

Three Big Bets about the Future of MEMS-based Displays in Electronic Devices



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From cars to kitchens and beyond, tiny chips glimmering with millions of microscopic mirrors are changing how we all see and interact with the next generation of consumer electronics.

This paradigm shift is happening because of the advancement of smaller, more flexible, higher quality and more efficient optical MEMS. Advanced MEMS are propelling new and innovative solutions to application areas such as wearable technology, smart homes and appliances, automotive head-up displays (HUD), adaptive headlights, infrared sensors, and even holograms.

After working with DLP® Products for more than eight years, I've regularly seen these innovations first hand. I'd like to believe much of its potential has yet to be unleashed on broader consumer markets, and hope to see much more of this technology gaining traction at the 2017 Consumer Electronics Show (CES) in January.

Market analysts agree there's a huge untapped potential. Just looking at the overall MEMS market, it is poised to grow 8.9 percent between 2015 and 2021, representing a \$26 billion market opportunity in just consumer and automotive applications alone, according to [Yole Development](#) and [Grand View Research](#).



So what does this mean to you and me? Here are my three big bets where MEMS-based technology will make the biggest impact in the years to come.

Vehicles Are Getting a Display Makeover.

The advent of wide field-of-view and augmented reality (AR) displays is giving drivers useful information they need while keeping their eyes on the road. As an example, developers are rolling out integrated head-up displays (HUD) in newer vehicles and compact after-market HUD solutions for any vehicle without the factory-installed display system. Fueled by our DLP projection technology, both types of HUD systems feature small, hands-free guidance, communication and entertainment controls.

Wearable Technology Is in Sight of Consumers.

Wearables have been a hot topic at CES in years past, but MEMS advancements now mean consumers will be able to experience immersive AR in a pocket-sized device featuring colorful, crisp and bright displays on the go. We've already seen early examples of this technology having broad consumer appeal with [video games](#)

[like Pokémon Go](#). It's just the beginning as more advanced wearable displays capable of delivering a more convincing AR experience come to market.

Smart Homes and Appliances Are Getting Smarter.

Homeowners, businesses and retailers are replacing traditional touchpads with interactive projection displays to offer smarter, more adaptive controls and panels while minimizing obtrusive installations. The next generation of voice-activated personal assistants could show search results, traffic reports or news story videos at your command. Combined with the Internet of Things (IoT), [greater connectivity and more intuitive intelligence](#) are just two of the many benefits for consumers.

Clearly, the continuing advancement of smarter and smaller MEMS-based electronics is going to become ever-present in consumers' lives in ways we can't even imagine yet. I look forward to seeing how DLP customers and MEMS engineers will continue to push innovation in the consumer market.

If you're interested in hearing more about my "big bets" for MEMS-based display technology in 2017, I'll be [speaking at CES](#) next month. For those of you not able to attend the conference, I recommend following TI's [Facebook page for Facebook Live](#) videos during CES.

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