



Underwriters Laboratories
International Standards
2019: The year in review



Empowering Trust®



Letter to our stakeholders

The UL Standards team of Underwriters Laboratories had a great year in 2019 as we expanded our global footprint with local hires in China, Singapore, Dubai and Mexico. We signed memorandums of understanding (MOUs) with organizations and standards bodies around the world. We held many workshops and roundtables to further discuss standards, needs and issues at the local and regional levels. Our mission is to make the world a safer place, and we do this by partnering and working with groups in key positions to develop and implement standards. We would like to thank our partners and participants for all of their engagements with us throughout this year, and we look forward to continuing our relationships with you in the next year and in the years to come.



Phil Piqueira

Vice President of Global Standards
Underwriters Laboratories

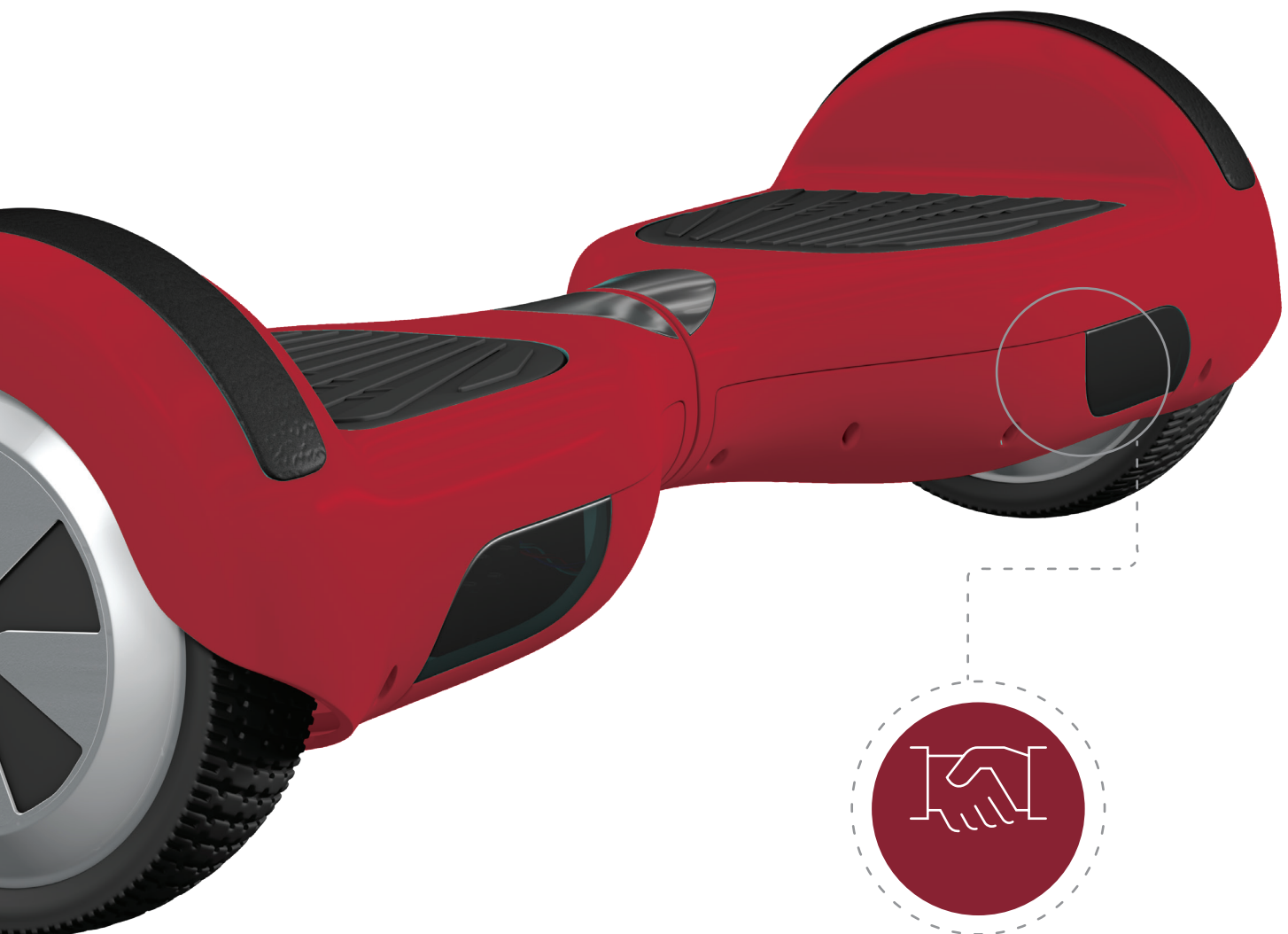
Success stories

Meeting locally to hear global perspectives

Underwriters Laboratories hosted meetings focused on UL 2272, the Standard for Safety for Electrical Systems for Personal E-Mobility Devices, in collaboration with the Beijing Research Institute of Automation for Machinery Industry Co., Ltd., which is a participant on the UL 2272 Standard Technical Panel (STP).

Through an MOU between UL and Standardization Administration of China (SAC)/Technical Committee (TC) 159, China's national hoverboard working group, the groups are working together to develop a harmonized standard for hoverboards. It is the first project between China and the United States that is endorsed by the SAC and the American National Standards Institute (ANSI). The harmonization will reduce technical differences and facilitate trade between China and the United States.

In addition, the UL Standards team hosted a meeting at UL's offices in Japan in December 2019, at which representatives from China, Japan, Singapore and South Korea received an update from the team regarding development of UL 4600, the Standard for Safety for the Evaluation of Autonomous Products, to provide expanded opportunity for local engagement. The meeting included a presentation on UL Standards development process an overview of the Standard, its structure, and the factors and systems within its scope. Group discussion centered on addressing questions about the development and content of the Standard and how it will be applied.





