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When the coronavirus pandemic is over

The pandemic has changed many facets of life. How has it affected the gear industry?

When we were making our business plans in 2019, the thought of a pandemic was never a consideration. Business leaders and CEOs were looking at their sales and marketing data and the forecasts revealed the economy should continue to grow, albeit at a slow rate. This combined with a presidential election occurring in the latter part of 2020 gave CFOs a signal to maintain current investments but to refrain from starting new projects. Little did any of them know what was about to occur.

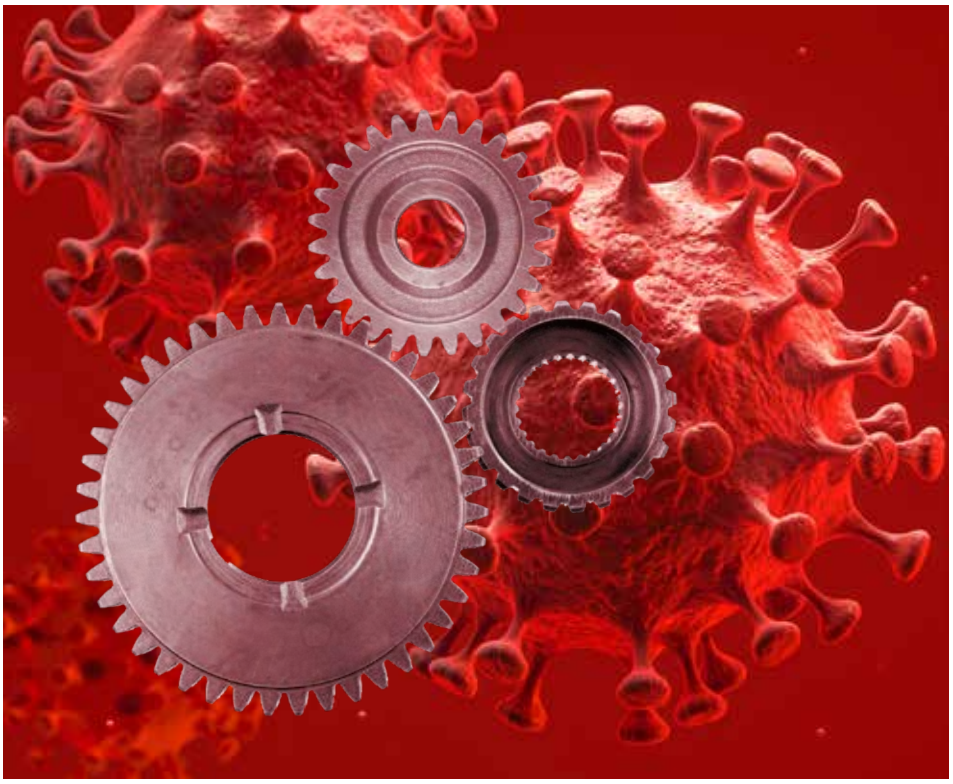
In early 2020, business in the gearing industry was strong. Most suppliers would say that the fourth quarter of 2019 and the first quarter of 2020 were the best that they had seen in years. Although the limited availability of skilled labor was beginning to impact production, orders continued to flow in, and shipments remained strong. And then the virus began to spread.

In the first half of the 1900s, one of the greatest public health fears was poliovirus. Poliovirus was feared by society because of the potential effects of exposure. Although three-quarters of people exposed experienced flu-like symptoms and recovered completely, approximately one half of one percent of children who were exposed would end up with some form of paralysis. The paralysis could be mild, requiring the use of leg braces, or it could be so severe that children would need to spend the rest of their lives inside a pressurized breathing apparatus nicknamed the *iron lung*. Because of the possibility of paralysis, whenever an outbreak occurred, children were kept from public pools, beaches, and movie theaters, bans were placed on using drinking water fountains, and public meetings were canceled. The fear of infection continued until 1955 when a vaccine was introduced.

In late January 2020, business in the gearing industry was strong. News about a mystery flu-like virus emanating from China began to permeate the airwaves. By mid-February, the number of people infected by this novel coronavirus was increasing exponentially, causing businesses and government leaders to question how to contain the outbreak. Some pointed to the seasonal influenza and thought that the new virus would just work its way through society. Others feared that the high infection rate and serious nature of the illness would result in mass casualties. By mid-March, the spread of the virus appeared uncontrollable, and businesses began to shut down in order to keep employees safe from possible exposure. Many of the people who got sick ended up hospitalized, breathing with assistance from a respirator due to the aggressive nature of the virus.

The general business shutdown hit the gearing industry hard. Production stopped. Customers delayed deliveries. Projects were halted. New sanitation procedures were advised. "Social distancing" became a new buzzword.

During the period of late March through early June, the output of most gear suppliers decreased by more than 50 percent. Some producers remained open during this time in order to meet the continued demand for critical national defense components. Other gear suppliers shipped product from stock but halted all production. The suppliers who remained operational became the proverbial canaries in the coal mine as they were able to test the newly proposed hygiene



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standards both in their offices and on their shop floors. With new standards in place, most manufacturing was permitted to re-open in June 2020.

As the re-opening of manufacturing started, demand was immediate. Factories that had been shuttered returned to full operation as demand for personal protective equipment and other goods skyrocketed. As these factories restarted, the need for gearing and related components spiked as well. Other drivers of demand for gearing included newly developed machinery designed to produce plastic point-of-purchase shielding, newly developed machinery designed to produce virus testing equipment, and newly developed automation equipment designed to maintain production when equipment operators were home due to quarantine.

Sales and other office operations of gear suppliers were able to transition to remote work during the pandemic via VPNs and virtual video meetings. Gear production equipment, however, requires live operators to start, stop, load, and unload the gear production machinery. Thus, once they re-opened, gear suppliers had a new set of tasks to tackle including implementing hand sanitizing stations, ensuring safe distances between workstations, and checking the health of all employees prior to each shift. Once these procedures were in place, gear suppliers were back to full production.

In December 2020, the United States Food and Drug Administration issued an emergency use authorization for the first of several vaccines for the virus now known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

As more and more of the general populace got one of the vaccines, a general uptick in business activity occurred. However, manufacturing and the gear industry hit a plateau in the first quarter of 2021. The sharp demand for new equipment and mechanical components created an outsized demand for raw materials. This demand for raw materials, at a time when mines and foundries had just restarted from shutdown, caused shortages of some materials and significant inflation in the cost of those materials.

Gears are mechanical components and are themselves immune to viruses. However, the motion they transmit is generated by a motor located somewhere in the mechanism. This motor, in turn, is operated by a controller that contains microchips. The shutdown of the chip manufacturers resulted in a shortage of chips just as the demand for finished products spiked. This shortage, combined with the rise in cost of raw materials, slowed the growth of the mechanical components industry.

As the post-pandemic period continues, the gearing industry should continue to grow. The raw material and component shortages are transitory, and, once resolved, will allow for the return to steady growth. Gears will continue to drive industrial automation systems, which, in turn, will be used to produce and deliver the goods that industry and consumers desire.

ABOUT THE AUTHOR

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