Deloitte.

Confederation of Indian Industry

Leveraging innovation to make it 'Smart in India'

June 2017

Contents

Foreword by CII

Innovation is essential as it acts as a true measure of the capacity to sustain growth. India is one of the world's fastest growing economies with increased effort towards industrial progress and innovation.

Innovation in manufacturing needs to address the challenges of producing more while consuming less material, using less energy and creating less waste and making the whole process increasingly profitable and environmentally sustainable. It's imperative to understand that innovation must result in productivity gains across the complete innovation cycle and create economic growth that enhances the welfare of manufacturing sectors.

India's burgeoning workforce needs to be trained to use radical innovations in the most diverse and creative ways to produce and improve products and services that delivers value to customers and all stakeholders. Blending skill development with education system is required on priority basis. To foster a culture of innovation, we need to develop a mind-set of value growth—one that is committed to multiplying value in every way possible. Such a mind-set promotes experimental thinking and is oriented to solving stakeholders' challenges in new ways.

Without doubt, innovation is a means of creating sustainable and productive solutions for inclusive growth in developing economies. It's time for the India to outpace its faster-growing but comparatively less innovative peers.

Mr Kishore Jayaraman
Chairman
CII Manufacturing Innovation Conclave 2017 &
President, India & South Asia
Rolls-Royce India

Foreword by Deloitte

In the last two years we have seen momentum across the manufacturing industry in India towards adopting innovative technologies to solve complex problems. The underlying principles for each of these innovations are simplicity, supreme customer experience and efficiency.

The rise of trends such as "Off-shoring to On-shoring" and "Mass Manufacturing to Mass Customization" has pushed traditional companies to transform rapidly and embrace a new technology-driven business model. Robotics and Automation are helping companies in this transformation. Innovative technologies such as artificial intelligence, machine learning, big data, 3D printing, additive manufacturing etc. are ensuring a rapid innovation cycle for all the players in the domain. The convergence of these technologies has the potential to generate huge improvements in capability, utility and accessibility of Indian manufacturers.

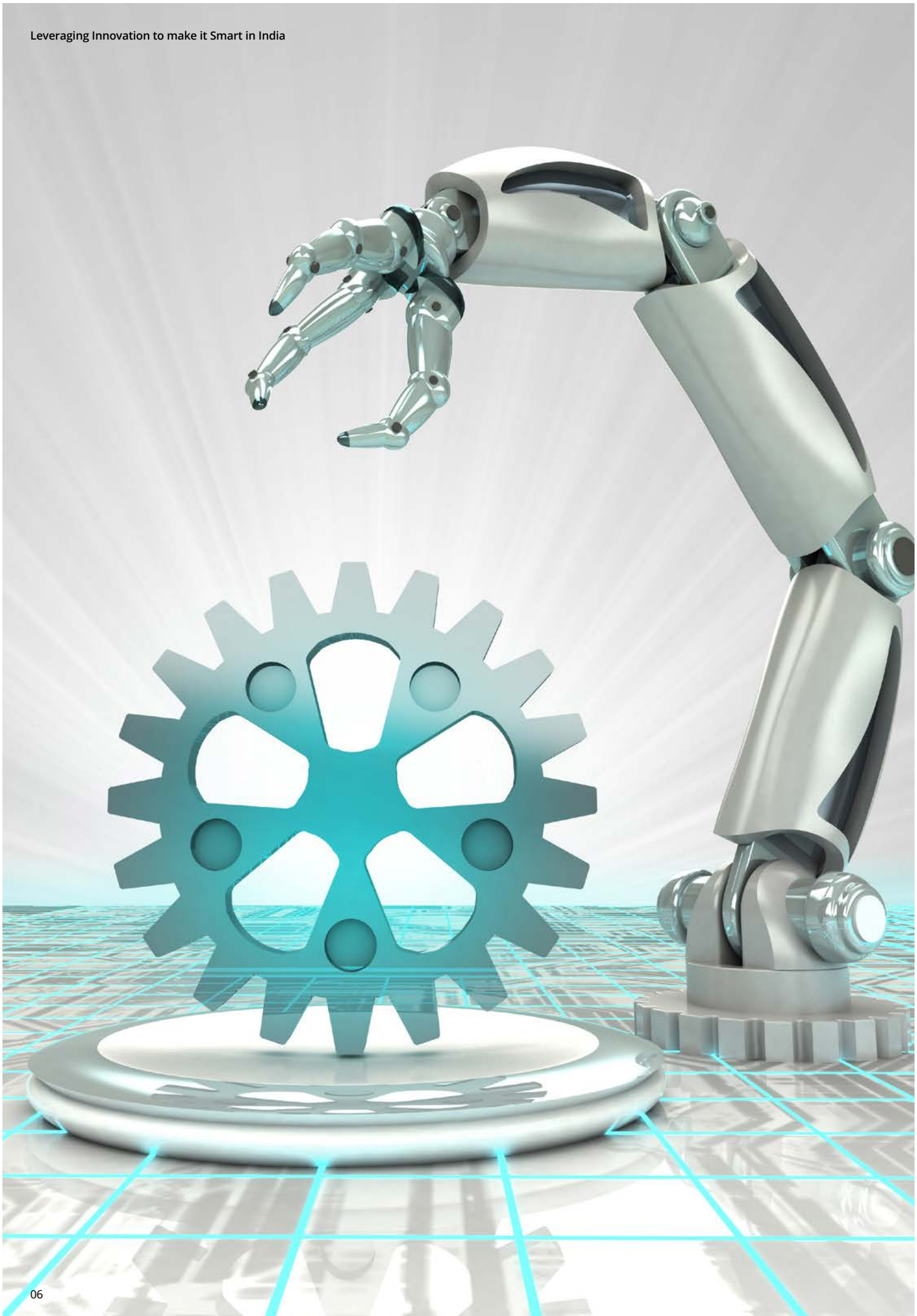
Globally as manufacturing technology continues to advance exponentially, barriers to entry, commercialization and learning are eroding. New market entrants with access to new tools can operate at much smaller scale, enabling them to create offerings once the sole province of major incumbents. While large-scale production will always dominate some segments of the value chain, innovative manufacturing models—distributed small-scale local manufacturing, loosely coupled manufacturing ecosystems, and agile manufacturing—are arising to take advantage of these new opportunities.

