that enables the creation of current and future mobile consumer devices.

We discussed how we might get a sizable award funded. There is an X-Prize group with which we should talk. We also discussed the possibility of using crowd funding to raise some money to support research to develop these sorts of products. We need to organize separate meetings on this topic to put together a plan and to see if we can get funding to support this effort.

Other ideas that we discussed for this group included organizing sessions at CE Society conferences on this topic and perhaps even launching Transactions on mobile power.

Joe Ziomek said that he would send a draft mission statement to the group. This is given below.

VISION

What future do we want to create?

All consumer electrical and electronic devices require electricity to function. The current energy storage devices (batteries, flywheels, fuel cells, and generators) fall short of the consumer needs for portable energy.

The future we need to enable is energy storage equivalency to gasoline:

1 lb gasoline = 1.3×10^8 J.

1 gal (U.S.) = 2.2×10^7 J = 6.0 lb = 5×10^3 W = 6 kW.

1 gal gasoline/h = 39 kW. (Calculation courtesy of Joe Ziomek.)

Current LiPo batteries have energy of 6.6 Wh/lb.

Current hybrid vehicles have energy storage of about 50 mi or 1 gal of gasoline for about 600 lb of batteries of batteries or a ten to one weight disadvantage.

The current Tesla has 1,000 lb of batteries for a 300-mi range.

YOUNG CONSUMER SURVEY

We have more than 156 participants in the Young Consumer Survey so far (as of 11 December 2013), and Tom is writing up an article for a future issue of *IEEE Consumer Electronics Magazine* on the interim results of the survey. This will also be available during the ICCE conference and will be an element in a Young User Panel at the 2014 Storage Visions Conference before the 2014 CES. The survey remains open at http://www.surveymonkey.com/s/ZSRKFQK.

OTHER DISCUSSION

We agreed that we should set up a Dropbox or other way of sharing documents and information between the various CE Society FD Committees.

We had meetings at the ICCE Conference in January on Safe Mobile Power and Home Health. We are also setting up meetings for the Internet of Things as well as sustainable electronics.

BACKGROUND MATERIAL

We formed these committees to address near- and long-term future CE trends and to create initiatives in these new areas. Some of these initiatives are as follows:

- helping to put together sessions and keynote speakers for IEEE CE Society conferences
- helping to recruit articles for *IEEE Consumer Electronics Magazine* and possibly other IEEE CE Society publications
- creating new initiatives that could help create larger activities within the FD Committee of the IEEE Technical Activities Board
- participating in putting together chapters in a book proposal—the book is *Future Directions in Consumer Electronics*.

CE Society FD participants are encouraged to join or form new committees and/or recruit folks to form committees on consumer-oriented technology areas that we should address in our FD activities.

—Tom Coughlin

Applauding 50 Years of Fellows

In 2014, IEEE will mark its 50th Fellow class. It represents decades of honoring IEEE Fellows whose extraordinary accomplishments have changed the world.

The IEEE grade of Fellow was born in 1964 out of the merging of the American Institute of Electrical Engineers and the Institute of Radio Engineers. The emphasis on the elevation was, and still is, reserved for select IEEE members who have contributed importantly to the advancement of engineering, science, and technology, bringing the realization of significant value to society.

Only one-tenth of 1% of the total voting membership can be elevated in any one year. Over the last 50 years, the IEEE has elevated roughly 10,000 members to this honor. This is a very small percentage compared to the total membership. Unquestionably, Fellows are the crown jewels of the organization. One can only imagine what the next 50 years will bring; the new technology that will be developed, discovered, or taught; and what new IEEE Fellows will be recognized for their achievements.

Digital Object Identifier 10.1109/MCE.2014.2301496
Date of publication: 20 March 2014

Throughout the year, various celebrations will take place to honor those who have achieved this distinction. If you know an IEEE Fellow, congratulate him/her again for receiving this honor. You can recognize them personally, or you can acknowledge them publicly at Region meetings, Society meetings, Section meetings, and/or conferences.

NEW FELLOWS DIRECTORY

New to the Fellow Web site is the redesigned Fellows Directory. It is the most comprehensive online search and networking tool available to members. If you need to complete an IEEE Fellow nomination, gather information for a Region, Section, or Society, it's now easy to accomplish.

