product safety standards (UL, CSA, IEC). Maintaining compliance through product modifications will be included. Challenges and best practices will be shared that will help product designers get a new product to market quickly and efficiently.

Technical Program -Tuesday, April 30, 2024

Time: 4:00 – 4:50PM

Room: Mississippi

Unveiling Trends in the Battery Industry: Insights from Third-Party Testing

Chara A Diaz (Element Materials Technology)

Abstract: In the ever-evolving landscape of battery technology, staying ahead of industry trends is imperative for manufacturers, developers, and OEMs. Third-party testing provides a unique vantage point, enabling a comprehensive analysis of various form factors, chemistries, and sizes, rather than focusing on a singular product for a specific OEM.

Time: 4:00 – 4:50PM

Room: Illinois

Proposed National Differences for Canada and the U.S. Associated with Edition 4 of CSA UL 62368-1

Thomas Burke (UL Solutions)

Abstract: In Canada/U.S. it is expected CSA UL 62368-1 Ed. 4, based on IEC 62368-1:2023, will be published as a CAN/US bi-national standard in 4Q 2024. This presentation reviews the key changes to the national differences, many of which were driven by the 2023 edition of the National Electrical Code (NEC).

Time: 4:00 – 4:50PM

Room: Rock River

Indian Regulatory Demography - An overview on Electrical & Electronics segment

Saibal Mukhopadhyaya (CSA Group, Canada)

Abstract: In the light of recent and everchanging complex regulatory demography of India, this talk encompasses an overview of various regulatory schemes in the Electrical, Telecom and Electronics products segments. The presentation will provide a snapshot for Global manufacturers and investors on recent regulatory requirements under BIS's Compulsory Registration Scheme, TEC/WPC registration, BEE and PESO approval process in light with "Make in India", an India Government initiative.

Time: 5:00 – 5:50PM

Room: Ohio

PSES Tutorial: Part 3: Global Market Access

Grant Schmidbauer (Nemko North America, Inc.)

Abstract: Part 3: Once your product complies with (all) the regulatory requirements for the different countries you plan to market the product, you must then obtain the necessary country approvals. This presentation will provide an overview of global market access requirements, and then give more specific requirements for North America, European Union, and some of the other Asian and South American countries.

Time: 5:00 – 5:50PM

Room: Mississippi

New EU Battery Regulation Primer

Jody Leber (CSA Group)

Abstract: Explore essential requirements of the EU Battery Regulation and steps to assist manufacturers with compliance. Regulation Procedure 2020/0353/COD will formally take effect on February 18, 2024 - officially replacing the Battery Directive of 2006. While the original intention of this legislation was to establish a circular battery market by enforcing sustainable procurement and disposal practices, the final version has evolved to encompass a much broader in scope. In addition to circularity requirements, the regulation also introduces specific rules governing various types of batteries, including electric vehicle batteries, energy storage systems, and e -bike batteries. Furthermore, it imposes stricter production parameters for manufacturers looking to sell batteries within the EU market.

Technical Program -Tuesday, April 30, 2024

. **Time:** 5:00 – 5:50PM

Room: Illinois

Developing the Dynamic Hazard-Based Safety Engineering (D-HBSE) by Introducing the Control-Oriented Model

Shun Zhang (Cisco Systems); Haiwen Lu (Cisco Systems); Brent Taira (Cisco Systems); Daniel Barsotti (Cisco System Inc)

Abstract: Traditional safety engineering approaches (reliability-oriented) were developed for relatively simple electro-mechanical systems, but new technology and functional requirements rapidly emerged; meanwhile, with the embedded systems and novel sensors that have been widely applied, the interaction between hardware and software, as well as the corresponding design complexity exponentially increased, so the control-oriented model should be introduced to adapt the changed nature. This paper will illustrate why it is necessary to introduce the control-oriented model to hazard-based safety engineering (HBSE), based on a typical large core switching fan-tray architecture design and related failure model. Besides, the authors also provide detailed design and evaluation guidelines, which can ensure the control of random hardware failure and avoid systematic failure (both hardware and software), then achieve the safety target (i.e., safety integrity level).

. **Time:** 5:00 – 5:50PM

Room: Rock River

6GHz adoption and challenges in Latin America

Elizabeth Perrier (ORBIS Compliance)

Abstract: This presentation will show the rate of adoption of 6GHZ in Latin America and the discrepancies in regulations across the continent which block adoption. This is a technical discussion with practical examples that allow manufacturers to have full clarity of the regulatory obstacles.

Technical Program - Wednesday, May 1, 2024

Time: 9:00 – 9:50AM

Room: Ohio

Historical product safety recall trends, analysis and exploratory overview

Chintan Trivedi (Intertek Testing Services NA, Inc.); Joseph Depner (Intertek Testing Services NA, Inc.)