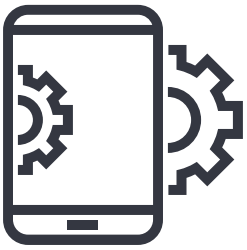
Delivering more for less is no longer a sustainable strategy, forward-thinking manufacturers are looking for alternative ways to create and capture value. The growing popularity of "smart" products, for instance has prompted some technology companies to make forays into the manufacturing space, either by developing software to run the products or by producing the products themselves. To be globally competitive in the next five years and beyond, it is imperative that Indian manufacturing companies (both incumbents and new entrants) are well versed with emerging technology trends driving manufacturing innovation, commercialise innovative ideas into sustainable businesses and leverage new business models to drive competitive and profitable growth.

Our report titled 'Leveraging Innovation to make it smart in India' is an endeavour to explore the trends and factors that will influence manufacturing in future and lay out steps which new entrants and incumbents can begin to take in effectively to set their own path in the rapidly changing manufacturing landscape.

Rajeev Singh
Senior Director
Deloitte India

Akash Srivastava
Partner
Deloitte India





Introduction

Manufacturing has emerged as one of the high growth sectors in India. Prime Minister of India, Mr Narendra Modi, launched the "Make in India" program to place India on the world map as a manufacturing hub and accord global recognition to the Indian economy. India is expected to become the fifth largest manufacturing country in the world by the end of 2020.

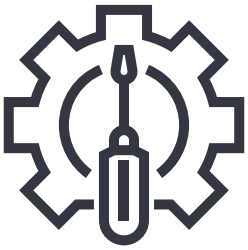
The Government of India has also set an ambitious target of increasing the contribution of manufacturing output to 25 per cent of Gross Domestic Product (GDP) by 2025, from 16 per cent currently.

India's manufacturing sector has the potential to touch US$ 1 trillion by 2025[1]. There is potential for the sector to account for 25-30 per cent of the country's GDP and create up to 90 million domestic jobs by 2025. Business conditions in the Indian manufacturing sector continue to remain positive.

India has several strengths that could help it to become a world class manufacturing hub: large pool of engineers; young working population; labour wages which are nearly half of that in China, growing domestic market for consumption of manufactured goods.

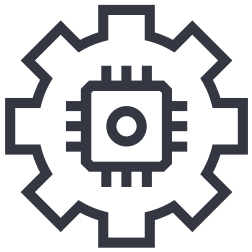
With several multinationals setting up their manufacturing plants in the country, the manufacturing ecosystem has benefitted from several attributes such as: state of the art technology for manufacturing of products; trained manpower in manufacturing plant; and a greater focus on operations and efficiency improvement. Advanced manufacturing such as 3D printing, Robotics and Automation are increasingly becoming more common on the shop floor.

To be globally competitive in the next five years it's imperative that Indian manufacturing companies are well versed with emerging technology trends driving manufacturing innovation, commercialise innovative ideas into sustainable businesses and leverage new business models to drive competitive and profitable growth. This theme paper highlights and provides an overview of these key emerging trends.



