I am pleased to report that we achieved several valuable milestones in 2017 under the New Initiatives and Outreach Program to power the future. One is the formation of an Executive Advisory Committee (EAC) to support the IEEE Power & Energy Society’s (PES’s) Board of Directors. The other is the creation of a strategic plan for IEEE’s Smart Cities initiative. Both achievements will contribute to the IEEE’s overall mission to advance technology for humanity as well as creating new opportunities for our members to contribute to that mission and, in turn, derive more value from their affiliation with the IEEE.

Powerful forces are driving a significant transformation of the electric grid. Society’s increased environmental consciousness and focus on addressing climate change, greater consumer expectations for and demands on the grid, the integration of new technologies onto the existing electric system, and flat load growth are among the forces we must address.

All of this is happening at once. At the same time that the frequency and severity of extreme weather events are increasing, consumer expectations for reliable, affordable power continue to grow. While consumers and enterprises adopt more distributed energy resources (DERs), increasing DER penetration affects both the operations of and planning for the distribution system. The challenges are many, and they are simultaneous.

As the energy industry’s neutral, trusted advisor, IEEE PES is committed to working more closely than ever with industry practitioners and stakeholders to address these challenges. That means analyzing technical issues, developing solutions and standards, and holding global executive forums to share best practices and lessons learned.

Facilitating the Society’s ability to address industry challenges translates into opportunities for our members to provide strategic guidance to the Board of Directors. Thus, it’s my pleasure to announce that we’ve recently created an EAC for Regions 1–7, which covers the United States and Canada. Work on EACs for Regions 8 and 9 is underway.

The EAC’s main goal is to benefit PES members by giving them more direct access to the Board of Directors and their valuable industry insights and concerns to help them share their expertise on power industry challenges to those who need it. This brings greater value to the PES’s contribution to solving societal power issues, to members’ organizations, and to members themselves.

This partnership will allow the Society’s best practices guidelines and standards to be developed in a more timely fashion and assist in aligning PES’s priorities with the needs of society and the industry alike. It will also bring greater attention to the many organizations and enterprises that sponsor and support their executives’ involvement in PES to achieve the greater good. This year the EAC focused on knowledge transfer, workforce development and standards, and how our talent can drive standards to power the future.

A Strategic Plan for Smart Cities

The power industry, in general, and utilities, in particular, have much to offer as we all explore how to achieve the vision of smart cities developing across the world. But the holistic view that this is a multidisciplinary endeavor means that PES, for instance, is simply one stakeholder and contributor to such efforts.

A new 2017–2020 strategic plan for the IEEE Smart Cities initiative, as approved by the IEEE Smart Cities Steering Committee on 1 August 2017, offers a vision and mission statement—and practical means to achieve them—that reflects a holistic approach involving at least half a dozen IEEE Societies. The new direction took time to gestate. In June 2017, after two years as an incubation project of the Future Directions Committee (FDC), the IEEE voted to graduate IEEE Smart Cities from the FDC to a fully functioning IEEE program. By consensus, PES has become the administrator of the initiative.

In a sense, this strategic plan takes a new, more effective direction than the initial thrust of the IEEE Smart Cities effort, which took a top-down approach and selected core and affiliate cities to focus on. While those efforts move ahead based on local consensus and support, a more bottom-up approach embodied in the new strategy will make smart city capabilities available to any and
all stakeholders in cities where it makes sense in terms of use and business cases. Thus, a citywide consensus is not a prerequisite; individual stakeholders can develop a use and/or business case and lead by example. We think this approach will enable broader buy in among the globe’s thousands of urban centers.

**A Vision for Smart Cities**

The vision of the new strategic plan is clear: “IEEE Smart Cities will bring together IEEE’s broad array of technical Societies and organizations to advance the state of the art for smart city technologies for the benefit of society and set the global standard in this regard by serving as a neutral broker of information among industry, academic, and government stakeholders.”

The mission statement of the Smart Cities initiative is equally straightforward and reflective of IEEE ideals and a new, more holistic approach: “To be recognized as the authoritative voice and leading source of credible technical information and educational content within the scope of smart cities identified below and to facilitate and promote both the collaborative and individual work of its member Societies regarding smart city technology.” The scope of this initiative reveals both how the IEEE will approach its efforts as well as how it will sow the seeds of change by providing a richer tool kit for stakeholders everywhere to move ahead with their own, related initiatives.

