



Underwriters Laboratories  
International Standards  
2020: The year in review



UNDERWRITERS LABORATORIES™



# Letter to our stakeholders



**Phil Piqueira**

Vice President, Global Standards  
Underwriters Laboratories

Underwriters Laboratories developed and published its first Standard — for tin-clad fire doors — in 1903. Since then, we have continued the important effort of developing Standards and focused on our mission of working for a safer world to allow for the continued development of UL Standards.

Despite the many challenges faced throughout the world in 2020, our basic tactics did not change: listen to stakeholder needs, study world events and issues, and apply safety science and research to advance safety. The COVID-19 pandemic significantly disrupted living and working environments throughout much of the world. Like many other companies, our team adjusted to working from home, limiting travel and canceling face-to-face meetings with our stakeholders — including our Standards Technical Panels (STPs), which were shifted to become entirely virtual sessions.

2020 was also a year of positive change in many ways. We tested our assumptions of how we work and found flexible approaches to host webinars and roundtables in a virtual setting. Our teams tried new approaches to lead outreach to new and existing partners around the world and created opportunities to connect with STP members and stakeholders at a more personal level. Our aim was to minimize disruption for our STP members, stakeholders and memorandum of understanding (MOU) partners to maintain a focus on Standards development.

This year has reminded us of the importance of our Standards and our essential partnerships with global stakeholders and MOU partners. While Standards development may look different, it has not stopped. We extend our deepest appreciation to our partners in their continued commitment to work together on projects and initiatives. Standards play a critical role in promoting a safer world. We hope to resume in-person meetings and regain in-person connections and relationships so that we can celebrate our past successes and look forward together.

As we look back on 2020, we believe that the work we have accomplished with our partners reflects our unwavering commitment to the ongoing advancement of safety and standardization. There is still much more to do, but in this challenging environment, we have anchored ourselves to our purpose and values. To all of our stakeholders and MOU partners, we extend our most sincere thanks for your partnership, trust and commitment to working together.

# Success stories

## Authorization in Mexico

On Feb. 4, 2020, UL Standards was granted authorization to develop national standards for Mexico by the Ministry of Economy through the Dirección General de Normas (DGN). Underwriters Laboratories is the first foreign Standards Development Organization (SDO) authorized to develop Mexican standards and the only SDO to be authorized to develop standards in the three largest North American countries.

Underwriters Laboratories is proud to continue to develop partnerships across North America to elevate safety within Mexico, harmonize standards and promulgate UL Standards across the Latin American region. Underwriters Laboratories is the 11th SDO authorized in Mexico and the first to address the need to develop standards related to fire safety and life safety devices. This year, we partnered with leaders in the fire protection industry including various organizations, manufacturers, stakeholders and other authorities. As a result, five Standards were approved and integrated under the 2020 Supplement to the National Standardization Program, which allows us to begin developing these Mexican standards through the sector-balanced working groups. We look forward to continuing to break new ground in our mission to help create a safer and more sustainable world.

## SASO

In 2007, UL Standards and the Saudi Standards, Metrology and Quality Organization (SASO) signed their first standards sharing and cooperation agreement. It was renewed in 2015. Since the 2007 agreement was signed, SASO has adopted 80 electrical and fire safety standards, affirming its status as one of the most influential national standardization bodies in the Middle East.

UL Standards values its strong partnership with SASO and the support our organization provides in the adoption and development of standards. Through cultivating our strong working relationship with SASO, we have continued to position UL Standards as a highly respected SDO. We welcome the opportunity to extend our global safety mission by promoting UL Standards that support local safety needs.

SASO looks forward to continuing to strengthen this partnership through the adoption of standards in emerging technologies. As stated by H.E. Tamis A. Alhammadi, deputy governor, standards and laboratories, "SASO plans to grow its active participation in STPs and work to develop new standards for the region."





## New agreements

### New cooperation agreements

- Bahamas Bureau of Standards and Quality
- China Association of Circular Economy Inc.
- China Energy Storage Alliance (CNESA)
- Bureau of Philippine Standards (BPS)
- PRISM Institute
- Saint Lucia Bureau of Standards (SLBS)
- Saint Vincent and the Grenadines Bureau of Standards (SVGBS)
- Shanghai Electrical Apparatus Research Institute (SEARI)
- Shenzhen Urban Public Safety and Technology Institute (SZSTI)
- Singapore Battery Consortium (SBC)
- Standards New Zealand (SNZ)
- Suriname Standards Bureau (SSB)
- Zambia Bureau of Standards (ZABS)



## Agreement with Standards New Zealand

Underwriters Laboratories and Standards New Zealand (SNZ), the national standards body of New Zealand, recently signed a collaboration and licensing agreement through which the two organizations agree to share information and work together to advance standardization and safety.

