

Influence of megatrends at leading industrial manufacturing companies



The world is changing at a rapid pace and it can be hard to keep up. One way of making sense of the churn around us is to understand the major underlying forces, or megatrends, driving the economic, social, and political environment. Megatrends are not predictions, they are givens. All of them are already happening and their impact will continue to grow over the next decades. Megatrends are not local events; they are global in scale and will affect every country and market in which we and our clients operate. Industrial manufacturing companies serve as the backbone of markets, communities and institutions adapting to these changes. In fact, many of the largest industrial manufacturing companies globally have responded to these megatrends in their own businesses and are capitalizing on the disruptiveness these megatrends are causing.

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Shift in economic power

In 2009, the G7 economies (US, Japan, Germany, UK, France, Italy, and Canada) were approximately 50 percent larger than the E7 economies (Brazil, Russia, India, China, Indonesia, Mexico, and Turkey). By 2050, the E7 economies are projected to be twice the size of the G7 economies¹. What does this mean for industrial manufacturing? This trend is not just impacting multinational clients who are seeking new sources of growth, but also middle market and private clients looking at their supply chain or overseas competitors. As emerging markets become exporters of capital, talent, and innovation, they are also changing the direction of capital flows, with a profound effect on the global economy.

Along with the growth and size of emerging markets, we see the interconnectivity of trade and investment flows, which are growing much faster than the traditional routes of developed-to-emerging and developed-to-developed countries. Numerous industrial manufacturing companies are citing emerging market revenue growth as a key driving factor in earnings both now and for future growth. However geopolitical tensions across the world create some uncertainty in the outlook for the world economy².

Furthermore, increased geographic reach brings with it increasing foreign currency and regulatory exposure due to basket of currencies and local regulatory requirements. Industrial manufacturing companies are focusing their attention to emerging areas where application of their products are heavily impacted by resource scarcity be it water challenges in the Middle East to food shortages in Africa³. Companies are moving their geographic footprint closer to these regions. Some of these companies, such as the Sandvik Group, are acquiring local players to ramp up their growth in strategic territories.



Demographic shifts

Two major demographic shifts are occurring. First, the percentage of people over the age of 60 is expected to increase from 8 percent to 21 percent during the 100-year period ending in 2050.⁴ And second, the rate of population growth is expected to slow, a trend that will have a positive impact on the planet's resources, but one that will create challenges for economic growth. The population of the developed world is expected to grow less than 1 percent annually, and much of the world will experience declines in population. Africa will lead in population growth, with many areas growing more than 2.5 percent annually.⁵

For industrial manufacturing companies, the focus on demographic shifts has centered on applications for their products that support the healthcare sector. Product lines are developing around the technological needs for healthcare required for an aging population for companies such as: GE, Danaher Corporation, and Roper Industries.

For industrial manufacturing companies, securing talent will be a key challenge. The global war for talent will continue, causing companies to consider where to place manufacturing, R&D and distribution facilities.

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¹ PwC, The World in 2050: Will the shift in global economic power continue, 2015

² Prysman Group, First-Quarter Results, 2015

³ Impeller, online magazine for Xylem, Solving middle east water challenges, 2015-06-10

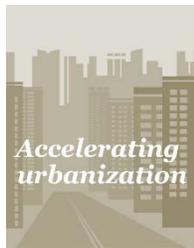
⁴ PwC, "Five megatrends and how they're impacting aerospace and defense companies", 2014-14-03

⁵ World Watch Magazine, "Populations, Family Planning and the Future of Africa", September/October 2004, Volume 17, No. 5

To support new technologies and innovation, manufacturers have to attract people with STEM (science, technology, engineering and mathematics), skills. However, this talent pool is in demand in many other industries as well, and manufacturing is generally not top-of-mind for young people starting to build their careers.

Many mature economies, such as the US and Japan, are dealing with aging populations and baby boomer retirements, leaving a significant vacuum in the workforce. If manufacturers are to retain many valuable workplace skills and institutional knowledge, they will have to create a systematic way to ensure a smooth handoff from one generation to another.