Abstract: Exploratory analysis of reported recalls, impact to technology and product safety compliance. Paper provides a deep dive analysis of product safety recall data, trends and hazards overview including correlations and causations of changing technology and its impact to product safety.

Time: 9:00 – 9:50AM

Room: Mississippi

The Importance of Hearing Aid Compatibility Testing for Regulatory Compliance

Nima Molaei (Element Materials Technology); Justin Chao (Element Materials Technology)

Abstract: This Presentation presents a comprehensive overview of hearing aid compatibility (HAC) in communication devices, focusing on the introduction, standardizations, and future prospects in ensuring accessibility for individuals with hearing impairments. It explores innovative strategies and best practices employed by manufacturers and stakeholders to navigate regulatory complexities and enhance HAC accessibility. By offering insights into the regulatory landscape surrounding HAC, this analysis aims to inform policymakers, industry professionals, and researchers, fostering collaboration towards the collective goal of promoting inclusive communication environments for individuals with hearing impairments.

Time: 9:00 – 9:50AM

Room: Illinois

Environmental, Social, and Governance 101

Jamie Wallisch (Assent); Neil Smith (Assent)

Abstract: Sustainability, ESG, GHG emissions, forced labor, supply chain resiliency: all these concepts surround us in our world today with ambiguous definitions and little context. In our presentation, we seek to level-set on the current state of ESG matters for durable goods manufacturers, reviewing the strategic compliance needs and due diligence efforts to institute in your companies programs to satisfy market pressures and continue to have optimal market access. This session will review what is ESG, why is the concept of ESG vital to growing compliance programs in house, and the current standards, frameworks, and regulations that would be a top priority for manufacturers today.

Time: 9:00 – 9:50AM

Room: Rock River

Preview of key 2026 National Electrical Code (NEC) public input

Joseph J Wages Jr. (IAEI); William Fiske (Intertek)

Abstract: Earlier this year, technical committees addressed public inputs submitted for the 2026 NEC. While the actions taken by these committees do not yet represent final 2026 NEC text, they provide an initial view into what could likely be final text. This presentation will preview key HazLoc and OrdLoc public inputs for the 2026 NEC.

Time: 10:00 – 10:50AM

Room: Ohio

Determining safety compliant components - Breaking the mystic!

Maria N Martinez (Intertek)

Abstract: What's a safety critical component, a common challenge among safety compliance engineers? This paper provides an overview of critical safety parameters and examples to demystify component selection, qualification and other performance requirements for an effective safety certification outcome.

Time: 10:00 – 10:50AM

Room: Mississippi

Customer Call Centers - Risk and Reward

Ted Dorenkamp (Bowman and Brooke LLP)

Abstract: Customer feedback is another data point companies use to evaluate and improve product quality and customer experience. But once customers get beyond the automated answer generators, talking to a customer service agent can expose companies to a whole host of legal and regulatory risks they should be prepared to accept and field. This session will discuss what companies should consider in developing a customer call center system.

Technical Program - Wednesday, May 1, 2024

Time: 10:00 – 10:50AM

Room: Illinois

Environmental Compliance of Electronics - an Overview

Aurelien Hathout (Enviropass Expertise Inc.)

Abstract: Electronic Environmental Compliance is vital for sustainable technology. Rigorous adherence to legal requirements worldwide ensures minimal impact on the environment. Compliance addresses hazardous materials, energy efficiency, and responsible disposal with: RoHS, REACH, California Proposition 65, Conflict Minerals, TSCA-PBT, Ecodesign, PFAS, and others. This presentation will introduce you to them.

Time: 10:00 – 10:50AM

Room: Rock River

Differences in how U.S. ANSI HazLoc and Global IEC Ex standards approach safety

Steve Blais (Emerson/Appleton Group); Erin LaRocco (UL Solutions)

Abstract: Division 1 explosionproof and Zone 1 flameproof equipment are designed, tested, and manufactured to comply with multiple global product safety standards and systems for hazardous locations/explosive atmospheres. This presentation will highlight the differences and commonalities of these requirements for equipment for U.S. ANSI Hazardous Locations and global IEC Ex Atmospheres equipment.

Time: 11:00 – 11:50AM

Room: Ohio

Basics to sanitation certification

Brunno P Covolan (Intertek Testing Services)

Abstract: Sanitation evaluation is a critical step in the certification process for appliances handling foods. Often, attention is given to electrical safety, but the nuances of sanitation requirements are missed. This presentation will provide an introduction to basic sanitation requirements, highlighting area requirements, construction requirements, proper material utilization, and commonly missed issues.