New Cooperation agreements signed in 2019

Underwriters Laboratories signed several agreements in 2019 to further our cooperation with national standards bodies, regional standards bodies and relevant standards organizations. These agreements formalize our partnerships and establish key objectives and strategies, including knowledge sharing, participation on STPs and other mutually beneficial steps to drive increased relevance and influence of standards throughout the world. The following include the standards development organizations and national standardization bodies of their respective countries that Underwriters Laboratories signed MOUs with in 2019:

Africa	African Organization for Standardization (ARSO)
Caribbean	CARICOM Regional Organisation for Standards and Quality (CROSQ)
China	Beijing Research Institute of Automation for Machinery Industry Co. Ltd
China	Dongguan Association for Standardization
China	Dongguan Humen Information Wire & Cable Association (HMWCA)
China	Shanghai Institute of Quality and Standardization (SIS)
China	Standardization Administration of the People's Republic of China (SAC)
China	Changsha Association of Standardization (CSAS)
China	Qingdao Institute of Standardization (QIS)
Dominican Republic	Instituto Dominicano para Calidad (INDOCAL)
India	Institute of Quality, Confederation of Indian Industry (CII-IQ)
Mexico	National Commission for the Efficient Use of Energy (CONUEE)
Mexico	Instituto Federal de Telecomunicaciones (IFT)
Senegal	Association Sénégalaise de Normalisation (ASN)
Singapore	Enterprise Singapore (ESG)
Trinidad and Tobago	Trinidad and Tobago Bureau of Standards (TTBS)
Viet Nam	Information Centre for Standards, Metrology and Quality

Highlights

African Organization for Standardization (ARSO)

The Underwriters Laboratories Standards team signed an agreement with ARSO on Sept. 18, 2019, in Cape Town, South Africa, strengthening its relationship and agreement to work together. With this agreement, UL Standards shared access to 37 ARSO member countries.

