pivot to virtual meetings, conferences, and lifelong learning

SO MUCH HAS CHANGED IN THE past year—how we get our food, get our children to school, do our work, and learn. IEEE Power & Energy Society (PES) meetings and conferences are no exception. Some keywords we heard in 2020 were reposition, change, new normal, shift, rethink, reset, change course, modify, reset, and, of course, *pivot*.

Last year's PES General Meeting had to pivot from a face-to-face meeting to a virtual one in fewer than 100 days. This was the first major event for PES that changed from in person to virtual. It is also one of our largest conferences, after the biannual IEEE PES Transmission and Distribution (T&D) Conference and Exposition. Needless to say, it was not a small task, but, with a very qualified team in place made up of volunteers and PES professional staff supporting us every step of the way, it resulted in a great event. A special thanks to General Meeting Steering Committee Chair William Cassel and his team for a job well done.

The theme of the General Meeting was "Are Big Data, Machine Learning, and Electric Transportation Transforming the Grid?" There were more than 2,200 attendees from 69 different countries, 130 panel sessions, 617 papers presented via video, and a very successful PES members meeting and plenary session. We were thrilled to have David Murray, chief technology officer from Hydro Québec, as our keynote

Digital Object Identifier 10.1109/MPE.2021.3057948 Date of current version: 19 April 2021 speaker. For the General Meeting and all of our PES virtual conferences, it has been important that these events be offered for the benefit of PES members. We lowered the registration cost to US\$99 for PES members and kept the technical presentations online until the end of August. After that, presentations were transferred to the PES Resource Center. Again, this was done as a service to our members.

Several other PES conferences also pivoted to a virtual format, including the following:

- Innovative Smart Grid Technologies (ISGT) Europe, which focuses on smart grid technologies
 PowerAfrica
- Latin America T&D Conference
- PowerCon in Asia
- ✓ Smart Cities Conference.

When this column was written, finishing touches were being put on the ISGT North America Conference on 16–18 February 2021. Normally, this conference would be held in Washington, D.C., but this year's gathering is virtual, with exciting keynote speeches from

- Dennis Arriola, CEO of Avangrid
- ✓ Gil Quiniones, president and CEO of New York Power Authority
- Eliot Mainzer, president and CEO of California Independent System Operator.

If there is any silver lining to CO-VID-19, it is that you can now attend a vast variety of global PES conferences in a virtual environment. No need to book a hotel room or plane ticket, but, instead, enjoy the technical programs of PES conferences from the comfort of your home and office. For example, at the 2020 PowerAfrica Conference, we had 347 attendees from 45 different countries. In 2019, we had only 28 different countries represented. Please consider attending and experiencing a PES conference outside your Region.

With all of the changes happening in the electric power industry, it is vital to share this knowledge and expertise with our members. This becomes even more important during a pandemic, when most of us are not able to have the "water-cooler talks" and hallway informal conversations with colleagues in the industry. Please know that PES is here for you now more than ever. We are your knowledge resource through the PES Resource Center, award-winning publications, virtual meetings and conferences, tutorials, webinars, and more being held around the world.

As a part of PES's long-range strategic planning, the Society has been offering what our members most need to learn over the decades. How long is your degree going to last? Back in the 1960s, the *half-life of knowledge* was a phrase attributed to economist Fritz Machlup, who studied, among other things, the economic value of knowledge. It is the amount of time that elapses before half of the knowledge in a particular area is superseded or shown to be untrue. Machlup and others of his day discovered that, while an engineering degree acquired in 1930 was useful for about 35 years, the halflife of an engineering degree earned in 1960 was only relevant for about 10 years because of the rapid development of new technologies.

In 2002, the National Academy of Engineering estimated that the halflife of engineering knowledge was somewhere between two and a half to seven years. If you are an engineer or a computer professional, the danger of becoming technologically obsolete is an ever-growing risk.

To be an engineer is to accept the fact that, in the future—always sooner than one expect—most of the technical knowledge you once worked hard to master will be obsolete. To replace that aging knowledge, assuming there are 48 weeks a year to devote to knowledge replacement, an engineer would

need to spend five hours in each of those weeks gaining new technology, mathematics, and scientific knowledge to remain technically current.

To meet members' ongoing learning needs, PES has been leading the delivery of scientific and engineering information on electric power and energy and becoming the preferred professional development source. With the 17 PES technical committees as a backbone, PES is our engineers' ideal home to replace that obsolete knowledge and remain technically correct.

In addition to education, PES's longrange plan also focuses on our membership and Chapter needs in technical activities, including standards, meetings and conferences, and publications. The PES five-year (2019–2023) strategies are as follows:



- develop stronger liaisons with industry
- improve global presence and strengthen participation
- increase coordination among technical activities, including standards, meetings and conferences, publications, and education
- promote diversified demographics of Chapters and membership

✓ grow lifelong learning offerings. Specifically, PES has been implementing the following initiatives based on the five-year strategic plan to enhance career opportunities and values for all PES members globally:

- ✓ add more industry tracks to general meetings and T&D conferences
- together with various organizations, cosponsor one-day workshops and webinars on industry megatrends and other relevant topics
- develop short courses in local languages
- increase participation in and contribute to technical committees
- reinvigorate Chapter communication with members
- expand the Distinguished Lecture Program support
- establish mentorship and coaching programs
- increase industry involvement in education programs
- expand student activities worldwide.

As the power and energy industry transforms, PES will continue to adapt and grow existing lifelong learning offerings, deliver timely technological information, get members ready for industry transition, and give more power to the future. We look forward to "seeing you" at this year's virtual general meeting on 25–29 July 2021.