Under the terms of the agreement, the two organizations agree to foster communication and collaboration to avoid duplication of work while enhancing the effectiveness and global relevance of one another's deliverables. The partnership focuses on sectors including building and construction (with an emphasis on fire safety), electrical and gas safety, energy efficiency, climate change and sustainability, and digital economy including artificial intelligence and smart cities.

This is UL Standards' first standards collaboration agreement in the Australasia region, and it demonstrates our commitment to standardization as a means of supporting safety and international trade in line with the World Trade Organization's Technical Barriers to Trade agreement. UL and SNZ celebrated the signing of this agreement with a webinar on Oct. 21, 2020, which included an introduction of Underwriters Laboratories to SNZ's stakeholders. Following this, UL and SNZ agreed to organize more e-workshops to exchange information and support each other in standards development for the sectors of interest.

## Agreement with Saint Lucia Bureau of Standards

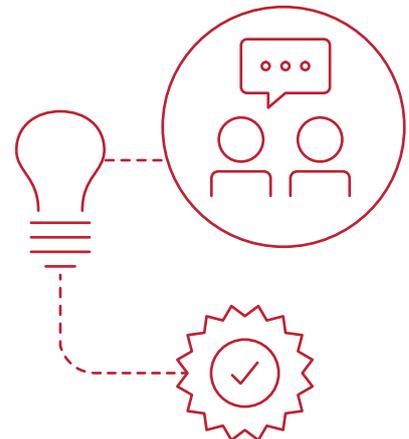
On Oct. 6, 2020, Underwriters Laboratories and the Saint Lucia Bureau of Standards (SLBS) signed an agreement enabling SLBS to leverage and reference UL Standards within Saint Lucia, which permits both organizations to collaborate further using good practices in standards development.

The agreement provides a framework for the development of technical standards that improves quality of life, well-being and public safety through the rational use of resources, innovation, productivity, trade and collaboration with Saint Lucia and its stakeholders.

"This MOU arises from regional collaboration with the CARICOM Regional Organisation for Standards and Quality (CROSQ) and the initiative to establish relationships with each member country to meet the needs of each one," said Phil Piqueira, vice president of Global Standards at Underwriters Laboratories.

SLBS director Verne Emmanuel Peng added, "This agreement follows a similar agreement signed last year at the ISO General Assembly with CROSQ and will significantly benefit SLBS and UL in the standards development and conformity assessment processes. The ability for SLBS to partner with UL will significantly minimize health and safety concerns and reduce the processing times for the conformity assessment of electronic items and other consumer goods to facilitate trade and have a positive impact on the ease of doing business."

The agreement was signed virtually by both parties at the press launch of World Standards Day activities in Saint Lucia.



# Virtual webinars



In response to the COVID-19 pandemic, UL Standards converted all workshops into a virtual format to prioritize health and safety while continuing to advance UL's mission of working for a safer world. Throughout the year, our organization continued to partner with national standards bodies and other organizations to discuss standards development and address the needs of our diverse stakeholders. We remain committed to engaging these partners around the world in the safest way possible. Given the success of the virtual webinars in 2020 (just a few of these are highlighted in the following pages), we look forward to planning for additional workshops and webinars in 2021, and we encourage our global partners to reach out with ideas for specific topics or sessions.



## IBNORCA

In keeping with an MOU signed between Underwriters Laboratories and the Bolivian Institute of Quality and Standardization (IBNORCA) in 2017, the two organizations co-hosted a virtual workshop on June 23, 2020.

The two-hour event was attended by more than 80 attendees representing various sectors from across Bolivia, including government agencies and regulators, industry, Bolivian standards technical committee members and other experts.

The workshop was divided into three sessions:

- Introduction to UL Standards
- A presentation by the national hydrocarbon agency about the need for greater safety regarding above-ground storage tanks
- An overview of ANSI/UL 142, the Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids, led by UL staff

To build on the event's success, the two organizations agreed to co-host additional workshops with the Bolivian national committees, including a follow-up event focused on UL 142, the Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids. In addition, UL will invite Bolivian experts to participate in the UL Standards development process as international delegates to further knowledge sharing and understanding of the Standard as it evolves. Finally, the organizations identified opportunities for potential collaboration on the topics of construction, renewable energy and energy efficiency.



Before the pandemic, live meetings were a key part of our outreach efforts.