Confederation of Indian Industry (CII-IQ)

Underwriters Laboratories signed an MOU with CII-IQ on Sept. 25, 2019, in New Delhi, India. The signing of the document signifies the working relationship between UL and CII-IQ, with the shared goal of evolving the capacity of the Indian standards ecosystem and helping industrial bodies develop region specific standards. Expanding CII-IQ's safety mission through standards, the MOU allows us to work together to identify areas that need development of sectoral standards, provide awareness and training, and enable adoption of UL Standards as relevant to India.

Enterprise Singapore (ESG)

During the 2019 Pacific Area Standards Congress (PASC) meeting in Wellington, New Zealand, Underwriters Laboratories signed a collaboration and license

agreement with ESG, the national standards body of Singapore. The focus will be on standards collaboration in emerging areas such as additive manufacturing and smart cities.

Standardization Administration of China (SAC)

James M. Shannon, chairman of Underwriters Laboratories, and Cui Gang, general director of Standards Innovation Management, Standardization Administration of the People's Republic of China (SAC), signed an MOU at the Shanghai International Convention Center during the IEC General Meeting. SAC is authorized by the State Council to undertake unified management, supervision and overall coordination of standardization work in China. It represents China at the International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), and other international and regional standard organizations, and is responsible for organizing the activities of the Chinese National Committee. This agreement is significant as it positions Underwriters Laboratories and SAC to work together to promote safety through standards.





New UL Standards published

- UL 330A, The Standard for Safety for Hose and Hose Assemblies for Use With Dispensing Devices Dispensing Gasoline and Gasoline/Ethanol Blends With Nominal Ethanol Concentrations Up To 85 Percent (E0 - E85)
- UL 2218A, The Standard for Impact Resistance of Roofing Systems
- ULE 2723, ECOLOGO® Certification Program for Responsible Development for Mineral Exploration Companies
- ULE 2724, ECOLOGO® Certification Program for Responsible Development for Suppliers of the Mineral Exploration Industry
- UL 2237, The Standard for Safety for Multi-Point Interconnection Power Cable Assemblies for Industrial Machinery
- UL 2800-1, The Standard for Medical Device Interoperability
- ULE 2904, Standard Method for Testing and Assessing Particle and Chemical Emissions from 3D Printers
- UL 2984, The Standard for Safety for Management of Public Risks - Principles and Guidelines
- UL 6200, The Standard for Controllers for Use in Power Production
- UL 8800, The Standard for Safety for Horticultural Lighting Equipment and Systems
- ULE 10003, Product Category Rule (PCR) Guidance for Wooden Pallets, EPD Requirements
- ULE 10010-9, Product Category Rule (PCR) Guidance for Building-Related Products and Services Part B: Structural and Architectural Wood Products EPD Requirements
- ULE 10010-10, Product Category Rule (PCR) Guidance for Building-Related Products and Services Part B: Wall and Door Protection EPD Requirements
- ULE 10010-33, Product Category Rules for preparing an environmental product declaration (EPD): ASTM PCR for Single Ply Roofing Membranes
- UL 122001, The Standard for Safety for General Requirements for Electrical Ignition Systems for Internal Combustion Engines in Class I, Division 2 or Zone 2, Hazardous (Classified) Locations
- UL 60034-5, The Standard for Safety for Rotating Electrical Machines - Part 5: Degrees of Protection Provided by the Integral Design of Rotating Electrical Machines (IP Code) - Classification
- UL 60320-3, The Standard for Safety for Appliance Couplers for Household and Similar General Purposes – Part 3: Standard Sheets and Gauges
- UL 61724-1, The Standard for Photovoltaic System Performance - Part 1: Monitoring
- UL 61724-2, The Standard for Photovoltaic System Performance - Part 2: Capacity Evaluation Method
- UL 61724-3, The Standard for Photovoltaic System Performance - Part 3: Energy Evaluation Method
- UL 62841-3-12, The Standard for Safety for Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery - Safety - Part 3-12: Particular Requirements for Transportable Threading Machines
- UL 62841-3-14, The Standard for Safety for Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery - Safety - Part 3-14: Particular Requirements for Transportable Drain Cleaners
- UL 62841-4-2, The Standard for Safety for Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery - Safety - Part 4-2 Particular Requirements for Hedge Trimmers