Manufacturing- the Innovation imperative

Manufacturing is no longer just about making physical products. Changes in consumer demand, the nature of products, and the economics of production and the supply chain have led to a fundamental shift in the way companies do business. Customers demand personalization and customization as the line between consumer and creator continues to blur. Added sensors and connectivity turn "dumb" products into "smart" ones, while individual products increasingly become platforms—and even move into the realm of services. As technology continues to advance exponentially, barriers to entry, commercialization and learning are eroding. New market entrants with access to new tools can operate at much smaller scale, enabling them to create offerings once the sole province of major incumbents. While large-scale production will always dominate some segments of the value chain, innovative manufacturing models—distributed small-scale local manufacturing, loosely coupled manufacturing ecosystems and agile manufacturing—are arising to take advantage of these new opportunities. Meanwhile, the boundary separating product makers from product sellers is increasingly permeable. Manufacturers are feeling the pressure and gaining the ability to increase both speed to market and customer engagement. Numerous factors are leading manufacturers to build to order rather than build to stock, making intermediaries that create value by holding inventory less and less necessary. Together, these shifts have made it more difficult to create value in traditional ways. And, as products become less objects of value in their own right and more the means for accessing information and experiences, creating and capturing value has moved from delivering physical objects to enabling that access. These trends can affect different manufacturing sectors at different rates. To determine the speed and intensity of the coming shifts in a particular sector, companies should consider factors including the extent of regulation, product size and complexity and the sector's level of digitization. In addition, large manufacturers should focus more tightly on serving in roles likely to lead to concentration and consolidation, while avoiding those prone to fragmentation. The good news is that three roles driven by significant economies of scale and scope—infrastructure providers, aggregation platforms and agent businesses—offer incumbents a solid foundation for growth and profitability. Due to competitive pressures, large manufacturers may be pushed to focus on just one role, shedding aspects of the business that might distract the company from becoming world class in its chosen role. The likely result is a significant restructuring of existing product manufacturers. The growth potential of adopting a scale-and-scope role can be further enhanced by pursuing leveraged growth strategies. Rather than focusing solely on "make vs. buy" options, large players will have opportunities to connect with and mobilize a growing array of new entrants, many of which will target fragmenting portions of the manufacturing value chain. Two emerging business models, "product to platform" and "ownership to access," seem particularly promising in terms of driving leveraged growth strategies. Finally, given the emergence of more complex ecosystems of fragmented and concentrated players across a growing array of manufacturing value chains, businesses that understand emerging "influence points" will have a significant strategic advantage. When deciding where to win and how to play in this new environment, there is no master playbook and no single path to success. But by understanding these shifts, roles, and influence points, both incumbents and new entrants can give themselves the tools to successfully navigate the future of manufacturing.



Twin significant shifts in a manufacturer's competitive landscape

01. Delivering more for less is no longer a sustainable strategy[2]

For decades manufacturers have been pursuing "more for less," focusing on delivering increasing product quality and functionality to consumers at lower and lower prices. But while this model served manufacturers well when improvements were relatively few and far between, accelerating technological change and the consequential shortening of the product life cycle has reduced the window of opportunity for capturing value from any given improvement to a sliver of what it once was. In an era of global competition, most of the already small gains in margin from product improvement are often competed away with the consumer as the beneficiary. With delivering more for less no longer a sustainable strategy, forward-thinking manufacturers are looking for alternative ways to create and capture value. It is no longer just about selling the product, but about gaining a share of the value it generates in its use. Consider the value that Netflix generates through the use of televisions as a conduit for streaming entertainment—or the value that businesses such as Zipcar and Uber create through the use of cars for on-demand mobility. Manufacturers are waking up to possibilities such as these and, in the process starting to transform the way they do business.

02. Emergence of reconfigurable manufacturing models to drive micro manufacturing setups

A second parallel shift is taking place. It arises from a confluence of factors moving scale upstream and fragmentation downstream in the manufacturing supply chain. Advances in technology and changes in consumer expectations are making it possible for relatively small manufacturers to gain traction and thrive in an industry where scale was once a virtual imperative. Indeed, in the race to find new ways to create and capture value, their smaller size and agility may give many market entrants an advantage over larger, older organizations, if only because incumbents may find it difficult to change entrenched business models and practices to accommodate new marketplace realities. Moreover, the new entrants are not necessarily manufacturing companies in the traditional sense. The growing popularity of "smart" products, for instance, has prompted some technology companies to make forays into the manufacturing space, either by developing software to run the products or by producing the products themselves.

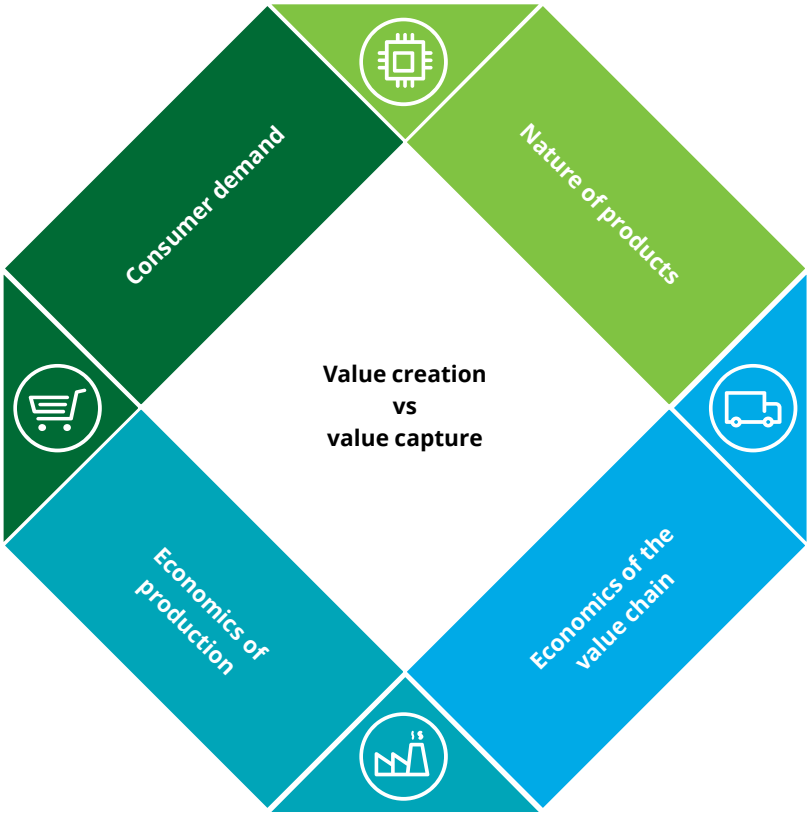
Facing these two macro shifts, manufacturers both incumbents and new entrants, from both traditional and nontraditional backgrounds—need to understand the forces driving the industry's evolution in order to choose their path forward. How can large incumbents take advantage of emerging tools, techniques, and platforms? What lessons can new entrants and incumbents learn from other industries that have staked a claim in the manufacturing space? And how can organizations find profitable and sustainable roles in the future manufacturing landscape?