## Management of Risk in the Public Interest

Finding ways to manage risks and knowing how to respond in light of the COVID-19 pandemic was important to address with our stakeholders and partners. With support and collaboration from the Bureau of Indian Standards (BIS) and the Confederation of Indian Industries (CII), a series of webinars were organized in June 2020 to support regulators and organizations as they find ways to manage risks.

The webinars and their topics were targeted to micro, small and medium enterprises (MSME) and regulators. The first webinar started with a discussion of the importance of standards in risk mitigation and was attended by quality professionals, MSME organizations and National Standards Bodies (NSBs) from India, the Middle East and Africa. The second webinar focused on providing guidance to organizations on enterprise risk management and presented the approaches and case studies on risk management principles and standards. The last webinar for sustained management of risk was organized for regulators. [CAN/UL 2984, the Standard for Management of Public Risks - Principles and Guidelines](#), was used as a reference for the development of a risk management plan and its implementation in the public interest. This forum provided attendees with the opportunity to hear directly from standards professionals on the intersection between standards and risk management, including application and current global practices in response to the COVID-19 pandemic.

Speakers over the series of webinars included industry experts from BIS, CII, Chola MS Risk Services, PRISM Institute and Underwriters Laboratories. The more than 750 attendees of the webinars spanned several sectors and included representatives from small organizations and large corporations, quality enthusiasts, risk management professionals, regulators and NSBs.

The series of webinars brought stakeholders together from South Asia, the Middle East, Africa, China, ASEAN and Mexico.



## Singapore Battery Consortium

The Singapore Battery Consortium (SBC) was established in November 2019 to support and advocate for battery technology development in Singapore and the ASEAN region. The Consortium will focus on emerging battery technologies such as energy storage, repurposing and recycling of batteries, and e-mobility. These topics lay a foundation for other key priorities in the region such as smart cities, sustainability and digital economy. Standards play an important role in enabling these emerging technologies by providing underlying guidance for innovators to develop safe and secure products while giving confidence to regulators and consumers to try the new products.

Underwriters Laboratories and the SBC signed an MOU in June 2020 to enhance knowledge sharing regarding international standards, gain intelligence and insights on business and technological trends, create a platform for partnership through standardization activities and more.

To mark the signing of the MOU, Underwriters Laboratories and the Consortium convened a joint webinar on June 11, 2020, to discuss international standards for energy storage systems. Opening remarks were provided by Professor Alfred Huan, SBC chairman, and Phil Piqueira, Underwriters Laboratories vice president of Global Standards. Following the success of the webinar,

Underwriters Laboratories and the SBC agreed to organize a master class series of seminars in 2021 that will address international standards for battery value chains in support of Singapore's key priorities on energy. The master class seminars will include topics such as electric vehicles, energy storage systems and the repurposing of batteries.

## ACCSQ meeting

Underwriters Laboratories was invited to participate in the ASEAN Consultative Committee on Standards and Quality (ACCSQ). At this virtual event on July 20, 2020, Terry Brady, Underwriters Laboratories president and CEO, provided the opening address during which he introduced Underwriters Laboratories and extended the organization's support to ACCSQ. Phil Piqueira, vice president of Global Standards, and Kolin Low, standards regional manager, provided additional background information including UL's commitment to international trade and adherence to the World Trade Organization's Technical Barriers to Trade (WTO TBT) principles. The presentation concluded with a discussion of proposed projects to support the ACCSQ-U.S. collaboration.

This marked the first time Underwriters Laboratories attended the ACCSQ meeting. ACCSQ representatives thanked us for the information shared, particularly the Digital View functionality, which provides complimentary access to read UL Standards and other documents on ShopULstandards.com.





## Joint workshop series with the African Organization for Standardization (ARSO)

Underwriters Laboratories and the African Organization for Standardization (ARSO) hosted a joint virtual workshop series in November and December to promote the sharing of standardization information.

The workshop series covered five subjects of interest by ARSO members. These topics included overviews of the WTO principles for international SDOs and the standards development process in the U.S. and Canada, as well as UL Standards on circular economy and fire prevention.

The workshop follows a September 2019 agreement between ARSO and UL Standards to promote communication and collaboration between the two organizations and to increase knowledge of each other's standards development activities.

# Questions and answers with a UL STP member



## **UL's first STP member from Vietnam**

Dr. Hoang Quoc Viet

Dr. Hoang Quoc Viet is the head of the Research, Design and Service division of the Vietnam Standards and Quality

Institute (VSQI), an institution under the national standards body of Vietnam, the Directorate for Standards, Metrology and Quality (STAMEQ).