Time: 11:00 – 11:50AM

Room: Mississippi

Product Compliance 3.0 - Raw material and supply chain compliance in Europe

Arun Kapoor (Noerr)

Abstract: In the 2000s, EU product legislation related almost exclusively to the safety of products. In the 2010s, more and more environmental requirements were included. Currently, product compliance in Europe is developing into raw material and supply chain compliance. The example of the European Deforestation Regulation (EU) 2023/1115 shows that the marketability of a product can no longer be tested exclusively in the laboratories.

Time: 11:00 – 11:50AM

Room: Illinois

TSCA PFAS and Reporting Requirements

Santhanand Shanmugam (iLenSys Technologies Pvt. Ltd.)

Abstract: To share the knowledge on PFAS and its application. EPA TSCA PFAS reporting requirements, scope and strategy with timeline.

Time: 11:00 – 11:50AM

Room: Rock River

ATEX and IECEx Quality Assessment compared to OSHA NRTL factory surveillance

Frederick S Kiddle (ABB)

Abstract: “Ex” conformity audits verify the effectiveness of quality management systems; whereas factory surveillances are programs implemented to satisfy OSHA’s NRTL Directive. This presentation compares an ATEX “QAN” and IECEx “QAR” to NRTL programs for factory surveillance and will address recent changes to the OSHA Directive for acceptance of the IECEx.

Technical Program - Wednesday, May 1, 2024

Time: 1:30 – 2:00PM

Room: Ohio

Efforts to improve the quality and efficiency of product safety evaluation as a certification body

Ryota Naganuma (Cosmos Corporation)

Abstract: Cosmos corporation has been making efforts to improve quality and efficiency of product safety evaluation as a certification body. Workflow, insulation structure diagram and check list were created to achieve more accurate and sufficient evaluation against the safety standard. Our efforts will contribute to furthermore product safety in the world.

Time: 2:00 – 2:20PM

Room: Ohio

The need for CMDI (Clinical Medical Device Information)- An Alert Signal

Steli Loznen (IEEE-Product Safety Engineering Society-Vice-President for T)

Abstract: All health professionals using thousands of medical devices and disposables are confronted with many unacceptable risks due to the absence of clear clinical medical device information (CMDI). For the use of medicines, the pharmacists find valuable help in the existing drug information. CMDI needs to play a central role in patient care by preventing numerous misunderstandings and failures. The information from User Manuals, Instruction for Use, etc., are not enough for well understanding of the medical devices about Usability, Residual Risks, Incompatibilities, and other points of view. This gap can be filled by the CMDI Data Base which needs to provide, by type of Clinical Applications, a true and responsible global image about a specific medical device.

Time: 1:30 – 2:20PM

Room: Mississippi

Mission: Impossible Distinctions - Cracking the Code of Intended, Foreseeable, and the Unbelievably Unpredictable in Product Compliance

Susanne Wende (Hochschule München)

Abstract: All European Product Compliance concepts of liability refer to intended use, foreseeable use and misuse of products. The distinction is a challenge which can only be mastered with technical and legal expertise. Slightly different wordings in product liability and product safety law bring additional complexity to the interpretation of the relevant provisions. A consistent approach is necessary in order to keep the law applicable, now more than ever because the distinction will also be implemented for ecodesign law and the AI Act in the European Union. The session will shed some light on possible interpretations and how to deal with the challenge in practice.

Time: 1:30 – 2:20PM

Room: Illinois

Mounting pressure on standardizing ESG regulations: Deep Dive into CSRD and CS3D

Jamie Wallisch (Assent)

Abstract: Throughout the last two years, the European Union and the European Commission have taken impressive strides towards tangible regulations in the ESG and sustainability space. The two regulations with the most broad-sweeping scopes and impacts in the near-future include the Corporate Sustainability Reporting Directive (CSRD) and the Corporate Sustainability Due Diligence Directive (CS3D). Both these pieces of legislation are ESG-centric, seeking to standardize and create conformity of either process of due diligence for ESG activities (CS3D) or the reporting framework of sustainability activities (CSRD). In this session, the speakers will cover the structure of these regulations and their relationship, how these directives are significant and spearheading a new age of ESG compliance, and efforts companies can incorporate into their programs to achieve overall success.

Time: 1:30 – 2:20PM

Room: Rock River

Two Years On: Reflecting on Brazil's Updated Regulations for Ex Equipment

Jeff Iverson (CSA Group)

Abstract: Two years after significant updates, this talk revisits Brazil's updated regulations for Ex equipment, highlighting key changes. We'll delve into Ordinance No. 115, which builds on the general requirements of Ordinance No. 200, examining the specific scope, updated certification processes, and responsibilities for stakeholders in comparison with the earlier Ordinance No. 179.

Technical Program - Wednesday, May 1, 2024

Time: 2:30 – 3:20PM

Room: Ohio

Risk Assessment: When have you reached Acceptable Risk?

