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## ESCAPING THE COMMODITY TRAP

# Innovation Hubs Spur Manufacturing's Transformation

Brains, not brawn: Fewer companies than ever before are shackled to the tyranny of the volume play: producing vast quantities of goods to reap razor-thin margins. Instead, manufacturing has been freed to search for the next big idea – and many of them.

What's empowering this idea revolution: automated processes, new technologies at the ready, and a thorough understanding of R&D's costs and contributions. Realizing that there is strength in numbers, companies are creating virtual innovation hubs with valued partners, joining industry consortia, and opening up product development to crowdsourcing.

What's common to all: Companies are drawing closer to epicenters of talent, demand, and supply and moving faster than ever to commercialize great ideas.

Are you ready?



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# Issue Brief

## Escaping the Commodity Trap: Innovation Hubs Spur Manufacturing's Transformation

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Freed from the tyranny of labor-intensive processes, manufacturing is at the beginning of an idea revolution. Drawing close to their customers and valued partners to super-charge transformation efforts, companies are creating innovation hubs to accelerate the commercial development of new products and processes.

In this brave new world of constant, restless search, analysis, and iteration, all the world's a white board. Collaboration is instant and ongoing, aided by powerful video, voice, and content technologies.

### Creating an Innovation Hub

Today's factory is a modern marvel. Advanced technologies and perpetual improvement programs have stripped waste out of critical operations, linked processes and supply chains, and removed legions of workers from factory floors. After decades of dueling over costs, companies are now desperate to avoid "the commodity trap." The way out? Producing high-value, game-changing products and services.

R&D, once viewed as a cost center with uncertain ROI, is now a company's value creator. And it's not enough to harness the power of the enterprise. Companies are moving their production footprint to get closer to demand, and defying distance between suppliers consumers and great thinkers to create virtual innovation hubs. Silicon Valley, Boston, London, Paris-Saclay, Tokyo, Bangalore, Beijing, Skolkovo Innovation City, Israel: These are the world

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innovation clusters.<sup>1</sup> Imagine harnessing the power of each of these areas and evolving your company from a hive of activity to a hub of thought – unlimited by distance.

Here are nine strategies for developing a virtual innovation factory that will create revenue-generating processes, products, and services seamlessly – and continuously.

## **1. COME CLOSER TO SUPPLY AND DEMAND**

Manufacturing is diverse. While some companies have a footprint that's constrained by low-cost labor and access to cheap materials, others can more easily migrate to locate near new sources of supply and demand. That increasingly means emerging markets. Between 2010 and 2025, another 1.8 billion people will join the consuming class globally.<sup>2</sup>

## **2. ENSURE EQUAL ACCESS FOR PARTNERS**

The race for game-changing ideas has turned the enterprise inside-out. Companies have opened up their walls, sharing once-confidential data, processes, and technologies with valued customers, suppliers, and business partners. They're also partnering with industry consortia and federal agencies to accelerate the development of emerging technologies.

## **3. PERPETUATE PRODUCTIVITY GAINS**

Much of manufacturing is already automated. Companies are pushing labor productivity gains further with robotics and sensors. Production teams can review operational decisions with video and audio collaboration solutions on tablets and smartphones and call in remote subject matter experts, and members of virtual

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<sup>1</sup> "World Innovation Clusters," Infographic, MIT Technology Review, July 30, 2013. <http://www.technologyreview.com/news/517626/infographic-the-worlds-technology-hubs/>. Accessed April 23, 2014.

<sup>2</sup> Katy George, Sree Ramaswamy, and Lou Rassegy, "Next-shoring: A CEO's Guide," McKinsey Quarterly, January 2014. Online article. [http://www.mckinsey.com/insights/manufacturing/next-shoring\\_a\\_ceos\\_guide](http://www.mckinsey.com/insights/manufacturing/next-shoring_a_ceos_guide). Accessed April 16, 2014.

centers of excellence, for root cause analyses of machine failures when rapid troubleshooting is needed.