Dr. Viet leads a team dedicated to researching new technologies and materials. His research sets the direction and scientific justifications for the development of new national standards in Vietnam. He also promotes the value of standards development and encourages local stakeholder participation in Vietnamese national standards programs.

## **Q: Why did you apply to join a UL Standards Technical Panel (STP)?**

A: During my stint in QUACERT, the Vietnam Certification Centre, I used to study the existing international test standards for emerging electrical and electronic technologies to be introduced to Vietnam. I noticed in some areas, for instance, electric vehicle batteries, Underwriters Laboratories had developed good standards under STP 2580, the Standard for Batteries for Use In Electric Vehicles, ahead of other standards organizations. Since then, I have had a good impression of UL Standards for electrical and electronic products.

In July 2020, I participated in an online workshop jointly organized by STAMEQ and UL on international standards for solar photovoltaic standards. I learned that UL Standards Technical Panels are an open, global platform for expert participation and an effective standards development process. Through the STAMEQ-UL strategic collaboration framework, UL has been encouraging more Vietnamese experts to join UL STPs. Hence, I decided to submit my application immediately after that workshop.

## **Q: How does being part of an STP help you with your current position?**

A: Through participating in the UL STP, I hope to beef up my experience and technical knowledge in international standards development. I found that Underwriters Laboratories has a good IT system for standards development, the Collaborative Standards Development System (CSDS), that makes the standards development process even more effective and inclusive for global participation. I can learn from this system and identify good practices to improve VSQI's standards development system through IT.

## **Q: What are the benefits of joining an STP?**

A: A UL STP is a platform with global experts who have vast experience and knowledge across different stakeholder categories, including NGOs and the public and private sectors. Being part of an STP introduced me to this platform to mingle with experts from around the world and expand my global network so we can learn or exchange experiences with each other.

## **Q: Did you learn anything new after joining the STP?**

A: While I'm still learning as a new STP member, I clarified some misconceptions about UL Standards. For instance, I learned that anyone can propose a new UL Standard – Underwriters Laboratories allows global participation and participants are not limited to the U.S. The level of openness of UL Standards' platform is impressive.

## **Q: What advice would you give to someone considering applying to be an STP member?**

A: My advice to stakeholders is to take advantage of the openness of the UL Standards platform to participate in standards development. Having the opportunity to influence international standards is a good learning experience, especially in electrical and electronic areas in which Underwriters Laboratories is well known.

## Questions and answers with our MOU partners



### **The Guyana National Bureau of Standards (GNBS)**

Hemraj Sanichara, technical officer

An MOU with the Guyana National Bureau of Standards (GNBS) was signed in October 2017.

#### **Q: What are some of the reasons for signing an agreement with Underwriters Laboratories?**

A: The main reason was that Guyana would have adopted the National Electrical Code (NEC) or National Fire Protection Association (NFPA) 70 and this makes reference to UL Standards. In order to ensure the products on our markets meet the prescribed requirements before installation, we needed these standards.

#### **Q: Do you feel that the MOU with Underwriters Laboratories has been beneficial for both parties? What do you think are the main achievements thus far?**

A: The MOU has been beneficial to both parties. The Guyana National Bureau of Standards (GNBS) has been able to adopt several UL Standards as national standards, and they have been used to monitor electrical equipment entering the country to help ensure they are safe. Underwriters Laboratories has also benefited because its Standards are now cited for enforcement in Guyana, and stakeholders are now aware of their role in the development of standards and the testing of products.

#### **Q: What did you like most about the exchange between the two organizations?**

A: I like the fact that Underwriters Laboratories has been very helpful in assisting with the adoption of the standards and sharing information.

#### **Q: How can we grow the relationship between our organizations?**

A: We can improve the relationship with more collaboration on the training of our inspectors on some of the adopted standards. Also, Underwriters Laboratories can keep GNBS informed of its standards development work program.

#### **Q: How have the adopted UL Standards helped GNBS's work on standardization?**

A: The Standards have been used as part of our compliance program to help ensure that products imported in Guyana

meet the relevant requirements prescribed in the Standards and, by extension, improve the quality of electrical equipment and fittings in our market.



### **Qingdao Institute of Standardization (QIS)**

Zhai Yue, vice president of Qingdao

Institute of Standardization

An MOU was signed in October 2019 to carry out cooperation with Underwriters Laboratories and the China STP working group in household appliances categories.

#### **Q: What were some of the reasons for entering into a partnership agreement with Underwriters Laboratories?**

A: Underwriters Laboratories was established in 1894 and is one of the world's leading standards development organizations. It has published nearly 1,800 safety, quality and sustainability standards, more than 70% of which have become American national standards. Underwriters Laboratories is also a standards development organization in Canada. In the past few years, Chinese industry leaders, scientific research institutions, experts and scholars have participated in multiple UL STPs and jointly made contributions to product innovation and the progress of technical standards.

