Postings: from the desk of Jim Brodrick

Last week I was in San Jose, California, for DOE's second annual Solid-State Lighting Manufacturing R&D Workshop. Many thanks to all of you who joined me there – your hard work and valuable input are much appreciated. The workshop is a key step in a process that began in March with a series of stakeholder roundtables and will end in June with the publishing of DOE's updated SSL Manufacturing Roadmap, which complements the core technology research and product development plans detailed in our recently published Multi-Year Program Plan. The issuing of our manufacturing R&D funding opportunity, which is guided by the roadmap, will occur during this time as well. At the roundtables, roadmap changes are proposed, and these are then discussed and fine-tuned at the workshop. This kind of annual updating is necessary when a technology is evolving as rapidly as SSL is – or else we'd end up with a roadmap that shows us how to get back to where we've already been, rather than where we want to go.

I was struck by the attendance in San Jose, on several counts – not just by the sheer numbers, which exceeded our expectations (more than 250 people, half of whom were first-timers at a DOE workshop), but also by the variety. The entire breadth of the SSL supply chain was there – chip makers, luminaire manufacturers, material and equipment suppliers, those who do the assembly and packaging, those who test the luminaires, those who make the testing equipment, and even some investors. Several attendees commented to me on how this inclusivity facilitated the kind of "meeting of the minds" that might otherwise take weeks or even months to accomplish.

It seemed we had just the right mix of people coming together at just the right time, judging by the animated discussions and the way people were eagerly throwing business cards across the table at one another in the hopes of continuing their talks later on. "Networking" is an overused term these days, but I can't recall a better illustration of what networking is really about than the enthusiastic two-way interaction I witnessed in San Jose. What's more, people seemed less guarded than at the inaugural manufacturing R&D workshops last year. There, many attendees reminded me of master chefs jealously guarding their prized secret sauces, whereas in San Jose I actually saw a few of them swapping "recipes" – maybe not for their secret sauces, but at least for the equivalent of dips and hors d'oeuvres. That's a good indication that the concept of "co-opetition," which was a recurrent workshop theme, is starting to sink in, as people come to realize that some level of collaboration is essential to moving SSL technology forward.

Another recurring workshop theme – as well as a key part of DOE's SSL manufacturing initiative – was how to encourage and foster solid-state lighting manufacturing in the U.S. A panel addressing that issue drew considerable interest from the audience, and while none of the panelists offered any "magic bullets," they did point out areas of opportunity – for instance, automating as much as possible to keep costs down. It's apparent that many SSL manufacturers are determined to develop production facilities here – for example, Gopalan Rajeswaran of Moser Baer described his company's plans, in conjunction with Universal Display Corporation, for a pilot OLED manufacturing facility here. But it's also clear that the precise role the U.S. should play in SSL manufacturing still needs to be identified and defined. A number of presenters and attendees suggested some things DOE can do to help spur SSL manufacturing in the U.S., such as expanding the number of available testing labs and encouraging ANSI to standardize LEDs.

The recipients of DOE's first eight SSL manufacturing R&D awards,

which were announced earlier this year, each gave a preview of what they hope to accomplish with their projects, which range in focus from epitaxy tools, to automated defect detection systems, to the design and setup of OLED manufacturing pilot lines. It was energizing to hear them talk, and encouraging to realize that they're merely the first wave of what will be many more SSL manufacturing R&D efforts to come.

But the heart and soul of the San Jose workshop was the parallel track sessions – one for OLEDs and another for LEDs – in which attendees shared their thoughts on the proposed updates to the roadmap. This feedback will guide the final roadmap updates, which are already being put into place. All DOE solid-state lighting workshops are open and participatory affairs, where anyone who wants to is free to speak up. But in San Jose we took that to another level in the track sessions by splitting them into issue-specific sub-groups (e.g., drivers, epitaxy). Having a series of small tables enabled richer discussions of the issues and made it easier for more voices to be heard – with the result that, in some cases at least, we had people who knew every piece of the problem sharing their perspective on what was needed. Not only did this generate a ton of input, but it created so much enthusiasm that some participants even refused to break for lunch.

That kind of commitment, and the enthusiasm displayed by every attendee who was there in San Jose, are sure to help bring further efficiencies and improvements to the SSL manufacturing process, so that the technology can continue its rapid development and fulfill its energy-saving potential.

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

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