At least six IEEE technical organizations will be directly involved: PES; IEEE Council on Electronic Design Automation; IEEE Communications Society; IEEE Control Systems Society; IEEE Industry Applications Society; and IEEE Systems, Man, and Cybernetics Society. This list does not preclude the involvement of any interested IEEE members, stakeholders from academia and industry, and policy makers and interested citizens.

**New Goals for Smart Cities**

The initiative’s goals, as set forth in the strategic plan, are specific:

- ✅ set the global standard for collaboration by bringing stakeholders under one umbrella and providing a single, unbiased source for information and collaboration
- ✅ provide education, research, and innovation by being the leading technical and information resource for the smart city profession and contributing globally accessible and state-of-the-art educational opportunities
expand global reach via marketing to bolster the reputation and influence of smart city-oriented professionals among the public, giving them credibility to enhance their work in the field on society’s and humanity’s behalf.

To accomplish these goals, the IEEE Smart Cities initiative “will identify and further develop technical best practices across the following functional and application domains within the context of urban infrastructure systems. These domains and the elements within them comprise the smart city framework which will be used to guide the technical activities of this initiative.”

The list of functional domains includes sensors and intelligent electronic devices, communications networks and cybersecurity, systems integration, intelligence and data analytics, and management and control platforms. Application domains include the key pillars of urban life: energy, mobility, water, waste, food and agriculture, and health and safety. The interaction between functional and application domains will be synergistic. Building capabilities within functional domains supports the development of technical best practices and enables use cases across the application domains.

To these efforts we can add the involvement of one of the IEEE’s key strengths: the development and publication of relevant standards, which provide interoperability, economies of scale, and the drivers of market uptake needed to move the world’s urban centers in the direction of smart cities.

**Getting Things Done**

How will the development of functional domains, application domains, use cases, business cases, and outreach actually get done on a practical level? The new strategic plan calls for a three-pronged effort to engage, enable, and empower.

The initiative will engage stakeholders by creating, promoting, and disseminating interdisciplinary smart city knowledge. This reflects that IEEE’s organizational units and members are leaders in the profession, the industry, and their communities. The initiative will enable collaboration by aligning resources and empowering IEEE organizational units, members, and allied professionals to build productive teams. And the effort will empower via communication by elevating the voice of IEEE Organizational Units and Members to promote the value of their work in the smart city field and enhance the public’s understanding of the importance of the smart city concept.

Naturally, our IEEE volunteers will drive the process of engagement, enablement, and empowerment through
five committees that align with the initiative’s mission and goals and report up to the Smart Cities Steering Committee.

✔ A Research and Development Committee will lead the development of knowledge in response to emerging technology, policy, and trends.

✔ An Education Committee will direct knowledge development and transfer of education-oriented activities and products, conference activities, and local IEEE Chapter and institutional partnerships within academia to promote IEEE Smart Cities’ activities and products.

✔ A Technical Activities Committee will guide knowledge development and transfer, technically oriented conference activities, and partnerships within IEEE entities, industry, and nonacademic channels to promote IEEE Smart City activities and products.

✔ A Publications Committee will create publications such as newsletters and compendiums to document progress and share lessons learned and best practices and highlight advancements in actual cities around the world.

✔ A Marketing Committee will develop the initiative’s presence and reach through varied media channels and outlets.

As an IEEE Member and volunteer, you’re familiar with the organizational and process steps that must be taken to achieve great outcomes. Thus, you understand that these steps are critical to success. Now that we have an EAC in place to bring direct, relevant, timely input from the power industry to our PES Board and a sound strategic plan for our Smart Cities efforts, we can begin to execute on our objectives.

I’m grateful for the opportunity to contribute in my role as vice president for New Initiatives and Outreach in PES, and I’d like to thank everyone involved in getting us to this point as well as those who will volunteer their time through these efforts to advance technology for humanity. I look forward to providing you with updates on these efforts as we make progress toward our shared goals.

Advanced modeling and analysis features include:

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• Integration with EMS/WAMS for on-line DSA to assess security of real-time system conditions

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