Wylie Wong (Engineering Systems Inc.); Anne Mathias (Engineering Systems Inc.); James Smolka (Engineering Systems Inc.); Joseph Mohorovic (Engineering Systems Inc.); Erick Knox (Engineering Systems Inc.)

Abstract: One of the primary goals of design is a product with acceptable risk, not zero risk. Methodologies for evaluating risk include following safety standards, benchmarking similar scoring systems, considering utility and intended use, and estimating risk with functional safety approaches. Developers can follow the guidance that best match their situations to determine when they have reduced risks sufficiently.

Time: 2:30 – 3:20PM

Room: Mississippi

Ø Navigating through legal vs ethical dilemmas in product safety compliance: An audience discussion

James Bender (Intertek); Arun Kapoor (Noerr); Ted Dorenkamp (Bowman and Brooke LLP)

Abstract: Legal vs ethical product safety compliance challenges often arise during product design and development as well as post-sale monitoring and market performance. Often but not obvious uncertainties in the product development process are influenced by legal vs. ethical obligations. This session provides an exciting panel led audience discussion identifying anticipated challenges and tools to mitigate such challenges.

Time: 2:30 – 3:20PM

Room: Illinois

Current Trends for Eco-friendly Electronics - Case Studies

Aurelien Hathout (Enviropass Expertise Inc.)

Abstract: Eco-friendly electronics are trending towards sustainable materials, energy efficiency, and circular design. More than ever, manufacturers prioritize reduced environmental impacts, recyclability, and ethical sourcing. For example, product life cycle assessments, modular designs, and repairability have gained popularity. With case studies, this presentation will illustrate eco-conscious tech innovations and best practices.

Time: 2:30 – 3:20PM

Room: Rock River

High hazard fire & gas detection applications

Jon D Miller (MSA)

Abstract: Fire and gas detectors most certainly could be utilized in a variety of different ways for high hazard areas. The fire and gas detection capability can provide for both early warning mapping provisions in addition to alarming for safety purpose on a 24/7 basis.

Time: 4:00 – 4:50PM

Room: Ohio

Fundamentals of Laser Safety – Part 1 - The Basics

Regan Arndt (Thermo Fisher Scientific)

Abstract: This presentation provides an overview of what every person needs to know when handling all classes of lasers. Topics include: General knowledge of laser safety fundamentals and terminology, Awareness of biological hazards associated with laser, processes, Understanding of the laser standards applicable to their industry, Familiarity with beam hazards in laser operation, How to prevent industrial laser accidents through control measures, By the end of the presentation, you will be better informed about how to implement a laser safety program.

Time: 4:00 – 4:50PM

Room: Mississippi

The European Batteries Regulation – Supercharged with requirements on energy storages

Ulrich Spiegel (Taylor Wessing)

Abstract: Energy storage systems are in vogue, especially considering the so-called green transition. With the EU Batteries Regulation, the EU stipulates comprehensive safety and sustainability requirements for these systems. In future, battery law will no longer "only" be waste-related environmental law; it takes step to life cycle-related regulation focusing on reuse.

Technical Program - Wednesday, May 1, 2024

Time: 4:00 – 4:50PM

Room: Illinois

The PFAS Challenge - Supplier info, analytical testing and database tracking

Ken Kapur (Thermo Fisher Scientific)

Abstract: The PFAS Challenge - Supplier info, analytical testing and database tracking. This presentation will cover the industry challenges related to PFAS. PFAS represents Per- and Polyfluoroalkyl Substances and new restrictions are being established to protect drinking water and human health. Based on the new and emerging regulations, the industry has to deal with new challenges as specified by the EPA, the EU and other regions around the world. This talk will look at best practices and the optimal methods for collecting supplier information, conducting analytical testing and tracking PFAS data in a database.

Time: 4:00 – 4:50PM

Room: Rock River

FCC and ISED certification requirements

Julia Gresser (CSA Group Bayern GmbH)

Abstract: The FCC (USA) and ISED (Canada) certifications are helpful and sometimes even necessary, especially if you want to sell your product with radio functionalities globally.

In this presentation, I would like to give you details about the certification process for radio products in USA and Canada and define the requirements.

Time: 5:00 – 5:50PM

Room: Ohio

Fundamentals of Laser Safety – Part 2 - Laser Product Compliance

Gus Anibarro (GCA Laser Safety)

Abstract: This presentation provides an overview of the FDA's CDRH regulations.

Topics include: Examples of laser product failures, Overview of the US Federal Laser Product Performance standard, Performance requirements-what features must absolutely be on the laser, Labeling requirements-what to look for, Informational requirements-what must be in the user manual, By the end of the presentation, you will be better positioned to ensure your laser is compliant with the FDA/CDRH.