> The information in the directory can be accessed by six categories: alphabetical by last name, year elevated, gender, IEEE Region, IEEE Society, and deceased.

The information in the directory can be accessed by six categories: alphabetical by last name, year elevated, gender, IEEE Region, IEEE Society, and deceased. Within these categories, members can search, sort, or run a filter. For example, a report can be compiled on all Fellows within a specific region elevated in a particular year. The directory allows members to view the profiles of Fellows plus the ability to network with them. If you are not an IEEE Member, you will have limited access to certain information.

Check it out today. The directory works on mobile devices and computers. To access the directory, go to www.ieee.org/fellows and click the "IEEE Fellows Directory" icon.

—Rosann Marosy

CE

Notes from the Editor *(continued from page 4)*

Tom Coughlin in the "Art of Storage" column offers a review of state of art in storage technologies for today's CE devices and systems. In particular, CE is embracing the cloud, and a range of home and away storage solutions are covered. And as is increasingly common these days, most roads lead to the cloud, whether it is a personal or a global one. One thing is sure: the demand for enhanced CE storage continues to grow for the foreseeable future.

In "Standards Corner," we have an update on new IEEE standards that have been issued during the latter part of 2013. We also have a short discussion and overview of the IEEE 1874 standard from Will Lumpkins, who has contributed another article in the "Society News" column in his role as chair for the IEEE Dallas CE Chapter.

We also have a report from Will Lumpkins covering the the Combined Exhibition of Advanced Technologies (CEATEC) in Chiba, Japan, which took place 1–5 October 2013. This is a large technology fair—one of the biggest in Japan—and Will had plenty of opportunities to report on the latest in electric vehicles, cars that can self-park, and state of the art in augmented reality games and systems. As has been done in Europe and Japan, the CE Society ran a small conference/workshop in parallel with CEATEC, and we hope to expand these activities next year into a full international conference. This is good news for any Chinese members of the CE Society. So keep your eyes and ears open and watch this space for stories and news about CEATEC 2014. And thanks to Will for bringing us this story. He is undoubtedly one of our most adventurous volunteers and contributors to *IEEE Consumer Electronics Magazine*.

Finally, our "IP Corner" article for this issue focuses on the innovations and inventions of Steve Jobs and includes an introduction to the use of design patents as a means to protect the design aspects of CE products. There is an extensive review of Jobs' main contribution in terms of both utility and design patents, and the reader should find this review to provide a number of interesting and insightful comments on the general use of patents and other forms of IP within the CE industry.

REFERENCES

[1] B. Frankston, "Life (yet to be) scripted [Bits Versus Electrons]," *IEEE Consumer Electron. Mag*., vol. 3, no. 1, pp. 57, 60, Jan. 2014.

[2] C. S. Choy, "An infra-red remote control system designed for universal control," *IEEE Trans. Consumer Electron*., vol. 41, no. 4, pp. 1089–1094, 1995.

[3] P. M. Corcoran, F. Papal, and A. Zoldi, "User interface technologies for home appliances and networks," *IEEE Trans. Consumer Electron*., vol. 44, no. 3, pp. 679–685, 1998.

[4] P. M. Corcoran, J. Desbonnet, P. Bigioi, and I. Lupu, "Home network infrastructure for handheld/wearable appliances," *IEEE Trans. Consumer Electron*., vol. 48, no. 3, pp. 490–495, 2002.

[5] P. M. Corcoran, A. Cucos, and F. Callaly, "Home networking middleware infrastructure for improved audio/video appliance functionality and interoperability," in *Proc. Int. Conf. Computer as a Tool, EUROCON 2005*. vol. 2, pp.1316–1319.

[6] P. M. Corcoran, F. Nanu, S. Petrescu, and P. Bigioi, "Real-time eye gaze tracking for gaming design and consumer electronics systems," *IEEE Trans. Consumer Electron*., vol. 58, no. 2, pp. 347, 355, May 2012.

[7] R. J. K. Jacob, "The use of eye movements in human-computer interaction techniques: what you look at is what you get," *ACM Trans. Inform. Syst. (TOIS)*, vol. 9, no. 2, pp. 152–169, 1991.

CE