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Manufacturing Leaders Must Embrace Change (and Technology) to Stay Competitive

> A Gray Company Spotlight: Anderson Dahlen, A Gray Company

Manufacturing Leadership— What It Will Take to Thrive in the Post-Pandemic Economy

Gray

Welcome.

Stephen Gray President and Chief Executive Officer GRAY, INC. The industrial sector has witnessed trade wars, supply chain disruptions, and most recently, COVID-19, leading to economic volatility and uncertainty. As a result, leaders are faced with a new era of challenges that will carry into 2021.

What's clear is this—flexibility is imperative to survival in this new business climate. The pandemic revealed that companies with Industry 4.0 technologies were more agile in responding to quickly changing economic conditions, including the ability to create, support, and manage an effective, yet remote workforce.

In this issue of the **Grayway**, we see that leaders must continue to invest in modern, digital systems that enable quick, informed decision making. Leaders must also embrace softer skills, such as emotional intelligence, to better understand the needs of their workforce and how best to build a resilient, caring culture for the future.





Gray practices methods which protect our environment. IT Infrastructure, Workforce Safety, Agility, and Emotional Intelligence are Key Challenges for Manufacturing Leaders Today

What's on the Inside. \rightarrow

2

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9

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This will likely not change in 2021.



The business climate will hopefully settle soon into a "new normal" as the U.S. government transitions to a new presidential administration, COVID-19 gets under control, and employees return to work under new safety guidelines.

Manufacturing leaders must heed the lessons that were learned during the trade wars and pandemic. This includes keeping the improvements that worked and discarding those that did not to build a culture of preparedness for quick response and decision-making that can deploy assets in smart ways, should another crisis rock the global economy.

According to the National Association of Manufacturers (NAM), manufacturing executives have plenty of challenges on their plates. In a <u>third</u> <u>quarter 2020 survey</u> of manufacturers, the NAM identified the top current business challenges for manufacturers:

- · Weak domestic economy and sales
- · Attracting and retaining quality workforce
- Rising healthcare and insurance costs
- Trade uncertainties
- Weak global growth and slower exports
- Increased raw material costs
- Unfavorable business climate (taxes, regulations)
- Transportation and logistics costs
- Access to capital

A recent <u>survey by the Manufacturing Leadership</u> <u>Council</u> also reflects the following concerns:

- Diversify revenues
- Increase market differentiation

- Modernize IT infrastructure
- Bolster cybersecurity
- Improve customer experience
- Increase operational efficiencies

These surveys reveal the top challenges for manufacturing leaders going into 2021. COVID-19 and the China-U.S. trade war have shown the vulnerability of U.S. manufacturing to major disruptions. Proactive manufacturing leaders have responded by identifying, purchasing, and deploying new systems and technologies to stay operational and competitive during the economic downturn. When current markets stabilize, it will be especially important to maintain this momentum and not slide back into the status quo. Visionary leaders will build on what they learned during the last few years and invest in the necessary infrastructure and resources so they can be quick, agile, and decisive decision-makers when future disruptions occur.

Invest and Deploy

Smart companies will maintain or expand the improvements they made to boost efficiency and productivity and reduce costs during the pandemic, giving them a competitive edge in their markets, both now and in the future. This means deploying more digital technologies and cultivating an Industry 4.0 mindset at all business levels. Key objectives for manufacturing leaders in 2021 include:

• Improve operational efficiency. Manufacturers are relying on simple, proven methods such as lean manufacturing to streamline manufacturing processes, reduce waste, and optimize the use of manpower, especially as needs for social distancing continue. Senior Executives have to ask themselves — do we have the type of flexible systems and collaboration environment that is going to give us an advantage in attracting younger workers?

John McEleney

Corporate Vice President of Strategy

- Automation. Automation improves throughput, reduces errors and rework, and improves quality. It can reduce injuries among workers and also enable social distancing in the workplace by performing remote maintenance and management of machines.
- Supply chain resiliency. Shorter, more efficient supply chains are a top focus among manufacturers. Industry 4.0 technologies can be used in real time to provide greater transparency throughout the supply chain. Reconfiguration of supply chains to include domestic suppliers further reduces risk.
- Cybersecurity. Increased cyberattacks during the COVID-19 pandemic have made enhanced

cybersecurity a top priority, especially when many employees are working remotely. "Industry 4.0 adoption is also increasing cyber risk by giving bad actors more points of ingress," says Eskander Yavar, management and technology advisory services national leader for BDO. "Product development teams especially need to embrace privacy by design principles, pursuing innovation with privacy and security considerations."