Time: 5:00 – 5:50PM

Room: Mississippi

Legal track open panel discussion

Arun Kapoor (Noerr); Ted Dorenkamp (Bowman and Brooke LLP)

Abstract: Our legal track open panel discussion will give all those in attendance the opportunity to bring up any discussion topics from the day; in addition, any discussion topics impacting our attendees can be discussed in this open forum. The panel of experts will start with some 'door openers' to get the discussion going, and we are sure that we will have a lively discussion for this session.

Time: 5:00 – 5:50PM

Room: Illinois

EU Battery Regulation and ESPR

Neil Smith (Assent); Jamie Wallisch (Assent)

Abstract: Traditional market access requirements have largely focused on materials restrictions, safety, compatibility, and performance. Now, in the modern materials compliance market, we are observing a shift around the expectations to understand what materials are present but also the life cycle of the product as a whole, from sourcing to recyclability. This session will explore the convergence of areas of material compliance and the current expectations of raw materials due diligence. We will also discuss the content of these regulations and guidance on the engagement with them.

Time: 5:00 – 5:50PM

Room: Rock River

Wireless Type Approvals and select country updates

Maja Bland (UL Solutions)

Abstract: We will cover key concepts of market access radio spectrum control, requirements for type approvals. I will explain how leveraging test reports and certifications of radio modules can help save costs on testing and certifications of host (integrator) products. We will cover family approvals concept definitions and what that means for type approval process. Lastly, I will provide summary update of most recent China SRRC testing and certification changes.

Technical Program - Thursday, May 2, 2024

Time: 8:00 – 8:50AM

Room: Ohio

IEC 60601-1 Amd. 2, Main differences

Igor Duspura (Nemko USA, Inc.)

Abstract: This presentation will delve into the main differences introduced in the recent publication of IEC 60601-1 Amd. 2.

Time: 8:00 – 8:50AM

Room: Mississippi

Consumer Cybersecurity, a piecemeal of regulations/standards and amalgamation of requirements

Ravi Sharma (UL Solutions)

Abstract: The only constant that comes with cybersecurity is CHANGE! Each country and region is rushing towards formulating its cybersecurity regulations, making geographic expansion a big challenge for consumer device manufacturers. Even though there are overlapping cybersecurity requirements across these regulations and standards, a lack of harmonization exists.

Time: 8:00 – 8:50AM

Room: Illinois

The Next Step of Wi-Fi Evolution: Wi-Fi 6E(ax) / 7(be) + UNII4 + AFC

Juan M Gonzalez (Nemko USA)

Abstract: With the development of the new Wi-Fi 6E (802.11ax) and Wi-Fi 7 (802.11be) the efforts to ensure worldwide adoption, interoperability, and more secure and reliable technology, Wi-Fi 6E and 7 comes with a new element called Automated Frequency Coordination (AFC) System, where the AFC system automatically determines and provides lists of frequencies that are available for use by standard power access points operating in the 5.925-6.425 GHz and 6.525-6.875 GHz bands. Additionally, UNII4 (5.850-5.925GHz) band is now available which brings the possibility to accommodate an additional 160MHz channel for Wi-Fi 5GHz to deliver top performance.

Time: 8:00 – 8:50AM

Room: Rock River

Criteria for Product Certification in Brazil – Inmetro vs. Anatel regulations

Walmir Macedo (CH Consulting)

Abstract: There are basically two regulatory agencies overseeing the mandatory product certification landscape in Brazil. This presentation proposes to outline how Inmetro and Anatel work, and what an applicant in search of approvals for Brazil will have to learn in order to succeed in doing so.

Time: 8:00 – 8:50AM

Room: Des Plaines

How to Analyze a Schematic for Safety Compliance

Thomas M Smith (Fluke Corporation)

Abstract: When evaluating products for safety compliance, many organizations avoid testing and instead qualify products through component certification and construction. This presentation provides guidance on adding circuit analysis and single fault analysis to the safety compliance evaluation. Evaluating the consequences of critical component faults can keep the user safe.

Time: 9:00 – 9:50AM

Room: Ohio

Alarm System in Medical Electrical Equipment or Medical Electrical System

Liem Lam (CSA Group)

Abstract: This paper introduces the IEC 60601-1-8 amendment 2 (AMD2:2020) expanding requirements related to volume and characteristics of auditory alarm signals such: signal pulse shape, rise/fall time, signal burst pattern, frequency range, and harmonics for the application of alarm systems and alarm signals in medical electrical equipment or systems.

Technical Program - Thursday, May 2, 2024

Time: 9:00 – 9:50AM

Room: Mississippi

Demystifying ISO 26262: An Automotive Functional Safety Case Study

Kevin Connelly (Horiba)

Abstract: Learn core concepts, navigate ASIL levels, and gain practical insights for safety-critical automotive systems. This presentation will provide an walk through of the ISO 26262 evaluation process. Target Audience: Engineers, managers, and professionals involved in developing safety-critical automotive systems. Key Takeaways: Understand ISO 26262, implement safety measures, and achieve functional safety compliance.