QIS is a nonprofit scientific research institution focused on standardization research, application and service in Qingdao. We have been committed to standardization research and technical services. Our development goal is to build a specialized technical institution to provide comprehensive standardization technical solutions. We aim to create value with standards and promote standardization's role as technical support in economic and social transformation and development.

The partnership agreement between QIS and Underwriters Laboratories is based on the shared mission of both parties. We are committed to working with Underwriters Laboratories to jointly build a platform of international standardization exchange in Qingdao and strengthen cooperation in standardization information exchange, standardization personnel training and standard technical services. We hope that Underwriters Laboratories will implement the MOU by helping us facilitate the work of the UL China STP working group in household appliance categories.

## Questions and answers with our MOU partners (continued)

### **Q: What value do you see in the agreement with Underwriters Laboratories?**

A: The agreement has:

- Expanded the depth and breadth of QIS's international standardization work.
- Improved the ability and quality of QIS international standardization staff and broadened their horizons.
- Enabled both parties to further understand each other and strengthen cooperation in the field of standard technology.
- Helped gather experts in various fields to discuss related technologies and standards and make contributions to technological innovation and standard innovation in various industries.
- Promoted and facilitated production capacity cooperation and trade exchanges between China and the U.S. through standardization.

### **Q: How has Underwriters Laboratories been able to contribute to the strategy and mission of QIS?**

A: QIS is committed to standardization research and technical services. We hope that Underwriters Laboratories can provide support and assistance for us in terms of standardization talent training and advanced standard information exchange. Additionally, we expect standardization cooperation in specialized areas will open up more STPs so that we can jointly provide technical support for enterprises in product and standard innovation and promote international production capacity cooperation and trade exchanges through standardization.

### **Q: How has our partnership contributed to your standards work?**

A: The cooperation between Underwriters Laboratories and QIS helps us to follow the development and revisions of UL Standards more closely and provides assistance for us in the comparison and analysis of UL Standards and Chinese national standards. It helps our institute carry out research and development of important standard technology and standardization project research in key areas through this cooperation. It greatly improves the training and capacity-building of the standardization talent of our institute.

### **Q: What are some ways that we can build our working relationship?**

A: The Qingdao Forum on International Standardization (QFS) is an international standardization event. We invite Underwriters Laboratories' senior leaders and others responsible for standardization to attend and address the forum. In the future, we can also jointly hold forums on standardization in key areas.

In the field of standard technology, we hope to encourage more Chinese companies and experts to join UL STPs. In terms of standard technology cooperation, we will jointly carry out more project research that is conducive to social progress and guarantees the quality of life and safety. In standardization personnel training, we can jointly organize a series of standard technical training activities to improve the ability and quality of standardization professionals in China.



Dr Puji Winarni, deputy chairman of BSN, with Sonya Bird, director of international standards, Underwriters Laboratories at the Pacific Area Standards Congress (PASC) meeting in Wellington, New Zealand.

### **National Standardization Agency of Indonesia (BSN)**

Dr. Puji Winarni, deputy chairman for General Affairs

An MOU was signed with BSN in 2017 at the International Electrotechnical Commission (IEC) general meeting in Vladivostok, Russia.

### **Q: What are some benefits of being an MOU partner with Underwriters Laboratories?**

A: We have had a lot of activities ranging from capacity-building, assistance with standards development, standards education, promotional activities and support of Indonesian expert participation in UL STPs (which increased from zero to three during 2020). Until now, it has not been easy to attract expertise in fire safety and battery safety in Indonesia. The collaboration with Underwriters Laboratories helps us to strengthen BSN's National Technical Committee, Komtek, and attract more experts to Indonesian National Standards.

Through joint activities, we are able to reach out to more high-level government officials in Indonesia, especially in fire safety, and gain more support from them.

Most importantly, the partnership strengthens the relationship between the two organizations.

## Questions and answers with our MOU partners (continued)

### **Q: What resources do you find beneficial?**

A: First and foremost, we highly value Underwriters Laboratories' dedicated regional standards manager who understands the region's needs and facilitates the communication between BSN and Underwriters Laboratories. We see a dramatic improvement of engagement with BSN since Underwriters Laboratories added this position in 2019.

Underwriters Laboratories' extensive connections in the standardization community have been very useful to help us connect with other international standards developers, who are otherwise difficult for BSN to reach.