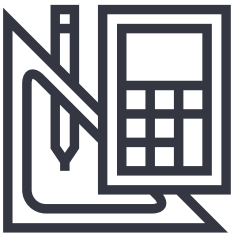
With these questions in mind, we take a deeper dive into four areas where changing dynamics underlie both of the shifts we have described (figure 1), exploring the trends and factors that influence each and laying out steps both entrants and incumbents can begin to take to effectively navigate this landscape of the future.

- Consumer demand: Consumers' rising power and unmet needs around personalization, customization, and co-creation are causing niche markets to proliferate.
- Products: Technological advances enabling modularity and connectivity are transforming products from inert objects into "smart" devices, while advancements in materials science are enabling the creation of far more intricate, capable, and advanced objects, smart or otherwise. At the same time, the nature of products is changing, with many transcending their roles as material possessions to become services to which consumers buy access.
- Economics of production: Technologies such as additive manufacturing are making it possible to cost-effectively manufacture products more quickly, in smaller and smaller batches.
- Economics of the value chain: Digital technologies are narrowing the distance between manufacturer and consumer, allowing manufacturers to bypass traditional intermediaries. Each of these shifts contributes to an increasingly complex economic environment that makes value creation more challenging and value capture more crucial.

While navigating the path to enhanced value creation and value capture, large incumbents, especially, should determine the urgency of change in a given market, focus on the most promising business types, pursue leveraged growth opportunities, and identify (and, where possible, occupy) emerging influence points. The path to success is specific to each business, and executives should envision their organizations in new ways if they want to make the most of the available opportunities. This report goes to outline the key trends that will shape innovation in manufacturing organizations over the next decade

Figure 1. Drivers underpinning manufacturing innovation





Key trends in Manufacturing innovation

Trend 1: Manufacturing Innovation driven by Exponential technologies

3Modern computers continue to become exponentially smaller, faster, and cheaper. And as more and more technologies become digitally empowered, this pattern of growth has expanded beyond microprocessors. Emerging fields with potential for exponential growth include additive manufacturing, robotics, and materials science. The convergence of these and other technologies has the potential to generate huge improvements in capability, utility, and accessibility.

Additive Manufacturing

Additive manufacturing (AM), better known as 3D printing, encompasses manufacturing technologies that create objects by addition rather than subtraction (through milling, for example). While 3D printing technologies were developed more than 30 years ago, this decade has seen a rapid advancement in tools, techniques, and applications in both commercial and consumer arenas. Today, while additive manufacturing is used mostly in prototyping,[3] it is expanding to other stages in the manufacturing process. Tooling the production of molds, patterns, jigs, and fixtures is traditionally one of the most time-consuming and costly portions of the process, far outweighing unit costs for each additional part and leading manufacturers

Robotics

Industrial robots historically have been used in large-scale manufacturing for tasks requiring exceptional strength and precision for example, moving heavy items, welding, and semiconductor fabrication. They required heavy upfront investment and programming, and were usually bolted to the ground and caged as a safety measure for humans working in the vicinity. Until recently, low labor costs plus the high price of industrial robots posed little incentive for low-wage countries to invest in automation, particularly for tasks that require relatively little training and production lines that change frequently. Now, however, rising global labor costs and a new generation of cheaper, more capable, more flexible robots are changing the equation. Some analysts estimate that, by 2019, per-hour labor costs in China will be 177 percent of that in Vietnam and 218 percent of those in India.[4] Given such projections, it's not surprising that in 2014, China became the largest buyer of industrial robots, buying more than 36,000—more than either the United States or Japan. While Japan still has the largest total number of active robots, China is well on pace to become the automation capital of the world.[5]

Though robots will not replace human labor in manufacturing in the immediate future, they are poised to take up an increasing share of the manufacturing floor. This is likely to reduce the number of low wage, low-skill human manufacturing jobs while generating a relatively small number of specialized higher wage jobs in programming and maintenance.

Materials Science

Since the 1960s, the term "space-age" has been used to describe new materials that enable previously impossible engineering tasks. The first generation of these materials memory foam, carbon fiber, nanomaterials, optical coatings has become ubiquitous. As new materials are created, older ones, once inaccessible to all but the most advanced, price insensitive manufacturers, have begun to trickle down to the mainstream. Take carbon fiber as an example, while the energy costs associated with its manufacture still prevent use in many low end applications, recent technological improvements have allowed manufacturers to produce higher volumes of carbon fiber products at lower prices. As a result, it has found utility in a slew of premium products such as bicycles, camera tripods, and even structural automotive components such as drive shafts and A-pillars.[6] Lexus, for example, has developed a carbon fiber loom that,

rather than forming two-dimensional sheets into three-dimensional shapes, can weave seamless three-dimensional objects.[7] As manufacturing improvements lower costs and other barriers to access, we can expect to see such materials used in more mainstream applications. In fact, lower costs and streamlined manufacturing processes are slated to double global carbon fiber production by 2020.[8]