Time: 9:00 – 9:50AM

Room: Illinois

Vehicle-to-Everything (V2X), the Future of Vehicle Communication

Tom Tidwell (Nemko)

Abstract: This presentation explores the evolution of vehicle communication system technologies and their use in autonomous vehicles.

Time: 9:00 – 9:50AM

Room: Rock River

India - TEC and Security Testing

Kapil Sapru (G&M Compliance); Thomas K. Ha (G&M Compliance, Inc.)

Abstract: We will present a new certification requirement for ITES products in India. The new certification is called TEC and the Indian authorities have also connected this with Security Testing. We will talk about the process of obtaining the certification, challenges and how G&M can support it.

Time: 9:00 – 9:50AM

Room: Des Plaines

Fundamentals of Risk Assessment – Part 1

Regan Arndt (Thermo Fisher Scientific)

Abstract: This session will provide an overview on assessing potential risks associated with a specific product throughout its lifecycle, from development to disposal. It begins with identifying and analyzing potential hazards, vulnerabilities, and uncertainties that could impact the safety of the product, the user, and the environment.

Time: 10:00 – 10:50AM

Room: Ohio

Risk Management in Medical Devices: An application of ISO 14971

Kiki Yang (CSA Group)

Abstract: This paper introduces ISO 14971's role in medical device risk management, highlighting its integration with standards like ISO 13485 and IEC 60601-1. It focuses on the complete risk management process, from analysis to post-production, and underscores its importance in ensuring medical device safety.

Time: 10:00 – 10:50AM

Room: Mississippi

Plugging into Safety: Addressing Functional Safety in eMobility

Layne Lueckemeyer (CSA Group)

Abstract: Focusing on the critical role of functional safety in eMobility, this presentation examines essential standards, battery safety, and software integrity in electric vehicles. It highlights the integration of advanced technologies with safety standards to address the unique risks in the eMobility ecosystem.

Technical Program - Thursday, May 2, 2024

Time: 10:00 – 10:50AM

Room: Illinois

FCC RF exposure on URS (Unintentional Radiator Sources)

Juan M Gonzalez (Nemko USA)

Abstract: New RF exposure guidance in KDB 447498 will discuss provisions for evaluation of RF exposure contribution from Unintentional Radiator sources (URS) which will be a game changer since until now only Intentional radiators are required to meet RF exposure rules and traditionally EMC test data (Unintentional Emissions per FCC 15 B) has been used for addressing RFX compliance in digital devices without radios (known as unintentional radiators). These proposed changes on URS are based on the analysis of some special cases by the FCC where possible inaccuracy issues related to Part 15 Testing, especially on devices with Frequencies below 150KHz due near field effects and coupled devices affecting the matching impedance of the URS.

Time: 10:00 – 10:50AM

Room: Rock River

Understanding PFAS: Regulations & Relevance for Companies

Eva S. Hink-Lemke (iPoint systems GmbH)

Abstract: Per- and polyfluoroalkyl substances (PFAS) are a large class of thousands of synthetic chemicals that are used throughout society. However, they are increasingly detected as environmental pollutants and some are linked to negative effects on human health. Restrictions on PFAS has been set into force over the last months in several countries or local regions. The EU is working on massive restrictions for these substances that are affecting many products for industry and consumers. The presentation will outline the latest developments in the field of PFAS on a global level for the important markets. It will review the upcoming requirements, and support understanding the challenges and opportunities for industry operators.

Time: 10:00 – 10:50AM

Room: Des Plaines

Fundamentals of Risk Assessment - Part 2

Mark Pearson (Thermo Fisher Scientific)

Abstract: Part 2 provides an understanding of the elements of Risk (Severity, Frequency, Probability, Avoidance, and Likelihood) when conducting a proper product safety risk assessment. This session will help you identify and prioritize potential safety risks, which can assist in implementing appropriate mitigation strategies to ensure compliance with relevant regulations and standards.

Time: 11:00 – 11:50AM

Room: Ohio

Cybersecurity Testing and Certification of Consumer IoT Products in accordance with ETSI/EN 303 645

Sean McMahon (Nemko)

Abstract: This presentation will explain the cybersecurity testing requirements in ETSI/EN 303 645 standard for consumer IoT, as well as Certification options available in industry. It will also discuss the upcoming mandatory Cyber requirements in the EU/RE Directive and how ETSI/EN 303 645 can prepare for these upcoming mandatory requirements.