 Digitization using digital twins. A digital twin, or simulation model, is a perfect digital replica of a living or non-living object, or collection of objects. The Internet of Things, with its sensor capabilities, and other Industry 4.0 technologies, create these virtual models that can update and change, in real time, as their physical counterparts change. Digital twins can be manipulated to optimize manufacturing systems and even complex supply chains.

 Cloud-based software for work-from-home processes. Remote work and team
 collaboration are most efficient when conducted through a single source of truth in the cloud, using cloud-native secure applications and tools.
 Cloud collaboration also makes companies more attractive to younger generations. "Senior executives have to ask themselves—do we have the type of flexible systems and collaboration environment that is going to give us an advantage in attracting younger workers?" questions John McEleney, corporate vice president of strategy at PTC, on IndustryWeek.com.

LEADERSHIP

Leadership Style, 2021

In order to reduce operating costs, expand revenue, and adapt quickly to economic fluctuations, manufacturers must overcome attachments to outdated technologies and embrace Industry 4.0. This can be, however, a steep challenge to traditional-thinking leaders.

"Two top reasons digital initiatives fail are interoperability issues with legacy technology, cybersecurity, and lack of skills and/or insufficient training," says Yavar. "Improving the customer experience is also vital for retaining customers and building loyalty, and organizations are increasingly leveraging Industry 4.0 tools to meet their customer experience-related goals. However, technology by itself isn't enough—you need people with the right skills to wield it."

Developing a strategic roadmap for adapting Industry 4.0 requires a well-planned methodology, such as the <u>Future State Optimization Program</u>, developed by Kansas Manufacturing Solutions, an organization that helps Kansas manufacturers address operational challenges and create growth. "This program begins with an assessment to clarify the current state and includes a traditional SWOT analysis [strengths, weaknesses, opportunities, and threats] and the building of a flexible roadmap, which breaks down how a manufacturer should proceed and why," states <u>Tiffany Stoval</u>, CEO of <u>Kansas Manufacturing Solutions</u>. "A major consideration is if the current environment is permanent or temporary. The analysis can make the future seem less daunting and includes key areas of the business model, such as customers, management, workforce, facilities, and operations. The process helps manufacturers prioritize goals, revise objectives, and develop an action plan based on necessary responses to uncertainty."

When do you expect revenues to return to pre-pandemic levels?

In a Manufacturer's Outlook Survey conducted by the NAM in September 2020, 472 total manufacturing companies were asked this question, the results are shown in the chart to the right. These companies consisted of 107 small, 235 medium-sized, and 130 large manufacturers.



Manufacturing leaders must also capitalize on lessons learned from the economic and pandemic crises to create their personal leadership models, including using feedback from employees and customers. Capgemini, a global consulting, digital transformation, technology, and engineering services firm, suggests a <u>three-phase approach</u>:

- Understand the post-crisis baseline.
 Assess the status quo using questionnaires, evaluate the data, and define the leadership vision and program.
- 2. Develop and roll out the leadership development program. "Develop digital literacy by combining virtual classroom training, a digital self-directed learning academy, hackathons, or other formats," advises Luisa Schoenwald, a manager for Capgemini. "Foster emotional intelligence with mindfulness and resilience. Also, consolidate the learnings and deepen the experiences by peer coaching or communities of practice."
- Sustain the leadership model. Maintaining momentum can be the greatest challenge to the successful implementation of new leadership models. "Be accountable by

showing responsibility for designing the future," adds Schoenwald. "Also, build networks by organizing communities of practice and think tanks."

Perhaps the most impactful Industry 4.0 technology is data management and analytics. Today's digital manufacturing operations are gradually evolving into smart factories, where big data analytics are available in real time to maximize productivity and efficiency while reducing operational costs.

"The challenge that remains is transforming that data into actionable information, a step that many manufacturers still miss," states Thomas Luck, chief executive officer USA for FORCAM. "To remain competitive, manufacturers need a more profound knowledge of how to apply digital technology on the shop floor, which allows them to apply processes and controls to improve production capabilities throughout the entire enterprise. Powerful metrics, such as overall equipment effectiveness [OEE], integrate machine and production data for unbiased insights and real-time accuracy in operational performance."