Meanwhile, materials are being developed from new sources. MycoBond offers a flame-resistant Styrofoam alternative grown from Mycelium fungus.[9] Hobbyists can now make thermoplastic at home using simple online instructions and the starch from a grocery store potato.[10] And researchers are making surgical-grade plastic from silk.[11] Like carbon nanotubes, these materials have potential in higher-performance settings. Nanocrystalline cellulose, a renewable material abundant in wood fiber, has potential applications ranging from plastic and concrete reinforcement to conductive paper, batteries, electronics displays, and computer memory.[12] Other high-performance materials adapt to their environments. Dynamic materials such as electroactive polymers (polymers that change shape when exposed to an electric charge) and thermal bimetals (metals that change shape as temperatures change) have demonstrated potential for use in adaptable architecture. When used as the outer skin of a building, these materials can expand when it is hot to cool structures and close when it is cold to preserve heat.

Trend 2: Eroding barriers to learning, entry, and commercialization

Low barriers to Learning

What does a millennial (or at this point, anyone) do to learn something new? Google it. Or, in broader terms, search online. How-to videos on pretty much any topic can be found on YouTube. Websites such as Instructables, Hackster, and Makerzine feature thousands of step-by-step projects in text and video. Discussion forums in communities of interest deepen learning with conversations often mixing amateurs and experts that address specific problems. Such online discourse is then extended to "real life" via tools, like meetup, that make it easy to gather a group around a topic or "learning/hacking" session. The resulting influx of makers and startups drawn from these communities and the ease of acquiring design and production skills, fuels the number of market entrants. While entrants generally are unequipped to challenge incumbents directly, they are both the sign and the result of rapid innovation; the areas where they innovate will be loci of change and growth in the nature of manufacturing. From desktop tooling to freelance engineering talent, crowdfunding to business incubators, a whole ecosystem has arisen to help budding manufacturers learn the ways of designing, manufacturing, and selling a product.

Low barriers to entry

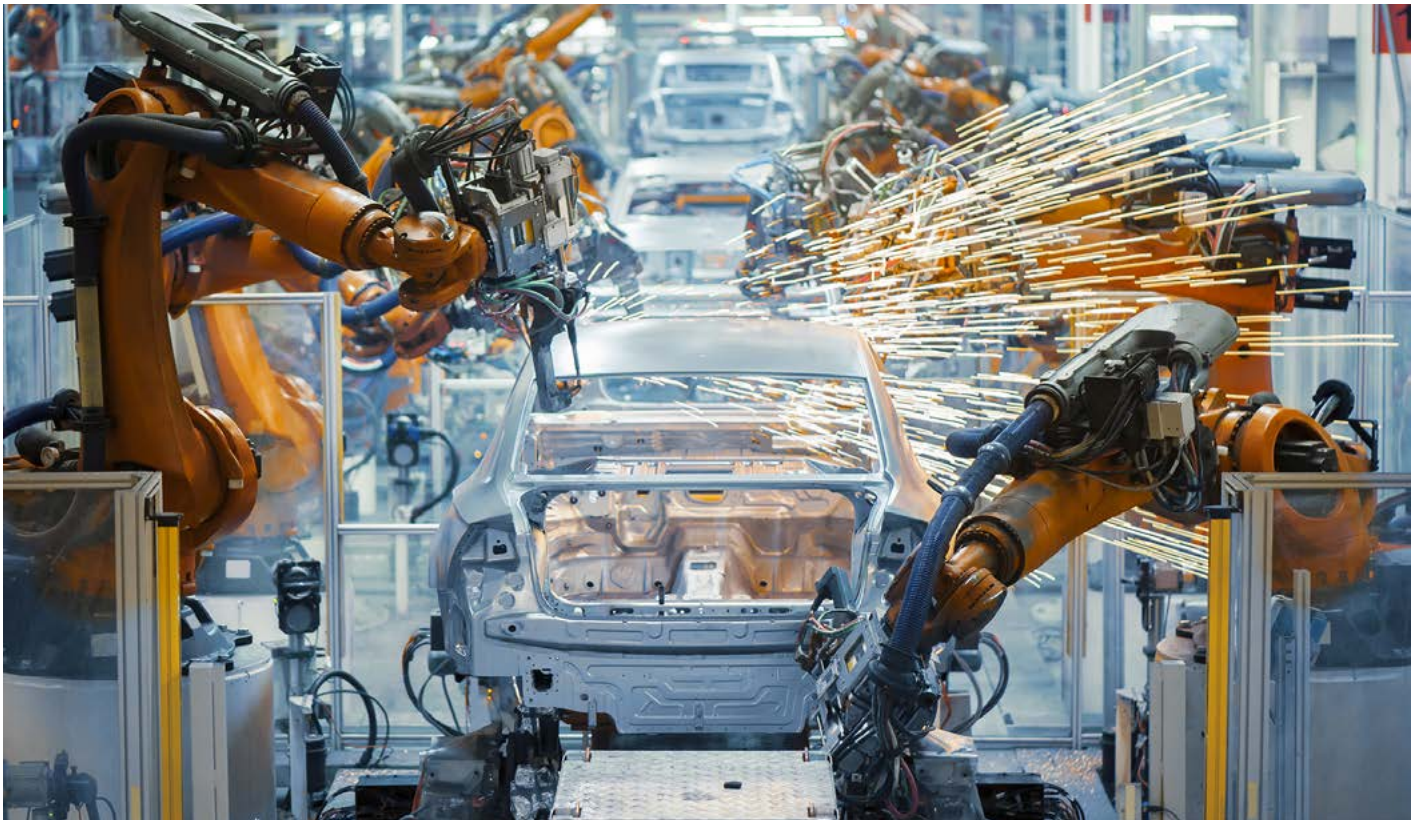
The digital infrastructure-based benefits that supported the rise of software startups at the turn of the century have now extended to hardware startups. In addition to pay-per-use models that allow for access to high-end computing power through offerings such as Amazon's AWS service, an array of boutique agencies, freelance creative and technical consultants and service marketplaces give prospective hardware entrepreneurs access to programming, design, and engineering talent on an as-needed basis. Both tooling technology and tool access have also been democratized. TechShop offers members access to complex design and tooling equipment for roughly the cost of a monthly gym membership. A slew of desktop manufacturing modules, from 3D printers and CNC milling machines to printed circuit board (PCB) printers and pick-and-place machines, have hastened the speed of prototyping and small scale manufacturing.