Time: 11:00 – 11:50AM

Room: Mississippi

AI in Automotive Functional Safety: Unveiling Emerging Techniques and Future Requirements

Kevin Connelly (Horiba)

Abstract: As AI revolutionizes automotive technology, navigating functional safety becomes a critical challenge. This presentation explores cutting-edge techniques for integrating AI into safety-critical systems, while peering into the future of AI safety standards. Target Audience: Automotive engineers, safety professionals, and AI developers working on safety-critical applications. Key Takeaways: Master essential techniques for responsible AI integration in functional safety contexts. Gain insights into emerging standards and potential regulatory frameworks for AI in automotive safety. Prepare for the upcoming evolution of ISO 26262 and its impact on AI development. Embrace the potential of AI while navigating the evolving landscape of automotive functional safety.

Technical Program - Thursday, May 2, 2024

Time: 11:00 – 11:50AM

Room: Illinois

Radio Signal Management in a Medical Environment

Tom Tidwell (Nemko)

Abstract: An investigation into intentional and unintentional signal management practices for medical facility environments.

Time: 11:00 – 11:50AM

Room: Rock River

Vietnam MIC regulation and updates

Nancy Lin (CSA Group)

Abstract: Wondering how to access to Vietnam market for Information and Communications Technology (ICT) products? This presentation introduces MIC regulation for ICT products including safety, EMC and Radio requirements. It also explores upcoming changes in 2024.

Time: 11:00 – 11:50AM

Room: Des Plaines

Circuit Spacings – Determining Product Safety Requirements

James Bender (Intertek); Maryam Mahmoodi (Intertek)

Abstract: Circuit spacings is a key element to minimizing electrical shock and fire risks, critical for safe product development. This publication provides simplified guidelines to help understand, navigate, interpret and apply circuit spacings, which contributes towards a successful certification experience.

Time: 1:00 – 1:50PM

Room: Ohio

Cybersecurity Regulations Evolution in Latin America

Elizabeth Perrier (ORBIS Compliance)

Abstract: Cybersecurity regulations landscape in very active and ORBIS is tracking all the changes and impact to manufacturers. The presentation will provide a summary of all the active regulations across the continent and its implementation impact to product categories.

Time: 1:00 – 1:50PM

Room: Mississippi

Functional Safety for Automation Technologies

Layne Lueckemeyer (CSA Group)

Abstract: In the rapidly advancing field of industrial automation, functional safety presents complex compliance challenges. This presentation discusses comprehensive strategies and best practices for integrating safety systems into automation technologies, underscoring the vital role functional safety plays in elevating system reliability and improving operational standards in the industry.

Time: 1:00 – 1:50PM

Room: Illinois

Safety Concerns for ITE in Immersion Cooling Systems

Ken Arenella (IBM)

Abstract: An analysis of the specific safety concerns and requirements governing an immersion-cooled mainframe computer system. Material/Mechanical: (chemical safety, flammability, mechanical/weight, slip, drowning potential and requirements, material compatibility). System design requirements: (62368-1, clause G.15; hydrostatic testing, tubing and fittings, metal vs plastic parts, liquid pump requirements, hose flammability). Lab requirements for testing immersion-cooled system

Technical Program - Thursday, May 2, 2024

Time: 1:00 – 1:50PM

Room: Rock River

Virtual worlds: Introduction, technology and regulatory framework

Thomas L Killam (OnRule)

Abstract: In this presentation, we will provide an introduction to virtual world (Augmented Reality - AR/Virtual Reality - VR/Mixed Reality - MR/Extended Reality - XR), the market and the technology. Importantly, we will discuss the regulatory concerns, scope and framework of regulations. Lastly, we will discuss the efforts taking place to develop the required technical standards.

Time: 1:00 – 1:50PM

Room: Des Plaines

Independent Studies—Creating a Personal Curriculum for a Successful PSC Career

Mike Sherman (Sherman PSC LLC)

Abstract: Our PSES Tutorials explain how to do product safety/compliance; this presentation explores what to know—from basic scientific and engineering concepts to higher level skills—to succeed. Because your knowledge needs are dictated by your specific products, this presentation takes a checklist approach, so you can build your personal curriculum.

Time: 2:00 – 2:50PM

Room: Ohio

What is a "cyber device"?

Kishore Kumar Sharma P D (UL Solutions)

Abstract: Legislation that came into effect late last year has introduced a new term into the lexicon of medical device manufacturers: “cyber device.” This presentation will examine how this term came to exist in U.S. legislation and what kinds of technical issues medical device manufacturers will need to consider as they develop their own products within the confines of this new legislation and new terminology.

Time: 2:00 – 2:50PM

Room: Mississippi

Creating Functionally Safe Software

Peter Brink (Underwriter Laboratories)

Abstract: In this presentation, we will review the expectations for how to create software for use in safety critical systems. This entails two main things: 1) The use of a quality-based methodical software engineering process for managing the software development, specifically to minimize systematic error. 2) The use of safety analyses both to determine if there are gaps in the requirements coverage and if there is any possibility that non-safety related software can interfere with the critical software from perform its function.

