

**Latex/Resin Printers**

7 Things to Look for When Buying

**Wallcoverings Trends**

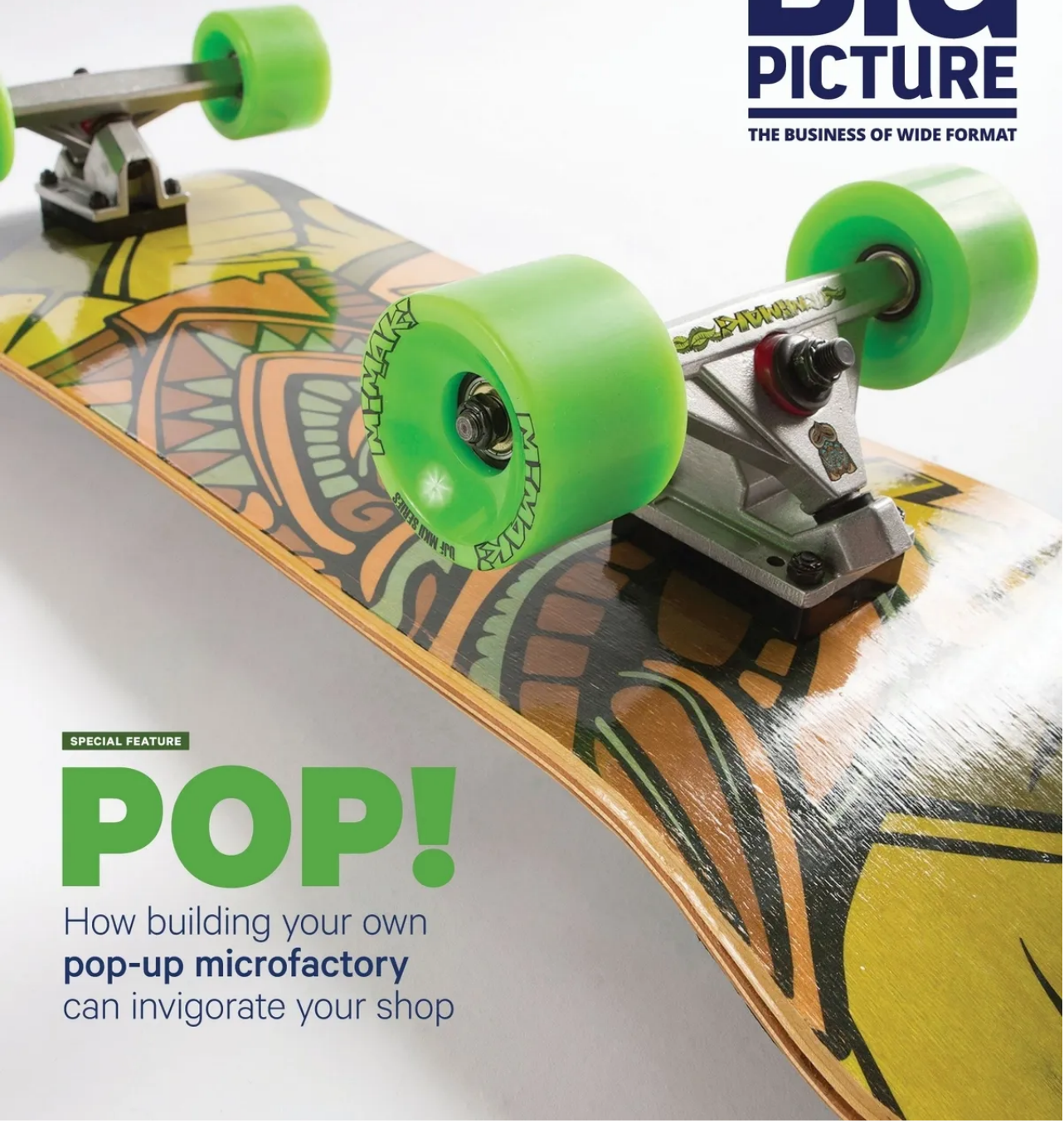
How to Create an Artful Room

**Build Your Repeat Business**

5 Revenue Generators for Current Customers

# BIG PICTURE

THE BUSINESS OF WIDE FORMAT



SPECIAL FEATURE

# POP!

How building your own **pop-up microfactory** can invigorate your shop



# SMALL THINGS MEAN BIG PROFITS

Be a part of the manufacturing revolution with a microfactory.

BY JOSH HOPE, CONTRIBUTING WRITER



he concept behind a microfactory is that there are existing technologies — including digital printing and cutting, finishing, and fabricating — that can be assembled to create pop-up microfactories for a variety of finished goods. As a print service provider in the display graphics industry, you most likely use these technologies in your daily operation to create traditional signage and displays for your clients. The concept embraces collaborative manufacturing and process automation to create a flexible, functional platform that enables the production of a wide range of ready-to-market goods. The key idea is to bring together complementary technologies to produce a consumer-ready product. A microfactory provides an opportunity for you to branch out and bring more

revenue through the door.

Microfactories have been gaining interest and supporters for years. A research paper published by the Université du Québec found that “Given its versatility and high automation levels, the microfac-

Create complete products with off-the-shelf raw materials such as this custom skateboard.



tory model can fill the gap between artisanal and mass production processes, boost the rate of innovation, and enable the local on-demand fabrication of customized products.”

