Cottage industrial

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One way America can move forward is to harness the power of the individual – something we are at least good at. Our history is full of plucky individuals taking great risks to achieve even greater successes, and we are at a point in time where the ability to create something completely new is easier than ever before.

Technology convergence is both a disruptive challenge and a great opportunity. The same advances that are causing old-school business to completely revamp how they operate also give incredibly powerful tools, techniques, and technologies to the individual. Don’t get me wrong, big business has its very necessary role, but we also need the independent innovator to imagine and pursue those blue-sky visions that bring the future.

We now have 3D printers that not only can fit on a tabletop, but can also fit into a budget. Board lathes, circuit testers, evaluation & development kits, and cheap, small, and powerful computers put the basic tools and materials for product design into almost anyone’s hands. For the price of a high-end car you can outfit a basic development shop that would be able to develop and prototype small devices and subsystems with minimal outside logistics. Anything beyond the basic tools and hardware can be obtained from the supplier and/or distributor, as everyone now provides some level of design engineering support.

The support that is available today to the engineer is amazing. Most self-respecting suppliers have software tools on their websites for at least simple part choosing, and many go beyond that to provide basic design tools so you can perform first-line evaluation of the solution you are curious about. Some companies will even provide online selection tools to allow you to partially customize the solution you chose using a variety of parameters. Beyond the free software online, the current crop of retail design software is so powerful and useful it can almost design the product itself.

Even when it comes to direct support most companies will not only give you the evaluation hardware for their products but will also often send real people that can help you with the trickier parts of integrating their technology with the project you are working on. Some companies, especially some of the more forward-looking distributors, will even help you find development partners with complementary technology to yours.

In addition to this is the emergence of online communities dedicated to supporting the engineer and providing a marketplace of ideas as well as a forum of discussion where designers can ask questions and hash out ideas with their peers. These communities can be found at publications like ECN (www.ecnmag.com [1]) as well as at distributor sites like www.element14.com
[2] and www.digikey.com/techxchange [3]. There are even independent engineering sites like www.eeweb.com [4] run by dedicated people who just love engineering. The bottom line is that there hasn't been a time where engineering has been as accessible to the entrepreneur, and we should seize the opportunities presented.

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