### **Q: How has the MOU with Underwriters Laboratories benefited standards and safety in Indonesia?**

A: The most significant sector is fire safety, which is critical as it protects human lives and assets. Unquestionably, standards play an instrumental role in this area to ensure fire safety equipment functions properly during accidents. Collaboration with Underwriters Laboratories allows us to tap into the library of UL Standards to develop effective fire safety standards.

Fire protection can promote economic development in Indonesia. As a fast-growing economy, Indonesia has huge market potential in this sector. Standards can support local manufacturers, especially small and medium-sized enterprises, in tapping into this new market opportunity. Hence, BSN needs to develop more standards to fill in the industry gap and speed up the revision of standards to keep up with the technology.

### **Q: Which standards (or types of standards) is Indonesia planning to adopt/reference?**

A: One of the BSN national standards strategies is to support electrification and sustainability, e.g., electric vehicles, e-mobility, renewable energy and other similar innovations. These are important areas that BSN can support through standards development.

Indonesia is a huge country with thousands of islands. Telehealth is critical to ensure access to healthcare in rural areas and isolated islands. The development of standards is urgent to address the gaps, empower trust and accelerate the adoption of these technologies.

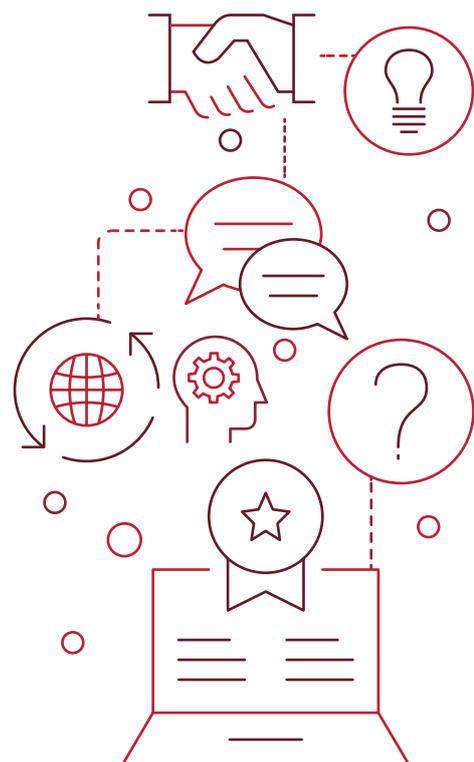
Besides these two broad areas, BSN has plans to adopt UL Standards for fire safety in buildings — particularly for sprinklers.

### **Q: How has having access to UL Standards helped with your standards work?**

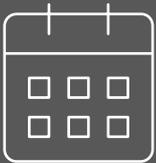
A: We have been able to download all the UL Standards electronically. We are able to share the Standards with Komtek for their review as part of standards development purposes. They are then able to discuss them within their committee to make decisions for adoption or to decide which part of the Standards are relevant for the Indonesian environment to strengthen SNI development.

### **Q: What are your impressions of Underwriters Laboratories beyond its work as a standards development organization?**

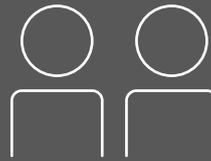
A: Besides being a global standards organization, Underwriters Laboratories supports a lot of meaningful activities, especially educational programs for new generations from young children to university students. This aligns well with BSN's standards education program and allows us to strengthen our collaboration and outreach to our key stakeholders in this area, especially the Ministry of Education, to promote the importance of standardization and how to use standards to support national priorities and policies.



# Standards by the numbers



Nearly  
**120 YEARS**  
*OF EXPERIENCE*  
in standards development



**3,800+**  
INDIVIDUALS  
serve on our STPs



Nearly  
**450**  
*STPs/COMMITTEES*

**GLOBAL PARTNERSHIPS** 

are demonstrated via:

- MOUs with 30 countries and two regions
- MOUs with 54 organizations



Published nearly  
**1,900**  
DOCUMENTS



**40+**  
**COUNTRIES**  
represented by membership  
on our STPs



UL Standards has **83**  
dedicated standards professionals  
IN **SEVEN COUNTRIES**



International membership  
ON OUR STPs IS APPROXIMATELY  
**20% OF TOTAL**



Over **51,000 documents**  
viewed using our free digital view functionality  
by users from 105 countries



## New leadership roles

### **UL appointed USABC vice-chair of ASEAN committee and chair of standards subcommittee**

In March 2020, Phil Piqueira, vice president of Global Standards, was appointed by the US-ASEAN Business Council (USABC) to the roles of vice-chair of the ASEAN committee and founding chair of its new standards subcommittee.