With the move to knowledge-working, productivity gains are now as likely to be achieved in the carpeted meeting room as on the factory floor.

Collaborative decision environments enable teams to talk face-to-face to review product models and process refinements and continue work offline, with video recordings and document markup.

#### **4. GO GLOBAL WITH PRODUCT DEVELOPMENT**

Emerging markets require intense customization due to their linguistic, cultural, ethnic, and other differences. All of this will place intense stress on supply chains, as companies will need to manage inventory tightly, accelerate development cycles, and develop new products or varieties to serve these diverse markets.

Collaboration tools can help companies integrate supply chains with their partners and keep mission-critical projects on-track.

These same tools also enable partners to sift through customer data and online chatter to identify emerging sources of demand or opportunities to globalize or regionalize local products that could have a larger impact.

#### **5. LOOK OUTSIDE FOR INNOVATION**

Today's R&D team can easily include a cast of thousands. Companies in all industries are turning to crowdsourcing to generate new ideas. Gartner predicts that by 2017, more than half of all consumer goods manufacturers will turn outside their own teams to generate 75% of all their innovation and R&D needs.<sup>3</sup>

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<sup>3</sup> Richard M. Marshall, Ph.D., Gartner's Top 10 Strategic Predictions: A Disruptive and Constructive Future, SlideShare, 2013. <http://www.slideshare.net/sebrose/gartner-top-10-predictions-2014>. Accessed on April 24, 2014.

One company, Quirky used crowdsourcing to create a \$50M business in just five years. The consumer products company uses its online community not only to generate winning concepts from 2,000 ideas submitted a week, but also to approve ideas that are then rushed into production,<sup>4</sup> using 3D printers and other machinery in a small factory.<sup>5</sup>

Manufacturers will need to create online platforms, sharing business needs and data, sponsoring competitions, and vetting submissions to find the very best ideas. Collaboration technologies can also help internal teams find promising online talent and either offer them an insider's access to data and tools or hire them on as staff.

## 6. GO VIRTUAL TO FIND EXCELLENCE

Sometimes locating near top talent isn't an option – or a priority. Create virtual centers of excellence to mine customer insights and share intelligence globally. These centers can also be used to train new talent, creating the next wave of manufacturing leaders.

When it comes to thought leaders, collaboration technologies eliminate distance and enable contribution from global experts. Participants can meet face-to-face wherever they are – in the board room, the meeting room, the lab, or the factory floor. They also can collaborate across any device, making it easy to gain the input of decision makers on the go.

## 7. CHANGE PROCESSES FOR BETTER RESULTS

To innovate products, companies often need to go back to the drawing board and take a fresh look at their processes. Companies are using video collaboration to accelerate R&D and product

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4 Nancy Pardo, PTC, "Meet the Company Manufacturing Crowdsourced Inventions for Places Like Target," ForbesBrandVoice. December 2, 2013. <http://www.forbes.com/sites/ptc/2013/12/02/meet-the-company-manufacturing-crowdsourced-inventions-for-places-like-target/print/>. Accessed April 24, 2014.

5 "All Together Now: The Advantages of Crowdsourcing," Collaborative Manufacturing, The Economist, April 21, 2012. <http://www.economist.com/node/21552902>. Accessed April 24, 2014.

design, coordinate supply chain processes, and increase operational efficiency, among other objectives.

One of the most exciting opportunities to emerge in recent years is in the arena of sustainability. Manufacturing leaders are working with their partners to reduce raw material inputs and recover, recycle, and reuse durable components. Dame Ellen McArthur calls this model “the circular economy,”<sup>6</sup> where companies and their customers collaborate closely to extract maximum value from products and treat waste as a valuable resource.

## **8. MAKE SPEED-TO-MARKET EVEN FASTER**

Manufacturing operates in a 24/7 world, where demand shifts can be swift and far-reaching. New government regulations, the opening of trade barriers, and consumer behavior changes can all spur the need for new products and services.