Low barriers to commercialization

Barriers to initial funding and commercialization are also falling, making it easier than ever to enter a market, commercialize a creation, and build a business. Crowdfunding of hardware projects has become both popular and lucrative, reducing reliance on financing through bank loans and venture capital. Initial capital often covers tooling costs, requiring only enough revenue to cover production. Crowdfunding sites such as Kickstarter and Indiegogo have also allowed startups to identify early adopters, develop a loyal customer base, and establish demand prior to producing a single item. Venture funders have taken notice, increasing their funding of hardware startups, while numerous hardware incubators and accelerators help startups move from idea to prototype to business

Trend 3: Emergence of newer manufacturing models[13]

Responding to the growing opportunities presented by niche markets, and drawing on technologies that make it possible to cost-effectively manufacture small batches or even single instances of many items, manufacturing is shifting from a predominantly scale-driven sector to one characterized by multiple production models? Largescale production will always dominate some segments of the value chain, but three other manufacturing models are arising to take advantage of new opportunities: distributed smaller-scale local manufacturing; loosely coupled manufacturing ecosystems; and an increased focus on agile manufacturing methods at larger operations.



Distributed Local Manufacturing

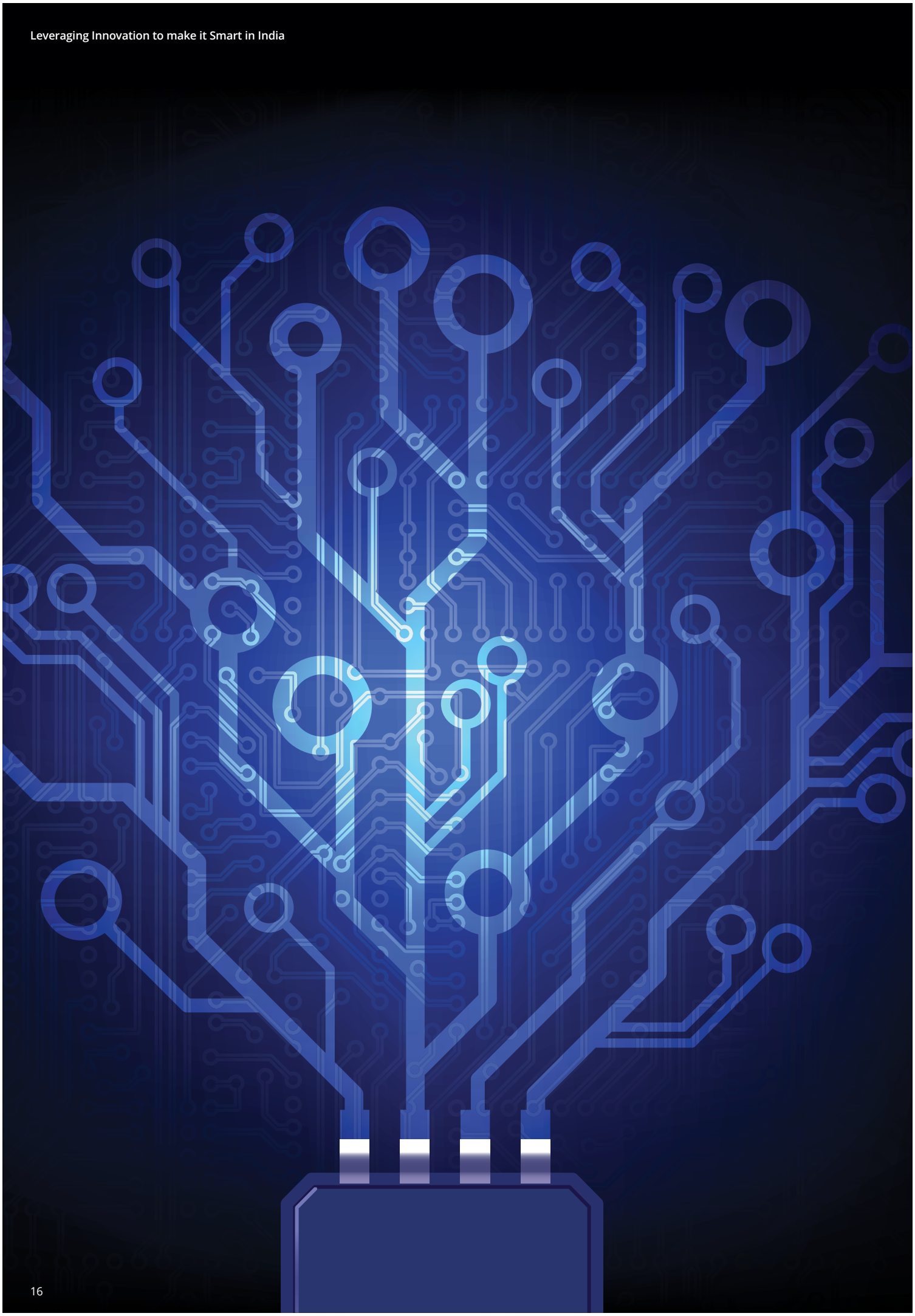
In the twentieth century, an intense focus on cost reduction and efficiency led manufacturers to decamp to countries with low labor costs and to maximize efficiencies gained through mass production. In the United States and Europe, what little domestic manufacturing remained served premium or craft markets. But a recent rise in local manufacturing is bucking that trend, relying on technology and community to keep costs down.