Underwriters Laboratories will lead the council and encourage American private sector engagement with the ASEAN Consultative Committee on Standards and Quality (ACCSQ) while providing support to ACCSQ's priority sectors, such as digital trade, medical devices, automotive products and electric vehicles.

### **Piqueira appointed Chair of the ANSI board of directors**

Piqueira was also appointed to a one-year term as chair of the American National Standards Institute (ANSI) board, effective Jan. 1, 2021. In addition to leading the board, he will provide guidance to ANSI on matters related to the organization's strategy, budget and more. This affirms Underwriters Laboratories' commitment to leadership within the global standards community and the development of standards.

### **Other key roles**

- Sonya Bird, director international standards, joined the IEC Council Board Task Force on Diversity, the Joint IEC/ISO Strategic Advisory Group on Gender Responsive Standards and the IEC Council Board Task Force on Sustainable Development Goals. Participating on these committees allows UL to influence their global direction and outputs.
- Sonya Bird maintains her role as the U.S. representative to the IEC Standardization Management Board.
- Maria Iafano, international standards manager, was appointed to a second term as vice chair of the Standards Development Organization Advisory Committee (SDOAC) of the Standards Council of Canada (SCC).
- Underwriters Laboratories also holds several other IEC leadership roles including secretary and assistant secretary to TC 61 – Safety of household and similar electrical appliances, TC 72 – Automatic Electrical Controls, and TC 108 – Safety of electronic equipment within the field of audio/video, information technology and communication technology.



# Current efforts/look into the future

## Training and engaging new STP members in China

We value the participation of international stakeholders in our standards development process and recognize that this active engagement is an important step in the global acceptance and harmonization of our Standards. We have prioritized the following actions to train and engage new STP members in China:

### Getting to know our stakeholders

We enjoy taking the time to learn more about our stakeholders and how we can best meet their needs. We want to understand what drives their interest in UL Standards development and their expectations for participating in this process. By getting to know our stakeholders on an individual basis and learning more about their specific roles, industries and interests, we can better understand how to optimize their participation and tailor activities to individual interests.

### Increasing stakeholder familiarity with the UL Standards development process

In order to actively participate as an STP member, our stakeholders must be familiar with the UL Standards development process. We offer training on topics such as UL Standards international harmonization, STP member roles and how to use our Collaborative Standards Development System (CSDS), our online collaboration platform. If stakeholders wish to submit a proposal, we provide one-on-one training and can address any issues that they may have. In 2020, we provided eight of these training sessions.

### Identifying projects of interest

We are always looking for new standards, projects and additional resources that may interest our international stakeholders. Whether we are participating in internal training or team and cross-team meetings, our

stakeholders and their interests are always at the forefront. Remaining informed on current projects and developments allows us to actively engage our stakeholders in standards activities through the personalized sharing of projects.

### Maintaining contact and communication with stakeholders

We strive to keep our stakeholders informed on the status of UL Standards and Underwriters Laboratories' initiatives. We continuously share information tailored to stakeholder interests such as news releases, new standards published, new standards development initiatives, research projects and reports.

### Helping stakeholders engage, contribute and achieve

We are happy to assist our stakeholders who are interested in learning more about standards development and best practices through standards engagement. We provide access to UL Standards and other documents using our complimentary Digital View functionality on ShopULStandards.com. We also provide access to CSDS, our online collaboration platform where they can contribute to our standards development process. For stakeholders interested in becoming more involved, we offer training on ShopULStandards.com. We also share Underwriters Laboratories and UL research reports, along with other information, and connect stakeholders with our experts for further collaboration to support their work. Additionally, we connect stakeholders with other experts through standards development forums to discuss their needs and work together to address them through standardization and safety science.

