Communicate & Collaborate

Susan C. TRULLI*

As the new President of IMAPS (International Society of Microelectronics Assembly and Packaging), I am excited and pleased by the recognition and growing emphasis on microelectronic packaging as the new frontier for next generation products. This attention and subsequent investment is stimulating innovation in materials, processes, equipment and design particularly in the areas of 3-D packaging, heterogeneous integration and additive manufacturing for printed electronics to name just a few. The potential for improved performance at cost targets more promising than driving to lower device nodes is fueling this renaissance and the promise this holds is heard clearly in the leading microelectronics conferences world-wide. This was certainly reflected in the keynote speakers at IAAC-ICEP (IMAPs All-Asia Conference - International Conference on Electronics Packaging) held in Kyoto in April, 2015. It was my pleasure to attend that event and witness first-hand the high quality technical presentations covering a diverse range of applications and designs. One of the many talks that highlighted the impact of the microelectronics field on our lives and in society dealt with advances and applications for imaging, wireless communications and additive manufacturing in the medical field. This last topic, in particular, is enabling doctors to create individual surgical plans and is facilitating surgical training. IAAC-ICEP Kyoto was my first time attending this conference and I think it was a rousing success in terms of technical depth and breadth but also in collegiality. The high level of participation at each evening's reception spoke of the success of fostering open communication and building relationships.

Similarly, at the IMAPS 48th International Microelectronics Symposium held in Orlando in October, 2015, we saw both general attendance up and an increase in international attendance. In times of ever-tightening travel budgets, this clearly speaks to the value of technical exchange and relationship building. The theme of this event was "Advanced Packaging and the Internet of Things: The Future of our Industry". Wafer level packaging and wafer level fan out was clearly a major focus on the technical side. These approaches are bringing new exhibitors and material and equipment suppliers to the event to address these wafer level packaging challenges. On the applications side, a keynote speech from an Audi executive gave insight into the impressive array of electronics in the fast growing automotive electronics market drawing attention to what Audi sees as megatrends in increased functionality in entertainment, wireless communications, lighting, piloted driving, safety and maintenance. The need for increased lifetime and reliability while maintaining low costs was stressed. From the business perspective, the CPO of relayr.io discussed the value of speed in design, using rapid prototypes to release, evaluate, correct and refine to create an agnostic Cloud platform that allows smart devices to communicate beyond their limited use environment. The need for speed of development as well as the need to communicate across edge device boundaries is certainly a growing trend as the internet of things proliferates. In addition to the sessions, a plant tour, Global Business Council luncheon, a student session highlighting University research with open Q&A, the exhibit hall and multiple receptions allowed for plenty of networking opportunities.

The Internet of Things continued to dominate at the 10th annual IMPACT 2015 held in Taiwan in October, 2015 with its theme of IMPACT on Mobile and Flexible Electronics. The program reflected a truly international collaborative effort with a Korean session, an ICEP session and an iNEMI session as well as the technical focus sessions. Although I was unable to attend, my understanding from my colleagues is this was a very well attended event with strong emphasis on wearables.

Clearly, the message is there is a strong appetite for material and packaging innovation to enable the profusion of applications some of which have been touched on here. As emphasis continues to bring devices including compound semiconductors in closer and closer proximity, opportunities and challenges in thermal management, modeling and optical or broadband interconnects will require new solutions. Many of these solutions may test the boundaries of the traditional supply chain. Open communication through publishing, collaboration fostered by networking and the pull across the supply chain are key ingredients to the success of emerging technologies. I have found participation in conferences such as those mentioned here and involvement in my professional society to be invaluable aids to enhance my own work and bring new ideas to my company. This truly has allowed for communication and collaboration which has in turn led to innovation.

* President, International Microelectronics Assembly and Packaging Society