Loosely Coupled Manufacturing Ecosystems

Shenzhen, a city in southern China, was established in 1979; today, it is the anchor city of China's Special Economic Zone, the global epicenter of consumer goods manufacturing.[14] While the zone's largest manufacturers are known worldwide, some of the more interesting players in this ecosystem are part of a network of smaller factories, called Shanzhai, which evolved around the giants, originally manufacturing gray market or pirated products but now entering legitimate commerce. These smaller manufacturers' size, plus their network of interconnections, enable them to perfect small-lot manufacturing while iterating at incredible speed. Their operators many former factory workers who have branched out into ownership—have mastered the ability to build high-quality products at low volumes and low cost, at extreme speed, using an ecosystem of loosely coupled small to medium sized factories and individual experts. The result is a system that can take on the larger Shenzhen factories and one that is extremely well-suited to emerging modes of supply. The beneficiaries are any designers or brands, large or small, established or new, that want to jump in, iterate quickly and cheaply, and scale as needed to meet demand. One highly visible outcome is the plethora of inexpensive, high-quality mobile phones dominating the Chinese market. As newer trends such as IoT, wearables, and robotics gain momentum, the Shanzhai are likely to respond with equal alacrity and range.

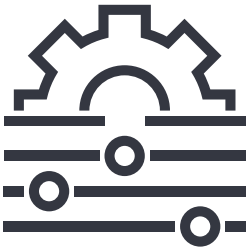
Agile Manufacturing

For larger manufacturers, renewed interest in agile manufacturing is helping them remain competitive while staying responsive to increasingly fickle and unpredictable market signals. The key to this increased agility: a digital infrastructure that provides access to near-real-time point of sale (POS) data, rather than lagging monthly or quarterly sales reports. The more accurate such forecasts are, the more sense it can make to choose highly efficient large production runs. However, when introducing a new product with less certainty of market acceptance, or making upgrades or changes to a product design, manufacturers may instead choose to focus on producing "minimal viable batch quantities," matching agile manufacturing practices with agility in the supply chain. Overseas production and freight shipping will force minimum manufacturing quantities to compensate for long lead times from production to customer. For smaller items, the cost of air freight and short fulfillment cycles may trump the cost of holding inventory, cost of capital, and obsolescence.



Conclusion

THE manufacturing landscape is undergoing a massive collective shift. Consumer demands, the nature of products, and the economics of production and distribution are all evolving. Boundaries are blurring between manufacturing and technology on one hand and manufacturing and retail on the other. While more value is being created, manufacturers are under increasing pressure. In this environment, capturing value requires fundamentally rethinking business models—remapping a company's strategic positioning based on internal capabilities, external shifts, and emerging influence points. Several large incumbents are making moves in these directions. GE Aviation moved from selling jet engines to selling power by the hour, as a utility company would. While savvy startups are developing business models in alignment with the new manufacturing landscape. Xiaomi started with a direct-sales model that prioritized consumer relationships, then eventually expanded to include traditional retail channels. The company knew that the influence point was closeness to the consumer; owning that space allowed it to develop good terms with retailers. Creating and capturing value in the new manufacturing environment will require understanding the factors driving change in specific sectors, focusing on activities that convey a structural advantage, leveraging the skills and capabilities of third parties, fundamentally rethinking business models, and identifying influence points. There is no one path to success; instead, we offer a set of pointers and guideposts. Take this opportunity to define your own success and blaze your own trail.