## PROFIT FROM THE ON-DEMAND ECONOMY

We currently are amidst a manufacturing revolution. Technology that was once reserved for large corporations and research facilities now is available at the desktop level. Children are designing and building with 3D printers as a hobby and, for minimal investment, the means to manufacture are available to virtually anyone.

The on-demand economy is growing, attracting more than 22.4 million consumers annually who generate \$57.6 billion in spending, and is becoming too big an opportunity to miss. At the consumer level, most of this growth can be seen in online marketplaces such as Etsy, and in transportation through gig economy ventures such as Uber and Lyft. Why the shift? What and how we buy is changing. Buyers are redefining value, focusing on quality, and choosing personalized goods and services that deliver an experience, connect, and resonate with one’s individual values.

The barriers to entry into the just-in-time manufacturing segment are at historical lows. Through collaboration and using complementary technologies, you can take advantage of this low cost of entry to customize, personalize, or regionalize products to sell to both the B2B and consumer markets.

## USE EXISTING TECHNOLOGIES

Existing technologies that are probably on your production floor right now, put you in a unique position to capitalize on this shift in buying patterns by bridging the gap between the manufacturer and

consumer. This helps deliver unprecedented just-in-time production, developing true customer intimacy through personalization, and reducing cost and overhead while also shortening time-to-market. You can find new revenue opportunities and leverage products you own today to start a microfactory. It can be a business of its own or be used as a model and scaled up for larger production runs.

The printers, cutters, and finishing equipment you use now are designed for versatility and can easily and quickly be repurposed for another product, customer, or material. This creates a very agile production facility that can respond to market shifts and changes in customer demand in a way that large companies cannot. Stock can be kept at a minimum, and even more importantly, can stay in a blank state and be shaped, printed,

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Given its versatility and high automation levels, the microfactory model can fill the gap between artisanal and mass production processes.”

*Université du Québec research paper*

Produce mass-customized goods using existing digital printing, cutting and finishing technologies.



and marked just in time for shipment to the customer. This keeps stock from becoming stale and helps to prevent loss of profit due to swift changes in market demand. From a competitive standpoint, focusing on technologies at this scale



Create stylized gifts and a matching box using your existing equipment and technologies.

allows for agility and flexibility. Working in this way can create an environment that is quickly adaptable to new and niche markets that a larger company can't afford to address due to the volume commitments required to pay for the larger equipment.

## MICROFACTORY EXAMPLES

As a print service provider, you can transition from short runs to higher volumes using flatbed technology to become a promotional products decorator and supplier. Flatbed printers and custom jigs — which also can be made using digital printing and cutting technology — are used to produce a range of branded products including mobile accessories for cell phones and tablets, mini speakers, power banks and chargers, phone cases, and collapsible phone stands.

Think of a boutique guitar effects pedal company. This operation could create the pedal enclosure from wood shaped by a CNC machine, print the control graphics using a flatbed UV printer, and then laser-etch the owner's name or serial number on the back side. This creates a highly customizable premium product using multiple high-end technologies all for a very reasonable investment. By adding a web-based ordering system on the front end, and simple product





Using various technologies, highly customizable premium products such as stompboxes can be created.

Starting with custom-printed containers such as these, a microfactory can grow to also offer custom mugs or totes.



and tablet sleeves. Existing digital printing and cutting technologies also can be used to create packaging for finished goods.

Each of these applications uses multiple technologies that work together to manufacture a product. By bringing together efficient, production-focused machines, you can thrive, especially when workflow automation is incorporated into the mix. This can be as simple as a jig-based workflow for flatbed UV-LED printers, variable data for personalization, or rules-based automation. By defining the workflow processes up front, the number of human touches can be reduced dramatically, greatly increasing the ability to compete in the marketplace and remain profitable. Utilizing the microfactory concept and adding a web-based store for customer ordering and a fulfillment system for product delivery provides a complete manufacturing solution.

## NEW OPPORTUNITIES

How and what consumers buy is changing. We see more value in quality, personalized goods and services that deliver an experience, connect, and resonate personal expression. With a microfactory, you can utilize existing digital technologies to deliver on-demand, customized products within hours instead of weeks or months. There is no time better than now to explore the opportunities around you and get in on the ground floor of the rapidly growing on-demand manufacturing market.

fulfillment on the back end you can create an agile manufacturing business — a microfactory — that can be both flexible and competitive.

Another example is creating custom sports gear such as baseball helmets or skateboards. You can use UV-LED flatbed or UV DTF (direct-to-film) printing to decorate the underside of a skateboard deck, the trucks, and wheels; and then cut grip tape, using a flatbed or laser cutter, to produce the graphic for the topside of the board. After assembly and only about 30 minutes of active labor, you have a customized, premium-priced item ready for immediate sale, with minimal materials investment.

Digital textile printing is ripe for a microfactory scenario either by using direct-to-fabric or dye sublimation transfer processes with a heat press, plus sewing equipment and labor to create custom goods such as backpacks, messenger bags,



**JOSH HOPE** is a print professional with more than 35 years of experience in the printing industry. As Director of Marketing at Mimaki USA, he leads the business development teams for the Sign & Graphics, Textile & Apparel, Industrial Printing, and 3D segments and is responsible for the company's overall marketing program.