Time: 2:00 – 2:50PM

Room: Illinois

Development of Laboratory Information Management System 4.0 (LIMS 4.0) in the TIC Industry through Industry 5.0 and CMMI assessment model

Chi Ho Li (Hong Kong Metropolitan University); Norton Ho Yin Yuen (Hong Kong Metropolitan University); Fanny Tang (Hong Kong Metropolitan University)

Abstract: The Testing, Inspection, and Certification (TIC) industry, being traditionally resistant to change, faces challenges in adopting Industry 5.0 (I5.0) applications. Most of the scholars focused on the I5.0 applications for enriching the productivity but seldom in product safety related research topics. This paper explores the development and integration of Laboratory Information Management System 4.0 (LIMS 4.0) as a solution to the slow progress in applying I5.0 concepts. The paper will delve into the difficulties in bringing about changes in the TIC industry, current assessment models, I5.0 concepts, and how LIMS 4.0, infused with assessment models, can ease the technology adoption challenges. Furthermore, a specific case study of LIMS 4.0 deployment in the TIC industry will be examined.

Time: 2:00 – 2:50PM

Room: Rock River

Evolution of Robot Safety - Including an Introduction to ANSI/CAN/UL/ULC 3300

Jason R Smith (UL Solutions)

Abstract: Robots are now being used in environments exposed to the general public, raising concerns about whether they can be trusted to operate safely around people. We will introduce safety standards used to address those concerns, including the new UL 3300, the standard for Service, Communication, Information, Education, and Entertainment Robots.

Technical Program - Thursday, May 2, 2024

Time: 2:00 – 2:50PM

Room: Des Plaines

Integrating Wireless Technology into Products

Theresa Glenna (TUV SUD)

Abstract: Adding wireless technology to a product adds layers of certification requirements which can be challenging to navigate. Learn about different methods of integrating wireless modules and leveraging a pre-approved module. Take home some strategies to refine your compliance plan and ways to make informed decisions to save costs and manage your time to market.

Time: 3:00 – 3:50PM

Room: Ohio

Protect Your Company's Assets: Risk Management and ISO 27001

Sean McMahon (Nemko)

Abstract: ISO 27001 is the leading standard for information security management systems (ISMS). This presentation will show how ISO 27001 can help you: Prove your security and compliance, differentiate you from your competitors, reduce complexity and cost, improve structure and focus, reduce errors and save time. We will also share experiences and tips for ISO 27001 certification.

Time: 3:00 – 3:50PM

Room: Mississippi

Beyond Functional Safety for Automated Systems

Jayalekshmi Krishnamoorthy (UL Solutions)

Abstract: This presentation introduces the concept of Safety of The Intended Functionality (SOTIF) through the automotive standard ISO 21448. SOTIF addresses unreasonable risks due hazards caused by functional insufficiencies and performance gaps in complex systems. It complements functional safety standards by going beyond risks caused through faults and malfunctions.

Time: 3:00 – 3:50PM

Room: Illinois

Quantum Computing & Information Supported Future Product Safety Requirements for 6G Advanced Mobile Systems

Minsoo Joo (Yonsei university); Wonsuk Yoo (Yonsei University); Jong-Moon Chung (Yonsei University)

Abstract: In the era of 6G mobile systems, quantum computing and information processing will play a significant role in advanced devices, applications, and services. Product safety and compliance engineering standards need to be prepared for these new emerging quantum products and services. This presentation introduces the fundamental principles of quantum computing and security applications that use quantum technology focusing on future product safety and compliance engineering needs.

Time: 3:00 – 3:50PM

Room: Rock River

V2X Connected Vehicle Future Product Safety Requirements for Advanced Autonomous and Urban Air Mobility Vehicles

Wonsuk Yoo (Yonsei University); Minsoo Joo (Yonsei university); Eunsu Lee (Yonsei University); Jong-Moon Chung (Yonsei University)

Abstract: Autonomous driving and urban air mobility (UAM) vehicles are the core entities that will drive the establishment of the intelligent transportation system (ITS) future. Considering the significant importance of passenger safety, the level of vehicle safety and compliance engineering regulations must be set extremely high. This presentation provides an overview of autonomous driving vehicles, connected cars, and UAM standards, including vehicle-to-everything (V2X) communication technologies, and proposes directions for future advancement.

Time: 3:00 – 3:50PM

Room: Des Plaines

Live to LOVE your CB report

Lars K Mellander (Nemko)

Abstract: A VERY specific, interactive and detailed review of best practices and what you must know when requesting or starting a CB report/certification process. This may seem "basic" but after 20 years in the industry, I rarely see a CB report that could not be made better. The CB report is possibly the most valuable asset we have in the compliance industry, and absolutely critical that you are aware of how to get the most value for your money. You think you know everything there is to know about a CB report? Come to the presentation and see if you really do!