Emerging economies, with rapidly growing young populations, present different skill challenges for manufacturers. Many of these countries are still struggling with feeding and educating their people. These issues become magnified as rural populations move into cities in search of work. A rapid rise in urbanization in relatively undeveloped countries often leads to increased poverty and high dropout rates, resulting in a scarcity of talent. This scarcity breeds competition among companies that have to compete more aggressively for the talent that does exist, especially at the managerial level. As a result, companies are finding it difficult to attract and retain employees, often losing them to competitors that offer even small increases in pay or slightly more favorable working conditions. This high rate of mobility is likely to become a bigger problem over the next decade as competition for labor continues to increase.



Accelerating urbanization

For centuries, the global population has been becoming increasingly urbanized. The percentage of people living in urban centers is projected to grow from 50 percent today to approximately 72 percent by 2050⁶. This increase in urbanization brings with it a need for both additional infrastructure to support the growing urban population as well as development of commercial and residential real estate. Companies are beginning to develop strategies around cities rather than countries or regions as they may become the islands of governance which a future world order will be built. As the need for infrastructure rises, manufacturing companies are experiencing an increase in demand for product used to support the development of transportation, and power infrastructure essential to urban development. Additionally, manufacturers are citing increasing demand as their products are the equipment and supplies used directly by the construction markets which are experiencing growth both in the emerging world as well as areas starting to rebound from the global economic crisis.

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Climate change and resource scarcity

By 2030, global population is expected to grow to 8.3 billion; the world will need 50 percent more energy, 40 percent more clean water, and 35 percent more food⁷. As a result, there will be a focus on innovation regarding alternative energy, water management, agribusiness, and food production. Industrial manufacturing companies are pivoting towards these demands by building capabilities in technologies needed for alternative energy sources, low voltage and LED products and in anticipation of increasing requirement for agricultural output. These companies also recognize the need to develop better solutions due to concerns over climate change and environment together with stricter regulations and stringent emission standards⁸. A top industrial manufacturer has created an entire portfolio of products lowering the global warming potential of refrigerants. Similarly, Alstom has just entered into a new area by creating a new generation of emission-free trains with fuel cell technology in Germany.

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⁶ PwC, "Five megatrends and how they're impacting aerospace and defense companies", 2014-14-03

⁷ PwC, Five megatrends and possible implications, 2013

⁸ Tyco Q1 FY15 Earnings Release



Pace of technological change

The pace of technological change is increasing exponentially. By 2015, the number of network devices will have increased from 2 billion to 16 billion in just ten years⁹. Advancements are being made in mobile technology, cloud computing, data analytics, biotech and genomics, and artificial intelligence.

For industrial manufacturing companies, the products they create are getting “smarter” as the “internet of things” is embedded in their products. These platforms will allow customers to collect data from their installed sensors and devices and perform advanced analytics, unleashing the value of the information and creating numerous smart service possibilities for customers.

Other companies such as, Eaton Corporation, continue to advance the mechanics used in the products they create to meet customer demands and create solutions for the evolving world’s problems. They are creating products that allow their customers to effectively address the impact of resource scarcity such as improving fuel economy, cutting emissions, or reducing the weight of their products.

Advances in both the materials used in 3-D printing and the speed of the process have the potential to revolutionize manufacturing and logistics: Imagine being able to print parts at the location where they are needed. These advances decreasing down time and increasing productivity. However, these technologies also come with some risks related to counterfeit parts and intellectual property protection. Manufacturing companies have not adequately invested in IT, and so their security protocols cannot protect their intellectual property (R&D and processes). This intellectual property is highly sought after by competitors, hackers, and nation states that want to improve their own prospects. As a result, information security is a growing priority for industrial manufacturing companies.

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These five megatrends offer tremendous opportunity for industrial manufacturing companies to expand. To succeed, these companies must be adaptable to the emerging needs of a changing world. This requires mobility to evolve corporate footprint to follow shifts of global economic powers, development of the next generation of talent to address the aging demographic of the current employment base, capital investments to keep up with the requirements of technological breakthroughs, and a good dose of creativity in solving the issues created by each of the megatrends.

For further information...

Barry Misthal
Global Industrial Manufacturing Leader
barry.misthal@us.pwc.com

⁹ PwC, Navigating the megatrends: Strategizing for success, 2014

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