Increasing consumer affluence and sophistication is also resulting in new appetites. The race for mass customization is on, driven by double-digit growth prospects in emerging markets.

Personalization for high-value products isn’t far behind. To win, companies will need to shorten supply chains and make decisions on the fly, using powerful analytics and visualization technologies to make sense of big data. Real-time communication and information modeling will rule the day.

## **9. SHARE THE WEALTH WITH JOINT R&D VENTURES**

With R&D’s high costs, it doesn’t always pay to go solo. Companies are partnering, joining consortia, and forming public-private partnerships to finance the developing and testing of new ideas. Companies, academic institutions, and federal agencies are joining forces to spur technology innovation, train students and workers,

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<sup>6</sup> “Navigating the Circular Economy: A Conversation with Dame Ellen MacArthur,” Interview Transcript, McKinsey Website.  
[http://www.mckinsey.com/insights/manufacturing/navigating\\_the\\_circular\\_economy\\_a\\_conversation\\_with\\_dame\\_ellen\\_macarthur](http://www.mckinsey.com/insights/manufacturing/navigating_the_circular_economy_a_conversation_with_dame_ellen_macarthur). Accessed April 23, 2014.

and enable manufacturers, both small and large, to share assets and other resources as they develop new products and processes.

To make a sizeable difference, these efforts will need to multiply beyond single centers. Collaboration tools can help specialist centers share their resources – and their knowledge – with each other and other members of the manufacturing community.

## Collaborative Decision Environments Span the Gap Between Ideas and Execution

To make innovation hubs successful, manufacturers must build collaboration into all of their work processes. It's not just about brainstorming; It's about continually testing and refining key concepts.

Equipping employees, suppliers, and other contributors with powerful video, audio, and content collaboration tools creates a circle of virtuous benefits including:

- Stronger idea generation with the participation of a wider pool of valued contributors,
- Continual R&D and product development that leverages crowdsourcing and test-and-learn marketing for enhanced ROI,
- Faster time-to-market achieved with 24/7 project teams continuously sharing information and iterating on designs,
- Better product quality with 3D modeling, expert analysis and knowledge sharing,
- Streamlined supply chain processes, with real-time decision making among partners,
- Products that meet real customer needs, down to the micro-geography or niche segment,
- The ability to attract and retain the best talent and train new workers in virtual training rooms, and
- Higher customer satisfaction with video-based service that runs the gamut from sales calls to contact center support and remote expert troubleshooting.

With innovation hubs, excellence is everyone's business. These new idea factories will help companies do more than survive industry disruption: They'll anticipate it and provoke change themselves, forcing less fleet competitors to scramble or be marginalized as commodity providers.

Collaborative decision environments help companies defy distance and create vital, ever-changing ecosystems of innovation. If you aren't opensourcing innovation, your competitors are. IP is the new – and most important -- differentiator.

## Issue Brief Collaboration Partner Spotlight

John Paul Williams is Director of Enterprise Solutions at Polycom. His background in leading global innovation in manufacturing, quality and engineering spans the fields of telecommunications, process controls and more. Prior to joining Polycom, John Paul served as General Manager of a process controls firm, designing and manufacturing control systems for the Energy industry. He was Vice President, Operations and Quality for a division of Hunter Douglas, a manufacturer of custom designed products with a 24-hour lead time. John Paul has also managed plants in Europe, Asia and the United States, providing local support to customers and markets while taking advantage of regional cost advantages.

### About Polycom

Polycom helps organizations unleash the power of human collaboration. More than 400,000 companies and institutions worldwide defy distance with secure video, voice and content solutions from Polycom to increase productivity, speed time to market, provide better customer service, expand education and save lives. Polycom and its global partner ecosystem provide flexible collaboration solutions for any environment that deliver the best user experience, the broadest multi-vendor interoperability and unmatched investment protection.

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