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Proposed organization to give voice to IP community

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A number of OEMs, chipmakers and intellectual-property (IP) houses are circulating a proposal to form a new and independent organization for the semiconductor IP community.

The proposed group, called the IP Industry Association (IIA), would give the semiconductor [IP community](#) a new and much-needed voice in the arena. There are over 200 semiconductor IP vendors, but this fragmented and critical sector often gets lost in the shuffle. In addition, the group could also help chip designers, many of whom are scrambling for solutions in the development of next-generation ICs.

In the initial proposal, the IIA could evolve into a non-profit association that would develop IP roadmaps, devise [IEEE](#)-style working groups, provide analysis and disseminate information about the sector.

It's unclear if the group would develop IP quality standards. It's also hard to say if the IIA would be endorsed by the entire IP and semiconductor industry. Others wonder if the IIA will fly in the first place.

The IIA, which is still in the preliminary stages, would be funded by membership fees, possibly \$2,000 a year. It would be "democratically run" and is open for any company to join, said Naveed Sherwani, co-founder, president and CEO of [Open-Silicon](#) Inc., a fabless ASIC house.

"There is a need for an organization," Sherwani said. "It would foster growth" for the IP community.

Sherwani proposed the idea during a roundtable discussion on semiconductor IP last week. The roundtable took place at Mentor Graphics Corp.'s office and was moderated by *EE Times*.

The Open-Silicon executive hammered out the initial proposal for the IIA after the event. Along with Open-Silicon, representatives from ARM, HP, Kilopass, Mentor, Semico and Sidense participated in the roundtable.

Viability debate

The group discussed several issues about IP, including standards, quality and business models. In fact, there is an ongoing debate over the viability and future of the IP industry.

Perhaps the most newsworthy part of the roundtable was the proposed formation of a new IP organization—which, in turn, could be viewed as a competitive effort in the arena.

One potential rival group, the OCP International Partnership Association Inc. (OCP-IP), claims to be dedicated to proliferating a common standard for IP core interfaces, or sockets, that facilitate "plug-and-play" SoCs designs. The Beaverton boasts a plethora of members.

Another organization, the Fabless Semiconductor Association (FSA), also represents the IP crowd and has developed an IP quality metric.

Meanwhile, the IEEE has recently formed two study groups to explore the creation of IEEE standards based on work done at the VSI Alliance ([VSIA](#)). The groups will evaluate VSIA's existing Quality IP (QIP) Metric standard and its encryption activities. Earlier, VSIA decided that it will [cease operations and donate key products to the IEEE](#).

During the roundtable, many participants agreed that the IP community needs a new organization "with teeth." Open-Silicon's Sherwani suggested that the IIA could develop IP roadmaps, much like the semiconductor roadmaps devised by the International Technology Roadmap for Semiconductors (ITRS).

The concept behind a roadmap is to identify gaps or missing IP technologies, which would be needed for future SoC designs, he said. This could not only help OEMs, chipmakers and IP

houses, but it could also provide information for potential venture capitalists looking to identify a startup or technology, he said.

Roundtable participants endorsed the IIA concept. "You can count on Sidense's support regarding the IIA effort," said Xerxes Wania, president and CEO of Sidense Inc., a supplier of memory IP.

"We would be willing to go up a flagpole and spend \$2,000 to see if [the IIA] sticks," said Bernie Aronson, CEO of Kilopass Technology Inc., a rival supplier of memory IP.

The IIA concept is moving on the "right path," but the group needs to be administered by an independent body or company, such as Chip Estimate, said Bill Martin, Mentor Graphic's general manager for intellectual property products. He was referring to Chip Estimate Corp., an EDA company that is focused on developing and delivering integrated chip project planning solutions.

Some believe that the IIA must align itself with the IEEE. But perhaps the biggest question is whether the group will devise IP quality standards or metrics, which is a pressing issue in the sector. Open-Silicon's Sherwani said some 27 percent of all chip failures are due to IP integration or related issues.

'Crappy IP'

Sidense's Wania disagreed and suggested that the 27 percent figure is too high, but he did acknowledge that "there's a lot of crappy IP" in the industry.

"There is a lot of blame on IP for quality," said Mentor's Martin. "The biggest reason for chips not working was the customer not specifying things correctly. IP quality is in the top 5-to-10 reasons for not working, but misspecification, and underestimating the time needed to do the design are the main ones."

The FSA and VSIA developed first-generation IP quality standards. "Customers are not demanding compliance to either the FSA or VSIA standard," said Martin.

But it's unclear that an organization can be successful in driving a metric. "Every customer has their own standard idea, so a universal standard will be difficult," said Robert Aitken, a fellow for ARM plc. IP quality standards "have a place, but are difficult to define."

There is one solution to IP quality: "We need robustness in the design of IP," he said.

Mobashar Yazdani, ASIC procurement lead for global sourcing and procurement within HP's Imaging and Printing group, agreed. "Quality has to go against spec, but there isn't one [specification] for quality. Each company has their own idea of quality. Any standard needs a user-centric quality spec," he said.

"I can't see certain companies coming together to develop a standard," added Kilopass' Aronson. For example, silicon foundry giant Taiwan Semiconductor Manufacturing Co. Ltd (TSMC) has its own rigid IP standard, he said. It's unlikely that TSMC rivals, including UMC and others, would sit down and agree upon an IP quality standard, the Kilopass executive said.

One analyst put the overall IP standards issue in perspective. "This is a very complex issue," said Rich Wawrzyniak, an analyst with Semico Research Corp.

"We are, today, like the industry was with the first standard logic ICs. The effort was comparatively small then, so it was pretty easy," he said. "Now we have 200 plus IP vendors, many types of IPs and lots of customers. The range of issues is much broader and we need to narrow the focus to something more manageable. The bottom line is: Does it work the way it is supposed to work and when I need it? We don't want to limit the creativity of IP vendors and their products. We need a balance between what the user needs and what vendors can do."

- Mark LaPedus
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