Highlights

UL 2900-2-1, the Standard for Safety for Software Cybersecurity for Network-Connectable Products, Part 2-1: Particular Requirements for Network Connectable Components of Healthcare and Wellness Systems

With the increasing threat of cyberattacks affecting safety-critical products and service infrastructure, the UL 2900 Series of Standards aims to provide a foundational set of requirements that manufacturers of network connectable products can pursue to establish a baseline of protection against known vulnerabilities and a foundational set of security risk controls to consider relative to their existing overall product risk assessments.

UL 2900-2-1 describes the method by which the security risk controls of healthcare system components shall be evaluated and tested for known vulnerabilities, software weaknesses and malware, while also establishing a foundational set of verification activities intended to reduce the likelihood of exploitable weaknesses that could be vectors of zero-day vulnerabilities that may affect the component. UL 2900-2-1 is a recognized Standard of the United States Food and Drug Administration for medical devices for software/informatics. Health Canada recommends the use of UL 2900-2-1 for guidance on cybersecurity testing.

UL 5500, the Standard for Safety for Remote Software Updates

This first edition Standard covers remote software updates taking into account the manufacturer's recommended process. It is limited to software elements having an influence on safety and on compliance with the particular end-product safety Standard. In addition, this Standard covers hardware compatibility necessary for safety of the "remote" aspects of the software update.



Events

Underwriters Laboratories partnered with local interests to host or participate in key standards roundtables and workshops in 2019:

- Standards Conclave in India
- Dongguan Market Supervision Bureau Workshop in China
- Dongguan Market Supervision Bureau and UL Roundtable in China
- Association Standard Conference in China
- Second hoverboard meeting in China
- Badan Standardisais Nasional (BSN)-UL Standards Workshop in Indonesia
- Standards Development Workshop in India
- Bureau of Indian Standards (BIS) Standards Workshop in India
- Dongguan Standard Conference in China
- Qingdao Forum of Standardization (QFS)
- Quality Conclave in India
- UL 4600 Working Group in Japan
- Event with SAC in China to expand cooperation
- Ecuador's workshop on safety standards
- Ecuador's workshop follow-up on safety standards
- Blockchain roundtable in Mexico
- CROSQ workshop on safety standards
- Trinidad and Tobago workshop on automotive standards
- International Vision of Standardization and Conformity Assessment in Mexico





BSN-UL Standards Workshop in Jakarta, Indonesia

Underwriters Laboratories and BSN, the national standards body of Indonesia, organized a joint standards workshop and seminar in Jakarta in July 2019 to increase visibility of UL Standards and promote collaboration between the two organizations. Under the theme “BSN and UL Safety Standards supporting Indonesian National and Regional Priorities,” the event was attended by 110 people and focused on Standards for fire protection and battery safety by raising awareness of the importance of safety Standards as the underlying building blocks for Indonesia.

China

Underwriters Laboratories has been involved in several events to build relationships and partnerships in China. A workshop and roundtable was held in Dongguan to meet with local stakeholders and shared knowledge with one another on standards. An agreement with the Dongguan Humen Information Wire & Cable Association gave the team the opportunity to hold local STP working groups and to engage UL standards participation at the local level. It is important to receive input on the local demands of UL standards and to work with organizations to receive input for international consideration.

Underwriters Laboratories was also invited as a key partner at the Qingdao International Forum. After years of partnerships, our cooperation was expanded to establish a UL STP working group with the Qingdao Standard Institute to work on standards in the household appliance category. This working group supports local stakeholders to take part in UL’s standards development and other local initiatives.