Manufacturing leaders must play both a mobilizing and facilitating role to grow their operations.

...technology by itself isn't enough you need people with the right skills to wield it.

> Eskander Yavar, Management & Technology Advisory Services National Leader



INDUSTRY 4.0

ROBOTICS CLOUD TECHNOLOGY Over the next two years, almost By using the cloud platform two million new units of industria manufacturers are able to optimize business processes, enable a more robots are expected to be installed in factories around the world efficient supply chain, and provide according to the International predictive maintenance Federation of Robotics

E

The Internet of Things, or IoT,

refers to the billions of physical

leadership models and skills.

BIG DATA Modern factories are becoming increasingly complex and nterconnected, creating new challenges that automation,

MACHINE LEARNING Industry 4.0 has further amplified Ever-advancing machine learning algorithms can more closely match supply with demand, while optimizing energy consumption, raw materials, the importance of horizontal and vertical integration, making them

INTEGRATION

the very backbone on which the driven by Big Data, can address and staffing. Smart Factory is built. Ð ۳e **{**0} .0 €<u>}</u> Π With the amount of data that's being The usage of robots, AI, and latest In addition to the rising number of collected, the ways in which it's generation software to execute vulnerabilities, the risk from cybe

routine tasks—minimizing human involvement—is proving to be an extremely cost effective solution to the

challenges of modern manufacturing

AUTOMATION

being used, and the variety of sources it's coming from, data devices around the world that are now connected to the Internet, all collecting and sharing data. management is more important now than ever before IoT DATA MANAGEMENT

The increasing adoption of digitalization and remote work will lead to a paradigm shift, notes Schoenwald, that will require new comprehensive

"Leaders will be judged by their capability to mobilize their ecosystem and facilitate new competencies," she says. "As we move toward an authentic leadership model in the post-crisis world, some leadership qualities will become more important as they support the mobilization of ecosystems. Digital literacy to operate effectively in a digital workplace, agility to build momentum for projects, and purpose to build solidarity and engage employees will become crucial."

However, she adds, the model must also include other leadership qualities that the COVID-19 crisis has proven to be valuable, such as building relationships to foster fun and enthusiasm, nomadism to organize remote work, and emotional intelligence to foster conscious stress management and resilience building, "which will challenge the status quo and drive evolution," she concludes.

New business models that capitalize on Industry 4.0 capabilities will continue to evolve as manufacturers move forward.

threats is becoming more significant

as systems and components beco

interconnected to each other-and to

the outside world

CYBERSECURITY

"It's tempting to think that the pace of change will slow down in the future, that we'll all have a quiet moment or two to catch up." says Yavar. "That sort of wishful thinking is fatal for manufacturers."

Even if the pandemic and the recession both end tomorrow, he notes, companies would still need to keep pace with the technology changes that continue to shift the manufacturing paradigm. Manufacturers need to start thinking today how they plan to meet the Industry 4.0-enabled future. "By taking concrete short-term steps to address immediate disruption, they can begin to leverage Industry 4.0 technology that will enable them to look further ahead in the future as they continue to weather the strains of the pandemic, ultimately re-emerging on the other side stronger than ever," he says.





Anderson Dahlen, A Gray Company

In 2020, Anderson Dahlen Inc., a 75-year-old and family operated specialty equipment manufacturer and custom stainless-steel fabricator joined the Gray family of brands.

Headquartered in Ramsey, MN, Anderson Dahlen provides unparalleled craftsmanship and expertise for the Food & Beverage, Pharmaceutical, Industrial, and Vacuum Technology markets. From front-end design through final assembly, Anderson Dahlen features an extensive team of specialists to interpret customer ideas and refine the engineering in order to create intelligent, manufacturable designs.

Anderson Dahlen provides customized solutions that range from the design and build of turnkey systems to the manufacturing of individual component parts and assemblies. With decades of experience in manufacturing and project management, customers including Demaco, Bepex, and Zeppelin repeatedly turn to Anderson Dahlen for unrivaled service and customized results.

As Tom Knoll, president of Anderson Dahlen, a Gray company points out, being at the helm of a manufacturing organization in this day and age requires significant resolve and the ability to embrace changes. "We've experienced significant disruptions and challenges in 2020, but having a very close team that is committed to and trusting in one another as well as very strong business partnerships have helped us navigate and continue growing."





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