

Smart Design Innovation Begins with Materials



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In this dialogue, designer, author and educator Chris Lefteri and Chip Reeves, director of design programs at Dow Corning discuss the role of materials in design innovation.

How important are materials in design innovation?

CL: Materials are one of the driving forces in new product development in so many design areas. The mass of new advances means that designers have a huge supply of new tools that are available to help in branding, interface and bringing new functions to products. It's something that originates from many areas: from consumers who are demanding more environmentally sensitive materials to material producers who are developing some amazing new materials and technologies.

CR: It is also amazing to see designers creatively stretch the basic sensory characteristics and performance of materials to deliver world-changing new products. And it's not just the initial impact that materials must deliver. Increasingly, materials must make sense in the entire life cycle of new products.

CL: Materials also matter far more than they used to because as the boundaries between form, function, surface, interface become more blurred they provide one of the strongest tools in taking our physical world to new levels of interaction.

What are some macro design trends and how are materials enabling key design trends?

CL: In terms of trends, the traditional role of the physical form of objects is now only a part of a product's performance. "Emotional attachment" means that products must be imbued with another bandied about term: experience.

CR: Silicone in kitchen utensils and bakeware is a good example where the naturally soft and flexible characteristics of silicone rubber made it an interesting material selection. People like the "feel" and the high temperature performance allows entirely new "experiences" in baking.

Silicones for the kitchen and home were only recently "discovered" by the design community, but the materials have been around for many years. It makes us wonder about other possibilities to apply existing materials into new applications.

CL: There is also of course the growing importance of sustainability and the waste issue. I don't think that this just means designers need to only specify green materials, but more the issue of the most appropriate material selection.

CR: We definitely see the growing interest in sustainability. Often this translates to needs for better materials and for materials that improve production processes by reducing waste, eliminating other problematic materials or reducing energy and/or water consumption.

We also see a trend in product innovations for emerging geographic markets. These situations demand robust, global supply chains for materials. Another trend is products for the aging population which demands materials that enhance human interaction factors.

CL: There is always the temptation to go for the most innovative new materials without looking around to see what exists already. In his wonderful book, called *What is a Designer*, Norman Potter says, "Don't be conned into thinking that only new materials or processes are worth investigating. Every material available is strictly contemporary"

CR: I'm really glad that you mentioned this point. While Dow Corning is constantly innovating new technologies, we have over 7,000 existing products. Each has a unique and interesting story. Most of these products are not well known in the design community. We believe there are many opportunities for innovation with these existing and proven materials in entirely new and unpredictable directions if designers have full information and perspective on the possibilities to apply them to emerging design challenges.

What are challenges/obstacles to effective collaboration between designers and materials companies?

CL: The dynamic of this relationship is really changing fast. Suppliers are beginning to realize the importance of the design community and that this community needs a different type of information than the more traditional engineering industry. Essentially a large part of this is about bridging the gap where actual physical samples are not available and giving information that fills that void. It's also about suppliers understanding the process of designing and that it is as much a cultural activity as it is something which is based on bringing a product to commercial fruition.

CR: We truly have a lot to learn. While we recognize the importance of design, we still have most of our information and resources trapped deeply in engineering-oriented web pages and brochures. Our challenge is to unlock this information and make it accessible. We are also taking steps to reframe how we sample to meet needs of "hands on" experience with materials and design concepts. If we get it right, we have an opportunity to participate collaboratively in the cultural activity of product design. Our employees like to help solve problems, so there is a natural benefit if we can build the right bridges.

We hope to learn from the few materials manufacturers who are leading in this area and to build examples for other materials companies to follow.

How optimistic are you that designers and materials suppliers will collaborate more effectively in the future?

CL: I am super optimistic! I think that as the sophistication of the web grows the interface between selection and information will be more seamless. I also think that the traditional barriers between engineers and designers are being broken, resulting in more collaboration. There is a very well known computer manufacturer that produces the most beautifully considered and detailed products. This can only happen because of a passion for working with material suppliers, engineers and manufacturers to push the boundaries of possibilities.

Chris Lefteri's eight books on design and material innovation can be found in most design studios around the world, the latest of which, *Making It Manufacturing, Techniques for Product Design* was launched earlier this year. Visit www.chrislefteri.com

Learn more about innovative materials and Dow Corning's ongoing journey to connect effectively with the design community at www.dowcorning.com/design

