

September 16, 2015

OLED Update

Greetings from Pittsburgh, where a group of OLED stakeholders from across the country has gathered for an annual meeting aimed at accelerating advances in OLED lighting. This week's meeting, hosted by the Kurt J. Lesker Company, is a precursor to the OLED breakout sessions at the annual [DOE SSL R&D Workshop](#) in February and provides a forum for open dialogue on OLED technology advances, R&D needs, and efforts to advance OLED market viability.

A lot has happened since last year's meeting in Rochester, NY. In November, we saw the first commercially viable OLED lighting products (from Acuity Brands) offered at The Home Depot. In April of this year, OLEDWorks announced the purchase of selected parts of Philips' OLED lighting business, including the OLED production facility in Germany. In May, the DOE SSL program announced the latest round of funding for [OLED R&D projects](#), and in June, the DOE SBIR program announced another [OLED R&D grant](#).

Behind the headlines, DOE implemented a new OLED [testing opportunity](#), with a new process designed to provide companies with more immediate feedback on various approaches, compared to the two-year timeline for more-traditional DOE R&D projects. This testing opportunity enables component makers to partner with a DOE-qualified lab to incorporate various R&D-stage components into a baseline state-of-the-art OLED device, in order to identify the best-performing components and approaches.

To date, three projects have been supported under this testing opportunity, evaluating products that include electron-blocking materials, soda lime glass substrates coated with alternative transparent conducting oxides, and flexible integrated substrates. We encourage more component makers to take advantage of this opportunity, because the detailed test results and observations, along with suggested actions, recommendations, and best practices, can provide valuable information to inform their next steps — as indicated by the positive feedback we've received from the first three companies.

On another front, DOE is looking to identify potential OLED installations for studies that document the installed performance of OLED systems. If you're working on

an interesting project with OLED lighting that might make a good field evaluation, please let us know at postings@akoyaonline.com.

Meanwhile, DOE continues to fund [OLED R&D](#), with 11 projects currently underway. And OLED panel performance continues to improve, with products offering a standard brightness of 3,000 cd/m², with efficacies of 50–60 lm/W commonplace, and with most panels showing good to excellent color quality (CRI of 80 to 90 or more) and lifetimes (L₇₀) of 40,000 hours or more. Flexible OLED lighting panels have also entered the scene, offering unique design freedom and additional functionality while maintaining performance. Meanwhile, the cost of OLED lighting continues to drop, having declined roughly 60% in the past year alone — although it still needs to go down quite a bit more. The industry is working hard to reduce panel price while integrating technologies that enable laboratory efficacies of 100 lm/W or more.

This week in Pittsburgh, the OLED community has gathered to build on this momentum — to share the latest updates and discuss what’s needed to take things to the next level. Collaboration is key to accelerating OLED lighting technology advances, and we look forward to this opportunity to deepen the discussions and tighten the collaborations. Stay tuned.

As always, if you have questions or comments, you can reach us at postings@akoyaonline.com.