A significant MOU signing occurred with the Standardization Administration of the People’s Republic of China (SAC), the national standards body of China. This enables both organizations to work together at the national level and expand our mission.

Interaction with the BIS

The BIS office hosted a workshop on the standards development process in the U.S. and other countries in September 2019 for key BIS personnel. Phil Piqueira, Underwriters Laboratories vice president, Global Standards, and Sonya Bird, Underwriters Laboratories director of International Standards, presented on the American standardization system and the UL Standards team’s development process. This marked the first time an external standards development organization conducted a standardization process workshop at the BIS office.

GSO World Standards Week

The Gulf Standardization Organization (GSO) in cooperation with the General Secretariat of the Gulf Cooperation Council (GCC) organized GCC Standardization Week 2019, taking place in October 2019 in Riyadh, Saudi Arabia. Presentation topics included Gulf standards, facilitating trade exchange as well as the role of media in disseminating standardization awareness. Underwriters Laboratories presented to showcase its services in the region and offer different solutions for the local market. The audience showed particular interest for the fast track solutions that Underwriters Laboratories adopts for developing standards in a short period of time as a quick response to certain market conditions/incidents.



India: Special National Standards Conclave

Underwriters Laboratories was a partner in the Special National Standards Conclave held in February 2019 and attended by 300 representatives of regulatory agencies, industry associations, and international standardization and conformity assessment organizations. UL Standards staff presented on the strategy for harmonizing standards with globally published standards, a strategy to dominate international standards in critical sectors for India and acceptability of industry driven standards.

India: UL-CII workshop of standards development capacity building

This workshop was inaugurated by BIS, Underwriters Laboratories and CII in September 2019. Over 35 participants representing more than 25 organizations attended the workshop and learned more about the standards development process.

ISO Week in Cape Town 2019

Underwriters Laboratories participated in the 42nd ISO General Assembly 2019 and the 53rd ISO Committee on Developing Countries Matters (DEVCO) meeting in Cape Town, South Africa, in September 2019. During the week, the UL Standards team signed four collaboration and license agreements with partner organizations.

PASC 2019

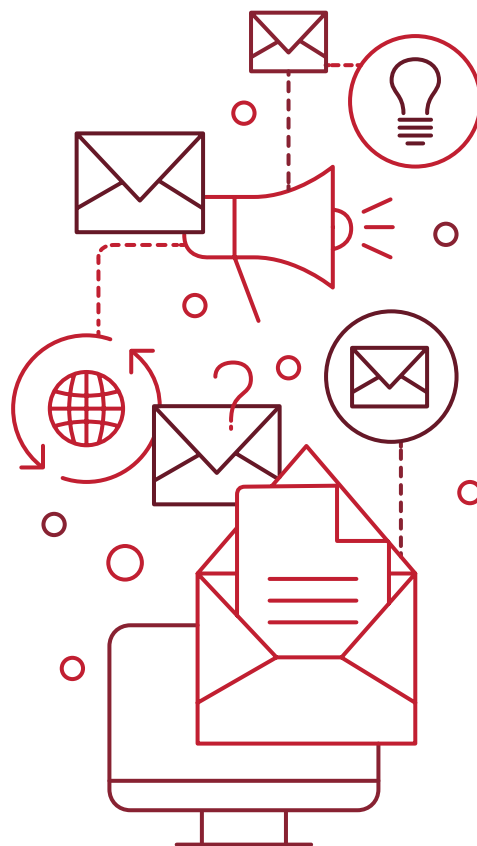
Underwriters Laboratories participated in the 42nd Pacific Area Standards Congress (PASC) Annual General Meeting (AGM) held in Wellington, New Zealand, from April 8-11, 2019. The delegation met with a total of 13 Asia Pacific countries during the event. Among the highlights was the signing of a collaboration agreement between Underwriters Laboratories and Enterprise Singapore, in which both parties committed to the development and promotion of standards to help enable the safe use of emerging technologies, such as additive manufacturing, cybersecurity, autonomous products and more. The Underwriters Laboratories team took this opportunity to chart action plans with existing MOU partners from Viet Nam and Indonesia to bolster fire safety and battery safety systems in these countries through UL Standards. The delegation also discussed potential areas of collaboration with the key national standards bodies in the region from China, India, Japan, Australia, Korea and the Philippines.