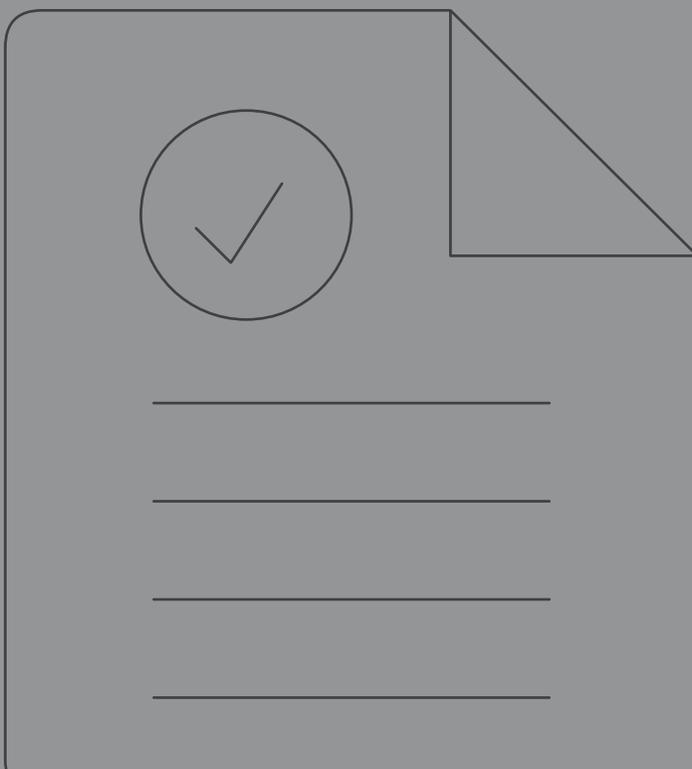


# Underwriters Laboratories developing new Standard for safety for LiDAR and LiDAR systems

Underwriters Laboratories is developing UL 4700, the Standard for Safety for LiDAR and LiDAR Systems, to support safety in the use of Light Detection and Ranging (LiDAR). The proposal that initiated the Standard's development outlines the need for a LiDAR-specific safety standard based on industry consensus from a wide range of stakeholders in the LiDAR and autonomous driving sectors. It was submitted by Hesai Technology, a China-based developer of LiDAR systems.

In April 2020, Underwriters Laboratories published UL 4600, the Standard for Safety for the Evaluation of Autonomous Products, which encompasses safety principles and processes for autonomous vehicles (AVs). As one of the key pieces of hardware used in many AV systems to sense the operating environment, LiDAR is indispensable for environmental perception and safe operation of autonomous vehicles. Furthermore, LiDAR-equipped autonomous test fleets operate on roads throughout the world, including in the U.S., Europe and China. However, despite the critical nature of LiDAR and its widespread use, no established standard specifically addresses LiDAR development. Hesai's proposal reflects an industry need to address system failures, design limitations, cybersecurity and other concerns, all of which directly impact the safety of autonomous vehicles and impede the implementation of the technology.

Underwriters Laboratories convened a working group of diverse expert stakeholders to guide and draft the new Standard which includes representatives of LiDAR component suppliers, an automotive company, self-driving technology platform developer, and testing and standards organizations. The initial draft is targeted for completion in the first quarter of 2021, and a preliminary review of the draft will be completed during the second quarter.





## New Standards list

- UL 83B — Switchboard and Switchgear Wires and Cables
- UL 498D — Attachment Plugs, Cord Connectors and Receptacles with Arcuate (Locking Type) Contacts
- UL 498E — Attachment Plugs, Cord Connectors and Receptacles - Enclosure Types for Environmental Protection
- UL 498F — Plugs, Socket-Outlets and Couplers with Arcuate (Locking Type) Contacts
- UL 498M — Marine Shore Power Inlets
- UL 969A — Marking and Labeling Systems - Flag Labels, Flag Tags, Wrap-Around Labels and Related Products
- UL 970 — Retail Fixtures and Merchandise Displays
- UL 1004-10 — Pool Pump Motors
- UL 1285 — Standard for Pipe and Couplings, Polyvinyl Chloride (PVC), and Oriented Polyvinyl Chloride (PVCO) for Underground Fire Service
- UL 2525 — Two-Way Emergency Communications Systems for Rescue Assistance
- UL 2683 — Electric Heating Systems for Floor and Ceiling Installation
- UL 2849 — Electrical Systems for eBikes
- UL 2900-2-3 — Software Cybersecurity for Network-Connectable Products, Part 2-3: Particular Requirements for Security and Life Safety Signaling Systems
- UL 2999 — Individual Commercial Office Furnishings
- UL 3741 — Photovoltaic Hazard Control
- UL 4600 — Evaluation of Autonomous Products
- UL 5800 — Battery Fire Containment Products
- UL 9595 — Factory Follow-Up on Personal Flotation Devices (PFDs)
- UL 121303 — Guide for Use of Detectors for Flammable Gases

## Toolbox

- UL.org
- Standards Technical Panel (STP) Welcome Package for International Stakeholders: [https://UL.org/library/details?asset\\_id=1750](https://UL.org/library/details?asset_id=1750)
- UL Standards Proposal Revisions submission guide: [https://UL.org/library/details?asset\\_id=2902](https://UL.org/library/details?asset_id=2902)
- New Standards request tutorial: [https://UL.org/library/details?asset\\_id=2920](https://UL.org/library/details?asset_id=2920)
- Contact information: [Global.Standards@ul.org](mailto:Global.Standards@ul.org)



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