End-Notes

1. Overview of Manufacturing Sector, https://www.ibef.org/industry/manufacturing-sector-india.aspx accessed on June 6, 2017
2. Future of Manufacturing, Making things in a changing world, Deloitte University Press, 2015
3. Mark Cotteleer, "3D opportunity: Additive manufacturing paths to performance, innovation, and growth," Additive Manufacturing Symposium, October 1, 2014, http://simt.com/uploads/4881/SIMT_AM_Conference_Keynote.pdf, accessed June 6, 2017.
4. CFO Innovation, "Cost competitiveness alone not enough to maintain China's global manufacturing predominance," December 2014, http://www.cfoinnovation.com/story/9260/cost-competitiveness-alone-not- enough-maintain-chinas-global-manufacturing-predominance.
5. Peter Carty, "Restaurants in China roll out robot waiters and kitchen staff," International Business Times, January 3, 2015, http://www.ibtimes.co.uk/restaurants-china-roll-out-robot-waiters-kitchen-staff-1481706, accessed June 6, 2017.
6. YouTube, "Steel shaft vs carbon fiber shaft," https://www.youtube.com/watch?v=hjErH4_1fks, accessed June 6, 2017
7. Automotive News, "Toyota's carbon-fiber foray," January 7, 2013, http://www.autonews.com/article/20130107/ OEM01/301079971/ toyotas-carbon-fiber-foray, accessed June 6, 2017.
8. Carbonfiber, "Carbon Fibre Industry Worldwide 2011-2020," http://www.carbonfiber-report.com/, accessed June 6, 2017.
9. Eben Bayer, "Are mushrooms the new plastic?," Ted.com, July 1, 2010, http://www.ted.com/talks/eben_bayer_ are_mushrooms_the_ new_plastic?language=en, accessed June 6, 2017.
10. "Thermoplastic Starch - Potato Plastic," http://jlocklin.uga.edu/images/outreach/potatoplasticlabmodule.pdf, accessed June 6,2017.
11. Fiorenzo Omenetto, "Silk, the ancient material of the future," Ted.com, March 1, 2011, http://www.ted.com/talks/ fiorenzo_omenetto_ silk_the_ancient_material_of_the_future?language=en, accessed June 6, 2017.
12. BBC, "The thinking, breathing buildings on the horizon," June 10, 2013, http://www.bbc.com/future/ story/20130610-buildings-that-breathe-and-think, accessed June 6, 2017.
13. Future of Manufacturing, Making things in a changing world, Deloitte University Press, 2015
14. Wile, "Here's what Shenzhen, China looked like just before becoming one of the most important cities in the world," Business Insider, February 2, 2013, http://www.businessinsider.com/old-photos-of-shenzhen-2013-2, accessed June 6, 2017.

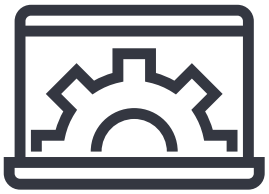
About Deloitte

Deloitte drives progress. We advance the aims of our clients and their stakeholders, striving to make them leaders wherever they choose to compete. We focus on making a tangible positive difference by combining strategy with action and delivering measurable impact. We form unique collaborations to find smarter insights, innovative solutions and entrepreneurial ways to move ahead. We invest in outstanding people of diverse talents and backgrounds and empower them to achieve more than they could elsewhere. We believe that when our clients succeed, and when society succeeds, so do we.

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee ("DTTL"), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as "Deloitte Global") does not provide services to clients. Please see www.deloitte.com/about for a more detailed description of DTTL and its member firms.

Deloitte globally provides audit, tax, consulting, and financial advisory services to public and private clients spanning multiple industries. With a globally connected network of member firms in more than 150 countries, Deloitte brings world-class capabilities and high-quality service to clients, delivering the insights they need to address their most complex business challenges. Deloitte has in the region of 245,000 professionals, all committed to becoming the standard of excellence.

In India, Deloitte member firms are spread across 13 locations with nearly 32,000 professionals who take pride in their ability to deliver to clients the right combination of local insight and international expertise.



About CII

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering industry, Government, and civil society, through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organization, playing a proactive role in India's development process. Founded in 1895, India's premier business association has over 8,300 members, from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 200,000 enterprises from around 250 national and regional sectoral industry bodies.

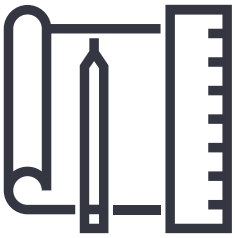
CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes. Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, healthcare, education, livelihood, diversity management, skill development, empowerment of women, and water, to name a few.

The CII theme for 2017-18, India Together: Inclusive. Ahead. Responsible emphasizes Industry's role in partnering Government to accelerate India's growth and development. The focus will be on key enablers such as job creation; skill development and training; affirmative action; women parity; new models of development; sustainability; corporate social responsibility, governance and transparency.

With 66 offices, including 9 Centres of Excellence, in India, and 10 overseas offices in Australia, Bahrain, China, Egypt, France, Germany, Singapore, South Africa, UK, and USA, as well as institutional partnerships with 344 counterpart organizations in 129 countries, CII serves as a reference point for Indian industry and the international business community.

Confederation of Indian Industry
(Northern Region) - Sub - Regional Office
Plot No. 246-F, Sector-18, Udyog Vihar,
Phase IV, Gurgaon - 122 015
T: +91-0124-4014073
F: +91-0124-4014070
E: ciinr@cii.in • W: www.cii.in



Acknowledgement

Deepak Sidha
Deputy Director
deepak.sidha@cii.in
CII

Confederation of Indian Industry

Published by Confederation of Indian Industry (CII).

Deloitte.