In addition, the Underwriters Laboratories team met with key IEC and ISO leaders, including James M. Shannon in his role as president of IEC, and John Walter, president of ISO.

Latin America/Mexico

The “Building a Safe Infrastructure for Electric Vehicles Technical Workshop,” co-hosted by Underwriters Laboratories, the CARICOM Regional Organization for Standards and Quality (CROSQ) and the Trinidad & Tobago Bureau of Standards (TTBS) took place in Trinidad and Tobago on Oct. 1, 2019. Participants included a wide variety of stakeholders from across Trinidad and Tobago, including: regulators, private entities, infrastructure owners, academics and other subject matter experts.

The main purpose of the event was to undertake a workshop for Trinidadian and Tobagonian stakeholders to provide an overview of the current electrical vehicle standardization landscape and to answer questions to support the building of a safer infrastructure for electric vehicles, as well as the finished vehicle — including parts and accessories.



Contact us at global.standards@ul.org.



Staff

In the past year, we have added new regional managers to our International Standards team in the Middle East/northern Africa, ASEAN region, and in Mexico and China. The additional staff supports our regional outreach, cooperation to develop standards for safety and establish MOUs.

Sonya Bird

DIRECTOR OF INTERNATIONAL STANDARDS

Sonya has been with Underwriters Laboratories for 30 years. In her role as director, she leads international standards outreach and international harmonization activities. She is the U.S. National Committee (USNC) vice-president technical, the chair of the USNC Technical Management Committee and the U.S. representative to the IEC Standardization Management Board. She is active in ANSI, serving on the International Policy Committee (IPC) and the ANSI International Forum. Within the IPC, she actively participates in the China Task Group as well as the task force responsible for working on the ANSI/European Standards Organizations (ESOs) cooperation principles. She has represented the U.S. in delegations to the ISO General Assembly and the Pan American Standards Commission (COPANT), and often participates in bilateral meetings on behalf of the U.S.

Mexico/Latin America

Maria Iafano

INTERNATIONAL STANDARDS MANAGER

Maria manages Underwriters Laboratories' collaborative partnerships and MOUs in the Americas, Mexico and Latin America. She has participated in many national and global standards development committees and serves on several policy forums within Canada and internationally. Prior to joining Underwriters Laboratories, she was a director of Legislative Policy and Government Affairs at the Electrical Safety Authority (ESA), the code authority in Canada's Ontario province, where she was responsible for developing and directing ESA's government affairs and regulatory policy strategies. She served as chair of the National Public Safety Advisory Committee for Canada and has presented at several international conferences and meetings on regulatory policy and the use of standards as a regulatory tool. She has more than 18 years of experience in regulatory and public safety oversight, working in various capacities within the provincial government, private industry and nongovernmental organizations.

ASEAN

Kolin Low

GLOBAL STANDARDS MANAGER

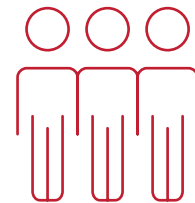
Kolin joined Underwriters Laboratories in 2019. Previously, he was the Asia Pacific regional manager for the ISO. In this role, he developed and implemented ISO's regional engagement plan in Asia to promote greater use of international standards to support economic and societal growth in the region. He successfully developed and delivered several international training projects for developing countries. Prior to this, Low worked for Enterprise Singapore, the national standards and accreditation body of Singapore as a senior manager in Strategy and International Policy division where he represented Singapore in Asia-Pacific Economic Cooperation (APEC) Sub-Committee for Standards and Conformance (SCSC). He developed Singapore's international standards strategy to support trade and foreign aid. In addition, he speaks English, Mandarin, Malay and Japanese.

China

Jessie Guo

GLOBAL STANDARDS MANAGER

Jessie joined Underwriters Laboratories in 2019. Previously, she was the marketing manager for IPC, the Association Connecting Electronics Industries, for nearly eight years. In this role, she developed and implemented a marketing plan to promote IPC standards, achieving two digital compound annual growth (CAGR) in membership and revenue, improving IPC standards awareness and influence in Greater China. She has over 13 years of marketing experience and uses this background to continue to promote UL Standards. She also worked for Dover (Shenzhen), Shanghai Piaoan Medical and Audio-Technical (Greater China). She speaks both Mandarin and English.



China

Eric Zhang

GLOBAL STANDARDS MANAGER

Eric joined Underwriters Laboratories in 2012 as the first regional standards manager. He is involved on several technical committees in China and has coordinated workshops and roundtables that have helped further the development of safety standards. He is a member of China's National Household Appliance Standard Committee, China's National Product Defective and Safety Supervision Committee and the American Chamber of Commerce (Amcham) Assessment and Standardization Working Group. His background in certification and conformity assessment helps facilitate cooperation with various organizations in China. He started his career as a testing engineer for the China Household Appliance Research Institute in 2001. After five years, he worked for DNV Industry and DNV Energy as an engineer and auditor working on wind turbines, certification and conformity assessments. He speaks both Mandarin and English.

India and Sub-Saharan Africa

Manju V

GLOBAL STANDARDS MANAGER

Manju started his work at Underwriters Laboratories in 2007 as a program manager and then as a Global Standards Program manager in 2015, focusing his work in South Asia. He is an active participant at BIS and works to bring awareness to standards development. His many years of experience is shown through his relationships with various government and standards bodies, using his knowledge of the industries and standards to connect and build bridges. He began his career as a deputy general manager of Design and Development at Hitachi Home & Life Solutions (India). During his time there, he implemented lean thinking as a design philosophy and was part of the Design and Development team. Manju speaks English, Hindi, Kannada, Gujarati and Marathi.

Mexico/Latin America

Claudia Sama

GLOBAL STANDARDS MANAGER

Claudia joined Underwriters Laboratories in 2019 with more than 10 years of extensive experience in international relations and international standardization. She began working as an adviser for international forums at Promexico, the Mexican agency for international trade and investment, then worked at the Ministry of Interior Affairs (SEGOB) as a consultant for public policies and transparency. She later joined the Ministry of Economy as a deputy director for International Organizations as well as the head of the Mexican delegation and represented Mexico in APEC, IEC, PASC and COPANT, among other organizations. She was the executive secretariat of the Mexican Electrotechnical Committee for IEC and managed much of the Mexican standards program in Mexico. She speaks Spanish, French and English.

Middle East/Northern Africa

Mohamed Amer

GLOBAL STANDARDS MANAGER

Amer began his work at Underwriters Laboratories in 2014 as an accounts manager for the Middle East North Africa (MENA) region. His responsibilities included being UL's certification officer reviewing documentation, customer communication and issuance of certificates. He promoted UL Standards through accreditation and notifications with local authorities. His understanding of both standards, certification and the MENA region provides a great foundation to further UL's mission. Prior to joining UL, Amer started his career at the National Petroleum Construction Company (NPCC) in Abu Dhabi, United Arab Emirates, working as a project instrument engineer. He worked with customers conducting loop checking and functional testing of field instruments, managed cost estimation and budgeting for projects, and coordinated on-site attendance and activities for vendors. He speaks both Arabic and English.

If you have questions about UL Standards or would like to start or enhance a working relationship with our team or Underwriters Laboratories, UL's nonprofit affiliate, please contact global.standards@ul.org.



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